



# BONFIGLIOLI RIDUTTORI



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**BONFIGLIOLI**

*Power & Control Solutions*

**NEMA**

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### Revisions

Refer to page 260 for the catalogue revision index.  
Visit [www.bonfiglioli.com](http://www.bonfiglioli.com) to search for catalogues with latest revision index.

# 1.0 GENERAL INFORMATION

## 1.1 SYMBOLS AND UNITS

<b>Symb.</b>	<b>U.m.</b>	<b>Description</b>	<b>Symb.</b>	<b>U.m.</b>	<b>Description</b>
<b>A<sub>c</sub></b>	[lbs]	Calculated thrust load	<b>P<sub>t</sub></b>	[hp]	Thermal capacity
<b>A<sub>n</sub></b>	[lbs]	Rated thrust load	<b>P<sub>r</sub></b>	[hp]	Power required
<b>f<sub>m</sub></b>	–	Adjusting duty factor	<b>R<sub>c</sub></b>	[lbs]	Calculated radial load
<b>f<sub>t</sub></b>	–	Thermal correction factor	<b>R<sub>n</sub></b>	[lbs]	Rated OHL
<b>i</b>	–	Gear ratio	<b>R<sub>x</sub></b>	[lbs]	Radial OHL for load shifted from shaft midpoint
<b>I</b>	–	Intermittence	<b>S</b>	–	Safety factor
<b>J<sub>c</sub></b>	[lb·ft <sup>2</sup> ]	Load moment of inertia	<b>S.F.</b>	–	Service factor
<b>J<sub>m</sub></b>	[lb·ft <sup>2</sup> ]	Mass moment of inertia for motor	<b>t<sub>a</sub></b>	[°C/ °F]	Ambient temperature
<b>J<sub>r</sub></b>	[lb·ft <sup>2</sup> ]	Mass moment of inertia for gearbox	<b>t<sub>f</sub></b>	[min]	Operating time under constant load
<b>K</b>	–	Acceleration factor of masses	<b>t<sub>r</sub></b>	[min]	Rest time
<b>K<sub>r</sub></b>	–	Transmission element factor	<b>W</b>	[ft·lb]	Brake dissipated energy between two successive air-gap adjustments
<b>T<sub>b</sub></b>	[lb·in]	Brake torque	<b>W<sub>max</sub></b>	[ft·lb]	Maximum energy for each braking operation
<b>T</b>	[lb·in]	Torque	<b>x</b>	[in]	Load application distance from shaft shoulder
<b>T<sub>c</sub></b>	[lb·in]	Calculated torque	<b>Z</b>	[1/h]	Number of permitted starts in loaded conditions
<b>T<sub>n</sub></b>	[lb·in]	Speed reducer rated torque	<b>Z<sub>r</sub></b>	[1/h]	Number of starts
<b>T<sub>r</sub></b>	[lb·in]	Torque required	<b>η<sub>d</sub></b>		Dynamic efficiency
<b>n</b>	[rpm]	Speed	<hr/>		
<b>P</b>	[hp]	Power	Footnotes:		
<b>P<sub>c</sub></b>	[hp]	Calculated power	□ <sub>1</sub>	<i>Applies to input shaft</i>	
<b>P<sub>n</sub></b>	[hp]	Motor rated power	□ <sub>2</sub>	<i>Applies to output shaft</i>	
<b>P<sub>n</sub></b>	[hp]	Rated horsepower			

## NOMENCLATURE

### 1.2 TORQUE

#### Nominal output torque

 $T_{n2}$ 

Torque transmitted at output shaft under uniform load, referred to input speed  $n_1$  and corresponding output speed  $n_2$ .

It is calculated according to service factor S.F. = 1.

#### Application torque

 $T_{r2}$ 

This is torque corresponding to application requirements. It must be equal to or less than rated output torque  $T_{n2}$  for the gearmotor selected.

#### Calculated torque

 $T_{c2}$ 

Torque value to be used for selecting the gearbox, considering required torque  $T_{r2}$  and service factor S.F., and is obtained by:

$$T_{c2} = T_{r2} \times S.F. \leq T_{n2}$$

### 1.3 POWER

#### Rated input horsepower

 $P_{n1}$ 

In the speed reducer selection charts, this is power applicable at input shaft referred to speed  $n_1$  and considering a service factor S.F. = 1.

#### Output horsepower

 $P_{n2}$ 

Value represents rated HP as referred to speed reducer output shaft.

$$P_{n2} = P_{n1} \times \eta_d$$

$$P_{n2} = \frac{T_{n2} \times n_2}{63025}$$

$P_{n2}$  in [hp];  $M_{n2}$  in [ib·in]

### 1.4 THERMAL CAPACITY

 $P_t$ 

The value indicates the speed reducer thermal limit and corresponds to the power transmission capacity under continuous duty at an ambient temperature of 20°C [70°F] without using a supplementary cooling system.

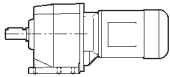
For short operating periods with sufficiently long pauses to allow the unit to cool, thermal power is not a factor important and it does not need to be taken into consideration.

For ambient temperature different from 20°C [70°F] and intermittent duty,  $P_t$  value can be adjusted according to thermal factor  $f_t$  listed in table (A1), provided the following condition is satisfied.

$$P_{r1} \leq P_t \times f_t$$

Gear units C 05 through C 31 are not thermally limited and the thermal verification does not apply.

(A0)

	Pt [hp] [20 °C / 70 °F]	
	$n_1 = 1750$ rpm	$n_1 = 3500$ rpm
<b>C 05 2</b>	—	—
<b>C 11 2</b>	—	—
<b>C 21 2</b>	—	—
<b>C 31 2</b>	—	6.0
<b>C 35 2</b>	8.7	6.7
<b>C 41 2</b>	10.7	8.0
<b>C 51 2</b>	14.7	10.5
<b>C 61 2</b>	18.8	13.4
<b>C 70 2</b>	28	21
<b>C 80 2</b>	43	32
<b>C 90 2</b>	58	43
<b>C 100 2</b>	79	56



(A1)

		$f_t$			
$t_a \text{ max.}$ °C [°F]	Continuous duty	Intermittent duty			
		Intermittence % (I)			
		80	60	40	20
40 [105]	0.8	1.1	1.3	1.5	1.6
30 [85]	0.85	1.3	1.5	1.6	1.8
20 [70]	1.0	1.5	1.6	1.8	2.0
50 [10]	1.15	1.6	1.8	2.0	2.3

Intermittence (I)% is obtained dividing operating time under load [ $t_f$ ] by total time, expressed as a percentage:

$$I = \frac{t_f}{t_f + t_r} \times 100$$

## 1.5 EFFICIENCY $\eta$

Obtained from the relationship of output power  $P_2$  to input power  $P_1$ , according to the following equation:

$$\eta = \frac{P_2}{P_1}$$

Torque value  $M_{n2}$  specified in this catalogue takes the dynamic efficiency  $\eta_d$  into account.

## 1.6 MASS MOMENT OF INERTIA $J_r$

Values for the moment of inertia specified in the catalogue refer to gear unit input shaft.

They are therefore related to motor speed, in the case of direct motor mounting.

## 1.7 SERVICE FACTOR **S.F.**

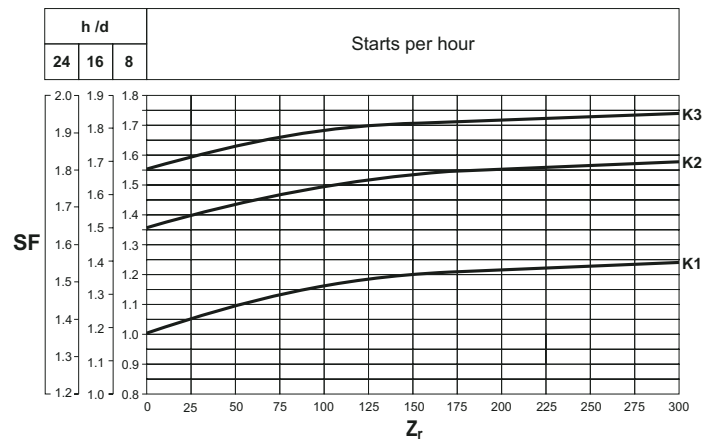
The service factor is the numerical parameter that describes the severity of the application. Its value results from the combination of the actual duty the gearbox is operated at, the number of starts per hour and the daily operating hours.

The graph (A2) here after comes handy when calculating the actual value for the service factor:

1. Enter the chart with the starts per hour [ $Z_r$ ]
2. Intersect the  $K$ \_ curve that applies for the application
3. Read the service factor **S.F.** from the column marked with the applicable hours per day [ $h/d$ ]

Intermediate values can be obtained by interpolation.

(A2)



## Acceleration factor of masses **K**

Used for establishing the service factor and obtained from the following equation:

$$K = \frac{J_c}{J_m}$$

Where:

$J_c$  [lb·ft<sup>2</sup>]

moment of inertia of the driven masses in proportion to the speed of the applied motor

$J_m$  [lb·ft<sup>2</sup>]

motor moment of inertia

**K1** uniform load

$$K \leq 0.25$$

**K2** moderate shock load

$$K \leq 3$$

**K3** heavy shock load

$$K \leq 10$$

For values of  $K > 10$ , please contact our Technical Service.

## 1.8 SELECTION

### AGMA Service Factor charting 24hr service (continuous duty)

(A3)

Application	S.F.
<b>AGITATORS</b>	
Pure Liquids	1.25
Liquids & Solids	1.50
Liquids - variable density	1.50
<b>BLOWERS</b>	
Centrifugal	1.25
Lobe	1.50
Vane	1.50
<b>BREWING AND DISTILLING</b>	
Bottling Machinery	1.25
Brew Kettles - Continuous Duty	1.25
Cookers - Continuous Duty	1.25
Mash Tubs - Continuous Duty	1.25
Scale Hopper - Frequent Starts	1.50
<b>CAN FILLING MACHINES</b>	1.25
<b>CAR DUMPERS</b>	2.00
<b>CAR PULLERS</b>	1.50
<b>CLARIFIERS</b>	1.25
<b>CLASSIFIERS</b>	1.50
<b>CLAY WORKING MACHINERY</b>	
Brick Press	2.00
Briquette Machine	2.00
Pug Mill	1.50
<b>COMPACTORS</b>	2.00
<b>COMPRESSORS</b>	
Centrifugal	1.25
Lobe	1.50
Reciprocating, Multi-Cylinder	1.75
Reciprocating, Single-Cylinder	2.00
<b>CONVEYORS - GENERAL PURPOSE</b>	
<i>includes Apron, Assembly, Belt, Bucket, Chain, Flight, Oven and Screw</i>	
Uniformly Loaded or Fed	1.25
Heavy Duty - Not Uniformly Fed	1.50
Severe Duty - Reciprocating or Shaker	2.00
<b>CRANES</b>	
<b>Dry Dock</b>	
Main Hoist	2.50
Auxiliary Hoist	3.00
Boom Hoist	3.00
Slewing Hoist	3.00
Traction Drive	3.00

Application	S.F.
<b>Container</b>	
Main Hoist	3.00
Boom Hoist	2.00
Trolley Drive	
Gantry Drive	3.00
Traction Drive	2.00
<b>Mill Duty</b>	
Main Hoist	3.50
Auxiliary	3.50
Bridge Travel	3.00
Trolley Travel	3.00
<b>Industrial Duty</b>	
Main	3.00
Auxiliary	3.00
Bridge Travel	3.00
Trolley Travel	3.00
<b>CRUSHERS</b>	
Stone or Ore	2.00
<b>DREDGES</b>	
Cable Reels	1.50
Conveyors	1.50
Cutter Head Drives	2.00
Pumps	2.00
Screen Drives	2.00
Stackers	1.50
Winches	1.50
<b>ELEVATORS</b>	
Bucket	1.50
Centrifugal Discharge	1.25
Escalators	1.25
Freight	1.50
Gravity Discharge	1.25
<b>EXTRUDERS</b>	
General	1.50
<b>Plastics</b>	
Variable Speed Drive	1.50
Fixed Speed Drive	1.75
<b>Rubber</b>	
Continuous Screw Operation	1.75
Intermittent Screw Operation	1.75
<b>FANS</b>	
Centrifugal	1.25
Cooling Towers	2.00
Forced Draft	1.25
Induced Draft	1.50
Industrial & Mine	1.50
<b>FEEDERS</b>	
Apron	1.50
Belt	1.50
Disc	1.25
Reciprocating	2.00
Screw	1.50

Application	S.F.
<b>FOOD INDUSTRY</b>	
Cereal Cooker	1.25
Dough Mixer	1.50
Meat Grinder	1.50
Slicers	1.50
<b>GENERATORS AND EXITORS</b>	1.25
<b>HAMMER MILLS</b>	2.00
<b>HOISTS</b>	
Heavy Duty	2.00
Medium Duty	1.50
Skip Hoist	1.50
<b>LUMBER INDUSTRY</b>	
<b>Barkers</b>	
Spindle Feed	1.50
Main Drive	1.75
<b>Conveyors</b>	
Burner	1.50
Main or Heavy Duty	1.50
Main Log	2.00
Re-saw, Merry-Go-Round	1.50
Slab	2.00
Transfer	1.50
<b>Chains</b>	
Floor	1.50
Green	1.75
<b>Cut-Off Saws</b>	
Chain	1.75
Drag	1.75
Debarking Drums	2.00
<b>Feeds</b>	
Edger	1.50
Gang	1.75
Trimmer	1.50
Log Deck	1.75
Log Hauls - Incline - Well Type	1.75
Log Turning Devices	1.75
Planer Feed	1.50
Planer Tilting Hoists	1.50
Rolls - Live-off brg. - Roll Cases	1.75
Sorting Table	1.50
Tipple Hoist	1.50
<b>Transfer</b>	
Chain	1.75
Craneway	1.75
Tray Drives	1.50
Veneer Lathe Drives	1.50
<b>METAL MILLS</b>	
Draw Bench Carriage and Main Drive	1.50
Runout Table	
Non-reversing	1.50
Group Drives	1.50
Individual Drives	2.00

Application	S.F.
Reversing	2.00
Slab Pushers	1.50
Shears	2.00
Wire Drawing	1.50
Wire Winding Machine	1.50
<b>METAL STRIP PROCESSING MACHINERY</b>	
Bridles	1.50
Coilers & Uncoilers	1.25
Edge Trimmers	1.50
Flatteners	1.50
Loopers (Accumulators)	1.25
Pinch Rolls	1.50
Scrap Choppers	1.50
Shears	2.00
Slitters	1.50
<b>MILLS, ROTARY TYPE</b>	
<b>Ball &amp; Rod</b>	
Spur Ring Gear	2.00
Helical Ring Gear	1.50
Direct Connected	2.00
Cement Kilns	1.50
Dryers & Coolers	1.50
<b>MIXERS, CEMENT</b>	1.50
<b>PAPER MILLS</b>	
Agitator (Mixer)	1.50
Agitator for Pure Liquors	1.25
Barking Drums	2.00
Barkers - Mechanical	2.00
Beater	1.50
Breaker Stack	1.25
Calendar	1.25
Chipper	2.00
Chip Feeder	1.50
Coating Rolls	1.25
<b>Conveyors</b>	
Chip, Bark, Chemical	1.25
Log (including Slab)	2.00
Couch Rolls	1.25
Cutter	2.00
Cylinder Molds	1.25
<b>Dryers</b>	
Paper Machine	1.25
Conveyor Type	1.25
Embosser	1.25
Extruder	1.50
Fourdrinier Rolls	1.25
(includes Lump breaker, dandy roll, wire turning, and return rolls)	
Jordan	1.50
Kiln Drive	1.50
Mt. Hope Roll	1.25
Paper Rolls	1.25
Platter	1.50

Application	S.F.
Presses - Felt & Suction	1.25
Pulper	2.00
Pumps - Vacuum	1.50
Reel (Surface Type)	1.25
<b>Screens</b>	
Chip	1.50
Rotary	1.50
Vibrating	2.00
Size Press	1.25
Super Calender	1.25
Thickener (AC Motor)	1.50
Thickener (DC Motor)	1.25
Washer (AC Motor)	1.50
Washer (DC Motor)	1.25
Wind and Unwind Stand	1.25
Winders (Surface Type)	1.25
Yankee Dryers	1.25
<b>PLASTICS INDUSTRY - PRIMARY PROCESSING</b>	
<b>Intensive Internal Mixers</b>	
Batch Mixers	1.75
Continuous Mixers	1.50
Batch Drop Mill - 2 smooth rolls	1.25
Continuous Feed, Holding & Blend Mill	1.25
Calender	1.50
<b>PLASTICS INDUSTRY - SECONDARY PROCESSING</b>	
Blow Molder	1.50
Coating	1.25
Film	1.25
Pipe	1.25
Pre-Plasticizer	1.50
Rods	1.25
Sheet	1.25
Tubing	1.50
<b>PULLER - BARGE HAUL</b>	1.50
<b>PUMPS</b>	
Centrifugal	1.25
Proportioning	1.50
<b>Reciprocating</b>	
Single Acting, 3 or more cylinders	1.50
Double Acting, 2 or more cylinders	1.50
<b>Rotary</b>	
Gear Type	1.25
Lobe	1.25
Vane	1.25
<b>RUBBER INDUSTRY</b>	
<b>Intensive Internal Mixers</b>	
Batch Mixers	1.75
Continuous Mixers	1.50
<b>Mixing Mill</b>	
2 smooth rolls	1.50
1 or 2 corrugated rolls	
Batch Drop Mill - 2 smooth rolls	1.50

Application	S.F.
Cracker - 2 corrugated rolls	2.00
Holding, Feed & Blend Mill - 2 rolls	1.25
Refiner - 2 rolls	1.50
Calender	1.50
<b>SAND MULLER SEWAGE DISPOSAL EQUIPMENT</b>	1.50
Bar Screens	1.25
Chemical Feeders	1.25
Dewatering Screens	1.50
Scum Breakers	1.50
Slow or Rapid Mixers	1.50
Sludge Collectors	1.25
Thickener	1.50
Vacuum Filters	1.50
<b>SCREENS</b>	
Air Washing	1.25
Rotary - Stone or Gravel	1.50
Traveling Water Intake	1.25
<b>SUGAR INDUSTRY</b>	
Beet Slicer	2.00
Cane Knives	1.50
Crushers	1.50
Mills (low speed end)	1.75
<b>TEXTILE INDUSTRY</b>	
Batchers,	1.50
Calenders	1.50
Cards	1.50
Dry Cans	1.50
Dyeing Machinery	1.50
Looms	1.50
Mangles	1.50
Nappers	1.50
Pads	1.50
Slashers	1.50
Soapers	1.50
Spinners	1.50
Tenter Frames	1.50
Washers	1.50
Winders	1.50



Recommended procedure for correct selection of drive unit:

## Selecting a gearmotor

A) Determine service factor S.F. according to type of duty (factor K), number of starts per hour  $Z_r$  and hours of operation.

B) Once torque  $Tr_2$ , speed  $n_2$  and dynamic efficiency  $\eta_d$  are known, input power can be calculated as follows:

$$P_{r1}(hp) = \frac{Tr_2(lb \cdot in) \times n_2(rpm)}{63,025 \times \eta_d}$$

Values for  $\eta_d$  for the different sizes of speed reducer are indicated in table (A4) below:

(A4)

	Reductions		
	2	3	4
$\eta_d$	0.95	0.93	0.91

C) Consult the gearmotor selection charts and locate the table corresponding to power

$$P_n \geq P_{r1}$$

Unless otherwise specified, power  $P_n$  of motors indicated in the catalogue refers to continuous duty S1. For motors used in conditions other than S1, the type of duty required by reference to CEI 2-3/IEC 60034-1 Standards must be mentioned.

For duties from S2 to S8 in particular, and for IEC motor frame 132 or smaller, extra power can be obtained with respect to continuous duty, consequently the following condition must be satisfied:

$$P_v \geq \frac{P_{r1}}{f_m}$$

The adjusting duty factor  $f_m$  can be obtained from chart (A5).

(A5)

	Duty						Please consult factory	
	S2			S3*				S4 - S8
	Cycle duration [min]			Intermittence (I)				
	10	30	60	25%	40%	60%		
<b>fm</b>	1.35	1.15	1.05	1.25	1.15	1.1		

\* Cycle duration, in any event, must be 10 minutes or less. If it is longer, please contact our Technical Service Department.

Intermittence:

$$I = \frac{t_r}{t_r + t_f} \times 100$$

$t_f$  = operating time at constant load  
 $t_r$  = rest time

**Next, according to output speed  $n_2$ , select a gearmotor featuring a safety factor S greater than or equal to service factor S.F.**

$$S \geq S.F.$$

The gearmotor selection charts features combination with 2, 4 and 6 pole motors.

If motors with different speed shall be used, refer to the selection procedure for speed reducers and choose the most suitable gear unit.

For applications such as hoisting and travelling, contact our Technical Service Department.

## Selecting a speed reducer with a motor adapter

A) Determine service factor S.F. based on application. See pages 5 - 7.

B) Assuming the required output torque for the application  $Tr_2$  is known, the calculated torque can be defined as:

$$T_{c2} = Tr_2 \times S.F.$$

C) The gear ratio is calculated according to requested output speed  $n_2$  and the drive input speed  $n_1$

$$i = \frac{n_1}{n_2}$$

Once the torque  $T_{c2}$  and gear ratio  $[i]$  are calculated consult the speed reducer rating chart for the actual drive speed  $n_1$  and select the unit that features a torque rating  $T_{n2}$  that equals or exceeds the computational torque  $T_{c2}$ :

$$T_{n2} \geq T_{c2}$$

If an electric motor, with either a NEMA or a IEC flange, is going to be fitted onto the captioned gear unit, check that matching is feasible at chapter "Motor availability".

## 1.9 VERIFICATIONS

After the selection of the speed reducer, or gearmotor, is complete:

**For gear units type C 11 2, C 21 2 and C 31 2, with ratio  $i > 40:1$ , operated with  $Z > 30$  switches per hour, adjust the service factor calculated through diagram (A2) and multiply the value by 1.2**

**Then check that for the revised service factor the condition  $S \geq S.F.$  still applies.**

### A) Thermal capacity

Make sure that the thermal capacity of the speed reducer is equal to or higher than power required by the application. If this condition is not verified, select a larger speed reducer or apply a supplementary cooling system.

### B) Maximum torque

The maximum torque (intended as momentary peak load) applicable to the speed reducer must not, in general, exceed 200% of rated torque  $T_{n2}$ . Therefore, check that this limit is not exceeded, using suitable torque limiting devices, if necessary.

For three-phase two speed motors, it is important to pay attention to switching torque generated (from high to low speed), because it could be significantly higher than maximum torque.

### C) Radial loads

Check that forces applying on input and/or output shafts are within permitted catalogue values. If they are higher, select a larger speed reducer or change bearing arrangement.

Remember that all values listed in the catalogue refer to loads acting at mid-point of the shaft. The permissible radial load value should be adjusted if the radial load is not acting at mid point of shaft. See para 2.8.

### D) Thrust loads

Thrust loads, if applicable, must also be compared to the permitted values indicated in the catalogue. In the event of extremely high thrust loads, or a combination of thrust and radial loads, contact our Technical Service for advise.

### E) Electric motors

For duties with considerable number of starts per hour, factor  $Z$  must be considered (it can be sorted from the motor rating chart). Factor  $Z$  defines the maximum number of starts for the application under consideration.

## 1.10 INSTALLATION

The following installation instructions must be followed:

A) Make sure that the speed reducer is adequately secured to avoid vibrations. If shocks, prolonged overloading, or the possibility of locking are expected, install hydraulic couplings, clutches, torque limiters, etc.).

B) Prior to painting, the outer face of the oil seals must be protected to prevent the solvent drying out the rubber, thus jeopardizing the oil-seal function.

C) Parts assembled on the speed reducer output shaft must be machined to ISO H7 tolerance to prevent interference fits that could damage the speed reducer itself. Further, to mount or remove such parts, use suitable pullers or extraction devices using the tapped hole located at end of shaft extension.

D) Contact surfaces must be cleaned and treated with suitable protective products before mounting to avoid oxidation and, as a result, seizure of parts.

E) Coupling to the speed reducer output hollow shaft (tolerance G7) is usually effected with shafts machined to h6 tolerance. If the type of application requires it, coupling with a slight interference (G7-j6) is possible.

- F) Before starting up the machine, make sure that oil level is correct for the actual mounting position, and that viscosity is suitable for the specific duty. See table (B1).

## 1.11 STORAGE

Observe the following instructions to ensure correct storage of products:

- A) Do not store outdoors, in areas exposed to weather or with excessive humidity.
- B) Always place boards, wood, or other material between the products and the floor. The gearbox should not have direct contact with the floor.
- C) For long term storage (over 60 days), all machined surfaces such as flanges, shafts and couplings must be protected with a suitable rust inhibiting product (Mobilarma 248 or equivalent).
- D) The following measures must be taken when products are stored for a period exceeding 6 months:  
For life lubricated products, the machined areas must be greased to prevent oxidation.  
In addition to above, products originally supplied w/o oil must be positioned with the breather plug at the highest point, and filled with oil.  
Before operating the speed reducer, restore the correct quantity of oil.

## 1.12 MAINTENANCE

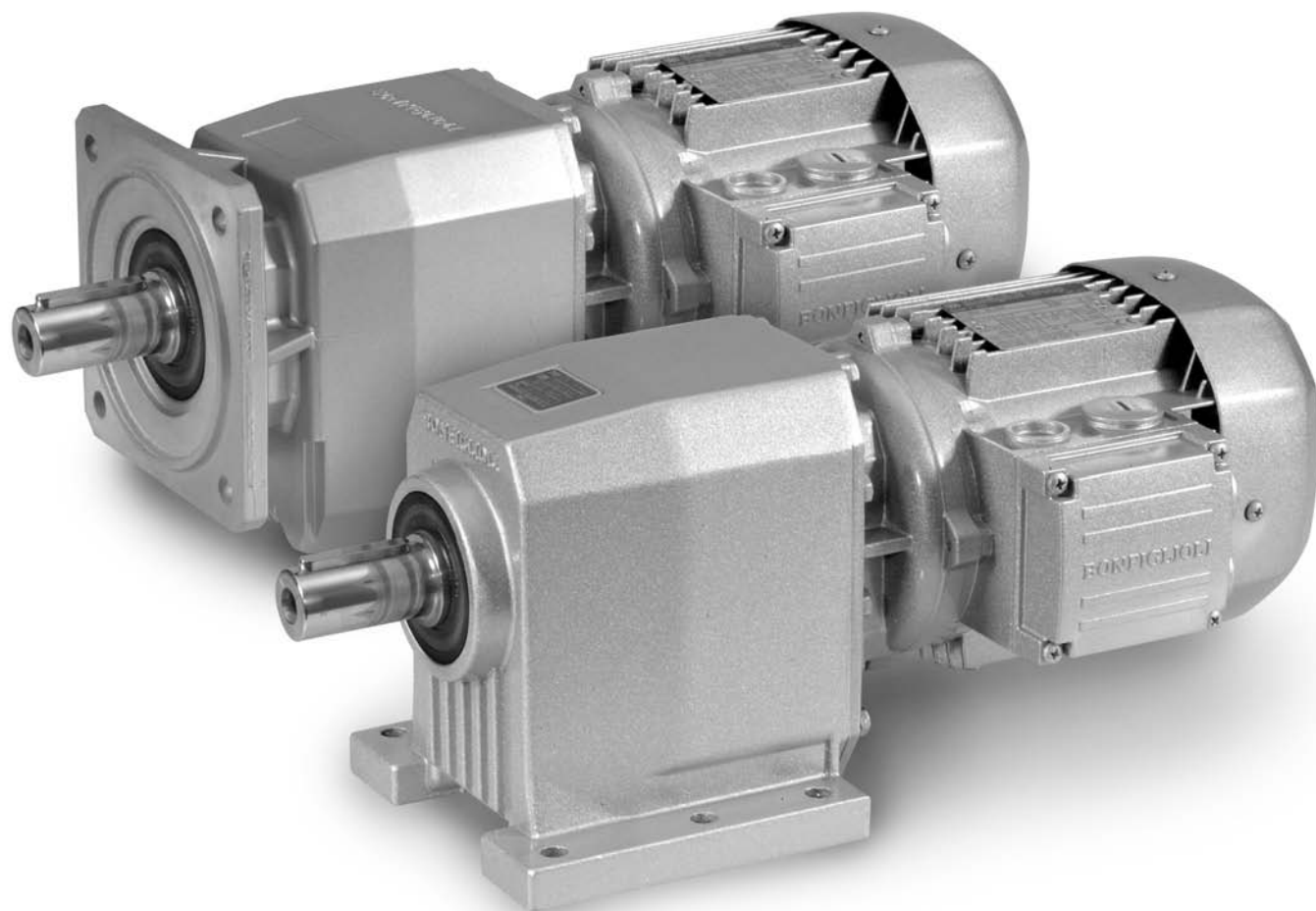
Life lubricated speed reducers do not require periodical oil change.

For larger speed reducers, the first oil change must take place after about 300 hours of operation, flushing the interior of the unit using suitable detergents.

Do not mix mineral oils with synthetic oils.

Check oil periodically and restore the level, if necessary.

## 2.0 HELICAL IN-LINE GEARMOTORS



# **C** SERIES



## 2.1 ORDERING NUMBERS

### Gearbox

**C 21 2 NP 24.3 S2 B3 .....**

OPTIONS

MOUNTING POSITION

**B3** (default), B6, B7, B8, V5, V6

**B5** (default), B51, B53, B52, V1, V3

INPUT OPTIONS

**NHS** for speed reducer with solid input shaft (inch dims.)

**P + IEC** frame size for gear head with IEC motor adapter

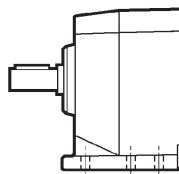
**S + motor size** for integral gearmotor

Specify for NEMA inputs:

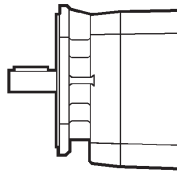
56C	56C
140TC	143TC and 145TC
180TC	182TC and 184TC
<b>N +</b> 210TC	for motors: 213TC and 215TC
250TC	254TC and 256TC
280TC	284TC and 286TC
320TC	324TC and 326TC

GEAR RATIO

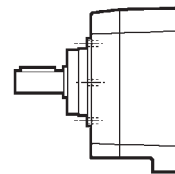
VERSION



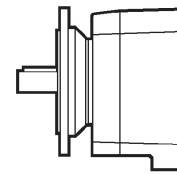
**NP:** foot mounted



**NF:** flange mounted



**NU:** universal housing  
(C 11...C 61)



**NUF\_:** bolt-on output flange  
(A, B, C)

REDUCTIONS

**2, 3, 4**

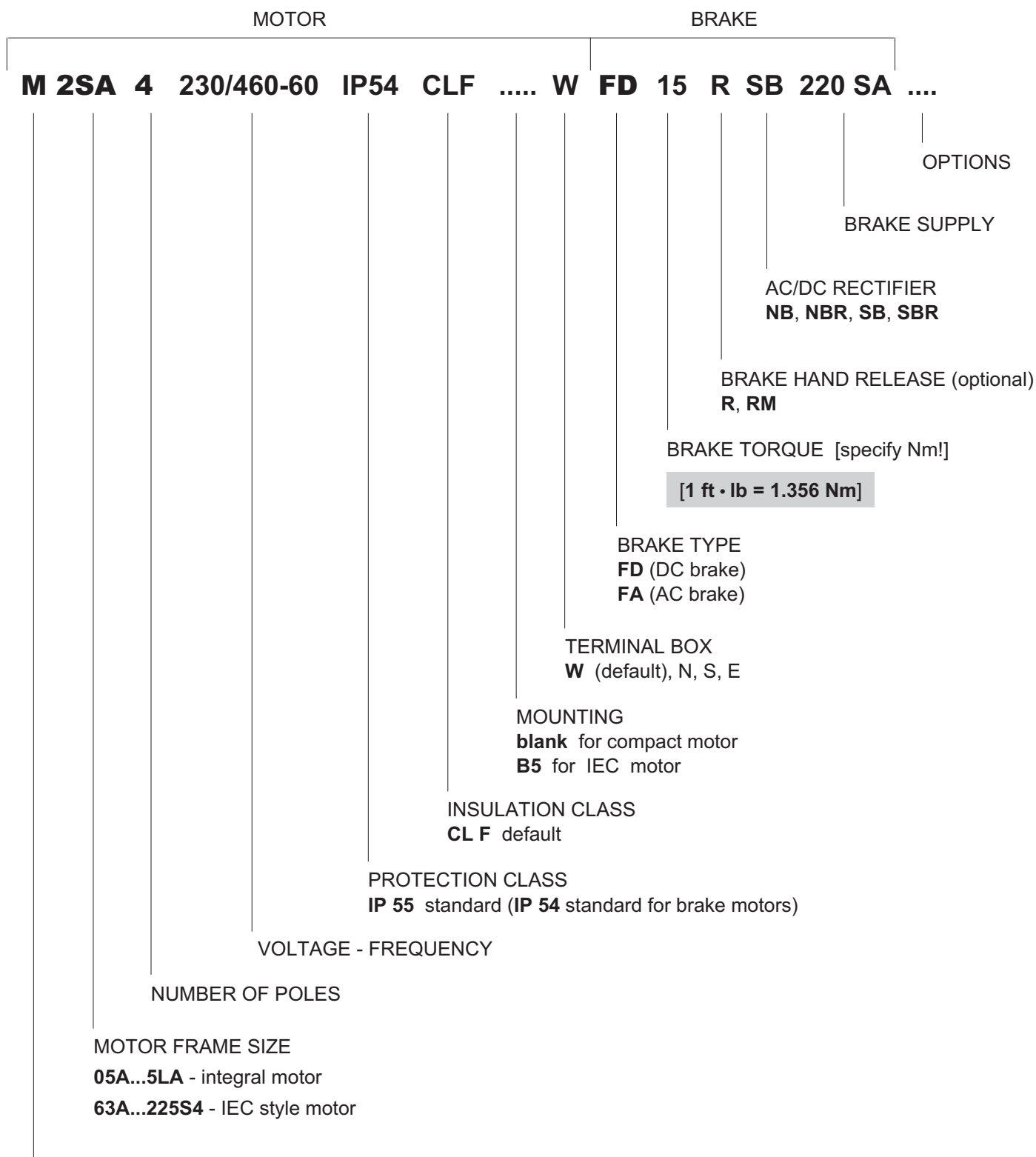
FRAME SIZE

**05, 11, 21, 31, 35, 41, 51, 61, 70, 80, 90, 100**

SERIES

**C** = helical in-line

# Bonfiglioli motor



## TYPE OF MOTOR

**M** = AC, 3-ph, integral style

**BN** = AC, 3-ph, IEC face motor

**NEMA** motors to be specified thru their ordering numbers

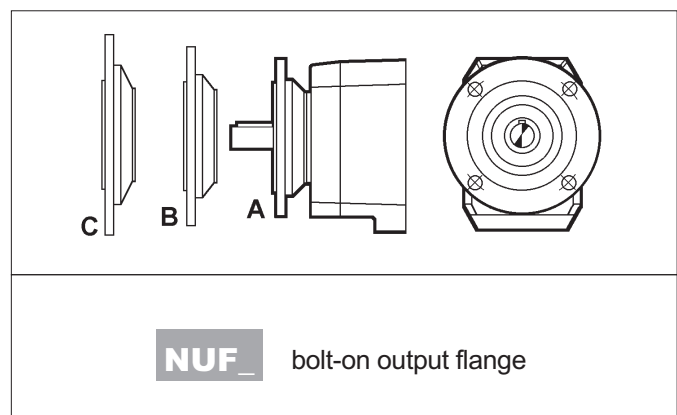
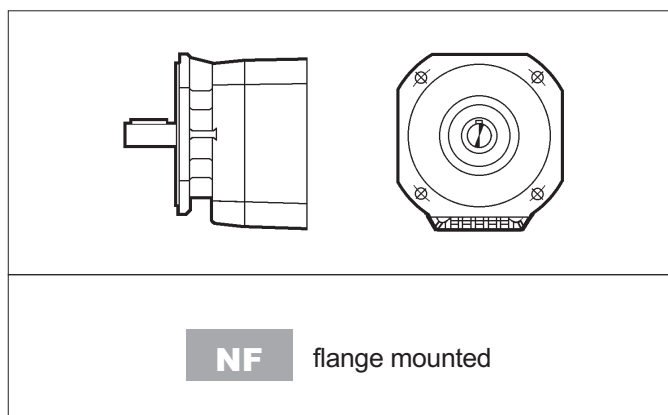
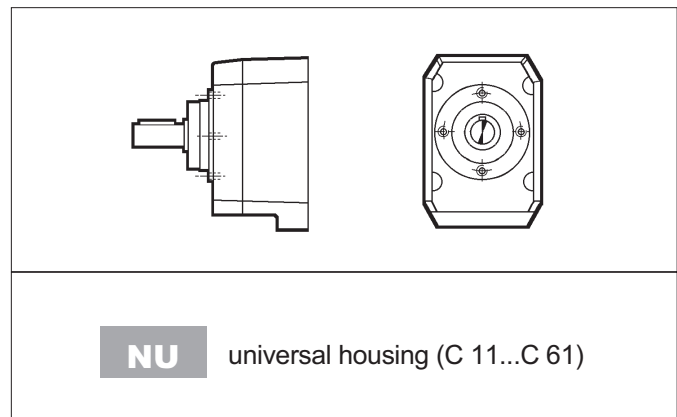
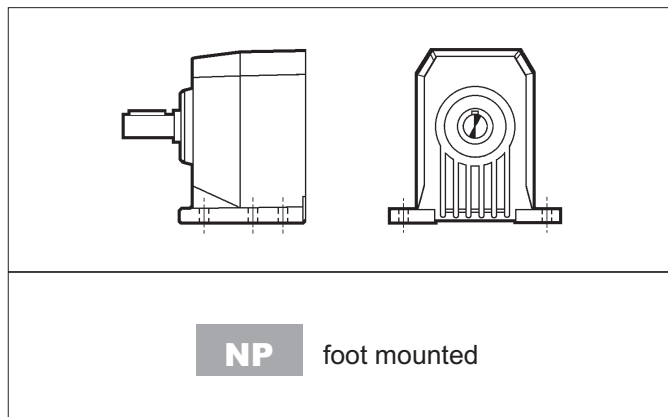
## 2.2 DESIGN ADVANTAGES

Main product features are:

- compact design
- universal mounting
- high efficiency
- low noise
- gears from hardened and case-hardened steel
- aluminum gearcase for models C05 through C31
- input and output shafts in inch dimensions
- adapters for AC electric motors to NEMA standard

## 2.3 VERSIONS

Versions available for C series speed reducer and gearmotors are shown below.



## 2.4 SPEED REDUCER OPTIONS

### SO

Speed reducers C 05, C 11, C 21, C 31, C 35 and C 41 to be supplied unlubricated.

### LO

Gearboxes C 51, C 61, C 70, C 80, C 90, C 100 usually supplied without oil, to be factory filled with synthetic oil currently used by BONFIGLIOLI RIDUTTORI and according to the mounting position specified.

### DL

Two oil seals on output shaft.

### DV

Two oil seals on input shaft.  
(Available only for compact gearmotors).

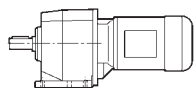
### VV

Viton® oil seal on input shaft.

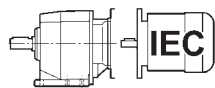
### PV

All oil seals in Viton®.

## 2.5 SYMBOLS



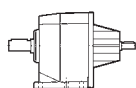
Gearmotor with compact motor.



Speed reducer with IEC motor adapter.



Speed reducer with NEMA input flange.



Speed reducer with solid input shaft.



2 Reduction



3 Reduction



4 Reduction



The symbol shows the page the information can be sorted from.

## 2.6 LUBRICATION

Speed reducer size C 05...C 41 are supplied with life lubrication and do not have oil filling, level, and drain plugs.

Operation of gear units is permitted at ambient temperatures between  $-20^{\circ}\text{C}$  and  $+40^{\circ}\text{C}$  [ $-4^{\circ}\text{F}$  and  $104^{\circ}\text{F}$ ].

However, for temperatures between  $-20^{\circ}\text{C}$  and  $-10^{\circ}\text{C}$  [ $-4^{\circ}\text{F}$  and  $14^{\circ}\text{F}$ ] unit may only start up after it has been progressively and evenly pre-heated, or otherwise initially operated unloaded.

Load may then be connected to the output shaft when the gear unit has reached the temperature of  $-10^{\circ}\text{C}$ , or higher.

Speed reducers for which the SO options is specified come without oil and must be filled by the user prior to be put into operation.

In this case refer to charts (B1) and (B2) for the most appropriate type of oil and relevant change interval.

Customers must always advise mounting position to ensure the correct arrangement of the filling, level and drain plugs.

(B1)

Duty	$t_a$ $0 - 20^{\circ}\text{C}$ [ $32 - 70^{\circ}\text{F}$ ]		$t_a$ $20 - 40^{\circ}\text{C}$ [ $70 - 104^{\circ}\text{F}$ ]	
	Mineral oil ISO VG	Synthetic oil ISO VG	Mineral oil ISO VG	Synthetic oil ISO VG
Light duty	150	150	220	220
Medium duty	150	150	320	220
Heavy duty	220	220	460	320

(B2)

Oil temperature $^{\circ}\text{C}$ [ $^{\circ}\text{F}$ ]	Oil change interval [hours]	
	Mineral oil	Synthetic oil
$< 65$ [ $< 150^{\circ}\text{F}$ ]	8000	25000
$65 - 80$ [ $150^{\circ}\text{F} - 175^{\circ}\text{F}$ ]	4000	15000
$80 - 95$ [ $175^{\circ}\text{F} - 200^{\circ}\text{F}$ ]	2000	12500

Periodical oil changes are not required for sizes C 05...C 41 as they are lubricated for life with synthetic oil.

### Terminal box location

Location of motor terminal boxes can be specified by viewing the motor from the fan side; standard position is highlighted in bold (**W**).

### Angular position of the brake release lever

Unless otherwise specified, brake motors have the manual device side located,  $90^{\circ}$  apart from terminal box. Different angles can be specified through the relevant options available.



Oil quantity

(B3)



SHELL Tivela Oil S 320 (for life)


	P - NP						F - NF						NU - NUF					
	B3	B6	B7	B8	V5	V6	B5	B51	B53	B52	V1	V3	B5	B51	B53	B52	V1	V3
<b>C 05 2</b>	0.09 0.35	0.09 0.35	0.09 0.35	0.09 0.35	0.09 0.35	0.09 0.35	0.09 0.35	0.09 0.35	0.09 0.35	0.09 0.35	0.09 0.35	0.09 0.35	—	—	—	—	—	—
<b>C 11 2</b>	0.13 0.50	0.12 0.45	0.10 0.40	0.16 0.60	0.13 0.50	0.18 0.70	0.12 0.45	0.10 0.40	0.09 0.35	0.14 0.55	0.12 0.45	0.16 0.6	0.12 0.45	0.10 0.40	0.09 0.35	0.14 0.55	0.10 0.40	0.16 0.60
<b>C 21 2</b>	0.18 0.70	0.17 0.65	0.18 0.70	0.21 0.80	0.22 0.85	0.31 1.2	0.17 0.65	0.17 0.65	0.17 0.65	0.20 0.75	0.21 0.80	0.29 1.1	0.17 0.65	0.16 0.60	0.17 0.65	0.20 0.75	0.20 0.75	0.25 0.95
<b>C 21 3</b>	0.26 1.0	0.26 1.0	0.31 1.2	0.31 1.2	0.34 1.3	0.39 1.5	0.26 1.0	0.26 1.0	0.31 1.2	0.31 1.2	0.31 1.2	0.36 1.4	0.25 0.95	0.25 0.95	0.29 1.1	0.29 1.1	0.29 1.1	0.34 1.3
<b>C 31 2</b>	0.26 1.0	0.26 1.0	0.26 1.0	0.31 1.2	0.39 1.5	0.39 1.5	0.26 1.0	0.26 1.0	0.26 1.0	0.31 1.2	0.36 1.4	0.36 1.4	0.25 0.95	0.25 0.95	0.25 0.95	0.31 1.2	0.34 1.3	0.34 1.3
<b>C 31 3</b>	0.26 1.0	0.26 1.0	0.31 1.2	0.31 1.2	0.34 1.3	0.39 1.5	0.26 1.0	0.26 1.0	0.31 1.2	0.31 1.2	0.31 1.2	0.36 1.4	0.25 0.95	0.25 0.95	0.29 1.1	0.29 1.1	0.29 1.1	0.34 1.3
<b>C 35 2</b>	0.42 1.6	0.39 1.5	0.39 1.5	0.34 1.3	0.55 2.1	0.62 2.4	—	—	—	—	—	—	0.42 1.6	0.39 1.5	0.39 1.5	0.34 1.3	0.55 2.1	0.62 2.4
<b>C 35 3</b>	0.39 1.5	0.36 1.4	0.39 1.5	0.34 1.3	0.52 2.0	0.60 2.3	—	—	—	—	—	—	0.39 1.5	0.36 1.4	0.39 1.5	0.34 1.3	0.52 2.0	0.60 2.3
<b>C 35 4</b>	0.60 2.3	0.55 2.1	0.60 2.3	0.55 2.1	0.70 2.7	0.81 3.1	—	—	—	—	—	—	0.60 2.3	0.55 2.1	0.60 2.3	0.55 2.1	0.70 2.7	0.81 3.1
<b>C 41 2</b>	0.57 2.2	0.52 2.0	0.55 2.1	0.49 1.9	0.70 2.7	0.88 3.4	—	—	—	—	—	—	0.57 2.2	0.52 2.0	0.55 2.1	0.49 1.9	0.70 2.7	0.88 3.4
<b>C 41 3</b>	0.55 2.1	0.49 1.9	0.55 2.1	0.49 1.9	0.68 2.6	0.83 3.2	—	—	—	—	—	—	0.55 2.1	0.49 1.9	0.55 2.1	0.49 1.9	0.68 2.6	0.83 3.2
<b>C 41 4</b>	0.73 2.8	0.68 2.6	0.73 2.8	0.68 2.6	0.91 3.5	1.0 3.9	—	—	—	—	—	—	0.73 2.8	0.68 2.6	0.73 2.8	0.68 2.6	0.91 3.5	1.0 3.9
<b>C 51 2</b>	0.81 3.1	0.78 3.0	0.81 3.1	0.78 3.0	1.1 4.3	1.3 5.0	—	—	—	—	—	—	0.81 3.1	0.78 3.0	0.81 3.1	0.78 3.0	1.1 4.3	1.3 5.0
<b>C 51 3</b>	0.78 3.0	0.73 2.8	0.81 3.1	0.78 3.0	1.1 4.1	1.3 4.9	—	—	—	—	—	—	0.78 3.0	0.73 2.8	0.81 3.1	0.78 3.0	1.1 4.1	1.3 4.9
<b>C 51 4</b>	1.1 4.3	1.1 4.1	1.1 4.4	1.1 4.2	1.4 5.4	1.6 6.1	—	—	—	—	—	—	1.1 4.3	1.1 4.1	1.1 4.4	1.1 4.2	1.4 5.4	1.6 6.1

Life lubricated

Quantities are  $\frac{\text{gallons}}{\text{litres}}$

Oil quantity

(B3)

	 SHELL Tivela Oil S 320 (for life)																	
	P - NP						F - NF						NU - NUF					
	B3	B6	B7	B8	V5	V6	B5	B51	B53	B52	V1	V3	B5	B51	B53	B52	V1	V3
<b>C 61 2</b>	1.1	1.0	1.1	1.1	1.6	1.7	—	—	—	—	—	—	1.1	1.0	1.1	1.1	1.6	1.7
	4.2	4.0	4.2	4.1	6.0	6.7	—	—	—	—	—	—	4.2	4.0	4.2	4.1	6.0	6.7
<b>C 61 3</b>	1.1	1.0	1.1	1.1	1.6	1.7	—	—	—	—	—	—	1.1	1.0	1.1	1.1	1.6	1.7
	4.2	4.0	4.2	4.1	6.0	6.7	—	—	—	—	—	—	4.2	4.0	4.2	4.1	6.0	6.7
<b>C 61 4</b>	1.6	1.5	1.6	1.6	2.1	2.2	—	—	—	—	—	—	1.6	1.5	1.6	1.6	2.1	2.2
	6.1	5.9	6.1	6.0	7.9	8.6	—	—	—	—	—	—	6.1	5.9	6.1	6.0	7.9	8.6
<b>C 70 2</b>	1.7	2.2	2.2	2.0	2.9	2.0	1.7	2.2	2.2	2.0	2.9	2.0	—	—	—	—	—	—
	6.5	8.5	8.5	7.5	11	7.5	6.5	8.5	8.5	7.5	11	7.5	—	—	—	—	—	—
<b>C 70 3</b>	1.7	2.2	2.2	2.0	2.9	2.0	1.7	2.2	2.2	2.0	2.9	2.0	—	—	—	—	—	—
	6.5	8.5	8.5	7.5	11	7.5	6.5	8.5	8.5	7.5	11	7.5	—	—	—	—	—	—
<b>C 70 4</b>	1.7	2.2	2.2	2.0	2.9	2.1	1.7	2.2	2.2	2.0	2.9	2.0	—	—	—	—	—	—
	6.5	8.5	8.5	7.5	11	8.0	6.5	8.5	8.5	7.5	11	7.5	—	—	—	—	—	—
<b>C 80 2</b>	2.9	3.6	3.6	3.4	4.7	3.4	2.9	3.6	3.6	3.4	4.7	3.4	—	—	—	—	—	—
	11	14	14	13	18	13	11	14	14	13	18	13	—	—	—	—	—	—
<b>C 80 3</b>	2.9	3.6	3.6	3.4	4.7	3.4	2.9	3.6	3.6	3.4	4.7	3.4	—	—	—	—	—	—
	11	14	14	13	18	13	11	14	14	13	18	13	—	—	—	—	—	—
<b>C 80 4</b>	2.9	3.6	3.6	3.4	4.7	3.4	2.9	3.6	3.6	3.4	4.7	3.4	—	—	—	—	—	—
	11	14	14	13	18	13	11	14	14	13	18	13	—	—	—	—	—	—
<b>C 90 2</b>	4.9	6.5	6.5	5.7	8.1	5.7	4.9	6.5	6.5	5.7	8.1	5.7	—	—	—	—	—	—
	19	25	25	22	31	22	19	25	25	22	31	22	—	—	—	—	—	—
<b>C 90 3</b>	4.9	6.5	6.5	5.7	8.1	5.7	4.9	6.5	6.5	5.7	8.1	5.7	—	—	—	—	—	—
	19	25	25	22	31	22	19	25	25	22	31	22	—	—	—	—	—	—
<b>C 90 4</b>	4.9	6.5	6.5	5.7	8.1	5.7	4.9	6.5	6.5	5.7	8.1	5.7	—	—	—	—	—	—
	19	25	25	22	31	22	19	25	25	22	31	22	—	—	—	—	—	—
<b>C 100 2</b>	7.0	9.6	9.6	8.6	11.7	8.6	7.0	9.6	9.6	8.6	11.7	8.6	—	—	—	—	—	—
	27	37	37	33	45	33	27	37	37	33	45	33	—	—	—	—	—	—
<b>C 100 3</b>	7.0	9.6	9.6	8.6	11.7	8.6	7.0	9.6	9.6	8.6	11.7	8.6	—	—	—	—	—	—
	27	37	37	33	45	33	27	37	37	33	45	33	—	—	—	—	—	—
<b>C 100 4</b>	7.0	9.6	9.6	8.6	11.7	8.6	7.0	9.6	9.6	8.6	11.7	8.6	—	—	—	—	—	—
	27	37	37	33	45	33	27	37	37	33	45	33	—	—	—	—	—	—

Quantities are  $\frac{\text{gallons}}{\text{litres}}$

## 2.7 MOUNTING POSITION AND TERMINAL BOX SPECIFICATION

	Fill / breather plug		Level plug		Drain plug
--	----------------------	--	------------	--	------------

Input:	HS	P (IEC) N (NEMA)	S
<p><b>B3</b></p> <p>W = Default</p>			
<p><b>B6</b></p> <p>W = Default</p>			
<p><b>B7</b></p> <p>W = Default</p>			

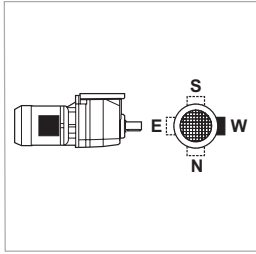
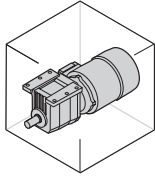
Input:

HS

P (IEC)  
N (NEMA)

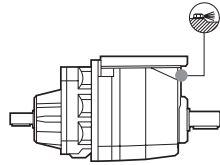
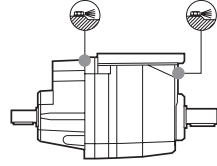
S

## B8

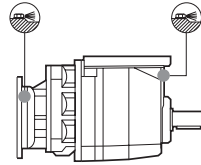
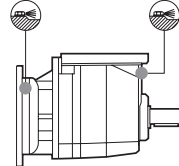


W = Default

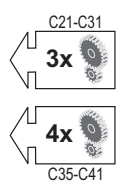
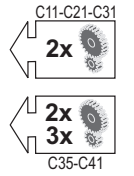
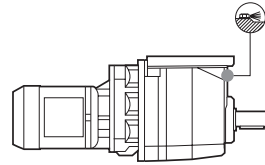
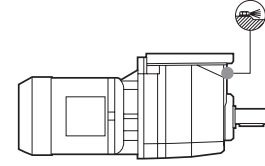
(C21,C31) (C11,C35,C41)



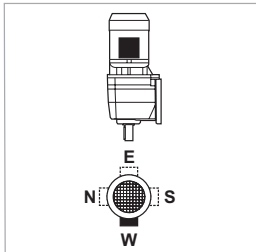
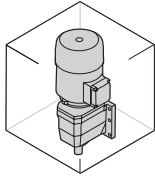
(C35,C41)



(C35,C41)

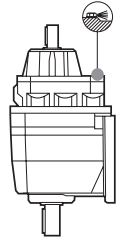
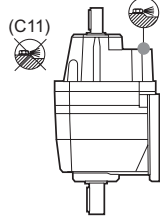


## V5

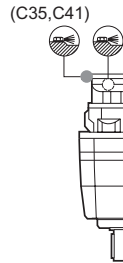
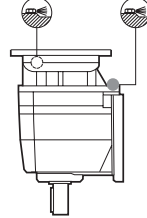


W = Default

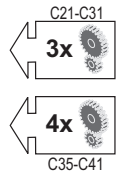
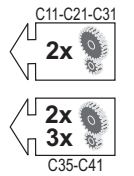
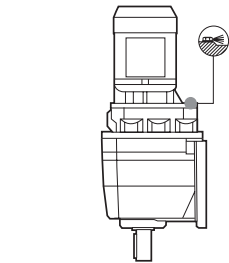
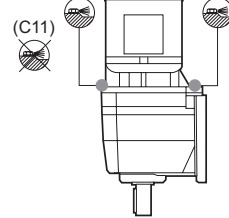
(C21, C31,C35,C41)



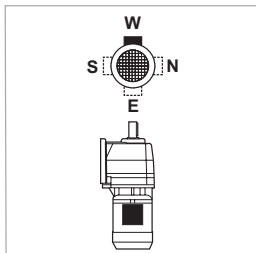
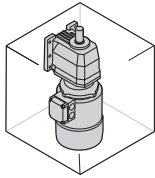
(C35,C41)



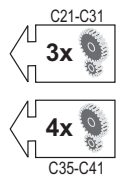
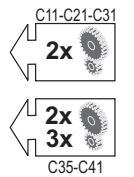
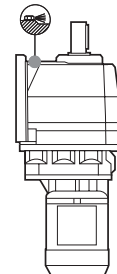
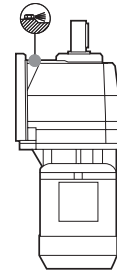
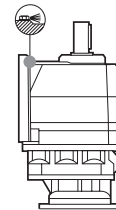
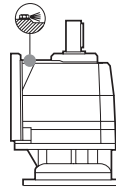
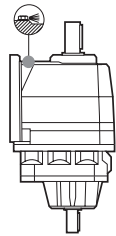
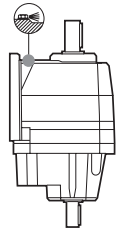
(C21, C31)



## V6



W = Default





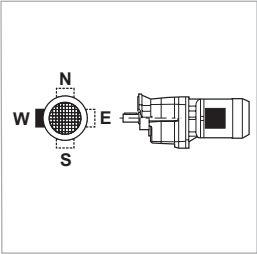
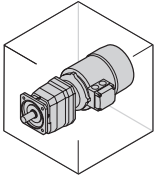
Input:

**HS**

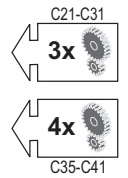
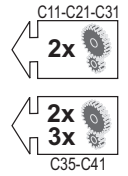
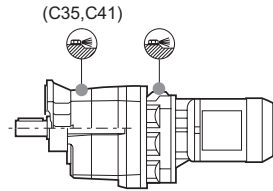
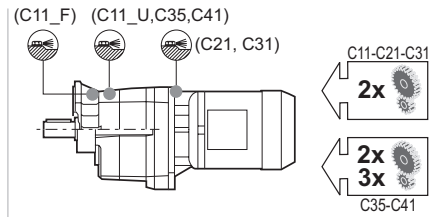
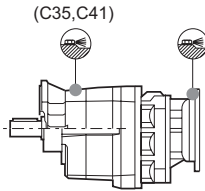
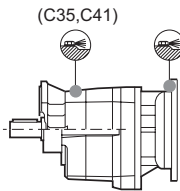
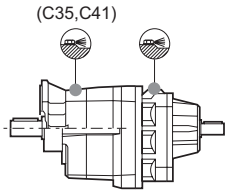
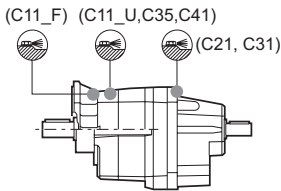
**P (IEC)  
N (NEMA)**

**S**

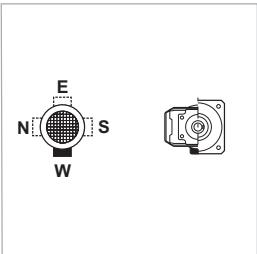
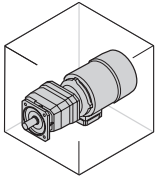
**B5**



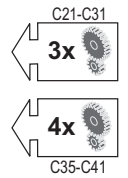
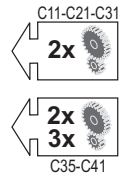
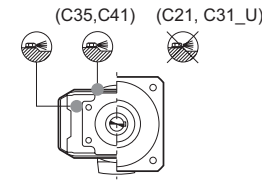
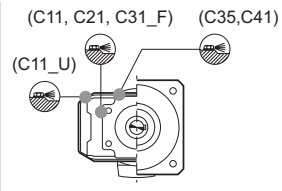
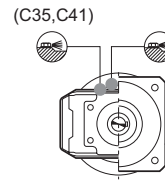
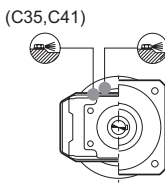
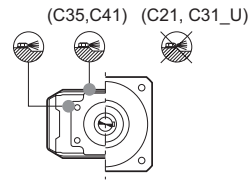
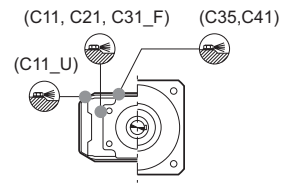
W = Default



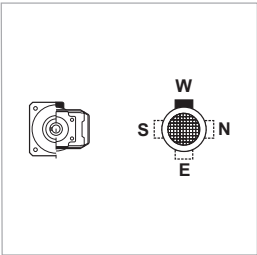
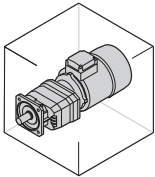
**B51**



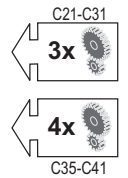
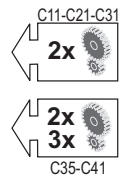
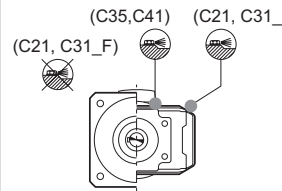
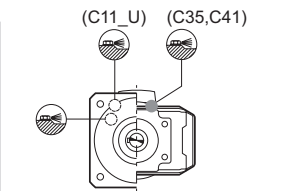
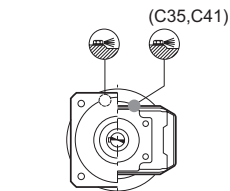
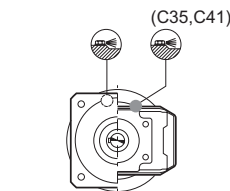
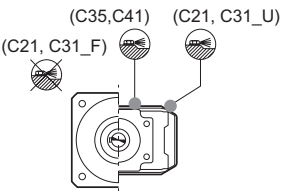
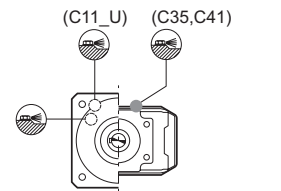
W = Default



**B53**



W = Default



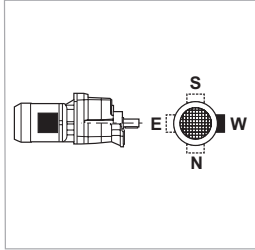
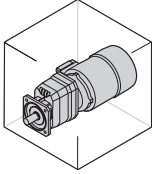
Input:

HS

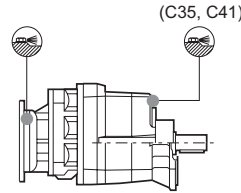
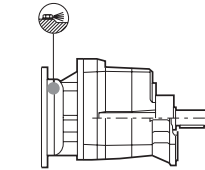
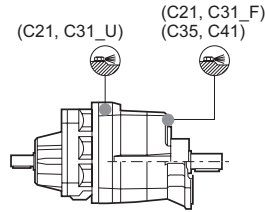
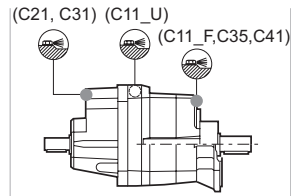
P (IEC)  
N (NEMA)

S

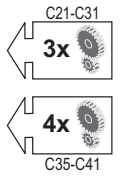
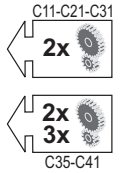
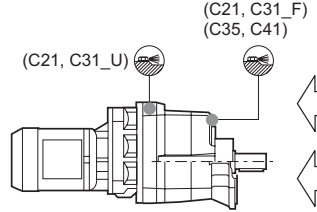
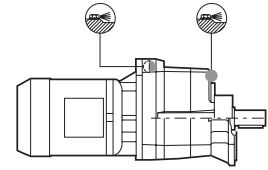
## B52



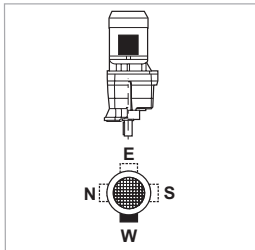
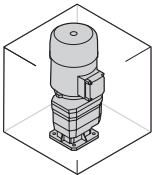
W = Default



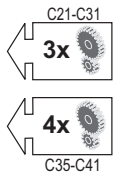
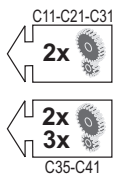
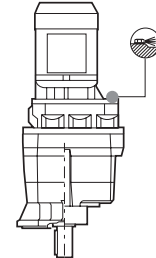
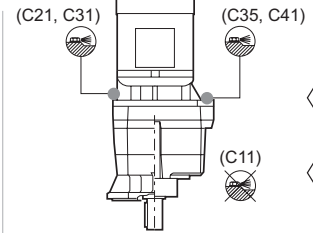
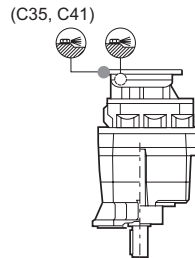
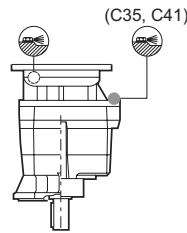
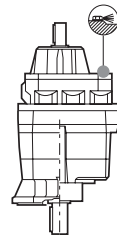
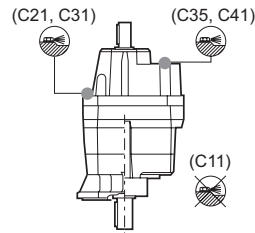
(C11\_U) (C11\_F)  
(C21, C31\_U) (C21, C31\_F, C35, C41)



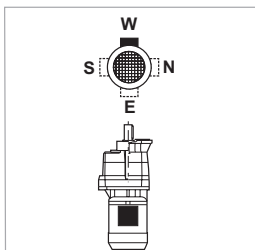
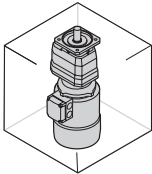
## V1



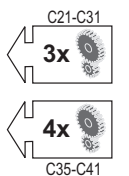
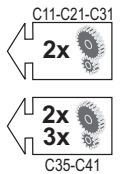
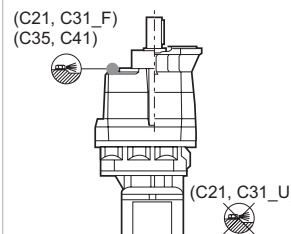
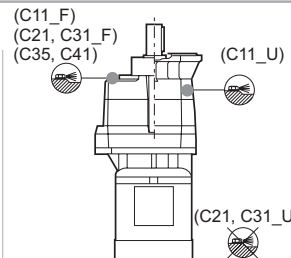
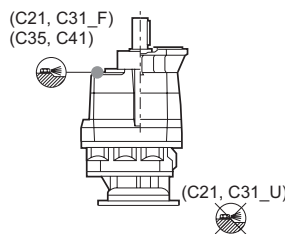
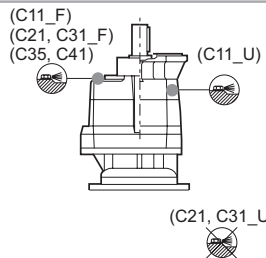
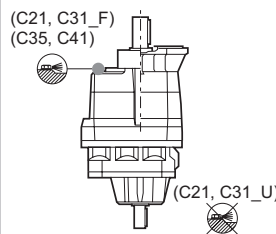
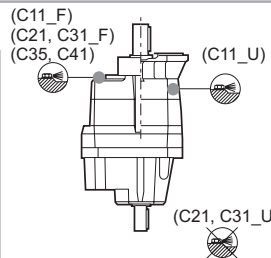
W = Default



## V3



W = Default



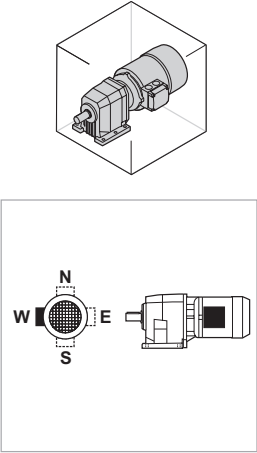
Input:

**HS**

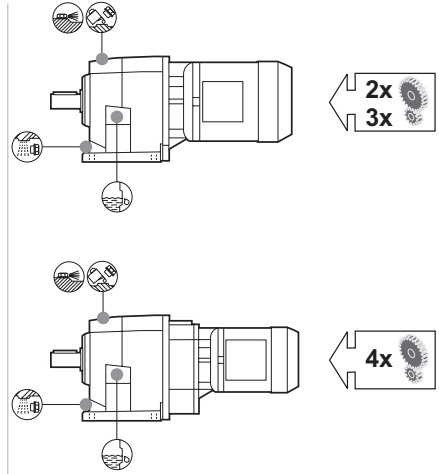
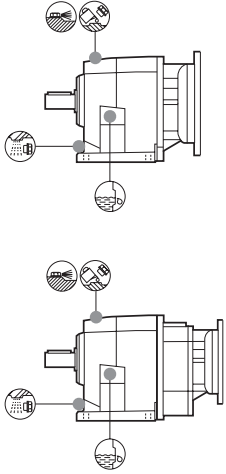
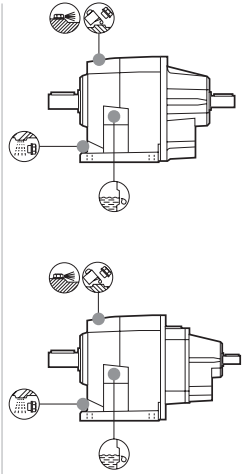
**P (IEC)  
N (NEMA)**

**S**

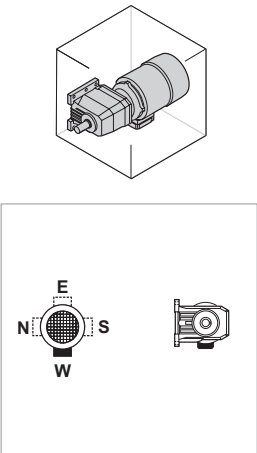
**B3**



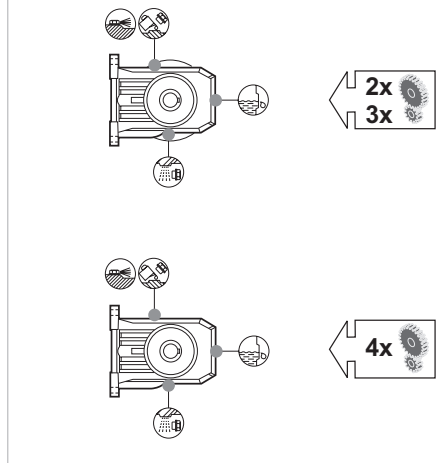
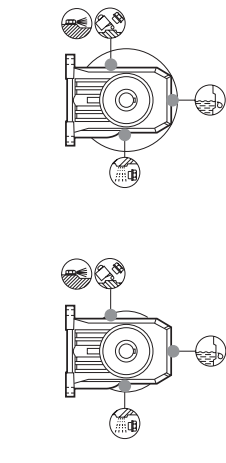
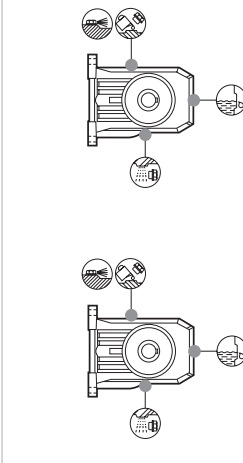
W = Default



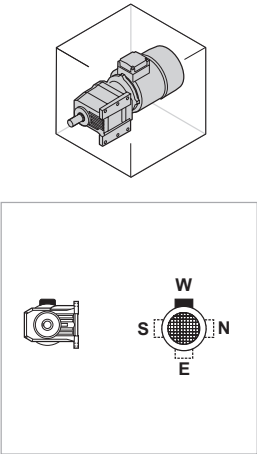
**B6**



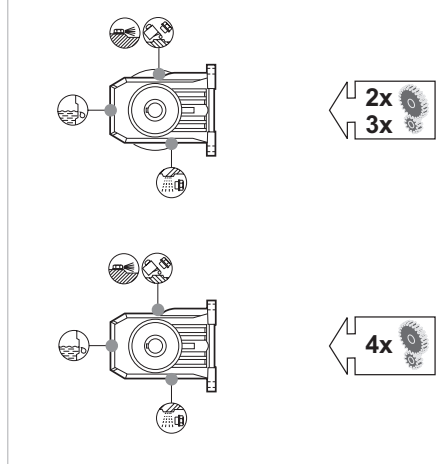
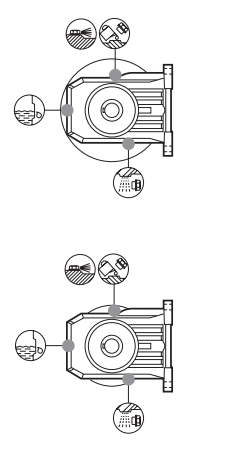
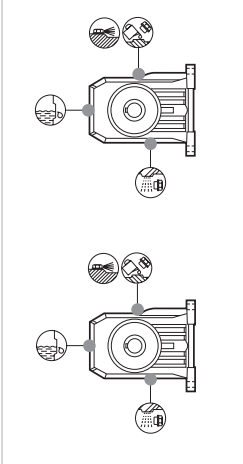
W = Default



**B7**



W = Default



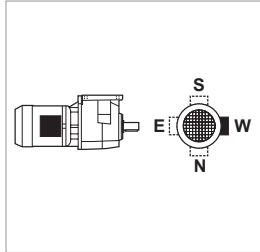
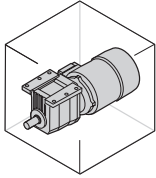
Input:

HS

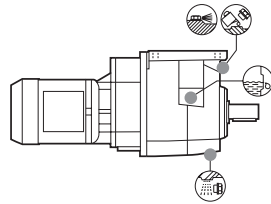
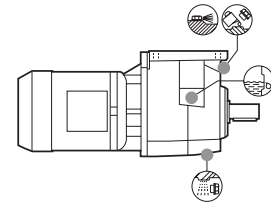
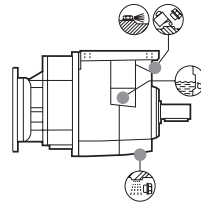
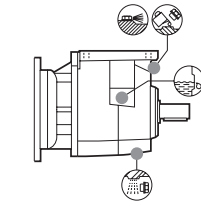
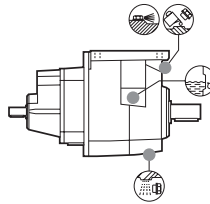
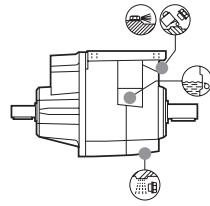
P (IEC)  
N (NEMA)

S

**B8**



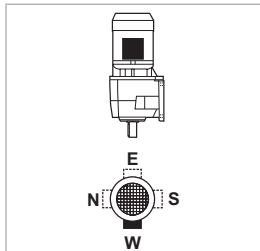
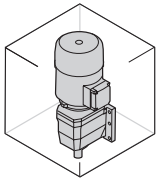
W = Default



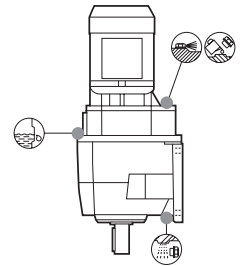
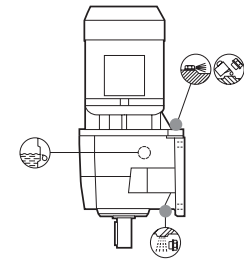
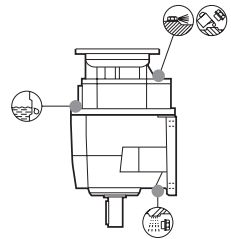
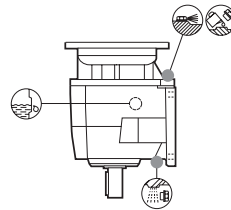
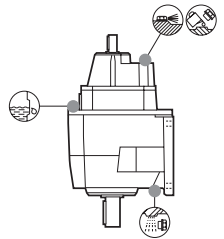
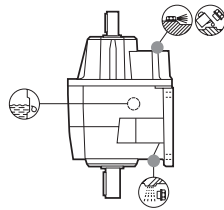
2x  
3x

4x

**V5**



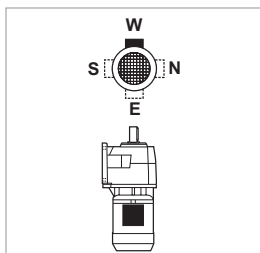
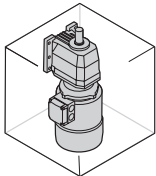
W = Default



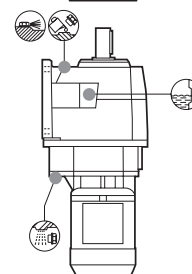
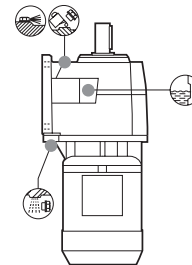
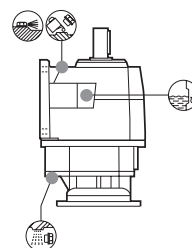
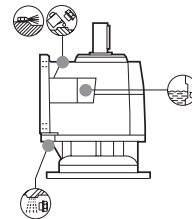
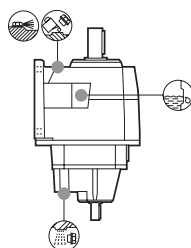
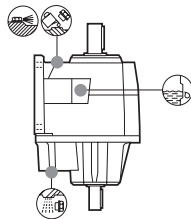
2x  
3x

4x

**V6**



W = Default



2x  
3x

4x

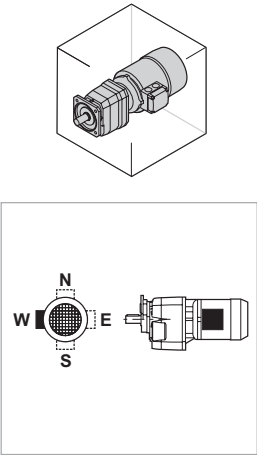
Input:

**HS**

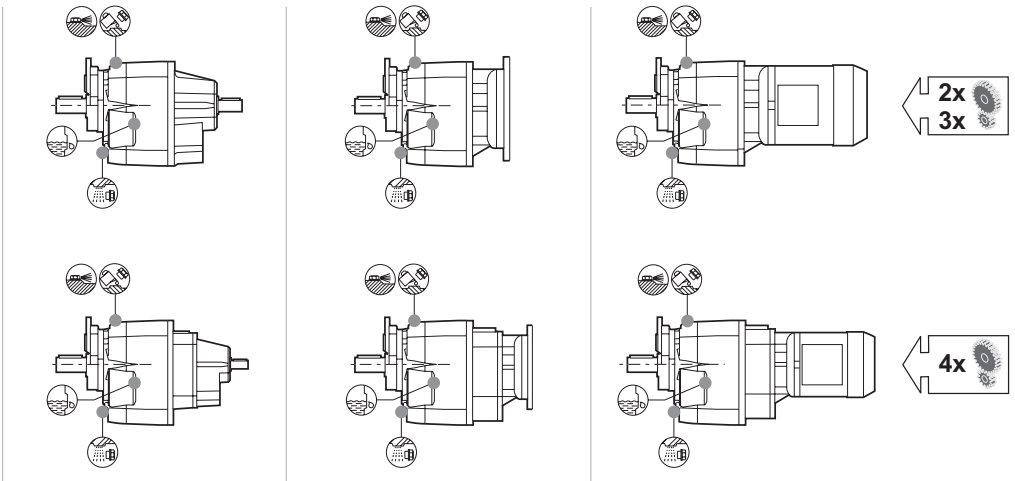
**P (IEC)  
N (NEMA)**

**S**

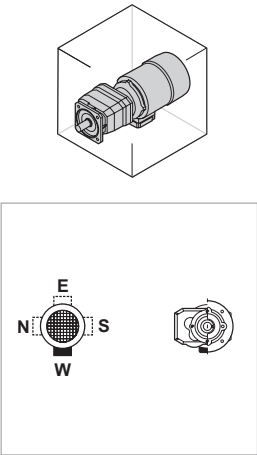
**B5**



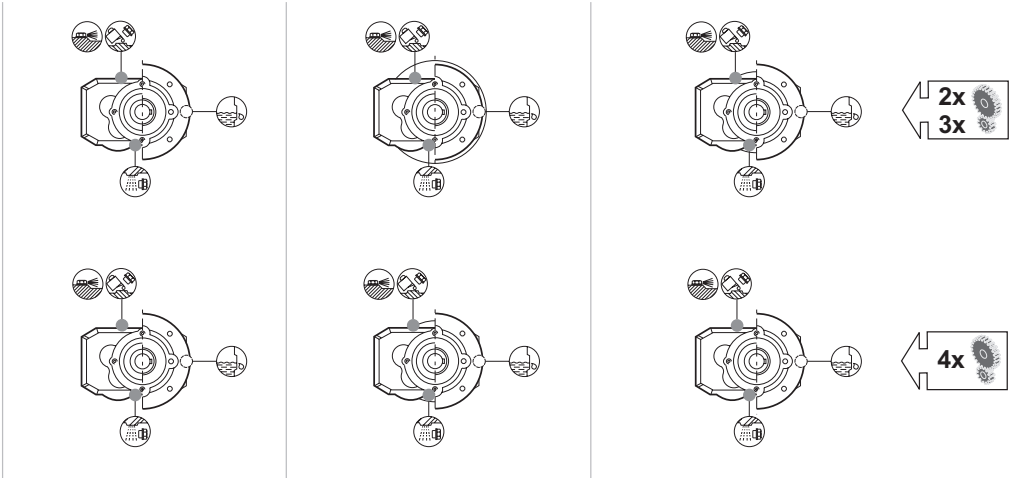
W = Default



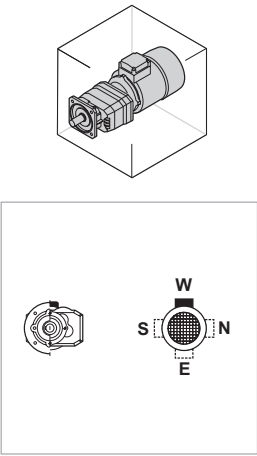
**B51**



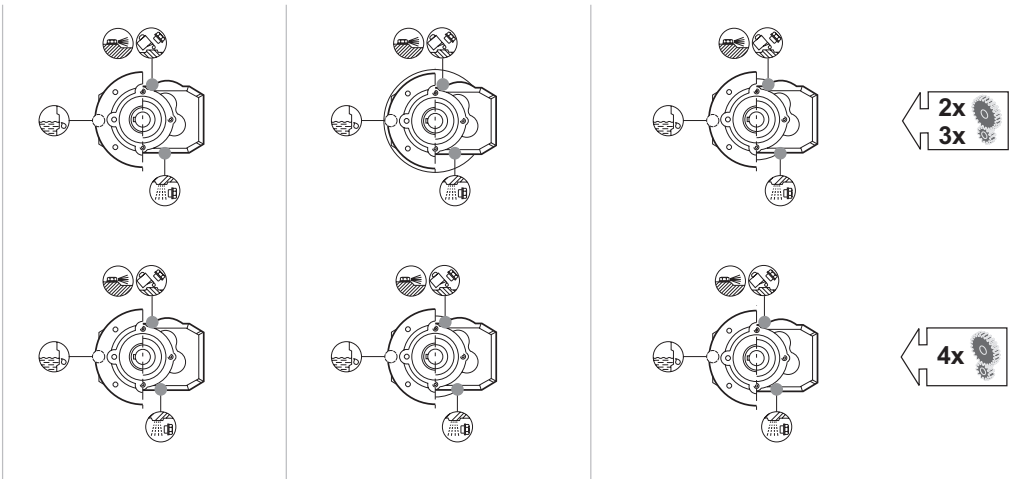
W = Default



**B53**



W = Default



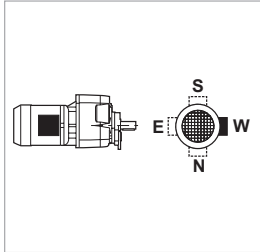
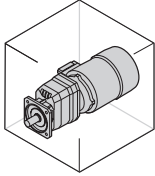
Input:

HS

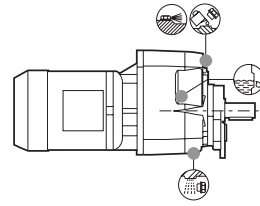
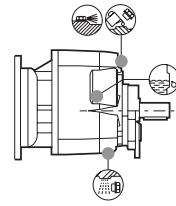
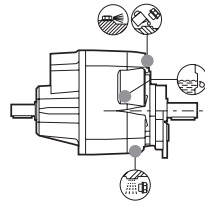
P (IEC)  
N (NEMA)

S

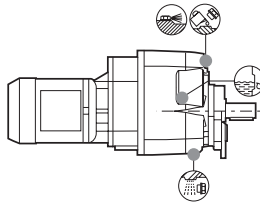
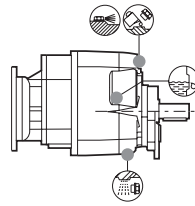
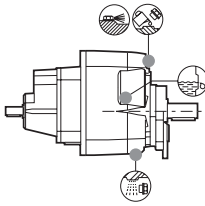
## B52



W = Default

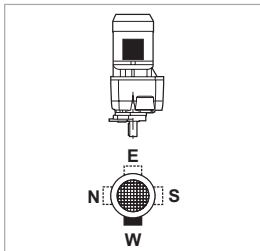
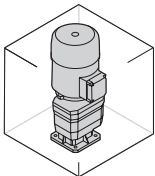


2x  
3x

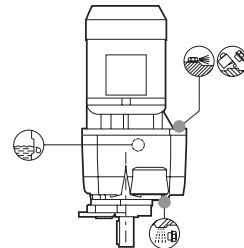
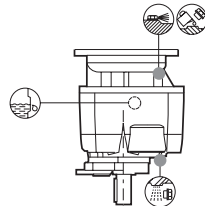
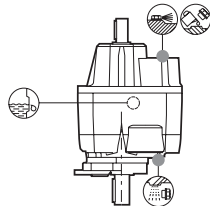


4x

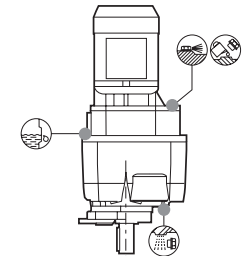
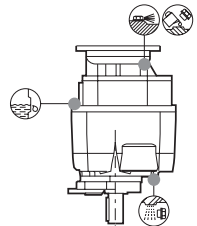
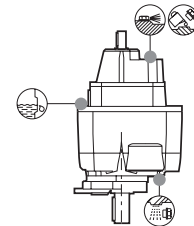
## V1



W = Default

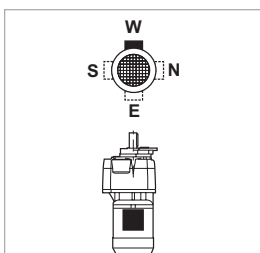
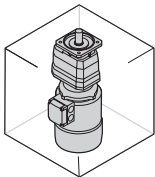


2x  
3x

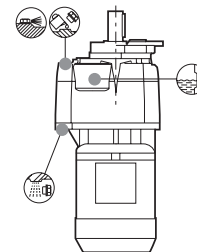
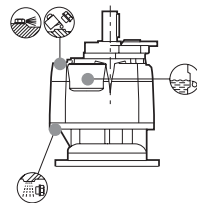
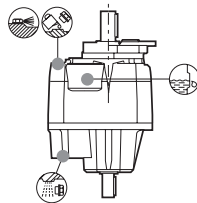


4x

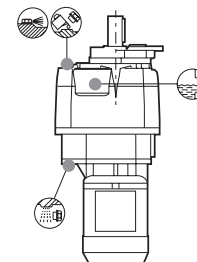
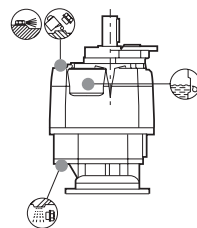
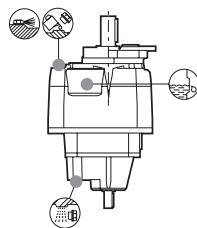
## V3



W = Default



2x  
3x



4x



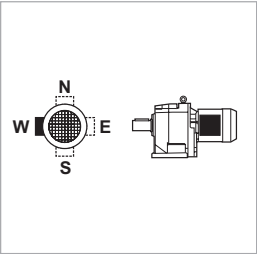
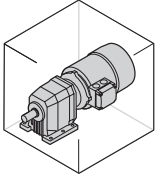
Input:

**HS**

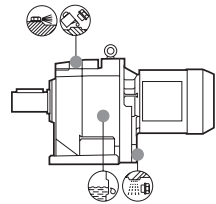
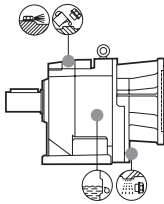
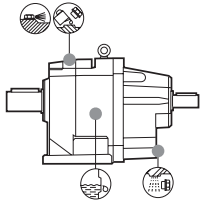
**P (IEC)  
N (NEMA)**

**S**

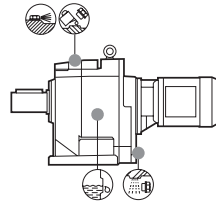
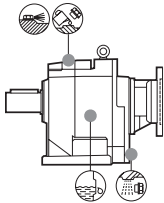
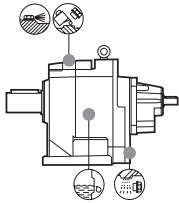
**B3**



W = Default

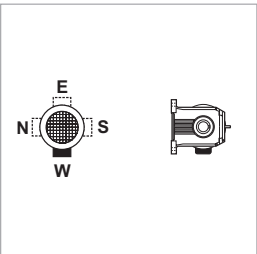
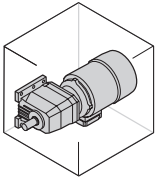


2x  
3x

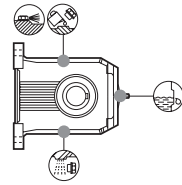
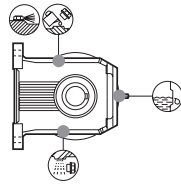
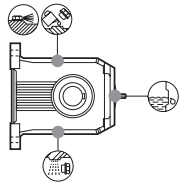


4x

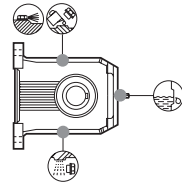
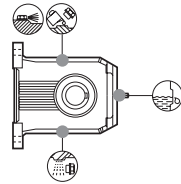
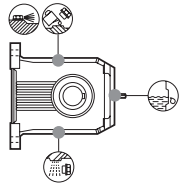
**B6**



W = Default

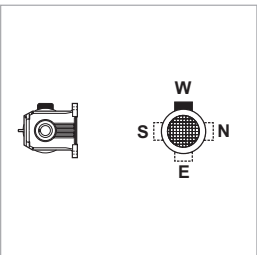
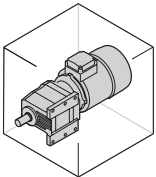


2x  
3x

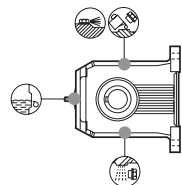
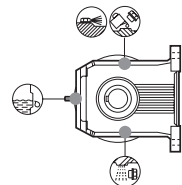
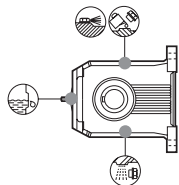


4x

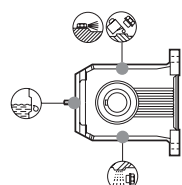
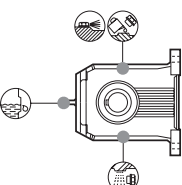
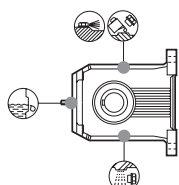
**B7**



W = Default



2x  
3x



4x

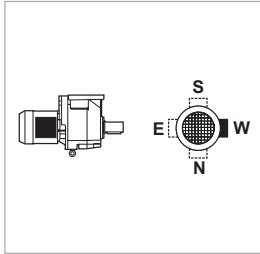
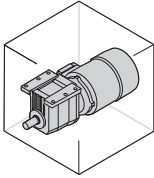
Input:

HS

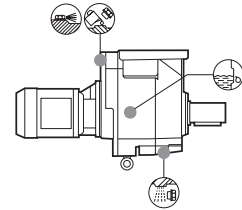
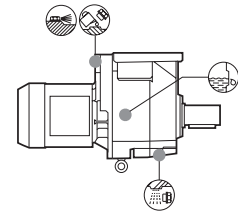
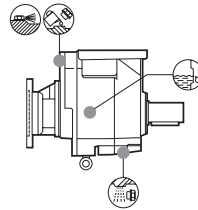
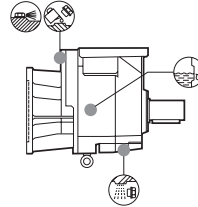
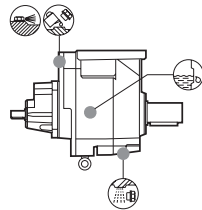
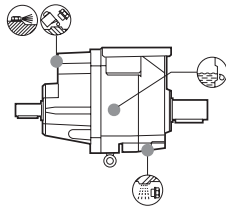
P (IEC)  
N (NEMA)

S

**B8**



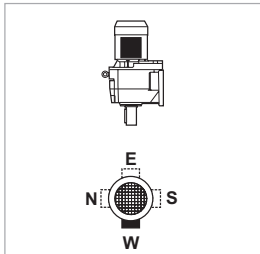
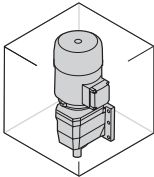
W = Default



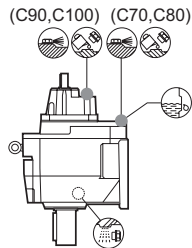
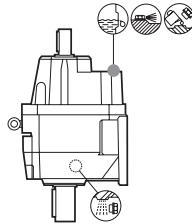
2x  
3x

4x

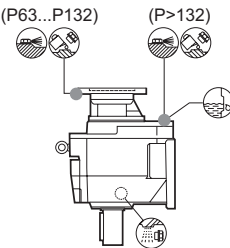
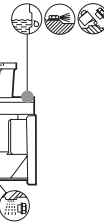
**V5**



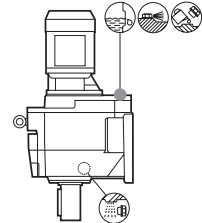
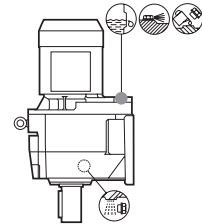
W = Default



(C90, C100) (C70, C80)



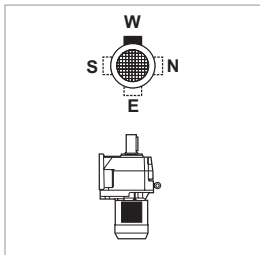
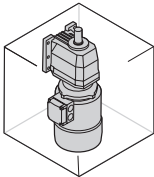
(P63...P132) (P>132)



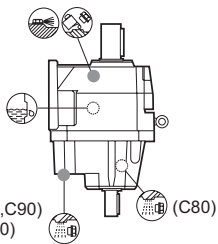
2x  
3x

4x

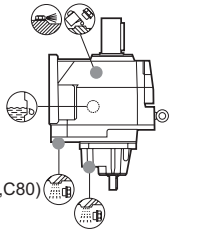
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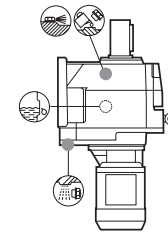
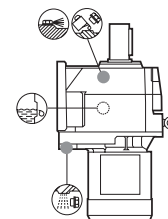
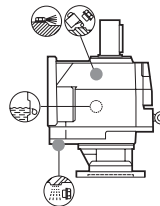
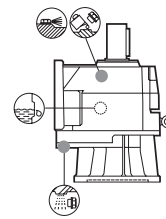
W = Default



(C70, C90) (C100) (C80)



(C70, C80) (C90, C100)



2x  
3x

4x

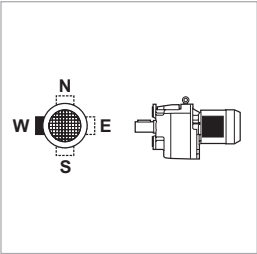
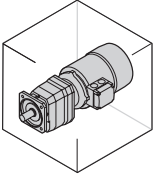
Input:

**HS**

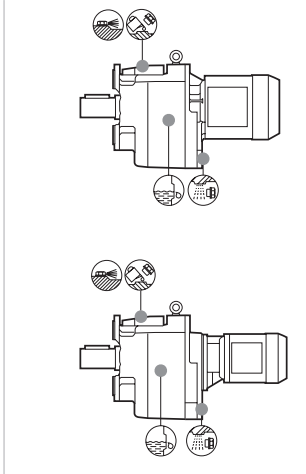
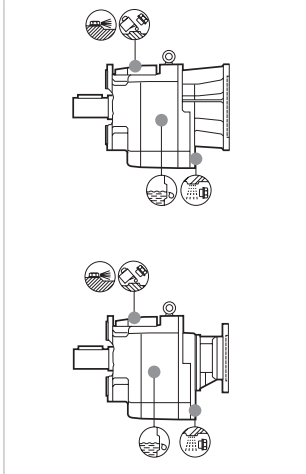
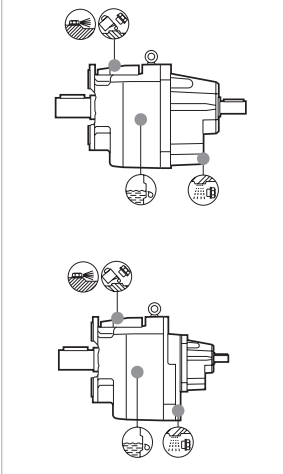
**P (IEC)  
N (NEMA)**

**S**

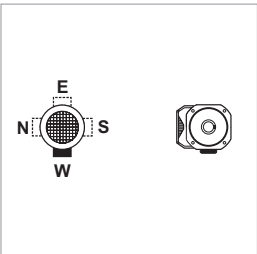
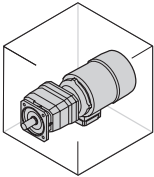
**B5**



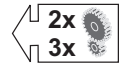
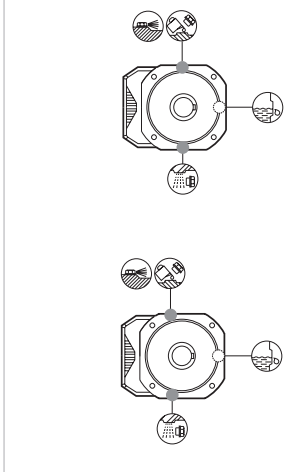
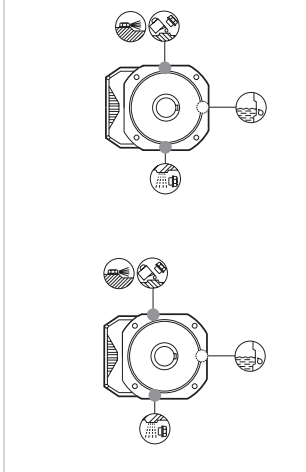
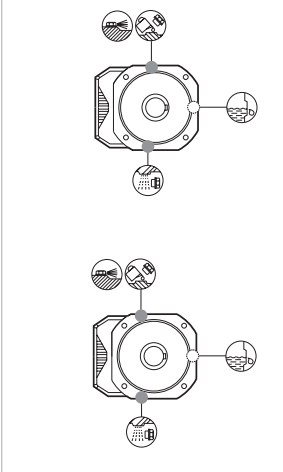
W = Default



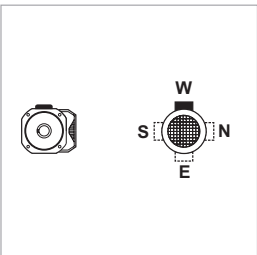
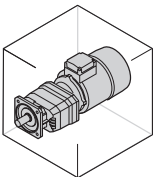
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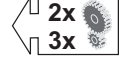
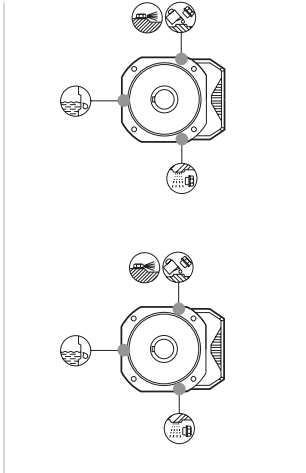
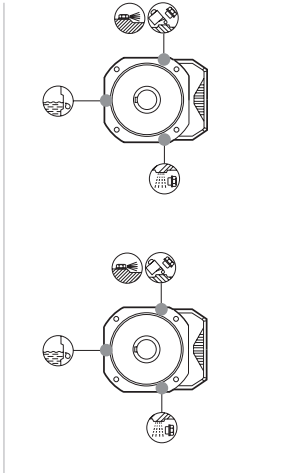
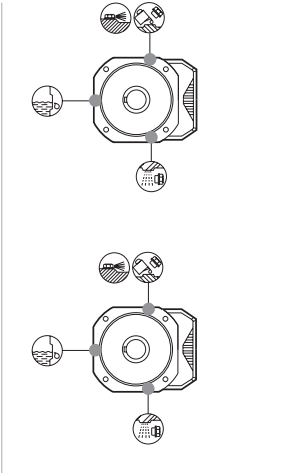
W = Default



**B53**



W = Default



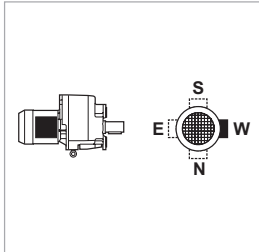
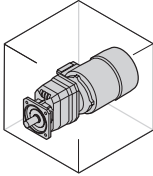
Input:

HS

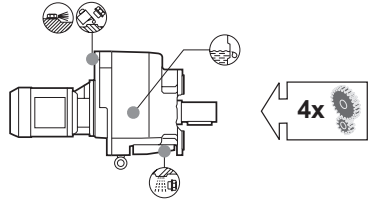
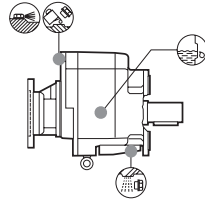
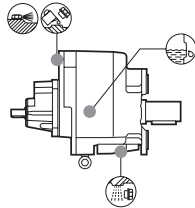
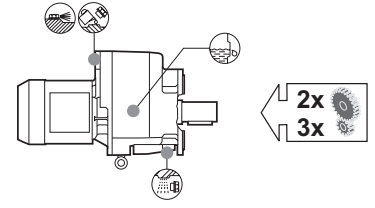
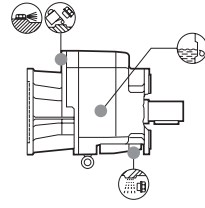
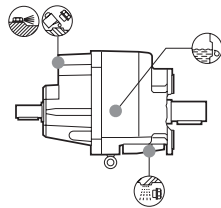
P (IEC)  
N (NEMA)

S

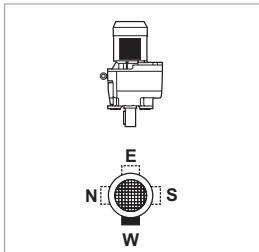
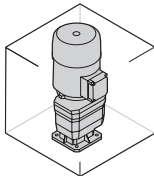
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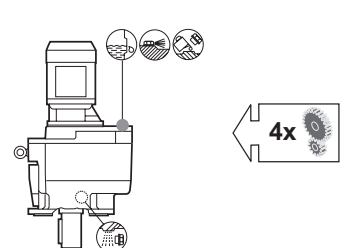
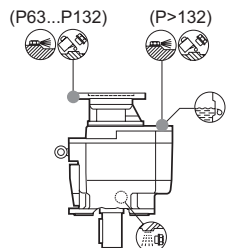
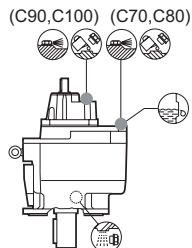
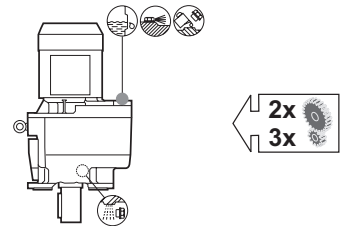
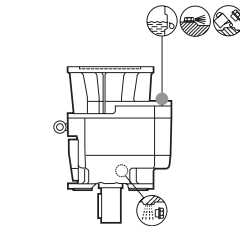
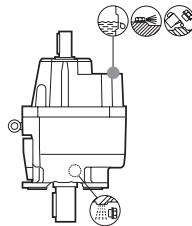
W = Default



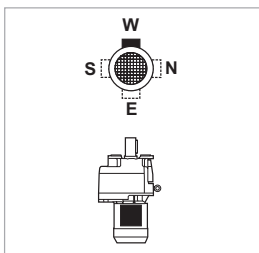
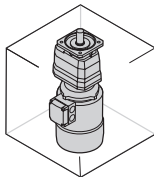
## V1



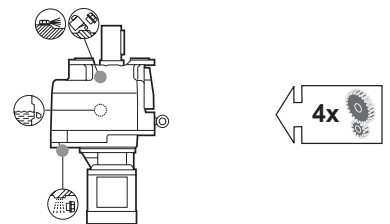
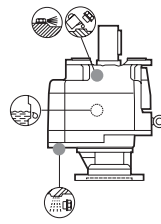
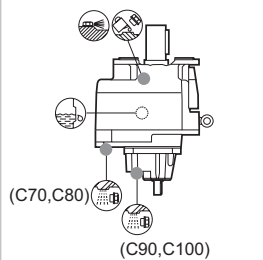
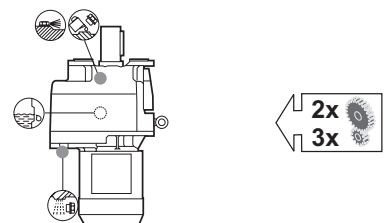
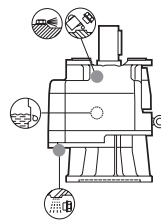
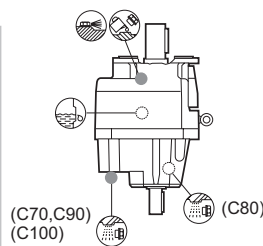
W = Default



## V3



W = Default



## 2.8 OVERHUNG LOADS

Input and output shaft of speed reducer can be subject to loading generated by the transmission keyed on the shaft itself.

Overhung load can be calculated with the following formula where all factors are determined at shaft under study.

[N.B. (1) = input shaft; (2) = output shaft]

$$R_c = \frac{2 \times T \times K_r}{d}$$

$R_c$  = overhung load in [lbs]

$T$  = torque in [lb-in]

$d$  = pitch diameter in inches of sprocket, pinion, sheave or pulley

$K_r$  = transmission element factor

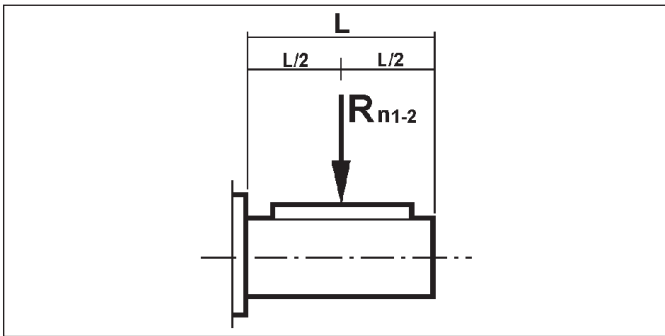
Sprocket (single or multiple strand) .....	1.0
Spur or helical pinion .....	1.25
V-belt sheave .....	1.50
Flat belt pulley .....	2.50

a) load  $R_{c1}$  or  $R_{c2}$  applied at midpoint of shaft as indicated in table (B4).

This value can be directly compared with rated OHL capacity by observing the condition:

$$R_{c1} \leq R_{n1} \quad ; \quad R_{c2} \leq R_{n2}$$

(B4)



b) load applied at distance "x" from shaft shoulder as shown in table (B5).

Conversion to the new permitted overhung load values  $R_{x1}$  and  $R_{x2}$  is obtained from the following equation:

$$R_{x1} = R_{n1} \times \frac{a}{b + "x"} \quad ; \quad R_{x2} = R_{n2} \times \frac{a}{b + "x"}$$

as long as  $\frac{L}{2} < "x" < c$

$R_{n1}, R_{n2}$  = permitted OHL on shaft mid-point [lbs] (radial load table)

$a$  = load location factor

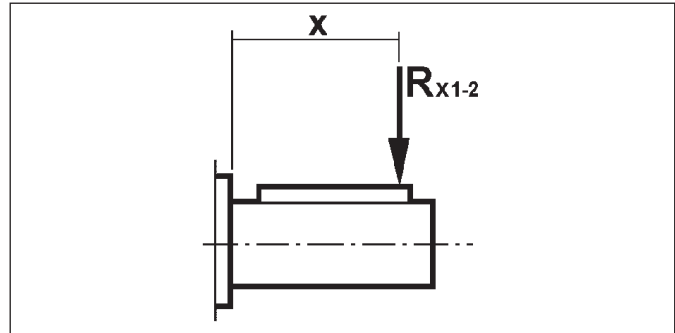
$b$  = load location factor

$c$  = load location factor

$x$  = distance of load from shaft shoulder [in]

load location factors  $a, b, c$  are shown in table (B6).

(B5)



(B6)

	Load location factors [in]					
	Low speed shaft			High speed shaft		
	a	b	c	a	b	c
<b>C 05 2</b>	1.5	0.7	9.8	-	-	-
<b>C 11 2</b>	1.8	1.0	17.7	0.8	0	11.8
<b>C 21 2</b>	2.1	1.1	21.7	1.6	0.8	13.8
<b>C 21 3</b>	2.1	1.1	21.7	0.8	0	11.8
<b>C 31 2</b>	2.4	1.2	29.5	1.6	0.8	13.8
<b>C 31 3</b>	2.4	1.2	29.5	0.8	0	11.8
<b>C 35 2 - C 35 3</b>	2.7	1.4	31.5	2.0	1.0	17.7
<b>C 35 4</b>	2.7	1.4	31.5	1.6	0	11.8
<b>C 41 2 - C 41 3</b>	2.7	1.4	33.5	2.0	1.0	17.7
<b>C 41 4</b>	2.7	1.4	33.5	1.6	0.8	13.8
<b>C 51 2 - C 51 3</b>	3.0	1.4	35.4	2.0	1.0	17.7
<b>C 51 4</b>	3.0	1.4	35.4	1.6	0.8	13.8
<b>C 61 2 - C 61 3</b>	3.8	1.8	39.4	2.3	1.1	17.7
<b>C 61 4</b>	3.8	1.8	39.4	2.0	1.0	17.7
<b>C 70 2 - C 70 3</b>	4.5	2.1	47.2	3.4	1.2	39.4
<b>C 70 4</b>	4.5	2.1	47.2	1.9	1.0	17.7
<b>C 80 2 - C 80 3</b>	5.2	2.4	59.1	3.4	1.2	39.4
<b>C 80 4</b>	5.2	2.4	59.1	1.9	1.0	17.7
<b>C 90 2 - C 90 3</b>	6.3	3.0	78.7	4.6	1.8	55.1
<b>C 90 4</b>	6.3	3.0	78.7	1.9	1.0	17.7
<b>C 100 2 - C 100 3</b>	6.4	2.3	98.4	4.6	1.8	55.1
<b>C 100 4</b>	6.4	2.3	98.4	1.9	1.0	17.7

## Overhung load capacity of output shaft, $R_{n2}$

Rated values for radial load referred to mid-point of the output shaft are listed in the gearmotor and speed reducer rating charts. They are based on transmitted torque  $T_2$  and rated torque  $T_{n2}$  respectively and for the most unfavourable condition as far as the load angle and rotation direction.

If permitted values are below required values, please consult our Technical Service Department reporting the load angle and shaft rotation direction.

## Overhung load capacity of input shaft, $R_{n1}$

These values which are shown in the speed reducer selection charts refer to input speed and are calculated at mid-point of the input shaft.

If permitted values are below required values, please consult our Technical Service reporting load orientation and shaft rotation direction.

## Thrust loads, $A_{n1}$ $A_{n2}$

Maximum permitted thrust loads can be calculated as follows:

$$A_{n1} = R_{n1} \cdot 0.2$$






$$A_{n2} = R_{n2} \cdot 0.2$$

If thrust load exceeds permitted value, consult our Technical Service.


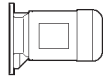
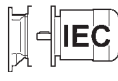




## 2.9 GEARMOTOR RATING CHARTS






### 0.16 hp

$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
604	16	20.6	2.8:1	290	C112_ 2.8	S05 + M05A4	P63 + BN63A4	N56C	117...128
457	21	17.7	3.7:1	320	C112_ 3.7	S05 + M05A4	P63 + BN63A4	N56C	117...128
345	28	15.3	4.9:1	350	C112_ 4.9	S05 + M05A4	P63 + BN63A4	N56C	117...128
273	35	13.3	6.2:1	380	C112_ 6.2	S05 + M05A4	P63 + BN63A4	N56C	117...128
252	38	7.5	6.7:1	150	C052_ 6.7	S05 + M05A4			115...116
228	42	6.1	7.4:1	150	C052_ 7.4	S05 + M05A4			115...116
182	53	5.2	9.3:1	160	C052_ 9.3	S05 + M05A4			115...116
164	58	6.5	6.7:1	170	C052_ 6.7	S05 + M05B6			115...116
151	64	5.4	11.2:1	170	C052_ 11.2	S05 + M05A4			115...116
135	71	4.7	12.5:1	180	C052_ 12.5	S05 + M05A4			115...116
108	89	4.0	15.6:1	180	C052_ 15.6	S05 + M05A4			115...116
98	98	4.1	11.2:1	190	C052_ 11.2	S05 + M05B6			115...116
89	107	3.3	18.9:1	190	C052_ 18.9	S05 + M05A4			115...116
80	119	3.5	21.0:1	200	C052_ 21.0	S05 + M05A4			115...116
71	136	3.0	15.6:1	200	C052_ 15.6	S05 + M05B6			115...116
62	154	2.6	27.1:1	210	C052_ 27.1	S05 + M05A4			115...116
52	186	2.1	32.8:1	220	C052_ 32.8	S05 + M05A4			115...116
51	190	4.7	33.4:1	450	C112_ 33.4	S05 + M05A4	P63 + BN63A4	N56C	117...128
46	207	1.9	36.4:1	220	C052_ 36.4	S05 + M05A4			115...116
46	210	3.8	37.0:1	450	C112_ 37.0	S05 + M05A4	P63 + BN63A4	N56C	117...128
42	229	1.7	40.3:1	220	C052_ 40.3	S05 + M05A4			115...116
39	243	3.6	42.9:1	450	C112_ 42.9	S05 + M05A4	P63 + BN63A4	N56C	117...128
38	254	1.5	44.7:1	230	C052_ 44.7	S05 + M05A4			115...116
36	270	2.9	47.6:1	450	C112_ 47.6	S05 + M05A4	P63 + BN63A4	N56C	117...128
34	282	3.1	49.7:1	450	C112_ 49.7	S05 + M05A4	P63 + BN63A4	N56C	117...128
31	313	2.5	55.2:1	450	C112_ 55.2	S05 + M05A4	P63 + BN63A4	N56C	117...128
29.6	323	3.1	57.0:1	1120	C212_ 57.0	S05 + M05A4	P63 + BN63A4	N56C	129...140
28.4	338	2.1	59.6:1	450	C112_ 59.6	S05 + M05A4	P63 + BN63A4	N56C	117...128
25.5	376	2.1	66.2:1	450	C112_ 66.2	S05 + M05A4	P63 + BN63A4	N56C	117...128
20.5	457	3.9	82.6:1	1120	C213_ 82.6	S05 + M05A4	P63 + BN63A4	N56C	129...140
18.7	499	3.5	90.2:1	1120	C213_ 90.2	S05 + M05A4	P63 + BN63A4	N56C	129...140
16.9	554	3.2	100.2:1	1120	C213_ 100.2	S05 + M05A4	P63 + BN63A4	N56C	129...140
15.4	608	2.9	110.0:1	1120	C213_ 110.0	S05 + M05A4	P63 + BN63A4	N56C	129...140
13.8	676	2.6	122.2:1	1120	C213_ 122.2	S05 + M05A4	P63 + BN63A4	N56C	129...140
13.8	677	3.9	122.4:1	1240	C313_ 122.4	S05 + M05A4	P63 + BN63A4	N56C	141...152
12.6	739	3.6	133.6:1	1240	C313_ 133.6	S05 + M05A4	P63 + BN63A4	N56C	141...152
12.4	756	2.3	136.6:1	1120	C213_ 136.6	S05 + M05A4	P63 + BN63A4	N56C	129...140
11.4	821	3.2	148.4:1	1240	C313_ 148.4	S05 + M05A4	P63 + BN63A4	N56C	141...152


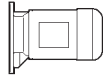
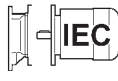


## 0.16 hp

<b>n<sub>2</sub></b> [rpm]	<b>T<sub>2</sub></b> [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	<b>R<sub>n2</sub></b> [lb]					
11.1	839	2.1	151.7:1	1120	C213_ 151.7	S05 + M05A4	P63 + BN63A4	N56C	129...140
10.5	889	2.0	160.7:1	1120	C213_ 160.7	S05 + M05A4	P63 + BN63A4	N56C	129...140
10.1	926	2.9	167.5:1	1240	C313_ 167.5	S05 + M05A4	P63 + BN63A4	N56C	141...152
9.5	987	1.8	178.5:1	1120	C213_ 178.5	S05 + M05A4	P63 + BN63A4	N56C	129...140
8.7	1074	2.4	194.1:1	1240	C313_ 194.1	S05 + M05A4	P63 + BN63A4	N56C	141...152
8.3	1124	1.3	203.2:1	1120	C213_ 203.2	S05 + M05A4	P63 + BN63A4	N56C	129...140
7.8	1193	2.2	215.6:1	1240	C313_ 215.6	S05 + M05A4	P63 + BN63A4	N56C	141...152
7.5	1249	1.3	225.8:1	1120	C213_ 225.8	S05 + M05A4	P63 + BN63A4	N56C	129...140
6.8	1366	1.3	160.7:1	1120	C213_ 160.7	S05 + M05B6	P63 + BN63B6	N56C	129...140
6.8	1368	1.5	247.3:1	1240	C313_ 247.3	S05 + M05A4	P63 + BN63A4	N56C	141...152
6.4	1419	3.7	263.0:1	1570	C414_ 263.0	S05 + M05A4	P63 + BN63A4	N56C	161...168
6.2	1517	1.2	178.5:1	1120	C213_ 178.5	S05 + M05B6	P63 + BN63B6	N56C	129...140
6.2	1519	1.5	274.7:1	1240	C313_ 274.7	S05 + M05A4	P63 + BN63A4	N56C	141...152
5.6	1641	3.2	304.2:1	1570	C414_ 304.2	S05 + M05A4	P63 + BN63A4	N56C	161...168
5.3	1720	2.3	318.9:1	1460	C354_ 318.9	S05 + M05A4	P63 + BN63A4	N56C	153...160
5.1	1798	3.0	333.4:1	1570	C414_ 333.4	S05 + M05A4	P63 + BN63A4	N56C	161...168
4.9	1857	2.1	344.3:1	1460	C354_ 344.3	S05 + M05A4	P63 + BN63A4	N56C	153...160
4.5	2038	2.0	377.9:1	1460	C354_ 377.9	S05 + M05A4	P63 + BN63A4	N56C	153...160
4.4	2059	2.6	381.8:1	1570	C414_ 381.8	S05 + M05A4	P63 + BN63A4	N56C	161...168
4.0	2253	1.8	417.6:1	1460	C354_ 417.6	S05 + M05A4	P63 + BN63A4	N56C	153...160
4.0	2257	2.4	418.5:1	1570	C414_ 418.5	S05 + M05A4	P63 + BN63A4	N56C	161...168
3.8	2428	2.2	450.2:1	1570	C414_ 450.2	S05 + M05A4	P63 + BN63A4	N56C	161...168
3.7	2473	1.6	458.4:1	1460	C354_ 458.4	S05 + M05A4	P63 + BN63A4	N56C	153...160
3.4	2662	2.0	493.5:1	1570	C414_ 493.5	S05 + M05A4	P63 + BN63A4	N56C	161...168
3.2	2824	1.4	523.5:1	1460	C354_ 523.5	S05 + M05A4	P63 + BN63A4	N56C	153...160
3.1	2932	1.8	543.5:1	1570	C414_ 543.5	S05 + M05A4	P63 + BN63A4	N56C	161...168
2.9	3100	1.3	574.7:1	1460	C354_ 574.7	S05 + M05A4	P63 + BN63A4	N56C	153...160
2.8	3214	1.7	595.8:1	1570	C414_ 595.8	S05 + M05A4	P63 + BN63A4	N56C	161...168
2.8	3272	1.2	606.6:1	1460	C354_ 606.6	S05 + M05A4	P63 + BN63A4	N56C	153...160
2.5	3592	1.1	665.9:1	1460	C354_ 665.9	S05 + M05A4	P63 + BN63A4	N56C	153...160
2.5	3621	1.5	671.3:1	1570	C414_ 671.3	S05 + M05A4	P63 + BN63A4	N56C	161...168
2.3	3969	1.3	735.9:1	1570	C414_ 735.9	S05 + M05A4	P63 + BN63A4	N56C	161...168
2.2	4210	1.3	780.4:1	1570	C414_ 780.4	S05 + M05A4	P63 + BN63A4	N56C	161...168
2.1	4358	2.0	808.0:1	2250	C514_ 808.0		P63 + BN63A4	N56C	169...176
2.0	4615	1.2	855.5:1	1570	C414_ 855.5	S05 + M05A4	P63 + BN63A4	N56C	161...168
1.5	5948	1.5	717.7:1	2250	C514_ 717.7		P63 + BN63B6	N56C	169...176
1.2	7333	1.2	884.9:1	2250	C514_ 884.9		P63 + BN63B6	N56C	169...176






## 0.25 hp

<b>n<sub>2</sub></b> [rpm]	<b>T<sub>2</sub></b> [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	<b>R<sub>n2</sub></b> [lb]					
596	25	13.0	2.8:1	290	C112_ 2.8	S05 + M05B4	P63 + BN63B4	N56C	117...128
451	33	11.2	3.7:1	320	C112_ 3.7	S05 + M05B4	P63 + BN63B4	N56C	117...128
341	44	9.7	4.9:1	350	C112_ 4.9	S05 + M05B4	P63 + BN63B4	N56C	117...128
304	49	5.5	5.5:1	140	C052_ 5.5	S05 + M05B4			115...116
269	56	8.4	6.2:1	380	C112_ 6.2	S05 + M05B4	P63 + BN63B4	N56C	117...128
249	60	4.2	6.7:1	140	C052_ 6.7	S05 + M05B4			115...116
226	66	4.0	7.4:1	150	C052_ 7.4	S05 + M05B4			115...116
180	83	3.0	9.3:1	160	C052_ 9.3	S05 + M05B4			115...116
149	100	3.6	11.2:1	160	C052_ 11.2	S05 + M05B4			115...116
134	112	3.1	12.5:1	170	C052_ 12.5	S05 + M05B4			115...116
107	140	2.5	15.6:1	170	C052_ 15.6	S05 + M05B4			115...116
97	154	4.4	17.2:1	450	C112_ 17.2	S05 + M05B4	P63 + BN63B4	N56C	117...128
90	167	4.2	18.6:1	450	C112_ 18.6	S05 + M05B4	P63 + BN63B4	N56C	117...128
88	170	2.0	18.9:1	180	C052_ 18.9	S05 + M05B4			115...116
81	185	3.9	20.6:1	450	C112_ 20.6	S05 + M05B4	P63 + BN63B4	N56C	117...128
80	188	2.1	21.0:1	180	C052_ 21.0	S05 + M05B4			115...116
73	205	3.7	22.8:1	450	C112_ 22.8	S05 + M05B4	P63 + BN63B4	N56C	117...128
66	228	3.4	25.4:1	450	C112_ 25.4	S05 + M05B4	P63 + BN63B4	N56C	117...128
62	243	1.6	27.1:1	180	C052_ 27.1	S05 + M05B4			115...116
57	265	3.1	29.5:1	450	C112_ 29.5	S05 + M05B4	P63 + BN63B4	N56C	117...128
51	294	1.4	32.8:1	190	C052_ 32.8	S05 + M05B4			115...116
50	300	3.0	33.4:1	450	C112_ 33.4	S05 + M05B4	P63 + BN63B4	N56C	117...128
46	327	1.2	36.4:1	190	C052_ 36.4	S05 + M05B4			115...116
45	332	2.4	37.0:1	450	C112_ 37.0	S05 + M05B4	P63 + BN63B4	N56C	117...128
41	362	1.1	40.3:1	190	C052_ 40.3	S05 + M05B4			115...116
39	385	2.3	42.9:1	450	C112_ 42.9	S05 + M05B4	P63 + BN63B4	N56C	117...128
35	427	1.9	47.6:1	450	C112_ 47.6	S05 + M05B4	P63 + BN63B4	N56C	117...128
34	442	2.8	49.3:1	1120	C212_ 49.3	S05 + M05B4	P63 + BN63B4	N56C	129...140
34	446	2.0	49.7:1	450	C112_ 49.7	S05 + M05B4	P63 + BN63B4	N56C	117...128
31	491	2.8	54.7:1	1120	C212_ 54.7	S05 + M05B4	P63 + BN63B4	N56C	129...140
30	495	1.6	55.2:1	450	C112_ 55.2	S05 + M05B4	P63 + BN63B4	N56C	117...128
29.3	511	2.0	57.0:1	1120	C212_ 57.0	S05 + M05B4	P63 + BN63B4	N56C	129...140
28.4	514	3.3	58.8:1	1120	C213_ 58.8	S05 + M05B4	P63 + BN63B4	N56C	129...140
28.0	535	1.4	59.6:1	450	C112_ 59.6	S05 + M05B4	P63 + BN63B4	N56C	117...128
26.4	568	2.0	63.3:1	1120	C212_ 63.3	S05 + M05B4	P63 + BN63B4	N56C	129...140
25.6	571	3.1	65.3:1	1120	C213_ 65.3	S05 + M05B4	P63 + BN63B4	N56C	129...140
25.2	594	1.3	66.2:1	450	C112_ 66.2	S05 + M05B4	P63 + BN63B4	N56C	117...128
22.4	651	2.7	74.4:1	1120	C213_ 74.4	S05 + M05B4	P63 + BN63B4	N56C	129...140
20.2	722	3.7	82.6:1	1240	C313_ 82.6	S05 + M05B4	P63 + BN63B4	N56C	141...152
20.2	722	2.5	82.6:1	1120	C213_ 82.6	S05 + M05B4	P63 + BN63B4	N56C	129...140
18.5	789	2.2	90.2:1	1120	C213_ 90.2	S05 + M05B4	P63 + BN63B4	N56C	129...140






## 0.25 hp

<b>n<sub>2</sub></b> [rpm]	<b>T<sub>2</sub></b> [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	<b>R<sub>n2</sub></b> [lb]					
18.0	813	3.3	93.0:1	1240	C313_ 93.0	S05 + M05B4	P63 + BN63B4	N56C	141...152
16.7	876	2.0	100.2:1	1120	C213_ 100.2	S05 + M05B4	P63 + BN63B4	N56C	129...140
16.2	903	2.9	103.3:1	1240	C313_ 103.3	S05 + M05B4	P63 + BN63B4	N56C	141...152
15.2	962	1.8	110.0:1	1120	C213_ 110.0	S05 + M05B4	P63 + BN63B4	N56C	129...140
15.2	964	2.8	110.2:1	1240	C313_ 110.2	S05 + M05B4	P63 + BN63B4	N56C	141...152
13.7	1069	1.7	122.2:1	1120	C213_ 122.2	S05 + M05B4	P63 + BN63B4	N56C	129...140
13.6	1071	2.5	122.4:1	1240	C313_ 122.4	S05 + M05B4	P63 + BN63B4	N56C	141...152
12.5	1168	2.3	133.6:1	1240	C313_ 133.6	S05 + M05B4	P63 + BN63B4	N56C	141...152
12.2	1195	1.5	136.6:1	1120	C213_ 136.6	S05 + M05B4	P63 + BN63B4	N56C	129...140
11.3	1298	2.0	148.4:1	1240	C313_ 148.4	S05 + M05B4	P63 + BN63B4	N56C	141...152
11.0	1327	1.3	151.7:1	1120	C213_ 151.7	S05 + M05B4	P63 + BN63B4	N56C	129...140
10.0	1465	1.8	167.5:1	1240	C313_ 167.5	S05 + M05B4	P63 + BN63B4	N56C	141...152
9.4	1561	1.1	178.5:1	1120	C213_ 178.5	S05 + M05B4	P63 + BN63B4	N56C	129...140
8.6	1698	1.5	194.1:1	1240	C313_ 194.1	S05 + M05B4	P63 + BN63B4	N56C	141...152
7.7	1886	1.4	215.6:1	1240	C313_ 215.6	S05 + M05B4	P63 + BN63B4	N56C	141...152
7.5	1960	2.0	147.6:1	1460	C353_ 147.6	S1 + M1SC6	P71 + BN71A6	N56C	153...160
7.2	1981	2.0	232.3:1	1460	C354_ 232.3	S05 + M05B4	P63 + BN63B4	N56C	153...160
6.6	2224	1.2	167.5:1	1240	C313_ 167.5	S1 + M1SC6	P71 + BN71A6	N56C	141...152
6.5	2175	1.8	255.0:1	1460	C354_ 255.0	S05 + M05B4	P63 + BN63B4	N56C	153...160
6.3	2243	2.4	263.0:1	1570	C414_ 263.0	S05 + M05B4	P63 + BN63B4	N56C	161...168
5.9	2470	1.1	186.0:1	1240	C313_ 186.0	S1 + M1SC6	P71 + BN71A6	N56C	141...152
5.9	2496	1.6	188.0:1	1460	C353_ 188.0		P71 + BN71A6	N56C	153...160
5.8	2533	2.1	190.8:1	1570	C413_ 190.8	S1 + M1SC6	P71 + BN71A6	N56C	161...168
5.7	2479	1.6	290.6:1	1460	C354_ 290.6	S05 + M05B4	P63 + BN63B4	N56C	153...160
5.5	2595	2.0	304.2:1	1570	C414_ 304.2	S05 + M05B4	P63 + BN63B4	N56C	161...168
5.3	2776	1.9	209.1:1	1570	C413_ 209.1	S1 + M1SC6	P71 + BN71A6	N56C	161...168
5.2	2720	1.5	318.9:1	1460	C354_ 318.9	S05 + M05B4	P63 + BN63B4	N56C	153...160
5.0	2844	1.9	333.4:1	1570	C414_ 333.4	S05 + M05B4	P63 + BN63B4	N56C	161...168
4.9	2937	1.4	344.3:1	1460	C354_ 344.3	S05 + M05B4	P63 + BN63B4	N56C	153...160
4.4	3223	1.2	377.9:1	1460	C354_ 377.9	S05 + M05B4	P63 + BN63B4	N56C	153...160
4.4	3256	1.6	381.8:1	1570	C414_ 381.8	S05 + M05B4	P63 + BN63B4	N56C	161...168
4.0	3562	1.1	417.6:1	1460	C354_ 417.6	S05 + M05B4	P63 + BN63B4	N56C	153...160
4.0	3569	1.5	418.5:1	1570	C414_ 418.5	S05 + M05B4	P63 + BN63B4	N56C	161...168
3.7	3840	1.4	450.2:1	1570	C414_ 450.2	S05 + M05B4	P63 + BN63B4	N56C	161...168
3.6	3910	1.0	458.4:1	1460	C354_ 458.4	S05 + M05B4	P63 + BN63B4	N56C	153...160
3.4	4209	1.3	493.5:1	1570	C414_ 493.5	S05 + M05B4	P63 + BN63B4	N56C	161...168
3.2	4572	0.9	344.3:1	1460	C354_ 344.3	S1 + M1SC6	P71 + BN71A6	N56C	153...160
3.1	4636	1.1	543.5:1	1570	C414_ 543.5	S05 + M05B4	P63 + BN63B4	N56C	161...168
2.9	4915	1.8	379.6:1	2250	C514_ 379.6	S1 + M1SC6	P71 + BN71A6	N56C	169...176
2.8	5082	1.0	595.8:1	1570	C414_ 595.8	S05 + M05B4	P63 + BN63B4	N56C	161...168
2.6	5383	1.6	415.7:1	2250	C514_ 415.7	S1 + M1SC6	P71 + BN71A6	N56C	169...176

## 0.25 hp


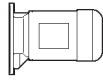
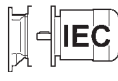


$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
2.6	5419	1.0	418.5:1	1570	<b>C414_ 418.5</b>	<b>S1 + M1SC6</b>	<b>P71 + BN71A6</b>	<b>N56C</b>	161...168
2.5	5590	1.6	655.4:1	2250	<b>C514_ 655.4</b>		<b>P63 + BN63B4</b>	<b>N56C</b>	169...176
2.5	5726	0.9	671.3:1	1570	<b>C414_ 671.3</b>	<b>S05 + M05B4</b>	<b>P63 + BN63B4</b>	<b>N56C</b>	161...168
2.4	5830	0.9	450.2:1	1570	<b>C414_ 450.2</b>	<b>S1 + M1SC6</b>	<b>P71 + BN71A6</b>	<b>N56C</b>	161...168
2.4	5982	2.4	462.0:1	3600	<b>C614_ 462.0</b>	<b>S1 + M1SC6</b>	<b>P71 + BN71A6</b>	<b>N56C</b>	177...184
2.4	6007	1.5	463.9:1	2250	<b>C514_ 463.9</b>	<b>S1 + M1SC6</b>	<b>P71 + BN71A6</b>	<b>N56C</b>	169...176
2.3	6121	1.4	717.7:1	2250	<b>C514_ 717.7</b>		<b>P63 + BN63B4</b>	<b>N56C</b>	169...176
2.3	6195	2.3	726.3:1	3600	<b>C614_ 726.3</b>		<b>P63 + BN63B4</b>	<b>N56C</b>	177...184
2.1	6892	1.3	808.0:1	2250	<b>C514_ 808.0</b>		<b>P63 + BN63B4</b>	<b>N56C</b>	169...176
2.0	7118	1.2	549.7:1	2250	<b>C514_ 549.7</b>	<b>S1 + M1SC6</b>	<b>P71 + BN71A6</b>	<b>N56C</b>	169...176
1.9	7547	1.2	884.9:1	2250	<b>C514_ 884.9</b>		<b>P63 + BN63B4</b>	<b>N56C</b>	169...176
1.5	9293	1.0	717.7:1	2250	<b>C514_ 717.7</b>	<b>S1 + M1SC6</b>	<b>P71 + BN71A6</b>	<b>N56C</b>	169...176
1.5	9405	1.5	726.3:1	3600	<b>C614_ 726.3</b>	<b>S1 + M1SC6</b>	<b>P71 + BN71A6</b>	<b>N56C</b>	177...184
1.0	13842	1.5	1069:1	5620	<b>C704_ 1069</b>		<b>P71 + BN71A6</b>	<b>N56C</b>	185...192
0.81	17636	1.2	1362:1	5620	<b>C704_ 1362</b>		<b>P71 + BN71A6</b>	<b>N56C</b>	185...192

## 0.33 hp

$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
596	33	9.9	2.8:1	290	<b>C112_ 2.8</b>	<b>S05 + M05C4</b>	<b>P71 + BN71A4</b>	<b>N56C</b>	117...128
451	44	8.5	3.7:1	320	<b>C112_ 3.7</b>	<b>S05 + M05C4</b>	<b>P71 + BN71A4</b>	<b>N56C</b>	117...128
341	58	7.3	4.9:1	350	<b>C112_ 4.9</b>	<b>S05 + M05C4</b>	<b>P71 + BN71A4</b>	<b>N56C</b>	117...128
304	65	3.9	5.5:1	130	<b>C052_ 5.5</b>	<b>S05 + M05C4</b>			115...116
269	73	6.4	6.2:1	380	<b>C112_ 6.2</b>	<b>S05 + M05C4</b>	<b>P71 + BN71A4</b>	<b>N56C</b>	117...128
249	79	3.5	6.7:1	140	<b>C052_ 6.7</b>	<b>S05 + M05C4</b>			115...116
226	88	3.2	7.4:1	140	<b>C052_ 7.4</b>	<b>S05 + M05C4</b>			115...116
180	110	2.4	9.3:1	150	<b>C052_ 9.3</b>	<b>S05 + M05C4</b>			115...116
165	120	4.7	10.1:1	450	<b>C112_ 10.1</b>	<b>S05 + M05C4</b>	<b>P71 + BN71A4</b>	<b>N56C</b>	117...128
149	133	2.7	11.2:1	150	<b>C052_ 11.2</b>	<b>S05 + M05C4</b>			115...116
138	143	4.1	12.1:1	450	<b>C112_ 12.1</b>	<b>S05 + M05C4</b>	<b>P71 + BN71A4</b>	<b>N56C</b>	117...128
134	148	2.5	12.5:1	160	<b>C052_ 12.5</b>	<b>S05 + M05C4</b>			115...116
125	159	3.9	13.4:1	450	<b>C112_ 13.4</b>	<b>S05 + M05C4</b>	<b>P71 + BN71A4</b>	<b>N56C</b>	117...128
108	184	3.6	15.5:1	450	<b>C112_ 15.5</b>	<b>S05 + M05C4</b>	<b>P71 + BN71A4</b>	<b>N56C</b>	117...128
107	185	1.9	15.6:1	160	<b>C052_ 15.6</b>	<b>S05 + M05C4</b>			115...116
97	204	3.3	17.2:1	450	<b>C112_ 17.2</b>	<b>S05 + M05C4</b>	<b>P71 + BN71A4</b>	<b>N56C</b>	117...128
90	220	3.2	18.6:1	450	<b>C112_ 18.6</b>	<b>S05 + M05C4</b>	<b>P71 + BN71A4</b>	<b>N56C</b>	117...128
88	224	1.6	18.9:1	160	<b>C052_ 18.9</b>	<b>S05 + M05C4</b>			115...116








## 0.33 hp


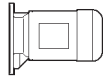
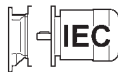


$n_2$ [rpm]	$T_2$ [lb·in]	S Safety factor	i (ratio)	$R_{n2}$ [lb]					
81	244	3.0	20.6:1	450	C112_ 20.6	S05 + M05C4	P71 + BN71A4	N56C	117...128
80	249	1.5	21.0:1	160	C052_ 21.0	S05 + M05C4			115...116
73	270	2.8	22.8:1	450	C112_ 22.8	S05 + M05C4	P71 + BN71A4	N56C	117...128
66	301	2.6	25.4:1	450	C112_ 25.4	S05 + M05C4	P71 + BN71A4	N56C	117...128
62	321	1.3	27.1:1	160	C052_ 27.1	S05 + M05C4			115...116
57	349	2.4	29.5:1	450	C112_ 29.5	S05 + M05C4	P71 + BN71A4	N56C	117...128
45	436	4.1	36.8:1	1020	C212_ 36.8	S05 + M05C4	P71 + BN71A4	N56C	129...140
45	438	1.8	37.0:1	450	C112_ 37.0	S05 + M05C4	P71 + BN71A4	N56C	117...128
39	508	1.7	42.9:1	450	C112_ 42.9	S05 + M05C4	P71 + BN71A4	N56C	117...128
39	513	3.3	43.3:1	1070	C212_ 43.3	S05 + M05C4	P71 + BN71A4	N56C	129...140
35	564	1.4	47.6:1	450	C112_ 47.6	S05 + M05C4	P71 + BN71A4	N56C	117...128
34	584	2.1	49.3:1	1100	C212_ 49.3	S05 + M05C4	P71 + BN71A4	N56C	129...140
34	589	1.5	49.7:1	450	C112_ 49.7	S05 + M05C4	P71 + BN71A4	N56C	117...128
31	648	2.1	54.7:1	1120	C212_ 54.7	S05 + M05C4	P71 + BN71A4	N56C	129...140
30	654	1.2	55.2:1	450	C112_ 55.2	S05 + M05C4	P71 + BN71A4	N56C	117...128
29.3	675	1.5	57.0:1	1120	C212_ 57.0	S05 + M05C4	P71 + BN71A4	N56C	129...140
28.4	679	2.5	58.8:1	1120	C213_ 58.8	S05 + M05C4	P71 + BN71A4	N56C	129...140
28.0	706	1.0	59.6:1	450	C112_ 59.6	S05 + M05C4	P71 + BN71A4	N56C	117...128
26.4	750	1.5	63.3:1	1120	C212_ 63.3	S05 + M05C4	P71 + BN71A4	N56C	129...140
25.6	754	2.3	65.3:1	1120	C213_ 65.3	S05 + M05C4	P71 + BN71A4	N56C	129...140
25.2	784	1.0	66.2:1	450	C112_ 66.2	S05 + M05C4	P71 + BN71A4	N56C	117...128
22.5	858	3.1	74.3:1	1240	C313_ 74.3	S05 + M05C4	P71 + BN71A4	N56C	141...152
22.4	859	2.1	74.4:1	1120	C213_ 74.4	S05 + M05C4	P71 + BN71A4	N56C	129...140
20.2	954	2.8	82.6:1	1240	C313_ 82.6	S05 + M05C4	P71 + BN71A4	N56C	141...152
20.2	954	1.9	82.6:1	1120	C213_ 82.6	S05 + M05C4	P71 + BN71A4	N56C	129...140
18.5	1041	1.7	90.2:1	1120	C213_ 90.2	S05 + M05C4	P71 + BN71A4	N56C	129...140
18.2	1061	3.8	91.9:1	1460	C353_ 91.9		P71 + BN71A4	N56C	153...160
18.0	1074	2.5	93.0:1	1240	C313_ 93.0	S05 + M05C4	P71 + BN71A4	N56C	141...152
16.7	1157	1.5	100.2:1	1120	C213_ 100.2	S05 + M05C4	P71 + BN71A4	N56C	129...140
16.4	1173	3.4	101.6:1	1460	C353_ 101.6		P71 + BN71A4	N56C	153...160
16.2	1193	2.2	103.3:1	1240	C313_ 103.3	S05 + M05C4	P71 + BN71A4	N56C	141...152
15.2	1270	1.4	110.0:1	1120	C213_ 110.0	S05 + M05C4	P71 + BN71A4	N56C	129...140
15.2	1272	2.1	110.2:1	1240	C313_ 110.2	S05 + M05C4	P71 + BN71A4	N56C	141...152
15.0	1287	3.1	111.5:1	1460	C353_ 111.5		P71 + BN71A4	N56C	153...160
13.7	1411	1.3	122.2:1	1120	C213_ 122.2	S05 + M05C4	P71 + BN71A4	N56C	129...140
13.6	1413	1.9	122.4:1	1240	C313_ 122.4	S05 + M05C4	P71 + BN71A4	N56C	141...152
13.1	1470	2.7	127.3:1	1460	C353_ 127.3		P71 + BN71A4	N56C	153...160
12.6	1534	3.5	132.9:1	1570	C413_ 132.9		P71 + BN71A4	N56C	161...168
12.2	1577	1.1	136.6:1	1120	C213_ 136.6	S05 + M05C4	P71 + BN71A4	N56C	129...140
11.9	1614	2.5	139.8:1	1460	C353_ 139.8		P71 + BN71A4	N56C	153...160
11.3	1704	2.3	147.6:1	1460	C353_ 147.6		P71 + BN71A4	N56C	153...160








## 0.33 hp

<b>n<sub>2</sub></b> [rpm]	<b>T<sub>2</sub></b> [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	<b>R<sub>n2</sub></b> [lb]			 IEC	 NEMA	
11.3	1713	1.5	148.4:1	1240	C313_ 148.4	S05 + M05C4	P71 + BN71A4	N56C	141...152
10.3	1870	2.1	162.0:1	1460	C353_ 162.0		P71 + BN71A4	N56C	153...160
10.2	1895	2.8	164.1:1	1570	C413_ 164.1		P71 + BN71A4	N56C	161...168
10.0	1934	1.4	167.5:1	1240	C313_ 167.5	S05 + M05C4	P71 + BN71A4	N56C	141...152
8.9	2170	1.8	188.0:1	1460	C353_ 188.0		P71 + BN71A4	N56C	153...160
8.8	2203	2.4	190.8:1	1570	C413_ 190.8		P71 + BN71A4	N56C	161...168
8.6	2241	1.2	194.1:1	1240	C313_ 194.1	S05 + M05C4	P71 + BN71A4	N56C	141...152
8.1	2383	1.7	206.4:1	1460	C353_ 206.4		P71 + BN71A4	N56C	153...160
7.7	2502	3.5	216.7:1	2250	C513_ 216.7		P71 + BN71A4	N56C	169...176
7.2	2615	1.5	232.3:1	1460	C354_ 232.3	S05 + M05C4	P71 + BN71A4	N56C	153...160
7.0	2701	2.0	239.9:1	1570	C414_ 239.9	S05 + M05C4	P71 + BN71A4	N56C	161...168
6.5	2871	1.4	255.0:1	1460	C354_ 255.0	S05 + M05C4	P71 + BN71A4	N56C	153...160
6.3	2961	1.8	263.0:1	1570	C414_ 263.0	S05 + M05C4	P71 + BN71A4	N56C	161...168
6.3	2970	3.0	263.8:1	2250	C514_ 263.8		P71 + BN71A4	N56C	169...176
5.7	3272	1.2	290.6:1	1460	C354_ 290.6	S05 + M05C4	P71 + BN71A4	N56C	153...160
5.6	3353	2.6	297.8:1	2250	C514_ 297.8		P71 + BN71A4	N56C	169...176
5.5	3425	1.6	304.2:1	1570	C414_ 304.2	S05 + M05C4	P71 + BN71A4	N56C	161...168
5.2	3590	1.1	318.9:1	1460	C354_ 318.9	S05 + M05C4	P71 + BN71A4	N56C	153...160
5.1	3671	2.4	326.1:1	2250	C514_ 326.1		P71 + BN71A4	N56C	169...176
5.0	3754	1.4	333.4:1	1570	C414_ 333.4	S05 + M05C4	P71 + BN71A4	N56C	161...168
4.9	3876	1.0	344.3:1	1460	C354_ 344.3	S05 + M05C4	P71 + BN71A4	N56C	153...160
4.4	4274	2.1	379.6:1	2250	C514_ 379.6		P71 + BN71A4	N56C	169...176
4.4	4298	1.2	381.8:1	1570	C414_ 381.8	S05 + M05C4	P71 + BN71A4	N56C	161...168
4.0	4680	1.9	415.7:1	2250	C514_ 415.7		P71 + BN71A4	N56C	169...176
4.0	4712	1.1	418.5:1	1570	C414_ 418.5	S05 + M05C4	P71 + BN71A4	N56C	161...168
3.7	5069	1.0	450.2:1	1570	C414_ 450.2	S05 + M05C4	P71 + BN71A4	N56C	161...168
3.0	6189	1.4	549.7:1	2250	C514_ 549.7		P71 + BN71A4	N56C	169...176
3.0	6326	2.2	370.1:1	3600	C614_ 370.1	S1 + M1SD6	P71 + BN71B6	N56C	177...184
2.5	7530	1.9	668.8:1	3600	C614_ 668.8		P63 + BN63C4	N56C	177...184
2.4	7929	1.1	463.9:1	2250	C514_ 463.9	S1 + M1SD6	P71 + BN71B6	N56C	169...176
2.3	8080	1.1	717.7:1	2250	C514_ 717.7		P71 + BN71A4	N56C	169...176
2.1	9097	1.0	808.0:1	2250	C514_ 808.0		P63 + BN63C4	N56C	169...176
2.0	9396	0.9	549.7:1	2250	C514_ 549.7	S1 + M1SD6	P71 + BN71B6	N56C	169...176
1.5	12414	1.1	726.3:1	3600	C614_ 726.3	S1 + M1SD6	P71 + BN71B6	N56C	177...184
0.94	19964	1.8	1168:1	7870	C804_ 1168		P71 + BN71B6	N56C	193...200
0.74	25314	1.4	1481:1	7870	C804_ 1481		P71 + BN71B6	N56C	193...200


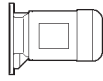
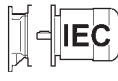


## 0.5 hp

$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
607	49	6.6	2.8:1	290	C112_ 2.8	S1 + M1SD4	P71 + BN71B4	N56C	117...128
459	65	5.7	3.7:1	320	C112_ 3.7	S1 + M1SD4	P71 + BN71B4	N56C	117...128
347	86	4.9	4.9:1	340	C112_ 4.9	S1 + M1SD4	P71 + BN71B4	N56C	117...128
309	97	2.8	5.5:1	120	C052_ 5.5	S1 + M1SD4			115...116
274	109	4.3	6.2:1	370	C112_ 6.2	S1 + M1SD4	P71 + BN71B4	N56C	117...128
254	118	2.3	6.7:1	130	C052_ 6.7	S1 + M1SD4			115...116
246	122	3.9	6.9:1	390	C112_ 6.9	S1 + M1SD4	P71 + BN71B4	N56C	117...128
230	130	2.0	7.4:1	130	C052_ 7.4	S1 + M1SD4			115...116
224	134	3.7	7.6:1	400	C112_ 7.6	S1 + M1SD4	P71 + BN71B4	N56C	117...128
200	150	2.6	5.5:1	130	C052_ 5.5	S1 + M1LA6			115...116
187	160	3.4	9.1:1	420	C112_ 9.1	S1 + M1SD4	P71 + BN71B4	N56C	117...128
183	164	1.6	9.3:1	130	C052_ 9.3	S1 + M1SD4			115...116
168	178	3.1	10.1:1	430	C112_ 10.1	S1 + M1SD4	P71 + BN71B4	N56C	117...128
152	197	1.8	11.2:1	130	C052_ 11.2	S1 + M1SD4			115...116
140	213	2.8	12.1:1	450	C112_ 12.1	S1 + M1SD4	P71 + BN71B4	N56C	117...128
136	220	1.6	12.5:1	140	C052_ 12.5	S1 + M1SD4			115...116
127	236	2.6	13.4:1	450	C112_ 13.4	S1 + M1SD4	P71 + BN71B4	N56C	117...128
110	273	2.4	15.5:1	450	C112_ 15.5	S1 + M1SD4	P71 + BN71B4	N56C	117...128
109	275	1.3	15.6:1	130	C052_ 15.6	S1 + M1SD4			115...116
99	303	2.2	17.2:1	450	C112_ 17.2	S1 + M1SD4	P71 + BN71B4	N56C	117...128
91	328	2.1	18.6:1	450	C112_ 18.6	S1 + M1SD4	P71 + BN71B4	N56C	117...128
83	363	2.0	20.6:1	450	C112_ 20.6	S1 + M1SD4	P71 + BN71B4	N56C	117...128
75	402	1.9	22.8:1	450	C112_ 22.8	S1 + M1SD4	P71 + BN71B4	N56C	117...128
70	428	4.1	24.3:1	880	C212_ 24.3	S1 + M1SD4	P71 + BN71B4	N56C	129...140
67	448	1.7	25.4:1	450	C112_ 25.4	S1 + M1SD4	P71 + BN71B4	N56C	117...128
64	471	3.8	26.7:1	900	C212_ 26.7	S1 + M1SD4	P71 + BN71B4	N56C	129...140
58	520	1.6	29.5:1	450	C112_ 29.5	S1 + M1SD4	P71 + BN71B4	N56C	117...128
57	522	3.4	29.6:1	930	C212_ 29.6	S1 + M1SD4	P71 + BN71B4	N56C	129...140
52	578	1.4	32.8:1	450	C112_ 32.8	S1 + M1SD4	P71 + BN71B4	N56C	117...128
51	584	3.0	33.1:1	950	C212_ 33.1	S1 + M1SD4	P71 + BN71B4	N56C	129...140
51	589	1.5	33.4:1	450	C112_ 33.4	S1 + M1SD4	P71 + BN71B4	N56C	117...128
47	636	4.2	36.1:1	1240	C312_ 36.1	S1 + M1SD4	P71 + BN71B4	N56C	141...152
46	649	2.7	36.8:1	980	C212_ 36.8	S1 + M1SD4	P71 + BN71B4	N56C	129...140
46	652	1.2	37.0:1	450	C112_ 37.0	S1 + M1SD4	P71 + BN71B4	N56C	117...128
44	688	2.2	39.0:1	990	C212_ 39.0	S1 + M1SD4	P71 + BN71B4	N56C	129...140
42	717	3.7	40.7:1	1240	C312_ 40.7	S1 + M1SD4	P71 + BN71B4	N56C	141...152
40	756	1.2	42.9:1	450	C112_ 42.9		P71 + BN71B4	N56C	117...128
39	763	2.2	43.3:1	1020	C212_ 43.3	S1 + M1SD4	P71 + BN71B4	N56C	129...140
36	832	3.2	47.2:1	1240	C312_ 47.2	S1 + M1SD4	P71 + BN71B4	N56C	141...152
34	869	1.4	49.3:1	1050	C212_ 49.3		P71 + BN71B4	N56C	129...140
34	876	1.0	49.7:1	450	C112_ 49.7		P71 + BN71B4	N56C	117...128


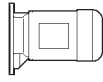
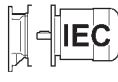


## 0.5 hp

<b>n<sub>2</sub></b> [rpm]	<b>T<sub>2</sub></b> [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	<b>R<sub>n2</sub></b> [lb]					
32	924	2.9	52.4:1	1240	C312_ 52.4	S1 + M1SD4	P71 + BN71B4	N56C	141...152
28.9	1010	1.7	58.8:1	1100	C213_ 58.8	S1 + M1SD4	P71 + BN71B4	N56C	129...140
27.4	1065	3.7	62.0:1	1460	C353_ 62.0	S1 + M1SD4	P71 + BN71B4	N56C	153...160
26.0	1122	1.6	65.3:1	1120	C213_ 65.3	S1 + M1SD4	P71 + BN71B4	N56C	129...140
25.4	1178	1.6	66.8:1	1240	C312_ 66.8		P71 + BN71B4	N56C	141...152
22.9	1277	2.1	74.3:1	1240	C313_ 74.3	S1 + M1SD4	P71 + BN71B4	N56C	141...152
22.8	1278	4.2	74.4:1	1570	C413_ 74.4	S1 + M1SD4	P71 + BN71B4	N56C	161...168
22.8	1278	1.4	74.4:1	1120	C213_ 74.4	S1 + M1SD4	P71 + BN71B4	N56C	129...140
20.9	1400	3.8	81.5:1	1570	C413_ 81.5	S1 + M1SD4	P71 + BN71B4	N56C	161...168
20.6	1419	1.9	82.6:1	1240	C313_ 82.6	S1 + M1SD4	P71 + BN71B4	N56C	141...152
20.6	1419	1.2	82.6:1	1120	C213_ 82.6	S1 + M1SD4	P71 + BN71B4	N56C	129...140
18.8	1550	1.1	90.2:1	1120	C213_ 90.2	S1 + M1SD4	P71 + BN71B4	N56C	129...140
18.3	1598	1.7	93.0:1	1240	C313_ 93.0	S1 + M1SD4	P71 + BN71B4	N56C	141...152
18.2	1603	3.3	93.3:1	1570	C413_ 93.3	S1 + M1SD4	P71 + BN71B4	N56C	161...168
16.6	1758	3.0	102.3:1	1570	C413_ 102.3	S1 + M1SD4	P71 + BN71B4	N56C	161...168
16.5	1775	1.5	103.3:1	1240	C313_ 103.3	S1 + M1SD4	P71 + BN71B4	N56C	141...152
15.4	1892	2.8	110.1:1	1570	C413_ 110.1	S1 + M1SD4	P71 + BN71B4	N56C	161...168
15.4	1894	1.4	110.2:1	1240	C313_ 110.2	S1 + M1SD4	P71 + BN71B4	N56C	141...152
14.1	2072	2.6	120.6:1	1570	C413_ 120.6	S1 + M1SD4	P71 + BN71B4	N56C	161...168
13.9	2103	1.3	122.4:1	1240	C313_ 122.4	S1 + M1SD4	P71 + BN71B4	N56C	141...152
12.8	2284	2.3	132.9:1	1570	C413_ 132.9	S1 + M1SD4	P71 + BN71B4	N56C	161...168
12.7	2296	1.2	133.6:1	1240	C313_ 133.6	S1 + M1SD4	P71 + BN71B4	N56C	141...152
12.2	2402	1.7	139.8:1	1460	C353_ 139.8	S1 + M1SD4	P71 + BN71B4	N56C	153...160
11.7	2502	2.1	145.6:1	1570	C413_ 145.6	S1 + M1SD4	P71 + BN71B4	N56C	161...168
11.5	2536	1.6	147.6:1	1460	C353_ 147.6	S1 + M1SD4	P71 + BN71B4	N56C	153...160
10.6	2758	3.2	160.5:1	2250	C513_ 160.5	S1 + M1SD4	P71 + BN71B4	N56C	169...176
10.5	2784	1.4	162.0:1	1460	C353_ 162.0	S1 + M1SD4	P71 + BN71B4	N56C	153...160
10.4	2820	1.9	164.1:1	1570	C413_ 164.1	S1 + M1SD4	P71 + BN71B4	N56C	161...168
9.7	3021	2.9	175.8:1	2250	C513_ 175.8	S1 + M1SD4	P71 + BN71B4	N56C	169...176
9.4	3091	1.7	179.9:1	1570	C413_ 179.9	S1 + M1SD4	P71 + BN71B4	N56C	161...168
9.0	3231	1.2	188.0:1	1460	C353_ 188.0		P71 + BN71B4	N56C	153...160
8.9	3279	1.6	190.8:1	1570	C413_ 190.8	S1 + M1SD4	P71 + BN71B4	N56C	161...168
8.6	3401	2.6	197.9:1	2250	C513_ 197.9	S1 + M1SD4	P71 + BN71B4	N56C	169...176
8.2	3547	1.1	206.4:1	1460	C353_ 206.4		P71 + BN71B4	N56C	153...160
8.1	3593	1.5	209.1:1	1570	C413_ 209.1	S1 + M1SD4	P71 + BN71B4	N56C	161...168
7.8	3724	2.4	216.7:1	2250	C513_ 216.7	S1 + M1SD4	P71 + BN71B4	N56C	169...176
7.3	3893	1.0	232.3:1	1460	C354_ 232.3	S1 + M1SD4	P71 + BN71B4	N56C	153...160
6.7	4273	0.9	255.0:1	1460	C354_ 255.0	S1 + M1SD4	P71 + BN71B4	N56C	153...160
6.5	4407	1.2	263.0:1	1570	C414_ 263.0	S1 + M1SD4	P71 + BN71B4	N56C	161...168
6.4	4421	2.0	263.8:1	2250	C514_ 263.8	S1 + M1SD4	P71 + BN71B4	N56C	169...176
5.7	4990	1.8	297.8:1	2250	C514_ 297.8	S1 + M1SD4	P71 + BN71B4	N56C	169...176






## 0.5 hp

$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
5.2	5465	1.6	326.1:1	2250	C514_ 326.1	S1 + M1SD4	P71 + BN71B4	N56C	169...176
5.1	5587	1.0	333.4:1	1570	C414_ 333.4	S1 + M1SD4	P71 + BN71B4	N56C	161...168
5.0	5659	2.5	337.7:1	3600	C614_ 337.7	S1 + M1SD4	P71 + BN71B4	N56C	177...184
4.6	6202	2.3	370.1:1	3600	C614_ 370.1	S1 + M1SD4	P71 + BN71B4	N56C	177...184
4.5	6361	1.4	379.6:1	2250	C514_ 379.6	S1 + M1SD4	P71 + BN71B4	N56C	169...176
4.2	6860	3.0	409.4:1	5620	C704_ 409.4		P71 + BN71B4	N56C	185...192
4.1	6966	1.3	415.7:1	2250	C514_ 415.7	S1 + M1SD4	P71 + BN71B4	N56C	169...176
4.0	7063	2.0	421.5:1	3600	C614_ 421.5	S1 + M1SD4	P71 + BN71B4	N56C	177...184
3.3	8732	1.6	521.1:1	3600	C614_ 521.1	S1 + M1SD4	P71 + BN71B4	N56C	177...184
3.1	9211	1.0	549.7:1	2250	C514_ 549.7	S1 + M1SD4	P71 + BN71B4	N56C	169...176
3.1	9295	2.2	554.7:1	5620	C704_ 554.7		P71 + BN71B4	N56C	185...192
3.0	9572	1.5	571.2:1	3600	C614_ 571.2	S1 + M1SD4	P71 + BN71B4	N56C	177...184
2.6	11015	1.8	657.3:1	5620	C704_ 657.3		P71 + BN71B4	N56C	185...192
2.5	11207	1.3	668.8:1	3600	C614_ 668.8	S1 + M1SD4	P71 + BN71B4	N56C	177...184
2.1	13340	1.1	796.1:1	3600	C614_ 796.1	S1 + M1SD4	P71 + BN71B4	N56C	177...184
1.8	15460	1.3	922.6:1	5620	C704_ 922.6		P71 + BN71B4	N56C	185...192
1.8	15847	2.2	945.7:1	7870	C804_ 945.7		P71 + BN71B4	N56C	193...200
1.5	19572	1.8	1168:1	7870	C804_ 1168		P71 + BN71B4	N56C	193...200
1.1	24817	1.4	1481:1	7870	C804_ 1481		P71 + BN71B4	N56C	193...200
0.94	30248	1.2	1168:1	7870	C804_ 1168		P80 + BN80A6	N56C	193...200
0.89	32113	2.0	1240:1	13490	C904_ 1240	S1 + M1LA6	P80 + BN80A6	N56C	201...208

## 0.75 hp


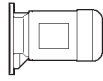
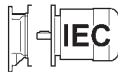


$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
611	74	4.4	2.8:1	280	C112_ 2.8	S1 + M1LA4	P80 + BN80A4	N56C	117...128
462	97	3.8	3.7:1	310	C112_ 3.7	S1 + M1LA4	P80 + BN80A4	N56C	117...128
349	129	3.3	4.9:1	340	C112_ 4.9	S1 + M1LA4	P80 + BN80A4	N56C	117...128
311	145	1.8	5.5:1	100	C052_ 5.5	S1 + M1LA4			115...116
276	163	2.9	6.2:1	360	C112_ 6.2	S1 + M1LA4	P80 + BN80A4	N56C	117...128
255	176	1.4	6.7:1	100	C052_ 6.7	S1 + M1LA4			115...116
248	181	2.6	6.9:1	380	C112_ 6.9	S1 + M1LA4	P80 + BN80A4	N56C	117...128
231	195	1.4	7.4:1	100	C052_ 7.4	S1 + M1LA4			115...116
225	200	2.5	7.6:1	390	C112_ 7.6	S1 + M1LA4	P80 + BN80A4	N56C	117...128
188	239	2.3	9.1:1	410	C112_ 9.1	S1 + M1LA4	P80 + BN80A4	N56C	117...128
187	241	4.0	6.1:1	640	C212_ 6.1	S2 + M2SA6	P80 + BN80B6	N140TC	129...140

## 0.75 hp






$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
169	266	2.1	10.1:1	420	C112_ 10.1	S1 + M1LA4	P80 + BN80A4	N56C	117...128
153	294	1.2	11.2:1	110	C052_ 11.2	S1 + M1LA4			115...116
150	300	1.9	7.6:1	430	C112_ 7.6	S2 + M2SA6	P80 + BN80B6	N140TC	117...128
141	318	1.9	12.1:1	430	C112_ 12.1	S1 + M1LA4	P80 + BN80A4	N56C	117...128
128	352	1.8	13.4:1	450	C112_ 13.4	S1 + M1LA4	P80 + BN80A4	N56C	117...128
120	376	4.0	14.3:1	730	C212_ 14.3	S1 + M1LA4	P80 + BN80A4	N56C	129...140
110	407	1.6	15.5:1	450	C112_ 15.5	S1 + M1LA4	P80 + BN80A4	N56C	117...128
108	415	3.7	15.8:1	750	C212_ 15.8	S1 + M1LA4	P80 + BN80A4	N56C	129...140
99	452	1.5	17.2:1	450	C112_ 17.2	S1 + M1LA4	P80 + BN80A4	N56C	117...128
95	473	3.5	18.0:1	780	C212_ 18.0	S1 + M1LA4	P80 + BN80A4	N56C	129...140
92	489	1.4	18.6:1	450	C112_ 18.6	S1 + M1LA4	P80 + BN80A4	N56C	117...128
86	526	3.2	20.0:1	800	C212_ 20.0	S1 + M1LA4	P80 + BN80A4	N56C	129...140
83	542	1.3	20.6:1	450	C112_ 20.6	S1 + M1LA4	P80 + BN80A4	N56C	117...128
78	576	3.1	21.9:1	820	C212_ 21.9	S1 + M1LA4	P80 + BN80A4	N56C	129...140
75	599	1.3	22.8:1	450	C112_ 22.8	S1 + M1LA4	P80 + BN80A4	N56C	117...128
70	639	2.8	24.3:1	840	C212_ 24.3	S1 + M1LA4	P80 + BN80A4	N56C	129...140
68	660	4.0	25.1:1	1240	C312_ 25.1	S1 + M1LA4	P80 + BN80A4	N56C	141...152
67	668	1.2	25.4:1	450	C112_ 25.4	S1 + M1LA4	P80 + BN80A4	N56C	117...128
64	702	2.5	26.7:1	850	C212_ 26.7	S1 + M1LA4	P80 + BN80A4	N56C	129...140
64	705	3.8	26.8:1	1240	C312_ 26.8	S1 + M1LA4	P80 + BN80A4	N56C	141...152
58	775	1.1	29.5:1	410	C112_ 29.5	S1 + M1LA4	P80 + BN80A4	N56C	117...128
58	778	2.3	29.6:1	870	C212_ 29.6	S1 + M1LA4	P80 + BN80A4	N56C	129...140
57	783	3.4	29.8:1	1240	C312_ 29.8	S1 + M1LA4	P80 + BN80A4	N56C	141...152
53	854	3.1	32.5:1	1240	C312_ 32.5	S1 + M1LA4	P80 + BN80A4	N56C	141...152
52	870	2.0	33.1:1	890	C212_ 33.1	S1 + M1LA4	P80 + BN80A4	N56C	129...140
51	878	1.0	33.4:1	350	C112_ 33.4	S1 + M1LA4	P80 + BN80A4	N56C	117...128
47	949	2.8	36.1:1	1240	C312_ 36.1	S1 + M1LA4	P80 + BN80A4	N56C	141...152
46	967	1.8	36.8:1	920	C212_ 36.8	S1 + M1LA4	P80 + BN80A4	N56C	129...140
45	976	4.1	38.1:1	1460	C353_ 38.1	S1 + M1LA4	P80 + BN80A4	N56C	153...160
44	1025	1.5	39.0:1	920	C212_ 39.0	S1 + M1LA4	P80 + BN80A4	N56C	129...140
42	1070	2.5	40.7:1	1240	C312_ 40.7	S1 + M1LA4	P80 + BN80A4	N56C	141...152
39	1138	1.5	43.3:1	940	C212_ 43.3	S1 + M1LA4	P80 + BN80A4	N56C	129...140
39	1125	3.5	43.9:1	1460	C353_ 43.9	S1 + M1LA4	P80 + BN80A4	N56C	153...160
38	1178	3.8	44.8:1	1570	C412_ 44.8	S1 + M1LA4	P80 + BN80A4	N56C	161...168
36	1241	2.1	47.2:1	1240	C312_ 47.2	S1 + M1LA4	P80 + BN80A4	N56C	141...152
35	1235	3.2	48.2:1	1460	C353_ 48.2	S1 + M1LA4	P80 + BN80A4	N56C	153...160
34	1305	1.4	33.1:1	960	C212_ 33.1	S2 + M2SA6	P80 + BN80B6	N140TC	129...140
33	1320	4.0	51.5:1	1570	C413_ 51.5	S1 + M1LA4	P80 + BN80A4	N56C	161...168
33	1377	1.9	52.4:1	1240	C312_ 52.4	S1 + M1LA4	P80 + BN80A4	N56C	141...152
30	1448	2.8	56.5:1	1460	C353_ 56.5	S1 + M1LA4	P80 + BN80A4	N56C	153...160
29.1	1504	3.5	58.7:1	1570	C413_ 58.7	S1 + M1LA4	P80 + BN80A4	N56C	161...168



## 0.75 hp


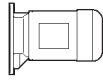
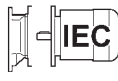


$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
29.1	1507	1.1	58.8:1	990	C213_ 58.8	S1 + M1LA4	P80 + BN80A4	N56C	129...140
28.0	1605	1.7	40.7:1	1240	C312_ 40.7	S2 + M2SA6	P80 + BN80B6	N140TC	141...152
27.6	1589	2.5	62.0:1	1460	C353_ 62.0	S1 + M1LA4	P80 + BN80A4	N56C	153...160
26.6	1648	3.2	64.3:1	1570	C413_ 64.3	S1 + M1LA4	P80 + BN80A4	N56C	161...168
24.2	1812	2.2	70.7:1	1460	C353_ 70.7	S1 + M1LA4	P80 + BN80A4	N56C	153...160
24.2	1861	1.4	47.2:1	1240	C312_ 47.2	S2 + M2SA6	P80 + BN80B6	N140TC	141...152
23.0	1904	1.4	74.3:1	1240	C313_ 74.3	S1 + M1LA4	P80 + BN80A4	N56C	141...152
23.0	1906	2.8	74.4:1	1570	C413_ 74.4	S1 + M1LA4	P80 + BN80A4	N56C	161...168
22.0	1988	2.0	77.6:1	1460	C353_ 77.6	S1 + M1LA4	P80 + BN80A4	N56C	153...160
21.8	2066	1.3	52.4:1	1240	C312_ 52.4	S2 + M2SA6	P80 + BN80B6	N140TC	141...152
21.0	2088	2.5	81.5:1	1570	C413_ 81.5	S1 + M1LA4	P80 + BN80A4	N56C	161...168
20.7	2117	1.3	82.6:1	1240	C313_ 82.6	S1 + M1LA4	P80 + BN80A4	N56C	141...152
20.4	2147	1.9	83.8:1	1460	C353_ 83.8	S1 + M1LA4	P80 + BN80A4	N56C	153...160
18.6	2355	1.7	91.9:1	1460	C353_ 91.9	S1 + M1LA4	P80 + BN80A4	N56C	153...160
18.4	2383	3.7	93.0:1	2250	C513_ 93.0	S1 + M1LA4	P80 + BN80A4	N56C	169...176
18.4	2383	1.1	93.0:1	1240	C313_ 93.0	S1 + M1LA4	P80 + BN80A4	N56C	141...152
18.3	2391	2.2	93.3:1	1570	C413_ 93.3	S1 + M1LA4	P80 + BN80A4	N56C	161...168
16.8	2603	1.5	101.6:1	1460	C353_ 101.6	S1 + M1LA4	P80 + BN80A4	N56C	153...160
16.8	2609	3.4	101.8:1	2250	C513_ 101.8	S1 + M1LA4	P80 + BN80A4	N56C	169...176
16.7	2621	2.0	102.3:1	1570	C413_ 102.3	S1 + M1LA4	P80 + BN80A4	N56C	161...168
15.5	2821	1.9	110.1:1	1570	C413_ 110.1	S1 + M1LA4	P80 + BN80A4	N56C	161...168
15.3	2857	1.4	111.5:1	1460	C353_ 111.5	S1 + M1LA4	P80 + BN80A4	N56C	153...160
15.1	2911	3.0	113.6:1	2250	C513_ 113.6	S1 + M1LA4	P80 + BN80A4	N56C	169...176
14.2	3090	1.7	120.6:1	1570	C413_ 120.6	S1 + M1LA4	P80 + BN80A4	N56C	161...168
13.7	3188	2.8	124.4:1	2250	C513_ 124.4	S1 + M1LA4	P80 + BN80A4	N56C	169...176
13.4	3262	1.2	127.3:1	1460	C353_ 127.3	S1 + M1LA4	P80 + BN80A4	N56C	153...160
12.9	3406	1.6	132.9:1	1570	C413_ 132.9	S1 + M1LA4	P80 + BN80A4	N56C	161...168
12.7	3449	2.6	134.6:1	2250	C513_ 134.6	S1 + M1LA4	P80 + BN80A4	N56C	169...176
12.2	3582	1.1	139.8:1	1460	C353_ 139.8	S1 + M1LA4	P80 + BN80A4	N56C	153...160
12.2	3600	3.9	140.5:1	3600	C613_ 140.5	S1 + M1LA4	P80 + BN80A4	N56C	177...184
11.7	3731	1.4	145.6:1	1570	C413_ 145.6	S1 + M1LA4	P80 + BN80A4	N56C	161...168
11.6	3777	2.3	147.4:1	2250	C513_ 147.4	S1 + M1LA4	P80 + BN80A4	N56C	169...176
11.4	3844	3.7	150.0:1	3600	C613_ 150.0	S1 + M1LA4	P80 + BN80A4	N56C	177...184
10.7	4113	2.2	160.5:1	2250	C513_ 160.5	S1 + M1LA4	P80 + BN80A4	N56C	169...176
10.4	4205	1.3	164.1:1	1570	C413_ 164.1	S1 + M1LA4	P80 + BN80A4	N56C	161...168
10.4	4215	3.4	164.5:1	3600	C613_ 164.5	S1 + M1LA4	P80 + BN80A4	N56C	177...184
9.7	4505	2.0	175.8:1	2250	C513_ 175.8	S1 + M1LA4	P80 + BN80A4	N56C	169...176
9.6	4577	3.1	178.6:1	3600	C613_ 178.6	S1 + M1LA4	P80 + BN80A4	N56C	177...184
9.5	4610	1.2	179.9:1	1570	C413_ 179.9	S1 + M1LA4	P80 + BN80A4	N56C	161...168
8.8	4974	4.1	194.1:1	5620	C703_ 194.1	S1 + M1LA4	P80 + BN80A4	N56C	185...192
8.7	5017	2.8	195.8:1	3600	C613_ 195.8	S1 + M1LA4	P80 + BN80A4	N56C	177...184

## 0.75 hp






<b>n<sub>2</sub></b> [rpm]	<b>T<sub>2</sub></b> [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	<b>R<sub>n2</sub></b> [lb]					
8.6	5071	1.7	197.9:1	2250	C513_ 197.9	S1 + M1LA4	P80 + BN80A4	N56C	169...176
7.9	5553	1.6	216.7:1	2250	C513_ 216.7	S1 + M1LA4	P80 + BN80A4	N56C	169...176
7.9	5433	2.6	217.4:1	3600	C614_ 217.4	S1 + M1LA4	P80 + BN80A4	N56C	177...184
7.7	5660	3.5	220.9:1	5620	C703_ 220.9	S1 + M1LA4	P80 + BN80A4	N56C	185...192
7.2	5955	2.4	238.3:1	3600	C614_ 238.3	S1 + M1LA4	P80 + BN80A4	N56C	177...184
7.1	6132	3.3	239.3:1	5620	C703_ 239.3	S1 + M1LA4	P80 + BN80A4	N56C	185...192
7.1	6020	1.5	240.9:1	2250	C514_ 240.9	S1 + M1LA4	P80 + BN80A4	N56C	169...176
6.5	6592	1.3	263.8:1	2250	C514_ 263.8	S1 + M1LA4	P80 + BN80A4	N56C	169...176
6.3	6802	3.0	272.2:1	5620	C704_ 272.2	S1 + M1LA4	P80 + BN80A4	N56C	185...192
6.2	6879	2.1	275.3:1	3600	C614_ 275.3	S1 + M1LA4	P80 + BN80A4	N56C	177...184
5.7	7442	1.2	297.8:1	2250	C514_ 297.8	S1 + M1LA4	P80 + BN80A4	N56C	169...176
5.2	8149	1.1	326.1:1	2250	C514_ 326.1	S1 + M1LA4	P80 + BN80A4	N56C	169...176
5.1	8439	1.7	337.7:1	3600	C614_ 337.7	S1 + M1LA4	P80 + BN80A4	N56C	177...184
5.0	8604	2.4	344.3:1	5620	C704_ 344.3	S1 + M1LA4	P80 + BN80A4	N56C	185...192
4.7	9113	3.9	364.7:1	7870	C804_ 364.7	S1 + M1LA4	P80 + BN80A4	N56C	193...200
4.6	9248	1.5	370.1:1	3600	C614_ 370.1	S1 + M1LA4	P80 + BN80A4	N56C	177...184
4.5	9486	0.9	379.6:1	2250	C514_ 379.6	S1 + M1LA4	P80 + BN80A4	N56C	169...176
4.1	10533	1.3	421.5:1	3600	C614_ 421.5	S1 + M1LA4	P80 + BN80A4	N56C	177...184
3.9	11083	1.8	443.5:1	5620	C704_ 443.5	S1 + M1LA4	P80 + BN80A4	N56C	185...192
3.8	11380	3.1	455.4:1	7870	C804_ 455.4	S1 + M1LA4	P80 + BN80A4	N56C	193...200
3.7	11545	1.2	462.0:1	3600	C614_ 462.0	S1 + M1LA4	P80 + BN80A4	N56C	177...184
3.2	13227	2.7	529.3:1	7870	C804_ 529.3	S1 + M1LA4	P80 + BN80A4	N56C	193...200
3.1	13861	1.5	554.7:1	5620	C704_ 554.7	S1 + M1LA4	P80 + BN80A4	N56C	185...192
3.0	14274	1.0	571.2:1	3600	C614_ 571.2	S1 + M1LA4	P80 + BN80A4	N56C	177...184
2.6	16425	1.2	657.3:1	5620	C704_ 657.3	S1 + M1LA4	P80 + BN80A4	N56C	185...192
2.6	16600	2.1	664.3:1	7870	C804_ 664.3	S1 + M1LA4	P80 + BN80A4	N56C	193...200
2.4	18109	2.0	724.7:1	7870	C804_ 724.7	S1 + M1LA4	P80 + BN80A4	N56C	193...200
2.3	18392	1.1	736.0:1	5620	C704_ 736.0	S1 + M1LA4	P80 + BN80A4	N56C	185...192
2.0	21091	3.0	844.0:1	14610	C904_ 844.0	S1 + M1LA4	P80 + BN80A4	N56C	201...208
2.0	21355	1.7	854.6:1	7870	C804_ 854.6	S1 + M1LA4	P80 + BN80A4	N56C	193...200
1.7	25139	2.5	1006:1	13490	C904_ 1006	S1 + M1LA4	P80 + BN80A4	N56C	201...208
1.7	25789	1.4	1032:1	7870	C804_ 1032	S1 + M1LA4	P80 + BN80A4	N56C	193...200
1.4	30986	2.1	1240:1	13490	C904_ 1240	S1 + M1LA4	P80 + BN80A4	N56C	201...208
1.3	31836	1.1	1274:1	7870	C804_ 1274	S1 + M1LA4	P80 + BN80A4	N56C	193...200
1.2	34571	1.8	922.3:1	13490	C904_ 922.3	S2 + M2SA6	P80 + BN80B6	N140TC	201...208
1.1	40519	2.6	1081:1	19110	C1004_ 1081	S2 + M2SA6	P80 + BN80B6	N140TC	209...216
0.92	46479	1.4	1240:1	13490	C904_ 1240	S2 + M2SA6	P80 + BN80B6	N140TC	201...208





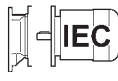


# 1 hp

$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
614	98	3.4	2.8:1	280	C112_ 2.8	S2 + M2SA4	P80 + BN80B4	N56C	117...128
465	129	2.9	3.7:1	300	C112_ 3.7	S2 + M2SA4	P80 + BN80B4	N56C	117...128
407	147	2.6	2.8:1	310	C112_ 2.8	S2 + M2SB6	P90 + BN90S6	N140TC	117...128
351	171	2.5	4.9:1	320	C112_ 4.9	S2 + M2SA4	P80 + BN80B4	N56C	117...128
277	216	2.2	6.2:1	340	C112_ 6.2	S2 + M2SA4	P80 + BN80B4	N56C	117...128
249	240	2.0	6.9:1	360	C112_ 6.9	S2 + M2SA4	P80 + BN80B4	N56C	117...128
226	265	1.9	7.6:1	370	C112_ 7.6	S2 + M2SA4	P80 + BN80B4	N56C	117...128
198	303	4.1	8.7:1	620	C212_ 8.7	S2 + M2SA4	P80 + BN80B4	N56C	129...140
189	317	1.7	9.1:1	390	C112_ 9.1	S2 + M2SA4	P80 + BN80B4	N56C	117...128
179	335	3.8	9.6:1	640	C212_ 9.6	S2 + M2SA4	P80 + BN80B4	N56C	129...140
170	352	1.6	10.1:1	400	C112_ 10.1	S2 + M2SA4	P80 + BN80B4	N56C	117...128
154	390	3.5	11.2:1	660	C212_ 11.2	S2 + M2SA4	P80 + BN80B4	N56C	129...140
142	422	1.4	12.1:1	410	C112_ 12.1	S2 + M2SA4	P80 + BN80B4	N56C	117...128
139	432	3.3	12.4:1	680	C212_ 12.4	S2 + M2SA4	P80 + BN80B4	N56C	129...140
128	467	1.3	13.4:1	420	C112_ 13.4	S2 + M2SA4	P80 + BN80B4	N56C	117...128
120	498	3.0	14.3:1	700	C212_ 14.3	S2 + M2SA4	P80 + BN80B4	N56C	129...140
111	540	1.2	15.5:1	410	C112_ 15.5	S2 + M2SA4	P80 + BN80B4	N56C	117...128
109	551	2.8	15.8:1	720	C212_ 15.8	S2 + M2SA4	P80 + BN80B4	N56C	129...140
100	599	1.1	17.2:1	390	C112_ 17.2	S2 + M2SA4	P80 + BN80B4	N56C	117...128
96	627	2.6	18.0:1	740	C212_ 18.0	S2 + M2SA4	P80 + BN80B4	N56C	129...140
95	631	4.0	18.1:1	1120	C312_ 18.1	S2 + M2SA4	P80 + BN80B4	N56C	141...152
92	648	1.1	18.6:1	360	C112_ 18.6	S2 + M2SA4	P80 + BN80B4	N56C	117...128
86	697	2.4	20.0:1	760	C212_ 20.0	S2 + M2SA4	P80 + BN80B4	N56C	129...140
86	700	3.7	20.1:1	1160	C312_ 20.1	S2 + M2SA4	P80 + BN80B4	N56C	141...152
83	718	1.0	20.6:1	330	C112_ 20.6	S2 + M2SA4	P80 + BN80B4	N56C	117...128
79	763	2.3	21.9:1	770	C212_ 21.9	S2 + M2SA4	P80 + BN80B4	N56C	129...140
76	788	3.4	22.6:1	1190	C312_ 22.6	S2 + M2SA4	P80 + BN80B4	N56C	141...152
71	847	2.1	24.3:1	790	C212_ 24.3	S2 + M2SA4	P80 + BN80B4	N56C	129...140
69	875	3.0	25.1:1	1230	C312_ 25.1	S2 + M2SA4	P80 + BN80B4	N56C	141...152
64	930	1.9	26.7:1	800	C212_ 26.7	S2 + M2SA4	P80 + BN80B4	N56C	129...140
64	934	2.8	26.8:1	1240	C312_ 26.8	S2 + M2SA4	P80 + BN80B4	N56C	141...152
60	975	4.1	28.7:1	1460	C353_ 28.7	S2 + M2SA4	P80 + BN80B4	N56C	153...160
58	1031	1.7	29.6:1	820	C212_ 29.6	S2 + M2SA4	P80 + BN80B4	N56C	129...140
58	1038	2.6	29.8:1	1240	C312_ 29.8	S2 + M2SA4	P80 + BN80B4	N56C	141...152
53	1133	2.3	32.5:1	1240	C312_ 32.5	S2 + M2SA4	P80 + BN80B4	N56C	141...152
52	1153	1.5	33.1:1	830	C212_ 33.1	S2 + M2SA4	P80 + BN80B4	N56C	129...140
48	1258	2.1	36.1:1	1240	C312_ 36.1	S2 + M2SA4	P80 + BN80B4	N56C	141...152
47	1282	1.4	36.8:1	840	C212_ 36.8	S2 + M2SA4	P80 + BN80B4	N56C	129...140
46	1293	3.4	37.1:1	1570	C412_ 37.1	S2 + M2SA4	P80 + BN80B4	N56C	161...168
45	1294	3.1	38.1:1	1460	C353_ 38.1	S2 + M2SA4	P80 + BN80B4	N56C	153...160
43	1369	3.9	40.3:1	1570	C413_ 40.3	S2 + M2SA4	P80 + BN80B4	N56C	161...168






# 1 hp

<b>n<sub>2</sub></b> [rpm]	<b>T<sub>2</sub></b> [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	<b>R<sub>n2</sub></b> [lb]					
42	1418	1.9	40.7:1	1240	C312_ 40.7	S2 + M2SA4	P80 + BN80B4	N56C	141...152
40	1509	1.1	43.3:1	860	C212_ 43.3	S2 + M2SA4	P80 + BN80B4	N56C	129...140
38	1561	2.8	44.8:1	1570	C412_ 44.8	S2 + M2SA4	P80 + BN80B4	N56C	161...168
38	1579	1.7	45.3:1	1240	C312_ 45.3	S2 + M2SA4	P80 + BN80B4	N56C	141...152
37	1596	3.3	47.0:1	1570	C413_ 47.0	S2 + M2SA4	P80 + BN80B4	N56C	161...168
36	1645	1.6	47.2:1	1240	C312_ 47.2	S2 + M2SA4	P80 + BN80B4	N56C	141...152
36	1666	4.3	47.8:1	2250	C512_ 47.8	S2 + M2SA4	P80 + BN80B4	N56C	169...176
36	1637	2.4	48.2:1	1460	C353_ 48.2	S2 + M2SA4	P80 + BN80B4	N56C	153...160
33	1791	3.5	51.4:1	2250	C512_ 51.4	S2 + M2SA4	P80 + BN80B4	N56C	169...176
33	1749	3.0	51.5:1	1570	C413_ 51.5	S2 + M2SA4	P80 + BN80B4	N56C	161...168
33	1826	1.5	52.4:1	1240	C312_ 52.4	S2 + M2SA4	P80 + BN80B4	N56C	141...152
30	1919	2.1	56.5:1	1460	C353_ 56.5	S2 + M2SA4	P80 + BN80B4	N56C	153...160
30	1986	3.5	57.0:1	2250	C512_ 57.0	S2 + M2SA4	P80 + BN80B4	N56C	169...176
29.3	1994	2.7	58.7:1	1570	C413_ 58.7	S2 + M2SA4	P80 + BN80B4	N56C	161...168
28.0	2140	1.2	40.7:1	1240	C312_ 40.7	S2 + M2SB6	P90 + BN90S6	N140TC	141...152
27.7	2106	1.9	62.0:1	1460	C353_ 62.0	S2 + M2SA4	P80 + BN80B4	N56C	153...160
26.7	2184	2.4	64.3:1	1570	C413_ 64.3	S2 + M2SA4	P80 + BN80B4	N56C	161...168
26.6	2194	4.0	64.6:1	2250	C513_ 64.6	S2 + M2SA4	P80 + BN80B4	N56C	169...176
24.3	2402	1.7	70.7:1	1460	C353_ 70.7	S2 + M2SA4	P80 + BN80B4	N56C	153...160
23.6	2476	3.6	72.9:1	2250	C513_ 72.9	S2 + M2SA4	P80 + BN80B4	N56C	169...176
23.1	2527	2.1	74.4:1	1570	C413_ 74.4	S2 + M2SA4	P80 + BN80B4	N56C	161...168
22.2	2636	1.5	77.6:1	1460	C353_ 77.6	S2 + M2SA4	P80 + BN80B4	N56C	153...160
21.5	2714	3.3	79.9:1	2250	C513_ 79.9	S2 + M2SA4	P80 + BN80B4	N56C	169...176
21.1	2768	1.9	81.5:1	1570	C413_ 81.5	S2 + M2SA4	P80 + BN80B4	N56C	161...168
20.5	2846	1.4	83.8:1	1460	C353_ 83.8	S2 + M2SA4	P80 + BN80B4	N56C	153...160
18.7	3122	1.3	91.9:1	1460	C353_ 91.9	S2 + M2SA4	P80 + BN80B4	N56C	153...160
18.5	3159	2.8	93.0:1	2250	C513_ 93.0	S2 + M2SA4	P80 + BN80B4	N56C	169...176
18.4	3169	1.7	93.3:1	1570	C413_ 93.3	S2 + M2SA4	P80 + BN80B4	N56C	161...168
16.9	3451	1.2	101.6:1	1460	C353_ 101.6	S2 + M2SA4	P80 + BN80B4	N56C	153...160
16.9	3458	2.6	101.8:1	2250	C513_ 101.8	S2 + M2SA4	P80 + BN80B4	N56C	169...176
16.8	3475	1.5	102.3:1	1570	C413_ 102.3	S2 + M2SA4	P80 + BN80B4	N56C	161...168
16.6	3519	4.0	103.6:1	3600	C613_ 103.6	S2 + M2SA4	P80 + BN80B4	N56C	177...184
15.6	3740	1.4	110.1:1	1570	C413_ 110.1	S2 + M2SA4	P80 + BN80B4	N56C	161...168
15.1	3859	3.7	113.6:1	3600	C613_ 113.6	S2 + M2SA4	P80 + BN80B4	N56C	177...184
15.1	3859	2.3	113.6:1	2250	C513_ 113.6	S2 + M2SA4	P80 + BN80B4	N56C	169...176
14.3	4096	1.3	120.6:1	1570	C413_ 120.6	S2 + M2SA4	P80 + BN80B4	N56C	161...168
13.8	4226	2.1	124.4:1	2250	C513_ 124.4	S2 + M2SA4	P80 + BN80B4	N56C	169...176
13.4	4351	3.3	128.1:1	3600	C613_ 128.1	S2 + M2SA4	P80 + BN80B4	N56C	177...184
12.9	4514	1.2	132.9:1	1570	C413_ 132.9	S2 + M2SA4	P80 + BN80B4	N56C	161...168
12.8	4572	1.9	134.6:1	2250	C513_ 134.6	S2 + M2SA4	P80 + BN80B4	N56C	169...176
12.5	4667	4.4	137.4:1	5620	C703_ 137.4	S2 + M2SA4	P80 + BN80B4	N56C	185...192






# 1 hp

<b>n<sub>2</sub></b> [rpm]	<b>T<sub>2</sub></b> [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	<b>R<sub>n2</sub></b> [lb]					
12.2	4772	3.0	140.5:1	3600	C613_140.5	S2 + M2SA4	P80 + BN80B4	N56C	177...184
11.7	5007	1.8	147.4:1	2250	C513_147.4	S2 + M2SA4	P80 + BN80B4	N56C	169...176
11.5	5095	2.8	150.0:1	3600	C613_150.0	S2 + M2SA4	P80 + BN80B4	N56C	177...184
10.7	5452	1.6	160.5:1	2250	C513_160.5	S2 + M2SA4	P80 + BN80B4	N56C	169...176
10.6	5530	3.7	162.8:1	5620	C703_162.8	S2 + M2SA4	P80 + BN80B4	N56C	185...192
10.5	5588	2.5	164.5:1	3600	C613_164.5	S2 + M2SA4	P80 + BN80B4	N56C	177...184
9.8	5971	1.5	175.8:1	2250	C513_175.8	S2 + M2SA4	P80 + BN80B4	N56C	169...176
9.6	6067	2.3	178.6:1	3600	C613_178.6	S2 + M2SA4	P80 + BN80B4	N56C	177...184
8.9	6593	3.1	194.1:1	5620	C703_194.1	S2 + M2SA4	P80 + BN80B4	N56C	185...192
8.8	6651	2.1	195.8:1	3600	C613_195.8	S2 + M2SA4	P80 + BN80B4	N56C	177...184
8.7	6722	1.3	197.9:1	2250	C513_197.9	S2 + M2SA4	P80 + BN80B4	N56C	169...176
7.9	7361	1.2	216.7:1	2250	C513_216.7	S2 + M2SA4	P80 + BN80B4	N56C	169...176
7.9	7201	2.0	217.4:1	3600	C614_217.4	S2 + M2SA4	P80 + BN80B4	N56C	177...184
7.8	7503	2.7	220.9:1	5620	C703_220.9	S2 + M2SA4	P80 + BN80B4	N56C	185...192
7.2	8128	2.5	239.3:1	5620	C703_239.3	S2 + M2SA4	P80 + BN80B4	N56C	185...192
7.1	7980	1.1	240.9:1	2250	C514_240.9	S2 + M2SA4	P80 + BN80B4	N56C	169...176
6.9	8431	1.7	164.5:1	3600	C613_164.5	S2 + M2SB6	P90 + BN90S6	N140TC	177...184
6.5	8738	1.0	263.8:1	2250	C514_263.8	S2 + M2SA4	P80 + BN80B4	N56C	169...176
6.4	9153	1.5	178.6:1	3600	C613_178.6	S2 + M2SB6	P90 + BN90S6	N140TC	177...184
6.3	9017	2.3	272.2:1	5620	C704_272.2	S2 + M2SA4	P80 + BN80B4	N56C	185...192
6.2	9119	1.6	275.3:1	3600	C614_275.3	S2 + M2SA4	P80 + BN80B4	N56C	177...184
5.8	10035	1.4	195.8:1	3600	C613_195.8	S2 + M2SB6	P90 + BN90S6	N140TC	177...184
5.7	9994	1.4	301.7:1	3600	C614_301.7	S2 + M2SA4	P80 + BN80B4	N56C	177...184
5.4	10530	1.9	317.9:1	5620	C704_317.9	S2 + M2SA4	P80 + BN80B4	N56C	185...192
5.3	11065	3.2	215.9:1	7870	C803_215.9	S2 + M2SB6	P90 + BN90S6		193...200
5.1	11186	1.3	337.7:1	3600	C614_337.7	S2 + M2SA4	P80 + BN80B4	N56C	177...184
4.8	12264	1.7	239.3:1	5620	C703_239.3	S2 + M2SB6	P90 + BN90S6	N140TC	185...192
4.6	12259	1.2	370.1:1	3600	C614_370.1	S2 + M2SA4	P80 + BN80B4	N56C	177...184
4.2	13561	1.5	409.4:1	5620	C704_409.4	S2 + M2SA4	P80 + BN80B4	N56C	185...192
4.1	13962	1.0	421.5:1	3600	C614_421.5	S2 + M2SA4	P80 + BN80B4	N56C	177...184
3.9	14691	1.4	443.5:1	5620	C704_443.5	S2 + M2SA4	P80 + BN80B4	N56C	185...192
3.8	15085	2.3	455.4:1	7870	C804_455.4	S2 + M2SA4	P80 + BN80B4	N56C	193...200
3.8	15141	4.2	457.1:1	13490	C904_457.1	S2 + M2SA4	P80 + BN80B4	N56C	201...208
3.2	17533	2.0	529.3:1	7870	C804_529.3	S2 + M2SA4	P80 + BN80B4	N56C	193...200
3.2	17695	3.6	534.2:1	13490	C904_534.2	S2 + M2SA4	P80 + BN80B4	N56C	201...208
2.6	21624	2.9	652.8:1	13490	C904_652.8	S2 + M2SA4	P80 + BN80B4	N56C	201...208
2.6	22005	1.6	664.3:1	7870	C804_664.3	S2 + M2SA4	P80 + BN80B4	N56C	193...200
2.2	25625	2.5	773.6:1	13490	C904_773.6	S2 + M2SA4	P80 + BN80B4	N56C	201...208
2.2	25950	1.4	783.4:1	7870	C804_783.4	S2 + M2SA4	P80 + BN80B4	N56C	193...200
1.9	30551	2.1	922.3:1	13490	C904_922.3	S2 + M2SA4	P80 + BN80B4	N56C	201...208
1.8	31326	1.1	945.7:1	7870	C804_945.7	S2 + M2SA4	P80 + BN80B4	N56C	193...200



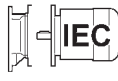


## 1 hp

<b>n<sub>2</sub></b> [rpm]	<b>T<sub>2</sub></b> [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	<b>R<sub>n2</sub></b> [lb]					
1.4	41075	1.6	1240:1	7870	<b>C904_1240</b>	<b>S2 + M2SA4</b>	<b>P80 + BN80B4</b>	<b>N56C</b>	201...208
1.1	50278	1.3	1006:1	13490	<b>C904_1006</b>	<b>S2 + M2SB6</b>	<b>P90 + BN90S6</b>	<b>N140TC</b>	201...208
1.1	54026	2.0	1081:1	19110	<b>C1004_1081</b>	<b>S2 + M2SB6</b>	<b>P90 + BN90S6</b>	<b>N140TC</b>	209...216

## 1.5 hp


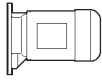
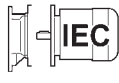


<b>n<sub>2</sub></b> [rpm]	<b>T<sub>2</sub></b> [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	<b>R<sub>n2</sub></b> [lb]					
614	146	2.2	2.8:1	270	<b>C112_2.8</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	117...128
465	193	4.1	3.7:1	470	<b>C212_3.7</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	129...140
465	193	1.9	3.7:1	290	<b>C112_3.7</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	117...128
422	213	3.9	2.7:1	490	<b>C212_2.7</b>	<b>S3 + M3SA6</b>	<b>P90 + BN90L6</b>	<b>N180TC</b>	129...140
407	221	1.7	2.8:1	300	<b>C112_2.8</b>	<b>S3 + M3SA6</b>	<b>P90 + BN90L6</b>	<b>N180TC</b>	117...128
358	251	3.5	4.8:1	500	<b>C212_4.8</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	129...140
351	256	1.7	4.9:1	310	<b>C112_4.9</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	117...128
308	292	1.5	3.7:1	300	<b>C112_3.7</b>	<b>S3 + M3SA6</b>	<b>P90 + BN90L6</b>	<b>N180TC</b>	117...128
282	319	2.9	6.1:1	540	<b>C212_6.1</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	129...140
277	324	1.4	6.2:1	270	<b>C112_6.2</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	117...128
273	329	4.2	6.3:1	800	<b>C312_6.3</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	141...152
269	335	3.3	6.4:1	550	<b>C212_6.4</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	129...140
249	361	1.3	6.9:1	340	<b>C112_6.9</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	117...128
242	371	3.1	7.1:1	560	<b>C212_7.1</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	129...140
226	397	1.2	7.6:1	350	<b>C112_7.6</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	117...128
198	455	2.7	8.7:1	590	<b>C212_8.7</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	129...140
189	476	1.1	9.1:1	330	<b>C112_9.1</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	117...128
185	486	4.0	9.3:1	910	<b>C312_9.3</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	141...152
179	502	2.6	9.6:1	610	<b>C212_9.6</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	129...140
170	528	1.1	10.1:1	320	<b>C112_10.1</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	117...128
155	580	3.7	11.1:1	950	<b>C312_11.1</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	141...152
154	585	2.3	11.2:1	620	<b>C212_11.2</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	129...140
140	643	3.4	12.3:1	980	<b>C312_12.3</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	141...152
139	648	2.2	12.4:1	640	<b>C212_12.4</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	129...140
123	732	3.1	14.0:1	1010	<b>C312_14.0</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	141...152
120	747	2.0	14.3:1	650	<b>C212_14.3</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	129...140
110	815	2.9	15.6:1	1040	<b>C312_15.6</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	141...152
109	826	1.9	15.8:1	670	<b>C212_15.8</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	129...140
101	894	3.8	17.1:1	1220	<b>C352_17.1</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	153...160
96	941	1.7	18.0:1	680	<b>C212_18.0</b>	<b>S2 + M2SB4</b>	<b>P90 + BN90S4</b>	<b>N140TC</b>	129...140

## 1.5 hp



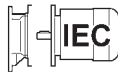


$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
95	946	2.7	18.1:1	1080	C312_ 18.1	S2 + M2SB4	P90 + BN90S4	N140TC	141...152
91	993	3.4	19.0:1	1250	C352_ 19.0	S2 + M2SB4	P90 + BN90S4	N140TC	153...160
86	1045	1.6	20.0:1	690	C212_ 20.0	S2 + M2SB4	P90 + BN90S4	N140TC	129...140
86	1051	2.5	20.1:1	1110	C312_ 20.1	S2 + M2SB4	P90 + BN90S4	N140TC	141...152
79	1145	1.5	21.9:1	700	C212_ 21.9	S2 + M2SB4	P90 + BN90S4	N140TC	129...140
76	1181	3.7	22.6:1	1530	C412_ 22.6	S2 + M2SB4	P90 + BN90S4	N140TC	161...168
76	1181	2.2	22.6:1	1140	C312_ 22.6	S2 + M2SB4	P90 + BN90S4	N140TC	141...152
71	1270	1.4	24.3:1	710	C212_ 24.3	S2 + M2SB4	P90 + BN90S4	N140TC	129...140
69	1312	2.0	25.1:1	1160	C312_ 25.1	S2 + M2SB4	P90 + BN90S4	N140TC	141...152
64	1396	1.3	26.7:1	710	C212_ 26.7	S2 + M2SB4	P90 + BN90S4	N140TC	129...140
64	1401	1.9	26.8:1	1180	C312_ 26.8	S2 + M2SB4	P90 + BN90S4	N140TC	141...152
61	1479	3.0	28.3:1	1570	C412_ 28.3	S2 + M2SB4	P90 + BN90S4	N140TC	161...168
60	1452	3.4	28.5:1	1570	C413_ 28.5	S2 + M2SB4	P90 + BN90S4	N140TC	161...168
60	1462	2.7	28.7:1	1390	C353_ 28.7	S2 + M2SB4	P90 + BN90S4	N140TC	153...160
58	1547	1.1	29.6:1	720	C212_ 29.6	S2 + M2SB4	P90 + BN90S4	N140TC	129...140
58	1558	1.7	29.8:1	1210	C312_ 29.8	S2 + M2SB4	P90 + BN90S4	N140TC	141...152
55	1590	3.2	31.2:1	1570	C413_ 31.2	S2 + M2SB4	P90 + BN90S4	N140TC	161...168
55	1641	2.7	31.4:1	1570	C412_ 31.4	S2 + M2SB4	P90 + BN90S4	N140TC	161...168
53	1699	1.6	32.5:1	1220	C312_ 32.5	S2 + M2SB4	P90 + BN90S4	N140TC	141...152
51	1746	2.5	33.4:1	1570	C412_ 33.4	S2 + M2SB4	P90 + BN90S4	N140TC	161...168
50	1768	2.3	34.7:1	1450	C353_ 34.7	S2 + M2SB4	P90 + BN90S4	N140TC	153...160
48	1887	1.4	36.1:1	1240	C312_ 36.1	S2 + M2SB4	P90 + BN90S4	N140TC	141...152
47	1875	2.8	36.8:1	1570	C413_ 36.8	S2 + M2SB4	P90 + BN90S4	N140TC	161...168
46	1939	2.3	37.1:1	1570	C412_ 37.1	S2 + M2SB4	P90 + BN90S4	N140TC	161...168
45	1941	2.1	38.1:1	1460	C353_ 38.1	S2 + M2SB4	P90 + BN90S4	N140TC	153...160
43	2053	2.6	40.3:1	1570	C413_ 40.3	S2 + M2SB4	P90 + BN90S4	N140TC	161...168
43	2112	3.3	40.4:1	2250	C512_ 40.4	S2 + M2SB4	P90 + BN90S4	N140TC	169...176
42	2127	1.2	40.7:1	1240	C312_ 40.7	S2 + M2SB4	P90 + BN90S4	N140TC	141...152
40	2253	3.0	43.1:1	2250	C512_ 43.1	S2 + M2SB4	P90 + BN90S4	N140TC	169...176
39	2237	1.8	43.9:1	1460	C353_ 43.9	S2 + M2SB4	P90 + BN90S4	N140TC	153...160
38	2342	1.9	44.8:1	1570	C412_ 44.8	S2 + M2SB4	P90 + BN90S4	N140TC	161...168
38	2368	1.1	45.3:1	1240	C312_ 45.3	S2 + M2SB4	P90 + BN90S4	N140TC	141...152
37	2379	3.7	46.7:1	2250	C513_ 46.7	S2 + M2SB4	P90 + BN90S4	N140TC	169...176
37	2395	2.2	47.0:1	1570	C413_ 47.0	S2 + M2SB4	P90 + BN90S4	N140TC	161...168
36	2499	2.8	47.8:1	2250	C512_ 47.8	S2 + M2SB4	P90 + BN90S4	N140TC	169...176
36	2456	1.6	48.2:1	1460	C353_ 48.2	S2 + M2SB4	P90 + BN90S4	N140TC	153...160
34	2609	3.4	51.2:1	2250	C513_ 51.2	S2 + M2SB4	P90 + BN90S4	N140TC	169...176
33	2687	2.3	51.4:1	2250	C512_ 51.4	S2 + M2SB4	P90 + BN90S4	N140TC	169...176
33	2624	2.0	51.5:1	1570	C413_ 51.5	S2 + M2SB4	P90 + BN90S4	N140TC	161...168
30	2879	1.4	56.5:1	1460	C353_ 56.5	S2 + M2SB4	P90 + BN90S4	N140TC	153...160
30	2979	2.3	57.0:1	2250	C512_ 57.0	S2 + M2SB4	P90 + BN90S4	N140TC	169...176





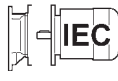


## 1.5 hp

<b>n<sub>2</sub></b> [rpm]	<b>T<sub>2</sub></b> [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	<b>R<sub>n2</sub></b> [lb]					
29.3	2991	1.8	58.7:1	1570	C413_ 58.7	S2 + M2SB4	P90 + BN90S4	N140TC	161...168
29.2	3006	2.9	59.0:1	2250	C513_ 59.0	S2 + M2SB4	P90 + BN90S4	N140TC	169...176
27.7	3159	1.3	62.0:1	1460	C353_ 62.0	S2 + M2SB4	P90 + BN90S4	N140TC	153...160
26.7	3276	1.6	64.3:1	1570	C413_ 64.3	S2 + M2SB4	P90 + BN90S4	N140TC	161...168
26.6	3291	2.7	64.6:1	2250	C513_ 64.6	S2 + M2SB4	P90 + BN90S4	N140TC	169...176
25.4	3449	4.1	67.7:1	3600	C613_ 67.7	S2 + M2SB4	P90 + BN90S4	N140TC	177...184
24.3	3602	1.1	70.7:1	1460	C353_ 70.7	S2 + M2SB4	P90 + BN90S4	N140TC	153...160
23.6	3714	2.4	72.9:1	2250	C513_ 72.9	S2 + M2SB4	P90 + BN90S4	N140TC	169...176
23.2	3781	3.7	74.2:1	3600	C613_ 74.2	S2 + M2SB4	P90 + BN90S4	N140TC	177...184
23.1	3791	1.4	74.4:1	1570	C413_ 74.4	S2 + M2SB4	P90 + BN90S4	N140TC	161...168
21.5	4071	2.2	79.9:1	2250	C513_ 79.9	S2 + M2SB4	P90 + BN90S4	N140TC	169...176
21.1	4153	1.3	81.5:1	1570	C413_ 81.5	S2 + M2SB4	P90 + BN90S4	N140TC	161...168
20.7	4229	3.3	83.0:1	3600	C613_ 83.0	S2 + M2SB4	P90 + BN90S4	N140TC	177...184
18.9	4637	3.1	91.0:1	3600	C613_ 91.0	S2 + M2SB4	P90 + BN90S4	N140TC	177...184
18.5	4738	1.9	93.0:1	2250	C513_ 93.0	S2 + M2SB4	P90 + BN90S4	N140TC	169...176
18.4	4754	1.1	93.3:1	1570	C413_ 93.3	S2 + M2SB4	P90 + BN90S4	N140TC	161...168
16.9	5187	1.7	101.8:1	2250	C513_ 101.8	S2 + M2SB4	P90 + BN90S4	N140TC	169...176
16.6	5279	2.7	103.6:1	3600	C613_ 103.6	S2 + M2SB4	P90 + BN90S4	N140TC	177...184
15.3	5727	3.6	112.4:1	5620	C703_ 112.4	S2 + M2SB4	P90 + BN90S4	N140TC	185...192
15.1	5788	2.4	113.6:1	3600	C613_ 113.6	S2 + M2SB4	P90 + BN90S4	N140TC	177...184
15.1	5788	1.5	113.6:1	2250	C513_ 113.6	S2 + M2SB4	P90 + BN90S4	N140TC	169...176
13.8	6338	1.4	124.4:1	2250	C513_ 124.4	S2 + M2SB4	P90 + BN90S4	N140TC	169...176
13.6	6461	3.2	126.8:1	5620	C703_ 126.8	S2 + M2SB4	P90 + BN90S4	N140TC	185...192
13.4	6527	2.2	128.1:1	3600	C613_ 128.1	S2 + M2SB4	P90 + BN90S4	N140TC	177...184
12.8	6858	1.3	134.6:1	2250	C513_ 134.6	S2 + M2SB4	P90 + BN90S4	N140TC	169...176
12.2	7159	2.0	140.5:1	3600	C613_ 140.5	S2 + M2SB4	P90 + BN90S4	N140TC	177...184
11.7	7510	1.2	147.4:1	2250	C513_ 147.4	S2 + M2SB4	P90 + BN90S4	N140TC	169...176
11.5	7643	1.9	150.0:1	3600	C613_ 150.0	S2 + M2SB4	P90 + BN90S4	N140TC	177...184
11.4	7658	2.7	150.3:1	5620	C703_ 150.3	S2 + M2SB4	P90 + BN90S4	N140TC	185...192
10.5	8381	1.7	164.5:1	3600	C613_ 164.5	S2 + M2SB4	P90 + BN90S4	N140TC	177...184
9.6	9100	1.6	178.6:1	3600	C613_ 178.6	S2 + M2SB4	P90 + BN90S4	N140TC	177...184
9.6	9130	2.2	179.2:1	5620	C703_ 179.2	S2 + M2SB4	P90 + BN90S4	N140TC	185...192
8.8	9976	1.4	195.8:1	3600	C613_ 195.8	S2 + M2SB4	P90 + BN90S4	N140TC	177...184
7.8	11255	1.8	220.9:1	5620	C703_ 220.9	S2 + M2SB4	P90 + BN90S4	N140TC	185...192
7.6	11531	1.2	150.0:1	3600	C613_ 150.0	S3 + M3SA6	P90 + BN90L6	N180TC	177...184
6.9	12646	1.1	164.5:1	3600	C613_ 164.5	S3 + M3SA6	P90 + BN90L6	N180TC	177...184
6.8	12486	1.6	251.3:1	5620	C704_ 251.3	S2 + M2SB4	P90 + BN90S4	N140TC	185...192
6.3	13525	1.5	272.2:1	5620	C704_ 272.2	S2 + M2SB4	P90 + BN90S4	N140TC	185...192
6.2	13679	1.0	275.3:1	3600	C614_ 275.3	S2 + M2SB4	P90 + BN90S4	N140TC	177...184
6.0	14196	2.5	285.7:1	7870	C804_ 285.7	S2 + M2SB4	P90 + BN90S4	N140TC	193...200
5.7	14991	0.9	301.7:1	3600	C614_ 301.7	S2 + M2SB4	P90 + BN90S4	N140TC	177...184

## 1.5 hp






$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
5.4	15796	1.3	317.9:1	5620	C704_ 317.9	S2 + M2SB4	P90 + BN90S4	N140TC	185...192
5.1	16610	2.1	334.3:1	7870	C804_ 334.3	S2 + M2SB4	P90 + BN90S4	N140TC	193...200
5.0	17107	1.2	344.3:1	5620	C704_ 344.3	S2 + M2SB4	P90 + BN90S4	N140TC	185...192
4.7	18121	2.0	364.7:1	7870	C804_ 364.7	S2 + M2SB4	P90 + BN90S4	N140TC	193...200
4.1	20744	1.7	417.5:1	7870	C804_ 417.5	S2 + M2SB4	P90 + BN90S4	N140TC	193...200
4.1	20819	3.1	419.0:1	13490	C904_ 419.0	S2 + M2SB4	P90 + BN90S4	N140TC	201...208
3.2	26299	1.3	529.3:1	7870	C804_ 529.3	S2 + M2SB4	P90 + BN90S4	N140TC	193...200
3.2	26543	2.4	534.2:1	13490	C904_ 534.2	S2 + M2SB4	P90 + BN90S4	N140TC	201...208
2.7	31174	3.4	627.4:1	19110	C1004_ 627.4	S2 + M2SB4	P90 + BN90S4	N140TC	209...216
2.6	32436	2.0	652.8:1	13490	C904_ 652.8	S2 + M2SB4	P90 + BN90S4	N140TC	201...208
2.0	41901	2.5	843.3:1	19110	C1004_ 843.3	S2 + M2SB4	P90 + BN90S4	N140TC	209...216
2.0	41936	1.5	844.0:1	13490	C904_ 844.0	S2 + M2SB4	P90 + BN90S4	N140TC	201...208
1.7	49886	2.1	1004:1	19110	C1004_ 1004	S2 + M2SB4	P90 + BN90S4	N140TC	209...216
1.7	49985	1.3	1006:1	13490	C904_ 1006	S2 + M2SB4	P90 + BN90S4	N140TC	201...208
1.6	53712	2.0	1081:1	19110	C1004_ 1081	S2 + M2SB4	P90 + BN90S4	N140TC	209...216
1.5	56494	1.1	1137:1	13490	C904_ 1137	S2 + M2SB4	P90 + BN90S4	N140TC	201...208
1.3	68085	1.6	908.2:1	19110	C1004_ 908.2	S3 + M3SA6	P90 + BN90L6	N180TC	209...216
1.1	81039	1.3	1081:1	19110	C1004_ 1081	S3 + M3SA6	P90 + BN90L6	N180TC	209...216

## 2 hp


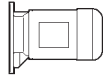



$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
637	188	3.8	2.7:1	420	C212_ 2.7	S3 + M3SA4	P90 + BN90LA4	N140TC	129...140
614	195	1.7	2.8:1	260	C112_ 2.8	S3 + M3SA4	P90 + BN90LA4	N140TC	117...128
465	258	3.1	3.7:1	450	C212_ 3.7	S3 + M3SA4	P90 + BN90LA4	N140TC	129...140
465	258	1.4	3.7:1	250	C112_ 3.7	S3 + M3SA4	P90 + BN90LA4	N140TC	117...128
422	284	3.0	2.7:1	460	C212_ 2.7	S3 + M3LA6	P100 + BN100LA6	N180TC	129...140
407	294	1.3	2.8:1	230	C112_ 2.8	S3 + M3LA6	P100 + BN100LA6	N180TC	117...128
358	335	2.6	4.8:1	480	C212_ 4.8	S3 + M3SA4	P90 + BN90LA4	N140TC	129...140
351	342	1.2	4.9:1	190	C112_ 4.9	S3 + M3SA4	P90 + BN90LA4	N140TC	117...128
344	348	3.9	5.0:1	730	C312_ 5.0	S3 + M3SA4	P90 + BN90LA4	N140TC	141...152
308	389	2.4	3.7:1	500	C212_ 3.7	S3 + M3LA6	P100 + BN100LA6	N180TC	129...140
282	425	2.2	6.1:1	510	C212_ 6.1	S3 + M3SA4	P90 + BN90LA4	N140TC	129...140
273	439	3.1	6.3:1	780	C312_ 6.3	S3 + M3SA4	P90 + BN90LA4	N140TC	141...152
269	446	2.5	6.4:1	520	C212_ 6.4	S3 + M3SA4	P90 + BN90LA4	N140TC	129...140
265	453	3.8	6.5:1	800	C312_ 6.5	S3 + M3SA4	P90 + BN90LA4	N140TC	141...152
249	481	1.0	6.9:1	240	C112_ 6.9	S3 + M3SA4	P90 + BN90LA4	N140TC	117...128








## 2 hp

<b>n<sub>2</sub></b> [rpm]	<b>T<sub>2</sub></b> [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	<b>R<sub>n2</sub></b> [lb]					
248	484	3.7	4.6:1	910	C352_ 4.6	S3 + M3LA6	P100 + BN100LA6	N180TC	153...160
242	495	2.3	7.1:1	540	C212_ 7.1	S3 + M3SA4	P90 + BN90LA4	N140TC	129...140
239	502	3.5	7.2:1	820	C312_ 7.2	S3 + M3SA4	P90 + BN90LA4	N140TC	141...152
228	526	2.7	5.0:1	810	C312_ 5.0	S3 + M3LA6	P100 + BN100LA6	N180TC	141...152
205	585	3.3	8.4:1	850	C312_ 8.4	S3 + M3SA4	P90 + BN90LA4	N140TC	141...152
198	606	2.0	8.7:1	560	C212_ 8.7	S3 + M3SA4	P90 + BN90LA4	N140TC	129...140
185	648	3.0	9.3:1	880	C312_ 9.3	S3 + M3SA4	P90 + BN90LA4	N140TC	141...152
179	669	1.9	9.6:1	570	C212_ 9.6	S3 + M3SA4	P90 + BN90LA4	N140TC	129...140
155	774	2.7	11.1:1	920	C312_ 11.1	S3 + M3SA4	P90 + BN90LA4	N140TC	141...152
154	781	1.8	11.2:1	580	C212_ 11.2	S3 + M3SA4	P90 + BN90LA4	N140TC	129...140
147	815	4.1	11.7:1	1070	C352_ 11.7	S3 + M3SA4	P90 + BN90LA4	N140TC	153...160
140	857	2.5	12.3:1	940	C312_ 12.3	S3 + M3SA4	P90 + BN90LA4	N140TC	141...152
139	864	1.6	12.4:1	590	C212_ 12.4	S3 + M3SA4	P90 + BN90LA4	N140TC	129...140
129	927	3.6	13.3:1	1100	C352_ 13.3	S3 + M3SA4	P90 + BN90LA4	N140TC	153...160
123	976	2.4	14.0:1	970	C312_ 14.0	S3 + M3SA4	P90 + BN90LA4	N140TC	141...152
121	990	4.0	14.2:1	1310	C412_ 14.2	S3 + M3SA4	P90 + BN90LA4	N140TC	161...168
120	997	1.5	14.3:1	600	C212_ 14.3	S3 + M3SA4	P90 + BN90LA4	N140TC	129...140
116	1031	3.3	14.8:1	1130	C352_ 14.8	S3 + M3SA4	P90 + BN90LA4	N140TC	153...160
110	1087	2.2	15.6:1	990	C312_ 15.6	S3 + M3SA4	P90 + BN90LA4	N140TC	141...152
109	1101	3.6	15.8:1	1350	C412_ 15.8	S3 + M3SA4	P90 + BN90LA4	N140TC	161...168
109	1101	1.4	15.8:1	610	C212_ 15.8	S3 + M3SA4	P90 + BN90LA4	N140TC	129...140
101	1192	2.8	17.1:1	1170	C352_ 17.1	S3 + M3SA4	P90 + BN90LA4	N140TC	153...160
97	1241	3.4	17.8:1	1390	C412_ 17.8	S3 + M3SA4	P90 + BN90LA4	N140TC	161...168
96	1254	1.3	18.0:1	610	C212_ 18.0	S3 + M3SA4	P90 + BN90LA4	N140TC	129...140
95	1261	2.0	18.1:1	1020	C312_ 18.1	S3 + M3SA4	P90 + BN90LA4	N140TC	141...152
91	1324	2.5	19.0:1	1200	C352_ 19.0	S3 + M3SA4	P90 + BN90LA4	N140TC	153...160
87	1380	3.1	19.8:1	1420	C412_ 19.8	S3 + M3SA4	P90 + BN90LA4	N140TC	161...168
86	1394	1.2	20.0:1	620	C212_ 20.0	S3 + M3SA4	P90 + BN90LA4	N140TC	129...140
86	1401	1.9	20.1:1	1050	C312_ 20.1	S3 + M3SA4	P90 + BN90LA4	N140TC	141...152
85	1372	2.5	20.2:1	1220	C353_ 20.2	S3 + M3SA4	P90 + BN90LA4	N140TC	153...160
79	1526	1.2	21.9:1	580	C212_ 21.9	S3 + M3SA4	P90 + BN90LA4	N140TC	129...140
78	1501	2.5	22.1:1	1240	C353_ 22.1	S3 + M3SA4	P90 + BN90LA4	N140TC	153...160
76	1575	2.8	22.6:1	1460	C412_ 22.6	S3 + M3SA4	P90 + BN90LA4	N140TC	161...168
76	1575	1.7	22.6:1	1070	C312_ 22.6	S3 + M3SA4	P90 + BN90LA4	N140TC	141...152
69	1742	2.5	25.0:1	1500	C412_ 25.0	S3 + M3SA4	P90 + BN90LA4	N140TC	161...168
69	1749	1.5	25.1:1	1090	C312_ 25.1	S3 + M3SA4	P90 + BN90LA4	N140TC	141...152
66	1805	3.9	25.9:1	2250	C512_ 25.9	S3 + M3SA4	P90 + BN90LA4	N140TC	169...176
66	1780	2.2	26.2:1	1280	C353_ 26.2	S3 + M3SA4	P90 + BN90LA4	N140TC	153...160
64	1868	1.4	26.8:1	1100	C312_ 26.8	S3 + M3SA4	P90 + BN90LA4	N140TC	141...152
61	1972	2.2	28.3:1	1540	C412_ 28.3	S3 + M3SA4	P90 + BN90LA4	N140TC	161...168
60	1950	2.0	28.7:1	1310	C353_ 28.7	S3 + M3SA4	P90 + BN90LA4	N140TC	153...160


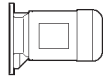
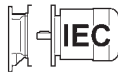


## 2 hp

$n_2$ [rpm]	$T_2$ [lb·in]	S Safety factor	i (ratio)	$R_{n2}$ [lb]					
58	2077	3.4	29.8:1	2250	C512_ 29.8	S3 + M3SA4	P90 + BN90LA4	N140TC	169...176
58	2077	1.3	29.8:1	1120	C312_ 29.8	S3 + M3SA4	P90 + BN90LA4	N140TC	141...152
55	2120	2.4	31.2:1	1570	C413_ 31.2	S3 + M3SA4	P90 + BN90LA4	N140TC	161...168
55	2188	2.0	31.4:1	1570	C412_ 31.4	S3 + M3SA4	P90 + BN90LA4	N140TC	161...168
53	2265	1.2	32.5:1	1120	C312_ 32.5	S3 + M3SA4	P90 + BN90LA4	N140TC	141...152
52	2300	3.1	33.0:1	2250	C512_ 33.0	S3 + M3SA4	P90 + BN90LA4	N140TC	169...176
51	2328	1.9	33.4:1	1570	C412_ 33.4	S3 + M3SA4	P90 + BN90LA4	N140TC	161...168
50	2357	1.7	34.7:1	1350	C353_ 34.7	S3 + M3SA4	P90 + BN90LA4	N140TC	153...160
47	2537	2.8	36.4:1	2250	C512_ 36.4	S3 + M3SA4	P90 + BN90LA4	N140TC	169...176
47	2500	2.1	36.8:1	1570	C413_ 36.8	S3 + M3SA4	P90 + BN90LA4	N140TC	161...168
46	2586	1.7	37.1:1	1570	C412_ 37.1	S3 + M3SA4	P90 + BN90LA4	N140TC	161...168
45	2588	1.5	38.1:1	1370	C353_ 38.1	S3 + M3SA4	P90 + BN90LA4	N140TC	153...160
43	2738	1.9	40.3:1	1570	C413_ 40.3	S3 + M3SA4	P90 + BN90LA4	N140TC	161...168
43	2816	2.5	40.4:1	2250	C512_ 40.4	S3 + M3SA4	P90 + BN90LA4	N140TC	169...176
42	2751	3.2	40.5:1	2250	C513_ 40.5	S3 + M3SA4	P90 + BN90LA4	N140TC	169...176
40	3004	2.3	43.1:1	2250	C512_ 43.1	S3 + M3SA4	P90 + BN90LA4	N140TC	169...176
39	2982	1.3	43.9:1	1390	C353_ 43.9	S3 + M3SA4	P90 + BN90LA4	N140TC	153...160
38	3122	1.4	44.8:1	1570	C412_ 44.8	S3 + M3SA4	P90 + BN90LA4	N140TC	161...168
37	3173	2.8	46.7:1	2250	C513_ 46.7	S3 + M3SA4	P90 + BN90LA4	N140TC	169...176
37	3193	1.7	47.0:1	1570	C413_ 47.0	S3 + M3SA4	P90 + BN90LA4	N140TC	161...168
36	3331	2.1	47.8:1	2250	C512_ 47.8	S3 + M3SA4	P90 + BN90LA4	N140TC	169...176
36	3274	1.2	48.2:1	1410	C353_ 48.2	S3 + M3SA4	P90 + BN90LA4	N140TC	153...160
34	3478	2.5	51.2:1	2250	C513_ 51.2	S3 + M3SA4	P90 + BN90LA4	N140TC	169...176
33	3582	1.7	51.4:1	2250	C512_ 51.4	S3 + M3SA4	P90 + BN90LA4	N140TC	169...176
33	3499	1.5	51.5:1	1570	C413_ 51.5	S3 + M3SA4	P90 + BN90LA4	N140TC	161...168
32	3635	3.9	53.5:1	3600	C613_ 53.5	S3 + M3SA4	P90 + BN90LA4	N140TC	177...184
30	3973	1.7	57.0:1	2250	C512_ 57.0	S3 + M3SA4	P90 + BN90LA4	N140TC	169...176
29.4	3981	3.6	58.6:1	3600	C613_ 58.6	S3 + M3SA4	P90 + BN90LA4	N140TC	177...184
29.3	3988	1.3	58.7:1	1570	C413_ 58.7	S3 + M3SA4	P90 + BN90LA4	N140TC	161...168
29.2	4008	2.2	59.0:1	2250	C513_ 59.0	S3 + M3SA4	P90 + BN90LA4	N140TC	169...176
26.7	4368	1.2	64.3:1	1570	C413_ 64.3	S3 + M3SA4	P90 + BN90LA4	N140TC	161...168
26.6	4389	2.0	64.6:1	2250	C513_ 64.6	S3 + M3SA4	P90 + BN90LA4	N140TC	169...176
26.5	4532	1.6	43.1:1	2250	C512_ 43.1	S3 + M3LA6	P100 + BN100LA6	N180TC	169...176
25.4	4599	3.1	67.7:1	3600	C613_ 67.7	S3 + M3SA4	P90 + BN90LA4	N140TC	177...184
24.1	4844	4.2	71.3:1	5620	C703_ 71.3	S3 + M3SA4	P90 + BN90LA4	N140TC	185...192
23.8	5026	1.4	47.8:1	2250	C512_ 47.8	S3 + M3LA6	P100 + BN100LA6	N180TC	169...176
23.6	4952	1.8	72.9:1	2250	C513_ 72.9	S3 + M3SA4	P90 + BN90LA4	N140TC	169...176
23.2	5041	2.8	74.2:1	3600	C613_ 74.2	S3 + M3SA4	P90 + BN90LA4	N140TC	177...184
22.2	5405	1.2	51.4:1	2250	C512_ 51.4	S3 + M3LA6	P100 + BN100LA6	N180TC	169...176
21.5	5428	1.6	79.9:1	2250	C513_ 79.9	S3 + M3SA4	P90 + BN90LA4	N140TC	169...176
21.1	5530	3.7	81.4:1	5620	C703_ 81.4	S3 + M3SA4	P90 + BN90LA4	N140TC	185...192


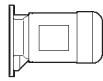



## 2 hp

<b>n<sub>2</sub></b> [rpm]	<b>T<sub>2</sub></b> [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	<b>R<sub>n2</sub></b> [lb]					
20.7	5639	2.5	83.0:1	3600	C613_ 83.0	S3 + M3SA4	P90 + BN90LA4	N140TC	177...184
20.0	5994	1.2	57.0:1	2250	C512_ 57.0	S3 + M3LA6	P100 + BN100LA6	N180TC	169...176
19.5	5992	3.4	88.2:1	5620	C703_ 88.2	S3 + M3SA4	P90 + BN90LA4	N140TC	185...192
18.9	6182	2.3	91.0:1	3600	C613_ 91.0	S3 + M3SA4	P90 + BN90LA4	N140TC	177...184
18.5	6318	1.4	93.0:1	2250	C513_ 93.0	S3 + M3SA4	P90 + BN90LA4	N140TC	169...176
16.9	6916	1.3	101.8:1	2250	C513_ 101.8	S3 + M3SA4	P90 + BN90LA4	N140TC	169...176
16.6	7038	2.0	103.6:1	3600	C613_ 103.6	S3 + M3SA4	P90 + BN90LA4	N140TC	177...184
16.6	7052	2.9	103.8:1	5620	C703_ 103.8	S3 + M3SA4	P90 + BN90LA4	N140TC	185...192
15.1	7717	1.8	113.6:1	3600	C613_ 113.6	S3 + M3SA4	P90 + BN90LA4	N140TC	177...184
15.1	7717	1.1	113.6:1	2250	C513_ 113.6	S3 + M3SA4	P90 + BN90LA4	N140TC	169...176
13.6	8614	2.4	126.8:1	5620	C703_ 126.8	S3 + M3SA4	P90 + BN90LA4	N140TC	185...192
13.4	8702	1.6	128.1:1	3600	C613_ 128.1	S3 + M3SA4	P90 + BN90LA4	N140TC	177...184
12.6	9287	3.8	136.7:1	7870	C803_ 136.7	S3 + M3SA4	P90 + BN90LA4		193...200
12.5	9334	2.2	137.4:1	5620	C703_ 137.4	S3 + M3SA4	P90 + BN90LA4	N140TC	185...192
12.2	9545	1.5	140.5:1	3600	C613_ 140.5	S3 + M3SA4	P90 + BN90LA4	N140TC	177...184
11.5	10129	3.5	149.1:1	7870	C803_ 149.1	S3 + M3SA4	P90 + BN90LA4		193...200
11.5	10190	1.4	150.0:1	3600	C613_ 150.0	S3 + M3SA4	P90 + BN90LA4	N140TC	177...184
11.4	10211	2.0	150.3:1	5620	C703_ 150.3	S3 + M3SA4	P90 + BN90LA4	N140TC	185...192
10.5	11175	1.3	164.5:1	3600	C613_ 164.5	S3 + M3SA4	P90 + BN90LA4	N140TC	177...184
10.2	11481	3.1	169.0:1	7870	C803_ 169.0	S3 + M3SA4	P90 + BN90LA4		193...200
9.6	12133	1.2	178.6:1	3600	C613_ 178.6	S3 + M3SA4	P90 + BN90LA4	N140TC	177...184
9.6	12174	1.7	179.2:1	5620	C703_ 179.2	S3 + M3SA4	P90 + BN90LA4	N140TC	185...192
8.9	13186	1.5	194.1:1	5620	C703_ 194.1	S3 + M3SA4	P90 + BN90LA4	N140TC	185...192
8.0	14667	2.4	215.9:1	7870	C803_ 215.9	S3 + M3SA4	P90 + BN90LA4		193...200
7.9	14403	1.0	217.4:1	3600	C614_ 217.4	S3 + M3SA4	P90 + BN90LA4	N140TC	177...184
7.2	16257	1.3	239.3:1	5620	C703_ 239.3	S3 + M3SA4	P90 + BN90LA4	N140TC	185...192
6.8	16649	1.2	251.3:1	5620	C704_ 251.3	S3 + M3SA4	P90 + BN90LA4	N140TC	185...192
6.6	17351	2.0	261.9:1	7870	C804_ 261.9	S3 + M3SA4	P90 + BN90LA4	N140TC	193...200
6.3	18033	1.1	272.2:1	5620	C704_ 272.2	S3 + M3SA4	P90 + BN90LA4	N140TC	185...192
6.0	18927	1.9	285.7:1	7870	C804_ 285.7	S3 + M3SA4	P90 + BN90LA4	N140TC	193...200
5.9	19404	3.3	292.9:1	13490	C904_ 292.9	S3 + M3SA4	P90 + BN90LA4	N140TC	201...208
5.1	22147	1.6	334.3:1	7870	C804_ 334.3	S3 + M3SA4	P90 + BN90LA4	N140TC	193...200
5.1	22459	2.8	339.0:1	13490	C904_ 339.0	S3 + M3SA4	P90 + BN90LA4	N140TC	201...208
4.1	27659	1.3	417.5:1	7870	C804_ 417.5	S3 + M3SA4	P90 + BN90LA4	N140TC	193...200
4.1	27759	2.3	419.0:1	13490	C904_ 419.0	S3 + M3SA4	P90 + BN90LA4	N140TC	201...208
3.8	30170	1.2	455.4:1	7870	C804_ 455.4	S3 + M3SA4	P90 + BN90LA4	N140TC	193...200
3.8	30283	2.1	457.1:1	13490	C904_ 457.1	S3 + M3SA4	P90 + BN90LA4	N140TC	201...208
3.2	35391	1.8	534.2:1	13490	C904_ 534.2	S3 + M3SA4	P90 + BN90LA4	N140TC	201...208
2.4	47183	1.4	712.2:1	13490	C904_ 712.2	S3 + M3SA4	P90 + BN90LA4	N140TC	201...208
2.4	47720	2.2	720.3:1	19110	C1004_ 720.3	S3 + M3SA4	P90 + BN90LA4	N140TC	209...216
2.0	55915	1.1	844.0:1	13490	C904_ 844.0	S3 + M3SA4	P90 + BN90LA4	N140TC	201...208






## 2 hp

$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
1.9	60168	1.8	908.2:1	19110	C1004_ 908.2	S3 + M3SA4	P90 + BN90LA4	N140TC	209...216
1.6	71616	1.5	1081:1	19110	C1004_ 1081	S3 + M3SA4	P90 + BN90LA4	N140TC	209...216
1.3	90780	1.2	908.2:1	19110	C1004_ 908.2	S3 + M3LA6	P100 + BN100LA6	N180TC	209...216

## 3 hp


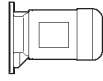
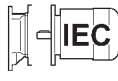


$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
637	282	2.5	2.7:1	400	C212_ 2.7	S3 + M3LA4	P100 + BN100LA4	N180TC	129...140
614	293	1.1	2.8:1	160	C112_ 2.8	S3 + M3LA4	P100 + BN100LA4	N180TC	117...128
593	303	3.8	2.9:1	610	C312_ 2.9	S3 + M3LA4	P100 + BN100LA4	N180TC	141...152
465	387	3.4	3.7:1	650	C312_ 3.7	S3 + M3LA4	P100 + BN100LA4	N180TC	141...152
465	387	2.1	3.7:1	430	C212_ 3.7	S3 + M3LA4	P100 + BN100LA4	N180TC	129...140
422	426	4.2	2.7:1	760	C352_ 2.7	S3 + M3LC6	P112 + BN112M6		153...160
374	481	3.7	4.6:1	790	C352_ 4.6	S3 + M3LA4	P100 + BN100LA4	N180TC	153...160
358	502	1.8	4.8:1	440	C212_ 4.8	S3 + M3LA4	P100 + BN100LA4	N180TC	129...140
344	523	2.6	5.0:1	700	C312_ 5.0	S3 + M3LA4	P100 + BN100LA4	N180TC	141...152
297	606	2.9	5.8:1	830	C352_ 5.8	S3 + M3LA4	P100 + BN100LA4	N180TC	153...160
282	638	1.5	6.1:1	460	C212_ 6.1	S3 + M3LA4	P100 + BN100LA4	N180TC	129...140
269	669	1.7	6.4:1	480	C212_ 6.4	S3 + M3LA4	P100 + BN100LA4	N180TC	129...140
265	680	2.5	6.5:1	760	C312_ 6.5	S3 + M3LA4	P100 + BN100LA4	N180TC	141...152
242	742	1.6	7.1:1	490	C212_ 7.1	S3 + M3LA4	P100 + BN100LA4	N180TC	129...140
239	753	2.4	7.2:1	780	C312_ 7.2	S3 + M3LA4	P100 + BN100LA4	N180TC	141...152
228	789	1.8	5.0:1	770	C312_ 5.0	S3 + M3LC6	P112 + BN112M6		141...152
218	826	4.1	7.9:1	920	C352_ 7.9	S3 + M3LA4	P100 + BN100LA4	N180TC	153...160
205	878	2.2	8.4:1	810	C312_ 8.4	S3 + M3LA4	P100 + BN100LA4	N180TC	141...152
198	910	1.4	8.7:1	500	C212_ 8.7	S3 + M3LA4	P100 + BN100LA4	N180TC	129...140
195	920	3.7	8.8:1	950	C352_ 8.8	S3 + M3LA4	P100 + BN100LA4	N180TC	153...160
185	972	2.0	9.3:1	830	C312_ 9.3	S3 + M3LA4	P100 + BN100LA4	N180TC	141...152
179	1004	3.4	9.6:1	1140	C412_ 9.6	S3 + M3LA4	P100 + BN100LA4	N180TC	161...168
179	1004	1.3	9.6:1	510	C212_ 9.6	S3 + M3LA4	P100 + BN100LA4	N180TC	129...140
164	1098	3.1	10.5:1	980	C352_ 10.5	S3 + M3LA4	P100 + BN100LA4	N180TC	153...160
161	1120	1.2	7.1:1	510	C212_ 7.1	S3 + M3LC6	P112 + BN112M6		129...140
158	1136	1.8	7.2:1	860	C312_ 7.2	S3 + M3LC6	P112 + BN112M6		141...152
155	1160	1.8	11.1:1	860	C312_ 11.1	S3 + M3LA4	P100 + BN100LA4	N180TC	141...152
154	1171	3.2	11.2:1	1170	C412_ 11.2	S3 + M3LA4	P100 + BN100LA4	N180TC	161...168
154	1171	1.2	11.2:1	510	C212_ 11.2	S3 + M3LA4	P100 + BN100LA4	N180TC	129...140
147	1223	2.7	11.7:1	1010	C352_ 11.7	S3 + M3LA4	P100 + BN100LA4	N180TC	153...160

### 3 hp






<b>n<sub>2</sub></b> [rpm]	<b>T<sub>2</sub></b> [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	<b>R<sub>n2</sub></b> [lb]					
140	1286	1.7	12.3:1	880	C312_ 12.3	S3 + M3LA4	P100 + BN100LA4	N180TC	141...152
139	1296	2.9	12.4:1	1210	C412_ 12.4	S3 + M3LA4	P100 + BN100LA4	N180TC	161...168
139	1296	1.1	12.4:1	510	C212_ 12.4	S3 + M3LA4	P100 + BN100LA4	N180TC	129...140
129	1390	2.4	13.3:1	1030	C352_ 13.3	S3 + M3LA4	P100 + BN100LA4	N180TC	153...160
123	1464	1.6	14.0:1	900	C312_ 14.0	S3 + M3LA4	P100 + BN100LA4	N180TC	141...152
121	1484	2.7	14.2:1	1240	C412_ 14.2	S3 + M3LA4	P100 + BN100LA4	N180TC	161...168
116	1547	2.2	14.8:1	1060	C352_ 14.8	S3 + M3LA4	P100 + BN100LA4	N180TC	153...160
110	1631	1.5	15.6:1	910	C312_ 15.6	S3 + M3LA4	P100 + BN100LA4	N180TC	141...152
109	1652	2.4	15.8:1	1270	C412_ 15.8	S3 + M3LA4	P100 + BN100LA4	N180TC	161...168
104	1735	4.1	16.6:1	2250	C512_ 16.6	S3 + M3LA4	P100 + BN100LA4	N180TC	169...176
103	1751	1.4	11.1:1	920	C312_ 11.1	S3 + M3LC6	P112 + BN112M6		141...152
101	1788	1.9	17.1:1	1080	C352_ 17.1	S3 + M3LA4	P100 + BN100LA4	N180TC	153...160
97	1861	2.3	17.8:1	1300	C412_ 17.8	S3 + M3LA4	P100 + BN100LA4	N180TC	161...168
95	1892	1.3	18.1:1	930	C312_ 18.1	S3 + M3LA4	P100 + BN100LA4	N180TC	141...152
91	1976	3.6	18.9:1	2250	C512_ 18.9	S3 + M3LA4	P100 + BN100LA4	N180TC	169...176
91	1986	1.7	19.0:1	1110	C352_ 19.0	S3 + M3LA4	P100 + BN100LA4	N180TC	153...160
87	2070	2.1	19.8:1	1320	C412_ 19.8	S3 + M3LA4	P100 + BN100LA4	N180TC	161...168
86	2101	1.2	20.1:1	940	C312_ 20.1	S3 + M3LA4	P100 + BN100LA4	N180TC	141...152
85	2058	1.7	20.2:1	1120	C353_ 20.2	S3 + M3LA4	P100 + BN100LA4	N180TC	153...160
82	2195	3.2	21.0:1	2250	C512_ 21.0	S3 + M3LA4	P100 + BN100LA4	N180TC	169...176
81	2208	1.2	14.0:1	940	C312_ 14.0	S3 + M3LC6	P112 + BN112M6		141...152
78	2252	1.7	22.1:1	1140	C353_ 22.1	S3 + M3LA4	P100 + BN100LA4	N180TC	153...160
76	2363	1.9	22.6:1	1350	C412_ 22.6	S3 + M3LA4	P100 + BN100LA4	N180TC	161...168
76	2363	1.1	22.6:1	950	C312_ 22.6	S3 + M3LA4	P100 + BN100LA4	N180TC	141...152
74	2446	2.9	23.4:1	2250	C512_ 23.4	S3 + M3LA4	P100 + BN100LA4	N180TC	169...176
69	2614	1.7	25.0:1	1380	C412_ 25.0	S3 + M3LA4	P100 + BN100LA4	N180TC	161...168
66	2708	2.6	25.9:1	2250	C512_ 25.9	S3 + M3LA4	P100 + BN100LA4	N180TC	169...176
66	2670	1.5	26.2:1	1160	C353_ 26.2	S3 + M3LA4	P100 + BN100LA4	N180TC	153...160
63	2864	4.2	27.4:1	3570	C612_ 27.4	S3 + M3LA4	P100 + BN100LA4	N180TC	177...184
61	2959	1.5	28.3:1	1390	C412_ 28.3	S3 + M3LA4	P100 + BN100LA4	N180TC	161...168
60	2925	1.4	28.7:1	1170	C353_ 28.7	S3 + M3LA4	P100 + BN100LA4	N180TC	153...160
58	3115	2.3	29.8:1	2250	C512_ 29.8	S3 + M3LA4	P100 + BN100LA4	N180TC	169...176
57	3178	3.8	30.4:1	3600	C612_ 30.4	S3 + M3LA4	P100 + BN100LA4	N180TC	177...184
55	3283	1.3	31.4:1	1410	C412_ 31.4	S3 + M3LA4	P100 + BN100LA4	N180TC	161...168
52	3363	4.0	33.0:1	3600	C613_ 33.0	S3 + M3LA4	P100 + BN100LA4	N180TC	177...184
52	3450	2.0	33.0:1	2250	C512_ 33.0	S3 + M3LA4	P100 + BN100LA4	N180TC	169...176
51	3492	1.3	33.4:1	1410	C412_ 33.4	S3 + M3LA4	P100 + BN100LA4	N180TC	161...168
50	3575	3.0	34.2:1	3600	C612_ 34.2	S3 + M3LA4	P100 + BN100LA4	N180TC	177...184
50	3536	1.1	34.7:1	1180	C353_ 34.7	S3 + M3LA4	P100 + BN100LA4	N180TC	153...160
48	3679	3.7	36.1:1	3600	C613_ 36.1	S3 + M3LA4	P100 + BN100LA4	N180TC	177...184
47	3805	1.8	36.4:1	2250	C512_ 36.4	S3 + M3LA4	P100 + BN100LA4	N180TC	169...176








### 3 hp

<b>n<sub>2</sub></b> [rpm]	<b>T<sub>2</sub></b> [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	<b>R<sub>n2</sub></b> [lb]					
47	3750	1.4	36.8:1	1440	C413_ 36.8	S3 + M3LA4	P100 + BN100LA4	N180TC	161...168
46	3770	2.3	37.0:1	2250	C513_ 37.0	S3 + M3LA4	P100 + BN100LA4	N180TC	169...176
46	3878	1.1	37.1:1	1430	C412_ 37.1	S3 + M3LA4	P100 + BN100LA4	N180TC	161...168
45	3973	3.0	38.0:1	3600	C612_ 38.0	S3 + M3LA4	P100 + BN100LA4	N180TC	177...184
43	4107	1.3	40.3:1	1450	C413_ 40.3	S3 + M3LA4	P100 + BN100LA4	N180TC	161...168
43	4223	1.7	40.4:1	2250	C512_ 40.4	S3 + M3LA4	P100 + BN100LA4	N180TC	169...176
42	4127	2.1	40.5:1	2250	C513_ 40.5	S3 + M3LA4	P100 + BN100LA4	N180TC	169...176
40	4506	1.5	43.1:1	2250	C512_ 43.1	S3 + M3LA4	P100 + BN100LA4	N180TC	169...176
40	4423	3.2	43.4:1	3600	C613_ 43.4	S3 + M3LA4	P100 + BN100LA4	N180TC	177...184
37	4759	1.9	46.7:1	2250	C513_ 46.7	S3 + M3LA4	P100 + BN100LA4	N180TC	169...176
37	4789	1.1	47.0:1	1450	C413_ 47.0	S3 + M3LA4	P100 + BN100LA4	N180TC	161...168
36	4851	2.9	47.6:1	3600	C613_ 47.6	S3 + M3LA4	P100 + BN100LA4	N180TC	177...184
36	4997	1.4	47.8:1	2250	C512_ 47.8	S3 + M3LA4	P100 + BN100LA4	N180TC	169...176
34	5217	1.7	51.2:1	2250	C513_ 51.2	S3 + M3LA4	P100 + BN100LA4	N180TC	169...176
33	5373	1.2	51.4:1	2250	C512_ 51.4	S3 + M3LA4	P100 + BN100LA4	N180TC	169...176
32	5452	2.6	53.5:1	3600	C613_ 53.5	S3 + M3LA4	P100 + BN100LA4	N180TC	177...184
30	5757	3.5	56.5:1	5620	C703_ 56.5	S3 + M3LA4	P100 + BN100LA4	N180TC	185...192
30	5959	1.2	57.0:1	2250	C512_ 57.0	S3 + M3LA4	P100 + BN100LA4	N180TC	169...176
29.4	5971	2.4	58.6:1	3600	C613_ 58.6	S3 + M3LA4	P100 + BN100LA4	N180TC	177...184
29.2	6012	1.5	59.0:1	2250	C513_ 59.0	S3 + M3LA4	P100 + BN100LA4	N180TC	169...176
26.6	6583	1.3	64.6:1	2250	C513_ 64.6	S3 + M3LA4	P100 + BN100LA4	N180TC	169...176
26.1	6715	3.0	65.9:1	5620	C703_ 65.9	S3 + M3LA4	P100 + BN100LA4	N180TC	185...192
25.4	6899	2.1	67.7:1	3600	C613_ 67.7	S3 + M3LA4	P100 + BN100LA4	N180TC	177...184
24.1	7266	2.8	71.3:1	5620	C703_ 71.3	S3 + M3LA4	P100 + BN100LA4	N180TC	185...192
23.6	7429	1.2	72.9:1	2250	C513_ 72.9	S3 + M3LA4	P100 + BN100LA4	N180TC	169...176
23.2	7561	1.9	74.2:1	3600	C613_ 74.2	S3 + M3LA4	P100 + BN100LA4	N180TC	177...184
21.5	8142	1.1	79.9:1	2250	C513_ 79.9	S3 + M3LA4	P100 + BN100LA4	N180TC	169...176
21.1	8295	2.5	81.4:1	5620	C703_ 81.4	S3 + M3LA4	P100 + BN100LA4	N180TC	185...192
20.7	8458	1.7	83.0:1	3600	C613_ 83.0	S3 + M3LA4	P100 + BN100LA4	N180TC	177...184
19.5	8988	2.3	88.2:1	5620	C703_ 88.2	S3 + M3LA4	P100 + BN100LA4	N180TC	185...192
19.3	9100	3.9	89.3:1	7870	C803_ 89.3	S3 + M3LA4	P100 + BN100LA4	N180TC	193...200
18.9	9273	1.5	91.0:1	3600	C613_ 91.0	S3 + M3LA4	P100 + BN100LA4	N180TC	177...184
17.7	9925	3.6	97.4:1	7870	C803_ 97.4	S3 + M3LA4	P100 + BN100LA4	N180TC	193...200
16.6	10557	1.3	103.6:1	3600	C613_ 103.6	S3 + M3LA4	P100 + BN100LA4	N180TC	177...184
16.6	10577	1.9	103.8:1	5620	C703_ 103.8	S3 + M3LA4	P100 + BN100LA4	N180TC	185...192
15.7	11158	3.2	109.5:1	7870	C803_ 109.5	S3 + M3LA4	P100 + BN100LA4	N180TC	193...200
15.3	11454	1.8	112.4:1	5620	C703_ 112.4	S3 + M3LA4	P100 + BN100LA4	N180TC	185...192
15.1	11576	1.2	113.6:1	3600	C613_ 113.6	S3 + M3LA4	P100 + BN100LA4	N180TC	177...184
13.4	13054	1.1	128.1:1	3600	C613_ 128.1	S3 + M3LA4	P100 + BN100LA4	N180TC	177...184
12.6	13930	2.5	136.7:1	7870	C803_ 136.7	S3 + M3LA4	P100 + BN100LA4	N180TC	193...200
12.5	14001	1.5	137.4:1	5620	C703_ 137.4	S3 + M3LA4	P100 + BN100LA4	N180TC	185...192

### 3 hp


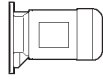



$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
10.6	16590	1.2	162.8:1	5620	C703_162.8	S3 + M3LA4	P100 + BN100LA4	N180TC	185...192
9.6	18261	1.1	179.2:1	5620	C703_179.2	S3 + M3LA4	P100 + BN100LA4	N180TC	185...192
9.3	18791	1.9	184.4:1	7870	C803_184.4	S3 + M3LA4	P100 + BN100LA4	N180TC	193...200
8.0	22001	1.6	215.9:1	7870	C803_215.9	S3 + M3LA4	P100 + BN100LA4	N180TC	193...200
8.0	22001	1.6	215.9:1	7870	C803_215.9	S3 + M3LA4	P100 + BN100LA4	N180TC	193...200
7.4	23025	2.8	231.7:1	13490	C904_231.7	S3 + M3LA4	P100 + BN100LA4	N180TC	201...208
6.6	26026	1.4	261.9:1	7870	C804_261.9	S3 + M3LA4	P100 + BN100LA4	N180TC	193...200
6.0	28391	1.2	285.7:1	7870	C804_285.7	S3 + M3LA4	P100 + BN100LA4	N180TC	193...200
5.9	29107	2.2	292.9:1	13490	C904_292.9	S3 + M3LA4	P100 + BN100LA4	N180TC	201...208
4.7	36749	1.7	369.8:1	13490	C904_369.8	S3 + M3LA4	P100 + BN100LA4	N180TC	201...208
4.5	37812	2.8	380.5:1	19110	C1004_380.5	S3 + M3LA4	P100 + BN100LA4	N180TC	209...216
3.8	45424	1.4	457.1:1	13490	C904_457.1	S3 + M3LA4	P100 + BN100LA4	N180TC	201...208
3.2	53086	1.2	534.2:1	13490	C904_534.2	S3 + M3LA4	P100 + BN100LA4	N180TC	201...208
3.0	57895	1.8	582.6:1	19110	C1004_582.6	S3 + M3LA4	P100 + BN100LA4	N180TC	209...216
2.4	71579	1.5	720.3:1	19110	C1004_720.3	S3 + M3LA4	P100 + BN100LA4	N180TC	209...216
1.9	90252	1.2	908.2:1	19110	C1004_908.2	S3 + M3LA4	P100 + BN100LA4	N180TC	209...216

### 5 hp






$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
641	468	3.8	2.7:1	640	C352_2.7	S3 + M3LC4	P100 + BN100LC4	N180TC	153...160
641	468	1.5	2.7:1	340	C212_2.7	S3 + M3LC4	P100 + BN100LC4	N180TC	129...140
597	502	2.3	2.9:1	560	C312_2.9	S3 + M3LC4	P100 + BN100LC4	N180TC	141...152
494	606	2.9	3.5:1	680	C352_3.5	S3 + M3LC4	P100 + BN100LC4	N180TC	153...160
468	641	2.1	3.7:1	590	C312_3.7	S3 + M3LC4	P100 + BN100LC4	N180TC	141...152
468	641	1.2	3.7:1	350	C212_3.7	S3 + M3LC4	P100 + BN100LC4	N180TC	129...140
376	797	2.2	4.6:1	720	C352_4.6	S3 + M3LC4	P100 + BN100LC4	N180TC	153...160
346	866	1.6	5.0:1	620	C312_5.0	S3 + M3LC4	P100 + BN100LC4	N180TC	141...152
309	970	4.0	5.6:1	1580	C512_5.6	S3 + M3LC4	P100 + BN100LC4	N180TC	169...176
298	1005	1.8	5.8:1	740	C352_5.8	S3 + M3LC4	P100 + BN100LC4	N180TC	153...160
288	1039	2.2	6.0:1	860	C412_6.0	S3 + M3LC4	P100 + BN100LC4	N180TC	161...168
284	1057	2.9	6.1:1	790	C352_6.1	S3 + M3LC4	P100 + BN100LC4	N180TC	153...160
275	1091	1.3	6.3:1	640	C312_6.3	S3 + M3LC4	P100 + BN100LC4	N180TC	141...152
270	1109	2.8	6.4:1	940	C412_6.4	S3 + M3LC4	P100 + BN100LC4	N180TC	161...168
266	1126	1.5	6.5:1	680	C312_6.5	S3 + M3LC4	P100 + BN100LC4	N180TC	141...152
254	1178	2.7	6.8:1	810	C352_6.8	S3 + M3LC4	P100 + BN100LC4	N180TC	153...160




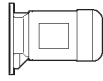
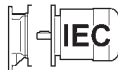


## 5 hp

$n_2$ [rpm]	$T_2$ [lb·in]	S Safety factor	i (ratio)	$R_{n2}$ [lb]					
247	1213	4.6	7.0:1	1700	C512_ 7.0	S3 + M3LC4	P100 + BN100LC4	N180TC	169...176
244	1230	2.6	7.1:1	960	C412_ 7.1	S3 + M3LC4	P100 + BN100LC4	N180TC	161...168
240	1247	1.4	7.2:1	690	C312_ 7.2	S3 + M3LC4	P100 + BN100LC4	N180TC	141...152
222	1351	4.2	7.8:1	1750	C512_ 7.8	S3 + M3LC4	P100 + BN100LC4	N180TC	169...176
219	1368	2.5	7.9:1	820	C352_ 7.9	S3 + M3LC4	P100 + BN100LC4	N180TC	153...160
206	1455	1.3	8.4:1	700	C312_ 8.4	S3 + M3LC4	P100 + BN100LC4	N180TC	141...152
201	1490	2.3	8.6:1	990	C412_ 8.6	S3 + M3LC4	P100 + BN100LC4	N180TC	161...168
197	1524	4.0	8.8:1	1810	C512_ 8.8	S3 + M3LC4	P100 + BN100LC4	N180TC	169...176
197	1524	2.2	8.8:1	840	C352_ 8.8	S3 + M3LC4	P100 + BN100LC4	N180TC	153...160
186	1611	1.2	9.3:1	710	C312_ 9.3	S3 + M3LC4	P100 + BN100LC4	N180TC	141...152
180	1663	2.1	9.6:1	1010	C412_ 9.6	S3 + M3LC4	P100 + BN100LC4	N180TC	161...168
177	1698	3.6	9.8:1	1860	C512_ 9.8	S3 + M3LC4	P100 + BN100LC4	N180TC	169...176
165	1819	1.8	10.5:1	850	C352_ 10.5	S3 + M3LC4	P100 + BN100LC4	N180TC	153...160
154	1940	1.9	11.2:1	1030	C412_ 11.2	S3 + M3LC4	P100 + BN100LC4	N180TC	161...168
148	2027	1.7	11.7:1	860	C352_ 11.7	S3 + M3LC4	P100 + BN100LC4	N180TC	153...160
147	2044	3.3	11.8:1	1960	C512_ 11.8	S3 + M3LC4	P100 + BN100LC4	N180TC	169...176
140	2148	1.8	12.4:1	1050	C412_ 12.4	S3 + M3LC4	P100 + BN100LC4	N180TC	161...168
132	2269	2.9	13.1:1	2010	C512_ 13.1	S3 + M3LC4	P100 + BN100LC4	N180TC	169...176
130	2304	1.5	13.3:1	860	C352_ 13.3	S3 + M3LC4	P100 + BN100LC4	N180TC	153...160
122	2460	1.6	14.2:1	1050	C412_ 14.2	S3 + M3LC4	P100 + BN100LC4	N180TC	161...168
117	2564	1.3	14.8:1	870	C352_ 14.8	S3 + M3LC4	P100 + BN100LC4	N180TC	153...160
115	2598	2.7	15.0:1	2080	C512_ 15.0	S3 + M3LC4	P100 + BN100LC4	N180TC	169...176
109	2737	1.5	15.8:1	1070	C412_ 15.8	S3 + M3LC4	P100 + BN100LC4	N180TC	161...168
109	2754	4.3	15.9:1	2950	C612_ 15.9	S3 + M3LC4	P100 + BN100LC4	N180TC	177...184
104	2876	2.4	16.6:1	2120	C512_ 16.6	S3 + M3LC4	P100 + BN100LC4	N180TC	169...176
98	3066	3.9	17.7:1	3010	C612_ 17.7	S3 + M3LC4	P100 + BN100LC4	N180TC	177...184
97	3083	1.4	17.8:1	1060	C412_ 17.8	S3 + M3LC4	P100 + BN100LC4	N180TC	161...168
92	3274	2.2	18.9:1	2190	C512_ 18.9	S3 + M3LC4	P100 + BN100LC4	N180TC	169...176
88	3395	3.5	19.6:1	3100	C612_ 19.6	S3 + M3LC4	P100 + BN100LC4	N180TC	177...184
87	3430	1.3	19.8:1	1070	C412_ 19.8	S3 + M3LC4	P100 + BN100LC4	N180TC	161...168
82	3638	1.9	21.0:1	2230	C512_ 21.0	S3 + M3LC4	P100 + BN100LC4	N180TC	169...176
77	3880	3.1	22.4:1	3190	C612_ 22.4	S3 + M3LC4	P100 + BN100LC4	N180TC	177...184
74	4054	1.7	23.4:1	2250	C512_ 23.4	S3 + M3LC4	P100 + BN100LC4	N180TC	169...176
70	4296	2.8	24.8:1	3280	C612_ 24.8	S3 + M3LC4	P100 + BN100LC4	N180TC	177...184
67	4487	1.6	25.9:1	2250	C512_ 25.9	S3 + M3LC4	P100 + BN100LC4	N180TC	169...176
63	4746	2.5	27.4:1	3350	C612_ 27.4	S3 + M3LC4	P100 + BN100LC4	N180TC	177...184
62	4798	3.9	27.7:1	5010	C702_ 27.7	S3 + M3LC4	P100 + BN100LC4	N180TC	185...192
58	5162	1.4	29.8:1	2250	C512_ 29.8	S3 + M3LC4	P100 + BN100LC4	N180TC	169...176
57	5266	2.3	30.4:1	3440	C612_ 30.4	S3 + M3LC4	P100 + BN100LC4	N180TC	177...184
52	5717	1.2	33.0:1	2250	C512_ 33.0	S3 + M3LC4	P100 + BN100LC4	N180TC	169...176
51	5924	1.8	34.2:1	3530	C612_ 34.2	S3 + M3LC4	P100 + BN100LC4	N180TC	177...184






## 5 hp

$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
50	6011	3.1	34.7:1	5260	<b>C702_ 34.7</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	185...192
47	6248	1.4	37.0:1	2250	<b>C513_ 37.0</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	169...176
46	6583	1.8	38.0:1	3600	<b>C612_ 38.0</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	177...184
43	6839	1.3	40.5:1	2250	<b>C513_ 40.5</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	169...176
42	6974	2.7	41.3:1	5620	<b>C703_ 41.3</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	185...192
40	7328	1.9	43.4:1	3600	<b>C613_ 43.4</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	177...184
40	7345	4.6	43.5:1	7870	<b>C803_ 43.5</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	193...200
39	7548	2.7	44.7:1	5620	<b>C703_ 44.7</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	185...192
36	8004	4.2	47.4:1	7870	<b>C803_ 47.4</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	193...200
36	8038	1.8	47.6:1	3600	<b>C613_ 47.6</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	177...184
33	8814	2.3	52.2:1	5620	<b>C703_ 52.2</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	185...192
32	9034	1.6	53.5:1	3600	<b>C613_ 53.5</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	177...184
31	9540	2.1	56.5:1	5620	<b>C703_ 56.5</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	185...192
30	9675	3.7	57.3:1	7870	<b>C803_ 57.3</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	193...200
29.5	9895	1.4	58.6:1	3600	<b>C613_ 58.6</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	177...184
25.6	11432	1.2	67.7:1	3600	<b>C613_ 67.7</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	177...184
24.5	11904	3.0	70.5:1	7870	<b>C803_ 70.5</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	193...200
24.3	12039	1.7	71.3:1	5620	<b>C703_ 71.3</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	185...192
21.3	13745	1.5	81.4:1	5620	<b>C703_ 81.4</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	185...192
19.6	14893	1.4	88.2:1	5620	<b>C703_ 88.2</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	185...192
19.4	15079	2.3	89.3:1	7870	<b>C803_ 89.3</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	193...200
18.0	16244	3.9	96.2:1	13490	<b>C903_ 96.2</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	201...208
17.8	16447	2.2	97.4:1	7870	<b>C803_ 97.4</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	193...200
15.8	18490	1.9	109.5:1	7870	<b>C803_ 109.5</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	193...200
14.8	19705	3.2	116.7:1	13490	<b>C903_ 116.7</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	201...208
12.9	22644	2.8	134.1:1	13490	<b>C903_ 134.1</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	201...208
12.7	23083	1.5	136.7:1	7870	<b>C803_ 136.7</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	193...200
10.2	28537	1.2	169.0:1	7870	<b>C803_ 169.0</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	193...200
10.1	29060	2.2	172.1:1	13490	<b>C903_ 172.1</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	201...208
9.3	30529	3.5	185.4:1	19110	<b>C1004_ 185.4</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	209...216
7.5	38153	1.7	231.7:1	13490	<b>C904_ 231.7</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	201...208
7.1	40212	2.6	244.2:1	19110	<b>C1004_ 244.2</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	209...216
6.4	44213	1.4	268.5:1	13490	<b>C904_ 268.5</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	201...208
5.9	48231	1.3	292.9:1	13490	<b>C904_ 292.9</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	201...208
5.3	53286	2.0	323.6:1	19110	<b>C1004_ 323.6</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	209...216
4.2	67480	1.6	409.8:1	19110	<b>C1004_ 409.8</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	209...216
3.4	82761	1.3	502.6:1	19110	<b>C1004_ 502.6</b>	<b>S3 + M3LC4</b>	<b>P100 + BN100LC4</b>	<b>N180TC</b>	209...216


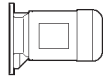
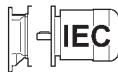


## 7.5 hp

$n_2$ [rpm]	$T_2$ [lb·in]	S Safety factor	i (ratio)	$R_{n2}$ [lb]					
641	702	3.1	2.7:1	690	C412_ 2.7	S4 + M4SA4	P132 + BN132S4	N210TC	161...168
481	935	2.4	3.6:1	730	C412_ 3.6	S4 + M4SA4	P132 + BN132S4	N210TC	161...168
438	1025	3.5	2.6:1	1380	C512_ 2.6	S4 + M4LB6	P132 + BN132MB6	N250TC	169...176
422	1065	2.0	2.7:1	740	C412_ 2.7	S4 + M4LB6	P132 + BN132MB6		161...168
384	1169	3.3	4.5:1	1420	C512_ 4.5	S4 + M4SA4	P132 + BN132S4	N210TC	169...176
368	1221	1.9	4.7:1	760	C412_ 4.7	S4 + M4SA4	P132 + BN132S4	N210TC	161...168
345	1301	2.9	3.3:1	1470	C512_ 3.3	S4 + M4LB6	P132 + BN132MB6	N250TC	169...176
317	1420	1.6	3.6:1	770	C412_ 3.6	S4 + M4LB6	P132 + BN132MB6		161...168
309	1455	2.6	5.6:1	1510	C512_ 5.6	S4 + M4SA4	P132 + BN132S4	N210TC	169...176
288	1559	3.8	6.0:1	2130	C612_ 6.0	S4 + M4SA4	P132 + BN132S4	N210TC	177...184
288	1559	1.5	6.0:1	770	C412_ 6.0	S4 + M4SA4	P132 + BN132S4	N210TC	161...168
270	1663	1.8	6.4:1	860	C412_ 6.4	S4 + M4SA4	P132 + BN132S4	N210TC	161...168
247	1819	3.1	7.0:1	1640	C512_ 7.0	S4 + M4SA4	P132 + BN132S4	N210TC	169...176
244	1845	1.7	7.1:1	880	C412_ 7.1	S4 + M4SA4	P132 + BN132S4	N210TC	161...168
222	2027	2.8	7.8:1	1680	C512_ 7.8	S4 + M4SA4	P132 + BN132S4	N210TC	169...176
201	2235	1.5	8.6:1	900	C412_ 8.6	S4 + M4SA4	P132 + BN132S4	N210TC	161...168
197	2287	2.7	8.8:1	1730	C512_ 8.8	S4 + M4SA4	P132 + BN132S4	N210TC	169...176
180	2494	1.4	9.6:1	910	C412_ 9.6	S4 + M4SA4	P132 + BN132S4	N210TC	161...168
177	2546	2.4	9.8:1	1770	C512_ 9.8	S4 + M4SA4	P132 + BN132S4	N210TC	169...176
154	2910	1.3	11.2:1	910	C412_ 11.2	S4 + M4SA4	P132 + BN132S4	N210TC	161...168
147	3066	2.2	11.8:1	1860	C512_ 11.8	S4 + M4SA4	P132 + BN132S4	N210TC	169...176
143	3144	3.8	12.1:1	2610	C612_ 12.1	S4 + M4SA4	P132 + BN132S4	N210TC	177...184
140	3222	1.2	12.4:1	910	C412_ 12.4	S4 + M4SA4	P132 + BN132S4	N210TC	161...168
132	3404	1.9	13.1:1	1890	C512_ 13.1	S4 + M4SA4	P132 + BN132S4	N210TC	169...176
122	3690	1.1	14.2:1	900	C412_ 14.2	S4 + M4SA4	P132 + BN132S4	N210TC	161...168
121	3716	3.2	14.3:1	2720	C612_ 14.3	S4 + M4SA4	P132 + BN132S4	N210TC	177...184
115	3898	1.8	15.0:1	1950	C512_ 15.0	S4 + M4SA4	P132 + BN132S4	N210TC	169...176
109	4131	2.9	15.9:1	2810	C612_ 15.9	S4 + M4SA4	P132 + BN132S4	N210TC	177...184
104	4313	1.6	16.6:1	1980	C512_ 16.6	S4 + M4SA4	P132 + BN132S4	N210TC	169...176
98	4599	2.6	17.7:1	2860	C612_ 17.7	S4 + M4SA4	P132 + BN132S4	N210TC	177...184
92	4911	1.4	18.9:1	2030	C512_ 18.9	S4 + M4SA4	P132 + BN132S4	N210TC	169...176
90	5015	3.7	19.3:1	4430	C702_ 19.3	S4 + M4SA4	P132 + BN132S4	N210TC	185...192
88	5093	2.3	19.6:1	2950	C612_ 19.6	S4 + M4SA4	P132 + BN132S4	N210TC	177...184
82	5457	1.3	21.0:1	2060	C512_ 21.0	S4 + M4SA4	P132 + BN132S4	N210TC	169...176
77	5820	2.1	22.4:1	3010	C612_ 22.4	S4 + M4SA4	P132 + BN132S4	N210TC	177...184
76	5950	3.1	22.9:1	4590	C702_ 22.9	S4 + M4SA4	P132 + BN132S4	N210TC	185...192
74	6080	1.2	23.4:1	2090	C512_ 23.4	S4 + M4SA4	P132 + BN132S4	N210TC	169...176
70	6444	1.9	24.8:1	3080	C612_ 24.8	S4 + M4SA4	P132 + BN132S4	N210TC	177...184
63	7120	1.7	27.4:1	3130	C612_ 27.4	S4 + M4SA4	P132 + BN132S4	N210TC	177...184
63	6940	1.2	27.4:1	2130	C513_ 27.4	S4 + M4SA4	P132 + BN132S4	N210TC	169...176
62	7198	2.6	27.7:1	4770	C702_ 27.7	S4 + M4SA4	P132 + BN132S4	N210TC	185...192

## 7.5 hp






$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
57	7624	1.2	30.1:1	2160	C513_30.1	S4 + M4SA4	P132 + BN132S4	N210TC	169...176
57	7899	1.5	30.4:1	3220	C612_30.4	S4 + M4SA4	P132 + BN132S4	N210TC	177...184
55	8133	4.0	31.3:1	7510	C802_31.3	S4 + M4SA4	P132 + BN132S4	N210TC	193...200
51	8887	1.2	34.2:1	3260	C612_34.2	S4 + M4SA4	P132 + BN132S4	N210TC	177...184
50	9017	2.1	34.7:1	4970	C702_34.7	S4 + M4SA4	P132 + BN132S4	N210TC	185...192
46	9874	1.2	38.0:1	3330	C612_38.0	S4 + M4SA4	P132 + BN132S4	N210TC	177...184
44	10160	2.8	39.1:1	7870	C802_39.1	S4 + M4SA4	P132 + BN132S4	N210TC	193...200
42	10461	1.9	41.3:1	5350	C703_41.3	S4 + M4SA4	P132 + BN132S4	N210TC	185...192
40	10993	1.3	43.4:1	3370	C613_43.4	S4 + M4SA4	P132 + BN132S4	N210TC	177...184
40	11018	3.1	43.5:1	7870	C803_43.5	S4 + M4SA4	P132 + BN132S4	N210TC	193...200
39	11322	1.8	44.7:1	5420	C703_44.7	S4 + M4SA4	P132 + BN132S4	N210TC	185...192
36	12006	2.8	47.4:1	7870	C803_47.4	S4 + M4SA4	P132 + BN132S4	N210TC	193...200
36	12056	1.2	47.6:1	3440	C613_47.6	S4 + M4SA4	P132 + BN132S4	N210TC	177...184
33	13221	1.5	52.2:1	5550	C703_52.2	S4 + M4SA4	P132 + BN132S4	N210TC	185...192
31	14311	1.4	56.5:1	5620	C703_56.5	S4 + M4SA4	P132 + BN132S4	N210TC	185...192
30	14513	2.4	57.3:1	7870	C803_57.3	S4 + M4SA4	P132 + BN132S4	N210TC	193...200
26.3	16691	1.2	65.9:1	5620	C703_65.9	S4 + M4SA4	P132 + BN132S4	N210TC	185...192
24.5	17857	2.0	70.5:1	7870	C803_70.5	S4 + M4SA4	P132 + BN132S4	N210TC	193...200
24.3	18059	1.1	71.3:1	5620	C703_71.3	S4 + M4SA4	P132 + BN132S4	N210TC	185...192
22.5	19478	1.8	76.9:1	7870	C803_76.9	S4 + M4SA4	P132 + BN132S4	N210TC	193...200
21.3	20567	3.1	81.2:1	13290	C903_81.2	S4 + M4SA4	P132 + BN132S4	N210TC	201...208
18.0	24366	2.6	96.2:1	13490	C903_96.2	S4 + M4SA4	P132 + BN132S4	N210TC	201...208
17.8	24670	1.4	97.4:1	7870	C803_97.4	S4 + M4SA4	P132 + BN132S4	N210TC	193...200
14.8	29558	2.2	116.7:1	13490	C903_116.7	S4 + M4SA4	P132 + BN132S4	N210TC	201...208
14.5	30267	1.2	119.5:1	7870	C803_119.5	S4 + M4SA4	P132 + BN132S4	N210TC	193...200
11.8	37055	1.7	146.3:1	13490	C903_146.3	S4 + M4SA4	P132 + BN132S4	N210TC	201...208
11.5	38094	2.8	150.4:1	19110	C1003_150.4	S4 + M4SA4	P132 + BN132S4	N210TC	209...216
10.1	43590	1.5	172.1:1	13490	C903_172.1	S4 + M4SA4	P132 + BN132S4	N210TC	201...208
8.7	49301	2.2	199.6:1	19110	C1004_199.6	S4 + M4SA4	P132 + BN132S4	N210TC	209...216
8.1	52463	1.2	212.4:1	13490	C904_212.4	S4 + M4SA4	P132 + BN132S4	N210TC	201...208
7.5	57230	1.1	231.7:1	13490	C904_231.7	S4 + M4SA4	P132 + BN132S4	N210TC	201...208
7.1	60317	1.8	244.2:1	19110	C1004_244.2	S4 + M4SA4	P132 + BN132S4	N210TC	209...216
6.6	64961	1.6	263.0:1	19110	C1004_263.0	S4 + M4SA4	P132 + BN132S4	N210TC	209...216
5.8	74223	1.4	300.5:1	19110	C1004_300.5	S4 + M4SA4	P132 + BN132S4	N210TC	209...216
5.3	79929	1.3	323.6:1	19110	C1004_323.6	S4 + M4SA4	P132 + BN132S4	N210TC	209...216
4.5	93983	1.1	380.5:1	19110	C1004_380.5	S4 + M4SA4	P132 + BN132S4	N210TC	209...216

# 10 hp






<b>n<sub>2</sub></b> [rpm]	<b>T<sub>2</sub></b> [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	<b>R<sub>n2</sub></b> [lb]					
669	896	4.0	2.6:1	1200	C512_ 2.6	S4 + M4LA4	P132 + BN132MA4	N210TC	169...176
644	930	2.3	2.7:1	640	C412_ 2.7	S4 + M4LA4	P132 + BN132MA4	N210TC	161...168
527	1137	3.3	3.3:1	1270	C512_ 3.3	S4 + M4LA4	P132 + BN132MA4	N210TC	169...176
483	1240	1.8	3.6:1	660	C412_ 3.6	S4 + M4LA4	P132 + BN132MA4	N210TC	161...168
446	1343	2.6	2.6:1	1330	C512_ 2.6	S5 + M5SA6	P160 + BN160M6	N250TC	169...176
414	1447	4.1	2.8:1	1890	C612_ 2.8	S5 + M5SA6	P160 + BN160M6	N250TC	177...184
387	1550	2.5	4.5:1	1370	C512_ 4.5	S4 + M4LA4	P132 + BN132MA4	N210TC	169...176
378	1585	3.7	4.6:1	1920	C612_ 4.6	S4 + M4LA4	P132 + BN132MA4	N210TC	177...184
370	1619	1.4	4.7:1	670	C412_ 4.7	S4 + M4LA4	P132 + BN132MA4	N210TC	161...168
311	1929	2.0	5.6:1	1440	C512_ 5.6	S4 + M4LA4	P132 + BN132MA4	N210TC	169...176
290	2067	2.8	6.0:1	2060	C612_ 6.0	S4 + M4LA4	P132 + BN132MA4	N210TC	177...184
290	2067	1.1	6.0:1	660	C412_ 6.0	S4 + M4LA4	P132 + BN132MA4	N210TC	161...168
272	2205	1.4	6.4:1	770	C412_ 6.4	S4 + M4LA4	P132 + BN132MA4	N210TC	161...168
249	2411	2.3	7.0:1	1570	C512_ 7.0	S4 + M4LA4	P132 + BN132MA4	N210TC	169...176
245	2446	1.3	7.1:1	780	C412_ 7.1	S4 + M4LA4	P132 + BN132MA4	N210TC	161...168
223	2687	2.1	7.8:1	1600	C512_ 7.8	S4 + M4LA4	P132 + BN132MA4	N210TC	169...176
202	2962	1.2	8.6:1	770	C412_ 8.6	S4 + M4LA4	P132 + BN132MA4	N210TC	161...168
198	3031	3.9	8.8:1	2320	C612_ 8.8	S4 + M4LA4	P132 + BN132MA4	N210TC	177...184
198	3031	2.0	8.8:1	1650	C512_ 8.8	S4 + M4LA4	P132 + BN132MA4	N210TC	169...176
178	3376	3.5	9.8:1	2380	C612_ 9.8	S4 + M4LA4	P132 + BN132MA4	N210TC	177...184
178	3376	1.8	9.8:1	1680	C512_ 9.8	S4 + M4LA4	P132 + BN132MA4	N210TC	169...176
160	3755	3.2	10.9:1	2450	C612_ 10.9	S4 + M4LA4	P132 + BN132MA4	N210TC	177...184
147	4065	1.7	11.8:1	1740	C512_ 11.8	S4 + M4LA4	P132 + BN132MA4	N210TC	169...176
144	4168	2.9	12.1:1	2500	C612_ 12.1	S4 + M4LA4	P132 + BN132MA4	N210TC	177...184
134	4478	4.2	13.0:1	3930	C702_ 13.0	S4 + M4LA4	P132 + BN132MA4	N210TC	185...192
133	4512	1.5	13.1:1	1760	C512_ 13.1	S4 + M4LA4	P132 + BN132MA4	N210TC	169...176
122	4926	2.4	14.3:1	2590	C612_ 14.3	S4 + M4LA4	P132 + BN132MA4	N210TC	177...184
116	5167	1.4	15.0:1	1800	C512_ 15.0	S4 + M4LA4	P132 + BN132MA4	N210TC	169...176
109	5477	2.2	15.9:1	2650	C612_ 15.9	S4 + M4LA4	P132 + BN132MA4	N210TC	177...184
105	5718	1.2	16.6:1	1810	C512_ 16.6	S4 + M4LA4	P132 + BN132MA4	N210TC	169...176
104	5753	3.2	16.7:1	4090	C702_ 16.7	S4 + M4LA4	P132 + BN132MA4	N210TC	185...192
98	6097	2.0	17.7:1	2700	C612_ 17.7	S4 + M4LA4	P132 + BN132MA4	N210TC	177...184
90	6648	2.8	19.3:1	4250	C702_ 19.3	S4 + M4LA4	P132 + BN132MA4	N210TC	185...192
89	6751	1.8	19.6:1	2770	C612_ 19.6	S4 + M4LA4	P132 + BN132MA4	N210TC	177...184
78	7647	4.3	22.2:1	6740	C802_ 22.2	S4 + M4LA4	P132 + BN132MA4	N210TC	193...200
78	7716	1.5	22.4:1	2810	C612_ 22.4	S4 + M4LA4	P132 + BN132MA4	N210TC	177...184
76	7888	2.4	22.9:1	4360	C702_ 22.9	S4 + M4LA4	P132 + BN132MA4	N210TC	185...192
73	8267	3.8	24.0:1	6860	C802_ 24.0	S4 + M4LA4	P132 + BN132MA4	N210TC	193...200
70	8543	1.4	24.8:1	2860	C612_ 24.8	S4 + M4LA4	P132 + BN132MA4	N210TC	177...184
67	8922	3.7	25.9:1	6970	C802_ 25.9	S4 + M4LA4	P132 + BN132MA4	N210TC	193...200
64	9438	1.3	27.4:1	2880	C612_ 27.4	S4 + M4LA4	P132 + BN132MA4	N210TC	177...184




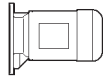
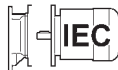


## 10 hp

$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
63	9542	1.9	27.7:1	4500	C702_ 27.7	S4 + M4LA4	P132 + BN132MA4	N210TC	185...192
59	9872	1.3	29.4:1	2950	C613_ 29.4	S4 + M4LA4	P132 + BN132MA4	N210TC	177...184
57	10472	1.1	30.4:1	2920	C612_ 30.4	S4 + M4LA4	P132 + BN132MA4	N210TC	177...184
56	10782	3.0	31.3:1	7240	C802_ 31.3	S4 + M4LA4	P132 + BN132MA4	N210TC	193...200
53	11080	1.2	33.0:1	2950	C613_ 33.0	S4 + M4LA4	P132 + BN132MA4	N210TC	177...184
50	11953	1.6	34.7:1	4610	C702_ 34.7	S4 + M4LA4	P132 + BN132MA4	N210TC	185...192
48	12121	1.1	36.1:1	2990	C613_ 36.1	S4 + M4LA4	P132 + BN132MA4	N210TC	177...184
45	13469	2.1	39.1:1	7550	C802_ 39.1	S4 + M4LA4	P132 + BN132MA4	N210TC	193...200
42	13867	1.5	41.3:1	5010	C703_ 41.3	S4 + M4LA4	P132 + BN132MA4	N210TC	185...192
39	15009	1.4	44.7:1	5060	C703_ 44.7	S4 + M4LA4	P132 + BN132MA4	N210TC	185...192
37	15916	2.1	47.4:1	7870	C803_ 47.4	S4 + M4LA4	P132 + BN132MA4	N210TC	193...200
33	17527	1.2	52.2:1	5150	C703_ 52.2	S4 + M4LA4	P132 + BN132MA4	N210TC	185...192
29.4	19878	3.2	59.2:1	11910	C903_ 59.2	S4 + M4LA4	P132 + BN132MA4	N210TC	201...208
27.8	20986	1.7	62.5:1	7870	C803_ 62.5	S4 + M4LA4	P132 + BN132MA4	N210TC	193...200
24.7	23672	1.5	70.5:1	7870	C803_ 70.5	S4 + M4LA4	P132 + BN132MA4	N210TC	193...200
23.4	24981	2.5	74.4:1	12410	C903_ 74.4	S4 + M4LA4	P132 + BN132MA4	N210TC	201...208
20.3	28742	3.7	85.6:1	19110	C1003_ 85.6	S4 + M4LA4	P132 + BN132MA4	N210TC	209...216
19.7	29615	2.1	88.2:1	12720	C903_ 88.2	S4 + M4LA4	P132 + BN132MA4	N210TC	201...208
19.5	29984	1.2	89.3:1	7870	C803_ 89.3	S4 + M4LA4	P132 + BN132MA4	N210TC	193...200
15.5	37573	2.8	111.9:1	19110	C1003_ 111.9	S4 + M4LA4	P132 + BN132MA4	N210TC	209...216
14.9	39184	1.6	116.7:1	13170	C903_ 116.7	S4 + M4LA4	P132 + BN132MA4	N210TC	201...208
11.9	49123	1.3	146.3:1	13400	C903_ 146.3	S4 + M4LA4	P132 + BN132MA4	N210TC	201...208
11.6	50500	2.1	150.4:1	19110	C1003_ 150.4	S4 + M4LA4	P132 + BN132MA4	N210TC	209...216
10.1	57786	1.1	172.1:1	13490	C903_ 172.1	S4 + M4LA4	P132 + BN132MA4	N210TC	201...208
8.7	65357	1.6	199.6:1	19110	C1004_ 199.6	S4 + M4LA4	P132 + BN132MA4	N210TC	209...216
6.6	86117	1.2	263:1	19110	C1004_ 263.0	S4 + M4LA4	P132 + BN132MA4	N210TC	209...216

## 15 hp






$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
669	1343	2.6	2.6:1	1140	C512_ 2.6	S4 + M4LC4	P160 + BN160MR4	N250TC	169...176
644	1395	1.6	2.7:1	550	C412_ 2.7	S4 + M4LC4	P160 + BN160MR4	N250TC	161...168
621	1447	4.1	2.8:1	1630	C612_ 2.8	S4 + M4LC4	P160 + BN160MR4	N250TC	177...184
527	1705	2.2	3.3:1	1200	C512_ 3.3	S4 + M4LC4	P160 + BN160MR4	N250TC	169...176
483	1860	1.2	3.6:1	540	C412_ 3.6	S4 + M4LC4	P160 + BN160MR4	N250TC	161...168
470	1912	3.1	3.7:1	1740	C612_ 3.7	S4 + M4LC4	P160 + BN160MR4	N250TC	177...184
442	2033	1.7	2.6:1	1250	C512_ 2.6	S5 + M5SB6	P160 + BN160L6	N250TC	169...176

# 15 hp



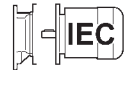


$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
387	2325	1.7	4.5:1	1270	C512_ 4.5	S4 + M4LC4	P160 + BN160MR4	N250TC	169...176
378	2377	2.5	4.6:1	1830	C612_ 4.6	S4 + M4LC4	P160 + BN160MR4	N250TC	177...184
348	2580	1.4	3.3:1	1300	C512_ 3.3	S5 + M5SB6	P160 + BN160L6		169...176
311	2893	1.3	5.6:1	1320	C512_ 5.6	S4 + M4LC4	P160 + BN160MR4	N250TC	169...176
290	3100	1.9	6.0:1	1950	C612_ 6.0	S4 + M4LC4	P160 + BN160MR4	N250TC	177...184
260	3462	3.5	6.7:1	2060	C612_ 6.7	S4 + M4LC4	P160 + BN160MR4	N250TC	177...184
249	3617	1.5	7.0:1	1450	C512_ 7.0	S4 + M4LC4	P160 + BN160MR4	N250TC	169...176
232	3875	3.1	7.5:1	2110	C612_ 7.5	S4 + M4LC4	P160 + BN160MR4	N250TC	177...184
223	4030	1.4	7.8:1	1460	C512_ 7.8	S4 + M4LC4	P160 + BN160MR4	N250TC	169...176
198	4547	2.6	8.8:1	2180	C612_ 8.8	S4 + M4LC4	P160 + BN160MR4	N250TC	177...184
198	4547	1.3	8.8:1	1490	C512_ 8.8	S4 + M4LC4	P160 + BN160MR4	N250TC	169...176
183	4909	3.9	9.5:1	3460	C702_ 9.5	S4 + M4LC4	P160 + BN160MR4	N250TC	185...192
178	5064	2.4	9.8:1	2230	C612_ 9.8	S4 + M4LC4	P160 + BN160MR4	N250TC	177...184
178	5064	1.2	9.8:1	1500	C512_ 9.8	S4 + M4LC4	P160 + BN160MR4	N250TC	169...176
171	5270	3.5	10.2:1	3530	C702_ 10.2	S4 + M4LC4	P160 + BN160MR4	N250TC	185...192
160	5632	2.1	10.9:1	2270	C612_ 10.9	S4 + M4LC4	P160 + BN160MR4	N250TC	177...184
155	5787	3.3	11.2:1	3550	C702_ 11.2	S4 + M4LC4	P160 + BN160MR4	N250TC	185...192
147	6097	1.1	11.8:1	1530	C512_ 11.8	S4 + M4LC4	P160 + BN160MR4	N250TC	169...176
144	6252	1.9	12.1:1	2320	C612_ 12.1	S4 + M4LC4	P160 + BN160MR4	N250TC	177...184
134	6717	2.8	13.0:1	3690	C702_ 13.0	S4 + M4LC4	P160 + BN160MR4	N250TC	185...192
123	7285	2.6	14.1:1	3690	C702_ 14.1	S4 + M4LC4	P160 + BN160MR4	N250TC	185...192
122	7389	1.6	14.3:1	2360	C612_ 14.3	S4 + M4LC4	P160 + BN160MR4	N250TC	177...184
114	7905	2.4	15.3:1	3780	C702_ 15.3	S4 + M4LC4	P160 + BN160MR4	N250TC	185...192
109	8215	1.5	15.9:1	2410	C612_ 15.9	S4 + M4LC4	P160 + BN160MR4	N250TC	177...184
104	8629	3.6	16.7:1	6050	C802_ 16.7	S4 + M4LC4	P160 + BN160MR4	N250TC	193...200
104	8629	2.1	16.7:1	3780	C702_ 16.7	S4 + M4LC4	P160 + BN160MR4	N250TC	185...192
98	9146	1.3	17.7:1	2410	C612_ 17.7	S4 + M4LC4	P160 + BN160MR4	N250TC	177...184
96	9352	3.5	18.1:1	6140	C802_ 18.1	S4 + M4LC4	P160 + BN160MR4	N250TC	193...200
90	9972	1.9	19.3:1	3890	C702_ 19.3	S4 + M4LC4	P160 + BN160MR4	N250TC	185...192
89	10127	1.2	19.6:1	2430	C612_ 19.6	S4 + M4LC4	P160 + BN160MR4	N250TC	177...184
85	10592	3.0	20.5:1	6290	C802_ 20.5	S4 + M4LC4	P160 + BN160MR4	N250TC	193...200
78	11471	2.9	22.2:1	6380	C802_ 22.2	S4 + M4LC4	P160 + BN160MR4	N250TC	193...200
76	11832	1.6	22.9:1	3960	C702_ 22.9	S4 + M4LC4	P160 + BN160MR4	N250TC	185...192
67	13382	2.4	25.9:1	6560	C802_ 25.9	S4 + M4LC4	P160 + BN160MR4	N250TC	193...200
63	14312	1.3	27.7:1	4000	C702_ 27.7	S4 + M4LC4	P160 + BN160MR4	N250TC	185...192
56	16173	2.0	31.3:1	6740	C802_ 31.3	S4 + M4LC4	P160 + BN160MR4	N250TC	193...200
50	18136	2.6	35.1:1	10120	C902_ 35.1	S4 + M4LC4	P160 + BN160MR4	N250TC	201...208
45	20203	1.4	39.1:1	6950	C802_ 39.1	S4 + M4LC4	P160 + BN160MR4	N250TC	193...200
44	19844	3.2	39.4:1	10360	C903_ 39.4	S4 + M4LC4	P160 + BN160MR4	N250TC	201...208
40	21909	1.5	43.5:1	7440	C803_ 43.5	S4 + M4LC4	P160 + BN160MR4	N250TC	193...200
37	23873	1.4	47.4:1	7530	C803_ 47.4	S4 + M4LC4	P160 + BN160MR4	N250TC	193...200




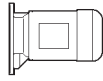
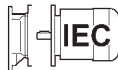


## 15 hp

<b>n<sub>2</sub></b> [rpm]	<b>T<sub>2</sub></b> [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	<b>R<sub>n2</sub></b> [lb]					
35	25334	2.5	50.3:1	10790	<b>C903_ 50.3</b>	<b>S4 + M4LC4</b>	<b>P160 + BN160MR4</b>	<b>N250TC</b>	201...208
30	28860	1.2	57.3:1	7690	<b>C803_ 57.3</b>	<b>S4 + M4LC4</b>	<b>P160 + BN160MR4</b>	<b>N250TC</b>	193...200
29.4	29816	2.1	59.2:1	11020	<b>C903_ 59.2</b>	<b>S4 + M4LC4</b>	<b>P160 + BN160MR4</b>	<b>N250TC</b>	201...208
25.1	34954	3.0	69.4:1	19060	<b>C1003_ 69.4</b>	<b>S4 + M4LC4</b>	<b>P160 + BN160MR4</b>	<b>N250TC</b>	209...216
23.4	37472	1.7	74.4:1	11290	<b>C903_ 74.4</b>	<b>S4 + M4LC4</b>	<b>P160 + BN160MR4</b>	<b>N250TC</b>	201...208
19.7	44423	1.4	88.2:1	11400	<b>C903_ 88.2</b>	<b>S4 + M4LC4</b>	<b>P160 + BN160MR4</b>	<b>N250TC</b>	201...208
18.8	46689	2.3	92.7:1	19110	<b>C1003_ 92.7</b>	<b>S4 + M4LC4</b>	<b>P160 + BN160MR4</b>	<b>N250TC</b>	209...216
15.5	56359	1.9	111.9:1	19110	<b>C1003_ 111.9</b>	<b>S4 + M4LC4</b>	<b>P160 + BN160MR4</b>	<b>N250TC</b>	209...216
14.9	58777	1.1	116.7:1	11420	<b>C903_ 116.7</b>	<b>S4 + M4LC4</b>	<b>P160 + BN160MR4</b>	<b>N250TC</b>	201...208
11.6	75750	1.4	150.4:1	19110	<b>C1003_ 150.4</b>	<b>S4 + M4LC4</b>	<b>P160 + BN160MR4</b>	<b>N250TC</b>	209...216
8.7	98036	1.1	199.6:1	19110	<b>C1004_ 199.6</b>	<b>S4 + M4LC4</b>	<b>P160 + BN160MR4</b>	<b>N250TC</b>	209...216


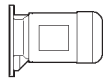



## 20 hp

<b>n<sub>2</sub></b> [rpm]	<b>T<sub>2</sub></b> [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	<b>R<sub>n2</sub></b> [lb]					
673	1781	2.0	2.6:1	1080	<b>C512_ 2.6</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	169...176
625	1918	3.1	2.8:1	1560	<b>C612_ 2.8</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	177...184
530	2260	1.6	3.3:1	1120	<b>C512_ 3.3</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	169...176
473	2534	2.3	3.7:1	1660	<b>C612_ 3.7</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	177...184
389	3082	1.2	4.5:1	1160	<b>C512_ 4.5</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	169...176
380	3151	1.9	4.6:1	1730	<b>C612_ 4.6</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	177...184
261	4589	2.6	6.7:1	1930	<b>C612_ 6.7</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	177...184
250	4795	1.2	7.0:1	1310	<b>C512_ 7.0</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	169...176
233	5137	2.3	7.5:1	1970	<b>C612_ 7.5</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	177...184
219	5480	3.4	8.0:1	3190	<b>C702_ 8.0</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	185...192
199	6028	2.0	8.8:1	2010	<b>C612_ 8.8</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	177...184
184	6507	2.9	9.5:1	3240	<b>C702_ 9.5</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	185...192
179	6713	1.8	9.8:1	2040	<b>C612_ 9.8</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	177...184
161	7466	1.6	10.9:1	2060	<b>C612_ 10.9</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	177...184
156	7672	2.5	11.2:1	3310	<b>C702_ 11.2</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	185...192
146	8220	4.0	12.0:1	5400	<b>C802_ 12.0</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	193...200
145	8288	1.4	12.1:1	2080	<b>C612_ 12.1</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	177...184
135	8905	2.1	13.0:1	3420	<b>C702_ 13.0</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	185...192
122	9795	1.2	14.3:1	2090	<b>C612_ 14.3</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	177...184
117	10206	3.2	14.9:1	5620	<b>C802_ 14.9</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	193...200
114	10480	1.8	15.3:1	3460	<b>C702_ 15.3</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	185...192
110	10891	1.1	15.9:1	2100	<b>C612_ 15.9</b>	<b>S5 + M5SB4</b>	<b>P160 + BN160L4</b>	<b>N250TC</b>	177...184






## 20 hp

$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
97	12398	2.6	18.1:1	5800	C802_ 18.1	S5 + M5SB4	P160 + BN160L4	N250TC	193...200
91	13220	1.4	19.3:1	3510	C702_ 19.3	S5 + M5SB4	P160 + BN160L4	N250TC	185...192
79	15207	2.2	22.2:1	5980	C802_ 22.2	S5 + M5SB4	P160 + BN160L4	N250TC	193...200
76	15686	3.5	22.9:1	8880	C902_ 22.9	S5 + M5SB4	P160 + BN160L4	N250TC	201...208
68	17741	1.8	25.9:1	6090	C802_ 25.9	S5 + M5SB4	P160 + BN160L4	N250TC	193...200
64	18632	2.6	27.2:1	9150	C902_ 27.2	S5 + M5SB4	P160 + BN160L4	N250TC	201...208
56	21440	1.5	31.3:1	6180	C802_ 31.3	S5 + M5SB4	P160 + BN160L4	N250TC	193...200
50	24043	2.0	35.1:1	9490	C902_ 35.1	S5 + M5SB4	P160 + BN160L4	N250TC	201...208
44	26308	2.4	39.4:1	9670	C903_ 39.4	S5 + M5SB4	P160 + BN160L4	N250TC	201...208
40	29045	1.2	43.5:1	6810	C803_ 43.5	S5 + M5SB4	P160 + BN160L4	N250TC	193...200
38	30848	3.4	46.2:1	16750	C1003_ 46.2	S5 + M5SB4	P160 + BN160L4	N250TC	209...216
35	33586	1.9	50.3:1	9910	C903_ 50.3	S5 + M5SB4	P160 + BN160L4	N250TC	201...208
30	38326	2.8	57.4:1	17400	C1003_ 57.4	S5 + M5SB4	P160 + BN160L4	N250TC	209...216
29.6	39528	1.6	59.2:1	9980	C903_ 59.2	S5 + M5SB4	P160 + BN160L4	N250TC	201...208
22.0	53016	2.0	79.4:1	18210	C1003_ 79.4	S5 + M5SB4	P160 + BN160L4	N250TC	209...216
21.6	54218	1.2	81.2:1	9960	C903_ 81.2	S5 + M5SB4	P160 + BN160L4	N250TC	201...208
18.9	61896	1.7	92.7:1	18520	C1003_ 92.7	S5 + M5SB4	P160 + BN160L4	N250TC	209...216
18.2	64233	1.0	96.2:1	9800	C903_ 96.2	S5 + M5SB4	P160 + BN160L4	N250TC	201...208
14.5	80458	1.3	120.5:1	18840	C1003_ 120.5	S5 + M5SB4	P160 + BN160L4	N250TC	209...216



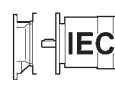


## 25 hp

$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
673	2226	1.6	2.6:1	1020	C512_ 2.6	S5 + M5LA4	P180 + BN180M4	N280TC	169...176
625	2397	2.5	2.8:1	1510	C612_ 2.8	S5 + M5LA4	P180 + BN180M4	N280TC	177...184
530	2826	1.3	3.3:1	1050	C512_ 3.3	S5 + M5LA4	P180 + BN180M4	N280TC	169...176
473	3168	1.9	3.7:1	1590	C612_ 3.7	S5 + M5LA4	P180 + BN180M4	N280TC	177...184
380	3939	3.8	4.6:1	2770	C702_ 4.6	S5 + M5LA4	P180 + BN180M4	N280TC	185...192
380	3939	1.5	4.6:1	1640	C612_ 4.6	S5 + M5LA4	P180 + BN180M4	N280TC	177...184
297	5052	3.3	5.9:1	2880	C702_ 5.9	S5 + M5LA4	P180 + BN180M4	N280TC	185...192
292	5137	1.1	6.0:1	1700	C612_ 6.0	S5 + M5LA4	P180 + BN180M4	N280TC	177...184
278	5394	3.2	6.3:1	2950	C702_ 6.3	S5 + M5LA4	P180 + BN180M4	N280TC	185...192
261	5737	2.1	6.7:1	1820	C612_ 6.7	S5 + M5LA4	P180 + BN180M4	N280TC	177...184
233	6422	1.9	7.5:1	1850	C612_ 7.5	S5 + M5LA4	P180 + BN180M4	N280TC	177...184
199	7535	1.6	8.8:1	1870	C612_ 8.8	S5 + M5LA4	P180 + BN180M4	N280TC	177...184
197	7621	4.1	8.9:1	4920	C802_ 8.9	S5 + M5LA4	P180 + BN180M4	N280TC	193...200
184	8134	2.3	9.5:1	3060	C702_ 9.5	S5 + M5LA4	P180 + BN180M4	N280TC	185...192
179	8391	1.4	9.8:1	1890	C612_ 9.8	S5 + M5LA4	P180 + BN180M4	N280TC	177...184


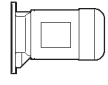



## 25 hp

$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
161	9333	1.3	10.9:1	1880	C612_ 10.9	S5 + M5LA4	P180 + BN180M4	N280TC	177...184
158	9504	3.3	11.1:1	5150	C802_ 11.1	S5 + M5LA4	P180 + BN180M4	N280TC	193...200
156	9590	2.0	11.2:1	3100	C702_ 11.2	S5 + M5LA4	P180 + BN180M4	N280TC	185...192
145	10360	1.2	12.1:1	1890	C612_ 12.1	S5 + M5LA4	P180 + BN180M4	N280TC	177...184
127	11816	2.6	13.8:1	5330	C802_ 13.8	S5 + M5LA4	P180 + BN180M4	N280TC	193...200
124	12073	1.6	14.1:1	3130	C702_ 14.1	S5 + M5LA4	P180 + BN180M4	N280TC	185...192
105	14299	2.2	16.7:1	5490	C802_ 16.7	S5 + M5LA4	P180 + BN180M4	N280TC	193...200
105	14299	1.3	16.7:1	3100	C702_ 16.7	S5 + M5LA4	P180 + BN180M4	N280TC	185...192
91	16525	1.1	19.3:1	3170	C702_ 19.3	S5 + M5LA4	P180 + BN180M4	N280TC	185...192
79	19009	1.7	22.2:1	5640	C802_ 22.2	S5 + M5LA4	P180 + BN180M4	N280TC	193...200
68	22177	1.5	25.9:1	5690	C802_ 25.9	S5 + M5LA4	P180 + BN180M4	N280TC	193...200
60	25173	2.1	29.4:1	8790	C902_ 29.4	S5 + M5LA4	P180 + BN180M4	N280TC	201...208
51	28628	3.6	34.3:1	15310	C1003_ 34.3	S5 + M5LA4	P180 + BN180M4	N280TC	209...216
50	30054	1.6	35.1:1	8950	C902_ 35.1	S5 + M5LA4	P180 + BN180M4	N280TC	201...208
41	35806	3.0	42.9:1	15920	C1003_ 42.9	S5 + M5LA4	P180 + BN180M4	N280TC	209...216
41	35889	1.8	43.0:1	9130	C903_ 43.0	S5 + M5LA4	P180 + BN180M4	N280TC	201...208
33	44486	2.4	53.3:1	16430	C1003_ 53.3	S5 + M5LA4	P180 + BN180M4	N280TC	209...216
32	45821	1.4	54.9:1	9150	C903_ 54.9	S5 + M5LA4	P180 + BN180M4	N280TC	201...208
27.1	53917	1.2	64.6:1	9060	C903_ 64.6	S5 + M5LA4	P180 + BN180M4	N280TC	201...208
25.2	57923	1.8	69.4:1	16950	C1003_ 69.4	S5 + M5LA4	P180 + BN180M4	N280TC	209...216
18.9	77370	1.4	92.7:1	17240	C1003_ 92.7	S5 + M5LA4	P180 + BN180M4	N280TC	209...216
15.6	93395	1.1	111.9:1	17220	C1003_ 111.9	S5 + M5LA4	P180 + BN180M4	N280TC	209...216


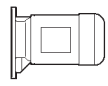
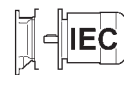


## 30 hp

$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
673	2671	1.3	2.6:1	960	C512_ 2.6		P180 + BN180L4	N280TC	169...176
625	2877	2.0	2.8:1	1450	C612_ 2.8		P180 + BN180L4	N280TC	177...184
530	3391	1.1	3.3:1	980	C512_ 3.3		P180 + BN180L4	N280TC	169...176
473	3802	1.5	3.7:1	1520	C612_ 3.7		P180 + BN180L4	N280TC	177...184
380	4726	3.2	4.6:1	2680	C702_ 4.6		P180 + BN180L4	N280TC	185...192
380	4726	1.2	4.6:1	1550	C612_ 4.6		P180 + BN180L4	N280TC	177...184
297	6062	2.8	5.9:1	2770	C702_ 5.9		P180 + BN180L4	N280TC	185...192
261	6884	1.7	6.7:1	1710	C612_ 6.7		P180 + BN180L4	N280TC	177...184
250	7192	4.1	7.0:1	4590	C802_ 7.0		P180 + BN180L4	N280TC	193...200
233	7706	2.2	7.5:1	2860	C702_ 7.5		P180 + BN180L4	N280TC	185...192
233	7706	1.6	7.5:1	1730	C612_ 7.5		P180 + BN180L4	N280TC	177...184






## 30 hp

<b>n<sub>2</sub></b> [rpm]	<b>T<sub>2</sub></b> [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	<b>R<sub>n2</sub></b> [lb]					
199	9042	1.3	8.8:1	1720	C612_ 8.8		P180 + BN180L4	N280TC	177...184
197	9145	3.4	8.9:1	4790	C802_ 8.9		P180 + BN180L4	N280TC	193...200
184	9761	1.9	9.5:1	2880	C702_ 9.5		P180 + BN180L4	N280TC	185...192
179	10069	1.2	9.8:1	1730	C612_ 9.8		P180 + BN180L4	N280TC	177...184
161	11200	1.1	10.9:1	1700	C612_ 10.9		P180 + BN180L4	N280TC	177...184
158	11405	2.7	11.1:1	4970	C802_ 11.1		P180 + BN180L4	N280TC	193...200
156	11508	1.7	11.2:1	2900	C702_ 11.2		P180 + BN180L4	N280TC	185...192
126	14282	3.7	13.9:1	7580	C902_ 13.9		P180 + BN180L4	N280TC	201...208
124	14488	1.3	14.1:1	2860	C702_ 14.1		P180 + BN180L4	N280TC	185...192
117	15310	2.1	14.9:1	5150	C802_ 14.9		P180 + BN180L4	N280TC	193...200
105	17159	1.1	16.7:1	2790	C702_ 16.7		P180 + BN180L4	N280TC	185...192
101	17776	3.2	17.3:1	7850	C902_ 17.3		P180 + BN180L4	N280TC	201...208
97	18598	1.8	18.1:1	5240	C802_ 18.1		P180 + BN180L4	N280TC	193...200
76	23529	2.3	22.9:1	8180	C902_ 22.9		P180 + BN180L4	N280TC	201...208
73	24660	1.3	24.0:1	5330	C802_ 24.0		P180 + BN180L4	N280TC	193...200
60	30208	1.7	29.4:1	8340	C902_ 29.4		P180 + BN180L4	N280TC	201...208
59	30414	2.6	29.6:1	14410	C1002_ 29.6		P180 + BN180L4	N280TC	209...216
50	36065	1.3	35.1:1	8410	C902_ 35.1		P180 + BN180L4	N280TC	201...208
47	36957	2.8	36.9:1	14990	C1003_ 36.9		P180 + BN180L4	N280TC	209...216
38	46272	2.3	46.2:1	15470	C1003_ 46.2		P180 + BN180L4	N280TC	209...216
35	50378	1.2	50.3:1	8410	C903_ 50.3		P180 + BN180L4	N280TC	201...208
30	57489	1.8	57.4:1	15800	C1003_ 57.4		P180 + BN180L4	N280TC	209...216
29.6	59292	1.1	59.2:1	8250	C903_ 59.2		P180 + BN180L4	N280TC	201...208
22.0	79524	1.3	79.4:1	16010	C1003_ 79.4		P180 + BN180L4	N280TC	209...216
17.5	99955	1.1	99.8:1	15870	C1003_ 99.8		P180 + BN180L4	N280TC	209...216



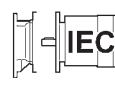


## 40 hp

<b>n<sub>2</sub></b> [rpm]	<b>T<sub>2</sub></b> [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	<b>R<sub>n2</sub></b> [lb]					
380	6302	2.4	4.6:1	2470	C702_ 4.6		P200 + BN200L4		185...192
313	7672	3.6	5.6:1	4180	C802_ 5.6		P200 + BN200L4	N320TC	193...200
287	8357	3.3	6.1:1	4250	C802_ 6.1		P200 + BN200L4	N320TC	193...200
278	8631	2.0	6.3:1	2590	C702_ 6.3		P200 + BN200L4		185...192
250	9590	3.1	7.0:1	4340	C802_ 7.0		P200 + BN200L4	N320TC	193...200
230	10412	2.9	7.6:1	4380	C802_ 7.6		P200 + BN200L4	N320TC	193...200
219	10960	1.7	8.0:1	2610	C702_ 8.0		P200 + BN200L4		185...192
184	13015	1.5	9.5:1	2470	C702_ 9.5		P200 + BN200L4		185...192
182	13152	2.5	9.6:1	4520	C802_ 9.6		P200 + BN200L4	N320TC	193...200

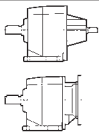
## 40 hp

$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
156	15344	3.3	11.2:1	6880	<b>C902_ 11.2</b>		<b>P200 + BN200L4</b>	<b>N320TC</b>	201...208
146	16440	2.0	12.0:1	4610	<b>C802_ 12.0</b>		<b>P200 + BN200L4</b>	<b>N320TC</b>	193...200
126	19043	2.8	13.9:1	7080	<b>C902_ 13.9</b>		<b>P200 + BN200L4</b>	<b>N320TC</b>	201...208
117	20413	1.6	14.9:1	4630	<b>C802_ 14.9</b>		<b>P200 + BN200L4</b>	<b>N320TC</b>	193...200
94	25619	3.7	18.7:1	12590	<b>C1002_ 18.7</b>		<b>P200 + BN200L4</b>	<b>N320TC</b>	209...216
94	25619	2.1	18.7:1	7330	<b>C902_ 18.7</b>		<b>P200 + BN200L4</b>	<b>N320TC</b>	201...208
79	30414	2.9	22.2:1	12970	<b>C1002_ 22.2</b>		<b>P200 + BN200L4</b>	<b>N320TC</b>	209...216
76	31373	1.7	22.9:1	7400	<b>C902_ 22.9</b>		<b>P200 + BN200L4</b>	<b>N320TC</b>	201...208
60	40278	1.3	29.4:1	7330	<b>C902_ 29.4</b>		<b>P200 + BN200L4</b>	<b>N320TC</b>	201...208
59	40552	2.0	29.6:1	13440	<b>C1002_ 29.6</b>		<b>P200 + BN200L4</b>	<b>N320TC</b>	209...216
44	52615	1.2	39.4:1	7170	<b>C903_ 39.4</b>		<b>P200 + BN200L4</b>	<b>N320TC</b>	201...208
38	61696	1.7	46.2:1	14010	<b>C1003_ 46.2</b>		<b>P200 + BN200L4</b>	<b>N320TC</b>	209...216
30	76653	1.4	57.4:1	13980	<b>C1003_ 57.4</b>		<b>P200 + BN200L4</b>	<b>N320TC</b>	209...216
25.2	92677	1.1	69.4:1	13780	<b>C1003_ 69.4</b>		<b>P200 + BN200L4</b>	<b>N320TC</b>	209...216

## 50 hp


$n_2$ [rpm]	$T_2$ [lb·in]	<b>S</b> Safety factor	<b>i</b> (ratio)	$R_{n2}$ [lb]					
337	8905	4.3	5.2:1	5780	<b>C902_ 5.2</b>		<b>P225 + BN225S4</b>	<b>N320TC</b>	201...208
313	9590	4.1	5.6:1	5870	<b>C902_ 5.6</b>		<b>P225 + BN225S4</b>	<b>N320TC</b>	201...208
287	10446	2.7	6.1:1	4050	<b>C802_ 6.1</b>		<b>P225 + BN225S4</b>	<b>N320TC</b>	193...200
240	12501	3.4	7.3:1	6160	<b>C902_ 7.3</b>		<b>P225 + BN225S4</b>	<b>N320TC</b>	201...208
230	13015	2.3	7.6:1	4160	<b>C802_ 7.6</b>		<b>P225 + BN225S4</b>	<b>N320TC</b>	193...200
194	15412	3.0	9.0:1	6360	<b>C902_ 9.0</b>		<b>P225 + BN225S4</b>	<b>N320TC</b>	201...208
182	16440	2.0	9.6:1	4230	<b>C802_ 9.6</b>		<b>P225 + BN225S4</b>	<b>N320TC</b>	193...200
156	19180	2.6	11.2:1	6540	<b>C902_ 11.2</b>		<b>P225 + BN225S4</b>	<b>N320TC</b>	201...208
146	20550	1.6	12.0:1	4230	<b>C802_ 12.0</b>		<b>P225 + BN225S4</b>	<b>N320TC</b>	193...200
127	23632	1.3	13.8:1	4230	<b>C802_ 13.8</b>		<b>P225 + BN225S4</b>	<b>N320TC</b>	193...200
126	23803	2.2	13.9:1	6680	<b>C902_ 13.9</b>		<b>P225 + BN225S4</b>	<b>N320TC</b>	201...208
105	28598	1.1	16.7:1	4160	<b>C802_ 16.7</b>		<b>P225 + BN225S4</b>	<b>N320TC</b>	193...200
94	32023	3.0	18.7:1	12050	<b>C1002_ 18.7</b>		<b>P225 + BN225S4</b>	<b>N320TC</b>	209...216
94	32023	1.7	18.7:1	6770	<b>C902_ 18.7</b>		<b>P225 + BN225S4</b>	<b>N320TC</b>	201...208
73	41271	2.3	24.1:1	12410	<b>C1002_ 24.1</b>		<b>P225 + BN225S4</b>	<b>N320TC</b>	209...216
71	42469	1.4	24.8:1	6630	<b>C902_ 24.8</b>		<b>P225 + BN225S4</b>	<b>N320TC</b>	201...208
47	61596	1.7	36.9:1	12810	<b>C1003_ 36.9</b>		<b>P225 + BN225S4</b>	<b>N320TC</b>	209...216
38	77120	1.4	46.2:1	12720	<b>C1003_ 46.2</b>		<b>P225 + BN225S4</b>	<b>N320TC</b>	209...216
30	95816	1.1	57.4:1	12430	<b>C1003_ 57.4</b>		<b>P225 + BN225S4</b>	<b>N320TC</b>	209...216

## 2.10 SPEED REDUCER RATING CHARTS

<b>C 11</b>											<b>890 lb·in</b>
	i (ratio)	$n_1 = 3500$ rpm					$n_1 = 1750$ rpm				
		$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]	$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]
<b>C 11 2_ 2.8</b>	2.8	1250	270	5.6	170	130	625	330	3.4	220	180
<b>C 11 2_ 3.7</b>	3.7	946	300	4.7	160	140	473	370	2.9	220	180
<b>C 11 2_ 4.9</b>	4.9	714	340	4.1	160	140	357	420	2.5	200	180
<b>C 11 2_ 6.2</b>	6.2	565	370	3.5	150	150	282	470	2.2	180	190
<b>C 11 2_ 6.9</b>	6.9	507	380	3.2	250	260	254	480	2.0	290	330
<b>C 11 2_ 7.6</b>	7.6	461	400	3.1	260	270	230	500	1.9	290	350
<b>C 11 2_ 9.1</b>	9.1	385	420	2.7	250	290	192	540	1.7	290	360
<b>C 11 2_ 10.1</b>	10.1	347	430	2.5	260	300	173	560	1.6	290	380
<b>C 11 2_ 12.1</b>	12.1	289	470	2.3	250	320	145	590	1.4	290	400
<b>C 11 2_ 13.4</b>	13.4	261	490	2.1	260	330	131	620	1.4	290	410
<b>C 11 2_ 15.5</b>	15.5	226	510	1.9	250	340	113	650	1.2	290	420
<b>C 11 2_ 17.2</b>	17.2	203	530	1.8	250	360	102	670	1.1	290	450
<b>C 11 2_ 18.6</b>	18.6	188	560	1.8	250	350	94	700	1.1	290	450
<b>C 11 2_ 20.6</b>	20.6	170	580	1.6	250	380	85	730	1.0	290	450
<b>C 11 2_ 22.8</b>	22.8	153	590	1.5	240	380	76	750	0.96	290	450
<b>C 11 2_ 25.4</b>	25.4	138	610	1.4	250	400	69	780	0.90	290	450
<b>C 11 2_ 29.5</b>	29.5	119	650	1.3	240	410	59	820	0.81	290	450
<b>C 11 2_ 32.8</b>	32.8	107	660	1.2	250	440	53	800	0.71	290	450
<b>C 11 2_ 33.4</b>	33.4	105	680	1.2	230	420	52	890	0.78	290	450
<b>C 11 2_ 37.0</b>	37.0	95	700	1.1	240	450	47	800	0.63	290	450
<b>C 11 2_ 42.9</b>	42.9	82	740	1.0	230	450	41	890	0.61	290	450
<b>C 11 2_ 47.6</b>	47.6	74	750	0.92	240	450	37	800	0.49	290	450
<b>C 11 2_ 49.7</b>	49.7	70	780	0.92	220	450	35	890	0.52	290	450
<b>C 11 2_ 55.2</b>	55.2	63	790	0.84	230	450	32	800	0.42	290	450
<b>C 11 2_ 59.6</b>	59.6	59	690	0.68	240	450	29.4	730	0.36	290	450
<b>C 11 2_ 66.2</b>	66.2	53	760	0.67	240	450	26.4	800	0.35	290	450

# C 11



**890 lb-in**

	i (ratio)	$n_1 = 1100$ rpm					$n_1 = 600$ rpm				
		$n_2$ [rpm]	$T_{n2}$ [lb-in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]	$n_2$ [rpm]	$T_{n2}$ [lb-in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]
C 11 2_	2.8	393	380	2.5	260	200	214	470	1.7	290	240
C 11 2_	3.7	297	430	2.1	250	210	162	530	1.4	290	250
C 11 2_	4.9	224	490	1.8	240	220	122	590	1.2	290	260
C 11 2_	6.2	177	540	1.6	220	220	97	620	1.0	290	310
C 11 2_	6.9	159	550	1.5	290	390	87	670	0.97	290	450
C 11 2_	7.6	145	580	1.4	290	400	79	700	0.92	290	450
C 11 2_	9.1	121	620	1.3	290	420	66	750	0.83	290	450
C 11 2_	10.1	109	640	1.2	290	440	59	780	0.77	290	450
C 11 2_	12.1	91	690	1.0	290	450	50	840	0.70	290	450
C 11 2_	13.4	82	720	0.99	290	450	45	800	0.60	290	450
C 11 2_	15.5	71	760	0.90	290	450	39	880	0.57	290	450
C 11 2_	17.2	64	780	0.83	290	450	35	800	0.47	290	450
C 11 2_	18.6	59	810	0.80	290	450	32	880	0.47	290	450
C 11 2_	20.6	53	790	0.70	290	450	29.1	790	0.38	290	450
C 11 2_	22.8	48	880	0.71	290	450	26.2	880	0.39	290	450
C 11 2_	25.4	43	790	0.57	290	450	23.6	790	0.31	290	450
C 11 2_	29.5	37	890	0.55	290	450	20.3	890	0.30	290	450
C 11 2_	32.8	34	800	0.45	290	450	18.3	800	0.24	290	450
C 11 2_	33.4	33	890	0.49	290	450	18.0	890	0.27	290	450
C 11 2_	37.0	29.7	800	0.40	290	450	16.2	800	0.22	290	450
C 11 2_	42.9	25.6	890	0.38	290	450	14.0	890	0.21	290	450
C 11 2_	47.6	23.1	800	0.31	290	450	12.6	800	0.17	290	450
C 11 2_	49.7	22.1	890	0.33	290	450	12.1	890	0.18	290	450
C 11 2_	55.2	19.9	800	0.27	290	450	10.9	800	0.15	290	450
C 11 2_	59.6	18.5	750	0.23	290	450	10.1	780	0.13	290	450
C 11 2_	66.2	16.6	800	0.22	290	450	9.1	800	0.12	290	450



## C 21

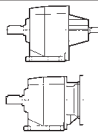
**1,770 lb·in**

		i (ratio)	$n_1 = 3500 \text{ rpm}$					$n_1 = 1750 \text{ rpm}$				
			$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]	$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]
C 21 2_	2.7	1296	580	12.6	—	260	648	710	7.7	—	330	
C 21 2_	3.7	946	620	9.8	—	290	473	800	6.3	—	360	
C 21 2_	4.8	729	710	8.6	—	310	365	890	5.4	—	390	
C 21 2_	6.1	574	750	7.2	—	340	287	930	4.5	—	430	
C 21 2_	6.4	547	890	8.1	220	340	273	1110	5.1	280	430	
C 21 2_	7.1	493	930	7.7	250	350	246	1150	4.7	320	450	
C 21 2_	8.7	402	970	6.5	230	380	201	1240	4.2	280	470	
C 21 2_	9.7	361	1020	6.1	260	390	180	1280	3.9	330	490	
C 21 2_	11.2	313	1110	5.8	210	400	156	1370	3.6	270	510	
C 21 2_	12.4	282	1110	5.2	260	430	141	1420	3.3	320	540	
C 21 2_	14.3	245	1190	4.9	200	440	122	1500	3.1	250	550	
C 21 2_	15.8	222	1240	4.6	230	460	111	1550	2.9	300	580	
C 21 2_	18.0	194	1280	4.2	190	480	97	1640	2.7	230	600	
C 21 2_	20.0	175	1330	3.9	220	500	88	1680	2.5	280	620	
C 21 2_	21.9	160	1370	3.7	180	510	80	1770	2.4	210	630	
C 21 2_	24.3	144	1420	3.4	220	530	72	1770	2.1	280	670	
C 21 2_	26.7	131	1500	3.3	150	540	66	1770	1.9	230	690	
C 21 2_	29.6	118	1550	3.1	190	560	59	1770	1.7	300	740	
C 21 2_	33.1	106	1590	2.8	120	580	53	1770	1.6	250	770	
C 21 2_	36.8	95	1640	2.6	170	600	48	1770	1.4	310	810	
C 21 2_	39.0	90	1460	2.2	190	650	45	1500	1.1	370	870	
C 21 2_	43.3	81	1640	2.2	190	650	40	1680	1.1	360	890	
C 21 2_	49.3	71	1190	1.4	300	770	35	1240	0.74	400	1010	
C 21 2_	54.7	64	1330	1.4	300	780	32	1370	0.73	400	1030	
C 21 2_	57.0	61	970	0.99	320	850	31	1020	0.52	410	1110	
C 21 2_	63.3	55	1110	1.0	310	870	27.6	1150	0.53	410	1120	
C 21 3_	58.8	60	1590	1.61	200	760	29.8	800	0.41	280	1010	
C 21 3_	65.3	54	1770	1.62	200	770	26.8	1770	0.81	290	1050	
C 21 3_	74.4	47	1770	1.42	220	820	23.5	1770	0.71	290	1110	
C 21 3_	82.6	42	1770	1.28	230	860	21.2	1770	0.64	290	1120	
C 21 3_	90.2	39	1770	1.17	240	890	19.4	1770	0.59	290	1120	
C 21 3_	100.2	35	1770	1.05	250	940	17.5	1770	0.53	290	1120	
C 21 3_	110.0	32	1770	0.96	250	970	15.9	1770	0.48	290	1120	
C 21 3_	122.2	28.6	1770	0.86	260	1020	14.3	1770	0.43	290	1120	
C 21 3_	136.6	25.6	1770	0.77	270	1070	12.8	1770	0.39	290	1120	
C 21 3_	151.7	23.1	1770	0.70	270	1120	11.5	1770	0.35	290	1120	
C 21 3_	160.7	21.8	1730	0.64	280	1120	10.9	1770	0.33	290	1120	
C 21 3_	178.5	19.6	1770	0.59	280	1120	9.8	1770	0.30	290	1120	
C 21 3_	203.2	17.2	1420	0.42	290	1120	8.6	1460	0.21	290	1120	
C 21 3_	225.8	15.5	1590	0.42	290	1120	7.8	1640	0.22	290	1120	
C 21 3_	235.0	14.9	1150	0.29	290	1120	7.4	1240	0.16	290	1120	
C 21 3_	261.0	13.4	1280	0.29	290	1120	6.7	1370	0.16	290	1120	

(—) Contact our Technical Service advising radial load data (rotation CW/CCW, orientation, offset)

# C 21


1,770 lb·in

 i (ratio)	$n_1 = 1100$ rpm					$n_1 = 600$ rpm				
	$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]	$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]
<b>C 21 2_ 2.7</b>	407	840	5.7	—	380	222	890	3.3	90	480
<b>C 21 2_ 3.7</b>	297	930	4.6	—	420	162	930	2.5	180	550
<b>C 21 2_ 4.8</b>	229	930	3.6	40	470	125	930	1.9	270	610
<b>C 21 2_ 6.1</b>	180	970	2.9	40	510	98	1030	1.7	220	660
<b>C 21 2_ 6.4</b>	172	1280	3.7	320	500	94	1550	2.4	400	610
<b>C 21 2_ 7.1</b>	155	1330	3.4	370	520	85	1590	2.2	460	630
<b>C 21 2_ 8.7</b>	126	1460	3.1	320	550	69	1770	2.0	390	670
<b>C 21 2_ 9.7</b>	113	1500	2.8	370	570	62	1770	1.8	480	700
<b>C 21 2_ 11.2</b>	98	1590	2.6	310	590	54	1770	1.6	460	750
<b>C 21 2_ 12.4</b>	89	1640	2.4	370	620	48	1770	1.4	490	790
<b>C 21 2_ 14.3</b>	77	1730	2.2	290	640	42	1770	1.2	490	840
<b>C 21 2_ 15.8</b>	70	1770	2.1	360	670	38	1770	1.1	490	880
<b>C 21 2_ 18.0</b>	61	1770	1.8	320	710	33	1770	0.99	490	930
<b>C 21 2_ 20.0</b>	55	1770	1.6	390	750	30	1770	0.89	490	980
<b>C 21 2_ 21.9</b>	50	1770	1.5	360	780	27.4	1770	0.81	490	1010
<b>C 21 2_ 24.3</b>	45	1770	1.3	430	820	24.7	1770	0.73	490	1060
<b>C 21 2_ 26.7</b>	41	1770	1.2	380	850	22.5	1770	0.66	490	1100
<b>C 21 2_ 29.6</b>	37	1770	1.1	450	900	20.3	1770	0.60	490	1120
<b>C 21 2_ 33.1</b>	33	1770	0.98	390	940	18.1	1770	0.54	490	1120
<b>C 21 2_ 36.8</b>	29.9	1770	0.88	450	990	16.3	1770	0.48	490	1120
<b>C 21 2_ 39.0</b>	28.2	1500	0.71	450	1050	15.4	1500	0.39	490	1120
<b>C 21 2_ 43.3</b>	25.4	1680	0.71	450	1070	13.9	1680	0.39	490	1120
<b>C 21 2_ 49.3</b>	22.3	1280	0.48	470	1120	12.2	1370	0.28	490	1120
<b>C 21 2_ 54.7</b>	20.1	1420	0.48	470	1120	11.0	1500	0.27	490	1120
<b>C 21 2_ 57.0</b>	19.3	1060	0.34	480	1120	10.5	1110	0.20	490	1120
<b>C 21 2_ 63.3</b>	17.4	1190	0.35	480	1120	9.5	1240	0.20	490	1120
<b>C 21 3_ 58.8</b>	18.7	1770	0.56	290	1120	10.2	1770	0.31	290	1120
<b>C 21 3_ 65.3</b>	16.8	1770	0.51	290	1120	9.2	1770	0.28	290	1120
<b>C 21 3_ 74.4</b>	14.8	1770	0.45	290	1120	8.1	1770	0.24	290	1120
<b>C 21 3_ 82.6</b>	13.3	1770	0.40	290	1120	7.3	1770	0.22	290	1120
<b>C 21 3_ 90.2</b>	12.2	1770	0.37	290	1120	6.7	1770	0.20	290	1120
<b>C 21 3_ 100.2</b>	11.0	1770	0.33	290	1120	6.0	1770	0.18	290	1120
<b>C 21 3_ 110.0</b>	10.0	1770	0.30	290	1120	5.5	1770	0.16	290	1120
<b>C 21 3_ 122.2</b>	9.0	1770	0.27	290	1120	4.9	1770	0.15	290	1120
<b>C 21 3_ 136.6</b>	8.1	1770	0.24	290	1120	4.4	1770	0.13	290	1120
<b>C 21 3_ 151.7</b>	7.3	1770	0.22	290	1120	4.0	1770	0.12	290	1120
<b>C 21 3_ 160.7</b>	6.8	1770	0.21	290	1120	3.7	1770	0.11	290	1120
<b>C 21 3_ 178.5</b>	6.2	1770	0.19	290	1120	3.4	1770	0.10	290	1120
<b>C 21 3_ 203.2</b>	5.4	1500	0.14	290	1120	3.0	1590	0.08	290	1120
<b>C 21 3_ 225.8</b>	4.9	1730	0.14	290	1120	2.7	1770	0.08	290	1120
<b>C 21 3_ 235.0</b>	4.7	1240	0.10	290	1120	2.6	1330	0.06	290	1120
<b>C 21 3_ 261.0</b>	4.2	1420	0.10	290	1120	2.3	1460	0.06	290	1120

(—) Contact our Technical Service advising radial load data (rotation CW/CCW, orientation, offset)

# C 31

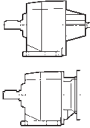
**2,660 lb·in**

	i (ratio)	n <sub>1</sub> = 3500 rpm					n <sub>1</sub> = 1750 rpm				
		n <sub>2</sub> [rpm]	T <sub>n2</sub> [lb·in]	P <sub>n1</sub> [hp]	R <sub>n1</sub> [lb]	R <sub>n2</sub> [lb]	n <sub>2</sub> [rpm]	T <sub>n2</sub> [lb·in]	P <sub>n1</sub> [hp]	R <sub>n1</sub> [lb]	R <sub>n2</sub> [lb]
C 31 2_	2.9	1207	930	18.7	—	380	603	1150	11.6	—	490
C 31 2_	3.7	946	1060	16.7	—	410	473	1330	10.5	—	520
C 31 2_	5.0	700	1190	13.9	—	450	350	1370	8.0	—	580
C 31 2_	6.3	556	1330	12.3	—	480	278	1370	6.4	—	650
C 31 2_	6.5	538	1370	12.3	420	510	269	1730	7.8	490	650
C 31 2_	7.2	486	1420	11.5	420	530	243	1770	7.2	490	670
C 31 2_	8.4	417	1500	10.4	420	560	208	1900	6.6	490	700
C 31 2_	9.3	376	1550	9.7	430	580	188	1950	6.1	490	730
C 31 2_	11.1	315	1680	8.8	420	610	158	2120	5.6	490	760
C 31 2_	12.3	285	1730	8.2	430	630	142	2170	5.2	490	800
C 31 2_	14.0	250	1810	7.6	420	660	125	2300	4.8	490	830
C 31 2_	15.6	224	1900	7.1	430	680	112	2390	4.5	490	860
C 31 2_	18.1	193	1990	6.4	420	710	97	2520	4.1	490	900
C 31 2_	20.1	174	2080	6.0	430	740	87	2610	3.8	490	940
C 31 2_	22.6	155	2170	5.6	420	770	77	2660	3.4	490	970
C 31 2_	25.1	139	2210	5.1	420	800	70	2660	3.1	490	1030
C 31 2_	26.8	131	2300	5.0	410	810	65	2660	2.9	490	1050
C 31 2_	29.8	117	2350	4.6	420	850	59	2660	2.6	490	1110
C 31 2_	32.5	108	2430	4.4	400	870	54	2660	2.4	490	1140
C 31 2_	36.1	97	2480	4.0	420	910	48	2660	2.2	490	1200
C 31 2_	40.7	86	2610	3.7	360	940	43	2660	1.9	490	1240
C 31 2_	45.3	77	2660	3.4	420	980	39	2660	1.7	490	1240
C 31 2_	47.2	74	2660	3.3	360	990	37	2660	1.6	490	1240
C 31 2_	52.4	67	2660	3.0	420	1050	33	2660	1.5	490	1240
C 31 2_	60.2	58	1590	1.5	460	1240	29.1	1680	0.82	490	1240
C 31 2_	66.8	52	1810	1.6	450	1240	26.2	1900	0.83	490	1240
C 31 3_	74.3	47	2430	2.0	180	1240	23.6	2660	1.1	260	1240
C 31 3_	82.6	42	2660	1.9	180	1240	21.2	2660	0.96	280	1240
C 31 3_	93.0	38	2570	1.7	210	1240	18.8	2660	0.85	290	1240
C 31 3_	103.3	34	2660	1.5	220	1240	16.9	2660	0.77	290	1240
C 31 3_	110.2	32	2660	1.4	230	1240	15.9	2660	0.72	290	1240
C 31 3_	122.4	28.6	2660	1.3	240	1240	14.3	2660	0.65	290	1240
C 31 3_	133.6	26.2	2660	1.2	250	1240	13.1	2660	0.59	290	1240
C 31 3_	148.4	23.6	2660	1.1	250	1240	11.8	2660	0.54	290	1240
C 31 3_	167.5	20.9	2660	0.95	260	1240	10.4	2660	0.47	290	1240
C 31 3_	186.0	18.8	2660	0.85	270	1240	9.4	2660	0.43	290	1240
C 31 3_	194.1	18.0	2480	0.76	280	1240	9.0	2610	0.40	290	1240
C 31 3_	215.6	16.2	2660	0.74	280	1240	8.1	2660	0.37	290	1240
C 31 3_	247.3	14.2	1900	0.46	290	1240	7.1	1990	0.24	290	1240
C 31 3_	274.7	12.7	2120	0.46	290	1240	6.4	2260	0.25	290	1240

(—) Contact our Technical Service advising radial load data (rotation CW/CCW, orientation, offset)

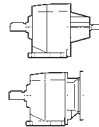
## C 31

**2,660 lb-in**

 i (ratio)	$n_1 = 1100$ rpm					$n_1 = 600$ rpm				
	$n_2$ [rpm]	$T_{n2}$ [lb-in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]	$n_2$ [rpm]	$T_{n2}$ [lb-in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]
<b>C 31 2_ 2.9</b>	379	1330	8.4	—	560	207	1370	4.7	490	720
<b>C 31 2_ 3.7</b>	297	1370	6.8	—	630	162	1550	4.2	490	780
<b>C 31 2_ 5.0</b>	220	1430	5.3	420	700	120	1750	3.5	490	850
<b>C 31 2_ 6.3</b>	175	1580	4.6	390	750	95	1770	2.8	490	940
<b>C 31 2_ 6.5</b>	169	1990	5.6	490	750	92	2430	3.7	490	910
<b>C 31 2_ 7.2</b>	153	2080	5.3	490	780	83	2520	3.5	490	940
<b>C 31 2_ 8.4</b>	131	2210	4.8	490	810	71	2660	3.2	490	990
<b>C 31 2_ 9.3</b>	118	2300	4.5	490	840	65	2660	2.9	490	1040
<b>C 31 2_ 11.1</b>	99	2480	4.1	490	880	54	2660	2.4	490	1120
<b>C 31 2_ 12.3</b>	89	2520	3.8	490	930	49	2660	2.2	490	1180
<b>C 31 2_ 14.0</b>	79	2660	3.5	490	960	43	2660	1.9	490	1240
<b>C 31 2_ 15.6</b>	71	2660	3.1	490	1010	38	2660	1.7	490	1240
<b>C 31 2_ 18.1</b>	61	2660	2.7	490	1070	33	2660	1.5	490	1240
<b>C 31 2_ 20.1</b>	55	2660	2.4	490	1130	29.9	2660	1.3	490	1240
<b>C 31 2_ 22.6</b>	49	2660	2.2	490	1180	26.5	2660	1.2	490	1240
<b>C 31 2_ 25.1</b>	44	2660	1.9	490	1240	23.9	2660	1.1	490	1240
<b>C 31 2_ 26.8</b>	41	2660	1.8	490	1240	22.4	2660	0.99	490	1240
<b>C 31 2_ 29.8</b>	37	2660	1.6	490	1240	20.1	2660	0.89	490	1240
<b>C 31 2_ 32.5</b>	34	2660	1.5	490	1240	18.5	2660	0.82	490	1240
<b>C 31 2_ 36.1</b>	30	2660	1.4	490	1240	16.6	2660	0.74	490	1240
<b>C 31 2_ 40.7</b>	27.0	2660	1.2	490	1240	14.7	2660	0.65	490	1240
<b>C 31 2_ 45.3</b>	24.3	2660	1.1	490	1240	13.2	2660	0.59	490	1240
<b>C 31 2_ 47.2</b>	23.3	2660	1.0	490	1240	12.7	2660	0.56	490	1240
<b>C 31 2_ 52.4</b>	21.0	2660	0.93	490	1240	11.5	2660	0.51	490	1240
<b>C 31 2_ 60.2</b>	18.3	1770	0.54	490	1240	10.0	1810	0.30	490	1240
<b>C 31 2_ 66.8</b>	16.5	1950	0.54	490	1240	9.0	2040	0.31	490	1240
<b>C 31 3_ 74.3</b>	14.8	2660	0.67	290	1240	8.1	2660	0.37	290	1240
<b>C 31 3_ 82.6</b>	13.3	2660	0.60	290	1240	7.3	2660	0.33	290	1240
<b>C 31 3_ 93.0</b>	11.8	2660	0.54	290	1240	6.5	2660	0.29	290	1240
<b>C 31 3_ 103.3</b>	10.6	2660	0.48	290	1240	5.8	2660	0.26	290	1240
<b>C 31 3_ 110.2</b>	10.0	2660	0.45	290	1240	5.4	2660	0.25	290	1240
<b>C 31 3_ 122.4</b>	9.0	2660	0.41	290	1240	4.9	2660	0.22	290	1240
<b>C 31 3_ 133.6</b>	8.2	2660	0.37	290	1240	4.5	2660	0.20	290	1240
<b>C 31 3_ 148.4</b>	7.4	2660	0.34	290	1240	4.0	2660	0.18	290	1240
<b>C 31 3_ 167.5</b>	6.6	2660	0.30	290	1240	3.6	2660	0.16	290	1240
<b>C 31 3_ 186.0</b>	5.9	2660	0.27	290	1240	3.2	2660	0.15	290	1240
<b>C 31 3_ 194.1</b>	5.7	2660	0.26	290	1240	3.1	2660	0.14	290	1240
<b>C 31 3_ 215.6</b>	5.1	2660	0.23	290	1240	2.8	2660	0.13	290	1240
<b>C 31 3_ 247.3</b>	4.4	2080	0.16	290	1240	2.4	2170	0.09	290	1240
<b>C 31 3_ 274.7</b>	4.0	2300	0.16	290	1240	2.2	2430	0.09	290	1240

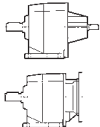
# C 35

**3,980 lb·in**

	i (ratio)	$n_1 = 3500$ rpm					$n_1 = 1750$ rpm				
		$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]	$n_2$ [rpm]	$M_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]
C 35 2_	2.7	1296	1240	27	150	390	648	1500	16.2	260	500
C 35 2_	3.5	1000	1330	22	200	430	500	1640	13.7	300	550
C 35 2_	4.6	761	1460	18.6	210	470	380	1770	11.2	330	610
C 35 2_	5.8	603	1500	15.1	260	520	302	1770	8.9	450	680
C 35 2_	6.1	574	2430	23.3	360	460	287	3050	14.6	450	580
C 35 2_	6.8	515	2520	21.7	390	480	257	3140	13.5	500	610
C 35 2_	7.9	443	2700	20.0	360	490	222	3360	12.4	470	630
C 35 2_	8.8	398	2740	18.2	400	520	199	3360	11.2	510	670
C 35 2_	10.5	333	2960	16.5	360	540	167	3360	9.4	510	730
C 35 2_	11.7	299	3010	15.0	400	580	150	3360	8.4	530	780
C 35 2_	13.3	263	3140	13.8	370	600	132	3360	7.4	530	820
C 35 2_	14.8	236	3190	12.6	400	630	118	3360	6.6	550	870
C 35 2_	17.1	205	3360	11.5	370	650	102	3360	5.7	540	930
C 35 2_	19.0	184	3360	10.3	410	700	92	3360	5.2	560	990
C 35 3_	20.2	173	2790	8.2	520	790	87	3500	5.2	650	990
C 35 3_	22.1	158	3010	8.1	520	800	79	3810	5.1	650	1010
C 35 3_	26.2	134	3140	7.2	520	850	67	3980	4.5	650	1060
C 35 3_	28.7	122	3410	7.1	520	860	61	3980	4.1	660	1120
C 35 3_	34.7	101	3500	6.0	520	920	50	3980	3.4	660	1220
C 35 3_	38.1	92	3850	6.0	520	930	46	3980	3.1	670	1280
C 35 3_	43.9	80	3810	5.2	520	1000	40	3980	2.7	670	1360
C 35 3_	48.2	73	3980	4.9	520	1030	36	3980	2.5	670	1420
C 35 3_	56.5	62	3980	4.2	520	1100	31	3980	2.1	670	1460
C 35 3_	62.0	56	3980	3.8	520	1160	28.2	3980	1.9	670	1460
C 35 3_	70.7	50	3980	3.4	520	1230	24.8	3980	1.7	670	1460
C 35 3_	77.6	45	3980	3.1	530	1290	22.6	3980	1.5	670	1460
C 35 3_	83.8	42	3980	2.8	520	1330	20.9	3980	1.4	670	1460
C 35 3_	91.9	38	3980	2.6	530	1390	19.0	3980	1.3	670	1460
C 35 3_	101.6	34	3980	2.3	530	1450	17.2	3980	1.2	670	1460
C 35 3_	111.5	31	3980	2.1	530	1460	15.7	3980	1.1	670	1460
C 35 3_	127.3	27.5	3980	1.9	530	1460	13.7	3980	0.93	670	1460
C 35 3_	139.8	25.0	3980	1.7	530	1460	12.5	3980	0.85	670	1460
C 35 3_	147.6	23.7	3980	1.6	530	1460	11.9	3980	0.81	670	1460
C 35 3_	162.0	21.6	3980	1.5	540	1460	10.8	3980	0.73	670	1460
C 35 3_	188.0	18.6	3980	1.3	530	1460	9.3	3980	0.63	670	1460
C 35 3_	206.4	17.0	3980	1.2	540	1460	8.5	3980	0.58	670	1460
C 35 4_	232.3	15.1	3980	1.0	260	1460	7.5	3980	0.52	290	1460
C 35 4_	255.0	13.7	3980	0.95	270	1460	6.9	3980	0.48	290	1460
C 35 4_	290.6	12.0	3980	0.84	270	1460	6.0	3980	0.42	290	1460
C 35 4_	318.9	11.0	3980	0.76	280	1460	5.5	3980	0.38	290	1460
C 35 4_	344.3	10.2	3980	0.71	280	1460	5.1	3980	0.35	290	1460
C 35 4_	377.9	9.3	3980	0.64	280	1460	4.6	3980	0.32	290	1460
C 35 4_	417.6	8.4	3980	0.58	290	1460	4.2	3980	0.29	290	1460
C 35 4_	458.4	7.6	3980	0.53	290	1460	3.8	3980	0.26	290	1460
C 35 4_	523.5	6.7	3980	0.46	290	1460	3.3	3980	0.23	290	1460
C 35 4_	574.7	6.1	3980	0.42	290	1460	3.0	3980	0.21	290	1460
C 35 4_	606.6	5.8	3980	0.40	290	1460	2.9	3980	0.20	290	1460
C 35 4_	665.9	5.3	3980	0.36	290	1460	2.6	3980	0.18	290	1460
C 35 4_	773.0	4.5	3980	0.31	290	1460	2.3	3980	0.16	290	1460
C 35 4_	848.5	4.1	3980	0.29	290	1460	2.1	3980	0.14	290	1460

# C 35

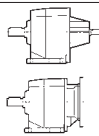
**3,980 lb·in**

	i (ratio)	n <sub>1</sub> = 1100 rpm					n <sub>1</sub> = 600 rpm				
		n <sub>2</sub> [rpm]	T <sub>n2</sub> [lb·in]	P <sub>n1</sub> [hp]	R <sub>n1</sub> [lb]	R <sub>n2</sub> [lb]	n <sub>2</sub> [rpm]	T <sub>n2</sub> [lb·in]	P <sub>n1</sub> [hp]	R <sub>n1</sub> [lb]	R <sub>n2</sub> [lb]
C 35 2_	2.7	407	1680	11.4	380	590	222	1770	6.6	670	760
C 35 2_	3.5	314	1770	9.3	490	660	171	1770	5.1	670	860
C 35 2_	4.6	239	1770	7.1	580	750	130	1770	3.9	670	970
C 35 2_	5.8	190	1770	5.6	600	830	103	1770	3.1	670	1070
C 35 2_	6.1	180	3360	10.1	570	690	98	3360	5.5	670	930
C 35 2_	6.8	162	3360	9.1	600	740	88	3360	5.0	670	990
C 35 2_	7.9	139	3360	7.8	600	790	76	3360	4.3	670	1050
C 35 2_	8.8	125	3360	7.0	630	840	68	3360	3.8	670	1120
C 35 2_	10.5	105	3360	5.9	630	910	57	3360	3.2	670	1200
C 35 2_	11.7	94	3360	5.3	650	970	51	3360	2.9	670	1270
C 35 2_	13.3	83	3360	4.6	650	1020	45	3360	2.5	670	1330
C 35 2_	14.8	74	3360	4.2	670	1080	41	3360	2.3	670	1400
C 35 2_	17.1	64	3360	3.6	660	1150	35	3360	2.0	670	1460
C 35 2_	19.0	58	3360	3.2	670	1210	32	3360	1.8	670	1460
C 35 3_	20.2	54	3980	3.7	670	1160	29.7	3980	2.0	670	1460
C 35 3_	22.1	50	3980	3.4	670	1220	27.1	3980	1.8	670	1460
C 35 3_	26.2	42	3980	2.9	670	1310	22.9	3980	1.6	670	1460
C 35 3_	28.7	38	3980	2.6	670	1380	20.9	3980	1.4	670	1460
C 35 3_	34.7	32	3980	2.2	670	1460	17.3	3980	1.2	670	1460
C 35 3_	38.1	28.9	3980	2.0	670	1460	15.7	3980	1.1	670	1460
C 35 3_	43.9	25.1	3980	1.7	670	1460	13.7	3980	0.93	670	1460
C 35 3_	48.2	22.8	3980	1.5	670	1460	12.4	3980	0.85	670	1460
C 35 3_	56.5	19.5	3980	1.3	670	1460	10.6	3980	0.72	670	1460
C 35 3_	62.0	17.7	3980	1.2	670	1460	9.7	3980	0.66	670	1460
C 35 3_	70.7	15.6	3980	1.1	670	1460	8.5	3980	0.58	670	1460
C 35 3_	77.6	14.2	3980	0.96	670	1460	7.7	3980	0.52	670	1460
C 35 3_	83.8	13.1	3980	0.89	670	1460	7.2	3980	0.49	670	1460
C 35 3_	91.9	12.0	3980	0.81	670	1460	6.5	3980	0.44	670	1460
C 35 3_	101.6	10.8	3980	0.74	670	1460	5.9	3980	0.40	670	1460
C 35 3_	111.5	9.9	3980	0.67	670	1460	5.4	3980	0.37	670	1460
C 35 3_	127.3	8.6	3980	0.59	670	1460	4.7	3980	0.32	670	1460
C 35 3_	139.8	7.9	3980	0.53	670	1460	4.3	3980	0.29	670	1460
C 35 3_	147.6	7.5	3980	0.51	670	1460	4.1	3980	0.28	670	1460
C 35 3_	162.0	6.8	3980	0.46	670	1460	3.7	3980	0.25	670	1460
C 35 3_	188.0	5.9	3980	0.40	670	1460	3.2	3980	0.22	670	1460
C 35 3_	206.4	5.3	3980	0.36	670	1460	2.9	3980	0.20	670	1460
C 35 4_	232.3	4.7	3980	0.33	290	1460	2.6	3980	0.18	290	1460
C 35 4_	255.0	4.3	3980	0.30	290	1460	2.4	3980	0.16	290	1460
C 35 4_	290.6	3.8	3980	0.26	290	1460	2.1	3980	0.14	290	1460
C 35 4_	318.9	3.4	3980	0.24	290	1460	1.9	3980	0.13	290	1460
C 35 4_	344.3	3.2	3980	0.22	290	1460	1.7	3980	0.12	290	1460
C 35 4_	377.9	2.9	3980	0.20	290	1460	1.6	3980	0.11	290	1460
C 35 4_	417.6	2.6	3980	0.18	290	1460	1.4	3980	0.10	290	1460
C 35 4_	458.4	2.4	3980	0.17	290	1460	1.3	3980	0.09	290	1460
C 35 4_	523.5	2.1	3980	0.15	290	1460	1.1	3980	0.08	290	1460
C 35 4_	574.7	1.9	3980	0.13	290	1460	1.0	3980	0.07	290	1460
C 35 4_	606.6	1.8	3980	0.13	290	1460	0.99	3980	0.07	290	1460
C 35 4_	665.9	1.7	3980	0.11	290	1460	0.90	3980	0.06	290	1460
C 35 4_	773.0	1.4	3980	0.10	290	1460	0.78	3980	0.05	290	1460
C 35 4_	848.5	1.3	3980	0.09	290	1460	0.71	3980	0.05	290	1460



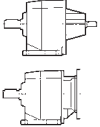
# C 41

**5,310 lb·in**

	i (ratio)	n <sub>1</sub> = 3500 rpm					n <sub>1</sub> = 1750 rpm				
		n <sub>2</sub> [rpm]	T <sub>n2</sub> [lb·in]	P <sub>n1</sub> [hp]	R <sub>n1</sub> [lb]	R <sub>n2</sub> [lb]	n <sub>2</sub> [rpm]	T <sub>n2</sub> [lb·in]	P <sub>n1</sub> [hp]	R <sub>n1</sub> [lb]	R <sub>n2</sub> [lb]
C 41 2_	2.7	1296	2170	47	220	290	648	2170	23	310	460
C 41 2_	3.6	972	2260	37	240	350	486	2260	18.3	370	540
C 41 2_	4.7	745	2300	29	260	400	372	2300	14.3	450	610
C 41 2_	6.0	583	2300	22	290	470	292	2300	11.2	540	700
C 41 2_	6.4	547	2430	22	510	580	273	3050	13.9	640	730
C 41 2_	7.1	493	2520	21	530	610	246	3140	12.9	670	770
C 41 2_	8.6	407	2700	18.4	520	640	203	3410	11.6	650	810
C 41 2_	9.6	365	2740	16.7	540	680	182	3450	10.5	680	850
C 41 2_	11.2	313	2960	15.4	520	700	156	3720	9.7	650	880
C 41 2_	12.4	282	3010	14.2	550	740	141	3760	8.9	690	930
C 41 2_	14.2	246	3140	12.9	520	770	123	3940	8.1	670	970
C 41 2_	15.8	222	3190	11.8	550	810	111	3980	7.4	700	1020
C 41 2_	17.8	197	3360	11.0	520	830	98	4250	7.0	690	1040
C 41 2_	19.8	177	3410	10.1	550	870	88	4290	6.3	710	1100
C 41 2_	22.6	155	3630	9.4	520	900	77	4430	5.7	700	1150
C 41 2_	25.0	140	3670	8.6	550	950	70	4430	5.2	730	1220
C 41 2_	28.3	124	3940	8.1	520	960	62	4430	4.6	710	1280
C 41 2_	31.4	111	3940	7.3	550	1020	56	4430	4.1	740	1360
C 41 2_	33.4	105	4120	7.2	540	1030	52	4430	3.9	720	1390
C 41 2_	37.1	94	4160	6.6	550	1080	47	4430	3.5	750	1470
C 41 2_	44.8	78	4430	5.8	600	1150	39	4430	2.9	790	1570
C 41 3_	28.5	123	3940	8.3	690	970	61	4960	5.2	790	1220
C 41 3_	31.2	112	3980	7.6	690	1010	56	5040	4.8	790	1270
C 41 3_	36.8	95	4250	6.9	690	1060	48	5310	4.3	790	1340
C 41 3_	40.3	87	4290	6.4	700	1110	43	5310	3.9	790	1410
C 41 3_	47.0	74	4560	5.8	690	1160	37	5310	3.4	790	1510
C 41 3_	51.5	68	4650	5.4	690	1200	34	5310	3.1	790	1570
C 41 3_	58.7	60	4870	5.0	690	1250	29.8	5310	2.7	790	1570
C 41 3_	64.3	54	4960	4.6	690	1300	27.2	5310	2.5	790	1570
C 41 3_	74.4	47	5220	4.2	690	1360	23.5	5310	2.1	790	1570
C 41 3_	81.5	43	5310	3.9	690	1420	21.5	5310	1.9	790	1570
C 41 3_	93.3	38	5310	3.4	690	1510	18.8	5310	1.7	790	1570
C 41 3_	102.3	34	5310	3.1	700	1570	17.1	5310	1.5	790	1570
C 41 3_	110.1	32	5310	2.9	690	1570	15.9	5310	1.4	790	1570
C 41 3_	120.6	29.0	5310	2.6	700	1570	14.5	5310	1.3	790	1570
C 41 3_	132.9	26.3	5310	2.4	690	1570	13.2	5310	1.2	790	1570
C 41 3_	145.6	24.0	5310	2.2	700	1570	12.0	5310	1.1	790	1570
C 41 3_	164.1	21.3	5310	1.9	700	1570	10.7	5310	0.97	790	1570
C 41 3_	179.9	19.5	5310	1.8	700	1570	9.7	5310	0.88	790	1570
C 41 3_	190.8	18.3	5310	1.7	700	1570	9.2	5310	0.83	790	1570
C 41 3_	209.1	16.7	5310	1.5	700	1570	8.4	5310	0.76	790	1570
C 41 4_	239.9	14.6	5310	1.4	330	1570	7.3	5310	0.68	430	1570
C 41 4_	263.0	13.3	5310	1.2	340	1570	6.7	5310	0.62	430	1570
C 41 4_	304.2	11.5	5310	1.1	340	1570	5.8	5310	0.53	440	1570
C 41 4_	333.4	10.5	5310	1.0	340	1570	5.2	5310	0.49	440	1570
C 41 4_	381.8	9.2	5310	0.85	350	1570	4.6	5310	0.42	440	1570
C 41 4_	418.5	8.4	5310	0.77	350	1570	4.2	5310	0.39	450	1570
C 41 4_	450.2	7.8	5310	0.72	350	1570	3.9	5310	0.36	450	1570
C 41 4_	493.5	7.1	5310	0.66	350	1570	3.5	5310	0.33	450	1570
C 41 4_	543.5	6.4	5310	0.60	350	1570	3.2	5310	0.30	450	1570
C 41 4_	595.8	5.9	5310	0.54	360	1570	2.9	5310	0.27	450	1570
C 41 4_	671.3	5.2	5310	0.48	360	1570	2.6	5310	0.24	450	1570
C 41 4_	735.9	4.8	5310	0.44	360	1570	2.4	5310	0.22	450	1570
C 41 4_	780.4	4.5	5310	0.42	360	1570	2.2	5310	0.21	460	1570
C 41 4_	855.5	4.1	5310	0.38	360	1570	2.0	5310	0.19	460	1570

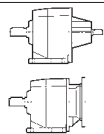
# C 41

**5,310 lb·in**

	i (ratio)	$n_1 = 1100$ rpm					$n_1 = 600$ rpm				
		$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]	$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]
C 41 2_	2.7	407	2170	14.8	580	600	222	2170	8.1	790	810
C 41 2_	3.6	306	2260	11.5	610	690	167	2260	6.3	790	920
C 41 2_	4.7	234	2300	9.0	650	770	128	2300	4.9	790	1030
C 41 2_	6.0	183	2300	7.0	690	870	100	2300	3.8	790	1150
C 41 2_	6.4	172	3540	10.2	740	850	94	4340	6.8	790	1030
C 41 2_	7.1	155	3670	9.5	780	890	85	4430	6.3	790	1080
C 41 2_	8.6	128	3940	8.4	760	940	70	4430	5.2	790	1190
C 41 2_	9.6	115	3980	7.6	790	990	63	4430	4.6	790	1260
C 41 2_	11.2	98	4340	7.1	790	1020	54	4430	4.0	790	1340
C 41 2_	12.4	89	4380	6.5	790	1070	48	4430	3.6	790	1420
C 41 2_	14.2	77	4430	5.7	790	1140	42	4430	3.1	790	1510
C 41 2_	15.8	70	4430	5.2	790	1210	38	4430	2.8	790	1570
C 41 2_	17.8	62	4430	4.6	790	1270	34	4430	2.5	790	1570
C 41 2_	19.8	56	4430	4.1	790	1340	30	4430	2.2	790	1570
C 41 2_	22.6	49	4430	3.6	790	1420	26.5	4430	2.0	790	1570
C 41 2_	25.0	44	4430	3.3	790	1500	24.0	4430	1.8	790	1570
C 41 2_	28.3	39	4430	2.9	790	1570	21.2	4430	1.6	790	1570
C 41 2_	31.4	35	4430	2.6	790	1570	19.1	4430	1.4	790	1570
C 41 2_	33.4	33	4430	2.4	790	1570	18.0	4430	1.3	790	1570
C 41 2_	37.1	29.6	4430	2.2	790	1570	16.2	4430	1.2	790	1570
C 41 2_	44.8	24.6	4430	1.8	790	1570	13.4	4430	0.99	790	1570
C 41 3_	28.5	39	5310	3.5	790	1470	21.1	5310	1.9	790	1570
C 41 3_	31.2	35	5310	3.2	790	1540	19.2	5310	1.7	790	1570
C 41 3_	36.8	29.9	5310	2.7	790	1570	16.3	5310	1.5	790	1570
C 41 3_	40.3	27.3	5310	2.5	790	1570	14.9	5310	1.3	790	1570
C 41 3_	47.0	23.4	5310	2.1	790	1570	12.8	5310	1.2	790	1570
C 41 3_	51.5	21.4	5310	1.9	790	1570	11.7	5310	1.1	790	1570
C 41 3_	58.7	18.7	5310	1.7	790	1570	10.2	5310	0.93	790	1570
C 41 3_	64.3	17.1	5310	1.5	790	1570	9.3	5310	0.85	790	1570
C 41 3_	74.4	14.8	5310	1.3	790	1570	8.1	5310	0.73	790	1570
C 41 3_	81.5	13.5	5310	1.2	790	1570	7.4	5310	0.67	790	1570
C 41 3_	93.3	11.8	5310	1.1	790	1570	6.4	5310	0.58	790	1570
C 41 3_	102.3	10.8	5310	0.97	790	1570	5.9	5310	0.53	790	1570
C 41 3_	110.1	10.0	5310	0.91	790	1570	5.4	5310	0.49	790	1570
C 41 3_	120.6	9.1	5310	0.83	790	1570	5.0	5310	0.45	790	1570
C 41 3_	132.9	8.3	5310	0.75	790	1570	4.5	5310	0.41	790	1570
C 41 3_	145.6	7.6	5310	0.68	790	1570	4.1	5310	0.37	790	1570
C 41 3_	164.1	6.7	5310	0.61	790	1570	3.7	5310	0.33	790	1570
C 41 3_	179.9	6.1	5310	0.55	790	1570	3.3	5310	0.30	790	1570
C 41 3_	190.8	5.8	5310	0.52	790	1570	3.1	5310	0.28	790	1570
C 41 3_	209.1	5.3	5310	0.48	790	1570	2.9	5310	0.26	790	1570
C 41 4_	239.9	4.6	5310	0.42	490	1570	2.5	5310	0.23	490	1570
C 41 4_	263.0	4.2	5310	0.39	490	1570	2.3	5310	0.21	490	1570
C 41 4_	304.2	3.6	5310	0.33	490	1570	2.0	5310	0.18	490	1570
C 41 4_	333.4	3.3	5310	0.31	490	1570	1.8	5310	0.17	490	1570
C 41 4_	381.8	2.9	5310	0.27	490	1570	1.6	5310	0.15	490	1570
C 41 4_	418.5	2.6	5310	0.24	490	1570	1.4	5310	0.13	490	1570
C 41 4_	450.2	2.4	5310	0.23	490	1570	1.3	5310	0.12	490	1570
C 41 4_	493.5	2.2	5310	0.21	490	1570	1.2	5310	0.11	490	1570
C 41 4_	543.5	2.0	5310	0.19	490	1570	1.1	5310	0.10	490	1570
C 41 4_	595.8	1.8	5310	0.17	490	1570	1.0	5310	0.09	490	1570
C 41 4_	671.3	1.6	5310	0.15	490	1570	0.89	5310	0.08	490	1570
C 41 4_	735.9	1.5	5310	0.14	490	1570	0.82	5310	0.08	490	1570
C 41 4_	780.4	1.4	5310	0.13	490	1570	0.77	5310	0.07	490	1570
C 41 4_	855.5	1.3	5310	0.12	490	1570	0.70	5310	0.06	490	1570

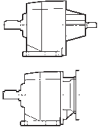
# C 51

8,850 lb·in

	i (ratio)	n <sub>1</sub> = 3500 rpm					n <sub>1</sub> = 1750 rpm				
		n <sub>2</sub> [rpm]	T <sub>n2</sub> [lb·in]	P <sub>n1</sub> [hp]	R <sub>n1</sub> [lb]	R <sub>n2</sub> [lb]	n <sub>2</sub> [rpm]	T <sub>n2</sub> [lb·in]	P <sub>n1</sub> [hp]	R <sub>n1</sub> [lb]	R <sub>n2</sub> [lb]
C 51 2_	2.6	1346	2790	63	220	750	673	3540	40	310	940
C 51 2_	3.3	1061	3010	53	240	810	530	3720	33	370	1030
C 51 2_	4.5	778	3270	42	260	900	389	3850	25	450	1160
C 51 2_	5.6	625	3450	36	290	980	313	3850	20	540	1290
C 51 2_	7.0	500	4430	37	510	1070	250	5580	23	640	1350
C 51 2_	7.8	449	4510	34	530	1110	224	5660	21	670	1400
C 51 2_	8.8	398	4820	32	520	1150	199	6060	20	650	1450
C 51 2_	9.8	357	4820	29	540	1200	179	6060	18.1	680	1520
C 51 2_	11.8	297	5400	27	520	1260	148	6810	16.9	650	1590
C 51 2_	13.1	267	5270	24	550	1330	134	6640	14.8	690	1680
C 51 2_	15.0	233	5840	23	520	1370	117	7080	13.8	670	1750
C 51 2_	16.6	211	5660	19.9	550	1440	105	7040	12.4	700	1830
C 51 2_	18.9	185	6150	19.0	520	1490	93	7080	10.9	690	1940
C 51 2_	21.0	167	5970	16.6	550	1570	83	7040	9.8	710	2030
C 51 2_	23.4	150	6500	16.2	520	1610	75	7080	8.8	700	2130
C 51 2_	25.9	135	6330	14.3	550	1700	68	7040	7.9	730	2220
C 51 2_	29.8	117	7040	13.8	520	1750	59	7080	6.9	710	2250
C 51 2_	33.0	106	6860	12.2	550	1840	53	7040	6.2	740	2250
C 51 2_	36.4	96	6640	10.7	540	1950	48	6990	5.6	720	2250
C 51 2_	40.4	87	7040	10.2	550	1990	43	7040	5.1	750	2250
C 51 2_	43.1	81	6460	8.8	550	2110	41	6810	4.6	740	2250
C 51 2_	47.8	73	7080	8.7	550	2140	37	7080	4.3	750	2250
C 51 2_	51.4	68	5890	6.7	570	2250	34	6200	3.5	760	2250
C 51 2_	57.0	61	6590	6.8	570	2250	31	6950	3.6	760	2250
C 51 3_	21.8	161	6370	17.4	650	1560	80	8010	11.0	790	1970
C 51 3_	23.9	146	6460	16.1	650	1630	73	8140	10.2	790	2050
C 51 3_	27.4	128	6810	14.8	650	1690	64	8580	9.3	790	2130
C 51 3_	30.1	116	6900	13.7	660	1760	58	8850	8.8	790	2210
C 51 3_	37.0	95	7430	12.0	650	1870	47	8850	7.1	790	2250
C 51 3_	40.5	86	7570	11.2	660	1950	43	8850	6.5	790	2250
C 51 3_	46.7	75	8010	10.2	660	2030	37	8850	5.7	790	2250
C 51 3_	51.2	68	8140	9.5	660	2110	34	8850	5.2	790	2250
C 51 3_	59.0	59	8580	8.7	650	2200	29.7	8850	4.5	790	2250
C 51 3_	64.6	54	8850	8.2	660	2250	27.1	8850	4.1	790	2250
C 51 3_	72.9	48	8850	7.2	660	2250	24.0	8850	3.6	790	2250
C 51 3_	79.9	44	8850	6.6	670	2250	21.9	8850	3.3	790	2250
C 51 3_	93.0	38	8850	5.7	660	2250	18.8	8850	2.8	790	2250
C 51 3_	101.8	34	8850	5.2	670	2250	17.2	8850	2.6	790	2250
C 51 3_	113.6	31	8850	4.7	670	2250	15.4	8850	2.3	790	2250
C 51 3_	124.4	28.1	8850	4.2	670	2250	14.1	8850	2.1	790	2250
C 51 3_	134.6	26.0	8850	3.9	670	2250	13.0	8850	2.0	790	2250
C 51 3_	147.4	23.7	8850	3.6	680	2250	11.9	8850	1.8	790	2250
C 51 3_	160.5	21.8	8850	3.3	670	2250	10.9	8850	1.6	790	2250
C 51 3_	175.8	19.9	8850	3.0	680	2250	10.0	8850	1.5	790	2250
C 51 3_	197.9	17.7	8850	2.7	670	2250	8.8	8850	1.3	790	2250
C 51 3_	216.7	16.2	8850	2.4	680	2250	8.1	8850	1.2	790	2250
C 51 4_	240.9	14.5	8850	2.2	470	2250	7.3	8850	1.1	490	2250
C 51 4_	263.8	13.3	8850	2.0	480	2250	6.6	8850	1.0	490	2250
C 51 4_	297.8	11.8	8850	1.8	480	2250	5.9	8850	0.91	490	2250
C 51 4_	326.1	10.7	8850	1.7	490	2250	5.4	8850	0.83	490	2250
C 51 4_	379.6	9.2	8850	1.4	490	2250	4.6	8850	0.71	490	2250
C 51 4_	415.7	8.4	8850	1.3	490	2250	4.2	8850	0.65	490	2250
C 51 4_	463.9	7.5	8850	1.2	490	2250	3.8	8850	0.58	490	2250
C 51 4_	508.0	6.9	8850	1.1	490	2250	3.4	8850	0.53	490	2250
C 51 4_	549.7	6.4	8850	0.98	490	2250	3.2	8850	0.49	490	2250
C 51 4_	602.0	5.8	8850	0.90	490	2250	2.9	8850	0.45	490	2250
C 51 4_	655.4	5.3	8850	0.82	490	2250	2.7	8850	0.41	490	2250
C 51 4_	717.7	4.9	8850	0.75	490	2250	2.4	8850	0.38	490	2250
C 51 4_	808.0	4.3	8850	0.67	490	2250	2.2	8850	0.33	490	2250
C 51 4_	884.9	4.0	8850	0.61	490	2250	2.0	8850	0.31	490	2250

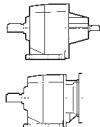
# C 51

**8,850 lb·in**

	i (ratio)	n <sub>1</sub> = 1100 rpm					n <sub>1</sub> = 600 rpm				
		n <sub>2</sub> [rpm]	T <sub>n2</sub> [lb·in]	P <sub>n1</sub> [hp]	R <sub>n1</sub> [lb]	R <sub>n2</sub> [lb]	n <sub>2</sub> [rpm]	T <sub>n2</sub> [lb·in]	P <sub>n1</sub> [hp]	R <sub>n1</sub> [lb]	R <sub>n2</sub> [lb]
C 51 2_	2.6	423	3540	25	580	1150	231	3540	13.6	790	1490
C 51 2_	3.3	333	3720	21	610	1260	182	3720	11.3	790	1620
C 51 2_	4.5	244	3850	15.7	650	1420	133	3850	8.6	790	1810
C 51 2_	5.6	196	3850	12.6	690	1570	107	3850	6.9	790	2000
C 51 2_	7.0	157	6460	17.0	740	1560	86	7080	10.1	790	1970
C 51 2_	7.8	141	6550	15.4	780	1620	77	7080	9.1	790	2050
C 51 2_	8.8	125	7040	14.7	760	1680	68	7080	8.1	790	2180
C 51 2_	9.8	112	7080	13.3	790	1750	61	7080	7.2	790	2250
C 51 2_	11.8	93	7080	11.0	790	1920	51	7080	6.0	790	2250
C 51 2_	13.1	84	7080	9.9	790	2000	46	7080	5.4	790	2250
C 51 2_	15.0	73	7080	8.7	790	2120	40	7080	4.7	790	2250
C 51 2_	16.6	66	7080	7.8	790	2210	36	7080	4.3	790	2250
C 51 2_	18.9	58	7080	6.9	790	2250	32	7080	3.8	790	2250
C 51 2_	21.0	52	7080	6.2	790	2250	28.6	7080	3.4	790	2250
C 51 2_	23.4	47	7080	5.6	790	2250	25.6	7080	3.0	790	2250
C 51 2_	25.9	42	7080	5.0	790	2250	23.2	7080	2.7	790	2250
C 51 2_	29.8	37	7080	4.4	790	2250	20.1	7080	2.4	790	2250
C 51 2_	33.0	33	7080	3.9	790	2250	18.2	7080	2.1	790	2250
C 51 2_	36.4	30	7080	3.6	790	2250	16.5	7080	1.9	790	2250
C 51 2_	40.4	27.2	7080	3.2	790	2250	14.9	7080	1.8	790	2250
C 51 2_	43.1	25.5	7080	3.0	790	2250	13.9	7080	1.6	790	2250
C 51 2_	47.8	23.0	7080	2.7	790	2250	12.6	7080	1.5	790	2250
C 51 2_	51.4	21.4	6420	2.3	790	2250	11.7	6680	1.3	790	2250
C 51 2_	57.0	19.3	7040	2.3	790	2250	10.5	7040	1.2	790	2250
C 51 3_	21.8	50	8850	7.6	790	2250	27.5	8850	4.2	790	2250
C 51 3_	23.9	46	8850	6.9	790	2250	25.1	8850	3.8	790	2250
C 51 3_	27.4	40	8850	6.1	790	2250	21.9	8850	3.3	790	2250
C 51 3_	30.1	37	8850	5.5	790	2250	19.9	8850	3.0	790	2250
C 51 3_	37.0	29.7	8850	4.5	790	2250	16.2	8850	2.4	790	2250
C 51 3_	40.5	27.2	8850	4.1	790	2250	14.8	8850	2.2	790	2250
C 51 3_	46.7	23.6	8850	3.6	790	2250	12.8	8850	1.9	790	2250
C 51 3_	51.2	21.5	8850	3.2	790	2250	11.7	8850	1.8	790	2250
C 51 3_	59.0	18.6	8850	2.8	790	2250	10.2	8850	1.5	790	2250
C 51 3_	64.6	17.0	8850	2.6	790	2250	9.3	8850	1.4	790	2250
C 51 3_	72.9	15.1	8850	2.3	790	2250	8.2	8850	1.2	790	2250
C 51 3_	79.9	13.8	8850	2.1	790	2250	7.5	8850	1.1	790	2250
C 51 3_	93.0	11.8	8850	1.8	790	2250	6.5	8850	0.97	790	2250
C 51 3_	101.8	10.8	8850	1.6	790	2250	5.9	8850	0.89	790	2250
C 51 3_	113.6	9.7	8850	1.5	790	2250	5.3	8850	0.80	790	2250
C 51 3_	124.4	8.8	8850	1.3	790	2250	4.8	8850	0.73	790	2250
C 51 3_	134.6	8.2	8850	1.2	790	2250	4.5	8850	0.67	790	2250
C 51 3_	147.4	7.5	8850	1.1	790	2250	4.1	8850	0.61	790	2250
C 51 3_	160.5	6.9	8850	1.0	790	2250	3.7	8850	0.56	790	2250
C 51 3_	175.8	6.3	8850	0.94	790	2250	3.4	8850	0.52	790	2250
C 51 3_	197.9	5.6	8850	0.84	790	2250	3.0	8850	0.46	790	2250
C 51 3_	216.7	5.1	8850	0.77	790	2250	2.8	8850	0.42	790	2250
C 51 4_	240.9	4.6	8850	0.70	490	2250	2.5	8850	0.38	490	2250
C 51 4_	263.8	4.2	8850	0.64	490	2250	2.3	8850	0.35	490	2250
C 51 4_	297.8	3.7	8850	0.57	490	2250	2.0	8850	0.31	490	2250
C 51 4_	326.1	3.4	8850	0.52	490	2250	1.8	8850	0.28	490	2250
C 51 4_	379.6	2.9	8850	0.45	490	2250	1.6	8850	0.24	490	2250
C 51 4_	415.7	2.6	8850	0.41	490	2250	1.4	8850	0.22	490	2250
C 51 4_	463.9	2.4	8850	0.37	490	2250	1.3	8850	0.20	490	2250
C 51 4_	508.0	2.2	8850	0.33	490	2250	1.2	8850	0.18	490	2250
C 51 4_	549.7	2.0	8850	0.31	490	2250	1.1	8850	0.17	490	2250
C 51 4_	602.0	1.8	8850	0.28	490	2250	1.0	8850	0.15	490	2250
C 51 4_	655.4	1.7	8850	0.26	490	2250	0.92	8850	0.14	490	2250
C 51 4_	717.7	1.5	8850	0.24	490	2250	0.84	8850	0.13	490	2250
C 51 4_	808.0	1.4	8850	0.21	490	2250	0.74	8850	0.11	490	2250
C 51 4_	884.9	1.2	8850	0.19	490	2250	0.68	8850	0.10	490	2250

# C 61

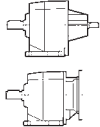
14,200 lb·in

	i (ratio)	n <sub>1</sub> = 3500 rpm					n <sub>1</sub> = 1750 rpm				
		n <sub>2</sub> [rpm]	T <sub>n2</sub> [lb·in]	P <sub>n1</sub> [hp]	R <sub>n1</sub> [lb]	R <sub>n2</sub> [lb]	n <sub>2</sub> [rpm]	T <sub>n2</sub> [lb·in]	P <sub>n1</sub> [hp]	R <sub>n1</sub> [lb]	R <sub>n2</sub> [lb]
C 61 2_	2.8	1250	3940	82	—	1050	625	4870	51	170	1330
C 61 2_	3.7	946	4690	74	—	1110	473	5090	40	390	1480
C 61 2_	4.6	761	5090	65	—	1190	380	5310	34	480	1600
C 61 2_	6.0	583	5090	50	—	1350	292	5530	27	610	1790
C 61 2_	6.7	522	7970	70	500	1260	261	10000	44	640	1590
C 61 2_	7.5	467	8850	69	500	1260	233	11100	43	650	1600
C 61 2_	8.8	398	8850	59	510	1370	199	11100	37	670	1730
C 61 2_	9.8	357	9740	58	540	1380	179	11900	35	750	1760
C 61 2_	10.9	321	9290	50	570	1480	161	11900	32	660	1850
C 61 2_	12.1	289	10200	49	600	1500	145	11900	29	810	1960
C 61 2_	14.3	245	10200	42	550	1620	122	11900	24	810	2120
C 61 2_	15.9	220	11100	41	600	1650	110	11900	22	850	2250
C 61 2_	17.7	198	10600	35	570	1760	99	11900	19.6	830	2340
C 61 2_	19.6	179	11500	34	620	1800	89	11900	17.7	870	2470
C 61 2_	22.4	156	11100	29	590	1940	78	11900	15.5	860	2610
C 61 2_	24.8	141	11900	28	640	1990	71	11900	14.0	890	2770
C 61 2_	27.4	128	11500	25	580	2110	64	11900	12.7	870	2880
C 61 2_	30.4	115	11900	23	650	2200	58	11900	11.4	910	3030
C 61 2_	34.2	102	10300	17.6	680	2450	51	10800	9.2	920	3260
C 61 2_	38.0	92	11300	17.4	680	2500	46	11900	9.2	920	3330
C 61 3_	26.8	131	10100	22.5	840	2210	65	12700	14.1	1060	2790
C 61 3_	29.4	119	10300	20.9	850	2290	60	13000	13.2	1060	2900
C 61 3_	33.0	106	10700	19.4	840	2380	53	13500	12.2	1060	2990
C 61 3_	36.1	97	10900	18.0	850	2470	48	13800	11.4	1060	3100
C 61 3_	43.4	81	11600	16.0	850	2610	40	14200	9.8	1060	3330
C 61 3_	47.6	74	11900	14.9	860	2720	37	14200	8.9	1060	3480
C 61 3_	53.5	65	12400	13.8	850	2810	33	14200	7.9	1060	3600
C 61 3_	58.6	60	12700	12.9	860	2920	29.9	14200	7.2	1060	3600
C 61 3_	67.7	52	13300	11.7	840	3030	25.8	14200	6.3	1060	3600
C 61 3_	74.2	47	13600	10.9	850	3170	23.6	14200	5.7	1060	3600
C 61 3_	83.0	42	14200	10.2	840	3260	21.1	14200	5.1	1060	3600
C 61 3_	91.0	38	14200	9.3	850	3420	19.2	14200	4.7	1060	3600
C 61 3_	103.6	34	14200	8.2	850	3600	16.9	14200	4.1	1060	3600
C 61 3_	113.6	31	14200	7.5	860	3600	15.4	14200	3.7	1060	3600
C 61 3_	128.1	27.3	14200	6.6	850	3600	13.7	14200	3.3	1060	3600
C 61 3_	140.5	24.9	14200	6.0	860	3600	12.5	14200	3.0	1060	3600
C 61 3_	150.0	23.3	14200	5.7	850	3600	11.7	14200	2.8	1060	3600
C 61 3_	164.5	21.3	14200	5.2	870	3600	10.6	14200	2.6	1060	3600
C 61 3_	178.6	19.6	14200	4.7	850	3600	9.8	14200	2.4	1060	3600
C 61 3_	195.8	17.9	14200	4.3	870	3600	8.9	14200	2.2	1060	3600
C 61 4_	217.4	16.1	14200	4.0	680	3600	8.0	14200	2.0	790	3600
C 61 4_	238.3	14.7	14200	3.6	690	3600	7.3	14200	1.8	790	3600
C 61 4_	275.3	12.7	14200	3.1	700	3600	6.4	14200	1.6	790	3600
C 61 4_	301.7	11.6	14200	2.9	700	3600	5.8	14200	1.4	790	3600
C 61 4_	337.7	10.4	14200	2.6	710	3600	5.2	14200	1.3	790	3600
C 61 4_	370.1	9.5	14200	2.3	710	3600	4.7	14200	1.2	790	3600
C 61 4_	421.5	8.3	14200	2.1	720	3600	4.2	14200	1.0	790	3600
C 61 4_	462.0	7.6	14200	1.9	720	3600	3.8	14200	0.94	790	3600
C 61 4_	521.1	6.7	14200	1.7	730	3600	3.4	14200	0.83	790	3600
C 61 4_	571.2	6.1	14200	1.5	730	3600	3.1	14200	0.76	790	3600
C 61 4_	610.1	5.7	14200	1.4	730	3600	2.9	14200	0.71	790	3600
C 61 4_	668.8	5.2	14200	1.3	740	3600	2.6	14200	0.65	790	3600
C 61 4_	726.3	4.8	14200	1.2	740	3600	2.4	14200	0.60	790	3600
C 61 4_	796.1	4.4	14200	1.1	740	3600	2.2	14200	0.54	790	3600

(—) Contact our Technical Service advising radial load data (rotation CW/CCW, orientation, offset)

# C 61

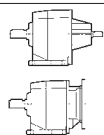
**14,200 lb·in**

	i (ratio)	n <sub>1</sub> = 1100 rpm					n <sub>1</sub> = 600 rpm				
		n <sub>2</sub> [rpm]	T <sub>n2</sub> [lb·in]	P <sub>n1</sub> [hp]	R <sub>n1</sub> [lb]	R <sub>n2</sub> [lb]	n <sub>2</sub> [rpm]	T <sub>n2</sub> [lb·in]	P <sub>n1</sub> [hp]	R <sub>n1</sub> [lb]	R <sub>n2</sub> [lb]
C 61 2_	2.8	393	5000	33	640	1610	214	5890	21	910	1980
C 61 2_	3.7	297	5530	27	670	1750	162	5890	16.0	1060	2220
C 61 2_	4.6	239	5890	24	710	1880	130	5890	12.8	1060	2420
C 61 2_	6.0	183	5890	18	930	2120	100	5890	9.8	1060	2700
C 61 2_	6.7	164	11900	33	640	1810	90	11900	17.8	1060	2430
C 61 2_	7.5	147	11900	29	900	1920	80	11900	15.9	1060	2560
C 61 2_	8.8	125	11900	25	910	2080	68	11900	13.6	1060	2740
C 61 2_	9.8	112	11900	22	970	2200	61	11900	12.2	1060	2900
C 61 2_	10.9	101	11900	20.1	960	2290	55	11900	10.9	1060	3010
C 61 2_	12.1	91	11900	18.1	1010	2430	50	11900	9.9	1060	3170
C 61 2_	14.3	77	11900	15.3	1000	2610	42	11900	8.3	1060	3390
C 61 2_	15.9	69	11900	13.7	1050	2770	38	11900	7.5	1060	3570
C 61 2_	17.7	62	11900	12.4	1030	2880	34	11900	6.7	1060	3600
C 61 2_	19.6	56	11900	11.2	1060	3030	31	11900	6.1	1060	3600
C 61 2_	22.4	49	11900	9.8	1050	3190	26.8	11900	5.3	1060	3600
C 61 2_	24.8	44	11900	8.8	1060	3350	24.2	11900	4.8	1060	3600
C 61 2_	27.4	40	11900	8.0	1060	3480	21.9	11900	4.4	1060	3600
C 61 2_	30.4	36	11900	7.2	1060	3600	19.7	11900	3.9	1060	3600
C 61 2_	34.2	32	11200	6.0	1060	3600	17.5	11700	3.4	1060	3600
C 61 2_	38.0	28.9	11900	5.8	1060	3600	15.8	11900	3.1	1060	3600
C 61 3_	26.8	41	14200	9.9	1060	3260	22.4	14200	5.4	1060	3600
C 61 3_	29.4	37	14200	9.1	1060	3420	20.4	14200	4.9	1060	3600
C 61 3_	33.0	33	14200	8.1	1060	3570	18.2	14200	4.4	1060	3600
C 61 3_	36.1	30	14200	7.4	1060	3600	16.6	14200	4.0	1060	3600
C 61 3_	43.4	25.3	14200	6.1	1060	3600	13.8	14200	3.3	1060	3600
C 61 3_	47.6	23.1	14200	5.6	1060	3600	12.6	14200	3.1	1060	3600
C 61 3_	53.5	20.6	14200	5.0	1060	3600	11.2	14200	2.7	1060	3600
C 61 3_	58.6	18.8	14200	4.5	1060	3600	10.2	14200	2.5	1060	3600
C 61 3_	67.7	16.2	14200	3.9	1060	3600	8.9	14200	2.1	1060	3600
C 61 3_	74.2	14.8	14200	3.6	1060	3600	8.1	14200	2.0	1060	3600
C 61 3_	83.0	13.3	14200	3.2	1060	3600	7.2	14200	1.8	1060	3600
C 61 3_	91.0	12.1	14200	2.9	1060	3600	6.6	14200	1.6	1060	3600
C 61 3_	103.6	10.6	14200	2.6	1060	3600	5.8	14200	1.4	1060	3600
C 61 3_	113.6	9.7	14200	2.3	1060	3600	5.3	14200	1.3	1060	3600
C 61 3_	128.1	8.6	14200	2.1	1060	3600	4.7	14200	1.1	1060	3600
C 61 3_	140.5	7.8	14200	1.9	1060	3600	4.3	14200	1.0	1060	3600
C 61 3_	150.0	7.3	14200	1.8	1060	3600	4.0	14200	0.97	1060	3600
C 61 3_	164.5	6.7	14200	1.6	1060	3600	3.6	14200	0.88	1060	3600
C 61 3_	178.6	6.2	14200	1.5	1060	3600	3.4	14200	0.81	1060	3600
C 61 3_	195.8	5.6	14200	1.4	1060	3600	3.1	14200	0.74	1060	3600
C 61 4_	217.4	5.1	14200	1.3	790	3600	2.8	14200	0.68	790	3600
C 61 4_	238.3	4.6	14200	1.1	790	3600	2.5	14200	0.62	790	3600
C 61 4_	275.3	4.0	14200	0.99	790	3600	2.2	14200	0.54	790	3600
C 61 4_	301.7	3.6	14200	0.90	790	3600	2.0	14200	0.49	790	3600
C 61 4_	337.7	3.3	14200	0.81	790	3600	1.8	14200	0.44	790	3600
C 61 4_	370.1	3.0	14200	0.74	790	3600	1.6	14200	0.40	790	3600
C 61 4_	421.5	2.6	14200	0.65	790	3600	1.4	14200	0.35	790	3600
C 61 4_	462.0	2.4	14200	0.59	790	3600	1.3	14200	0.32	790	3600
C 61 4_	521.1	2.1	14200	0.52	790	3600	1.2	14200	0.29	790	3600
C 61 4_	571.2	1.9	14200	0.48	790	3600	1.1	14200	0.26	790	3600
C 61 4_	610.1	1.8	14200	0.45	790	3600	0.98	14200	0.24	790	3600
C 61 4_	668.8	1.6	14200	0.41	790	3600	0.90	14200	0.22	790	3600
C 61 4_	726.3	1.5	14200	0.37	790	3600	0.83	14200	0.20	790	3600
C 61 4_	796.1	1.4	14200	0.34	790	3600	0.75	14200	0.19	790	3600



# C 70

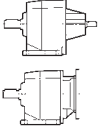
**20,400 lb·in**

	i (ratio)	$n_1 = 3500$ rpm					$n_1 = 1750$ rpm				
		$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]	$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]
<b>C 70 2_</b>	<b>4.6</b>	761	12400	158	—	1260	380	15000	95	—	1600
<b>C 70 2_</b>	<b>5.9</b>	593	13700	136	—	1260	297	16800	83	—	1570
<b>C 70 2_</b>	<b>6.3</b>	556	14200	132	450	1480	278	17300	80	590	1850
<b>C 70 2_</b>	<b>7.5</b>	467	13700	107	—	1600	233	17300	67	—	1890
<b>C 70 2_</b>	<b>8.0</b>	438	15500	113	400	1540	219	18600	68	600	2000
<b>C 70 2_</b>	<b>9.5</b>	368	14200	87	170	1860	184	17700	54	140	2230
<b>C 70 2_</b>	<b>10.2</b>	343	16800	96	450	1620	172	18600	53	1000	2430
<b>C 70 2_</b>	<b>11.2</b>	313	14200	74	250	2100	156	17700	46	240	2540
<b>C 70 2_</b>	<b>13.0</b>	269	18100	81	420	1730	135	18600	42	1260	2900
<b>C 70 2_</b>	<b>14.1</b>	248	15000	62	250	2280	124	18600	39	290	2790
<b>C 70 2_</b>	<b>15.3</b>	229	18600	71	410	1920	114	18600	36	1320	3210
<b>C 70 2_</b>	<b>16.7</b>	210	15000	53	350	2560	105	18100	32	530	3210
<b>C 70 2_</b>	<b>19.3</b>	181	18600	56	610	2330	91	18600	28	1350	3660
<b>C 70 2_</b>	<b>22.9</b>	153	18600	47	710	2640	76	18600	24	1360	4050
<b>C 70 2_</b>	<b>27.7</b>	126	18600	39	800	3010	63	18600	19.6	1380	4470
<b>C 70 2_</b>	<b>34.7</b>	101	18600	31	890	3460	50	18600	15.7	1390	4990
<b>C 70 3_</b>	<b>41.3</b>	85	16800	24	1270	4140	42	20400	14.7	1570	5130
<b>C 70 3_</b>	<b>44.7</b>	78	16800	22	1280	4290	39	20400	13.6	1570	5350
<b>C 70 3_</b>	<b>52.2</b>	67	18100	21	1280	4410	34	20400	11.7	1570	5620
<b>C 70 3_</b>	<b>56.5</b>	62	18100	19.1	1280	4590	31	20400	10.8	1570	5620
<b>C 70 3_</b>	<b>65.9</b>	53	19500	17.7	1270	4720	27	20400	9.2	1570	5620
<b>C 70 3_</b>	<b>71.3</b>	49	19500	16.3	1280	4920	25	20400	8.5	1570	5620
<b>C 70 3_</b>	<b>81.4</b>	43	20400	15.0	1280	5100	21	20400	7.5	1570	5620
<b>C 70 3_</b>	<b>88.2</b>	40	20400	13.8	1280	5310	19.8	20400	6.9	1570	5620
<b>C 70 3_</b>	<b>103.8</b>	34	20400	11.7	1280	5620	16.9	20400	5.9	1570	5620
<b>C 70 3_</b>	<b>112.4</b>	31	20400	10.8	1290	5620	15.6	20400	5.4	1570	5620
<b>C 70 3_</b>	<b>126.8</b>	27.6	20400	9.6	1290	5620	13.8	20400	4.8	1570	5620
<b>C 70 3_</b>	<b>137.4</b>	25.5	20400	8.9	1290	5620	12.7	20400	4.4	1570	5620
<b>C 70 3_</b>	<b>150.3</b>	23.3	20400	8.1	1290	5620	11.6	20400	4.1	1570	5620
<b>C 70 3_</b>	<b>162.8</b>	21.5	20400	7.5	1290	5620	10.7	20400	3.7	1570	5620
<b>C 70 3_</b>	<b>179.2</b>	19.5	20400	6.8	1290	5620	9.8	20400	3.4	1570	5620
<b>C 70 3_</b>	<b>194.1</b>	18.0	20400	6.3	1300	5620	9.0	20400	3.1	1570	5620
<b>C 70 3_</b>	<b>220.9</b>	15.8	19900	5.4	1290	5620	7.9	19900	2.7	1570	5620
<b>C 70 3_</b>	<b>239.3</b>	14.6	20400	5.1	1300	5620	7.3	20400	2.5	1570	5620
<b>C 70 4_</b>	<b>251.3</b>	13.9	20400	5.0	450	5620	7.0	20400	2.5	590	5620
<b>C 70 4_</b>	<b>272.2</b>	12.9	20400	4.6	460	5620	6.4	20400	2.3	600	5620
<b>C 70 4_</b>	<b>317.9</b>	11.0	20400	3.9	460	5620	5.5	20400	2.0	600	5620
<b>C 70 4_</b>	<b>344.3</b>	10.2	20400	3.6	460	5620	5.1	20400	1.8	600	5620
<b>C 70 4_</b>	<b>409.4</b>	8.5	20400	3.0	460	5620	4.3	20400	1.5	600	5620
<b>C 70 4_</b>	<b>443.5</b>	7.9	20400	2.8	470	5620	3.9	20400	1.4	610	5620
<b>C 70 4_</b>	<b>512.0</b>	6.8	20400	2.4	470	5620	3.4	20400	1.2	600	5620
<b>C 70 4_</b>	<b>554.7</b>	6.3	20400	2.2	470	5620	3.2	20400	1.1	610	5620
<b>C 70 4_</b>	<b>606.8</b>	5.8	20400	2.1	470	5620	2.9	20400	1.0	610	5620
<b>C 70 4_</b>	<b>657.3</b>	5.3	20400	1.9	470	5620	2.7	20400	0.95	610	5620
<b>C 70 4_</b>	<b>736.0</b>	4.8	20400	1.7	470	5620	2.4	20400	0.85	610	5620
<b>C 70 4_</b>	<b>797.3</b>	4.4	20400	1.6	470	5620	2.2	20400	0.78	610	5620
<b>C 70 4_</b>	<b>922.6</b>	3.8	20400	1.3	470	5620	1.9	20400	0.67	610	5620
<b>C 70 4_</b>	<b>999.5</b>	3.5	20400	1.2	470	5620	1.8	20400	0.62	610	5620
<b>C 70 4_</b>	<b>1069.0</b>	3.3	20400	1.2	470	5620	1.6	20400	0.58	610	5620
<b>C 70 4_</b>	<b>1158.0</b>	3.0	20400	1.1	470	5620	1.5	20400	0.54	630	5620
<b>C 70 4_</b>	<b>1362.0</b>	2.6	20400	0.91	470	5620	1.3	20400	0.46	630	5620
<b>C 70 4_</b>	<b>1476.0</b>	2.4	20400	0.84	470	5620	1.2	20400	0.42	630	5620

(—) Contact our Technical Service advising radial load data (rotation CW/CCW, orientation, offset)

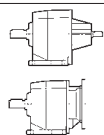
## C 70

**20,400 lb·in**

	i (ratio)	$n_1 = 1100$ rpm					$n_1 = 600$ rpm				
		$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]	$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]
<b>C 70 2_ 4.6</b>	4.6	239	15900	63	150	2100	130	15900	35	1240	3120
<b>C 70 2_ 5.9</b>	5.9	186	17300	54	130	2240	102	19000	32	650	3010
<b>C 70 2_ 6.3</b>	6.3	175	18600	54	960	2340	95	18600	30	1570	3480
<b>C 70 2_ 7.5</b>	7.5	147	18600	46	250	2430	80	19000	25	1210	3510
<b>C 70 2_ 8.0</b>	8.0	138	18600	43	1300	2810	75	18600	23	1570	4000
<b>C 70 2_ 9.5</b>	9.5	116	19000	37	480	2790	63	19000	20	1570	4070
<b>C 70 2_ 10.2</b>	10.2	108	18600	33	1540	3280	59	18600	18.3	1570	4540
<b>C 70 2_ 11.2</b>	11.2	98	19000	31	590	3150	54	19000	17.0	1570	4450
<b>C 70 2_ 13.0</b>	13.0	85	18600	26	1570	3800	46	18600	14.3	1570	5130
<b>C 70 2_ 14.1</b>	14.1	78	19000	25	880	3600	43	19000	13.5	1570	5010
<b>C 70 2_ 15.3</b>	15.3	72	18600	22	1570	4140	39	18600	12.2	1570	5530
<b>C 70 2_ 16.7</b>	16.7	66	18100	19.9	1230	4160	36	18100	10.9	1570	5620
<b>C 70 2_ 19.3</b>	19.3	57	18600	17.7	1570	4650	31	18600	9.7	1570	5620
<b>C 70 2_ 22.9</b>	22.9	48	18600	14.9	1570	5060	26	18600	8.1	1570	5620
<b>C 70 2_ 27.7</b>	27.7	40	18600	12.3	1570	5530	22	18600	6.7	1570	5620
<b>C 70 2_ 34.7</b>	34.7	32	18600	9.8	1570	5620	17.3	18600	5.4	1570	5620
<b>C 70 3_ 41.3</b>	41.3	27	20400	9.3	1570	5620	14.5	20400	5.1	1570	5620
<b>C 70 3_ 44.7</b>	44.7	25	20400	8.6	1570	5620	13.4	20400	4.7	1570	5620
<b>C 70 3_ 52.2</b>	52.2	21	20400	7.3	1570	5620	11.5	20400	4.0	1570	5620
<b>C 70 3_ 56.5</b>	56.5	19.5	20400	6.8	1570	5620	10.6	20400	3.7	1570	5620
<b>C 70 3_ 65.9</b>	65.9	16.7	20400	5.8	1570	5620	9.1	20400	3.2	1570	5620
<b>C 70 3_ 71.3</b>	71.3	15.4	20400	5.4	1570	5620	8.4	20400	2.9	1570	5620
<b>C 70 3_ 81.4</b>	81.4	13.5	20400	4.7	1570	5620	7.4	20400	2.6	1570	5620
<b>C 70 3_ 88.2</b>	88.2	12.5	20400	4.3	1570	5620	6.8	20400	2.4	1570	5620
<b>C 70 3_ 103.8</b>	103.8	10.6	20400	3.7	1570	5620	5.8	20400	2.0	1570	5620
<b>C 70 3_ 112.4</b>	112.4	9.8	20400	3.4	1570	5620	5.3	20400	1.9	1570	5620
<b>C 70 3_ 126.8</b>	126.8	8.7	20400	3.0	1570	5620	4.7	20400	1.6	1570	5620
<b>C 70 3_ 137.4</b>	137.4	8.0	20400	2.8	1570	5620	4.4	20400	1.5	1570	5620
<b>C 70 3_ 150.3</b>	150.3	7.3	20400	2.5	1570	5620	4.0	20400	1.4	1570	5620
<b>C 70 3_ 162.8</b>	162.8	6.8	20400	2.4	1570	5620	3.7	20400	1.3	1570	5620
<b>C 70 3_ 179.2</b>	179.2	6.1	20400	2.1	1570	5620	3.3	20400	1.2	1570	5620
<b>C 70 3_ 194.1</b>	194.1	5.7	20400	2.0	1570	5620	3.1	20400	1.1	1570	5620
<b>C 70 3_ 220.9</b>	220.9	5.0	20400	1.7	1570	5620	2.7	19900	0.92	1570	5620
<b>C 70 3_ 239.3</b>	239.3	4.6	20400	1.6	1570	5620	2.5	20400	0.87	1570	5620
<b>C 70 4_ 251.3</b>	251.3	4.4	20400	1.6	450	5620	2.4	20400	0.85	590	5620
<b>C 70 4_ 272.2</b>	272.2	4.0	20400	1.4	460	5620	2.2	20400	0.78	600	5620
<b>C 70 4_ 317.9</b>	317.9	3.5	20400	1.2	460	5620	1.9	20400	0.67	600	5620
<b>C 70 4_ 344.3</b>	344.3	3.2	20400	1.1	460	5620	1.7	20400	0.62	600	5620
<b>C 70 4_ 409.4</b>	409.4	2.7	20400	0.96	460	5620	1.5	20400	0.52	600	5620
<b>C 70 4_ 443.5</b>	443.5	2.5	20400	0.88	470	5620	1.4	20400	0.48	610	5620
<b>C 70 4_ 512.0</b>	512.0	2.1	20400	0.76	470	5620	1.2	20400	0.42	600	5620
<b>C 70 4_ 554.7</b>	554.7	2.0	20400	0.71	470	5620	1.1	20400	0.38	610	5620
<b>C 70 4_ 606.8</b>	606.8	1.8	20400	0.64	470	5620	0.99	20400	0.35	610	5620
<b>C 70 4_ 657.3</b>	657.3	1.7	20400	0.60	470	5620	0.91	20400	0.32	610	5620
<b>C 70 4_ 736.0</b>	736.0	1.5	20400	0.53	470	5620	0.82	20400	0.29	610	5620
<b>C 70 4_ 797.3</b>	797.3	1.4	20400	0.49	470	5620	0.75	20400	0.27	610	5620
<b>C 70 4_ 922.6</b>	922.6	1.2	20400	0.42	470	5620	0.65	20400	0.23	610	5620
<b>C 70 4_ 999.5</b>	999.5	1.1	20400	0.39	470	5620	0.60	20400	0.21	610	5620
<b>C 70 4_ 1069.0</b>	1069.0	1.0	20400	0.37	470	5620	0.56	20400	0.20	610	5620
<b>C 70 4_ 1158.0</b>	1158.0	0.95	20400	0.34	470	5620	0.52	20400	0.18	630	5620
<b>C 70 4_ 1362.0</b>	1362.0	0.81	20400	0.29	470	5620	0.44	20400	0.16	630	5620
<b>C 70 4_ 1476.0</b>	1476.0	0.75	20400	0.27	470	5620	0.41	20400	0.14	630	5620

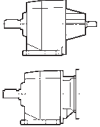
# C 80

**35,400 lb·in**

	i (ratio)	$n_1 = 3500$ rpm					$n_1 = 1750$ rpm				
		$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]	$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]
C 80 2_	5.6	625	21200	221	80	2450	312.5	27400	143	160	2770
C 80 2_	6.1	574	21700	208	200	2470	286.9	27900	134	310	2860
C 80 2_	7.0	500	23500	196	80	2470	250.0	29600	124	200	2900
C 80 2_	7.6	461	23900	184	200	2540	230.3	30100	116	360	2990
C 80 2_	8.9	393	24800	163	90	2720	196.6	31000	102	250	3260
C 80 2_	9.6	365	26600	162	120	2540	182.3	32700	100	310	3120
C 80 2_	11.1	315	24800	131	250	3190	157.7	31000	82	440	3840
C 80 2_	12.0	292	26600	130	270	3030	145.8	32700	80	490	3730
C 80 2_	13.8	254	24800	105	320	3690	126.8	31000	66	520	4450
C 80 2_	14.9	235	26600	104	340	3550	117.4	32700	64	580	4340
C 80 2_	16.7	210	24800	87	410	4160	104.8	31000	54	640	5010
C 80 2_	18.1	193	26600	86	430	4020	96.7	32700	53	690	4950
C 80 2_	20.5	171	25200	72	450	4610	85.4	31400	45	690	5580
C 80 2_	22.2	158	26600	70	500	4560	78.8	32700	43	760	5600
C 80 2_	24.0	146	25200	61	470	5040	72.9	31400	38	710	6070
C 80 2_	25.9	135	26600	60	520	5010	67.6	32700	37	790	6110
C 80 2_	31.3	112	26600	50	560	5550	55.9	32700	31	840	6740
C 80 2_	39.1	90	22100	33	860	6970	44.8	28300	21	1140	7870
C 80 3_	43.5	80	27400	38	1260	6450	40.2	33600	23	1570	7820
C 80 3_	47.4	74	27400	35	1270	6740	36.9	33600	21	1570	7870
C 80 3_	57.3	61	30100	31	1260	6860	30.5	35400	18.4	1570	7870
C 80 3_	62.5	56	30100	29	1270	7150	28.0	35400	16.9	1570	7870
C 80 3_	70.5	50	32300	27	1260	7240	24.8	35400	15.0	1570	7870
C 80 3_	76.9	46	31900	25	1270	7620	22.8	35400	13.7	1570	7870
C 80 3_	89.3	39	34500	23	1260	7800	19.6	35400	11.8	1570	7870
C 80 3_	97.4	36	34500	21	1270	7870	18.0	35400	10.9	1570	7870
C 80 3_	109.5	32	35400	19.3	1270	7870	16.0	35400	9.7	1570	7870
C 80 3_	119.5	29.3	35400	17.7	1280	7870	14.6	35400	8.8	1570	7870
C 80 3_	136.7	25.6	35400	15.5	1270	7870	12.8	35400	7.7	1570	7870
C 80 3_	149.1	23.5	35400	14.2	1280	7870	11.7	35400	7.1	1570	7870
C 80 3_	169.0	20.7	35400	12.5	1280	7870	10.4	35400	6.3	1570	7870
C 80 3_	184.4	19.0	35400	11.5	1290	7870	9.5	35400	5.7	1570	7870
C 80 3_	197.9	17.7	33600	10.1	1280	7870	8.8	33600	5.1	1570	7870
C 80 3_	215.9	16.2	35400	9.8	1290	7870	8.1	35400	4.9	1570	7870
C 80 4_	261.9	13.4	35400	8.2	420	7870	6.7	35400	4.1	560	7870
C 80 4_	285.7	12.3	35400	7.6	420	7870	6.1	35400	3.8	560	7870
C 80 4_	334.3	10.5	35400	6.5	420	7870	5.2	35400	3.2	560	7870
C 80 4_	364.7	9.6	35400	5.9	430	7870	4.8	35400	3.0	570	7870
C 80 4_	417.5	8.4	35400	5.2	430	7870	4.2	35400	2.6	570	7870
C 80 4_	455.4	7.7	35400	4.7	440	7870	3.8	35400	2.4	580	7870
C 80 4_	529.3	6.6	35400	4.1	440	7870	3.3	35400	2.0	570	7870
C 80 4_	577.4	6.1	35400	3.7	440	7870	3.0	35400	1.9	580	7870
C 80 4_	664.3	5.3	35400	3.3	440	7870	2.6	35400	1.6	580	7870
C 80 4_	724.7	4.8	35400	3.0	450	7870	2.4	35400	1.5	590	7870
C 80 4_	783.4	4.5	35400	2.8	440	7870	2.2	35400	1.4	580	7870
C 80 4_	854.6	4.1	35400	2.5	450	7870	2.0	35400	1.3	590	7870
C 80 4_	945.7	3.7	35400	2.3	450	7870	1.9	35400	1.1	580	7870
C 80 4_	1032.0	3.4	35400	2.1	450	7870	1.7	35400	1.0	590	7870
C 80 4_	1168.0	3.0	35400	1.8	450	7870	1.5	35400	0.92	580	7870
C 80 4_	1274.0	2.7	35400	1.7	450	7870	1.4	35400	0.85	590	7870
C 80 4_	1358.0	2.6	35400	1.6	450	7870	1.3	35400	0.80	590	7870
C 80 4_	1481.0	2.4	35400	1.5	460	7870	1.2	35400	0.73	590	7870

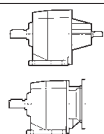
# C 80

**35,400 lb·in**

	i (ratio)	n <sub>1</sub> = 1100 rpm					n <sub>1</sub> = 600 rpm				
		n <sub>2</sub> [rpm]	T <sub>n2</sub> [lb·in]	P <sub>n1</sub> [hp]	R <sub>n1</sub> [lb]	R <sub>n2</sub> [lb]	n <sub>2</sub> [rpm]	T <sub>n2</sub> [lb·in]	P <sub>n1</sub> [hp]	R <sub>n1</sub> [lb]	R <sub>n2</sub> [lb]
<b>C 80 2_ 5.6</b>	5.6	196	31000	102	330	3240	107.1	31000	55	1120	4860
<b>C 80 2_ 6.1</b>	6.1	180	31900	96	470	3240	98.4	32700	54	1180	4770
<b>C 80 2_ 7.0</b>	7.0	157	31000	81	590	3820	85.7	31000	44	1380	5530
<b>C 80 2_ 7.6</b>	7.6	145	32300	78	690	3780	78.9	32300	43	1470	5530
<b>C 80 2_ 8.9</b>	8.9	124	31000	64	750	4470	67.4	31000	35	1530	6250
<b>C 80 2_ 9.6</b>	9.6	115	32700	63	810	4360	62.5	32700	34	1570	6230
<b>C 80 2_ 11.1</b>	11.1	99	31000	51	940	5130	54.1	31000	28	1570	7010
<b>C 80 2_ 12.0</b>	12.0	92	32700	50	990	5060	50.0	32700	27	1570	7010
<b>C 80 2_ 13.8</b>	13.8	80	31000	41	1020	5780	43.5	31000	23	1570	7800
<b>C 80 2_ 14.9</b>	14.9	74	32700	40	1070	5730	40.3	32700	22	1570	7800
<b>C 80 2_ 16.7</b>	16.7	66	31000	34	1140	6410	35.9	31000	18.6	1570	7870
<b>C 80 2_ 18.1</b>	18.1	61	32700	33	1190	6380	33.1	32700	18.1	1570	7870
<b>C 80 2_ 20.5</b>	20.5	54	31400	28	1180	7060	29.3	31400	15.3	1570	7870
<b>C 80 2_ 22.2</b>	22.2	50	32700	27	1260	7100	27.0	32700	14.8	1570	7870
<b>C 80 2_ 24.0</b>	24.0	46	31400	24	1210	7600	25.0	31400	13.1	1570	7870
<b>C 80 2_ 25.9</b>	25.9	42	32700	23	1290	7690	23.2	32700	12.7	1570	7870
<b>C 80 2_ 31.3</b>	31.3	35	32700	19.2	1340	7870	19.2	32700	10.5	1570	7870
<b>C 80 2_ 39.1</b>	39.1	28	28300	13.3	1570	7870	15.3	28300	7.3	1570	7870
<b>C 80 3_ 43.5</b>	43.5	25	35400	15.3	1570	7870	13.8	35400	8.3	1570	7870
<b>C 80 3_ 47.4</b>	47.4	23	35400	14.0	1570	7870	12.7	35400	7.6	1570	7870
<b>C 80 3_ 57.3</b>	57.3	19.2	35400	11.6	1570	7870	10.5	35400	6.3	1570	7870
<b>C 80 3_ 62.5</b>	62.5	17.6	35400	10.6	1570	7870	9.6	35400	5.8	1570	7870
<b>C 80 3_ 70.5</b>	70.5	15.6	35400	9.4	1570	7870	8.5	35400	5.1	1570	7870
<b>C 80 3_ 76.9</b>	76.9	14.3	35400	8.6	1570	7870	7.8	35400	4.7	1570	7870
<b>C 80 3_ 89.3</b>	89.3	12.3	35400	7.4	1570	7870	6.7	35400	4.1	1570	7870
<b>C 80 3_ 97.4</b>	97.4	11.3	35400	6.8	1570	7870	6.2	35400	3.7	1570	7870
<b>C 80 3_ 109.5</b>	109.5	10.0	35400	6.1	1570	7870	5.5	35400	3.3	1570	7870
<b>C 80 3_ 119.5</b>	119.5	9.2	35400	5.6	1570	7870	5.0	35400	3.0	1570	7870
<b>C 80 3_ 136.7</b>	136.7	8.0	35400	4.9	1570	7870	4.4	35400	2.7	1570	7870
<b>C 80 3_ 149.1</b>	149.1	7.4	35400	4.5	1570	7870	4.0	35400	2.4	1570	7870
<b>C 80 3_ 169.0</b>	169.0	6.5	35400	3.9	1570	7870	3.6	35400	2.1	1570	7870
<b>C 80 3_ 184.4</b>	184.4	6.0	35400	3.6	1570	7870	3.3	35400	2.0	1570	7870
<b>C 80 3_ 197.9</b>	197.9	5.6	33600	3.2	1570	7870	3.0	33600	1.7	1570	7870
<b>C 80 3_ 215.9</b>	215.9	5.1	35400	3.1	1570	7870	2.8	35400	1.7	1570	7870
<b>C 80 4_ 261.9</b>	261.9	4.2	35400	2.6	660	7870	2.3	35400	1.4	790	7870
<b>C 80 4_ 285.7</b>	285.7	3.9	35400	2.4	670	7870	2.1	35400	1.3	790	7870
<b>C 80 4_ 334.3</b>	334.3	3.3	35400	2.0	670	7870	1.8	35400	1.1	790	7870
<b>C 80 4_ 364.7</b>	364.7	3.0	35400	1.9	680	7870	1.6	35400	1.0	790	7870
<b>C 80 4_ 417.5</b>	417.5	2.6	35400	1.6	670	7870	1.4	35400	0.89	790	7870
<b>C 80 4_ 455.4</b>	455.4	2.4	35400	1.5	690	7870	1.3	35400	0.81	790	7870
<b>C 80 4_ 529.3</b>	529.3	2.1	35400	1.3	680	7870	1.1	35400	0.70	790	7870
<b>C 80 4_ 577.4</b>	577.4	1.9	35400	1.2	690	7870	1.0	35400	0.64	790	7870
<b>C 80 4_ 664.3</b>	664.3	1.7	35400	1.0	690	7870	0.9	35400	0.56	790	7870
<b>C 80 4_ 724.7</b>	724.7	1.5	35400	0.94	690	7870	0.8	35400	0.51	790	7870
<b>C 80 4_ 783.4</b>	783.4	1.4	35400	0.87	690	7870	0.8	35400	0.47	790	7870
<b>C 80 4_ 854.6</b>	854.6	1.3	35400	0.79	700	7870	0.7	35400	0.43	790	7870
<b>C 80 4_ 945.7</b>	945.7	1.2	35400	0.72	690	7870	0.6	35400	0.39	790	7870
<b>C 80 4_ 1032.0</b>	1032.0	1.1	35400	0.66	700	7870	0.6	35400	0.36	790	7870
<b>C 80 4_ 1168.0</b>	1168.0	0.94	35400	0.58	690	7870	0.5	35400	0.32	790	7870
<b>C 80 4_ 1274.0</b>	1274.0	0.86	35400	0.53	700	7870	0.5	35400	0.29	790	7870
<b>C 80 4_ 1358.0</b>	1358.0	0.81	35400	0.50	690	7870	0.4	35400	0.27	790	7870
<b>C 80 4_ 1481.0</b>	1481.0	0.74	35400	0.46	700	7870	0.4	35400	0.25	790	7870

# C 90

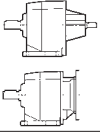
**63,700 lb·in**

	i (ratio)	$n_1 = 3500$ rpm					$n_1 = 1750$ rpm				
		$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]	$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]
C 90 2_	5.2	673	31000	348	380	2880	337	38100	214	490	3550
C 90 2_	5.6	625	31900	333	730	2880	313	38900	203	960	3600
C 90 2_	6.8	515	34100	293	420	3010	257	42000	181	500	3690
C 90 2_	7.3	479	35000	280	780	3030	240	42900	172	980	3750
C 90 2_	8.3	422	36700	258	450	3110	211	45100	159	570	3840
C 90 2_	9.0	389	37600	244	820	3140	194	46000	149	1060	3930
C 90 2_	10.4	337	39800	224	220	3190	168	49100	138	260	3910
C 90 2_	11.2	313	40700	212	620	3240	156	50000	130	780	4000
C 90 2_	12.8	273	42900	196	130	3300	137	52700	120	190	4090
C 90 2_	13.9	252	43400	183	610	3450	126	53500	112	720	4200
C 90 2_	16.0	219	44700	163	160	3770	109	54900	100	210	4680
C 90 2_	17.3	202	46900	158	380	3570	101	57500	97	490	4450
C 90 2_	18.7	187	44700	140	260	4410	94	54900	86	340	5460
C 90 2_	20.2	173	47800	138	350	4030	87	58400	84	490	5060
C 90 2_	22.9	153	44700	114	470	5020	76	54900	70	610	6200
C 90 2_	24.8	141	47800	113	560	4920	71	58400	69	750	6140
C 90 2_	27.2	129	39800	86	1380	5850	64	48700	52	1760	7240
C 90 2_	29.4	119	42500	84	1470	5840	60	52200	52	1830	7190
C 90 2	35.1	100	38900	65	1820	6610	50	47800	40	2500	8160
C 90 3_	39.4	89	56200	85	2430	5370	44	62800	48	3080	7400
C 90 3_	43.0	81	57500	80	2430	5550	41	63700	44	3100	7640
C 90 3_	50.3	70	60200	71	2430	5850	35	62800	37	3100	8320
C 90 3_	54.9	64	62000	67	2450	5960	32	63700	35	3120	8610
C 90 3_	59.2	59	62800	63	2430	6230	29.6	62800	32	3120	8990
C 90 3_	64.6	54	63700	59	2450	6540	27.1	63700	29	3150	9280
C 90 3_	74.4	47	62800	50	2450	7170	23.5	62800	25	3150	9980
C 90 3_	81.2	43	63700	47	2450	7420	21.6	63700	23	3170	10300
C 90 3_	88.2	40	62800	43	2470	7820	19.8	62800	21	3150	10800
C 90 3_	96.2	36	63700	40	2470	8070	18.2	63700	19.8	3170	11100
C 90 3_	107.0	33	62800	35	2470	8570	16.4	62800	17.5	3170	11700
C 90 3_	116.7	30	63700	33	2470	8860	15.0	63700	16.3	3170	12100
C 90 3_	134.1	26.1	62800	28	2470	9530	13.0	62800	14.0	3170	12900
C 90 3_	146.3	23.9	63700	26	2470	9850	12.0	63700	13.0	3190	13300
C 90 3_	157.8	22.2	62800	24	2470	10300	11.1	62800	11.9	3170	13500
C 90 3	172.1	20.3	63700	22	2470	10600	10.2	63700	11.1	3190	13500
C 90 4_	212.4	16.5	63700	18.3	—	13500	8.2	63700	9.2	270	13500
C 90 4_	231.7	15.1	63700	16.8	—	13500	7.6	63700	8.4	350	13500
C 90 4_	268.5	13.0	63700	14.5	—	13500	6.5	63700	7.2	350	13500
C 90 4_	292.9	11.9	63700	13.3	—	13500	6.0	63700	6.6	420	13500
C 90 4_	339.0	10.3	63700	11.5	—	13500	5.2	63700	5.7	390	13500
C 90 4_	369.8	9.5	63700	10.5	—	13500	4.7	63700	5.3	460	13500
C 90 4_	419.0	8.4	63700	9.3	—	13500	4.2	63700	4.6	420	13500
C 90 4_	457.1	7.7	63700	8.5	—	13500	3.8	63700	4.3	500	13500
C 90 4_	534.2	6.6	63700	7.3	—	13500	3.3	63700	3.6	470	13500
C 90 4_	582.8	6.0	63700	6.7	—	13500	3.0	63700	3.3	510	13500
C 90 4_	652.8	5.4	63700	6.0	—	13500	2.7	63700	3.0	490	13500
C 90 4_	712.2	4.9	63700	5.5	—	13500	2.5	63700	2.7	510	13500
C 90 4_	773.6	4.5	63700	5.0	—	13500	2.3	63700	2.5	510	13500
C 90 4_	844.0	4.1	63700	4.6	—	13500	2.1	63700	2.3	520	13500
C 90 4_	922.3	3.8	63700	4.2	—	13500	1.9	63700	2.1	510	13500
C 90 4_	1006.0	3.5	63700	3.9	—	13500	1.7	63700	1.9	520	13500
C 90 4_	1137.0	3.1	63700	3.4	—	13500	1.5	63700	1.7	510	13500
C 90 4_	1240.0	2.8	63700	3.1	—	13500	1.4	63700	1.6	500	13500

(—) Contact our Technical Service advising radial load data (rotation CW/CCW, orientation, offset)

# C 90

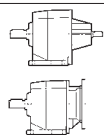
**63,700 lb·in**

	i (ratio)	$n_1 = 1100$ rpm					$n_1 = 600$ rpm				
		$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]	$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]
C 90 2_	5.2	212	43400	153	580	4090	115	51800	100	680	4860
C 90 2_	5.6	196	44700	147	1040	4070	107	53100	95	1290	4900
C 90 2_	6.8	162	48200	130	520	4160	88	54900	81	1150	5530
C 90 2_	7.3	151	49100	124	1100	4250	82	58000	80	1430	5220
C 90 2_	8.3	133	51800	115	610	4340	72	54900	66	1990	6250
C 90 2_	9.0	122	52700	108	1190	4450	67	58400	65	2170	6200
C 90 2_	10.4	106	54900	97	510	4720	58	54900	53	2470	6970
C 90 2_	11.2	98	57100	94	890	4590	54	58400	52	2630	6920
C 90 2_	12.8	86	55300	79	1010	5690	47	55300	43	2970	7670
C 90 2_	13.9	79	58000	77	1310	5490	43	58000	42	3280	7710
C 90 2_	16.0	69	54900	63	1480	6450	38	54900	34	3370	8540
C 90 2_	17.3	64	58000	62	1690	6430	35	58000	34	3370	8570
C 90 2_	18.7	59	54900	54	1600	6970	32	54900	29	3370	9150
C 90 2_	20.2	54	58400	53	1750	6920	29.7	58400	29	3370	9150
C 90 2_	22.9	48	54900	44	1870	7690	26.2	54900	24	3370	10000
C 90 2_	24.8	44	58400	43	2010	7670	24.2	58400	24	3370	10000
C 90 2_	27.2	40	48700	33	3010	8810	22.1	48700	17.9	3370	11200
C 90 2_	29.4	37	52200	33	3080	8790	20.4	52200	17.8	3370	11300
C 90 2_	35.1	31	47800	25	3170	9850	17.1	47800	13.6	3370	12500
C 90 3_	39.4	27.9	62800	30	3370	9130	15.2	62800	16.3	3370	9130
C 90 3_	43.0	25.6	63700	28	3370	9440	14.0	63700	15.2	3370	9440
C 90 3_	50.3	21.9	62800	23	3370	10200	11.9	62800	12.8	3370	10200
C 90 3_	54.9	20.0	63700	22	3370	10500	10.9	63700	11.9	3370	10500
C 90 3_	59.2	18.6	62800	19.9	3370	11000	10.1	62800	10.9	3370	11000
C 90 3_	64.6	17.0	63700	18.5	3370	11300	9.3	63700	10.1	3370	11300
C 90 3_	74.4	14.8	62800	15.8	3370	12100	8.1	62800	8.6	3370	12100
C 90 3_	81.2	13.5	63700	14.7	3370	12500	7.4	63700	8.0	3370	12500
C 90 3_	88.2	12.5	62800	13.4	3370	13000	6.8	62800	7.3	3370	13000
C 90 3_	96.2	11.4	63700	12.4	3370	13400	6.2	63700	6.8	3370	13400
C 90 3_	107.0	10.3	62800	11.0	3370	13500	5.6	62800	6.0	3370	13500
C 90 3_	116.7	9.4	63700	10.2	3370	13500	5.1	63700	5.6	3370	13500
C 90 3_	134.1	8.2	62800	8.8	3370	13500	4.5	62800	4.8	3370	13500
C 90 3_	146.3	7.5	63700	8.2	3370	13500	4.1	63700	4.5	3370	13500
C 90 3_	157.8	7.0	62800	7.5	3370	13500	3.8	62800	4.1	3370	13500
C 90 3_	172.1	6.4	63700	6.9	3370	13500	3.5	63700	3.8	3370	13500
C 90 4_	212.4	5.2	63700	5.8	470	13500	2.8	63700	3.1	720	13500
C 90 4_	231.7	4.7	63700	5.3	550	13500	2.6	63700	2.9	740	13500
C 90 4_	268.5	4.1	63700	4.5	550	13500	2.2	63700	2.5	740	13500
C 90 4_	292.9	3.8	63700	4.2	590	13500	2.0	63700	2.3	760	13500
C 90 4_	339.0	3.2	63700	3.6	580	13500	1.8	63700	2.0	750	13500
C 90 4_	369.8	3.0	63700	3.3	600	13500	1.6	63700	1.8	770	13500
C 90 4_	419.0	2.6	63700	2.9	590	13500	1.4	63700	1.6	760	13500
C 90 4_	457.1	2.4	63700	2.7	610	13500	1.3	63700	1.5	780	13500
C 90 4_	534.2	2.1	63700	2.3	600	13500	1.1	63700	1.2	760	13500
C 90 4_	582.8	1.9	63700	2.1	620	13500	1.0	63700	1.1	790	13500
C 90 4_	652.8	1.7	63700	1.9	610	13500	0.92	63700	1.0	780	13500
C 90 4_	712.2	1.5	63700	1.7	620	13500	0.84	63700	0.94	790	13500
C 90 4_	773.6	1.4	63700	1.6	610	13500	0.78	63700	0.86	780	13500
C 90 4_	844.0	1.3	63700	1.4	630	13500	0.71	63700	0.79	790	13500
C 90 4_	922.3	1.2	63700	1.3	610	13500	0.65	63700	0.72	780	13500
C 90 4_	1006.0	1.1	63700	1.2	630	13500	0.60	63700	0.66	790	13500
C 90 4_	1137.0	0.97	63700	1.1	620	13500	0.53	63700	0.59	790	13500
C 90 4_	1240.0	0.89	63700	0.99	630	13500	0.48	63700	0.54	790	13500



# C 100


**106,200 lb·in**

	i (ratio)	$n_1 = 3500$ rpm					$n_1 = 1750$ rpm				
		$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]	$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]
C 100 2_	4.9	714	48700	581	430	4630	357	60200	359	850	5690
C 100 2_	5.3	660	50000	551	630	4720	330	61500	339	1110	5800
C 100 2_	6.5	538	54400	489	430	4900	269	66800	300	890	6070
C 100 2_	7.1	493	54900	452	700	5100	246	67700	279	1180	6270
C 100 2_	8.4	417	59300	413	420	5130	208	72600	253	890	6410
C 100 2_	9.0	389	60200	391	660	5280	194	73900	240	1170	6560
C 100 2_	10.1	347	62800	363	430	5420	173	77400	224	880	6630
C 100 2_	10.9	321	62800	337	730	5780	161	77400	208	1230	7100
C 100 2_	12.5	280	67700	317	310	5600	140	83200	195	730	6920
C 100 2_	13.5	259	68100	295	580	5910	130	84100	182	1050	7220
C 100 2_	15.2	230	71700	276	290	5980	115	88500	170	600	7310
C 100 2_	16.5	212	73000	259	520	6110	106	89800	159	990	7550
C 100 2_	18.7	187	72600	227	340	6920	94	88500	138	810	8540
C 100 2_	20.2	173	71700	207	680	7240	87	88500	128	1170	8900
C 100 2_	22.2	158	66400	175	800	8050	79	81400	107	1340	9910
C 100 2_	24.1	145	71700	174	810	7910	73	88500	107	1330	9730
C 100 2_	29.6	118	61100	121	1430	9530	59	75200	74	2070	11700
C 100 3_	34.3	102	91600	159	2200	7490	51	103500	90	2920	10400
C 100 3_	36.9	95	94300	153	2290	7760	47	104400	84	2940	10800
C 100 3_	42.9	82	100400	140	2170	7460	41	106200	74	2940	11500
C 100 3_	46.2	76	103500	134	2270	7440	38	106200	69	2990	11900
C 100 3_	53.3	66	106200	119	2120	8180	33	106200	59	2970	12800
C 100 3_	57.4	61	106200	110	2290	8880	30	106200	55	3010	13300
C 100 3_	64.5	54	106200	98	2240	9910	27.1	106200	49	3010	14000
C 100 3_	69.4	50	106200	91	2340	10300	25.2	106200	46	3030	14500
C 100 3_	79.4	44	106200	80	2320	11100	22.0	106200	40	3030	15400
C 100 3_	85.6	41	106200	74	2340	11500	20.4	106200	37	3060	15900
C 100 3_	92.7	38	106200	68	2340	12000	18.9	106200	34	3030	16500
C 100 3_	99.8	35	106200	64	2360	12400	17.5	106200	32	3060	17100
C 100 3_	111.9	31	106200	57	2340	13100	15.6	106200	28	3030	17900
C 100 3_	120.5	29.0	106200	53	2360	13600	14.5	106200	26	3080	18500
C 100 3_	139.7	25.1	97800	42	2380	15200	12.5	97800	21	3080	19100
C 100 3_	150.4	23.3	106200	42	2380	15000	11.6	106200	21	3080	19100
C 100 4_	162.1	21.6	106200	40	—	19100	10.8	106200	20	—	19100
C 100 4_	185.4	18.9	106200	35	—	19100	9.4	106200	17.5	—	19100
C 100 4_	199.6	17.5	106200	32	—	19100	8.8	106200	16.2	—	19100
C 100 4_	244.2	14.3	106200	27	—	19100	7.2	106200	13.3	—	19100
C 100 4_	263.0	13.3	106200	25	—	19100	6.7	106200	12.3	—	19100
C 100 4_	300.5	11.6	106200	22	—	19100	5.8	106200	10.8	—	19100
C 100 4_	323.6	10.8	106200	20	—	19100	5.4	106200	10.0	—	19100
C 100 4_	380.5	9.2	106200	17.0	—	19100	4.6	106200	8.5	—	19100
C 100 4_	409.8	8.5	106200	15.8	—	19100	4.3	106200	7.9	—	19100
C 100 4_	466.7	7.5	106200	13.9	—	19100	3.7	106200	6.9	—	19100
C 100 4_	502.6	7.0	106200	12.9	—	19100	3.5	106200	6.4	—	19100
C 100 4_	582.6	6.0	106200	11.1	—	19100	3.0	106200	5.6	—	19100
C 100 4_	627.4	5.6	106200	10.3	—	19100	2.8	106200	5.2	—	19100
C 100 4_	720.3	4.9	106200	9.0	—	19100	2.4	106200	4.5	—	19100
C 100 4_	775.7	4.5	106200	8.4	—	19100	2.3	106200	4.2	—	19100
C 100 4_	843.3	4.2	106200	7.7	—	19100	2.1	106200	3.8	—	19100
C 100 4_	908.2	3.9	106200	7.1	—	19100	1.9	106200	3.6	190	19100
C 100 4_	1004.0	3.5	106200	6.5	—	19100	1.7	106200	3.2	—	19100
C 100 4_	1081.0	3.2	106200	6.0	—	19100	1.6	106200	3.0	200	19100

(—) Contact our Technical Service advising radial load data (rotation CW/CCW, orientation, offset)

# C 100

**106,200 lb·in**

	i (ratio)	$n_1 = 1100 \text{ rpm}$					$n_1 = 600 \text{ rpm}$				
		$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]	$n_2$ [rpm]	$T_{n2}$ [lb·in]	$P_{n1}$ [hp]	$R_{n1}$ [lb]	$R_{n2}$ [lb]
C 100 2_	4.9	224	69000	259	1190	6470	122	82300	168	1510	7730
C 100 2_	5.3	208	70400	244	1500	6630	113	83600	158	2190	7910
C 100 2_	6.5	169	76100	215	1270	6970	92	90700	140	1700	8320
C 100 2_	7.1	155	77400	200	1580	7150	85	92500	131	2270	8500
C 100 2_	8.4	131	82700	181	1270	7330	71	96900	116	1920	9010
C 100 2_	9.0	122	84100	172	1590	7550	67	100400	112	2270	8970
C 100 2_	10.1	109	88500	161	1250	7550	59	96500	96	2380	10000
C 100 2_	10.9	101	89800	151	1570	7800	55	101800	94	2540	9960
C 100 2_	12.5	88	94700	139	880	7960	48	96000	77	2630	11200
C 100 2_	13.5	81	96000	131	1450	8250	44	101300	75	2770	11100
C 100 2_	15.2	72	95600	116	1340	9170	39	95600	63	2920	12300
C 100 2_	16.5	67	101800	113	1420	8790	36	101800	62	3010	12300
C 100 2_	18.7	59	96500	95	1420	10100	32	96500	52	3010	13400
C 100 2_	20.2	54	101800	93	1550	10100	29.7	101800	50	3150	13500
C 100 2_	22.2	50	87200	72	2060	11700	27.0	87200	39	3370	15200
C 100 2_	24.1	46	95600	73	2010	11500	24.9	95600	40	3370	15100
C 100 2_	29.6	37	80500	50	2830	13800	20.3	80500	27	3370	17600
C 100 3_	34.3	32	103500	57	3370	13000	17.5	103500	31	3370	17000
C 100 3_	36.9	29.8	104400	53	3370	13400	16.3	104400	29	3370	17500
C 100 3_	42.9	25.6	106200	46	3370	14300	14.0	106200	25	3370	18500
C 100 3_	46.2	23.8	106200	43	3370	14700	13.0	106200	24	3370	19100
C 100 3_	53.3	20.6	106200	37	3370	15700	11.3	106200	20	3370	19100
C 100 3_	57.4	19.2	106200	35	3370	16300	10.5	106200	18.9	3370	19100
C 100 3_	64.5	17.1	106200	31	3370	17100	9.3	106200	16.9	3370	19100
C 100 3_	69.4	15.9	106200	29	3370	17700	8.6	106200	15.7	3370	19100
C 100 3_	79.4	13.9	106200	25	3370	18700	7.6	106200	13.7	3370	19100
C 100 3_	85.6	12.9	106200	23	3370	19100	7.0	106200	12.7	3370	19100
C 100 3_	92.7	11.9	106200	21	3370	19100	6.5	106200	11.7	3370	19100
C 100 3_	99.8	11.0	106200	20	3370	19100	6.0	106200	10.9	3370	19100
C 100 3_	111.9	9.8	106200	17.8	3370	19100	5.4	106200	9.7	3370	19100
C 100 3_	120.5	9.1	106200	16.5	3370	19100	5.0	106200	9.0	3370	19100
C 100 3_	139.7	7.9	101800	13.7	3370	19100	4.3	97800	7.2	3370	19100
C 100 3_	150.4	7.3	106200	13.3	3370	19100	4.0	106200	7.2	3370	19100
C 100 4_	162.1	6.8	106200	12.6	—	19100	3.7	106200	6.9	—	19100
C 100 4_	185.4	5.9	106200	11.0	—	19100	3.2	106200	6.0	210	19100
C 100 4_	199.6	5.5	106200	10.2	—	19100	3.0	106200	5.6	320	19100
C 100 4_	244.2	4.5	106200	8.3	—	19100	2.5	106200	4.5	330	19100
C 100 4_	263.0	4.2	106200	7.7	—	19100	2.3	106200	4.2	440	19100
C 100 4_	300.5	3.7	106200	6.8	—	19100	2.0	106200	3.7	410	19100
C 100 4_	323.6	3.4	106200	6.3	190	19100	1.9	106200	3.4	510	19100
C 100 4_	380.5	2.9	106200	5.4	160	19100	1.6	106200	2.9	480	19100
C 100 4_	409.8	2.7	106200	5.0	250	19100	1.5	106200	2.7	570	19100
C 100 4_	466.7	2.4	106200	4.4	200	19100	1.3	106200	2.4	530	19100
C 100 4_	502.6	2.2	106200	4.1	300	19100	1.2	106200	2.2	620	19100
C 100 4_	582.6	1.9	106200	3.5	250	19100	1.0	106200	1.9	570	19100
C 100 4_	627.4	1.8	106200	3.2	330	19100	0.96	106200	1.8	650	19100
C 100 4_	720.3	1.5	106200	2.8	290	19100	0.83	106200	1.5	610	19100
C 100 4_	775.7	1.4	106200	2.6	370	19100	0.77	106200	1.4	690	19100
C 100 4_	843.3	1.3	106200	2.4	310	19100	0.71	106200	1.3	630	19100
C 100 4_	908.2	1.2	106200	2.2	390	19100	0.66	106200	1.2	710	19100
C 100 4_	1004.0	1.1	106200	2.0	310	19100	0.60	106200	1.1	640	19100
C 100 4_	1081.0	1.0	106200	1.9	400	19100	0.56	106200	1.0	710	19100

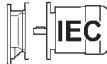
(—) Contact our Technical Service advising radial load data (rotation CW/CCW, orientation, offset)

## 2.11 MOTOR AVAILABILITY

Matches of motors and gearboxes listed in tables (B7), (B8) and (B9) here after are purely based on geometrical compatibility.

When selecting a gearmotor refer to procedure described at chapter 1.8, based on torque/hp rating. Combinations featuring the gear ratios within brackets are not possible.

(B7)

		 <b>IEC (IM B5)</b>											
		P63	P71	P80	P90	P100-P112	P132	P160	P180	P200	P225	P250	P280
<b>C 11 2</b>		2.8_66.2	2.8_66.2	2.8_47.6	2.8_47.6	2.8_47.6							
<b>C 21 2</b>		3.7_63.3 ⊖ (6.4_7.1)	3.7_63.3 ⊖ (6.4_7.1)	2.7_54.7	2.7_54.7	2.7_54.7							
<b>C 21 3</b>		58.8_261.0	58.8_261.0	58.8_261.0	58.8_261.0	58.8_261.0							
<b>C 31 2</b>		5.0_66.8 ⊖ (6.5_9.3)	5.0_66.8 ⊖ (6.5_9.3)	2.9_66.8	2.9_66.8	2.9_66.8							
<b>C 31 3</b>		74.3_274.7	74.3_274.7	74.3_274.7	74.3_274.7	74.3_274.7							
<b>C 35 2</b>		4.6_19.0 ⊖ (6.1_8.8)	4.6_19.0 ⊖ (6.1_8.8)	2.7_19.0	2.7_19.0	2.7_19.0							
<b>C 35 3</b>		34.7_206.4	34.7_206.4	20.2_206.4	20.2_206.4	20.2_206.4							
<b>C 35 4</b>		232.3_848.5	232.3_848.5	232.3_848.5	232.3_848.5	232.3_848.5							
<b>C 41 2</b>		14.2_44.8	14.2_44.8	2.7_44.8	2.7_44.8	2.7_44.8	2.7_31.4						
<b>C 41 3</b>		47.0_209.1	47.0_209.1	28.5_209.1	28.5_209.1	28.5_209.1	28.5_102.3						
<b>C 41 4</b>		239.9_855.5	239.9_855.5	239.9_855.5	239.9_855.5	239.9_855.5							
<b>C 51 2</b>		18.9_57.0	18.9_57.0	2.6_57.0	2.6_57.0	2.6_57.0	2.6_40.4	2.6_40.4	2.6_40.4				
<b>C 51 3</b>		59.0_216.7	59.0_216.7	21.8_216.7	21.8_216.7	21.8_216.7	21.8_124.4	21.8_124.4	21.8_124.4				
<b>C 51 4</b>		240.9_884.9	240.9_884.9	240.9_884.9	240.9_884.9	240.9_884.9							
<b>C 61 2</b>	i =	22.4_38.0	22.4_38.0	3.7_38.0 ⊖ (6.7_7.5)	3.7_38.0 ⊖ (6.7_7.5)	3.7_38.0 ⊖ (6.7_7.5)	2.8_38.0	2.8_38.0	2.8_38.0				
<b>C 61 3</b>		67.7_195.8	67.7_195.8	26.8_195.8	26.8_195.8	26.8_195.8	26.8_140.5	26.8_140.5	26.8_140.5				
<b>C 61 4</b>		217.4_796.1	217.4_796.1	217.4_796.1	217.4_796.1	217.4_796.1							
<b>C 70 2</b>				14.1_34.7 ⊖ (15.3)	14.1_34.7 ⊖ (15.3)	14.1_34.7 ⊖ (15.3)	7.5_34.7 ⊖ (8.0)	4.6_34.7	4.6_34.7	4.6_10.2 ⊖ (9.5)			
<b>C 70 3</b>		65.9_239.3	65.9_239.3	41.3_239.3	41.3_239.3	41.3_239.3	41.3_137.4	41.3_137.4	41.3_137.4				
<b>C 70 4</b>		251.3_1476	251.3_1476	251.3_1476	251.3_1476	251.3_1476	251.3_554.7						
<b>C 80 2</b>				20.5_39.1	20.5_39.1	20.5_39.1	11.1_39.1	7.0_39.1	5.6_31.3	5.6_25.9	5.6_25.9		
<b>C 80 3</b>				43.5_215.9	43.5_215.9	43.5_215.9	43.5_184.4	43.5_184.4	43.5_184.4				
<b>C 80 4</b>		334.3_1481	334.3_1481	261.9_1481	261.9_1481	261.9_1481	261.9_724.7						
<b>C 90 2</b>				22.9_35.1	22.9_35.1	22.9_35.1	12.8_35.1	8.3_35.1	5.2_35.1	5.2_29.4	5.2_29.4	5.2_29.4	
<b>C 90 3</b>				74.4_172.1	74.4_172.1	74.4_172.1	39.4_172.1	39.4_172.1	39.4_172.1	39.4_96.2	39.4_96.2	39.4_96.2	
<b>C 90 4</b>		339.0_1240	339.0_1240	212.4_1240	212.4_1240	212.4_1240	212.4_712.2	212.4_712.2	212.4_712.2				
<b>C 100 2</b>						29.6	15.2_29.6	12.5_29.6	12.5_29.6	4.9_29.6	4.9_29.6	4.9_29.6	4.9_29.6
<b>C 100 3</b>						79.4_150.4	42.9_150.4	34.3_150.4	34.3_120.5	34.3_99.8	34.3_99.8	34.3_99.8	34.3_99.8
<b>C 100 4</b>		380.5_1081	380.5_1081	162.1_1081	162.1_1081	162.1_1081	162.1_775.7	162.1_775.7	162.1_775.7				


(B8)



**NEMA NEMA motor availability**

	HP	N56C	N140TC	N180TC	N210TC	N250TC	N280TC	N320TC
		0.16...1	1.5...2	3...5	7.5...10	15...20	25...30	40...50
C 11 2		2.8_66.2	2.8_47.6	2.8_47.6				
C 21 2		3.7_63.3 ⊖ (6.4_7.1)	2.7_54.7	2.7_54.7				
C 21 3		58.8_261.0	58.8_261.0	58.8_261.0				
C 31 2		5.0_66.8 ⊖ (6.5_9.3)	2.9_66.8	2.9_66.8				
C 31 3		74.3_274.7	74.3_274.7	74.3_274.7				
C 35 2		4.6_19 ⊖ (6.1_8.8)	2.7_19.0	2.7_19.0				
C 35 3		34.7_206.4	20.2_206.4	20.2_206.4				
C 35 4		232.3_848.5	232.3_848.5	232.3_848.5				
C 41 2		14.2_44.8	2.7_44.8	2.7_44.8	2.7_31.4			
C 41 3		47.0_209.1	28.5_209.1	28.5_209.1	28.5_102.3			
C 41 4		239.9_855.5	239.9_855.5	239.9_855.5				
C 51 2		18.9_57.0	2.6_57.0	2.6_57.0	2.6_40.4	2.6_40.4	2.6_40.4	
C 51 3		59.0_216.7	21.8_216.7	21.8_216.7	21.8_124.4	21.8_124.4	21.8_124.4	
C 51 4		240.9_884.9	240.9_884.9	240.9_884.9				
C 61 2	i =	22.4_38.0	3.7_38.0 ⊖ (6.7_7.5)	3.7_38.0 ⊖ (6.7_7.5)	2.8_38.0	2.8_38.0	2.8_38.0	
C 61 3		67.7_195.8	26.8_195.8	26.8_195.8	26.8_140.5	26.8_140.5	26.8_140.5	
C 61 4		217.4_796.1	217.4_796.1	217.4_796.1				
C 70 2			14.1_34.7 ⊖ (15.3)	14.1_34.7 ⊖ (15.3)	7.5_34.7 ⊖ (8.0)	4.6_34.7	4.6_34.7	
C 70 3		65.9_239.3	41.3_239.3	41.3_239.3	41.3_137.4	41.3_137.4	41.3_137.4	
C 70 4		251.3_1476	251.3_1476	251.3_1476	251.3_554.7			
C 80 2				20.5_39.1	11.1_39.1	7_39.1	5.6_31.3	5.6_25.9
C 80 3				43.5_215.8	43.5_184.4	43.5_184.4	43.5_184.4	
C 80 4		334.3_1481	261.9_1481	261.9_1481	261.9_724.7			
C 90 2				22.9_35.1	12.8_35.1	8.3_35.1	5.2_35.1	5.2_29.4
C 90 3				74.4_172.1	39.4_172.1	39.4_172.1	39.4_172.1	39.4_96.2
C 90 4		339_1240	212.4_1240	212.4_1240	212.4_712.2	212.4_712.2	212.4_712.2	
C 100 2					15.2_29.6	12.5_29.6	12.5_29.6	4.9_29.6
C 100 3					42.9_150.4	34.3_150.4	34.3_150.4	34.3_99.8
C 100 4		380.5_1081	162.1_1081	162.1_1081	162.1_775.7	162.1_775.7	162.1_775.7	

(B9)

		 <b>Integral gearmotors</b>						
		M0	M05	M1	M2	M3	M4	M5
C 05 2	i =	27.1_44.7	5.5_44.7	5.5_44.7				
C 11 2			3.7_66.2	2.8_37.0	2.8_47.7	2.8_47.7		
C 21 2			2.8_63.3 ⊖ (6.4_7.1)	3.7_43.3 ⊖ (6.4_7.1)	2.7_54.7	2.7_54.7		
C 21 3			58.8_261.0	58.8_261.0	58.8_261.0	58.8_261.0		
C 31 2				5.0_52.4 ⊖ (6.5_9.3)	2.9_66.8	2.9_66.8		
C 31 3			74.3_274.7	74.3_274.7	74.3_274.7	74.3_274.7		
C 35 2				4.6_19.0 ⊖ (6.1_8.8)	2.7_19.0	2.7_19.0		
C 35 3				34.7_162.0	20.2_206.4	20.2_206.4		
C 35 4			232.3_848.5	232.3_848.5	232.3_848.5	232.3_848.5		
C 41 2				2.7_44.8	2.7_44.8	2.7_44.8	2.7_31.4	
C 41 3				47.0_209.1	28.5_209.1	28.5_209.1	28.5_102.3	
C 41 4			239.9_855.5	239.9_855.5	239.9_855.5	239.9_855.5		
C 51 2				18.9_57.0	2.6_57.0	2.6_57.0	2.6_40.4	
C 51 3				59.0_216.7	21.8_216.7	21.8_216.7	21.8_124.4	
C 51 4				240.9_884.9	240.9_884.9	240.9_884.9		
C 61 2					3.7_38.0 ⊖ (6.7_7.5)	3.7_38.0 ⊖ (6.7_7.5)	2.8_38.0	2.8_38.0
C 61 3					26.8_195.8	26.8_195.8	26.8_140.5	26.8_140.5
C 61 4				217.4_796.1	217.4_796.1	217.4_796.1		
C 70 2					14.1_34.7 ⊖ (15.3)	14.1_34.7 ⊖ (15.3)	7.5_34.7 ⊖ (8.0)	7.5_34.7 ⊖ (8.0)
C 70 3					41.3_239.3	41.3_239.3	41.3_137.4	41.3_137.4
C 70 4				251.3_1476	251.3_1476	251.3_1476	251.3_554.7	
C 80 2						20.5_39.1	11.1_39.1	11.1_39.1
C 80 3						43.5_215.8	43.5_184.4	43.5_184.4
C 80 4				261.9_1481	261.9_1481	261.9_1481	261.9_724.7	
C 90 2						22.9_35.1	12.8_35.1	12.8_35.1
C 90 3						74.4_172.1	39.4_172.1	39.4_172.1
C 90 4				339.0_1240	212.4_1240	212.4_1240	212.4_712.2	
C 100 2							15.2_29.6	15.2_29.6
C 100 3							42.9_150.4	42.9_150.4
C 100 4				380.5_1081	162.1_1081	162.1_1081	162.1_775.7	

## 2.12 MASS MOMENT OF INERTIA

### C 05



Type	i (ratio)	J ( $\cdot 10^{-4}$ ) [lb-ft <sup>2</sup> ]							
		NEMA Motor frame							
		N56C	N140TC	N180TC	N210TC	N250TC	N280TC	N320TC	
C 05 2_5.5	6.9	—	—	—	—	—	—	—	—
C 05 2_6.7	6.9	—	—	—	—	—	—	—	—
C 05 2_7.4	6.7	—	—	—	—	—	—	—	—
C 05 2_9.3	4.0	—	—	—	—	—	—	—	—
C 05 2_11.2	3.8	—	—	—	—	—	—	—	—
C 05 2_12.5	3.8	—	—	—	—	—	—	—	—
C 05 2_15.6	2.1	—	—	—	—	—	—	—	—
C 05 2_18.9	2.1	—	—	—	—	—	—	—	—
C 05 2_21.0	1.9	—	—	—	—	—	—	—	—
C 05 2_27.1	0.95	—	—	—	—	—	—	—	—
C 05 2_32.8	0.95	—	—	—	—	—	—	—	—
C 05 2_36.4	0.95	—	—	—	—	—	—	—	—
C 05 2_40.3	0.71	—	—	—	—	—	—	—	—
C 05 2_44.7	0.71	—	—	—	—	—	—	—	—

### C 11

Type	i (ratio)	J ( $\cdot 10^{-4}$ ) [lb-ft <sup>2</sup> ]							
		NEMA Motor frame							
		N56C	N140TC	N180TC	N210TC	N250TC	N280TC	N320TC	
C 11 2_2.8	10	45	76	107	—	—	—	—	31
C 11 2_3.7	6.9	40	74	105	—	—	—	—	29
C 11 2_4.9	4.5	40	71	102	—	—	—	—	26
C 11 2_6.2	2.9	38	69	100	—	—	—	—	24
C 11 2_6.9	8.1	43	74	105	—	—	—	—	29
C 11 2_7.6	7.8	43	74	105	—	—	—	—	29
C 11 2_9.1	5.5	40	71	102	—	—	—	—	26
C 11 2_10.1	5.5	40	71	102	—	—	—	—	26
C 11 2_12.1	3.8	38	71	100	—	—	—	—	26
C 11 2_13.4	3.8	38	69	100	—	—	—	—	26
C 11 2_15.5	2.4	38	69	100	—	—	—	—	24
C 11 2_17.2	2.4	38	69	100	—	—	—	—	24
C 11 2_18.6	1.9	36	69	100	—	—	—	—	24
C 11 2_20.6	1.9	36	69	100	—	—	—	—	24
C 11 2_22.8	1.4	36	67	97	—	—	—	—	24
C 11 2_25.4	1.4	36	67	97	—	—	—	—	24
C 11 2_29.5	0.95	36	67	97	—	—	—	—	21
C 11 2_32.8	0.95	36	67	97	—	—	—	—	21
C 11 2_33.4	0.71	36	67	97	—	—	—	—	21
C 11 2_37.0	0.71	36	67	97	—	—	—	—	21
C 11 2_42.9	0.48	36	43	97	—	—	—	—	21
C 11 2_47.6	0.48	36	67	97	—	—	—	—	21
C 11 2_49.7	0.48	36	67	97	—	—	—	—	21
C 11 2_55.2	0.48	36	67	97	—	—	—	—	21
C 11 2_59.6	0.24	36	67	97	—	—	—	—	21
C 11 2_66.2	0.24	36	67	97	—	—	—	—	21






## C 21

Type	i (ratio)	$J (\cdot 10^{-4})$ [lb·ft <sup>2</sup> ]								
		 NEMA Motor frame								
		N56C	N140TC	N180TC	N210TC	N250TC	N280TC	N320TC		
C 21 2_2.7	28	64	95	126	—	—	—	—	74	
C 21 2_3.7	17	52	83	114	—	—	—	—	62	
C 21 2_4.8	11	45	78	109	—	—	—	—	57	
C 21 2_6.1	6.9	40	74	105	—	—	—	—	52	
C 21 2_6.4	19	55	86	116	—	—	—	—	64	
C 21 2_7.1	18	52	86	114	—	—	—	—	62	
C 21 2_8.7	12	48	78	109	—	—	—	—	57	
C 21 2_9.6	12	48	78	109	—	—	—	—	57	
C 21 2_11.2	8.6	43	74	105	—	—	—	—	52	
C 21 2_12.4	8.3	43	74	105	—	—	—	—	52	
C 21 2_14.3	5.0	40	71	102	—	—	—	—	50	
C 21 2_15.8	4.8	40	71	102	—	—	—	—	50	
C 21 2_18.0	3.6	38	69	100	—	—	—	—	48	
C 21 2_20.0	3.6	38	69	100	—	—	—	—	48	
C 21 2_21.9	2.9	38	69	100	—	—	—	—	48	
C 21 2_24.3	2.9	38	69	100	—	—	—	—	48	
C 21 2_26.7	2.1	36	69	100	—	—	—	—	48	
C 21 2_29.6	2.1	36	69	100	—	—	—	—	48	
C 21 2_33.1	1.4	36	67	97	—	—	—	—	45	
C 21 2_36.8	1.4	36	67	97	—	—	—	—	45	
C 21 2_39.0	1.2	36	67	97	—	—	—	—	45	
C 21 2_43.3	1.2	36	67	97	—	—	—	—	45	
C 21 2_49.3	0.71	36	67	97	—	—	—	—	45	
C 21 2_54.7	0.71	36	67	97	—	—	—	—	45	
C 21 2_57.0	0.48	36	67	97	—	—	—	—	45	
C 21 2_63.3	0.48	36	67	97	—	—	—	—	45	
C 21 3_74.4	0.71	36	67	97	—	—	—	—	22	
C 21 3_82.6	0.71	36	67	97	—	—	—	—	22	
C 21 3_90.2	0.71	36	67	97	—	—	—	—	22	
C 21 3_100.2	0.71	36	67	97	—	—	—	—	22	
C 21 3_110.0	0.71	36	67	97	—	—	—	—	22	
C 21 3_122.2	0.71	36	67	97	—	—	—	—	22	
C 21 3_136.5	0.48	36	67	97	—	—	—	—	22	
C 21 3_151.7	0.48	36	67	97	—	—	—	—	22	
C 21 3_160.7	0.48	36	67	97	—	—	—	—	22	
C 21 3_178.5	0.48	36	67	97	—	—	—	—	22	
C 21 3_203.2	0.48	36	67	97	—	—	—	—	22	
C 21 3_225.8	0.48	36	67	97	—	—	—	—	22	
C 21 3_235.0	0.48	36	67	97	—	—	—	—	22	
C 21 3_261.0	0.48	36	67	97	—	—	—	—	22	

# C 31




J ( $\cdot 10^{-4}$ ) [lb·ft<sup>2</sup>]

Type	i (ratio)									
			NEMA Motor frame							
			N56C	N140TC	N180TC	N210TC	N250TC	N280TC	N320TC	
C 31 2_2.9	55	90	121	152	—	—	—	—	109	
C 31 2_3.7	38	71	102	133	—	—	—	—	90	
C 31 2_5.0	21	55	88	119	—	—	—	—	74	
C 31 2_6.3	15	50	81	112	—	—	—	—	67	
C 31 2_6.5	37	71	105	135	—	—	—	—	90	
C 31 2_7.2	36	713	102	133	—	—	—	—	88	
C 31 2_8.4	26	62	93	124	—	—	—	—	78	
C 31 2_9.3	26	59	90	121	—	—	—	—	78	
C 31 2_11.1	15	50	81	112	—	—	—	—	67	
C 31 2_12.3	14	50	81	112	—	—	—	—	67	
C 31 2_14.0	11	45	78	107	—	—	—	—	64	
C 31 2_15.6	11	45	78	107	—	—	—	—	64	
C 31 2_18.1	8.1	43	74	105	—	—	—	—	62	
C 31 2_20.1	8.1	43	74	105	—	—	—	—	62	
C 31 2_22.6	5.9	40	71	102	—	—	—	—	59	
C 31 2_25.1	5.9	40	71	102	—	—	—	—	59	
C 31 2_26.8	4.8	40	71	102	—	—	—	—	57	
C 31 2_29.8	4.5	40	71	102	—	—	—	—	57	
C 31 2_32.5	3.3	38	69	100	—	—	—	—	57	
C 31 2_36.1	3.3	38	69	100	—	—	—	—	57	
C 31 2_40.7	2.4	38	69	100	—	—	—	—	55	
C 31 2_45.3	2.4	38	69	100	—	—	—	—	55	
C 31 2_47.2	1.9	36	69	100	—	—	—	—	55	
C 31 2_52.4	1.9	36	69	100	—	—	—	—	55	
C 31 2_60.2	1.2	36	67	97	—	—	—	—	55	
C 31 2_66.8	1.2	36	67	97	—	—	—	—	55	
C 31 3_74.3	1.4	36	67	97	—	—	—	—	23	
C 31 3_82.6	1.4	36	67	97	—	—	—	—	23	
C 31 3_93.0	1.2	36	67	97	—	—	—	—	23	
C 31 3_103.3	1.2	36	67	97	—	—	—	—	23	
C 31 3_110.2	1.2	36	67	97	—	—	—	—	23	
C 31 3_122.4	1.2	36	67	97	—	—	—	—	23	
C 31 3_133.6	1.2	36	67	97	—	—	—	—	23	
C 31 3_148.4	1.2	36	67	97	—	—	—	—	23	
C 31 3_167.5	0.95	36	67	97	—	—	—	—	22	
C 31 3_186.0	0.95	36	67	97	—	—	—	—	22	
C 31 3_194.1	0.95	36	67	97	—	—	—	—	22	
C 31 3_215.6	0.95	36	67	97	—	—	—	—	22	
C 31 3_247.3	0.95	36	67	97	—	—	—	—	22	
C 31 3_274.7	0.95	36	67	97	—	—	—	—	22	



## C 35

Type	i (ratio)	$J (\cdot 10^{-4})$ [lb-ft <sup>2</sup> ]								
		NEMA Motor frame								
		N56C	N140TC	N180TC	N210TC	N250TC	N280TC	N320TC		
C 35 2_2.7	86	—	152	183	—	—	—	—	335	
C 35 2_3.5	57	—	124	154	—	—	—	—	306	
C 35 2_4.6	36	71	102	133	—	—	—	—	285	
C 35 2_5.8	24	59	90	121	—	—	—	—	273	
C 35 2_6.1	55	—	121	152	—	—	—	—	304	
C 35 2_6.8	52	—	119	150	—	—	—	—	302	
C 35 2_7.9	38	—	105	135	—	—	—	—	287	
C 35 2_8.8	36	—	102	133	—	—	—	—	285	
C 35 2_10.5	26	62	93	124	—	—	—	—	276	
C 35 2_11.7	24	59	90	121	—	—	—	—	273	
C 35 2_13.3	17	52	83	114	—	—	—	—	266	
C 35 2_14.8	14	50	81	111	—	—	—	—	263	
C 35 2_17.1	12	47	78	109	—	—	—	—	261	
C 35 2_19.0	11	47	78	109	—	—	—	—	261	
C 35 3_20.2	40	—	107	138	—	—	—	—	290	
C 35 3_22.1	40	—	107	138	—	—	—	—	290	
C 35 3_26.2	29	—	95	126	—	—	—	—	278	
C 35 3_28.7	29	—	95	126	—	—	—	—	278	
C 35 3_34.7	19	55	86	116	—	—	—	—	268	
C 35 3_38.1	19	55	86	116	—	—	—	—	268	
C 35 3_43.9	12	48	78	109	—	—	—	—	261	
C 35 3_48.2	12	48	78	109	—	—	—	—	261	
C 35 3_56.5	9.0	45	76	106	—	—	—	—	258	
C 35 3_62.0	9.7	45	76	107	—	—	—	—	259	
C 35 3_70.7	6.7	42	73	104	—	—	—	—	256	
C 35 3_77.6	6.7	42	73	104	—	—	—	—	256	
C 35 3_83.8	5.0	41	71	102	—	—	—	—	254	
C 35 3_91.9	5.0	41	71	102	—	—	—	—	254	
C 35 3_101.6	3.8	39	70	101	—	—	—	—	253	
C 35 3_111.5	3.8	39	70	101	—	—	—	—	253	
C 35 3_127.3	2.6	38	69	100	—	—	—	—	252	
C 35 3_139.8	2.6	38	69	100	—	—	—	—	252	
C 35 3_147.6	2.1	38	69	100	—	—	—	—	252	
C 35 3_162.0	2.1	38	69	100	—	—	—	—	252	
C 35 3_188.0	1.4	37	68	99	—	—	—	—	251	
C 35 3_206.4	1.4	37	68	99	—	—	—	—	251	
C 35 4_232.3	1.9	38	68	99	—	—	—	—	21	
C 35 4_255.0	1.9	38	68	99	—	—	—	—	21	
C 35 4_290.6	1.7	37	68	99	—	—	—	—	21	
C 35 4_318.9	1.7	37	68	99	—	—	—	—	21	
C 35 4_344.3	1.4	37	68	99	—	—	—	—	20	
C 35 4_377.9	1.4	37	68	99	—	—	—	—	20	
C 35 4_417.6	1.4	37	68	99	—	—	—	—	20	
C 35 4_458.4	1.4	37	68	99	—	—	—	—	20	
C 35 4_523.5	1.4	37	68	99	—	—	—	—	20	
C 35 4_574.7	1.4	37	68	99	—	—	—	—	20	
C 35 4_606.6	1.4	37	68	99	—	—	—	—	20	
C 35 4_665.9	1.4	37	68	99	—	—	—	—	20	
C 35 4_773.0	1.4	37	68	99	—	—	—	—	20	
C 35 4_848.5	1.4	37	68	99	—	—	—	—	20	

# C 41




Type	i (ratio)	J ( $\cdot 10^{-4}$ ) [lb·ft <sup>2</sup> ]								
										
			NEMA Motor frame							
		N56C	N140TC	N180TC	N210TC	N250TC	N280TC	N320TC		
C 41 2_2.7	238	—	304	335	686	—	—	—	487	
C 41 2_3.6	143	—	209	240	591	—	—	—	392	
C 41 2_4.7	88	—	154	185	537	—	—	—	337	
C 41 2_6.0	59	—	126	157	508	—	—	—	309	
C 41 2_6.4	102	—	169	200	551	—	—	—	352	
C 41 2_7.1	97	—	164	195	546	—	—	—	347	
C 41 2_8.6	69	—	135	166	518	—	—	—	318	
C 41 2_9.6	67	—	133	164	515	—	—	—	316	
C 41 2_11.2	43	—	109	140	492	—	—	—	292	
C 41 2_12.4	43	—	109	140	492	—	—	—	292	
C 41 2_14.2	33	69	100	131	482	—	—	—	283	
C 41 2_15.8	31	67	97	128	480	—	—	—	280	
C 41 2_17.8	24	59	90	121	473	—	—	—	273	
C 41 2_19.8	23	59	90	121	473	—	—	—	273	
C 41 2_22.6	14	50	81	112	463	—	—	—	264	
C 41 2_25.0	14	50	81	112	463	—	—	—	264	
C 41 2_28.3	10	45	76	107	458	—	—	—	259	
C 41 2_31.4	10	45	76	107	458	—	—	—	259	
C 41 2_33.4	8.1	43	74	105	—	—	—	—	257	
C 41 2_37.1	7.8	43	74	105	—	—	—	—	257	
C 41 2_44.8	6.4	43	74	105	—	—	—	—	257	
C 41 3_28.5	60	—	126	157	508	—	—	—	309	
C 41 3_31.2	60	—	126	157	508	—	—	—	309	
C 41 3_36.8	38	—	105	135	487	—	—	—	287	
C 41 3_40.3	38	—	105	135	487	—	—	—	287	
C 41 3_47.0	29	64	95	126	477	—	—	—	278	
C 41 3_51.5	29	64	95	126	477	—	—	—	278	
C 41 3_58.7	21	57	88	119	470	—	—	—	271	
C 41 3_64.3	21	57	88	119	470	—	—	—	271	
C 41 3_74.4	14	50	81	112	463	—	—	—	264	
C 41 3_81.5	14	50	81	112	463	—	—	—	264	
C 41 3_93.9	9.5	45	76	107	458	—	—	—	259	
C 41 3_102.3	9.5	45	76	107	458	—	—	—	259	
C 41 3_110.1	7.1	43	74	105	—	—	—	—	257	
C 41 3_120.6	7.1	43	74	105	—	—	—	—	257	
C 41 3_132.9	7.1	43	74	105	—	—	—	—	257	
C 41 3_145.6	7.1	43	74	105	—	—	—	—	257	
C 41 3_164.1	4.8	40	71	102	—	—	—	—	254	
C 41 3_179.9	4.8	40	71	102	—	—	—	—	254	
C 41 3_190.8	2.4	38	69	100	—	—	—	—	252	
C 41 3_209.1	2.4	38	69	100	—	—	—	—	252	

## C 41

Type	i (ratio)	J ( $\cdot 10^{-4}$ ) [lb·ft <sup>2</sup> ]								
		 NEMA Motor frame								
		N56C	N140TC	N180TC	N210TC	N250TC	N280TC	N320TC		
<b>C 41 4_239.9</b>	3.6	40	71	102	—	—	—	—	50	
<b>C 41 4_263.0</b>	3.6	40	71	102	—	—	—	—	50	
<b>C 41 4_304.2</b>	3.1	38	69	100	—	—	—	—	48	
<b>C 41 4_333.4</b>	3.1	38	69	100	—	—	—	—	48	
<b>C 41 4_382.0</b>	2.9	38	69	100	—	—	—	—	48	
<b>C 41 4_419.0</b>	2.9	38	69	100	—	—	—	—	48	
<b>C 41 4_450.2</b>	2.9	38	69	100	—	—	—	—	48	
<b>C 41 4_493.5</b>	2.9	38	69	100	—	—	—	—	48	
<b>C 41 4_543.5</b>	2.9	38	69	100	—	—	—	—	48	
<b>C 41 4_595.8</b>	2.9	38	69	100	—	—	—	—	48	
<b>C 41 4_671.3</b>	2.4	38	69	100	—	—	—	—	48	
<b>C 41 4_735.9</b>	2.4	38	69	100	—	—	—	—	48	
<b>C 41 4_780.4</b>	2.4	38	69	100	—	—	—	—	48	
<b>C 41 4_855.5</b>	2.4	38	69	100	—	—	—	—	48	



# C 51

J ( $\cdot 10^{-4}$ ) [lb·ft<sup>2</sup>]

Type	i (ratio)								
			NEMA Motor frame						
			N56C	N140TC	N180TC	N210TC	N250TC	N280TC	
C 51 2_2.6	344	—	411	442	793	—	—	—	594
C 51 2_3.3	238	—	304	335	686	—	—	—	487
C 51 2_4.5	150	—	216	247	599	—	—	—	399
C 51 2_5.6	97	—	164	195	546	—	—	—	347
C 51 2_7.0	192	—	259	290	641	—	—	—	442
C 51 2_7.8	185	—	252	283	634	—	—	—	435
C 51 2_8.8	143	—	209	240	591	—	—	—	392
C 51 2_9.8	138	—	204	235	587	—	—	—	387
C 51 2_11.8	97	—	164	195	546	—	—	—	347
C 51 2_13.1	95	—	162	192	544	—	—	—	344
C 51 2_15.0	64	—	131	162	513	—	—	—	314
C 51 2_16.6	62	—	128	159	511	—	—	—	311
C 51 2_18.9	48	83	114	145	496	—	—	—	297
C 51 2_21.0	45	81	112	143	494	—	—	—	295
C 51 2_23.4	36	71	102	133	485	—	—	—	285
C 51 2_25.9	33	69	100	131	482	—	—	—	283
C 51 2_29.8	21	57	88	119	470	—	—	—	271
C 51 2_33.0	21	57	88	119	470	—	—	—	271
C 51 2_36.4	17	52	83	114	466	—	—	—	266
C 51 2_40.4	17	52	83	114	466	—	—	—	266
C 51 2_43.1	12	48	78	109	—	—	—	—	261
C 51 2_47.8	12	48	78	109	—	—	—	—	261
C 51 2_51.4	9.5	45	76	107	—	—	—	—	259
C 51 2_57.0	9.5	45	76	107	—	—	—	—	259
C 51 3_21.8	162	—	228	259	610	1846	1798	—	411
C 51 3_23.9	162	—	228	259	610	1846	1798	—	411
C 51 3_27.4	124	—	190	221	572	1846	1798	—	373
C 51 3_30.1	124	—	190	221	572	1846	1798	—	373
C 51 3_37.0	86	—	152	183	534	1846	1798	—	335
C 51 3_40.5	86	—	152	183	534	1846	1798	—	335
C 51 3_46.7	57	—	124	154	506	1846	1798	—	306
C 51 3_51.2	57	—	124	154	506	1846	1798	—	306
C 51 3_59.0	43	78	109	140	492	1846	1798	—	292
C 51 3_64.6	43	78	109	140	492	1846	1798	—	292
C 51 3_72.9	31	67	97	128	480	1846	1798	—	280
C 51 3_79.7	31	67	97	128	480	1846	1798	—	280
C 51 3_93.0	19	55	86	116	468	1846	1798	—	268
C 51 3_101.8	19	55	86	116	468	1846	1798	—	268
C 51 3_113.6	14	50	81	112	463	1846	1798	—	264
C 51 3_124.4	14	50	81	112	463	1846	1798	—	264
C 51 3_134.6	12	48	78	109	—	—	—	—	261
C 51 3_147.4	12	48	78	109	—	—	—	—	261
C 51 3_160.5	9.5	45	76	107	—	—	—	—	259
C 51 3_175.8	9.5	45	76	107	—	—	—	—	259
C 51 3_197.9	7.1	43	74	105	—	—	—	—	257
C 51 3_216.7	7.1	43	74	105	—	—	—	—	257





## C 51

Type	i (ratio)	J ( $\cdot 10^{-4}$ ) [lb·ft <sup>2</sup> ]								
		 NEMA Motor frame								
		N56C	N140TC	N180TC	N210TC	N250TC	N280TC	N320TC		
<b>C 51 4_240.9</b>	7.1	43	74	105	—	—	—	—	29	
<b>C 51 4_263.8</b>	7.1	43	74	105	—	—	—	—	29	
<b>C 51 4_297.8</b>	7.1	43	74	105	—	—	—	—	29	
<b>C 51 4_326.1</b>	7.1	43	74	105	—	—	—	—	29	
<b>C 51 4_380.0</b>	4.8	40	71	102	—	—	—	—	26	
<b>C 51 4_416.0</b>	4.8	40	71	102	—	—	—	—	26	
<b>C 51 4_463.9</b>	4.8	40	71	102	—	—	—	—	26	
<b>C 51 4_508.0</b>	4.8	40	71	102	—	—	—	—	26	
<b>C 51 4_549.7</b>	4.8	40	71	102	—	—	—	—	26	
<b>C 51 4_602.0</b>	4.8	40	71	102	—	—	—	—	26	
<b>C 51 4_655.4</b>	4.8	40	71	102	—	—	—	—	26	
<b>C 51 4_717.7</b>	4.8	40	71	102	—	—	—	—	26	
<b>C 51 4_808.0</b>	4.8	40	71	102	—	—	—	—	26	
<b>C 51 4_884.9</b>	4.8	40	71	102	—	—	—	—	26	

## C 61




Type	i (ratio)	J ( $\cdot 10^{-4}$ ) [lb·ft <sup>2</sup> ]							
		NEMA Motor frame							
		N56C	N140TC	N180TC	N210TC	N250TC	N280TC	N320TC	
C 61 2_2.8	713	—	—	—	1162	1846	1798	—	1230
C 61 2_3.7	451	—	518	549	900	1846	1798	—	969
C 61 2_4.6	333	—	399	430	781	1846	1798	—	850
C 61 2_6.0	209	—	276	306	658	1846	1798	—	727
C 61 2_6.7	333	—	399	430	781	1846	1798	—	850
C 61 2_7.5	309	—	375	406	758	1846	1798	—	827
C 61 2_8.8	309	—	375	406	758	1846	1798	—	827
C 61 2_9.8	285	—	352	382	734	1846	1798	—	803
C 61 2_10.9	228	—	295	325	677	1846	1798	—	746
C 61 2_12.1	219	—	285	316	667	1846	1798	—	736
C 61 2_14.3	138	—	204	235	587	1846	1798	—	656
C 61 2_15.9	133	—	200	230	582	1846	1798	—	651
C 61 2_17.7	105	—	171	202	553	1846	1798	—	622
C 61 2_19.6	102	—	169	200	551	1846	1798	—	620
C 61 2_22.4	76	112	143	173	525	1846	1798	—	594
C 61 2_24.8	74	109	140	171	523	1846	1798	—	591
C 61 2_27.4	50	86	116	147	499	1846	1798	—	568
C 61 2_30.4	52	88	119	150	501	1846	1798	—	570
C 61 2_34.2	36	71	102	133	485	1846	1798	—	553
C 61 2_38.0	36	71	102	133	485	1846	1798	—	553
C 61 3_26.8	238	—	304	335	686	1846	1798	—	755
C 61 3_29.4	238	—	304	335	686	1846	1798	—	755
C 61 3_33.0	192	—	259	290	641	1846	1798	—	710
C 61 3_36.1	192	—	259	290	641	1846	1798	—	710
C 61 3_43.4	119	—	185	216	568	1846	1798	—	637
C 61 3_47.6	119	—	185	216	568	1846	1798	—	637
C 61 3_53.5	93	—	159	190	542	1846	1798	—	610
C 61 3_58.6	90	—	157	188	539	1846	1798	—	608
C 61 3_67.7	67	102	133	164	515	1846	1798	—	584
C 61 3_74.2	67	102	133	164	515	1846	1798	—	584
C 61 3_83.0	45	81	112	143	494	1846	1798	—	563
C 61 3_91.0	45	81	112	143	494	1846	1798	—	563
C 61 3_103.6	31	67	97	128	480	1846	1798	—	549
C 61 3_113.6	31	67	97	128	480	1846	1798	—	549
C 61 3_128.1	24	59	90	121	473	1846	1798	—	542
C 61 3_140.5	24	59	90	121	473	1846	1798	—	542
C 61 3_150.0	17	52	83	114	—	—	—	—	534
C 61 3_164.5	17	52	83	114	—	—	—	—	534
C 61 3_178.6	14	50	81	112	—	—	—	—	532
C 61 3_195.8	14	50	81	112	—	—	—	—	532

## C 61



Type	i (ratio)	J ( $\cdot 10^{-4}$ ) [lb·ft <sup>2</sup> ]								
		 NEMA Motor frame								
		N56C	N140TC	N180TC	N210TC	N250TC	N280TC	N320TC		
<b>C 61 4_217.4</b>	16	52	82	113	—	—	—	—	265	
<b>C 61 4_238.3</b>	16	52	82	113	—	—	—	—	265	
<b>C 61 4_275.3</b>	19	55	86	117	—	—	—	—	269	
<b>C 61 4_301.7</b>	19	55	86	117	—	—	—	—	269	
<b>C 61 4_337.7</b>	13	49	80	111	—	—	—	—	263	
<b>C 61 4_370.1</b>	13	49	80	111	—	—	—	—	263	
<b>C 61 4_421.5</b>	13	48	79	110	—	—	—	—	262	
<b>C 61 4_462.0</b>	13	48	79	110	—	—	—	—	262	
<b>C 61 4_521.1</b>	12	48	79	110	—	—	—	—	262	
<b>C 61 4_571.2</b>	12	48	79	110	—	—	—	—	262	
<b>C 61 4_610.1</b>	12	47	78	109	—	—	—	—	261	
<b>C 61 4_668.8</b>	12	47	78	109	—	—	—	—	261	
<b>C 61 4_726.3</b>	11	47	78	109	—	—	—	—	261	
<b>C 61 4_796.1</b>	11	47	78	109	—	—	—	—	261	

## C 70

$J (\cdot 10^{-4})$  [lb·ft<sup>2</sup>]




Type	i (ratio)								
			NEMA Motor frame						
			N56C	N140TC	N180TC	N210TC	N250TC	N280TC	
C 70 2_4.6	—	—	—	—	—	3230	3159	—	2352
C 70 2_5.9	—	—	—	—	—	2827	2779	—	760
C 70 2_6.3	—	—	—	—	—	3064	3017	—	2209
C 70 2_7.5	627	—	—	—	1069	2494	2423	—	1615
C 70 2_8.0	—	—	—	—	—	2732	2684	—	1853
C 70 2_9.5	444	—	—	—	903	2304	2257	—	1425
C 70 2_10.2	565	—	—	—	1021	2423	2375	—	1544
C 70 2_11.2	363	—	—	—	808	2233	2162	—	1330
C 70 2_13.0	409	—	—	—	855	2257	2209	—	1378
C 70 2_14.1	235	—	290	321	686	2090	2043	—	1211
C 70 2_15.3	337	—	—	—	784	2209	2138	—	1306
C 70 2_16.7	164	—	223	254	615	2019	1971	—	1140
C 70 2_19.3	216	—	273	304	665	2067	2019	—	1188
C 70 2_22.9	152	—	211	242	601	2019	1971	—	1140
C 70 2_27.7	124	—	188	219	572	1995	1924	—	1093
C 70 2_34.7	76	—	143	173	525	1948	1876	—	1045
C 70 3_41.3	105	—	171	202	553	1971	1900	—	1093
C 70 3_44.7	100	—	166	195	546	1971	1900	—	1069
C 70 3_52.2	71	—	138	166	520	1924	1876	—	1045
C 70 3_56.5	67	—	133	164	515	1924	1876	—	1045
C 70 3_65.9	48	—	114	145	496	1900	1853	—	1021
C 70 3_71.3	48	—	114	143	496	1900	1853	—	1021
C 70 3_81.4	36	—	102	133	485	1900	1853	—	1021
C 70 3_88.2	33	—	100	131	482	1900	1805	—	1021
C 70 3_103.8	24	—	90	121	473	1876	1829	—	998
C 70 3_112.4	21	—	88	119	470	1876	1829	—	998
C 70 3_126.8	17	—	83	114	466	1876	1829	—	998
C 70 3_137.4	17	—	83	112	466	1876	1829	—	998
C 70 3_150.3	12	—	81	228	—	—	—	—	998
C 70 3_162.8	12	—	81	109	—	—	—	—	998
C 70 3_179.2	9.5	—	78	107	—	—	—	—	998
C 70 3_194.1	9.5	—	76	107	—	—	—	—	998
C 70 3_220.9	7.1	—	74	102	—	—	—	—	974
C 70 3_239.3	7.1	—	74	102	—	—	—	—	974

## C 70



Type	i (ratio)	J ( $\cdot 10^4$ ) [lb·ft <sup>2</sup> ]								
		 NEMA Motor frame								
		N56C	N140TC	N180TC	N210TC	N250TC	N280TC	N320TC		
<b>C 70 4_251.3</b>	17	52	83	114	466	1876	1829	—	259	
<b>C 70 4_272.2</b>	17	50	83	114	466	1876	1829	—	259	
<b>C 70 4_317.9</b>	12	48	78	109	461	1876	1829	—	254	
<b>C 70 4_344.3</b>	12	48	78	109	461	1876	1829	—	254	
<b>C 70 4_409.4</b>	9.5	43	76	107	458	1876	1805	—	188	
<b>C 70 4_443.5</b>	9.5	43	76	107	458	1876	1805	—	188	
<b>C 70 4_512.0</b>	7.1	40	74	105	456	1876	1805	—	185	
<b>C 70 4_554.7</b>	7.1	40	74	105	456	1876	1805	—	185	
<b>C 70 4_606.8</b>	4.8	40	71	102	—	—	—	—	185	
<b>C 70 4_657.3</b>	4.8	40	71	102	—	—	—	—	183	
<b>C 70 4_736.0</b>	4.8	38	69	102	—	—	—	—	183	
<b>C 70 4_797.3</b>	4.8	38	69	102	—	—	—	—	183	
<b>C 70 4_922.6</b>	2.4	38	69	100	—	—	—	—	183	
<b>C 70 4_999.5</b>	2.4	38	69	100	—	—	—	—	181	
<b>C 70 4_1069</b>	19	36	69	100	—	—	—	—	181	
<b>C 70 4_1158</b>	19	36	69	100	—	—	—	—	181	
<b>C 70 4_1362</b>	14	36	69	97	—	—	—	—	181	
<b>C 70 4_1476</b>	14	36	69	97	—	—	—	—	181	

## C 80

$J (\cdot 10^{-4}) [lb \cdot ft^2]$

Type	i (ratio)								
			NEMA Motor frame						
			N56C	N140TC	N180TC	N210TC	N250TC	N280TC	
C 80 2_5.6	—	—	—	—	—	—	4679	—	3895
C 80 2_6.1	—	—	—	—	—	—	4584	—	3777
C 80 2_7.0	—	—	—	—	—	3800	3824	—	3017
C 80 2_7.6	—	—	—	—	—	3753	3753	—	2945
C 80 2_8.9	—	—	—	—	—	3254	3207	—	2399
C 80 2_9.6	—	—	—	—	—	3230	3159	—	2352
C 80 2_11.1	891	—	—	—	1330	2755	2684	9691	1876
C 80 2_12.0	865	—	—	—	1306	2732	2660	9667	1853
C 80 2_13.8	667	—	—	—	1116	2518	2470	9454	1639
C 80 2_14.9	651	—	—	—	1093	2518	2447	9430	1639
C 80 2_16.7	508	—	—	—	950	2375	2304	9287	1496
C 80 2_18.1	496	—	—	—	950	2352	2304	9264	1473
C 80 2_20.5	337	—	394	425	784	2209	2138	9097	1306
C 80 2_22.2	330	—	387	418	784	2185	2138	9097	1306
C 80 2_24.0	311	—	371	401	760	2162	2114	9074	1283
C 80 2_25.9	306	—	366	397	760	2162	2114	9074	1283
C 80 3_31.3	207	—	271	302	656	2067	2019	—	1188
C 80 3_39.1	124	—	190	219	572	1995	1924	—	1093
C 80 3_43.5	228	—	295	325	689	2090	2043	—	1211
C 80 3_47.4	216	—	283	314	665	2067	2019	—	1188
C 80 3_57.3	135	—	202	230	594	1995	1948	—	1116
C 80 3_62.5	128	—	195	226	570	1995	1948	—	1116
C 80 3_70.5	102	—	166	197	546	1971	1900	—	1069
C 80 3_76.9	97	—	164	195	546	1948	1900	—	1069
C 80 3_89.3	71	—	138	169	523	1924	1876	—	1045
C 80 3_97.4	69	—	135	166	523	1924	1876	—	1045
C 80 3_109.5	48	—	114	145	499	1900	1853	—	1021
C 80 3_119.5	45	—	112	143	499	1900	1876	—	1021
C 80 3_136.7	33	—	100	131	475	1900	1853	—	1021
C 80 3_149.1	33	—	100	131	475	1900	1829	—	1021
C 80 3_169.0	24	—	90	121	—	—	—	—	998
C 80 3_184.4	24	—	90	121	—	—	—	—	998
C 80 3_197.9	19	—	86	116	—	—	—	—	998
C 80 3_215.8	19	—	86	116	—	—	—	—	998




## C 80

Type	i (ratio)	J ( $\cdot 10^{-4}$ ) [lb·ft <sup>2</sup> ]								
		 NEMA Motor frame								
		N56C	N140TC	N180TC	N210TC	N250TC	N280TC	N320TC		
<b>C 80 4_261.9</b>	40	—	107	138	489	1900	1853	—	283	
<b>C 80 4_285.7</b>	40	—	107	138	489	1900	1853	—	283	
<b>C 80 4_334.3</b>	29	64	95	126	477	1900	1829	—	271	
<b>C 80 4_364.7</b>	29	62	95	126	477	1900	1829	—	271	
<b>C 80 4_417.5</b>	21	55	88	119	470	1876	1829	—	264	
<b>C 80 4_455.4</b>	21	55	88	131	470	1876	1829	—	264	
<b>C 80 4_529.3</b>	12	48	78	109	461	1876	1829	—	254	
<b>C 80 4_577.4</b>	12	48	78	109	461	1876	1829	—	254	
<b>C 80 4_664.3</b>	9.5	45	76	107	458	1853	1829	—	252	
<b>C 80 4_724.7</b>	9.5	45	76	107	458	1853	1829	—	252	
<b>C 80 4_783.4</b>	7.1	43	74	105	—	—	—	—	223	
<b>C 80 4_854.6</b>	7.1	43	74	105	—	—	—	—	223	
<b>C 80 4_945.7</b>	4.8	40	71	102	—	—	—	—	221	
<b>C 80 4_1032</b>	4.8	40	71	102	—	—	—	—	221	
<b>C 80 4_1168</b>	4.8	38	71	100	—	—	—	—	219	
<b>C 80 4_1274</b>	4.8	38	71	100	—	—	—	—	219	
<b>C 80 4_1358</b>	2.4	38	69	100	—	—	—	—	219	
<b>C 80 4_1481</b>	2.4	38	69	100	—	—	—	—	219	





## C 90

$J (\cdot 10^{-4}) [lb \cdot ft^2]$




Type	i (ratio)								
			NEMA Motor frame						
			N56C	N140TC	N180TC	N210TC	N250TC	N280TC	
C 90 2_5.2	—	—	—	—	—	—	—	14489	14703
C 90 2_5.6	—	—	—	—	—	—	—	14228	14466
C 90 2_6.8	—	—	—	—	—	—	—	12589	12827
C 90 2_7.3	—	—	—	—	—	—	—	12446	12660
C 90 2_8.3	—	—	—	—	—	—	—	11639	11853
C 90 2_9.0	—	—	—	—	—	—	—	11520	11758
C 90 2_10.4	—	—	—	—	—	3967	3895	10879	10950
C 90 2_11.2	—	—	—	—	—	3895	3848	10808	10879
C 90 2_12.8	1542	—	—	—	1995	3397	3349	10356	10428
C 90 2_13.9	1501	—	—	—	1948	3349	3302	10309	10380
C 90 2_16.0	1116	—	—	—	1568	2969	2922	9905	9976
C 90 2_17.3	1090	—	—	—	1544	2945	2898	9881	9952
C 90 2_18.7	1007	—	—	—	1449	2874	2827	9786	9857
C 90 2_20.2	983	—	—	—	1448	4727	2803	9762	9834
C 90 2_22.9	656	—	713	736	1116	2518	2470	9430	9501
C 90 2_24.8	641	—	698	736	1093	2494	2447	9406	9477
C 90 2_27.2	525	—	589	620	974	2399	2352	9287	9359
C 90 2_29.4	520	—	580	610	974	2375	2328	9287	9359
C 90 2_35.1	333	—	397	428	784	2209	2138	—	9169
C 90 3_39.4	646	—	—	—	1093	2494	2446	9454	9786
C 90 3_43.0	620	—	—	—	1069	2470	2423	9406	9739
C 90 3_50.3	458	—	—	—	903	2328	2256	9240	9572
C 90 3_54.9	439	—	—	—	879	2304	2256	9240	9525
C 90 3_59.2	373	—	—	—	831	2233	2185	9145	9454
C 90 3_64.6	361	—	—	—	808	2233	2161	9121	9454
C 90 3_74.4	240	—	297	328	689	2090	2043	9002	9335
C 90 3_81.2	233	—	287	318	682	2090	2043	9002	9311
C 90 3_88.2	169	—	228	259	618	20195	1971	8931	9240
C 90 3_96.2	164	—	223	254	613	2019	1971	8931	9240
C 90 3_107.0	135	—	200	228	584	1995	1948	—	9216
C 90 3_116.7	131	—	195	226	580	1995	1948	—	9216
C 90 3_134.1	83	—	150	181	532	1948	1900	—	9169
C 90 3_146.3	81	—	147	178	530	1948	1900	—	9169
C 90 3_157.8	59	—	126	157	508	1924	1876	—	9145
C 90 3_172.1	57	—	124	154	506	1924	1876	—	9145

## C 90



Type	i (ratio)	J ( $\cdot 10^{-4}$ ) [lb·ft <sup>2</sup> ]								
		 NEMA Motor frame								
		N56C	N140TC	N180TC	N210TC	N250TC	N280TC	N320TC		
<b>C 90 4_212.4</b>	100	—	166	197	549	1960	1905	—	342	
<b>C 90 4_231.7</b>	97	—	164	195	546	1957	1905	—	340	
<b>C 90 4_268.5</b>	67	—	133	164	515	1926	1874	—	309	
<b>C 90 4_292.9</b>	67	—	62	164	515	1926	1874	—	309	
<b>C 90 4_339.0</b>	48	81	114	143	496	1907	1853	—	290	
<b>C 90 4_369.8</b>	48	81	114	143	496	1905	1853	—	290	
<b>C 90 4_419.0</b>	33	69	100	131	482	1893	1841	—	276	
<b>C 90 4_457.1</b>	33	69	100	131	482	1893	1841	—	276	
<b>C 90 4_534.2</b>	21	57	88	119	470	1881	1829	—	264	
<b>C 90 4_582.8</b>	21	57	88	119	470	1881	1829	—	264	
<b>C 90 4_652.8</b>	17	50	83	112	466	1876	1822	—	259	
<b>C 90 4_712.2</b>	17	50	83	112	466	1876	1822	—	259	
<b>C 90 4_773.6</b>	12	48	78	109	—	—	—	—	230	
<b>C 90 4_844.0</b>	12	48	78	109	—	—	—	—	228	
<b>C 90 4_922.3</b>	9.5	43	76	107	—	—	—	—	226	
<b>C 90 4_1006</b>	9.5	43	76	107	—	—	—	—	223	
<b>C 90 4_1137</b>	7.1	40	71	102	—	—	—	—	221	
<b>C 90 4_1240</b>	7.1	40	71	102	—	—	—	—	221	

## C 100

$J (\cdot 10^{-4})$  [lb·ft<sup>2</sup>]

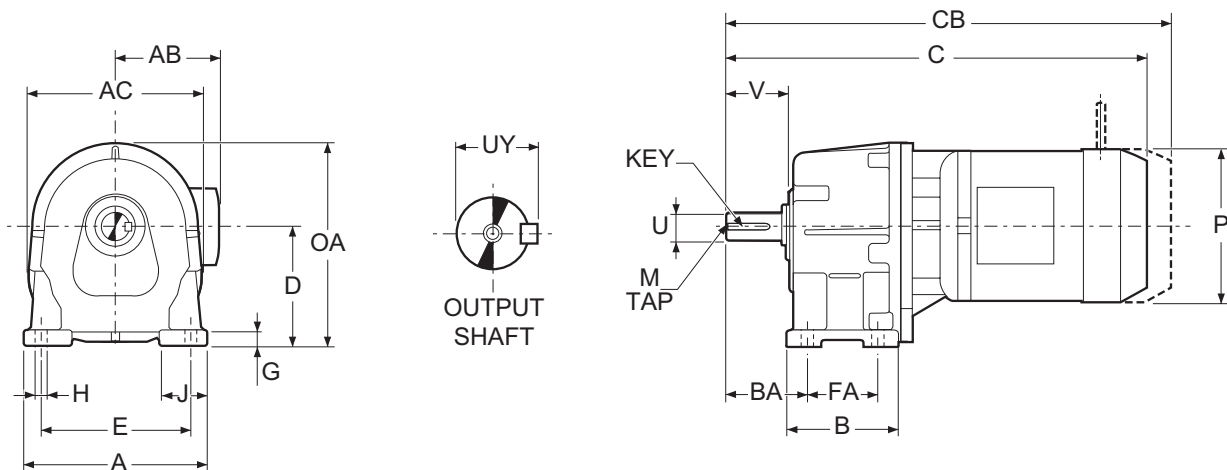
Type	i (ratio)									
			NEMA Motor frame							
			N56C	N140TC	N180TC	N210TC	N250TC	N280TC	N320TC	
C 100 2_4.9	—	—	—	—	—	—	—	—	22803	23088
C 100 2_5.3	—	—	—	—	—	—	—	—	22162	22423
C 100 2_6.5	—	—	—	—	—	—	—	—	18219	18480
C 100 2_7.1	—	—	—	—	—	—	—	—	17838	18124
C 100 2_8.4	—	—	—	—	—	—	—	—	15534	15724
C 100 2_9.0	—	—	—	—	—	—	—	—	15226	15511
C 100 2_10.1	—	—	—	—	—	—	—	—	13705	13990
C 100 2_10.9	—	—	—	—	—	—	—	—	13539	13824
C 100 2_12.5	—	—	—	—	—	—	5321	5273	12375	12565
C 100 2_13.5	—	—	—	—	—	—	5226	5178	12280	12447
C 100 2_15.2	—	—	—	—	—	—	3349	4751	4964	12209
C 100 2_16.5	—	—	—	—	—	3278	4679	4632	7031	11971
C 100 2_18.7	—	—	—	—	—	2755	4157	4109	11259	11401
C 100 2_20.2	—	—	—	—	—	2708	4109	4062	11188	11354
C 100 2_22.2	—	—	—	—	—	2185	2423	3563	10641	10831
C 100 2_24.1	—	—	—	—	—	2162	3563	3515	10618	10808
C 100 2_29.6	—	—	—	—	1285	1639	3064	3017	10095	10285
C 100 3_34.3	—	—	—	—	—	—	3515	3468	10428	10950
C 100 3_36.9	—	—	—	—	—	—	3444	3397	10356	10879
C 100 3_42.9	—	—	—	—	—	1496	2922	2850	9857	10380
C 100 3_46.2	—	—	—	—	—	1449	2874	2803	9810	10333
C 100 3_53.3	772	—	—	—	—	1211	2637	2589	9572	10071
C 100 3_57.4	746	—	—	—	—	1188	2613	2542	9525	10048
C 100 3_64.5	580	—	—	—	—	1021	2447	2399	9359	9857
C 100 3_69.4	561	—	—	—	—	1021	2423	2375	9335	9834
C 100 3_79.4	385	—	442	473	831	831	2257	2185	9145	9667
C 100 3_85.6	373	—	428	458	831	831	2233	2185	9145	9644
C 100 3_92.7	347	—	406	437	808	808	2209	2162	—	9620
C 100 3_99.8	337	—	397	428	784	784	2209	21401	—	9596
C 100 3_111.9	235	—	299	330	684	684	2090	2043	—	9311
C 100 3_120.5	228	—	292	323	677	677	2090	2043	—	9311
C 100 3_139.7	143	—	207	238	589	589	1995	1948	—	9216
C 100 3_150.4	138	—	202	233	587	587	1995	1948	—	9216

## C 100

Type	i (ratio)	J ( $\cdot 10^{-4}$ ) [lb·ft <sup>2</sup> ]								
		 NEMA Motor frame								
		N56C	N140TC	N180TC	N210TC	N250TC	N280TC	N320TC		
<b>C 100 4_162.1</b>	302	—	368	399	760	2375	2114	—	544	
<b>C 100 4_185.4</b>	228	—	295	328	677	2090	2043	—	470	
<b>C 100 4_199.6</b>	202	—	292	325	675	2090	2043	—	468	
<b>C 100 4_244.2</b>	135	—	202	233	584	1995	1948	—	378	
<b>C 100 4_263.0</b>	133	—	200	230	582	1995	1948	—	375	
<b>C 100 4_300.5</b>	100	—	169	200	551	1971	1900	—	344	
<b>C 100 4_323.6</b>	100	135	166	197	549	1971	1900	—	342	
<b>C 100 4_380.5</b>	74	107	131	169	523	1924	1876	—	316	
<b>C 100 4_409.8</b>	71	107	131	169	523	1924	1876	—	314	
<b>C 100 4_466.7</b>	48	83	114	145	477	1900	1853	—	290	
<b>C 100 4_502.6</b>	48	81	114	145	477	1900	1853	—	290	
<b>C 100 4_582.6</b>	33	69	100	131	482	1900	1829	—	276	
<b>C 100 4_627.4</b>	33	69	100	131	482	1900	1829	—	276	
<b>C 100 4_720.3</b>	24	59	81	121	475	1876	1829	—	266	
<b>C 100 4_775.7</b>	24	59	81	121	475	1876	1829	—	266	
<b>C 100 4_843.3</b>	19	55	86	116	—	—	—	—	235	
<b>C 100 4_908.2</b>	19	55	86	116	—	—	—	—	235	
<b>C 100 4_1004</b>	14	48	81	112	—	—	—	—	230	



## 2.13 DIMENSIONS



### Gearcase

	A	AC	B	BA	D	E	FA	G	H	J	OA
<b>C 05 2</b>	5.315 135	5.039 128	3.150 80	2.283 58	3.346 85	4.331 110	1.969 50	0.472 12	0.354 9	1.378 35	5.748 146

### Output shaft (Inch series)

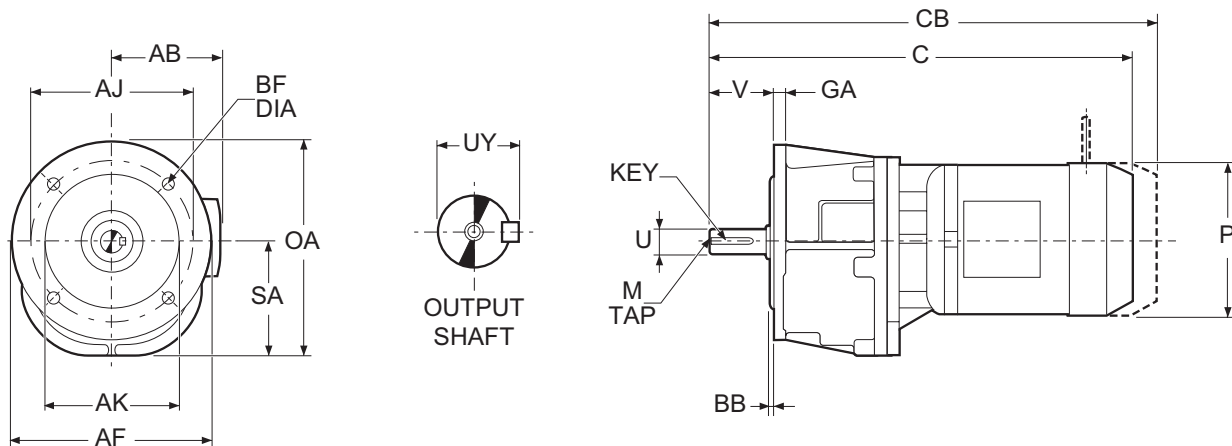
	U	UY	V	Key	M
<b>C 05 2 NP</b>	0.625 <sup>+0</sup> / <sub>-0.0004</sub>	0.705	1.562	3/16 x 3/16 x 1 3/8	M6x16 [mm]

### Motor



	AB	C	CB	P	Weight [lbs / kg]
<b>C 05 2_S0 M0</b>	3.583 91	11.78 299.2	—	4.331 110	15 / 7
<b>C 05 2_S05 M05</b>	3.740 95	13.57 344.7	16.17 410.7	4.764 121	22 / 10
<b>C 05 2_S1 M1</b>	4.252 108	14.71 373.7	17.11 434.7	5.433 138	29 / 13

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



### Gearcase

	SA	OA
<b>C 05 2</b>	3.228	5.984
	82	152

### Flange

AF	AJ	AK	BB	BF	GA
5.512	4.528	3.740	0.315	0.354	0.315
140	115	95	8	9	8

### Output shaft (Inch series)

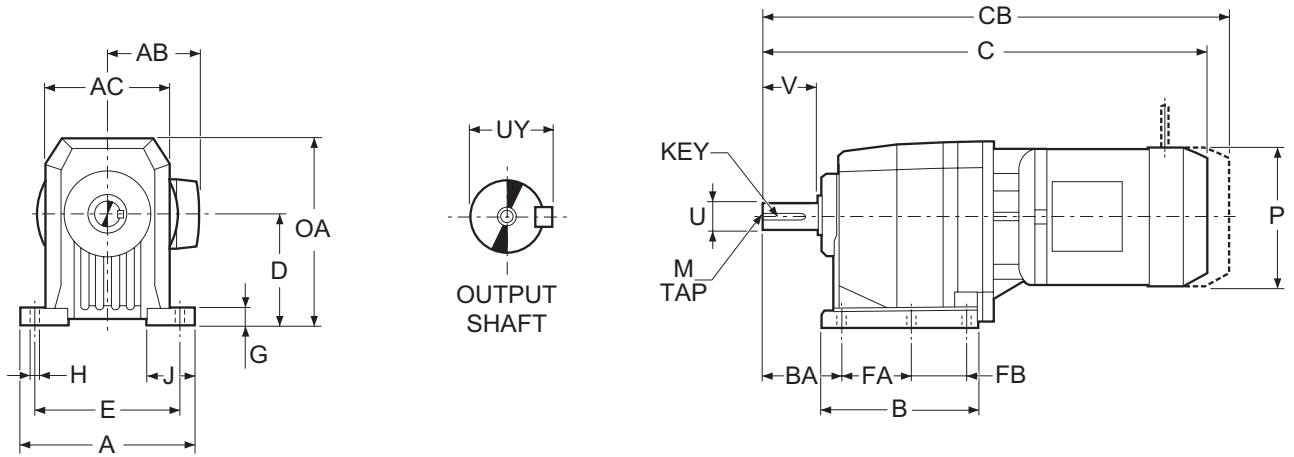
	U	UY	V	Key	M
<b>C 05 2</b>	NF	0.625	0.705	3/16 x 3/16 x 1 3/8	M6x16 [mm]

### Motor



	AB	C	CB	P	Weight [lbs / kg]
<b>C 05 2_S0 M0</b>	3.583 91	11.78 299.2	—	4.331 110	15 / 7
<b>C 05 2_S05 M05</b>	3.740 95	13.57 344.7	16.17 410.7	4.764 121	22 / 10
<b>C 05 2_S1 M1</b>	4.252 108	14.71 373.7	17.11 434.7	5.433 138	29 / 13





### Gearcase

	A	AC	B	BA	D	E	FA	FB	G	H	J	OA
<b>C 11 2</b>	5.118 130	3.740 95	4.213 107	2.283 58	3.346 85	4.331 110	1.969 50	1.457 37	0.590 15	0.354 9	1.457 37	5.551 141

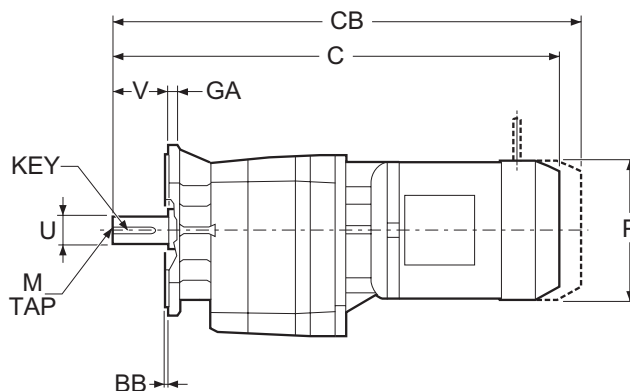
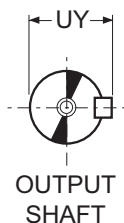
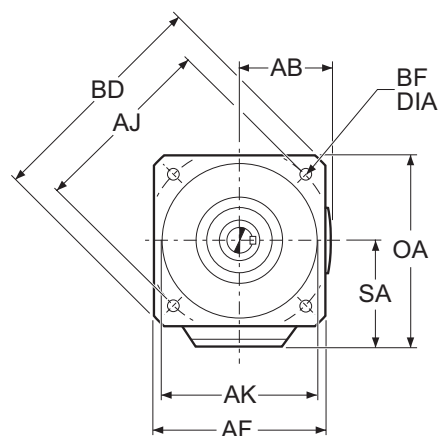
### Output shaft (Inch series)

	U	UY	V	Key	M
<b>C 11 2 NP</b>	0.750 <sup>+0</sup> / <sub>-0.0005</sub>	0.830	1.562	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC

### Motor



	AB	C	CB	P	Weight [lbs / kg]
<b>C 11 2_S05 M05</b>	3.740 95	14.59 370.5	17.19 436.5	4.764 121	22 / 10
<b>C 11 2_S1 M1</b>	4.252 108	15.73 399.5	18.13 460.5	5.433 138	29 / 13
<b>C 11 2_S2 M2S</b>	4.685 119	16.87 428.5	19.63 498.5	6.142 156	40 / 18
<b>C 11 2_S3 M3S</b>	5.591 142	18.56 471.5	22.34 567.5	7.677 195	55 / 25
<b>C 11 2_S3 M3L</b>	5.591 142	19.82 503.5	23.41 594.5	7.677 195	60 / 27



### Gearcase

	SA	OA
<b>C 11 2</b>	3.228	5.295
	82	134.5

### Flange

AF	AJ	AK	BB	BD	BF	GA
4.134	4.528	3.740	0.118	5.512	0.374	0.315
105	115	95	3	140	9.5	8

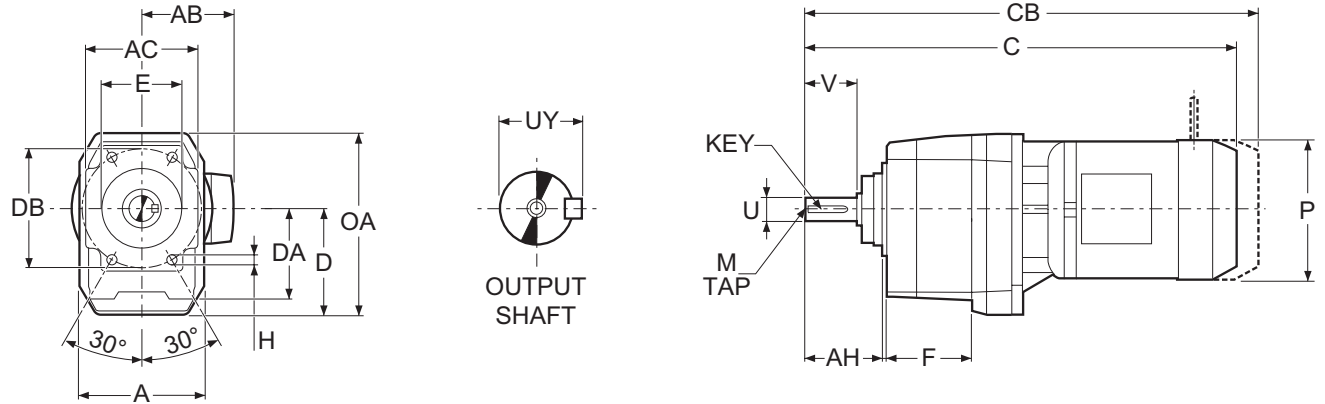
### Output shaft (Inch series)

		U	UY	V	Key	M
<b>C 11 2</b>	<b>NF</b>	0.750	0.830	1.562	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC

### Motor



	AB	C	CB	P	Weight [lbs / kg]
<b>C 11 2_S05 M05</b>	3.740 95	14.59 370.5	17.19 436.5	4.764 121	22 / 10
<b>C 11 2_S1 M1</b>	4.252 108	15.73 399.5	18.13 460.5	5.433 138	29 / 13
<b>C 11 2_S2 M2S</b>	4.685 119	16.87 428.5	19.63 498.5	6.142 156	40 / 18
<b>C 11 2_S3 M3S</b>	5.591 142	18.56 471.5	22.34 567.5	7.677 195	55 / 25
<b>C 11 2_S3 M3L</b>	5.591 142	19.82 503.5	23.41 594.5	7.677 195	60 / 27



### Gearcase

	A	AC	AH	D	DA	DB	E	F	H	OA
C 11 2	3.740	3.327	2.441	3.228	2.677	3.543	2.756	2.106	M8x12.5 [mm]	5.433
	95	84.5	62	82	68	90	70	53.5		138

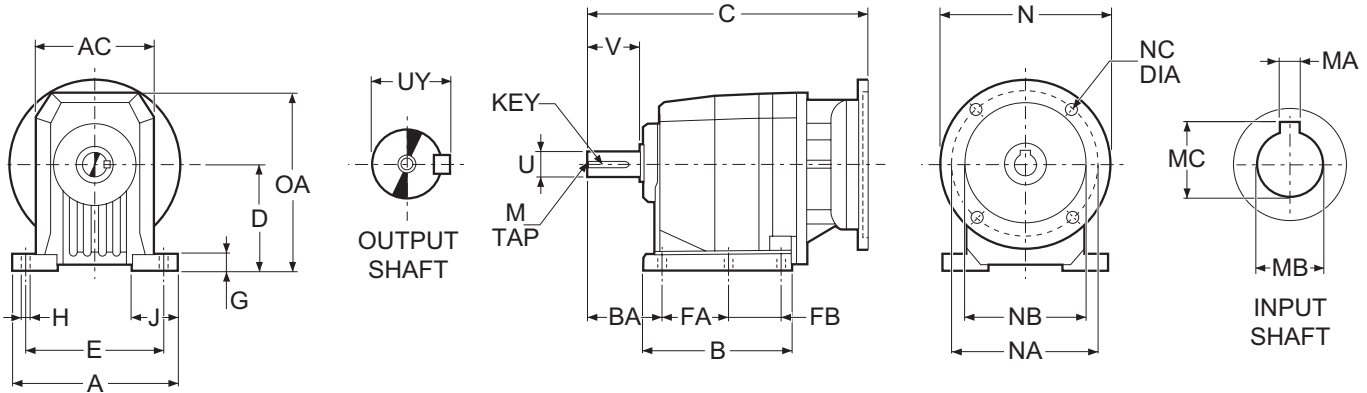
### Output shaft (Inch series)

	U	UY	V	Key	M
C 11 2	NU	0.750 <sup>+0</sup> <sub>-0.0005</sub>	0.830	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC

### Motor



	AB	C	CB	P	Weight [lbs / kg]
C 11 2_S05 M05	3.740	14.59	17.19	4.764	22 / 10
	95	370.5	436.5	121	
C 11 2_S1 M1	4.252	15.73	18.13	5.433	29 / 13
	108	399.5	460.5	138	
C 11 2_S2 M2S	4.685	16.87	19.63	6.142	40 / 18
	119	428.5	498.5	156	
C 11 2_S3 M3S	5.591	18.56	22.34	7.677	55 / 25
	142	471.5	567.5	195	
C 11 2_S3 M3L	5.591	19.82	23.41	7.677	60 / 27
	142	503.5	594.5	195	



**Gearcase**

	A	AC	B	BA	D	E	FA	FB	G	H	J	OA
<b>C 11 2</b>	5.118 130	3.740 95	4.213 107	2.283 58	3.346 85	4.331 110	1.969 50	1.457 37	0.590 15	0.354 9	1.457 37	5.551 141

**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 11 2 NP</b>	0.750 <sup>+0</sup> <sub>-0.0005</sub>	0.830	1.562	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC

**NEMA Flange**



	N	NA	NB	NC	Weight [lbs / kg]
<b>N56C</b>	6.496	5.875	4.500	0.394	13 / 6
<b>N140TC</b>	6.496	5.875	4.500	0.394	15 / 7
<b>N180TC</b>	8.996	7.250	8.500	0.551	24 / 11

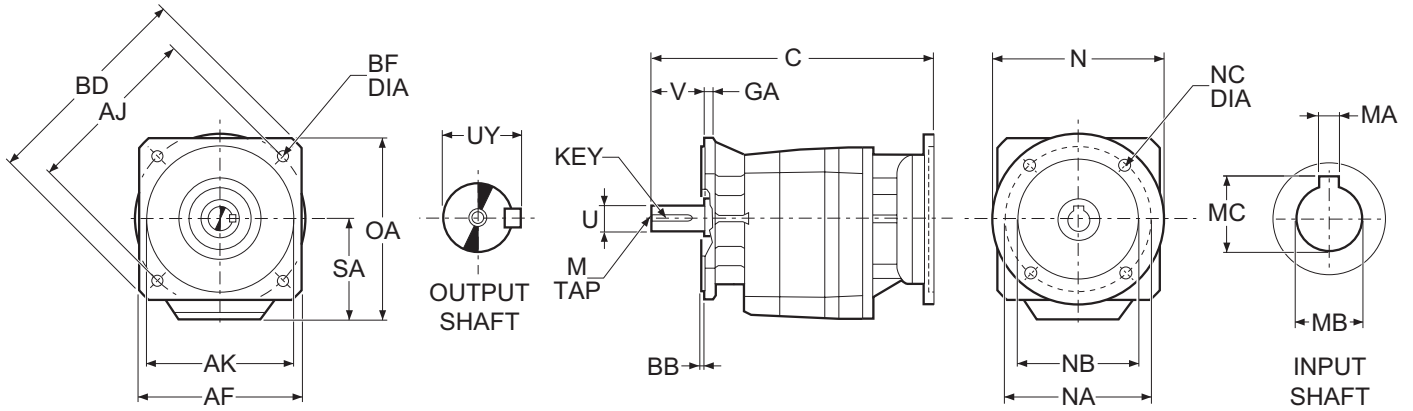
**Hollow input shaft**

	MA	MB	MC
<b>N56C</b>	0.188	0.625	0.710
<b>N140TC</b>	0.188	0.875	0.964
<b>N180TC</b>	0.250	1.125	1.241

	C		
	N56C	N140TC	N180TC
<b>C 11 2</b>	10.41 264.5	10.41 264.5	10.95 278

Dimensions are  $\frac{\text{inch}}{\text{mm}}$

# C 11 2 Flange mounted, NEMA input



## Gearcase

	SA	OA
C 11 2	3.228	5.295
	82	134.5

## Flange

AF	AJ	AK	BB	BD	BF	GA
4.134	4.528	3.740	0.118	5.512	0.374	0.315
105	115	95	3	140	9.5	8

## Output shaft (Inch series)

		U	UY	V	Key	M
C 11 2	NF	0.750	0.830	1.562	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC

## NEMA Flange

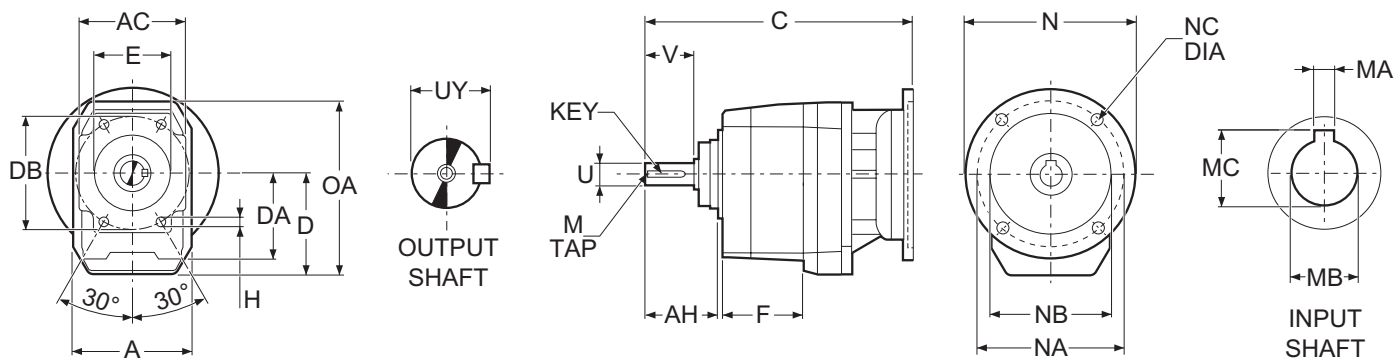
	N	NA	NB	NC	Weight [lbs / kg]
N56C	6.496	5.875	4.500	0.394	13 / 6
N140TC	6.496	5.875	4.500	0.394	15 / 7
N180TC	8.996	7.250	8.500	0.551	24 / 11

## Hollow input shaft

	MA	MB	MC
N56C	0.188	0.625	0.710
N140TC	0.188	0.875	0.964
N180TC	0.250	1.125	1.241

	C		
	N56C	N140TC	N180TC
C 11 2	10.41	10.41	10.95
	264.5	264.5	278

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AH	D	DA	DB	E	F	H	OA
C 11 2	3.740	3.327	2.441	3.228	2.677	3.543	2.756	2.106	M8x12.5 [mm]	5.433
	95	84.5	62	82	68	90	70	53.5		138

**Output shaft (Inch series)**

	U	UY	V	Key	M
C 11 2	NU 0.750 <sup>+0</sup> / <sub>-0.0005</sub>	0.830	1.562	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC

**NEMA Flange**



	N	NA	NB	NC	Weight [lbs / kg]
N56C	6.496	5.875	4.500	0.394	13 / 6
N140TC	6.496	5.875	4.500	0.394	15 / 7
N180TC	8.996	7.250	8.500	0.551	24 / 11

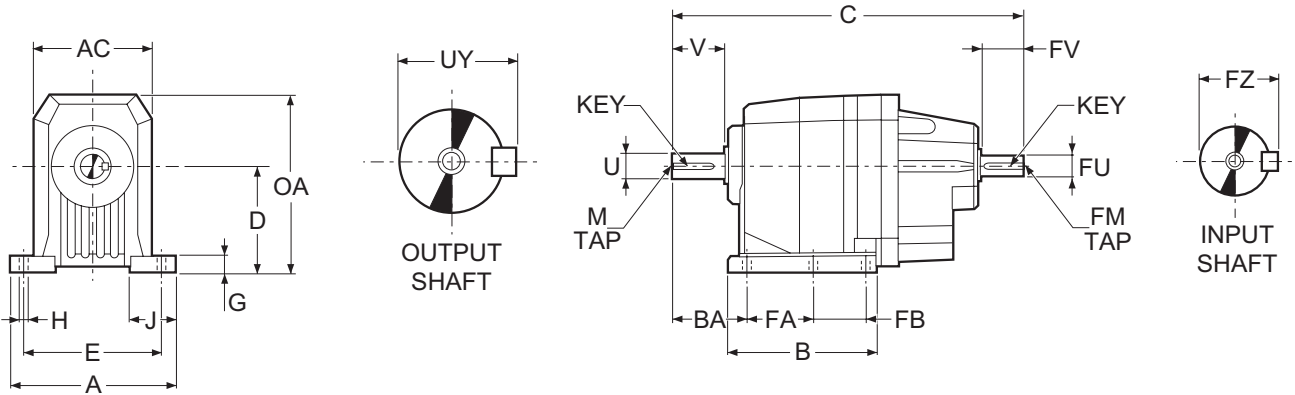
**Hollow input shaft**

	MA	MB	MC
N56C	0.188	0.625	0.710
N140TC	0.188	0.875	0.964
N180TC	0.250	1.125	1.241

	C		
	N56C	N140TC	N180TC
C 11 2	10.41	10.41	10.95
	264.5	264.5	278

Dimensions are  $\frac{\text{inch}}{\text{mm}}$

# C 11 2 Foot mounted, solid input shaft



## Gearcase

	A	AC	B	BA	C	D	E	FA	FB	G	H	J	OA
C 11 2	5.118	3.740	4.213	2.283	9.90	3.346	4.331	1.969	1.457	0.590	0.354	1.457	5.551
	130	95	107	58	251.5	85	110	50	37	15	9	37	141

## Output shaft (Inch series)

	U	UY	V	Key	M
C 11 2 NP	0.750 <sup>+0</sup> / <sub>-0.0005</sub>	0.830	1.562	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC

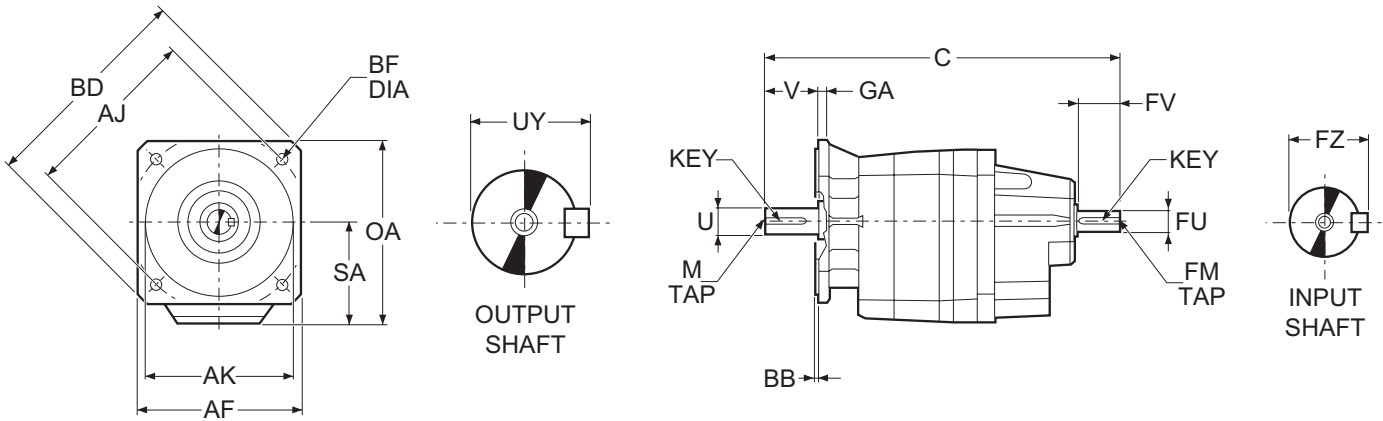
## Input shaft (Inch series)

	FU	FZ	FV	Key	FM	Weight [lbs / kg]
C 11 2 NHS	0.625 <sup>+0</sup> / <sub>-0.0004</sub>	0.710	1.570	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC	10 / 4.8



Dimensions are  $\frac{\text{inch}}{\text{mm}}$





### Gearcase

	C	SA	OA
<b>C 11 2</b>	9.90	3.228	5.295
	251.5	82	134.5

### Flange

AF	AJ	AK	BB	BD	BF	GA
4.134	4.528	3.740	0.118	5.512	0.374	0.315
105	115	95	3	140	9.5	8

### Output shaft (Inch series)

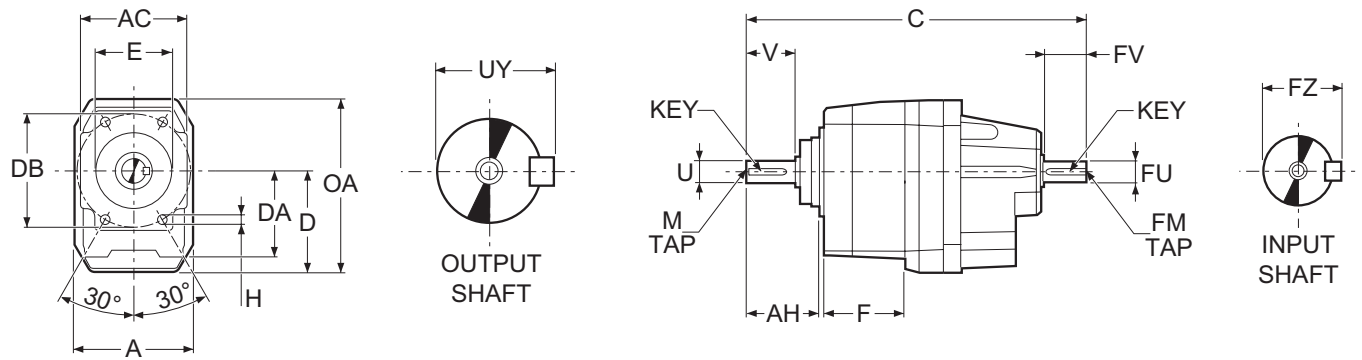
		U	UY	V	Key	M
<b>C 11 2</b>	<b>NF</b>	0.750	$^{+0}_{-0.0005}$	0.830	1.562	3/16 x 3/16 x 1 3/8
						1/4 - 20 UNC

### Input shaft (Inch series)

		FU	FZ	FV	Key	FM	Weight [lbs / kg]
<b>C 11 2</b>	<b>NHS</b>	0.625	$^{+0}_{-0.0004}$	0.710	1.570	3/16 x 3/16 x 1 3/8	10 / 4.5
						1/4 - 20 UNC	



# C 11 2 Universal housing, solid input shaft



## Gearcase

	A	AC	AH	C	D	DA	DB	E	F	H	OA
<b>C 11 2</b>	3.740	3.327	2.441	9.90	3.228	2.677	3.543	2.756	2.106	<i>M8x12.5 [mm]</i>	5.433
	95	84.5	62	251.5	82	68	90	70	53.5		138

## Output shaft (Inch series)

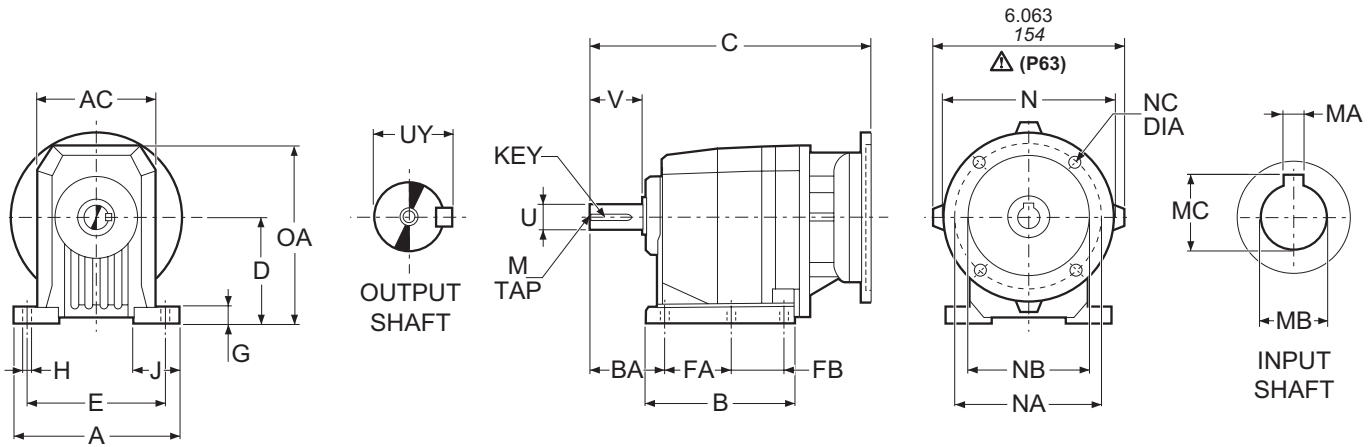
	U	UY	V	Key	M
<b>C 11 2</b>	<b>NU</b>	0.750 <sup>+0</sup> <sub>-0.0005</sub>	0.830	1.562	3/16 x 3/16 x 1 3/8
					1/4 - 20 UNC

## Input shaft (Inch series)

	FU	FZ	FV	Key	FM	Weight [lbs / kg]
<b>C 11 2</b>	<b>NHS</b>	0.625 <sup>+0</sup> <sub>-0.0004</sub>	0.710	1.570	3/16 x 3/16 x 1 3/8	9 / 4.3
					1/4 - 20 UNC	



Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	B	BA	D	E	FA	FB	G	H	J	OA
<b>C 11 2</b>	5.118 130	3.740 95	4.213 107	2.283 58	3.346 85	4.331 110	1.969 50	1.457 37	0.590 15	0.354 9	1.457 37	5.551 141

**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 11 2 NP</b>	0.750 <sup>+0</sup> <sub>-0.0005</sub>	0.830	1.562	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC

**IEC Flange**

	N	NA	NB	NC	Weight [lbs / kg]
<b>P63</b>	140	115	95	M8x19	13 / 6
<b>P71</b>	160	130	110	M8x16	13 / 6
<b>P80, P90</b>	200	165	130	M10x12	15 / 7
<b>P100, P112</b>	250	215	180	M12x16	24 / 11

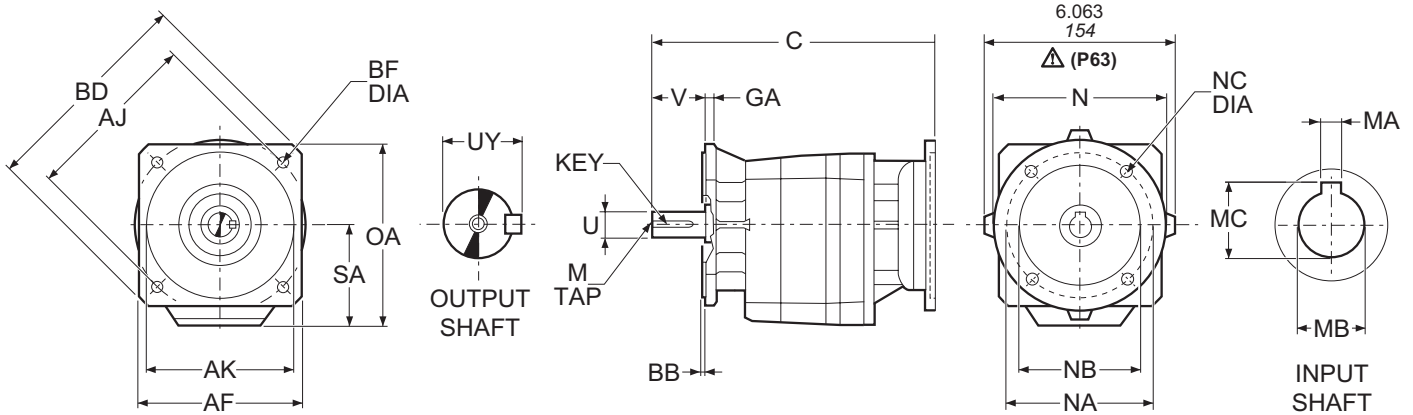
**Hollow input shaft**

	MA	MB	MC
<b>P63</b>	4	11	12.8
<b>P71</b>	5	14	16.3
<b>P80</b>	6	19	21.8
<b>P90</b>	8	24	27.3
<b>P100, P112</b>	8	28	31.3

	C		
	P63 P71	P80 P90	P100 P112
<b>C 11 2</b>	9.63 244.5	10.39 264	10.79 274

Dimensions are  $\frac{\text{inch}}{\text{mm}}$

# C 11 2 Flange mounted, IEC input



### Gearcase

	SA	OA
C 11 2	3.228	5.295
	82	134.5

### Flange

AF	AJ	AK	BB	BD	BF	GA
4.134	4.528	3.740	0.118	5.512	0.374	0.315
105	115	95	3	140	9.5	8

### Output shaft (Inch series)

	U	UY	V	Key	M
C 11 2	NF 0.750 <sup>+0</sup> / <sub>-0.0005</sub>	0.830	1.562	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC

### IEC Flange

	N	NA	NB	NC	Weight [lbs / kg]
P63	140	115	95	M8x19	13 / 6
P71	160	130	110	M8x16	13 / 6
P80, P90	200	165	130	M10x12	15 / 7
P100, P112	250	215	180	M12x16	24 / 11

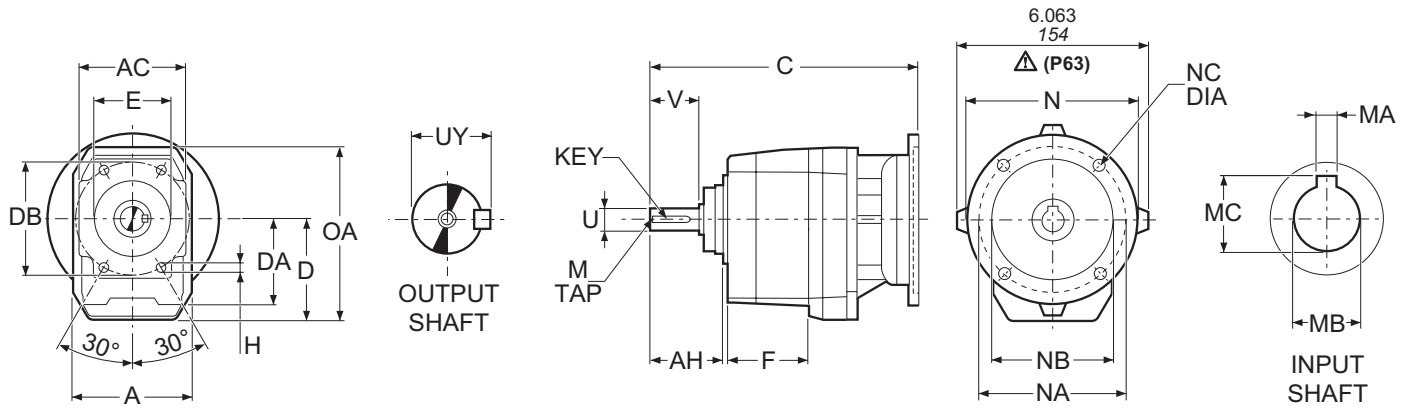


### Hollow input shaft

	MA	MB	MC
P63	4	11	12.8
P71	5	14	16.3
P80	6	19	21.8
P90	8	24	27.3
P100, P112	8	28	31.3

	C		
	P63 P71	P80 P90	P100 P112
C 11 2	9.63 244.5	10.39 264	10.79 274

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AH	D	DA	DB	E	F	H	OA
C 11 2	3.740	3.327	2.441	3.228	2.677	3.543	2.756	2.106	M8x12.5 [mm]	5.433
	95	84.5	62	82	68	90	70	53.5		138

**Output shaft (Inch series)**

	U	UY	V	Key	M
C 11 2	NU	0.750 <sup>+0</sup> <sub>-0.0005</sub>	0.830	1.562	3/16 x 3/16 x 1 3/8

**IEC Flange**

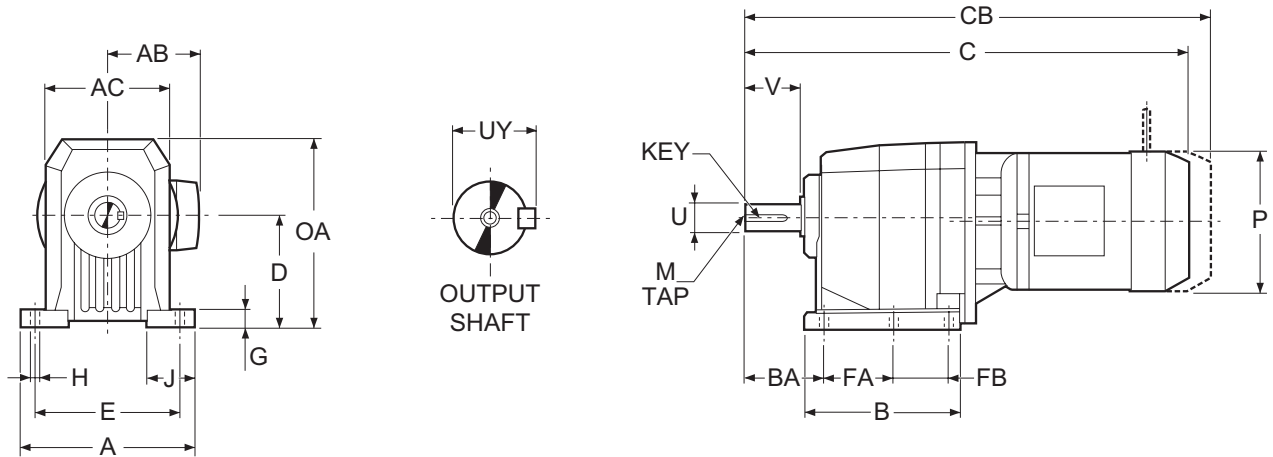
	N	NA	NB	NC	Weight [lbs / kg]
P63	140	115	95	M8x19	13 / 6
P71	160	130	110	M8x16	13 / 6
P80, P90	200	165	130	M10x12	15 / 7
P100, P112	250	215	180	M12x16	24 / 11

**Hollow input shaft**

	MA	MB	MC
P63	4	11	12.8
P71	5	14	16.3
P80	6	19	21.8
P90	8	24	27.3
P100, P112	8	28	31.3

	C		
	P63 P71	P80 P90	P100 P112
C 11 2	9.63	10.39	10.79
	244.5	264	274

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



### Gearcase

	A	AC	B	BA	D	E	FA	FB	G	H	J	OA
<b>C 21 2, C 21 3</b>	6.102 155	4.331 110	5.394 137	2.677 68	3.937 100	5.118 130	2.362 60	1.870 47.5	0.669 17	0.433 11	1.772 45	6.535 166

### Output shaft (Inch series)

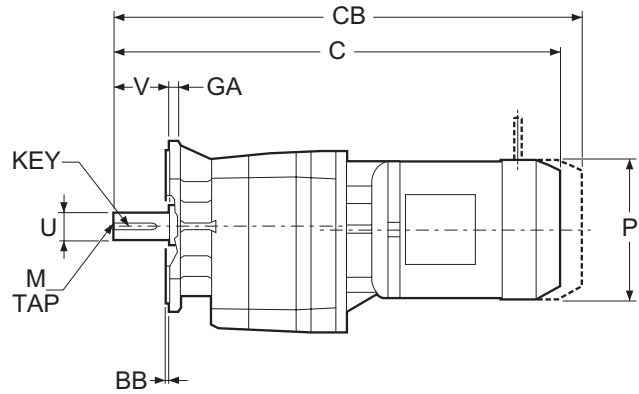
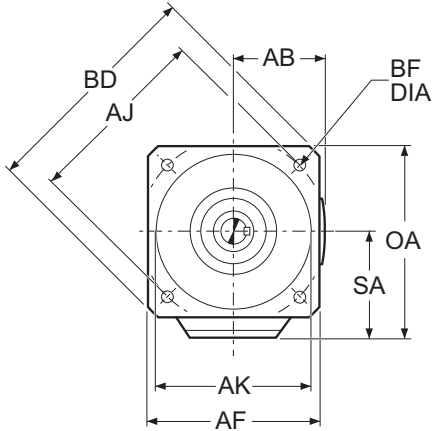
	U	UY	V	Key	M
<b>C 21 2, C 21 3 NP</b>	1.000 <sup>+0</sup> / <sub>-0.0005</sub>	1.110	2.000	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC

### Motor



	AB	C	CB	P	Weight [lbs / kg]
<b>C 21 2_S05 M05</b>	3.740 95	15.75 400	18.35 466	4.764 121	29 / 13
<b>C 21 2_S1 M1</b>	4.252 108	16.85 428	19.25 489	5.433 138	31 / 14
<b>C 21 2_S2 M2S</b>	4.685 119	17.99 457	20.75 527	6.142 156	42 / 19
<b>C 21 2_S3 M3S</b>	5.591 142	19.69 500	23.47 596	7.677 195	57 / 26
<b>C 21 2_S3 M3L</b>	5.591 142	20.95 532	24.53 623	7.677 195	71 / 32
<b>C 21 3_S05 M05</b>	3.740 95	17.89 454.5	20.49 520.5	4.764 121	27 / 12
<b>C 21 3_S1 M1</b>	4.252 108	19.04 483.5	21.44 544.5	5.433 138	33 / 15
<b>C 21 3_S2 M2S</b>	4.685 119	20.22 513.5	22.97 583.5	6.142 156	42 / 19
<b>C 21 3_S3 M3S</b>	5.591 142	21.91 556.5	25.69 652.5	7.677 195	57 / 26
<b>C 21 3_S3 M3L</b>	5.591 142	23.17 588.5	26.75 679.5	7.677 195	71 / 32

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



### Gearcase

	SA	OA
C 21 2, C 21 3	3.701	6.161
	94	156.5

### Flange

AF	AJ	AK	BB	BD	BF	GA
4.921	5.118	4.331	0.138	6.299	0.374	0.394
125	130	110	3.5	160	9.5	10

### Output shaft (Inch series)

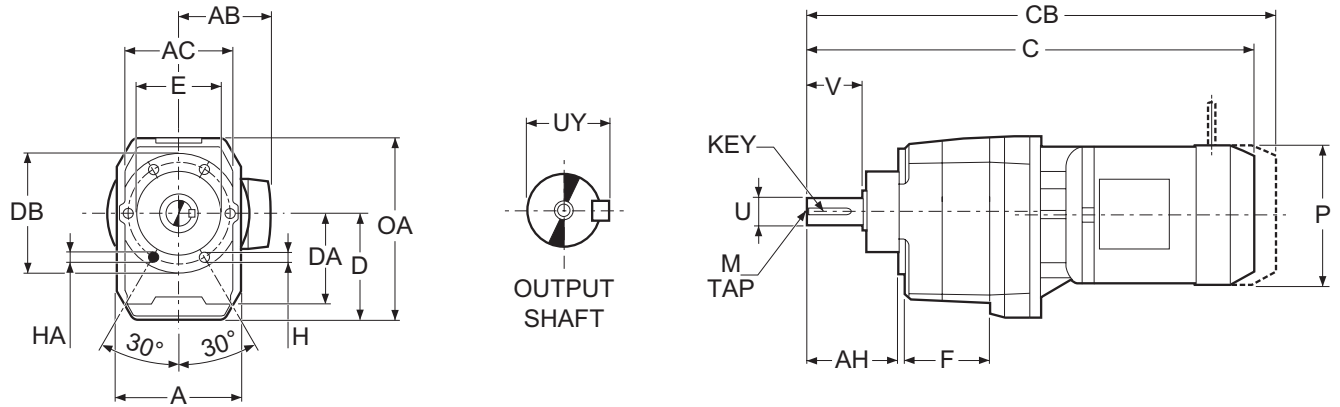
	U	UY	V	Key	M
C 21 2, C 21 3	NF 1.000	1.110	2.000	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC

### Motor



	AB	C	CB	P	Weight [lbs / kg]
C 21 2_S05 M05	3.740 95	15.75 400	18.35 466	4.764 121	29 / 13
C 21 2_S1 M1	4.252 108	16.85 428	19.25 489	5.433 138	31 / 14
C 21 2_S2 M2S	4.685 119	17.99 457	20.75 527	6.142 156	42 / 19
C 21 2_S3 M3S	5.591 142	19.69 500	23.47 596	7.677 195	57 / 26
C 21 2_S3 M3L	5.591 142	20.95 532	24.53 623	7.677 195	71 / 32
C 21 3_S05 M05	3.740 95	17.89 454.5	20.49 520.5	4.764 121	27 / 12
C 21 3_S1 M1	4.252 108	19.04 483.5	21.44 544.5	5.433 138	33 / 15
C 21 3_S2 M2S	4.685 119	20.22 513.5	22.97 583.5	6.142 156	42 / 19
C 21 3_S3 M3S	5.591 142	21.91 556.5	25.69 652.5	7.677 195	57 / 26
C 21 3_S3 M3L	5.591 142	23.17 588.5	26.75 679.5	7.677 195	71 / 32





### Gearcase

	A	AC	AH	D	DA	DB	E	F	H	HA	OA
C 21 2, C 21 3	4.331 110	3.543 90	3.189 81	3.622 92	3.012 76.5	4.134 105	2.756 70	2.815 71.5	M8x12.5 [mm]	M8x8.5 [mm]	6.220 158

### Output shaft (Inch series)

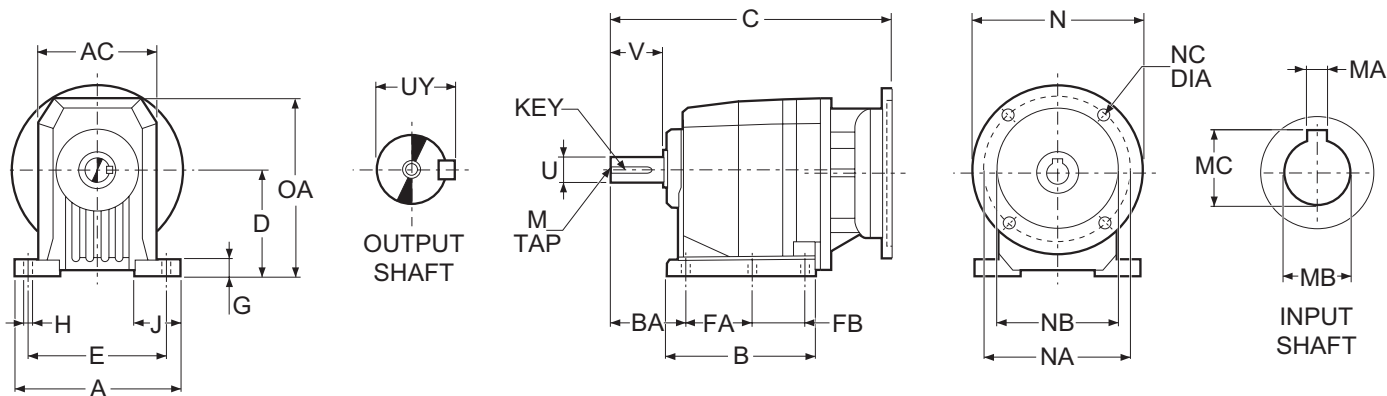
	U	UY	V	Key	M
C 21 2, C 21 3 NU	1.000 <sup>+0</sup> <sub>-0.0005</sub>	1.110	2.000	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC

### Motor



	AB	C	CB	P	Weight [lbs / kg]
C 21 2_S05 M05	3.740 95	15.75 400	18.35 466	4.764 121	29 / 13
C 21 2_S1 M1	4.252 108	16.85 428	19.25 489	5.433 138	31 / 14
C 21 2_S2 M2S	4.685 119	17.99 457	20.75 527	6.142 156	42 / 19
C 21 2_S3 M3S	5.591 142	19.69 500	23.47 596	7.677 195	57 / 26
C 21 2_S3 M3L	5.591 142	20.95 532	24.53 623	7.677 195	71 / 32
C 21 3_S05 M05	3.740 95	17.89 454.5	20.49 520.5	4.764 121	27 / 12
C 21 3_S1 M1	4.252 108	19.04 483.5	21.44 544.5	5.433 138	33 / 15
C 21 3_S2 M2S	4.685 119	20.22 513.5	22.97 583.5	6.142 156	42 / 19
C 21 3_S3 M3S	5.591 142	21.91 556.5	25.69 652.5	7.677 195	57 / 26
C 21 3_S3 M3L	5.591 142	23.17 588.5	26.75 679.5	7.677 195	71 / 32

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	B	BA	D	E	FA	FB	G	H	J	OA
<b>C 21 2, C 21 3</b>	6.102	4.331	5.394	2.677	3.937	5.118	2.362	1.870	0.669	0.433	1.772	6.535
	155	110	137	68	100	130	60	47.5	17	11	45	166

**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 21 2, C 21 3 NP</b>	1.000 <sup>+0</sup> / <sub>-0.0005</sub>	1.110	2.000	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC

**NEMA Flange**



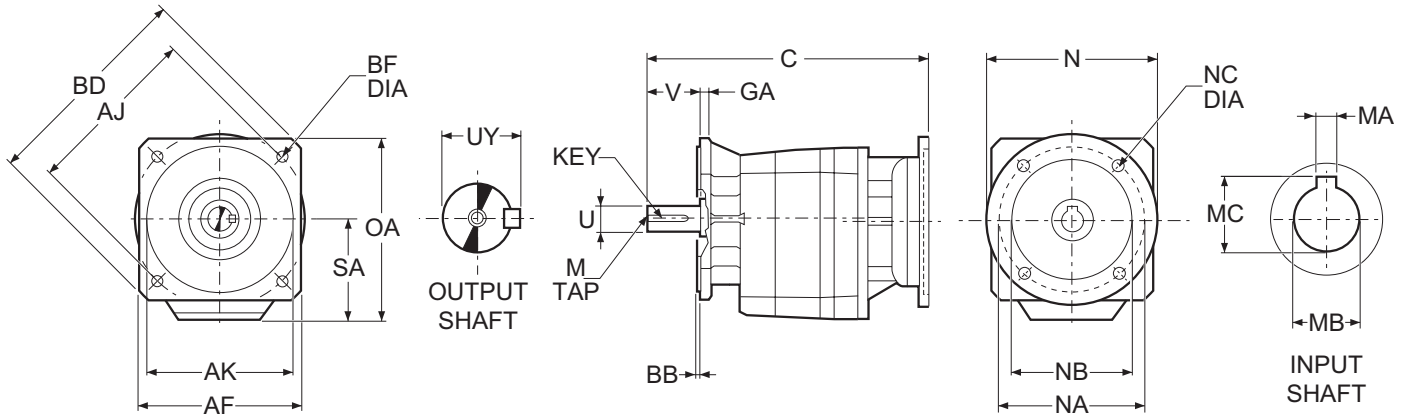
	N	NA	NB	NC	Weight [lbs / kg]
<b>N56C</b>	6.496	5.875	4.500	0.394	18 / 8
<b>N140TC</b>	6.496	5.875	4.500	0.394	20 / 9
<b>N180TC</b>	8.996	7.250	8.500	0.551	29 / 13

**Hollow input shaft**

	MA	MB	MC
<b>N56C</b>	0.188	0.625	0.710
<b>N140TC</b>	0.188	0.875	0.964
<b>N180TC</b>	0.250	1.125	1.241

	C		
	N56C	N140TC	N180TC
<b>C 21 2</b>	11.57 293.8	11.57 293.8	12.10 307.3
<b>C 21 3</b>	13.75 349.3	13.75 349.3	14.28 362.8

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	SA	OA
C 21 2, C 21 3	3.701	6.161
	94	156.5

**Flange**

AF	AJ	AK	BB	BD	BF	GA
4.921	5.118	4.331	0.138	6.299	0.374	0.394
125	130	110	3.5	160	9.5	10

**Output shaft (Inch series)**

	U	UY	V	Key	M
C 21 2, C 21 3	NF	1.000 <sup>+0</sup> / <sub>-0.0005</sub>	1.110	2.000	1/4 x 1/4 x 1 3/4
					3/8 - 16 UNC

**NEMA Flange**



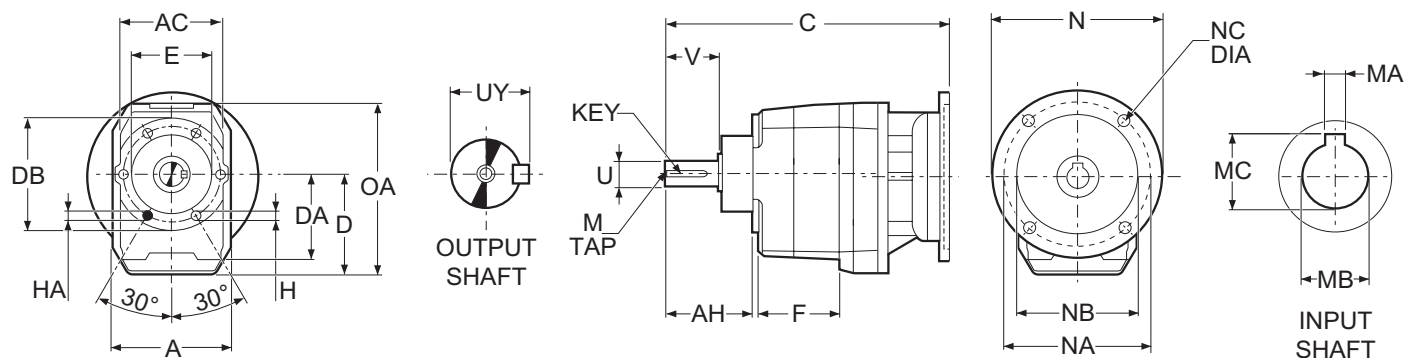
	N	NA	NB	NC	Weight [lbs / kg]
N56C	6.496	5.875	4.500	0.394	18 / 8
N140TC	6.496	5.875	4.500	0.394	20 / 9
N180TC	8.996	7.250	8.500	0.551	29 / 13

**Hollow input shaft**

	MA	MB	MC
N56C	0.188	0.625	0.710
N140TC	0.188	0.875	0.964
N180TC	0.250	1.125	1.241

	C		
	N56C	N140TC	N180TC
C 21 2	11.57	11.57	12.10
	293.8	293.8	307.3
C 21 3	13.75	13.75	14.28
	349.3	349.3	362.8

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AH	D	DA	DB	E	F	H	HA	OA
<b>C 21 2, C 21 3</b>	4.331 110	3.543 90	3.189 81	3.622 92	3.012 76.5	4.134 105	2.756 70	2.815 71.5	M8x12.5 [mm]	M8x8.5 [mm]	6.220 158

**Output shaft (Inch series)**

	U	UY	V	Key	M
<b>C 21 2, C 21 3</b>	<b>NU</b> 1.000 <sup>+0</sup> / <sub>-0.0005</sub>	1.110	2.000	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC

**NEMA Flange**



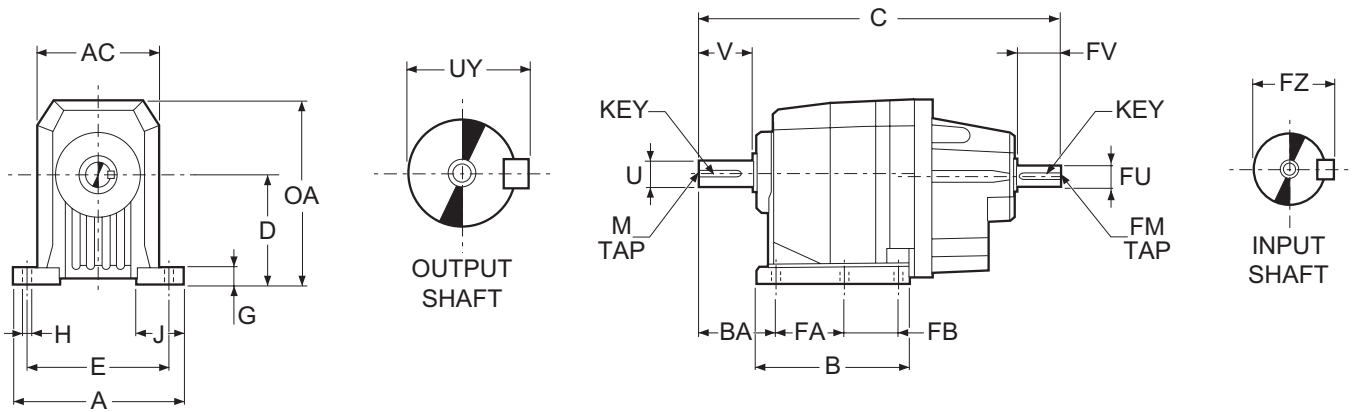
	N	NA	NB	NC	Weight [lbs / kg]
<b>N56C</b>	6.496	5.875	4.500	0.394	18 / 8
<b>N140TC</b>	6.496	5.875	4.500	0.394	20 / 9
<b>N180TC</b>	8.996	7.250	8.500	0.551	29 / 13

**Hollow input shaft**

	MA	MB	MC
<b>N56C</b>	0.188	0.625	0.710
<b>N140TC</b>	0.188	0.875	0.964
<b>N180TC</b>	0.250	1.125	1.241

	C		
	N56C	N140TC	N180TC
<b>C 21 2</b>	11.57 293.8	11.57 293.8	12.10 307.3
<b>C 21 3</b>	13.75 349.3	13.75 349.3	14.28 362.8

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	B	BA	C	D	E	FA	FB	G	H	J	OA
<b>C 21 2</b>	6.102	4.331	5.394	2.677	12.75	3.937	5.118	2.362	1.870	0.669	0.433	1.772	6.535
	155	110	137	68	323.8	100	130	60	47.5	17	11	45	166
<b>C 21 3</b>	6.102	4.331	5.394	2.677	13.23	3.937	5.118	2.362	1.870	0.669	0.433	1.772	6.535
	155	110	137	68	336.1	100	130	60	47.5	17	11	45	166

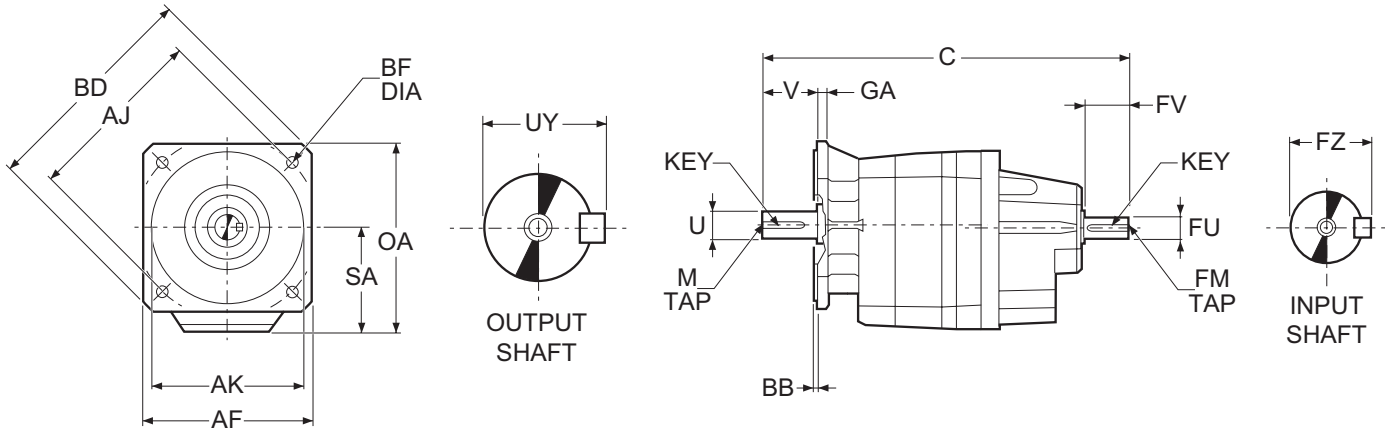
**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 21 2, C 21 3</b> NP	1.000 <sup>+0</sup> / <sub>-0.0005</sub>	1.110	2.000	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM	Weight [lbs / kg]
<b>C 21 2</b> NHS	0.750 <sup>+0</sup> / <sub>-0.0005</sub>	0.830	1.570	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC	16 / 7.2
<b>C 21 3</b> NHS	0.625 <sup>+0</sup> / <sub>-0.0004</sub>	0.710	1.570	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC	16 / 7.5





**Gearcase**

	C	SA	OA
<b>C 21 2</b>	12.75	3.701	6.161
	323.8	94	156.5
<b>C 21 3</b>	13.23	3.701	6.161
	336.1	94	156.5

**Flange**

AF	AJ	AK		BB	BD	BF	GA
4.921	5.118	4.331	-0.0014 -0.0028	0.138	6.299	0.374	0.394
125	130	110	-0.036 -0.071	3.5	160	9.5	10
4.921	5.118	4.331	-0.0014 -0.0028	0.138	6.299	0.374	0.394
125	130	110	-0.036 -0.071	3.5	160	9.5	10

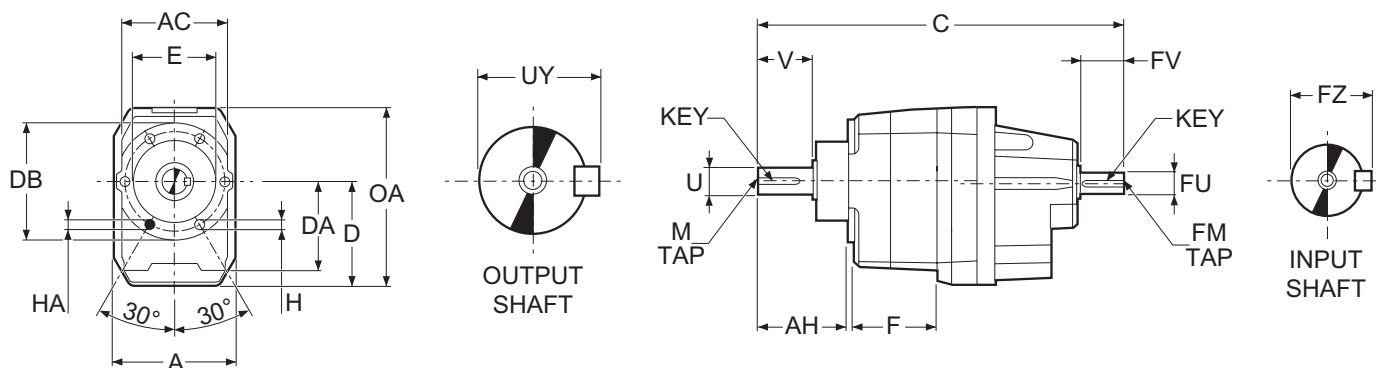
**Output shaft** (Inch series)

	U	UY	V	Key	M	
<b>C 21 2, C 21 3</b>	NF	1.000 <sup>+0</sup> <sub>-0.0005</sub>	1.110	2.000	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM	Weight [lbs / kg]	
<b>C 21 2</b>	NHS	0.750 <sup>+0</sup> <sub>-0.0005</sub>	0.830	1.570	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC	15 / 6.9
<b>C 21 3</b>	NHS	0.625 <sup>+0</sup> <sub>-0.0004</sub>	0.710	1.570	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC	16 / 7.2





**Gearcase**

	A	AC	AH	C	D	DA	DB	E	F	H	HA	OA
C 21 2	4.331	3.543	3.189	12.75	3.622	3.012	4.134	2.756	2.815	M8x12.5 [mm]	M8x8.5 [mm]	6.220
	110	90	81	323.8	92	76.5	105	70	71.5			
C 21 3	4.331	3.543	3.189	13.23	3.622	3.012	4.134	2.756	2.815	M8x12.5 [mm]	M8x8.5 [mm]	6.220
	110	90	81	336.1	92	76.5	105	70	71.5			

**Output shaft** (Inch series)

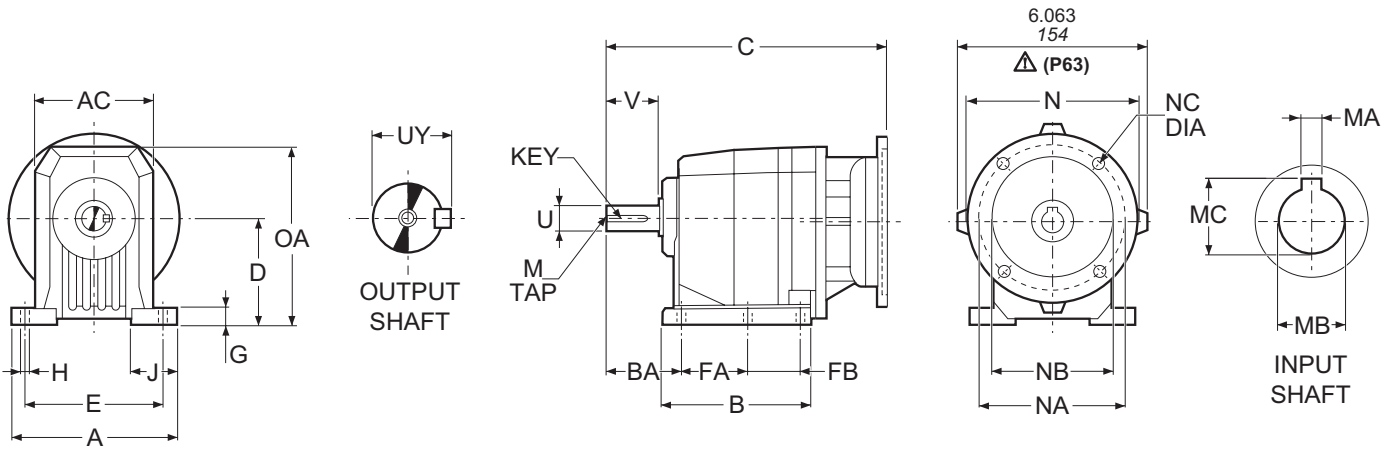
	U	UY	V	Key	M
C 21 2, C 21 3	NU	1.000 <sup>+0</sup> / <sub>-0.0005</sub>	1.110	2.000	1/4 x 1/4 x 1 3/4

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM	Weight [lbs / kg]	
C 21 2	NHS	0.750 <sup>+0</sup> / <sub>0.0005</sub>	0.830	1.570	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC	15 / 6.7
C 21 3	NHS	0.625 <sup>+0</sup> / <sub>0.0004</sub>	0.710	1.570	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC	15 / 7.0



Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	B	BA	D	E	FA	FB	G	H	J	OA
<b>C 21 2, C 21 3</b>	6.102 155	4.331 110	5.394 137	2.677 68	3.937 100	5.118 130	2.362 60	1.870 47.5	0.669 17	0.433 11	1.772 45	6.535 166

**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 21 2, C 21 3</b>	NP 1.000 <sup>+0</sup> / <sub>-0.0005</sub>	1.110	2.000	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC

**IEC Flange**



	N	NA	NB	NC	Weight [lbs / kg]
<b>P63</b>	140	115	95	M8x19	18 / 8
<b>P71</b>	160	130	110	M8x16	18 / 8
<b>P80, P90</b>	200	165	130	M10x12	20 / 9
<b>P100, P112</b>	250	215	180	M12x16	29 / 13

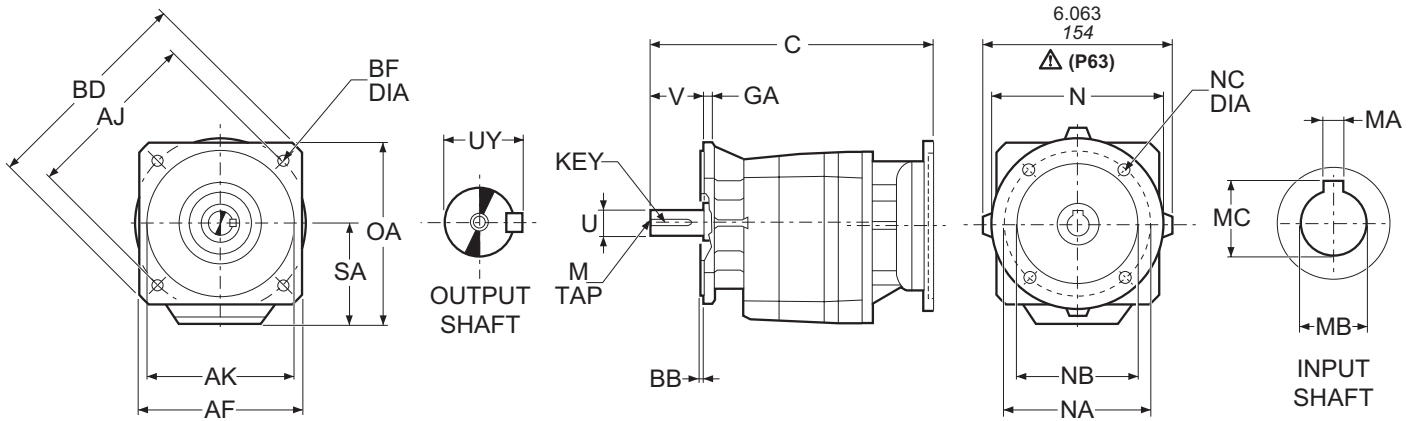
**Hollow input shaft**

	MA	MB	MC
<b>P63</b>	4	11	12.8
<b>P71</b>	5	14	16.3
<b>P80</b>	6	19	21.8
<b>P90</b>	8	24	27.3
<b>P100, P112</b>	8	28	31.3

	C		
	P63 P71	P80 P90	P100 P112
<b>C 21 2</b>	10.75 273	11.52 292.5	11.91 302.5
<b>C 21 3</b>	12.93 328.5	13.70 348	14.09 358

Dimensions are  $\frac{\text{inch}}{\text{mm}}$





**Gearcase**

	SA	OA
C 21 2, C 21 3	3.701	6.161
	94	156.5

**Flange**

AF	AJ	AK	BB	BD	BF	GA
4.921	5.118	4.331	0.138	6.299	0.374	0.394
125	130	110	3.5	160	9.5	10

**Output shaft (Inch series)**

		U	UY	V	Key	M
C 21 2, C 21 3	NF	1.000	1.110	2.000	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC

**IEC Flange**

	N	NA	NB	NC	Weight [lbs / kg]
P63	140	115	95	M8x19	18 / 8
P71	160	130	110	M8x16	18 / 8
P80, P90	200	165	130	M10x12	20 / 9
P100, P112	250	215	180	M12x16	29 / 13

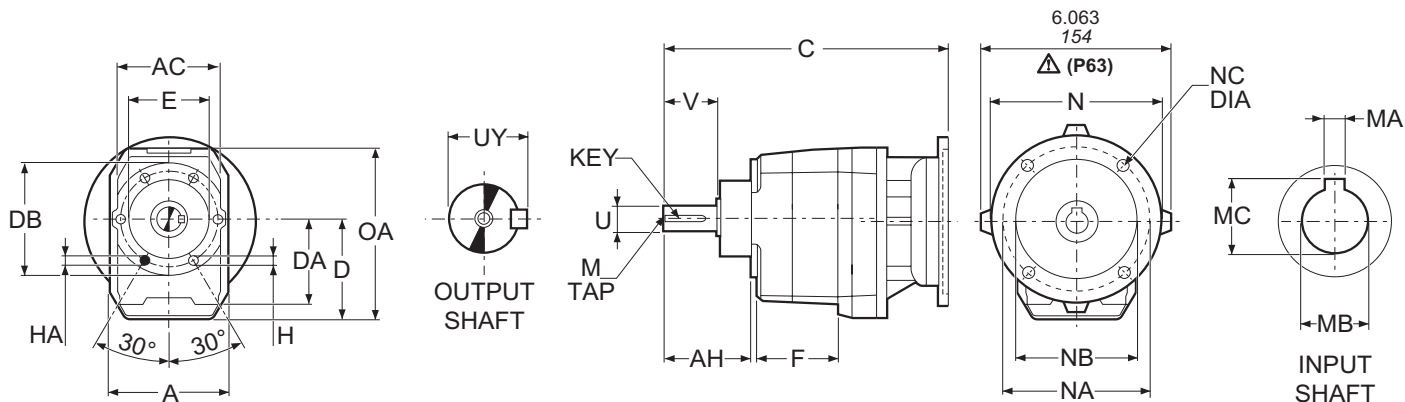


**Hollow input shaft**

	MA	MB	MC
P63	4	11	12.8
P71	5	14	16.3
P80	6	19	21.8
P90	8	24	27.3
P100, P112	8	28	31.3

	C		
	P63 P71	P80 P90	P100 P112
C 21 2	10.75 273	11.52 292.5	11.91 302.5
C 21 3	12.93 328.5	13.70 348	14.09 358

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AH	D	DA	DB	E	F	H	HA	OA
<b>C 21 2, C 21 3</b>	4.331 110	3.543 90	3.189 81	3.622 92	3.012 76.5	4.134 105	2.756 70	2.815 71.5	M8x12.5 [mm]	M8x8.5 [mm]	6.220 158

**Output shaft (Inch series)**

	U	UY	V	Key	M
<b>C 21 2, C 21 3</b>	NU 1.000 <sup>+0</sup> / <sub>-0.0005</sub>	1.110	2.000	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC

**IEC Flange**

	N	NA	NB	NC	Weight [lbs / kg]
<b>P63</b>	140	115	95	M8x19	18 / 8
<b>P71</b>	160	130	110	M8x16	18 / 8
<b>P80, P90</b>	200	165	130	M10x12	20 / 9
<b>P100, P112</b>	250	215	180	M12x16	29 / 13

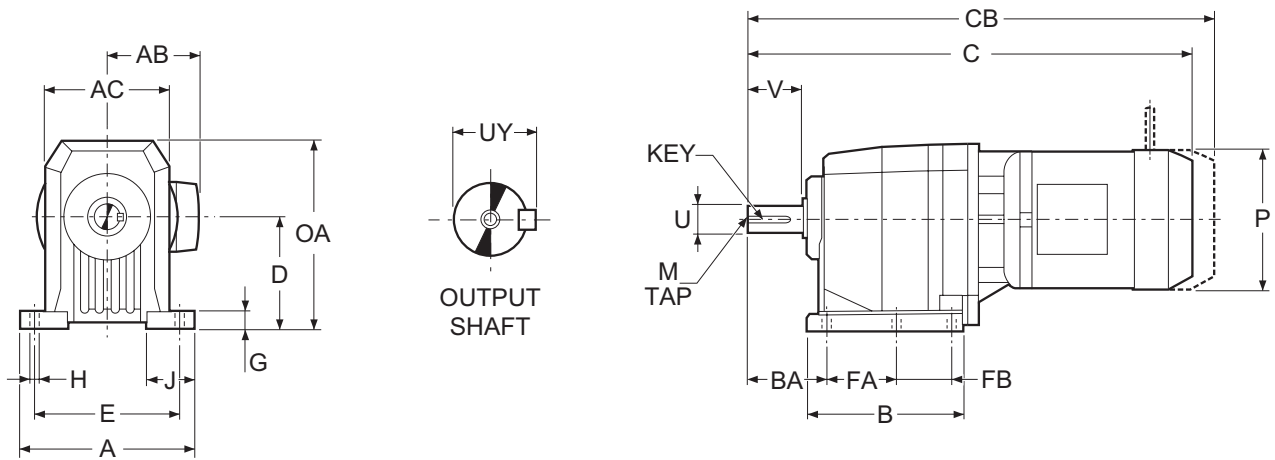


**Hollow input shaft**

	MA	MB	MC
<b>P63</b>	4	11	12.8
<b>P71</b>	5	14	16.3
<b>P80</b>	6	19	21.8
<b>P90</b>	8	24	27.3
<b>P100, P112</b>	8	28	31.3

	C		
	P63 P71	P80 P90	P100 P112
<b>C 21 2</b>	10.75 273	11.52 292.5	11.91 302.5
<b>C 21 3</b>	12.93 328.5	13.70 348	14.09 358

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



### Gearcase

	A	AC	B	BA	D	E	FA	FB	G	H	J	OA
C 31 2, C 31 3	7.480 190	5.118 130	6.142 156	3.071 78	4.331 110	6.299 160	2.756 70	2.362 60	0.787 20	0.433 11	2.087 53	7.126 181

### Output shaft (Inch series)

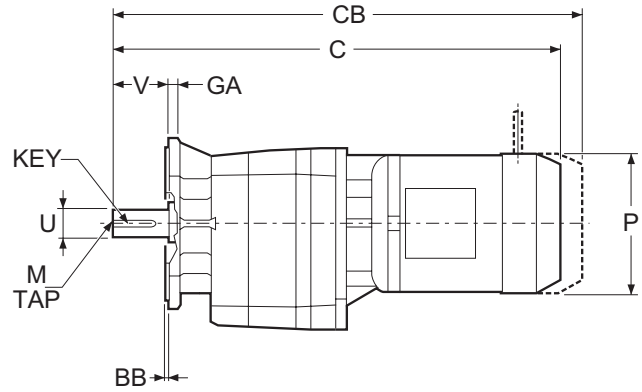
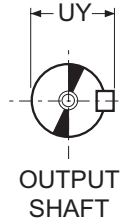
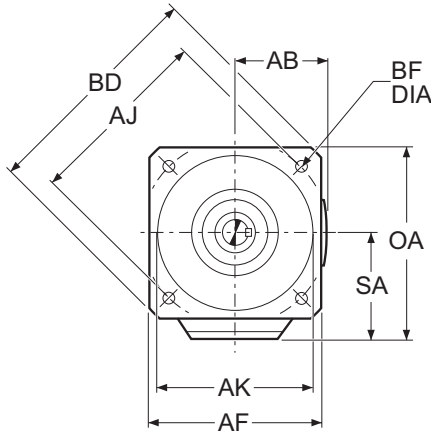
	U	UY	V	Key	M
C 31 2, C 31 3 NP	1.125 <sup>+0</sup> / <sub>-0.0005</sub>	1.230	2.375	1/4 x 1/4 x 2 5/32	3/8 - 16 UNC

### Motor



	AB	C	CB	P	Weight [lbs / kg]
C 31 2_S1 M1	4.252 108	18.21 462.5	20.61 523.5	5.433 138	35 / 16
C 31 2_S2 M2S	4.685 119	19.35 491.5	22.11 561.5	6.142 156	46 / 21
C 31 2_S3 M3S	5.591 142	21.04 534.5	24.82 630.5	7.677 195	62 / 28
C 31 2_S3 M3L	5.591 142	22.30 566.5	25.89 657.5	7.677 195	82 / 37
C 31 3_S05 M05	3.740 95	19.33 491	21.93 557	4.764 121	33 / 15
C 31 3_S1 M1	4.252 108	20.47 520	22.87 581	5.433 138	38 / 17
C 31 3_S2 M2S	4.685 119	21.61 549	24.37 619	6.142 156	46 / 21
C 31 3_S3 M3S	5.591 142	23.33 592.5	27.11 688.5	7.677 195	62 / 28
C 31 3_S3 M3L	5.591 142	24.59 624.5	28.17 715.5	7.677 195	82 / 37

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	SA	OA
C 31 2, C 31 3	4.252 108	7.205 183

**Flange**

AF	AJ	AK	BB	BD	BF	GA
5.906	6.496	5.118 <small>-0.0017 -0.0033</small>	0.138	7.874	0.453	0.472
150	165	130 <small>-0.043 -0.063</small>	3.5	200	11.5	12

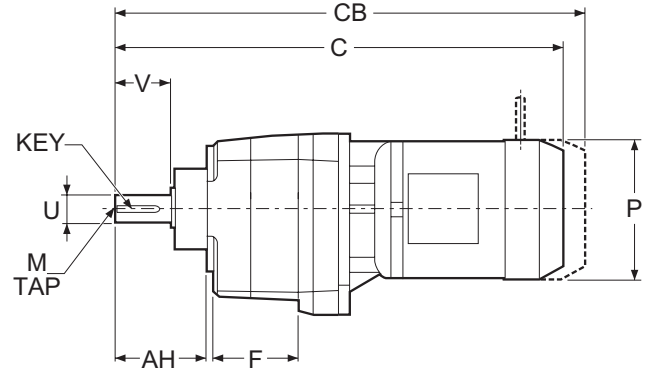
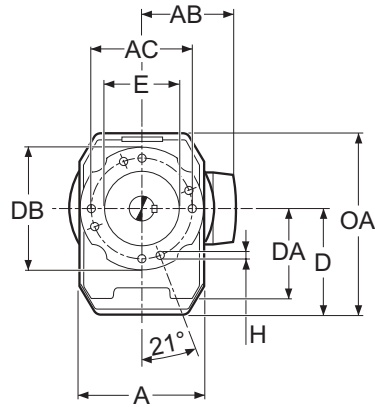
**Output shaft** (Inch series)

	U	UY	V	Key	M
C 31 2, C 31 3 NF	1.125 <small>+0 -0.0005</small>	1.230	2.375	1/4 x 1/4 x 2 5/32	3/8 - 16 UNC

**Motor**



	AB	C	CB	P	Weight [lbs / kg]
C 31 2_S1 M1	4.252 108	18.21 462.5	20.61 523.5	5.433 138	35 / 16
C 31 2_S2 M2S	4.685 119	19.35 491.5	22.11 561.5	6.142 156	46 / 21
C 31 2_S3 M3S	5.591 142	21.04 534.5	24.82 630.5	7.677 195	62 / 28
C 31 2_S3 M3L	5.591 142	22.30 566.5	25.89 657.5	7.677 195	82 / 37
C 31 3_S05 M05	3.740 95	19.33 491	21.93 557	4.764 121	33 / 15
C 31 3_S1 M1	4.252 108	20.47 520	22.87 581	5.433 138	38 / 17
C 31 3_S2 M2S	4.685 119	21.61 549	24.37 619	6.142 156	46 / 21
C 31 3_S3 M3S	5.591 142	23.33 592.5	27.11 688.5	7.677 195	62 / 28
C 31 3_S3 M3L	5.591 142	24.59 624.5	28.17 715.5	7.677 195	82 / 37



**Gearcase**

	A	AC	AH	D	DA	DB	E	F	H	OA
C 31 2, C 31 3	5.118 130	3.937 100	3.780 96	4.252 108	3.484 88.5	4.724 120	3.150 80	3.425 87	M8x15 [mm]	7.047 179

**Output shaft** (Inch series)

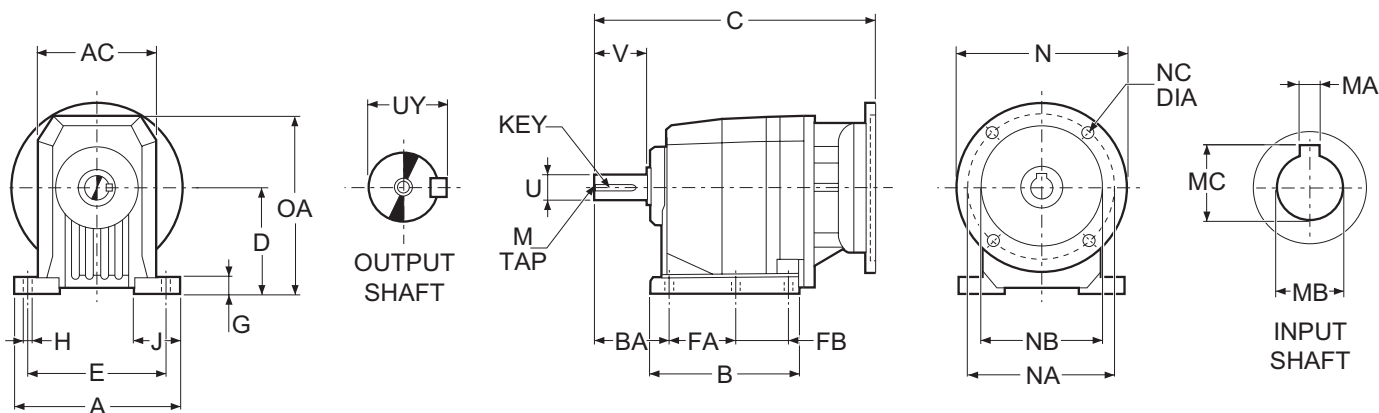
	U	UY	V	Key	M
C 31 2, C 31 3 NU	1.125 <sup>+0</sup> / <sub>-0.0005</sub>	1.230	2.375	1/4 x 1/4 x 2 5/32	3/8 - 16 UNC

**Motor**



	AB	C	CB	P	Weight [lbs / kg]
C 31 2_S1 M1	4.252 108	18.21 462.5	20.61 523.5	5.433 138	35 / 16
C 31 2_S2 M2S	4.685 119	19.35 491.5	22.11 561.5	6.142 156	46 / 21
C 31 2_S3 M3S	5.591 142	21.04 534.5	24.82 630.5	7.677 195	62 / 28
C 31 2_S3 M3L	5.591 142	22.30 566.5	25.89 657.5	7.677 195	82 / 37
C 31 3_S05 M05	3.740 95	19.33 491	21.93 557	4.764 121	33 / 15
C 31 3_S1 M1	4.252 108	20.47 520	22.87 581	5.433 138	38 / 17
C 31 3_S2 M2S	4.685 119	21.61 549	24.37 619	6.142 156	46 / 21
C 31 3_S3 M3S	5.591 142	23.33 592.5	27.11 688.5	7.677 195	62 / 28
C 31 3_S3 M3L	5.591 142	24.59 624.5	28.17 715.5	7.677 195	82 / 37

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	B	BA	D	E	FA	FB	G	H	J	OA
<b>C 31 2, C 31 3</b>	7.480	5.118	6.142	3.071	4.331	6.299	2.756	2.362	0.787	0.433	2.087	7.126
	190	130	156	78	110	160	70	60	20	11	53	181

**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 31 2, C 31 3</b> NP	1.125 <sup>+0</sup> / <sub>-0.0005</sub>	1.230	2.375	1/4 x 1/4 x 2 5/32	3/8 - 16 UNC

**NEMA Flange**



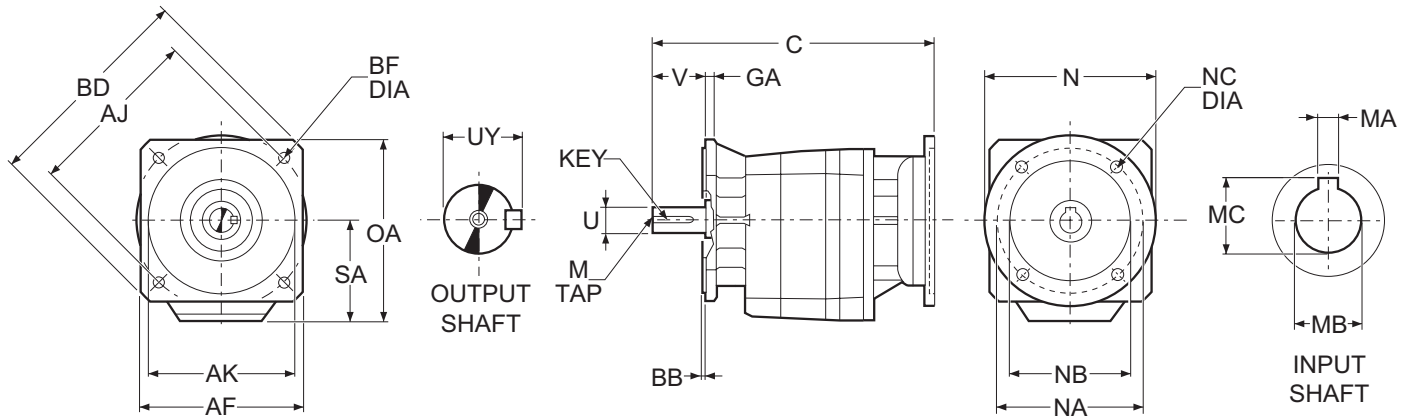
	N	NA	NB	NC	Weight [lbs / kg]
<b>N56C</b>	6.496	5.875	4.500	0.394	22 / 10
<b>N140TC</b>	6.496	5.875	4.500	0.394	24 / 11
<b>N180TC</b>	8.996	7.250	8.500	0.551	33 / 15

**Hollow input shaft**

	MA	MB	MC
<b>N56C</b>	0.188	0.625	0.710
<b>N140TC</b>	0.188	0.875	0.964
<b>N180TC</b>	0.250	1.125	1.241

	C		
	N56C	N140TC	N180TC
<b>C 31 2</b>	12.89 327.5	12.89 327.5	13.39 340
<b>C 31 3</b>	15.16 385	15.16 385	15.69 398.5

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



### Gearcase

	SA	OA
C 31 2, C 31 3	4.252	7.205
	108	183

### Flange

AF	AJ	AK	BB	BD	BF	GA
5.906	6.496	5.118	0.138	7.874	0.453	0.472
150	165	130	3.5	200	11.5	12

### Output shaft (Inch series)

	U	UY	V	Key	M
C 31 2, C 31 3 NF	1.125 <sup>+0</sup> / <sub>-0.0005</sub>	1.230	2.375	1/4 x 1/4 x 2 5/32	3/8 - 16 UNC

### NEMA Flange



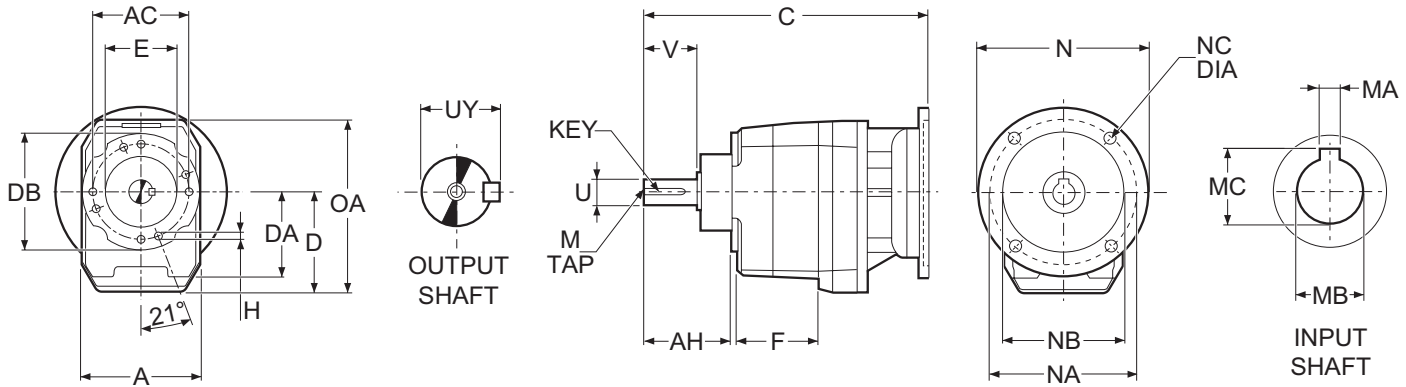
	N	NA	NB	NC	Weight [[lbs / kg]
N56C	6.496	5.875	4.500	0.394	22 / 10
N140TC	6.496	5.875	4.500	0.394	24 / 11
N180TC	8.996	7.250	8.500	0.551	33 / 15

### Hollow input shaft

	MA	MB	MC
N56C	0.188	0.625	0.710
N140TC	0.188	0.875	0.964
N180TC	0.250	1.125	1.241

	C		
	N56C	N140TC	N180TC
C 31 2	12.89	12.89	13.39
	327.5	327.5	340
C 31 3	15.16	15.16	15.69
	385	385	398.5

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AH	D	DA	DB	E	F	H	OA
<b>C 31 2, C 31 3</b>	5.118 130	3.937 100	3.780 96	4.252 108	3.484 88.5	4.724 120	3.150 80	3.425 87	M8x15 [mm]	7.047 179

**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 31 2, C 31 3</b>	NU 1.125 <sup>+0</sup> <sub>-0.0005</sub>	1.230	2.375	1/4 x 1/4 x 2 5/32	3/8 - 16 UNC

**NEMA Flange**



	N	NA	NB	NC	Weight [lbs / kg]
<b>N56C</b>	6.496	5.875	4.500	0.394	22 / 10
<b>N140TC</b>	6.496	5.875	4.500	0.394	24 / 11
<b>N180TC</b>	8.996	7.250	8.500	0.551	33 / 15

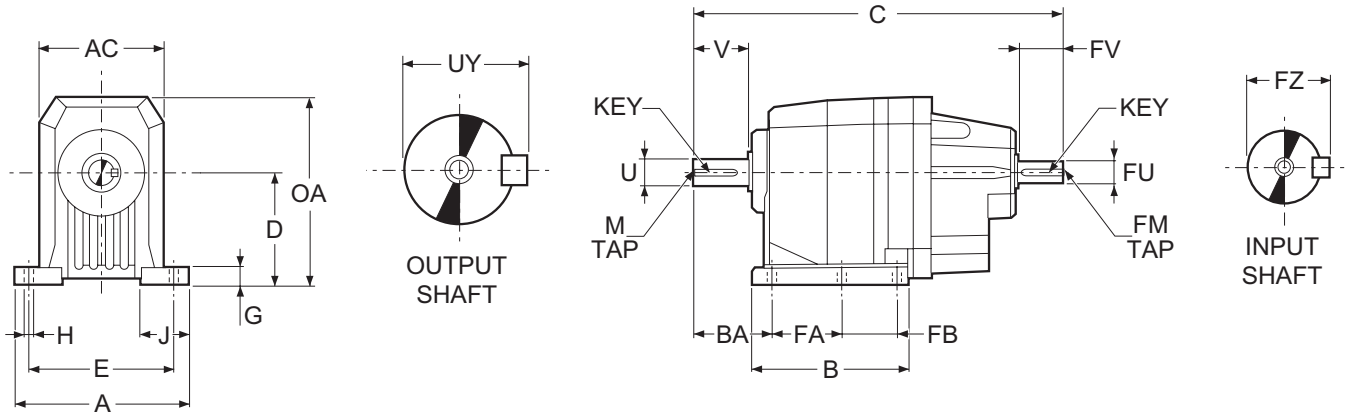
**Hollow input shaft**

	MA	MB	MC
<b>N56C</b>	0.188	0.625	0.710
<b>N140TC</b>	0.188	0.875	0.964
<b>N180TC</b>	0.250	1.125	1.241

	C		
	N56C	N140TC	N180TC
<b>C 31 2</b>	12.89 327.5	12.89 327.5	13.39 340
<b>C 31 3</b>	15.16 385	15.16 385	15.69 398.5

Dimensions are  $\frac{\text{inch}}{\text{mm}}$





**Gearcase**

	A	AC	B	BA	C	D	E	FA	FB	G	H	J	OA
<b>C 31 2</b>	7.480	5.118	6.142	3.071	14.09	4.331	6.299	2.756	2.362	0.787	0.433	2.087	7.126
	190	130	156	78	357.8	110	160	70	60	20	11	53	181
<b>C 31 3</b>	7.480	5.118	6.142	3.071	14.65	4.331	6.299	2.756	2.362	0.787	0.433	2.087	7.126
	190	130	156	78	372.1	110	160	70	60	20	11	53	181

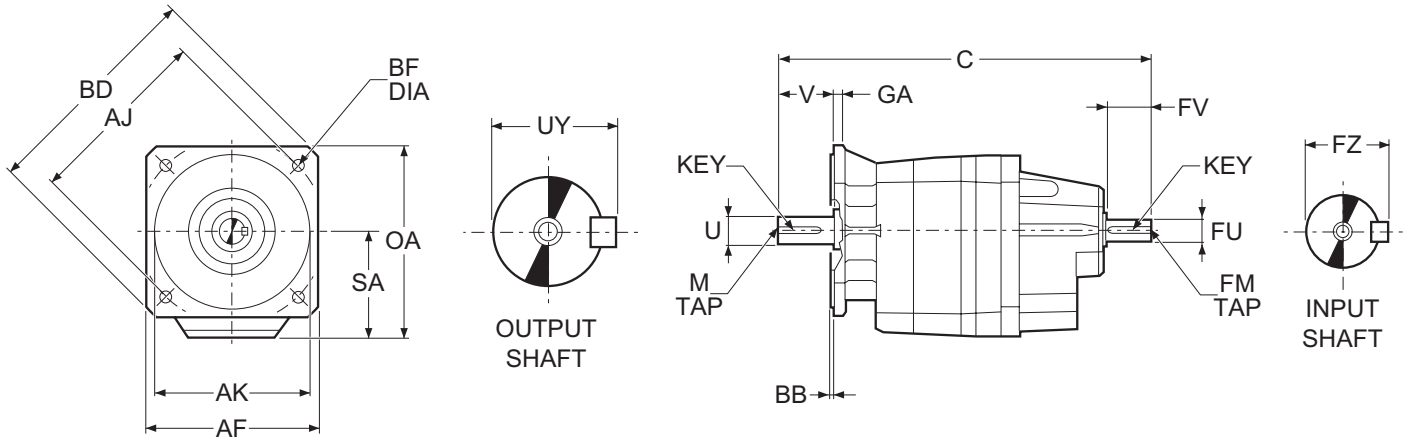
**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 31 2, C 31 3</b> NP	1.125 <sup>+0</sup> / <sub>-0.0005</sub>	1.230	2.375	1/4 x 1/4 x 2 5/32	3/8 - 16 UNC

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM	Weight [lbs / kg]
<b>C 31 2</b> NHS	0.750 <sup>+0</sup> / <sub>-0.0005</sub>	0.830	1.570	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC	24 / 11.1
<b>C 31 3</b> NHS	0.625 <sup>+0</sup> / <sub>-0.0004</sub>	0.710	1.570	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC	23 / 10.6





**Gearcase**

	C	SA	OA
<b>C 31 2</b>	14.09	4.252	7.205
	357.8	108	183
<b>C 31 3</b>	14.65	4.252	7.205
	372.1	108	183

**Flange**

AF	AJ	AK	BB	BD	BF	GA
5.906	6.496	5.118	0.138	7.874	0.453	0.472
150	165	130	3.5	200	11.5	12
5.906	6.496	5.118	0.138	7.874	0.453	0.472
150	165	130	3.5	200	11.5	12

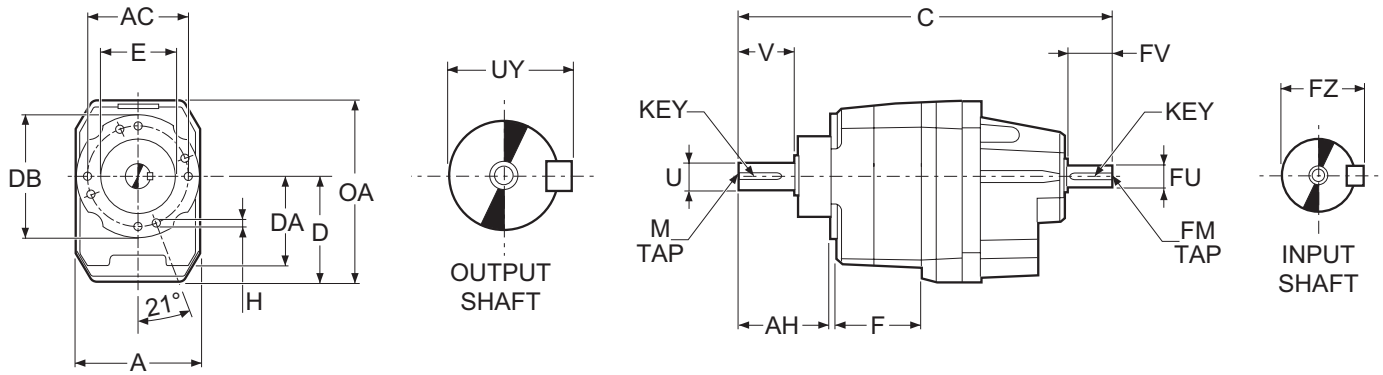
**Output shaft** (Inch series)

	U	UY	V	Key	M	
<b>C 31 2, C 31 3</b>	NF	1.125 <sup>+0</sup> <sub>-0.0005</sub>	1.230	2.375	1/4 x 1/4 x 2 5/32	3/8 - 16 UNC

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM	Weight [lbs / kg]	
<b>C 31 2</b>	NHS	0.750 <sup>+0</sup> <sub>-0.0005</sub>	0.830	1.570	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC	26 / 11.8
<b>C 31 3</b>	NHS	0.625 <sup>+0</sup> <sub>-0.0004</sub>	0.710	1.570	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC	23 / 10.3





**Gearcase**

	A	AC	AH	C	D	DA	DB	E	F	H	OA
C 31 2	5.118	3.937	3.780	14.09	4.252	3.484	4.724	3.150	3.425	M8x15 [mm]	7.047
	130	100	96	357.8	108	88.5	120	80	87		179
C 31 3	5.118	3.937	3.780	14.65	4.252	3.484	4.724	3.150	3.425	M8x15 [mm]	7.047
	130	100	96	372.1	108	88.5	120	80	87		179

**Output shaft** (Inch series)

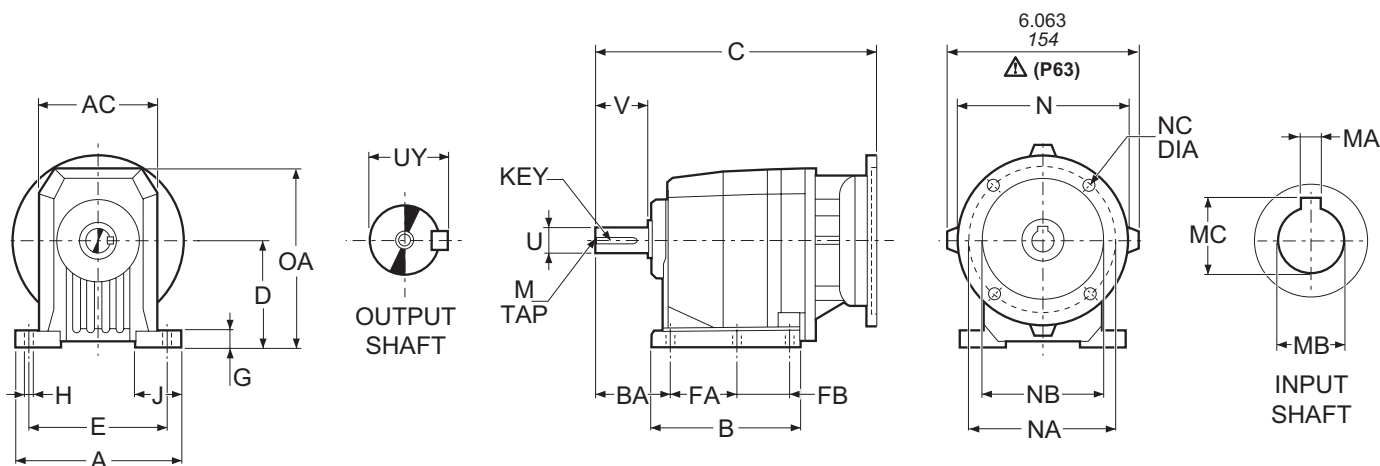
	U	UY	V	Key	M	
C 31 2, C 31 3	NU	1.125 <sup>+0</sup> / <sub>-0.0005</sub>	1.230	2.375	1/4 x 1/4 x 2 5/32	3/8 - 16 UNC

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM	Weight [lbs / kg]	
C 31 2	NHS	0.750 <sup>+0</sup> / <sub>-0.0005</sub>	0.830	1.570	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC	23 / 10.5
C 31 3	NHS	0.625 <sup>+0</sup> / <sub>-0.0004</sub>	0.710	1.570	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC	22 / 10.0



Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	B	BA	D	E	FA	FB	G	H	J	OA
<b>C 31 2, C 31 3</b>	7.480	5.118	6.142	3.071	4.331	6.299	2.756	2.362	0.787	0.433	2.087	7.126
	190	130	156	78	110	160	70	60	20	11	53	181

**Output shaft** (Inch series)

Model	U	UY	V	Key	M
<b>C 31 2, C 31 3 NP</b>	1.125 <sup>+0</sup> / <sub>-0.0005</sub>	1.230	2.375	1/4 x 1/4 x 2 5/32	3/8 - 16 UNC

**IEC Flange**

	N	NA	NB	NC	Weight [lbs / kg]
<b>P63</b>	140	115	95	M8x19	22 / 10
<b>P71</b>	160	130	110	M8x16	22 / 10
<b>P80, P90</b>	200	165	130	M10x12	24 / 11
<b>P100, P112</b>	250	215	180	M12x16	33 / 15

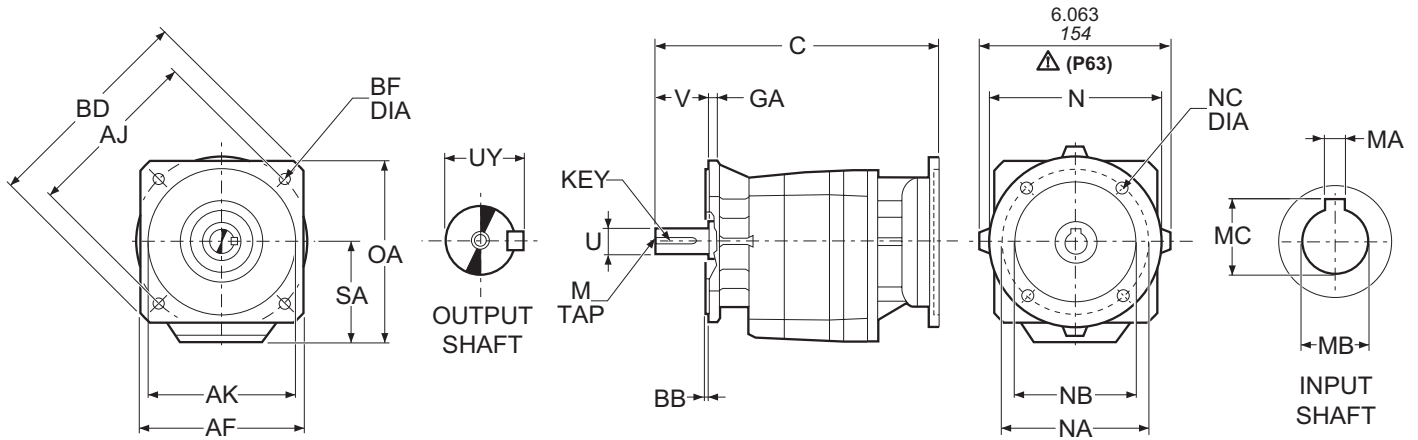


**Hollow input shaft**

	MA	MB	MC
<b>P63</b>	4	11	12.8
<b>P71</b>	5	14	16.3
<b>P80</b>	6	19	21.8
<b>P90</b>	8	24	27.3
<b>P100, P112</b>	8	28	31.3

	C		
	P63 P71	P80 P90	P100 P112
<b>C 31 2</b>	12.11 307.5	12.88 327	13.27 337
<b>C 31 3</b>	14.37 365	15.14 384.5	15.53 394.5

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	SA	OA
C 31 2, C 31 3	4.252 108	7.205 183

**Flange**

AF	AJ	AK	BB	BD	BF	GA
5.906	6.496	5.118 <small>-0.0017 -0.0033</small>	0.138	7.874	0.453	0.472
150	165	130 <small>-0.043 -0.063</small>	3.5	200	11.5	12

**Output shaft (Inch series)**

	U	UY	V	Key	M
C 31 2, C 31 3 NF	1.125 <small>+0 -0.0005</small>	1.230	2.375	1/4 x 1/4 x 2 5/32	3/8 - 16 UNC

**IEC Flange**

	N	NA	NB	NC	Weight [lbs / kg]
P63	140	115	95	M8x19	22 / 10
P71	160	130	110	M8x16	22 / 10
P80, P90	200	165	130	M10x12	24 / 11
P100, P112	250	215	180	M12x16	33 / 15

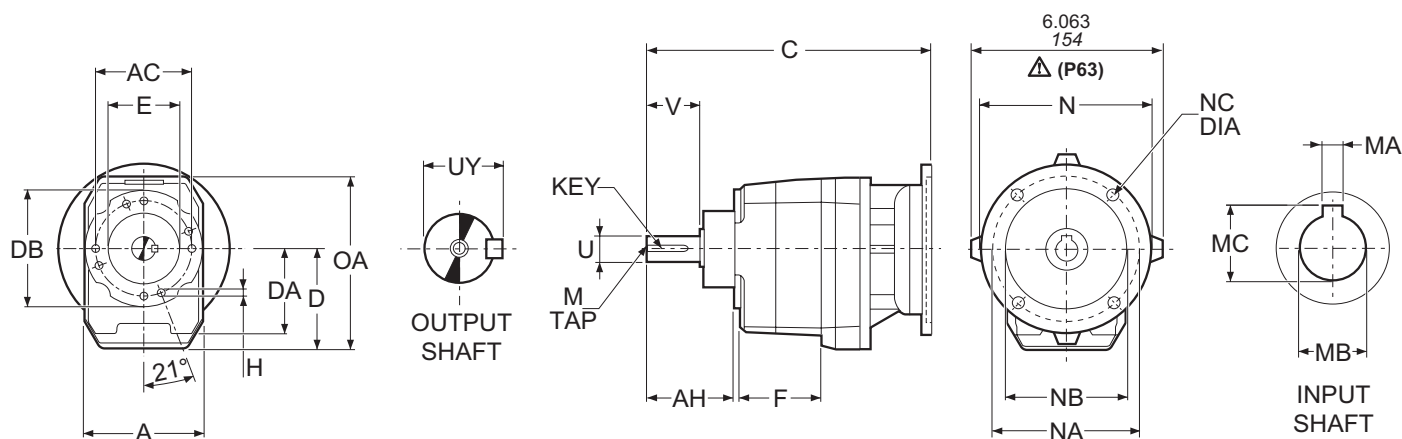


**Hollow input shaft**

	MA	MB	MC
P63	4	11	12.8
P71	5	14	16.3
P80	6	19	21.8
P90	8	24	27.3
P100, P112	8	28	31.3

	C		
	P63 P71	P80 P90	P100 P112
C 31 2	12.11 307.5	12.88 327	13.27 337
C 31 3	14.37 365	15.14 384.5	15.53 394.5

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AH	D	DA	DB	E	F	H	OA
<b>C 31 2, C 31 3</b>	5.118 130	3.937 100	3.780 96	4.252 108	3.484 88.5	4.724 120	3.150 80	3.425 87	M8x15 [mm]	7.047 179

**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 31 2, C 31 3</b>	NU 1.125 <sup>+0</sup> <sub>-0.0005</sub>	1.230	2.375	1/4 x 1/4 x 2 5/32	3/8 - 16 UNC

**IEC Flange**

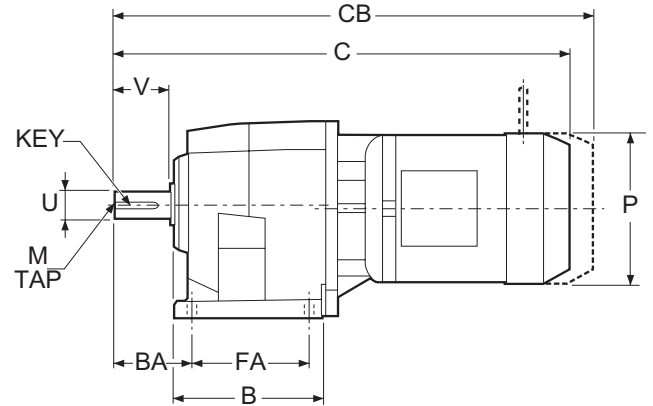
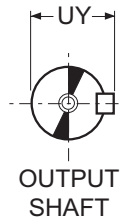
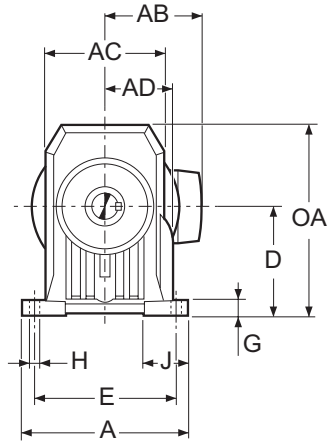
	N	NA	NB	NC	Weight [lbs / kg]
<b>P63</b>	140	115	95	M8x19	22 / 10
<b>P71</b>	160	130	110	M8x16	22 / 10
<b>P80, P90</b>	200	165	130	M10x12	24 / 11
<b>P100, P112</b>	250	215	180	M12x16	33 / 15

**Hollow input shaft**

	MA	MB	MC
<b>P63</b>	4	11	12.8
<b>P71</b>	5	14	16.3
<b>P80</b>	6	19	21.8
<b>P90</b>	8	24	27.3
<b>P100, P112</b>	8	28	31.3

	C		
	P63 P71	P80 P90	P100 P112
<b>C 31 2</b>	12.11 307.5	12.88 327	13.27 337
<b>C 31 3</b>	14.37 365	15.14 384.5	15.53 394.5

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



## Gearcase

	A	AC	AD	B	BA	D	E	FA	G	H	J	OA
C 35 2, C 35 3, C 35 4	8.071 205	5.906 150	3.386 86	6.614 168	3.681 93.5	4.528 115	6.693 170	5.118 130	0.630 16	0.551 14	1.969 50	8.110 206

## Output shaft (Inch series)

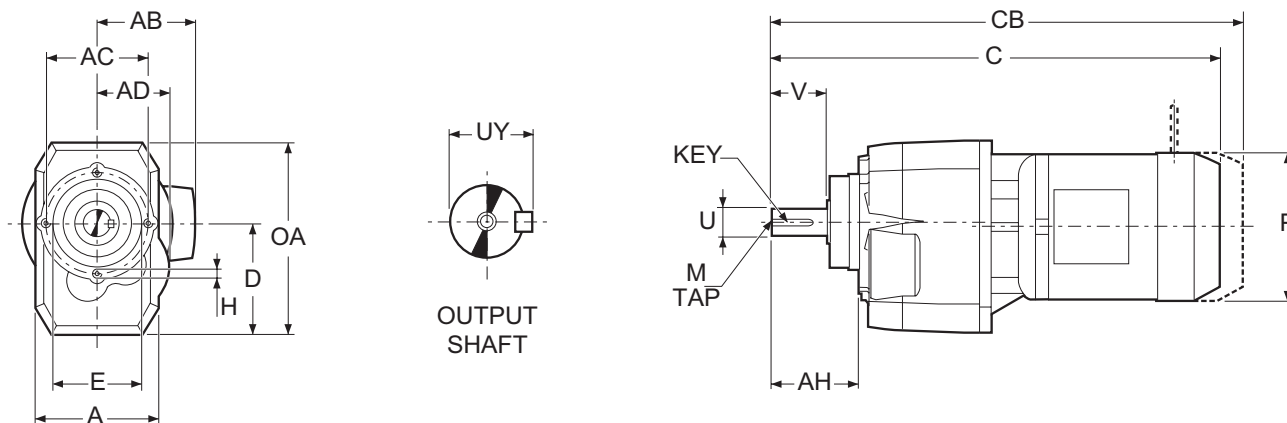
	U	UY	V	Key	M
C 35 2, C 35 3, C 35 4 NP	1.375 <sup>+0</sup> <sub>-0.0006</sub>	1.510	2.710	5/16 x 5/16 x 2 3/8	1/2 - 13 UNC

## Motor



	AB	C	CB	P	Weight [lbs / kg]
C 35 2_S1 M1	4.252	18.90	21.30	5.433	46 / 21
C 35 3_S1 M1	108	480	541	138	
C 35 2_S2 M2S	4.685	20.04	22.80	6.142	59 / 27
C 35 3_S2 M2S	119	509	579	156	
C 35 2_S3 M3S	5.591	21.73	25.51	7.677	73 / 33
C 35 3_S3 M3S	142	552	648	195	
C 35 2_S3 M3L	5.591	22.99	26.58	7.677	92 / 42
C 35 3_S3 M3L	142	584	675	195	
C 35 4_S05 M05	3.740 95	20.02 508.5	22.62 574.5	4.764 121	44 / 20
C 35 4_S1 M1	4.252 108	21.16 537.5	23.56 598.5	5.433 138	48 / 22
C 35 4_S2 M2S	4.685 119	22.30 566.5	25.06 636.5	6.142 156	62 / 28
C 35 4_S3 M3S	5.591 142	24.00 609.5	27.78 705.5	7.677 195	75 / 34
C 35 4_S3 M3L	5.591 142	25.26 641.5	28.84 732.5	7.677 195	95 / 43

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	<b>A</b>	<b>AC</b>	<b>AD</b>	<b>AH</b>	<b>D</b>	<b>E</b>	<b>H</b>	<b>OA</b>
<b>C 35 2, C 35 3, C 35 4</b>	5.906 150	4.528 115	3.386 86	3.465 88	3.740 95	4.528 115	<i>M10x15 [mm]</i>	7.953 202

**Output shaft** (Inch series)

	<b>U</b>	<b>UY</b>	<b>V</b>	<b>Key</b>	<b>M</b>
<b>C 35 2, C 35 3, C 35 4</b> <b>NU</b>	1.375 <sup>+0</sup> <sub>-0.0006</sub>	1.510	2.710	5/16 x 5/16 x 2 3/8	1/2 - 13 UNC

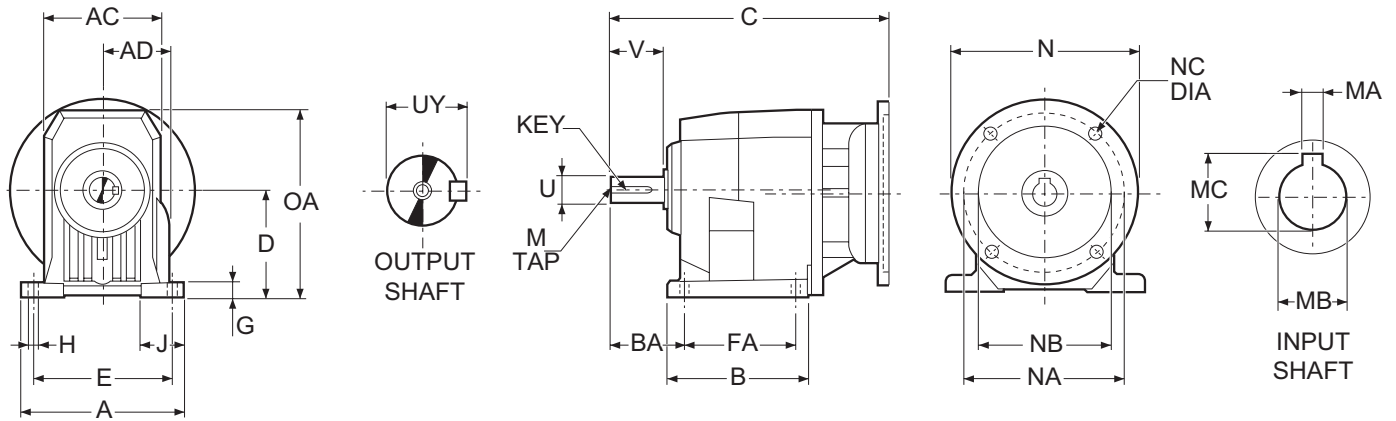
**Motor**



	<b>AB</b>	<b>C</b>	<b>CB</b>	<b>P</b>	<b>Weight</b> [lbs / kg]
<b>C 35 2_S1 M1</b>	4.252	18.90	21.30	5.433	46 / 21
<b>C 35 3_S1 M1</b>	108	480	541	138	
<b>C 35 2_S2 M2S</b>	4.685	20.04	22.80	6.142	59 / 27
<b>C 35 3_S2 M2S</b>	119	509	579	156	
<b>C 35 2_S3 M3S</b>	5.591	21.73	25.51	7.677	73 / 33
<b>C 35 3_S3 M3S</b>	142	552	648	195	
<b>C 35 2_S3 M3L</b>	5.591	22.99	26.58	7.677	92 / 42
<b>C 35 3_S3 M3L</b>	142	584	675	195	
<b>C 35 4_S05 M05</b>	3.740 95	20.02 508.5	22.62 574.5	4.764 121	44 / 20
<b>C 35 4_S1 M1</b>	4.252 108	21.16 537.5	23.56 598.5	5.433 138	48 / 22
<b>C 35 4_S2 M2S</b>	4.685 119	22.30 566.5	25.06 636.5	6.142 156	62 / 28
<b>C 35 4_S3 M3S</b>	5.591 142	24.00 609.5	27.78 705.5	7.677 195	75 / 34
<b>C 35 4_S3 M3L</b>	5.591 142	25.26 641.5	28.84 732.5	7.677 195	95 / 43

Dimensions are  $\frac{\text{inch}}{\text{mm}}$





**Gearcase**

	A	AC	AD	B	BA	D	E	FA	G	H	J	OA
<b>C 35 2, C 35 3, C 35 4</b>	8.071 205	5.906 150	3.386 86	6.614 168	3.681 93.5	4.528 115	6.693 170	5.118 130	0.630 16	0.551 14	1.969 50	8.110 206

**Output shaft (Inch series)**

	U	UY	V	Key	M
<b>C 35 2, C 35 3, C 35 4 NP</b>	1.375 <sup>+0</sup> <sub>-0.0006</sub>	1.510	2.710	5/16 x 5/16 x 2 3/8	1/2 - 13 UNC

**NEMA Flange**



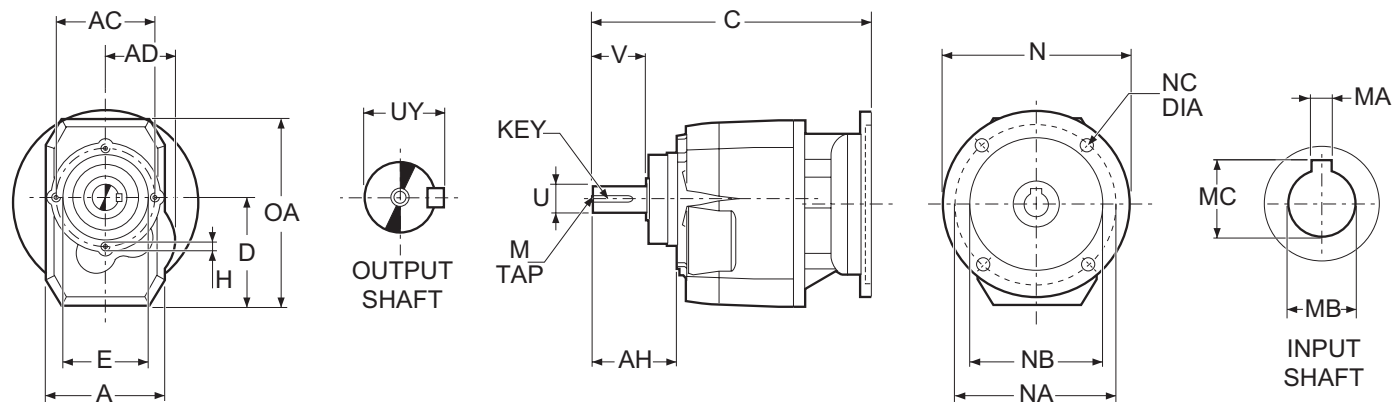
	N	NA	NB	NC	Weight [lbs / kg]
<b>N56C</b>	6.496	5.875	4.500	0.394	44 / 20
<b>N140TC</b>	6.496	5.875	4.500	0.394	46 / 21
<b>N180TC</b>	8.996	7.250	8.500	0.551	55 / 25

**Hollow input shaft**

	MA	MB	MC
<b>N56C</b>	0.188	0.625	0.710
<b>N140TC</b>	0.188	0.875	0.964
<b>N180TC</b>	0.250	1.125	1.241

	C		
	N56C	N140TC	N180TC
<b>C 35 2</b>	13.62 346	13.62 346	14.15 359.5
<b>C 35 3</b>	13.62 346	13.62 346	14.15 359.5
<b>C 35 4</b>	15.89 403.5	15.89 403.5	16.42 417

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AD	AH	D	E	H	OA
C 35 2, C 35 3, C 35 4	5.906 150	4.528 115	3.386 86	3.465 88	4.370 111	3.740 95	M10x15 [mm]	7.953 202

**Output shaft** (Inch series)

	U	UY	V	Key	M
C 35 2, C 35 3, C 35 4 NU	1.375 <sup>+0</sup> <sub>-0.0006</sub>	1.510	2.710	5/16 x 5/16 x 2 3/8	1/2 - 13 UNC

**NEMA Flange**



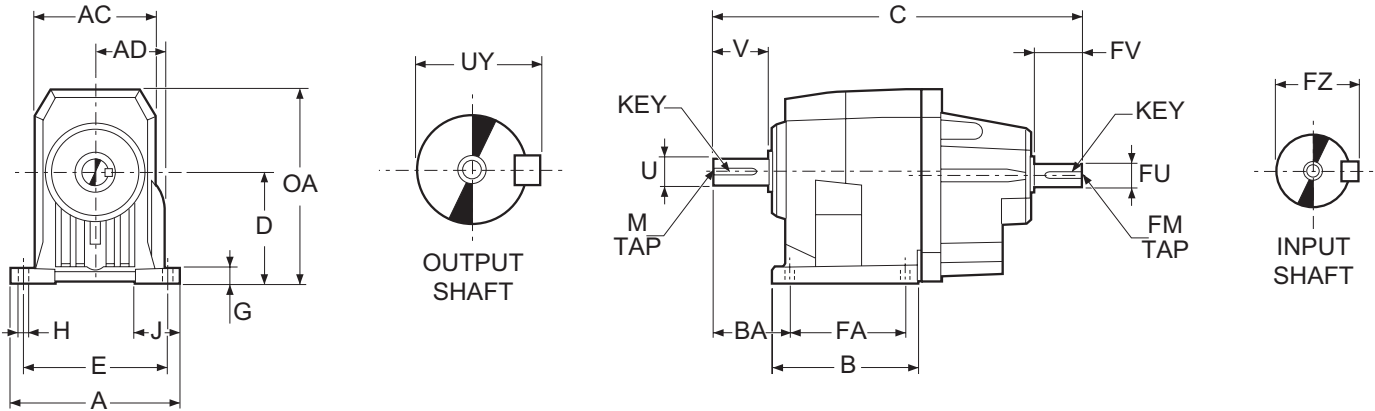
	N	NA	NB	NC	Weight [lbs / kg]
N56C	6.496	5.875	4.500	0.394	44 / 20
N140TC	6.496	5.875	4.500	0.394	46 / 21
N180TC	8.996	7.250	8.500	0.551	55 / 25

**Hollow input shaft**

	MA	MB	MC
N56C	0.188	0.625	0.710
N140TC	0.188	0.875	0.964
N180TC	0.250	1.125	1.241

	C		
	N56C	N140TC	N180TC
C 35 2	13.62 346	13.62 346	14.15 359.5
C 35 3	13.62 346	13.62 346	14.15 359.5
C 35 4	15.89 403.5	15.89 403.5	16.42 417

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AD	B	BA	C	D	E	FA	G	H	J	OA
C 35 2, C 35 3	8.071	5.906	3.386	6.614	3.583	16.32	4.528	6.693	5.118	0.630	0.551	1.969	8.110
	205	150	86	168	91	414.5	115	170	130	16	14	50	206
C 35 4	8.071	5.906	3.386	6.614	3.583	15.32	4.528	6.693	5.118	0.630	0.551	1.969	8.110
	205	150	86	168	91	389.2	115	170	130	16	14	50	206

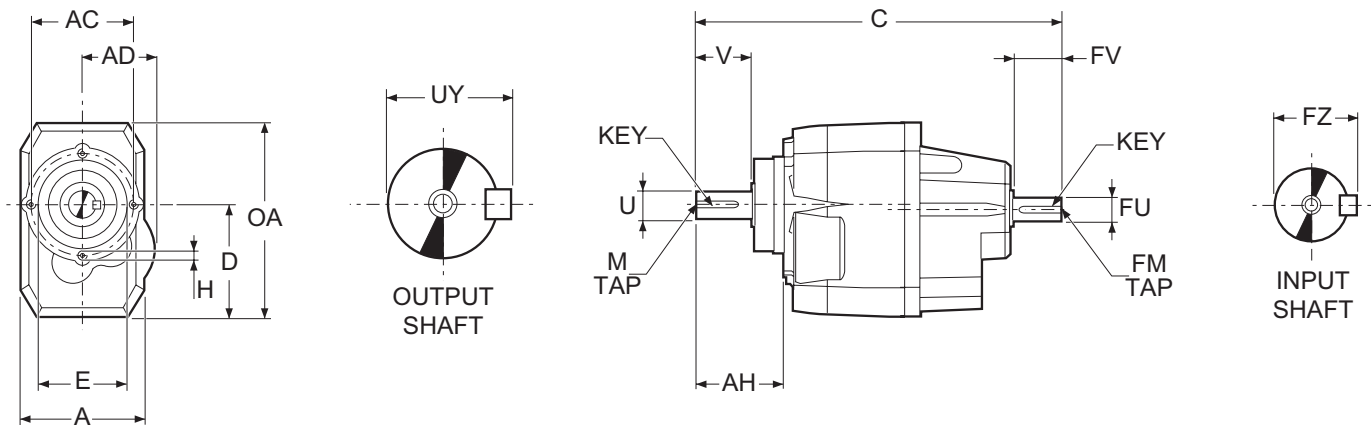
**Output shaft** (Inch series)

	U	UY	V	Key	M
C 35 2, C 35 3, C 35 4 NP	1.375 <sup>+0</sup> / <sub>-0.0006</sub>	1.510	2.710	5/16 x 5/16 x 2 3/8	1/2 - 13 UNC

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM	Weight [lbs / kg]
C 35 2, C 35 3 NHS	1.000 <sup>+0</sup> / <sub>-0.0005</sub>	1.110	1.970	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC	56 / 26
C 35 4 NHS	0.625 <sup>+0</sup> / <sub>-0.0004</sub>	0.710	1.570	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC	58 / 27

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AD	AH	C	D	E	H	OA
<b>C 35 2, C 35 3</b>	4.134	4.528	3.386	3.465	16.32	4.370	3.740	M10x15 [mm]	7.953
	105	115	86	88	414.5	111	95		202
<b>C 35 4</b>	4.134	4.528	3.386	3.465	15.32	4.370	3.740	M10x15 [mm]	7.953
	105	115	86	88	389.2	111	95		202

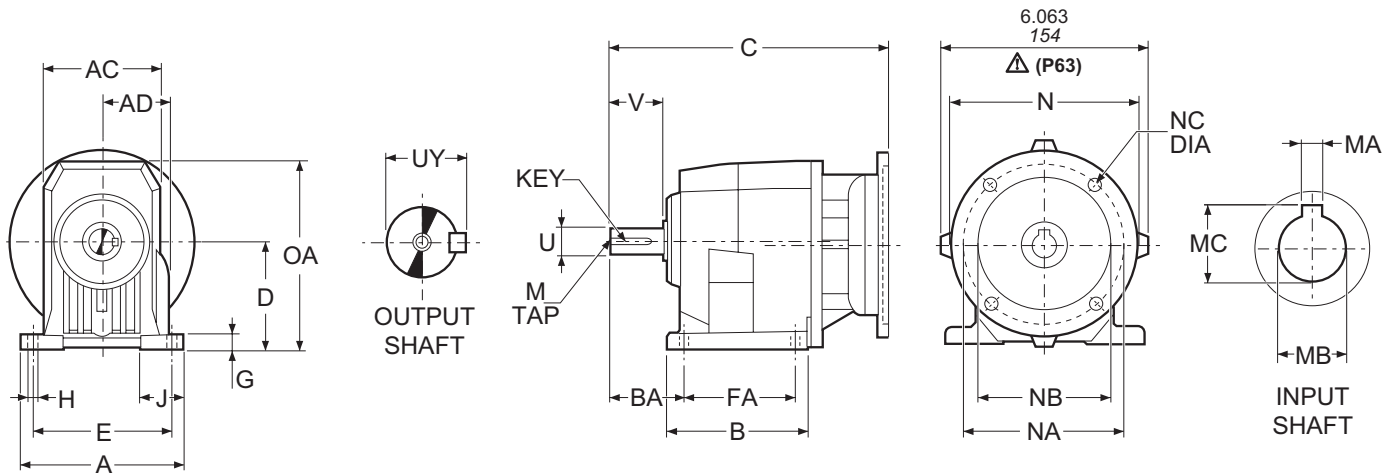
**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 35 2, C 35 3, C 35 4</b> <b>NU</b>	1.375 <sup>+0</sup> / <sub>-0.0006</sub>	1.510	2.710	5/16 x 5/16 x 2 3/8	1/2 - 13 UNC

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM	Weight [lbs / kg]
<b>C 35 2, C 35 3</b> <b>NHS</b>	1.000 <sup>+0</sup> / <sub>-0.0005</sub>	1.110	1.970	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC	56 / 26
<b>C 35 4</b> <b>NHS</b>	0.625 <sup>+0</sup> / <sub>-0.0004</sub>	0.710	1.570	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC	58 / 27





**Gearcase**

	A	AC	AD	B	BA	D	E	FA	G	H	J	OA
<b>C 35 2, C 35 3, C 35 4</b>	8.071 205	5.906 150	3.386 86	6.614 168	3.681 93.5	4.528 115	6.693 170	5.118 130	0.630 16	0.551 14	1.969 50	8.110 206

**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 35 2, C 35 3, C 35 4 NP</b>	1.375 <sup>+0</sup> <sub>-0.0006</sub>	1.510	2.710	5/16 x 5/16 x 2 3/8	1/2 - 13 UNC

**IEC Flange**



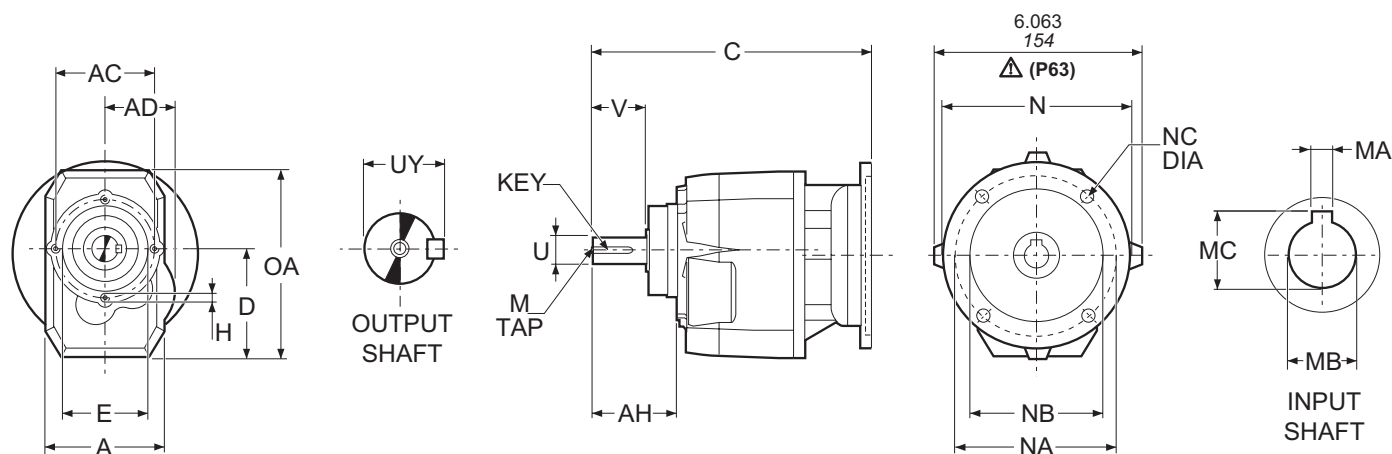
	N	NA	NB	NC	Weight [lbs / kg]
<b>P63</b>	140	115	95	M8x19	44 / 20
<b>P71</b>	160	130	110	M8x16	44 / 20
<b>P80, P90</b>	200	165	130	M10x12	46 / 21
<b>P100, P112</b>	250	215	180	M12x16	55 / 25

**Hollow input shaft**

	MA	MB	MC
<b>P63</b>	4	11	12.8
<b>P71</b>	5	14	16.3
<b>P80</b>	6	19	21.8
<b>P90</b>	8	24	27.3
<b>P100, P112</b>	8	28	31.3

	C		
	P63 P71	P80 P90	P100 P112
<b>C 35 2</b>	12.84 326	13.60 345.5	14.00 355.5
<b>C 35 3</b>	15.10 383.5	15.87 403	16.26 413

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AD	AH	D	E	H	OA
<b>C 35 2, C 35 3, C 35 4</b>	5.906 150	4.528 115	3.386 86	3.465 88	4.370 111	3.740 95	M10x15 [mm]	7.953 202

**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 35 2, C 35 3, C 35 4</b> NU	1.375 <sup>+0</sup> / <sub>-0.0006</sub>	1.510	2.710	5/16 x 5/16 x 2 3/8	1/2 - 13 UNC

**IEC Flange**

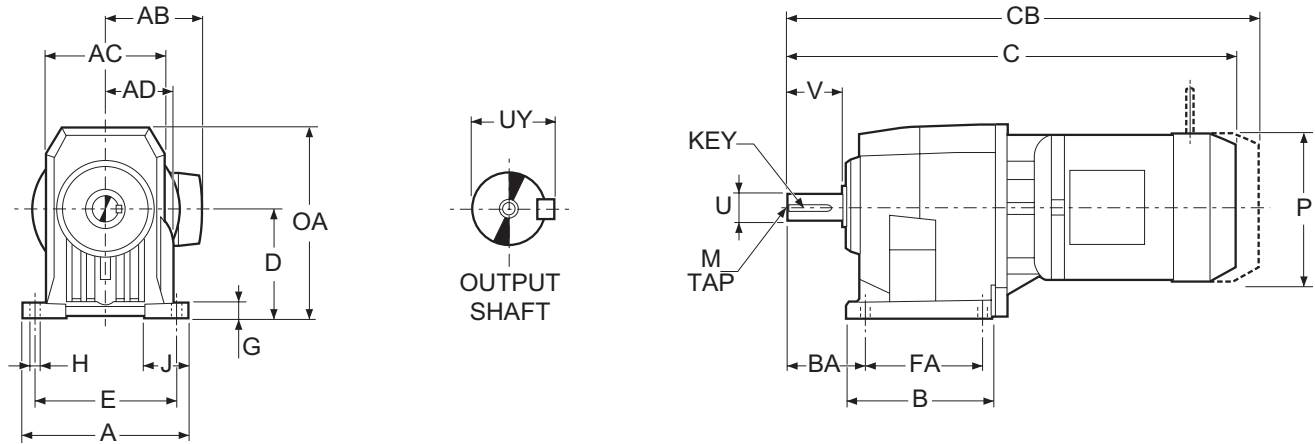
	N	NA	NB	NC	Weight [lbs / kg]
<b>P63</b>	140	115	95	M8x19	44 / 20
<b>P71</b>	160	130	110	M8x16	44 / 20
<b>P80, P90</b>	200	165	130	M10x12	46 / 21
<b>P100, P112</b>	250	215	180	M12x16	55 / 25

**Hollow input shaft**

	MA	MB	MC
<b>P63</b>	4	11	12.8
<b>P71</b>	5	14	16.3
<b>P80</b>	6	19	21.8
<b>P90</b>	8	24	27.3
<b>P100, P112</b>	8	28	31.3

	C		
	P63 P71	P80 P90	P100 P112
<b>C 35 2</b>	12.84 326	13.60 345.5	14.00 355.5
<b>C 35 3</b>	15.10 383.5	15.87 403	16.26 413

Dimensions are  $\frac{\text{inch}}{\text{mm}}$

**Gearcase**

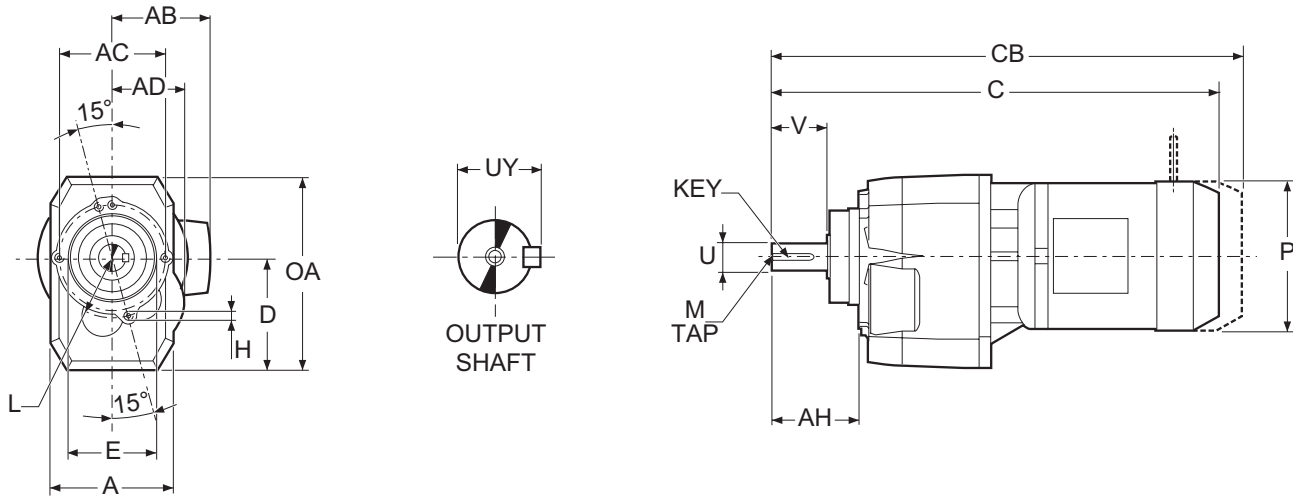
	A	AC	AD	B	BA	D	E	FA	G	H	J	OA
C 41 2, C 41 3, C 41 4	8.504 216	6.102 155	3.543 90	7.303 185.5	3.524 89.5	5.118 130	7.087 180	5.886 149.5	0.709 18	0.551 14	2.402 61	8.701 221

**Output shaft** (Inch series)

	U	UY	V	Key	M
C 41 2, C 41 3, C 41 4 NP	1.375 <sup>+0</sup> <sub>-0.0006</sub>	1.510	2.710	5/16 x 5/16 x 2 3/8	1/2 - 13 UNC

**Motor**

	AB	C	CB	P	Weight [lbs / kg]
C 41 2_S1 M1	4.252	19.35	21.75	5.433	62 / 28
C 41 3_S1 M1	108	491.5	552.5	138	
C 41 2_S2 M2S	4.685	20.49	23.25	6.142	75 / 34
C 41 3_S2 M2S	119	520.5	590.5	156	
C 41 2_S3 M3S	5.591	22.19	25.97	7.677	90 / 41
C 41 3_S3 M3S	142	563.5	659.5	195	
C 41 2_S3 M3L	5.591	23.45	27.03	7.677	110 / 50
C 41 3_S3 M3L	142	595.5	686.5	195	
C 41 2_S4 M4S	7.598	27.70	31.99	10.157	158 / 72
C 41 3_S4 M4S	193	703.5	812.5	258	
C 41 2_S4 M4L	7.598	27.70	31.99	10.157	183 / 83
C 41 3_S4 M4L	193	703.5	812.5	258	
C 41 4_S05 M05	3.740 95	20.63 524	23.23 590	9.094 231	62 / 28
C 41 4_S1 M1	4.252 108	21.77 553	24.17 614	5.433 138	68 / 31
C 41 4_S2 M2S	4.685 119	22.91 582	25.67 652	6.142 156	82 / 37
C 41 4_S3 M3S	5.591 142	24.61 625	28.39 721	7.677 195	97 / 44
C 41 4_S3 M3L	5.591 142	25.87 657	29.45 748	7.677 195	117 / 53



**Gearcase**

	A	AC	AD	AH	D	E	H	L	OA
C 41 2, C 41 3, C 41 4	6.102 155	5.118 130	3.543 90	4.331 110	5.039 128	4.331 110	M10x15 [mm]	2.953 75	8.701 221

**Output shaft** (Inch series)

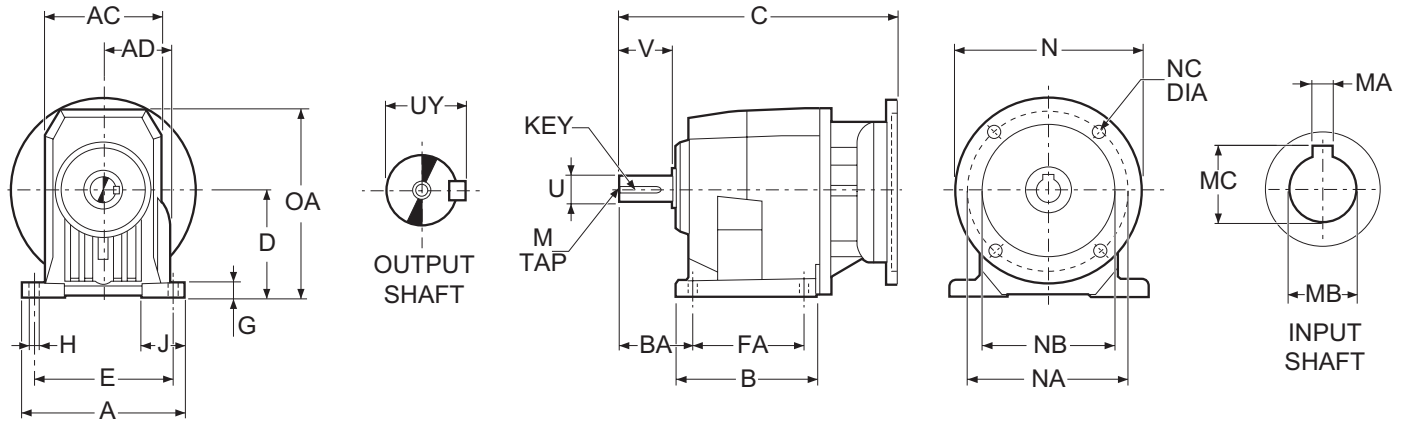
	U	UY	V	Key	M
C 41 2, C 41 3, C 41 4 NU	1.375 <sup>+0</sup> <sub>-0.0006</sub>	1.510	2.710	5/16 x 5/16 x 2 3/8	1/2 - 13 UNC

**Motor**



	AB	C	CB	P	Weight [lbs / kg]
C 41 2_S1 M1	4.252	19.35	21.75	5.433	62 / 28
C 41 3_S1 M1	108	491.5	552.5	138	
C 41 2_S2 M2S	4.685	20.49	23.25	6.142	75 / 34
C 41 3_S2 M2S	119	520.5	590.5	156	
C 41 2_S3 M3S	5.591	22.19	25.97	7.677	90 / 41
C 41 3_S3 M3S	142	563.5	659.5	195	
C 41 2_S3 M3L	5.591	23.45	27.03	7.677	110 / 50
C 41 3_S3 M3L	142	595.5	686.5	195	
C 41 2_S4 M4S	7.598	27.70	31.99	10.157	158 / 72
C 41 3_S4 M4S	193	703.5	812.5	258	
C 41 2_S4 M4L	7.598	27.70	31.99	10.157	183 / 83
C 41 3_S4 M4L	193	703.5	812.5	258	
C 41 4_S05 M05	3.740 95	20.63 524	23.23 590	9.094 231	62 / 28
C 41 4_S1 M1	4.252 108	21.77 553	24.17 614	5.433 138	68 / 31
C 41 4_S2 M2S	4.685 119	22.91 582	25.67 652	6.142 156	82 / 37
C 41 4_S3 M3S	5.591 142	24.61 625	28.39 721	7.677 195	97 / 44
C 41 4_S3 M3L	5.591 142	25.87 657	29.45 748	7.677 195	117 / 53





**Gearcase**

	A	AC	AD	B	BA	D	E	FA	G	H	J	OA
<b>C 41 2, C 41 3, C 41 4</b>	8.504 216	6.102 155	3.543 90	7.303 185.5	3.524 89.5	5.118 130	7.087 180	5.886 149.5	0.709 18	0.551 14	2.402 61	8.701 221

**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 41 2, C 41 3, C 41 4 NP</b>	1.375 <sup>+0</sup> <sub>-0.0006</sub>	1.510	2.710	5/16 x 5/16 x 2 3/8	1/2 - 13 UNC

**NEMA Flange**



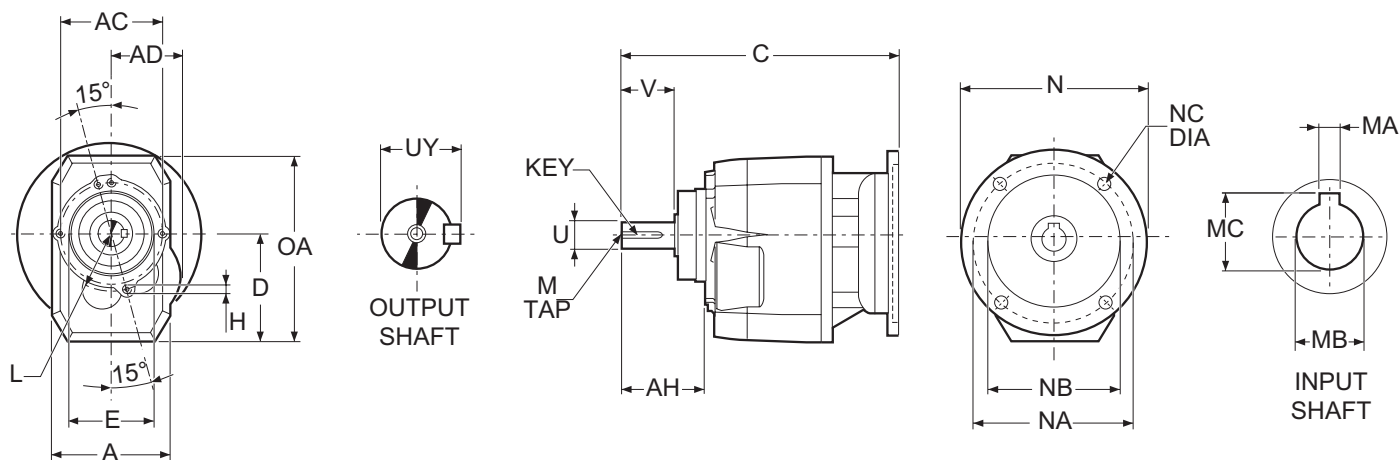
	N	NA	NB	NC	Weight [lbs / kg]
<b>N56C</b>	6.496	5.875	4.500	0.394	68 / 31
<b>N140TC</b>	6.496	5.875	4.500	0.394	71 / 32
<b>N180TC</b>	8.996	7.250	8.500	0.551	79 / 36
<b>N210TC</b>	8.996	7.250	8.500	0.551	77 / 35

**Hollow input shaft**

	MA	MB	MC
<b>N56C</b>	0.188	0.625	0.710
<b>N140TC</b>	0.188	0.875	0.964
<b>N180TC</b>	0.250	1.125	1.241
<b>N210TC</b>	0.312	1.375	1.518

	C			
	N56C	N140TC	N180TC	N210TC
<b>C 41 2</b>	14.04 356.5	14.04 356.5	14.57 370	16.02 407
<b>C 41 3</b>	14.04 356.5	14.04 356.5	14.57 370	16.02 407
<b>C 41 4</b>	16.46 418	16.46 418	16.99 431.5	—

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AD	AH	D	E	H	L	OA
C 41 2, C 41 3, C 41 4	6.102 155	5.118 130	3.543 90	4.331 110	5.039 128	4.331 110	M10x15 [mm]	2.953 75	8.701 221

**Output shaft** (Inch series)

	U	UY	V	Key	M
C 41 2, C 41 3, C 41 4 NU	1.375 <sup>+0</sup> <sub>-0.0006</sub>	1.510	2.710	5/16 x 5/16 x 2 3/8	1/2 - 13 UNC

**NEMA Flange**

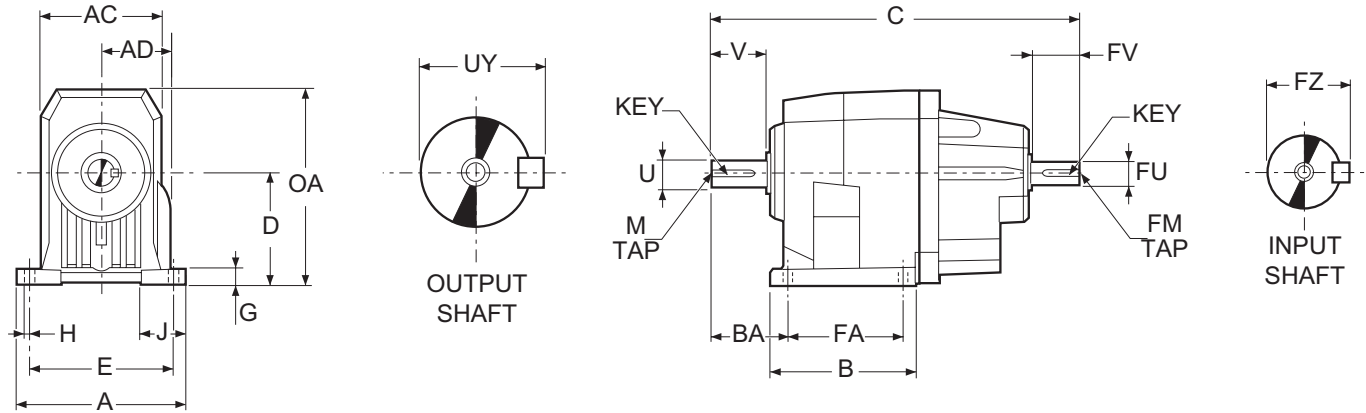
	N	NA	NB	NC	Weight [lbs / kg]
N56C	6.496	5.875	4.500	0.394	68 / 31
N140TC	6.496	5.875	4.500	0.394	71 / 32
N180TC	8.996	7.250	8.500	0.551	79 / 36
N210TC	8.996	7.250	8.500	0.551	77 / 35

**Hollow input shaft**

	MA	MB	MC
N56C	0.188	0.625	0.710
N140TC	0.188	0.875	0.964
N180TC	0.250	1.125	1.241
N210TC	0.312	1.375	1.518

	C			
	N56C	N140TC	N180TC	N210TC
C 41 2	14.04 356.5	14.04 356.5	14.57 370	16.02 407
C 41 3	14.04 356.5	14.04 356.5	14.57 370	16.02 407
C 41 4	16.46 418	16.46 418	16.99 431.5	—

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AD	B	BA	C	D	E	FA	G	H	J	OA
<b>C 41 2, C 41 3</b>	8.504	6.102	3.543	7.303	3.524	16.71	5.118	7.087	5.886	0.709	0.551	2.402	8.701
	216	155	90	185.5	89.5	424.5	130	180	149.5	18	14	61	221
<b>C 41 4</b>	8.504	6.102	3.543	7.303	3.524	17.56	5.118	7.087	5.886	0.709	0.551	2.402	8.701
	216	155	90	185.5	89.5	446.85	130	180	149.5	18	14	61	221

**Output shaft** (Inch series)

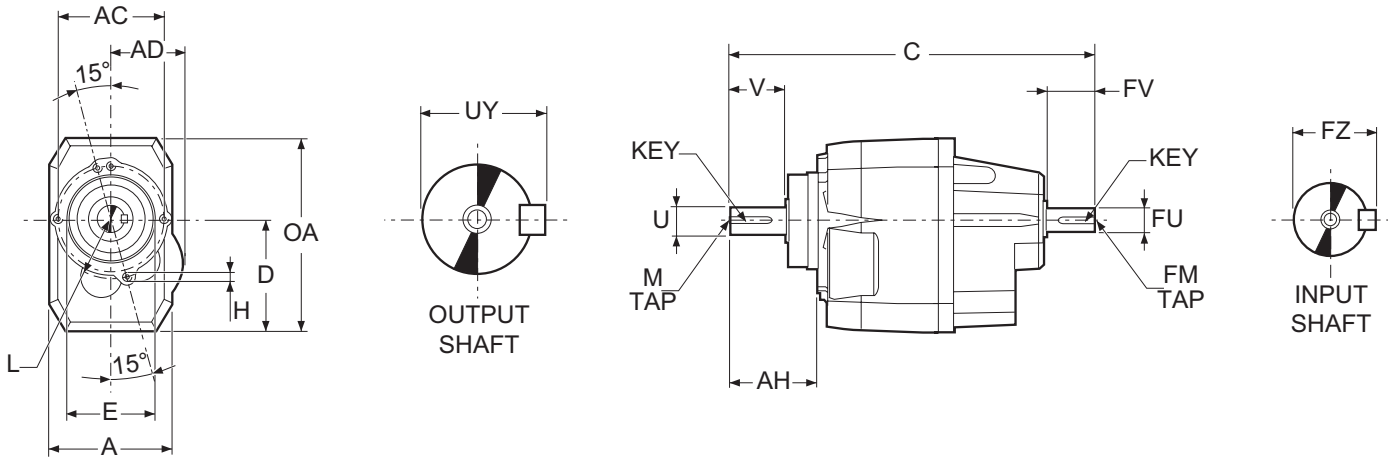
	U	UY	V	Key	M
<b>C 41 2, C 41 3, C 41 4</b> NP	1.375 <sup>+0</sup> / <sub>-0.0006</sub>	1.510	2.710	5/16 x 5/16 x 2 3/8	1/2 - 13 UNC

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM	Weight [lbs / kg]
<b>C 41 2, C 41 3</b> NHS	1.000 <sup>+0</sup> / <sub>-0.0005</sub>	1.110	1.970	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC	66 / 30
<b>C 41 4</b> NHS	0.750 <sup>+0</sup> / <sub>-0.0005</sub>	0.830	1.570	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC	73 / 33



Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AD	AH	C	D	E	H	L	OA
C 41 2, C 41 3	6.102	5.118	3.543	4.331	16.71	5.039	4.331	M10x15 [mm]	2.953	8.701
	155	130	90	110	424.5	128	110		75	221
C 41 4	6.102	5.118	3.543	4.331	17.56	5.039	4.331	M10x15 [mm]	2.953	8.701
	155	130	90	110	446.85	128	110		75	221

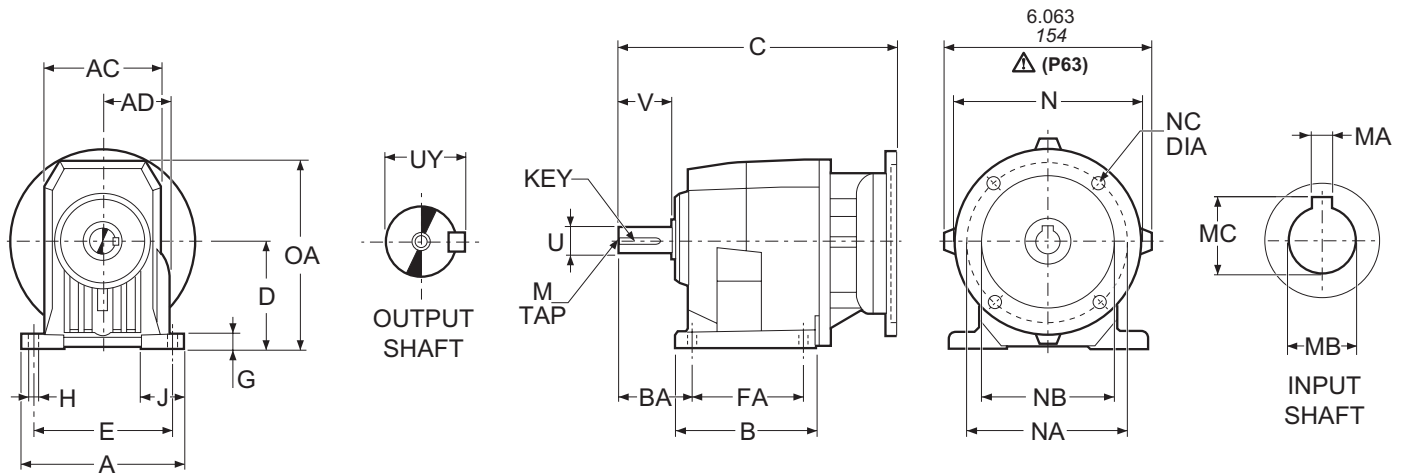
**Output shaft** (Inch series)

	U	UY	V	Key	M
C 41 2, C 41 3, C 41 4	NU	1.375 <sup>+0</sup> <sub>-0.0006</sub>	1.510	5/16 x 5/16 x 2 3/8	1/2 - 13 UNC

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM	Weight [lbs / kg]
C 41 2, C 41 3	NHS	1.000 <sup>+0</sup> <sub>-0.0005</sub>	1.110	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC	66 / 30
C 41 4	NHS	0.750 <sup>+0</sup> <sub>-0.0005</sub>	0.830	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC	73 / 33





**Gearcase**

	A	AC	AD	B	BA	D	E	FA	G	H	J	OA
<b>C 41 2, C 41 3, C 41 4</b>	8.504 216	6.102 155	3.543 90	7.303 185.5	3.524 89.5	5.118 130	7.087 180	5.886 149.5	0.709 18	0.551 14	2.402 61	8.701 221

**Output shaft (Inch series)**

	U	UY	V	Key	M
<b>C 41 2, C 41 3, C 41 4 NP</b>	1.375 <sup>+0</sup> <sub>-0.0006</sub>	1.510	2.710	5/16 x 5/16 x 2 3/8	1/2 - 13 UNC

**IEC Flange**

	N	NA	NB	NC	Weight [lbs / kg]
<b>P63</b>	140	115	95	M8x19	66 / 30
<b>P71</b>	160	130	110	M8x16	68 / 31
<b>P80, P90</b>	200	165	130	M10x12	70 / 32
<b>P100, P112</b>	250	215	180	M12x16	79 / 36
<b>P132</b>	300	265	230	14	77 / 35

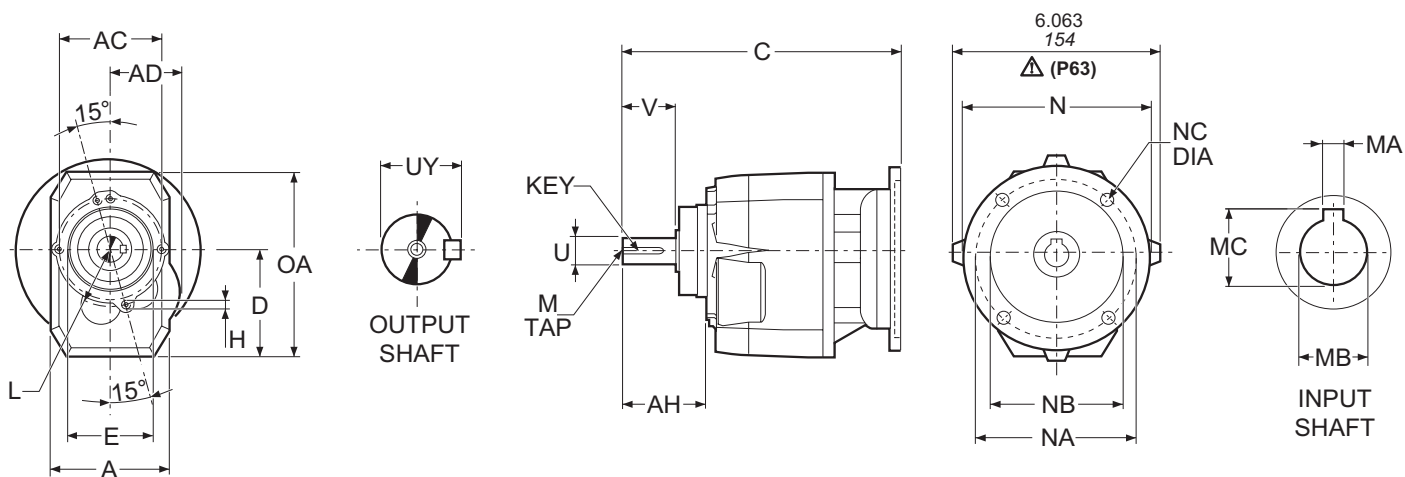


**Hollow input shaft**

	MA	MB	MC
<b>P63</b>	4	11	12.8
<b>P71</b>	5	14	16.3
<b>P80</b>	6	19	21.8
<b>P90</b>	8	24	27.3
<b>P100, P112</b>	8	28	31.3
<b>P132</b>	10	38	41.3

	C			
	P63 P71	P80 P90	P100 P112	P132
<b>C 41 2, C 41 3</b>	13.25 336.5	14.02 356	14.41 366	15.85 402.5
<b>C 41 4</b>	15.55 395	16.32 414.5	16.71 424.5	—

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AD	AH	D	E	H	L	OA
<b>C 41 2, C 41 3, C 41 4</b>	6.102 155	5.118 130	3.543 90	4.331 110	5.039 128	4.331 110	M10x15 [mm]	2.953 75	8.701 221

**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 41 2, C 41 3, C 41 4</b> NU	1.375 <sup>+0</sup> <sub>-0.0006</sub>	1.510	2.710	5/16 x 5/16 x 2 3/8	1/2 - 13 UNC

**IEC Flange**

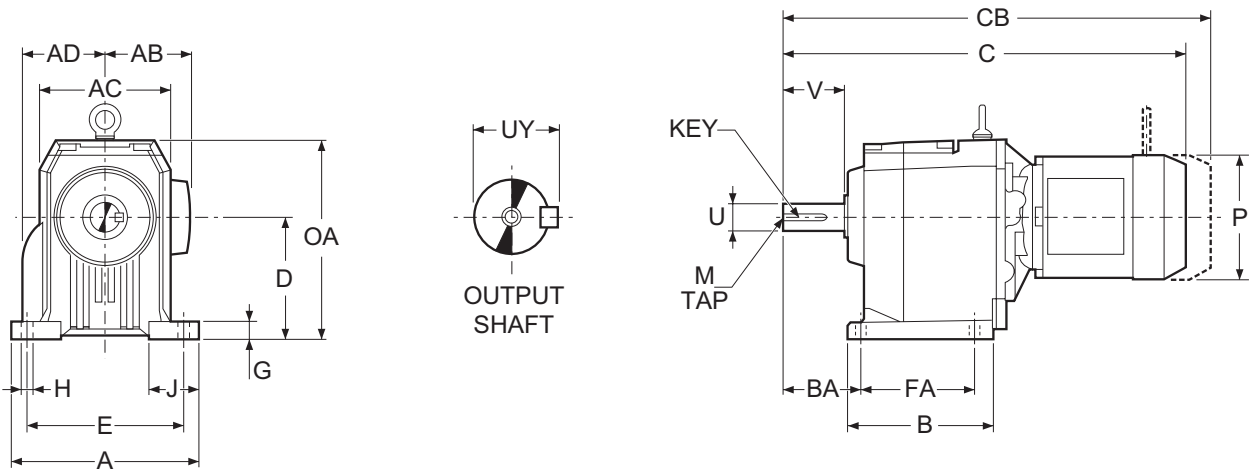
	N	NA	NB	NC	Weight [lbs / kg]
<b>P63</b>	140	115	95	M8x19	66 / 30
<b>P71</b>	160	130	110	M8x16	68 / 31
<b>P80, P90</b>	200	165	130	M10x12	70 / 32
<b>P100, P112</b>	250	215	180	M12x16	79 / 36
<b>P132</b>	300	265	230	14	77 / 35

**Hollow input shaft**

	MA	MB	MC
<b>P63</b>	4	11	12.8
<b>P71</b>	5	14	16.3
<b>P80</b>	6	19	21.8
<b>P90</b>	8	24	27.3
<b>P100, P112</b>	8	28	31.3
<b>P132</b>	10	38	41.3

	C			
	P63 P71	P80 P90	P100 P112	P132
<b>C 41 2, C 41 3</b>	13.25 336.5	14.02 356	14.41 366	15.85 402.5
<b>C 41 4</b>	15.55 395	16.32 414.5	16.71 424.5	—

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AD	B	BA	D	E	FA	G	H	J	OA
C 51 2, C 51 3, C 51 4	10.630 270	7.283 185	4.724 120	7.874 200	4.134 105	6.102 155	8.858 225	6.142 156	0.866 22	0.709 18	2.953 75	10.945 278

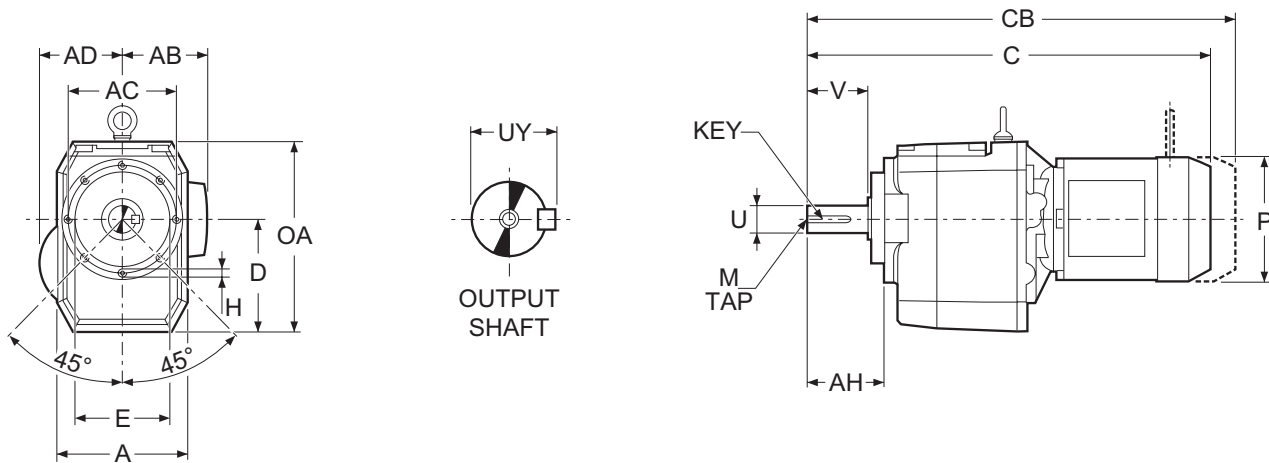
**Output shaft (Inch series)**

	U	UY	V	Key	M
C 51 2, C 51 3, C 51 4 NP	1.5625 <sup>+0</sup> <sub>-0.0006</sub>	1.730	3.125	3/8 x 3/8 x 2 7/8	5/8 - 11 UNC

**Motor**



	AB	C	CB	P	Weight [lbs / kg]
C 51 2_S1 M1	4.252	20.37	22.78	5.433	114 / 52
C 51 3_S1 M1	108	517.5	578.5	138	
C 51 2_S2 M2S	4.685	21.52	24.27	6.142	125 / 57
C 51 3_S2 M2S	119	546.5	616.5	156	
C 51 2_S3 M3S	5.591	23.21	26.99	7.677	143 / 65
C 51 3_S3 M3S	142	589.5	685.5	195	
C 51 2_S3 M3L	5.591	24.47	28.05	7.677	158 / 72
C 51 3_S3 M3L	142	621.5	712.5	195	
C 51 2_S4 M4S	7.598	28.72	33.01	10.157	216 / 98
C 51 3_S4 M4S	193	729.5	838.5	258	
C 51 2_S4 M4L	7.598	28.72	33.01	10.157	257 / 117
C 51 3_S4 M4L	193	729.5	838.5	258	
C 51 2_S4 M4LC	7.598	30.10	34.00	10.157	275 / 125
C 51 3_S4 M4LC	193	764.5	863.5	258	
C 51 4_S1 M1	4.252 108	23.19 589	25.59 650	5.433 138	121 / 55
C 51 4_S2 M2S	4.685 119	24.33 618	27.09 688	6.142 156	132 / 60
C 51 4_S3 M3S	5.591 142	26.02 661	29.80 757	7.677 195	150 / 68
C 51 4_S3 M3L	5.591 142	27.28 693	30.87 784	7.677 195	165 / 75



**Gearcase**

	A	AC	AD	AH	D	E	H	OA
C 51 2, C 51 3, C 51 4	7.283	5.512	4.724	3.917	5.984	4.724	M10x15 [mm]	10.827
	185	140	120	99.5	152	120		275

**Output shaft** (Inch series)

	U	UY	V	Key	M
C 51 2, C 51 3, C 51 4	NU	1.5625 <sup>+0</sup> <sub>-0.0006</sub>	1.730	3.125	3/8 x 3/8 x 2 7/8

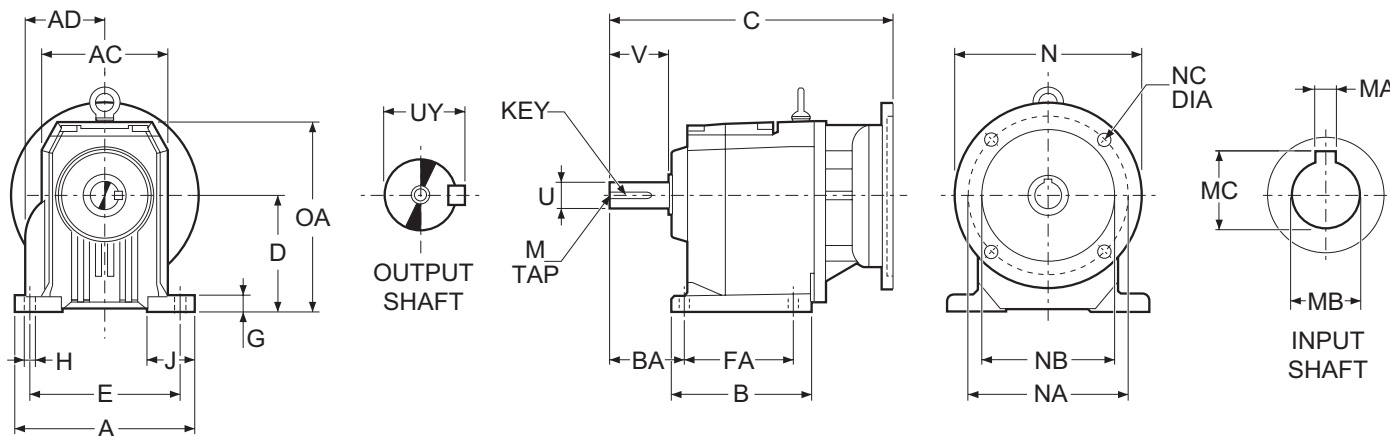
**Motor**



	AB	C	CB	P	Weight [lbs / kg]
C 51 2_S1 M1	4.252	20.37	22.78	5.433	114 / 52
C 51 3_S1 M1	108	517.5	578.5	138	
C 51 2_S2 M2S	4.685	21.52	24.27	6.142	125 / 57
C 51 3_S2 M2S	119	546.5	616.5	156	
C 51 2_S3 M3S	5.591	23.21	26.99	7.677	143 / 65
C 51 3_S3 M3S	142	589.5	685.5	195	
C 51 2_S3 M3L	5.591	24.47	28.05	7.677	158 / 72
C 51 3_S3 M3L	142	621.5	712.5	195	
C 51 2_S4 M4S	7.598	28.72	33.01	10.157	216 / 98
C 51 3_S4 M4S	193	729.5	838.5	258	
C 51 2_S4 M4L	7.598	28.72	33.01	10.157	257 / 117
C 51 3_S4 M4L	193	729.5	838.5	258	
C 51 2_S4 M4LC	7.598	30.10	34.00	10.157	275 / 125
C 51 3_S4 M4LC	193	764.5	863.5	258	
C 51 4_S1 M1	4.252	23.19	25.59	5.433	121 / 55
	108	589	650	138	
C 51 4_S2 M2S	4.685	24.33	27.09	6.142	132 / 60
	119	618	688	156	
C 51 4_S3 M3S	5.591	26.02	29.80	7.677	150 / 68
	142	661	757	195	
C 51 4_S3 M3L	5.591	27.28	30.87	7.677	165 / 75
	142	693	784	195	

Dimensions are  $\frac{\text{inch}}{\text{mm}}$





**Gearcase**

	A	AC	AD	B	BA	D	E	FA	G	H	J	OA
C 51 2, C 51 3, C 51 4	10.630	7.283	4.724	7.874	4.134	6.102	8.858	6.142	0.866	0.709	2.953	10.945
	270	185	120	200	105	155	225	156	22	18	75	278

**Output shaft** (Inch series)

	U	UY	V	Key	M
C 51 2, C 51 3, C 51 4 NP	1.5625 <sup>+0</sup> / <sub>-0.0006</sub>	1.730	3.125	3/8 x 3/8 x 2 7/8	5/8 - 11 UNC

**NEMA Flange**



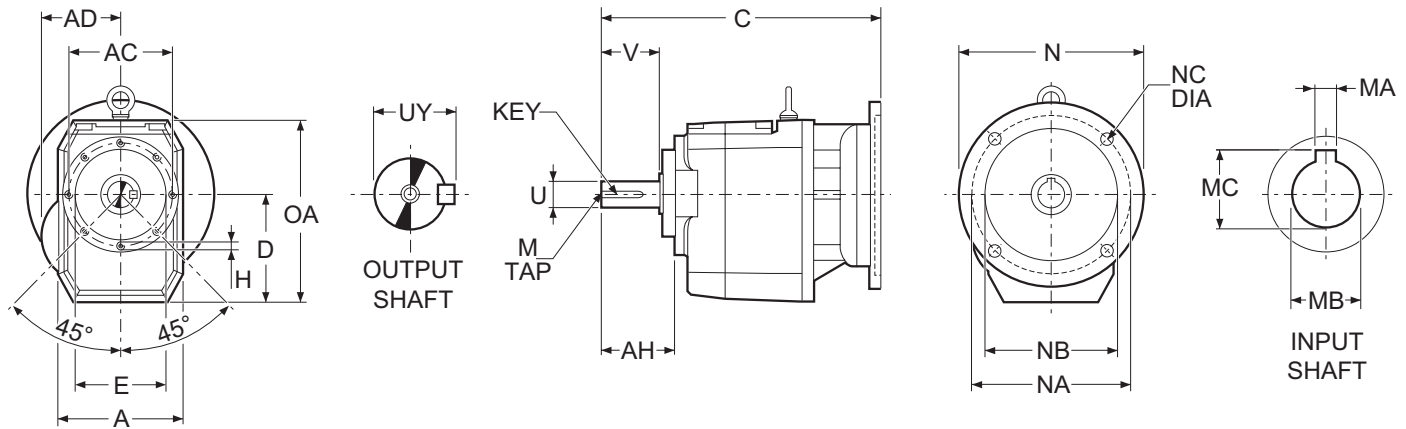
	N	NA	NB	NC	Weight [lbs / kg]
N56C	6.496	5.875	4.500	0.394	104 / 47
N140TC	6.496	5.875	4.500	0.394	108 / 49
N180TC	8.996	7.250	8.500	0.551	117 / 53
N210TC	8.996	7.250	8.500	0.551	119 / 54
N250TC	13.780	7.250	8.500	0.551	128 / 58

**Hollow input shaft**

	MA	MB	MC
N56C	0.188	0.625	0.710
N140TC	0.188	0.875	0.964
N180TC	0.250	1.125	1.241
N210TC	0.312	1.375	1.518
N250TC	0.375	1.625	1.796

	C				
	N56C	N140TC	N180TC	N210TC	N250TC
C 51 2	15.03 381.8	15.03 381.8	15.56 395.3	16.80 426.8	19.83 503.8
C 51 3	15.03 381.8	15.03 381.8	15.56 395.3	16.80 426.8	19.83 503.8
C 51 4	17.84 453.3	17.85 453.4	18.38 466.8	—	—

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AD	AH	D	E	H	OA
C 51 2, C 51 3, C 51 4	7.283	5.512	4.724	3.917	5.984	4.724	M10x15 [mm]	10.827
	185	140	120	99.5	152	120		275

**Output shaft** (Inch series)

	U	UY	V	Key	M
C 51 2, C 51 3, C 51 4	NU 1.5625 <sup>+0</sup> <sub>-0.0006</sub>	1.730	3.125	3/8 x 3/8 x 2 7/8	5/8 - 11 UNC

**NEMA Flange**



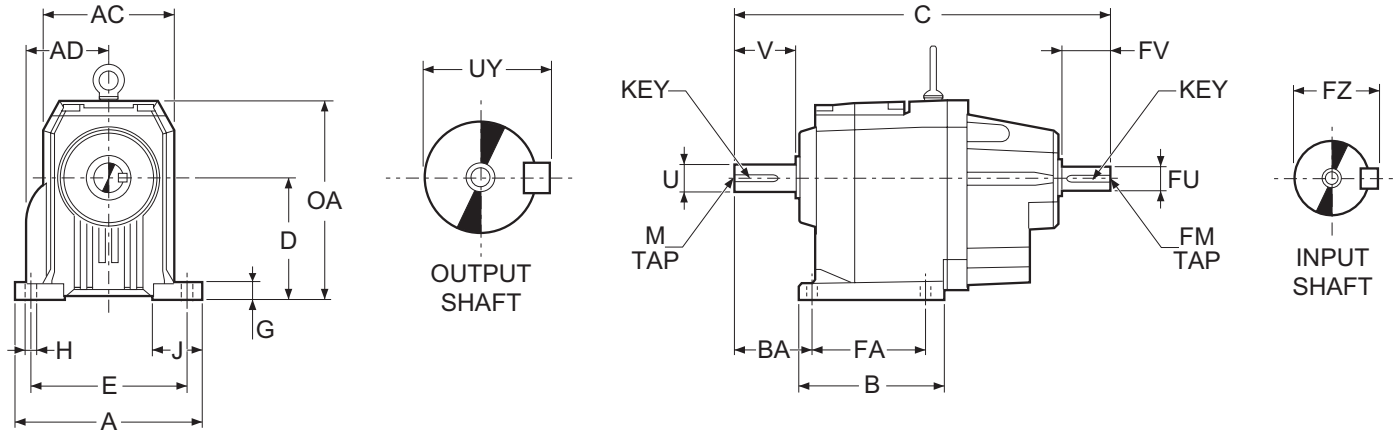
	N	NA	NB	NC	Weight [lbs / kg]
N56C	6.496	5.875	4.500	0.394	104 / 47
N140TC	6.496	5.875	4.500	0.394	108 / 49
N180TC	8.996	7.250	8.500	0.551	117 / 53
N210TC	8.996	7.250	8.500	0.551	119 / 54
N250TC	13.780	7.250	8.500	0.551	128 / 58

**Hollow input shaft**

	MA	MB	MC
N56C	0.188	0.625	0.710
N140TC	0.188	0.875	0.964
N180TC	0.250	1.125	1.241
N210TC	0.312	1.375	1.518
N250TC	0.375	1.625	1.796

	C				
	N56C	N140TC	N180TC	N210TC	N250TC
C 51 2	15.03	15.03	15.56	16.80	19.83
	381.8	381.8	395.3	426.8	503.8
C 51 3	15.03	15.03	15.56	16.80	19.83
	381.8	381.8	395.3	426.8	503.8
C 51 4	17.84	17.85	18.38	—	—
	453.3	453.4	466.8	—	—

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AD	B	BA	C	D	E	FA	G	H	J	OA
<b>C 51 2, C 51 3</b>	10.630	7.283	4.724	7.874	4.134	17.75	6.102	8.858	6.142	0.866	0.709	2.953	10.945
	270	185	120	200	105	450.9	155	225	156	22	18	75	278
<b>C 51 4</b>	10.630	7.283	4.724	7.874	4.134	19.03	6.102	8.858	6.142	0.866	0.709	2.953	10.945
	270	185	120	200	105	483.4	155	225	156	22	18	75	278

**Output shaft** (Inch series)

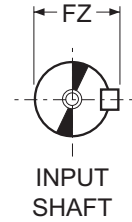
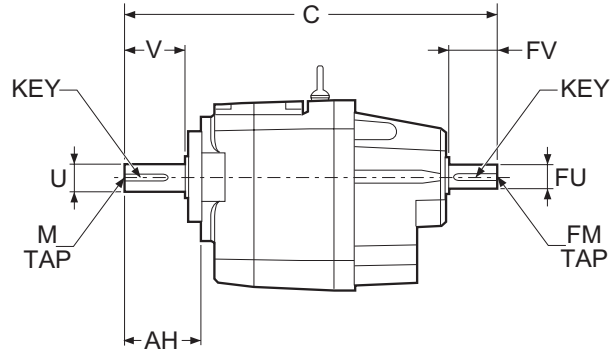
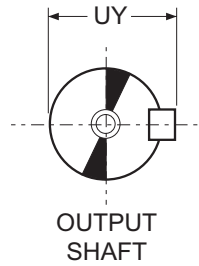
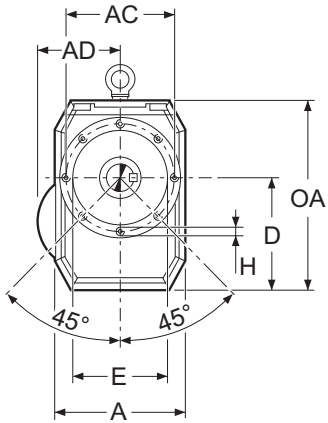
	U	UY	V	Key	M
<b>C 51 2, C 51 3, C 51 4</b> NP	1.5625 <sup>+0</sup> / <sub>-0.0006</sub>	1.730	3.125	3/8 x 3/8 x 2 7/8	5/8 - 11 UNC

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM	Weight [lbs / kg]
<b>C 51 2, C 51 3</b> NHS	1.000 <sup>+0</sup> / <sub>-0.0005</sub>	1.110	1.970	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC	99 / 45
<b>C 51 4</b> NHS	0.750 <sup>+0</sup> / <sub>-0.0005</sub>	0.830	1.570	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC	106 / 48



Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AD	AH	C	D	E	H	OA
C 51 2, C 51 3	7.283	5.512	4.724	3.917	17.75	5.984	4.724	M10x15 [mm]	10.827
	185	140	120	99.5	450.9	152	120		275
C 51 4	7.283	5.512	4.724	3.917	19.03	5.984	4.724	M10x15 [mm]	10.827
	185	140	120	99.5	483.4	152	120		275

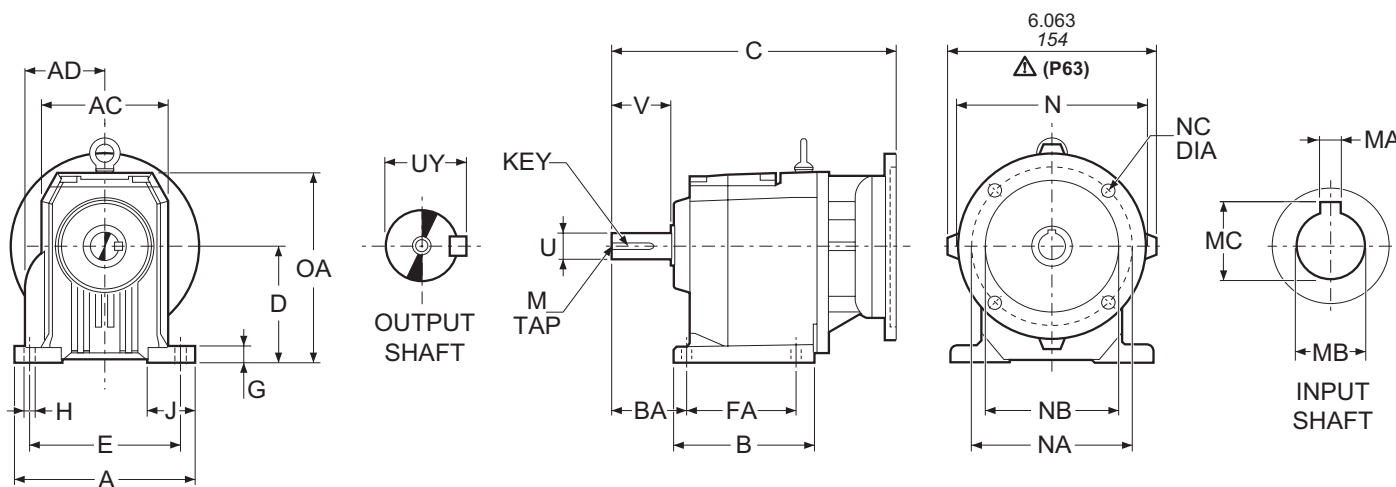
**Output shaft** (Inch series)

	U	UY	V	Key	M	
C 51 2, C 51 3, C 51 4	NU	1.5625 <sup>+0</sup> <sub>-0.0006</sub>	1.730	3.125	3/8 x 3/8 x 2 7/8	5/8 - 11 UNC

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM	Weight [lbs / kg]	
C 51 2, C 51 3	NHS	1.000 <sup>+0</sup> <sub>-0.0005</sub>	1.110	1.970	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC	99 / 45
C 51 4	NHS	0.750 <sup>+0</sup> <sub>-0.0005</sub>	0.830	1.570	3/16 x 3/16 x 1 3/8	1/4 - 20 UNC	106 / 48





**Gearcase**

	A	AC	AD	B	BA	D	E	FA	G	H	J	OA
C 51 2, C 51 3, C 51 4	10.630 270	7.283 185	4.724 120	7.874 200	4.134 105	6.102 155	8.858 225	6.142 156	0.866 22	0.709 18	2.953 75	10.945 278

**Output shaft** (Inch series)

	U	UY	V	Key	M
C 51 2, C 51 3, C 51 4 NP	1.5625 <sup>+0</sup> / <sub>-0.0006</sub>	1.730	3.125	3/8 x 3/8 x 2 7/8	5/8 - 11 UNC

**IEC Flange**



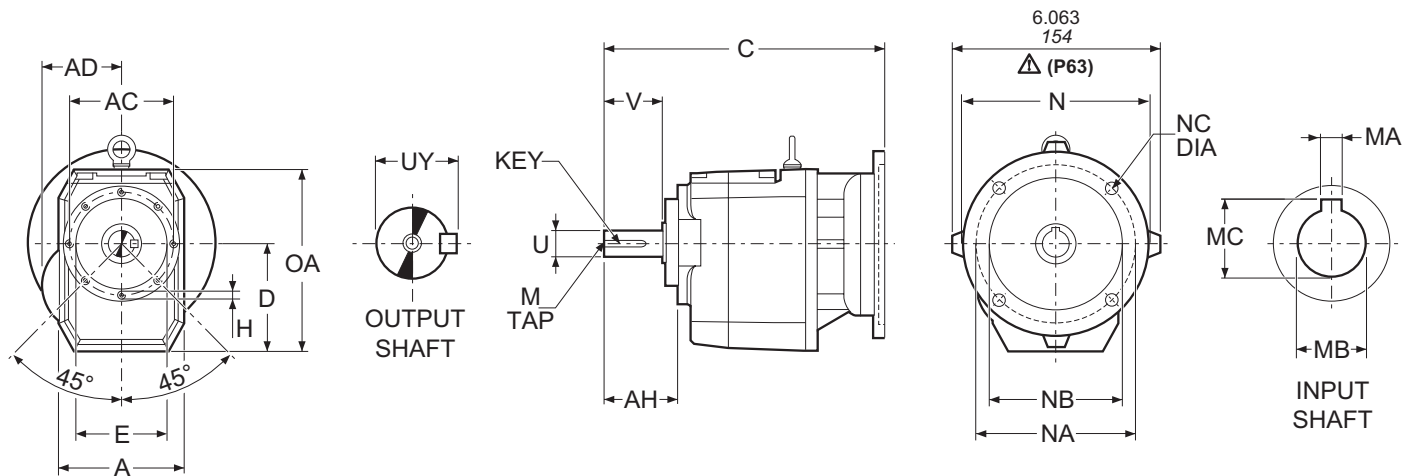
	N	NA	NB	NC	Weight [lbs / kg]
P63	140	115	95	M8x19	103 / 47
P71	160	130	110	M8x16	103 / 47
P80, P90	200	165	130	M10x12	108 / 49
P100, P112	250	215	180	M12x16	117 / 53
P132	300	265	230	14	119 / 54
P160, P180	350	300	250	18	128 / 58

**Hollow input shaft**

	MA	MB	MC
P63	4	11	12.8
P71	5	14	16.3
P80	6	19	21.8
P90	8	24	27.3
P100, P112	8	28	31.3
P132	10	38	41.3
P160	12	42	45.3
P180	14	48	51.8

	C				
	P63 P71	P80 P90	P100 P112	P132	P160 P180
C 51 2, C 51 3	14.27 362.5	15.04 382	15.43 392	16.87 428.5	18.86 479
C 51 4	17.09 434	17.85 453.5	18.25 463.5	—	—

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AD	AH	D	E	H	OA
C 51 2, C 51 3, C 51 4	7.283	5.512	4.724	3.917	5.984	4.724	M10x15 [mm]	10.827
	185	140	120	99.5	152	120		275

**Output shaft** (Inch series)

	U	UY	V	Key	M
C 51 2, C 51 3, C 51 4 NU	1.5625 <sup>+0</sup> <sub>-0.0006</sub>	1.730	3.125	3/8 x 3/8 x 2 7/8	5/8 - 11 UNC

**IEC Flange**



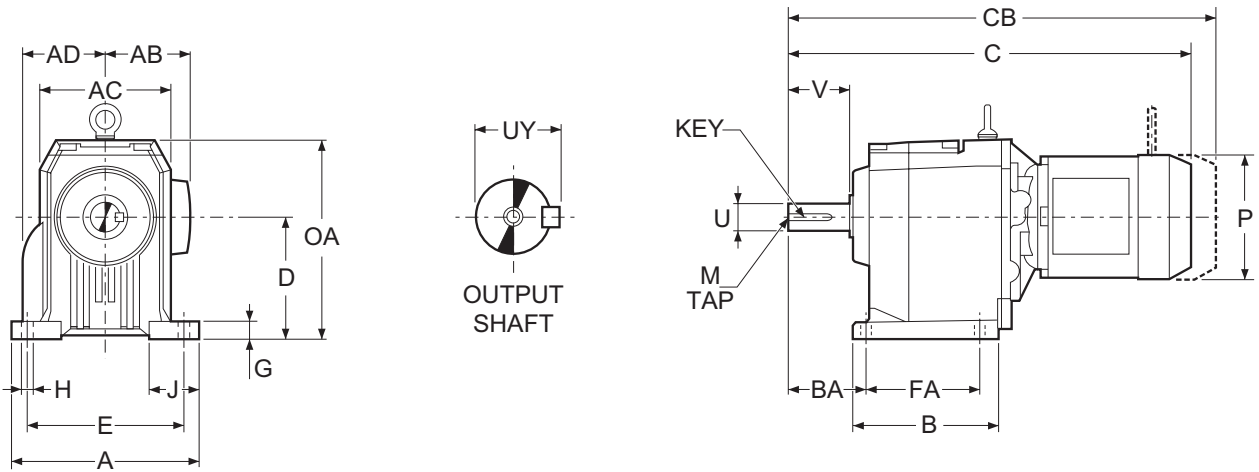
	N	NA	NB	NC	Weight [lbs / kg]
P63	140	115	95	M8x19	103 / 47
P71	160	130	110	M8x16	103 / 47
P80, P90	200	165	130	M10x12	108 / 49
P100, P112	250	215	180	M12x16	117 / 53
P132	300	265	230	14	119 / 54
P160, P180	350	300	250	18	128 / 58

**Hollow input shaft**

	MA	MB	MC
P63	4	11	12.8
P71	5	14	16.3
P80	6	19	21.8
P90	8	24	27.3
P100, P112	8	28	31.3
P132	10	38	41.3
P160	12	42	45.3
P180	14	48	51.8

	C				
	P63 P71	P80 P90	P100 P112	P132	P160 P180
C 51 2, C 51 3	14.27 362.5	15.04 382	15.43 392	16.87 428.5	18.86 479
C 51 4	17.09 434	17.85 453.5	18.25 463.5	—	—

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AD	B	BA	D	E	FA	G	H	J	OA
C 61 2, C 61 3, C 61 4	11.811 300	8.268 210	5.236 133	9.134 232	4.359 111	7.677 195	9.843 250	7.087 180	0.984 25	0.709 18	3.150 80	12.441 316

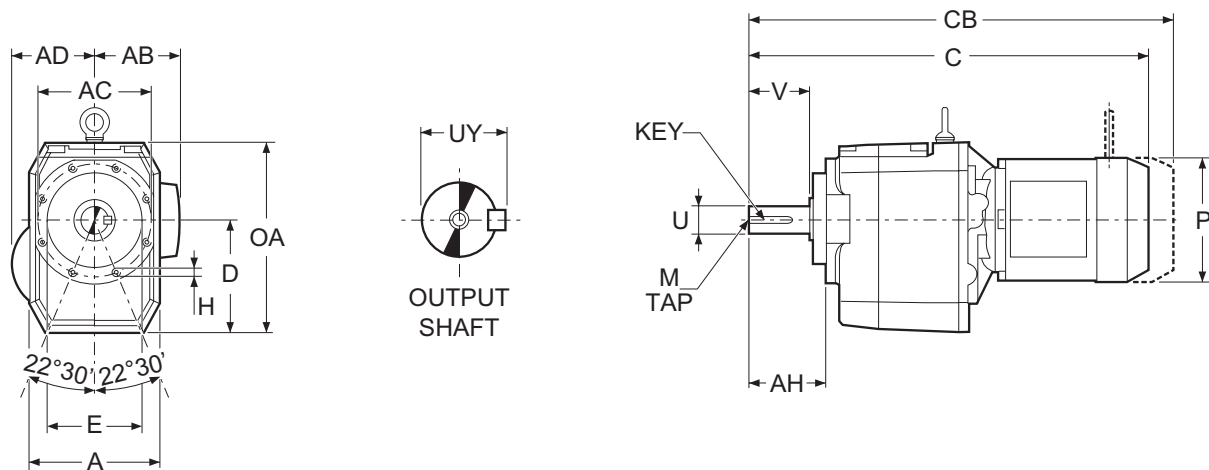
**Output shaft** (Inch series)

	U	UY	V	Key	M
C 61 2, C 61 3, C 61 4 NP	2.000 <sup>+0</sup> <sub>-0.0007</sub>	2.220	3.375	1/2 x 1/2 x 3 5/32	3/4 - 10 UNC

**Motor**



	AB	C	CB	P	Weight [lbs / kg]
C 61 2_S2 M2S	4.685	23.04	25.80	6.142	143 / 65
C 61 3_S2 M2S	119	585.2	655.2	156	
C 61 2_S3 M3S	5.591	24.73	28.51	7.677	163 / 74
C 61 3_S3 M3S	142	628.2	724.2	195	
C 61 2_S3 M3L	5.591	25.99	29.58	7.677	178 / 81
C 61 3_S3 M3L	142	660.2	751.2	195	
C 61 2_S4 M4S	7.598	30.25	34.54	10.157	235 / 107
C 61 3_S4 M4S	193	768.2	877.2	258	
C 61 2_S4 M4L	7.598	30.25	34.54	10.157	277 / 126
C 61 3_S4 M4L	193	768.2	877.2	258	
C 61 2_S4 M4LC	7.598	31.62	35.52	10.157	295 / 134
C 61 3_S4 M4LC	193	803.2	902.2	258	
C 61 2_S5 M5S	9.646	33.65	39.16	12.205	365 / 166
C 61 3_S5 M5S	245	854.7	994.7	310	
C 61 2_S5 M5L	9.646	35.38	40.90	12.205	400 / 182
C 61 3_S5 M5L	245	898.7	1038.7	310	
C 61 4_S1 M1	4.252 108	24.67 626.7	27.08 687.7	5.433 138	163 / 74
C 61 4_S2 M2S	4.685 119	25.82 655.7	28.57 725.7	6.142 156	172 / 78
C 61 4_S3 M3S	5.591 142	27.51 698.7	31.29 794.7	7.677 195	191 / 87
C 61 4_S3 M3L	5.591 142	28.77 730.7	32.35 821.7	7.677 195	207 / 94



**Gearcase**

	A	AC	AD	AH	D	E	H	OA
C 61 2, C 61 3, C 61 4	8.268 210	7.087 180	5.236 133	4.359 111	7.028 178.5	5.669 144	M12x18 [mm]	11.791 299.5

**Output shaft** (Inch series)

	U	UY	V	Key	M
C 61 2, C 61 3, C 61 4 NU	2.000 <sup>+0</sup> <sub>-0.0007</sub>	2.220	3.375	1/2 x 1/2 x 3 5/32	3/4 - 10 UNC

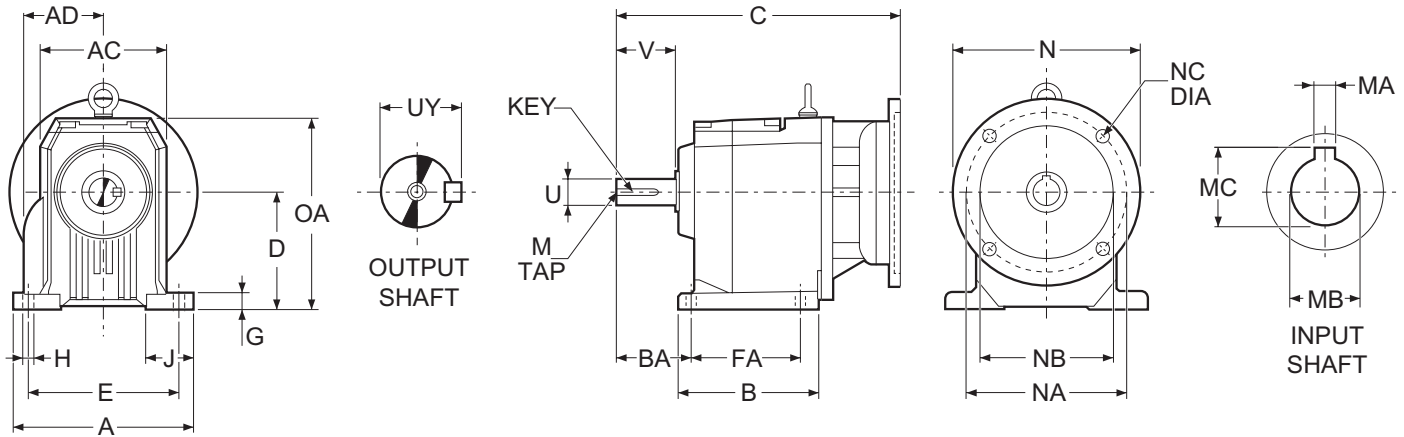
**Motor**



	AB	C	CB	P	Weight [lbs / kg]
C 61 2_S2 M2S	4.685	23.04	25.80	6.142	143 / 65
C 61 3_S2 M2S	119	585.2	655.2	156	
C 61 2_S3 M3S	5.591	24.73	28.51	7.677	163 / 74
C 61 3_S3 M3S	142	628.2	724.2	195	
C 61 2_S3 M3L	5.591	25.99	29.58	7.677	178 / 81
C 61 3_S3 M3L	142	660.2	751.2	195	
C 61 2_S4 M4S	7.598	30.25	34.54	10.157	235 / 107
C 61 3_S4 M4S	193	768.2	877.2	258	
C 61 2_S4 M4L	7.598	30.25	34.54	10.157	277 / 126
C 61 3_S4 M4L	193	768.2	877.2	258	
C 61 2_S4 M4LC	7.598	31.62	35.52	10.157	295 / 134
C 61 3_S4 M4LC	193	803.2	902.2	258	
C 61 2_S5 M5S	9.646	33.65	39.16	12.205	365 / 166
C 61 3_S5 M5S	245	854.7	994.7	310	
C 61 2_S5 M5L	9.646	35.38	40.90	12.205	400 / 182
C 61 3_S5 M5L	245	898.7	1038.7	310	
C 61 4_S1 M1	4.252 108	24.67 626.7	27.08 687.7	5.433 138	163 / 74
C 61 4_S2 M2S	4.685 119	25.82 655.7	28.57 725.7	6.142 156	172 / 78
C 61 4_S3 M3S	5.591 142	27.51 698.7	31.29 794.7	7.677 195	191 / 87
C 61 4_S3 M3L	5.591 142	28.77 730.7	32.35 821.7	7.677 195	207 / 94

Dimensions are  $\frac{\text{inch}}{\text{mm}}$





**Gearcase**

	A	AC	AD	B	BA	D	E	FA	G	H	J	OA
C 61 2, C 61 3, C 61 4	11.811	8.268	5.236	9.134	4.359	7.677	9.843	7.087	0.984	0.709	3.150	12.441
	300	210	133	232	111	195	250	180	25	18	80	316

**Output shaft (Inch series)**

	U	UY	V	Key	M
C 61 2, C 61 3, C 61 4 NP	2.000 <sup>+0</sup> <sub>-0.0007</sub>	2.220	3.375	1/2 x 1/2 x 3 5/32	3/4 - 10 UNC

**NEMA Flange**



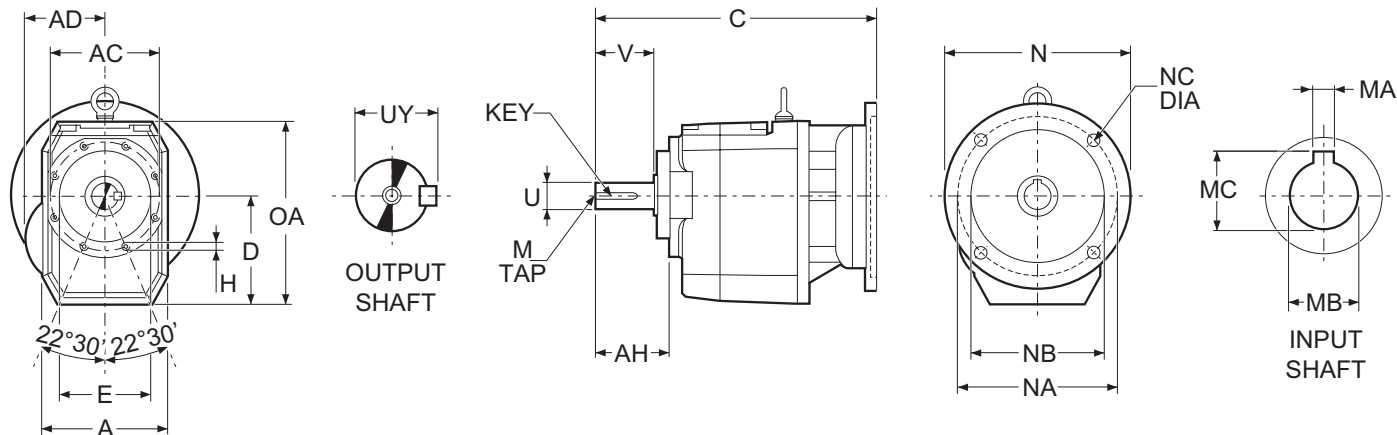
	N	NA	NB	NC	Weight [lbs / kg]
N56C	6.496	5.875	4.500	0.394	139 / 63
N140TC	6.496	5.875	4.500	0.394	148 / 67
N180TC	8.996	7.250	8.500	0.551	157 / 71
N210TC	8.996	7.250	8.500	0.551	150 / 68
N250TC	13.780	7.250	8.500	0.551	161 / 73

**Hollow input shaft**

	MA	MB	MC
N56C	0.188	0.625	0.710
N140TC	0.188	0.875	0.964
N180TC	0.250	1.125	1.241
N210TC	0.312	1.375	1.518
N250TC	0.375	1.625	1.796

	C				
	N56C	N140TC	N180TC	N210TC	N250TC
C 61 2	17.11	17.11	17.65	18.89	21.37
	434.7	434.7	448.2	479.7	542.7
C 61 3	17.11	17.11	17.65	18.89	21.37
	434.7	434.7	448.2	479.7	542.7
C 61 4	19.89	19.89	20.42	—	—
	505.2	505.2	518.7	—	—

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AD	AH	D	E	H	OA
<b>C 61 2, C 61 3, C 61 4</b>	8.268 210	7.087 180	5.236 133	4.359 111	7.028 178.5	5.669 144	M12x18 [mm]	11.791 299.5

**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 61 2, C 61 3, C 61 4</b>	NU 2.000 <sup>+0</sup> <sub>-0.0007</sub>	2.220	3.375	1/2 x 1/2 x 3 5/32	3/4 - 10 UNC

**NEMA Flange**



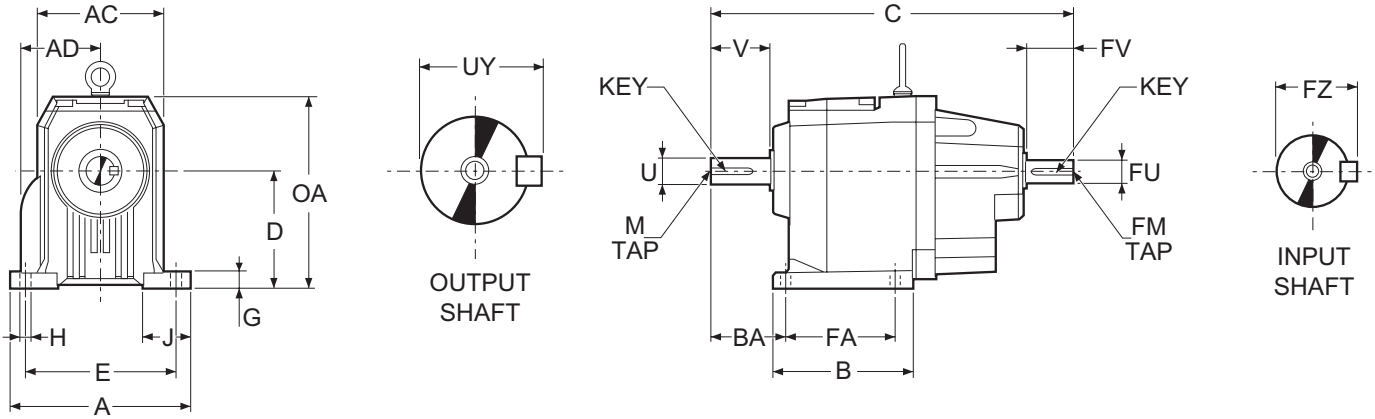
	N	NA	NB	NC	Weight [lbs / kg]
<b>N56C</b>	6.496	5.875	4.500	0.394	139 / 63
<b>N140TC</b>	6.496	5.875	4.500	0.394	148 / 67
<b>N180TC</b>	8.996	7.250	8.500	0.551	157 / 71
<b>N210TC</b>	8.996	7.250	8.500	0.551	150 / 68
<b>N250TC</b>	13.780	7.250	8.500	0.551	161 / 73

**Hollow input shaft**

	MA	MB	MC
<b>N56C</b>	0.188	0.625	0.710
<b>N140TC</b>	0.188	0.875	0.964
<b>N180TC</b>	0.250	1.125	1.241
<b>N210TC</b>	0.312	1.375	1.518
<b>N250TC</b>	0.375	1.625	1.796

	C				
	N56C	N140TC	N180TC	N210TC	N250TC
<b>C 61 2</b>	17.11 434.7	17.11 434.7	17.65 448.2	18.89 479.7	21.37 542.7
<b>C 61 3</b>	17.11 434.7	17.11 434.7	17.65 448.2	18.89 479.7	21.37 542.7
<b>C 61 4</b>	19.89 505.2	19.89 505.2	20.42 518.7	—	—

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AD	B	BA	C	D	E	FA	G	H	J	OA
<b>C 61 2, C 61 3</b>	11.811	8.268	5.236	9.134	4.359	20.37	7.677	9.843	7.087	0.984	0.709	3.150	12.441
	300	210	133	232	111	517.3	195	250	180	25	18	80	316
<b>C 61 4</b>	11.811	8.268	5.236	9.134	4.359	22.08	7.677	9.843	7.087	0.984	0.709	3.150	12.441
	300	210	133	232	111	560.7	195	250	180	25	18	80	316

**Output shaft** (Inch series)

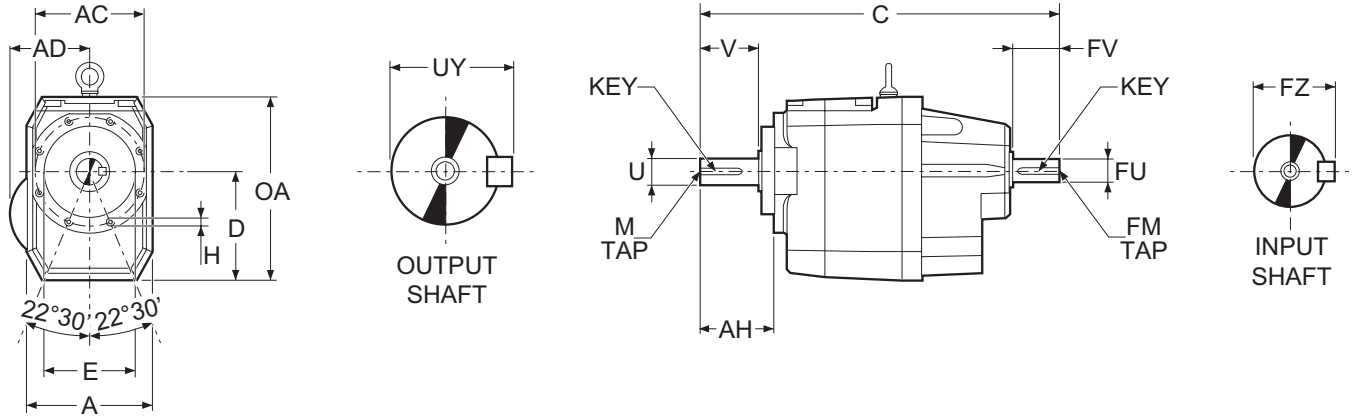
	U	UY	V	Key	M
<b>C 61 2, C 61 3, C 61 4</b> NP	2.000 <sup>+0</sup> / <sub>-0.0007</sub>	2.220	3.375	1/2 x 1/2 x 3 5/32	3/4 - 10 UNC

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM	Weight [lbs / kg]
<b>C 61 2, C 61 3</b> NHS	1.125 <sup>+0</sup> / <sub>-0.0005</sub>	1.230	2.360	1/4 x 1/4 x 2 5/32	3/8 - 16 UNC	145 / 66
<b>C 61 4</b> NHS	1.000 <sup>+0</sup> / <sub>-0.0005</sub>	1.110	1.970	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC	158 / 72



Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AD	AH	C	D	E	H	OA
C 61 2, C 61 3	8.268	7.087	5.236	4.359	20.37	7.028	5.669	M12x18 [mm]	11.791
	210	180	133	111	517.3	178.5	144		299.5
C 61 4	8.268	7.087	5.236	4.359	22.08	7.028	5.669	M12x18 [mm]	11.791
	210	180	133	111	560.7	178.5	144		299.5

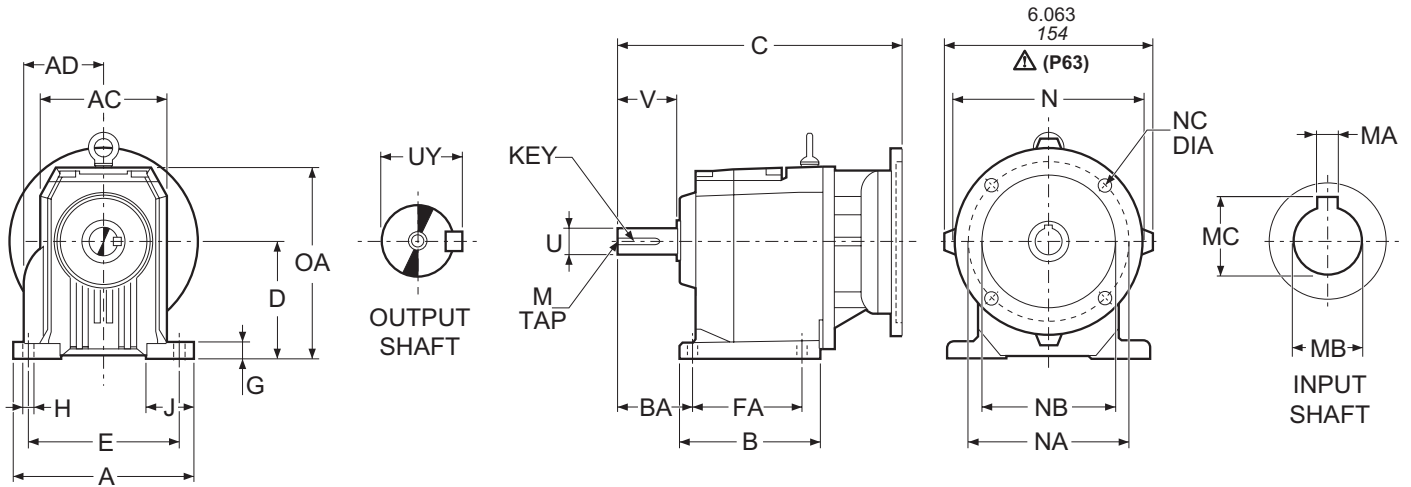
**Output shaft** (Inch series)

Model	U	UY	V	Key	M
C 61 2, C 61 3, C 61 4	NU 2.000 <sup>+0</sup> / <sub>-0.0007</sub>	2.220	3.375	1/2 x 1/2 x 3 5/32	3/4 - 10 UNC

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM	Weight [lbs / kg]
C 61 2, C 61 3	NHS 1.125 <sup>+0</sup> / <sub>-0.0005</sub>	1.230	2.360	1/4 x 1/4 x 2 5/32	3/8 - 16 UNC	145 / 66
C 61 4	NHS 1.000 <sup>+0</sup> / <sub>-0.0005</sub>	1.110	1.970	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC	158 / 72





**Gearcase**

	A	AC	AD	B	BA	D	E	FA	G	H	J	OA
C 61 2, C 61 3, C 61 4	11.811 300	8.268 210	5.236 133	9.134 232	4.359 111	7.677 195	9.843 250	7.087 180	0.984 25	0.709 18	3.150 80	12.441 316

**Output shaft (Inch series)**

	U	UY	V	Key	M
C 61 2, C 61 3, C 61 4 NP	2.000 <sup>+0</sup> <sub>-0.0007</sub>	2.220	3.375	1/2 x 1/2 x 3 5/32	3/4 - 10 UNC

**IEC Flange**



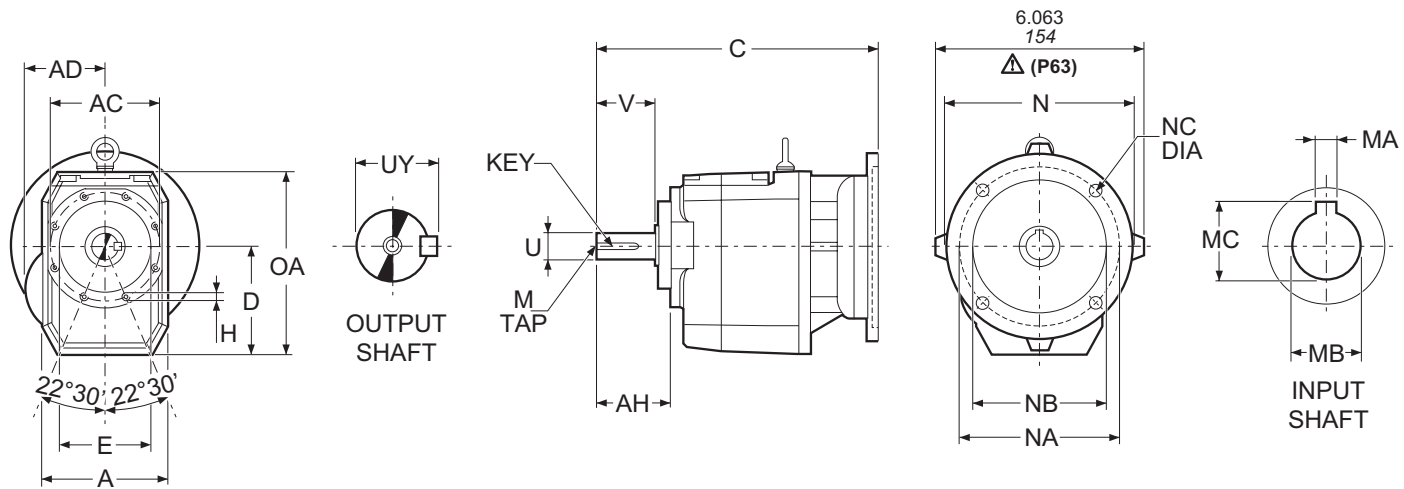
	N	NA	NB	NC	Weight [lbs / kg]
P63	140	115	95	M8x19	134 / 61
P71	160	130	110	M8x16	139 / 63
P80, P90	200	165	130	M10x12	147 / 67
P100, P112	250	215	180	M12x16	156 / 71
P132	300	265	230	14	150 / 68
P160, P180	350	300	250	18	161 / 73

**Hollow input shaft**

	MA	MB	MC
P63	4	11	12.8
P71	5	14	16.3
P80	6	19	21.8
P90	8	24	27.3
P100, P112	8	28	31.3
P132	10	38	41.3
P160	12	42	45.3
P180	14	48	51.8

	C					
	P63	P71	P80 P90	P100 P112	P132	P160 P180
C 61 2, C 61 3	15.77 400.5	15.77 400.5	16.54 420	16.89 429	18.37 466.5	20.35 517
C 61 4	18.54 471	18.66 474	19.31 490.5	19.71 500.5	—	—

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	AD	AH	D	E	H	OA
C 61 2, C 61 3, C 61 4	8.268 210	7.087 180	5.236 133	4.359 111	7.028 178.5	5.669 144	M12x18 [mm]	11.791 299.5

**Output shaft** (Inch series)

	U	UY	V	Key	M
C 61 2, C 61 3, C 61 4	NU 2.000 <sup>+0</sup> <sub>-0.0007</sub>	2.220	3.375	1/2 x 1/2 x 3 5/32	3/4 - 10 UNC

**IEC Flange**



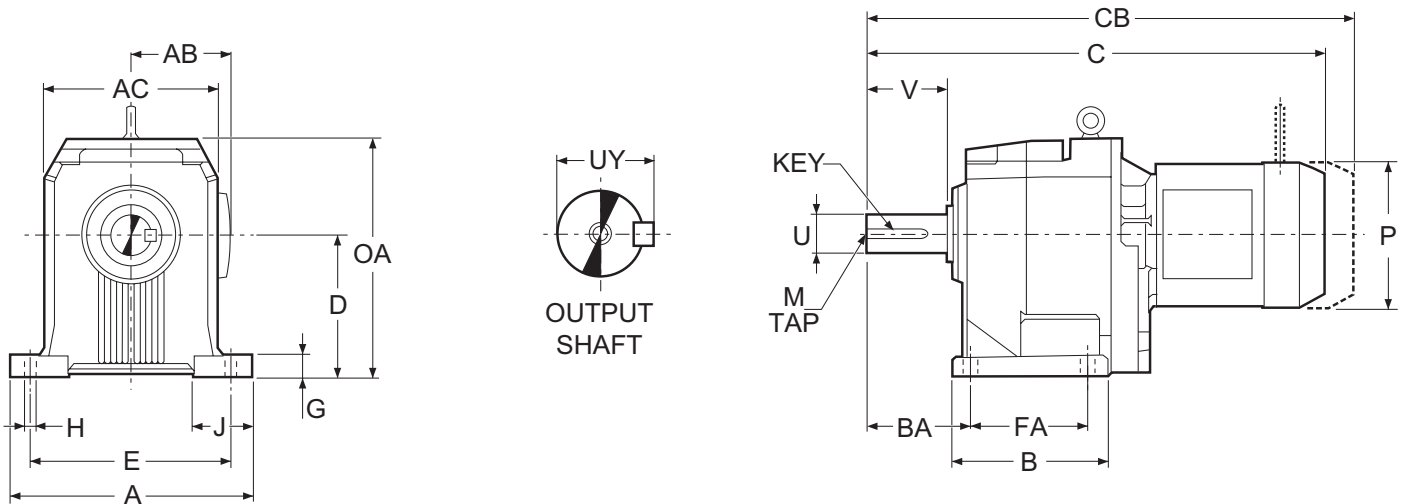
	N	NA	NB	NC	Weight [lbs / kg]
P63	140	115	95	M8x19	134 / 61
P71	160	130	110	M8x16	139 / 63
P80, P90	200	165	130	M10x12	147 / 67
P100, P112	250	215	180	M12x16	156 / 71
P132	300	265	230	14	150 / 68
P160, P180	350	300	250	18	161 / 73

**Hollow input shaft**

	MA	MB	MC
P63	4	11	12.8
P71	5	14	16.3
P80	6	19	21.8
P90	8	24	27.3
P100, P112	8	28	31.3
P132	10	38	41.3
P160	12	42	45.3
P180	14	48	51.8

	C					
	P63	P71	P80 P90	P100 P112	P132	P160 P180
C 61 2, C 61 3	15.77 400.5	15.77 400.5	16.54 420	16.89 429	18.37 466.5	20.35 517
C 61 4	18.54 471	18.66 474	19.31 490.5	19.71 500.5	—	—

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	B	BA	D	E	FA	G	H	J	OA
C 70 2, C 70 3, C 70 4	13.780 350	10.315 262	8.740 222	5.709 145	8.268 210	11.811 300	6.496 165	1.181 30	0.866 22	3.346 85	13.740 349

**Output shaft (Inch series)**

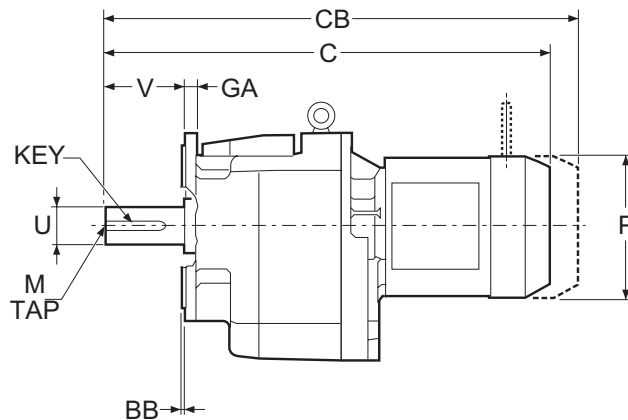
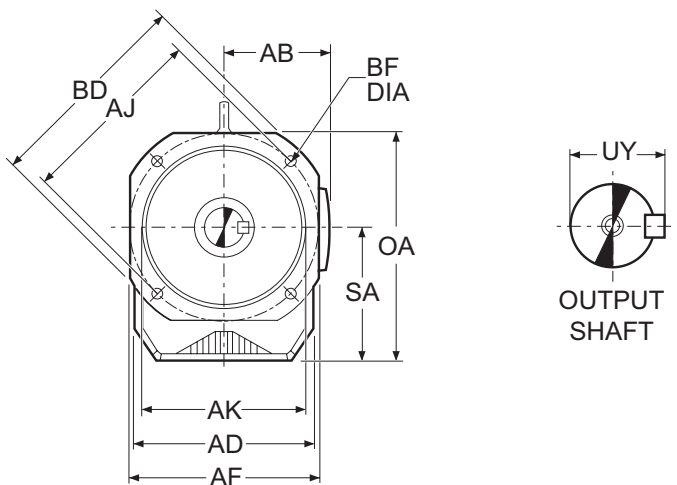
	U	UY	V	Key	M
C 70 2, C 70 3, C 70 4 NP	2.375 <sup>+0</sup> <sub>-0.0007</sub>	2.646	4.724	5/8 x 5/8 x 3 5/8	3/4 - 10 UNC

**Motor**



	AB	C	CB	P	Weight [lbs / kg]
C 70 2_S2 M2S	4.685 119	25.10 637.5	27.85 707.5	6.142 156	202 / 92
C 70 3_S2 M2S	4.685 119	25.10 637.5	27.85 707.5	6.142 156	202 / 92
C 70 2_S3 M3S	5.591 142	26.79 680.5	30.57 776.5	7.677 195	222 / 101
C 70 3_S3 M3S	5.591 142	26.79 680.5	30.57 776.5	7.677 195	222 / 101
C 70 2_S3 M3L	5.591 142	28.05 712.5	31.63 803.5	7.677 195	238 / 108
C 70 3_S3 M3L	5.591 142	28.05 712.5	31.63 803.5	7.677 195	238 / 108
C 70 2_S4 M4S	7.598 193	32.30 820.5	36.59 929.5	10.157 258	295 / 134
C 70 3_S4 M4S	7.598 193	32.30 820.5	36.59 929.5	10.157 258	295 / 134
C 70 2_S4 M4L	7.598 193	32.30 820.5	36.59 929.5	10.157 258	337 / 153
C 70 3_S4 M4L	7.598 193	32.30 820.5	36.59 929.5	10.157 258	337 / 153
C 70 2_S4 M4LC	7.598 193	33.68 855.5	37.58 954.5	10.157 258	354 / 161
C 70 3_S4 M4LC	7.598 193	33.68 855.5	37.58 954.5	10.157 258	354 / 161
C 70 2_S5 M5S	9.646 245	35.71 907	41.22 1047	12.205 310	425 / 193
C 70 3_S5 M5S	9.646 245	35.71 907	41.22 1047	12.205 310	425 / 193
C 70 2_S5 M5L	9.646 245	37.44 951	42.95 1091	12.205 310	460 / 209
C 70 3_S5 M5L	9.646 245	37.44 951	42.95 1091	12.205 310	460 / 209
C 70 4_S1 M1	4.252 108	25.97 659.5	28.37 720.5	5.433 138	202 / 91
C 70 4_S2 M2S	4.685 119	27.11 688.5	29.86 758.5	6.142 156	211 / 96
C 70 4_S3 M3S	5.591 142	28.80 731.5	32.58 827.5	7.677 195	229 / 104
C 70 4_S3 M3L	5.591 142	30.06 763.5	33.64 854.5	7.677 195	244 / 111
C 70 4_S4 M4S	7.598 193	34.31 871.5	38.60 980.5	10.157 258	301 / 137
C 70 4_S4 M4L	7.598 193	34.31 871.5	38.60 980.5	10.157 258	343 / 156

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	AD	SA	OA
C 70 2, C 70 3, C 70 4	10.315	8.189	14.094
	262	208	358

**Flange**

AF	AJ	AK	BB	BD	BF	GA
11.811	11.811	9.843	-0.0020 -0.0038	0.197	13.780	0.709
300	300	250	-0.050 -0.096	5	350	18
						17

**Output shaft** (Inch series)

	U	UY	V	Key	M
C 70 2, C 70 3, C 70 4 NF	2.375 <sup>+0</sup> <sub>-0.0007</sub>	2.646	4.724	5/8 x 5/8 x 3 5/8	3/4 - 10 UNC

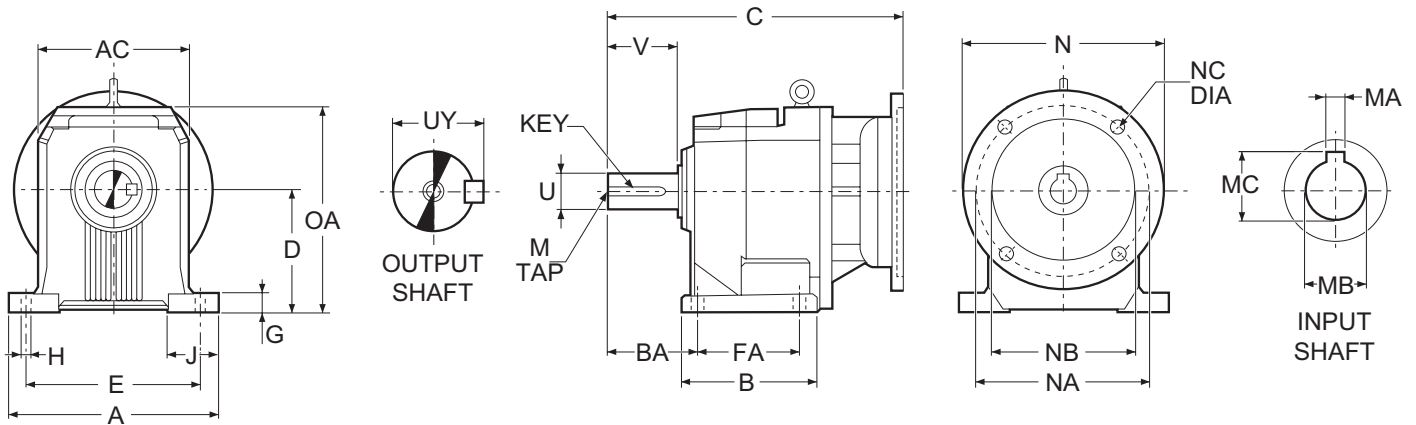
**Motor**



	AB	C	CB	P	Weight [lbs / kg]
C 70 2_S2 M2S	4.685	25.10	27.85	6.142	202 / 92
C 70 3_S2 M2S	119	637.5	707.5	156	
C 70 2_S3 M3S	5.591	26.79	30.57	7.677	222 / 101
C 70 3_S3 M3S	142	680.5	776.5	195	
C 70 2_S3 M3L	5.591	28.05	31.63	7.677	238 / 108
C 70 3_S3 M3L	142	712.5	803.5	195	
C 70 2_S4 M4S	7.598	32.30	36.59	10.157	295 / 134
C 70 3_S4 M4S	193	820.5	929.5	258	
C 70 2_S4 M4L	7.598	32.30	36.59	10.157	337 / 153
C 70 3_S4 M4L	193	820.5	929.5	258	
C 70 2_S4 M4LC	7.598	33.68	37.58	10.157	354 / 161
C 70 3_S4 M4LC	193	855.5	954.5	258	
C 70 2_S5 M5S	9.646	35.71	41.22	12.205	425 / 193
C 70 3_S5 M5S	245	907	1047	310	
C 70 2_S5 M5L	9.646	37.44	42.95	12.205	460 / 209
C 70 3_S5 M5L	245	951	1091	310	
C 70 4_S1 M1	4.252	25.97	28.37	5.433	202 / 91
	108	659.5	720.5	138	
C 70 4_S2 M2S	4.685	27.11	29.86	6.142	211 / 96
	119	688.5	758.5	156	
C 70 4_S3 M3S	5.591	28.80	32.58	7.677	229 / 104
	142	731.5	827.5	195	
C 70 4_S3 M3L	5.591	30.06	33.64	7.677	244 / 111
	142	763.5	854.5	195	
C 70 4_S4 M4S	7.598	34.31	38.60	10.157	301 / 137
	193	871.5	980.5	258	
C 70 4_S4 M4L	7.598	34.31	38.60	10.157	343 / 156
	193	871.5	980.5	258	

Dimensions are  $\frac{\text{inch}}{\text{mm}}$





**Gearcase**

	A	AC	B	BA	D	E	FA	G	H	J	OA
C 70 2, C 70 3, C 70 4	13.780	10.315	8.740	5.709	8.268	11.811	6.496	1.181	0.866	3.346	13.740
	350	262	222	145	210	300	165	30	22	85	349

**Output shaft (Inch series)**

	U	UY	V	Key	M
C 70 2, C 70 3, C 70 4 NP	2.375 <sup>+0</sup> <sub>-0.0007</sub>	2.646	4.724	5/8 x 5/8 x 3 5/8	3/4 - 10 UNC

**NEMA Flange**



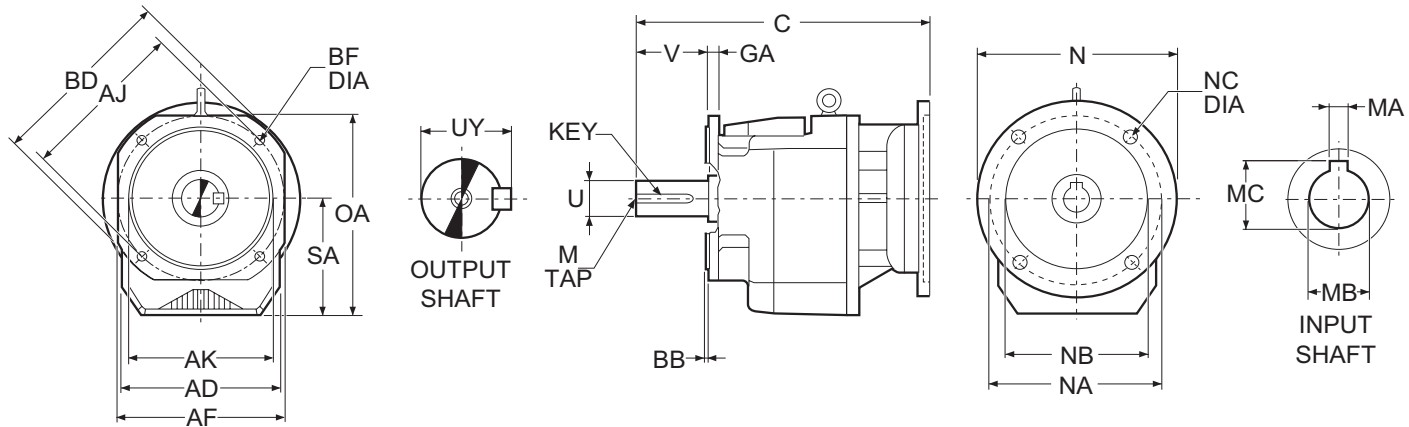
	N	NA	NB	NC	Weight [lbs / kg]
N56C	6.496	5.875	4.500	0.394	201 / 91
N140TC	6.496	5.875	4.500	0.394	203 / 92
N180TC	8.996	7.250	8.500	0.551	212 / 96
N210TC	8.996	7.250	8.500	0.551	216 / 98
N250TC	13.780	7.250	8.500	0.551	236 / 107
N280TC	13.780	9.000	10.500	0.551	236 / 107

**Hollow input shaft**

	MA	MB	MC
N56C	0.188	0.625	0.710
N140TC	0.188	0.875	0.964
N180TC	0.250	1.125	1.241
N210TC	0.312	1.375	1.518
N250TC	0.375	1.625	1.796
N280TC	0.500	1.875	2.102

	C					
	N56C	N140TC	N180TC	N210TC	N250TC	N280TC
C 70 2	18.64	18.64	19.17	20.63	23.62	23.82
	473.5	473.5	487	524	600	605
C 70 3	18.64	18.64	19.17	20.63	23.62	23.82
	473.5	473.5	487	524	600	605
C 70 4	20.65	20.65	21.18	22.64	—	—
	524.5	524.5	538	575	—	—

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	AD	SA	OA
<b>C 70 2, C 70 3, C 70 4</b>	10.315	8.189	14.094
	262	208	358

**Flange**

AF	AJ	AK	BB	BD	BF	GA
11.811	11.811	9.843	0.197	13.780	0.709	0.669
300	300	250	5	350	18	17

**Output shaft (Inch series)**

	U	UY	V	Key	M
<b>C 70 2, C 70 3, C 70 4</b>	NF	2.375	2.646	4.724	5/8 x 5/8 x 3 5/8
		<sup>+0</sup> -0.0007			3/4 - 10 UNC

**NEMA Flange**



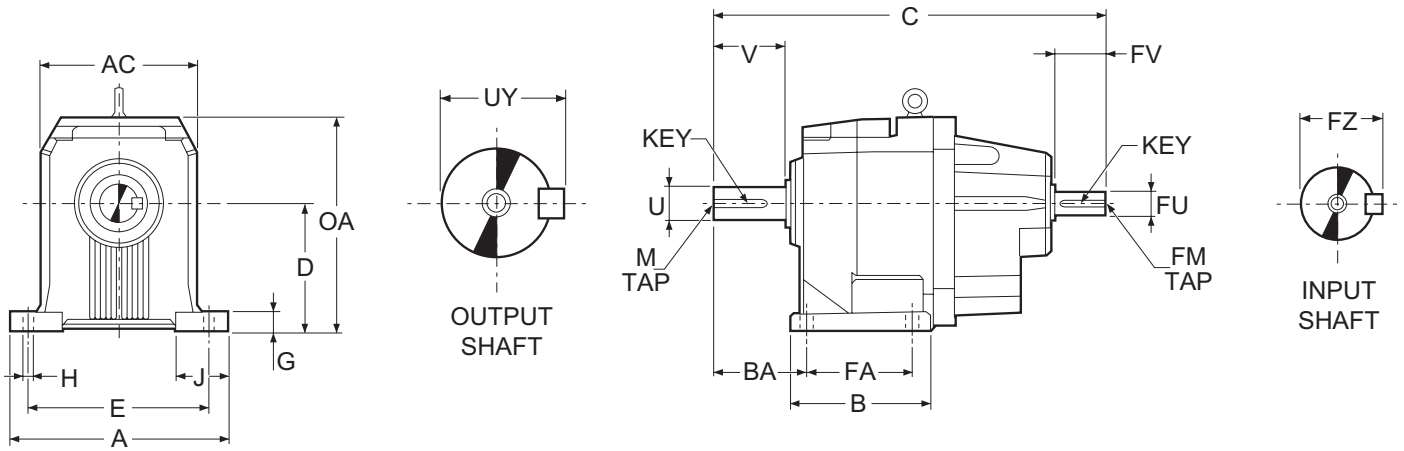
	N	NA	NB	NC	Weight [lbs / kg]
<b>N56C</b>	6.496	5.875	4.500	0.394	201 / 91
<b>N140TC</b>	6.496	5.875	4.500	0.394	203 / 92
<b>N180TC</b>	8.996	7.250	8.500	0.551	212 / 96
<b>N210TC</b>	8.996	7.250	8.500	0.551	216 / 98
<b>N250TC</b>	13.780	7.250	8.500	0.551	236 / 107
<b>N280TC</b>	13.780	9.000	10.500	0.551	236 / 107

**Hollow input shaft**

	MA	MB	MC
<b>N56C</b>	0.188	0.625	0.710
<b>N140TC</b>	0.188	0.875	0.964
<b>N180TC</b>	0.250	1.125	1.241
<b>N210TC</b>	0.312	1.375	1.518
<b>N250TC</b>	0.375	1.625	1.796
<b>N280TC</b>	0.500	1.875	2.102

	C					
	N56C	N140TC	N180TC	N210TC	N250TC	N280TC
<b>C 70 2</b>	18.64	18.64	19.17	20.63	23.62	23.82
	473.5	473.5	487	524	600	605
<b>C 70 3</b>	18.64	18.64	19.17	20.63	23.62	23.82
	473.5	473.5	487	524	600	605
<b>C 70 4</b>	20.65	20.65	21.18	22.64	—	—
	524.5	524.5	538	575		

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	B	BA	C	D	E	FA	G	H	J	OA
<b>C 70 2, C 70 3</b>	13.780	10.315	8.740	5.709	25.81	8.268	11.811	6.496	1.181	0.866	3.346	13.740
	350	262	222	145	655.5	210	300	165	30	22	85	349
<b>C 70 4</b>	13.780	10.315	8.740	5.709	23.37	8.268	11.811	6.496	1.181	0.866	3.346	13.740
	350	262	222	145	593.5	210	300	165	30	22	85	349

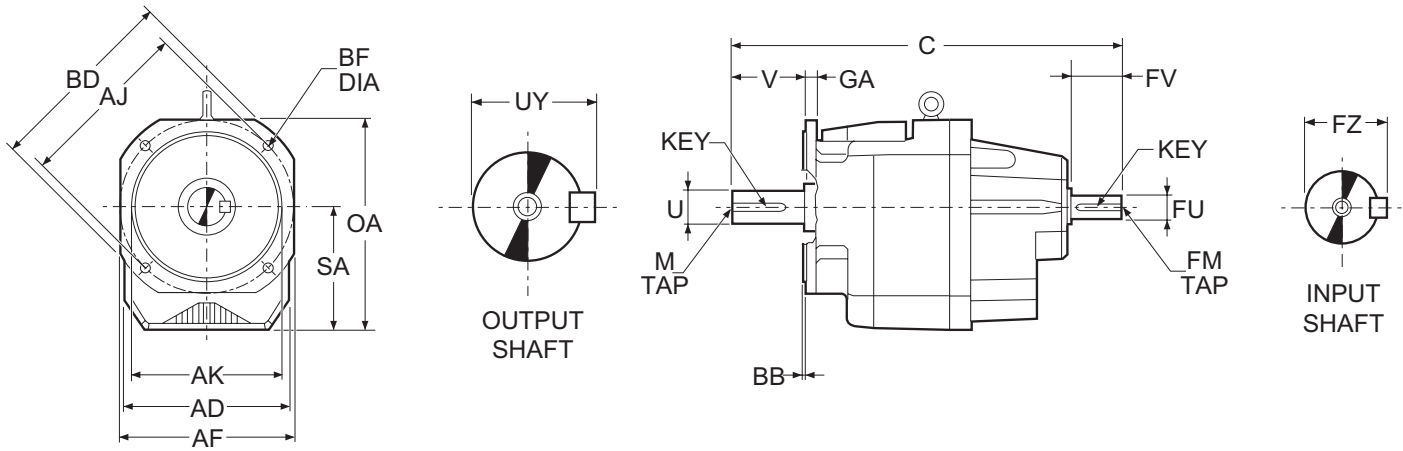
**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 70 2, C 70 3, C 70 4</b> NP	2.375 <sup>+0</sup> <sub>-0.0007</sub>	2.646	4.724	5/8 x 5/8 x 3 5/8	3/4 - 10 UNC

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM	Weight [lbs / kg]
<b>C 70 2, C 70 3</b> NHS	1.625 <sup>+0</sup> <sub>-0.0006</sub>	1.791	4.250	3/8 x 3/8 x 4	5/8 - 11 UNC	238 / 106
<b>C 70 4</b> NHS	1.000 <sup>+0</sup> <sub>-0.0005</sub>	1.110	1.970	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC	207 / 94

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	AD	C	SA	OA
<b>C 70 2, C 70 3</b>	10.315	25.81	8.189	14.094
	262	655.5	208	358
<b>C 70 4</b>	10.315	23.37	8.189	14.094
	262	593.5	208	358


**Flange**

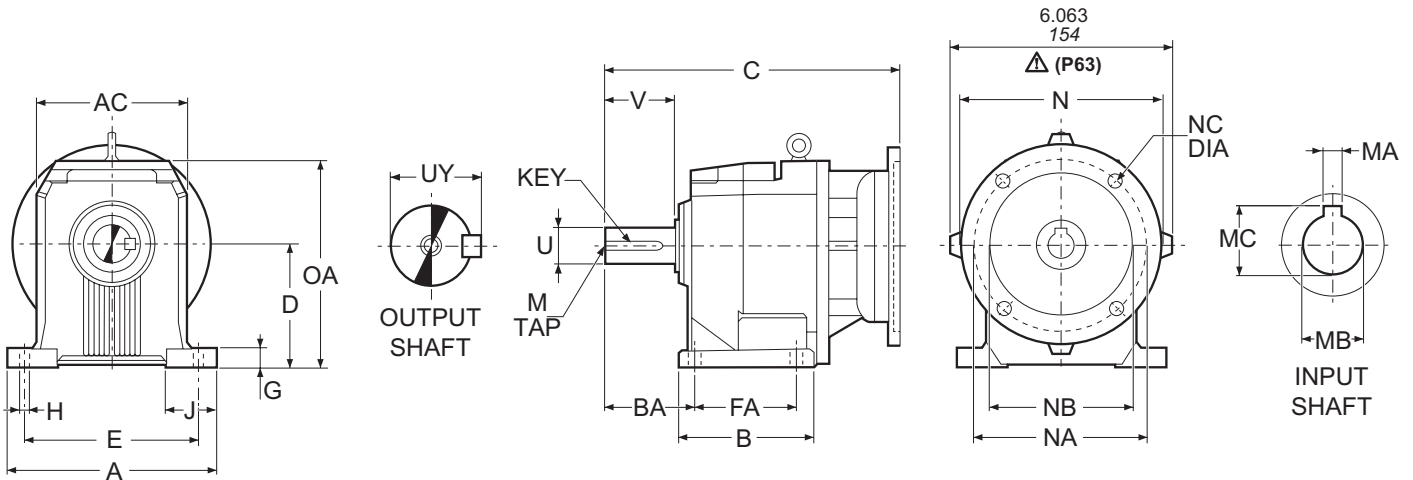
AF	AJ	AK	BB	BD	BF	GA
11.811	11.811	9.843	0.197	13.780	0.709	0.669
300	300	250	5	350	18	17
11.811	11.811	9.843	0.197	13.780	0.709	0.669
300	300	250	5	350	18	17

**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 70 2, C 70 3, C 70 4</b>	NF	2.375	2.646	4.724	5/8 x 5/8 x 3 5/8
		<sup>+0</sup> -0.0007			3/4 - 10 UNC

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM	 <b>Weight [lbs / kg]</b>	
<b>C 70 2, C 70 3</b>	NHS	1.625	1.791	4.250	3/8 x 3/8 x 4		238 / 106
		<sup>+0</sup> -0.0006			5/8 - 11 UNC		
<b>C 70 4</b>	NHS	1.000	1.110	1.970	1/4 x 1/4 x 1 3/4	207 / 94	
		<sup>+0</sup> -0.0005			3/8 - 16 UNC		



**Gearcase**

	A	AC	B	BA	D	E	FA	G	H	J	OA
<b>C 70 2, C 70 3, C 70 4</b>	13.780	10.315	8.740	5.709	8.268	11.811	6.496	1.181	0.866	3.346	13.740
	350	262	222	145	210	300	165	30	22	85	349

**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 70 2, C 70 3, C 70 4 NP</b>	2.375 <sup>+0</sup> <sub>-0.0007</sub>	2.646	4.724	5/8 x 5/8 x 3 5/8	3/4 - 10 UNC

**IEC Flange**

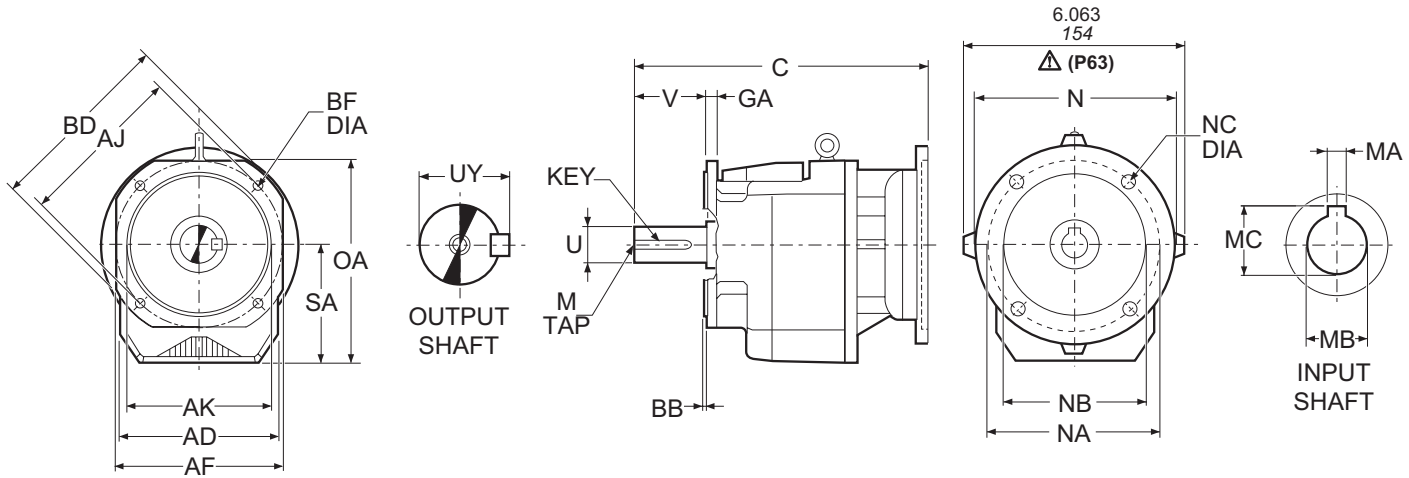
	N	NA	NB	NC	Weight [lbs / kg]
<b>P63</b>	140	115	95	M8x19	200 / 91
<b>P71</b>	160	130	110	M8x16	200 / 91
<b>P80, P90</b>	200	165	130	M10x12	202 / 92
<b>P100, P112</b>	250	215	180	M12x16	211 / 96
<b>P132</b>	300	265	230	14	216 / 98
<b>P160, P180</b>	350	300	250	18	235 / 107
<b>P200</b>	400	350	300	M16x25	284 / 129

**Hollow input shaft**

	MA	MB	MC
<b>P63</b>	4	11	12.8
<b>P71</b>	5	14	16.3
<b>P80</b>	6	19	21.8
<b>P90</b>	8	24	27.3
<b>P100, P112</b>	8	28	31.3
<b>P132</b>	10	38	41.3
<b>P160</b>	12	42	45.3
<b>P180</b>	14	48	51.8
<b>P200</b>	16	55	59.3

	C					
	P63 P71	P80 P90	P100 P112	P132	P160 P180	P200
<b>C 70 2, C 70 3</b>	—	18.62 473	19.02 483	20.45 519.5	22.64 575	23.62 600
<b>C 70 4</b>	19.86 504.5	20.63 524	21.02 534	22.46 570.5	—	—

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	AD	SA	OA
<b>C 70 2, C 70 3, C 70 4</b>	10.315	8.189	14.094
	262	208	358

**Flange**

AF	AJ	AK	BB	BD	BF	GA
11.811	11.811	9.843	0.197	13.780	0.709	0.669
300	300	250	5	350	18	17

**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 70 2, C 70 3, C 70 4</b> NF	2.375 <sup>+0</sup> / <sub>-0.0007</sub>	2.646	4.724	5/8 x 5/8 x 3 5/8	3/4 - 10 UNC

**IEC Flange**

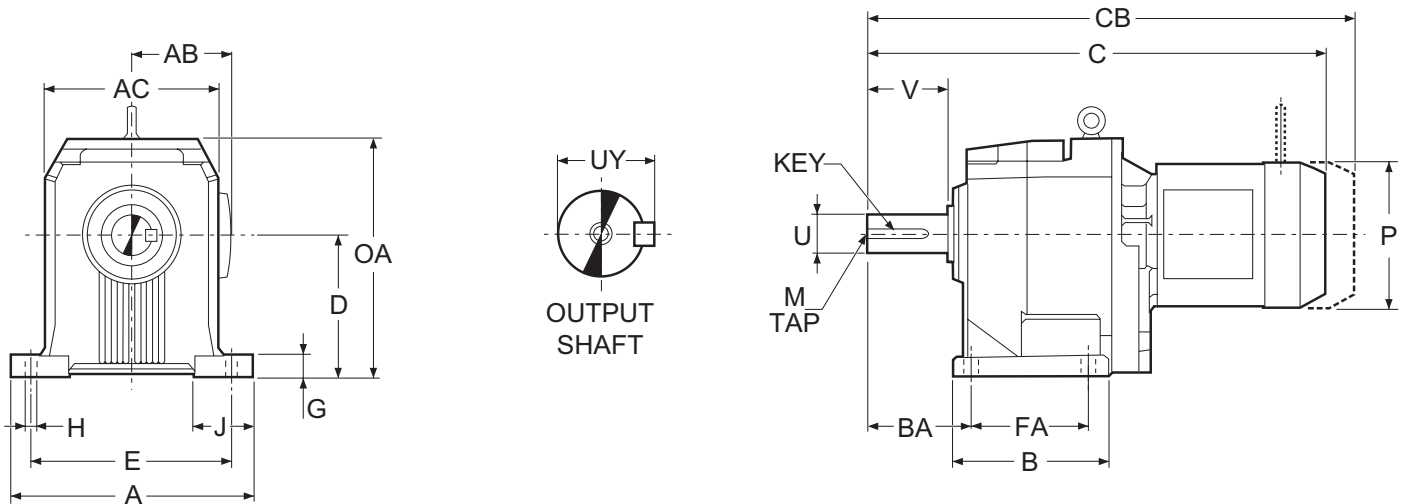
	N	NA	NB	NC	Weight [lbs / kg]
<b>P63</b>	140	115	95	M8x19	200 / 91
<b>P71</b>	160	130	110	M8x16	200 / 91
<b>P80, P90</b>	200	165	130	M10x12	202 / 92
<b>P100, P112</b>	250	215	180	M12x16	211 / 96
<b>P132</b>	300	265	230	14	216 / 98
<b>P160, P180</b>	350	300	250	18	235 / 107
<b>P200</b>	400	350	300	M16x25	284 / 129

**Hollow input shaft**

	MA	MB	MC
<b>P63</b>	4	11	12.8
<b>P71</b>	5	14	16.3
<b>P80</b>	6	19	21.8
<b>P90</b>	8	24	27.3
<b>P100, P112</b>	8	28	31.3
<b>P132</b>	10	38	41.3
<b>P160</b>	12	42	45.3
<b>P180</b>	14	48	51.8
<b>P200</b>	16	55	59.3

	C					
	P63 P71	P80 P90	P100 P112	P132	P160 P180	P200
<b>C 70 2, C 70 3</b>	—	18.62 473	19.02 483	20.45 519.5	22.64 575	23.62 600
<b>C 70 4</b>	19.86 504.5	20.63 524	21.02 534	22.46 570.5	—	—

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	B	BA	D	E	FA	G	H	J	OA
C 80 2, C 80 3, C 80 4	17.323 440	12.598 320	10.906 277	6.811 173	9.843 250	14.567 370	8.268 210	1.378 35	1.024 26	4.331 110	16.535 420

**Output shaft** (Inch series)

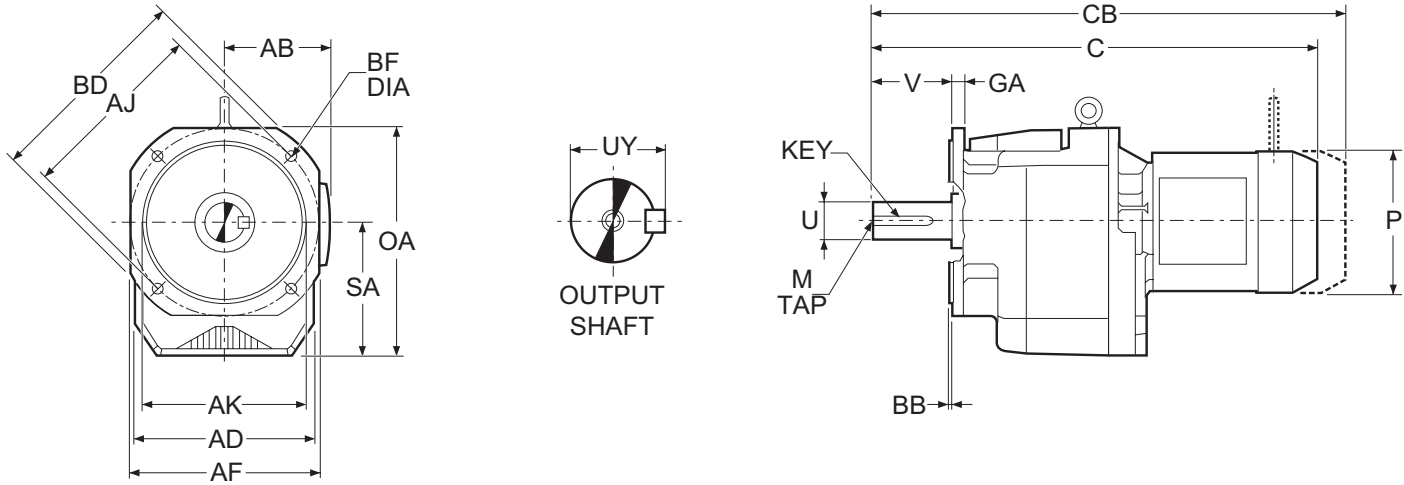
	U	UY	V	Key	M
C 80 2, C 80 3, C 80 4 NP	3.125 <sup>+0</sup> <sub>-0.0007</sub>	3.454	5.512	3/4 x 3/4 x 4 5/32	3/4 - 10 UNC

**Motor**



	AB	C	CB	P	Weight [lbs / kg]
C 80 2_S3 M3S	5.591	29.23	33.01	7.677	321 / 146
C 80 3_S3 M3S	142	742.5	838.5	195	
C 80 2_S3 M3L	5.591	30.49	34.08	7.677	337 / 153
C 80 3_S3 M3L	142	774.5	865.5	195	
C 80 2_S4 M4S	7.598	34.74	39.04	10.157	392 / 178
C 80 3_S4 M4S	193	882.5	991.5	258	
C 80 2_S4 M4L	7.598	34.74	39.04	10.157	431 / 196
C 80 3_S4 M4L	193	882.5	991.5	258	
C 80 2_S4 M4LC	7.598	36.12	40.02	10.157	449 / 204
C 80 3_S4 M4LC	193	917.5	1017	258	
C 80 2_S5 M5S	9.646	38.15	43.66	12.205	524 / 238
C 80 3_S5 M5S	245	969	1109	310	
C 80 2_S5 M5L	9.646	39.88	45.39	12.205	559 / 254
C 80 3_S5 M5L	245	1013	1153	310	
C 80 4_S1 M1	4.252 108	28.88 733.5	31.28 794.5	5.433 138	299 / 136
C 80 4_S2 M2S	4.685 119	30.02 762.5	32.78 832.5	6.142 156	310 / 141
C 80 4_S3 M3S	5.591 142	31.71 805.5	35.49 901.5	7.677 195	328 / 149
C 80 4_S3 M3L	5.591 142	32.97 837.5	36.56 928.5	7.677 195	343 / 156
C 80 4_S4 M4S	7.598 193	37.22 945.5	41.52 1055	10.157 258	400 / 182
C 80 4_S4 M4L	7.598 193	37.22 945.5	41.52 1055	10.157 258	442 / 201

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	AD	SA	OA
C 80 2, C 80 3, C 80 4	12.598	9.724	16.614
	320	247	422

**Flange**

AF	AJ	AK	BB	BD	BF	GA
13.780	13.780	11.811	0.197	15.748	0.709	0.787
350	350	300	5	400	18	20

**Output shaft** (Inch series)

	U	UY	V	Key	M
C 80 2, C 80 3, C 80 4 NF	3.125 <sup>+0</sup> / <sub>-0.0007</sub>	3.454	5.512	3/4 x 3/4 x 4 5/32	3/4 - 10 UNC

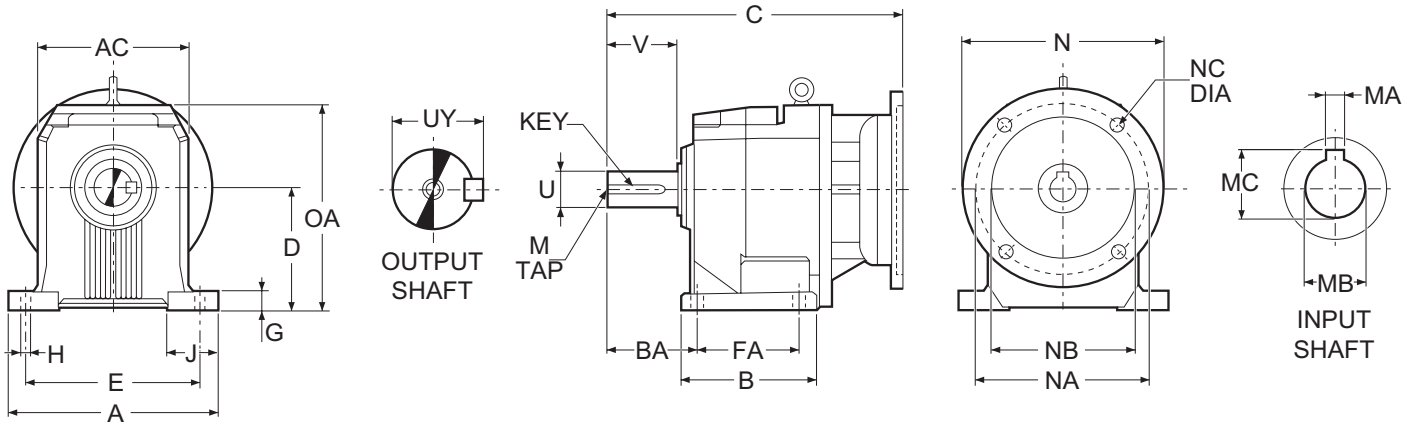
**Motor**



	AB	C	CB	P	Weight [lbs / kg]
C 80 2_S3 M3S	5.591	29.23	33.01	7.677	321 / 146
C 80 3_S3 M3S	142	742.5	838.5	195	
C 80 2_S3 M3L	5.591	30.49	34.08	7.677	337 / 153
C 80 3_S3 M3L	142	774.5	865.5	195	
C 80 2_S4 M4S	7.598	37.74	39.04	10.157	392 / 178
C 80 3_S4 M4S	193	882.5	991.5	258	
C 80 2_S4 M4L	7.598	34.74	39.04	10.157	431 / 196
C 80 3_S4 M4L	193	882.5	991.5	258	
C 80 2_S4 M4LC	7.598	36.12	40.02	10.157	449 / 204
C 80 3_S4 M4LC	193	917.5	1017	258	
C 80 2_S5 M5S	9.646	38.15	43.66	12.205	524 / 238
C 80 3_S5 M5S	245	969	1109	310	
C 80 2_S5 M5L	9.646	39.88	45.39	12.205	559 / 254
C 80 3_S5 M5L	245	1013	1153	310	
C 80 4_S1 M1	4.252	28.88	31.28	5.433	299 / 136
	108	733.5	794.5	138	
C 80 4_S2 M2S	4.685	30.02	32.78	6.142	310 / 141
	119	762.5	832.5	156	
C 80 4_S3 M3S	5.591	31.71	35.49	7.677	328 / 149
	142	805.5	901.5	195	
C 80 4_S3 M3L	5.591	32.97	36.56	7.677	343 / 156
	142	837.5	928.5	195	
C 80 4_S4 M4S	7.598	37.22	41.52	10.157	400 / 182
	193	945.5	1055	258	
C 80 4_S4 M4L	7.598	37.22	41.52	10.157	442 / 201
	193	945.5	1055	258	

Dimensions are  $\frac{\text{inch}}{\text{mm}}$





**Gearcase**

	A	AC	B	BA	D	E	FA	G	H	J	OA
<b>C 80 2, C 80 3, C 80 4</b>	17.323 440	12.598 320	10.906 277	6.811 173	9.843 250	14.567 370	8.268 210	1.378 35	1.024 26	4.331 110	16.535 420

**Output shaft (Inch series)**

	U	UY	V	Key	M
<b>C 80 2, C 80 3, C 80 4 NP</b>	3.125 <sup>+0</sup> <sub>-0.0007</sub>	3.454	5.512	3/4 x 3/4 x 4 5/32	3/4 - 10 UNC

**NEMA Flange**



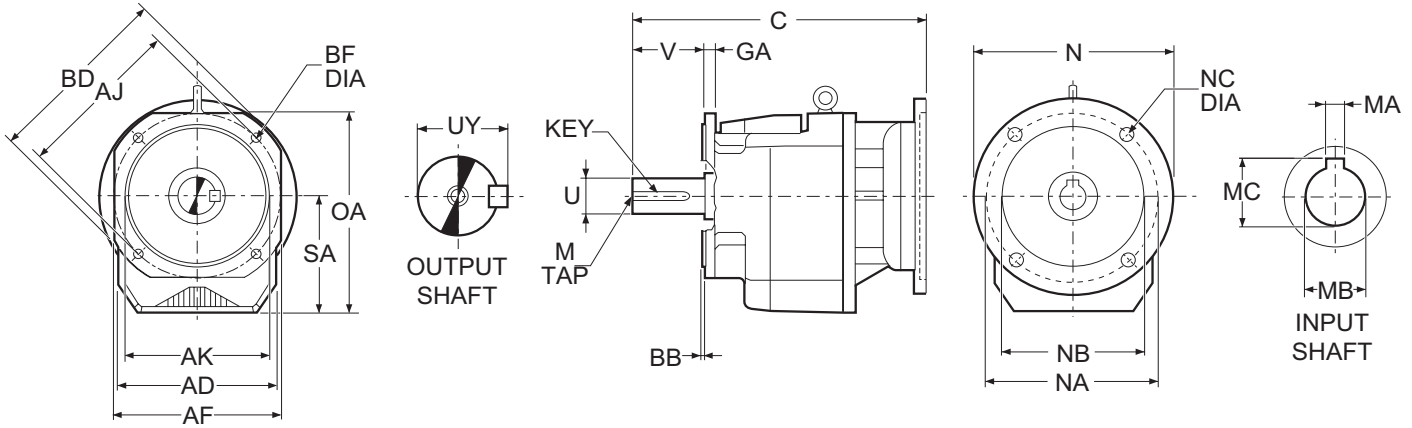
	N	NA	NB	NC	Weight [lbs / kg]
<b>N56C</b>	6.496	5.875	4.500	0.394	304 / 138
<b>N140TC</b>	6.496	5.875	4.500	0.394	309 / 140
<b>N180TC</b>	8.996	7.250	8.500	0.551	318 / 144
<b>N210TC</b>	8.996	7.250	8.500	0.551	322 / 146
<b>N250TC</b>	13.780	7.250	8.500	0.551	340 / 154
<b>N280TC</b>	13.780	9.000	10.500	0.551	340 / 154
<b>N320TC</b>	17.717	11.000	12.500	0.669	388 / 176

**Hollow input shaft**

	MA	MB	MC
<b>N56C</b>	0.188	0.625	0.710
<b>N140TC</b>	0.188	0.875	0.964
<b>N180TC</b>	0.250	1.125	1.241
<b>N210TC</b>	0.312	1.375	1.518
<b>N250TC</b>	0.375	1.625	1.796
<b>N280TC</b>	0.500	1.875	2.102
<b>N320TC</b>	0.500	2.125	2.350

	C						
	N56C	N140TC	N180TC	N210TC	N250TC	N280TC	N320TC
<b>C 80 2</b>	—	—	21.58 548	23.03 585	25.98 660	26.18 665	29.04 737.5
<b>C 80 3</b>	—	—	21.58 548	23.03 585	25.98 660	26.18 665	29.04 737.5
<b>C 80 4</b>	22.74 577.5	22.74 577.5	24.056 611	25.30 642.5	—	—	—

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	AD	SA	OA
<b>C 80 2, C 80 3, C 80 4</b>	12.598	9.724	16.614
	320	247	422

**Flange**

AF	AJ	AK	BB	BD	BF	GA
13.780	13.780	11.811	0.197	15.748	0.709	0.787
350	350	300	5	400	18	20

**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 80 2, C 80 3, C 80 4</b>	NF	3.125 <sup>+0</sup> -0.0007	3.454	5.512	3/4 x 3/4 x 4 5/32
					3/4 - 10 UNC

**NEMA Flange**



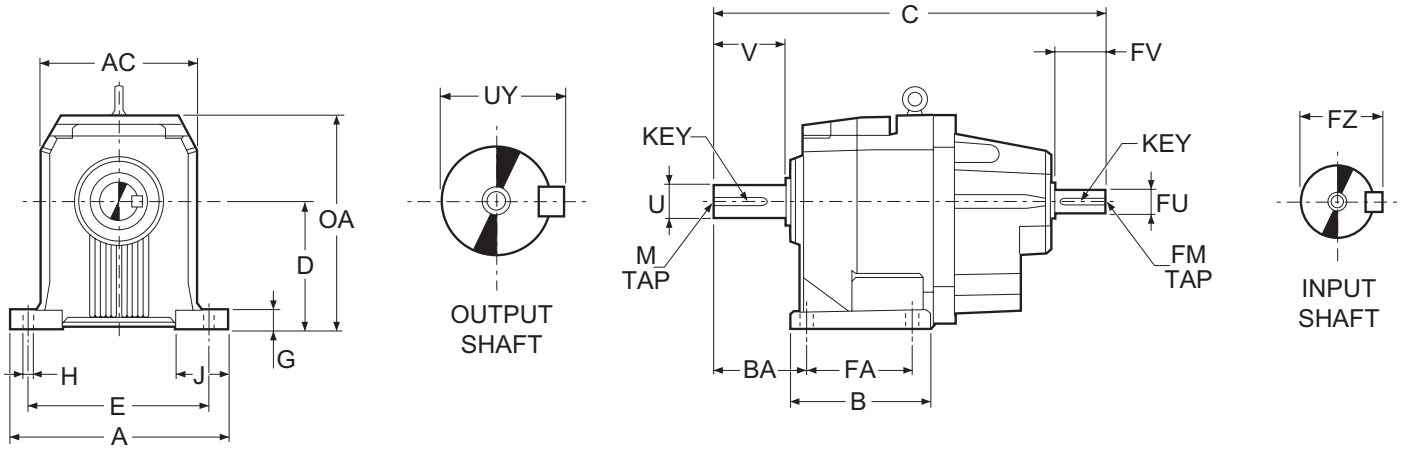
	N	NA	NB	NC	Weight [lbs / kg]
<b>N56C</b>	6.496	5.875	4.500	0.394	304 / 138
<b>N140TC</b>	6.496	5.875	4.500	0.394	309 / 140
<b>N180TC</b>	8.996	7.250	8.500	0.551	318 / 144
<b>N210TC</b>	8.996	7.250	8.500	0.551	322 / 146
<b>N250TC</b>	13.780	7.250	8.500	0.551	340 / 154
<b>N280TC</b>	13.780	9.000	10.500	0.551	340 / 154
<b>N320TC</b>	17.717	11.000	12.500	0.669	388 / 176

**Hollow input shaft**

	MA	MB	MC
<b>N56C</b>	0.188	0.625	0.710
<b>N140TC</b>	0.188	0.875	0.964
<b>N180TC</b>	0.250	1.125	1.241
<b>N210TC</b>	0.312	1.375	1.518
<b>N250TC</b>	0.375	1.625	1.796
<b>N280TC</b>	0.500	1.875	2.102
<b>N320TC</b>	0.500	2.125	2.350

	C						
	N56C	N140TC	N180TC	N210TC	N250TC	N280TC	N320TC
<b>C 80 2</b>	—	—	21.58 548	23.03 585	25.98 660	26.18 665	29.04 737.5
<b>C 80 3</b>	—	—	21.58 548	23.03 585	25.98 660	26.18 665	29.04 737.5
<b>C 80 4</b>	22.74 577.5	22.74 577.5	24.056 611	25.30 642.5	—	—	—

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	B	BA	C	D	E	FA	G	H	J	OA
<b>C 80 2, C80 3</b>	17.323	12.598	10.906	6.811	28.21	9.843	14.567	8.268	1.378	1.024	4.331	16.535
	440	320	277	173	716.5	250	370	210	35	26	110	420
<b>C 80 4</b>	17.323	12.598	10.906	6.811	26.24	9.843	14.567	8.268	1.378	1.024	4.331	16.535
	440	320	277	173	666.5	250	370	210	35	26	110	420

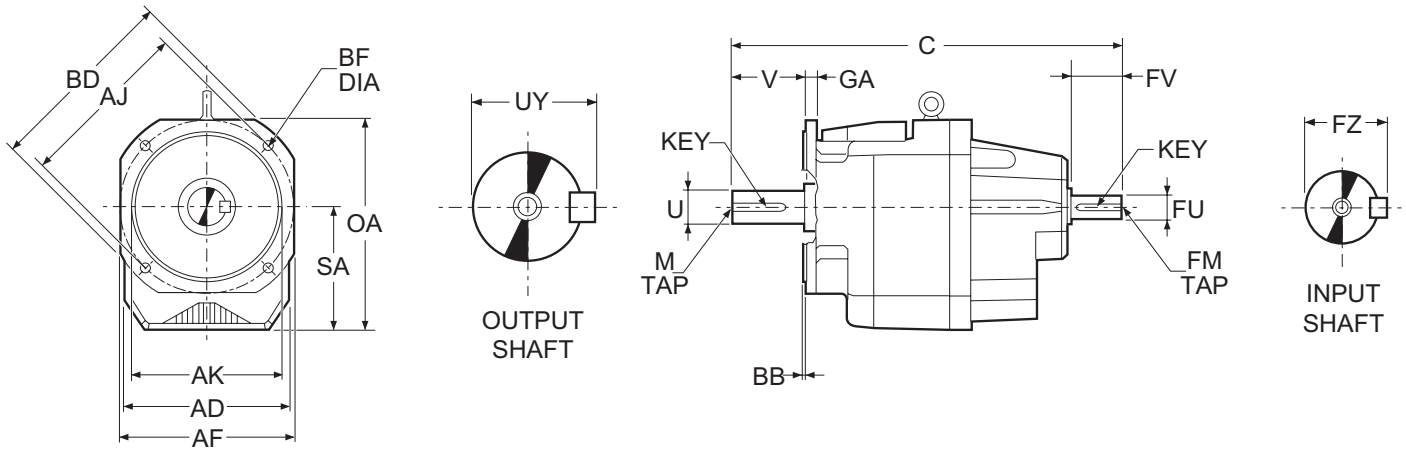
**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 80 2, C 80 3, C 80 4</b> NP	3.125 <sup>+0</sup> / <sub>-0.0007</sub>	3.454	5.512	3/4 x 3/4 x 4 5/32	3/4 - 10 UNC

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM	Weight [lbs / kg]
<b>C 80 2, C 80 3</b> NHS	1.625 <sup>+0</sup> / <sub>-0.0006</sub>	1.791	4.250	3/8 x 3/8 x 4	5/8 - 11 UNC	339 / 154
<b>C 80 4</b> NHS	1.000 <sup>+0</sup> / <sub>-0.0005</sub>	1.110	1.970	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC	310 / 141

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	AD	C	SA	OA
<b>C 80 2, C 80 3</b>	12.598	28.21	9.724	16.614
	320	716.5	247	422
<b>C 80 4</b>	12.598	26.24	9.724	16.614
	320	666.5	247	422

**Flange**

AF	AJ	AK	BB	BD	BF	GA
13.780	13.780	11.811	0.197	15.748	0.709	0.787
350	350	300	5	400	18	20
13.780	13.780	11.811	0.197	15.748	0.709	0.787
350	350	300	5	400	18	20

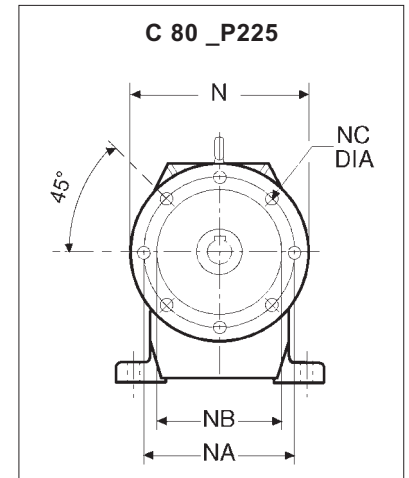
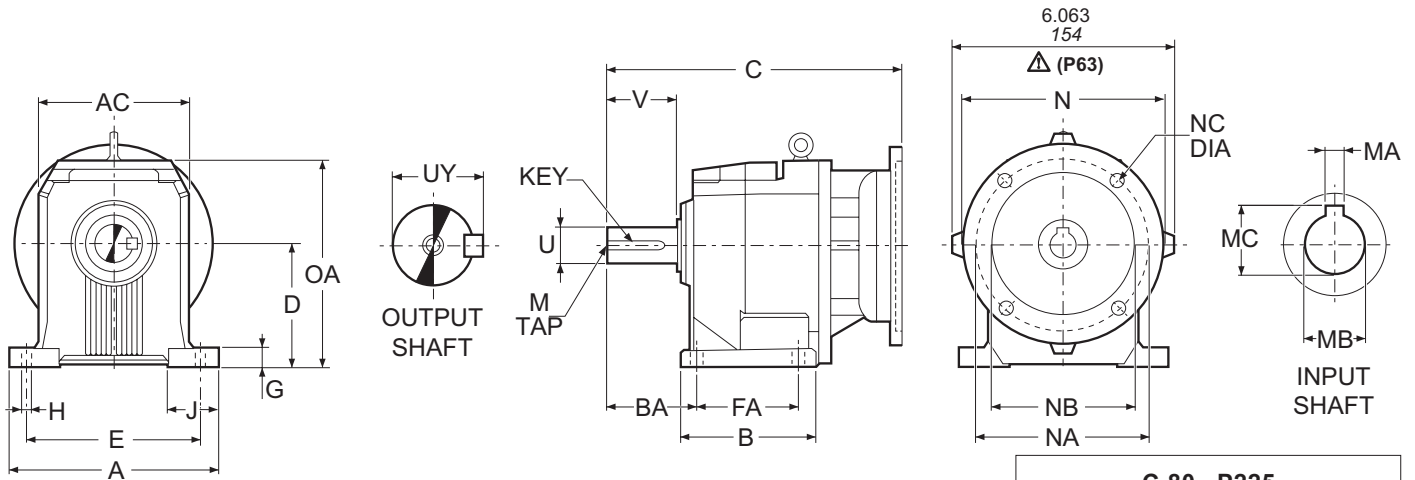
**Output shaft** (Inch series)

	U	UY	V	Key	M	
<b>C 80 2, C 80 3, C 80 4</b>	NF	3.125 <sup>+0</sup> <sub>-0.0007</sub>	3.454	5.512	3/4 x 3/4 x 4 5/32	3/4 - 10 UNC

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM	Weight [lbs / kg]	
<b>C 80 2, C 80 3</b>	NHS	1.625 <sup>+0</sup> <sub>-0.0006</sub>	1.791	4.250	3/8 x 3/8 x 4	5/8 - 11 UNC	339 / 154
<b>C 80 4</b>	NHS	1.000 <sup>+0</sup> <sub>-0.0005</sub>	1.110	1.970	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC	310 / 141





	C						
	P63 P71	P80 P90	P100 P112	P132	P160 P180	P200	P225
C 80 2, C 80 3	—	20.98 533	21.38 543	22.82 579.5	25.00 635	25.98 660	27.78 705.5
C 80 4	22.70 576.5	23.47 596	23.86 606	25.30 642.5	—	—	—

**Gearcase**

	A	AC	B	BA	D	E	FA	G	H	J	OA
C 80 2, C 80 3, C 80 4	17.323 440	12.598 320	10.906 277	6.811 173	9.843 250	14.567 370	8.268 210	1.378 35	1.024 26	4.331 110	16.535 420

**Output shaft (Inch series)**

	U	UY	V	Key	M
C 80 2, C 80 3, C 80 4 NP	3.125 <sup>+0</sup> <sub>-0.0007</sub>	3.454	5.512	3/4 x 3/4 x 4 5/32	3/4 - 10 UNC

**IEC Flange**

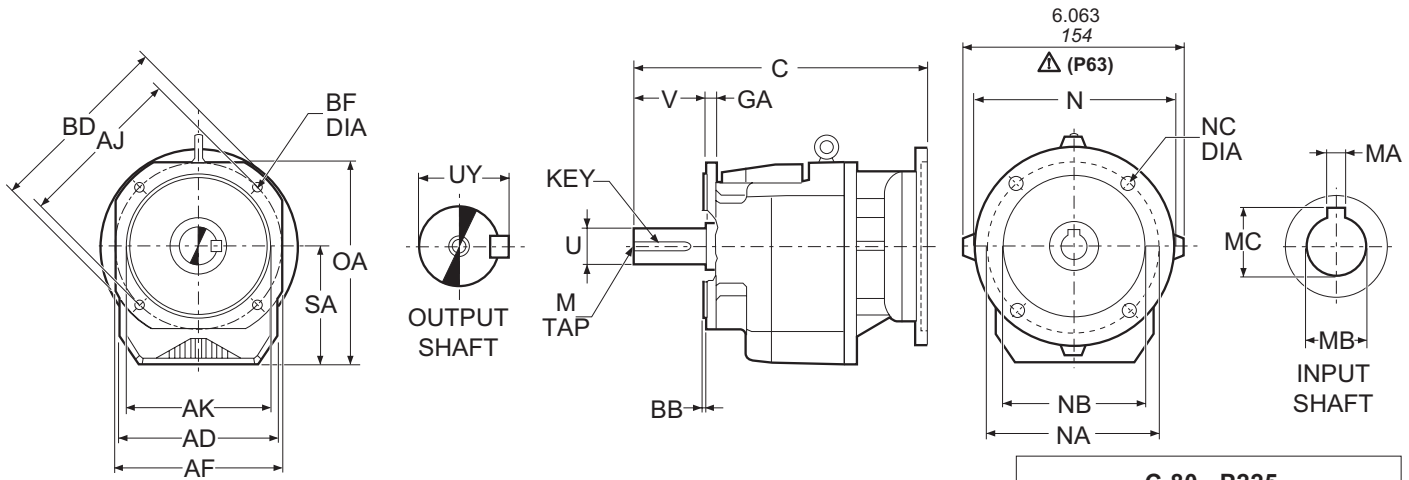
	N	NA	NB	NC	Weight [lbs / kg]
P63	140	115	95	M8x19	304 / 138
P71	160	130	110	M8x16	304 / 138
P80, P90	200	165	130	M10x12	308 / 140
P100, P112	250	215	180	M12x16	317 / 144
P132	300	265	230	14	321 / 146
P160, P180	350	300	250	18	339 / 154
P200	400	350	300	M16x25	387 / 176
P225	450	400	350	18	392 / 178



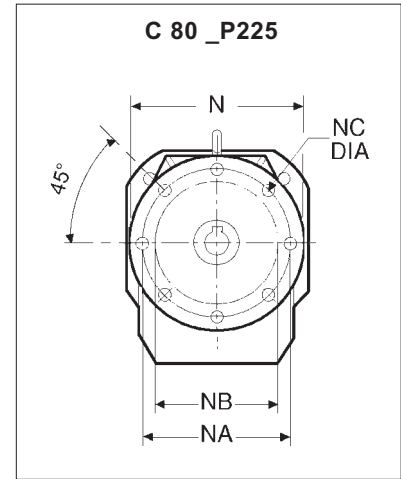
**Hollow input shaft**

	MA	MB	MC
P63	4	11	12.8
P71	5	14	16.3
P80	6	19	21.8
P90	8	24	27.3
P100, P112	8	28	31.3
P132	10	38	41.3
P160	12	42	45.3
P180	14	48	51.8
P200	16	55	59.3
P225	18	60	64.4

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



	C						
	P63 P71	P80 P90	P100 P112	P132	P160 P180	P200	P225
C 80 2, C 80 3	—	20.98 533	21.38 543	22.82 579.5	25.00 635	25.98 660	27.78 705.5
C 80 4	22.70 576.5	23.47 596	23.86 606	25.30 642.5	—	—	—



**Gearcase**

	AD	SA	OA
C 80 2, C 80 3, C 80 4	12.598 320	9.724 247	16.614 422

**Flange**

AF	AJ	AK	BB	BD	BF	GA
13.780	13.780	11.811 -0.0022 -0.0042	0.197	15.748	0.709	0.787
350	350	300 -0.056 -0.108	5	400	18	20

**Output shaft (Inch series)**

	U	UY	V	Key	M
C 80 2, C 80 3, C 80 4 NF	3.125 <sup>+0</sup> <sub>-0.0007</sub>	3.454	5.512	3/4 x 3/4 x 4 5/32	3/4 - 10 UNC

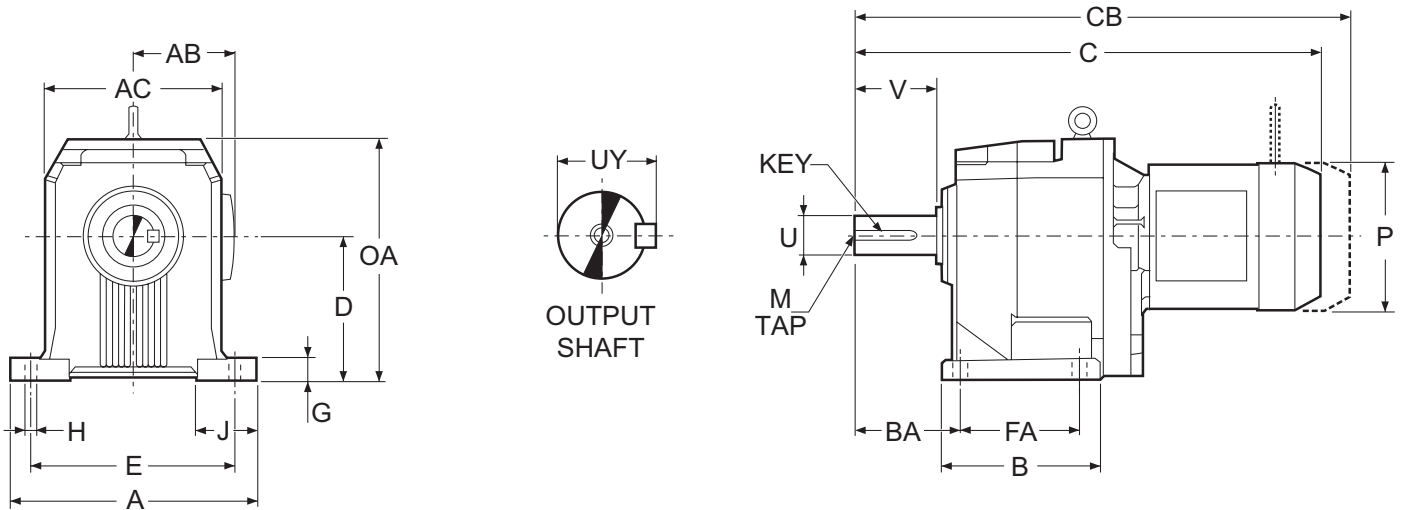
**IEC Flange**

	N	NA	NB	NC	Weight [lbs / kg]
P63	140	115	95	M8x19	304 / 138
P71	160	130	110	M8x16	304 / 138
P80, P90	200	165	130	M10x12	308 / 140
P100, P112	250	215	180	M12x16	317 / 144
P132	300	265	230	14	321 / 146
P160, P180	350	300	250	18	339 / 154
P200	400	350	300	M16x25	387 / 176
P225	450	400	350	18	392 / 178

**Hollow input shaft**

	MA	MB	MC
P63	4	11	12.8
P71	5	14	16.3
P80	6	19	21.8
P90	8	24	27.3
P100, P112	8	28	31.3
P132	10	38	41.3
P160	12	42	45.3
P180	14	48	51.8
P200	16	55	59.3
P225	18	60	64.4

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	B	BA	D	E	FA	G	H	J	OA
C 90 2, C 90 3, C 90 4	20.472 520	14.764 375	13.346 339	8.268 210	11.811 300	17.323 440	9.843 250	1.575 40	1.299 33	5.512 140	19.488 495

**Output shaft** (Inch series)

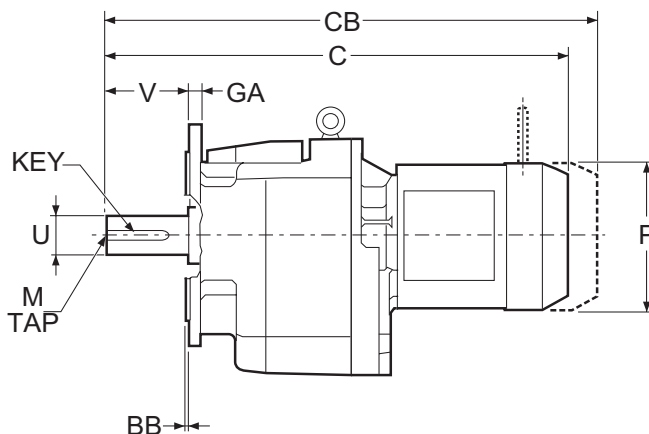
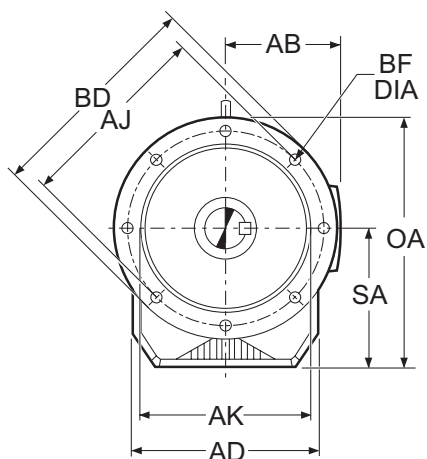
	U	UY	V	Key	M
C 90 2, C 90 3, C 90 4 NP	3.625 <sup>+0</sup> <sub>-0.0009</sub>	4.009	6.693	7/8 x 7/8 x 5 1/2	1 - 8 UNC

**Motor**



	AB	C	CB	P	Weight [lbs / kg]
C 90 2_S3 M3S	5.591 142	33.54 852	37.32 948	7.677 195	519 / 236
C 90 3_S3 M3S	5.591 142	34.80 884	38.39 975	7.677 195	535 / 243
C 90 2_S3 M3L	5.591 142	34.80 884	38.39 975	7.677 195	535 / 243
C 90 3_S3 M3L	5.591 142	34.80 884	38.39 975	7.677 195	535 / 243
C 90 2_S4 M4S	7.598 193	37.56 954	41.85 1063	10.157 258	592 / 269
C 90 3_S4 M4S	7.598 193	37.56 954	41.85 1063	10.157 258	592 / 269
C 90 2_S4 M4L	7.598 193	40.43 1027	44.33 1126	10.157 258	634 / 288
C 90 3_S4 M4L	7.598 193	40.43 1027	44.33 1126	10.157 258	634 / 288
C 90 2_S4 M4LC	7.598 193	40.43 1027	44.33 1126	10.157 258	651 / 296
C 90 3_S4 M4LC	7.598 193	40.43 1027	44.33 1126	10.157 258	651 / 296
C 90 2_S5 M5S	9.646 245	42.46 1079	47.97 1219	12.205 310	722 / 328
C 90 3_S5 M5S	9.646 245	42.46 1079	47.97 1219	12.205 310	722 / 328
C 90 2_S5 M5L	9.646 245	44.19 1123	49.71 1263	12.205 310	757 / 344
C 90 3_S5 M5L	9.646 245	44.19 1123	49.71 1263	12.205 310	757 / 344
C 90 4_S2 M2S	4.685 119	35.12 892	37.87 962	6.142 156	524 / 238
C 90 4_S3 M3S	5.591 142	36.81 935	40.59 1031	7.677 195	541 / 246
C 90 4_S3 M3L	5.591 142	38.07 967	41.65 1058	7.677 195	557 / 253
C 90 4_S4 M4S	7.598 193	42.32 1075	46.61 1184	10.157 258	614 / 279
C 90 4_S4 M4L	7.598 193	42.32 1075	46.61 1184	10.157 258	656 / 298

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	AD	SA	OA
C 90 2, C 90 3, C 90 4	14.764	11.614	20.472
	375	295	520

**Flange**

AJ	AK	BB	BD	BF	GA
15.748	13.780	0.197	17.717	0.709	0.866
400	350	5	450	18	22

**Output shaft** (Inch series)

	U	UY	V	Key	M
C 90 2, C 90 3, C 90 4 NF	3.625 <sup>+0</sup> <sub>-0.0009</sub>	4.009	6.693	7/8 x 7/8 x 5 1/2	1 - 8 UNC

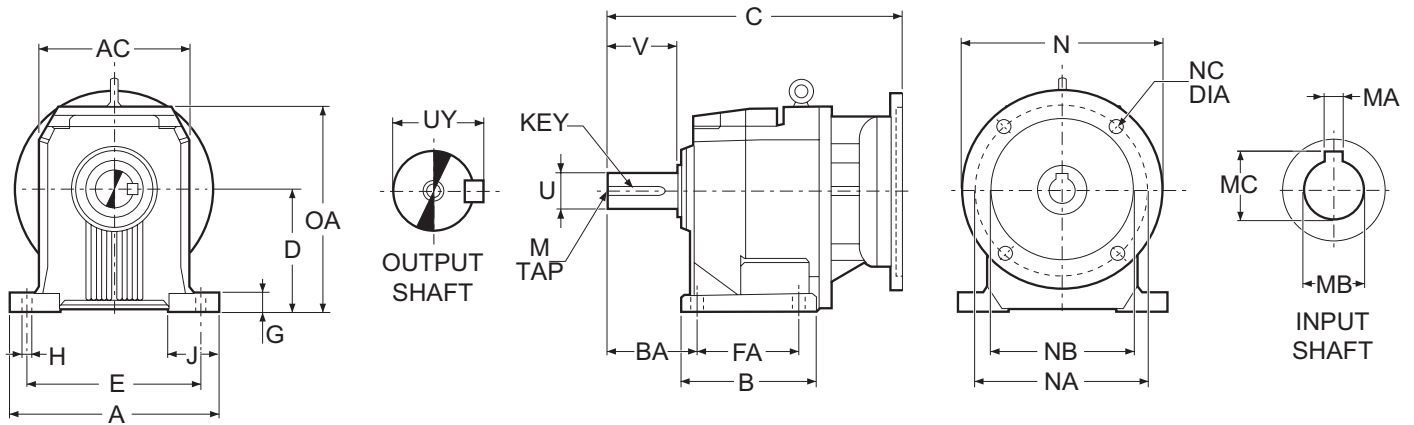
**Motor**



	AB	C	CB	P	Weight [lbs / kg]
C 90 2_S3 M3S	5.591	33.54	37.32	7.677	519 / 236
C 90 3_S3 M3S	142	852	948	195	
C 90 2_S3 M3L	5.591	34.80	38.39	7.677	535 / 243
C 90 3_S3 M3L	142	884	975	195	
C 90 2_S4 M4S	7.598	39.06	43.35	10.157	592 / 269
C 90 3_S4 M4S	193	992	1101	258	
C 90 2_S4 M4L	7.598	39.06	43.35	10.157	634 / 288
C 90 3_S4 M4L	193	992	1101	258	
C 90 2_S4 M4LC	7.598	40.43	44.33	10.157	651 / 296
C 90 3_S4 M4LC	193	1027	1126	258	
C 90 2_S5 M5S	9.646	42.46	47.97	12.205	722 / 328
C 90 3_S5 M5S	245	1079	1219	310	
C 90 2_S5 M5L	9.646	44.19	49.71	12.205	757 / 344
C 90 3_S5 M5L	245	1123	1263	310	
C 90 4_S2 M2S	4.685	35.12	37.87	6.142	524 / 238
	119	892	962	156	
C 90 4_S3 M3S	5.591	36.81	40.59	7.677	541 / 246
	142	935	1031	195	
C 90 4_S3 M3L	5.591	38.07	41.65	7.677	557 / 253
	142	967	1058	195	
C 90 4_S4 M4S	7.598	42.32	46.61	10.157	614 / 279
	193	1075	1184	258	
C 90 4_S4 M4L	7.598	42.32	46.61	10.157	656 / 298
	193	1075	1184	258	

Dimensions are  $\frac{\text{inch}}{\text{mm}}$





**Gearcase**

	A	AC	B	BA	D	E	FA	G	H	J	OA
<b>C 90 2, C 90 3, C 90 4</b>	20.472 520	14.764 375	13.346 339	8.268 210	11.811 300	17.323 440	9.843 250	1.575 40	1.299 33	5.512 140	19.488 495

**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 90 2, C 90 3, C 90 4</b> NP	3.625 <sup>+0</sup> <sub>-0.0009</sub>	4.009	6.693	7/8 x 7/8 x 5 1/2	1 - 8 UNC

**NEMA Flange**



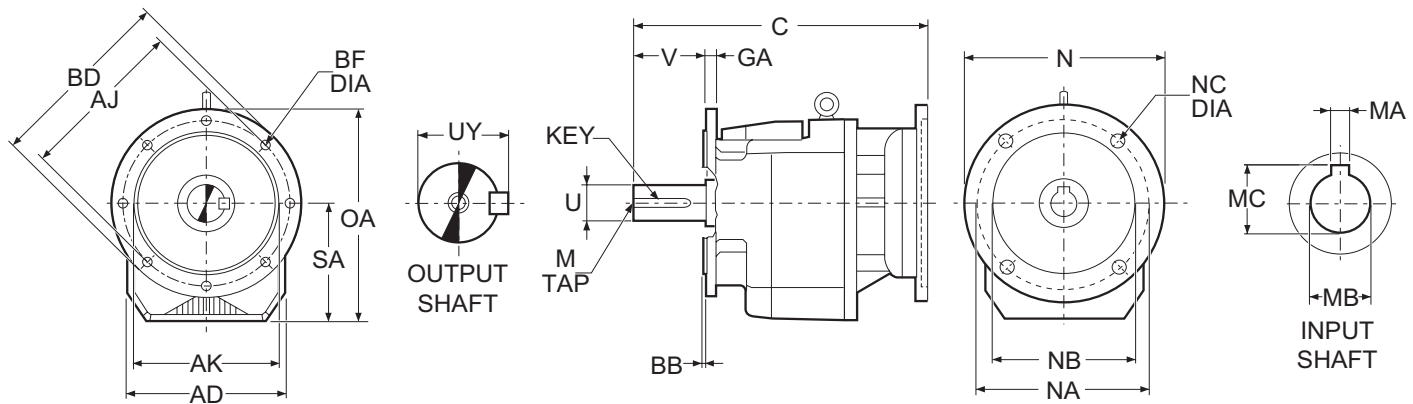
	N	NA	NB	NC	Weight [lbs / kg]
<b>N56C</b>	6.496	5.875	4.500	0.394	520 / 236
<b>N140TC</b>	6.496	5.875	4.500	0.394	525 / 238
<b>N180TC</b>	8.996	7.250	8.500	0.551	534 / 242
<b>N210TC</b>	8.996	7.250	8.500	0.551	538 / 244
<b>N250TC</b>	13.780	7.250	8.500	0.551	547 / 248
<b>N280TC</b>	13.780	9.000	10.500	0.551	547 / 248
<b>N320TC</b>	17.717	11.000	12.500	0.669	600 / 272

**Hollow input shaft**

	MA	MB	MC
<b>N56C</b>	0.188	0.625	0.710
<b>N140TC</b>	0.188	0.875	0.964
<b>N180TC</b>	0.250	1.125	1.241
<b>N210TC</b>	0.312	1.375	1.518
<b>N250TC</b>	0.375	1.625	1.796
<b>N280TC</b>	0.500	1.875	2.102
<b>N320TC</b>	0.500	2.125	2.350

	C						
	N56C	N140TC	N180TC	N210TC	N250TC	N280TC	N320TC
<b>C 90 2</b>	—	—	25.93 658.5	27.38 695.5	30.37 771.5	30.57 776.5	33.43 849
<b>C 90 3</b>	—	—	25.93 658.5	27.38 695.5	30.37 771.5	30.57 776.5	33.43 849
<b>C 90 4</b>	28.66 728	28.66 728	29.19 741.5	30.65 778.5	33.45 849.5	33.64 854.5	—

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	AD	SA	OA
C 90 2, C 90 3, C 90 4	14.764	11.614	20.472
	375	295	520

**Flange**

AJ	AK	BB	BD	BF	GA
15.748	13.780	0.197	17.717	0.709	0.866
400	350	5	450	18	22

**Output shaft** (Inch series)

	U	UY	V	Key	M
C 90 2, C 90 3, C 90 4 NF	3.625 <sup>+0</sup> / <sub>-0.0009</sub>	4.009	6.693	7/8 x 7/8 x 5 1/2	1 - 8 UNC

**NEMA Flange**

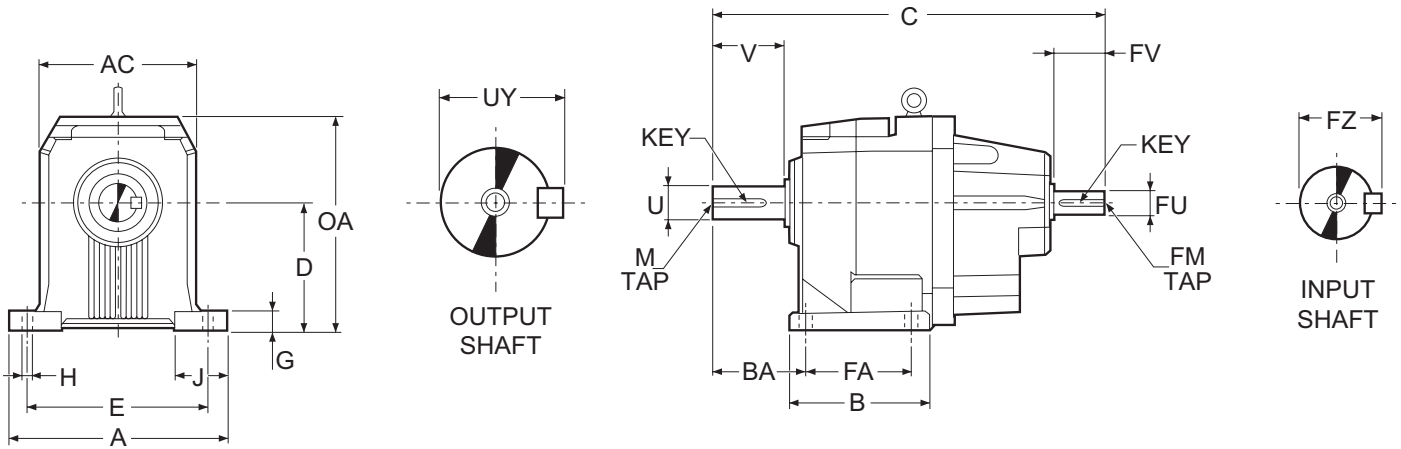
	N	NA	NB	NC	Weight [lbs / kg]
N56C	6.496	5.875	4.500	0.394	520 / 236
N140TC	6.496	5.875	4.500	0.394	525 / 238
N180TC	8.996	7.250	8.500	0.551	536 / 242
N210TC	8.996	7.250	8.500	0.551	538 / 244
N250TC	13.780	7.250	8.500	0.551	547 / 248
N280TC	13.780	9.000	10.500	0.551	547 / 248
N320TC	17.717	11.000	12.500	0.669	600 / 272

**Hollow input shaft**

	MA	MB	MC
N56C	0.188	0.625	0.710
N140TC	0.188	0.875	0.964
N180TC	0.250	1.125	1.241
N210TC	0.312	1.375	1.518
N250TC	0.375	1.625	1.796
N280TC	0.500	1.875	2.102
N320TC	0.500	2.125	2.350

	C						
	N56C	N140TC	N180TC	N210TC	N250TC	N280TC	N320TC
C 90 2	—	—	25.93 658.5	27.38 695.5	30.37 771.5	30.57 776.5	33.43 849
C 90 3	—	—	25.93 658.5	27.38 695.5	30.37 771.5	30.57 776.5	33.43 849
C 90 4	28.66 728	28.66 728	29.19 741.5	30.65 778.5	33.45 849.5	33.64 854.5	—

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	B	BA	C	D	E	FA	G	H	J	OA
<b>C 90 2, C90 3</b>	20.472	14.764	13.346	8.268	36.12	11.811	17.323	9.843	1.575	1.299	5.512	19.488
	520	375	339	210	917.5	300	440	250	40	33	140	495
<b>C 90 4</b>	20.472	14.764	13.346	8.268	31.38	11.811	17.323	9.843	1.575	1.299	5.512	19.488
	520	375	339	210	797	300	440	250	40	33	140	495

**Output shaft** (Inch series)

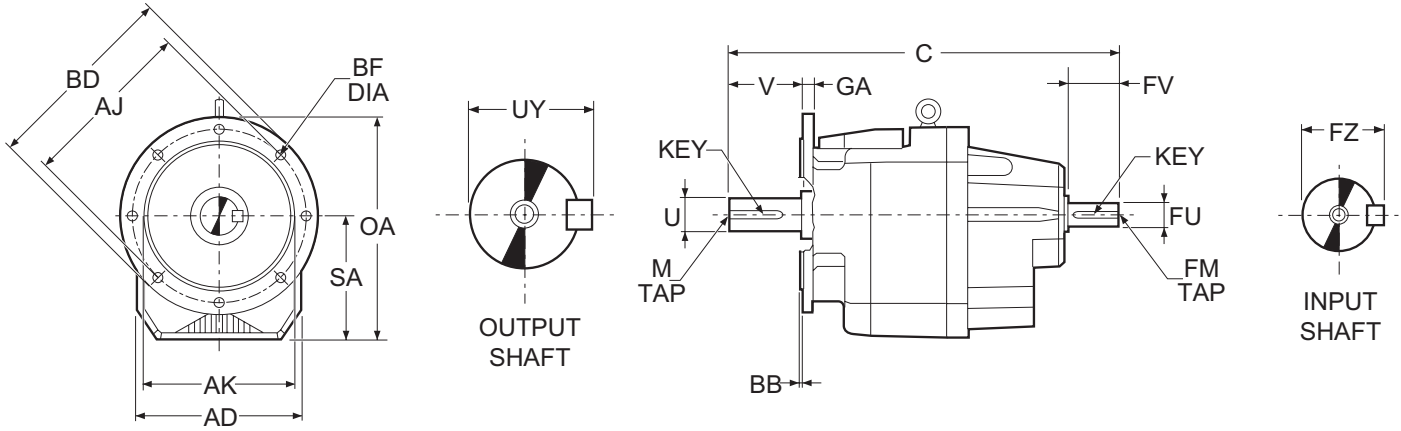
	U	UY	V	Key	M
<b>C 90 2, C 90 3, C 90 4</b> NP	3.625 <sup>+0</sup> / <sub>-0.0009</sub>	4.009	6.693	7/8 x 7/8 x 5 1/2	1 - 8 UNC

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM	Weight [lbs / kg]
<b>C 90 2, C 90 3</b> NHS	2.125 <sup>+0</sup> / <sub>-0.0007</sub>	2.345	5.000	1/2 x 1/2 x 4 3/4	3/4 - 10 UNC	601 / 273
<b>C 90 4</b> NHS	1.000 <sup>+0</sup> / <sub>-0.0005</sub>	1.110	1.970	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC	528 / 240



Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	AD	C	SA	OA
<b>C 90 2, C 90 3</b>	14.764	36.12	11.614	20.472
	375	917.5	295	520
<b>C 90 4</b>	14.764	31.38	11.614	20.472
	375	797	295	520

**Flange**

AJ	AK	BB	BD	BF	GA
15.748	13.780	0.197	17.717	0.709	0.866
400	350	5	450	18	22
15.748	13.780	0.197	17.717	0.709	0.866
400	350	5	450	18	22

**Output shaft** (Inch series)

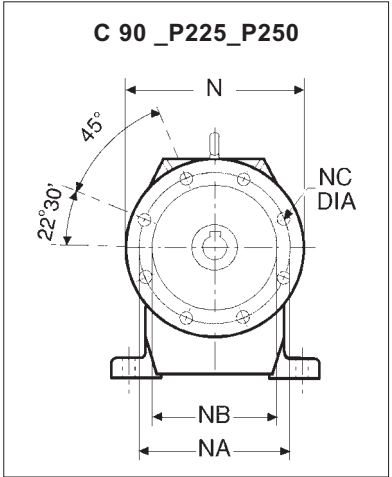
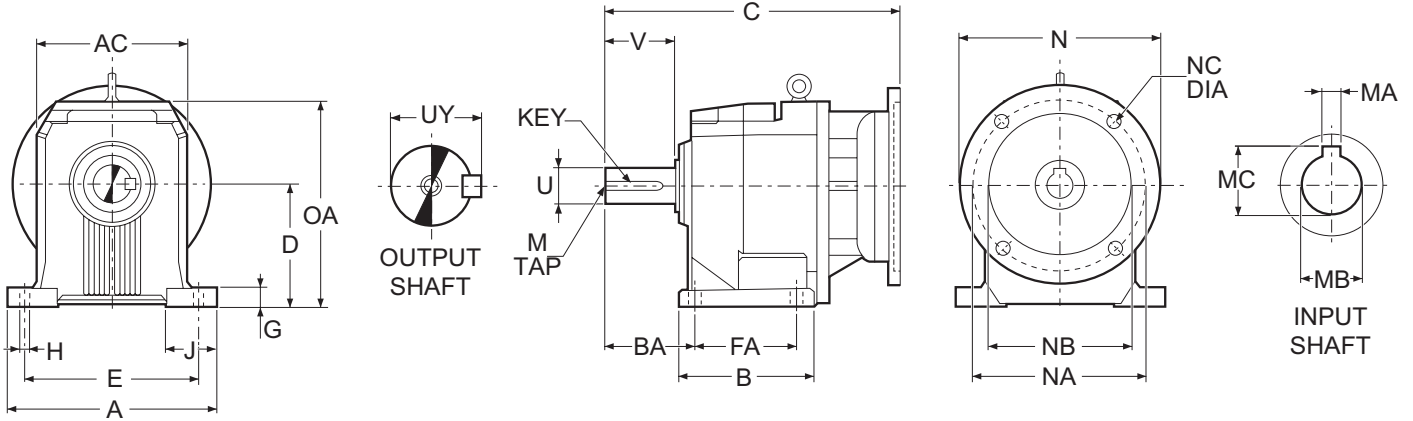
	U	UY	V	Key	M	
<b>C 90 2, C 90 3, C 90 4</b>	NF	3.625 <sup>+0</sup> / <sub>-0.0009</sub>	4.009	6.693	7/8 x 7/8 x 5 1/2	1 - 8 UNC

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM	
<b>C 90 2, C 90 3</b>	NHS	2.125 <sup>+0</sup> / <sub>-0.0007</sub>	2.345	5.000	1/2 x 1/2 x 4 3/4	3/4 - 10 UNC
<b>C 90 4</b>	NHS	1.000 <sup>+0</sup> / <sub>-0.0005</sub>	1.110	1.970	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC



Weight [lbs / kg]
601 / 273
528 / 240



	C							
	P71	P80 P90	P100 P112	P132	P160 P180	P200	P225	P250
C 90 2, C 90 3	—	25.37 644.5	25.77 654.5	27.21 691	29.39 746.5	30.37 771.5	32.17 817	33.35 847
C 90 4	27.85 707.5	28.62 727	29.02 737	30.45 773.5	32.44 824	—	—	—

**Gearcase**

	A	AC	B	BA	D	E	FA	G	H	J	OA
C 90 2, C 90 3, C 90 4	20.472 520	14.764 375	13.346 339	8.268 210	11.811 300	17.323 440	9.843 250	1.575 40	1.299 33	5.512 140	19.488 495

**Output shaft (Inch series)**

	U	UY	V	Key	M
C 90 2, C 90 3, C 90 4	NP 3.625 <sup>+0</sup> <sub>-0.0009</sub>	4.009	6.693	7/8 x 7/8 x 5 1/2	1 - 8 UNC

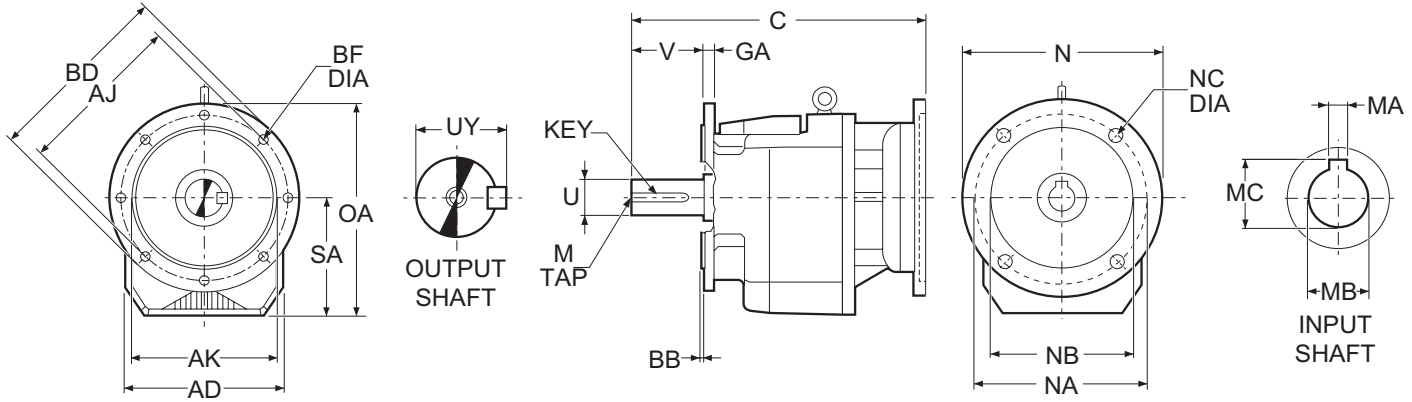
**IEC Flange**

	N	NA	NB	NC	Weight [lbs / kg]
P71	160	130	110	M8x16	519 / 236
P80, P90	200	165	130	M10x12	524 / 238
P100, P112	250	215	180	M12x16	532 / 242
P132	300	265	230	14	537 / 244
P160, P180	350	300	250	18	552 / 251
P200	400	350	300	M16x25	598 / 272
P225	450	400	350	18	601 / 273
P250	550	500	450	18	649 / 295

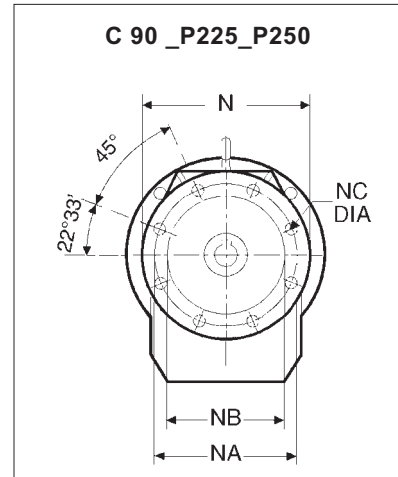
**Hollow input shaft**

	MA	MB	MC
P71	5	14	16.3
P80	6	19	21.8
P90	8	24	27.3
P100, P112	8	28	31.3
P132	10	38	41.3
P160	12	42	45.3
P180	14	48	51.8
P200	16	55	59.3
P225	18	60	64.4
P250	18	65	69.4

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



	C							
	P71	P80 P90	P100 P112	P132	P160 P180	P200	P225	P250
<b>C 90 2, C 90 3</b>	—	25.37 644.5	25.77 654.5	27.21 691	29.39 746.5	30.37 771.5	32.17 817	33.35 847
<b>C 90 4</b>	27.85 707.5	28.62 727	29.02 737	30.45 773.5	32.44 824	—	—	—



**Gearcase**

	AD	SA	OA
<b>C 90 2, C 90 3, C 90 4</b>	14.764 375	11.614 295	20.472 520

**Flange**

AJ	AK	BB	BD	BF	GA
15.748	13.780 <small>-0.0024 -0.0047</small>	0.197	17.717	0.709	0.866
400	350 <small>-0.062 -0.119</small>	5	450	18	22

**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 90 2, C 90 3, C 90 4</b>	NF 3.625 <small>+0 -0.0009</small>	4.009	6.693	7/8 x 7/8 x 5 1/2	1 - 8 UNC

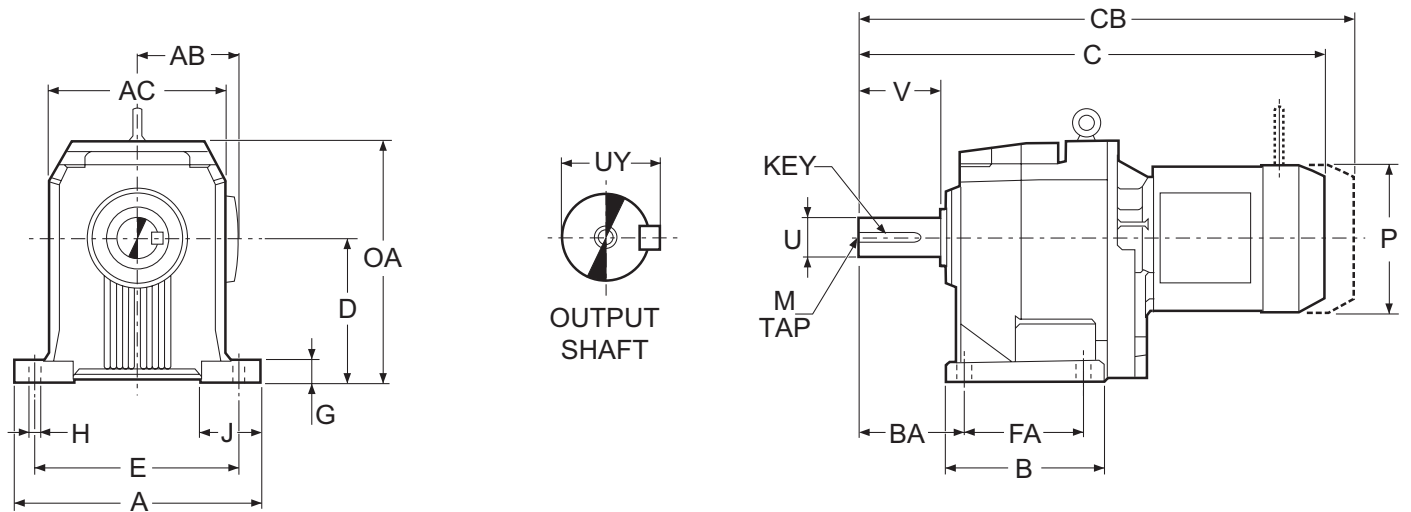
**IEC Flange**

	N	NA	NB	NC	Weight [lbs / kg]
<b>P71</b>	160	130	110	M8x16	519 / 236
<b>P80, P90</b>	200	165	130	M10x12	524 / 238
<b>P100, P112</b>	250	215	180	M12x16	532 / 242
<b>P132</b>	300	265	230	14	537 / 244
<b>P160, P180</b>	350	300	250	18	552 / 251
<b>P200</b>	400	350	300	M16x25	598 / 272
<b>P225</b>	450	400	350	18	601 / 273
<b>P250</b>	550	500	450	18	649 / 295

**Hollow input shaft**

	MA	MB	MC
<b>P71</b>	5	14	16.3
<b>P80</b>	6	19	21.8
<b>P90</b>	8	24	27.3
<b>P100, P112</b>	8	28	31.3
<b>P132</b>	10	38	41.3
<b>P160</b>	12	42	45.3
<b>P180</b>	14	48	51.8
<b>P200</b>	16	55	59.3
<b>P225</b>	18	60	64.4
<b>P250</b>	18	65	69.4

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	B	BA	D	E	FA	G	H	J	OA
C 100 2, C 100 3, C 100 4	22.047 560	17.323 440	15.315 389	10.039 255	13.583 345	19.291 490	11.417 290	1.772 45	1.299 33	6.299 160	22.441 570

**Output shaft** (Inch series)

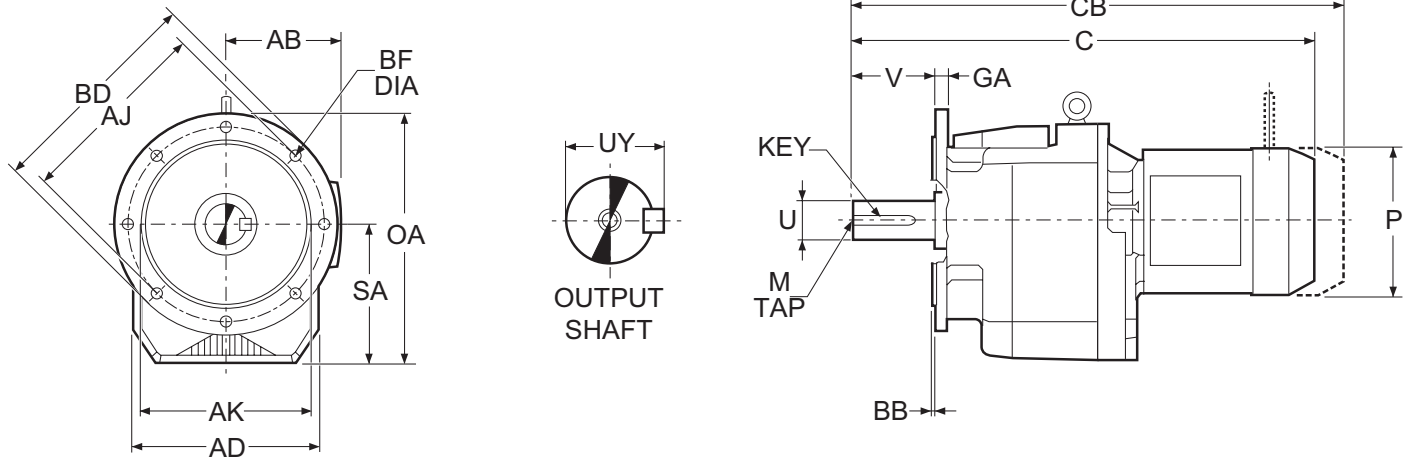
	U	UY	V	Key	M
C 100 2, C 100 3, C 100 4 NP	4.375 <sup>+0</sup> <sub>-0.0009</sub>	4.817	8.268	1 x 1 x 7 1/2	1 - 8 UNC

**Motor**



	AB	C	CB	P	Weight [lbs / kg]
C 100 2_S4 M4S	7.598	41.30	45.59	10.157	860 / 391
C 100 3_S4 M4S	193	1049	1158	258	
C 100 2_S4 M4L	7.598	44.17	48.07	10.157	902 / 410
C 100 3_S4 M4L	193	1122	1221	258	
C 100 2_S4 M4LC	7.598	44.17	48.07	10.157	920 / 418
C 100 3_S4 M4LC	193	1122	1221	258	
C 100 2_S5 M5S	9.646	46.20	51.71	12.205	990 / 450
C 100 3_S5 M5S	245	1174	1314	310	
C 100 2_S5 M5L	9.646	47.93	53.45	12.205	1025 / 466
C 100 3_S5 M5L	245	1218	1358	310	
C 100 4_S2 M2S	4.685 119	38.84 986.5	41.59 1057	6.142 156	785 / 357
C 100 4_S3 M3S	5.591 142	40.53 1030	44.31 1126	7.677 195	805 / 366
C 100 4_S3 M3L	5.591 142	41.79 1062	45.37 1153	7.677 195	821 / 373
C 100 4_S4 M4S	7.598 193	46.04 1170	50.34 1279	10.157 258	878 / 399
C 100 4_S4 M4L	7.598 193	46.04 1170	50.34 1279	10.157 258	920 / 418
C 100 4_S4 M4LC	9.646 245	47.42 1205	51.32 1304	10.157 258	937 / 426

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	AD	SA	OA
C 100 2, C 100 3, C 100 4	17.323	13.386	24.213
	440	340	615

**Flange**

AJ	AK	BB	BD	BF	GA
19.685	17.717	0.197	21.654	0.709	0.984
500	450	5	550	18	25

**Output shaft** (Inch series)

	U	UY	V	Key	M
C 100 2, C 100 3, C 100 4 NF	4.375 <sup>+0</sup> <sub>-0.0009</sub>	4.817	8.268	1 x 1 x 7 1/2	1 - 8 UNC

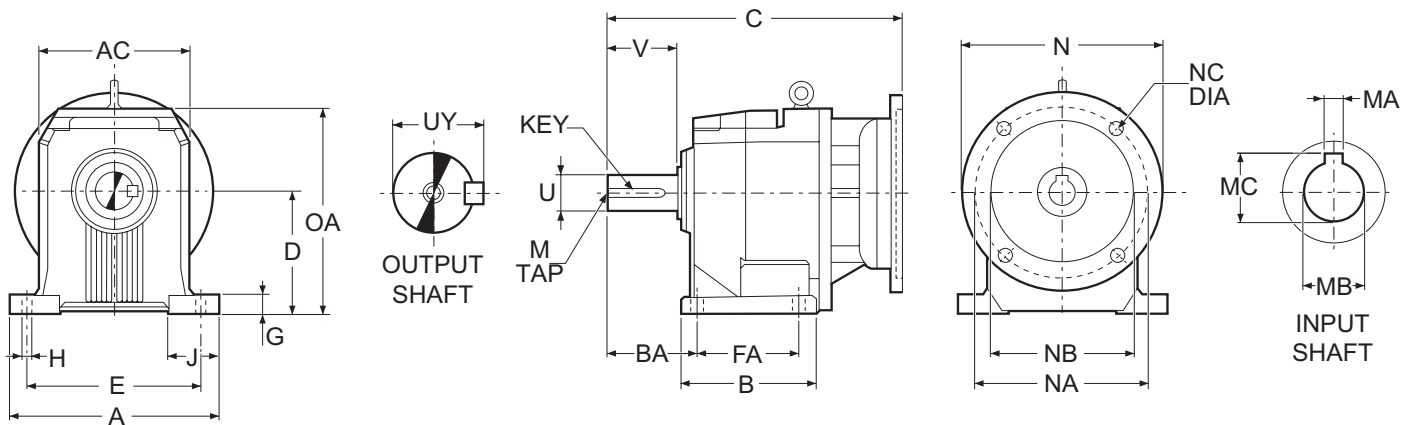
**Motor**



	AB	C	CB	P	Weight [lbs / kg]
C 100 2_S4 M4S	7.598	41.30	45.59	10.157	860 / 391
C 100 3_S4 M4S	193	1049	1158	258	
C 100 2_S4 M4L	7.598	44.17	48.07	10.157	902 / 410
C 100 3_S4 M4L	193	1122	1221	258	
C 100 2_S4 M4LC	7.598	44.17	48.07	10.157	920 / 418
C 100 3_S4 M4LC	193	1122	1221	258	
C 100 2_S5 M5S	9.646	46.20	51.71	12.205	990 / 450
C 100 3_S5 M5S	245	1174	1314	310	
C 100 2_S5 M5L	9.646	47.93	53.45	12.205	1025 / 466
C 100 3_S5 M5L	245	1218	1358	310	
C 100 4_S2 M2S	4.685	38.84	41.59	6.142	785 / 357
	119	986.5	1057	156	
C 100 4_S3 M3S	5.591	40.53	44.31	7.677	805 / 366
	142	1030	1126	195	
C 100 4_S3 M3L	5.591	41.79	45.37	7.677	821 / 373
	142	1062	1153	195	
C 100 4_S4 M4S	7.598	46.04	50.34	10.157	878 / 399
	193	1170	1279	258	
C 100 4_S4 M4L	7.598	46.04	50.34	10.157	920 / 418
	193	1170	1279	258	
C 100 4_S4 M4LC	9.646	47.42	51.32	10.157	937 / 426
	245	1205	1304	258	

Dimensions are  $\frac{\text{inch}}{\text{mm}}$





**Gearcase**

	A	AC	B	BA	D	E	FA	G	H	J	OA
C 100 2, C 100 3, C 100 4	22.047 560	17.323 440	15.315 389	10.039 255	13.583 345	19.291 490	11.417 290	1.772 45	1.299 33	6.299 160	22.441 570

**Output shaft** (Inch series)

	U	UY	V	Key	M
C 100 2, C 100 3, C 100 4 NP	4.375 <sup>+0</sup> <sub>-0.0009</sub>	4.817	8.268	1 x 1 x 7 1/2	1 - 8 UNC

**NEMA Flange**



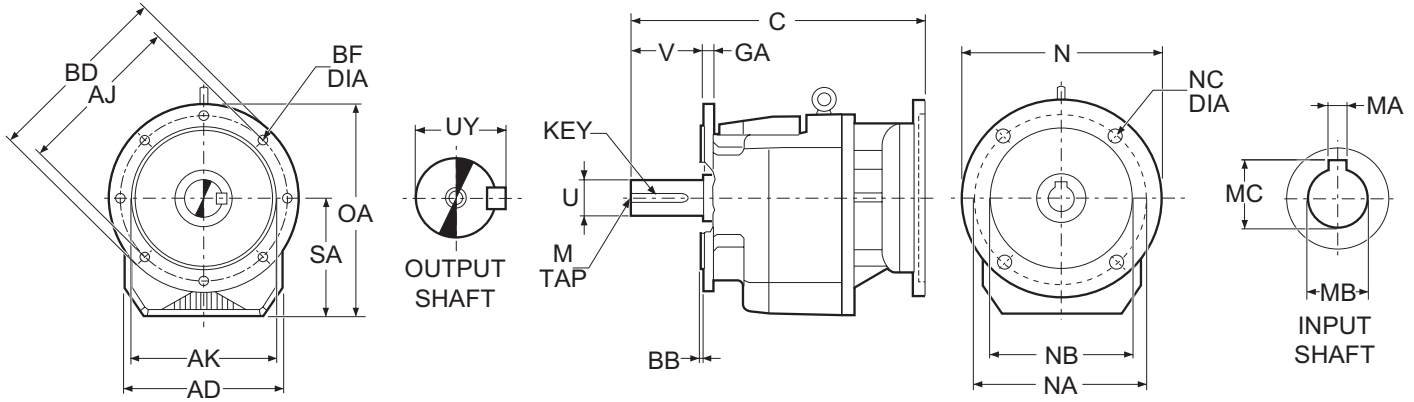
	N	NA	NB	NC	Weight [lbs / kg]
N180TC	8.996	7.250	8.500	0.551	827 / 375
N210TC	8.996	7.250	8.500	0.551	831 / 377
N250TC	13.780	7.250	8.500	0.551	840 / 381
N280TC	13.780	9.000	10.500	0.551	840 / 381
N320TC	17.717	11.000	12.500	0.669	889 / 403

**Hollow input shaft**

	MA	MB	MC
N180TC	0.250	1.125	1.241
N210TC	0.312	1.375	1.518
N250TC	0.375	1.625	1.796
N280TC	0.500	1.875	2.102
N320TC	0.500	2.125	2.350

	C				
	N180TC	N210TC	N250TC	N280TC	N320TC
C 100 2	—	31.12 790.5	34.11 866.5	34.31 871.5	37.17 944
C 100 3	—	31.12 790.5	34.11 866.5	34.31 871.5	37.17 944
C 100 4	32.91 836	34.37 873	37.17 944	37.36 949	—

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	AD	SA	OA
C 100 2, C 100 3, C 100 4	17.323	13.386	24.213
	440	340	615

**Flange**

AJ	AK	BB	BD	BF	GA
19.685	17.717	-0.0027 -0.0052	0.197	21.654	0.709
500	450	-0.068 -0.131	5	550	18

**Output shaft** (Inch series)

	U	UY	V	Key	M
C 100 2, C 100 3, C 100 4 NF	4.375 <sup>+0</sup> <sub>-0.0009</sub>	4.817	8.268	1 x 1 x 7 1/2	1 - 8 UNC

**NEMA Flange**



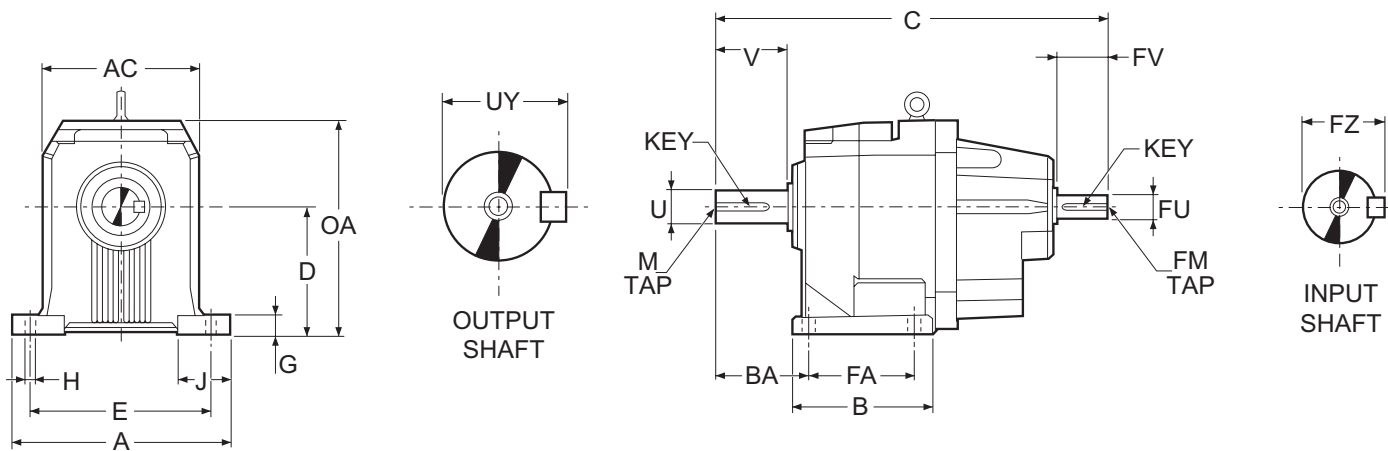
	N	NA	NB	NC	Weight [lbs / kg]
N180TC	8.996	7.250	8.500	0.551	827 / 375
N210TC	8.996	7.250	8.500	0.551	831 / 377
N250TC	13.780	7.250	8.500	0.551	840 / 381
N280TC	13.780	9.000	10.500	0.551	840 / 381
N320TC	17.717	11.000	12.500	0.669	889 / 403

**Hollow input shaft**

	MA	MB	MC
N180TC	0.250	1.125	1.241
N210TC	0.312	1.375	1.518
N250TC	0.375	1.625	1.796
N280TC	0.500	1.875	2.102
N320TC	0.500	2.125	2.350

	C				
	N180TC	N210TC	N250TC	N280TC	N320TC
C 100 2	—	31.12 790.5	34.11 866.5	34.31 871.5	37.17 944
C 100 3	—	31.12 790.5	34.11 866.5	34.31 871.5	37.17 944
C 100 4	32.91 836	34.37 873	37.17 944	37.36 949	—

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	A	AC	B	BA	C	D	E	FA	G	H	J	OA
<b>C 100 2, C 100 3</b>	22.047	17.323	15.315	10.039	39.86	13.583	19.291	11.417	1.772	1.299	6.299	22.441
	560	440	389	255	1012.5	345	490	290	45	33	160	570
<b>C 100 4</b>	22.047	17.323	15.315	10.039	35.12	13.583	19.291	11.417	1.772	1.299	6.299	22.441
	560	440	389	255	892	345	490	290	45	33	160	570

**Output shaft** (Inch series)

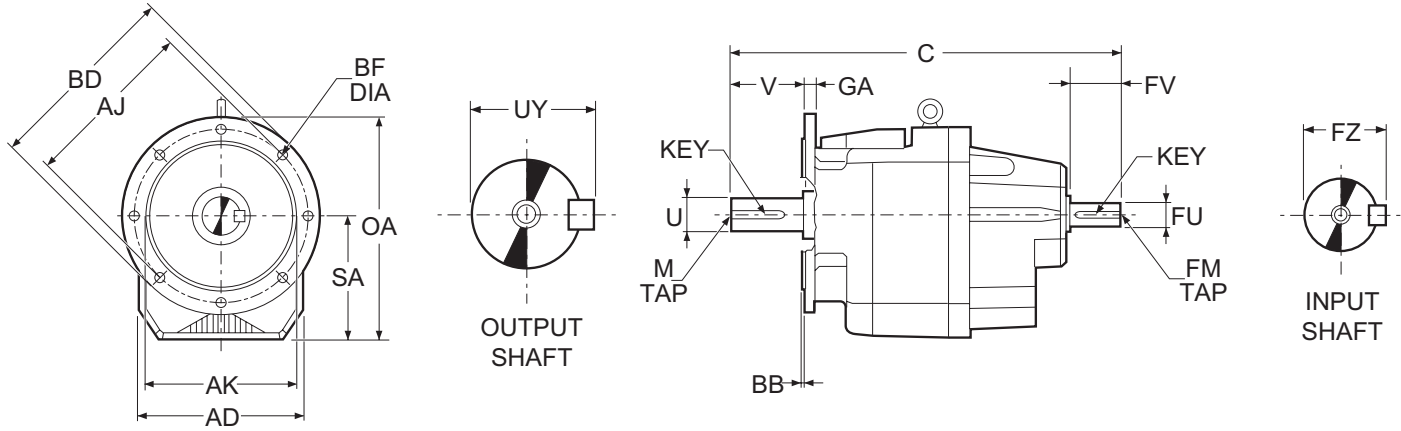
	U	UY	V	Key	M
<b>C 100 2, C 100 3, C 100 4</b> NP	4.375 <sup>+0</sup> / <sub>-0.0009</sub>	4.817	8.268	1 x 1 x 7 1/2	1 - 8 UNC

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM	Weight [lbs / kg]
<b>C 100 2, C 100 3</b> NHS	2.125 <sup>+0</sup> / <sub>-0.0007</sub>	2.345	5.000	1/2 x 1/2 x 4 3/4	3/4 - 10 UNC	900 / 409
<b>C 100 4</b> NHS	1.000 <sup>+0</sup> / <sub>-0.0005</sub>	1.110	1.970	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC	818 / 372



Dimensions are  $\frac{\text{inch}}{\text{mm}}$



**Gearcase**

	AD	C	SA	OA
<b>C 100 2, C 100 3</b>	17.323	39.86	13.386	24.213
	440	1012.5	340	615
<b>C 100 4</b>	17.323	35.12	13.386	24.213
	440	892	340	615

**Flange**

AJ	AK	BB	BD	BF	GA
19.685	17.717	0.197	21.654	0.709	0.984
500	450	5	550	18	25
19.685	17.717	0.197	21.654	0.709	0.984
500	450	5	550	18	25

**Output shaft** (Inch series)

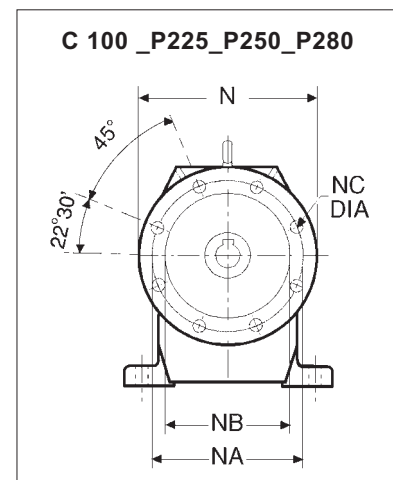
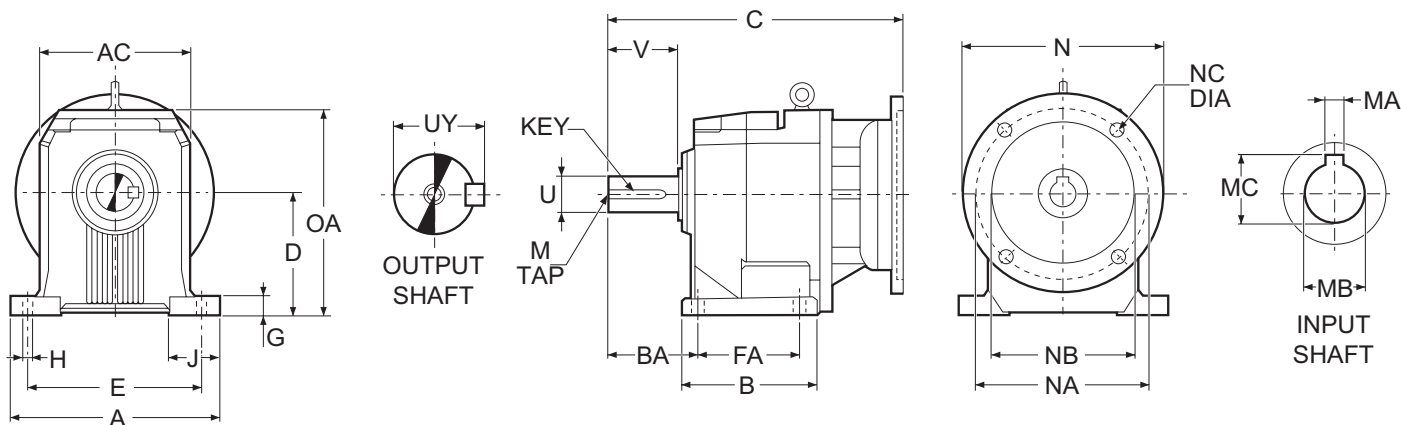
	U	UY	V	Key	M
<b>C 100 2, C 100 3, C 100 4</b>	NF 4.375 <sup>+0</sup> <sub>-0.0009</sub>	4.817	8.268	1 x 1 x 7 1/2	1 - 8 UNC

**Input shaft** (Inch series)

	FU	FZ	FV	Key	FM
<b>C 100 2, C 100 3</b>	NHS 2.125 <sup>+0</sup> <sub>-0.0007</sub>	2.345	5.000	1/2 x 1/2 x 4 3/4	3/4 - 10 UNC
<b>C 100 4</b>	NHS 1.000 <sup>+0</sup> <sub>-0.0005</sub>	1.110	1.970	1/4 x 1/4 x 1 3/4	3/8 - 16 UNC



Weight [lbs / kg]
900 / 409
818 / 372



	C						
	P80 P90	P100 P112	P132	P160 P180	P200	P225	P250 P280
C 100 2, C 100 3	—	29.51 749.5	30.95 786	33.13 841.5	34.11 866.5	35.91 912	37.09 942
C 100 4	32.38 822.5	32.78 832.5	34.21 869	36.20 919.5	—	—	—

**Gearcase**

	A	AC	B	BA	D	E	FA	G	H	J	OA
C 100 2, C 100 3, C 100 4	22.047 560	17.323 440	15.315 389	10.039 255	13.583 345	19.291 490	11.417 290	1.772 45	1.299 33	6.299 160	22.441 570

**Output shaft (Inch series)**

	U	UY	V	Key	M
C 100 2, C 100 3, C 100 4 NP	4.375 <sup>+0</sup> / <sub>-0.0009</sub>	4.817	8.268	1 x 1 x 7 1/2	1 - 8 UNC

**IEC Flange**

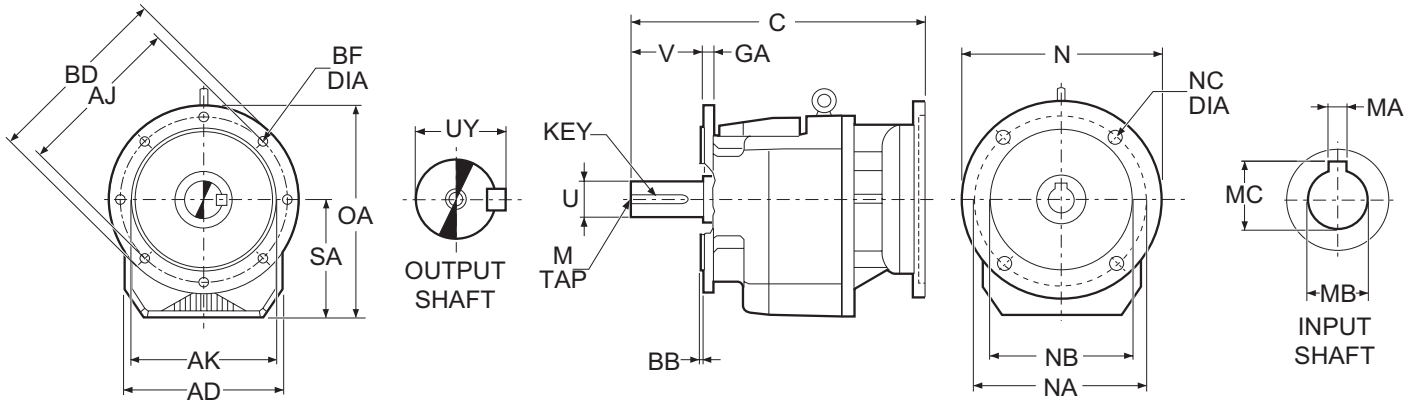
	N	NA	NB	NC	Weight [lbs / kg]
P80, P90	200	165	130	M10x12	816 / 371
P100, P112	250	215	180	M12x16	825 / 375
P132	300	265	230	14	829 / 377
P160, P180	350	300	250	18	840 / 382
P200	400	350	300	M16x25	887 / 403
P225	450	400	350	18	887 / 403
P250, P280	550	500	450	18	937 / 426



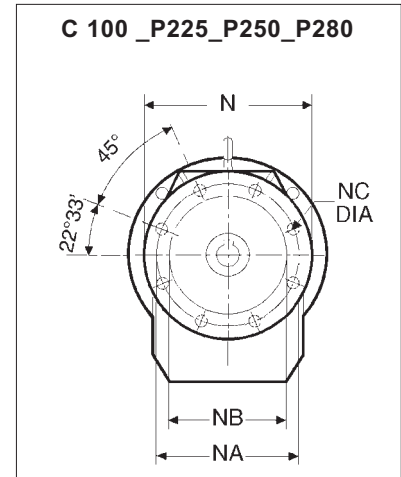
**Hollow input shaft**

	MA	MB	MC
P80	6	19	21.8
P90	8	24	27.3
P100, P112	8	28	31.3
P132	10	38	41.3
P160	12	42	45.3
P180	14	48	51.8
P200	16	55	59.3
P225	18	60	64.4
P250	18	65	69.4
P280	20	75	79.9

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



	C						
	P80 P90	P100 P112	P132	P160 P180	P200	P225	P250 P280
<b>C 100 2, C 100 3</b>	—	29.51 749.5	30.95 786	33.13 841.5	34.11 866.5	35.91 912	37.09 942
<b>C 100 4</b>	32.38 822.5	32.78 832.5	34.21 869	36.20 919.5	—	—	—



**Gearcase**

	AD	SA	OA
<b>C 100 2, C 100 3, C 100 4</b>	17.323 440	13.386 340	24.213 615

**Flange**

AJ	AK	BB	BD	BF	GA
19.685	17.717 -0.0027 -0.0052	0.197	21.654	0.709	0.984
500	450 -0.068 -0.131	5	550	18	25

**Output shaft** (Inch series)

	U	UY	V	Key	M
<b>C 100 2, C 100 3, C 100 4</b> NF	4.375 <sup>+0</sup> -0.0009	4.817	8.268	1 x 1 x 7 1/2	1 - 8 UNC

**IEC Flange**



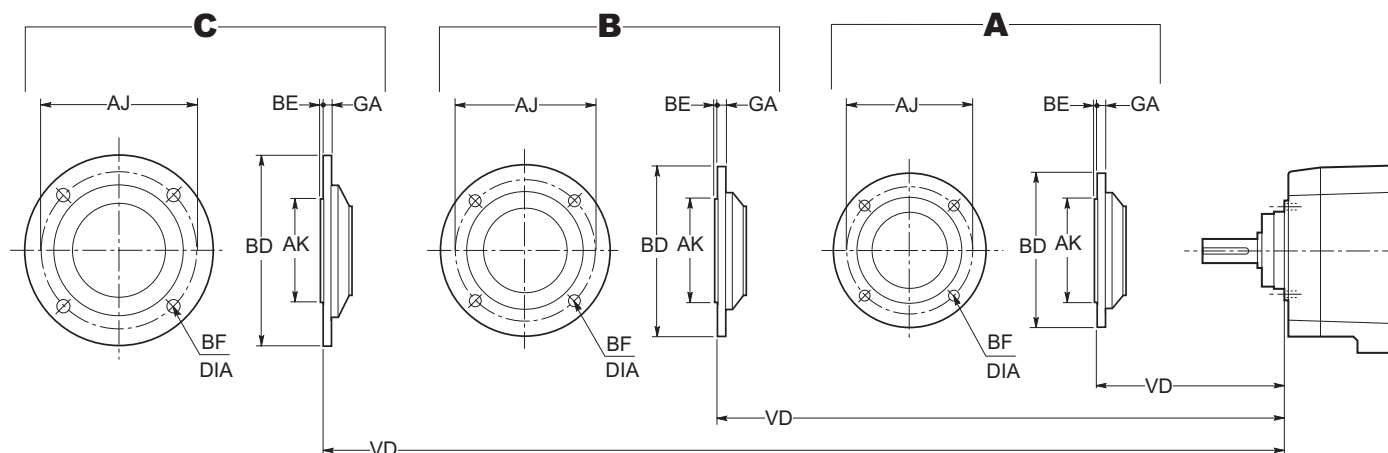
	N	NA	NB	NC	Weight [lbs / kg]
<b>P80, P90</b>	200	165	130	M10x12	816 / 371
<b>P100, P112</b>	250	215	180	M12x16	825 / 375
<b>P132</b>	300	265	230	14	829 / 377
<b>P160, P180</b>	350	300	250	18	840 / 382
<b>P200</b>	400	350	300	M16x25	887 / 403
<b>P225</b>	450	400	350	18	887 / 403
<b>P250, P280</b>	550	500	450	18	937 / 426

**Hollow input shaft**

	MA	MB	MC
<b>P80</b>	6	19	21.8
<b>P90</b>	8	24	27.3
<b>P100, P112</b>	8	28	31.3
<b>P132</b>	10	38	41.3
<b>P160</b>	12	42	45.3
<b>P180</b>	14	48	51.8
<b>P200</b>	16	55	59.3
<b>P225</b>	18	60	64.4
<b>P250</b>	18	65	69.4
<b>P280</b>	20	75	79.9

Dimensions are  $\frac{\text{inch}}{\text{mm}}$

# Flange options for C 11\_NU...C 61\_NU



## Flange

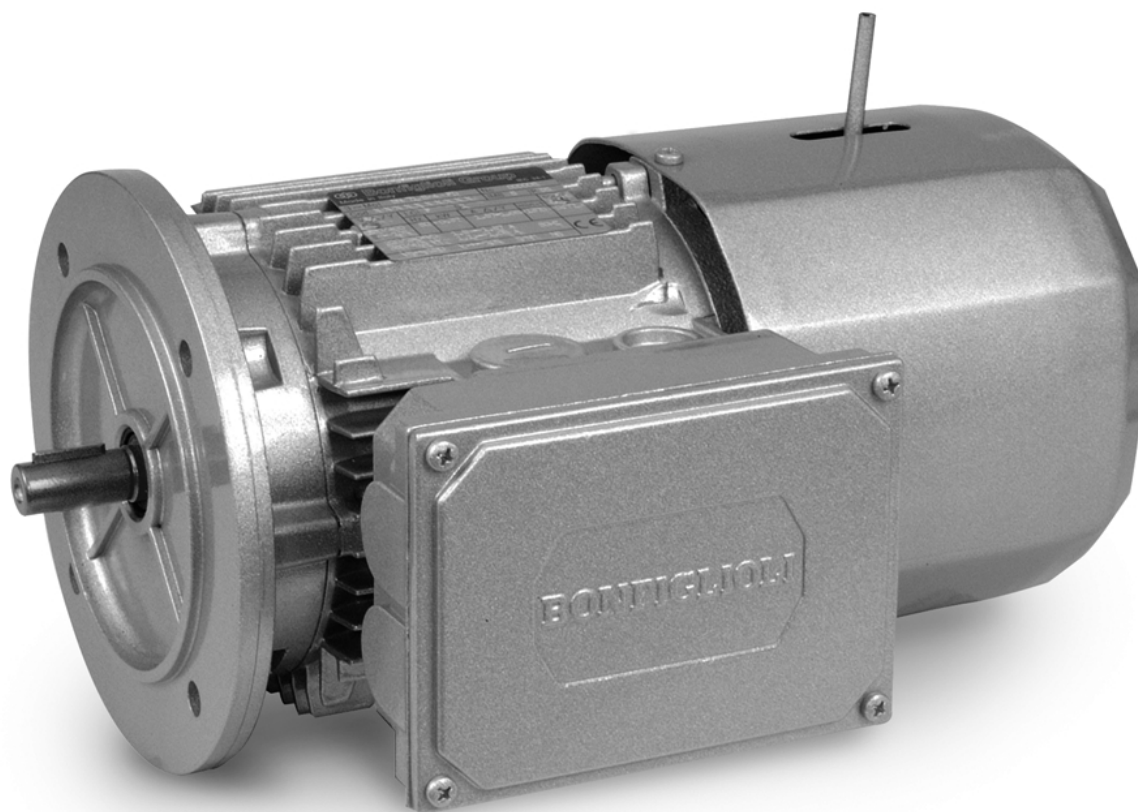
		AJ	AK	BD	BE	BF	GA	VD
<b>FA</b>	<b>C 11</b>	3.937 100	3.150 80 <small>-0.0017 -0.0033 -0.043 -0.083</small>	4.724 120	0.118 3	0.276 7	0.315 8	0.866 22
	<b>C 21</b>	4.528 115	3.740 95 <small>-0.0017 -0.0033 -0.043 -0.083</small>	5.512 140	0.118 3	0.354 9	0.394 10	1.220 31
	<b>C 31</b>	5.118 130	4.331 110 <small>-0.0017 -0.0033 -0.043 -0.083</small>	6.299 160	0.118 3	0.354 9	0.394 10	1.417 36
	<b>C 35</b>	6.496 165	5.118 130 <small>-0.0017 -0.0033 -0.043 -0.083</small>	7.874 200	0.138 3.5	0.433 11	0.433 11	0.709 18
	<b>C 41</b>	6.496 165	5.118 130 <small>-0.0017 -0.0033 -0.043 -0.083</small>	7.874 200	0.138 3.5	0.433 11	0.433 11	1.575 40
	<b>C 51</b>	8.465 215	7.087 180 <small>-0.0017 -0.0033 -0.043 -0.083</small>	9.843 250	0.157 4	0.551 14	0.512 13	0.768 19.5
	<b>C 61</b>	10.433 265	9.055 230 <small>-0.0017 -0.0033 -0.043 -0.083</small>	11.811 300	0.157 4	0.551 14	0.630 16	0.984 25
<b>FB</b>	<b>C 11</b>	4.528 115	3.740 95 <small>-0.0017 -0.0033 -0.043 -0.083</small>	5.512 140	0.118 3	0.354 9	0.394 10	0.866 22
	<b>C 21</b>	5.118 130	4.331 110 <small>-0.0017 -0.0033 -0.043 -0.083</small>	6.299 160	0.118 3	0.354 9	0.394 10	1.220 31
	<b>C 31</b>	6.496 165	5.118 130 <small>-0.0017 -0.0033 -0.043 -0.083</small>	7.874 200	0.138 3.5	0.433 11	0.433 11	1.417 36
	<b>C 35</b>	8.465 215	7.087 180 <small>-0.0017 -0.0033 -0.043 -0.083</small>	9.843 250	0.157 4	0.551 14	0.551 14	0.709 18
	<b>C 41</b>	8.465 215	7.087 180 <small>-0.0017 -0.0033 -0.043 -0.083</small>	9.843 250	0.157 4	0.551 14	0.512 13	1.575 40
	<b>C 51</b>	10.433 265	9.055 230 <small>-0.0017 -0.0033 -0.043 -0.083</small>	11.811 300	0.157 4	0.551 14	0.630 16	0.768 19.5
	<b>C 61</b>	11.811 300	9.843 250 <small>-0.0017 -0.0033 -0.043 -0.083</small>	13.780 350	0.197 5	0.709 18	0.709 18	0.984 25
<b>FC</b>	<b>C 11</b>	5.118 130	4.331 110 <small>-0.0017 -0.0033 -0.043 -0.083</small>	6.299 160	0.118 3	0.354 9	0.394 10	0.866 22
	<b>C 21</b>	6.496 165	5.118 130 <small>-0.0017 -0.0033 -0.043 -0.083</small>	7.874 200	0.138 3.5	0.433 11	0.433 11	1.220 31
	<b>C 31</b>	8.465 215	7.087 180 <small>-0.0017 -0.0033 -0.043 -0.083</small>	9.843 250	0.157 4	0.551 14	0.512 13	1.417 36

Dimensions are  $\frac{\text{inch}}{\text{mm}}$





## 3.0 **BONFIGLIOLI ELECTRIC MOTORS**



### 3.1 GENERAL INFORMATION

BONFIGLIOLI RIDUTTORI three-phase AC induction motors and brake motors are designed for continuous operation, IEC dimensional standard and comply electrically with all relevant standards including NEMA MG1.

They are supplied either integral (M type) to a BONFIGLIOLI gear unit or flanged design (BN type).

The motors also comply with national standards adapted to IEC 60034-1 as charted along side.

(C1)

Canada	CSA C22.2 N° 100
Great Britain	BS5000 / BS 4999
Germany	DIN VDE 0530
Australia	AS 1359
Belgium	NBNC 51 - 101
Norway	NEK – IEC 34
France	NF C 51
Austria	OEVE M 10
Switzerland	SEV 3009
Netherlands	NEN 3173
Sweden	SS 426 01 01

#### Abbreviations and units

Symb.	U.m.	Description
$\cos \varphi$	–	Power factor
$\eta$	–	Efficiency
$f_m$	–	Intermittence adjustment factor
$f_t$	–	Ambient temperature factor
$l$	–	Cyclic duration factor
$I_n$	[A]	Rated current
$I_s$	[A]	Locked rotor current
$J_c$	[lb·ft <sup>2</sup> ]	Load inertia
$J_m$	[lb·ft <sup>2</sup> ]	Motor inertia
$n$	[rpm]	Speed
$K_c$	–	Torque factor
$K_d$	–	Load factor
$K_i$	–	Inertia factor
$T_b$	[lb·in]	Brake torque
$T_n$	[lb·in]	Motor rated torque
$T_a$	[lb·in]	Mean starting torque
$T_k$	[lb·in]	Breakdown torque
$T_L$	[lb·in]	Load torque
$T_s$	[lb·in]	Locked rotor torque
$P_b$	[W]	Power absorbed by brake coil
$P_n$	[W]	Rated power output
$t_1$	[ms]	Brake release time
$t_{1s}$	[ms]	Shorter brake release time
$t_2$	[ms]	Brake reaction time
$t_{2c}$	[ms]	Faster reaction time
$t_a$	[°C/ °F]	Ambient temperature
$t_f$	[min]	Operating time at constant load
$t_r$	[min]	Rest time
$W$	[lb·ft]	Brake work between two successive adjustments
$W_{max}$	[lb·ft]	Max permissible brake work
$Z$	[1/h]	Permissible starts per hour

#### Conversion table for commonly used metric – imperial units

##### Length

1 in	=	25.40 mm	= 0.0254 m
1 ft	=	304.8 mm	= 0.3048 m
1 yd	=	914.4 mm	= 0.9144 m

##### Area

1 in <sup>2</sup>	=	645.16 mm <sup>2</sup>	= 0.645×10 <sup>-3</sup> m <sup>2</sup>
1 ft <sup>2</sup>	=	92.9×10 <sup>3</sup> mm <sup>2</sup>	= 92.9× 10 <sup>3</sup> m <sup>2</sup>
1 yd <sup>2</sup>	=	836×10 <sup>3</sup> mm <sup>2</sup>	= 0.8361 m <sup>2</sup>

##### Volume

1 in <sup>3</sup>	=	16.4×10 <sup>-3</sup> dm <sup>3</sup>	= 16.4×10 <sup>-6</sup> m <sup>3</sup>
1 ft <sup>3</sup>	=	28.32 dm <sup>3</sup>	= 28.3×10 <sup>-3</sup> m <sup>3</sup>

##### Force – Weight

1 lbm	=	2.2046 kg
1 lbf	=	4.4482 N

##### Torque

1 lb in	=	0.1129 Nm
1 lb ft	=	1.3558 Nm

##### Power

1 hp	=	0.7457 kW
------	---	-----------

##### Moment of inertia

1 lb ft <sup>2</sup>	=	4.214×10 <sup>-2</sup>	kg m <sup>2</sup>
1 lb in s <sup>2</sup>	=	1.12985×10 <sup>-1</sup>	kg m <sup>2</sup>
1 lb ft s <sup>2</sup>	=	1.35582	kg m <sup>2</sup>

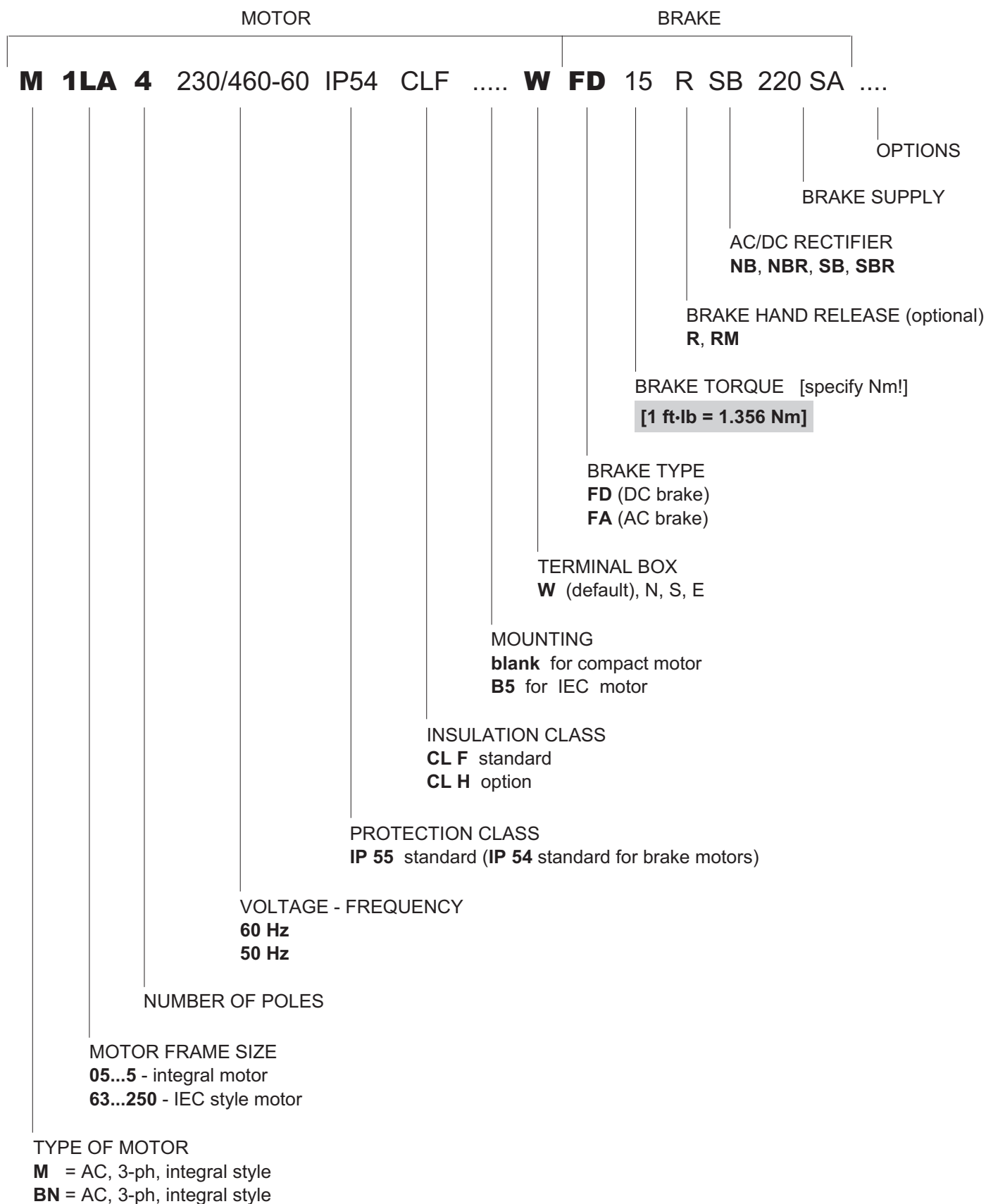
##### Pressure – stress

1 lb/in <sup>2</sup>	=	6.89×10 <sup>-3</sup>	N/mm <sup>2</sup>
1 lb/ft <sup>2</sup>	=	47.88	N/m <sup>2</sup>

##### Temperature

$t [^{\circ}\text{F}]$	=	$\frac{5}{9} \times [t - 32]$	$[^{\circ}\text{C}]$
$T [^{\circ}\text{C}]$	=	$\left(\frac{9}{5} \times T + 32\right)$	$[^{\circ}\text{F}]$

### 3.2 MOTOR ORDERING NUMBERS



US power mains voltages and the corresponding rated voltages to be specified for the motor are indicated in the following table:

(C2)

Frequency	Mains voltage	V <sub>mot</sub>
60 Hz	208 V	<b>200 V</b>
	240 V	<b>230 V</b>
	480 V	<b>460 V</b>
	600 V	<b>575 V</b>

Motors with YY/Y connection (e.g. 230/460-60; 220/440-60) feature, as standard, a 9-stud terminal board.

For DC brake motors type BN\_FD, the rectifier is fed with 1-phase 230V a.c., factory pre-wired in the motor terminal box as standard.

**Brake power supply** for brake motors is as follows:

(C3)

<b>BN_FD</b> <b>M_FD</b>	
Wired to terminal box 1~230V a.c.	
<b>BN_FA</b> <b>M_FA</b>	
	Specify
Separate power supply 230V Δ - 60Hz	<b>230SA</b>
Separate power supply 460V Y - 60Hz	<b>460SA</b>

## Tolerances

As per the IEC standards applicable the tolerances here after apply to the following quantities.

(C4)

-0.15 (1 - η) P ≤ 75 hp	Efficiency
-(1 - cosφ)/6 min 0.02 max 0.07	Power factor
±20% *	Slip
+20%	Locked rotor current
-15% +25%	Locked rotor torque
-10%	Max. torque

\* ± 30% for motors with P<sub>n</sub> < 0.75 hp

## CUS

### Motors for USA and Canada

BN and M motors are available in NEMA Design C configuration (concerning electrical characteristics), certified to CSA (Canadian standard) C22.2 No. 100 and UL (Underwriters Laboratory) UL 1004. By specifying the option CUS the name plate is marked with both symbols shown here below.



## 3.3 MECHANICAL CHARACTERISTICS

### IP..

#### Enclosures

Motors are provided as totally enclosed fan-cooled (TEFC) according to NEMA MG1 1-26-2 1998 and they are designed for IP 55 (IP 54 for brake motors) degree of protection in accordance with NEMA MG1- 5 / IEC 60034-5 Standards. Higher degree of protection (IP 56, or IP 55 for brake motors) is available on request.

The following table provides an overview of the available degree of protection.

Regardless of the protection class specified on order, motors to be installed outdoors require protection against direct sunlight and in addition – when they are to be installed with the shaft downwards – a drip cover to keep out water and solid matter (option **RC**).

(C5)

		IP 54	IP 55	IP 56
		n.a.	standard	at request
<b>BN_FD</b> <b>BN_FA</b>	<b>M_FD</b> <b>M_FA</b>	standard	at request	n.a.

## Cooling

The motors are self ventilated (IEC 411 / NEMA MG1-6) and are equipped with a plastic fan working in both directions. The motors must be installed allowing sufficient space between fan cowl and the nearest wall to ensure

free air intake and allow access for maintenance purposes on motor and brake, if supplied.

Independent, forced air ventilation (IEC 416 / NEMA MG1-6) can be supplied on request (option U1).

This solution enables to increase the motor duty factor when driven by an inverter and operating at reduced speed.

## Direction of rotation

Rotation is possible in both directions. If terminals U1, V1, and W1 are connected to line phases L1, L2 and L3, clockwise rotation (looking from drive end) is obtained. For counterclockwise rotation, switch two phases.

## Noise

Noise levels, measured using the method prescribed by ISO 1680 Standards, are within the maximum levels specified by Standards CEI EN 60034-9.

## Vibrations and balancing

Rotor shafts are balanced with half key fitted and fall within the vibration class N, as per Standard CEI EN 60034-14. If a further reduced noise level is required improved balancing can be optionally requested (class R). Table below shows the value for the vibration velocity for standard (N) and improved (R) balancing.

(C6)

Vibration class	Angular velocity n [rpm]	Limits of the vibration velocity [mm/s]	
		BN 56...BN 132 M05...M4	BN 160MR...BN 200 M5
<b>N</b>	600 ≤ n ≤ 3600	1.8	2.8
<b>R</b>	600 ≤ n ≤ 1800	0.71	1.12
	1800 < n ≤ 3600	1.12	1.8

Values refer to measures with freely suspended motor in unloaded conditions.

## Winding connection and motor terminal box

Standard terminal board has 9 studs for YY-Y dual-voltage winding and 6 studs for star/delta winding configuration (single-speed motors).



An earth terminal located in the terminal box is provided as standard on all motors.

For DC brake motors, the AC/DC rectifier is supplied in the terminal box and it is provided with adequately connected terminals.

All connections must be carried out according to the diagrams inside the terminal box or in the instruction manual.

## Cable entry

(C7)

		Cable entry (metric thread)	Max cable diam. [mm]
<b>BN 63</b>	<b>M 05</b>	2 x M20	13
<b>BN 71</b>	<b>M 1</b>	2 x M25	17
<b>BN 80 - BN 90</b>	<b>M 2</b>	2 x M25	17
<b>BN 100</b>	<b>M 3</b>	2 x M32	21
		2 x M25	17
<b>BN 112</b>	—	2 x M32	17
		2 x M25	
<b>BN 132...BN 160MR</b>	<b>M 4</b>	4 x M32	21
<b>BN 160M...BN 200L</b>	<b>M 5</b>	2 x M40	29

## Bearings


Life lubricated preloaded radial ball bearings are used, types are shown in the chart here under.

Calculated endurance lifetime  $L_{10}$ , as per ISO 281, in unloaded condition, exceeds 40000 hrs.

**DE** = drive end

**NDE** = non drive end

(C8)

	<b>DE</b>	<b>NDE</b>	
	<b>M, M_FD, M_FA</b>	<b>M</b>	<b>M_FD, M_FA</b>
<b>M05</b>	6004 2Z C3	6201 2Z C3	6201 2RS C3
<b>M1</b>	6004 2Z C3	6202 2Z C3	6202 2RS C3
<b>M2</b>	6007 2Z C3	6204 2Z C3	6204 2RS C3
<b>M3</b>	6207 2Z C3	6206 2Z C3	6206 2RS C3
<b>M4</b>	6309 2Z C3	6208 2Z C3	6208 2RS C3
<b>M5</b>	6309 2Z C3	6209 2Z C3	6209 2RS C3

(C9)

	DE	NDE	
	BN, BN_FD, BN_FA	BN	BN_FD, BN_FA
<b>BN 56</b>	6201 2Z C3	6201 2Z C3	-
<b>BN 63</b>	6201 2Z C3	6201 2Z C3	6201 2Z C3
<b>BN 71</b>	6202 2Z C3	6202 2Z C3	6202 2Z C3
<b>BN 80</b>	6204 2Z C3	6204 2Z C3	6204 2Z C3
<b>BN 90</b>	6205 2Z C3	6205 2Z C3	6205 2Z C3
<b>BN 100</b>	6206 2Z C3	6206 2Z C3	6206 2Z C3
<b>BN 112</b>	6306 2Z C3	6306 2Z C3	6306 2Z C3
<b>BN 132</b>	6308 2Z C3	6308 2Z C3	6308 2Z C3
<b>BN 160MR</b>	6309 2Z C3	6308 2Z C3	6308 2Z C3
<b>BN 160M/L</b>	6309 2Z C3	6309 2Z C3	6309 2Z C3
<b>BN 180M</b>	6210 2Z C3	6309 2Z C3	6309 2Z C3
<b>BN 180L</b>	6310 2Z C3	6310 2Z C3	6310 2Z C3
<b>BN 200L</b>	6312 2Z C3	6310 2Z C3	6310 2Z C3

### 3.4 ELECTRICAL CHARACTERISTICS

#### Voltage

Motors can operate on any voltage within the range of 200 – 690 Volts. Voltage to be <600 V for CSA/UL motors. Voltage values available as standard are 230/460V-60 Hz and 575V-60Hz.

Other voltage values may be available on request.

(C10)

Low Voltage	High Voltage
230V - 60Hz	460V - 60Hz
200V - 50Hz	400V - 50Hz
Single-Speed / Dual-Voltage	
<p>Low Voltage YY</p>	<p>High Voltage Y</p>

(C11)

Low Voltage	High Voltage
200V - 50Hz	346V - 50Hz
208V - 60Hz	360V - 60Hz
220V - 50Hz	380V - 50Hz
230V - 50Hz	400V - 50Hz
240V - 50Hz	415V - 50Hz
330V - 60Hz	575V - 60Hz
Single-Speed / Dual-Voltage	
<p>Low Voltage Δ</p>	<p>High Voltage Y</p>

#### Rated horsepower

Motor outputs shown in this catalogue are based on continuous operation at 40 °C [100 °F] ambient temperature and maximum elevation not exceeding 3300 feet (1000 m) above the sea level.

Motors can operate at higher ambient temperatures with output adjusted in accordance with the chart (C12) here below.

(C12)

Ambient temperature [°F]	100	115	120	130	140
Power output as a % of rated power	100%	95%	90%	85%	80%

Should a derating factor higher than 15% apply, contact our Technical Service.

#### Insulation class

**CL F**

Bonfiglioli motors use class **F** insulating materials (enamelled wire, insulators, impregnation resins) as compared to the standard motor.

# CL H

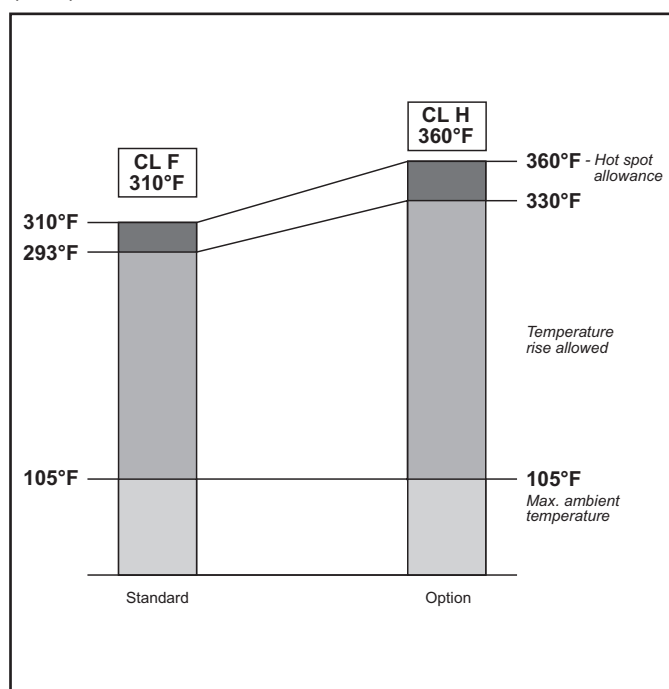
Motors manufactured in higher insulation class **H** are available at request.

In standard motors, the stator windings temperature rise normally stays below the 80 K limit corresponding to class B over temperature.

A careful selection of insulating components makes the motors compatible with tropical climates and normal vibration.

For applications involving the presence of aggressive chemicals or high humidity, contact Bonfiglioli Engineering for assistance with product selection.

(C13)



## Types of duty

Unless otherwise indicated, the power rating of motors specified in the catalogue refers to continuous duty S1. For motors used under conditions other than S1, the type of duty required is defined with reference to CEI EN 60034-1 Standards.

In particular, for intermittent duties type S2 and S3, power can be adjusted with respect to continuous duty through multipliers listed in table (C14) applicable to single speed motors.

$$f_m = \frac{P(S2...S8)}{P(S1)}$$

(C14)

	Duty						Consult factory
	S2			S3 *			
	Cycle duration (min)			Cyclic duration factor (I)			
	10	30	60	25%	40%	60%	
$f_m$	1.35	1.15	1.05	1.25	1.15	1.1	

\* Cycle duration must, in any event, be equal to or less than 10 minutes; if this time is exceeded, please contact our Technical Service.

## Cycle duration factor:

$$I = \frac{t_f}{t_f + t_r} \times 100$$

$t_f$  = operating time at constant load

$t_r$  = rest time

## Limited duration duty S2

This type of duty is characterized by operation at constant load for a limited time, which is shorter than the time required to reach thermal equilibrium, followed by a rest period of sufficient duration to restore ambient temperature in the motor.

## Periodical intermittent duty S3

This type of duty is characterized by a sequence of identical operation cycles, each including a constant load operation period and a rest period.

For this type of duty, the starting current does not significantly influence overtemperature.

## Inverter-driven motors

The electric motors of series BN and M may be used in combination with PWM inverters with rated voltage at transformer input up to 500 V. Standard motors use a phase insulating system with separators, class 2 enam-



elled wire and class H impregnation resins (1600V peak-to-peak voltage pulse capacity and rise edge  $t_s > 0.1\mu s$  at motor terminals). Table (C15) shows the typical torque/speed curves referred to S1 duty for motors with base frequency  $f_b = 60$  Hz.

Because ventilation is somewhat impaired in operation at lower frequencies (approx. 30 Hz), standard motors with incorporated fan (IC411) require adequate torque derating or - alternately - the addition of a separate supply fan cooling.

Above base frequency, upon reaching the maximum output voltage of the inverter, the motor enters a steady-power field of operation, and shaft torque drops with ratio  $(f/f_b)$ .

As motor maximum torque decreases with  $(f/f_b)^2$ , the allowed overloading must be reduced progressively.

(C15)

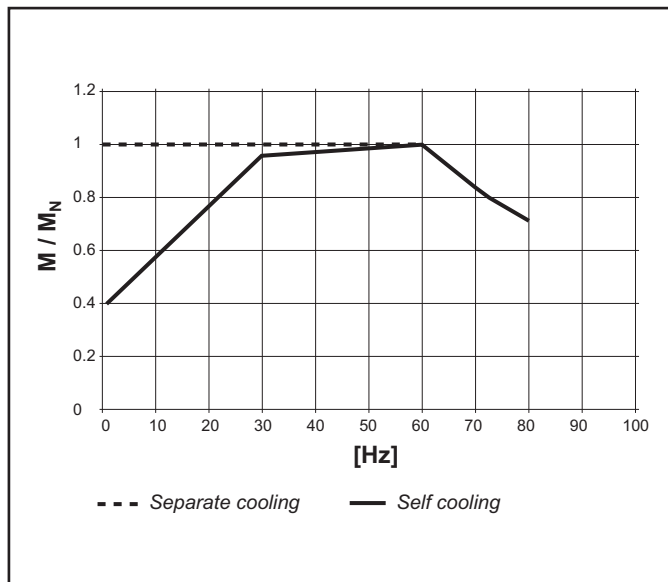




Table (C16) reports the mechanical limit speed for motor operation above rated frequency:

(C16)

		n [rpm]		
		2p	4p	6p
				
$\leq$ BN 112	M05...M3	5200	4000	3000
BN 132...BN 200L	M4, M5	4500	4000	3000

Above rated speed, motors generate increased mechanical vibration and fan noise. Class R rotor balancing is highly recommended in these applications. Installing a separate supply fan cooling may also be advisable.

Independent fan cooling and brake (if fitted) must always be connected direct to mains power supply.

## Permissible starts per hour

**Z**

The rating charts of brakemotors lend the permitted number of starts  $Z_0$ , based on 50% intermittence and for unloaded operation.

The catalogue value represents the maximum number of starts per hour for the motor without exceeding the rated temperature for the insulation class F.

To give a practical example for an application characterized by inertia  $J_c$ , drawing power  $P_r$  and requiring mean torque at start-up  $T_L$  the actual number of starts per hour for the motor can be calculated approximately through the following equation:

$$Z = \frac{Z_0 \times K_c \times K_d}{K_J}$$

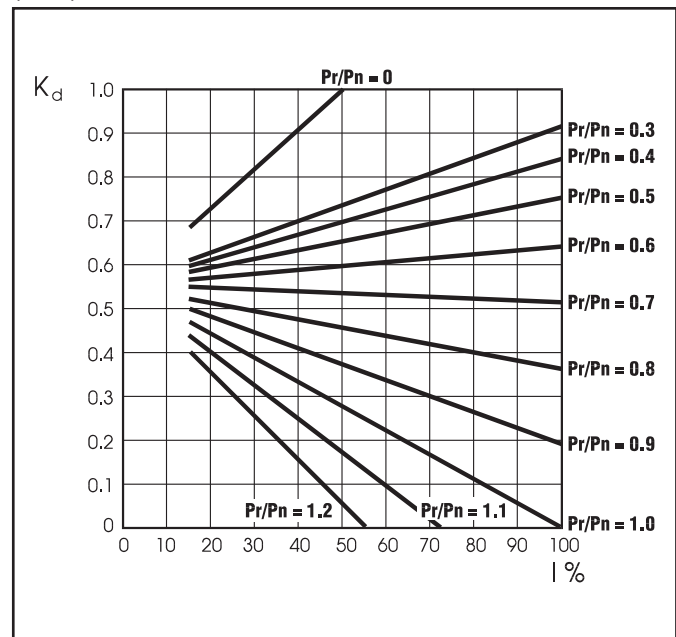
where:

$$K_J = \frac{J_m + J_c}{J_m} = \text{inertia factor}$$

$$K_c = \frac{T_a - T_L}{T_a} = \text{torque factor}$$

$K_d$  = load factor (see table C16)

(C17)





If actual starts per hour is within permitted value (Z) it may be worth checking that braking work is compatible with brake (thermal) capacity  $W_{max}$  also given in table (C22) and dependent on the number of switches (s/h).

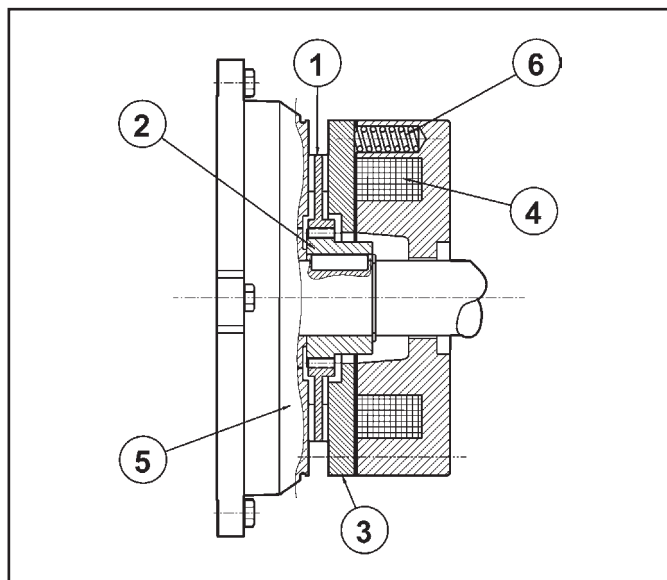
## 3.5 BRAKE MOTORS

### Operation

Versions with incorporated brake use spring-applied DC (FD option) or AC (FA option) brakes.

All brakes are designed to provide fail-safe operation, meaning that they are applied by spring-action in the event of a power failure.

(C18)



Key:

- ① brake disc
- ② disc carrier
- ③ pressure plate
- ④ brake coil
- ⑤ motor rear shield
- ⑥ brake springs

When power is disconnected, the springs push the armature plate against the brake disc. The disc becomes trapped between the armature plate and motor shield and stops the shaft from rotating.

When the coil is energized, a magnetic field attracts the

armature plate, so that the brake disc – which is integral with the motor shaft – is released.

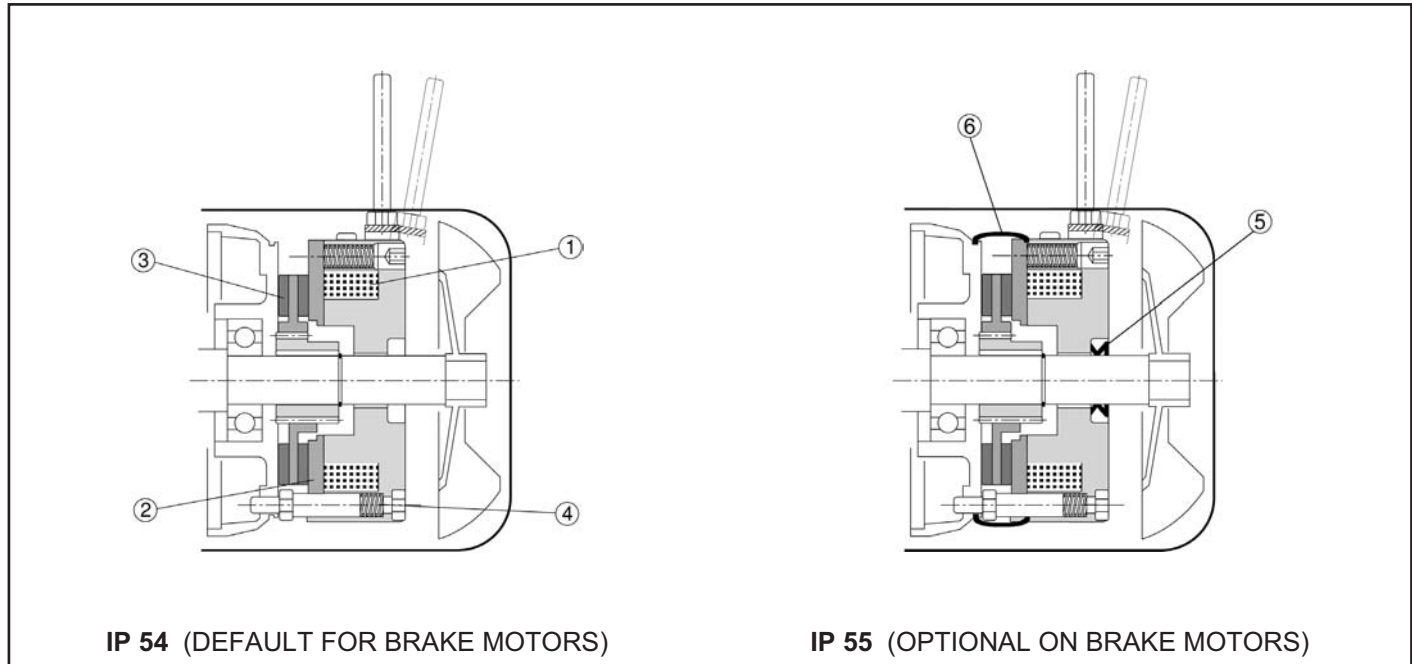
### Most significant features

- High braking torques (normally  $T_b \approx 2 T_n$ ), braking torque adjustment.
- Steel brake disc with double friction lining (low-wear, asbestos-free lining).
- Hexagonal socket head on motor shaft end (N.D.E.) for manual rotation (not compatible with options PS, RC, TC, U1, U2, EN1, EN2, EN3).
- Manual release lever.
- Corrosion-proof treatment on all brake surfaces.
- Class F insulation

## 3.6 DC BRAKE MOTORS TYPE BN\_FD

Frame sizes: BN 63 ... BN 200L

(C19)



**Direct current** electromagnetic brake bolted onto motor shield. Preloading springs provide axial positioning of magnet body.

Brake disc slides axially on steel hub fitted onto motor shaft with anti-vibration spring.

Brake torque factory setting is indicated in the corresponding motor rating charts.

Braking torque may be modified by changing the type and/or number of springs.

At request, motors may be equipped with manual release lever with automatic return (**R**) or system for holding brake in the released position (**RM**).

See table (C33) for available release lever locations.

FD brakes ensure excellent dynamic performance with low noise. DC brake operating characteristics may be optimized to meet application requirements by choosing from the various rectifier/power supply and wiring connection options available.

### Protection class

Standard protection class is IP54.

Brake motor FD is also available in protection class **IP 55**, which incorporates the following variants:

- ① V-ring at N.D.E. of motor shaft
- ② dust and water-proof rubber boot
- ③ stainless steel shim placed between motor shield and brake disc
- ④ stainless steel hub
- ⑤ stainless steel brake disc



### FD brake power supply

A rectifier housed into the terminal box feeds the DC brake coil. Wiring connection across rectifier and brake coil is performed at the factory.

On single-speed motors, rectifier is pre-wired to the motor terminal board.

Rectifier standard power supply voltage  $V_B$  is as indicated in the following table (C20), regardless of mains frequency:

(C20)

2, 4, 6 P				1 speed	
		<b>BN_FD / M_FD</b>		brake connected to terminal board power supply	separate power supply
		$V_{mot} \pm 10\%$ 3 ~	$V_B \pm 10\%$ 1 ~		
<b>BN 63...BN 200</b>	<b>M05...M5</b>	230/460 V – 60 Hz	230 V	standard	specify $V_B SA$ or $V_B SD$

The diode half-wave rectifier ( $V_{dc} \approx 0,45 \times V_{ac}$ ) is available in versions **NB**, **SB**, **NBR** e **SBR**, as detailed in the table (C21). Rectifier **SB** with electronic energizing control over-energizes the electromagnet upon power-up to cut brake release response time and then switches to normal half-wave operation once the brake has been released.

Use of the **SB** rectifier is mandatory in the event of:

- high number of operations per hour
- reduced brake release response time
- brake is exposed to extreme thermal stress

Rectifiers **NBR** or **SBR** are available for applications requiring quick brake release response.




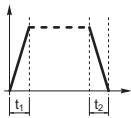
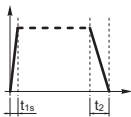
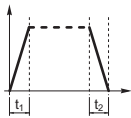
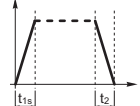
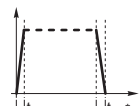
These rectifiers complement the **NB** and **SB** types as their electronic circuit incorporates a static switch that de-energizes the brake quickly in the event voltage is missing.

This arrangement ensures short brake release response time with no need for additional external wiring and contacts.

Optimum performance of rectifiers **NBR** and **SBR** is achieved with separate brake power supply.

Available voltages: 230V  $\pm$  10%.

(C21)

		Brake			
			Standard	At request	
<b>BN 63</b>	<b>M05</b>	<b>FD 02</b>		<b>SB,</b>  <b>SBR,</b>  <b>NBR</b>	
<b>BN 71</b>	<b>M1</b>	<b>FD 03</b>			
		<b>FD 53</b>			
<b>BN 80</b>	<b>M2</b>	<b>FD 04</b>			
<b>BN 90S</b>	—	<b>FD 14</b>			
<b>BN 90L</b>	—	<b>FD 05</b>			
<b>BN 100</b>	<b>M3</b>	<b>FD 15</b>			
—		<b>FD 55</b>			
<b>BN 112</b>	—	<b>FD 06S</b>			
<b>BN 132...160MR</b>	<b>M4</b>	<b>FD 56</b>			
<b>BN 160L - BN 180M</b>	<b>M5</b>	<b>FD 06</b>			
<b>BN 180L - NM 200L</b>	—	<b>FD 07</b>			

(\*)  $t_{2c} < t_{2r} < t_2$

## FD brake technical specifications

The table (C22) shows the technical specifications of DC brakes type FD.

(C22)

Brake	Brake torque $T_b$ [lb·in]			Release		Braking		$W_{max}$ per each brake operation			W	P
	Springs			$t_1$	$t_{1s}$	$t_2$	$t_{2c}$	[lb·ft]			[lb·ftx10 <sup>6</sup> ]	[W]
	6	4	2	[ms]	[ms]	[ms]	[ms]	10 s/h	100 s/h	1000 s/h		
FD02	—	31	15	30	15	80	9	3300	1050	130	11	17
FD03	44	31	15	50	20	100	12	5200	1400	170	18	24
FD53	66	44	22	60	30	100	12					
FD04	133	88	44	80	35	140	15	7400	2300	260	27	33
FD14												
FD05	354	230	115	130	65	170	20	13300	3300	370	37	45
FD15	354	230	115	130	65	170	20					
FD55	487	327	159	—	65	170	20					
FD06S	831	354	177	—	80	220	25	15000	3500	400	52	55
FD56	—	664	327	—	90	150	20	21500	5500	600	59	65
FD06		885	443		100	150	20					
FD07	1328	885	443	—	120	200	25	29500	6900	750	96	65
FD08*	2200	1770	1500	—	140	350	30	44500	10300	1100	170	100
FD09**	3540	2650	1770	—	200	450	40	51500	7600	1250	170	120

\* brake torque values obtained with 9, 7 and 6 springs,

\*\* brake torque values obtained with 12, 9 and 6 springs, respectively

Key:

$t_1$  = brake release time with half-wave rectifier  
 $t_{1s}$  = brake release time with over-energizing rectifier  
 $t_2$  = brake engagement time with AC line disconnect and separate power supply  
 $t_{2c}$  = brake engagement time with AC and DC line disconnect.  
 Values for  $t_1$ ,  $t_{1s}$ ,  $t_2$ ,  $t_{2c}$  indicated in the tab. (C23) are referred to brake set at maximum torque, medium air gap and rated voltage

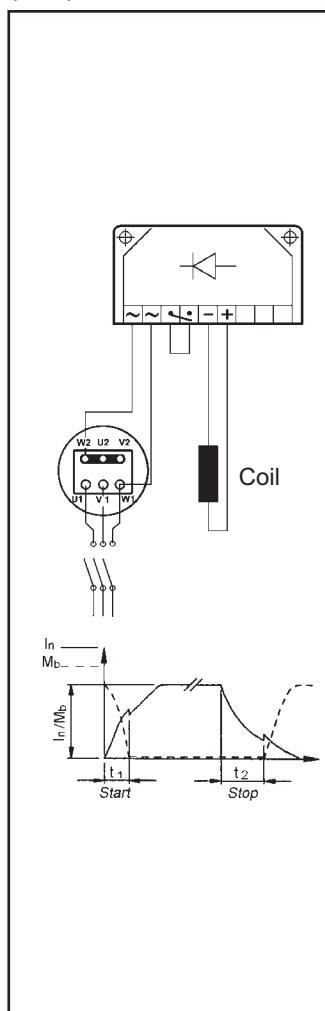
$W_{max}$  = max energy per each brake operation  
 W = braking energy between two successive air gap adjustments  
 $P_b$  = brake power absorption at normal ambient temperature  
 $T_b$  = static braking torque ( $\pm 15\%$ )  
 [s/h] = starts per hour

## FD brake connections

On standard single-speed motors, the rectifier is connected to the motor terminal board at the factory.

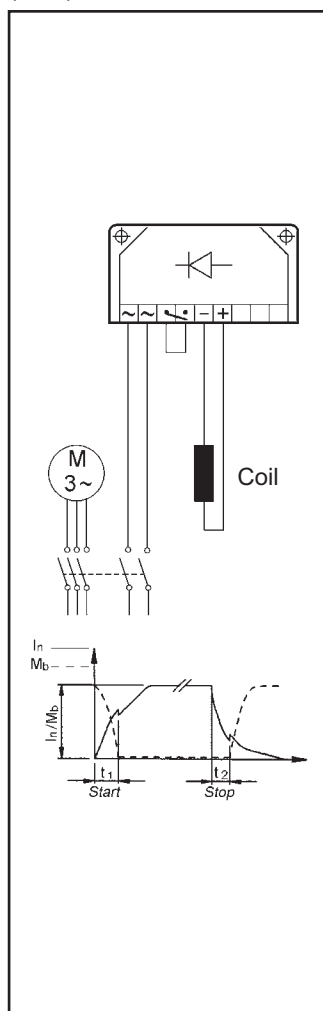
Because the load is of the inductive type, brake control and DC line switch must use contacts from the usage class AC-3 to IEC 60947-4-1.

(C23)



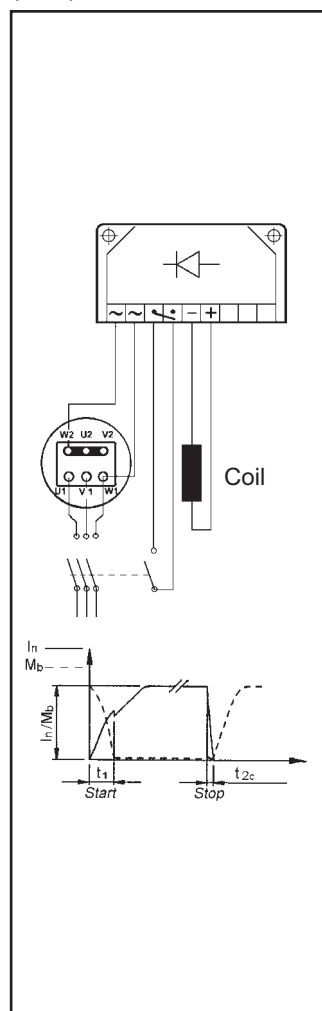
Brake supply from motor terminals and A.C. line disconnect. Longer stop time  $t_2$ , dependent on motor time constants. Use when no particular braking performance is required.

(C24)



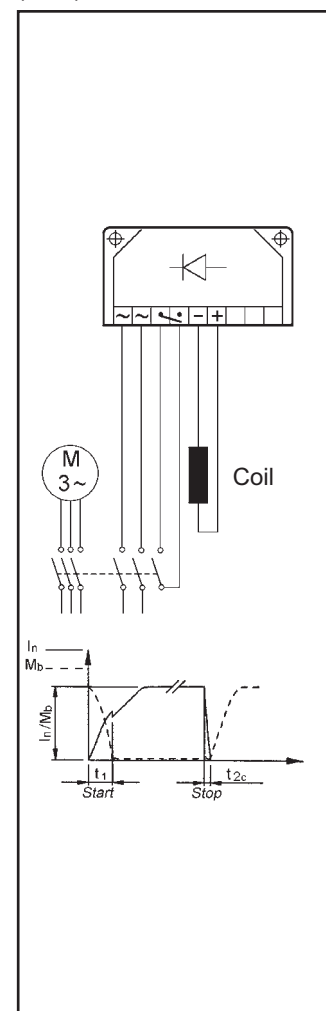
Separate power supply to brake coil and A.C. line disconnect. Stopping time is independent on motor. See table C22

(C25)



Brake coil energized from motor terminals, both A.C. and D.C. line switch off. Rapid stopping time,  $t_{2c}$ . See table C22

(C26)

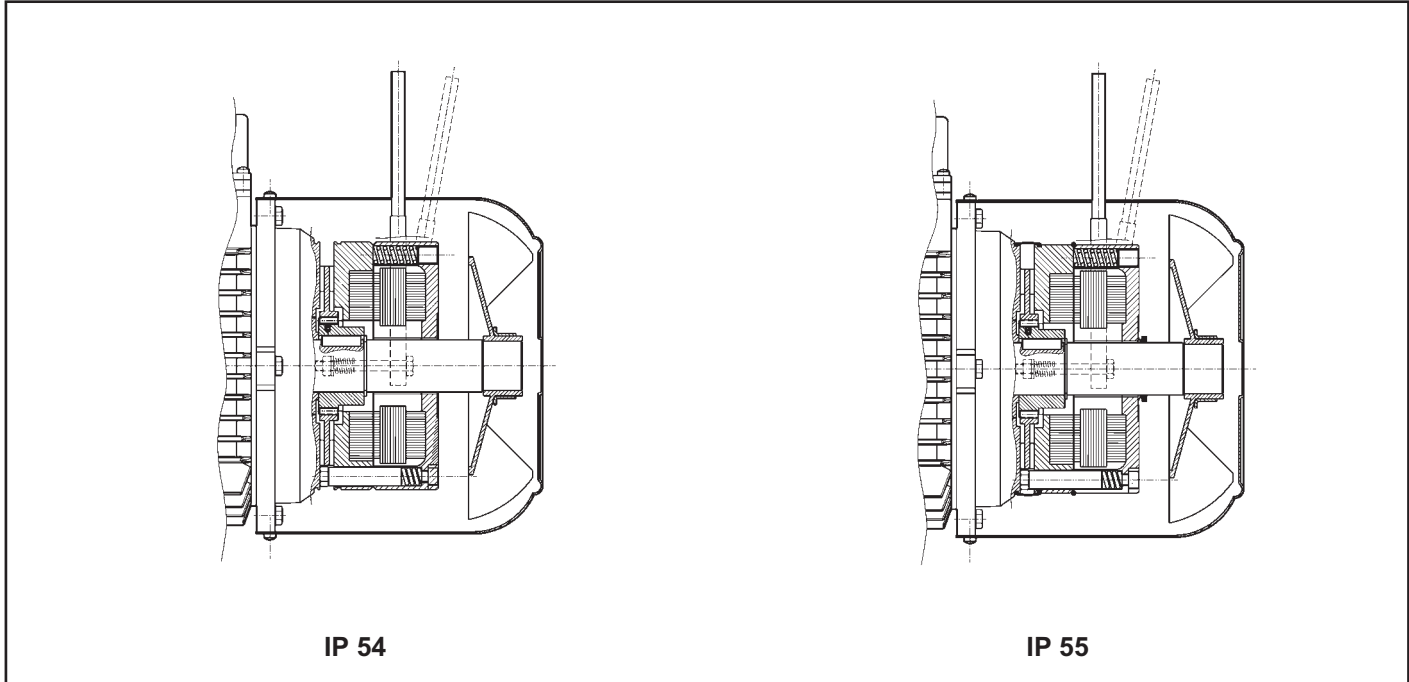


Separate power supply to brake coil. Both A.C. and D.C. line disconnect. Rapid stopping time to  $t_{2c}$  value, see table C22

## 3.7 AC BRAKE MOTORS TYPE BN\_FA

Frame sizes: BN 63 ... BN 180M

(C27)



Electromagnetic brake operates from three-phase **alternated current** power supply and is bolted onto motor rear shield. Preloaded springs provide axial positioning of the magnet body.

Steel brake disc slides axially on steel hub fitted onto motor shaft with anti-vibration spring.

Brake torque factory setting is indicated in the corresponding motor rating charts.

Spring preloading screws provide stepless braking torque adjustment.

Torque adjustment range is  $30\% T_{bMAX} < T_b < T_{bMAX}$  (where  $T_{bMAX}$  is maximum braking torque as shown in tab. (C29)).

Thanks to their high dynamic characteristics, FA brakes are ideal for heavy-duty applications as well as applications requiring frequent stop/starts and fast response time.

Motors may be equipped with manual release lever with automatic return (**R**) at request. See table (C33) for available lever locations.

### Degree of protection

Standard degree of protection is IP54.

Brake motor BN\_FA is also available with degree of protection **IP 55**, which incorporates the following variants:

- V-ring at N.D.E. of motor shaft
- water-proof rubber grommet
- O-ring

## FA brake power supply

Depending on motor voltage the brake may require the supply voltage to be specified, or not, as detailed in the

diagram below. Special voltages in the 24...690 V range may be available on request.

(C28)

Motor voltage - $V_{mot}$	Brake voltage - $V_B$	Specify	Brake wiring scheme		
230/460 V YY/Y 60 Hz	230 $\Delta$ - 60 Hz	<b>230SA</b>	Motor terminal board 	Auxiliary terminal board 	$\Delta$ Connected 
	460 Y - 60 Hz	<b>460SA</b>			$Y$ Connected 
330/575 V $\Delta/Y$ 60 Hz	330/575 V $\Delta/Y$ 60 Hz	not required			

## Technical specifications of FA brakes

(C29)

Brake	Brake torque $T_b$ [lb·in]	Release $t_1$ [ms]	Braking $t_2$ [ms]	$W_{max}$ [lb·ft]			$W$ [lb·ft·x10 <sup>6</sup> ]	$P_b$ [VA]
				10 s/h	100 s/h	1000 s/h		
FA 02	31	4	20	4500	1400	180	15	60
FA 03	66	4	40	7000	1900	230	25	80
FA 04	133	6	60	10000	3100	350	30	110
FA 14								
FA 05	354	8	90	18000	4500	500	50	250
FA 15								
FA 06S	530	16	120	20000	4800	550	70	470
FA 06	663	16	140	29000	7400	800	80	550
FA 07	1328	16	180	40000	9300	1000	130	600
FA 08	2200	20	200	60000	14000	1500	230	1200

Key:

$T_b$  = max static braking torque ( $\pm 15\%$ )

$t_1$  = brake release time

$t_2$  = brake engagement time

$W_{max}$  = max energy per brake operation (brake thermal capacity)

$W$  = braking energy between two successive air gap adjustments

$P_b$  = power drawn by brake at 20° (50 Hz)

[s/h] = starts per hour

NOTE

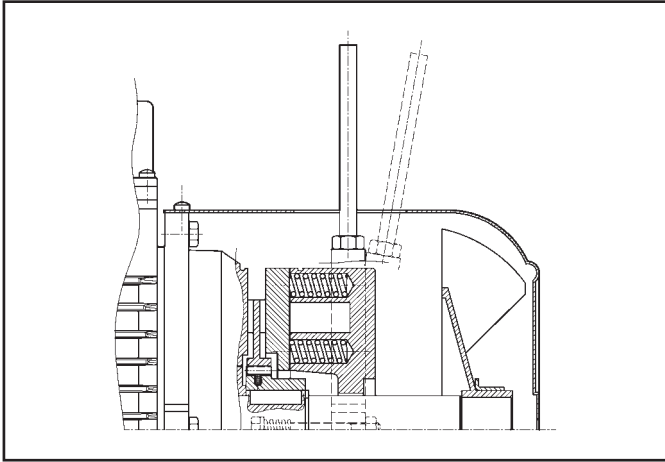
Values  $t_1$  and  $t_2$  in the table refer to a brake set at rated torque, medium air gap and rated voltage.

### 3.8 - BRAKE RELEASE SYSTEMS

Spring-applied brakes type **FD** and **FA** may be equipped with optional manual release devices. These are typically used for manually releasing the brake before servicing any machine or plant parts operated by the motor.

#### R

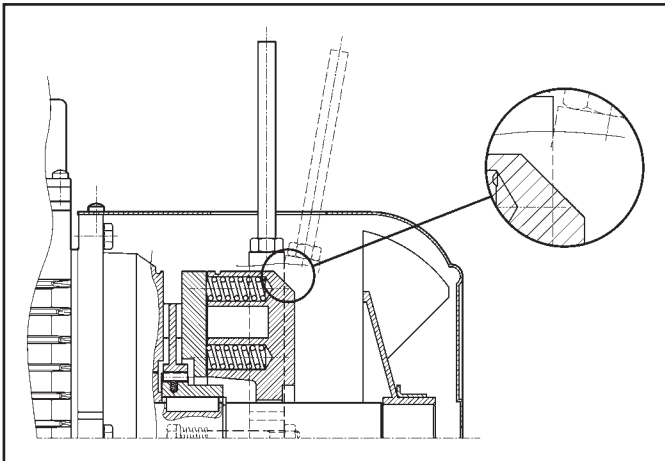
(C30)



A return spring brings the release lever back in the original position.

#### RM

(C31)



On motors type **BN\_FD**, if the option **RM** is specified, the release lever may be locked in the "release" position by tightening the lever until lever end becomes engaged with a brake housing projection.

The availability for the two lever options is charted here below:

(C32)

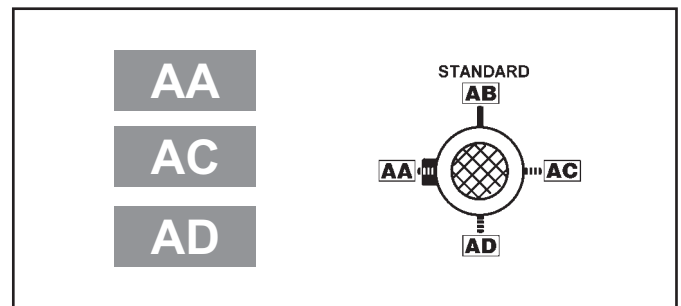
	R	RM
<b>BN_FD</b>	BN 63...BN 200	BN 63...BN 160MR
<b>M_FD</b>	M 05...M 5	M 05...M 4LC
<b>BN_FA</b>	BN 63...BN 180M	n.a.
<b>M_FA</b>	M 05...M 5	

#### Release lever arrangement

Unless otherwise specified, the release lever is located 90° away from the terminal box – identified by letters **[AB]** in the diagram below – in a clockwise direction on both options **R** and **RM**.

Alternative lever positions **[AA]**, **[AC]** and **[AD]** are also possible when the corresponding option is specified:

(C33)





#### Fly-wheel data (F1)

The table below shows values of weight and inertia of flywheel (option F1). Overall dimensions of motors remain unchanged. The option is available for DC brake-motors only.



(C34)

Main data for flywheel			
		Fly-wheel weight [lbs]	Fly-wheel inertia [lb • ft <sup>2</sup> ] x 10 <sup>-5</sup>
<b>BN 63</b>	<b>M05</b>	0.31	2.7
<b>BN 71</b>	<b>M1</b>	0.51	5.7
<b>BN 80</b>	<b>M2</b>	0.76	11.4
<b>BN 90</b> <b>BN 90 L</b>	–	1.14	22.3
<b>BN 100</b>	<b>M3</b>	1.58	35.4
<b>BN 112</b>	–	2.19	62.4
<b>BN 132 S</b> <b>BN 132 M</b>	<b>M4</b>	2.81	108.6

## 3.9 - OPTIONS

### Thermal protective devices

In addition to the standard protection provided by the magneto-thermal device, motors can be supplied with built-in thermal probes to protect the winding against overheating caused, by insufficient ventilation or by an intermittent duty.

This additional protection should always be specified for servoventilated motors (IC416).

### E3

#### Thermistors

These are semi-conductors having rapid resistance variation when they are close to the rated switch off temperature.

Variations of the  $R = f(T)$  characteristic are specified under DIN 44081, IEC 34-11 Standards.

These elements feature several advantages: compact dimensions, rapid response time and, being contact-free, absolutely no wear.

Positive temperature coefficient thermistors are normally used (also known as PTC “cold conductor resistors”).

Unlike bimetallic thermostates, they cannot directly in-

tervene on currents of energizing coils, and must therefore be connected to a special control unit (triggering apparatus) to be interfaced with the external connections.

Thus protected, three PTCs connected in series are installed in the winding, the terminals of which are located on the auxiliary terminal-board.

### Bimetallic thermostates

These types of protective devices house a bimetal disk. When the rated switch off temperature is reached, the disk switches the contacts from their initial rest position. As temperature falls, the disk and the contacts automatically return to rest position.

Three bimetallic thermostates connected in series are usually employed, with normally closed contacts. The terminals are located in an auxiliary terminal-board.



### H1

#### Anti-condensation heaters

Where an application involves high humidity or extreme temperature fluctuation, motors may be equipped with an anti-condensate heater.

A single-phase power supply is available in the auxiliary terminal board inside the main terminal box. Values for the absorbed power are listed here below:

(C35)

		H1
		1~ 230V ± 10%
		P [W]
<b>BN 56...BN 80</b>	<b>M0...M2</b>	10
<b>BN 90...BN 160MR</b>	<b>M3 - M4</b>	25
<b>BN 160M...BN 180M</b>	<b>M5</b>	50
<b>BN 180L...BN 200L</b>	–	65

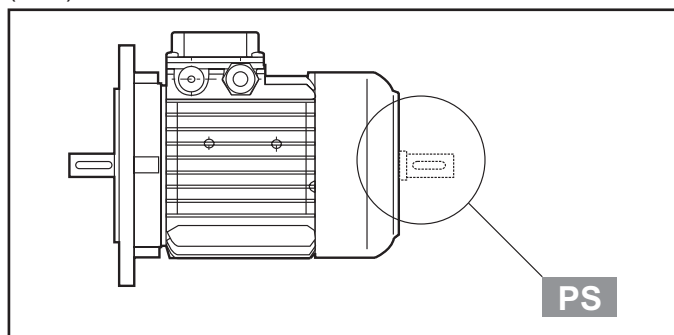
#### Warning!

**Always disconnect power supply to the anti-condensate heater before operating the motor.**

**PS**

**Second shaft extension**

(C36)



This option is not compatible with variants RC, TC, U1, U2, EN1, EN2, EN3. For shaft dimensions please see motor dimensions tables.

**AL**

**AR**

**Backstop device**

For applications where backdriving must be avoided, motors equipped with an anti run-back device can be used (available for the M series only).

While allowing rotation in the direction required, this device operates instantaneously in case of a power failure, preventing the shaft from running back.

The anti run-back device is life lubricated with special grease for this specific application.

When ordering, customers should indicate the required rotation direction, AL or AR.


Never use the anti run-back device to prevent reverse rotation caused by faulty electrical connection.

Table (C37) shows rated and maximum locking torques for the anti run-back devices.

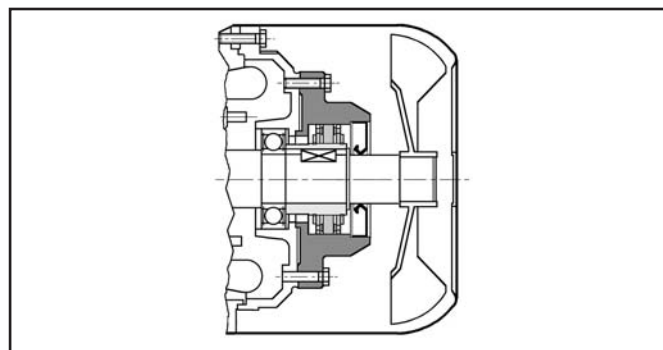
A diagram of the device can be seen in Table (C38).

Overall dimensions are same as the corresponding brake motor.

(C37)

	Rated locking torque [lb·in]	Max. locking torque [lb·in]	Release speed [rpm]
<b>M1</b>	53	90	750
<b>M2</b>	140	240	650
<b>M3</b>	480	815	520
<b>M4</b>	970	1815	430

(C38)



**Ventilation**

Motors are cooled through outer air blow (IC 411 according to CEI EN 60034-6) and are equipped with a plastic radial fan, which operates in both directions.

Ensure that fan cover is installed at a suitable distance from the closest wall so to allow air circulation and servicing of motor and brake, if fitted.



On request, motors can be supplied with independently power-supplied forced ventilation system starting from BN 71 or M1 size.

Motor is cooled by an axial fan with independent power supply and fitted on the fan cover (IC 416 cooling system).

This option comes handy for inverter driven motors so that constant torque operation is possible even at low speed or when high starting frequencies are needed.

Motors with rear shaft projection (PS option) are excluded.

(C39)

Power supply					
		V a.c. ± 10%	Hz	P [W]	I [A]
<b>BN 71</b>	<b>M1</b>	1~ 230	50 / 60	22	0.14
<b>BN 80</b>	<b>M2</b>			22	0.14
<b>BN 90</b>	–			40	0.25
<b>BN 100 (*)</b>	<b>M3</b>			50	0.25
<b>BN 112</b>	–	3~ 230 Δ / 400Y	60	50	0.26 / 0.15
<b>BN 132S</b>	<b>M4S</b>			110	0.38 / 0.22
<b>BN 132M... BN160MR</b>	<b>M4L</b>				
<b>BN 160... BN 180M</b>	<b>M5</b>	3~460	60	210	1.25 / 0.72



This variant features two options, designated **U1** and **U2**, having the same length overall.

Longer side of fan cover ( $\Delta L$ ) is specified for both models in the table below. Overall dimension can be reckoned from motor size table.

(C40)

Extra length for servoventilated motors [in]			
		$\Delta L_1$ add for standard motor	$\Delta L_2$ add for brakemotor
<b>BN 71</b>	<b>M1</b>	3.66	1.26
<b>BN 80</b>	<b>M2</b>	5.00	2.17
<b>BN 90</b>	–	5.16	1.89
<b>BN 100</b>	<b>M3</b>	4.69	1.10
<b>BN 112</b>	–	5.12	1.22
<b>BN 132S</b>	<b>M4S</b>	6.34	2.01
<b>BN 132M</b>	<b>M4L</b>	6.34	2.01

**U1**



Fan wiring terminals are housed in a separate terminal box.

In brake motors of size BN 71...BN 160MR, with **U1** model, the release lever cannot be positioned to AA.

**U2**



Fan terminals are wired in the motor terminal box. The U2 option does not apply to motors BN 160 through BN 200L, with the only exception of motor BN 160MR for which the option is available instead and to motors with option CUS (compliant to norms CSA and UL)..

(C41)

(*)			V a.c. $\pm 10\%$	Hz	P [W]	I [A]
	<b>BN 100_U2</b>	<b>M3</b>	3~ 230 $\Delta$ / 400Y	50/60	40	0.24 / 0.14

**RC**

## Drip cover

The drip cover protects the motor from dripping and avoids the ingress of solid bodies. It is recommended when motor is installed in a vertical position with the shaft downwards.

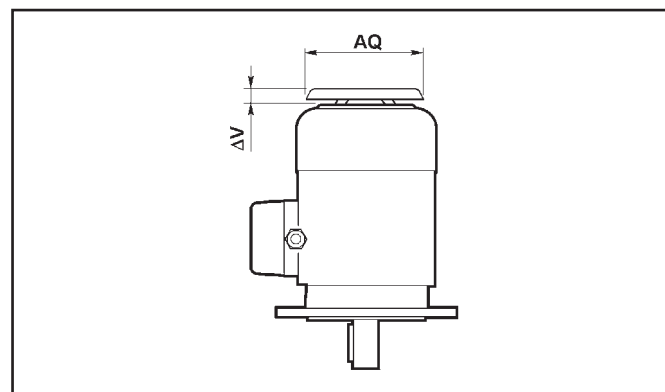
Relevant dimensions are indicated in the table (C42).

The drip cover is not compatible with variants PS, EN1, EN2, EN3.

(C42)

		AQ [in]	$\Delta V$ [in]
<b>BN 63</b>	<b>M05</b>	4.65	0.95
<b>BN 71</b>	<b>M1</b>	5.28	1.06
<b>BN 80</b>	<b>M2</b>	5.98	0.98
<b>BN 90</b>	–	6.61	1.18
<b>BN 100</b>	<b>M3</b>	7.48	1.10
<b>BN 112</b>	–	8.31	1.26
<b>BN 132...BN 160MR</b>	<b>M4</b>	10.00	1.26
<b>BN 160M...BN 180M</b>	<b>M5</b>	11.89	1.42
<b>BN 180L...BN 200L</b>	–	13.39	1.42

(C43)



**TC**

## Textile canopy

Option TC is a cover variant for textile industry environments, where lint may obstruct the fan grid and prevent a regular flow of cooling air.

This option is not compatible with variants EN1, EN2, EN3. Overall dimensions are the same as drip cover type RC.

## Feedback units

Motors may be combined with three different types of encoders to achieve feedback circuits.

Configurations with double-extended shaft (PS) and rain canopy (RC, TC) are not compatible with the installation of the encoder.

### EN1

Incremental encoder,  $V_{IN}=5\text{ V}$ , line-driver output RS 422.

### EN2

Incremental encoder,  $V_{IN}=10\text{-}30\text{ V}$ , line-driver output RS 422.

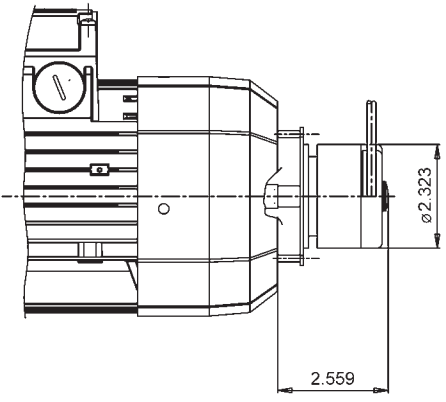
### EN3

Incremental encoder,  $V_{IN}=12\text{-}30\text{ V}$ , push-pull output 12-30 V.

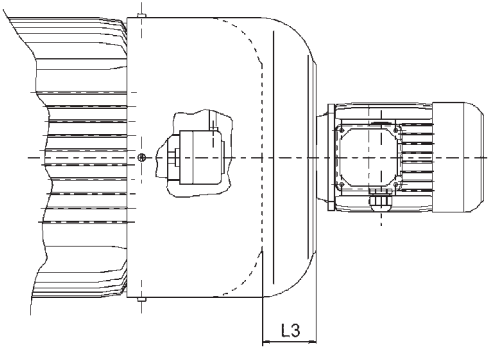
(C44)

	EN1	EN2	EN3
Interface	RS 422	RS 422	push-pull
Power supply voltage [V]	4...6	10...30	12...30
Output voltage [V]	5	5	12...30
No-load operating current [mA]	120	100	100
No. of pulses per revolution	1024		
No. of signals	6 (A, B, C + inverted signals)		
Max. output frequency [kHz]	300	300	200
Max. speed [rpm]	600 (900 rpm x 10s)		
Temperature range [°C]	-20...+70		
Protection class	IP 65		

(C45)

EN1, EN2, EN3	
	
<b>BN 63...BN 200L</b>	<b>M05...M5</b>
<b>BN 63_FD...BN 200L_FD</b>	<b>M05_FD...M5_FD</b>
<b>BN 63_FA...BN 200L_FA</b>	<b>M05_FA...M5_FA</b>

(C46)

EN_ + U1		
		
		<b>L3</b>
<b>BN 160M...BN 180M</b>	<b>M5</b>	2.835
<b>BN 180L...BN 200L</b>	-	3.228
<b>BN 160M_FD...BN 180M_FD</b>	<b>M5_FD</b>	1.378
<b>BN 180L_FD...BN 200L_FD</b>	-	1.614

If the encoder device (options EN1, EN2, EN3) is specified on motors BN71...BN160MR and M1...M4, along with the independent fan cooling (options U1, U2), the extra length of motor is coincident with that of the correspondent U1 and U2 execution.

### 3.10 COMPACT MOTOR RATING CHARTS

#### 2 POLE - 3600 rpm - S1


**60 Hz**

P <sub>n</sub>		n	T <sub>n</sub>	η	cosφ	I <sub>n</sub> at 460V	I <sub>s</sub> I <sub>n</sub>	T <sub>s</sub> T <sub>n</sub>	T <sub>k</sub> T <sub>n</sub>	J <sub>m</sub> lb-ft <sup>2</sup>		Weight lbs	Brake type	T <sub>b</sub>	Z <sub>o</sub> 1/h		Weight lbs				
										1)	2)				recifier	SB		1/h	2)		
0.25	0.18	<b>M 05A 2</b>	3380	4.7	60	0.74	4.1	3.0	3.2	0.0048	0.0062	7.1	<b>FD 02</b>	15	2700	3300	10.8	<b>FA 02</b>	15	3300	10.4
0.33	0.25	<b>M 05B 2</b>	3400	6.1	65	0.75	4.9	3.2	3.3	0.0055	0.0071	7.9	<b>FD 02</b>	15	2700	3300	11.7	<b>FA 02</b>	15	3300	11.2
0.5	0.37	<b>M 05C 2</b>	3420	9.2	69	0.76	5.5	3.3	3.5	0.0062	0.0078	10.6	<b>FD 02</b>	30	2500	3000	14.3	<b>FA 02</b>	30	3000	13.9
0.75	0.55	<b>M 1SD 2</b>	3450	13.7	76	0.75	6.2	3.4	3.9	0.0097	0.0126	12.8	<b>FD 03</b>	44	2200	2700	18.7	<b>FA 03</b>	44	2700	18.1
1	0.75	<b>M 1LA 2</b>	3440	18.3	77	0.75	6.2	3.8	4.1	0.0119	0.0145	15.2	<b>FD 03</b>	44	1500	2100	21	<b>FA 03</b>	44	2100	21
1.5	1.1	<b>M 2SA 2</b>	3430	27.6	77	0.76	6.2	3.8	3.9	0.0214	0.0252	19.4	<b>FD 04</b>	88	1200	1600	28	<b>FA 04</b>	88	1600	28
2	1.5	<b>M 2SB 2</b>	3420	36.8	80	0.81	6.0	3.3	3.5	0.0271	0.0309	23	<b>FD 04</b>	133	1000	1300	32	<b>FA 04</b>	133	1300	32
3	2.2	<b>M 3SA 2</b>	3430	55	81	0.83	6.0	2.4	2.5	0.0570	0.0665	34	<b>FD 15</b>	230	800	1000	49	<b>FA 15</b>	230	1000	51
5	3.7	<b>M 3LB 2</b>	3490	92	84	0.83	6.7	2.9	3.2	0.0926	0.102	49	<b>FD 15</b>	354	360	500	62	<b>FA 15</b>	354	500	64
7.5	5.5	<b>M 4SA 2</b>	3490	135	83	0.86	6.4	2.7	3.0	0.240	0.266	72	<b>FD 06</b>	440	400	400	101	<b>FA 06</b>	440	400	104
10	7.5	<b>M 4SB 2</b>	3490	181	82	0.88	6.2	2.8	3.2	0.318	0.344	88	<b>FD 06</b>	440	350	350	117	<b>FA 06</b>	440	350	143
15	11	<b>M 4LC 2</b>	3510	271	87	0.88	6.9	2.7	3.0	0.499	132	132									
20	15	<b>M 5SB 2</b>	3510	359	86	0.90	6.0	2.5	2.7	0.808	154	154									
25	18.5	<b>M 5SC 2</b>	3520	449	88	0.91	29.2	2.8	3.0	0.998	183	183									
30	22	<b>M 5LA 2</b>	3520	537	88	0.91	35.1	2.8	3.1	1.164	209	209									

1) without brake  
2) with brake


4 POLE - 1800 rpm - S1

60 HZ

P <sub>n</sub>		n	T <sub>n</sub>	η	cosφ	I <sub>n</sub> at 460V	I <sub>s</sub> I <sub>n</sub>	T <sub>s</sub> T <sub>n</sub>	T <sub>k</sub> T <sub>n</sub>	J <sub>m</sub> lb-ft <sup>2</sup>		Weight lbs	Brake type	T <sub>b</sub>	Z <sub>o</sub> 1/h rectifier		Weight lbs	Brake type	T <sub>b</sub>	Z <sub>o</sub> 1/h	Weight lbs
										1)	2)				NB	SB					
hp	kW	rpm	lb-in	%		A						1)		lb-in			2)		lb-in		2)
0.12	0.09	M 0B 4	1670	59	0.52	0.37	2.8	2.9	2.9	0.0036	6.4										
0.16	0.12	M 05A 4	1690	60	0.57	0.44	3.3	2.4	2.5	0.0048	7.1	FD 02	FA 02	15	7000	9000	10.8	FA 02	15	9000	10.4
0.25	0.18	M 05B 4	1670	58	0.60	0.65	3.2	2.8	2.9	0.0055	7.9	FD 02	FA 02	30	7000	9000	11.7	FA 02	30	9000	11.2
0.33	0.25	M 05C 4	1670	64	0.64	0.77	3.3	2.5	2.6	0.0078	10.6	FD 02	FA 02	30	6000	8000	14.3	FA 02	30	8000	13.9
0.50	0.37	M 1SD 4	1700	66	0.73	0.96	4.5	2.6	2.8	0.0164	12.1	FD 03	FA 03	44	4800	7500	18.1	FA 03	44	7500	17.4
0.75	0.55	M 1LA 4	1710	72	0.70	1.37	4.9	3.0	3.1	0.0216	15.2	FD 53	FA 53	66	3400	7000	21	FA 53	66	7000	21
1	0.75	M 2SA 4	1720	78	0.75	1.61	6.2	3.4	3.5	0.0482	20	FD 04	FA 04	133	3000	6000	29	FA 04	133	6000	29
1.5	1.1	M 2SB 4	1720	78	0.76	2.33	6.3	3.4	3.5	0.0594	23	FD 04	FA 04	133	2000	4200	32	FA 04	133	4200	32
2	1.5	M 3SA 4	1720	82	0.73	3.15	5.7	2.9	3.3	0.0808	34	FD 15	FA 15	230	1500	3000	49	FA 15	230	3000	51
3	2.2	M 3LA 4	1720	81	0.73	4.67	5.5	2.7	2.9	0.0960	37	FD 15	FA 15	354	1000	2700	53	FA 15	354	2700	53
5	3.7	M 3LC 4	1730	84	0.74	7.5	5.6	2.8	3.1	0.145	51	FD 55	FA 55	480		1200	64	FA 55	480	1200	66
7.5	5.5	M 4SA 4	1730	84	0.84	9.8	6.3	2.9	3.1	0.506	93	FD 56	FA 06	664	850	850	121	FA 06	664	850	124
10	7.5	M 4LA 4	1740	85	0.84	13.2	6.1	2.9	3.0	0.641	112	FD 06	FA 06	885	700	700	141	FA 06	885	700	143
15	11	M 4LC 4	1740	88	0.81	19.4	6.5	3.1	3.2	0.855	143	FD 07	FA 07	1328	600	600	179	FA 07	1328	600	183
20	15	M 5SB 4	1750	90	0.84	24.9	5.8	2.3	2.7	1.544	187	FD 08	FA 08	1770	400	400	254	FA 08	1770	400	251
25	18.5	M 5LA 4	1760	90	0.83	31.1	5.8	2.5	3.1	1.876	223	FD 08	FA 08	2210	300	300	289	FA 08	2210	300	287

1) without brake  
2) with brake












**6 POLE - 1200 rpm - S1**
**60 Hz**

P <sub>n</sub>		n	T <sub>n</sub>	η	cosφ	I <sub>n</sub> at 460V	I <sub>s</sub> I <sub>n</sub>	T <sub>s</sub> T <sub>n</sub>	T <sub>k</sub> T <sub>n</sub>	J <sub>m</sub> lb-ft <sup>2</sup>		Weight lbs	Brake type	T <sub>b</sub>	Z <sub>o</sub> 1/h rectifier		Weight lbs	Brake type	T <sub>b</sub>	Z <sub>o</sub> 1/h	Weight lbs
										1)	2)				NB	SB					
0.12	0.09	<b>M 05A 6</b>	1100	6.9	47	0.46	2.4	2.9	2.9	0.0081	0.0095	9.5	<b>FD 02</b>	30	7000	10000	13.2	<b>FA 02</b>	30	10000	12.8
0.16	0.12	<b>M 05B 6</b>	1100	9.2	49	0.54	2.3	2.4	2.4	0.0088	0.0102	10.1	<b>FD 02</b>	30	7000	10000	13.9	<b>FA 02</b>	30	10000	13.4
0.25	0.18	<b>M 15C 6</b>	1100	14.3	61	0.65	3.3	2.6	2.8	0.0200	0.0226	11.2	<b>FD 03</b>	44	6500	10000	17.2	<b>FA 03</b>	44	10000	16.5
0.33	0.25	<b>M 15D 6</b>	1100	18.9	64	0.65	3.2	2.6	2.7	0.0259	0.0290	13.9	<b>FD 03</b>	44	6200	8000	19.8	<b>FA 03</b>	44	8000	19.2
0.50	0.37	<b>M 15LA 6</b>	1100	28.6	66	0.65	3.3	2.6	2.7	0.0306	0.0330	16.1	<b>FD 53</b>	66	4000	7000	22	<b>FA 03</b>	66	7000	21
0.75	0.55	<b>M 25A 6</b>	1140	41.4	76	0.66	4.9	3.2	3.4	0.0594	0.0641	23	<b>FD 04</b>	133	3800	5000	32	<b>FA 04</b>	133	5000	32
1	0.75	<b>M 25B 6</b>	1140	55	76	0.61	4.4	2.8	3.0	0.0665	0.0713	25	<b>FD 04</b>	133	2700	5000	34	<b>FA 04</b>	133	5000	34
1.5	1.1	<b>M 35A 6</b>	1140	83	74	0.68	4.4	2.4	2.8	0.147	0.157	37	<b>FD 15</b>	230	2300	4500	51	<b>FA 15</b>	230	4500	53
2	1.5	<b>M 35LA 6</b>	1140	111	76	0.66	4.5	2.4	2.8	0.195	0.204	46	<b>FD 15</b>	354	1500	3000	60	<b>FA 15</b>	354	3000	62
3	2.2	<b>M 35LC 6</b>	1140	166	77	0.68	5.1	2.6	2.9	0.226	0.235	51	<b>FD 55</b>	480	1500	1500	64	<b>FA 15</b>	480	1500	66
5	3.7	<b>M 45LA 6</b>	1150	274	80	0.79	6.1	2.5	3.1	0.701	0.724	95	<b>FD 06</b>	885	900	900	123	<b>FA 06</b>	885	900	126
7.5	5.5	<b>M 45LB 6</b>	1140	414	82	0.75	5.4	2.7	2.9	0.910	0.964	119	<b>FD 07</b>	1328	800	800	154	<b>FA 07</b>	1328	800	159
10	7.5	<b>M 55A 6</b>	1160	543	85	0.82	5.8	2.3	2.8	1.758	1.936	152	<b>FD 08</b>	1500	550	550	216	<b>FA 08</b>	1500	550	216
15	11	<b>M 55B 6</b>	1160	815	84	0.83	5.8	2.5	2.9	2.304	2.482	196	<b>FD 08</b>	1770	400	400	262	<b>FA 08</b>	1770	400	260

1) without brake  
2) with brake

2 POLE - 3000 rpm - S1



50 HZ

P <sub>n</sub>	hp	kW		n	T <sub>n</sub>		η	cosφ	I <sub>n</sub> at 400V	I <sub>s</sub> I <sub>n</sub>	T <sub>s</sub> T <sub>n</sub>	T <sub>k</sub> T <sub>n</sub>	J <sub>m</sub> lb-ft <sup>2</sup>		Weight lbs	Brake type	T <sub>b</sub>	Z <sub>o</sub> 1/h rectifier		Weight lbs	Brake type	T <sub>b</sub>	Z <sub>o</sub> 1/h	Weight lbs	
													1)	2)				NB	SB						
0.25	0.18	0.18	<b>M 05A 2</b>	2730	5.6		60	0.77	0.56	3.0	2.1	2.0	0.0048	0.0062	7.1	<b>FD 02</b>	15	3900	4800	10.8	<b>FA 02</b>	15	4800	10.4	
0.33	0.25	0.25	<b>M 05B 2</b>	2740	7.7		66	0.76	0.72	3.3	2.3	2.3	0.0055	0.0071	7.9	<b>FD 02</b>	15	3900	4800	11.7	<b>FA 02</b>	15	4800	11.2	
0.5	0.37	0.37	<b>M 05C 2</b>	2800	11.2		69	0.78	0.99	3.9	2.6	2.6	0.0062	0.0078	10.6	<b>FD 02</b>	30	3600	4500	14.3	<b>FA 02</b>	30	4500	13.9	
0.75	0.55	0.55	<b>M 1SD 2</b>	2820	16.5		76	0.76	1.37	5.0	2.9	2.8	0.0097	0.0126	12.8	<b>FD 03</b>	44	2900	4200	18.7	<b>FA 03</b>	44	4200	18.1	
1	0.75	0.75	<b>M 1LA 2</b>	2810	23.0		77	0.76	1.86	5.1	3.1	2.8	0.0119	0.0145	15.2	<b>FD 03</b>	44	1900	3300	21	<b>FA 03</b>	44	3300	21	
1.5	1.1	1.1	<b>M 2SA 2</b>	2800	33.6		76	0.81	2.57	4.8	2.8	2.4	0.0214	0.0252	19.4	<b>FD 04</b>	88	1500	3000	26	<b>FA 04</b>	88	3000	28	
2	1.5	1.5	<b>M 2SB 2</b>	2800	45		79	0.81	3.4	4.9	2.7	2.4	0.0271	0.0309	23	<b>FD 04</b>	133	1300	2600	22	<b>FA 04</b>	133	2600	32	
3	2.2	2.2	<b>M 3SA 2</b>	2850	65		80	0.78	5.1	5.2	2.1	1.8	0.0570	0.0665	34	<b>FD 15</b>	230	1100	2400	49	<b>FA 15</b>	230	2400	51	
5.5	4	4	<b>M 3LB 2</b>	2870	118		84	0.8	8.6	5.9	2.7	2.5	0.0926	0.102	49	<b>FD 15</b>	354	450	900	62	<b>FA 15</b>	354	900	64	
7.5	5.5	5.5	<b>M 4SA 2</b>	2890	161		86	0.84	11.0	6.0	2.6	2.2	0.240	0.266	73	<b>FD 06</b>	440	600	101	<b>FA 06</b>	440	600	104		
10	7.5	7.5	<b>M 4SB 2</b>	2900	221		87	0.85	14.6	6.4	2.6	2.2	0.318	0.344	88	<b>FD 06</b>	440	550	117	<b>FA 06</b>	440	550	119		
15	11	11	<b>M 4LC 2</b>	2920	319		89	0.88	20.2	7.0	2.9	2.5	0.499		132										
20	15	15	<b>M 5SB 2</b>	2930	434		90	0.86	28.1	7.1	2.6	2.3	0.808		154										
25	18.5	18.5	<b>M 5SC 2</b>	2930	531		90	0.86	34	7.6	2.7	2.3	0.998		183										
30	22	22	<b>M 5LA 2</b>	2930	637		91	0.88	40	7.8	2.6	2.4	1.164		209										

1) without brake  
2) with brake




**4 POLE - 1500 rpm - S1**
**50 Hz**

P <sub>n</sub>		n	T <sub>n</sub>		η	cosφ	I <sub>n</sub> at 400V	I <sub>s</sub> I <sub>n</sub>	T <sub>s</sub> T <sub>n</sub>	T <sub>k</sub> T <sub>n</sub>	J <sub>m</sub> lb-ft <sup>2</sup>		Weight lbs	Brake type	T <sub>b</sub>	Z <sub>o</sub> 1/h rectifier	Weight lbs	Brake type	T <sub>b</sub>	Z <sub>o</sub> 1/h	Weight lbs	
											1)	2)										
0.12	0.09	<b>M 0B 4</b>	1350	5.7	52	0.60	0.42	2.6	2.5	2.4	0.0036	6.4										
0.16	0.12	<b>M 05A 4</b>	1350	7.5	60	0.62	0.47	2.6	1.9	1.8	0.0048	7.1	<b>FD 02</b>	15.5	10000	13000	10.8	<b>FA 02</b>	15.5	13000	10.4	
0.25	0.18	<b>M 05B 4</b>	1320	11.5	55	0.67	0.71	2.6	2.2	2.0	0.0055	7.9	<b>FD 02</b>	31.0	10000	13000	11.7	<b>FA 02</b>	31.0	13000	11.2	
0.33	0.25	<b>M 05C 4</b>	1340	15.8	65	0.69	0.80	2.7	2.1	1.9	0.0078	10.6	<b>FD 02</b>	31.0	7800	10000	14.3	<b>FA 02</b>	31.0	10000	13.9	
0.50	0.37	<b>M 1SD 4</b>	1370	23.0	67	0.76	1.05	3.7	2	1.9	0.0164	12.1	<b>FD 03</b>	44.3	6000	9400	18.1	<b>FA 03</b>	44.3	9400	17.4	
0.75	0.55	<b>M 1LA 4</b>	1380	33.6	69	0.74	1.55	4.1	2.3	2.3	0.0216	15.2	<b>FD 53</b>	66	4300	8700	21	<b>FA 03</b>	66	8700	21	
1	0.75	<b>M 2SA 4</b>	1400	45.1	75	0.78	1.85	4.9	2.7	2.5	0.0482	20	<b>FD 04</b>	133	4100	7800	29	<b>FA 04</b>	133	7800	29	
1.5	1.1	<b>M 2SB 4</b>	1400	66	76	0.78	2.66	5.1	2.8	2.5	0.0594	23	<b>FD 04</b>	133	2600	5300	32	<b>FA 04</b>	133	5300	32	
2	1.5	<b>M 3SA 4</b>	1410	90	80	0.77	3.5	4.6	2.1	2.1	0.0808	34	<b>FD 15</b>	230	2800	4900	49	<b>FA 15</b>	230	4900	51	
3	2.2	<b>M 3LA 4</b>	1410	132	81	0.75	5.2	4.5	2.2	2.0	0.0960	37	<b>FD 15</b>	354	2600	4700	53	<b>FA 15</b>	354	4700	53	
5.5	4	<b>M 3LC 4</b>	1400	239	83	0.78	9.0	4.7	2.3	2.2	0.145	51	<b>FD 55</b>	487		1300	64	<b>FA 15</b>	487	1300	66	
7.5	5.5	<b>M 4SA 4</b>	1440	319	86	0.80	11.5	5.5	2.3	2.2	0.506	93	<b>FD 56</b>	664	1050	1050	121	<b>FA 06</b>	664	1050	123	
10	7.5	<b>M 4LA 4</b>	1440	443	87	0.80	15.6	5.7	2.5	2.4	0.641	112	<b>FD 06</b>	885	950	950	141	<b>FA 07</b>	885	950	143	
15	11	<b>M 4 LC 4</b>	1440	646	88	0.81	22.2	5.9	2.7	2.5	0.855	143	<b>FD 07</b>	1328	850	850	179	<b>FA 07</b>	1328	850	183	
20	15	<b>M 5SB 4</b>	1460	867	90	0.81	29.7	5.9	2.3	2.1	1.544	187	<b>FD 08</b>	1770	750	750	254	<b>FA 08</b>	1770	750	251	
25	18.5	<b>M 5LA 4</b>	1460	1071	90	0.81	37	6.2	2.6	2.5	1.876	223	<b>FD 08</b>	2213	700	700	289	<b>FA 08</b>	2213	700	287	

1) without brake  
2) with brake

## 6 POLE - 1000 rpm - S1

50 HZ


P <sub>n</sub>		n	T <sub>n</sub>	η	cosφ	I <sub>n</sub> at 400V	$\frac{I_s}{I_n}$	$\frac{T_s}{T_n}$	$\frac{T_k}{T_n}$	J <sub>m</sub> lb.ft <sup>2</sup>		Weight lbs	Brake type	T <sub>b</sub>	Z <sub>o</sub> 1/h rectifier		Weight lbs	Brake type	T <sub>b</sub>	Z <sub>o</sub> 1/h	Weight lbs
										1)	2)				NB	SB					
hp	kW	rpm	lb-in	%		A				1)	2)	1)		lb-in	NB	SB	2)		lb-in	1/h	2)
0.12	0.09	880	8.7	41	0.53	0.60	2.1	2.1	1.8	0.0081	0.0095	9.5	FD 02	31.0	9000	14000	13.2	FA 02	31.0	14000	12.8
0.16	0.12	870	11.7	45	0.60	0.64	2.1	1.9	1.7	0.0088	0.0102	10.1	FD 02	31.0	9000	14000	13.9	FA 02	31.0	14000	13.4
0.25	0.18	900	16.9	56	0.69	0.67	2.6	1.9	1.7	0.0200	0.0226	11.2	FD 03	44.3	8100	13500	17.2	FA 03	44.3	13500	16.5
0.33	0.25	900	23.9	62	0.71	0.82	2.6	1.9	1.7	0.0259	0.0290	13.9	FD 03	44.3	7800	13000	19.8	FA 03	44.3	13000	19.2
0.50	0.37	910	34.5	66	0.69	1.17	3.0	2.4	2.0	0.0306	0.0330	16.1	FD 53	66	5100	9500	22	FA 03	66	9500	21
0.75	0.55	920	50	70	0.69	1.64	3.9	2.6	2.2	0.0594	0.0641	23	FD 04	133	4800	7200	32	FA 04	133	7200	32
1	0.75	920	69	70	0.65	2.38	3.8	2.5	2.2	0.0665	0.0713	25	FD 04	133	3400	6400	34	FA 04	133	6400	34
1.5	1.1	920	101	72	0.69	3.2	3.9	2.3	2.0	0.147	0.157	37	FD 05	230	2700	5000	51	FA 15	230	5000	53
2	1.5	940	135	73	0.72	4.1	4.0	2.1	2.0	0.195	0.204	46	FD 15	354	1900	4100	60	FA 15	354	4100	62
3	2.2	930	204	75	0.71	6	4.6	2.0	1.9	0.226	0.235	51	FD 55	487	1900	1900	64	FA 15	487	1900	66
5	4	950	354	78	0.77	9.6	5.5	2.0	1.8	0.701	0.724	95	FD 06	885	1200	1200	123	FA 07	885	1200	126
7.5	5.5	945	496	80	0.78	12.7	5.9	2.1	1.9	0.910	0.964	119	FD 07	1328	1050	1050	154	FA 07	1328	1050	159
10	7.5	955	664	84	0.81	15.9	5.9	2.2	2.0	1.758	1.936	152	FD 08	1505	900	900	216	FA 08	1505	900	216
15	11	960	965	87	0.81	22.5	6.5	2.5	2.3	2.304	2.482	196	FD 08	1770	800	800	262	FA 08	1770	800	260

1) without brake  
2) with brake

### 3.11 IEC MOTOR RATING CHARTS


#### 2 POLE - 3600 rpm - S1

**60 HZ**

P <sub>n</sub>		n	T <sub>n</sub>	η	cosφ	I <sub>n</sub> at 460V	I <sub>s</sub> I <sub>n</sub>	T <sub>s</sub> T <sub>n</sub>	T <sub>k</sub> T <sub>n</sub>	J <sub>m</sub> lb.ft <sup>2</sup>		Weight lbs	Brake type	T <sub>b</sub>	Z <sub>o</sub> 1/h		Weight lbs	Brake type	T <sub>b</sub>	Z <sub>o</sub> 1/h	Weight lbs		
										1)	2)				NB	SB							
0.25	0.18	<b>BN 63A</b>	2	3360	4.7	58	0.74	0.55	3.7	2.9	3.0	0.0048	0.0062	7.7	<b>FD 02</b>	15	2700	3300	10.7	<b>FA 02</b>	15	3300	11.0
0.33	0.25	<b>BN 63B</b>	2	3370	6.2	61	0.73	0.69	4.2	2.9	3.0	0.0055	0.0071	8.6	<b>FD 02</b>	15	2700	3300	11.5	<b>FA 02</b>	15	3300	11.9
0.5	0.37	<b>BN 71A</b>	2	3420	9.2	71	0.77	0.86	5.8	3.3	3.8	0.0082	0.0109	11.9	<b>FD 03</b>	30	2400	3200	16.6	<b>FA 03</b>	30	3200	17.2
0.75	0.55	<b>BN 71B</b>	2	3450	13.7	76	0.75	1.23	6.2	3.4	3.9	0.0097	0.0126	13.7	<b>FD 03</b>	44	2200	2700	18.2	<b>FA 03</b>	44	2700	19.0
1	0.75	<b>BN 80A</b>	2	3440	18.3	76	0.76	1.62	5.9	3.1	3.7	0.0185	0.0223	19.0	<b>FD 04</b>	44	1400	1700	26	<b>FA 04</b>	44	1700	27
1.5	1.1	<b>BN 80B</b>	2	3430	27.6	77	0.76	2.40	6.2	3.8	3.9	0.0214	0.0252	21	<b>FD 04</b>	88	1200	1600	27	<b>FA 04</b>	88	1600	29
2	1.5	<b>BN 90SA</b>	2	3480	36.2	79	0.78	3.04	7.3	3.6	3.8	0.0297	0.0335	27	<b>FD 14</b>	133	750	1000	34	<b>FA 14</b>	133	1000	36
3	2.2	<b>BN 90L</b>	2	3490	54	81	0.79	4.4	7.3	3.8	3.9	0.0397	0.0435	31	<b>FD 05</b>	230	750	1000	41	<b>FA 05</b>	230	1000	46
5	3.7	<b>BN 100LB</b>	2	3490	90	84	0.83	6.7	6.7	2.9	3.2	0.0926	0.102	51	<b>FD 15</b>	354	360	500	59	<b>FA 15</b>	354	500	66
7.5	5.5	<b>BN 132SA</b>	2	3490	135	83	0.86	9.8	6.4	2.7	3.0	0.240	0.266	77	<b>FD 06</b>	440	400	400	98	<b>FA 06</b>	440	400	108
10	7.5	<b>BN 132SB</b>	2	3490	181	82	0.88	13.0	6.2	2.8	3.2	0.318	0.344	93	<b>FD 06</b>	440	350	350	113	<b>FA 06</b>	440	350	123
15	11	<b>BN 160MR</b>	2	3510	271	87	0.88	18.3	6.9	2.7	3.0	0.499		143									
20	15	<b>BN 160MB</b>	2	3510	359	86	0.90	24.2	6.0	2.5	2.7	0.808		185									
25	18.5	<b>BN 160L</b>	2	3520	449	88	0.91	29.2	6.9	2.8	3.0	0.998		214									
30	22	<b>BN 180M</b>	2	3520	537	88	0.91	35.1	6.9	2.8	3.1	1.164		240									
40	30	<b>BN 200L</b>	2	3530	716	89	0.91	46.2	6.9	2.6	3.0	1.829		309									


1) without brake  
2) with brake

**4 POLE - 1800 rpm - S1**
**60 Hz**

P <sub>n</sub>		n	T <sub>n</sub>	η	cosφ	I <sub>n</sub> at 460V	l <sub>s</sub> l <sub>n</sub>	T <sub>s</sub> T <sub>n</sub>	T <sub>k</sub> T <sub>n</sub>	J <sub>m</sub> lb-ft <sup>2</sup>		Weight lbs	Brake type	T <sub>b</sub>	Z <sub>o</sub> 1/h rectifier	Weight lbs	Brake type	T <sub>b</sub>	Z <sub>o</sub> 1/h	Weight lbs	
										1)	2)										NB
0.08	0.06	<b>BN 56A</b> 4	1670	3.0	53	0.55	2.9	3.1	3.1	0.0036		6.8									
0.12	0.09	<b>BN 56B</b> 4	1670	4.5	59	0.52	2.8	2.9	2.9	0.0036		6.8									
0.16	0.12	<b>BN 63A</b> 4	1650	6.1	55	0.64	3.1	2.4	2.5	0.0048	0.0062	7.7	<b>FD 02</b>	15	7000	9000	<b>FA 02</b>	15	9000	11.5	11.0
0.25	0.18	<b>BN 63B</b> 4	1670	9.4	58	0.59	3.1	2.8	2.9	0.0055	0.0071	8.6	<b>FD 02</b>	30	7000	9000	<b>FA 02</b>	30	9000	12.3	11.9
0.33	0.25	<b>BN 71A</b> 4	1700	12.2	64	0.74	4.3	2.6	2.7	0.0138	0.0164	11.2	<b>FD 03</b>	30	6000	8500	<b>FA 03</b>	30	8500	17.2	16.5
0.50	0.37	<b>BN 71B</b> 4	1700	18.5	66	0.73	4.5	2.6	2.8	0.0164	0.0190	13.0	<b>FD 03</b>	44	4800	7500	<b>FA 03</b>	44	7500	19.0	18.3
0.75	0.55	<b>BN 80A</b> 4	1710	27.6	73	0.75	4.9	3.0	3.0	0.0356	0.0394	18.1	<b>FD 04</b>	89	3400	7000	<b>FA 04</b>	89	7000	27	26
1	0.75	<b>BN 80B</b> 4	1720	36.6	78	0.75	6.2	3.4	3.5	0.0482	0.0523	22	<b>FD 04</b>	133	3000	6000	<b>FA 04</b>	133	6000	30	30
1.5	1.1	<b>BN 90S</b> 4	1720	55	78	0.74	5.7	3.1	3.4	0.0499	0.0546	27	<b>FD 14</b>	133	3000	7000	<b>FA 14</b>	133	7000	36	36
2	1.5	<b>BN 90LA</b> 4	1720	73	81	0.74	6.6	3.3	3.6	0.0665	0.0760	30	<b>FD 05</b>	230	2200	4700	<b>FA 05</b>	230	4700	43	45
3	2.2	<b>BN 100LA</b> 4	1720	110	81	0.73	8.0	2.7	2.9	0.0960	0.105	40	<b>FD 15</b>	354	1000	2700	<b>FA 15</b>	354	2700	55	55
5	3.7	<b>BN 100LC</b> 4	1730	182	84	0.74	7.5	2.8	3.1	0.145	0.154	55	<b>FD 55</b>	480	1200	1200	<b>FA 15</b>	480	1200	66	64
5.5	4	<b>BN 112M</b> 4	1730	200	85	0.76	7.0	3.1	3.4	0.233	0.254	66	<b>FD 06S</b>	530	850	850	<b>FA 06S</b>	530	850	88	93
7.5	5.5	<b>BN 132S</b> 4	1730	273	84	0.84	10.0	2.9	3.1	0.506	0.530	97	<b>FD 56</b>	664	850	850	<b>FA 06</b>	664	850	126	128
10	7.5	<b>BN 132MA</b> 4	1740	362	85	0.84	13.1	2.9	3.0	0.641	0.665	117	<b>FD 06</b>	885	700	700	<b>FA 07</b>	885	700	146	157
15	11	<b>BN 160MR</b> 4	1740	543	88	0.81	19.4	3.1	3.2	0.855	0.907	154	<b>FD 07</b>	1328	600	600	<b>FA 07</b>	1328	600	190	194
20	15	<b>BN 160L</b> 4	1750	720	90	0.84	24.8	2.3	2.7	1.544	1.722	218	<b>FD 08</b>	1770	400	400	<b>FA 08</b>	1770	400	284	282
25	18.5	<b>BN 180M</b> 4	1760	895	90	0.83	31.3	2.5	3.1	1.876	2.054	254	<b>FD 08</b>	2210	300	300	<b>FA 08</b>	2210	300	320	317

1) without brake  
2) with brake


**6 POLE - 1200 rpm - S1**
**60 HZ**

P <sub>n</sub>		n	T <sub>n</sub>	η	cosφ	I <sub>n</sub> at 460V	I <sub>s</sub> I <sub>n</sub>	T <sub>s</sub> T <sub>n</sub>	T <sub>k</sub> T <sub>n</sub>	J <sub>m</sub> lb-ft <sup>2</sup>		Weight lbs	Brake type	T <sub>b</sub>	Z <sub>o</sub> 1/h rectifier		Weight lbs	Brake type	T <sub>b</sub>	Z <sub>o</sub> 1/h	Weight lbs
										1)	2)				NB	SB					
hp	kW	rpm	lb-in	%		A					1)	2)		lb-in					lb-in		
0.12	0.09	1100	6.9	47	0.50	0.48	2.8	2.9	2.9	0.0081	0.0095	10.1	<b>FD 02</b>	30	7000	10000	13.9	<b>FA 02</b>	30	10000	13.4
0.16	0.12	1100	9.2	50	0.55	0.55	2.4	2.4	2.7	0.0088	0.0102	10.8	<b>FD 02</b>	30	7000	10000	14.6	<b>FA 02</b>	30	10000	14.1
0.25	0.18	1100	14.3	61	0.65	0.57	3.3	2.6	2.8	0.0200	0.0226	12.1	<b>FD 03</b>	44	6500	10000	18.1	<b>FA 03</b>	44	10000	17.4
0.33	0.25	1100	18.9	64	0.65	0.75	3.2	2.6	2.7	0.0259	0.0285	14.8	<b>FD 03</b>	44	6200	8000	21	<b>FA 03</b>	44	8000	20
0.50	0.37	1130	27.9	67	0.65	1.07	3.9	2.6	2.8	0.0499	0.0546	22	<b>FD 04</b>	88	4100	5500	30	<b>FA 04</b>	88	5500	30
0.75	0.55	1140	41.4	76	0.66	1.38	4.9	3.2	3.4	0.0594	0.0641	25	<b>FD 04</b>	133	3800	5000	34	<b>FA 04</b>	133	5000	33
1	0.75	1140	55	73	0.63	2.05	4.5	2.9	3.1	0.0618	0.0665	29	<b>FD 14</b>	133	2700	4000	37	<b>FA 14</b>	133	4000	37
1.5	1.1	1140	83	75	0.65	2.83	4.3	2.8	2.9	0.0784	0.0879	33	<b>FD 05</b>	230	2000	3500	46	<b>FA 05</b>	230	3500	49
2	1.5	1140	111	76	0.66	3.75	4.5	2.4	2.8	0.195	0.204	49	<b>FD 15</b>	354	1500	3000	62	<b>FA 15</b>	354	3000	64
3	2.2	1150	164	81	0.69	4.9	5.5	2.8	2.9	0.400	0.420	71	<b>FD 06S</b>	530		1250	93	<b>FA 06S</b>	530	1250	97
5	3.7	1150	274	80	0.79	7.3	6.1	2.5	3.1	0.701	0.724	97	<b>FD 06</b>	885		900	128	<b>FA 07</b>	885	900	139
7.5	5.5	1140	414	82	0.75	11.2	5.4	2.7	2.9	0.910	0.964	123	<b>FD 07</b>	1328		800	159	<b>FA 07</b>	1328	800	163
10	7.5	1160	543	85	0.82	13.5	5.8	2.3	2.8	1.758	1.936	183	<b>FD 08</b>	1500		550	247	<b>FA 08</b>	1500	550	249
15	11	1160	815	84	0.83	19.8	5.8	2.5	2.9	2.304	2.482	227	<b>FD 08</b>	1770		400	293	<b>FA 08</b>	1770	400	293

1) without brake  
2) with brake


2 POLE - 3000 rpm - S1

50 HZ

P <sub>n</sub>		n	T <sub>n</sub>	EFF 2	η	cosφ	I <sub>n</sub> at 400V	I <sub>s</sub> I <sub>n</sub>	T <sub>s</sub> T <sub>n</sub>	T <sub>k</sub> T <sub>n</sub>	J <sub>m</sub> lb-ft <sup>2</sup>		Weight lbs	Brake type	T <sub>b</sub>	Z <sub>o</sub> 1/h rectifier		Weight lbs	Brake type	T <sub>b</sub>	Z <sub>o</sub> 1/h	Weight lbs	
											1)	2)				NB	SB						
0.25	0.18	BN 63A	2	2730	5.6	59.9	0.77	3.0	2.1	2.0	0.0048	0.0062	7.7	FD 02	15	3900	4800	11.5	FA 02	15	4800	11.0	
0.33	0.25	BN 63B	2	2740	7.7	66.0	0.76	3.3	2.3	2.3	0.0055	0.0071	8.6	FD 02	15	3900	4800	12.3	FA 02	15	4800	11.9	
0.5	0.37	BN 71A	2	2820	11.1	73.8	0.76	4.8	2.8	2.6	0.0082	0.0109	11.9	FD 03	30	3000	4100	17.9	FA 03	30	4200	17.2	
0.75	0.55	BN 71B	2	2820	16.5	76.0	0.76	5.0	2.9	2.8	0.0097	0.0126	13.7	FD 03	44	2900	4200	19.6	FA 03	44	4200	19.0	
1	0.75	BN 80A	2	2810	23.0	76.2	0.81	4.8	2.6	2.2	0.0185	0.0223	19.0	FD 04	44	1700	3200	28	FA 04	44	3200	27	
1.5	1.1	BN 80B	2	2800	33.6	76.4	0.81	4.8	2.8	2.4	0.0214	0.0252	21	FD 04	88	1500	3000	30	FA 04	88	3000	29	
2	1.5	BN 90SA	2	2870	44	82.0	0.80	5.9	2.7	2.6	0.0297	0.0335	27	FD 14	133	900	2200	36	FA 14	133	2200	36	
3	2.2	BN 90L	2	2880	65	82.7	0.80	6.3	2.9	2.7	0.0397	0.0435	31	FD 05	230	900	2200	44	FA 05	230	2200	46	
5.5	4	BN 100LB	2	2870	118	84.3	0.80	5.9	2.7	2.5	0.0926	0.102	51	FD 15	354	450	900	64	FA 15	354	1000	66	
7.50	5.5	BN 132SA	2	2890	161	86.1	0.84	6.0	2.6	2.2	0.240	0.266	77	FD 06	440		600	106	FA 06	440	600	108	
10	7.5	BN 132SB	2	2900	221	87.2	0.85	6.4	2.6	2.2	0.318	0.344	93	FD 06	440		550	121	FA 06	440	550	123	
15	11	BN 160MR	2	2920	319	89.1	0.88	7.0	2.9	2.5	0.499		143										
20	15	BN 160MB	2	2930	434	89.6	0.86	7.1	2.6	2.3	0.808		185										
25	18.5	BN 160L	2	2930	531	90.4	0.86	7.6	2.7	2.3	0.998		214										
30	22	BN 180M	2	2930	637	91.3	0.88	40	2.6	2.4	1.164		240										
40	30	BN 200L	2	2930	867	91.9	0.89	53	2.7	2.9	1.829		309										

1) without brake  
2) with brake

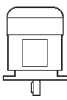
**4 POLE - 1500 rpm - S1**
**50 HZ**

P <sub>n</sub>		n	T <sub>n</sub>	EFF 2	η	cosφ	I <sub>n</sub> at 400V	I <sub>s</sub> I <sub>n</sub>	T <sub>s</sub> T <sub>n</sub>	T <sub>k</sub> T <sub>n</sub>	J <sub>m</sub> lb-ft <sup>2</sup>		Weight lbs	Brake type	T <sub>b</sub>	Z <sub>o</sub> 1/h rectifier		Weight lbs	Brake type	T <sub>b</sub>	Z <sub>o</sub> 1/h	Weight lbs
											1)	2)				1)	2)					
hp	kW	rpm	lb-in	%			A						1)	2)	lb-in	1)	2)	2)		lb-in		2)
0.08	0.06	<b>BN 56A</b> 4	3.8		46.8	0.65	0.28	2.6	2.3	2.0	0.0036		6.8									
0.12	0.09	<b>BN 56B</b> 4	5.7		51.7	0.60	0.42	2.6	2.5	2.4	0.0036		6.8									
0.16	0.12	<b>BN 63A</b> 4	7.5		59.8	0.62	0.47	2.6	1.9	1.8	0.0048	0.0062	7.7	<b>FD 02</b>	15	10000	13000	11.5	<b>FA 02</b>	15	13000	11.0
0.25	0.18	<b>BN 63B</b> 4	11.5		54.8	0.67	0.71	2.6	2.2	2.0	0.0055	0.0071	8.6	<b>FD 02</b>	30	10000	13000	12.3	<b>FA 02</b>	30	13000	11.9
0.33	0.25	<b>BN 71A</b> 4	15.3		63.7	0.73	0.78	3.3	1.9	1.7	0.0138	0.0164	11.2	<b>FD 03</b>	30	7700	11000	17.2	<b>FA 03</b>	30	11000	16.5
0.50	0.37	<b>BN 71B</b> 4	23.0		66.8	0.76	1.05	3.7	2.0	1.9	0.0164	0.0190	13.0	<b>FD 03</b>	44	6000	9400	19.0	<b>FA 03</b>	44	9400	18.3
0.75	0.55	<b>BN 80A</b> 4	33.6		72.0	0.77	1.43	4.1	2.3	2.0	0.0356	0.0394	18.1	<b>FD 04</b>	89	4100	8000	27	<b>FA 04</b>	89	8000	26
1	0.75	<b>BN 80B</b> 4	45		75.0	0.78	1.85	4.9	2.7	2.5	0.0482	0.0523	22	<b>FD 04</b>	133	4100	7800	30	<b>FA 04</b>	133	7800	30
1.5	1.1	<b>BN 90S</b> 4	66	EFF 2	76.5	0.77	2.70	4.6	2.6	2.2	0.0499	0.0546	27	<b>FD 14</b>	133	4800	8000	36	<b>FA 14</b>	133	8000	36
2	1.5	<b>BN 90LA</b> 4	91	EFF 2	78.7	0.77	3.6	5.3	2.8	2.4	0.0665	0.0760	30	<b>FD 05</b>	230	3400	6000	43	<b>FA 05</b>	230	6000	45
3	2.2	<b>BN 100LA</b> 4	132	EFF 2	81.1	0.75	5.2	4.5	2.2	2.0	0.0960	0.105	40	<b>FD 15</b>	354	2600	4700	55	<b>FA 15</b>	354	4700	55
4	3	<b>BN 100LB</b> 4	177	EFF 2	82.6	0.77	6.8	5	2.3	2.2	0.128	0.154	49	<b>FD 15</b>	354	2400	4400	62	<b>FA 15</b>	354	4400	64
5.5	4	<b>BN 112M</b> 4	239	EFF 2	84.4	0.81	8.4	5.6	2.7	2.5	0.233	0.254	66	<b>FD 06S</b>	530	—	1400	88	<b>FA 06S</b>	530	2100	93
7.5	5.5	<b>BN 132S</b> 4	319	EFF 2	86.3	0.80	11.5	5.5	2.3	2.2	0.506	0.530	97	<b>FD 56</b>	664	—	1050	126	<b>FA 06</b>	664	1200	128
10	7.5	<b>BN 132MA</b> 4	443	EFF 2	87.0	0.80	15.6	5.7	2.5	2.4	0.641	0.665	117	<b>FD 06</b>	885	—	950	146	<b>FA 07</b>	885	1000	157
15	11	<b>BN 160MR</b> 4	646	EFF 2	88.4	0.81	22.2	5.9	2.7	2.5	0.855	0.907	154	<b>FD 07</b>	1328	—	850	190	<b>FA 07</b>	1328	850	194
20	15	<b>BN 160L</b> 4	867	EFF 2	89.9	0.81	29.7	5.9	2.3	2.1	1.544	1.722	218	<b>FD 08</b>	1770	—	750	284	<b>FA 08</b>	1770	750	282
25	18.5	<b>BN 180M</b> 4	1071	EFF 2	90.0	0.81	37	6.2	2.6	2.5	1.876	2.054	254	<b>FD 08</b>	2210	—	700	320	<b>FA 08</b>	2210	700	317

1) without brake  
2) with brake

## 6 POLE - 1000 rpm - S1

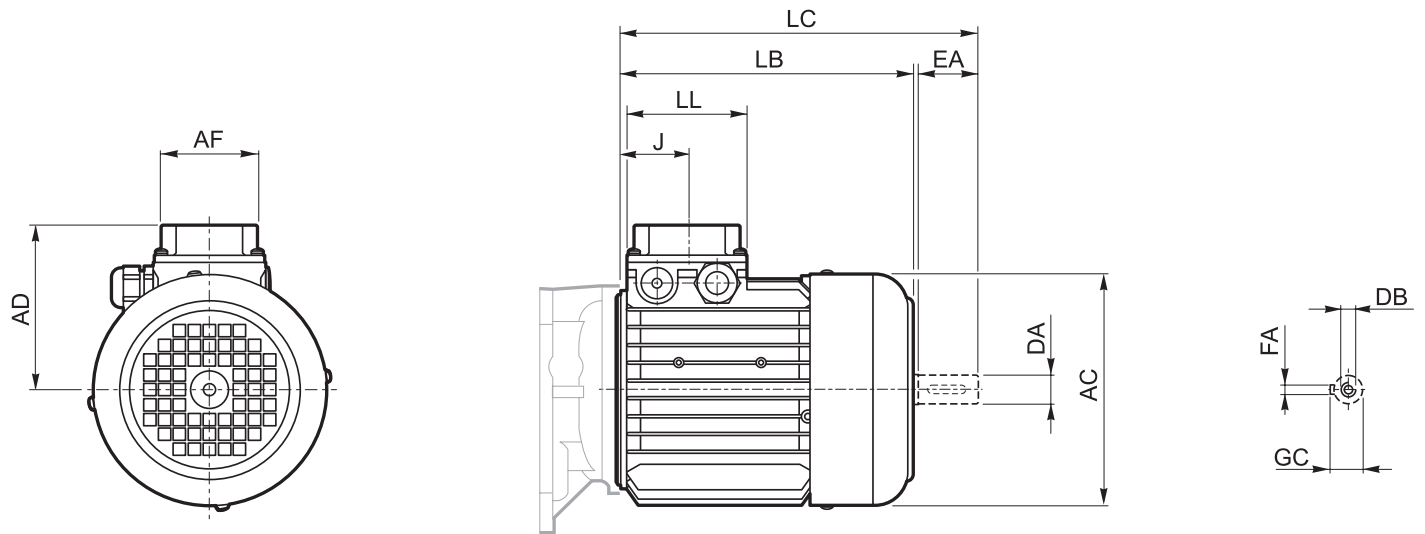
50 HZ

P <sub>n</sub>		n	T <sub>n</sub>	η	cosφ	I <sub>n</sub> at 400V	$\frac{I_s}{I_n}$	$\frac{T_s}{T_n}$	$\frac{T_k}{T_n}$	J <sub>m</sub> lb-ft <sup>2</sup>		Weight lbs	Brake type	T <sub>b</sub>	Z <sub>∞</sub> 1/h rectifier	Weight lbs	Brake type	T <sub>b</sub>	Z <sub>∞</sub> 1/h	Weight lbs	
										1)	2)										1)
hp	kW	rpm	lb-in	%		A								lb-in				lb-in			2)
0.12	0.09	<b>BN 63A</b>	6	880	8.7	41	0.53	2.1	1.8	0.0081	0.0095	4.6	<b>FD 02</b>	30	9000	14000	6.3	<b>FA 02</b>	30	14000	6.1
0.16	0.12	<b>BN 63B</b>	6	870	11.7	45	0.60	1.9	1.7	0.0088	0.0102	4.9	<b>FD 02</b>	30	9000	14000	6.6	<b>FA 02</b>	30	14000	6.4
0.25	0.18	<b>BN 71A</b>	6	900	16.9	56	0.69	1.9	1.7	0.0200	0.0226	5.5	<b>FD 03</b>	44	8100	13500	8.2	<b>FA 03</b>	44	13500	7.9
0.33	0.25	<b>BN 71B</b>	6	900	23.9	62	0.71	1.9	1.7	0.0259	0.0285	6.7	<b>FD 03</b>	44	7800	13000	9.4	<b>FA 03</b>	44	13000	9.1
0.50	0.37	<b>BN 80A</b>	6	910	34.5	68	0.68	2.2	2.0	0.0499	0.0546	9.9	<b>FD 04</b>	88	5200	8500	13.8	<b>FA 04</b>	88	8500	13.7
0.75	0.55	<b>BN 80B</b>	6	920	50	70	0.69	2.6	2.2	0.0594	0.0641	11.3	<b>FD 04</b>	133	4800	7200	15.2	<b>FA 04</b>	133	7200	15.1
1	0.75	<b>BN 90S</b>	6	920	69	69	0.68	2.4	2.2	0.0618	0.0665	12.6	<b>FD 14</b>	133	3400	6500	16.8	<b>FA 14</b>	133	6500	16.7
1.5	1.1	<b>BN 90L</b>	6	920	101	72	0.69	2.3	2.0	0.0784	0.0879	15	<b>FD 05</b>	230	2700	5000	21	<b>FA 05</b>	230	5000	22
2	1.5	<b>BN 100LA</b>	6	940	135	73	0.72	2.1	2.0	0.195	0.204	22	<b>FD 15</b>	354	1900	4100	28	<b>FA 15</b>	354	4100	29
3	2.2	<b>BN 112M</b>	6	940	195	78	0.73	2.2	2.0	0.400	0.420	32	<b>FD 06S</b>	530	—	2100	42	<b>FA 06S</b>	530	2100	44
5.5	4	<b>BN 132MA</b>	6	950	354	78	0.77	2.0	1.8	0.701	0.724	45	<b>FD 06</b>	885	—	1200	58	<b>FA 07</b>	885	1200	63
7.5	5.5	<b>BN 132MB</b>	6	945	496	80	0.78	2.1	1.9	0.910	0.964	56	<b>FD 07</b>	1328	—	1050	72	<b>FA 07</b>	1328	1050	74
10	7.5	<b>BN 160M</b>	6	955	664	84	0.81	2.2	2.0	1.758	1.936	83	<b>FD 08</b>	1500	—	900	112	<b>FA 08</b>	1500	900	113
15	11	<b>BN 160L</b>	6	960	965	87	0.81	2.5	2.3	2.304	2.482	103	<b>FD 08</b>	1770	—	800	133	<b>FA 08</b>	1770	800	133

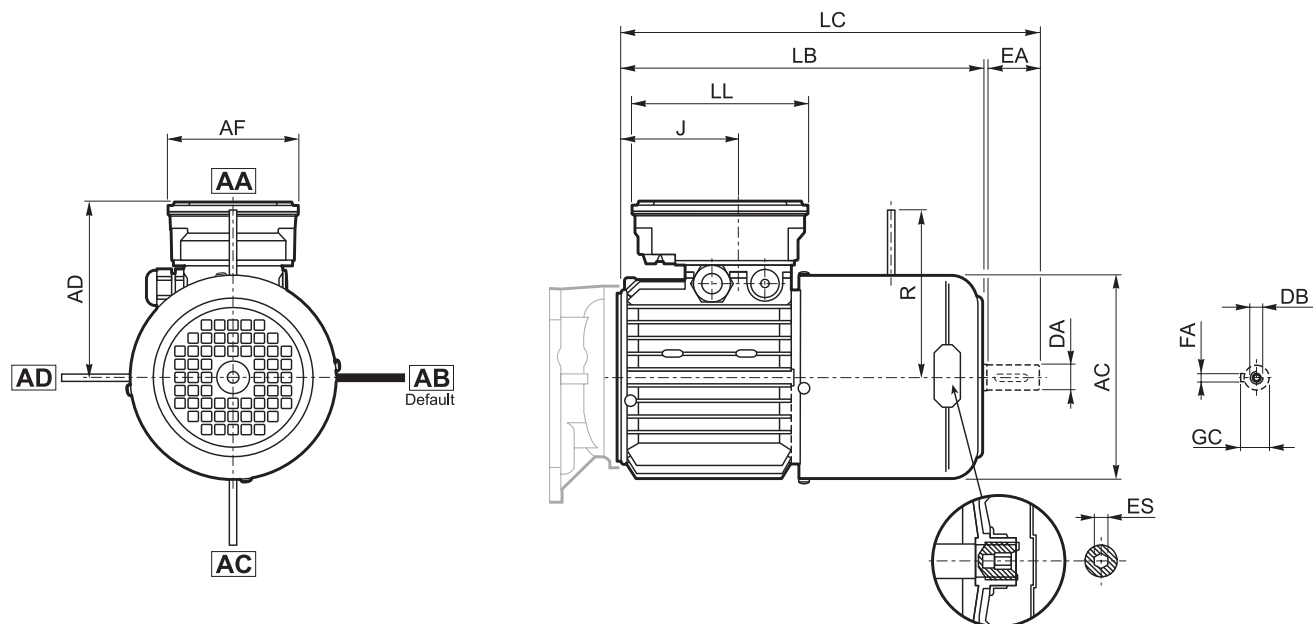
1) without brake  
2) with brake



### 3.12 DIMENSIONS



	Rear shaft end					Motor						
	DA	EA	DB	FA	GC	AC	LB	LC	AF	LL	J	AD
<b>M 0</b>	0.35 9	0.79 20	<i>M3</i>	0.12 3	0.40 10.2	4.33 110	5.24 133	6.10 155	2.91 74	3.15 80	1.65 42	3.58 91
<b>M 05</b>	0.43 11	0.91 23	<i>M4</i>	0.16 4	0.49 12.5	4.76 121	6.50 165	7.52 191	2.91 74	3.15 80	1.89 48	3.74 95
<b>M 1</b>	0.55 14	1.18 30	<i>M5</i>	0.20 5	0.63 16	5.43 138	7.36 187	8.62 219	2.91 74	3.15 80	1.77 45	4.25 108
<b>M 2 S</b>	0.75 19	1.57 40	<i>M6</i>	0.24 6	0.85 21.5	6.14 156	7.95 202	9.65 245	2.91 74	3.15 80	1.73 44	4.69 119
<b>M 3 S</b>	1.10 28	2.36 60	<i>M10</i>	0.31 8	1.22 31	7.68 195	9.06 230	11.54 293	3.86 98	3.86 98	2.11 53.5	5.59 142
<b>M 3 L</b>	1.10 28	2.36 60	<i>M10</i>	0.31 8	1.22 31	7.68 195	10.31 262	12.80 325	3.86 98	3.86 98	2.11 53.5	5.59 142
<b>M 4</b>	1.50 38	3.15 80	<i>M12</i>	0.39 10	1.61 41	10.16 258	14.21 361	17.48 444	4.65 118	4.65 118	2.54 64.5	7.60 193
<b>M 4 LC</b>	1.50 38	3.15 80	<i>M12</i>	0.39 10	1.61 41	10.16 258	15.59 396	18.86 479	4.65 118	4.65 118	2.54 64.5	7.60 193
<b>M 5 S</b>	1.50 38	3.15 80	<i>M12</i>	0.39 10	1.61 41	12.20 310	16.46 418	19.76 502	7.36 187	7.36 187	3.03 77	9.65 245
<b>M 5 L</b>	1.50 38	3.15 80	<i>M12</i>	0.39 10	1.61 41	12.20 310	18.19 462	21.50 546	7.36 187	7.36 187	3.03 77	9.65 245

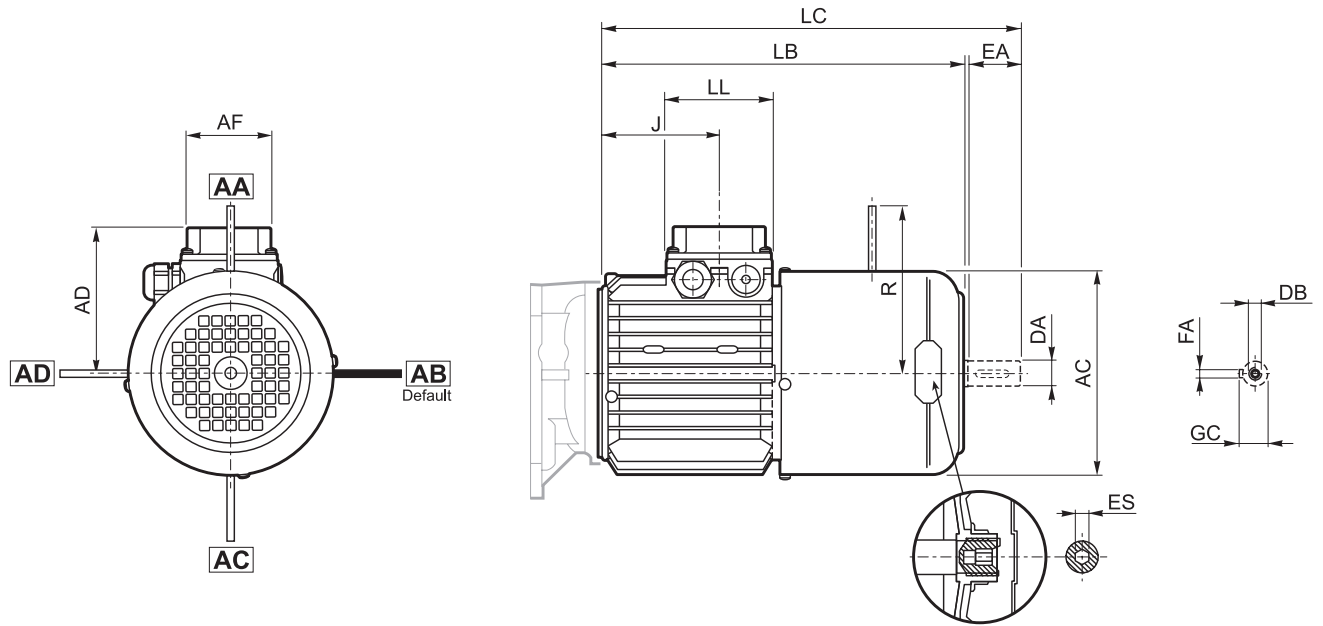


	Rear shaft end					Motor								
	DA	EA	DB	FA	GC	AC	LB	LC	AF	LL	J	AD	R	ES
<b>M 05</b>	0.43 11	0.91 23	M4	0.16 4	0.49 12.5	4.76 121	9.09 231	10.08 256	3.86 98	5.24 133	1.89 48	4.69 119	3.78 96	0.20 5
<b>M 1</b>	0.55 14	1.18 30	M5	0.20 5	0.63 16	5.43 138	9.76 248	11.02 280	3.86 98	5.24 133	2.87 73	5.20 132	4.06 103	0.20 5
<b>M 2 S</b>	0.75 19	1.57 40	M6	0.24 6	0.85 21.5	6.14 156	10.71 272	12.36 314	3.86 98	5.24 133	3.46 88	5.63 143	5.08 129	0.20 5
<b>M 3 S</b>	1.10 28	2.36 60	M10	0.31 8	1.22 31	7.68 195	12.83 326	15.31 389	4.33 110	6.50 165	4.90 124.5	6.10 155	6.30 160	0.24 6
<b>M 3 L</b>	1.10 28	2.36 60	M10	0.31 8	1.22 31	7.68 195	13.90 353	16.38 416	4.33 110	6.50 165	4.90 124.5	6.10 155	6.30 160	0.24 6
<b>M 4</b>	1.50 38	3.15 80	M12	0.39 10	1.61 41	10.16 258	18.50 470	21.77 553	5.51 140	7.40 188	7.30 185.5	8.27 210	8.03 204 (1)	0.24 6
<b>M 4 LC</b>	1.50 38	3.15 80	M12	0.39 10	1.61 41	10.16 258	19.49 495	22.76 578	5.51 140	7.40 188	2.54 64.5	8.27 210	8.90 226	0.24 6
<b>M 5 S</b>	1.50 38	3.15 80	M12	0.39 10	1.61 41	12.20 310	21.97 558	25.28 642	7.36 187	7.36 187	3.03 77	9.65 245	10.47 266	—
<b>M 5 L</b>	1.50 38	3.15 80	M12	0.39 10	1.61 41	12.20 310	23.70 602	27.01 686	7.36 187	7.36 187	3.03 77	9.65 245	10.47 266	—

1) For FD07 brake value R=226

ES hexagon is not supplied with PS option

Dimensions are  $\frac{\text{inch}}{\text{mm}}$

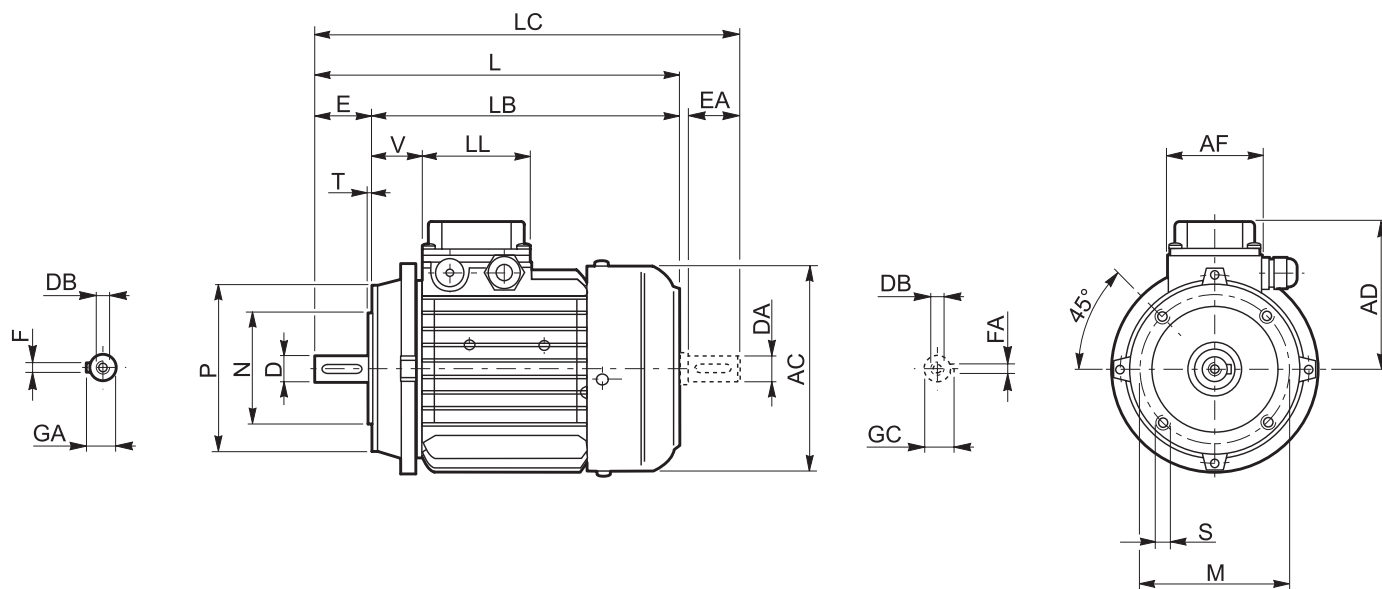


	Rear shaft end					Motor								
	DA	EA	DB	FA	GC	AC	LB	LC	AF	LL	J	AD	R	ES
<b>M 05</b>	0.43 11	0.91 23	M4	0.16 4	0.49 12.5	4.76 121	9.09 231	10.08 256	2.91 74	3.15 80	1.89 48	3.74 95	4.57 116	0.20 5
<b>M 1</b>	0.55 14	1.18 30	M5	0.20 5	0.63 16	5.43 138	9.76 248	11.02 280	2.91 74	3.15 80	2.87 73	4.25 108	4.88 124	0.20 5
<b>M 2 S</b>	0.75 19	1.57 40	M6	0.24 6	0.85 21.5	6.14 156	10.71 272	12.36 314	2.91 74	3.15 80	3.46 88	4.69 119	5.28 134	0.20 5
<b>M 3 S</b>	1.10 28	2.36 60	M10	0.31 8	1.22 31	7.68 195	12.83 326	15.31 389	3.86 98	3.86 98	4.90 124.5	5.59 142	6.30 160	0.24 6
<b>M 3 L</b>	1.10 28	2.36 60	M10	0.31 8	1.22 31	7.68 195	13.90 353	16.38 416	3.86 98	3.86 98	4.90 124.5	5.59 142	6.30 160	0.24 6
<b>M 4</b>	1.50 38	3.15 80	M14	0.39 10	1.61 41	10.16 258	18.50 470	21.77 553	4.65 118	4.65 118	7.30 185.5	7.60 193	7.87 200 (1)	0.24 6
<b>M 4 LC</b>	1.50 38	3.15 80	M14	0.39 10	1.61 41	10.16 258	19.49 495	22.76 578	4.65 118	4.65 118	2.54 64.5	7.60 193	8.54 217	0.24 6
<b>M 5 S</b>	1.50 38	3.15 80	M12	0.39 10	1.61 41	12.20 310	21.97 558	25.28 642	7.36 187	7.36 187	3.03 77	9.65 245	9.72 247	—
<b>M 5 L</b>	1.50 38	3.15 80	M12	0.39 10	1.61 41	12.20 310	23.70 602	27.01 686	7.36 187	7.36 187	3.03 77	9.65 245	9.72 247	—

1) For FD07 brake value R=226

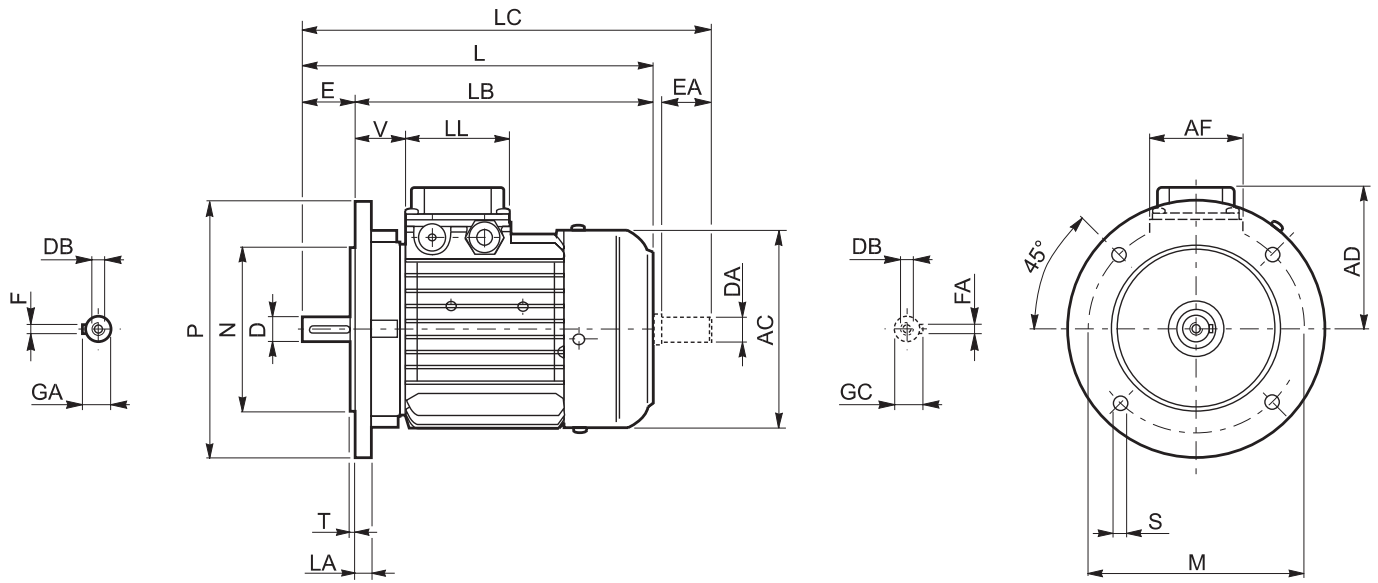
ES hexagon is not supplied with PS option

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



	Shaft					Flange					Motor							
	D DA	E EA	DB	GA GC	F FA	M	N	P	S	T	AC	L	LB	LC	AD	AF	LL	V
<b>BN 56</b>	0.35 9	0.79 20	M3	0.40 10.2	0.12 3	2.56 65	1.97 50	3.15 80	M5	0.10 2.5	4.33 110	7.28 185	6.50 165	8.15 207	3.58 91	2.91 74	3.15 80	1.34 34
<b>BN 63</b>	0.43 11	0.91 23	M4	0.49 12.5	0.16 4	2.95 75	2.36 60	3.54 90	M5	0.10 2.5	4.76 121	8.15 207	7.24 184	9.13 232	3.74 95	2.91 74	3.15 80	1.02 26
<b>BN 71</b>	0.55 14	1.18 30	M5	0.63 16	0.20 5	3.35 85	2.76 70	4.13 105	M6	0.10 2.5	5.43 138	9.80 249	8.62 219	11.06 281	4.25 108	2.91 74	3.15 80	1.46 37
<b>BN 80</b>	0.75 19	1.57 40	M6	0.85 21.5	0.24 6	3.94 100	3.15 80	4.72 120	M6	0.12 3	6.14 156	10.79 274	9.21 234	12.40 315	4.69 119	2.91 74	3.15 80	1.50 38
<b>BN 90</b>	0.94 24	1.97 50	M8	1.06 27	0.31 8	4.53 115	3.74 95	5.51 140	M8	0.12 3	6.93 176	12.83 326	10.87 276	14.88 378	5.24 133	3.86 98	3.86 98	1.73 44
<b>BN 100</b>	1.10 28	2.36 60	M10	1.22 31	0.31 8	5.12 130	4.33 110	6.30 160	M8	0.14 3.5	7.68 195	14.41 366	12.05 306	16.89 429	5.59 142	3.86 98	3.86 98	1.97 50
<b>BN 112</b>	1.10 28	2.36 60	M10	1.22 31	0.31 8	5.12 130	4.33 110	6.30 160	M8	0.14 3.5	8.62 219	15.16 385	12.80 325	17.64 448	6.18 157	3.86 98	3.86 98	2.05 52
<b>BN 132</b>	1.50 38	3.15 80	M12	1.61 41	0.39 10	6.50 165	5.12 130	7.87 200	M10	0.16 4	10.16 258	19.41 493	16.26 413	22.68 576	7.60 193	4.65 118	4.65 118	2.28 58

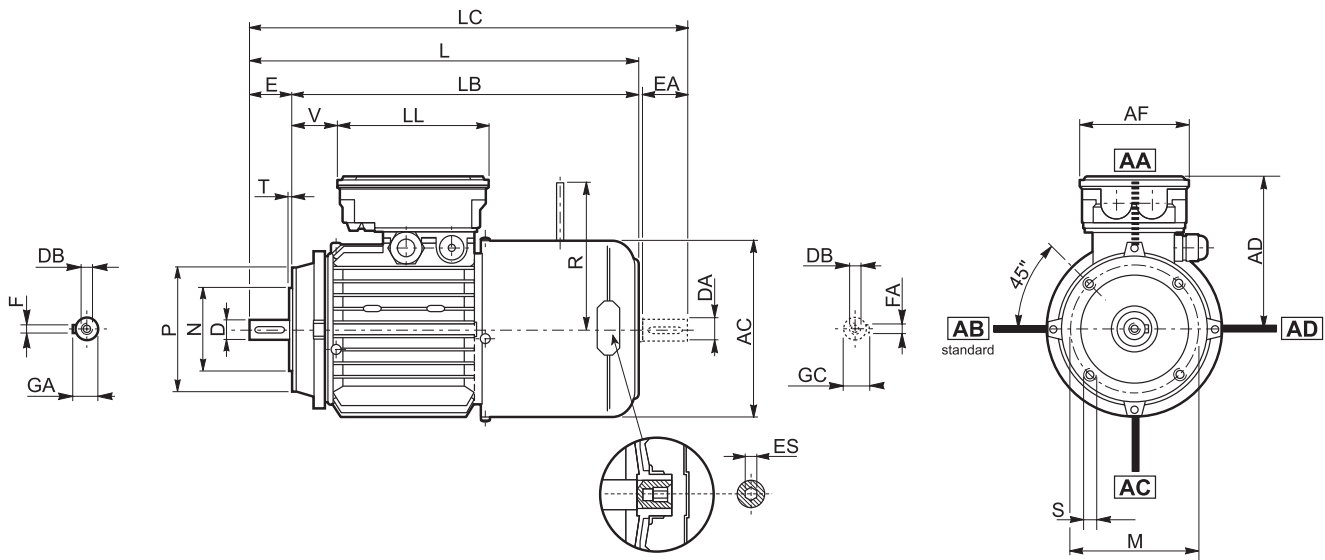
Dimensions are  $\frac{\text{inch}}{\text{mm}}$



	Shaft					Flange						Motor							
	D DA	E EA	DB	GA GC	F FA	M	N	P	S	T	LA	AC	L	LB	LC	AD	AF	LL	V
<b>BN 56</b>	0.35	0.79	M3	0.40	0.12	3.94	3.15	4.72	0.28	0.12	0.31	4.33	7.28	6.50	8.15	3.58	2.91	3.15	1.34
	9	20		10.2	3	100	80	120	7	3	8	110	185	165	207	91	74	80	34
<b>BN 63</b>	0.43	0.91	M4	0.49	0.16	4.53	3.74	5.51	0.37	0.12	0.39	4.76	8.15	7.24	9.13	3.74	2.91	3.15	1.02
	11	23		12.5	4	115	95	140	9.5	3	10	121	207	184	232	95	74	80	26
<b>BN 71</b>	0.55	1.18	M5	0.63	0.20	5.12	4.33	6.30	0.37	0.12	0.39	5.43	9.80	8.62	11.06	4.25	2.91	3.15	1.46
	14	30		16	5	130	110	160	9.5	3	10	138	249	219	281	108	74	80	37
<b>BN 80</b>	0.75	1.57	M6	0.85	0.24	6.50	5.12	7.87	0.45	0.14	0.45	6.14	10.79	9.21	12.40	4.69	2.91	3.15	1.50
	19	40		21.5	6	165	130	200	11.5	3.5	11.5	156	274	234	315	119	74	80	38
<b>BN 90</b>	0.94	1.97	M8	1.06	0.31	6.50	5.12	7.87	0.45	0.14	0.45	6.93	12.83	10.87	14.88	5.24	3.86	3.86	1.73
	24	50		27	8	165	130	200	11.5	3.5	11.5	176	326	276	378	133	98	98	44
<b>BN 100</b>	1.10	2.36	M10	1.22	0.31	8.46	7.09	9.84	0.55	0.16	0.55	7.68	14.45	12.09	16.89	5.59	3.86	3.86	1.97
	28	60		31	8	215	180	250	14	4	14	195	367	307	429	142	98	98	50
<b>BN 112</b>	1.10	2.36	M10	1.22	0.31	8.46	7.09	9.84	0.55	0.16	0.59	8.62	15.16	12.80	17.64	6.18	3.86	3.86	2.05
	28	60		31	8	215	180	250	14	4	15	219	385	325	448	157	98	98	52
<b>BN 132</b>	1.49	3.14	M12	1.61	0.39	10.43	9.05	11.81	0.55	0.15	0.62	10.15	19.40	16.25	22.67	7.59	4.64	4.64	2.28
	38	80		41	10	265	230	300	14	4	16	258	493	413	576	193	118	118	58
<b>BN 160 MR</b>	1.65	4.33	M16	1.77	0.47	11.81	9.84	13.77	0.72	0.19	0.59	10.15	22.12	17.79	25.39	7.59	4.64	4.64	8.58
	42	110		45	12														
<b>BN 160 M</b>	1.49	3.14	M12 (1)	1.61	0.39	300	250	350	18.5	5	15	258	562	452	645	193	118	118	218
	38 (1)	80 (1)		41 (1)	10 (1)														
<b>BN 160 L</b>	1.65	4.33	M16	1.77	0.47	11.81	9.84	13.77	0.72	0.19	0.59	1.22	23.46	19.13	26.77	9.64	7.36	7.36	2.00
	42	110		45	12														
<b>BN 180 M</b>	1.49	3.14	M12 (1)	1.61	0.39	300	250	350	18.5	5	15	310	596	486	680	245	187	187	51
	38 (1)	80 (1)		41 (1)	10 (1)														
<b>BN 180 L</b>	1.88	4.33	M16	2.02	0.55	11.81	9.84	13.77	0.72	0.19	0.59	1.22	25.19	20.86	28.50	9.64	7.36	7.36	2.00
	48	110		51.5	14														
<b>BN 200 L</b>	1.49	4.33	M12 (1)	1.61	0.39	300	250	350	18.5	5	15	310	640	530	724	245	187	187	51
	38 (1)	110 (1)		41 (1)	10 (1)														
<b>BN 200 L</b>	1.88	4.33	M16	2.02	0.55	11.81	9.84	13.77	0.72	0.19	0.70	13.70	27.87	23.54	32.40	10.27	7.36	7.36	2.04
	48	110		51.5	14														
<b>BN 200 L</b>	1.65	4.33	M16 (1)	1.77	0.47	300	250	350	18.5	5	18	348	708	598	823	261	187	187	52
	42 (1)	110 (1)		45 (1)	12 (1)														
<b>BN 200 L</b>	2.16	4.33	M20	2.32	0.62	13.77	11.81	15.74	0.72	0.19	0.70	13.70	28.42	24.09	32.95	10.27	7.36	7.36	2.59
	55	110		59	16														
<b>BN 200 L</b>	1.65	4.33	M16 (1)	1.77	0.47	350	300	400	18.5	5	18	348	722	612	837	261	187	187	66
	42 (1)	110 (1)		45 (1)	12 (1)														

1) These values refer to the rear shaft end.

Dimensions are  $\frac{\text{inch}}{\text{mm}}$

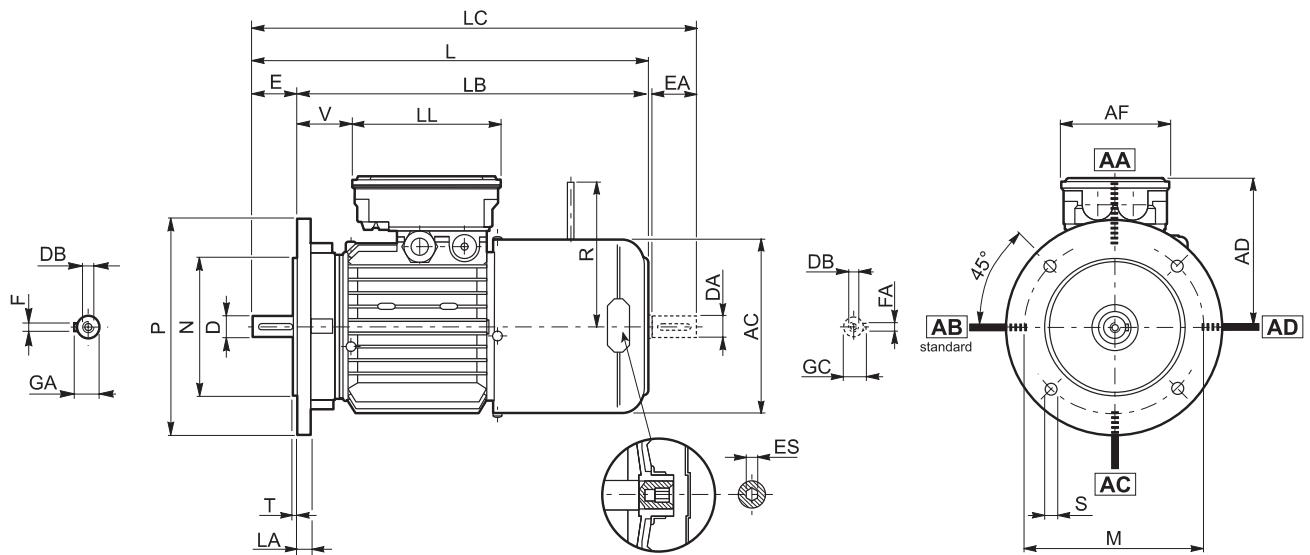


	Shaft					Flange					Motor									
	D DA	E EA	DB	GA GC	F FA	M	N	P	S	T	AC	L	LB	LC	AD	AF	LL	V	R	ES
<b>BN 63</b>	0.43 11	0.91 23	M4	0.49 12.5	0.16 4	2.95 75	2.36 60	3.54 90	M5	0.10 2.5	4.76 121	10.71 272	9.80 249	11.69 297	4.69 119	3.86 98	5.24 133	0.55 14	3.78 96	0.20 5
<b>BN 71</b>	0.55 14	1.18 30	M5	0.63 16	0.20 5	3.35 85	2.76 70	4.13 105	M6	0.10 2.5	5.43 138	12.20 310	11.02 280	13.46 342	5.20 132	3.86 98	5.24 133	0.98 25	4.06 103	0.20 5
<b>BN 80</b>	0.75 19	1.57 40	M6	0.85 21.5	0.24 6	3.94 100	3.15 80	4.72 120	M6	0.12 3	6.14 156	13.62 346	12.05 306	15.28 388	5.63 143	3.86 98	5.24 133	1.61 41	5.08 129	0.20 5
<b>BN 90 S</b>	0.94 24	1.97 50	M8	1.06 27	0.31 8	4.53 115	3.74 95	5.51 140	M8	0.12 3	6.93 176	16.10 409	14.13 359	18.15 461	5.75 146	4.33 110	6.50 165	1.54 39	5.08 129	0.24 6
<b>BN 90 L</b>	0.94 24	1.97 50	M8	1.06 27	0.31 8	4.53 115	3.74 95	5.51 140	M8	0.12 3	6.93 176	16.10 409	14.13 359	18.15 461	5.75 146	4.33 110	6.50 165	1.54 39	6.30 160	0.24 6
<b>BN 100</b>	1.10 28	2.36 60	M10	1.22 31	0.31 8	5.12 130	4.33 110	6.30 160	M8	0.14 3.5	7.68 195	18.03 458	15.67 398	20.51 521	6.10 155	4.33 110	6.50 165	2.44 62	6.30 160	0.24 6
<b>BN 112</b>	1.10 28	2.36 60	M10	1.22 31	0.31 8	5.12 130	4.33 110	6.30 160	M8	0.14 3.5	8.62 219	19.06 484	16.69 424	21.54 547	6.69 170	4.33 110	6.50 165	2.87 73	7.83 199	0.24 6
<b>BN 132</b>	1.50 38	3.15 80	M12	1.61 41	0.39 10	6.50 165	5.12 130	7.87 200	M10	0.16 4	10.16 258	23.74 603	20.59 523	27.01 686	8.27 210	5.51 140	7.40 188	4.80 122	8.03 204 (1)	0.24 6

1) For FD07 brake value R=226

ES hexagon is not supplied with PS option

Dimensions are  $\frac{\text{inch}}{\text{mm}}$

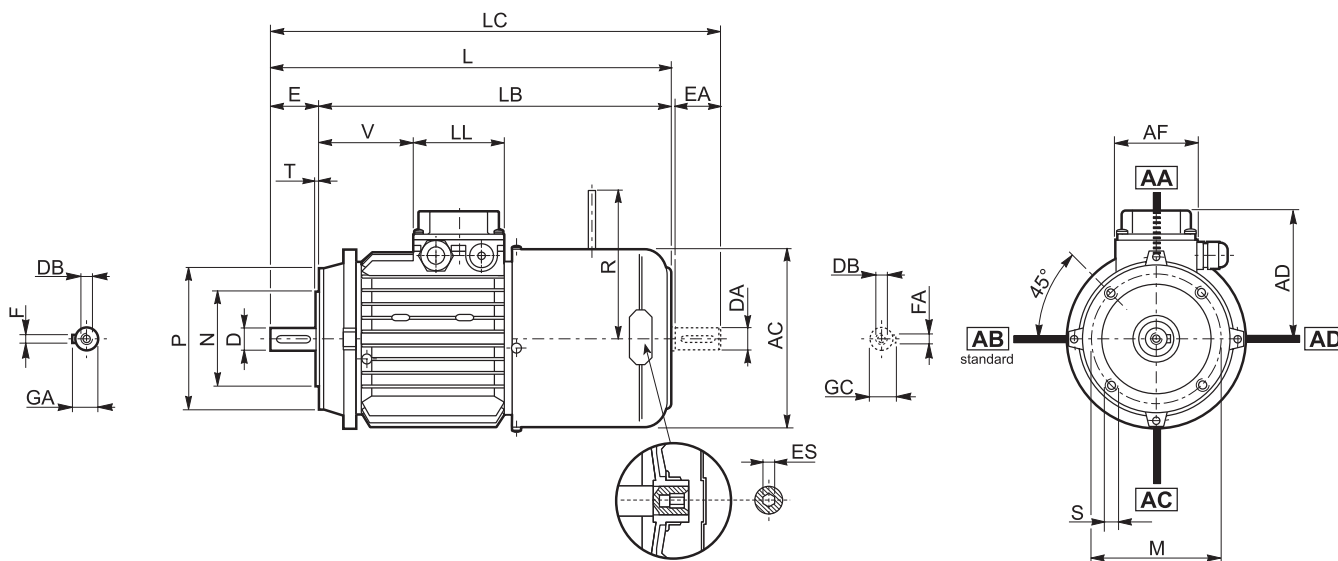


	Shaft					Flange						Motor									
	D DA	E EA	DB	GA GC	F FA	M	N	P	S	T	LA	AC	L	LB	LC	AD	AF	LL	V	R	ES
BN 63	0.43	0.91	M4	0.49	0.16	4.53	3.74	5.51	0.37	0.12	0.39	4.76	10.71	9.80	11.69	4.69	3.86	5.24	0.55	3.78	0.20
	11	23		12.5	4	115	95	140	9.5	3	10	121	272	249	297	119	98	133	14	96	5
BN 71	0.55	1.18	M5	0.63	0.20	5.12	4.33	6.30	0.37	0.14	0.39	5.43	12.20	11.02	13.46	5.20	3.86	5.24	0.98	4.06	0.20
	14	30		16	5	130	110	160	9.5	3.5	10	138	310	280	342	132	98	133	25	103	5
BN 80	0.75	1.57	M6	0.85	0.24	6.50	5.12	7.87	0.45	0.14	0.45	6.14	13.62	12.05	15.28	5.63	3.86	5.24	1.61	5.08	0.20
	19	40		21.5	6	165	130	200	11.5	3.5	11.5	156	346	306	388	143	98	133	41	129	5
BN 90 S	0.94	1.97	M8	1.06	0.31	6.50	5.12	7.87	0.45	0.14	0.45	6.93	16.10	14.13	18.15	5.75	4.33	6.50	1.54	5.08	0.24
	24	50		27	8	165	130	200	11.5	3.5	11.5	176	409	359	461	146	110	165	39	129	6
BN 90 L	0.94	1.97	M8	1.06	0.31	6.50	5.12	7.87	0.45	0.14	0.45	6.93	16.10	14.13	18.15	5.75	4.33	6.50	1.54	6.30	0.24
	24	50		27	8	165	130	200	11.5	3.5	11.5	176	409	359	461	146	110	165	39	160	6
BN 100	1.10	2.36	M10	1.22	0.31	8.46	7.09	9.84	0.55	0.16	0.55	7.68	18.03	15.67	20.51	6.10	4.33	6.50	2.44	6.30	0.24
	28	60		31	8	215	180	250	14	4	14	195	458	398	521	155	110	165	62	160	6
BN 112	1.10	2.36	M10	1.22	0.31	8.46	7.09	9.84	0.55	0.16	0.59	8.62	19.06	16.69	21.54	6.69	4.33	6.50	2.87	7.83	0.24
	28	60		31	8	215	180	250	14	4	15	219	484	424	547	170	110	165	73	199	6
BN 132	1.49	3.14	M12	1.61	0.39	10.43	9.05	11.81	0.55	0.15	0.62	10.15	23.74	20.59	27.00	8.27	5.51	7.40	4.80	8.03	0.23
	38	80		41	10	265	230	300	14	4	16	258	603	523	686	210	140	188	122	204 (2)	6
BN 160 MR	1.65	4.33	M16	1.77	0.47	11.81	9.84	13.77	0.72	0.19	0.59	10.15	26.45	22.12	29.72	8.27	5.51	7.40	6.34	8.89	0.23
	42	110		45	12																
BN 160 M	1.65	4.33	M16	1.77	0.47	11.81	9.84	13.77	0.72	0.19	0.59	1.22	28.97	24.64	32.28	9.64	7.36	7.36	2.00	8.89	—
	38 (1)	80 (1)		41 (1)	10 (1)																
BN 180 M	1.88	4.33	M16	2.02	0.55	11.81	9.84	13.77	0.72	0.19	0.59	1.22	30.70	26.37	34.01	9.64	7.36	7.36	2.00	8.89	—
	48	110		51.5	14																
BN 180 L	1.88	4.33	M16	2.02	0.55	11.81	9.84	13.77	0.72	0.19	0.70	13.70	34.09	29.76	38.62	10.27	7.36	7.36	2.04	12.00	—
	42 (1)	110 (1)		45 (1)	12 (1)																
BN 200 L	2.16	4.33	M20	2.32	0.62	13.77	11.81	15.74	0.72	0.19	0.70	13.70	34.56	30.23	39.09	10.27	7.36	7.36	2.51	12.00	—
	55	110		59	16																

1) These values refer to the rear shaft end.  
2) For FD07 brake value R=226

ES hexagon is not supplied with PS option

Dimensions are  $\frac{\text{inch}}{\text{mm}}$



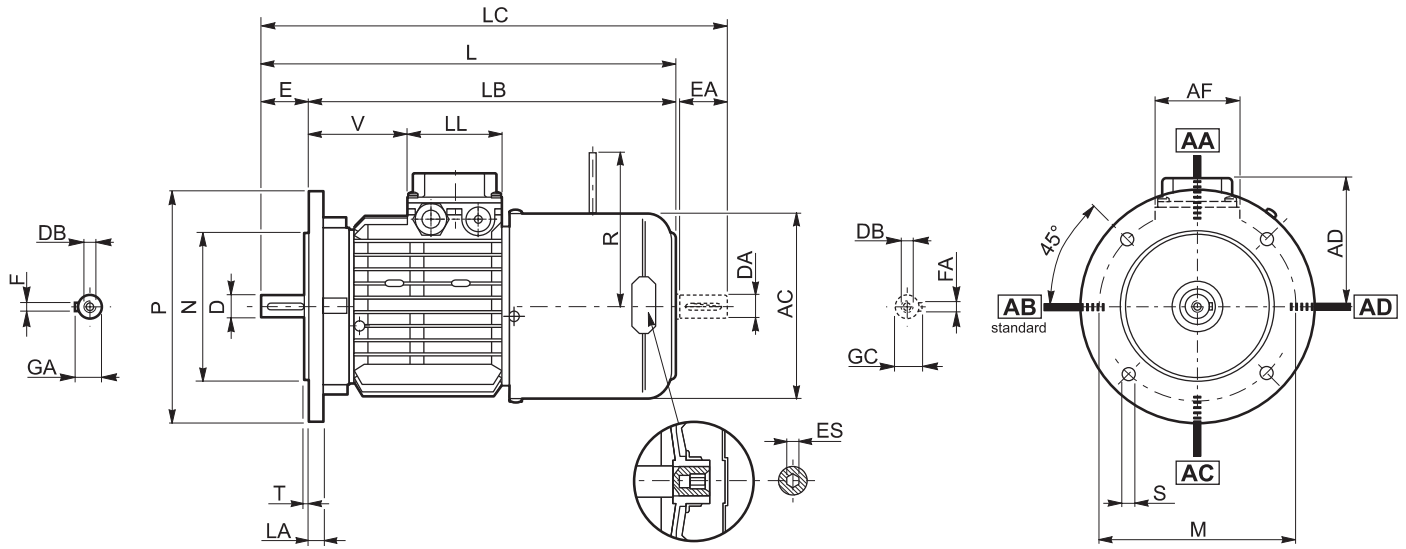
	Shaft					Flange					Motor									
	D DA	E EA	DB	GA GC	F FA	M	N	P	S	T	AC	L	LB	LC	AD	AF	LL	V	R	ES
<b>BN 63</b>	0.43 11	0.91 23	M4	0.49 12.5	0.16 4	2.95 75	2.36 60	3.54 90	M5	0.10 2.5	4.76 121	10.71 272	9.80 249	4.69 119	3.74 95	2.91 74	3.15 80	1.02 26	4.57 116	0.20 5
<b>BN 71</b>	0.55 14	1.18 30	M5	0.63 16	0.20 5	3.35 85	2.76 70	4.13 105	M6	0.10 2.5	5.43 138	12.20 310	11.02 280	13.46 342	4.25 108	2.91 74	3.15 80	2.68 68	4.88 124	0.20 5
<b>BN 80</b>	0.75 19	1.57 40	M6	0.85 21.5	0.24 6	3.94 100	3.15 80	4.72 120	M6	0.12 3	6.14 156	13.62 346	12.05 306	15.28 388	4.69 119	2.91 74	3.15 80	3.27 83	5.28 134	0.20 5
<b>BN 90</b>	0.94 24	1.97 50	M8	1.06 27	0.31 8	4.53 115	3.74 95	5.51 140	M8	0.12 3	6.93 176	16.10 409	14.13 359	18.15 461	5.24 133	3.86 98	3.86 98	3.74 95	6.30 160	0.24 6
<b>BN 100</b>	1.10 28	2.36 60	M10	1.22 31	0.31 8	5.12 130	4.33 110	6.30 160	M8	0.14 3.5	7.68 195	18.03 458	15.67 398	20.51 521	5.59 142	3.86 98	3.86 98	4.69 119	6.30 160	0.24 6
<b>BN 112</b>	1.10 28	2.36 60	M10	1.22 31	0.31 8	5.12 130	4.33 110	6.30 160	M8	0.14 3.5	8.62 219	19.06 484	16.69 424	21.54 547	6.18 157	3.86 98	3.86 98	5.04 128	7.80 198	0.24 6
<b>BN 132</b>	1.50 38	3.15 80	M12	1.61 41	0.39 10	6.50 165	5.12 130	7.87 200	M10	0.16 4	10.16 258	23.74 603	20.59 523	27.01 686	7.60 193	4.65 118	4.65 118	7.09 180	7.87 200 (1)	0.24 6

1) For FD07 brake value R=226  
ES hexagon is not supplied with PS option.

For motors type BN..FA, the terminal box sizes AD, AF, LL, V are the same as for BN..FD.

Dimensions are  $\frac{\text{inch}}{\text{mm}}$





	Shaft					Flange						Motor									
	D DA	E EA	DB	GA GC	F FA	M	N	P	S	T	LA	AC	L	LB	LC	AD	AF	LL	V	R	ES
<b>BN 63</b>	0.43 11	0.91 23	M4	0.49 12.5	0.16 4	4.53 115	3.74 95	5.51 140	0.37 9.5	0.12 3	0.39 10	4.76 121	10.71 272	9.80 249	11.69 297	3.74 95	2.91 74	3.15 80	1.02 26	4.57 116	0.20 5
<b>BN 71</b>	0.55 14	1.18 30	M5	0.63 16	0.20 5	5.12 130	4.33 110	6.30 160	0.37 9.5	0.14 3.5	0.39 10	5.43 138	12.20 310	11.02 280	13.46 342	4.25 108	2.91 74	3.15 80	2.68 68	4.88 124	0.20 5
<b>BN 80</b>	0.75 19	1.57 40	M6	0.85 21.5	0.24 6	6.50 165	5.12 130	7.87 200	0.45 11.5	0.14 3.5	0.45 11.5	6.14 156	13.62 346	12.05 306	15.28 388	4.69 119	2.91 74	3.15 80	3.27 83	5.28 134	0.20 5
<b>BN 90</b>	0.94 24	1.97 50	M8	1.06 27	0.31 8	6.50 165	5.12 130	7.87 200	0.45 11.5	0.14 3.5	0.45 11.5	6.93 176	16.10 409	14.13 359	18.15 461	5.24 133	3.86 98	3.86 98	3.74 95	6.30 160	0.24 6
<b>BN 100</b>	1.10 28	2.36 60	M10	1.22 31	0.31 8	8.46 215	7.09 180	9.84 250	0.55 14	0.16 4	0.55 14	7.68 195	18.03 458	15.67 398	20.51 521	5.59 142	3.86 98	3.86 98	4.69 119	6.30 160	0.24 6
<b>BN 112</b>	1.10 28	2.36 60	M10	1.22 31	0.31 8	8.46 215	7.09 180	9.84 250	0.55 14	0.16 4	0.59 15	8.62 219	19.06 484	16.69 424	21.54 547	6.18 157	3.86 98	3.86 98	5.04 128	7.80 198	0.24 6
<b>BN 132</b>	1.49 38	3.14 80	M12	1.61 41	0.39 10	10.43 265	9.05 230	11.81 300	0.55 14	0.15 4	0.62 16	10.15 258	23.74 603	20.59 523	27.00 686	7.59 193	4.64 118	4.64 118	7.08 180	7.87 200 (2)	0.23 6
<b>BN 160 MR</b>	1.65 42	4.33 110	M16	1.77 45	0.47 12	11.81 300	9.84 250	13.77 350	0.72 18.5	0.19 5	0.59 15	10.15 258	26.45 672	22.12 562	29.72 755	7.59 193	4.64 118	4.64 118	8.58 218	8.54 217	0.23 6
	1.49 38 (1)	3.14 80 (1)	M12 (1)	1.61 41 (1)	0.39 10 (1)																
<b>BN 160 M BN 160 L</b>	1.65 42	4.33 110	M16	1.77 45	0.47 12	11.81 300	9.84 250	13.77 350	0.72 18.5	0.19 5	0.59 15	1.22 310	28.97 736	24.64 626	32.28 820	9.64 245	7.36 187	7.36 187	2.00 51	9.72 247	—
	1.49 38 (1)	3.14 80 (1)	M12 (1)	1.61 41 (1)	0.39 10 (1)																
<b>BN 180 M</b>	1.88 48	4.33 110	M16	2.02 51.5	0.55 14	11.81 300	9.84 250	13.77 350	0.72 18.5	0.19 5	0.59 15	1.22 310	30.70 780	26.37 670	34.01 864	9.64 245	7.36 187	7.36 187	2.00 51	9.72 247	—
	1.49 38 (1)	3.14 80 (1)	M12 (1)	1.61 41 (1)	0.39 10 (1)																

1) These values refer to the rear shaft end.


2) For FD07 brake value R=226

ES hexagon is not supplied with PS option.

Dimensions AD, AF, LL and V, relevant to terminal box of motors BN...FA featuring the separate brake supply (option SA), are coincident with corresponding dimensions of same-size BN...FD motors.

Dimensions are  $\frac{\text{inch}}{\text{mm}}$

**R7**

	<b>Description</b>
...	Corrected length of motor M1 wherever listed in the catalogue.
95	Banned some ratios formerly allowed in the combination of C11...C35 with M1 motors.

