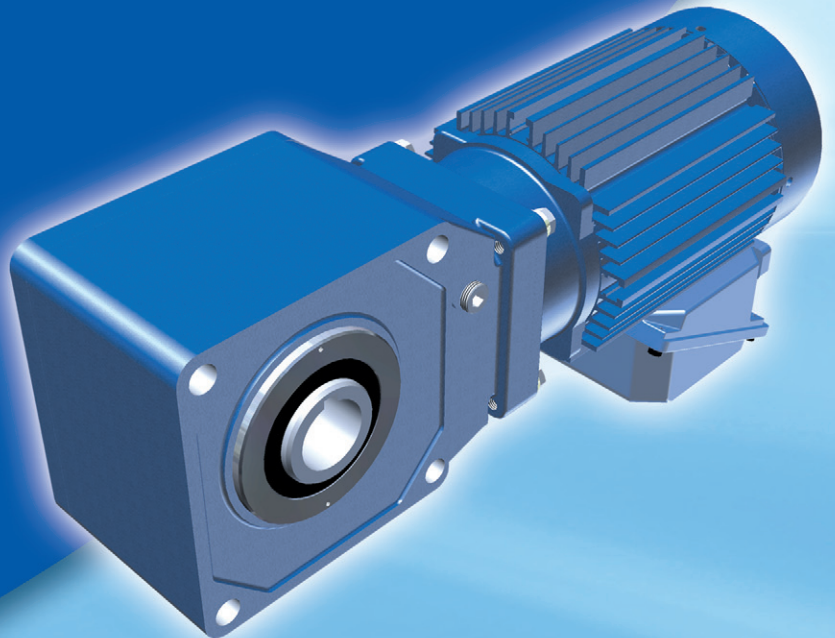
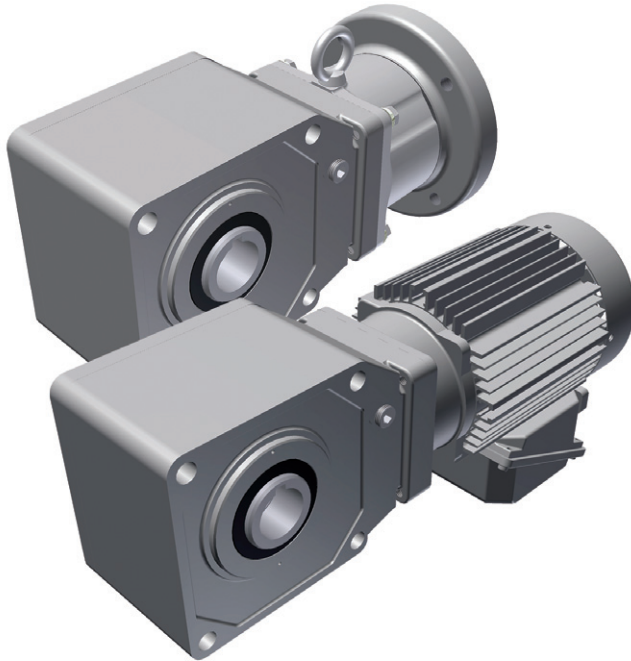


Sumitomo Drive Technologies
Always on the Move

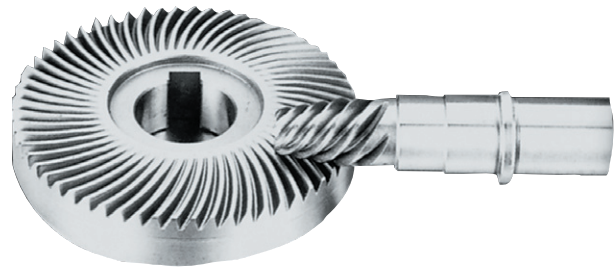
Hyponic®

Hypoid Right Angle
Gearmotor and Reducer





Patented, High-Performance Gearmotors and Reducers Featuring All-Steel Hypoid Gearing



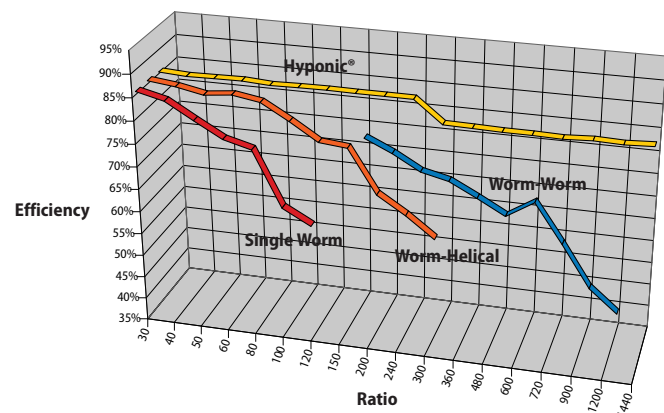
U. S. PAT. NO. 5,203,231; U.S. PAT. NO. 5,375,479

► Outstanding Efficiency Saves Money

Efficiencies far higher than worm gearing. Highly efficient across all ratios. No cooling fans required.

Hyponic® hypoid gearing demonstrates efficiencies of 80-85% within the range of 30 to 1440:1.

To request a catalog, or for more information on any of our high quality products, please visit our Website:



www.smcyclo.com

Gearmotors and Speed Reducers

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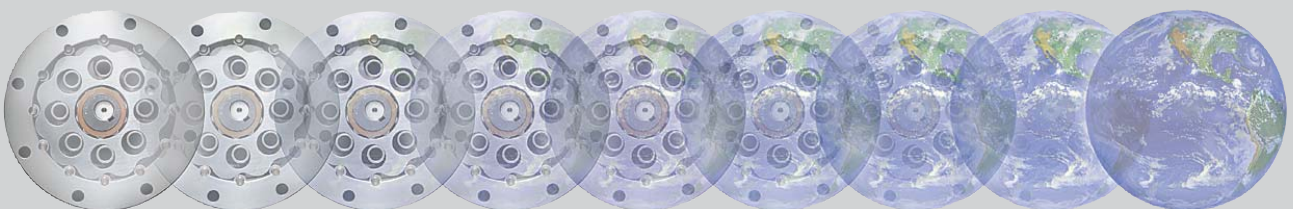
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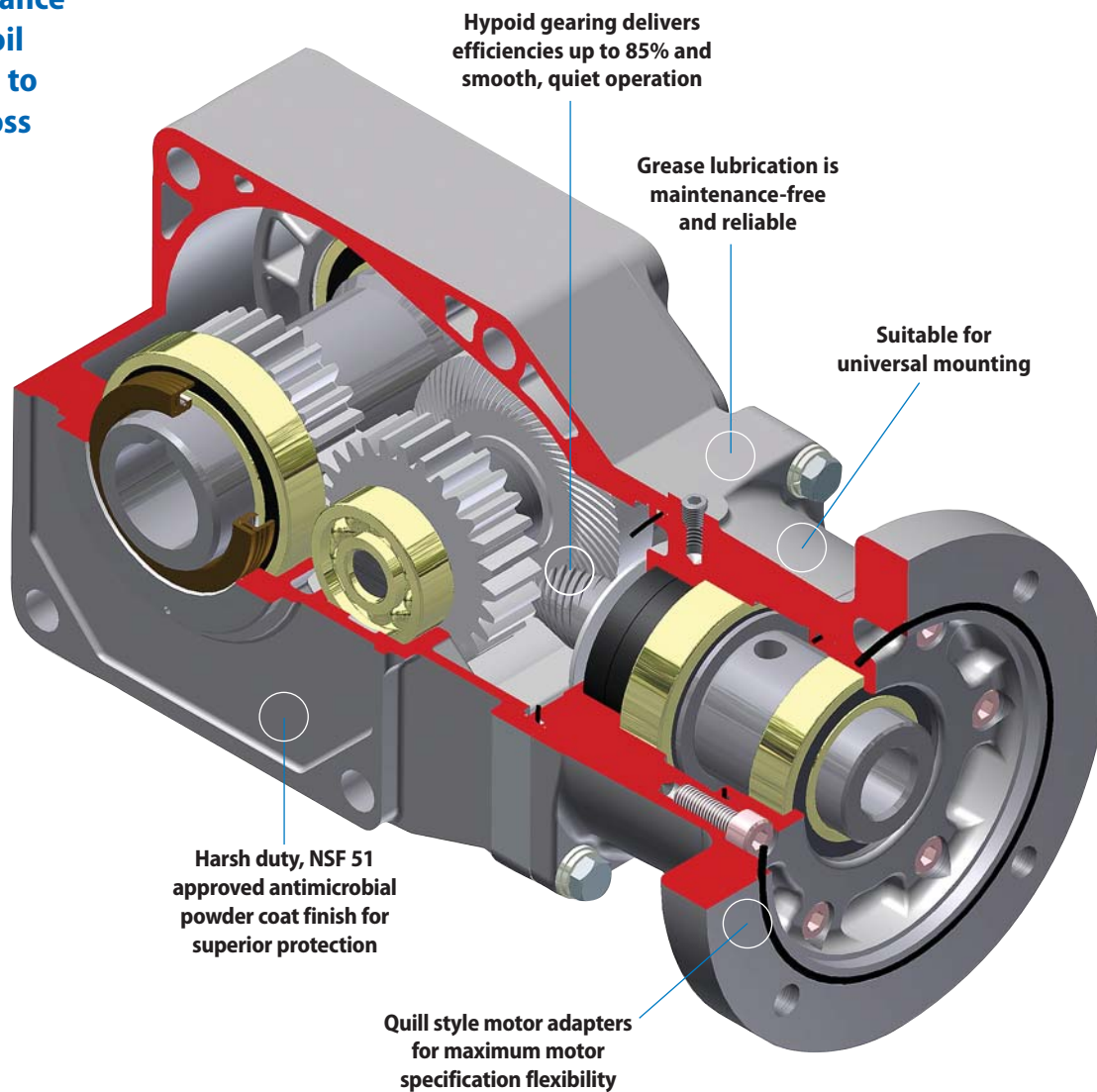
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- ▶ Grease lubricated design is maintenance free, requires no oil changes and is up to 85% efficient across all ratios



Quiet, Compact and Maintenance-Free

- ▶ All-steel hypoid gear design transmits torque more efficiently for more torque density in a compact unit

Product Description

The Sumitomo Hyponic® Gearmotor represents 60 years of excellence in the design and manufacture of premium gearing solutions. With millions of Hyponics currently in service, the product features a compact, modular housing, **maintenance-free grease lubrication and high efficiency operation**. Options include C-face quill design; unique FKM antimicrobial, multi-lipped rotary output seal; corrosion resistant, stainless output shaft and hardware; and synthetic NSF H-1, food-grade lubricant. NSF51 antimicrobial powder coating makes Hyponic® the ideal choice for food, beverage, and pharmaceutical industries. Sumitomo's patented, all-steel hypoid gear technology leads the industry in quiet operation and high efficiency. The Hyponic® significantly outperforms worm gearing across ratios from 30:1 to 1440:1.

Features & Benefits

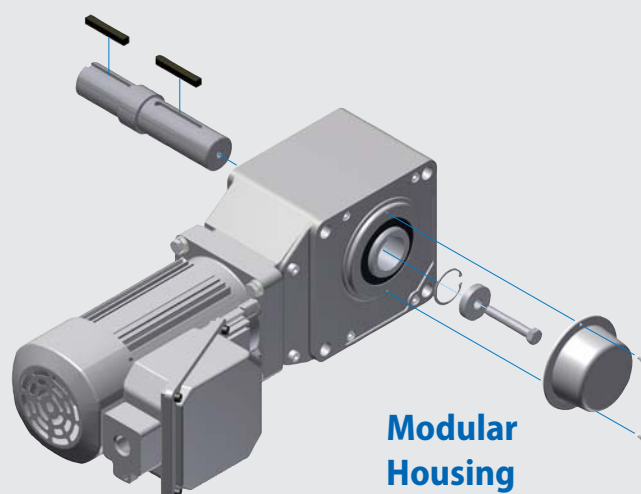
Patented Hyponic gear technology is **up to 85% efficient** across all ratios and requires no cooling fan

- **NSF 51 approved antimicrobial powder coating** protects against the growth of bacteria, mold, and fungus.
- **All-steel hypoid gear design** transmits torque more efficiently for more torque density in a compact unit
- **Maintenance-free grease lubrication** eliminates oil changes
- **Compact, lightweight** design in an aluminum, corrosion resistant housing with optional washdown protection
- Hollow bore makes **installation and retrofit quick and easy**
- **Extremely quiet**, smooth operation is ideal for commercial use
- **Two-Year warranty**
- Optional, popular keyed-hollow bore sizes available from stock: 1-3/16", 1-7/16", 1-15/16", 2-3/16"

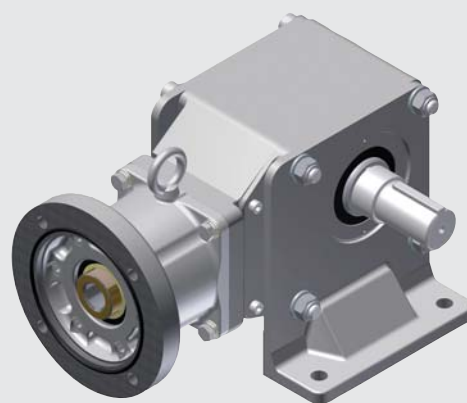
Specifications

Ratios:	5:1 up to 1440:1
HP:	1/8 to 15 HP
Maximum Torque:	13,100 in-lbs.
Electrical:	230/460 VAC (Single and 3-Phase)
Housing:	Lightweight, corrosion-resistant aluminum
Mounting:	Flange, Bolt-On Feet
Shafts:	Hollow, Solid
Input:	Quill, C-Face Adapter or Integral Motor

► Optional plug-in shaft and bolt-on feet enhance Hyponic® mounting flexibility



Modular Housing



C-Face Quill Adapter, Plug-in Shaft, Foot Mount



► Applications

- Bottling & Food Processing
- Commercial Bakery Lines
- Pharmaceutical Machinery
- Automotive Assembly Plants
- Conveyor Lines & Material Handling
- Wood Processing & Paper Products
- Residential Elevators & Lifts
- Automated Bay & Dock Door Drives
- Crushers
- Dehydrators
- Packaging

Product Range (Standard Motor and Reducer Combinations)

Quill Reducer Options

Frame Size	Ratio (:1)	Standard Bore* (inches)	Output Torque at 1750 RPM Input (in-lb)	Available Motor Frames
1120	5 – 60	3/4	57.5 – 246	56C
1220	5 – 60	1	115 – 492	56C
1230	80 – 120	1	328 – 492	56C
1320	5 – 30	1-1/4	230 – 985	56C – 145TC
	40 – 60		657 – 985	56C
1330	80–240	1-1/4	657 – 918	56C
1340	300 – 720	1-1/4	1160 – 1730	56C
	5 – 30		442 – 1900	145TC
1420	40 – 60	1-3/8	1310 – 1970	56C – 145TC
	80 – 240		1310 – 1840	56C
1430	80 – 240	1-3/8	1310 – 1840	56C
1440	300 – 1440	1-3/8	2320 – 3450	56C
	80 – 120		2630 – 3940	56C – 145TC
1530	150 – 240	1-1/2	2230 – 3670	56C
	40 – 80		2530 – 5060	145TC
1531	40 – 80	1-1/2	2530 – 5060	145TC
1540	300 – 1440	1-1/2	4640 – 6480	56C
	900 – 1440		13100	56C
1630	10 – 120	2	903 – 11000	145TC – 184TC
1631	150 – 240	2	13100	56C – 184TC
1632	10 – 60	2	1520 – 9180	184TC
1640	300 – 720	2	9270 – 13100	56C – 145TC
	900 – 1440		13100	56C

*Optional bore sizes are available

C-Face Reducer with Jaw Coupling Options

Frame Size	Ratio (:1)	Standard Bore* (inches)	Output Torque at 1750 RPM Input (in-lb)	Available Motor Frames
1120	5 – 60	3/4	41 – 246	42C – 56C
1220	5 – 60	1	82.1 – 492	48C – 145TC
1230	80 – 240	1	328 – 867	42C – 56C
1320	5 – 60	1 1/4	164 – 985	56C – 145TC
1330	80 – 240	1 1/4	657 – 918	48C – 56C
1340	300 – 1440	1 1/4	1160 – 1730	42C – 56C
1420	5 – 60	1 3/8	316 – 1970	42C – 145TC
1430	80 – 240	1 3/8	1310 – 1840	56C
1440	300 – 1440	1 3/8	2320 – 3450	48C – 56C
1520	5 – 60	1 1/2	315 – 3790	56C – 145TC
1530	80 – 240	1 1/2	2630 – 3670	42C – 145TC
1531	40 – 80	1 1/2	2530 – 5060	56C – 184TC
1540	300 – 1440	1 1/2	4640 – 6480	56C – 145TC
1640	300 – 1440	2	9270 – 13100	56C – 145TC

*Optional bore sizes are available

Gearmotor Reduction Ratios 5 — 1440

Combinations with 1750 RPM motor

		Ratio	5	7	10	12	15	20	25	30	40	50	60	80	100	120	150	200	240	300	360	480	600	720	900	1200	1440
		Output Speed RPM (60 Hz)	350	250	175	146	117	88	70	58	44	35	29	22	18	15	12	8.8	7.3	5.8	4.9	3.7	3.1	2.3	1.9	1.46	1.22
3-Phase	Motor HP	1/8	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		1/4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		1/3	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		1/2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		3/4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		1.5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		3	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		7.5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		10	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		15	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Inverter Duty	Motor HP	1/8	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		1/4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		1/3	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		1/2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		3/4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		1.5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		3	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		7.5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		10	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

How do I select a Hyponic® reducer or gearmotor?

Selection is based on the actual horsepower and/or torque requirements at the output shaft. The Hyponic® speed reducer has particularly high efficiencies over a wide range of reduction ratios, which frequently permits the use of reduced input power requirements (smaller HP motor) without sacrificing output shaft torque. The selection procedures in this catalog, Speed Reducers pages 2.2 - 2.3 and Gearmotors pages 3.4 - 3.5, will guide you in choosing the most efficient reducer for your application.

What information do I need to get started in the selection process?

To select the proper reducer for your application, you will need to know:

- Application: type of driven machine
- Hours of operation per day
- Motor horsepower (HP) and speed (RPM)
- Loading Conditions
- Mounting Position

If there are any special environmental factors or operation requirements, they must also be noted. This information will be important in determining the Service Factor of your application.

What are service factors and how are they used?

In general, reducers and gearmotors are rated for specific conditions and operating requirements of the application by the use of AGMA-defined Service Factors. There are three AGMA load classifications for reducers: uniform (U), moderate shock (M), and heavy shock (H) (page 2.6) and three AGMA load classifications for gearmotors: I, II, and III (page 3.8). The Service Factors are used in the product selection process to adjust for the specific conditions and operating requirements of your application.

What do I do if my application has particularly severe operating conditions?

The standard ratings for Hyponic® are based on 10-hour daily service under conditions of uniform loads (equivalent to AGMA service factor 1.0). By following the product selection process, you will determine and apply the Service Factors to compensate for severe operating conditions.

How can I be sure that the reducer can withstand periodic excessive overloads?

Hyponic® speed reducers provide 250% momentary intermittent shock load capacity. For applications with shock loads greater than 250%, consult a Sumitomo Application Engineer.

What are the standard input speeds?

In general terms, the speeds are 1750 and 1450 RPM. The selection tables in this catalog are based on 1750 RPM. The reducer selection tables show ratings at 1750 RPM for Quill models, and 1750 and 1450 for C-Face models.

What are the thermal limitations of the Hyponic®?

The Hyponic® speed reducer, by virtue of its smooth, almost frictionless operation (unlike traditional helical gears), has a thermal rating that far exceeds its mechanical capacity and all but eliminates the conventional limitations due to heat.

What is the standard mounting of the Hyponic®?

The Hyponic® is standardly supplied as a shaft mount with a keyed hollow bore. Options are available for a solid shaft with feet and a flange mounting configuration. Since the Hyponic® is grease lubricated as standard, it can be mounted in any position without modifications.

Do you supply a torque arm? At what position should it be mounted?

A torque arm assembly is offered as an option (Section 4). The standard torque arm assembly and standard mounting positions are shown in the Appendix on pages 5.10 - 5.12.

What is the required tolerance of the shaft to be used on the Hyponic®?

Shaft tolerances will depend on the type of load and shock load of the application. Shaft tolerance recommendations are included in the Appendix on page 5.9

What is the rotation of the Hyponic shaft?

The direction of shaft rotation on Hyponic reducers varies according to frame size and ratio. Please refer to page 5.3 in the Appendix for specific data on the shaft rotation of various models.

What C-Face sizes are available for the Hyponic®?

C-Face sizes are based on the Hyponic® size and ratio of the selection. The **C-Face Reducer with Jaw Coupling Options** table on page 1.4 lists available C-Face frame sizes.

What should be considered when connecting to the Hyponic® shaft?

When mounting a pulley, sprocket, or sheave, mount as close to the unit housing as possible; never mount beyond the midpoint of the shaft projection to avoid undue bearing load and shaft deflection. Never overtighten belts or chains. Careful and accurate installation is essential for best results and trouble-free operation. Before installing, the shafts should be checked to make sure they are parallel and level. After mounting, alignment should be checked with a string or straight edge held against the sides of the sprocket or pulley base. Couplings should be properly aligned to the limits specified by the manufacturer. Check alignment prior to initial startup on coupled Hyponic® units. When specifying stainless steel output shafts, consult a Sumitomo Applications Engineer for all applications where overhung load is present.

Should overhung load and thrust load be considered when making a selection?

Yes, loads imposed on the slow speed shaft will vary according to the method used to connect the shaft to the driven machine. Frequently, in addition to the torsional forces, radial (overhung) and thrust loads are applied to the slow speed shaft at the same time. For example, coupling connections normally involve torsional forces only. However, when power is transmitted through spur gears, belts, pulleys, or chains, both torsional and radial forces may be present. When driving through helical or bevel gears, all three conditions (torsional, radial, and thrust load) may be referred to the reducer shaft. The slow speed shaft and bearings must have sufficient strength to withstand these loads, and it is necessary to determine the allowable limits for each condition. Page 5.5 in the Appendix explains how to calculate the overhung load (radial) applied to the output shaft.

What is meant by load centering?

The reducer's radial load capacities are calculated at the midpoint of the slow speed shaft extension. Radial load capacities decrease if the center of the load is moved farther from the reducer and the values obtained must be adjusted accordingly. Refer to page 5.5 in the Appendix for load location factors.

What modification features do you offer for the food and beverage industry?

We offer DuPont Alesta Silver Freeze antimicrobial powder coating, harsh duty FKM antimicrobial seals, NSF H1 synthetic lubricant, stainless steel shaft and hardware. Modifications can be added individually or as packages, please see page 4.14 in the Options section for package details.

Standard Specifications

	Standard Specifications		Standard Specifications with Built-In Brake
3-Phase Integral Motor	Capacity Range:	1/8 HP ~ 15 HP, 4P	1/8 HP ~ 15 HP, 4P: FB Brake
	Enclosure:	Totally enclosed fan cooled type (1/8 HP, 4P Totally enclosed non ventilated)	Totally enclosed fan cooled type (1/8 HP, 4P Totally enclosed non ventilated)
	Power Supply:	230/460 Volts, 60 Hz 575 Volts, 60 Hz	230/460 Volts, 60 Hz 575 Volts, 60 Hz
	Insulation:	1/8 ~ 1/2 HP: Class F 3/4 ~ 15 HP: Class F	1/8 ~ 1/2 HP: Class F, Brake: Class F 3/4 ~ 15 HP: Class F, Brake: Class F
	Time Rating	Continuous	Continuous
Inverter Duty Integral Motor	Capacity Range:	1/8 HP ~ 10 HP, 4P	1/8 HP ~ 10 HP, 4P: FB Brake
	Enclosure:	Totally enclosed fan cooled type	Totally enclosed fan cooled type
	Power Supply:	230/460 Volts, 60 Hz	230/460 Volts, 60 Hz
	Insulation:	Class F	Class F, Brake: Class F
	Time Rating	Continuous (6-60Hz constant torque)	Continuous (6-60Hz constant torque)
Reducer	Reduction:	Combination of hypoid gear input and involute gear output.	
	Lubrication:	Grease lubricated; filled with special high-grade grease prior to shipment.	
	Seals:	Nitrile material, triple lipped output seals.	
	Material:	Casing: aluminum alloy; Gear: chrome-molybdenum steel	
	Paint Color:	Blue, Muenters color number 6.5PB 3.6/8.2 or DuPont Alesta Silver Freeze AM powder coat	
	Bearings:	Ball bearings on input and output.	
Ambient Conditions	Installation Location:	Indoors (Minimal dust and humidity)	
	Ambient Temperature:	14°~104° F (-10° ~ 40° C)	
	Ambient Humidity:	Under 85%	
	Elevation:	Under 3,281 ft. (1000 meters)	
	Atmosphere:	Well ventilated location, free of corrosive gases, explosive gases, vapors and dust.	

Shaft Rotation

The direction of shaft rotation on Hyponic reducers varies according to frame size and ratio. Please refer to page 5.3 in the Appendix for specific data on the shaft rotation of various models.

Input Speeds

In general terms, the speeds are 1750 and 1165 RPM. The selection tables in this catalog are based on 1750 RPM. The reducer selection tables show ratings at 1750 and 1450 RPM.

Thermal Capacity

The Hyponic® speed reducer, by virtue of its smooth, almost frictionless operation (unlike traditional helical gears), has a thermal rating that far exceeds its mechanical capacity and all but eliminates the conventional limitations due to heat.



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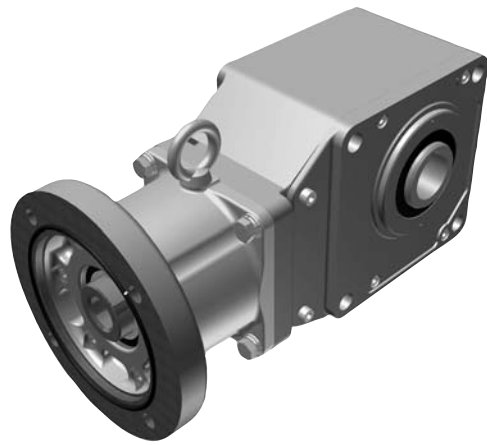
2

Speed Reducers

Hollow Shaft Type

Speed
Reducers

How to
Select



How to select a Speed Reducer

Step 1: Collect data about your application

Before starting you need to know the:

- **Application** (e.g. Conveyor, Mixer, etc.)
- **Hours of Operation per day**
- **Motor Horsepower (HP) and Speed (RPM)**
- **Desired Output Speed**
- **Mounting Position and Style**
- **Overhung or Thrust Loads**
- **Bore Dimensions, inch or metric**

Step 2: Select a Frame Size

2A: Find the **Load Classification** of your application in the *AGMA Load Classification Table* on page 2.6.

2B: Find the recommended **Service Factor** using the *Recommended Reducer Service Factor Table* or *Recommended Service Factors for Frequent Start-Stop Applications Table* on the right.

2C: Determine the **Selection Horsepower** by multiplying the Motor Horsepower by the Service Factor.

2D: Select a **Frame size** from the Reducer Selection Tables on pages 2.8–2.13 by matching both the Selection Horsepower and Desired Output Speed (RPMs) to a frame size model number.

Step 3: Verify Dimensions

Use the Dimensions information on pages 2.14–2.25 to verify that the selected Frame Size is appropriate.

Step 4: Choose Options

The following options may apply:

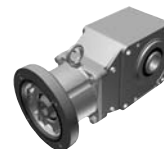
- Solid Shaft**
- Mounting Feet**
- Output Flange**
- Torque Arm Assembly**
- Washdown Modification**

Please see the Hyponic® pricelist for available modifications, and refer to Section 4 of this catalog for dimension drawings of selected popular options .

Step 5: Configure a Model Number

Go to page 2.4 to configure a model number.

Note: You will use the information you gather from the procedure on this page to Configure a Model Number.



Recommended Reducer Service Factors

		AGMA Load Classifications		
		Uniform (U)	Moderate Shock (M)	Heavy Shock (H)
Duration of Service	1/2 hr. per day (Occasional)	0.50 ^[1]	0.80 ^[1]	1.25
	3 hrs. per day (Intermittent)	0.80	1.00	1.50
	Up to 10 hrs. per day	1.00	1.25	1.75
	24 hrs. per day	1.20	1.50	2.00

Note: [1] Maximum momentary or starting load must not exceed 300% of gear reducer rating (rating meaning service factor of 1.0). Time specified for occasional and intermittent service refers to total operating time per day.

Recommended Service Factors for Frequent Start-Stop Applications

For **frequent start-stop applications**, use the table below to determine the recommended service factor, and check the Motor Thermal Rating (Table 5.33) in Section 5.

Number of starts (Times/hour)	~10 hours/day			~24 hours/day		
	I	II	III	I	II	III
~10	1.00	1.15	1.50	1.20	1.30	1.65
~200	1.10	1.35	1.65	1.30	1.50	1.85
~500	1.15	1.50	1.80	1.40	1.65	2.00

The Moment of Inertia (ratio of Inertia WR^2) = $\frac{\text{Total Moment of Inertia (WR}^2\text{) as seen from motor shaft}}{\text{Moment of Inertia (WR}^2\text{) of motor}}$

I = Allowable ratio of Moment of Inertia (WR^2) ≤ 0.3

II = Allowable ratio of Moment of Inertia (WR^2) ≤ 3

III = Allowable ratio of Moment of Inertia (WR^2) ≤ 10

Determine Selection Horsepower (HP)

$$\text{Motor HP} \times \text{Service Factor} = \text{Selection HP}$$

Example: 10 Motor HP $\times$ 1.25 Service Factor = 12.5 Selection HP

Select a Frame Size

1 Match your OUTPUT RPM (or RATIO)...

Output RPM	350	250	175	146	117	87.5	70.0	58.3	43.8	35.0	29.2	21.9	17.5	Frame Size
Ratio	5	7	10	12	15	20	25	30	40	50	60	80	100	
Input HP	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.134	0.134	0.134	—	—	1120
Output Torque in-lbs	41.0	57.5	82.1	98.5	123	164	205	246	164	205	246	—	—	
Overhung Load lbs	132	143	165	176	187	209	220	231	254	276	287	—	—	
Input HP	0.536	0.536	0.536	0.536	0.536	0.536	0.536	0.536	0.268	0.268	0.268	—	—	1220
Output Torque in-lbs	82.1	115	164	197	246	328	410	492	328	410	492	—	—	
Overhung Load lbs	187	209	231	243	265	298	309	331	353	375	386	—	—	
Input HP	—	—	—	—	—	—	—	—	—	—	0.134	0.134	—	1230
Output Torque in-lbs	—	—	—	—	—	—	—	—	—	—	328	410	—	
Overhung Load lbs	—	—	—	—	—	—	—	—	—	—	397	397	—	
Input HP	1.07	1.07	1.07	1.07	—	—	—	—	—	0.536	0.536	—	—	1320
Output Torque in-lbs	164	230	328	394	—	—	—	—	—	617	639	—	—	
Overhung Load lbs	309	353	386	408	—	—	—	—	—	—	—	—	—	
Input HP	—	—	—	—	—	—	—	—	—	—	0.268	0.268	—	1330
Output Torque in-lbs	—	—	—	—	—	—	—	—	—	—	657	821	—	
Overhung Load lbs	—	—	—	—	—	—	—	—	—	—	661	683	—	

2 ...to your SELECTION HP...

3 ...to find your FRAME SIZE

If Overhung Load is present, it must be checked against the capacity of the selection.

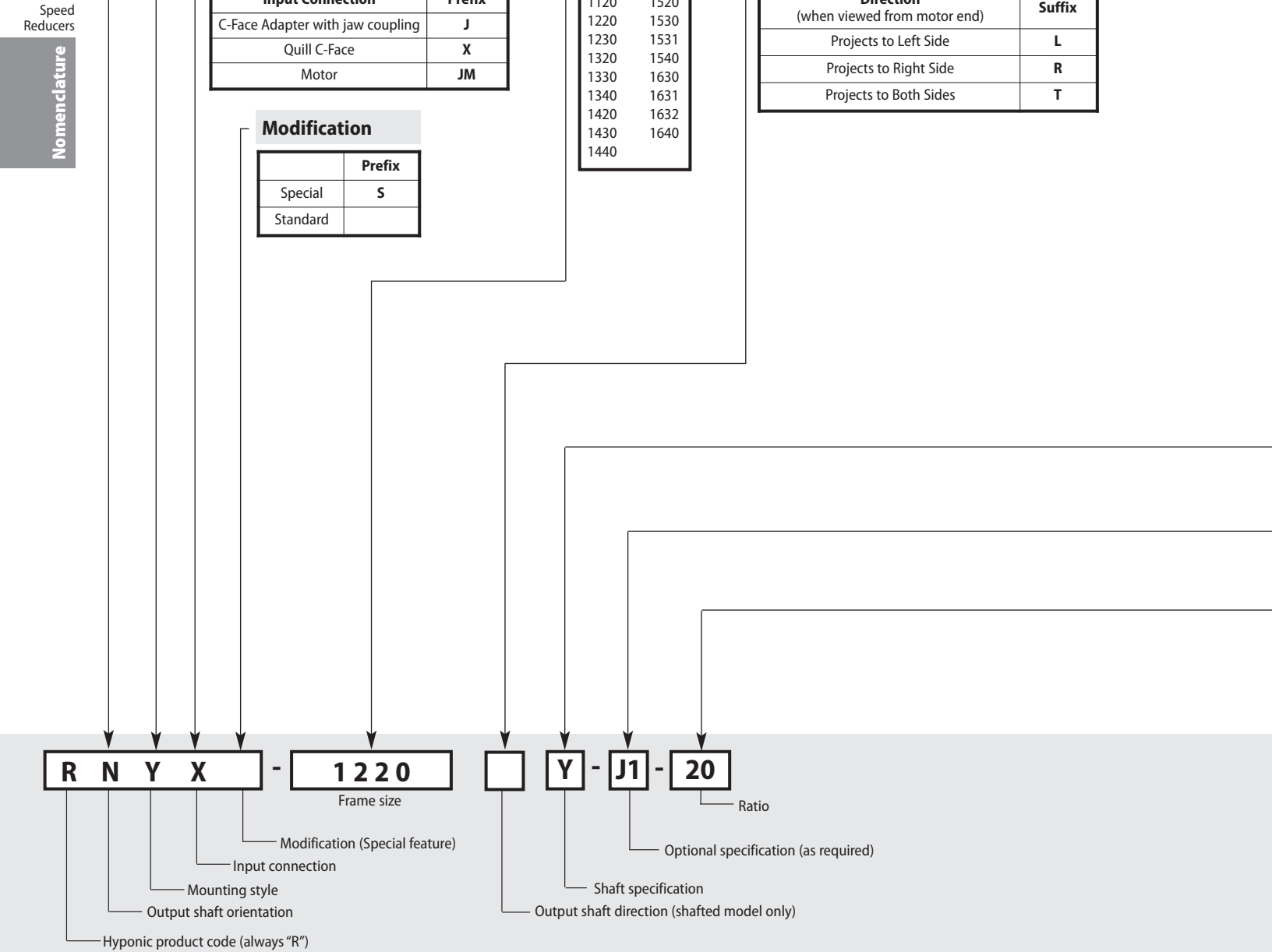


For special circumstances affecting **Frame Size** selection such as:

- Overhung Load
- Shock Loading

Consult Appendix, pages 5.5–5.6.

Configure a Model Number



Include the following information when ordering:

- Motor Specification (230/460 VAC 60 Hz is supplied, unless otherwise specified)
- NEMA frame size for C-face adapter with jaw coupling or Quill adapter
- Bushing Bore size (must be supplied)
- Optional conduit box positions must be specified, otherwise Y1 is supplied.

Nomenclature

Shaft Specifications

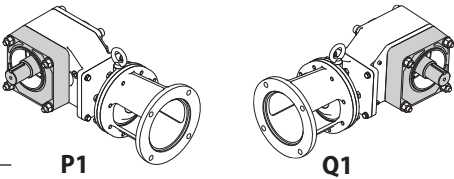
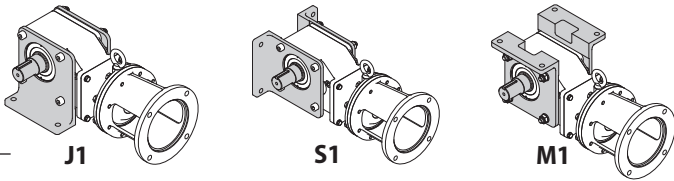
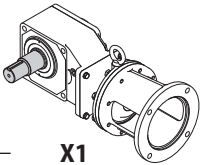
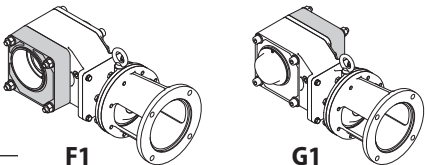
Input Shaft	Output Shaft		Suffix
	Hollow	Solid	
mm	Key (mm)	Key (mm)	
Inch	Key (Inch)	Key (Inch)	Y

Optional Specifications (as required)

Specification	Suffix
Hollow Bore Options	
Extended Flange (for motor clearance)	
Left (viewed from motor end)	F1
Right (viewed from motor end)	G1
Solid Shaft Options	
Plug-in Shaft	X1
Plug-in Shaft with Bolt-on Feet	
Bottom	J1
Opposite from Motor	S1
Top	M1
Plug-in Shaft with Extended Flange (for motor clearance)	
Left (viewed from motor end)	P1
Right (viewed from motor end)	Q1

Nominal Total Ratio

5	20	60	200	600
7	25	80	240	720
10	30	100	300	900
12	40	120	360	1200
15	50	150	480	1440



Speed Reducers

Nomenclature

Nomenclature Example:

RNYX – 1220Y – J1 – 20

- R** – Hyponic®

N – Universal Mount

Y – Shaft Mount (Hollow Shaft)

X – Quill C-Face Input
- 1220** – Frame Size

Y – Inch Shaft Specification

J1 – Bolt-on Feet, Bottom

20 – Ratio

AGMA Load Classifications

Speed
ReducersAGMA
Tables

TYPE OF APPLICATION	TYPE OF LOAD
Agitators	
Pure liquids	U
Liquids and solids	M
Variable-density liquids	M
Blowers	
Centrifugal	U
Lobe	M
Vane	U
Brewing and Distilling	
Bottling machinery	U
Brew kettles, cont. duty	U
Cookers, cont. duty	U
Mash tubs, cont. duty	U
Scale hopper, frequent starts	M
Can Filling Machines	U
Cane Knives	M
Car Dumpers	H
Car Pullers	M
Clarifiers	U
Classifiers	M
Clay Working Machinery	
Brick press	H
Briquette machine	H
Clay working machinery	M
Pug mill	M
Compressors	
Centrifugal	U
Lobe	M
Reciprocating, multi-cylinder	M
Reciprocating, single-cylinder	H
Conveyors — Uniformly Loaded or Fed	
Apron	U
Assembly	U
Belt	U
Bucket	U
Chain	U
Flight	U
Oven	U
Screw	U
Conveyors — Heavy Duty, Not Uniformly Fed	
Apron	M
Assembly	M
Belt	M
Bucket	M
Chain	M
Flight	M
Live roll oven	M
Reciprocating	H
Screw	M
Shaker	H
Cranes (Except for Dry Dock Cranes)	
Main hoists	U
Bridge travel	S
Trolley travel	S
Crusher	
Ore	H
Stone	H
Sugar	M
Dredges	
Cable reels	M
Conveyors	M
Cutter head drives	H
Jig drives	H
Maneuvering winches	M
Pumps	M
Screen drive	H
Stackers	M
Utility winches	M
Dry Dock Cranes	S
Elevators	
Bucket, uniform load	U
Bucket, heavy load	M
Bucket, cont.	U
Centrifugal discharge	U
Escalators	U
Freight	M
Gravity discharge	U
Man lifts	S
Passenger	S
Extruders (Plastics)	
Blow molders	M
Coating	U
Film	U
Pipe	U
Pre-plasticizers	M
Rods	U
Sheet	U
Tubing	U
Fans	
Centrifugal	U
Cooling towers	S
Forced draft	S
Induced draft	M
Large (mine, etc.)	M

TYPE OF APPLICATION	TYPE OF LOAD
Large (industrial)	M
Light (small diameter)	U
Feeders	
Apron	M
Belt	M
Disc	U
Reciprocating	H
Screw	M
Food Industry	
Beet slicer	M
Cereal cooker	U
Dough mixer	M
Meat grinders	M
Generators (Not Welding)	U
Hammer Mills	H
Hoists	
Heavy duty	H
Medium duty	M
Skip	M
Laundry Washers — Reversing	M
Laundry Tumblers	M
Line Shaft	
Drive processing equipment	M
Light	U
Other line shafts	U
Lumber Industry	
Barkers — hydraulic and mechanical	S
Burner conveyor	M
Chain Saw and Drag Saw	H
Chain transfer	H
Craneway transfer	H
De-barking drum	S
Edger feed	H
Gang feed	M
Geen chain	M
Live rolls	H
Log haul-lockline	H
Log turning device	H
Main log conveyor	M
Off bearing rolls	M
Planer feed chains	M
Planer floor chains	M
Planer tilting hoist	M
Re-saw merry-go-round conveyor	M
Roll cases	H
Slab conveyor	H
Small waste-conveyor-belt	U
Small waste-conveyor-chain	M
Sorting table	M
Tipple hoist conveyor	M
Tipple hoist drive	M
Transfer conveyors	M
Transfer rolls	M
Tray drive	M
Trimmer feed	M
Waste conveyor	M
Machine Tools	
Bending roll	M
Notching press, belt driven	S
Plate planer	H
Punch press, gear driven	H
Tapping machine	H
Other machine tools	
Main drives	M
Auxiliary drives	U
Metal Mills	
Draw bench carriage and main drive	M
Forming machines	H
Pinch, dryer and scrubber rolls, reversing	S
Slitters	M
Table conveyors, nonreversing	
Group drives	M
Individual drives	H
Table conveyors, reversing	S
Wire drawing and flattening machine	M
Wire winding machine	M
Mills, Rotary Type	
Ball	M
Cement kilns	M
Dryers and coolers	M
Kilns	M
Pebble	M
Rod, plain and wedge bar	M
Tumbling barrels	H
Mixers	
Concrete mixers, cont.	M
Concrete mixers, intermittent	M
Constant density	U
Variable density	M
Oil Industry	
Chillers	M
Oil well pumps	S
Paraffin filter press	M
Rotary kilns	M

TYPE OF APPLICATION	TYPE OF LOAD
Paper Mills	
Agitators (mixers)	M
Barker, hydraulic	S
Barker, mechanical	S
Barking drum	S
Beater and pulper	M
Bleacher	U
Calenders	M
Calenders, super	H
Converting machine (except cutters, platers)	M
Conveyors	U
Couch	M
Cutters, platers	H
Cylinders	M
Dryers	M
Felt stretcher	M
Felt whipper	H
Jordans	H
Log haul	H
Presses	U
Pulp machine reel	M
Stock chest	M
Suction roll	U
Washers and thickeners	M
Winders	U
Printing Presses	S
Pullers, Barge Haul	H
Pumps	
Centrifugal	U
Proportioning	M
Reciprocating	
Single acting, 3 or more cylinders	M
Double acting, 2 or more cylinders	M
Rotary-gear type	U
Rubber and Plastics Industries	
Crackers	H
Laboratory equipment	M
Mixing mills	H
Refiners	M
Rubber calenders	M
Rubber mill (2 on line)	M
Rubber mill (3 on line)	U
Sheeter	M
Tire building machines	S
Tire and tube press openers	S
Tubers and strainers	M
Warming mills	M
Sand Muller	M
Screens	
Air washing	U
Rotary, stone or gravel	M
Traveling water intake	U
Sewage Disposal Equipment	
Bar screens	U
Chemical fenders	U
Collectors, circuline or straightline	U
Dewatering screens	M
Grit collectors	U
Scum breakers	M
Slow or rapid mixers	M
Sludge collectors	U
Thickeners	M
Vacuum filters	M
Slab Pushers	M
Steering Gear	S
Stokers	U
Sugar Industry	
Cane knives	M
Crushers	M
Mills	H
Textile Industry	
Batchers	M
Calenders	M
Cards	M
Dry cans	M
Dryers	M
Dyeing machinery	M
Knitting machines	S
Looms	M
Mangles	M
Nappers	M
Pads	M
Range drives	S
Slashers	M
Soapers	M
Spinners	M
Tenter frames	M
Washers	M
Winders	M
Windlass	S

U = Uniform Load H = Heavy Shock
M = Moderate Shock S = Contact Sumitomo

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Quill Frame Size Selection Tables 60 Hz

1750 RPM

Dimensions:	Frame Size	Page	Frame Size	Page
	1100	2.14	1400	2.17
	1200	2.15	1500	2.18
	1300	2.16	1600	2.19

Output RPM	350	250	175	146	117	87.5	70.0	58.3	43.8	35.0	29.2	21.9	17.5	Frame Size
Ratio	5	7	10	12	15	20	25	30	40	50	60	80	100	
Input HP	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.134	0.134	0.134	–	–	1120
Output Torque in-lbs	41.0	57.5	82.1	98.5	123	164	205	246	164	205	246	–	–	
Overhung Load lbs	132	143	165	176	187	209	220	231	254	276	287	–	–	
Input HP	0.536	0.536	0.536	0.536	0.536	0.536	0.536	0.536	0.268	0.268	0.268	–	–	1220
Output Torque in-lbs	82.1	115	164	197	246	328	410	492	328	410	492	–	–	
Overhung Load lbs	187	209	231	243	265	298	309	331	353	375	386	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	0.134	0.134	1230
Output Torque in-lbs	–	–	–	–	–	–	–	–	–	–	–	328	410	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	397	397	
Input HP	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	0.536	0.536	0.536	–	–	1320
Output Torque in-lbs	164	230	328	394	492	657	821	985	657	821	985	–	–	
Overhung Load lbs	309	353	386	408	441	485	507	529	573	617	639	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	0.268	0.268	1330
Output Torque in-lbs	–	–	–	–	–	–	–	–	–	–	–	657	821	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	661	683	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	–	1340
Output Torque in-lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	2.06	2.06	2.06	2.06	2.06	2.06	2.06	2.06	1.07	1.07	1.07	–	–	1420
Output Torque in-lbs	316	442	632	758	948	1260	1580	1900	1310	1640	1970	–	–	
Overhung Load lbs	463	518	584	617	661	716	761	805	860	904	937	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	0.536	0.536	1430
Output Torque in-lbs	–	–	–	–	–	–	–	–	–	–	–	1310	1640	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	959	981	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	–	1440
Output Torque in-lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	1.07	1.07	1530
Output Torque in-lbs	–	–	–	–	–	–	–	–	–	–	–	2630	3280	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	1380	1400	
Input HP	–	–	–	–	–	–	–	–	2.06	2.06	2.06	2.06	–	1531
Output Torque in-lbs	–	–	–	–	–	–	–	–	2530	3170	3780	5060	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	1250	1310	1360	1380	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	–	1540
Output Torque in-lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	–	–	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	1630
Output Torque in-lbs	–	–	903	1090	1350	1810	2260	2720	3620	4520	5430	7350	9190	
Overhung Load lbs	–	–	1330	1420	1500	1650	1740	1820	1910	2000	2060	2170	2200	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	–	1631
Output Torque in-lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	–	–	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	–	–	1632
Output Torque in-lbs	–	–	1520	1820	2280	3040	3810	4590	6120	7650	9180	–	–	
Overhung Load lbs	–	–	1330	1420	1500	1650	1740	1820	1910	2000	2060	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	–	1640
Output Torque in-lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	

Speed Reducers
Selection Tables

60 Hz Quill Frame Size Selection Tables

<i>Dimensions:</i>	Frame Size	Page	Frame Size	Page
	1100	2.14	1400	2.17
	1200	2.15	1500	2.18
	1300	2.16	1600	2.19

1750 RPM

Output RPM	14.6	11.7	8.75	7.29	5.83	4.86	3.65	2.92	2.43	1.94	1.46	1.22	Frame Size
Ratio	120	150	200	240	300	360	480	600	720	900	1200	1440	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	1120
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	1220
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	0.134	0.134	0.134	0.118	–	–	–	–	–	–	–	–	
Output Torque in·lbs	492	617	822	868	–	–	–	–	–	–	–	–	1230
Overhung Load lbs	408	408	408	408	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	1320
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	0.268	0.125	0.125	0.125	–	–	–	–	–	–	–	–	
Output Torque in·lbs	985	574	765	918	–	–	–	–	–	–	–	–	1330
Overhung Load lbs	694	694	694	694	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	0.134	0.134	0.125	0.0999	0.0833	–	–	–	
Output Torque in·lbs	–	–	–	–	1160	1390	1730	1730	1730	–	–	–	1340
Overhung Load lbs	–	–	–	–	694	694	694	694	694	–	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	1420
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	0.536	0.250	0.250	0.250	–	–	–	–	–	–	–	–	
Output Torque in·lbs	1970	1150	1530	1840	–	–	–	–	–	–	–	–	1430
Overhung Load lbs	981	981	981	981	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	0.268	0.268	0.250	0.200	0.167	0.133	0.0999	0.0833	
Output Torque in·lbs	–	–	–	–	2320	2780	3450	3450	3450	3450	3450	3450	1440
Overhung Load lbs	–	–	–	–	981	981	981	981	981	981	981	981	
Input HP	1.07	0.500	0.500	0.500	–	–	–	–	–	–	–	–	
Output Torque in·lbs	3940	2230	3060	3670	–	–	–	–	–	–	–	–	1530
Overhung Load lbs	1400	1400	1400	1400	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	1531
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	0.536	0.536	0.468	0.375	0.312	0.250	0.187	0.156	
Output Torque in·lbs	–	–	–	–	4640	5560	6480	6480	6480	6480	6480	6480	1540
Overhung Load lbs	–	–	–	–	1400	1400	1400	1400	1400	1400	1400	1400	
Input HP	3.00	–	–	–	–	–	–	–	–	–	–	–	
Output Torque in·lbs	11000	–	–	–	–	–	–	–	–	–	–	–	1630
Overhung Load lbs	2200	–	–	–	–	–	–	–	–	–	–	–	
Input HP	–	2.85	2.14	1.78	–	–	–	–	–	–	–	–	
Output Torque in·lbs	–	13100	13100	13100	–	–	–	–	–	–	–	–	1631
Overhung Load lbs	–	2200	2200	2200	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	1632
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	1.07	1.07	0.948	0.758	0.632	0.505	0.379	0.316	
Output Torque in·lbs	–	–	–	–	9270	11100	13100	13100	13100	13100	13100	13100	1640
Overhung Load lbs	–	–	–	–	2200	2200	2200	2200	2200	2200	2200	2200	

Speed Reducers

Selection Tables

C-Face Frame Size Selection Tables 60 Hz

1750 RPM

Dimensions:	Frame Size	Page	Frame Size	Page
	1100	2.20	1400	2.23
	1200	2.21	1500	2.24
	1300	2.22	1600	2.25

Output RPM	350	250	175	146	117	87.5	70.0	58.3	43.8	35.0	29.2	21.9	17.5	Frame Size
Ratio	5	7	10	12	15	20	25	30	40	50	60	80	100	
Input HP	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.134	0.134	0.134	–	–	1120
Output Torque in·lbs	41.0	57.5	82.1	98.5	123	164	205	246	164	205	246	–	–	
Overhung Load lbs	132	143	165	176	187	209	220	231	254	276	287	–	–	
Input HP	0.536	0.536	0.536	0.536	0.536	0.536	0.536	0.536	0.268	0.268	0.268	–	–	1220
Output Torque in·lbs	82.1	115	164	197	246	328	410	492	328	410	492	–	–	
Overhung Load lbs	187	209	231	243	265	298	309	331	353	375	386	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	0.134	0.134	1230
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	328	410	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	397	397	
Input HP	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	0.536	0.536	0.536	–	–	1320
Output Torque in·lbs	164	230	328	394	492	657	821	985	657	821	985	–	–	
Overhung Load lbs	309	353	386	408	441	485	507	529	573	617	639	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	0.268	0.268	1330
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	657	821	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	661	683	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	–	1340
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	2.06	2.06	2.06	2.06	2.06	2.06	2.06	2.06	1.07	1.07	1.07	–	–	1420
Output Torque in·lbs	316	442	632	758	948	1260	1580	1900	1310	1640	1970	–	–	
Overhung Load lbs	463	518	584	617	661	716	761	805	860	904	937	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	0.536	0.536	1430
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	1310	1640	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	959	981	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	–	1440
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	2.06	2.06	2.06	2.06	2.06	2.06	2.06	2.06	2.06	2.06	2.06	–	–	1520
Output Torque in·lbs	315	442	630	755	948	1260	1580	1900	2530	3160	3790	–	–	
Overhung Load lbs	661	750	838	893	948	1040	1100	1160	1250	1310	1360	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	1.07	1.07	1530
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	2630	3280	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	1380	1400	
Input HP	–	–	–	–	–	–	–	–	2.06	2.06	2.06	2.06	–	1531
Output Torque in·lbs	–	–	–	–	–	–	–	–	2530	3170	3780	5060	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	1250	1310	1360	1380	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	–	1540
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	–	1640
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	

Speed Reducers
Selection Tables

60 Hz C-Face Frame Size Selection Tables

Dimensions:	Frame Size	Page	Frame Size	Page
	1100	2.20	1400	2.23
	1200	2.21	1500	2.24
	1300	2.22	1600	2.25

1750 RPM

Output RPM	14.6	11.7	8.75	7.29	5.83	4.86	3.65	2.92	2.43	1.94	1.46	1.22	Frame Size
Ratio	120	150	200	240	300	360	480	600	720	900	1200	1440	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	1120
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	1220
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	0.134	0.134	0.134	0.118	–	–	–	–	–	–	–	–	1230
Output Torque in·lbs	492	616	821	868	–	–	–	–	–	–	–	–	
Overhung Load lbs	408	408	408	408	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	1320
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	0.268	0.125	0.125	0.125	–	–	–	–	–	–	–	–	1330
Output Torque in·lbs	985	574	765	918	–	–	–	–	–	–	–	–	
Overhung Load lbs	694	694	694	694	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	0.134	0.134	0.125	0.100	0.083	0.067	0.050	0.042	1340
Output Torque in·lbs	–	–	–	–	1160	1390	1730	1730	1730	1730	1730	1730	
Overhung Load lbs	–	–	–	–	694	694	694	694	694	694	694	694	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	1420
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	0.536	0.250	0.250	0.250	–	–	–	–	–	–	–	–	1430
Output Torque in·lbs	1970	1150	1530	1840	–	–	–	–	–	–	–	–	
Overhung Load lbs	981	981	981	981	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	0.268	0.268	0.250	0.200	0.167	0.133	0.100	0.083	1440
Output Torque in·lbs	–	–	–	–	2320	2780	3450	3450	3450	3450	3450	3450	
Overhung Load lbs	–	–	–	–	981	981	981	981	981	981	981	981	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	1520
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	1.07	0.500	0.500	0.500	–	–	–	–	–	–	–	–	1530
Output Torque in·lbs	3940	2230	3060	3670	–	–	–	–	–	–	–	–	
Overhung Load lbs	1400	1400	1400	1400	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	1531
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	0.536	0.536	0.468	0.375	0.312	0.250	0.187	0.156	1540
Output Torque in·lbs	–	–	–	–	4640	5560	6480	6480	6480	6480	6480	6480	
Overhung Load lbs	–	–	–	–	1400	1400	1400	1400	1400	1400	1400	1400	
Input HP	–	–	–	–	1.07	1.07	0.948	0.758	0.632	0.505	0.379	0.316	1640
Output Torque in·lbs	–	–	–	–	9270	11100	13100	13100	13100	13100	13100	13100	
Overhung Load lbs	–	–	–	–	2200	2200	2200	2200	2200	2200	2200	2200	

Speed Reducers

Selection Tables

C-Face Frame Size Selection Tables 50 Hz

1450 RPM

Dimensions:	Frame Size	Page	Frame Size	Page
	1100	2.20	1400	2.23
	1200	2.21	1500	2.24
	1300	2.22	1600	2.25

Output RPM Ratio	290 5	207 7	145 10	121 12	96.7 15	72.5 20	58.0 25	48.3 30	36.2 40	29.0 50	24.2 60	18.1 80	14.5 100	Frame Size
Input HP	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.134	0.134	0.134	–	–	1120
Output Torque in-lbs	49.5	69.3	99.1	119	149	198	248	297	198	248	297	–	–	
Overhung Load lbs	143	154	176	187	198	220	231	243	265	287	298	–	–	
Input HP	0.536	0.536	0.536	0.536	0.536	0.536	0.536	0.536	0.268	0.268	0.268	–	–	1220
Output Torque in-lbs	99.1	139	198	238	297	396	495	594	396	495	594	–	–	
Overhung Load lbs	198	220	243	254	276	309	331	342	364	386	397	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	0.134	0.134	1230
Output Torque in-lbs	–	–	–	–	–	–	–	–	–	–	–	396	495	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	397	408	
Input HP	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	0.536	0.536	0.536	–	–	1320
Output Torque in-lbs	198	277	396	475	594	792	991	1190	792	991	1190	–	–	
Overhung Load lbs	331	375	408	430	463	507	529	551	595	639	661	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	0.268	0.268	1330
Output Torque in-lbs	–	–	–	–	–	–	–	–	–	–	–	792	991	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	661	694	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	–	1340
Output Torque in-lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	2.06	2.06	2.06	2.06	2.06	2.06	2.06	2.06	1.07	1.07	1.07	–	–	1420
Output Torque in-lbs	381	534	763	915	1140	1530	1910	2290	1580	1980	2380	–	–	
Overhung Load lbs	485	551	617	639	694	750	794	838	893	937	970	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	0.536	0.536	1430
Output Torque in-lbs	–	–	–	–	–	–	–	–	–	–	–	1580	1980	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	970	981	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	–	1440
Output Torque in-lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.06	2.06	2.06	–	–	1520
Output Torque in-lbs	380	533	762	913	1140	1520	1900	2290	3050	3810	4580	–	–	
Overhung Load lbs	705	794	882	926	992	1080	1150	1200	1290	1360	1400	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	1.07	1.07	1530
Output Torque in-lbs	–	–	–	–	–	–	–	–	–	–	–	3170	3960	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	1400	1400	
Input HP	–	–	–	–	–	–	–	–	3.00	3.00	3.00	2.06	–	1531
Output Torque in-lbs	–	–	–	–	–	–	–	–	3040	3800	4570	6100	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	1290	1360	1400	1400	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	–	1540
Output Torque in-lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	–	1640
Output Torque in-lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	–	

Speed
Reducers

Selection
Tables

50 Hz C-Face Frame Size Selection Tables

<i>Dimensions:</i>	Frame Size	Page	Frame Size	Page
	1100	2.20	1400	2.23
	1200	2.21	1500	2.24
	1300	2.22	1600	2.25

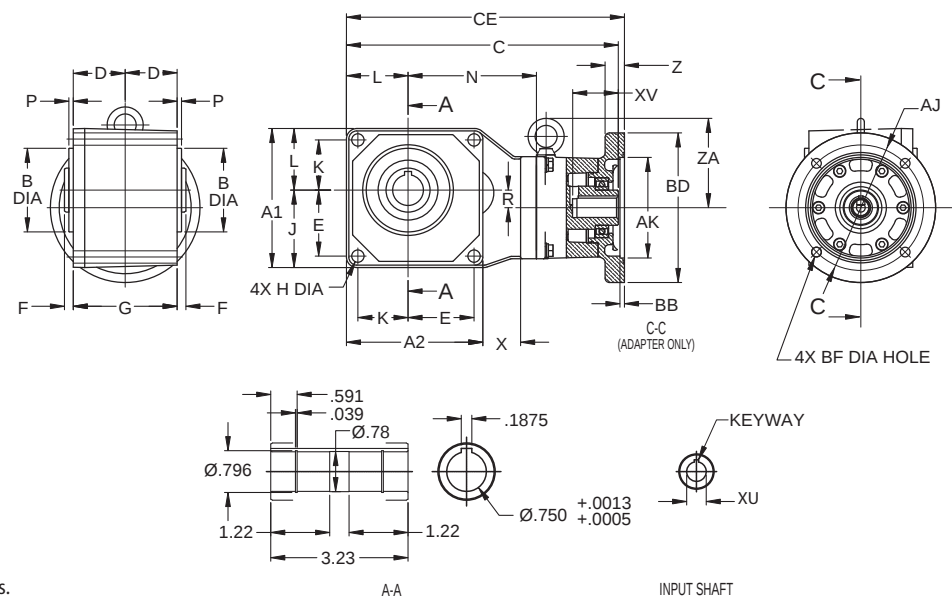
1450 RPM

Output RPM Ratio	12.1 120	9.67 150	7.25 200	6.04 240	4.83 300	4.03 360	3.02 480	2.42 600	2.01 720	1.61 900	1.21 1200	1.01 1440	Frame Size
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	1120
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	1220
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	0.134	0.134	0.117	0.098	–	–	–	–	–	–	–	–	1230
Output Torque in·lbs	594	743	868	868	–	–	–	–	–	–	–	–	
Overhung Load lbs	408	408	408	408	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	1320
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	0.268	0.125	0.125	0.125	–	–	–	–	–	–	–	–	1330
Output Torque in·lbs	1190	695	924	1110	–	–	–	–	–	–	–	–	
Overhung Load lbs	694	694	694	694	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	0.134	0.134	0.103	0.083	0.069	0.055	0.041	0.035	1340
Output Torque in·lbs	–	–	–	–	1400	1680	1730	1730	1730	1730	1730	1730	
Overhung Load lbs	–	–	–	–	694	694	694	694	694	694	694	694	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	1420
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	0.536	0.250	0.250	0.250	–	–	–	–	–	–	–	–	1430
Output Torque in·lbs	2380	1390	1850	2210	–	–	–	–	–	–	–	–	
Overhung Load lbs	981	981	981	981	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	0.268	0.268	0.207	0.166	0.138	0.110	0.083	0.069	1440
Output Torque in·lbs	–	–	–	–	2800	3360	3450	3450	3450	3450	3450	3450	
Overhung Load lbs	–	–	–	–	981	981	981	981	981	981	981	981	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	1520
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	1.07	0.500	0.500	0.500	–	–	–	–	–	–	–	–	1530
Output Torque in·lbs	4750	2780	3700	4440	–	–	–	–	–	–	–	–	
Overhung Load lbs	1400	1400	1400	1400	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	–	–	–	–	–	–	–	–	1531
Output Torque in·lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Overhung Load lbs	–	–	–	–	–	–	–	–	–	–	–	–	
Input HP	–	–	–	–	0.536	0.517	0.388	0.310	0.259	0.207	0.155	0.129	1540
Output Torque in·lbs	–	–	–	–	5590	6480	6480	6480	6480	6480	6480	6480	
Overhung Load lbs	–	–	–	–	1400	1400	1400	1400	1400	1400	1400	1400	
Input HP	–	–	–	–	1.07	1.05	0.785	0.628	0.523	0.419	0.314	0.262	1640
Output Torque in·lbs	–	–	–	–	11200	13100	13100	13100	13100	13100	13100	13100	
Overhung Load lbs	–	–	–	–	2200	2200	2200	2200	2200	2200	2200	2200	

Speed
ReducersSelection
Tables

Quill Dimensions

Frame Size 1100 RNYX-1120Y



All dimensions are in inches.

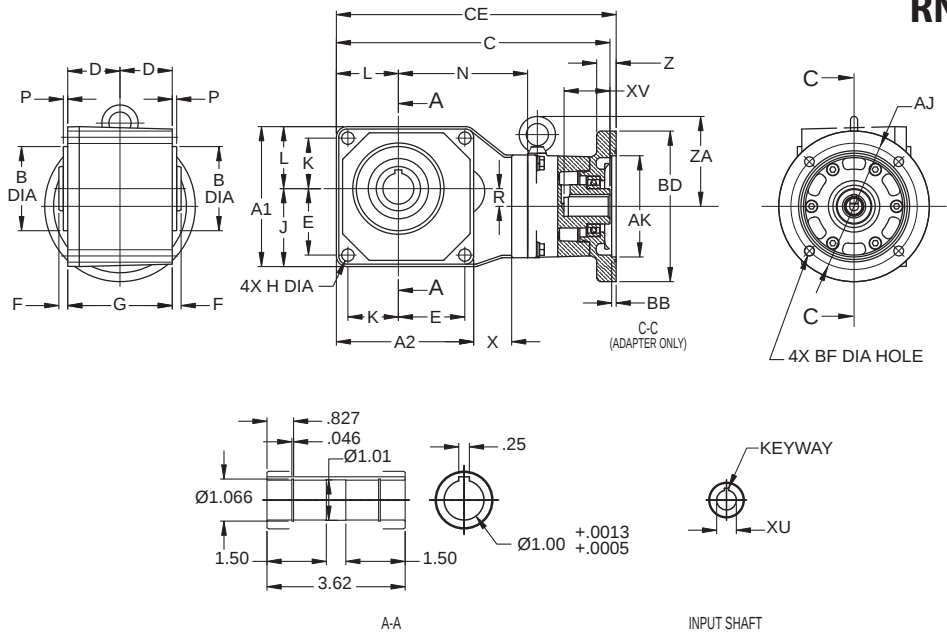
Model	A1	A2	B min	B max	D	E	F	G	H	J	K	L	N	P	R	X
1120Y	3.54	3.46	2.046	2.047	1.30	1.65	0.31	2.60	0.26	1.97	1.26	1.57	3.24	0.24	0.79	0.88

Model	Ratio	NEMA Frame	CE	C	AK	BD	AJ	BF	Z	BB	ZA	Wt. (lbs.)
RNYX-1120Y	5~60	56C	7.98	7.58	4.5	6.69	5.88	0.43	0.39	0.22	-	15

Model	NEMA Frame	XU	XV	KEYWAY
RNYX-1120Y	56C	0.625	1.82	3/16 x 3/16 x 1.82

Quill Dimensions

Frame Size 1200
RNYX-1220/30Y



All dimensions are in inches.

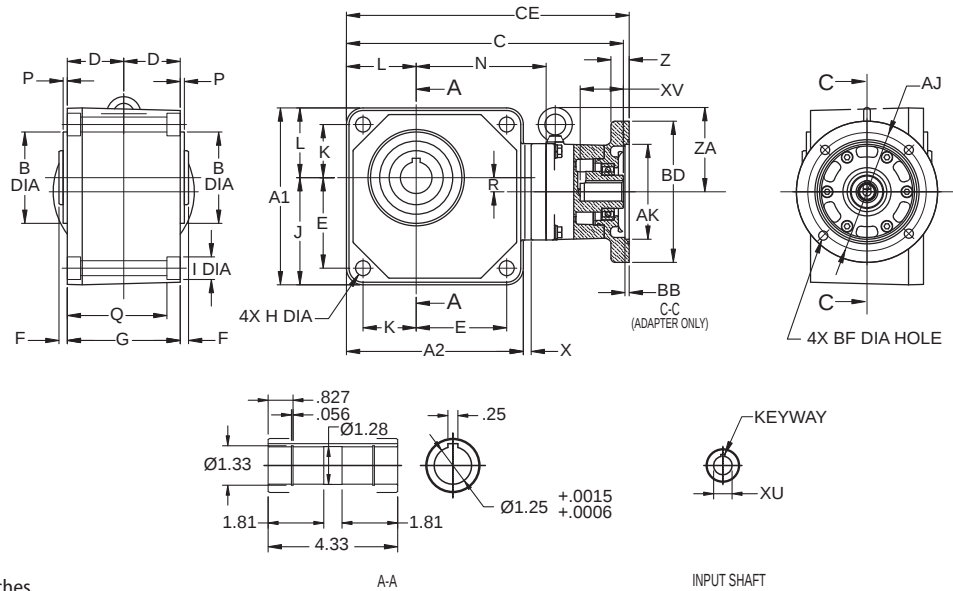
Model	A1	A2	B min	B max	D	E	F	G	H	J	K	L	N	P	R	X
1220Y	4.53	4.45	3.070	3.071	1.46	2.24	0.35	2.91	0.35	2.60	1.58	1.93	3.80	0.20	1.10	0.80
1230Y	5.00	5.00	3.070	3.071	1.61	2.56	0.35	3.23	0.35	2.99	1.58	2.01	3.75	0.20	0.51	0.31

Model	Ratio	NEMA Frame	CE	C	AK	BD	AJ	BF	Z	BB	ZA	Wt. (lbs.)
RNYX-1220Y	5~60	56C	9.19	8.87	4.5	6.69	5.88	0.43	0.39	0.22	-	17
RNYX-1230Y	80~120	56C	12.42	9.88	4.5	6.69	5.88	0.43	0.39	0.22	-	18

Model	NEMA Frame	XU	XV	KEYWAY
RNYX-1220Y	56C	0.625	1.82	3/16 x 3/16 x 1.82
RNYX-1230Y	56C	0.625	1.82	3/16 x 3/16 x 1.82

Quill Dimensions

Frame Size 1300 RNYX-1320/30/40Y



All dimensions are in inches.

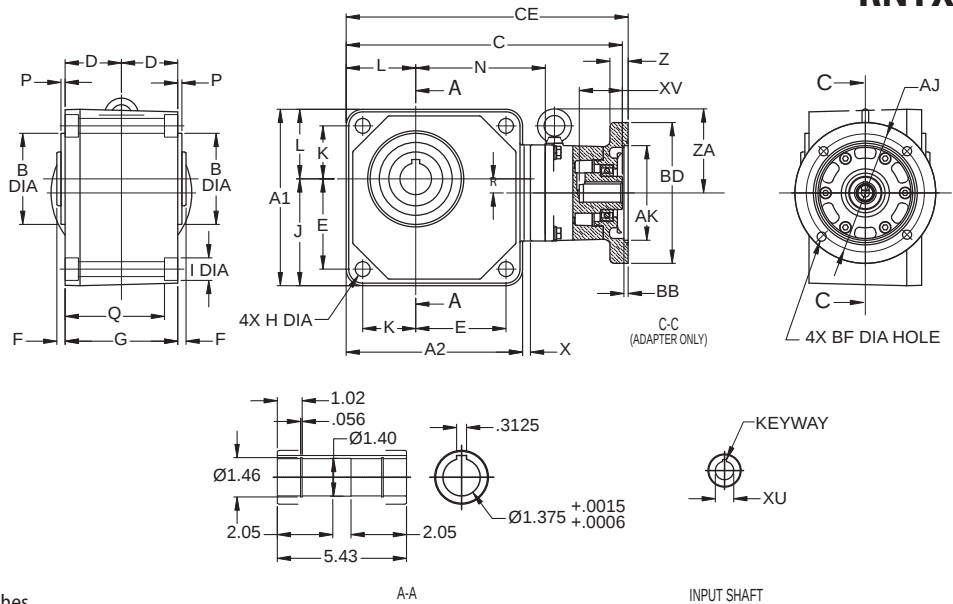
Model	A1	A2	B min	B max	D	E	F	G	H	J	K	L	N	P	R	X
1320Y	5.20	5.12	3.345	3.346	1.81	2.44	0.35	3.62	0.43	2.91	1.81	2.28	4.68	0.20	1.08	1.33
1330Y	5.98	5.98	3.345	3.346	1.81	3.11	0.35	3.62	0.43	3.62	1.85	2.36	4.23	0.20	0.43	0.14
1340Y	5.98	5.98	3.345	3.346	1.81	3.11	0.35	3.62	0.43	3.62	1.85	2.36	5.16	0.20	0.35	1.04

Model	Ratio	NEMA Frame	CE	C	AK	BD	AJ	BF	Z	BB	ZA	Wt. (lbs.)
RNYX-1320Y	5~60	56C	10.58	10.3	4.5	6.69	5.88	0.43	0.87	0.2	4.53	29
RNYX-1320Y	5~30	143TC	10.58	10.3	4.5	6.69	5.88	0.43	0.87	0.2	4.53	29
RNYX-1330Y	80~240	56C	10.01	9.74	4.5	6.69	5.88	0.43	0.39	0.22	—	22
RNYX-1340Y	300~720	56C	10.59	10.28	4.5	6.69	5.88	0.43	0.39	0.22	—	24

Model	NEMA Frame	XU	XV	KEYWAY
RNYX-1320Y	56C	0.625	1.92	3/16 x 3/16 x 1.92
RNYX-1320Y	143TC	0.875	1.92	3/16 x 3/16 x 1.92
RNYX-1330Y	56C	0.625	1.85	3/16 x 3/16 x 1.85
RNYX-1340Y	56C	0.625	1.82	3/16 x 3/16 x 1.82

Quill Dimensions

Frame Size 1400
RNYX-1420/30/40Y



All dimensions are in inches.

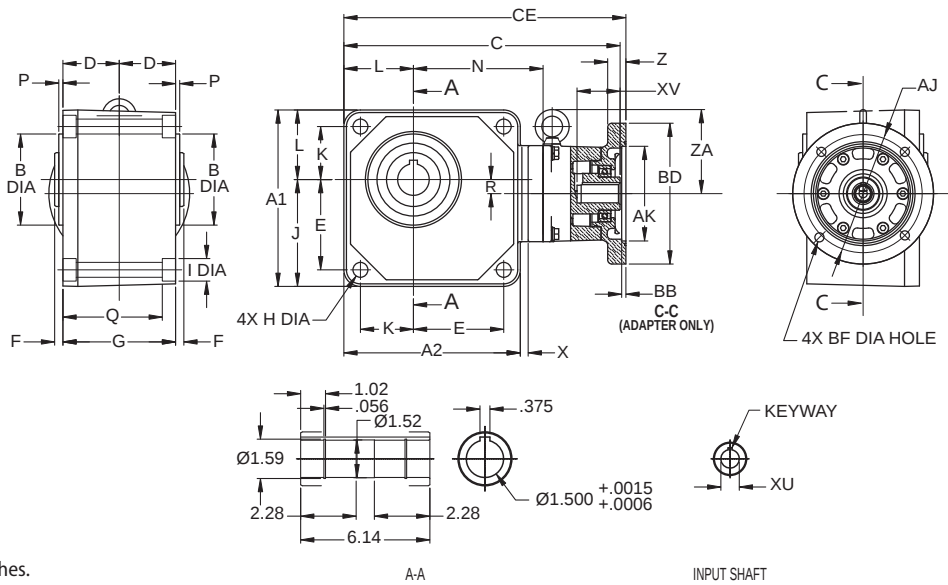
Model	A1	A2	B min	B max	D	E	F	G	H	J	K	L	N	P	R	X
1420Y	6.22	6.10	3.739	3.740	2.32	2.95	0.39	4.65	0.55	3.46	2.24	2.76	5.74	0.20	0.79	1.69
1430Y	7.01	7.01	3.739	3.740	2.32	3.62	0.39	4.65	0.55	4.25	2.13	2.76	5.12	0.20	0.55	0.32
1440Y	7.01	7.01	3.739	3.740	2.32	3.62	0.39	4.65	0.55	4.25	2.13	2.76	6.42	0.20	0.43	1.73

Model	Ratio	NEMA Frame	CE	C	AK	BD	AJ	BF	Z	BB	ZA	Wt. (lbs.)
RNYX-1420Y	5~60	56C~145TC	12.44	12.16	4.5	6.69	5.88	0.43	0.87	0.2	4.53	36
RNYX-1430Y	80~240	56C	11.5	11.22	4.5	6.69	5.88	0.43	0.87	0.2	4.53	38
RNYX-1440Y	300~1440	56C	12.64	12.32	4.5	6.69	5.88	0.43	0.39	0.22	—	32

Model	NEMA Frame	XU	XV	KEYWAY
RNYX-1420Y	56C	0.625	1.82	3/16 x 3/16 x 1.82
RNYX-1420Y	143TC	0.875	1.92	3/16 x 3/16 x 1.92
RNYX-1430Y	56C	0.625	1.92	3/16 x 3/16 x 1.92
RNYX-1440Y	56C	0.625	1.85	3/16 x 3/16 x 1.85

Quill Dimensions

Frame Size 1500 RNYX-1530/31/40Y



All dimensions are in inches.

Model	A1	A2	B min	B max	D	E	F	G	H	J	K	L	N	P	R	X
1530/31Y	8.39	8.39	4.329	4.331	2.68	4.29	0.39	5.35	0.71	5.08	2.52	3.31	6.18	0.20	0.67	0.37
1540Y	8.39	8.39	4.329	4.331	2.68	4.29	0.39	5.35	0.71	5.08	2.52	3.31	7.76	0.20	0.55	2.13

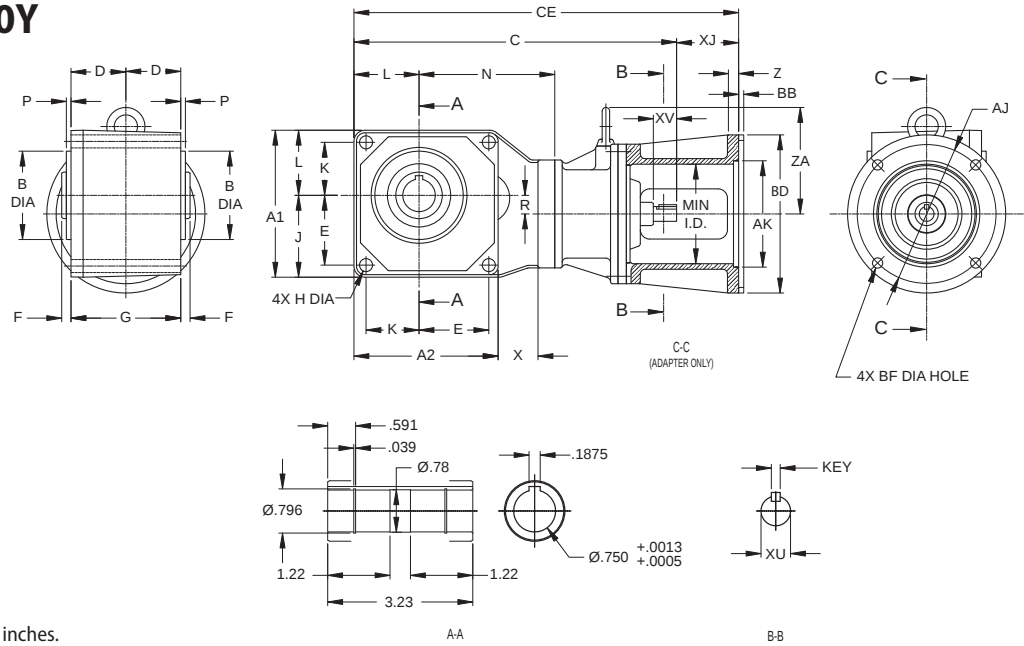
Model	Ratio	NEMA Frame	CE	C	AK	BD	AJ	BF	Z	BB	ZA	Wt. (lbs.)
RNYX-1530Y	80~240	56C	13.41	13.13	4.5	6.69	5.88	0.43	0.87	0.2	5.12	51
RNYX-1530Y	80~120	143TC~145TC	13.41	13.13	4.5	6.69	5.88	0.43	0.87	0.2	5.12	51
RNYX-1531Y	40 ~ 80	143TC~145TC	13.41	13.26	4.5	6.69	5.88	0.43	0.87	0.2	5.12	51
RNYX-1540Y	300~1440	56C	14.69	14.41	4.5	6.69	5.88	0.43	0.87	0.2	5.12	61

Model	NEMA Frame	XU	XV	KEYWAY
RNYX-1530Y	56C	0.625	1.92	3/16 x 3/16 x 1.92
RNYX-1530Y	143TC	0.875	1.92	3/16 x 3/16 x 1.92
RNYX-1531Y	145TC	0.875	1.92	3/16 x 3/16 x 1.92
RNYX-1540Y	56C	0.625	1.92	3/16 x 3/16 x 1.92

Dimensions

C-Face Dimensions

Frame Size 1100 RNYJ-1120Y



All dimensions are in inches.

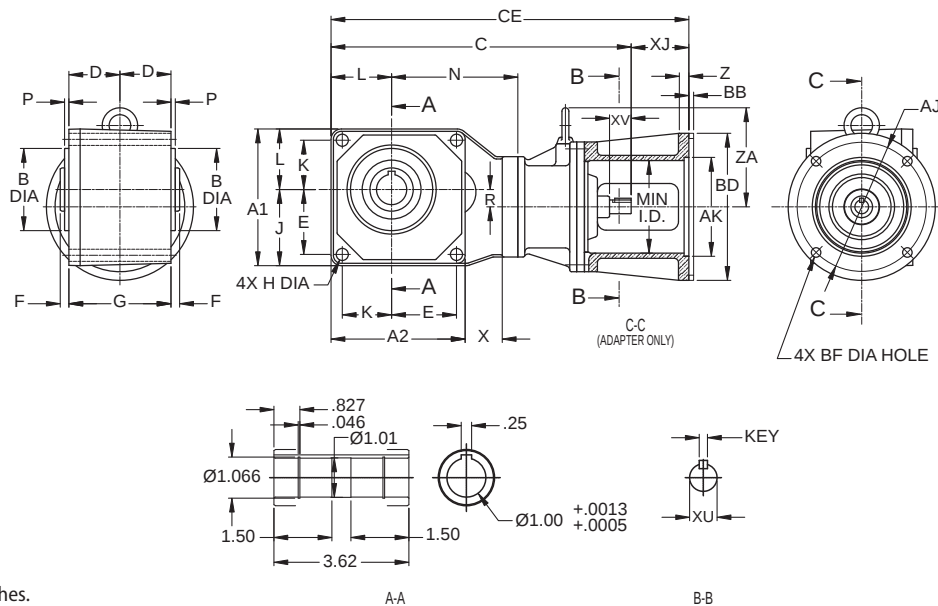
Model	A1	A2	B min	B max	D	E	F	G	H	J	K	L	N	P	R	X
1120Y	3.54	3.46	2.046	2.047	1.30	1.65	0.31	2.60	0.26	1.97	1.26	1.57	3.23	0.24	0.79	0.87

Model	Ratio	NEMA Frame	CE	C	XJ	AK	BD	AJ	BF	Z	BB	Min. ID	ZA	Wt. (lbs.)
RNYJ-1120Y	5~60	42C	10.72	8.94	1.78	3.0	4.33	3.75	0.28	0.47	—	2.44	—	12
RNYJ-1120Y	5~60	48C	11.11	8.94	2.16	3.0	4.33	3.75	0.28	0.47	—	2.44	—	13
RNYJ-1120Y	5~30	56C	11.47	8.94	2.56	4.5	6.69	5.88	0.43	0.47	—	3.15	—	15

Model	XU	XV	KEYWAY
RNYJ-1120Y	0.500	.98	1/8 x 1/8 x 0.71

C-Face Dimensions

Frame Size 1200
RNYJ-1220/30Y



All dimensions are in inches.

Model	A1	A2	B min	B max	D	E	F	G	H	J	K	L	N	P	R	X
1220Y	4.53	4.45	3.070	3.071	1.46	2.24	0.35	2.91	0.35	2.60	1.57	1.93	3.78	0.20	1.10	0.79
1230Y	5.00	5.00	3.070	3.071	1.61	2.56	0.35	3.23	0.35	2.99	1.57	2.01	3.74	0.20	0.51	0.31

Model	Ratio	NEMA Frame	CE	C	XJ	AK	BD	AJ	BF	Z	BB	Min. ID	ZA	Wt. (lbs.)
RNYJ-1220Y	5~60	48C	12.40	10.24	2.16	3.0	4.33	3.75	0.28	0.47	—	2.44	—	16
RNYJ-1220Y	5~60	56C	12.80	10.24	2.56	4.5	6.69	5.88	0.43	0.47	—	3.15	—	17
RNYJ-1220Y	5~60	143TC	12.80	10.24	2.56	4.5	6.69	5.88	0.43	0.47	—	3.15	—	17
RNYJ-1230Y	80~240	42C	11.66	9.88	1.78	3.0	4.33	3.75	0.28	0.47	—	2.44	—	16
RNYJ-1230Y	80~240	48C	12.04	9.88	2.16	3.0	4.33	3.75	0.28	0.47	—	2.44	—	16
RNYJ-1230Y	80~240	56C	12.42	9.88	2.56	4.5	6.69	5.88	0.43	0.47	—	3.15	—	18

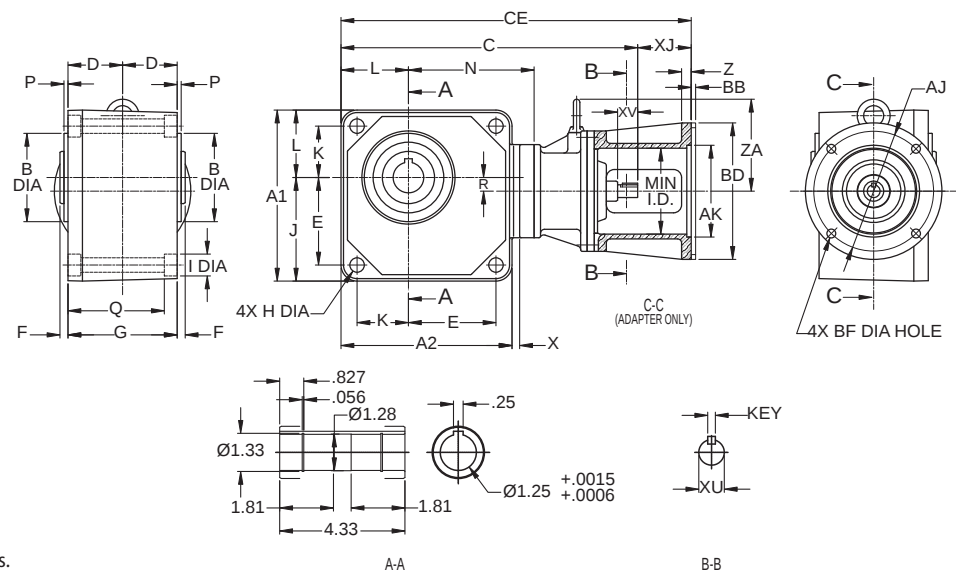
Model	XU	XV	KEYWAY
RNYJ-1220Y	0.500	.98	1/8 x 1/8 x 0.71
RNYJ-1230Y	0.500	.98	1/8 x 1/8 x 0.71

Speed Reducers

Dimensions

C-Face Dimensions

Frame Size 1300 RNYJ-1320/30/40Y



All dimensions are in inches.

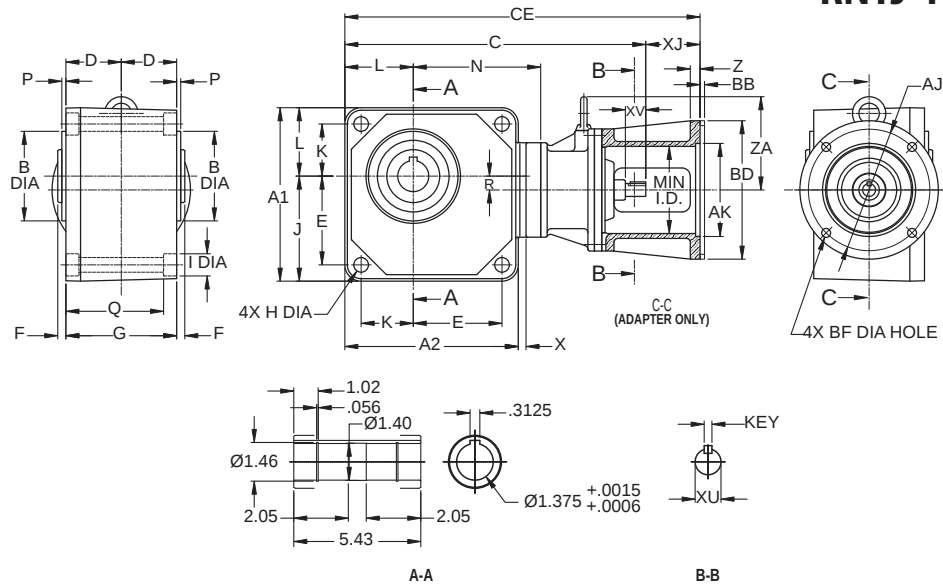
Model	A1	A2	B min	B max	D	E	F	G	H	J	K	L	N	P	R	X
1320Y	5.20	5.12	3.345	3.346	1.81	2.44	0.35	3.62	0.43	2.91	1.81	2.28	4.69	0.20	1.08	1.34
1330Y	5.98	5.98	3.345	3.346	1.81	3.11	0.35	3.62	0.43	3.62	1.85	2.36	4.25	0.20	0.43	0.14
1340Y	5.98	5.98	3.345	3.346	1.81	3.11	0.35	3.62	0.43	3.62	1.85	2.36	5.16	0.20	0.35	1.04

Model	Ratio	NEMA Frame	CE	C	XJ	AK	BD	AJ	BF	Z	BB	Min. ID	ZA	Wt. (lbs.)
RNYJ-1320Y	5~60	56C	14.52	11.89	2.63	4.5	6.69	5.88	0.43	0.47	—	4.21	4.53	29
RNYJ-1320Y	5~30	143TC	14.52	11.89	2.63	4.5	6.69	5.88	0.43	0.47	—	4.21	4.53	29
RNYJ-1330Y	80~240	48C	13.30	11.14	2.16	3.0	4.33	3.75	0.28	0.47	—	2.44	—	20
RNYJ-1330Y	80~240	56C	13.68	11.14	2.56	4.5	6.69	5.88	0.43	0.47	—	3.15	—	22
RNYJ-1340Y	300~1440	42C	13.45	11.66	1.78	3.0	4.33	3.75	0.28	0.47	—	2.44	—	22
RNYJ-1340Y	300~720	48C	13.81	11.66	2.16	3.0	4.33	3.75	0.28	0.47	—	2.44	—	22
RNYJ-1340Y	300~720	56C	14.21	11.66	2.56	4.5	6.69	5.88	0.43	0.47	—	3.15	—	24

Model	XU	XV	KEYWAY
RNYJ-1320Y	0.625	0.98	3/16 x 3/16 x 0.75
RNYJ-1330Y	0.500	0.98	1/8 x 1/8 x 0.71
RNYJ-1340Y	0.500	0.98	1/8 x 1/8 x 0.71

C-Face Dimensions

Frame Size 1400 RNYJ-1420/30/40Y



All dimensions are in inches.

Model	A1	A2	B min	B max	D	E	F	G	H	J	K	L	N	P	R	X
1420Y	6.22	6.10	3.739	3.740	2.32	2.95	0.39	4.65	0.55	3.46	2.24	2.76	5.75	0.20	0.79	1.69
1430Y	7.01	7.01	3.739	3.740	2.32	3.62	0.39	4.65	0.55	4.25	2.13	2.76	5.12	0.20	0.55	0.31
1440Y	7.01	7.01	3.739	3.740	2.32	3.62	0.39	4.65	0.55	4.25	2.13	2.76	6.42	0.20	0.43	1.73

Model	Ratio	NEMA Frame	CE	C	XJ	AK	BD	AJ	BF	Z	BB	Min. ID	ZA	Wt. (lbs.)
RNYJ-1420Y	40~60	42C	15.08	13.31	1.78	3	4.33	3.75	0.28	0.47	—	2.44	4.53	33
RNYJ-1420Y	40~60	48C	15.46	13.31	2.16	3	4.33	3.75	0.28	0.47	—	2.44	4.53	34
RNYJ-1420Y	40~60	56C	15.93	13.31	2.63	4.5	6.69	5.88	0.43	0.47	—	4.21	4.53	36
RNYJ-1420Y	40~60	143TC	15.93	13.31	2.63	4.5	6.69	5.88	0.43	0.47	—	4.21	4.53	36
RNYJ-1420Y	5~30	143TC~145TC	16.29	13.66	2.63	4.5	6.69	5.88	0.43	0.47	—	4.21	4.53	36
RNYJ-1430Y	80~120	56C	15.42	12.80	2.63	4.5	6.69	5.88	0.43	0.47	—	4.21	4.53	38
RNYJ-1430Y	150~240	56C	15.46	12.83	2.63	4.5	6.69	5.88	0.43	0.47	—	4.21	4.53	38
RNYJ-1440Y	300~1440	48C	15.86	13.70	2.16	3.0	4.33	3.75	0.28	0.47	—	2.44	—	32
RNYJ-1440Y	300~720	56C	16.26	13.70	2.56	4.5	6.69	5.88	0.43	0.47	—	4.21	—	32

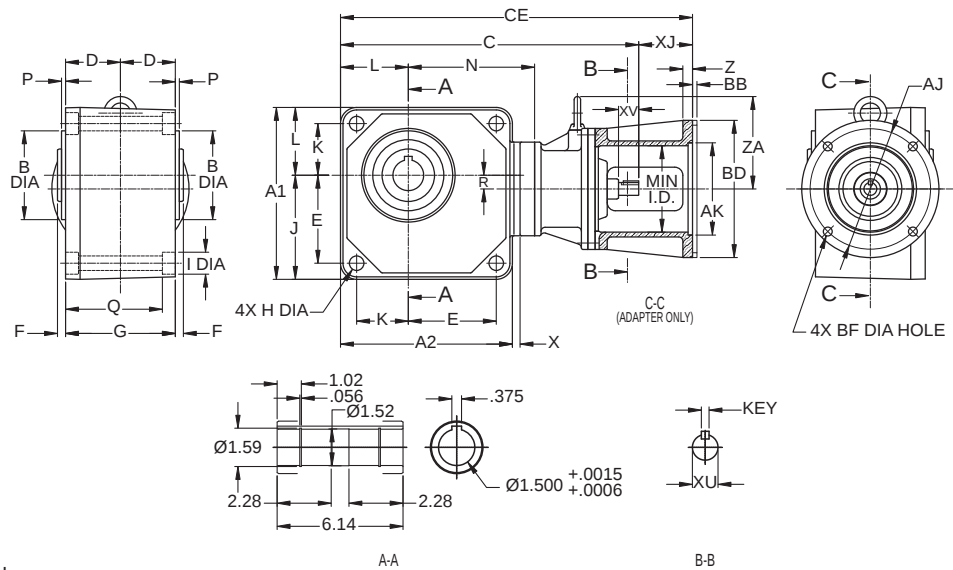
Model	XU	XV	KEYWAY
RNYJ-1420Y	0.625	0.98	3/16 x 3/16 x 0.75
RNYJ-1430Y	0.625	0.98	3/16 x 3/16 x 0.75
RNYJ-1440Y	0.500	0.98	1/8 x 1/8 x 0.71

Speed Reducers

Dimensions

C-Face Dimensions

Frame Size 1500 RNYJ-1520/30/31/40Y



All dimensions are in inches.

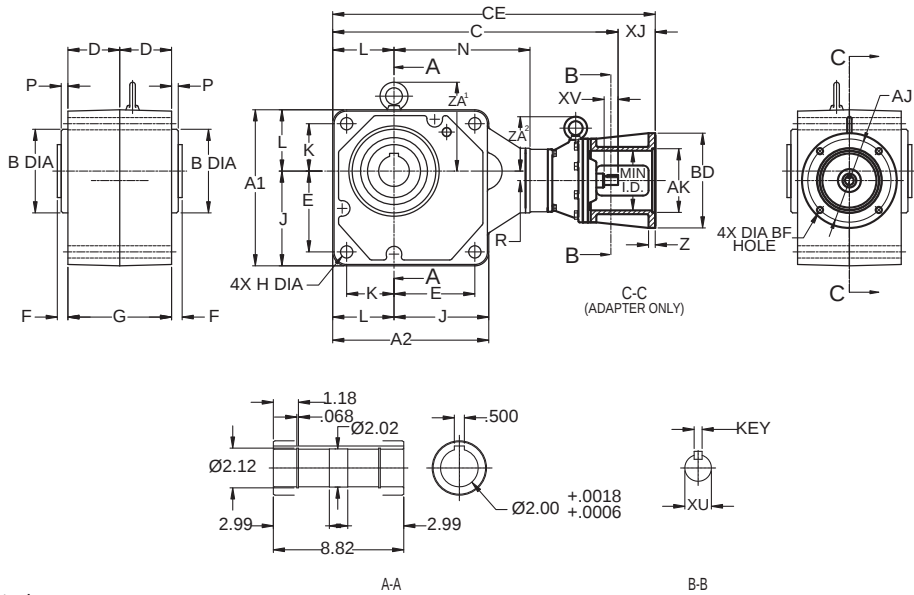
Model	A1	A2	B min	B max	D	E	F	G	H	J	K	L	N	P	R	X
1520Y	7.01	6.89	4.329	4.331	2.68	3.15	0.39	5.35	0.55	3.70	2.76	3.31	7.01	0.20	1.10	2.68
1530/31Y	8.39	8.39	4.329	4.331	2.68	4.29	0.39	5.35	0.71	5.08	2.52	3.31	6.18	0.20	0.67	0.37
1540Y	8.39	8.39	4.329	4.331	2.68	4.29	0.39	5.35	0.71	5.08	2.52	3.31	7.76	0.20	0.55	2.13

Model	Ratio	NEMA Frame	CE	C	XJ	AK	BD	AJ	BF	Z	BB	Min. ID	ZA	Wt. (lbs.)
RNYJ-1520Y	5~60	56C~145TC	19.20	16.57	2.63	4.5	6.69	5.88	0.43	0.47	–	4.21	5.12	67
RNYJ-1530Y	80~120	42C	16.12	14.27	1.85	3.00	4.33	3.75	0.28	0.47	–	2.44	5.12	49
RNYJ-1530Y	80~120	48C	16.50	14.27	2.23	3.00	4.33	3.75	0.28	0.47	–	2.44	5.12	49
RNYJ-1530Y	80~120	56C	16.90	14.27	2.63	4.5	6.69	5.88	0.43	0.47	–	4.21	5.12	51
RNYJ-1530Y	80~120	42C~56C	16.90	14.27	2.63	4.5	6.69	5.88	0.43	0.47	–	4.21	5.12	51
RNYJ-1530Y	150~240	56C	17.17	14.54	2.63	4.5	6.69	5.88	0.43	0.47	–	4.21	5.12	51
RNYJ-1530Y	150~240	42C	17.03	14.54	1.78	3	4.33	3.75	0.28	0.47	–	2.44	4.53	60
RNYJ-1531Y	40~80	56C~145C	17.88	15.28	2.61	4.5	6.69	5.88	0.43	0.47	–	4.21	5.12	63
RNYJ-1540Y	300~1440	56C~145TC	18.65	16.01	2.64	4.5	6.69	5.88	0.43	0.47	–	4.21	–	61

Model	XU	XV	KEYWAY
RNYJ-1520Y	0.750	1.38	3/16 x 3/16 x 1.02
RNYJ-1530/31Y	0.625	0.98	3/16 x 3/16 x 0.75
RNYJ-1540Y	0.625	0.98	3/16 x 3/16 x 0.75

C-Face Dimensions

Frame Size 1600
RNYJ-1640Y



All dimensions are in inches.

Model	A1	A2	B min	B max	D	E	F	G	H	J	K	L	N	P	R	ZA ¹
1640Y	11.02	11.02	5.904	5.906	3.66	5.71	0.75	7.32	0.87	6.69	3.35	4.33	9.29	0.47	0.67	6.30

Model	Ratio	NEMA Frame	CE	C	XJ	AK	BD	AJ	BF	Z	Min. ID	ZA ²	Wt. (lbs.)
RNYJ-1640Y	300~720	56C ~ 145TC	21.09	18.46	2.63	4.5	6.69	5.87	0.43	0.47	4.21	6.97	146
RNYJ-1640Y	900~1440	56C ~ 145TC	21.36	18.74	2.62	4.5	6.69	5.87	0.43	0.47	4.21	6.97	146

Model	XU	XV	KEYWAY
RNYJ-1640Y	0.625	0.98	3/16 x 3/16 x 0.75

Speed Reducers

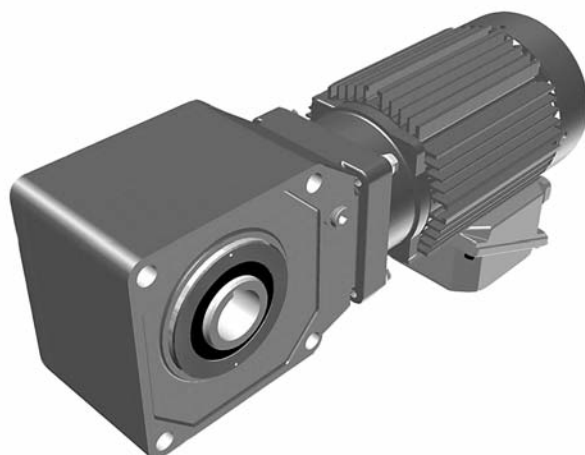
Dimensions

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3

Gearmotors

Hollow Shaft Type



Gearmotors

How to
Select

Product Range

Hollow Shaft Type

Selections shaded in blue offer an increased service factor.
Please refer to the gearmotor selection tables for specific unit service factor details.

Nominal Ratio (:1)		5	7	10	12	15	20	25	30	40	50	60
Output RPM (1750 rpm input)		350	250	175	145.83	116.67	87.5	70	58.33	43.75	35	29.17
3-Phase	1/8HP	Size 1120, Bore Ø0.75"								Size 1220, Bore Ø1.00"		
		Size 1120, Bore Ø0.75"								Size 1220, Bore Ø1.00"		
	1/4HP	Size 1220, Bore Ø1.00"								Size 1320, Bore Ø1.25"		
		Size 1220, Bore Ø1.00"								Size 1320, Bore Ø1.25"		
	1/3HP	Size 1220, Bore Ø1.00"								Size 1320, Bore Ø1.25"		
	1/2HP	Size 1220, Bore Ø1.00"								Size 1320, Bore Ø1.25"		
		Size 1320, Bore Ø1.25"								Size 1420, Bore Ø1.375"		
	3/4HP	Size 1320, Bore Ø1.25"								Size 1420, Bore Ø1.375"		
	1HP	Size 1320, Bore Ø1.25"								Size 1420, Bore Ø1.375"		
		Size 1420, Bore Ø1.375"								Size 1520, Bore Ø1.50"		
	1.5HP	Size 1420, Bore Ø1.375"								Size 1520, Bore Ø1.50"		
	2HP	Size 1420, Bore Ø1.375"								Size 1520, Bore Ø1.50"		
		Size 1520, Bore Ø1.50"								Size 1531, Bore Ø1.50"		
	3HP	Size 1520, Bore Ø1.50"								Size 1531, Bore Ø1.50"		
		Size 1521, Bore Ø1.50"							Size 1632, Bore Ø2.00"			
	5HP	Size 1521, Bore Ø1.50"							Size 1632, Bore Ø2.00"			
		Size 1522, Bore Ø1.50"					Size 1633, Bore Ø2.00"					
	7.5HP	Size 1522, Bore Ø1.50"					Size 1633, Bore Ø2.00"					
Size 1634, Bore Ø2.00"												
10HP	Size 1634, Bore Ø2.00"											
15HP	Size 1634, Bore Ø2.00"											
Inverter Duty 10:1 Constant Torque Speed Range	1/8HP	Size 1120, Bore Ø0.75"								Size 1220, Bore Ø1.00"		
		Size 1120, Bore Ø0.75"								Size 1220, Bore Ø1.00"		
	1/4HP	Size 1220, Bore Ø1.00"								Size 1320, Bore Ø1.25"		
		Size 1220, Bore Ø1.00"								Size 1320, Bore Ø1.25"		
	1/3HP	Size 1220, Bore Ø1.00"								Size 1320, Bore Ø1.25"		
	1/2HP	Size 1320, Bore Ø1.25"								Size 1420, Bore Ø1.375"		
	3/4HP	Size 1420, Bore Ø1.375"								Size 1520, Bore Ø1.50"		
	1HP	Size 1420, Bore Ø1.375"								Size 1520, Bore Ø1.50"		
	1.5HP	Size 1520, Bore Ø1.50"								Size 1531, Bore Ø1.50"		
	2HP	Size 1520, Bore Ø1.50"								Size 1531, Bore Ø1.50"		
	3HP	Size 1521, Bore Ø1.50"							Size 1632, Bore Ø2.00"			
	5HP	Size 1522, Bore Ø1.50"					Size 1633, Bore Ø2.00"					
Size 1634, Bore Ø2.00"												
7.5HP	Size 1634, Bore Ø2.00"											
10HP	Size 1634, Bore Ø2.00"											

Note: [1] This frame size is torque limited. Overload may occur if the motor is loaded to its full capacity. Sumitomo recommends the use of a torque limiting device to protect the unit and/or the driven machine.



80 21.88	100 17.5	120 14.58	150 11.67	200 8.75	240 7.29	300 5.83	360 4.86	480 3.65	600 2.92	720 2.43	900 1.94	1200 1.46	1440 1.22
Size 1230, Bore Ø1.00" ^[1]						Size 1340, Bore Ø1.25" ^[1]							
Size 1330, Bore Ø1.25"						Size 1440, Bore Ø1.375" ^[1]							
Size 1330, Bore Ø1.25" ^[1]						Size 1440, Bore Ø1.375" ^[1]							
Size 1430, Bore Ø1.375"						Size 1540, Bore Ø1.50" ^[1]							
Size 1430, Bore Ø1.375"						Size 1540, Bore Ø1.50" ^[1]							
Size 1430, Bore Ø1.375" ^[1]						Size 1540, Bore Ø1.50" ^[1]							
Size 1530, Bore Ø1.375"						Size 1640, Bore Ø2.00" ^[1]							
Size 1530, Bore Ø1.375"						Size 1640, Bore Ø2.00" ^[1]							
Size 1530, Bore Ø1.375"						Size 1640, Bore Ø2.00" ^[1]							
Size 1531 Bore Ø1.50"	Size 1630, Bore Ø2.00"		Size 1631, Bore Ø2.00"										
Size 1531 Bore Ø1.50"	Size 1630, Bore Ø2.00"		Size 1631, Bore Ø2.00"										
Size 1531 Bore Ø1.50"	Size 1630, Bore Ø2.00"		Size 1631, Bore Ø2.00" ^[1]										
Size 1630, Bore Ø2.00"			Size 1631, Bore Ø2.00" ^[1]										
Size 1230, Bore Ø1.00" ^[1]						Size 1340, Bore Ø1.25" ^[1]							
Size 1330, Bore Ø1.25"						Size 1440, Bore Ø1.375" ^[1]							
Size 1330, Bore Ø1.25" ^[1]						Size 1440, Bore Ø1.375"		Size 1540, Bore Ø1.50" ^[1]					
Size 1430, Bore Ø1.375"						Size 1540, Bore Ø1.50"		Size 1640, Bore Ø2.00"					
Size 1430, Bore Ø1.375"						Size 1540, Bore Ø1.50"		Size 1640, Bore Ø2.00" ^[1]					
Size 1530, Bore Ø1.50"						Size 1640, Bore Ø2.00" ^[1]							
Size 1531 Bore Ø1.50"	Size 1630, Bore Ø2.00"		Size 1631, Bore Ø2.00"			Size 1640, Bore Ø2.00" ^[1]							
Size 1531 Bore Ø1.50"	Size 1630, Bore Ø2.00"		Size 1631, Bore Ø2.00"										
Size 1630, Bore Ø2.00"			Size 1631, Bore Ø2.00"										
Size 1630, Bore Ø2.00"			Size 1631, Bore Ø2.00"										

Gearmotors

Product
Range

How to Select a Gearmotor

Step 1: Collect data about your application

Before starting you need to know the:

- **Application** (e.g. Conveyor, Mixer, etc.)
- **Hours of Operation per day**
- **Motor Horsepower (HP) and Speed (RPM)**
- **Desired Output Speed**
- **Mounting Position and Style**
- **Overhung or Thrust Loads**
- **Bore Dimensions, inch or metric**
- **Electrical Specifications**

Step 2: Select a Frame Size

2A: Find the **Load Classification** of your application in the *AGMA Load Classification Tables* on pages 3.8 and 3.9.

2B: Go to the *Gearmotor Selection Table* that corresponds to the desired **Motor HP**. Find the **Output Speed** closest to the desired output speed.

2C: Locate the **Service Class** in the *Gearmotor Selection Table* for your application and select the **Frame Size SELECTION** that matches the HP, Output Speed, and Service Class.

Step 3: Verify Dimensions

Use the Dimensions information on pages 3.28–3.40 to verify that the selected Frame Size is appropriate.

Step 4: Choose Options

The following options may apply:

Solid Shaft

Mounting Feet

Output Flange

Torque Arm Assembly

Washdown Assembly

Please see the Hyponic® pricelist for available modifications, and refer to Section 4 of this catalog for dimension drawings of selected popular options.

Step 5: Configure a Model Number

Go to page 3.6 to configure a model number.

Note: You will use the information you gather from the procedure on this page to Configure a Model Number.



60 Hz Frame Size Selection Tables

Dimensions:	Frame Size	Page	Frame Size	Page
	1100	3.28	1400	3.34
	1200	3.30	1500	3.36
	1300	3.32	1600	3.38

Three-Phase, 1750 RPM

• Motor HP

• Output Speed

• Service Class

• SELECTION

Output Speed RPM	Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load lbs	HP Symbol	Selection Frame Size	Ratio
350	38.3	1.07	I	132	02	1120YA	5
		2.14	III	187		1220YC	
250	53.6	1.07	I	143	02	1120YA	7
		2.14	III	209		1220YC	
175	76.5	1.07	I	165	02	1120YA	10
		2.14	III	231		1220YC	
146	91.8	1.07	I	176	02	1120YA	12
		2.14	III	243		1220YC	
117	115	1.07	I	187	02	1120YA	15
		2.14	III	265		1220YC	
87.5	153	1.07	I	209	02	1120YA	20
		2.14	III	298		1220YC	
70	191	1.07	I	220	02	1120YA	25
		2.14	III	309		1220YC	
58.3	230	1.07	I	231	02	1120YA	30
		2.14	III	331		1220YC	
43.8	306	1.07	I	353	02	1220YA	40
		2.14	III	573		1320YC	
35	383	1.07	I	375	02	1220YA	50
		2.14	III	617		1320YC	

1/4 HP

For special circumstances affecting **Frame Size** selection such as:

- Overhung Load
- Shock Loading

Consult Appendix, pages 5.5–5.6.

If Overhung Load is present, it must be checked against the capacity of the selection.



Gearmotors

How to
Select

Configure a Model Number

Output Shaft Orientation

Type	Prefix
Universal Direction (Maintenance Free)	N

Mounting Style

Type	Prefix
Shaft Mount (Hollow Shaft)	Y
Flange (Solid Shaft)	F
Foot (Solid Shaft)	H

Input Connection

Input Connection	Prefix
Integral Motor	M

Modification

	Prefix
Special	S
Standard	

Gearmotor HP

(applies only to 1750 RPM)

HP	Prefix
1/8	01
1/4	02
1/3	03
1/2	05
3/4	08
1	1
1 1/2	1H
2	2
3	3
5	5
7 1/2	8

Frame Size

1120	1522
1220	1530
1230	1531
1320	1540
1330	1630
1340	1631
1420	1632
1430	1633
1440	1634
1520	1640
1521	

Output Shaft Direction (shafted model only)

Direction (when viewed from motor end)	Suffix
Projects to Left Side	L
Projects to Right Side	R
Projects to Both Sides	T

AGMA Class

Class	Suffix
I	A
II	B
III	C

Gearmotor Specification

Specification	Suffix
Three-Phase Motor	
AF Motor (Adjustable Frequency)	AV

Brake

	Suffix
With Brake	B
No Brake	-

- Include the following information when ordering:
- Motor Specification (230/460 VAC 60 Hz is supplied, unless otherwise specified)
 - NEMA frame size for C-face adaptor
 - Optional conduit box positions must be specified, otherwise the standard position is supplied.

Gearmotors
Nomenclature

R N Y M 05 - 1220 L Y A - J1 - 20

- Hyponic product code (always "R")
- Output shaft orientation
- Mounting style
- Input connection
- Modification (Special feature)
- Gearmotor HP (1750 rpm)
- Frame size
- Output shaft direction (shafted model only)
- Shaft specification
- AGMA class
- Optional Specification (as required)
- Gearmotor Specification
- Brake
- Ratio

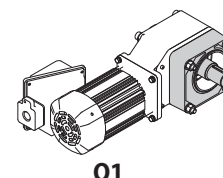
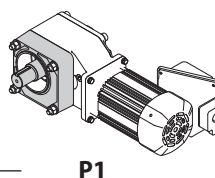
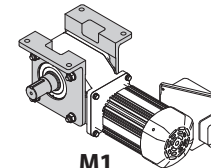
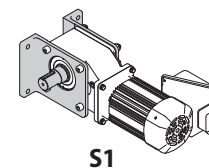
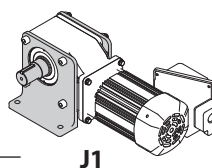
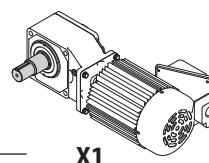
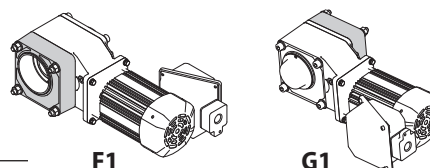
Nomenclature

Shaft Specifications

Input Shaft	Output Shaft		Suffix
	Hollow	Solid	
mm	Key (mm)	Key (mm)	
Inch	Key (Inch)	Key (Inch)	Y

Optional Specifications (as required)

Specification	Suffix
Hollow Bore Options	
Extended Flange (for motor clearance)	
Left (viewed from motor end)	F1
Right (viewed from motor end)	G1
Solid Shaft Options	
Plug-in Shaft	X1
Plug-in Shaft with Bolt-on Feet	
Bottom	J1
Opposite from Motor	S1
Top	M1
Plug-in Shaft with Extended Flange (for motor clearance)	
Left (viewed from motor end)	P1
Right (viewed from motor end)	Q1



Nominal Total Ratio

5	20	60	200	600
7	25	80	240	720
10	30	100	300	900
12	40	120	360	1200
15	50	150	480	1440

Nomenclature Example:

RNYM05 – 1220L YA –J1 – 20

R – Hyponic®

N – Universal Mount

H – Foot (Solid Shaft)

M – Integral Motor

05 – 1/2 HP, 1750 RPM

1220 – Frame Size

L – L O/P Shaft Direction

Y – Inch Shaft Specification

A – AGMA Class I

J1 – Bolt-on Feet, Bottom

20 – Ratio

Gearmotors

Nomenclature

AGMA Load Classifications: Gearmotors

Gearmotor Classification

DURATION OF SERVICE	GEARMOTOR CLASS ^[1]		
	UNIFORM LOAD	MODERATE SHOCK LOAD	HEAVY SHOCK LOAD
Intermittent 3 Hr. per day	Class I	Class I	Class II
Up to 10 Hr. per day	Class I	Class II	Class III
24 Hr. per day	Class II	Class III	—

- Class I** For steady loads not exceeding normal motor rating, 8 to 10 hours a day. Moderate shock loads where service is intermittent (AGMA Service Factor: 1.0).
- Class II** For steady loads not exceeding normal motor rating and 24 hours a day service. Moderate shock loads for 8 hours a day (AGMA Service Factor: 1.4).
- Class III** For moderate shock loads for 24 hours a day. Heavy shock loads for 8 hours a day (AGMA Service Factor: 2.0).

Note: [1] For frequent start applications, please refer to Recommended Service Factors for Frequent Start-Stop Applications on page 2.3 and Table 5.33 for motor Thermal Capacity

Gearmotors

Load Classification by INDUSTRY

Application	Class		Application	Class		Application	Class		Application	Class	
	Up to 10 Hr. per day	24 Hr. per day		Up to 10 Hr. per day	24 Hr. per day		Up to 10 Hr. per day	24 Hr. per day		Up to 10 Hr. per day	24 Hr. per day
Brewing & Distilling			Lumber Industry			Oil Well Pumping	Refer to Factory		Tire Building Machines	Refer to Factory	
Bottling Machinery	I	II	Barkers—	Refer to Factory		Paraffin Filter Press	II	II	Tire, Tube Press	I	II
Brew Kettles, Cont. Duty	—	II	Spindle Feed			Rotary Kilns	II	II	Openers	Refer to Factory	
Can Filling Machines	I	II	Barkers—	Refer to Factory		Paper Mills			Tubers & Stainers	II	II
Cookers—Cont. Duty	—	II	Main Drive	Refer to Factory		Agitators (Mixers)	II	II			
Mash Tubs—Cont. Duty	—	II	Carriage Drive	Refer to Factory		Barker—Auxiliaries—			Sewage Disposal		
Scale Hoppers—			Conveyors			Hyd.	Refer to Factory		Aerators	Refer to Factory	
Frequent Starts	II	II	Burner	II	III	Barker, Mechanical	Refer to Factory		Bar Screens	I	II
			Main or Heavy Duty	II	III	Barking Drum	Refer to Factory		Chemical Feeders	I	II
			Main Log	III	III	Beater & Pulper	—	II	Collectors	I	II
			Re-Saw			Bleacher	—	II	Dewatering Screens	I	II
			Merry-Go-Round	II	III	Calenders	—	II	Grit Collectors	I	II
Clay Working Industry			Slab	III	III	Calenders—Super	—	II	Scum Breakers	II	II
Brick Press	III	III	Transfer	II	III	Converting Mach.—			Slow or Rapid Mixers	II	II
Briquette Machines	III	III	Chains—Floor	II	III	Except Cutters—			Sludge Collectors	I	II
Clay Working			Chains—Green	II	III	Platers	—	II	Thickeners	II	II
Machinery	II	II	Cut-Off Saws—Chain	II	III	Conveyors	—	II	Vacuum Filters	II	II
Pug Mills	II	II	Cut-Off Saws—Drag	II	III	Couch	—	II			
			Debarking Drums	Refer to Factory		Cutters, Platers	—	III	Textile Industry		
Distilling (See Brewing)			Feeds—Edger	II	III	Cylinders	—	II	Batchers	II	II
			Feeds—Gang	III	III	Dryers	—	II	Calenders	II	II
Dredges			Feeds—Trimmer	II	III	Felt Stretchers	—	II	Card Machines	II	II
Cable Reels	II	—	Log Deck	III	III	Felt Whippers	—	III	Cloth Finishing Machines		
Conveyors	II	II	Log Hauls—Incline,			Jordans	—	II	(Calenders, Dryers,		
Cutter Head Drives	III	III	Well Type	III	III	Log Haul	—	III	Pads, Tenters,		
Jig Drives	III	III	Log Turning Devices	III	III	Presses	—	II	Washers)	II	II
Maneuvering Winches	II	—	Planer Feed	II	III	Pulp Machine Reels	—	II	Dry Cans	II	II
Pumps	II	II	Planer Tilting Hoists	II	III	Stock Chests	—	II	Dyeing Machinery	II	II
Screen Drives	III	III	Rolls—Live—Off			Suction Rolls	—	II	Knitting Machinery	Refer to Factory	
Stackers	II	II	Bearing—Roll Cases	III	III	Washers &			Looms, Mangles,		
Utility Winches	II	—	Sorting Table	II	III	Thickeners	—	II	Nappers	II	II
			Tipple Hoist	II	III	Winders	—	II	Range Drives	Refer to Factory	
Food Industry			Transfers—Chain	II	III	Rubber Industry			Soapers, Spinners	II	II
Beet Slicers	II	II	Transfers—Craneway	II	III	Mixer	III	III	Tenter Frames	II	II
Bottlings, Can			Tray Drives	II	III	Rubber Calender	II	II	Winders	II	II
Filling Mach.	I	II				Rubber Mill			Yarn Preparatory		
Cereal Cookers	I	II				(2 or more)	II	II	Machinery (Cards,		
Dough Mixers	II	II				Sheeter	II	II	Spinners,	II	II
Meat Grinders	II	II							Slashers)		
			Oil Industry								
			Chillers	II	II						



Load Classification by APPLICATION

Application	Class		Application	Class		Application	Class		Application	Class	
	Up to 10 Hr. per day	24 Hr. per day		Up to 10 Hr. per day	24 Hr. per day		Up to 10 Hr. per day	24 Hr. per day		Up to 10 Hr. per day	24 Hr. per day
Agitators Pure Liquids Liquids and Solids Liquids – Variable Density Semi-liquids – Variable Density	I II II II	II II II II	Jig Drives Maneuvering Winches Pumps Screen Drive Stackers Utility Winches	III II II III II II	III – II III – –	Tray Drives Veneer Lathe Drives	II Refer to Factory	III	Pullers Barge Haul	III	III
Blowers Centrifugal Lobe Vane	I II I	II II II	Elevators Bucket – Uniform Load Bucket – Heavy Load Bucket – Continuous Centrifugal Discharge Escalators Freight Gravity Discharge Man Lifts Passenger Service – Hand Lift	I II I I I I I Refer to Factory I	II II II II II II II II –	Machine Tools Bending Roll Notching Press – Belt Driven Plate Planer Punch Press – Gear Driven Tapping Machines Other Machine Tools Main Drives Auxiliary Drives	II Refer to Factory III III III III II I	II	Pumps Centrifugal Proportioning Reciprocating Single Acting 3 or more Cylinders Double Acting 2 or more Cylinders Single Acting 1 or 2 Cylinders Double Acting Single Cylinder Rotary – Gear Type – Lobe, Vane	I II II II II Refer to Factory Refer to Factory I I	II II II II
Brewing and Distilling Bottling Machinery Brew Kettles – Continuous Duty Cookers – Continuous Duty Mash Tubs – Continuous Duty Scale Hopper Frequent Starts	I – – – II	II II II II	Fans Centrifugal Cooling Towers Induced Draft Forced Draft Induced Draft Large (Mine, etc.) Large Industrial Light (Small Diameter)	II II Refer to Factory II II II II I	II II II II	Metal Mills Bridle Roll Drives Draw Bench – Carriage Draw Bench – Main Drive Forming Machines Pinch Dryer & Scrubber Rolls, Reversing Slitters Table Conveyors Non-Reversing Reversing Winding Reels – Strip Wire Drawing & Flattening Machine Wire Winding Machine	III III III III Refer to Factory II III – II II – II II	III III	Rubber Industry Mixer Rubber Calender Rubber Mill (2 or more) Sheeter Tire Building Machines Tire & Tube Press Openers Tubers & Strainers	III II II II Refer to Factory Refer to Factory II II	III II II II
Can Filling Machines	I	II	Feeders Apron Belt Disc Reciprocating Screw	II II I III II	II II II III	Mills, Rotary Type Ball Cement Kilns Dryers & Coolers Kilns Pebble Rod Tumbling Barrels	III II II II III III III	III	Sewage Disposal Equipment Aerators Bar Screens Chemical Feeders Collectors, Circuline or Straightline Dewatering Screens Grit Collectors Scum Breakers Slow or Rapid Mixers Sludge Collectors Thickeners Vacuum Filters	Refer to Factory I I I I I I I I II II	II II
Cane Knives	II	II	Food Industry Beet Slicer Cereal Cooker Dough Mixer Meat Grinders	II I II II	II II II	Mixers Concrete Mixers, Continuous Concrete Mixers, Intermittent Constant Density Variable Density	II I I II	III – II	Screens Air Washing Rotary – Stone or Gravel Traveling Water Intake	I II II I	II II
Car Dumpers	III	–	Generators – (Not Welding)	I	II	Oil Industry Chillers Oil Well Pumping Paraffin Filter Press Rotary Kilns	II Refer to Factory II II	III	Slab Pushers Steering Gear Stokers	II I	II II
Car Pullers – Intermittent Duty	I	–	Hammer Mills	III	III	Paper Mills Aerators Agitators (Mixers) Barker Auxiliaries, Hydraulic Barker, Mechanical Barking Drum Beater & Pulper Bleacher Calenders Calenders – Super Converting Machines, except Cutters, Platers Conveyors Conveyors, Log Couch Cutters, Platers Cylinders Dryers Felt Stretcher Felt Whipper Jordans Presses Pulp Machines, Reel Stock Chests Suction Roll Washers and Thickeners Winders	II II I I –				

Gearmotors

AGMA
Tables

Frame Size Selection Tables 60 Hz

Three-Phase, 1750 RPM

Dimensions:	Frame Size	Page	Frame Size	Page
	1100	3.28	1400	3.34
	1200	3.30	1500	3.36
	1300	3.32	1600	3.38

1/8 HP

Output Speed RPM	Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load lbs	HP Symbol	Selection Frame Size	Ratio
350	19.1	2.14	III	130	01	1120YC	5
250	26.8	2.14	III	145	01	1120YC	7
175	38.3	2.14	III	165	01	1120YC	10
146	45.9	2.14	III	175	01	1120YC	12
117	57.4	2.14	III	185	01	1120YC	15
87.5	76.5	2.14	III	210	01	1120YC	20
70	95.7	2.14	III	220	01	1120YC	25
58.3	115	2.14	III	230	01	1120YC	30
43.8	153	1.07	I	255	01	1120YA	40
		2.14	III	355		1220YC	
35	191	1.07	I	275	01	1120YA	50
		2.14	III	375		1220YC	
29.2	230	1.07	I	285	01	1120YA	60
		2.14	III	385		1220YC	
21.9	306	1.07	I	395	01	1230YA	80
		2.14	III	660		1330YC	
17.5	383	1.07	I	395	01	1230YA	100
		2.14	III	685		1330YC	
14.6	459	1.07	I	410	01	1230YA	120
		2.14	III	695		1330YC	
11.7	574	1.07	I	410	01	1230YA	150
		2.14	III	695		1330YC	
8.75	765	1.07	I	410	01	1230YA	200
		2.14	III	695		1330YC	
7.29	868	0.95	–	410	01	1230Y	240
	918	1.88	II	695		1330YB	
5.83	1080	1.07	I	695	01	1340YA	300
		2.14	III	980		1440YC	
4.86	1300	1.07	I	695	01	1340YA	360
		2.14	III	980		1440YC	
3.65	1730	1.00	I	695	01	1340YA	480
		2.00	III	980		1440YC	
2.92	1730	0.80	–	695	01	1340Y	600
		1.60	II	980		1440YB	
2.43	1730	0.67	–	695	01	1340Y	720
	2590	1.33	I	980		1440YA	
1.94	1730	0.53	–	695	01	1340Y	900
	3240	1.07	I	981		1440YA	
1.46	1730	0.40	–	695	01	1340Y	1200
	3450	0.80	–	981		1440Y	
1.22	1730	0.33	–	695	01	1340Y	1440
	3450	0.67	–	981		1440Y	

Gearmotors

Selection
Tables

60 Hz Frame Size Selection Tables

Dimensions:	Frame Size	Page	Frame Size	Page
	1100	3.28	1400	3.34
	1200	3.30	1500	3.36
	1300	3.32	1600	3.38

Three-Phase, 1750 RPM

1/4 HP

Output Speed RPM	Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load lbs	HP Symbol	Selection Frame Size	Ratio
350	38.3	1.07	I	132	02	1120YA	5
		2.14	III	187		1220YC	
250	53.6	1.07	I	143	02	1120YA	7
		2.14	III	209		1220YC	
175	76.5	1.07	I	165	02	1120YA	10
		2.14	III	231		1220YC	
146	91.8	1.07	I	176	02	1120YA	12
		2.14	III	243		1220YC	
117	115	1.07	I	187	02	1120YA	15
		2.14	III	265		1220YC	
87.5	153	1.07	I	209	02	1120YA	20
		2.14	III	298		1220YC	
70	191	1.07	I	220	02	1120YA	25
		2.14	III	309		1220YC	
58.3	230	1.07	I	231	02	1120YA	30
		2.14	III	331		1220YC	
43.8	306	1.07	I	353	02	1220YA	40
		2.14	III	573		1320YC	
35	383	1.07	I	375	02	1220YA	50
		2.14	III	617		1320YC	
29.2	459	1.07	I	386	02	1220YA	60
		2.14	III	639		1320YC	
21.9	612	1.07	I	661	02	1330YA	80
		2.14	III	959		1430YC	
17.5	765	1.07	I	683	02	1330YA	100
		2.14	III	981		1430YC	
14.6	918	1.07	I	694	02	1330YA	120
		2.14	III	981		1430YC	
11.7	1150	1.07	I	694	02	1330YA	150
		2.14	III	981		1430YC	
8.75	1530	1.07	I	694	02	1330YA	200
		2.14	III	981		1430YC	
7.29	1730	0.94	—	694	02	1330Y	240
	1840	1.88	II	981		1430YB	
5.83	2160	1.07	I	981	02	1440YA	300
		2.14	III	1400		1540YC	
4.86	2590	1.07	I	981	02	1440YA	360
		2.14	III	1400		1540YC	
3.65	3450	1.00	I	981	02	1440YA	480
		1.87	II	1400		1540YB	
2.92	3450	0.80	—	981	02	1440Y	600
	4320	1.50	II	1400		1540YB	
2.43	3450	0.67	—	981	02	1440Y	720
	5190	1.25	I	1400		1540YA	

Gearmotors

 Selection
Tables

Frame Size Selection Tables 60 Hz

Three-Phase, 1750 RPM

Dimensions:	Frame Size	Page	Frame Size	Page
	1100	3.28	1400	3.34
	1200	3.30	1500	3.36
	1300	3.32	1600	3.38

1/4 HP

Output Speed RPM	Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load lbs	HP Symbol	Selection Frame Size	Ratio
1.94	3450	0.53	–	981	02	1440Y	900
	6480	1.00	I	1400		1540YA	
1.46	3450	0.40	–	981	02	1440Y	1200
	6480	0.75	–	1400		1540Y	
1.22	3450	0.33	–	981	02	1440Y	1440
	6480	0.62	–	1400		1540Y	

1/3 HP

Output Speed RPM	Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load lbs	HP Symbol	Selection Frame Size	Ratio
350	51	1.61	II	187	03	1220YB	5
250	71.4	1.61	II	209	03	1220YB	7
175	102	1.61	II	231	03	1220YB	10
146	122	1.61	II	243	03	1220YB	12
117	153	1.61	II	265	03	1220YB	15
87.5	204	1.61	II	298	03	1220YB	20
70	255	1.61	II	309	03	1220YB	25
58.3	306	1.61	II	331	03	1220YB	30
43.8	408	1.61	II	573	03	1320YB	40
35	510	1.61	II	617	03	1320YB	50
29.2	612	1.61	II	639	03	1320YB	60
21.9	816	1.61	II	959	03	1430YB	80
17.5	1020	1.61	II	981	03	1430YB	100
14.6	1220	1.61	II	981	03	1430YB	120
11.7	1530	1.61	II	981	03	1430YB	150
8.75	2040	1.61	II	981	03	1430YB	200
7.29	2450	1.41	II	981	03	1430YB	240
5.83	2880	1.61	II	1400	03	1540YB	300
4.86	3460	1.61	II	1400	03	1540YB	360
3.65	4610	1.40	II	1400	03	1540YB	480
2.92	5760	1.12	I	1400	03	1540YA	600
2.43	6480	0.94	–	1400	03	1540Y	720
1.94	6480	0.75	–	1400	03	1540Y	900
1.46	6480	0.56	–	1400	03	1540Y	1200
1.22	6480	0.47	–	1400	03	1540Y	1440

60 Hz Frame Size Selection Tables

Dimensions:	Frame Size	Page	Frame Size	Page
	1100	3.28	1400	3.34
	1200	3.30	1500	3.36
	1300	3.32	1600	3.38

Three-Phase, 1750 RPM

1/2 HP

Output Speed RPM	Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load lbs	HP Symbol	Selection Frame Size	Ratio
350	76.5	1.07	I	187	05	1220YA	5
		2.14	III	309		1320YC	
250	107	1.07	I	209	05	1220YA	7
		2.14	III	353		1320YC	
175	153	1.07	I	231	05	1220YA	10
		2.14	III	386		1320YC	
146	184	1.07	I	243	05	1220YA	12
		2.14	III	408		1320YC	
117	230	1.07	I	265	05	1220YA	15
		2.14	III	441		1320YC	
87.5	306	1.07	I	298	05	1220YA	20
		2.14	III	485		1320YC	
70	383	1.07	I	309	05	1220YA	25
		2.14	III	507		1320YC	
58.3	459	1.07	I	331	05	1220YA	30
		2.14	III	529		1320YC	
43.8	612	1.07	I	573	05	1320YA	40
		2.14	III	860		1420YC	
35	765	1.07	I	617	05	1320YA	50
		2.14	III	904		1420YC	
29.2	918	1.07	I	639	05	1320YA	60
		2.14	III	937		1420YC	
21.9	1220	1.07	I	959	05	1430YA	80
		2.14	III	1380		1530YC	
17.5	1530	1.07	I	981	05	1430YA	100
		2.14	III	1400		1530YC	
14.6	1840	1.07	I	981	05	1430YA	120
		2.14	III	1400		1530YC	
11.7	2300	1.07	I	981	05	1430YA	150
		2.14	III	1400		1530YC	
8.75	3060	1.07	I	981	05	1430YA	200
		2.12	III	1400		1530YC	
7.29	3450	0.94	–	981	05	1430Y	240
		1.76	II	1400		1530YB	
5.83	4320	1.07	I	1400	05	1540YA	300
		2.14	III	2200		1640YC	
4.86	5190	1.07	I	1400	05	1540YA	360
		2.14	III	2200		1640YC	
3.65	6480	0.94	–	1400	05	1540Y	480
		1.90	II	2200		1640YB	
2.92	6480	0.75	–	1400	05	1540Y	600
		1.52	II	2200		1640YB	
2.43	6480	0.62	–	1400	05	1540Y	720
		1.26	I	2200		1640YA	

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Frame Size Selection Tables 60 Hz

Three-Phase, 1750 RPM

Dimensions:	Frame Size	Page	Frame Size	Page
	1100	3.28	1400	3.34
	1200	3.30	1500	3.36
	1300	3.32	1600	3.38

1/2 HP

Output Speed RPM	Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load lbs	HP Symbol	Selection Frame Size	Ratio
1.94	6480	0.50	–	1400	05	1540Y	900
	13000	1.01	I	2200		1640YA	
1.46	6480	0.37	–	1400	05	1540Y	1200
	13100	0.76	–	2200		1640Y	
1.22	6480	0.31	–	1400	05	1540Y	1440
	13100	0.63	–	2200		1640Y	

3/4 HP

Output Speed RPM	Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load lbs	HP Symbol	Selection Frame Size	Ratio
350	115	1.43	II	309	08	1320YB	5
250	161	1.43	II	353	08	1320YB	7
175	230	1.43	II	386	08	1320YB	10
146	276	1.43	II	408	08	1320YB	12
117	344	1.43	II	441	08	1320YB	15
87.5	459	1.43	II	485	08	1320YB	20
70	574	1.43	II	507	08	1320YB	25
58.3	689	1.43	II	529	08	1320YB	30
43.8	918	1.43	II	860	08	1420YB	40
35	1150	1.43	II	904	08	1420YB	50
29.2	1380	1.43	II	937	08	1420YB	60
21.9	1840	1.43	II	1380	08	1530YB	80
17.5	2300	1.43	II	1400	08	1530YB	100
14.6	2760	1.43	II	1400	08	1530YB	120
11.7	3440	1.43	II	1400	08	1530YB	150
8.75	4590	1.41	II	1400	08	1530YB	200
7.29	5510	1.18	I	1400	08	1530YA	240
5.83	6480	1.43	II	2200	08	1640YB	300
4.86	7780	1.43	II	2200	08	1640YB	360
3.65	10400	1.26	I	2200	08	1640YA	480
2.92	13000	1.01	I	2200	08	1640YA	600
2.43	13100	0.84	–	2200	08	1640Y	720
1.94	13100	0.67	–	2200	08	1640Y	900
1.46	13100	0.51	–	2200	08	1640Y	1200
1.22	13100	0.42	–	2200	08	1640Y	1440

60 Hz Frame Size Selection Tables

Dimensions:	Frame Size	Page	Frame Size	Page
	1100	3.28	1400	3.34
	1200	3.30	1500	3.36
	1300	3.32	1600	3.38

Three-Phase, 1750 RPM

1 HP

Output Speed RPM	Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load lbs	HP Symbol	Selection Frame Size	Ratio
350	153	1.07	I	309	1	1320YA	5
		2.06	III	463		1420YC	
250	214	1.07	I	353	1	1320YA	7
		2.06	III	518		1420YC	
175	306	1.07	I	386	1	1320YA	10
		2.06	III	584		1420YC	
146	367	1.07	I	408	1	1320YA	12
		2.06	III	617		1420YC	
117	459	1.07	I	441	1	1320YA	15
		2.06	III	661		1420YC	
87.5	612	1.07	I	485	1	1320YA	20
		2.06	III	716		1420YC	
70	765	1.07	I	507	1	1320YA	25
		2.06	III	761		1420YC	
58.3	918	1.07	I	529	1	1320YA	30
		2.06	III	805		1420YC	
43.8	1220	1.07	I	860	1	1420YA	40
		2.06	III	1250		1520YC	
35	1530	1.07	I	904	1	1420YA	50
		2.06	III	1310		1520YC	
29.2	1840	1.07	I	937	1	1420YA	60
		2.06	III	1360		1520YC	
21.9	2450	2.06	III	1380	1	1531YC	80
		1.07	I	1380		1530YA	
17.5	3060	1.07	I	1400	1	1530YA	100
		3.00	III	2200		1630YC	
14.6	3670	1.07	I	1400	1	1530YA	120
		3.00	III	2200		1630YC	
11.7	4590	1.07	I	1400	1	1530YA	150
		2.85	III	2200		1631YC	
8.75	6120	1.06	I	1400	1	1530YA	200
		2.14	III	2200		1631YC	
7.29	6480	0.88	—	1400	1	1530Y	240
		1.78	II	2200		1631YB	
5.83	8640	1.07	I	2200	1	1640YA	300
4.86	10400	1.07	I	2200	1	1640YA	360
3.65	13100	0.95	—	2200	1	1640Y	480
2.92	13100	0.76	—	2200	1	1640Y	600
2.43	13100	0.63	—	2200	1	1640Y	720
1.94	13100	0.51	—	2200	1	1640Y	900
1.46	13100	0.38	—	2200	1	1640Y	1200
1.22	13100	0.32	—	2200	1	1640Y	1440

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Frame Size Selection Tables 60 Hz

Three-Phase, 1750 RPM

Dimensions:	Frame Size	Page	Frame Size	Page
	1100	3.28	1400	3.34
	1200	3.30	1500	3.36
	1300	3.32	1600	3.38

1.5 HP

Output Speed RPM	Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load lbs	HP Symbol	Selection Frame Size	Ratio
350	230	1.38	I	463	1H	1420YA	5
250	321	1.38	I	518	1H	1420YA	7
175	459	1.38	I	584	1H	1420YA	10
146	551	1.38	I	617	1H	1420YA	12
117	689	1.38	I	661	1H	1420YA	15
87.5	918	1.38	I	716	1H	1420YA	20
70	1150	1.38	I	761	1H	1420YA	25
58.3	1380	1.38	I	805	1H	1420YA	30
43.8	1840	1.38	I	1250	1H	1520YA	40
35	2300	1.38	I	1310	1H	1520YA	50
29.2	2760	1.38	I	1360	1H	1520YA	60
21.9	3670	1.38	I	1380	1H	1531YA	80
17.5	4590	2.00	III	2200	1H	1630YC	100
14.6	5510	2.00	III	2200	1H	1630YC	120
11.7	6890	1.90	II	2200	1H	1631YB	150
8.75	9180	1.43	II	2200	1H	1631YB	200
7.29	11000	1.19	I	2200	1H	1631YA	240

2 HP

Output Speed RPM	Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load lbs	HP Symbol	Selection Frame Size	Ratio
350	306	1.03	I	463	2	1420YA	5
		1.50	II	661		1520YB	
250	429	1.03	I	518	2	1420YA	7
		1.50	II	750		1520YB	
175	612	1.03	I	584	2	1420YA	10
		1.50	II	838		1520YB	
146	735	1.03	I	617	2	1420YA	12
		1.50	II	893		1520YB	
117	918	1.03	I	661	2	1420YA	15
		1.50	II	948		1520YB	
87.5	1220	1.03	I	716	2	1420YA	20
		1.50	II	1040		1520YB	
70	1530	1.03	I	761	2	1420YA	25
		1.50	II	1100		1520YB	
58.3	1840	1.03	I	805	2	1420YA	30
		1.50	II	1160		1520YB	
43.8	2450	1.03	I	1250	2	1520YA	40
		1.50	II	1250		1531YB	
35	3060	1.03	I	1310	2	1520YA	50
		1.50	II	1310		1531YB	
29.2	3670	1.03	I	1360	2	1520YA	60
		1.50	II	1360		1531YB	

60 Hz Frame Size Selection Tables

Dimensions:	Frame Size	Page	Frame Size	Page
	1100	3.28	1400	3.34
	1200	3.30	1500	3.36
	1300	3.32	1600	3.38

Three-Phase, 1750 RPM

2 HP

Output Speed RPM	Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load lbs	HP Symbol	Selection Frame Size	Ratio
21.9	4900	1.03	I	1380	2	1531YA	80
		1.50	II	2170		1630YB	
17.5	6120	1.50	II	2200	2	1630YB	100
14.6	7350	1.50	II	2200	2	1630YB	120
11.7	9180	1.43	II	2200	2	1631YB	150
8.75	12200	1.07	I	2200	2	1631YA	200
7.29	13100	0.89	–	2200	2	1631Y	240

3 HP

Output Speed RPM	Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load lbs	HP Symbol	Selection Frame Size	Ratio
350	459	1.00	I	661	3	1520YA	5
		1.67	II	661		1521YB	
250	643	1.00	I	750	3	1520YA	7
		1.67	II	750		1521YB	
175	918	1.00	I	838	3	1520YA	10
		1.67	II	838		1521YB	
146	1100	1.00	I	893	3	1520YA	12
		1.67	II	893		1521YB	
117	1380	1.00	I	948	3	1520YA	15
		1.67	II	948		1521YB	
87.5	1840	1.00	I	1040	3	1520YA	20
		1.67	II	1040		1521YB	
70	2300	1.00	I	1100	3	1520YA	25
		1.67	II	1100		1521YB	
58.3	2760	1.00	I	1160	3	1520YA	30
		1.67	II	1820		1632YB	
43.8	3670	1.00	I	1250	3	1531YA	40
		1.67	II	1910		1632YB	
35	4590	1.00	I	1310	3	1531YA	50
		1.67	II	2000		1632YB	
29.2	5510	1.00	I	1360	3	1531YA	60
		1.67	II	2060		1632YB	
21.9	7350	1.00	I	2170	3	1630YA	80
17.5	9180	1.00	I	2200	3	1630YA	100
14.6	11000	1.00	I	2200	3	1630YA	120
11.7	13100	0.95	–	2200	3	1631Y	150
8.75	13100	0.71	–	2200	3	1631Y	200
7.29	13100	0.59	–	2200	3	1631Y	240

Frame Size Selection Tables 60 Hz

Three-Phase, 1750 RPM

Dimensions:	Frame Size	Page	Frame Size	Page
	1100	3.28	1400	3.34
	1200	3.30	1500	3.36
	1300	3.32	1600	3.38

5 HP

Output Speed RPM	Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load lbs	HP Symbol	Selection Frame Size	Ratio
350	765	1.00	I	661	5	1521YA	5
		1.50	II	661		1522YB	
250	1070	1.00	I	750	5	1521YA	7
		1.50	II	750		1522YB	
175	1530	1.00	I	838	5	1521YA	10
		1.50	II	838		1522YB	
146	1840	1.00	I	893	5	1521YA	12
		1.50	II	893		1522YB	
117	2300	1.00	I	948	5	1521YA	15
		1.50	II	948		1522YB	
87.5	3060	1.00	I	1040	5	1521YA	20
		1.50	II	1650		1633YB	
70	3830	1.00	I	1100	5	1521YA	25
		1.50	II	1740		1633YB	
58.3	4590	1.00	I	1820	5	1632YA	30
		1.50	II	1820		1633YB	
43.8	6120	1.00	I	1910	5	1632YA	40
		1.50	II	1910		1633YB	
35	7650	1.00	I	2000	5	1632YA	50
29.2	9180	1.00	I	2060	5	1632YA	60

7.5 HP

Output Speed RPM	Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load lbs	HP Symbol	Selection Frame Size	Ratio
350	1150	1.00	I	660	8	1522YA	5
		2.00	III	1050		1634YC	
250	1610	1.00	I	750	8	1522YA	7
		2.00	III	1200		1634YC	
175	2300	1.00	I	840	8	1522YA	10
		2.00	III	1350		1634YC	
146	2760	1.00	I	895	8	1522YA	12
		2.00	III	1400		1634YC	
117	3440	1.00	I	950	8	1522YA	15
		2.00	III	1500		1634YC	
87.5	4590	1.00	I	1650	8	1633YA	20
		2.00	III	1650		1634YC	
70	5740	1.00	I	1750	8	1633YA	25
		1.90	II	1750		1634YB	
58.3	6890	1.00	I	1800	8	1633YA	30
43.8	9180	1.00	I	1900	8	1633YA	40

60 Hz Frame Size Selection Tables

<i>Dimensions:</i>	Frame Size	Page	Frame Size	Page
	1100	3.28	1400	3.34
	1200	3.30	1500	3.36
	1300	3.32	1600	3.38

Three-Phase, 1750 RPM

10 HP

Output Speed RPM	Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load lbs	HP Symbol	Selection Frame Size	Ratio
350	1530	1.50	II	1050	10	1634YB	5
250	2140	1.50	II	1200	10	1634YB	7
175	3060	1.50	II	1350	10	1634YB	10
146	3670	1.50	II	1400	10	1634YB	12
117	4590	1.50	II	1500	10	1634YB	15
87.5	6120	1.50	II	1650	10	1634YB	20
70	7650	1.43	II	1750	10	1634YB	25

15 HP

Output Speed RPM	Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load lbs	HP Symbol	Selection Frame Size	Ratio
350	2300	1.00	I	1050	15	1634YA	5
250	3210	1.00	I	1200	15	1634YA	7
175	4590	1.00	I	1350	15	1634YA	10
146	5510	1.00	I	1400	15	1634YA	12
117	6890	1.00	I	1500	15	1634YA	15
87.5	9180	1.00	I	1650	15	1634YA	20

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Frame Size Selection Tables

Inverter Duty

Dimensions:	Frame Size	Page	Frame Size	Page
	1100	3.28	1400	3.34
	1200	3.30	1500	3.36
	1300	3.32	1600	3.38

1/8 HP

Output Speed RPM			Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load (60Hz) lbs	Selection			
6 Hz	60 Hz	Max. (120 Hz)					HP Symbol	Frame Size	Suffix	Ratio
35	350	700	19.1	2.14	III	132	01	1120YC	AV	5
25	250	500	26.8	2.14	III	143	01	1120YC	AV	7
17.5	175	350	38.3	2.14	III	165	01	1120YC	AV	10
14.6	146	292	45.9	2.14	III	176	01	1120YC	AV	12
11.7	117	233	57.4	2.14	III	187	01	1120YC	AV	15
8.75	87.5	175	76.5	2.14	III	209	01	1120YC	AV	20
7	70	140	95.7	2.14	III	220	01	1120YC	AV	25
5.83	58.3	117	115	2.14	III	231	01	1120YC	AV	30
4.38	43.8	87.5	153	1.07	I	254	01	1120YA	AV	40
				2.14	III	353		1220YC		
3.5	35	70	191	1.07	I	276	01	1120YA	AV	50
				2.14	III	375		1220YC		
2.92	29.2	58.3	230	1.07	I	287	01	1120YA	AV	60
				2.14	III	386		1220YC		
2.19	21.9	43.8	306	1.07	I	397	01	1230YA	AV	80
				2.14	III	661		1330YC		
1.75	17.5	35	383	1.07	I	397	01	1230YA	AV	100
				2.14	III	683		1330YC		
1.46	14.6	29.2	459	1.07	I	408	01	1230YA	AV	120
				2.14	III	694		1330YC		
1.17	11.7	23.3	574	1.07	I	408	01	1230YA	AV	150
				2.14	III	694		1330YC		
0.875	8.75	17.5	765	1.07	I	408	01	1230YA	AV	200
				2.14	III	694		1330YC		
0.729	7.29	14.6	868	0.95	–	408	01	1230Y	AV	240
			918	1.88	II	694		1330YB		
0.583	5.83	11.7	1080	1.07	I	694	01	1340YA	AV	300
				2.14	III	981		1440YC		
0.486	4.86	9.72	1300	1.07	I	694	01	1340YA	AV	360
				2.14	III	981		1440YC		
0.365	3.65	7.29	1730	1.00	I	694	01	1340YA	AV	480
				2.00	III	981		1440YC		
0.292	2.92	5.83	2160	1.60	II	981	01	1440YB	AV	600
				3.00	III	1400		1540YC		
0.243	2.43	4.86	2590	1.33	I	981	01	1440YA	AV	720
				2.50	III	1400		1540YC		
0.194	1.94	3.89	3240	1.07	I	981	01	1440YA	AV	900
				2.00	III	1400		1540YC		
0.146	1.46	2.92	3450	0.80	–	981	01	1440Y	AV	1200
			4320	1.50	II	1400		1540YB		
0.122	1.22	2.43	3450	0.67	–	981	01	1440Y	AV	1440
			5190	1.25	I	1400		1540YA		

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Frame Size Selection Tables

Inverter Duty

Dimensions:	Frame Size	Page	Frame Size	Page
	1100	3.28	1400	3.34
	1200	3.30	1500	3.36
	1300	3.32	1600	3.38

1/4 HP

Output Speed RPM			Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load (60Hz) lbs	Selection		
6 Hz	60 Hz	Max. (120 Hz)					HP Symbol	Frame Size	Suffix Ratio
35	350	700	38.3	1.07 2.14	I III	132 187	02	1120YA 1220YC	AV 5
25	250	500	53.6	1.07 2.14	I III	143 209	02	1120YA 1220YC	AV 7
17.5	175	350	76.5	1.07 2.14	I III	165 231	02	1120YA 1220YC	AV 10
14.6	146	292	91.8	1.07 2.14	I III	176 243	02	1120YA 1220YC	AV 12
11.7	117	233	115	1.07 2.14	I III	187 265	02	1120YA 1220YC	AV 15
8.75	87.5	175	153	1.07 2.14	I III	209 298	02	1120YA 1220YC	AV 20
7	70	140	191	1.07 2.14	I III	220 309	02	1120YA 1220YC	AV 25
5.83	58.3	117	230	1.07 2.14	I III	231 331	02	1120YA 1220YC	AV 30
4.38	43.8	87.5	306	1.07 2.14	I III	353 573	02	1220YA 1320YC	AV 40
3.5	35	70	383	1.07 2.14	I III	375 617	02	1220YA 1320YC	AV 50
2.92	29.2	58.3	459	1.07 2.14	I III	386 639	02	1220YA 1320YC	AV 60
2.19	21.9	43.8	612	1.07 2.14	I III	661 959	02	1330YA 1430YC	AV 80
1.75	17.5	35	765	1.07 2.14	I III	683 981	02	1330YA 1430YC	AV 100
1.46	14.6	29.2	918	1.07 2.14	I III	694 981	02	1330YA 1430YC	AV 120
1.17	11.7	23.3	1150	1.07 2.14	I III	694 981	02	1330YA 1430YC	AV 150
0.875	8.75	17.5	1530	1.07 2.14	I III	694 981	02	1330YA 1430YC	AV 200
0.729	7.29	14.6	1730 1840	0.94 1.88	– II	694 981	02	1330Y 1430YB	AV 240
0.583	5.83	11.7	2160	1.07 2.14	I III	981 1400	02	1440YA 1540YC	AV 300
0.486	4.86	9.72	2590	1.07 2.14	I III	981 1400	02	1440YA 1540YC	AV 360
0.365	3.65	7.29	3450	1.00 1.87	I II	981 1400	02	1440YA 1540YB	AV 480
0.292	2.92	5.83	4320	1.50 3.03	II III	1400 2200	02	1540YB 1640YC	AV 600
0.243	2.43	4.86	5190	1.25 2.53	I III	1400 2200	02	1540YA 1640YC	AV 720

Gearmotors

 Selection
Tables

Frame Size Selection Tables

Inverter Duty

Dimensions:	Frame Size	Page	Frame Size	Page
	1100	3.28	1400	3.34
	1200	3.30	1500	3.36
	1300	3.32	1600	3.38

1/4 HP

Output Speed RPM			Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load (60Hz) lbs	Selection			
6 Hz	60 Hz	Max. (120 Hz)					HP Symbol	Frame Size	Suffix	Ratio
0.194	1.94	3.89	6480	1.00	I	1400	02	1540YA	AV	900
				2.02	III	2200		1640YC		
0.146	1.46	2.92	6480	0.75	–	1400	02	1540Y	AV	1200
			8640	1.52	II	2200		1640YB		
0.122	1.22	2.43	6480	0.62	–	1400	02	1540Y	AV	1440
			10400	1.26	I	2200		1640YA		

1/3 HP

Output Speed RPM			Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load (60Hz) lbs	Selection			
6 Hz	60 Hz	Max. (120 Hz)					HP Symbol	Frame Size	Suffix	Ratio
35	350	700	51	1.61	II	187	03	1220YB	AV	5
25	250	500	71.4	1.61	II	209	03	1220YB	AV	7
17.5	175	350	102	1.61	II	231	03	1220YB	AV	10
14.6	146	292	122	1.61	II	243	03	1220YB	AV	12
11.7	117	233	153	1.61	II	265	03	1220YB	AV	15
8.75	87.5	175	204	1.61	II	298	03	1220YB	AV	20
7	70	140	255	1.61	II	309	03	1220YB	AV	25
5.83	58.3	117	306	1.61	II	331	03	1220YB	AV	30
4.38	43.8	87.5	408	1.61	II	573	03	1320YB	AV	40
3.5	35	70	510	1.61	II	617	03	1320YB	AV	50
2.92	29.2	58.3	612	1.61	II	639	03	1320YB	AV	60
2.19	21.9	43.8	816	1.61	II	959	03	1430YB	AV	80
1.75	17.5	35	1020	1.61	II	981	03	1430YB	AV	100
1.46	14.6	29.2	1220	1.61	II	981	03	1430YB	AV	120
1.17	11.7	23.3	1530	1.61	II	981	03	1430YB	AV	150
0.875	8.75	17.5	2040	1.61	II	981	03	1430YB	AV	200
0.729	7.29	14.6	2450	1.41	II	981	03	1430YB	AV	240
0.583	5.83	11.7	2880	1.61	II	1400	03	1540YB	AV	300
0.486	4.86	9.72	3460	1.61	II	1400	03	1540YB	AV	360
0.365	3.65	7.29	4610	1.40	II	1400	03	1540YB	AV	480
0.292	2.92	5.83	5760	2.27	III	2200	03	1640YC	AV	600
0.243	2.43	4.86	6910	1.90	II	2200	03	1640YB	AV	720
0.194	1.94	3.89	8640	1.52	II	2200	03	1640YB	AV	900
0.146	1.46	2.92	11500	1.14	I	2200	03	1640YA	AV	1200
0.122	1.22	2.43	13100	0.95	–	2200	03	1640Y	AV	1440

Frame Size Selection Tables

Inverter Duty

Dimensions:	Frame Size	Page	Frame Size	Page
	1100	3.28	1400	3.34
	1200	3.30	1500	3.36
	1300	3.32	1600	3.38

1/2 HP

Output Speed RPM			Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load (60Hz) lbs	Selection		
6 Hz	60 Hz	Max. (120)					HP Symbol	Frame Size	Suffix Ratio
35	350	700	76.5	2.14	III	309	05	1320YC	AV 5
25	250	500	107	2.14	III	353	05	1320YC	AV 7
17.5	175	350	153	2.14	III	386	05	1320YC	AV 10
14.6	146	292	184	2.14	III	408	05	1320YC	AV 12
11.7	117	233	230	2.14	III	441	05	1320YC	AV 15
8.75	87.5	175	306	2.14	III	485	05	1320YC	AV 20
7	70	140	383	2.14	III	507	05	1320YC	AV 25
5.83	58.3	117	459	2.14	III	529	05	1320YC	AV 30
4.38	43.8	87.5	612	2.14	III	860	05	1420YC	AV 40
3.5	35	70	765	2.14	III	904	05	1420YC	AV 50
2.92	29.2	58.3	918	2.14	III	937	05	1420YC	AV 60
2.19	21.9	43.8	1220	2.14	III	1380	05	1530YC	AV 80
1.75	17.5	35	1530	2.14	III	1400	05	1530YC	AV 100
1.46	14.6	29.2	1840	2.14	III	1400	05	1530YC	AV 120
1.17	11.7	23.3	2300	2.14	III	1400	05	1530YC	AV 150
0.875	8.75	17.5	3060	2.12	III	1400	05	1530YC	AV 200
0.729	7.29	14.6	3670	1.76	II	1400	05	1530YB	AV 240
0.583	5.83	11.7	4320	2.14	III	2200	05	1640YC	AV 300
0.486	4.86	9.72	5190	2.14	III	2200	05	1640YC	AV 360
0.365	3.65	7.29	6920	1.90	II	2200	05	1640YB	AV 480
0.292	2.92	5.83	8640	1.52	II	2200	05	1640YB	AV 600
0.243	2.43	4.86	10400	1.26	I	2200	05	1640YA	AV 720
0.194	1.94	3.89	13000	1.01	I	2200	05	1640YA	AV 900
0.146	1.46	2.92	13100	0.76	–	2200	05	1640Y	AV 1200
0.122	1.22	2.43	13100	0.63	–	2200	05	1640Y	AV 1440

Gearmotors

Selection
Tables

3/4 HP

Output Speed RPM			Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load (60Hz) lbs	Selection		
6 Hz	60 Hz	Max. (120)					HP Symbol	Frame Size	Suffix Ratio
35	350	700	115	2.75	III	463	08	1420YC	AV 5
25	250	500	161	2.75	III	518	08	1420YC	AV 7
17.5	175	350	230	2.75	III	584	08	1420YC	AV 10
14.6	146	292	276	2.75	III	617	08	1420YC	AV 12
11.7	117	233	344	2.75	III	661	08	1420YC	AV 15
8.75	87.5	175	459	2.75	III	716	08	1420YC	AV 20
7	70	140	574	2.75	III	761	08	1420YC	AV 25
5.83	58.3	117	689	2.75	III	805	08	1420YC	AV 30
4.38	43.8	87.5	918	2.75	III	1250	08	1520YC	AV 40
3.5	35	70	1150	2.75	III	1310	08	1520YC	AV 50
2.92	29.2	58.3	1380	2.75	III	1360	08	1520YC	AV 60
2.19	21.9	43.8	1840	2.75	III	1380	08	1531YC	AV 80
1.75	17.5	35	2300	4.00	III	2200	08	1630YC	AV 100
1.46	14.6	29.2	2760	4.00	III	2200	08	1630YC	AV 120
1.17	11.7	23.3	3440	3.81	III	2200	08	1631YC	AV 150
0.875	8.75	17.5	4590	2.85	III	2200	08	1631YC	AV 200
0.729	7.29	14.6	5510	2.38	III	2200	08	1631YC	AV 240

Frame Size Selection Tables

Inverter Duty

Dimensions:	Frame Size	Page	Frame Size	Page
	1100	3.28	1400	3.34
	1200	3.30	1500	3.36
	1300	3.32	1600	3.38

1 HP

Output Speed RPM			Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load (60Hz) lbs	Selection			
6 Hz	60 Hz	Max. (120 Hz)					HP Symbol	Frame Size	Suffix	Ratio
35	350	700	153	2.06	III	463	1	1420YC	AV	5
25	250	500	214	2.06	III	518	1	1420YC	AV	7
17.5	175	350	306	2.06	III	584	1	1420YC	AV	10
14.6	146	292	367	2.06	III	617	1	1420YC	AV	12
11.7	117	233	459	2.06	III	661	1	1420YC	AV	15
8.75	87.5	175	612	2.06	III	716	1	1420YC	AV	20
7	70	140	765	2.06	III	761	1	1420YC	AV	25
5.83	58.3	117	918	2.06	III	805	1	1420YC	AV	30
4.38	43.8	87.5	1220	2.06	III	1250	1	1520YC	AV	40
3.5	35	70	1530	2.06	III	1310	1	1520YC	AV	50
2.92	29.2	58.3	1840	2.06	III	1360	1	1520YC	AV	60
2.19	21.9	43.8	2450	2.06	III	1380	1	1531YC	AV	80
1.75	17.5	35	3060	3.00	III	2200	1	1630YC	AV	100
1.46	14.6	29.2	3670	3.00	III	2200	1	1630YC	AV	120
1.17	11.7	23.3	4590	2.85	III	2200	1	1631YC	AV	150
0.875	8.75	17.5	6120	2.14	III	2200	1	1631YC	AV	200
0.729	7.29	14.6	7350	1.78	II	2200	1	1631YB	AV	240

1.5 HP

Output Speed RPM			Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load (60Hz) lbs	Selection			
6 Hz	60 Hz	Max. (120 Hz)					HP Symbol	Frame Size	Suffix	Ratio
35	350	700	230	2.00	III	661	1H	1520YC	AV	5
25	250	500	321	2.00	III	750	1H	1520YC	AV	7
17.5	175	350	459	2.00	III	838	1H	1520YC	AV	10
14.6	146	292	551	2.00	III	893	1H	1520YC	AV	12
11.7	117	233	689	2.00	III	948	1H	1520YC	AV	15
8.75	87.5	175	918	2.00	III	1040	1H	1520YC	AV	20
7	70	140	1150	2.00	III	1100	1H	1520YC	AV	25
5.83	58.3	117	1380	2.00	III	1160	1H	1520YC	AV	30
4.38	43.8	87.5	1840	2.00	III	1250	1H	1531YC	AV	40
3.5	35	70	2300	2.00	III	1310	1H	1531YC	AV	50
2.92	29.2	58.3	2760	2.00	III	1360	1H	1531YC	AV	60
2.19	21.9	43.8	3670	2.00	III	2170	1H	1630YC	AV	80
1.75	17.5	35	4590	2.00	III	2200	1H	1630YC	AV	100
1.46	14.6	29.2	5510	2.00	III	2200	1H	1630YC	AV	120
1.17	11.7	23.3	6890	1.90	II	2200	1H	1631YB	AV	150
0.875	8.75	17.5	9180	1.43	II	2200	1H	1631YB	AV	200
0.729	7.29	14.6	11000	1.19	I	2200	1H	1631YA	AV	240

Frame Size Selection Tables

Dimensions:	Frame Size	Page	Frame Size	Page
	1100	3.28	1400	3.34
	1200	3.30	1500	3.36
	1300	3.32	1600	3.38

Inverter Duty

2 HP

Output Speed RPM			Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load (60Hz) lbs	Selection			
6 Hz	60 Hz	Max. (120 Hz)					HP Symbol	Frame Size	Suffix	Ratio
35	350	700	306	1.50	II	661	2	1520YB	AV	5
25	250	500	429	1.50	II	750	2	1520YB	AV	7
17.5	175	350	612	1.50	II	838	2	1520YB	AV	10
14.6	146	292	735	1.50	II	893	2	1520YB	AV	12
11.7	117	233	918	1.50	II	948	2	1520YB	AV	15
8.75	87.5	175	1220	1.50	II	1040	2	1520YB	AV	20
7	70	140	1530	1.50	II	1100	2	1520YB	AV	25
5.83	58.3	117	1840	1.50	II	1160	2	1520YB	AV	30
4.38	43.8	87.5	2450	1.50	II	1250	2	1531YB	AV	40
3.5	35	70	3060	1.50	II	1310	2	1531YB	AV	50
2.92	29.2	58.3	3670	1.50	II	1360	2	1531YB	AV	60
2.19	21.9	43.8	4900	1.50	II	2170	2	1630YB	AV	80
1.75	17.5	35	6120	1.50	II	2200	2	1630YB	AV	100
1.46	14.6	29.2	7350	1.50	II	2200	2	1630YB	AV	120
1.17	11.7	23.3	9180	1.43	II	2200	2	1631YB	AV	150
0.875	8.75	17.5	12200	1.07	I	2200	2	1631YA	AV	200
0.729	7.29	14.6	13100	0.89	–	2200	2	1631Y	AV	240

Gearmotors

 Selection
Tables

3 HP

Output Speed RPM			Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load (60Hz) lbs	Selection			
6 Hz	60 Hz	Max. (Hz)					HP Symbol	Frame Size	Suffix	Ratio
35	350	350 (60)	459	1.67	II	661	3	1521YB	AV	5
25	250	250 (60)	643	1.67	II	750	3	1521YB	AV	7
17.5	175	175 (60)	918	1.67	II	838	3	1521YB	AV	10
14.6	146	146 (60)	1100	1.67	II	893	3	1521YB	AV	12
11.7	117	117 (60)	1380	1.67	II	948	3	1521YB	AV	15
8.75	87.5	87.5 (60)	1840	1.67	II	1040	3	1521YB	AV	20
7	70	70 (60)	2300	1.67	II	1100	3	1521YB	AV	25
5.83	58.3	117 (120)	2760	1.67	II	1820	3	1632YB	AV	30
4.38	43.8	87.5 (120)	3670	1.67	II	1910	3	1632YB	AV	40
3.5	35	70 (120)	4590	1.67	II	2000	3	1632YB	AV	50
2.92	29.2	58.3 (120)	5510	1.67	II	2060	3	1632YB	AV	60

Frame Size Selection Tables

Inverter Duty

Dimensions:	Frame Size	Page	Frame Size	Page
	1100	3.28	1400	3.34
	1200	3.30	1500	3.36
	1300	3.32	1600	3.38

5 HP

Output Speed RPM			Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load (60Hz) lbs	Selection			
6 Hz	60 Hz	Max. (Hz)					HP Symbol	Frame Size	Suffix	Ratio
35	350	350 (60)	765	1.50	II	661	5	1522YB	AV	5
25	250	250 (60)	1070	1.50	II	750	5	1522YB	AV	7
17.5	175	175 (60)	1530	1.50	II	838	5	1522YB	AV	10
14.6	146	146 (60)	1840	1.50	II	893	5	1522YB	AV	12
11.7	117	117 (60)	2300	1.50	II	948	5	1522YB	AV	15
8.75	87.5	117 (80)	3060	1.50	II	1650	5	1633YB	AV	20
7	70	93.3 (80)	3830	1.50	II	1740	5	1633YB	AV	25
5.83	58.3	77.8 (80)	4590	1.50	II	1820	5	1633YB	AV	30
4.38	43.8	58.3 (80)	6120	1.50	II	1910	5	1633YB	AV	40

7.5 HP

Output Speed RPM			Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load (60Hz) lbs	Selection			
6 Hz	60 Hz	Max. (Hz)					HP Symbol	Frame Size	Suffix	Ratio
35	350	350	1150	2.00	III	1050	8	1634YC	AV	5
25	250	250	1610	2.00	III	1200	8	1634YC	AV	7
17.5	175	175	2300	2.00	III	1350	8	1634YC	AV	10
14.6	146	146	2760	2.00	III	1400	8	1634YC	AV	12
11.7	117	117	3440	2.00	III	1500	8	1634YC	AV	15
8.75	87.5	87.5	4590	2.00	III	1650	8	1634YC	AV	20
7	70	70	5740	1.90	II	1750	8	1634YB	AV	25

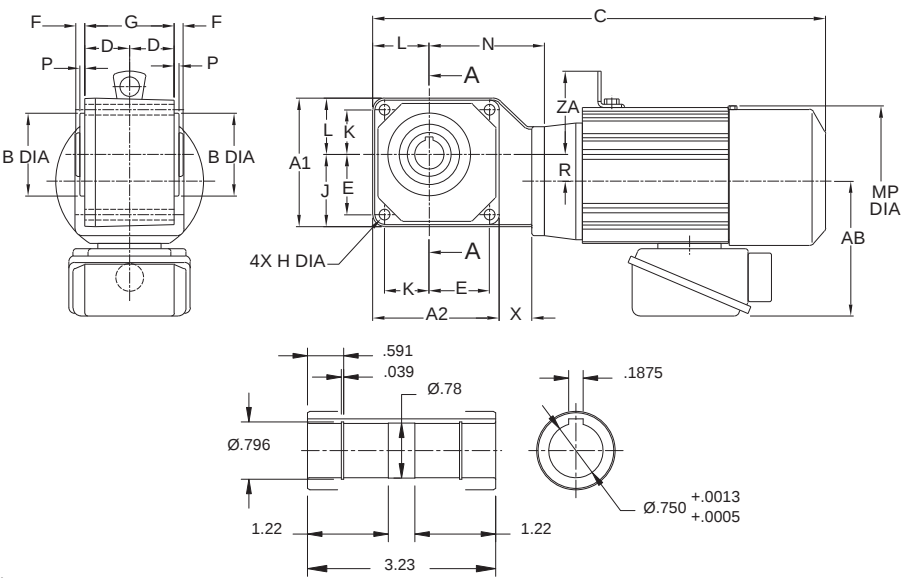
10 HP

Output Speed RPM			Output Torque in-lbs	Service Factor	AGMA Class	Overhung Load (60Hz) lbs	Selection			
6 Hz	60 Hz	Max. (Hz)					HP Symbol	Frame Size	Suffix	Ratio
35	350	350	1530	1.50	II	1050	10	1634YB	AV	5
25	250	250	2140	1.50	II	1200	10	1634YB	AV	7
17.5	175	175	3060	1.50	II	1350	10	1634YB	AV	10
14.6	146	146	3670	1.50	II	1400	10	1634YB	AV	12
11.7	117	117	4590	1.50	II	1500	10	1634YB	AV	15
8.75	87.5	87.5	6120	1.50	II	1650	10	1634YB	AV	20

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Dimensions

Frame Size 1100 RNYM-1120Y



All dimensions are in inches.

Gearmotors

Dimensions

Model	A1	A2	B min	B max	D	E	F	G	H	J	K	L	N	P	R	X
1120	3.54	3.56	2.046	2.047	1.30	1.65	0.31	2.60	0.26	1.97	1.26	1.57	3.23	0.24	0.79	0.87

Standard Three-Phase Motor

Model	Motor HP	AB	ZA	Motor			Brakemotor		
				C	MP	Wt. (lbs.)	C	MP	Wt. (lbs.)
RNYM01-1120Y(-B)-5~60	1/8	5.04	–	10.55	4.69	13	11.93	4.88	17
RNYM02-1120Y(-B)-5~30	1/4	5.04	–	12.20	4.88	15	13.46	4.88	19

Dimensions

Frame Size 1100
RNYM-1120Y (cont.)

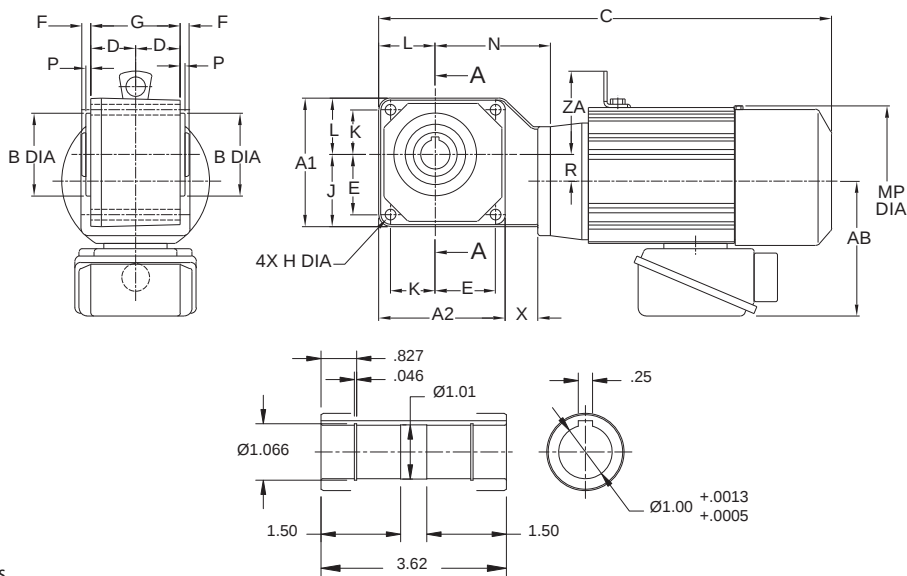
All dimensions are in inches.

AF-Motor

Model	HP	AB	ZA	Motor			Brakemotor		
				C	MP	Wt. (lbs.)	C	MP	Wt. (lbs.)
RNYM01-1120Y-AV(-B)-5~60	1/8	5.04	–	12.20	4.88	15	13.46	4.88	19
RNYM02-1120Y-AV(-B)-5~30	1/4	5.04	–	12.99	4.88	18	14.25	4.88	20

Dimensions

Frame Size 1200 RNYM-1220/30Y



All dimensions are in inches.

Gearmotors

Dimensions

Model	A1	A2	B min	B max	D	E	F	G	H	J	K	L	N	P	R	X
1220	4.53	4.45	3.07	3.071	1.46	2.24	0.35	2.91	0.35	2.60	1.57	1.93	3.78	0.20	1.10	0.79
1230	5.00	5.00	3.07	3.071	1.61	2.56	0.35	3.23	0.35	2.99	1.57	2.01	3.74	0.20	0.51	0.31

Standard Three-Phase Motor

Model	HP	AB	ZA	Motor			Brakemotor		
				C	MP	Wt. (lbs.)	C	MP	Wt. (lbs.)
RNYM01-1220Y(-B)-40~60	1/8	5.04	–	11.46	4.69	15	12.83	4.88	19
RNYM02-1220Y(-B)-5~60	1/4	5.04	–	13.11	4.88	19	14.37	4.88	22
RNYM03-1220Y(-B)-5~60	1/3	5.04	–	13.9	4.88	21	15.16	4.88	24
RNYM05-1220Y(-B)-5~30	1/2	5.04	–	13.9	4.88	21	15.16	4.88	24
RNYM01-1230Y(-B)-80~240	1/8	5.04	–	11.5	4.69	17	12.87	4.88	20

Dimensions

Frame Size 1200 RNYM-1220/30Y (cont.)

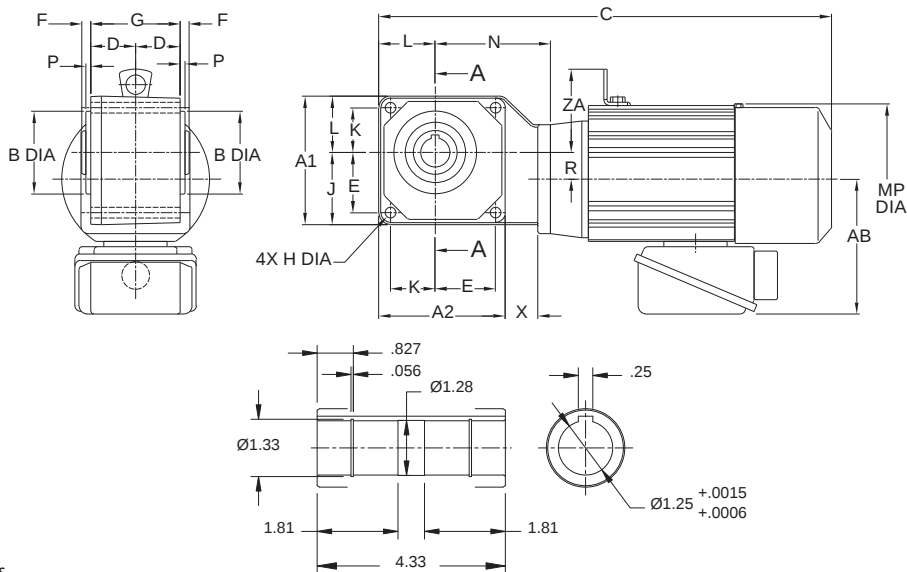
All dimensions are in inches.

AF-Motor

Model	HP	AB	ZA	Motor			Brakemotor		
				C	MP	Wt. (lbs.)	C	MP	Wt. (lbs.)
RNYM01-1220Y-AV(-B)-40~60	1/8	5.04	–	13.11	4.88	19	14.37	4.88	22
RNYM02-1220Y-AV(-B)-5~60	1/4	5.04	–	13.9	4.88	21	15.16	4.88	24
RNYM03-1220Y-AV(-B)-5~30	1/3	5.04	–	13.9	4.88	21	15.16	4.88	24
RNYM01-1230Y-AV(-B)-80~240	1/8	5.04	–	13.15	4.88	19	14.41	4.88	22

Dimensions

Frame Size 1300 RNYM-1320/30/40Y



All dimensions are in inches.

Gearmotors

Dimensions

Model	A1	A2	B min	B max	D	E	F	G	H	J	K	L	N	P	R	X
1320	5.20	5.12	3.345	3.346	1.81	2.44	0.35	3.62	0.43	2.91	1.81	2.28	4.69	0.20	1.08	1.34
1330	5.98	5.98	3.345	3.346	1.81	3.11	0.35	3.62	0.43	3.62	1.85	2.36	4.25	0.20	0.43	0.14
1340	5.98	5.98	3.345	3.346	1.81	3.11	0.35	3.62	0.43	3.62	1.85	2.36	5.16	0.20	0.35	1.04

Standard Three-Phase Motor

Model	HP	AB	ZA	Motor			Brakemotor		
				C	MP	Wt. (lbs.)	C	MP	Wt. (lbs.)
RNYM02-1320Y(-B)-40~60	1/4	5.04	—	14.21	4.88	22	15.47	4.88	24
RNYM03-1320Y(-B)-40~60	1/3	5.04	—	15	4.88	24	16.26	4.88	29
RNYM05-1320Y(-B)-5~60	1/2	5.04	—	15	4.88	24	16.26	4.88	29
RNYM08-1320Y(-B)-5~30	3/4	5.63	3.33	16.65	6.10	29	18.35	6.10	35
RNYM1-1320Y(-B)-5~30	1	5.63	3.33	16.65	6.10	33	18.35	6.10	38
RNYM01-1330Y(-B)-80~240	1/8	5.04	—	12.36	4.69	20	13.74	4.88	22
RNYM02-1330Y(-B)-80~240	1/4	5.04	—	14.02	4.88	22	15.28	4.88	24
RNYM01-1340Y(-B)-300~1440	1/8	5.04	—	13.27	4.69	22	14.65	4.88	24

Dimensions

Frame Size 1300 RNYM-1320/30/40Y (cont.)

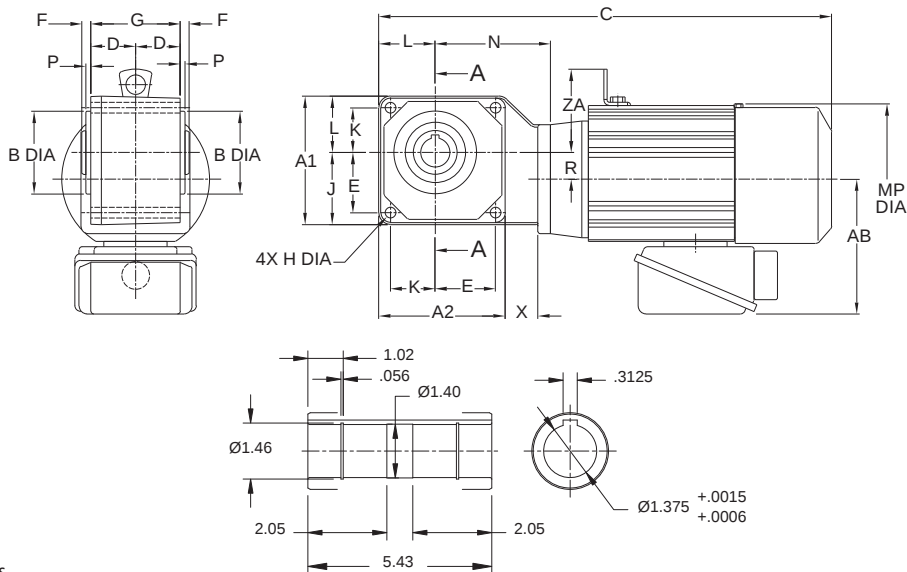
All dimensions are in inches.

AF-Motor

Model	HP	AB	ZA	Motor			Brakemotor		
				C	MP	Wt. (lbs.)	C	MP	Wt. (lbs.)
RNYM02-1320Y-AV(-B)-40~60	1/4	5.04	–	15	4.88	24	16.26	4.88	29
RNYM03-1320Y-AV(-B)-40~60	1/3	5.04	–	15	4.88	24	16.26	4.88	29
RNYM05-1320Y-AV(-B)-5~30	1/2	5.63	3.33	16.65	6.10	33	18.35	6.10	38
RNYM02-1330Y-AV(-B)-80~240	1/4	5.04	–	14.8	4.88	24	16.06	4.88	27
RNYM01-1330Y-AV(-B)-80~240	1/8	5.04	–	14.02	4.88	22	15.28	4.88	24
RNYM01-1340Y-AV(-B)-300~480	1/8	5.04	–	14.92	4.88	24	16.18	4.88	27

Dimensions

Frame Size 1400 RNYM-1420/30/40Y



All dimensions are in inches.

Gearmotors

Dimensions

Model	A1	A2	B min	B max	D	E	F	G	H	J	K	L	N	P	R	X
1420	6.22	6.10	3.739	3.74	2.32	2.95	0.39	4.65	0.55	3.46	2.24	2.76	5.75	0.20	0.79	1.69
1430	7.01	7.01	3.739	3.74	2.32	3.62	0.39	4.65	0.55	4.25	2.13	2.76	5.12	0.20	0.55	0.31
1440	7.01	7.01	3.739	3.74	2.32	3.62	0.39	4.65	0.55	4.25	2.13	2.76	6.42	0.20	0.43	1.73

Standard Three-Phase Motor

Model	HP	AB	ZA	Motor			Brakemotor		
				C	MP	Wt. (lbs.)	C	MP	Wt. (lbs.)
RNYM05-1420Y(-B)-40~60	1/2	5.04	—	16.22	4.88	33	17.48	4.88	35
RNYM08-1420Y(-B)-40~60	3/4	5.63	3.62	18.66	6.10	38	20.35	6.10	42
RNYM1-1420Y(-B)-5~60	1	5.63	3.62	18.66	6.10	40	20.35	6.10	44
RNYM1H-1420Y(-B)-5~30	1.5	5.83	3.82	19.84	6.57	46	22.28	6.57	55
RNYM2-1420Y(-B)-5~30	2	5.83	3.82	19.84	6.57	49	22.28	6.57	57
RNYM02-1430Y(-B)-80~240	1/4	5.04	—	15.12	4.88	33	16.38	4.88	35
RNYM03-1430Y(-B)-80~240	1/3	5.04	—	15.91	4.88	35	17.17	4.88	38
RNYM05-1430Y(-B)-80~240	1/2	5.04	—	15.91	4.88	35	17.17	4.88	38
RNYM01-1440Y(-B)-300~1440	1/8	5.04	—	14.92	4.69	32	16.3	4.88	35
RNYM02-1440Y(-B)-300~1440	1/4	5.04	—	16.57	4.88	34	17.83	4.88	38

Dimensions

Frame Size 1400 RNYM-1420/30/40Y (cont.)

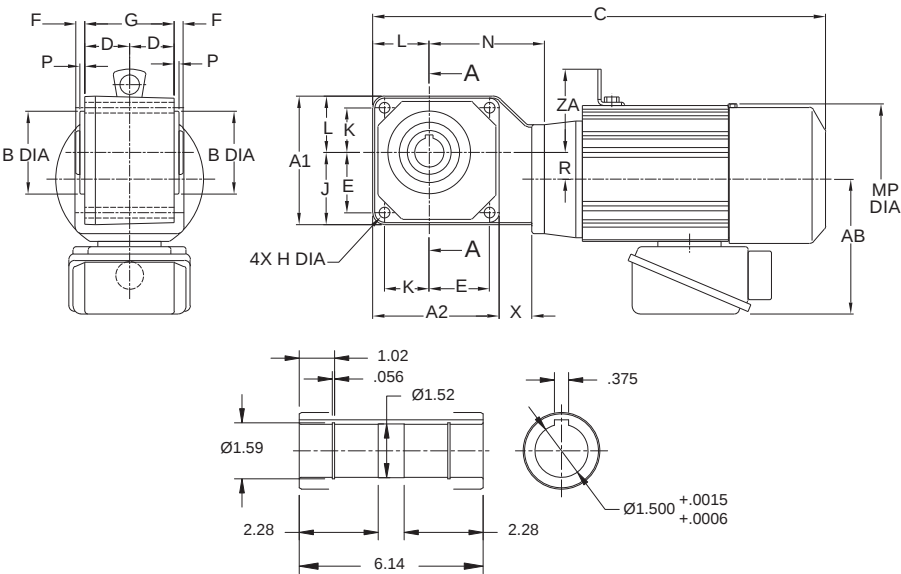
All dimensions are in inches.

AF-Motor

Model	HP	AB	ZA	Motor			Brakemotor		
				C	MP	Wt. (lbs.)	C	MP	Wt. (lbs.)
RNYM05-1420Y-AV(-B)-40~60	1/2	5.63	3.62	18.66	6.10	40	20.35	6.10	44
RNYM08-1420Y-AV(-B)-5~30	3/4	5.83	3.82	19.84	6.57	46	22.28	6.57	55
RNYM1-1420Y-AV(-B)-5~30	1	5.83	3.82	19.84	6.57	49	22.28	6.57	57
RNYM02-1430Y-AV(-B)-80~240	1/4	5.04	–	15.91	4.88	35	17.17	4.88	38
RNYM03-1430Y-AV(-B)-80~240	1/3	5.04	–	15.91	4.88	35	17.17	4.88	38
RNYM01-1440Y-AV(-B)-300~1440	1/8	5.04	–	16.57	4.88	34	17.83	4.88	38
RNYM02-1440Y-AV(-B)-300~480	1/4	5.04	–	17.36	4.88	38	18.62	4.88	40

Dimensions

Frame Size 1500 RNYM-1520/21/22/30/31/40Y



All dimensions are in inches.

Gearmotors

Dimensions

Model	A1	A2	B min	B max	D	E	F	G	H	J	K	L	N	P	R	X
1520/21/22	7.01	6.89	4.329	4.331	2.68	3.15	0.39	5.35	0.55	3.70	2.76	3.31	7.01	0.20	1.10	2.68
1530/31	8.39	8.39	4.329	4.331	2.68	4.29	0.39	5.35	0.71	5.08	2.52	3.31	6.18	0.20	0.67	0.37
1540	8.39	8.39	4.329	4.331	2.68	4.29	0.39	5.35	0.71	5.08	2.52	3.31	7.76	0.20	0.55	2.13

Standard Three-Phase Motor

Model	HP	AB	ZA	Motor			Brakemotor		
				C	MP	Wt. (lbs.)	C	MP	Wt. (lbs.)
RNYM1-1520Y(-B)-40~60	1	5.63	3.31	19.61	6.10	57	21.30	6.10	62
RNYM1H-1520Y(-B)-40~60	1.5	5.83	3.50	21.02	6.57	64	23.46	6.57	73
RNYM2-1520Y(-B)-5~60	2	5.83	3.50	21.02	6.57	68	23.46	6.57	77
RNYM3-1520Y(-B)-5~30	3	6.10	3.74	21.77	7.09	75	24.25	7.09	86
RNYM3-1521Y(-B)-5~25	3	6.10	3.74	21.77	7.09	75	24.25	7.09	86
RNYM5-1521Y(-B)-5~25	5	6.54	4.49	24.09	8.74	110	26.93	8.74	134
RNYM5-1522Y(-B)-5~15	5	6.54	4.49	24.09	8.74	110	26.93	8.74	134
RNYM8-1522Y(-B)-5~15	7.5	6.54	4.49	25.83	8.74	126	28.66	8.74	150
RNYM05-1530Y(-B)-80~240	1/2	5.04	–	17.2	4.88	51	18.46	4.88	53
RNYM08-1530Y(-B)-80~240	3/4	5.63	3.74	19.61	6.10	53	21.30	6.10	57
RNYM1-1530Y(-B)-80~240	1	5.63	3.74	19.61	6.10	55	21.30	6.10	62
RNYM1-1531Y(-B)-80	1	5.63	3.74	19.61	6.10	57	21.30	6.10	62
RNYM1H-1531Y(-B)-80	1.5	5.83	3.94	20.79	6.57	64	23.23	6.57	73
RNYM2-1531Y(-B)-40~80	2	5.83	3.94	20.79	6.57	66	23.23	6.57	75
RNYM3-1531Y(-B)-40~60	3	6.10	4.17	21.57	7.09	75	24.06	7.09	86
RNYM02-1540Y(-B)-300~1440	1/4	5.04	–	18.31	4.88	54	19.57	4.88	56
RNYM03-1540Y(-B)-300~1440	1/3	5.04	–	19.09	4.88	57	20.35	4.88	61
RNYM05-1540Y(-B)-300~1440	1/2	5.04	–	19.09	4.88	57	20.35	4.88	61

Dimensions

Frame Size 1500 RNYM-1520/21/22/30/31/40Y (cont.)

All dimensions are in inches.

AF-Motor

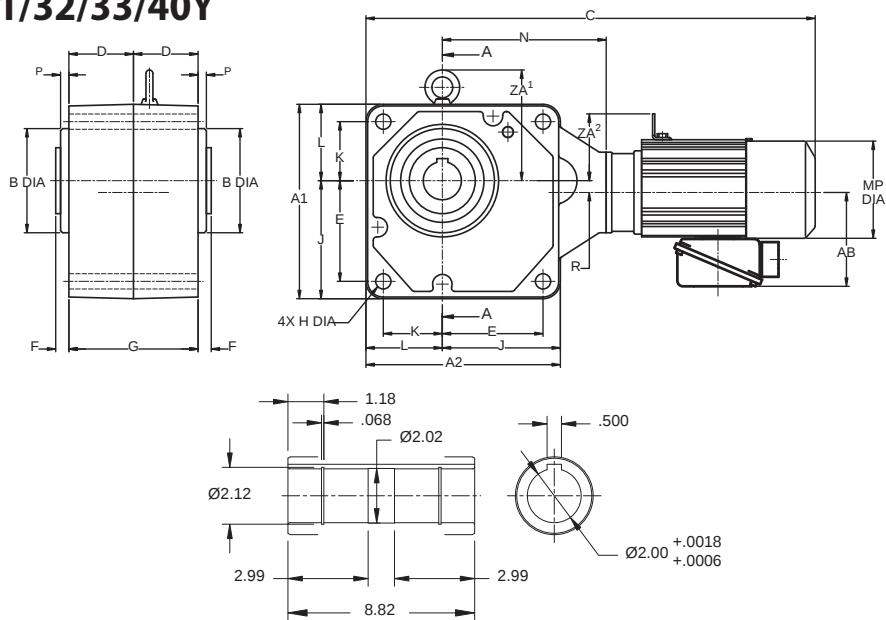
Model	HP	AB	ZA	Motor			Brakemotor		
				C	MP	Wt. (lbs.)	C	MP	Wt. (lbs.)
RNYM08-1520Y-AV(-B)-40~60	3/4	5.83	3.50	21.02	6.57	64	23.46	6.57	73
RNYM1-1520Y-AV(-B)-40~60	1	5.83	3.50	21.02	6.57	68	23.46	6.57	77
RNYM1H-1520Y-AV(-B)-5~30	1.5	6.10	3.74	21.77	7.09	75	24.25	7.09	86
RNYM2-1520Y-AV(-B)-5~30	2	6.10	3.74	21.77	7.09	75	24.25	7.09	86
RNYM3-1521Y-AV(-B)-5~25	3	6.54	4.49	24.09	8.74	110	26.93	8.74	134
RNYM5-1522Y-AV(-B)-5~15	5	6.54	4.49	25.83	8.74	126	28.66	8.74	150
RNYM05-1530Y-AV(-B)-80~240	1/2	5.63	3.74	19.61	6.10	55	21.3	6.10	62
RNYM08-1531Y-AV(-B)-80	3/4	5.83	3.94	20.79	6.57	64	23.23	6.57	73
RNYM1-1531Y-AV(-B)-80	1	5.83	3.94	20.79	6.57	66	23.23	6.57	75
RNYM1H-1531Y-AV(-B)-40~60	1.5	6.10	4.17	21.57	7.09	75	24.06	7.09	86
RNYM2-1531Y-AV(-B)-40~60	2	6.10	4.17	21.57	7.09	75	24.06	7.09	86
RNYM01-1540Y-AV(-B)-600~1440	1/8	5.04	–	18.31	4.88	54	19.57	4.88	57
RNYM02-1540Y-AV(-B)-300~1440	1/4	5.04	–	19.09	4.88	57	20.35	4.88	61
RNYM03-1540Y-AV(-B)-300~480	1/3	5.04	–	19.09	4.88	57	20.35	4.88	62

Gearmotors

Dimensions

Dimensions

Frame Size 1600 RNYM-1630/31/32/33/40Y



All dimensions are in inches.

Gearmotors

Dimensions

Model	A1	A2	B min	B max	D	E	F	G	H	J	K	L	N	P	R	ZA ¹
1630/31/32/33	11.02	11.02	5.904	5.906	3.66	5.71	0.75	7.32	0.87	6.69	3.35	4.33	8.37	0.47	1.06	6.30
1640	11.02	11.02	5.904	5.906	3.66	5.71	0.75	7.32	0.87	6.69	3.35	4.33	9.29	0.47	0.67	6.30

Standard Three-Phase Motor

Model	HP	AB	ZA ²	Motor			Brakemotor		
				C	MP	Wt. (lbs.)	C	MP	Wt. (lbs.)
RNYM1-1630Y(-B)-100~120	1	5.63	3.35	21.97	6.10	101	23.66	6.10	106
RNYM1H-1630Y(-B)-100~120	1.5	5.83	3.54	23.35	6.57	115	25.79	6.57	123
RNYM2-1630Y(-B)-80~120	2	5.83	3.54	23.35	6.57	115	25.79	6.57	123
RNYM3-1630Y(-B)-80~120	3	6.10	3.78	24.57	7.09	126	27.05	7.09	139
RNYM1-1631Y(-B)-150~240	1	5.63	3.35	21.97	6.10	101	23.66	6.10	106
RNYM1H-1631Y(-B)-150~240	1.5	5.83	3.54	23.82	6.57	117	26.26	6.57	126
RNYM2-1631Y(-B)-150~240	2	5.83	3.54	23.82	6.57	117	26.26	6.57	126
RNYM3-1631Y(-B)-150~240	3	6.10	3.78	24.57	7.09	126	27.05	7.09	139
RNYM3-1632Y(-B)-30~60	3	6.10	3.78	24.57	7.09	121	27.05	7.09	134
RNYM5-1632Y(-B)-30~60	5	6.54	4.53	26.65	8.74	152	29.49	8.74	176
RNYM5-1633Y(-B)-20~40	5	6.54	4.53	26.65	8.74	154	29.25	8.74	179
RNYM8-1633Y(-B)-20~40	7.5	6.54	4.53	28.39	8.74	170	31.22	8.74	194
RNYM05-1640Y(-B)-300~1440	1/2	5.04	—	21.38	4.88	139	22.64	4.88	141
RNYM08-1640Y(-B)-300~1440	3/4	5.63	3.74	23.78	6.10	148	25.47	6.10	152
RNYM1-1640Y(-B)-300~1440	1	5.63	3.74	23.78	6.10	150	25.47	6.10	154

Dimensions

Frame Size 1600 RNYM-1630/31/32/33/40Y (cont.)

All dimensions are in inches.

AF-Motor

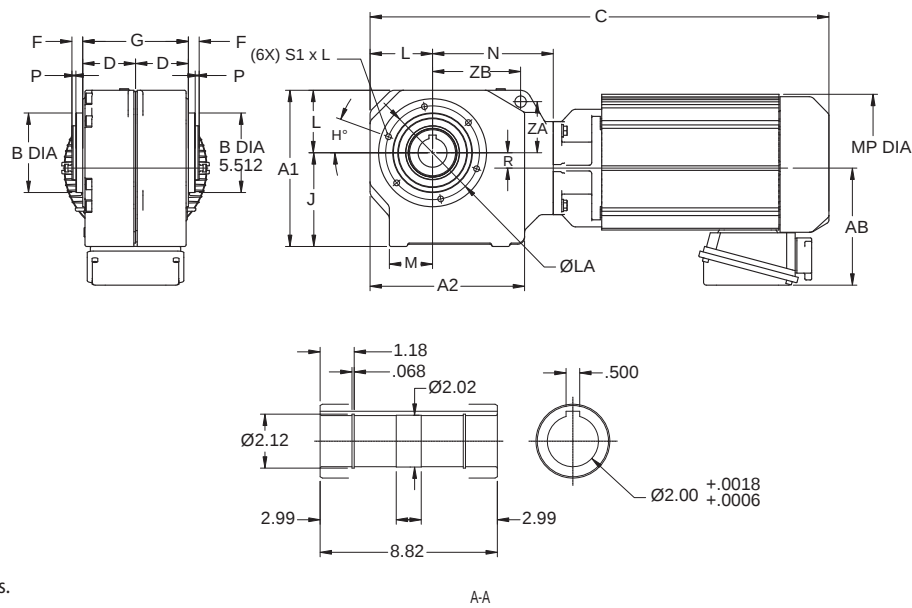
Model	HP	AB	ZA	Motor			Brakemotor		
				C	MP	Wt. (lbs.)	C	MP	Wt. (lbs.)
RNYM08-1630Y-AV(-B)-100~120	3/4	5.83	3.54	23.35	6.57	115	25.79	6.57	123
RNYM1-1630Y-AV(-B)-100~120	1	5.83	3.54	23.35	6.57	115	25.79	6.57	123
RNYM1H-1630Y-AV(-B)-100~120	1.5	6.10	3.78	24.57	7.09	126	27.05	7.09	139
RNYM2-1630Y-AV(-B)-100~120	2	6.10	3.78	24.57	7.09	126	27.05	7.09	139
RNYM08-1631Y-AV(-B)-150~240	3/4	5.83	3.54	23.82	6.57	117	26.26	6.57	126
RNYM1-1631Y-AV(-B)-150~240	1	5.83	3.54	23.82	6.57	117	26.26	6.57	126
RNYM1H-1631Y-AV(-B)-150~240	1.5	6.10	3.78	24.57	7.09	126	27.05	7.09	139
RNYM2-1631Y-AV(-B)-150~240	2	6.10	3.78	24.57	7.09	126	27.05	7.09	139
RNYM3-1632Y-AV(-B)-30~60	3	6.54	4.53	26.65	8.74	152	29.49	8.74	176
RNYM5-1633Y-AV(-B)-20~40	5	6.54	4.53	28.39	8.74	170	31.22	8.74	194
RNYM02-1640Y-AV(-B)-600~1440	1/4	5.04	–	21.38	4.88	139	22.64	4.88	141
RNYM03-1640Y-AV(-B)-600~1440	1/3	5.04	–	21.38	4.88	139	22.64	4.88	141
RNYM05-1640Y-AV(-B)-300~1440	1/2	5.63	3.74	23.78	6.10	139	25.47	6.10	143

Gearmotors

Dimensions

Dimensions

Frame Size 1600 RNYM-1634



All dimensions are in inches.

Gearmotors

Dimensions

Model	A1	A2	B min	B max	D	F	G	H	J	L	M	N	P	R	ZA	ZB	LA	SxL
1634	10.83	10.71	5.510	5.512	3.66	0.75	7.32	20	6.5	4.33	2.99	8.37	0.28	1.06	3.54	6.1	6.5	M12 x 0.87

Standard Three-Phase Motor

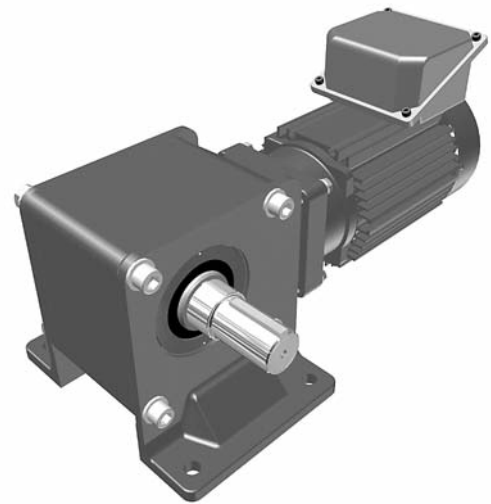
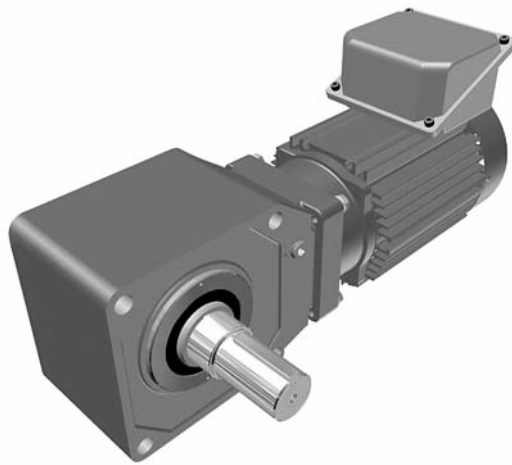
Model	HP	AB	Motor			Brakemotor		
			C	MP	Wt. (lbs.)	C	MP	Wt. (lbs.)
RNYM8-1634Y(-B)-20~40	7.5	6.54	28.22	8.38	209	31.06	8.36	231
RNYM10-1634Y(-B)-5~25	10	8.31	29.44	9.90	245	33.18	9.9	284
RNYM15-1634Y(-B)-5~20	15	8.31	31.80	9.90	276	35.54	9.9	315

AF-Motor (-AV)

Model	HP	AB	Motor			Brakemotor		
			C	MP	Wt. (lbs.)	C	MP	Wt. (lbs.)
RNYM8-1634Y-AV(-B)-5~25	7.5	8.31	29.44	9.90	245	33.18	9.9	284
RNYM10-1634Y-AV(-B)-5~20	10	8.31	31.80	9.90	276	35.54	9.9	315

4

Options

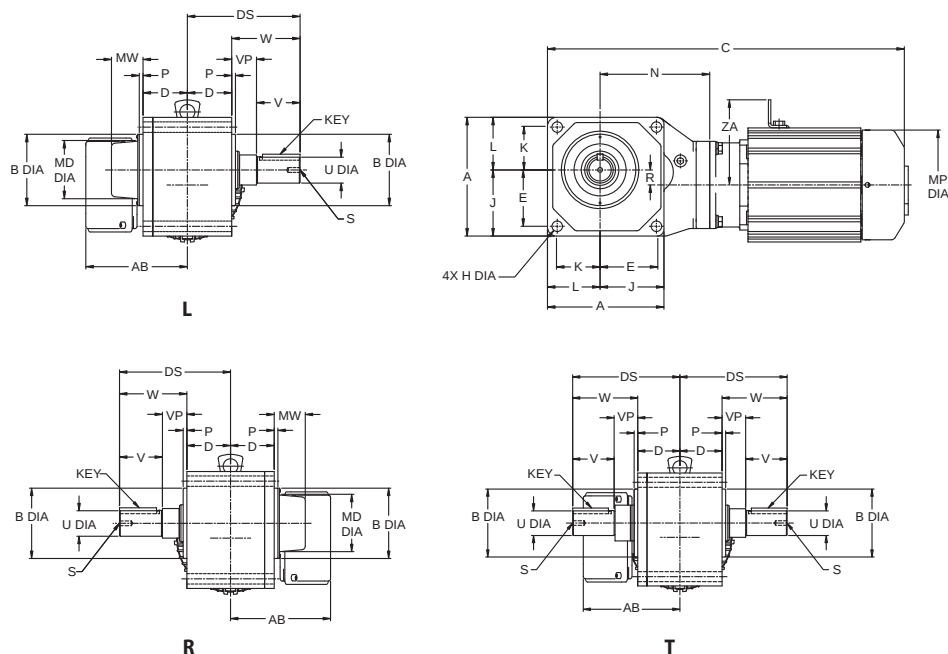


Hyponic®

Options

Plug-in Solid Output Shaft

Frame Size 1100 ~ 1300



All dimensions are in inches.

Model	A	B min	B max	D	DS	E	H	J	K	L	N	P	R	MD	MW
1120L/R/TY-X1	3.54	2.046	2.047	1.30	3.27	1.65	0.26	1.97	1.26	1.57	3.23	0.24	0.79	2.20	0.79
1220L/R/TY-X1	4.53	3.070	3.071	1.46	3.96	2.24	0.35	2.60	1.57	1.93	3.78	0.20	1.10	2.32	1.26
1230L/R/TY-X1	5.00	3.070	3.071	1.61	4.11	2.56	0.35	2.99	1.57	2.01	3.74	0.20	0.51	2.32	1.26
1320L/R/TY-X1	5.20	3.345	3.346	1.81	4.61	2.44	0.43	2.91	1.81	2.28	4.69	0.20	1.08	2.64	1.26
1330L/R/TY-X1	5.98	3.345	3.346	1.81	4.61	3.11	0.43	3.62	1.85	2.36	4.25	0.20	0.43	2.64	1.26
1340L/R/TY-X1	5.98	3.345	3.346	1.81	4.61	3.11	0.43	3.62	1.85	2.36	5.16	0.20	0.35	2.64	1.26

Model	Output Shaft						
	U min	U max	W	V	VP	S	Key
1120L/R/TY-X1	0.749	0.750	1.97	1.10	0.87	10-32 UNF x 0.630	3/16 x 3/16
1220L/R/TY-X1	0.999	1.000	2.50	1.42	1.08	5/16-18 UNC x 0.630	1/4 x 1/4
1230L/R/TY-X1	0.999	1.000	2.50	1.42	1.08	5/16-18 UNC x 0.630	1/4 x 1/4
1320L/R/TY-X1	1.249	1.250	2.80	1.65	1.14	5/16-18 UNC x 0.630	1/4 x 1/4
1330L/R/TY-X1	1.249	1.250	2.80	1.65	1.14	5/16-18 UNC x 0.630	1/4 x 1/4
1340L/R/TY-X1	1.249	1.250	2.80	1.65	1.14	5/16-18 UNC x 0.630	1/4 x 1/4

Plug-in Solid Output Shaft

Frame Size 1100 ~ 1300 (cont.)

All dimensions are in inches.

Standard Three-Phase Motor

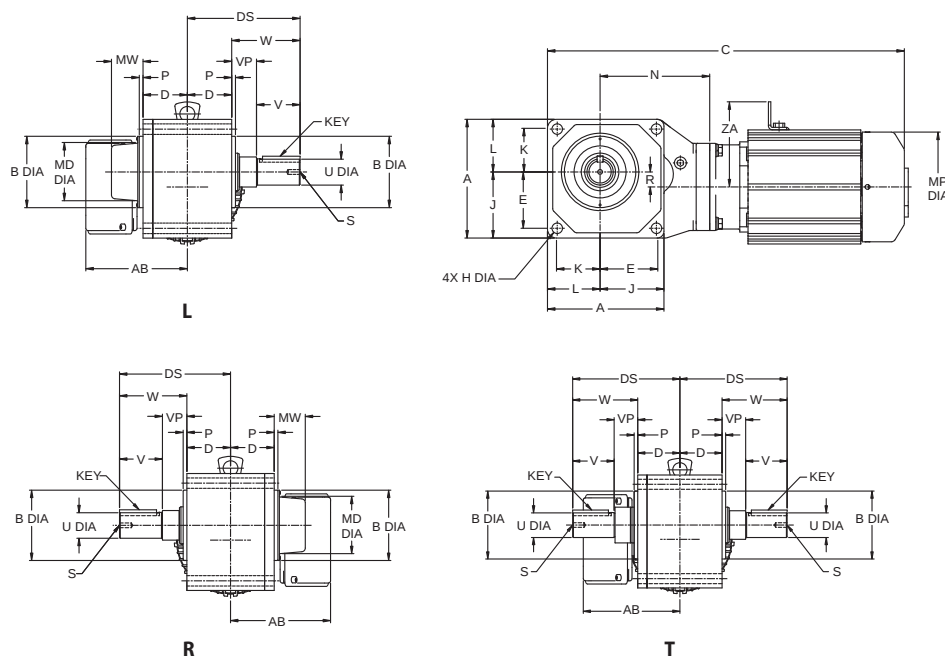
Model	Motor HP	AB	ZA	Motor			Brakemotor		
				C	MP	Wt. (lbs.)	C	MP	Wt. (lbs.)
RNFM01-1120L/R/TY-X1(-B)-5~60	1/8	5.04	—	10.55	4.69	14	11.93	4.88	18
RNFM02-1120L/R/TY-X1(-B)-5~30	1/4	5.04	—	12.20	4.88	17	13.46	4.88	20
RNFM01-1220L/R/TY-X1(-B)-40~60	1/8	5.04	—	11.46	4.69	17	12.83	4.88	20
RNFM02-1220L/R/TY-X1(-B)-5~60	1/4	5.04	—	13.1	4.88	20	14.37	4.88	23
RNFM03-1220L/R/TY-X1(-B)-5~30	1/3	5.04	—	13.90	4.88	22	15.16	4.88	25
RNFM05-1220L/R/TY-X1(-B)-5~30	1/2	5.04	—	13.90	4.88	22	15.16	4.88	25
RNFM01-1230L/R/TY-X1(-B)-80~240	1/8	5.04	—	11.50	4.69	18	12.87	4.88	21
RNFM02-1320L/R/TY-X1(-B)-40~60	1/4	5.04	—	14.21	4.88	24	15.47	4.88	27
RNFM03-1320L/R/TY-X1(-B)-40~60	1/3	5.04	—	15.00	4.88	27	16.26	4.88	31
RNFM05-1320L/R/TY-X1(-B)-5~60	1/2	5.04	—	15.00	4.88	27	16.26	4.88	31
RNFM08-1320L/R/TY-X1(-B)-5~30	3/4	5.63	3.41	16.65	6.10	31	18.35	6.10	38
RNFM1-1320L/R/TY-X1(-B)-5~30	1	5.63	3.41	16.65	6.10	35	18.35	6.10	40
RNFM01-1330L/R/TY-X1(-B)-80~240	1/8	5.04	—	12.36	4.69	22	13.74	4.88	24
RNFM02-1330L/R/TY-X1(-B)-80~240	1/4	5.04	—	14.02	4.88	24	15.28	4.88	27
RNFM01-1340L/R/TY-X1(-B)-300~1440	1/8	5.04	—	13.27	4.69	24	14.65	4.88	27

Hyponic®

Options

Plug-in Solid Output Shaft

Frame Size 1400 ~ 1600



All dimensions are in inches.

Model	A	B min	B max	D	DS	E	H	J	K	L	N	P	R	MD	MW
1420L/R/TY-X1	6.22	3.739	3.740	2.32	5.91	2.95	0.55	3.46	2.24	2.76	5.75	0.20	0.79	3.03	1.65
1430L/R/TY-X1	7.01	3.739	3.740	2.32	5.91	3.62	0.55	4.25	2.13	2.76	5.12	0.20	0.55	3.03	1.65
1440L/R/TY-X1	7.01	3.739	3.740	2.32	5.91	3.62	0.55	4.25	2.13	2.76	6.42	0.20	0.43	3.03	1.65
1520/21/22/L/R/TY-X1	7.01	4.329	4.331	2.68	7.40	3.15	0.55	3.70	2.76	3.31	7.01	0.20	1.10	3.54	1.65
1530/31/L/R/TY-X1	8.39	4.329	4.331	2.68	7.40	4.29	0.71	5.08	2.52	3.31	6.18	0.20	0.67	3.54	1.65
1540L/R/TY-X1	8.39	4.329	4.331	2.68	7.40	4.29	0.71	5.08	2.52	3.31	7.76	0.20	0.55	3.54	1.65
1630/31/32/33/L/R/TY-X1	11.02	5.904	5.906	3.66	8.58	5.71	0.87	6.69	3.35	4.33	8.37	0.47	1.06	4.49	2.40
1640L/R/TY-X1	11.02	5.904	5.906	3.66	8.58	5.71	0.87	6.69	3.35	4.33	9.29	0.47	0.67	4.49	2.40

Model	Output Shaft						
	U min	U max	W	V	VP	S	Key
1420L/R/TY-X1	1.374	1.375	3.58	2.28	1.30	5/16-18 UNC x 0.630	5/16 x 5/16
1430L/R/TY-X1	1.374	1.375	3.58	2.28	1.30	5/16-18 UNC x 0.630	5/16 x 5/16
1440L/R/TY-X1	1.374	1.375	3.58	2.28	1.30	5/16-18 UNC x 0.630	5/16 x 5/16
1520/21/22/L/R/TY-X1 ^[1]	1.749	1.750	4.72	3.23	1.50	3/8-16 UNC x 0.709	3/8 x 3/8
1530/31/L/R/TY-X1 ^[1]	1.749	1.750	4.72	3.23	1.50	3/8-16 UNC x 0.709	3/8 x 3/8
1540L/R/TY-X1 ^[1]	1.749	1.750	4.72	3.23	1.50	3/8-16 UNC x 0.709	3/8 x 3/8
1630/31/32/33/L/R/TY-X1	1.999	2.000	4.92	3.23	1.69	3/8-16 UNC x 18	1/2 x 1/2
1640L/R/TY-X1	1.999	2.000	4.92	3.23	1.69	3/8-16 UNC x 18	1/2 x 1/2

Note: [1] For double extended output shaft, **U min**=1.499, **U max** = 1.500.

Plug-in Solid Output Shaft

Frame Size 1400 ~ 1600 (cont.)

All dimensions are in inches.

Standard Three-Phase Motor

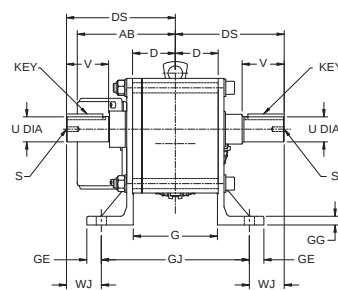
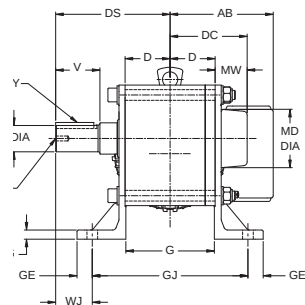
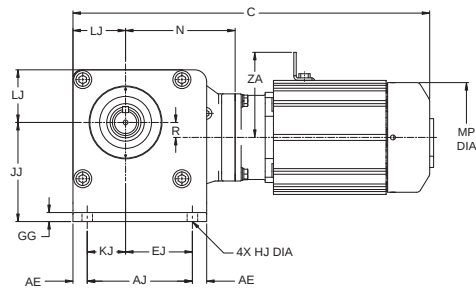
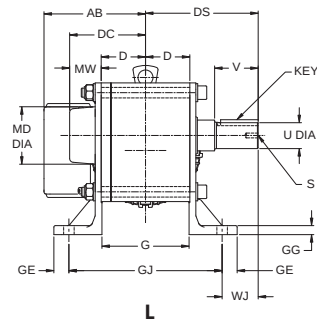
Model	Motor HP	AB	ZA	Motor			Brakemotor		
				C	MP	Wt. (lbs.)	C	MP	Wt. (lbs.)
RNFM05-1420L/R/TY-X1(-B)-40~60	1/2	5.04	—	16.22	4.88	36	17.48	4.88	39
RNFM08-1420L/R/TY-X1(-B)-40~60	3/4	5.63	3.66	18.66	6.10	41	20.35	6.10	45
RNFM1-1420L/R/TY-X1(-B)-5~60	1	5.63	3.66	18.6	6.10	43	20.35	6.10	47
RNFM1H-1420L/R/TY-X1(-B)-5~30	1.5	5.83	3.86	19.84	6.57	50	22.28	6.57	58
RNFM2-1420L/R/TY-X1(-B)-5~30	2	5.83	3.86	19.84	6.57	51.8	22.28	6.57	60.6
RNFM02-1430L/R/TY-X1(-B)-80~240	1/4	5.04	—	15.12	4.88	36.4	16.38	4.88	38.6
RNFM03-1430L/R/TY-X1(-B)-80~240	1/3	5.04	—	15.91	4.88	38.6	17.17	4.88	40.8
RNFM05-1430L/R/TY-X1(-B)-80~240	1/2	5.04	—	15.91	4.88	38.6	17.17	4.88	40.8
RNFM01-1440L/R/TY-X1(-B)-300~1440	1/8	5.04	—	14.92	4.69	35.3	16.30	4.88	38.6
RNFM02-1440L/R/TY-X1(-B)-300~1440	1/4	5.04	—	16.57	4.88	37.5	17.83	4.88	40.8
RNFM1-1520L/R/TY-X1(-B)-40~60	1	5.63	3.66	19.61	6.10	62.8	21.30	6.10	67.2
RNFM1H-1520L/R/TY-X1(-B)-40~60	1.5	5.83	3.58	21.02	6.57	69.4	23.46	6.57	78.3
RNFM2-1520L/R/TY-X1(-B)-5~60	2	5.83	3.58	21.02	6.57	73.9	23.46	6.57	82.7
RNFM3-1520L/R/TY-X1(-B)-5~30	3	6.10	3.78	21.77	7.09	80.5	24.25	7.09	91.5
RNFM3-1521L/R/TY-X1(-B)-5~25	3	6.10	4.88	21.77	7.09	80.5	24.25	7.09	91.5
RNFM5-1521L/R/TY-X1(-B)-5~25	5	6.54	4.57	24.09	8.74	116	26.93	8.74	140
RNFM5-1522L/R/TY-X1(-B)-5~15	5	6.54	4.57	24.09	8.74	116	26.93	8.74	140
RNFM8-1522L/R/TY-X1(-B)-5~15	7.5	6.54	4.57	25.83	8.74	131	28.66	8.74	155
RNFM05-1530L/R/TY-X1(-B)-80~240	1/2	5.04	—	17.20	4.88	56.2	18.46	4.88	58.4
RNFM08-1530L/R/TY-X1(-B)-80~240	3/4	5.63	3.78	19.61	6.10	58.4	21.30	6.10	62.8
RNFM1-1530L/R/TY-X1(-B)-80~240	1	5.63	3.78	19.61	6.10	60.6	21.30	6.10	67.2
RNFM1-1531L/R/TY-X1(-B)-80	1	5.63	3.78	19.61	6.10	62.8	21.30	6.10	67.2
RNFM1H-1531L/R/TY-X1(-B)-80	1.5	5.83	3.98	20.79	6.57	69.4	23.23	6.57	78.3
RNFM2-1531L/R/TY-X1(-B)-40~80	2	5.83	3.98	20.79	6.57	71.6	23.23	6.57	80.5
RNFM3-1531L/R/TY-X1(-B)-40~60	3	6.10	4.21	21.57	7.09	80.5	24.06	7.09	91.5
RNFM02-1540L/R/TY-X1(-B)-300~1440	1/4	5.04	—	18.31	4.88	59.5	19.57	4.88	61.7
RNFM03-1540L/R/TY-X1(-B)-300~1440	1/3	5.04	—	19.09	4.88	62.8	20.35	4.88	66.1
RNFM05-1540L/R/TY-X1(-B)-300~1440	1/2	5.04	—	19.09	4.88	62.8	20.35	4.88	66.1
RNFM1-1630L/R/TY-X1(-B)-100~120	1	5.63	3.39	21.97	6.10	111	23.66	6.10	116
RNFM1H-1630L/R/TY-X1(-B)-100~120	1.5	5.83	3.58	23.35	6.57	125	25.79	6.57	133
RNFM2-1630L/R/TY-X1(-B)-80~120	2	5.83	3.58	23.35	6.57	125	25.79	6.57	133
RNFM3-1630L/R/TY-X1(-B)-80~120	3	6.10	3.58	24.57	7.09	136	27.05	7.09	149
RNFM1-1631L/R/TY-X1(-B)-150~240	1	5.63	3.39	21.97	6.10	111	23.66	6.10	116
RNFM1H-1631L/R/TY-X1(-B)-150~240	1.5	5.83	3.58	23.82	6.57	127	26.26	6.57	136
RNFM2-1631L/R/TY-X1(-B)-150~240	2	5.83	3.58	23.82	6.57	127	26.26	6.57	136
RNFM3-1631L/R/TY-X1(-B)-150~240	3	6.10	3.58	24.57	7.09	136	27.05	7.09	149
RNFM3-1632L/R/TY-X1(-B)-30~60	3	6.10	3.58	24.57	7.09	131	27.05	7.09	144
RNFM5-1632L/R/TY-X1(-B)-30~60	5	6.54	4.61	26.65	8.74	162	29.49	8.74	186
RNFM5-1633L/R/TY-X1(-B)-20~40	5	6.54	4.61	26.65	8.74	164	29.25	8.74	188
RNFM8-1633L/R/TY-X1(-B)-20~40	7.5	6.54	4.61	28.39	8.74	180	31.22	8.74	204
RNFM05-1640L/R/TY-X1(-B)-300~1440	1/2	5.04	—	21.38	4.88	149	22.64	4.88	151
RNFM08-1640L/R/TY-X1(-B)-300~1440	3/4	5.63	3.70	23.78	6.10	158	25.47	6.10	162
RNFM1-1640L/R/TY-X1(-B)-300~1440	1	5.63	3.70	23.78	6.10	160	25.47	6.10	164

Hyponic®

Options

Plug-in Shaft with Bolt-on Feet

Frame Size 1100 ~ 1500



All dimensions are in inches.

Model	AJ	AE	D	DS	DC	G	GJ	GE	JJ	LJ	GG	KJ	EJ	HJ	N	R	MD	MW
1120L/R/TY-J1	2.76	0.39	1.30	3.27	2.09	2.52	4.72	0.39	3.54	1.57	0.39	1.26	1.50	0.35	3.23	0.79	2.20	0.79
1220L/R/TY-J1	4.13	0.43	1.46	3.96	2.72	2.83	5.35	0.59	4.33	2.01	0.39	1.57	2.56	0.35	3.78	1.10	2.32	1.26
1230L/R/TY-J1	4.13	0.43	1.61	4.11	2.87	3.15	5.67	0.59	4.33	2.01	0.39	1.57	2.56	0.35	3.74	0.51	2.32	1.26
1320L/R/TY-J1	4.96	0.51	1.81	4.61	3.07	3.54	6.46	0.59	4.41	2.36	0.47	1.85	3.11	0.43	4.69	1.08	2.64	1.26
1330L/R/TY-J1	4.96	0.51	1.81	4.61	3.07	3.54	6.46	0.59	4.41	2.36	0.47	1.85	3.11	0.43	4.25	0.43	2.64	1.26
1340L/R/TY-J1	4.96	0.51	1.81	4.61	3.07	3.54	6.46	0.59	4.41	2.36	0.47	1.85	3.11	0.43	5.16	0.35	2.64	1.26
1420L/R/TY-J1	5.51	0.75	2.32	5.91	3.98	4.57	8.03	0.79	5.20	2.76	0.47	2.01	3.50	0.55	5.75	0.79	3.03	1.65
1430L/R/TY-J1	5.51	0.75	2.32	5.91	3.98	4.57	8.03	0.79	5.20	2.76	0.47	2.01	3.50	0.55	5.12	0.55	3.03	1.65
1440L/R/TY-J1	5.51	0.75	2.32	5.91	3.98	4.57	8.03	0.79	5.20	2.76	0.47	2.01	3.50	0.55	6.42	0.43	3.03	1.65
1520L/R/TY-J1	6.81	0.79	2.68	7.40	4.33	5.28	9.61	0.79	6.30	3.31	0.59	2.52	4.29	0.71	7.01	1.10	3.54	1.65
1530/31/L/R/TY-J1	6.81	0.79	2.68	7.40	4.33	5.28	9.61	0.79	6.30	3.31	0.59	2.52	4.29	0.71	6.18	0.67	3.54	1.65
1540L/R/TY-J1	6.81	0.79	2.68	7.40	4.33	5.28	9.61	0.79	6.30	3.31	0.59	2.52	4.29	0.71	7.76	0.55	3.54	1.65

Model	Output Shaft					
	U min	U max	WJ	V	S	Key
1120L/R/TY-J1	0.749	0.750	0.91	1.10	10-32 UNF x 0.630	3/16 x 3/16
1220L/R/TY-J1	0.999	1.000	1.28	1.42	5/16-18 UNC x 0.630	1/4 x 1/4
1230L/R/TY-J1	0.999	1.000	1.28	1.42	5/16-18 UNC x 0.630	1/4 x 1/4
1320L/R/TY-J1	1.249	1.250	1.38	1.65	5/16-18 UNC x 0.630	1/4 x 1/4
1330L/R/TY-J1	1.249	1.250	1.38	1.65	5/16-18 UNC x 0.630	1/4 x 1/4
1340L/R/TY-J1	1.249	1.250	1.38	1.65	5/16-18 UNC x 0.630	1/4 x 1/4
1420L/R/TY-J1	1.374	1.375	1.89	2.28	5/16-18 UNC x 0.630	5/16 x 5/16
1430L/R/TY-J1	1.374	1.375	1.89	2.28	5/16-18 UNC x 0.630	5/16 x 5/16
1440L/R/TY-J1	1.374	1.375	1.89	2.28	5/16-18 UNC x 0.630	5/16 x 5/16
1520L/R/TY-J1	1.749	1.750	2.60	3.23	3/8-16 UNC x 0.709	3/8 x 3/8
1530/31/L/R/TY-J1	1.749	1.750	2.60	3.23	3/8-16 UNC x 0.709	3/8 x 3/8
1540L/R/TY-J1	1.749	1.750	2.60	3.23	3/8-16 UNC x 0.709	3/8 x 3/8

Plug-in Shaft with Bolt-on Feet

Frame Size 1100 ~ 1500 (cont.)

All dimensions are in inches.

Standard Three-Phase Motor

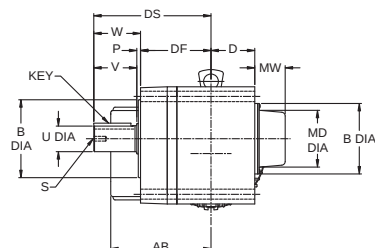
Model	Motor HP	AB	ZA	Motor			Brakemotor		
				C	MP	Wt. (lbs.)	C	MP	Wt. (lbs.)
RNHM01-1120L/R/TY-J1(-B)-5~60	1/8	5.04	—	10.55	4.69	17	11.93	4.88	20
RNHM02-1120L/R/TY-J1(-B)-5~30	1/4	5.04	—	12.20	4.88	19	13.46	4.88	22
RNHM01-1220L/R/TY-J1(-B)-40~60	1/8	5.04	—	11.54	4.69	21	12.91	4.88	24
RNHM02-1220L/R/TY-J1(-B)-5~60	1/4	5.04	—	13.19	4.88	24	14.45	4.88	28
RNHM03-1220L/R/TY-J1(-B)-5~30	1/3	5.04	—	13.98	4.88	26	15.24	4.88	30
RNHM05-1220L/R/TY-J1(-B)-5~30	1/2	5.04	—	13.98	4.88	26	15.24	4.88	30
RNHM01-1230L/R/TY-J1(-B)-80~240	1/8	5.04	—	11.50	4.69	23	12.87	4.88	26
RNHM02-1320L/R/TY-J1(-B)-40~60	1/4	5.04	—	14.29	4.88	32	15.55	4.88	34
RNHM03-1320L/R/TY-J1(-B)-40~60	1/3	5.04	—	15.08	4.88	34	16.34	4.88	39
RNHM05-1320L/R/TY-J1(-B)-5~60	1/2	5.04	—	15.08	4.88	34	16.34	4.88	39
RNHM08-1320L/R/TY-J1(-B)-5~30	3/4	5.63	3.41	16.73	6.10	39	18.43	6.10	45
RNHM1-1320L/R/TY-J1(-B)-5~30	1	5.63	3.41	16.73	6.10	43	18.43	6.10	47
RNHM01-1330L/R/TY-J1(-B)-80~240	1/8	5.04	—	12.36	4.69	30	6.61	4.88	32
RNHM02-1330L/R/TY-J1(-B)-80~240	1/4	5.04	—	14.02	4.88	32	15.28	4.88	34
RNHM01-1340L/R/TY-J1(-B)-300~1440	1/8	5.04	—	13.27	4.69	32	14.65	4.88	34
RNHM05-1420L/R/TY-J1(-B)-40~60	1/2	5.04	—	16.22	4.88	47	6.85	4.88	50
RNHM08-1420L/R/TY-J1(-B)-40~60	3/4	5.63	3.66	18.66	6.10	52	20.35	6.10	56
RNHM1-1420L/R/TY-J1(-B)-5~60	1	5.63	3.66	18.66	6.10	54	20.35	6.10	58
RNHM1H-1420L/R/TY-J1(-B)-5~30	1.5	5.83	3.86	19.84	6.57	61	22.28	6.57	69
RNHM2-1420L/R/TY-J1(-B)-5~30	2	5.83	3.86	19.84	6.57	63	22.28	6.57	72
RNHM02-1430L/R/TY-J1(-B)-80~240	1/4	5.04	—	15.12	4.88	47	6.89	4.88	50
RNHM03-1430L/R/TY-J1(-B)-80~240	1/3	5.04	—	15.91	4.88	50	17.17	4.88	52
RNHM05-1430L/R/TY-J1(-B)-80~240	1/2	5.04	—	15.91	4.88	50	17.17	4.88	52
RNHM01-1440L/R/TY-J1(-B)-300~1440	1/8	5.04	—	14.92	4.69	46	16.30	4.88	50
RNHM02-1440L/R/TY-J1(-B)-300~1440	1/4	5.04	—	16.57	4.88	49	17.83	4.88	52
RNHM1-1520L/R/TY-J1(-B)-40~60	1	5.63	3.66	19.61	6.10	83	7.68	6.10	87
RNHM1H-1520L/R/TY-J1(-B)-40~60	1.5	5.83	3.58	21.02	6.57	89	23.46	6.57	98
RNHM2-1520L/R/TY-J1(-B)-5~60	2	5.83	3.58	21.02	6.57	94	23.46	6.57	103
RNHM3-1520L/R/TY-J1(-B)-5~30	3	6.10	3.78	21.77	7.09	100	24.25	7.09	111
RNHM05-1530L/R/TY-J1(-B)-80~240	1/2	5.04	—	17.20	4.88	76	18.46	4.88	78
RNHM08-1530L/R/TY-J1(-B)-80~240	3/4	5.63	3.78	19.61	6.10	78	21.30	6.10	83
RNHM1-1530L/R/TY-J1(-B)-80~240	1	5.63	3.78	19.61	6.10	80	21.30	6.10	87
RNHM1-1531L/R/TY-J1(-B)-80	1	5.63	3.78	19.61	6.10	83	21.30	6.10	87
RNHM1H-1531L/R/TY-J1(-B)-80	1.5	5.83	3.98	20.79	6.57	89	23.23	6.57	98
RNHM2-1531L/R/TY-J1(-B)-40~80	2	5.83	3.98	20.79	6.57	91	23.23	6.57	100
RNHM3-1531L/R/TY-J1(-B)-40~60	3	6.10	4.21	21.57	7.09	100	24.06	7.09	111
RNHM02-1540L/R/TY-J1(-B)-300~1440	1/4	5.04	—	18.31	4.88	79	19.57	4.88	82
RNHM03-1540L/R/TY-J1(-B)-300~1440	1/3	5.04	—	19.09	4.88	83	20.35	4.88	86
RNHM05-1540L/R/TY-J1(-B)-300~1440	1/2	5.04	—	19.09	4.88	83	20.35	4.88	86

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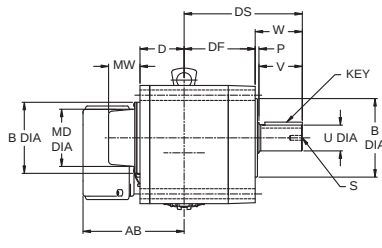
Options

Plug-in Shaft with Extended Flange

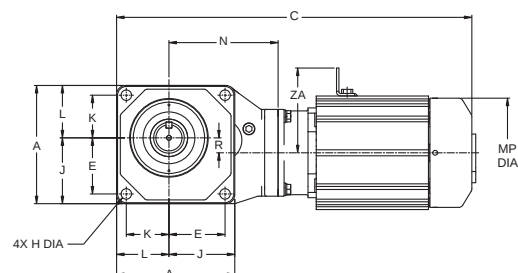
Frame Size 1100 ~ 1500



R



L



All dimensions are in inches.

Model	A	B min	B max	K	L	E	J	R	H	D	DF	P	DS	N	MD	MW
1120L/RYP1/Q1	3.54	2.361	2.362	1.26	1.57	1.65	1.97	0.79	0.26	1.30	2.50	0.12	3.80	3.23	2.20	0.79
1220L/RYP1/Q1	4.53	3.345	3.346	1.57	1.93	2.24	2.60	1.10	0.35	1.46	3.25	0.12	4.86	3.78	2.32	1.26
1230L/RYP1/Q1	5.00	3.345	3.346	1.57	2.01	2.56	2.99	0.51	0.35	1.61	2.50	0.12	4.11	3.74	2.32	1.26
1320L/RYP1/Q1	5.20	3.699	3.701	1.81	2.28	2.44	2.91	1.08	0.43	1.81	3.48	0.12	5.33	4.69	2.64	1.26
1330L/RYP1/Q1	5.98	3.699	3.701	1.85	2.36	3.11	3.62	0.43	0.43	1.81	2.50	0.12	4.35	4.25	2.64	1.26
1340L/RYP1/Q1	5.98	3.699	3.701	1.85	2.36	3.11	3.62	0.35	0.43	1.81	2.50	0.12	4.35	5.16	2.64	1.26
1420L/RYP1/Q1	6.22	4.132	4.134	2.24	2.76	2.95	3.46	0.79	0.55	2.32	3.74	0.12	6.22	5.75	3.03	1.65
1430L/RYP1/Q1	7.01	4.132	4.134	2.13	2.76	3.62	4.25	0.55	0.55	2.32	3.25	0.12	5.73	5.12	3.03	1.65
1440L/RYP1/Q1	7.01	4.132	4.134	2.13	2.76	3.62	4.25	0.43	0.55	2.32	3.25	0.12	5.73	6.42	3.03	1.65
1520L/RYP1/Q1	7.01	4.723	4.724	2.76	3.31	3.15	3.70	1.10	0.55	2.68	3.74	0.12	7.17	7.01	3.54	1.65
1530/31/L/RYP1/Q1	8.39	4.723	4.724	2.52	3.31	4.29	5.08	0.67	0.71	2.68	3.74	0.12	7.17	6.18	3.54	1.65
1540L/RYP1/Q1	8.39	4.723	4.724	2.52	3.31	4.29	5.08	0.55	0.71	2.68	3.74	0.12	7.17	7.76	3.54	1.65

Model	Output Shaft					
	U min	U max	W	V	S	Key H
1120L/RYP1/Q1	0.749	0.750	1.30	1.10	10-32 UNF x 0.630	3/16 x 3/16
1220L/RYP1/Q1	0.999	1.000	1.61	1.42	5/16-18 UNC x 0.630	1/4 x 1/4
1230L/RYP1/Q1	0.999	1.000	1.61	1.42	5/16-18 UNC x 0.630	1/4 x 1/4
1320L/RYP1/Q1	1.249	1.250	1.85	1.65	5/16-18 UNC x 0.630	1/4 x 1/4
1330L/RYP1/Q1	1.249	1.250	1.85	1.65	5/16-18 UNC x 0.630	1/4 x 1/4
1340L/RYP1/Q1	1.249	1.250	1.85	1.65	5/16-18 UNC x 0.630	1/4 x 1/4
1420L/RYP1/Q1	1.374	1.375	2.48	2.28	5/16-18 UNC x 0.630	5/16 x 5/16
1430L/RYP1/Q1	1.374	1.375	2.48	2.28	5/16-18 UNC x 0.630	5/16 x 5/16
1440L/RYP1/Q1	1.374	1.375	2.48	2.28	5/16-18 UNC x 0.630	5/16 x 5/16
1520L/RYP1/Q1	1.749	1.750	3.43	3.23	3/8-16 UNC x 0.709	3/8 x 3/8
1530/31/L/RYP1/Q1	1.749	1.750	3.43	3.23	3/8-16 UNC x 0.709	3/8 x 3/8
1540L/RYP1/Q1	1.749	1.750	3.43	3.23	3/8-16 UNC x 0.709	3/8 x 3/8

Plug-in Shaft with Extended Flange

Frame Size 1100 ~ 1500 (cont.)

All dimensions are in inches.

Standard Three-Phase Motor

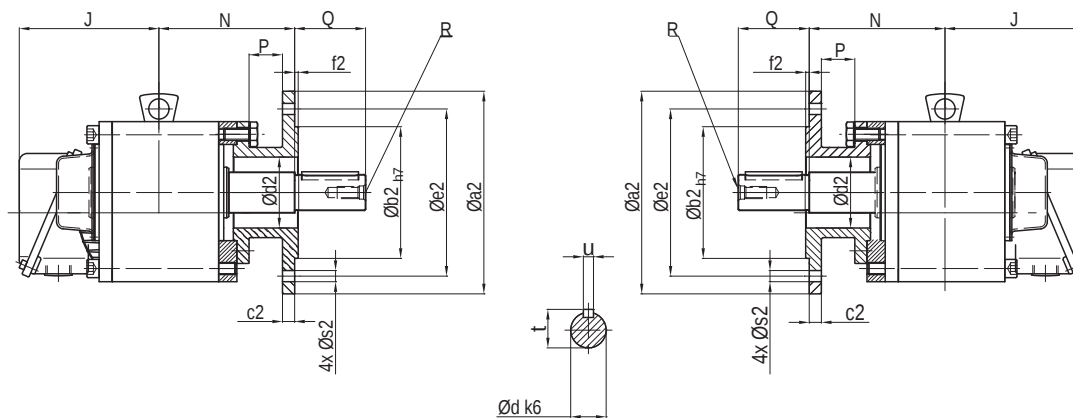
Model	HP	AB	ZA	Motor			Brakemotor		
				C	MP	Wt. (lbs.)	C	MP	Wt. (lbs.)
RNFM01-1120L/RV-P1/Q1(-B)-5~60	1/8	5.04	-	10.55	4.69	15	11.93	4.88	19
RNFM02-1120L/RV-P1/Q1(-B)-5~30	1/4	5.04	-	12.20	4.88	18	13.46	4.88	21
RNFM01-1220L/RV-P1/Q1(-B)-40~60	1/8	5.04	-	11.46	4.69	20	12.83	4.88	23
RNFM02-1220L/RV-P1/Q1(-B)-5~60	1/4	5.04	-	13.11	4.88	23	14.37	4.88	26
RNFM03-1220L/RV-P1/Q1(-B)-5~30	1/3	5.04	-	13.90	4.88	25	15.16	4.88	29
RNFM05-1220L/RV-P1/Q1(-B)-5~30	1/2	5.04	-	13.90	4.88	25	15.16	4.88	29
RNFM01-1230L/RV-P1/Q1(-B)-80~240	1/8	5.04	-	11.50	4.69	20	12.87	4.88	23
RNFM02-1320L/RV-P1/Q1(-B)-40~60	1/4	5.04	-	14.21	4.88	28	15.47	4.88	30
RNFM03-1320L/RV-P1/Q1(-B)-40~60	1/3	5.04	-	15.00	4.88	30	16.26	4.88	34
RNFM05-1320L/RV-P1/Q1(-B)-5~60	1/2	5.04	-	15.00	4.88	30	16.26	4.88	34
RNFM08-1320L/RV-P1/Q1(-B)-5~30	3/4	5.63	3.41	16.65	6.10	34	18.35	6.10	41
RNFM1-1320L/RV-P1/Q1(-B)-5~30	1	5.63	3.41	16.65	6.10	39	18.35	6.10	43
RNFM01-1330L/RV-P1/Q1(-B)-80~240	1/8	5.04	-	12.36	4.69	24	13.74	4.88	26
RNFM02-1330L/RV-P1/Q1(-B)-80~240	1/4	5.04	-	14.02	4.88	26	15.28	4.88	29
RNFM01-1340L/RV-P1/Q1(-B)-300~1440	1/8	5.04	-	13.27	4.69	26	14.65	4.88	29
RNFM05-1420L/RV-P1/Q1(-B)-40~60	1/2	5.04	-	16.22	4.88	40	17.48	4.88	42
RNFM08-1420L/RV-P1/Q1(-B)-40~60	3/4	5.63	3.66	18.66	6.10	44	20.35	6.10	49
RNFM1-1420L/RV-P1/Q1(-B)-5~60	1	5.63	3.66	18.66	6.10	46	20.35	6.10	51
RNFM1H-1420L/RV-P1/Q1(-B)-5~30	1.5	5.83	3.86	19.84	6.57	53	22.28	6.57	62
RNFM2-1420L/RV-P1/Q1(-B)-5~30	2	5.83	3.86	19.84	6.57	55	22.28	6.57	64
RNFM02-1430L/RV-P1/Q1(-B)-80~240	1/4	5.04	-	15.12	4.88	40	16.38	4.88	42
RNFM03-1430L/RV-P1/Q1(-B)-80~240	1/3	5.04	-	15.91	4.88	42	17.17	4.88	44
RNFM05-1430L/RV-P1/Q1(-B)-80~240	1/2	5.04	-	15.91	4.88	42	17.17	4.88	44
RNFM01-1440L/RV-P1/Q1(-B)-300~1440	1/8	5.04	-	14.92	4.69	39	16.30	4.88	42
RNFM02-1440L/RV-P1/Q1(-B)-300~1440	1/4	5.04	-	16.57	4.88	41	17.83	4.88	44
RNFM1-1520L/RV-P1/Q1(-B)-40~60	1	5.63	3.66	19.61	6.10	66	21.30	6.10	71
RNFM1H-1520L/RV-P1/Q1(-B)-40~60	1.5	5.83	3.58	21.02	6.57	73	23.46	6.57	82
RNFM2-1520L/RV-P1/Q1(-B)-5~60	2	5.83	3.58	21.02	6.57	77	23.46	6.57	86
RNFM3-1520L/RV-P1/Q1(-B)-5~30	3	6.10	3.78	21.77	7.09	84	24.25	7.09	95
RNFM05-1530L/RV-P1/Q1(-B)-80~240	1/2	5.04	-	17.20	4.88	63	18.46	4.88	65
RNFM08-1530L/RV-P1/Q1(-B)-80~240	3/4	5.63	3.78	19.61	6.10	65	21.30	6.10	69
RNFM1-1530L/RV-P1/Q1(-B)-80~240	1	5.63	3.78	19.61	6.10	67	21.30	6.10	74
RNFM1-1531L/RV-P1/Q1(-B)-80	1	5.63	3.78	19.61	6.10	69	21.30	6.10	74
RNFM1H-1531L/RV-P1/Q1(-B)-80	1.5	5.83	3.98	20.79	6.57	76	23.23	6.57	85
RNFM2-1531L/RV-P1/Q1(-B)-40~80	2	5.83	3.98	20.79	6.57	78	23.23	6.57	87
RNFM3-1531L/RV-P1/Q1(-B)-40~60	3	6.10	4.21	21.57	7.09	87	24.06	7.09	98
RNFM02-1540L/RV-P1/Q1(-B)-300~1440	1/4	5.04	-	18.31	4.88	66	19.57	4.88	68
RNFM03-1540L/RV-P1/Q1(-B)-300~1440	1/3	5.04	-	19.09	4.88	69	20.35	4.88	73
RNFM05-1540L/RV-P1/Q1(-B)-300~1440	1/2	5.04	-	19.09	4.88	69	20.35	4.88	73

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Options

Metric Flange

Frame Size 1120 ~ 1531



All dimensions are in mm.

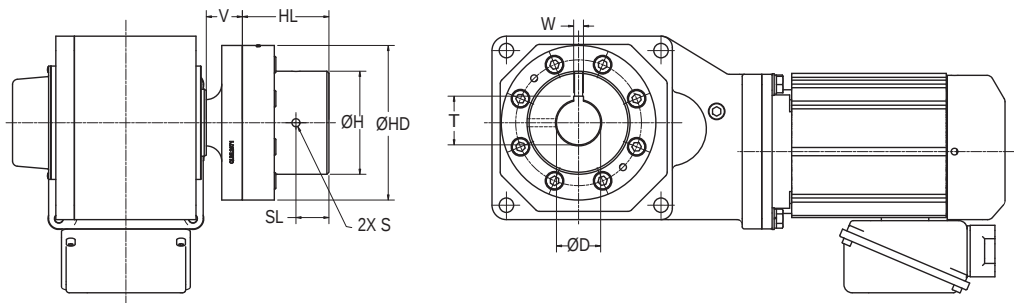
Size	HP	a2	b2	c2	d2	e2	f2	s2	J	N	d k6	P	Q	R	t	u
1120	1/8 1/4	120	80	8	38	100	3	6.6	128	81	20	22	40	M6x15	22.5	6
1220	1/8 1/4 1/3 1/2	120	80	8	55	100	3	6.6	128	87	25	22	50	M10x22	28	8
1320	1/4 1/3 1/2 3/4 1	160	110	10	60	130	3.5	9	128 128 128 138 138	111	30	30	60	M210x22	33	8
1420	1/2 3/4 1 1.5 2	200	130	12	70	165	3.5	11	128 138 138 143 143	134	35	33	70	M12x28	38	10
1520	1 1.5 2 3	250	180	15	85	215	4	13.5	138 143 143 150	167	40	51	80	M12x28	43	12
1521	3 5	250	180	15	85	215	4	13.5	150 166	167	40	51	80	M12x28	43	12
1522	5 7.5	250	180	15	85	215	4	13.5	166	167	40	51	80	M12x28	43	12
1230	1/8	120	80	8	55	100	3	6.6	128	91	25	22	50	M10x22	28	8
1330	1/8 1/4	160	110	10	60	130	3.5	9	128	111	30	30	60	M10x22	33	8
1430	1/4 1/3 1/2	200	130	12	70	165	3.5	11	128	134	35	33	70	M12x28	38	10
1530	1/2 3/4 1	250	180	15	85	215	4	13.5	128 138 138	169	40	49	80	M12x28	43	12
1531	1 1.5 2 3	250	180	15	85	215	4	13.5	138 143 143 150	169	40	49	80	M12x28	43	12

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Options

Flange Shaft

Frame Size 1420 ~ 1531



All dimensions are in inches.

Model	H	HD	HL	SL	V
1420Y 1520Y 1530Y 1531Y	3.94	5.91	3.31	1.26	1.38

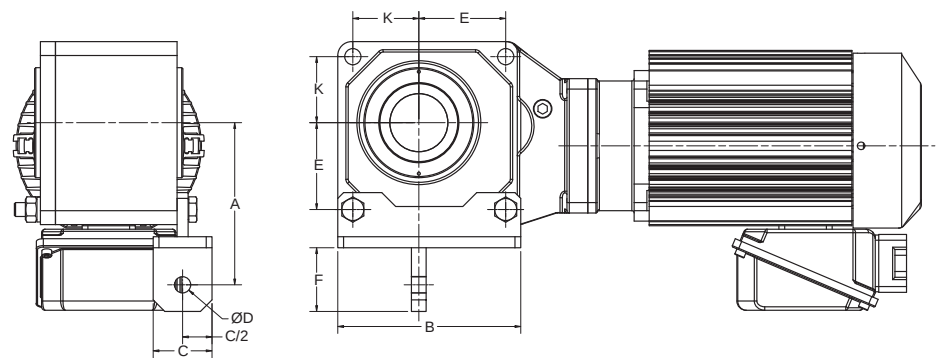
Shaft Diameter	D		S	T		W	
1-3/8	1.375	0.0015 -0	1/4"-20UNC	1.518	+0.010 -0.000	0.3125	+0.002 -0.000
1-7/16	1.4375	0.0015 -0	5/16"-18UNC	1.605	+0.010 -0.000	0.3750	+0.002 -0.000
1-11/16	1.6875	0.0015 -0	5/16"-18UNC	1.859	+0.010 -0.000	0.3750	+0.002 -0.000
1-15/16	1.9375	0.0015 -0	3/8"-16UNC	2.160	+0.010 -0.000	0.5000	+0.002 -0.000

Hyponic®

Options

T-Type Torque Arm

Frame Size 1420 ~ 1531



All dimensions are in inches.

Model	A	B	C	ØD	E	F	G
1420Y	5.51	6.22	2.00	0.55	2.95	2.17	2.24
1520Y	5.67	7.00	2.00	0.55	3.15	2.28	2.76
1530Y	7.83	8.39	2.50	0.71	4.29	2.76	2.52
1531Y	7.83	8.39	2.50	0.71	4.29	2.76	2.52

Hyponic®

Options

Shrink Disk

A shrink disc provides a reliable, keyless, high-strength connection to the driven shaft with zero backlash. It is ideal for applications that typically require an interference between the shaft and hollow bore. Sumitomo strongly recommends a shrink disc for applications involving frequent starts per hour.

When ordering, use the **Special Specification Code R61** for right side (when viewed from the motor end), or **R62** for left side (when viewed from the motor end).

The user shaft should conform to JIS h6 tolerances. Shafts outside that range may not develop sufficient clamping force. The shaft surface finish should be between 63 to 125 micro-inches RMS.

Shrink Disc Availability:

Not available for 5:1 ratio, frame sizes 1120~1521.

Not available for 10:1 ratio, frame sizes 1630 to 1633.

Table 4.1 Shrink Disc Availability

Symbols: ● Standard ○ Option

Bore Size (in.)	Shaft Tolerance (JIS h6)	Frame Size												
		1120	1220	1230	1320	1330 1340	1420	1430	1440	1520 1521 1522	1530 1540	1531	1630 1632 1633 1634	1631 1640
3/4	+0.0000 -0.0051	●	○											
13/16	+0.0000 -0.0051		○											
7/8	+0.0000 -0.0051		○	○	○									
15/16	+0.0000 -0.0051		○	○	○									
1	+0.0000 -0.0051		●	●	○									
1-1/8	+0.0000 -0.0051				○	○	○							
1-3/16	+0.0000 -0.0063				○	○	○	○	○					
1-1/4	+0.0000 -0.0063				●	●	○	○	○	○				
1-5/16	+0.0000 -0.0063						○	○	○	○		○		
1-3/8	+0.0000 -0.0063						●	●	●	○	○	○		
1-7/16	+0.0000 -0.0063							○		○	○	○		
1-1/2	+0.0000 -0.0063									●	●	●		
1-5/8	+0.0000 -0.0063									○	○	○		
1-11/16	+0.0000 -0.0063									○	○	○		
1-3/4	+0.0000 -0.0063									○	○	○	○	
1-7/8	+0.0000 -0.0063												○	
1-15/16	+0.0000 -0.0063												○	
2	+0.0000 -0.0075												●	●
2-1/16	+0.0000 -0.0075												○	○
2-1/8	+0.0000 -0.0075												○	○
2-3/16	+0.0000 -0.0075												○	○

Hyponic®

Options

Food Industry Option Packages

Four **food-grade packages** are available for use in machinery where there is incidental food contact.

When ordering, choose the **Special Specification Code (SSC)** that meets your requirements to obtain the features listed below.

Table 4.2 Available Food Industry Option Packages

Feature	SSC-YBA0 High Pressure Washdown	SSC-YBA1 Food-Grade	SSC-YBA3 Food-Grade and High Pressure Washdown
DuPont Alesta Silver Freeze AM Antimicrobial powder-coating	X	X	X
Harsh Duty FKM Antimicrobial Seal	X		X
Stainless Steel Nameplate	X		X
Stainless Steel or Plated Hardware	X		X
Stainless Steel Shaft and Key	X		X
NSF H1 Synthetic Lubricant		X	X
Less Lifting Lug		X	X

Stainless Steel Hollow Shaft - ratings with stainless steel hollow shaft are the same as those listed in this catalog for standard models

Stainless Steel Solid Shaft - maximum torque ratings with standard solid shaft diameters are the same as those listed in this catalog for standard models. Consult the factory when ordering smaller than standard diameters, or if there will be overhung load.

Stainless Output Shaft Availability:

Not available for 5:1 ratio, frame sizes 1120~1521.

Not available for 10:1 ratio, frame sizes 1630 to 1633.

5

Appendix

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Appendix

Shaft Dimensions

Symbols: ● Standard ○ Semi-standard
Consult factory for price and delivery.

Table 5.1 Hollow Shaft Dimensions (in.)

Bore Size (in.)	Frame Size					
	1120	1220 1230	1320 1330 1340	1420 1430 1440	1520 1521 1522 1530 1531 1540	1630 1631 1632 1633 1634 1640
3/4	●	○	○			
13/16		○	○			
7/8		○	○			
15/16		○	○			
1		●	○	○	○	
1-1/8			○	○	○	
1-3/16			○	○	○	
1-1/4			●	○	○	
1-5/16				○	○	
1-3/8				●	○	
1-7/16				○ ^[1]	○	
1-1/2					●	
1-5/8					○	○
1-11/16					○	○
1-3/4					○	○
1-7/8						○
1-15/16						○
2						●
2-1/16						○
2-1/8						○
2-3/16						○

Notes: [1] Special maximum bore size for frame size 1430 is 1-7/16"; maximum bore size for frame sizes 1420 and 1440 is 1-3/8".
[2] Standard shaft dimension for T-type.
[3] Plug-in shaft only, not available with foot.

Table 5.2 Hollow Shaft Optional Metric Bore Dimensions (mm)

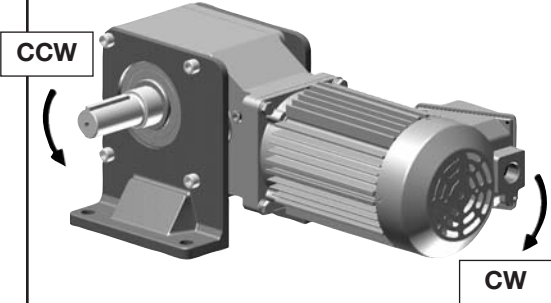
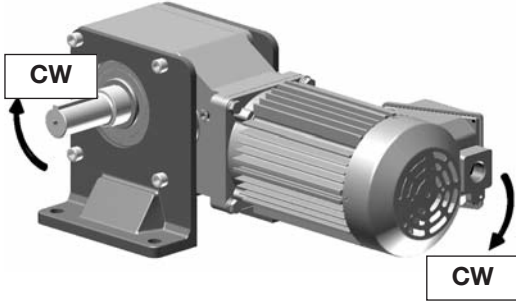
Bore Size (mm)	Frame Size						
	1120	1220 1230	1320 1330 1340	1420 1440	1430	1520 1521 1522 1530 1531 1540	1630 1631 1632 1633 1634 1640
20	●	○	○				
25		●	○	○	○		
30			●	○	○	○	
35				●	●	○	
38					○	○	
40						○	○
45						●	○
50							○
55							●

Table 5.3 Solid Shaft Dimensions (in.)

Bore Size (in.)	Frame Size					
	1120	1220 1230	1320 1330 1340	1420 1430 1440	1520 1521 ^[2] 1522 ^[2] 1530 1531 1540	1630 1631 1632 1633 1640
3/4	●					
1		●				
1-1/4			●			
1-5/16						
1-3/8				●		
1-7/16						
1-1/2					● ^[2]	
1-3/4					●	
2						● ^[3]

Shaft Rotation

Table 5.4 Shaft Rotation Direction

Figure 5.1 		Figure 5.2 	
Model	Reduction Ratio (:1)	Model	Reduction Ratio (:1)
1120	5, 7, 10, 12, 15, 20, 25, 30, 40, 50, 60	1120	—
1220	5, 7, 10, 12, 15, 20, 25, 30, 40, 50, 60	1220	—
1230	—	1230	80, 100, 120, 150, 200, 240
1320	5, 7, 10, 12, 15, 20, 25, 30, 40, 50, 60	1320	—
1330	—	1330	80, 100, 120, 150, 200, 240
1340	300, 360, 480, 600, 720, 900, 1200, 1440	1340	—
1420	5, 7, 10, 12, 15, 20, 25, 30, 40, 50, 60	1420	—
1430	—	1430	80, 100, 120, 150, 200, 240
1440	300, 360, 480, 600, 720, 900, 1200, 1440	1440	—
1520	5, 7, 10, 12, 15, 20, 25, 30, 40, 50, 60	1520	—
1521	5, 7, 10, 12, 15, 20, 25	1521	—
1522	5, 7, 10, 12, 15	1522	—
1530	—	1530	80, 100, 120, 150, 200, 240
1531	—	1531	40, 50, 60, 80
1540	300, 360, 480, 600, 720, 900, 1200, 1440	1540	—
1630	10, 12, 15, 20, 25, 30, 40, 50	1630	60, 80, 100, 120
1631	—	1631	150, 200, 240
1632	10, 12, 15, 20, 25, 30	1632	40, 50, 60
1633	20, 25	1633	30, 40
1634	5, 7, 10, 12, 15	1634	20, 25
1640	300, 360, 480, 600, 720, 900, 1200, 1440	1640	—

Actual Reduction Ratio

Table 5.5 Actual Reduction Ratios for Nominal Ratios 5 ~ 240

Model	Nominal Ratio (:1)																
	5	7	10	12	15	20	25	30	40	50	60	80	100	120	150	200	240
1120	5.00	7.03	9.81	11.74	15.26	20.67	24.62	30.00	41.33	49.23	60.00						
1220	5.00	7.03	9.81	11.74	15.26	20.67	24.62	30.00	41.33	49.23	60.00						
1230												81.45	101.01	120.15	151.51	200.39	231.27
1320	5.00	7.03	9.81	11.74	15.26	20.67	24.62	30.00	41.33	49.23	60.00						
1330												81.94	102.27	122.54	153.40	199.13	232.50
1420	5.00	6.97	10.00	11.96	14.75	19.69	25.00	30.45	39.38	50.00	60.91						
1430												80.37	102.35	122.64	153.52	199.29	240.00
1520	5.00	7.03	9.81	11.74	15.26	20.67	24.62	30.00	41.33	49.23	60.00						
1521	5.00	7.03	9.81	11.74	15.26	20.67	24.62										
1522	5.06	7.00	10.00	12.21	15.25												
1530												79.63	101.32	119.17	149.65	188.57	232.25
1531									39.20	49.88	57.60	77.42					
1630			10.23	12.00	14.72	20.69	24.80	29.13	41.76	48.67	58.80	80.50	102.94	119.00			
1631															154.41	195.42	244.07
1632			10.31	12.47	14.48	20.39	24.15	29.24	41.16	49.00	56.35	83.30					
1633						20.88	24.33	29.40	40.25	51.47	59.50						
1634	4.90	7.13	10.02	11.97	15.09	20.07	25.29										

Table 5.6 Actual Reduction Ratios for Nominal Ratios 300 ~ 1440

Model	Nominal Ratio (:1)							
	300	360	480	600	720	900	1200	1440
1340	302.72	360.10	479.79	595.00	707.78	892.50	1180.45	1382.22
1440	301.12	360.81	498.18	621.72	744.97	932.59	1210.57	1413.28
1540	311.59	373.36	502.52	602.13	753.78	903.20	1194.57	1403.08
1640	297.68	350.10	475.66	605.28	711.87	907.91	1144.07	1396.15

Hyponic®

Special Load Guidelines Overhung Load

Reducer/Gearmotor Allowable Overhung Load

When a sprocket, sheave, or gear is mounted on the shaft of a reducer, an overhung load is applied on that shaft. It is necessary to check if the shaft of the Hyponic® Speed Reducer will allow the overhung load. Calculate the overhung load using this formula:

$$\text{Overhung Load} = \frac{126,000 \times \text{HP} \times \text{Cf} \times \text{Lf} \times \text{Sf}}{\text{D} \times \text{N}}$$

LEGEND

- HP:** Horsepower transmitted by shaft
Cf: Load connection factor (Table 5.7)
Lf: Load location factor (Tables 5.9 and 5.10 Input Shaft; Fig. 5.3 Input Shaft)
Sf: Service factor (Determine from Table 5.8 and "How to Select," pages 2.2, Reducers and 3.4, Gearmotors)
D: Pitch diameter of sprocket, etc.
N: Shaft speed (rpm)

Table 5.7 Load Connection Factor

Type of Connection	Cf
General Purpose Chain	1.0
Machined Gear, Pinion or Synchronous Belt	1.25
V-Belt	1.5
Flat Belt	2.5

Table 5.8 Service Factor

Shock Factor	Sf
No Shock	1.0
Moderate Shock	1.5
Heavy Shock	2.0

Table 5.9 RNFM-X1, RNHM-J1 Slow Speed Shaft Load Location Factor (Lf)

Model ^[1]	L (in.)									
	1/2	3/4	1	1-1/4	1-1/2	1-3/4	2	2-1/4	2-1/2	2-3/4
1120	1.05	1.18	1.25	1.32	1.38	1.44	1.51	1.57	1.67	1.80
1220/30/40	1.13	1.19	1.25	1.32	1.38	1.44	1.51	1.57	1.64	1.70
1320/30/40	1.13	1.19	1.25	1.32	1.38	1.44	1.51	1.57	1.64	1.70
1420/30/40	1.13	1.19	1.25	1.30	1.30	1.34	1.41	1.47	1.54	1.60
1520/21/22	1.13	1.19	1.25	1.30	1.30	1.34	1.41	1.47	1.54	1.60
1530/31/40	1.28	1.47	1.66	1.85	2.04	2.23	2.43	2.69	2.91	3.10
1630/31/32/33/40	1.00	1.00	1.05	1.10	1.10	1.14	1.20	1.20	1.24	1.30

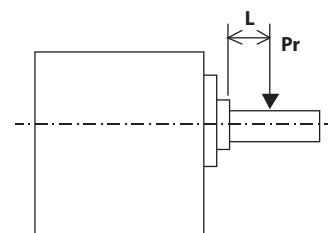


Figure 5.3

Table 5.10 RNFM-P1, Q1 Slow Speed Shaft Load Location Factor (Lf)

Model	L (in.)									
	1/2	3/4	1	1-1/4	1-1/2	1-3/4	2	2-1/4	2-1/2	2-3/4
1120	1.24	1.32	1.39	1.47	1.55	1.62	1.70	1.77	1.85	1.93
1220	1.37	1.44	1.51	1.58	1.65	1.72	1.79	1.85	1.92	1.99
1230	1.11	1.18	1.25	1.31	1.38	1.44	1.51	1.57	1.64	1.70
1320	1.29	1.35	1.41	1.47	1.53	1.59	1.65	1.71	1.77	1.83
1330/40	1.06	1.12	1.18	1.24	1.30	1.36	1.42	1.48	1.54	1.60
1420	1.18	1.23	1.28	1.33	1.38	1.43	1.48	1.52	1.57	1.62
1430/40	1.09	1.13	1.18	1.23	1.28	1.33	1.38	1.42	1.47	1.52
1520	1.10	1.14	1.19	1.23	1.27	1.31	1.36	1.40	1.47	1.56
1530/31/40	1.14	1.29	1.48	1.68	1.88	2.08	2.28	2.47	2.67	2.87

Note: [1] Please refer to the **Options** section in this catalog for the availability of feet.

Special Load Guidelines Inertia

Table 5.11 Gearmotor Moment of Inertia Units: pound-inch²

Motor Type		Motor HP												
		1/8	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5	7-1/2	10	15
3-Phase	Without Brake	1.13	1.71	2.22	2.22	3.45	4.10	6.32	7.28	11.40	29.0	39.0	91.60	128.0
	With Brake	1.20	1.88	2.32	2.32	3.79	4.44	7.11	8.03	12.70	32.70	42.70	104.0	140.0
Inverter Duty	Without Brake	1.71	2.22	2.22	4.10	6.32	7.28	11.40	11.40	29.0	39.0	91.60	128.0	–
	With Brake	1.88	2.32	2.32	4.44	7.11	8.03	12.70	12.70	32.70	42.70	104.0	140.0	–

Table 5.12 Reducer Moment of Inertia, Ratios 5 ~ 240 Units: lbf-inch²

Model	Reduction Ratio																
	5	7	10	12	15	20	25	30	40	50	60	80	100	120	150	200	240
1120	0.149	0.145	0.143	0.143	0.142	0.142	0.141	0.141	0.134	0.134	0.134	–	–	–	–	–	–
1220	0.216	0.200	0.194	0.192	0.190	0.189	0.188	0.188	0.168	0.168	0.168	–	–	–	–	–	–
1230	–	–	–	–	–	–	–	–	–	–	–	0.135	0.135	0.135	0.134	0.134	0.134
1320	0.351	0.336	0.323	0.317	0.310	0.304	0.302	0.300	0.238	0.238	0.237	–	–	–	–	–	–
1330	–	–	–	–	–	–	–	–	–	–	–	0.169	0.168	0.168	0.166	0.166	0.166
1420	0.647	0.607	0.566	0.553	0.540	0.525	0.515	0.510	0.367	0.364	0.363	–	–	–	–	–	–
1430	–	–	–	–	–	–	–	–	–	–	–	0.239	0.238	0.238	0.186	0.185	0.185
1520	2.977	2.840	2.743	2.704	2.656	2.616	2.599	2.582	2.009	2.008	2.004	–	–	–	–	–	–
1521	2.977	2.840	2.743	2.704	2.656	2.616	2.599	–	–	–	–	–	–	–	–	–	–
1522	2.977	2.840	2.743	2.704	2.656	2.616	–	–	–	–	–	–	–	–	–	–	–
1530	–	–	–	–	–	–	–	–	–	–	–	0.369	0.366	0.365	0.337	0.336	0.336
1531	–	–	–	–	–	–	–	–	1.135	1.135	1.135	1.135	–	–	–	–	–
1630	–	–	4.723	4.500	4.493	4.378	4.331	4.308	4.252	4.238	4.251	4.223	4.211	4.205	–	–	–
1631	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4.090	4.089	4.085
1632	–	–	5.238	5.115	5.002	4.859	4.807	4.746	4.743	4.706	4.686	–	–	–	–	–	–

Table 5.12 Reducer Moment of Inertia, Ratios 300 ~ 1440 Units: lbf-inch²

Model	Reduction Ratio							
	300	360	480	600	720	900	1200	1440
1340	0.135	0.134	0.135	0.135	0.134	0.134	0.134	0.134
1440	0.168	0.168	0.168	0.168	0.168	0.166	0.166	0.166
1540	0.238	0.237	0.238	0.237	0.186	0.186	0.185	0.185
1640	0.366	0.365	0.368	0.365	0.364	0.337	0.336	0.336

Construction & Nameplate

Construction

Figure 5.4 Hollow Shaft Type Example (RNYM1-1530-120)

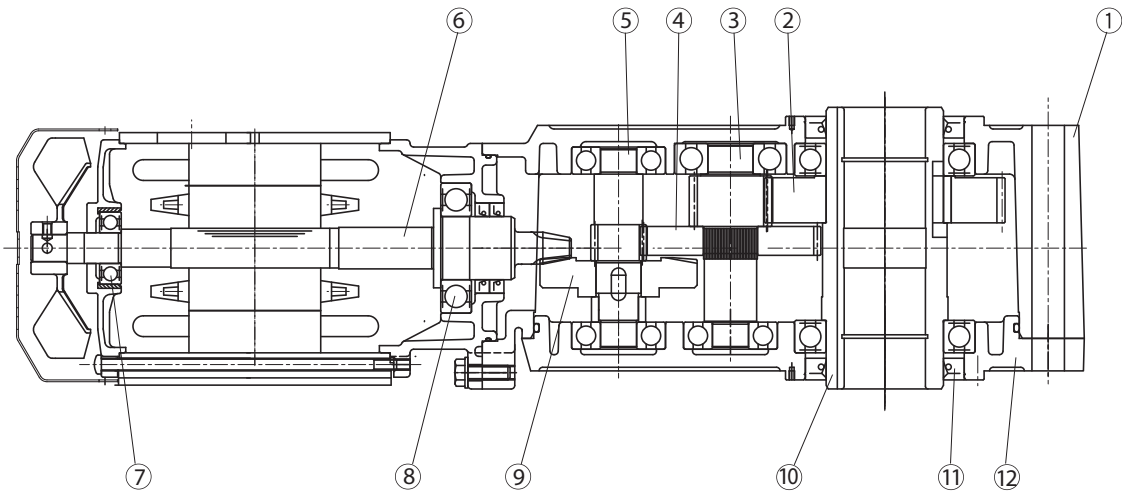


Table 5.13 Hollow Shaft Type Parts

Part No.	Description	Part No.	Description	Part No.	Description	Part No.	Description
1	Casing (1)	4	Gear	7	Bearing	10	Output shaft
2	Gear	5	Pinion shaft	8	Bearing	11	Oil seal
3	Pinion shaft	6	Hypoid pinion shaft	9	Hypoid gear	12	Casing (2)

Nameplate

Figure 5.5

Gearmotor Model

Input Power

Output Speed

Manufacturing
Serial No.

SM-HYPONIC

CHESAPEAKE, VIRGINIA

MODEL

MOTOR H.P.

OUTPUT R.P.M.

SERIAL NO.

CLASS

RATIO

DATE

MEMBER OF

AGMA

SUMITOMO

MACHINERY CORPORATION OF AMERICA

OMPA7518

AGMA Class

Reduction Ratio

Date Manufactured

Mounting

1. Mounting the Shaft in the Hollow Bore

- After coating the shaft and the reducer hollow bore with molybdenum disulfide, insert the shaft into the bore.
- A clearance fit is standard. A tight fit is recommended for severe applications. For tight-fit applications, tap the end of the hollow shaft with a rubber mallet to aid insertion into the bore. Using fixtures b - e shown in Figure 5.6 is also recommended for easy assembly.

Figure 5.6 Driven Shaft Mounting

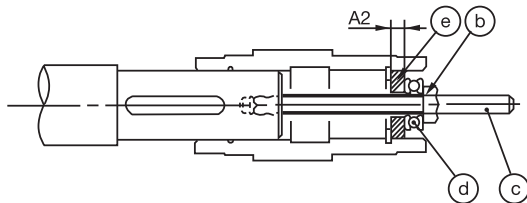
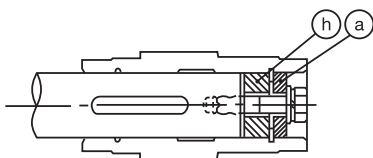


Figure 5.8 Secured by Spacer



2. Securing the Shaft in the Hollow Bore

- Refer to Figure 5.7 and Table 5.14 for details on securing a staged shaft.
 - Refer to Figure 5.8 and Table 5.14 for details on securing a straight shaft using a spacer.
- 3. Shaft Removal** - Fixtures i - k shown in Figure 5.9 are recommended for easy removal of the shaft. The shaft should be designed to allow use of these fixtures.

Figure 5.7 Secured by Staged Driven Shaft

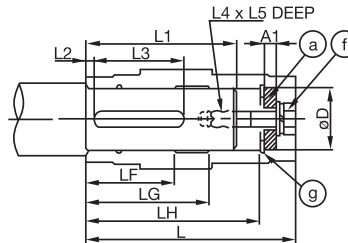


Figure 5.9 Driven Shaft Removal

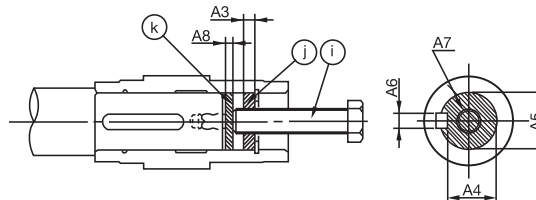


Table 5.14 Driven Shaft Mounting and Removal Detail (in.)

Model	Bore Size ^[1]						Recommended Shaft Size					Recommended Component Size ^[2]			
	øD min.	øD max.	L	LH	LG	LF	L1	L2	L3	L4	L5	a A1	b Nut	c Thread	d Thrust Bearing
1120	0.750	0.751	3.23	2.64	2.01	1.22	2.36	0.16	1.37	#10-32UNF	0.63	0.20	#10-32UNF	#10-32UNF x 5.91	51100
1220	1.000	1.001	3.62	2.76	2.13	1.50	2.36	0.28	1.98	5/16-18UNC	0.79	0.28	5/16-18UNC	5/16-18UNC x 5.91	51100
1230	1.000	1.001	3.94	3.07	2.44	1.50	2.68	0.28	1.98	5/16-18UNC	0.79	0.28	5/16-18UNC	5/16-18UNC x 5.91	51100
1320/30/40	1.250	1.252	4.33	3.46	2.52	1.81	2.80	0.28	2.10	5/16-18UNC	0.79	0.28	5/16-18UNC	5/16-18UNC x 5.91	51100
1420/30/40	1.375	1.377	5.43	4.41	3.39	2.05	3.66	0.39	2.32	3/8-16UNC	0.98	0.31	3/8-16UNC	3/8-16UNC x 9.45	51201
1520/21/22/30/31/40	1.500	1.502	6.14	5.12	3.86	2.28	4.09	0.39	3.49	1/2-13UNC	1.18	0.39	1/2-13UNC	1/2-13UNC 9.45	51202
1630/31/32/33/34/40	2.000	2.002	8.82	7.24	5.83	2.99	6.26	0.47	3.53	5/8-11UNC	1.57	0.51	5/8-11UNC	5/8-11UNC x 11.81	51204

Model	Model Recommended Component Size ^[2]											
	e	f	g	h	i	j					k	
	A2	Bolt	Retaining Ring	O.D. x I.D.	Bolt	A3	A4	A5	A6	A7	A8	
1120	0.59	#10-32UNF x 0.98	0.75	0.75 x 0.28	5/16-18UNC x 4.72	0.16	0.64	0.75	^{-0.004} _{-0.012}	3/16	5/16-18UNC	0.08
1220	0.51	5/16-18UNC x 1.38	1.00	1.00 x 0.39	1/2-13UNC x 4.72	0.28	0.86	1.00	^{-0.004} _{-0.012}	1/4	1/2-13UNC	0.08
1230	0.51	5/16-18UNC x 1.57	1.00	1.00 x 0.39	1/2-13UNC x 4.72	0.28	0.86	1.00	^{-0.004} _{-0.012}	1/4	1/2-13UNC	0.08
1320/30/40	0.51	5/16-18UNC x 1.77	1.25	1.25 x 0.67	5/8-16UNC x 5.91	0.51	1.11	1.25	^{-0.004} _{-0.012}	1/4	5/8-16UNC	0.12
1420/30/40	0.59	3/8-16UNC x 2.17	1.38	1.37 x 0.75	5/8-16UNC x 7.87	0.51	1.20	1.37	^{-0.004} _{-0.012}	5/16	5/8-16UNC	0.20
1520/21/22/ 30/31/40	0.55	1/2-13UNC x 2.56	1.50	1.50 x 1.02	3/4-10UNC x 7.87	0.63	1.29	1.50	^{-0.004} _{-0.012}	3/8	3/4-10UNC	0.20
1630/31/32/ 33/34/40	1.02	5/8-11UNC x 2.95	2.00	2.17 x 0.98	1-8UNC x 9.45	0.75	1.72	2.00	^{-0.004} _{-0.012}	1/2	1-8UNC	0.20

Note: [1] Dimensions LH, LG, and LF change when bore diameter changes.

[2] Parts a - k are not supplied by Sumitomo Drive Technologies.

Mounting continued

Recommended Shaft Tolerances for Hollow Bore Hyponic®

According to JIS standard and based on loading conditions, recommended shaft tolerances for hollow bore Hyponic® are:

- Steady, uniform loads: **JIS h6/js6 (low shock load)**
- Shock load or large overhung load: **JIS js6/k6 (high shock load)**
- Snap ring size is in accordance with: **JIS B2804C**

Refer to tables 5.15 and 5.16 for corresponding shaft diameters.

Table 5.15 Metric Bore Shaft Diameters (mm)

Bore Size	Low Shock Load JIS h6/js6		High Shock Load JIS js6/k6	
	Min	Max	Min	Max
20	19.9870	20.0065	19.9935	20.0150
25	24.9870	25.0065	24.9935	25.0150
30	29.9870	30.0065	29.9935	30.0150
35	34.9840	35.0080	34.9920	35.0180
40	39.9840	40.0080	39.9920	40.0180
45	44.9840	45.0080	44.9920	45.0180
50	49.9840	50.0080	49.9920	50.0180
55	54.9810	55.0095	54.9905	55.0210

Table 5.16 Inch Bore Shaft Diameters (in.)

Bore Size	Low Shock Load JIS h6/js6		High Shock Load JIS js6/k6	
	Min	Max	Min	Max
3/4	0.74950	0.75025	0.74975	0.75060
13/16	0.81200	0.81275	0.81225	0.81310
7/8	0.87450	0.87525	0.87475	0.87560
15/16	0.93700	0.93775	0.93725	0.93810
1	0.99950	1.00025	0.99975	1.00060
1-1/8	1.12450	1.12525	1.12475	1.12560
1-3/16	1.18700	1.18775	1.18725	1.18810
1-1/4	1.24940	1.25030	1.24970	1.25070
1-5/16	1.31190	1.31280	1.31220	1.31320
1-3/8	1.37440	1.37530	1.37470	1.37570
1-7/16	1.43690	1.43780	1.43720	1.43820
1-1/2	1.49940	1.50030	1.49970	1.50070
1-5/8	1.62440	1.62530	1.62470	1.62570
1-11/16	1.68690	1.68780	1.68720	1.68820
1-3/4	1.74940	1.75030	1.74970	1.75070
1-7/8	1.87440	1.87530	1.87470	1.87570
1-15/16	1.93690	1.93780	1.93720	1.93820
2	1.99930	2.00030	1.99970	2.00080
2-1/16	2.06180	2.06280	2.06220	2.06330
2-1/8	2.12430	2.12530	2.12470	2.12580
2-3/16	2.18680	2.18780	2.18720	2.18830

4. Securing the Hyponic® Drive to Prevent Movement Away from the Machine Side (Figures 5.10 – 5.12)

Figure 5.10 Secured by Spacer and Snap Ring

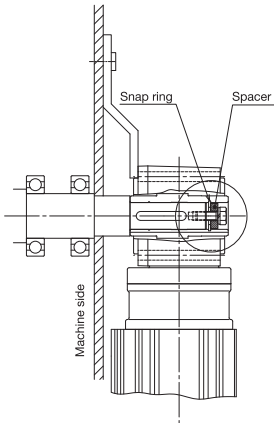


Figure 5.11 Secured by End Plate

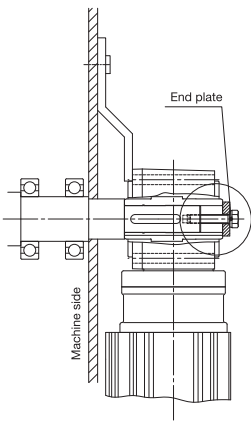
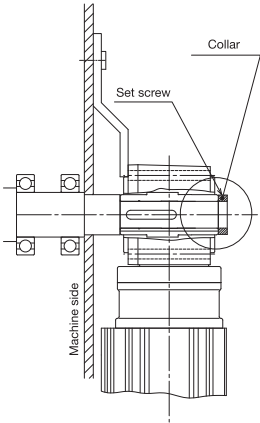


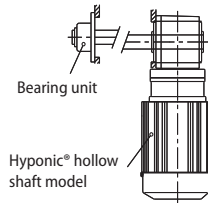
Figure 5.12 Secured by Set Screw and Collar



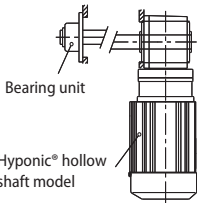
5. Flange Mounting and Casing Bottom Mounting (optional)

Handle with care. Do not apply excessive force to the driven shaft or hollow shaft by twisting the Hyponic® casing. Excessive force on the Hyponic® and bearing unit may damage internal parts.

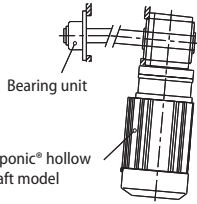
Figure 5.13 Flange Mounting Surface



Correct



Incorrect: Poor concentricity of driven shaft and mounting flange



Incorrect: Poor perpendicularity of driven shaft center and mounting flange surface

Accessories Output Shaft Safety Cover, Torque Arm

Output Shaft Safety Cover

Included with all hollow bore models, the output shaft safety cover is made of plastic and may be mounted on either the right or left side.

Table 5.17 Output Shaft Safety Cover Dimensions

Symbols: M: Screw size P: Thread pitch L: Thread length P.C.D: Mounting pitch N: Quantity

Model	Safety Cover								Output Shaft End	Fig. #
	A	øB	C°	D	t	øP.C.D	N	MxPxL (mm)	øE	
1100	0.39	2.20	45	R0.12	0.08	(screw not required for this model)			1.18	5.14
1200	0.83	2.32	5	R0.20	0.08	2.76	2	M3x0.5x6	1.57	5.15
1300	0.83	2.64	5	R0.20	0.08	3.07	2	M3x0.5x6	1.77	5.15
1400	1.18	3.03	5	R0.20	0.08	3.46	2	M3x0.5x6	2.17	5.15
1500	1.18	3.54	5	R0.20	0.08	4.06	2	M3x0.5x6	2.56	5.15
1600	1.57	4.48	5	R0.20	0.08	5.31	2	M3x0.5x6	3.74	5.15

Figure 5.14 Frame Size 1100

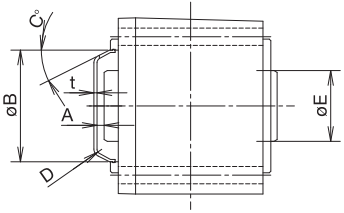
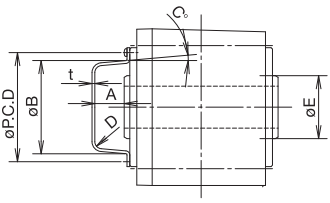


Figure 5.15 Frame Sizes 1200 ~1600



Torque Arm

Figure 5.16 Hyponic® Torque Arm Recommended Dimensions

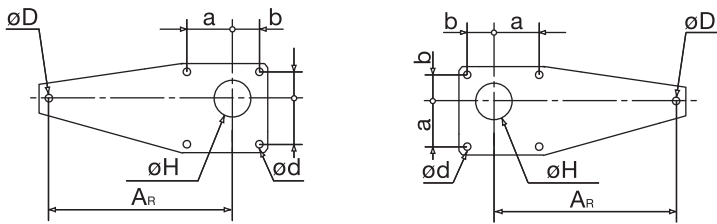


Table 5.18 Hyponic® Torque Arm Recommended Dimensions (in.)

Model	Length	Bore	Stop Hole	Mounting Pitch		Mounting Hole	Thickness
	AR	øH	øD	a	b	ød	
1120	3.15	2.13	0.35	1.65	1.26	0.28	0.13
1220	3.94	3.15	0.43	2.24	1.57	0.35	0.18
1230	3.94	3.15	0.35	2.56	1.57	0.35	0.24
1320	4.72	3.43	0.55	2.44	1.81	0.43	0.18
1330, 1340	5.12	3.43	0.43	3.11	1.85	0.43	0.35
1420	5.51	3.82	0.71	2.95	2.24	0.55	0.24
1430, 1440	6.30	3.82	0.55	3.62	2.13	0.55	0.35
1520, 1521, 1522	5.91	4.41	0.87	3.15	2.76	0.55	0.35
1530, 1531, 1540	7.87	4.41	0.71	4.29	2.52	0.71	0.35
1630, 1631, 1632, 1633, 1640	11.02	5.98	0.87	5.71	3.35	0.87	0.47

Accessories Torque Arm continued

Use the formulas below to calculate **torque arm strength, drive shaft strength and bearing life.**

Torque arm load:
$$R = \frac{T + A_G \cdot G}{A_R}$$

Brg. 1 load:
$$B = \frac{m(R - G) - Y_R \cdot R}{\ell}$$

Brg. 2 load:
$$B_W = \frac{(\ell + M)(R - G) - Y_R \cdot R}{\ell}$$

Bending Moment at Critical Point B: $M = Y_R \cdot R - Y(R - G)$ for $0 < Y \leq m$

- Symbols:
- T:** Output torque (in-lb) [positive on the shown rotation; negative on the opposite rotation.]
 - G:** Hyponic drive gravity (lb)
 - R:** Torque arm load (lb)
 - A_G:** Distance between the center of driven shaft and center of gravity
 - A_R:** Distance from driven shaft center to torque arm (in.)
 - Y_R:** Distance from the center of Hyponic drive to torque arm whirl stop (in.)
 - m:** Distance from the center of Hyponic drive to Brg. 2 (in.)
 - ℓ:** Distance between Brg. 1 and Brg. 2 (in.)
 - Y:** Distance between the center of Hyponic drive and Critical Point B

Figure 5.17 Hyponic® Torque Arm

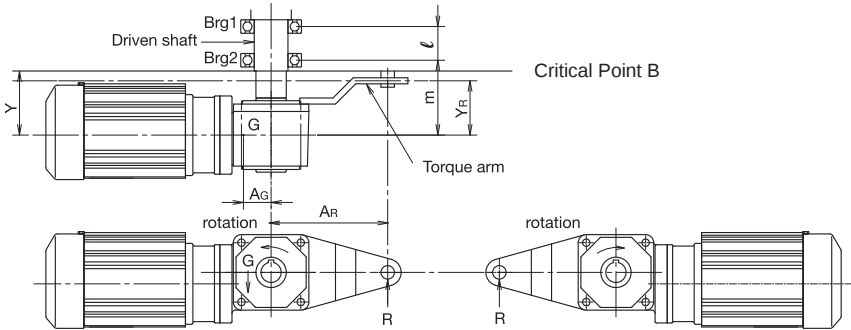
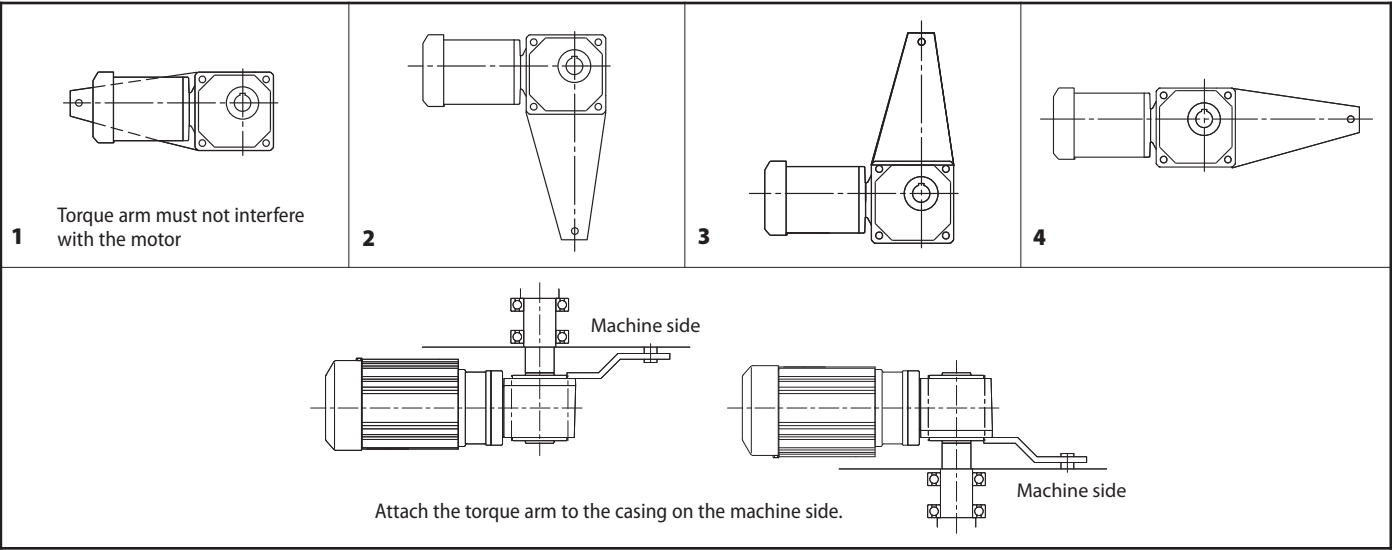


Table 5.19 A_G Dimensions

Model	A _G (in.)
1230	4
1120, 1220, 1330, 1340, 1430, 1440	6
1320, 1420, 1540	8
1520, 1521, 1522, 1530, 1531, 1640	10
1630, 1631, 1632, 1633	10
1634	12

Figure 5.18 Hyponic® Torque Arm Mounting Examples



Hyponic®

Appendix

Accessories Torque Arm continued

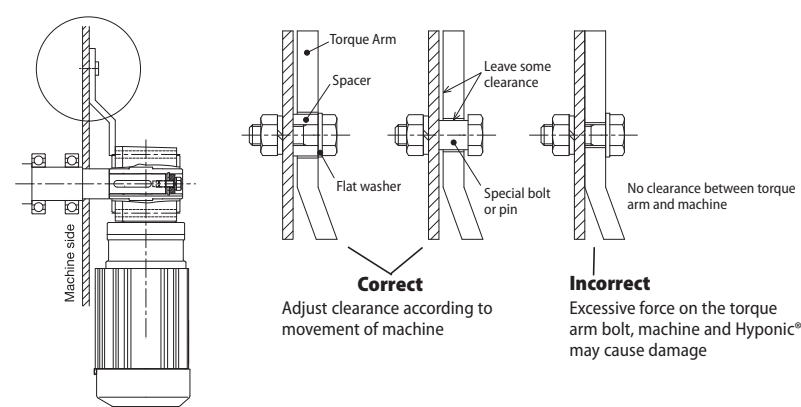
Torque Arm Mounting:

- 1. Attach the torque arm to the Hyponic® casing on the machine side using hex socket head cap screws. Refer to Table 5.20 for bolt sizes.
- 2. Leave some clearance between the torque arm and machine, and the torque arm and mounting bolt, so excessive force will not be applied to the Hyponic® and driven shaft. Do not secure the torque arm with the torque arm bolt; it may damage the bolt, torque arm, Hyponic® or the machine
- 3. For frequent start/stop applications, or repeated normal/reverse operations, use a rubber bushing between the torque arm and mounting bolt (or spacer) to absorb the shock.

Table 5.20 Torque Arm Bolt Sizes

Model	Bolt
1120, 1230	M8
1220, 1330, 1340	M10
1320, 1430, 1440	M12
1420, 1530, 1531	M16
1520, 1521, 1522, 1630, 1631, 1632, 1633, 1640	M20

Figure 5.19 Hyponic® Torque Arm Clearance



Lubrication

Hyponic® drives are filled with long-life grease and sealed, so replenishment is unnecessary, but overhaul in approximately 20,000 hours or three to five years of operation will provide longer service life. Operating conditions affect oil seal durability. Under severe conditions, they may require changing in less than 20,000 hours or three years of operation. Gearmotors must be overhauled at factory-authorized locations.

Table 5.21 Hyponic Greases

Grease	Description	Temperature Range
Nihon Koyu BA-11A	Standard Grease	14°F to 104°F (-10°C to 40°C)
Nihon Koyu BH-17	Low Temperature Grease	-22°F to 14°F (-30°C to -10°C)
Fuchs Geralyn AX-SGG 000	Food Grade Grease	14°F to 104°F (-10°C to 40°C)

Paint and Rust-proofing Specifications

Table 5.22 Paint Specifications

Paint Classification	Paint Name	Paint Color	Resin Type	Dry Time (hrs.)
Food and Beverage Industry Antimicrobial Powder Coating (standard)	Dupont Alesta	Silver Freeze	TGIC-Polyester	–
SMA Blue Paint (optional)	Speed Dry DTM Water-Based Enamel	Blue	Water-Based Acrylic Polymer	1 – 1½
Epoxy (optional)	Heavy-Duty Epoxy	Blue	Polymide Converted Epoxy	4 – 6
FDA-USDA (optional)	Food and Beverage Industry Coating	High Gloss White	Modified Alkyd	4 – 7

- All completely assembled models receive rust-proofing treatment prior to shipment.
- All oil-lubricated models for export receive rust-proofing treatment that is effective for 6–12 months. Please specify "export Rust-proofing" for all export models.
- Please consult factory for storage longer than those listed in Table 5.23 or in the event of adverse storage conditions.

Table 5.23 Rust-proofing Specifications

Lubrication Type	Grease	Oil
Rust-Proofing Period	1 Year	6 Months
Storage Condition	Indoor environment that is relatively free of humidity, dust, extreme temperature fluctuation. corrosive gas, etc.	

Motor

- **Conduit Box Specifications**
- **Standard Motor Characteristics**
- **Brakemotor Characteristics**

Hyponic®

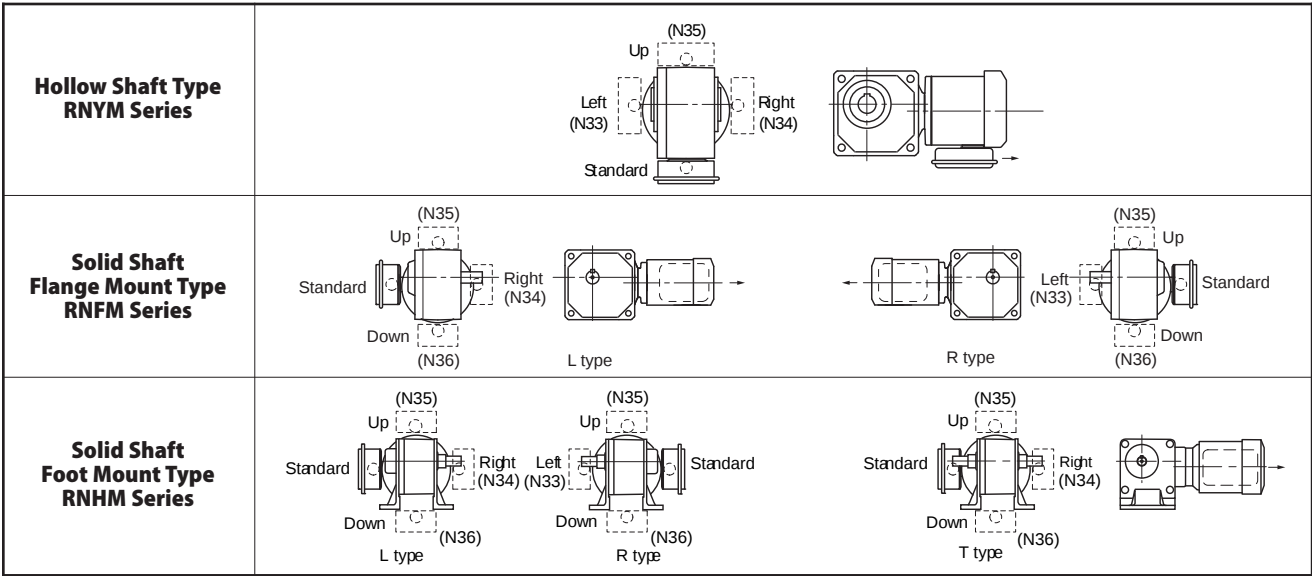
Appendix

Motor

Conduit Box Mounting Direction

The conduit box mounting direction may be changed in 90° increments. A mounting direction other than standard must be specified when an order is placed and changed by the factory. When ordering, refer to Figure 5.20 for lead wire opening direction and mounting direction. The direction cannot be changed after shipment.

Figure 5.20 Conduit Box Mounting Direction – Three-Phase (Standard Motor and Inverter) and Single-Phase



Motor Cover Mounting Specifications

Refer to Figure 5.21 and Table 5.24 for the FA or FB dimension when designing the gearmotor mounting space.

Dimension FA: The space necessary to remove the fan cover or brake cover without removing the motor for the equipment.

Note: It is not necessary to remove the gearmotor from the equipment when removing the fan or brake cover.

Dimension FB: The minium space required for adequate ventilation.

Figure 5.21 Motor End Clearance

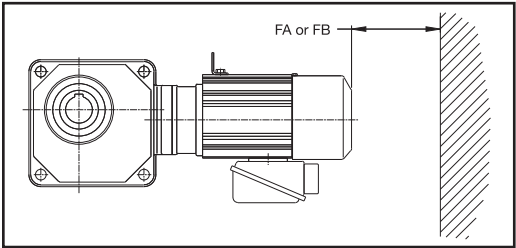


Table 5.24 Motor Space Requirements

Units: inches (mm)

Standard		VA Frames		3-Phase Motor		3-Phase Brake Motor	
Frame Size	HP x Pole	Frame Size	HP x Pole	FA	FB	FA	FB
V-63S	1/8 x 4	—	—	—	—	2 (49)	—
V-63M	1/4 x 4	VA-63S	1/8 x 4	1.9 (48)	0.8 (20)	2.5 (61)	0.8 (20)
V-71M	1/2 x 4, 1/3 x 4	VA-63M	1/4 x 4, 1/3 x 4				
V-80S	3/4 x 4	VA-71M	1/2 x 4	2 (49)	0.8 (20)	3.7 (93)	0.8 (20)
V-80M	1 x 4						
V-90S	1.5 x 4	VA-80S	3/4 x 4	2.1 (52)	0.8 (20)	4.6 (115)	0.8 (20)
V-90L	2 x 4	VA-80M	1 x 4				
V-100L	3 x 4	VA-90S	1.5 x 4	2.2 (56)	0.8 (20)	4.8 (121)	0.8 (20)
		VA-90L	2 x 4				
V-112M	5 x 4	VA-100L	3 x 4	2.4 (60)	0.8 (20)	5.2 (132)	0.8 (20)
V-132S	7.5 x 4	VA-112M	5 x 4				
V-132M	10 x 4	VA-132S	7.5 x 4	3 (75)	1 (25)	6.7 (170)	1 (25)
V-160M	15 x 4	VA-132M	10 x 4				

Conduit Box Dimensions

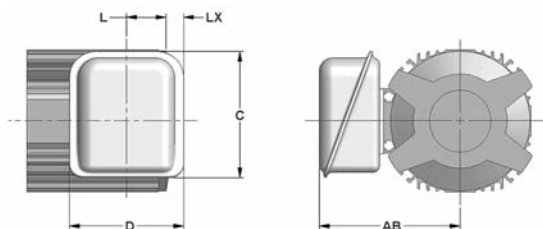


Figure 5.22 Non-UL Indoor Duty

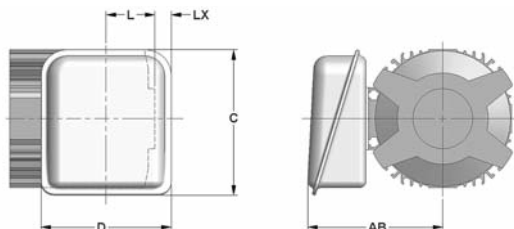


Figure 5.23 UL Indoor Duty

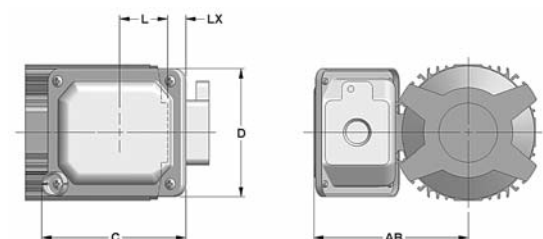


Figure 5.24 Non-UL & UL Washdown Duty

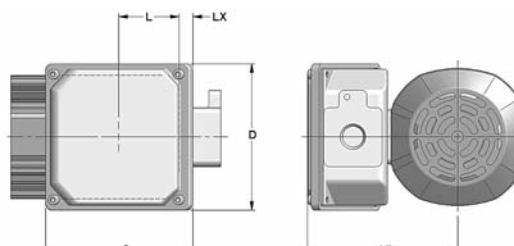


Figure 5.25 Global

Table 5.25 Terminal Box Mounting Centers

Units: inches

Frame Size	Duty Rating	Without Brake					With Brake					Conduit Opening
		AB	C	D	L	LX	AB	C	D	L	LX	
V-63S	Non-UL Indoor Duty	4.13	3.78	3.35		.30	5.20	5.67	4.80		–	0.90 dia
	UL Indoor Duty	5.20	5.67	4.80		1.02	5.20	5.67	4.80		–	0.90 dia
	Non-UL & UL Washdown Duty	5.00	5.16	3.94	1.38	1.58	5.00	5.16	3.94	2.76	0.20	PF 1/2
	Global	5.04	5.91	4.92		2.05	5.04	5.91	4.92		0.67	NPT 1/2
	Small Global	4.45	4.41	4.09		0.80	4.45	4.41	4.09		–	NPT 1/2
V-63M V-71M VA-63S VA-63M	Non-UL Indoor Duty	4.13	3.78	3.35		–	5.20	5.67	4.80		–	0.90 dia
	UL Indoor Duty	5.20	5.67	4.80		.06	5.20	5.67	4.80		–	0.90 dia
	Non-UL & UL Washdown Duty	5.00	5.16	3.94	2.34	0.62	5.00	5.16	3.94	3.58	–	PF 1/2
	Global	5.04	5.91	4.92		1.09	5.04	5.91	4.92		–	NPT 1/2
	Small Global	4.45	4.41	4.09		–	4.45	4.41	4.09		–	NPT 1/2
V-80S V-80M VA-71M	Non-UL Indoor Duty	4.69	3.78	3.35		–	5.79	5.67	4.80		–	0.90 dia
	UL Indoor Duty	5.79	5.67	4.80		–	5.79	5.67	4.80		–	0.90 dia
	Non-UL & UL Washdown Duty	5.55	5.16	3.94	3.82	–	5.55	5.16	3.94	5.53	–	PF 3/4
	Global	5.63	5.91	4.92		–	5.63	5.91	4.92		–	NPT 3/4
V-90S V-90L VA-80S VA-80M	Non-UL Indoor Duty	4.88	3.78	3.35		–	5.98	5.67	4.80		–	0.90 dia
	UL Indoor Duty	5.98	5.67	4.80		–	5.98	5.67	4.80		–	0.90 dia
	Non-UL & UL Washdown Duty	5.75	5.16	3.94	3.98	–	5.75	5.16	3.94	6.42	–	PF 3/4
	Global	5.83	5.91	4.92		–	5.83	5.91	4.92		–	NPT 3/4
V-100L VA-90S VA-90L	Non-UL Indoor Duty	5.16	3.78	3.35		–	6.26	5.67	4.80		–	0.90 dia
	UL Indoor Duty	6.26	5.67	4.80		–	6.26	5.67	4.80		–	0.90 dia
	Non-UL & UL Washdown Duty	6.02	5.16	3.94	4.17	–	6.02	5.16	3.94	6.65	–	PF 3/4
	Global	6.10	5.91	4.92		–	6.10	5.91	4.92		–	NPT 3/4
V-112M VA-100L	Non-UL Indoor Duty	5.80	4.41	3.94		–	6.69	5.67	4.80		–	0.90 dia
	UL Indoor Duty	6.69	5.67	4.80		–	6.69	5.67	4.80		–	0.90 dia
	Non-UL & UL Washdown Duty	7.20	6.02	4.84	5.00	–	7.20	6.02	4.84	7.84	–	PF 3/4
	Global	6.54	5.91	4.92		–	6.54	5.91	4.92		–	NPT 3/4
V-132S VA-112M	Non-UL Indoor Duty	5.80	4.41	3.94		–	6.69	5.67	4.80		–	0.90 dia
	UL Indoor Duty	6.69	5.67	4.80		–	6.69	5.67	4.80		–	0.90 dia*
	Non-UL & UL Washdown Duty	7.20	6.02	4.84	5.00	–	7.20	6.02	4.84	7.84	–	PF 1
	Global	6.54	5.91	4.92		–	6.54	5.91	4.92		–	NPT 1
V-132M VA-132S	UL Indoor Duty	7.40	5.44	4.80		–	7.40	5.44	4.80		–	1.69 dia
	Non-UL & UL Washdown Duty	8.74	7.37	6.06	5.63	–	8.74	7.37	6.06	9.37	–	PF 1
	Global	8.31	7.83	6.69		–	8.31	7.83	6.69		–	NPT 1
V-160M VA-132M	UL Indoor Duty	7.40	5.44	4.80		–	7.40	5.44	4.80		–	1.69 dia
	Non-UL & UL Washdown Duty	8.74	7.37	6.06	5.63	–	8.74	7.37	6.06	9.37	–	PF 1-1/4
	Global	8.31	7.83	6.69		–	8.31	7.83	6.69		–	NPT 1-1/4

Hyponic®

Appendix

Motor continued

Standard Motor Data

Full load ratings and amperage for Hyponic® gearmotors are listed in Table 5.26. These ratings are based on the motors' design values. If additional information is required, please consult the factory.

Table 5.26 Three Phase, 230/460V, 60Hz, 1800 RPM Synchronous Speed, TEFC

HP	Frame Size	Full Load		Current (A)				Starting Breakdown		Efficiency %	Power Factor %	NEMA Code Letter	Inertia WR ² lb-in ²
		Rated RPM	Torque in-lbs	Full Load		No Load % of FL	Starting % of FL	Torque (% of FL)	Torque (% of FL)				
				230V	460V								
1/8 ⁽¹⁾	V-63S	1730	4.55	0.66	0.33	86.1%	424%	326%	308%	63.3%	60.0%	K	1.11
1/4	V-63M	1730	9.10	1.12	0.56	79.6%	464%	300%	287%	69.2%	65.1%	K	1.71
1/3	V-71M	1770	11.7	1.85	0.93	90.3%	530%	484%	454%	67.2%	50.4%	N	2.22
1/2	V-71M	1750	18.0	2.15	1.08	77.7%	456%	295%	276%	71.5%	65.4%	J	2.22
3/4	V-80S	1720	27.5	2.47	1.24	68.4%	500%	266%	261%	76.5%	73.1%	H	3.45
1	V-80M	1740	36.2	3.38	1.69	69.8%	521%	278%	303%	76.9%	72.4%	H	4.10
1.5	V-90S	1720	54.9	4.66	2.33	64.4%	614%	273%	290%	79.8%	74.3%	J	6.32
2	V-90L	1740	72.4	6.07	3.04	61.6%	606%	263%	275%	81.9%	75.8%	J	7.28
3	V-100L	1730	109	8.5	4.25	57.2%	645%	277%	311%	83.9%	77.4%	J	11.4
5	V-112M	1730	182	13.1	6.55	47.8%	702%	278%	293%	85.8%	82.7%	J	29.0
7.5	V-132S	1710	276	18.2	9.08	32.4%	661%	223%	252%	86.2%	88.3%	H	39.0
10	V-132M	1750	360	23.7	11.9	27.8%	620%	212%	228%	88.9%	89.7%	G	91.6
15	V-160M	1750	540	34.1	17.1	27.6%	677%	248%	258%	90.1%	90.0%	G	128

AF Motor Data

Full load ratings and amperage for Hyponic® gearmotors are listed in Table 5.27. These ratings are based on the motors' design values. If additional information is required, please consult the factory.

Table 5.27 Three Phase, 230/460V, 60Hz, 1800 RPM Synchronous Speed, 10:1 Constant Torque Speed Range, TEFC

HP	Frame Size	Wiring	Full Load Torque in·lbs	60 Hz			6 Hz			No Load Current @ 60 Hz	Inertia WR ² lb·in ²
				Voltage Volt	Current Amp	Speed RPM	Voltage Volt	Current Amp	Speed RPM		
1/8	VA-63S	High Voltage Low Voltage	4.77	460 230	0.45 0.9	1770	68 34	0.37 0.74	125	0.45 0.89	1.71
1/4	VA-63M	High Voltage Low Voltage	9.6	460 230	0.91 1.8	1765	68 34	0.75 1.5	130	0.84 1.67	2.22
1/3	VA-63M	High Voltage Low Voltage	12	460 230	0.94 1.9	1760	68 34	0.77 1.5	90	0.84 1.67	2.22
1/2	VA-71M	High Voltage Low Voltage	19.2	460 230	1.3 2.5	1750	70 35	1.1 2.2	115	1.18 2.36	4.10
3/4	VA-80S	High Voltage Low Voltage	26.3	460 230	1.7 3.3	1760	64 32	1.6 3.1	135	1.50 3.00	6.32
1	VA-80M	High Voltage Low Voltage	35.8	460 230	2.1 4.3	1755	62 31	1.9 3.9	120	1.87 3.74	7.28
1.5	VA-90S	High Voltage Low Voltage	52.6	460 230	2.9 5.8	1755	64 32	2.9 5.8	135	2.40 4.80	11.4
2	VA-90L	High Voltage Low Voltage	72.4	460 230	3.4 6.7	1740	66 33	3.2 6.5	105	2.40 4.80	11.4
3	VA-100L	High Voltage Low Voltage	105	460 230	4.6 9.2	1760	62 31	4.7 9.3	140	3.15 6.30	29
5	VA-112M	High Voltage Low Voltage	178	460 230	6.5 13	1740	64 32	7.3 14.6	100	2.94 5.88	39
7.5	VA-132S	High Voltage Low Voltage	265	460 230	9.3 18.6	1750	68 34	9.3 18.6	130	3.29 6.59	91.6
10	VA-132M	High Voltage Low Voltage	359	460 230	12.6 25.2	1755	64 32	12.9 25.8	135	4.77 9.53	128

Note: [1] 1/8 HP is TENV.

Motor continued

CSA Approved Motor Data



Dimensions for 575 and CSA units may be different than those specified in Section 3, please consult factory.

Table 5.28 CSA Approved, Three Phase, 230/460V, 60Hz, 1800 RPM Synchronous Speed, TEFC

HP	Frame Size	Full Load		Current (A)				Starting Breakdown		Power		NEMA Code Letter	Inertia WR ² lb·in ²
		Rated RPM	Torque in·lbs	Full Load 230V	No Load 460V	% of FL	Starting % of FL	Torque % of FL	Torque % of FL	Efficiency %	Factor %		
1/8 ⁽¹⁾	V-63S	1720	4.58	0.71	0.35	91.4	457	378	393	65.5	54.1	M	1.11
1/4	V-63M	1730	9.10	1.20	0.60	86.0	450	309	343	69.4	60.1	K	1.71
1/3	V-71M	1720	12.2	1.90	0.93	91.4	538	561	539	70.5	47.7	N	2.22
1/2	V-71M	1700	18.5	2.10	1.10	81.0	481	343	331	75.2	63.1	K	2.22
3/4	V-80S	1700	27.8	2.60	1.30	70.8	515	263	272	75.4	71.4	H	3.45
1	V-80M	1700	37.0	3.60	1.80	75.6	572	341	315	78.0	66.9	K	4.10

Table 5.29 CSA Approved, EPACT/EEV Efficiency, Three Phase, 230/460V, 60Hz, 1800 RPM Synchronous Speed, TEFC

HP	Frame Size	Full Load		Current (A)				Starting Breakdown		Power		NEMA Code Letter	Inertia WR ² lb·in ²
		Rated RPM	Torque in·lbs	Full Load 230V	No Load 460V	% of FL	Starting % of FL	Torque % of FL	Torque % of FL	Efficiency %	Factor %		
1	VA-80M	1740	36.2	3.2	1.6	70.0	700	320	379	84.5	68.2	K	7.28
1.5	VA-90S	1740	54.3	4.6	2.3	64.6	678	319	364	85.7	71.1	K	11.4
2	VA-90L	1730	72.8	5.8	2.9	60.3	717	271	306	86.6	74.9	K	11.4
3	VA-100L	1750	108	8.1	4.1	56.9	879	310	406	89.1	76.4	L	29.0
5	VA-112M	1740	181	12.7	6.4	45.1	781	302	330	89.5	81.6	J	39.0
7.5	VA-132S	1750	270	18.5	9.2	46.6	801	309	345	90.7	82.5	J	91.6
10	VA-132M	1750	360	24.5	12.2	38.9	828	284	303	90.4	85.1	K	128

Table 5.30 CSA Approved Three Phase, 575V, 60Hz, 1800 RPM Synchronous Speed, TEFC

HP	Frame Size	Full Load		Current (A)			Starting Breakdown		Power		NEMA Code Letter	Inertia WR ² lb·in ²
		Rated RPM	Torque in·lbs	Full Load	No Load % of FL	Starting % of FL	Torque % of FL	Torque % of FL	Efficiency %	Factor %		
1/8 ⁽¹⁾	V-63S	1720	4.58	0.28	91.8	464	376	391	65.3	54.1	M	1.11
1/4	V-63M	1730	9.10	0.48	85.4	458	316	340	69.4	60.3	K	1.71
1/3	V-71M	1785	11.6	0.67	89.4	537	472	433	71.8	52.0	M	2.22
1/2	V-71M	1700	18.5	0.79	75.8	468	309	300	75.8	67.4	J	2.22
3/4	V-80S	1700	27.8	1.00	74.0	530	260	268	75.1	71.6	H	3.45
1	V-80M	1700	37.0	1.30	65.4	508	252	256	78.1	74.9	H	4.10

Table 5.31 CSA Approved, EPACT/EEV Efficiency, Three Phase, 575V, 60Hz, 1800 RPM Synchronous Speed, TEFC

HP	Frame Size	Full Load		Current (A)			Starting Breakdown		Power		NEMA Code Letter	Inertia WR ² lb·in ²
		Rated RPM	Torque in·lbs	Full Load	No Load % of FL	Starting % of FL	Torque % of FL	Torque % of FL	Efficiency %	Factor %		
1	VA-80M	1740	36.2	1.3	66.5	685	320	379	84.8	68.2	K	7.28
1.5	VA-90S	1740	54.3	1.8	62.2	689	319	364	85.7	71.1	K	11.4
2	VA-90L	1730	72.8	2.4	56.7	692	326	371	86.1	73.6	K	11.4
3	VA-100L	1750	108	3.3	53.9	833	354	417	87.9	78.5	L	29.0
5	VA-112M	1740	181	5.2	45.6	769	295	346	88.7	81.7	J	39.0
7.5	VA-132S	1750	270	7.5	45.2	709	288	331	89.9	83.6	H	91.6
10	VA-132M	1760	358	9.7	39.5	849	314	340	91.5	84.5	K	128

Note: [1] 1/8 HP, V-63S frame is TENV (no fan).

Motor continued

Standard Wiring Diagrams

Table 5.32 lists the typical wiring configuration by motor type, and Figures 5.26 and 5.27 illustrate the wiring diagrams for our standard motors. For additional information please refer to the motor name plate. Due to changes in design features, this diagram may not always agree with that on the motor. If different, the motor diagram found inside the conduit box cover is correct.

Table 5.32 Typical 230/460V Wiring Configuration by Motor Type ^[1]

Motor HP x Pole	Standard Motor	Inverter Duty ^[2]	CSA Motor
1/8 x 4	WYE	WYE	WYE
1/4 x 4			
1/3 x 4			
1/2 x 4			
3/4 x 4			
1 x 4			
1.5 x 4			
2 x 4			
3 x 4			
5 x 4			
7.5 x 4	DELTA	DELTA	DELTA
10 X 4			
15 X 4			

Three-Phase Motors (230/460 V)

Figure 5.26 Wye-Connected

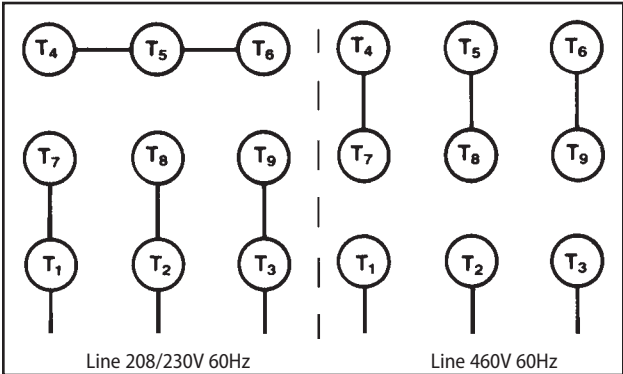
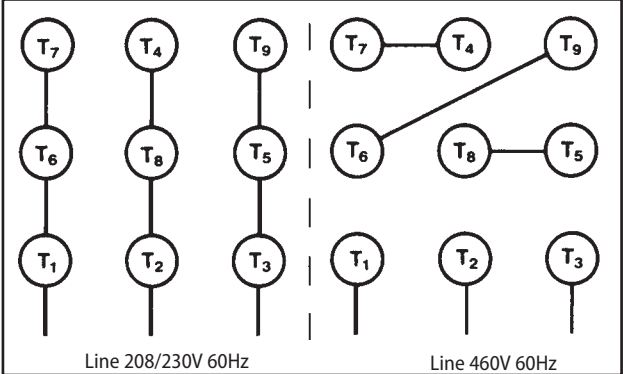
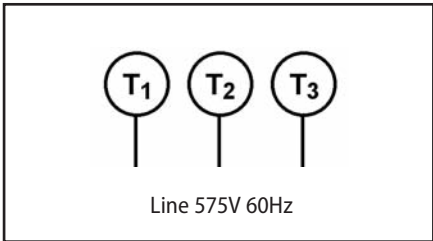


Figure 5.27 Delta-Connected



Three-Phase Motors (575V)

Figure 5.28 Three Phase, 575V



Notes: [1] Typical wiring configuration is shown and may be subject to change. For actual wiring diagram, please check diagram on motor
[2] Inverter Duty refers to AF-Motor Series rated for 10:1 constant torque speed range.

Motor Thermal Rating (C x Z)

Table 5.33 Motor Thermal Rating (C x Z)^[1]

Motor Power HP	Allowable C x Z				Motor Moment of Inertia lb-in ²	
	35% ED ^[2]	35%~50% ED ^[2]	50~80% ED ^[2]	80~100% ED ^[2]	Standard	with Brake
1/8	3200	3000	2000	1200	1.11	1.20
1/4	2200	2800	2800	2500	1.71	1.88
1/3	1800	2200	1500	1500	2.22	2.31
1/2	1800	2200	1500	1500	2.22	2.31
3/4	1800	2200	1500	1500	3.45	3.79
1	1400	1400	800	500	4.10	4.44
1.5	1400	1400	800	500	6.32	7.11
2	1200	1200	500	400	7.28	8.03
3	1000	900	400	200	11.4	12.8
5	800	800	800	700	29.0	32.7
7.5	300	300	200	150	39.0	42.7
10	400	350	300	300	91.6	104
15	200	200	150	150	128	140

The calculated C x Z value (steps 1 – 3 outlined below) should be less than the allowable value listed in Motor Thermal Rating table above.

1. Obtain the C value:

$$C = \frac{I_M + I_L}{I_M}$$

I_M = Moment of Inertia of motor.
 I_L = Total Moment of Inertia of Load as seen from the motor.

2. Obtain the Z value (number of starts per hour):

(a) Assume that one operating period consists of “on-time” t_a (sec.), “off-time” t_b (sec.) and the motor is started nr (times/sec.).

$$Z_r = \frac{3600nr}{t_a + t_b} \text{ (times/hour)}$$

(b) When inching, ni (times/cycle) is included in 1 cycle ($t_a + t_b$), the number of inching times per hour Z_i , is then included in the number of starts.

$$Z_i = \frac{3600ni}{t_a + t_b} \text{ (times/hour)}$$

(c) Calculate Z by adding Z_r to Z_i .

$$Z = Z_r + \frac{1}{2} Z_i = \frac{3600}{t_a + t_b} \cdot \left(nr + \frac{1}{2} ni \right) \text{ (times/hour)}$$

3. Calculate C multiplied by Z:

Use the value of C obtained in step (1) and Z from step (2)

4. Obtain the duty cycle %ED and check with Motor Thermal Rating table above.

$$\%ED = \frac{t_a}{t_a + t_b} \times 100 \quad \begin{array}{l} t_a = \text{on-time} \\ t_b = \text{off-time} \end{array}$$

Note: [1] Please consult the factory for AF motors and CSA approved motors.

[2] % ED = duty cycle.

Motor continued

Brakemotor Characteristics

The brakemotor on Hyponic® gearmotors operates with direct current supplied by a dual voltage rectifier for 230/460V, or single voltage rectifier for 575V. The rectifier is mounted in the motor conduit box.

When used for outdoor installations, our standard brakemotor must be protected with some type of cover. Such covers are available from the factory, please inquire when ordering.

Note: Advise the factory when ordering if you require larger or smaller brake torque than those shown as standard in the Brakemotor Characteristics table below.

Table 5.34 Required Brake Torque

Condition	% Motor Torque	Typical Application ^[1]	Remarks
Rapid Brake Action	100%	Machine Tool Cutter and Table Transfer	
Frequent Start/Stop	100%	Conveyor Drive	Fast Brake Action or Quick Brake Relay may be required
Rapid Braking and Fail Safe	Over 150%	Crane, Hoist Winch, Gate, Lifting	Wiring Connection for Fast Brake Action or Quick Brake Relay
Rapid Deceleration of High Inertia	Over 150%	Centrifuge Drive Textile	

Brake Characteristics

Table 5.35 Standard Brake Models

Brake Model	Motor Capacity ^[1] (HP x 4P)		Braking Torque (ft-lbs)			Braking Delay Time (sec)			Standard Brake Current (AC Amps)		
	Standard	AF-Motor	Min.	Std.	Max.	Normal Braking Action		Fast Braking Action	230VAC	460VAC	575VAC
						Standard Wiring	Inverter Wiring ^[2]				
FB-01A	1/8	–	0.24	0.7	0.96	0.15 ~ 0.2	–	0.015 ~ 0.02	0.06	0.04	0.03
FB-02A	1/4	1/8	0.48	1.4	1.9		0.8 ~ 0.12				
FB-05A	1/3, 1/2	1/4, 1/3	0.96	2.9	2.9	0.1 ~ 0.15	0.03 ~ 0.07	0.01 ~ 0.015	0.1	0.06	0.07
FB-1D	3/4, 1	1/2	1.9	5.8	7.7						
FB-2D	1.5, 2	3/4, 1	3.6	11	14	0.2 ~ 0.3	0.1 ~ 0.15	0.01 ~ 0.02	0.2	0.2	0.2
FB-3D	3	1.5, 2	5.3	16	21						
FB-5B	5	3	9	27	36	0.4 ~ 0.5	0.2 ~ 0.25	0.01 ~ 0.02	0.3	0.3	0.4
FB-8B	7.5	5	13	40	55						
FB-10B	10	7.5	18	54	72	0.7 ~ 0.8	0.25 ~ 0.3	0.03 ~ 0.04	0.5	0.5	0.4
FB-15B	15	10	27	80	108						

Table 5.36 Combination Table with Brakemotor Inertia

Brake Model	Motor Frame Sizes	Inertia WR ² lb-in ²
FB-01A	V-63S	1.20
FB-02A	V-63M, VA-63S	1.88
FB-05A	V-71M, VA-63M	2.31
FB-1D	V-80S	3.79
	V-80M, VA-71M	4.44
FB-2D	V-90S, VA-80S	7.11
	V-90L, VA-80M	8.03
FB-3D	VA-90S	10.4
	V-100L, VA-90L	12.7
FB-5B	V-112M, VA-100L	32.7
FB-8B	V-132S, VA-112M	42.7
FB-10B	V-132M, VA-132S	104
FB-15B	V-160M, VA-132M	140

Notes: [1] May not apply to CSA Approved motors. Identify applicable brake model to motor frame size in Combination Table with Brakemotor Inertia.

[2] Also applies to wiring where brake is powered separately from the motor leads.

Brakemotor Standard Wiring Connection

Models FB-01A through FB-15B

Figure 5.29 Normal Brake Action, 230V, 575V

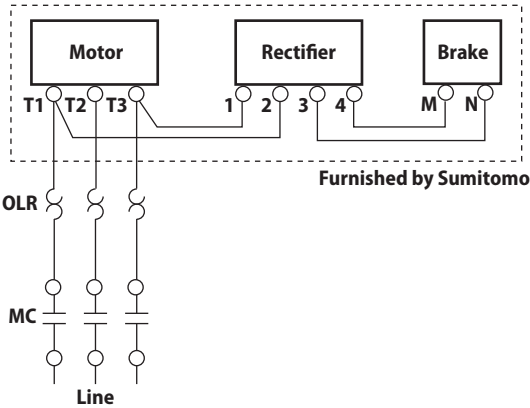


Figure 5.30 Normal Brake Action, 460V

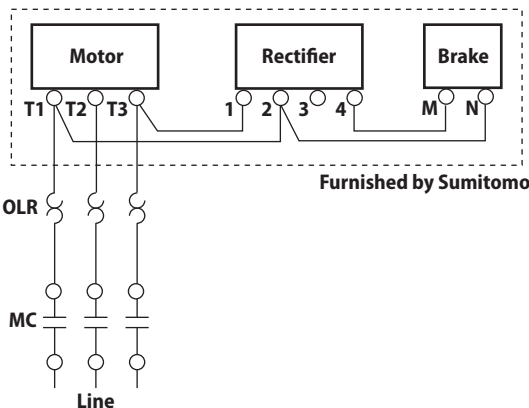


Figure 5.31 Fast Brake Action, 230V

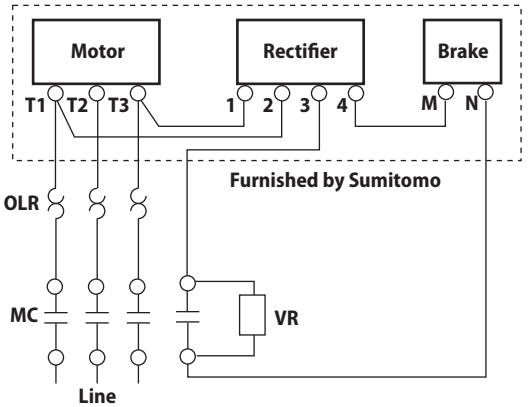
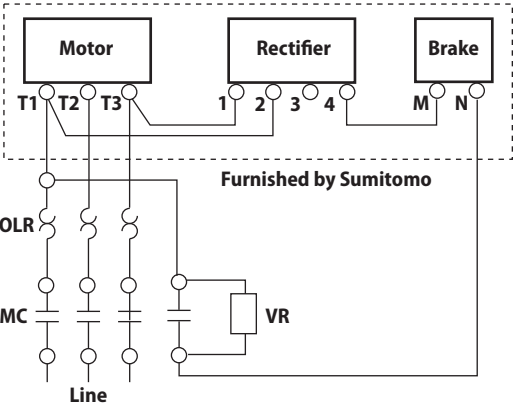


Figure 5.32 Fast Brake Action, 460V, 575V



MC: Electromagnetic Relay
MCB: Magnetic Circuit Breaker
OLR: Overload or Thermal Relay
VR: Varistor (protective device)^[1]

Note: [1] Refer to Varistor Specifications Table

Table 5.37 Varistor Specifications Table

Operating Voltage		190-230V	380-460V	575V
Varistor Rated Voltage		AC260-300V	AC510V	AC604V
Varistor Voltage		430-470V	820V	1000V
Rated Watt	FB01A, 02A	Over 0.4W	Over 0.4W	Over 0.4W
	FB-05A	Over 0.4W	Over 0.4W	Over 0.4W
	FB-1D	Over 0.6W	Over 0.6W	Over 0.4W
	FB-2D, 3D	Over 1.5W	Over 1.5W	Over 0.6W
	FB-5B, 8B	Over 1.5W	Over 1.5W	Over 1.5W
	FB10B, 15B	Over 1.5W	Over 1.5W	Over 1.5W

Motor continued

Brakemotor Standard Wiring Connection continued

Quick Brake Relay Equipped Models

Figure 5.33 Quick Brake Action, 230V
(FB-05A, FB-1D, FB-2D, FB-3D)

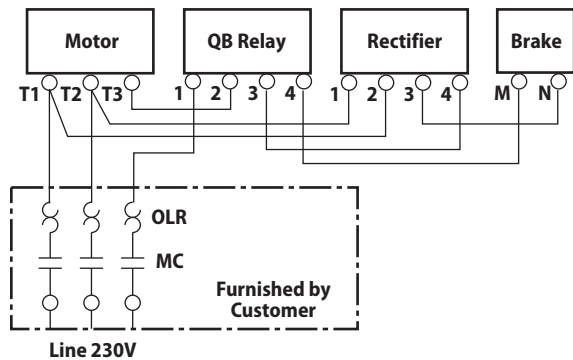
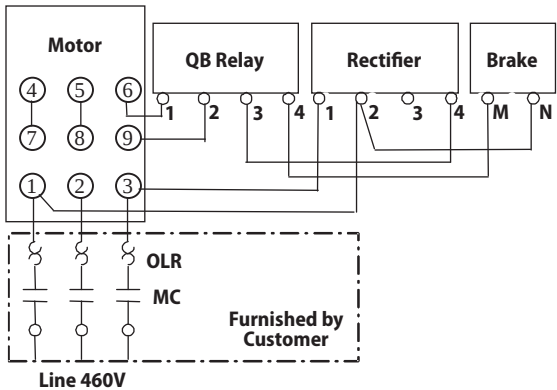


Figure 5.34 Quick Brake Action, 460V
(FB-2D, FB-3D, FB-5B, FB-8B)



FB Brake (1/8 to 15 HP) with Inverter

Figure 5.35 Normal Brake Action, 230V, 575V

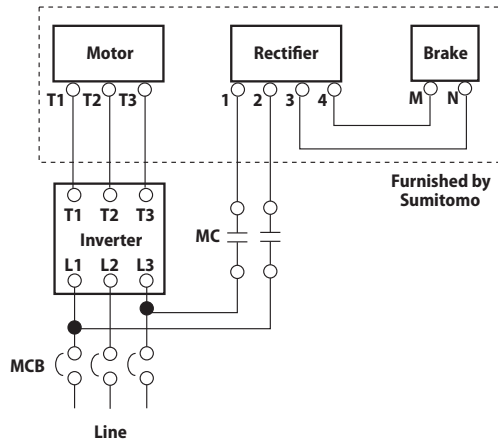


Figure 5.36 Normal Brake Action, 460V

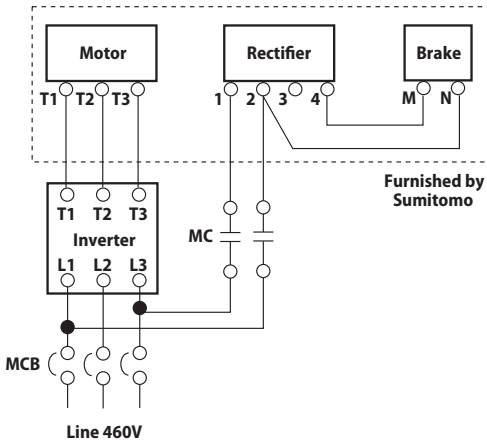


Figure 5.37 Fast Brake Action, 230V, 575V

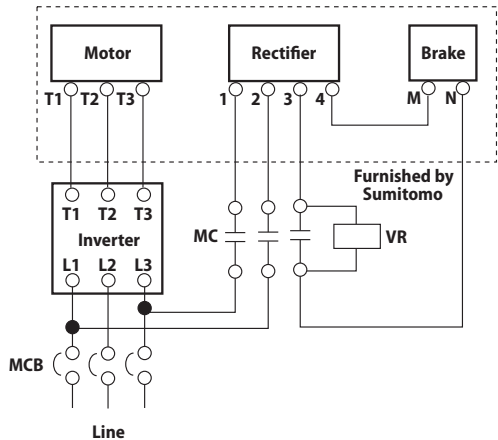
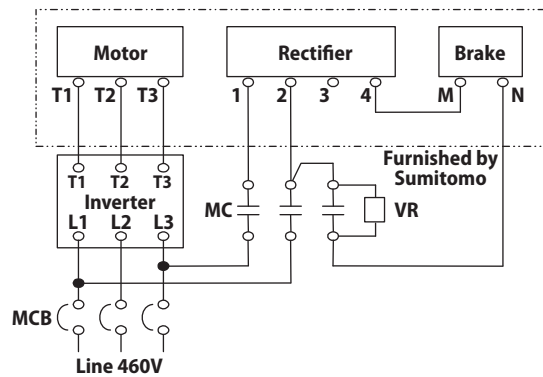


Figure 5.38 Fast Brake Action, 460V



MC: Electromagnetic Relay
MCB: Magnetic Circuit Breaker
VR: Varistor (protective device)^[1]

Note: [1] Refer to Varistor Specifications Table on pg. 5.21

Brakemotor Assembly

Figure 5.39 Types FB-01A, 02A, 05A, 1D, 2D, 3D, 5B, 8B Assembly

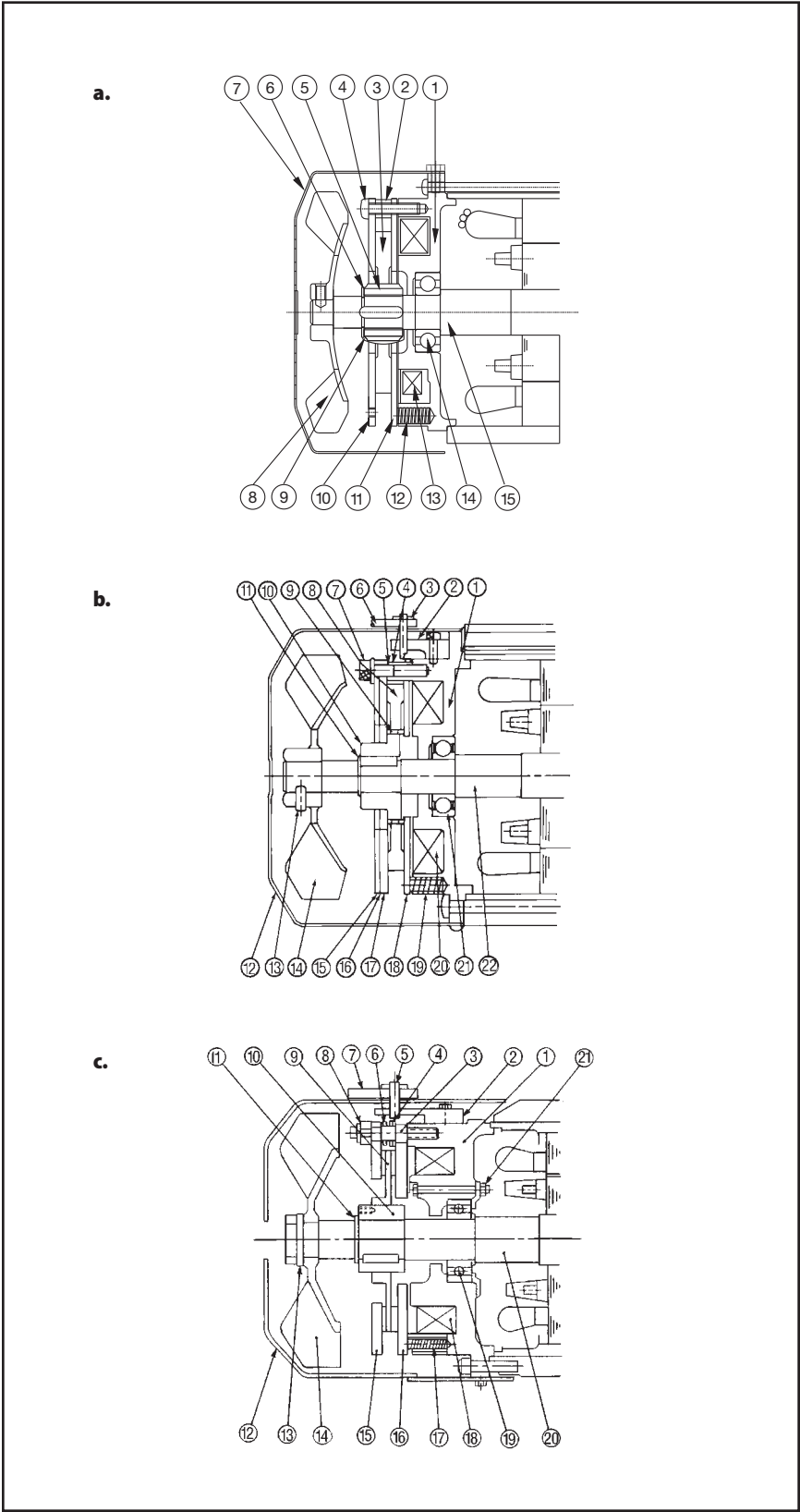


Table 5.38a Type FB-01A, -02A, -05A

Part No.	Description
1	Stationary Core
2	Spacer
3	Brake Lining
4	Restraining Bolt
5	Hub
6	C-Type Retaining Ring
7	Cover
8	Fan (TEFC model only)
9	Leaf Spring
10	Brake Shoe
11	Armature
12	Pressure Spring
13	Solenoid Coil
14	Ball Bearing
15	Motor Shaft

Table 5.38b Type FB-1D, -2D, -3D

Part No.	Description
1	Stationary Core
2	Brake Release Support
3	Shifting Pin
4	Spacer
5	Gap Adjusting Sleeve
6	Brake Release Lever
7	Restraining Bolt
8	Brake Lining
9	Leaf Spring
10	Hub
11	Retaining Ring
12	Fan Cover
13	Fan Set Screw
14	Fan
15	Fixed Plate
16	Noise Shield
17	Brake Shoe
18	Armature Plate
19	Pressure Spring
20	Solenoid Coil
21	Fan Side Motor Bearing
22	Motor Shaft

Table 5.38c Type FB-5B, -8B, -10B, -15B

Part No.	Description
1	Stationary Core
2	Brake Release Support
3	Stud Bolt
4	Gap Adjusting Sleeve
5	Shifting Pin
6	Brake Release Lever
7	Spring Washer
8	Nut
9	Brake Lining
10	Hub
11	Retaining Ring
12	Fan Cover
13	Fan Set Screw
14	Fan
15	Brake Shoe
16	Armature Plate
17	Pressure Spring
18	Solenoid Coil
19	Fan Side Motor Bearing
20	Motor Shaft
21	Bearing Cover ⁽¹⁾

Note: [1] FB-10B AND FB-15B only.

Motor continued

Brake Rectifiers

Table 5.39 Standard Brake Rectifiers

Brake Type	Motor (HP X P)	230V/460V Rectifier		575V Rectifier	
		Model Number	Part Number	Model Number	Part Number
FB-01A	1/8 x 4	25FW - 4FB3	EW107WW-01	10F-6FB3	EW104WW-01
FB-02A	1/4 x 4 1/3 x 4				
FB-05A	1/2 x 4				
FB-1D	3/4 x 4 1 x 4				
FB-2D	1.5 x 4 1 x 4				
FB-3D	3 x 4				
FB-5B	5 x 4				
FB-8B	7.5 x 4				
FB-10B	10 x 4				
FB-15B	15 x 4				

Warranty

Sumitomo warrants that its Hyponic® Speed Reducers will deliver their continuous catalog ratings and up to 250% intermittent SHOCK LOAD CAPACITY, provided they are properly installed, maintained and operated within the limits of speed, torque or other load conditions under which they were sold. Sumitomo further states that Hyponic® Speed Reducers are warranted to be free from defects in material or workmanship for a period of two years from the date of shipment. Sumitomo assumes no liability beyond product repair or replacement under this limited warranty.

For construction purposes, be sure to obtain certified dimension sheets or drawings. Although we take every precaution to include accurate data in our catalog, we cannot guarantee such accuracy. If performance guarantees are required, they should be obtained in writing from the factory. Full consideration will be given to such requests when complete details are given of the proposed installation.

Notes

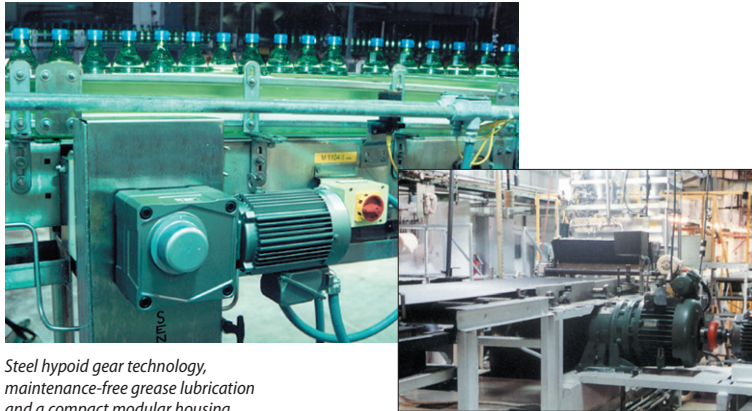


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Notes



Bottling/Baking



Steel hypoid gear technology, maintenance-free grease lubrication and a compact modular housing makes the Hyponic® an efficient performer in the food industry.

A 15-hp Beier mechanical variable speed drive with electric remote control provides an adjustable, steady speed range for this 350-ft. oven band conveyor.

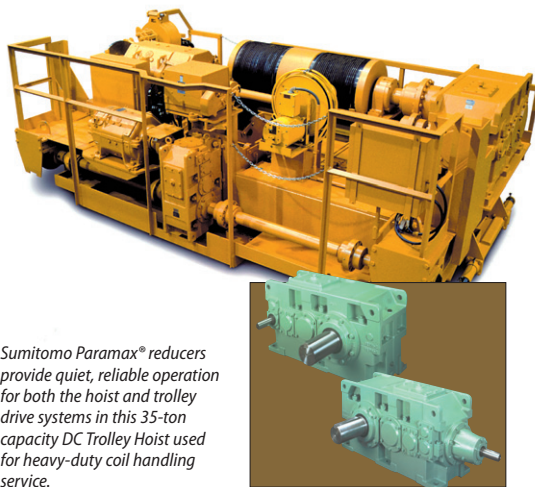
Water Treatment



Each of these Sumitomo Paramax® speed reducers helps pump up to 13 million gallons a day at this state-of-the-art wastewater treatment facility in the City of Clearwater, Florida.

Cyclo® mixer drives are a key component of this award-winning water treatment facility in Hillsborough County, Florida.

Material Handling



Sumitomo Paramax® reducers provide quiet, reliable operation for both the hoist and trolley drive systems in this 35-ton capacity DC Trolley Hoist used for heavy-duty coil handling service.

Custom Designs

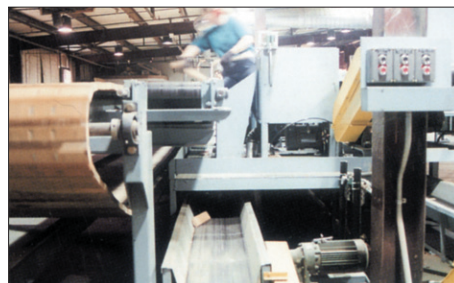


In less than 20 minutes, 96 Sumitomo Cyclo® Bevel Buddybox gearmotors help retract the 13,000-ton roof on Seattle's new Safeco Field.

The Sumitomo gearmotors, on eight travel truck assemblies, turn 128 36" wheels.

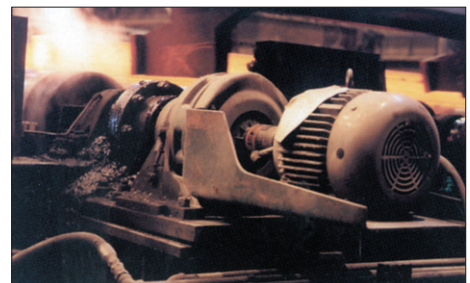
Wood Products

Sumitomo Cyclo® drives are an integral part of this manufacturing plant which produces 150,000 board feet of unfinished strip and plank hardwood flooring each week.



Once flooring is side-matched, it is inspected for defects. This conveyor, driven by Sumitomo Cyclo® drives, carries defective material to the hammer mill.

Steel



After molten steel is formed in the five-strand continuous caster at this steel mill, it is conveyed by Sumitomo Cyclo® drives on the auto-torch conveyors where the steel is cut into billets.

WORLDWIDE LOCATIONS

Sumitomo Machinery Corporation of America

Headquarters & Manufacturing

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