

# MGS<sup>®</sup> Speed Reducers

*Geared to a higher  
standard<sup>™</sup>*



**STÖBER**

# MGS® Precision Speed Reducers



## Welcome to STOBBER!

*And thank you for your interest in the power transmission reducers offered by STOBBER Drives, Inc.!*

In 1934, the Stöber brothers founded a small shop in Pforzheim, Germany that made machines and repaired engines. Today, STOBBER is an international organization with offices in eleven countries.

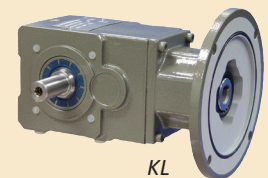
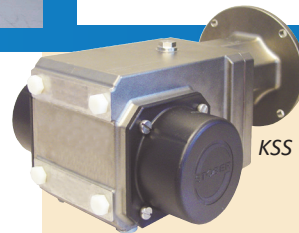
This 80 year heritage has given us expertise in gearing that makes STOBBER the “gold standard.” STOBBER products are of the highest quality and use only the best components.

This catalog covers our comprehensive line of MGS® Speed Reducers for AC induction motors. STOBBER is recognized across the United States for its solution design, product durability, and service support. We look forward to the opportunity to work with you, and to help with your speed reducer needs.

*Peter Feil, General Manager, STOBBER Drives, Inc.*

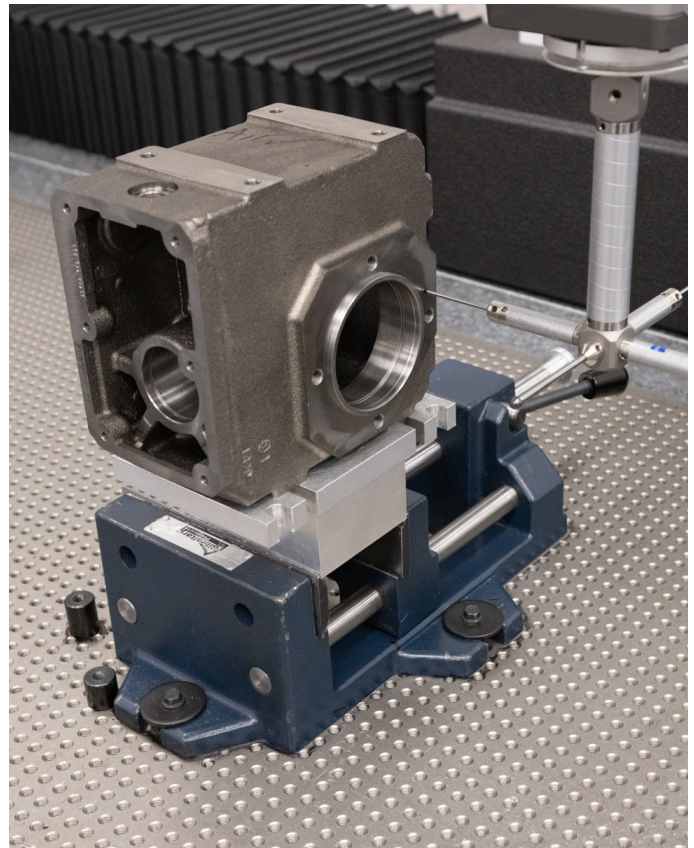


*STOBBER Drives Inc. was founded in 1991. Our Maysville, Kentucky campus includes 85,000 square feet of sales and service offices, assembly, manufacturing, and warehousing space for German-engineered STOBBER products for 1 day shipment nationwide.*

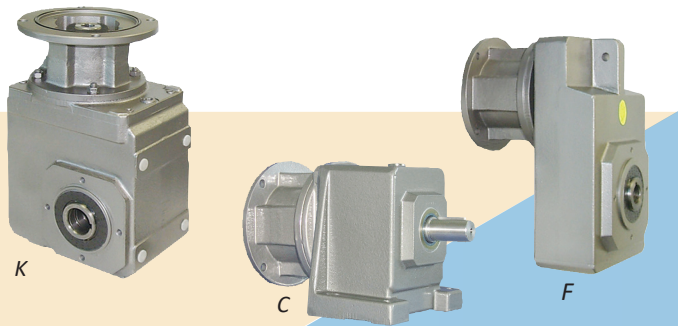


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All manufactured components are inspected before being released to assembly. Our quality inspection team ensures every part meets tolerances and is in spec.



### Unsurpassed:

STÖBER products are designed and built to perform for the toughest applications. Reliability, adaptability and maintainability are our focus, and durability is truly our trademark.

**Solution Designs** that build quality around every requirement.

**Product Durability** that enhances the reliability and life of every application.

**Service Support** that is empowered to meet and exceed client expectations.

#### STÖBER Serviced Industries:

- Material Handling and Conveyors
- Food & Beverage
- Meat processing and packing
- Poultry
- Dairy
- Baking
- Shingles
- Tires
- and many others...



# MGS® Precision Speed Reducers

## The Best you Can Buy...

At STÖBER, offering the best is not a buzz word — it is our passion and way of life. We offer the best product, provided by the best people and processes, and backed by the best service.

Why is STÖBER considered the industry Gold Standard? Our products are backed with superior service, outstanding quality, and the STÖBER guarantee.

### The STÖBER Gold Standard: “Total Cost of Ownership” Savings

- STÖBER speed reducers survive in the toughest environments, providing long life under extreme conditions. Their high reliability and durability saves downtime and cost.
- Our product reliability is backed by one of the best warranties in the industry.
- We build and ship in 1 day saving you inventory hassle and cost.
- Our gearboxes adapt to standard NEMA C-face motors size 56C to 356TC.

## The MGS® Difference

STÖBER MGS® Speed Reducers are the most efficient units on the market (97% efficiency). This saves money on energy costs and helps optimize and maintain your total operational performance with highly effective equipment:

- Smoother running, better efficiency
- Leakage free, maintenance free
- Runs cool – a difference you can feel
- Runs measurably quieter
- Lower backlash
- Long, maintenance-free life design advantages:
  - Magnetic drain plugs to capture internal particles
  - Flexible coupling eliminates misalignment
  - Gears supported with dual bearings in one piece housing for structural rigidity
  - High quality gears and housings
  - Superior parts including SKF bearings, Simrit seals, Mobil food grade oil

## Striving Harder to Deliver the Best Gear Solutions

STÖBER Drives has been assembling products at our Maysville, Kentucky facility for over twenty years. Our expertise in the production and assembly of low-backlash gear units produces products that comply with the highest quality standards.

But, we don't remain satisfied with the status quo. We are continuously enhancing our modern machining production center including numerous recent acquisitions to improve our manufacture time and to ensure maximum quality levels.



**Purpose:** Deliver peace of mind in the demanding world of motion.

**Vision:** The gold standard for perfect motion.

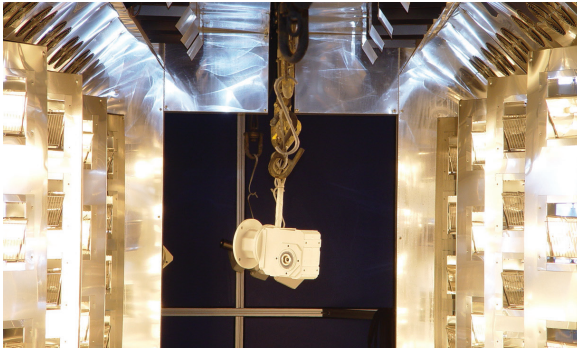
**Mission:** STÖBER puts things into motion...

...intergrally and precisely

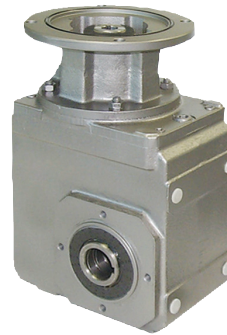
...as a team with personality

...responsibly and in a forward-looking manner.





A stainless steel epoxy coat Food Duty "K" Series unit en route through the paint and curing oven — our process provides higher paint and coating durability, and enables one day assembly, inspection and shipment.



## Service Support for a Lifetime

We stand behind every drive we sell, which is why our service support is also the gold standard in the industry:

STÖBER takes pride in offering knowledgeable, factory-trained USA-based service support for our customers. When you call, you won't get a call center on the other side of the globe. Your call is answered in 3 rings or less, letting you know you've found a support system that values your time.

Our easy order method insures you maintain a single contact throughout the process. And, your service representatives are directly responsible for your account. After the sale, our products are easy to install, but if you do have a question or a problem, we provide application and installation support anywhere in the US. With over 80 years gearing & 30 years motor and electronics experience, we have the expertise to solve your most difficult problems.

### Application Support Programs

- For support during normal business hours: call 800-711-3588 or email [sales@stober.com](mailto:sales@stober.com)
- 24/7 emergency customer service hotline: 606.563.6035
- Consultative product support team available via phone or live chat on our website
- Application Sizing Software
- Online web tools: CAD and configurator
- On-site training available
- Emergency shipments available 24/7



### Key STÖBER Numbers

1 day shipping

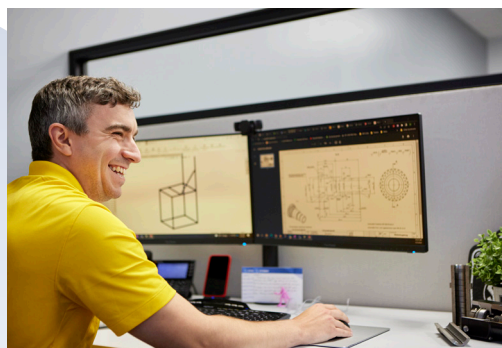
1 hour quoting

3 rings or less when you call in — we answer the phone, not an automated switchboard!

100% inspection and testing prior assembly and post assembly (pressure test seals, noise, vibration, ratio verification)

3 year warranty

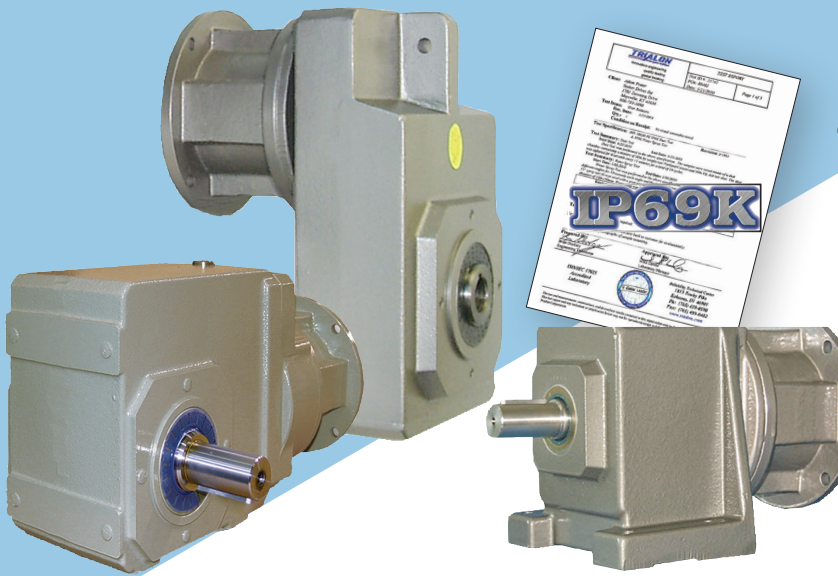
24/7 customer service



### STÖBER Staff Team Members

Facing page: Kim Childers Picker, 2021; From top, left to right: Malgorzata Parker Product Specialist, 2015 ; Brian Sharp, Product Management Team Leader, 2003; Anna Dale Pyles Assembly , 2021; Nathan Landreth Industrial Engineer 2012

# The MGS® Speed Reducer Difference



The KSS Series (inset box below) features an IP69K certified 304 stainless steel housing ideal for frequent pressure cleaning operations typical in the food industry and elsewhere.

K, KL, C and F Series are optionally available with 316 stainless steel epoxy coating for IP69K certified protection (K, F and C Series shown left to right).



## Coatings

K KL C F

These speed reducers are available with 1 day turnaround on a choice of application-specific coatings:

### Food Duty

- Primer
- Industrial 316 Stainless Steel Epoxy
- Silver Bullet Anti-Microbial® Epoxy (Silver Bullet AM® is a registered trademark of Burke Industrial Coating)

### Corrosion Resistant Duty

- Primer
- Industrial 316 Stainless Steel Epoxy

## Corrosion Resistant

KSS K KL C F

These units have several features and options for no maintenance operation in harsh washdown, wet, or dry environments.

- Maintenance free design: lifetime lubrication and double output seals (where possible)
- Stainless output bushing, shaft, or bore
- 3 year standard warranty
- Multilayer Industrial 316 stainless steel epoxy coating

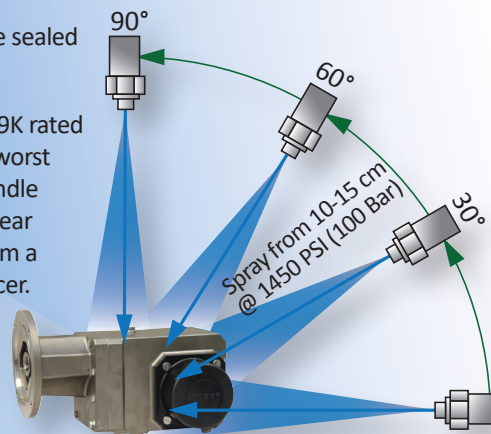
- Finish is USDA accepted for food processing and handling; heat cured; IP69K sprayed at 1,450 PSI (100 bar)
- Lubricated for life with Mobil SHC CIBUS 220 for food duty, or Mobil 600XP220 for beverage duty or standard duty applications
- Totally enclosed – no breather to allow contaminants in or oil out and double output seals (dual lip outer seal and a single lip inner seal)
- The high quality helical gearing (and spiral bevel gearing in the “K” Series) is case hardened to 58-62 Rockwell C and precision finished for low noise and long service life. With an efficiency of 97%, these reliable drives provide cost savings in energy and maintenance.
- NEMA C-face input – with an O-ring between the motor and reducer and an easy mount maintenance free coupling
- Mounts in ANY horizontal output position (dependent on size and ratio) without changing oil levels (other positions are optional or warranty specific)
- ALL stainless steel hardware and stainless steel nameplate

## IP69K Certified Speed Reducers: The Ultimate Solution for Extreme Duty High-Pressure Wash Downs!

IP69K Certified MGS Speed Reducers are sealed against dust and water ingress.

To prove the point, we tested all our IP69K rated products (KSS, K, C, F) with an absolute worst case situation to make sure they can handle your washdown needs — spraying the gear reducer with 176° water at 1,450 PSI from a distance of just 10-15 cm from the reducer.

None of the STOBER units were damaged and continued to run both during and after the test.



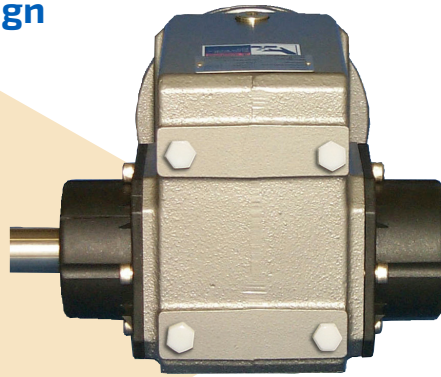
# Unique STÖBER Quality and Design Features

## Wobble Free Bushing Design

KSS F K KL

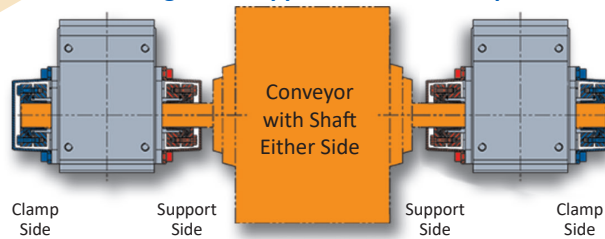
The STÖBER “Wobble Free” bushing is a patented double side wobble free bushing system that mounts easily onto standard cold finished, ground, or stainless shafting. This unique design allows the unit to be mounted on the shaft from either side of the reducer by reversing the clamp side and support side bushings. The clamp side is the accessible outside bushing.

The double sided bushing is not installed into the unit at assembly, but with quick, easy-to-follow instructions when the unit and bushing are mounted on the machine installation.



- Can be supplied with output covers on one or both sides which protect the seals and also cover the rotating bushing
- A variety of bushing bore sizes are provided for each reducer size. The reducer output bore can be changed any time by changing the bushing kit
- The quill, all bushing parts, and hardware can be supplied stainless steel to provide corrosion resistance for wash down applications

## Interchangeable Support Side and Clamp Side



*The distinct support side and a clamp side are interchangeable. The dual tapered cones are designed to overcome a wide range of tolerances normally found with standard shaft materials. No shaft key necessary.*

## MGS Speed Reducers Outfitted with ComTrac® Adjustable Speed Drives

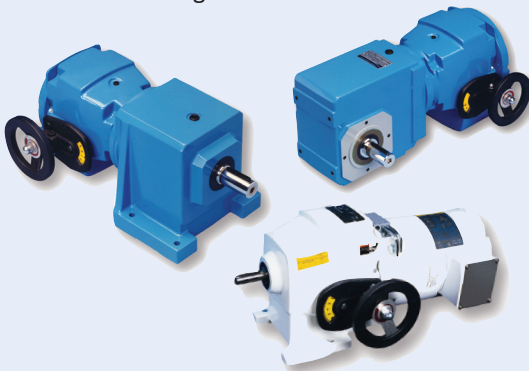
The ComTrac is an adjustable speed traction drive that transfers power between a motor mounted drive cone and a traction ring.

At rest, a spring loaded torque compensating assembly produces minimal contact pressure between the drive cone and traction ring. As the drive is started, the load compensating cams move against each other to increase pressure between the drive cone and traction ring.

During operation, the load compensating cams maintain the proper amount of pressure between the drive cone and traction ring in proportion to the output load torque required.

Speed changes are made with a hand wheel controlled rack and pinion that changes the relative running diameters of the drive cone and traction ring: the faster running outer diameter of the drive cone increases speed; the slower running center of the drive cone decreases output speed.

ComTrac is available with a severe duty protection package to withstand the effects of outdoor use, exposure to excessively humid or acidic environments, or spray wash downs with water or caustic fluids.



## Spiral Groove Hollow Bore

F K KL KSS

The inside diameter on our hollow bore units feature a spiral (rifle) bore design providing an anti-seize lubricating groove. This enables the MGS speed reducer to slide off freely when servicing without damage to the output shaft. With conventional smooth-surface hollow bore designs, any anti-seize lubricant applied during installation of the output shaft has nowhere to go except out the other end. Invariably, these designs will seize, making it necessary to cut off the output shaft when servicing.

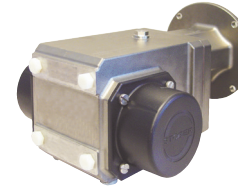
# MGS® Speed Reducers At-a-Glance

## Versatility

STOBER MGS® speed reducers offer the diversity and range to meet virtually any performance and environmental challenge

If you don't see exactly what you need, call your STOBER representative or STOBER customer service for assistance.

## STAINLESS STEEL



## Configurations and Options

### KSS

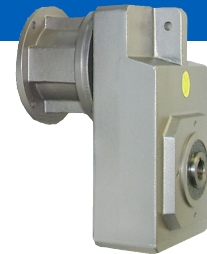
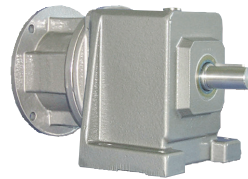
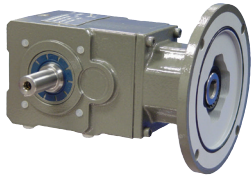
page 12

<b>General</b>	<b>Input-Output Orientation</b>	Right-Angle
	<b>Gearing</b>	Helical/Bevel
	<b>Housing</b>	Cast 304 SS
	<b>Configurations</b>	4 sizes; 2 or 3 stages
	<b>Envelope Size (Min/Max L" x W"x H" )</b>	6.7 x 4.2 x 5.0 12.6 x 6.8 x 7.9
<b>Performance</b>	<b>Input HP (Max)</b>	1/8 to 5
	<b>Output Torque – in-lbs (Max)</b>	364 to 4872
	<b>Output Speed RPM</b>	6 to 435
<b>NEMA C-Face Motor Compatibility (1750 RPM)</b>	56C	•
	143/145TC	•
	182/184TC	•
	213/215TC	
	254/256TC	
	284/286TC	
	324/326TC	
	364/365TC	
	<b>Output</b>	<b>Solid Shaft</b>
<b>Hollow Bore</b>		•
<b>Wobble Free Bushing</b>		•
<b>Housing/Mounting</b>	<b>Round Flange</b>	•
	<b>Torque Arm Bracket</b>	•
	<b>Foot Mount</b>	•
	<b>Tapped Holes</b>	•
	<b>USDA Accepted Equipment</b>	•
<b>Protection</b>	<b>IP69K Certified</b>	•
	<b>IP69 Compliant</b>	
	<b>Housing</b>	Totally enclosed – no breather
<b>Hardware</b>	<b>Standard 3 year warranty</b>	•
	<b>Non-Plated</b>	
	<b>Plated</b>	
<b>Paint/Coatings</b>	<b>Stainless Steel</b>	•
	<b>Standard Gray</b>	
	<b>316SS Epoxy</b>	
	<b>Anti-Microbial Clear Coat</b>	



# Overview Selection At-a-Glance

## IRON



<b>KL</b> page 32	<b>K</b> page 32	<b>C</b> page 88	<b>F</b> page 130
Right-Angle	Right-Angle	Inline	Inline (Offset)
Helical/Bevel	Helical/Bevel	Concentric Helical	Offset Helical
Cast Iron	Cast Iron	Cast Iron	Cast Iron
1 size, 2 stages	10 sizes; 2, 3 or 4 stages	10 sizes; 2 or 3 stages	5 sizes; 2 or 3 stages
5.6 x 4.2 x 4.3	7.4 x 4.2 x 6.3 26.6 x 15.6 x 23.3	6.2 x 5.2 x 5.7 22.6 x 20.1 x 20.9	4.3 x 5.7 x 9.4 9.2 x 10.4 x 17.6
1/2 to 2	1/8 to 100	1/8 to 105.2	1/8 to 33
291 to 443	364 to 92,250	182 to 53,148	392 to 9,744
55 to 435	5* to 437	2.5* to 190	3* to 406
•	•	•	•
	•	•	•
	•	•	•
	•	•	•
	•	•	•
	•	•	•
	•	•	•
	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
• (Square)	•	• (Round or Square)	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
Opt	Opt	Opt	Opt
Totally Enclosed – no breather	**	**	**
•	•	•	•
•	•	•	•
Opt	Opt	Opt	Opt
Opt	Opt	Opt	Opt
•	•	•	•
Opt	Opt	Opt	Opt
Opt	Opt	Opt	Opt

\*If a slower speed is needed, units can be combined to match application requirements. Contact STÖBER Drives Inc.

•• Totally enclosed - no breather housing is optionally available on popular sizes.

## Speed Reducer Sizing/Selection Requirements

To size an MGS speed reducer for any application, the following information is required:

1. Motor speed (all MGS selection data charts assume a 1750 rpm motor)
2. Desired output speed of the reducer (rpm) to meet the application requirement (refer to selection data charts within each product section, see the following example)
3. Input HP or output torque (lb-in) rating requirement of the application (use calculation below)
4. Overhung load limitations of application (use calculation at right)
5. Application Service Factor requirement (use tables on the facing page)

If you have any questions or need assistance selecting the best speed reducer for your application, please contact your STÖBER representative or STÖBER Technical Support.

Once the appropriate MGS speed reducer has been determined use the selection data tables (see sample below), to make the appropriate model selection for the application:

- 1 Use RPM Output (Approximate) nearest the application requirement.
- 2A Determine Input HP rating that is greater than or equal to the application required HP, or;
- 2B If selection is based on Torque instead of HP, find an Output Torque that is equal to or greater than required.
- 3 Confirm acceptable overhung load
- 4 Select Base Module and Motor Adapter part number

Complete the part number by selecting the appropriate options from the table located at the beginning of each product section.

## Calculating Overhung Load

Pulling forces or overhung load of pulleys, sheaves, sprockets, etc. on the reducer input and output shaft must not exceed the allowable overhung load limits shown in the Selection Data tables within each product section.

The overhung load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If an overhung load rating is required, use 50% of the published overhung load from the Selection Data. Contact STÖBER Technical Support, if assistance is needed.

The following formula can be used to determine actual overhung load for a given drive:

$$OHL = \frac{126,000 \times HP \times K}{D \times RPM}$$

Where:

<b>OHL</b>	Overhung Load (lbs)
<b>HP</b>	Horsepower
<b>D</b>	Pitch Dia. of Sprocket, Gear, Sheave, Pulley, etc.
<b>RPM</b>	Maximum Speed
	1.00 Chain Drives
	1.25 Gear Drives
<b>K</b>	1.25 Gearbelt Drives
	1.50 V-Belt Drives
	2.50 Flat Belt Drives

## Selection Data

1750 RPM Input		Nominal Ratio	3 Overhung Load Output Shaft <sup>1)</sup> (lbs)	4 Part Number Codes		Compatible NEMA C-Frame <sup>2</sup> with Designated Motor Adapter
2A Input HP	2B Output Torque (lb-in)			Base Module	Motor Adapter Adder	
1 435 RPM Output (Approximate)						
2.61	364	4.000	402	KSS102_0040	MS1R050	56C
7.00*	979	4.000	483	KSS202_0040	MS2R050	56C
					MS2R140	143/145TC
9.22*	1,289	4.000	563	KSS302_0040	MS3R050	56C
					MS3R140	143/145TC
					MS3R180	182/184TC

## Calculating Input HP or Output Torque

MGS speed reducers can be selected by either HP or Output Torque. The following formulas can be used to convert horsepower to torque or torque to horsepower.

$$HP = \frac{\text{Torque (in/lbs)} \times \text{Output Speed (RPM)}}{63,025}$$

$$\text{Torque (in/lbs)} = \frac{HP \times 63,025}{\text{Output Speed (RPM)}}$$

No overhung load is encountered when an MGS reducer is flange mounted and/or coupling connected to another unit. However, the shafts of all components must be accurately aligned and secured to prevent pre-loading of the bearings and premature bearing failure.

## Determining Service Factor

Use one of the following two methods to determine the service factor of the speed reducer application.

Note: Service Factor should be determined for conditions such as non-uniform load, hours of service, and elevated ambient temperature. (For applications powered by an AC motor, a Service Factor of 2.0 is normally sufficient.)

### Method 1.

Establish a Service Factor (SF) when the driven equipment and service class are known, use Table 1.

### Method 2.

Establish a Service Factor (SF) when conditions are known, but the service class is NOT Known, use the information in Tables 2 – 6 below applied to the following equation:

$$SF = f_B \times f_T \times f_L \times f_V$$

Once the service factor has been determined, be sure to choose an MGS speed reducer that will meet or exceed:

$$HP \times SF \text{ or } \text{Torque (in/lbs)} \times SF$$

**NOTE:** Do not Service Factor the motor.

**Table 1. Service Class I, II, III**

Operating Conditions – not all inclusive. Each application should be checked to determine if any unusual conditions are present. See also Tables 3-5.

Service Class	Service Factor	
I	1.25	Moderate Shock – not more than 15 minutes in 2 hours
		Uniform Load – not more than 10 hours per day.
II	1.40	Moderate Shock – not more than 10 hours per day.
		Uniform Load – more than 10 hours per day.
III	1.75	Heavy Shock – not more than 15 minutes in 2 hours.
		Moderate Shock – more than 10 hours per day.
III	2.00	Heavy Shock – not more than 10 hours per day.
		Heavy Shock – more than 10 hours per day.

Type of Equipment	Hrs/Day	
	3-10	>10
<b>Agitators</b>		
Pure Liquids	I	II
Semi-Liquids, variable density	II	III
Solids	III	III
<b>Brewing and Distilling</b>		
Bottling Machinery	I	II
Brew Kettles (continuous duty)		II
Cookers (continuous duty)		II
Mash Tubs (continuous duty)		II
Scale Hopper (frequent starts)	II	II
Can Filling Machines	I	II
Car Dumpers	III	III
Clarifiers	I	II
Classifiers	II	II
<b>Conveyors (uniform load and fed)</b>		
Apron	II	II
Assembly Belt (bucket or pan)	II	II
Chain - Flight	II	II
Oven - Live Roll - Screw	I	II
<b>Conveyors (non-uniform load and fed)</b>		
Apron	II	III
Assembly Belt (bucket or pan)	II	II
Chain - Flight	II	II
Live Roll	*	*
Oven - Screw	II	II
Reciprocating - Shaker	III	III

\* Contact STÖBER Drives

Type of Equipment	Hrs/Day	
	3-10	>10
<b>Elevators</b>		
Bucket (uniform load)	I	II
Bucket (nonuniform load - heavy duty)	II	III
Centrifugal Discharge	I	II
Freight	II	II
Gravity Discharge	I	II
<b>Food Industry</b>		
Slicer	II	III
Bottling, Can Filling Machines	I	II
Cereal Cooker	I	II
Mixer, Grinder	III	III
<b>Line Shafts</b>		
Uniform load	I	II
Nonuniform, Heavy Duty	II	III
<b>Machine Tools</b>		
Auxiliary Drive	I	II
Main Drive - uniform load	II	II
Main Drive - nonuniform Load	III	III
<b>Table Conveyors (non reversing)</b>		
Group Drives	II	III
Individual Drives	III	III
Wire Drawing, Flattening, Winding	II	III
<b>Mixers</b>		
Concrete - Continuous	II	III
Concrete - Intermittent	III	III
Constant Density	II	III
Semi-Liquid	III	III
<b>Sewage Disposal Equipment</b>		
Bar Screens	I	II
Chemical Feeders	I	II
Collectors	I	II
Dewatering Screws	II	II
Scum Breakers	II	III
Slow or Rapid Mixers	III	III
Thickeners	II	II
Vacuum Filters	II	II
<b>Screens</b>		
Air Washing	I	II
Rotary - Stone or Gravel	II	II
Traveling Water Intake	I	II
Skip Hoists	II	III
Slab Pushers	II	III
Stokers	II	II
<b>Textile Industry</b>		
Batchers or Calenders	II	II
Cards	I	II
Card Machines	III	III
Dry Cans and Dryers	II	II
Dyeing Machines	*	III
Looms	*	*
Mangles, Nappers and Pads	II	II
Soapers, Tenner Frames	II	II
Sinners, Washers, Winders	II	II
Tumbling Barrels	III	III
Windlass	II	III

**Table 2. Load Factor (f<sub>B</sub>)**

Uniform Load.....	1.0	Medium Shock...1.4
Non-uniform Load .....	1.25	Severe Shock ....1.6

Contact STÖBER Technical Support for selection assistance on applications requiring frequent starts and stops.

**Table 3. Ambient Temperature Factor (f<sub>T</sub>)**

f <sub>T</sub>	Ambient Temperature (°F)					
	32	50	70	85	100	120
f <sub>T</sub>	1.15	1.15	1.0	1.0	1.15	1.3

For temperatures less than 32° or greater than 120°, contact STÖBER Technical Support.

**Table 4. Hours of Service Factor (f<sub>L</sub>)**

f <sub>L</sub>	Hours of Service						
	2	4	6	8	12	16	24
f <sub>L</sub>	0.75	0.85	0.95	1.0	1.10	1.15	1.20

**Table 5. Torque Characteristics (f<sub>V</sub>)**

Use for Frequency Convertor Only

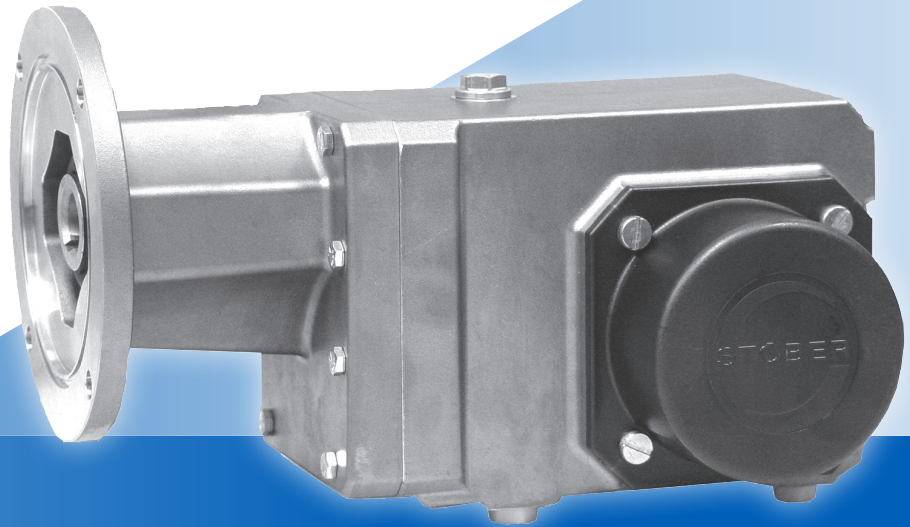
Constant torque over entire speed variation	1.0
Increasing output torque from 87 – 50 Hz	1.7

## KSS Series: RIGHT ANGLE — Solid Shaft/Hollow Output

### KSS Series Features

- Input rating up to 5 HP
- Ratio options 4:1 – 272:1
- Output torque capability up to 4872 lb-in
- NEMA input capabilities of 56C, 143/145TC, 182/184TC
- All stainless steel hardware
- Output bore diameters up to 1-1/2"
- Housing style options: feet, flange, torque arm bracket, or tapped holes

*The KSS Series utilizes our quality-proven, high-efficiency K Series helical/bevel speed reducer mechanics. Enclosed within a sealed, stainless steel housing, the KSS provides superior performance for food duty and severe wash down applications.*



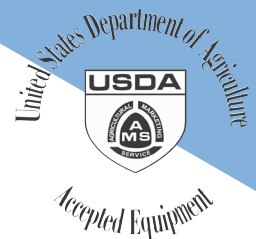
**SHIPS in  
1 DAY!**  
NO EXPEDITE FEE FOR 24  
HOUR SERVICE

### KSS Series Benefits

- No maintenance - totally enclosed with no breather to allow contaminants in or oil out
- Lubricated for life with Mobil SHC CIBUS 220 food grade oil
- No harborage point for bacteria because of our laser etched nameplate data
- Simple motor mounting and removal with Bowex coupling system
- Energy savings - up to 97% efficiency
- Easy installation and removal with our patented bushing system and any horizontal mounting position
- Reliability guaranteed with 3 year warranty
- Adaptability - mounting gear reducer from either machine side means stocking fewer options
- Durability - IP69K Certified to prevent water and dust ingress
- Assembled in USA

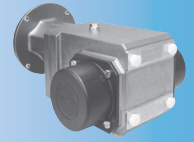
### The Optimum Food & Beverage Solution!

- Cast stainless steel housing outside; all stainless steel hardware inside
- Mobil SHC CIBUS 220 food grade oil
- Suitable for the most extreme wash down applications
- USDA Accepted Equipment/FDA compliant
- IP69K certified to prevent water and dust ingress (see page 6 for full details)



# Overview

# IP69K/STAINLESS STEEL



## KSS Ordering Options At-a-Glance

KSS Series are available in a wide range of user-selected design options that tailor the speed reducer to your motor and exact application requirements. Use the appropriate order codes below to build a part number for the complete assembly.

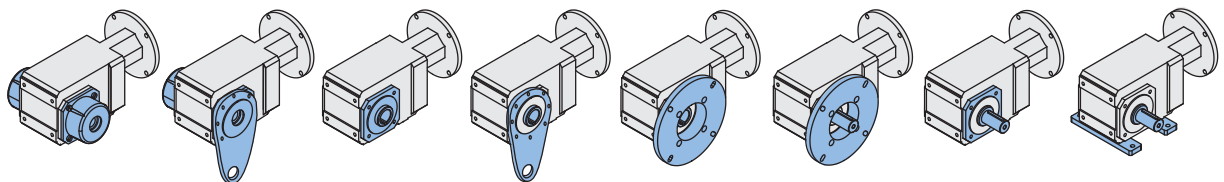
**Part Number Example:** 1 2 3 4 5 6 7 8 9 0\*

**Part Number Example:** KSS 1 0 2 W G 0040 MS1R 050 EL1256

	Part Number		
Design Option	Code		Description
<b>1 Series</b>	<b>KSS</b>		Stainless steel housing; right angle helical/bevel
<b>2 Size</b>	<b>1 2 3 4</b>		4 sizes of speed reducers
<b>3 Generation</b>	<b>0</b>		Version of speed reducers
<b>4 # of Stages</b>	<b>2 3</b>		Two stage or three stage
<b>5 Output</b>	<b>A</b>		Hollow bore output
	<b>V</b>		Solid shaft output (specify side 3, 4 or double sided)
	<b>W</b>		Double wobble-free bushing
<b>6 Housing</b>	<b>F</b>		Round output flange (specify side 3 or 4)
	<b>G</b>		Pilot Circle Diameter (PCD) tapped holes
	<b>GD</b>		Torque arm bracket
	<b>NG</b>		Foot mounting (specify side 1 or 5)
<b>7 Ratio</b>	<b>0040</b>		Ratios range from 4:1 to 272:1 (refer to Selection Data tables)
<b>8 Motor Adapter</b>	<b>MS1R</b>		For KSS1
	<b>MS2R</b>		For KSS2
	<b>MS3R</b>		For KSS3
	<b>MS4R</b>		For KSS4
<b>9 NEMA Frame Size</b>	<b>050</b>		56C
	<b>140</b>		143/145TC
	<b>180</b>		182/184TC
<b>0 Mounting Position*</b>	<b>EL1256</b>		Mounting positions for 3 year warranty
<i>Refer to page 14 illustrations</i>	<b>E34</b>		

\*Note: Mounting position is added to "notes" section of order.

## Output and Housing Configurations

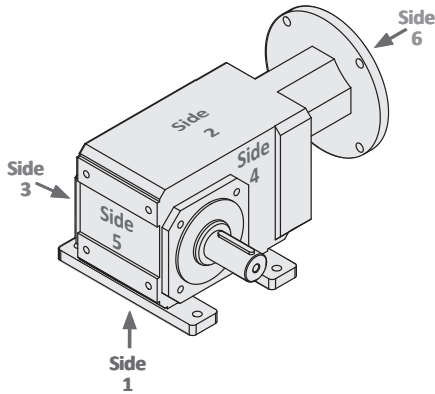


See Page	page 24	page 25	page 26	page 27	page 28	page 29	page 30	page 31
<b>Output</b>	<b>W</b> Double Bushing	<b>W</b> Double Bushing	<b>A</b> Hollow Bore	<b>A</b> Hollow Bore	<b>A</b> Hollow Bore	<b>V</b> Solid Shaft	<b>V</b> Solid Shaft	<b>V</b> Solid Shaft
<b>Housing</b>	<b>G</b> Tapped Holes	<b>GD</b> Torque Arm Bracket	<b>G</b> Tapped Holes	<b>GD</b> Torque Arm Bracket	<b>F</b> Round Flange	<b>F</b> Round Flange	<b>G</b> Tapped Holes	<b>NG</b> Foot Mount

KSS Series: RIGHT ANGLE — Solid Shaft / Hollow Output

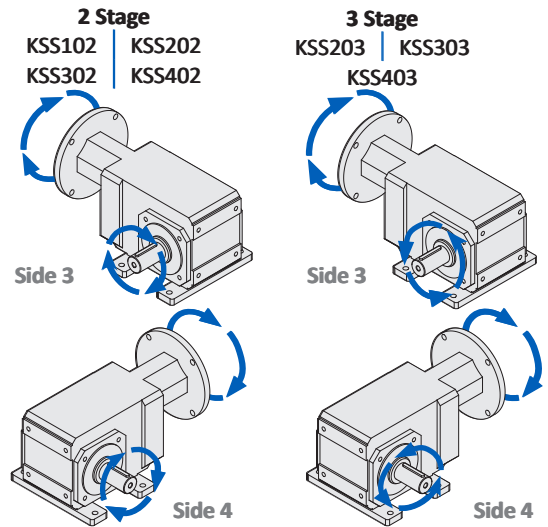
# KSS Series: RIGHT ANGLE — Solid Shaft/Hollow Output

## KSS Series Orientation



## KSS Series Direction of Rotation

Output available on side 3, 4 or both.  
 Note: With a double output, the shaft rotation of Side 3 will be the OPPOSITE direction of Side 4 when viewed from Side 5.



## KSS Series Output Options

BLUE: standard output diameters in stock  
 BLACK: optional diameters in stock

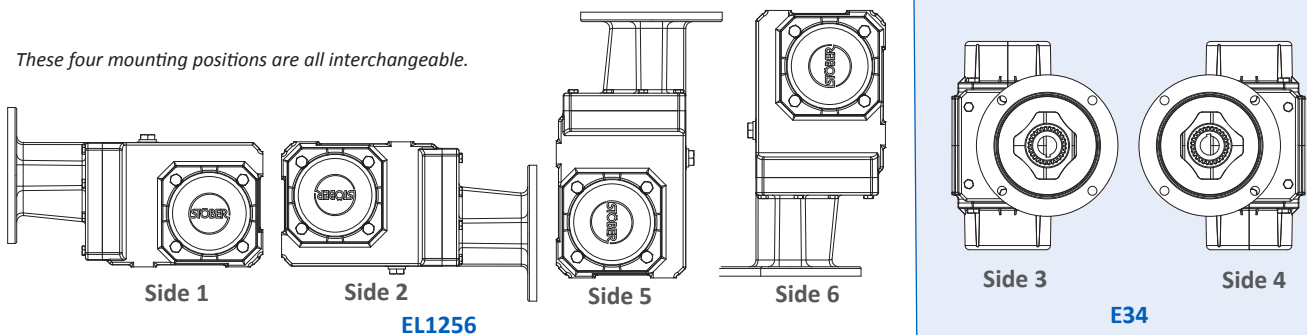
All Outputs Stainless Steel (Inches)		KSS1	KSS2	KSS3	KSS4
"V" Solid Shaft	Inches	1	1-1/4	1-1/4	1-3/8
"A" Hollow Bore	Inches	1	1-1/4	1-3/8	1-1/2
"W" Wobble Free Bushing	Inches	1	1 1-3/16 1-1/4 1-3/8 1-7/16 1-1/2	1 1-3/16 1-1/4 1-3/8 1-7/16 1-1/2	1-3/16 1-1/4 1-3/8 1-7/16 1-1/2
	Metric	25	30 35	30 35	40

## KSS Mounting Position Options

When ordering any KSS unit, the mounting position must be specified. Use one of the mounting position order codes illustrated below that corresponds to the intended application.

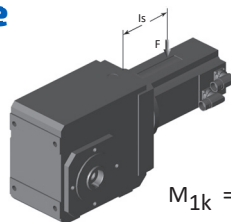
Note that KSS units are equipped with specialized seals, higher oil level, and additional features that enables all horizontal output positions to be used interchangeably.

These four mounting positions are all interchangeable.



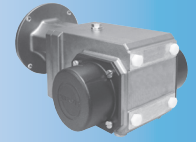
## Permissible Motor Tilting Torque

The permissible tilting torque of the motor attached to the gear unit is a result of the static and dynamic load "F" from the motor weight, mass acceleration, and vibration multiplied by the distance from the center of gravity "l<sub>s</sub>" of the motor.



$$M_{1k} = F \times l_s \leq M_{1K}$$

M <sub>1K</sub>	MS1R	MS2R	MS3R	MS4R
in.lbs	221	531	1106	2212



# Selection Data

# IP69K/STAINLESS STEEL

KSS Series: RIGHT ANGLE — Solid Shaft / Hollow Output

## KSS Sizing/Selection:

1. Find the **RPM Output (Approximate)** nearest the application requirement. (If the exact Output RPM is required, divide the Input RPM [1750] by the value listed in the Nominal Ratio column.)
- 2a. In the **Input HP** column, locate the rating that is greater than or equal to the required HP, or;
- 2b. If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.
3. Confirm that the **Overhung Load** is acceptable for the application.
4. Choose the appropriate **Base Module** and **Motor Adapter** part number code (see page 13 for complete ordering information).

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter	

### 435 RPM Output (Approximate)

2.61	364	4.000	402	<b>KSS102_0040</b>	<b>MS1R050</b>	56C
7.00*	979	4.000	483	<b>KSS202_0040</b>	<b>MS2R050</b>	56C
					<b>MS2R140</b>	143/145TC
9.22*	1,289	4.000	563	<b>KSS302_0040</b>	<b>MS3R050</b>	56C
					<b>MS3R140</b>	143/145TC
					<b>MS3R180</b>	182/184TC
9.22	1,289	4.000	901	<b>KSS402_0040</b>	<b>MS4R050</b>	56C
					<b>MS4R140</b>	143/145TC
18.40*	2,572	4.000	901	<b>KSS402_0040</b>	<b>MS4R180</b>	182/184TC

### 400 RPM Output (Approximate)

6.60*	1,008	4.364	497	<b>KSS202_0044</b>	<b>MS2R050</b>	56C
					<b>MS2R140</b>	143/145TC
9.22*	1,406	4.364	580	<b>KSS302_0044</b>	<b>MS3R050</b>	56C
					<b>MS3R140</b>	143/145TC
11.57*	1,765	4.364	580	<b>KSS302_0044</b>	<b>MS3R180</b>	182/184TC
9.22	1,406	4.364	928	<b>KSS402_0044</b>	<b>MS4R050</b>	56C
					<b>MS4R140</b>	143/145TC
17.36*	2,648	4.364	928	<b>KSS402_0044</b>	<b>MS4R180</b>	182/184TC

### 340 RPM Output (Approximate)

5.89*	1,067	5.177	526	<b>KSS202_0052</b>	<b>MS2R050</b>	56C
					<b>MS2R140</b>	143/145TC

1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

C-Frame	56C	143/145TC	182/184
HP	1/4 to 1-1/2	1 to 2	3 to 5

\* Thermal HP Limit

Base Module Size	KSS102	KSS202	KSS302	KSS402
HP Limit	2.95	5.36	7.38	12.34

# KSS Series: RIGHT ANGLE — Solid Shaft/Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter	
<b>325 RPM Output (Approximate)</b>						
8.73*	1,640	5.375	621	KSS302_0054	MS3R050	56C
					MS3R140	143/145TC
10.07*	1,892	5.375	621	KSS302_0054	MS3R180	182/184TC
9.22	1,747	5.422	997	KSS402_0054	MS4R050	56C
					MS4R140	143/145TC
15.02*	2,847	5.422	997	KSS402_0054	MS4R180	182/184TC
<b>315 RPM Output (Approximate)</b>						
2.61	507	5.568	449	KSS102_0056	MS1R050	56C
<b>290 RPM Output (Approximate)</b>						
2.61	546	6.000	460	KSS102_0060	MS1R050	56C
5.34	1,120	6.000	553	KSS202_0060	MS2R050	56C
					MS2R140	143/145TC
9.22*	1,933	6.000	645	KSS302_0060	MS3R050	56C
					MS3R140	143/145TC
9.36*	1,962	6.000	645	KSS302_0060	MS3R180	182/184TC
9.22	1,933	6.000	1,031	KSS402_0060	MS4R050	56C
					MS4R140	143/145TC
14.04*	2,945	6.000	1,031	KSS402_0060	MS4R180	182/184TC
<b>260 RPM Output (Approximate)</b>						
2.61	605	6.644	476	KSS102_0066	MS1R050	56C
4.97	1,161	6.683	573	KSS202_0067	MS2R050	56C
					MS2R140	143/145TC
7.92*	1,865	6.740	670	KSS302_0067	MS3R050	56C
					MS3R140	143/145TC
8.66*	2,040	6.740	670	KSS302_0067	MS3R180	182/184TC
8.73	2,050	6.719	1,071	KSS402_0067	MS4R050	56C
					MS4R140	143/145TC
13.02*	3,058	6.719	1,071	KSS402_0067	MS4R180	182/184TC
<b>245 RPM Output (Approximate)</b>						
4.77	1,186	7.118	585	KSS202_0071	MS2R050	56C
					MS2R140	143/145TC

1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

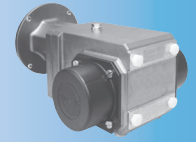
2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

C-Frame	56C	143/145TC	182/184
HP	1/4 to 1-1/2	1 to 2	3 to 5

\* Thermal HP Limit

Base Module Size	KSS102	KSS202	KSS302	KSS402
HP Limit	2.95	5.36	7.38	12.34





# Selection Data

# IP69K/STAINLESS STEEL

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter	

### 235 RPM Output (Approximate)

8.14*	2,104	7.391	691	KSS302_0074	MS3R050	56C
					MS3R140	143/145TC
					MS3R180	182/184TC
9.22	2,402	7.456	1,109	KSS402_0075	MS4R050	56C
					MS4R140	143/145TC
12.04	3,166	7.456	1,109	KSS402_0075	MS4R180	182/184TC

### 210 RPM Output (Approximate)

2.41	699	8.309	513	KSS102_0083	MS1R050	56C
4.27	1,253	8.397	618	KSS202_0084	MS2R050	56C
					MS2R140	143/145TC
6.87	2,029	8.444	722	KSS302_0084	MS3R050	56C
					MS3R140	143/145TC
7.45	2,199	8.444	722	KSS302_0084	MS3R180	182/184TC
7.70	2,256	8.377	1,153	KSS402_0084	MS4R050	56C
					MS4R140	143/145TC
11.24	3,291	8.377	1,153	KSS402_0084	MS4R180	182/184TC

### 190 RPM Output (Approximate)

2.24	725	9.249	532	KSS102_0092	MS1R050	56C
4.02	1,292	9.190	637	KSS202_0092	MS2R050	56C
					MS2R140	143/145TC
7.00	2,268	9.267	745	KSS302_0093	MS3R050	56C
					MS3R140	143/145TC
					MS3R180	182/184TC
8.73	2,819	9.238	1,191	KSS402_0092	MS4R050	56C
					MS4R140	143/145TC
10.53	3,400	9.238	1,191	KSS402_0092	MS4R180	182/184TC

### 170 RPM Output (Approximate)

2.11	747	10.140	548	KSS102_0100	MS1R050	56C
3.78	1,332	10.073	657	KSS202_0100	MS2R050	56C
					MS2R140	143/145TC
5.98	2,117	10.135	768	KSS302_0100	MS3R050	56C
					MS3R140	143/145TC
6.60	2,337	10.135	768	KSS302_0100	MS3R180	182/184TC
6.66	2,351	10.098	1,227	KSS402_0100	MS4R050	56C
					MS4R140	143/145TC
9.62	3,503	10.098	1,227	KSS402_0100	MS4R180	182/184TC

1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

C-Frame	56C	143/145TC	182/184
HP	1/4 to 1-1/2	1 to 2	3 to 5

KSS Series: RIGHT ANGLE — Solid Shaft / Hollow Output

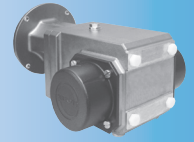
# KSS Series: RIGHT ANGLE — Solid Shaft/Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter	
<b>150 RPM Output (Approximate)</b>						
1.93	781	11.565	573	KSS102_0115	MS1R050	56C
3.45	1,394	11.546	687	KSS202_0115	MS2R050	56C
					MS2R140	143/145TC
6.02	2,445	11.610	803	KSS302_0115	MS3R050	56C
					MS3R140	143/145TC
					MS3R180	182/184TC
7.70	3,102	11.518	1,282	KSS402_0115	MS4R050	56C
					MS4R140	143/145TC
9.09	3,660	11.518	1,282	KSS402_0115	MS4R180	182/184TC
<b>140 RPM Output (Approximate)</b>						
1.82	804	12.618	590	KSS102_0125	MS1R050	56C
3.24	1,439	12.705	710	KSS202_0125	MS2R050	56C
					MS2R140	143/145TC
5.12	2,251	12.577	825	KSS302_0125	MS3R050	56C
					MS3R140	143/145TC
5.71	2,511	12.577	825	KSS302_0125	MS3R180	182/184TC
5.86	2,594	12.658	1,323	KSS402_0125	MS4R050	56C
					MS4R140	143/145TC
8.53	3,777	12.658	1,323	KSS402_0125	MS4R180	182/184TC
<b>125 RPM Output (Approximate)</b>						
1.69	835	14.114	612	KSS102_0140	MS1R050	56C
3.06	1,481	13.851	730	KSS202_0140	MS2R050	56C
					MS2R140	143/145TC
5.33	2,599	13.935	854	KSS302_0140	MS3R050	56C
					MS3R140	143/145TC
					MS3R180	182/184TC
6.66	3,232	13.885	1,364	KSS402_0140	MS4R050	56C
					MS4R140	143/145TC
8.02	3,895	13.885	1,364	KSS402_0140	MS4R180	182/184TC
<b>105 RPM Output (Approximate)</b>						
1.51	883	16.714	648	KSS102_0165	MS1R050	56C
2.68	1,581	16.858	780	KSS202_0170	MS2R050	56C
					MS2R140	143/145TC
4.03	2,389	16.939	911	KSS302_0170	MS3R050	56C
					MS3R140	143/145TC
4.68	2,774	16.939	911	KSS302_0170	MS3R180	182/184TC
7.03	4,162	16.939	1,458	KSS402_0170	MS4R050	56C
					MS4R140	143/145TC
					MS4R180	182/184TC

1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

C-Frame	56C	143/145TC	182/184
HP	1/4 to 1-1/2	1 to 2	3 to 5



# Selection Data

# IP69K/STAINLESS STEEL

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter	
<b>100 RPM Output (Approximate)</b>						
1.46	898	17.563	659	KSS102_0175	MS1R050	56C
2.62	1,600	17.469	789	KSS202_0175	MS2R050	56C
					MS2R140	143/145TC
4.62	2,793	17.293	917	KSS302_0175	MS3R050	56C
					MS3R140	143/145TC
					MS3R180	182/184TC
5.86	3,567	17.405	1,471	KSS402_0175	MS4R050	56C
					MS4R140	143/145TC
6.90	4,200	17.405	1,471	KSS402_0175	MS4R180	182/184TC
<b>85 RPM Output (Approximate)</b>						
1.33	940	20.150	690	KSS102_0200	MS1R050	56C
2.37	1,683	20.327	830	KSS202_0200	MS2R050	56C
					MS2R140	143/145TC
3.56	2,526	20.278	967	KSS302_0200	MS3R050	56C
					MS3R140	143/145TC
4.15	2,945	20.278	967	KSS302_0200	MS3R180	182/184TC
4.03	2,849	20.197	1,546	KSS402_0200	MS4R050	56C
					MS4R140	143/145TC
6.25	4,413	20.197	1,546	KSS402_0200	MS4R180	182/184TC
<b>75 RPM Output (Approximate)</b>						
1.21	986	23.265	723	KSS102_0230	MS1R050	56C
2.17	1,758	23.180	867	KSS202_0230	MS2R050	56C
					MS2R140	143/145TC
3.79	3,084	23.292	1,013	KSS302_0230	MS3R050	56C
					MS3R140	143/145TC
					MS3R180	182/184TC
4.65	3,786	23.292	1,621	KSS402_0230	MS4R050	56C
					MS4R140	143/145TC
5.68	4,628	23.292	1,621	KSS402_0230	MS4R180	182/184TC
<b>70 RPM Output (Approximate)</b>						
0.96	851	25.220	743	KSS102_0250	MS1R050	56C
2.02	1,772	25.130	891	KSS202_0250	MS2R050	56C
					MS2R140	143/145TC
2.91	2,566	25.259	1,041	KSS302_0250	MS3R050	56C
					MS3R140	143/145TC
3.48	3,070	25.259	1,041	KSS302_0250	MS3R180	182/184TC
3.34	2,956	25.279	1,666	KSS402_0250	MS4R050	56C
					MS4R140	143/145TC
5.02	4,434	25.279	1,666	KSS402_0250	MS4R180	182/184TC

KSS Series: RIGHT ANGLE — Solid Shaft / Hollow Output

1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

C-Frame	56C	143/145TC	182/184
HP	1/4 to 1-1/2	1 to 2	3 to 5

# KSS Series: RIGHT ANGLE — Solid Shaft/Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter	

## 60 RPM Output (Approximate)

1.07	1,049	28.048	770	<b>KSS102_0280</b>	<b>MS1R050</b>	56C
1.81	1,772	27.950	923	<b>KSS202_0280</b>	<b>MS2R050</b>	56C
					<b>MS2R140</b>	143/145TC
3.18	3,100	27.883	1,076	<b>KSS302_0280</b>	<b>MS3R050</b>	56C
					<b>MS3R140</b>	143/145TC
					<b>MS3R180</b>	182/184TC
4.03	3,917	27.771	1,719	<b>KSS402_0280</b>	<b>MS4R050</b>	56C
					<b>MS4R140</b>	143/145TC
5.02	4,872	27.771	1,719	<b>KSS402_0280</b>	<b>MS4R180</b>	182/184TC

## 55 RPM Output (Approximate)

2.76	3,100	32.649	1,134	<b>KSS303_0330</b>	<b>MS3R050</b>	56C
					<b>MS3R140</b>	143/145TC
3.34	3,733	32.390	1,809	<b>KSS403_0320</b>	<b>MS4R050</b>	56C
					<b>MS4R140</b>	143/145TC

## 52 RPM Output (Approximate)

0.55	647	33.707	886	<b>KSS102_0340</b>	<b>MS1R050</b>	56C
1.16	1,364	33.618	1,063	<b>KSS202_0340</b>	<b>MS2R050</b>	56C
					<b>MS2R140</b>	143/145TC
1.89	2,217	33.618	1,240	<b>KSS302_0340</b>	<b>MS3R050</b>	56C
					<b>MS3R140</b>	143/145TC
					<b>MS4R050</b>	56C
2.62	3,084	33.678	1,833	<b>KSS402_0340</b>	<b>MS4R140</b>	143/145TC
					<b>MS4R180</b>	182/184TC
2.93	3,445	33.678	1,833	<b>KSS402_0340</b>	<b>MS4R180</b>	182/184TC

## 50 RPM Output (Approximate)

0.87	1,063	35.105	895	<b>KSS102_0350</b>	<b>MS1R050</b>	56C
1.47	1,772	34.554	1,070	<b>KSS202_0350</b>	<b>MS2R050</b>	56C
					<b>MS2R140</b>	143/145TC
2.51	3,100	35.833	1,260	<b>KSS303_0360</b>	<b>MS3R050</b>	56C
					<b>MS3R140</b>	143/145TC
					<b>MS3R050</b>	56C
2.55	3,100	34.731	1,250	<b>KSS302_0350</b>	<b>MS3R140</b>	143/145TC
					<b>MS4R050</b>	56C
3.34	4,065	34.758	1,852	<b>KSS402_0350</b>	<b>MS4R140</b>	143/145TC
					<b>MS4R180</b>	182/184TC
3.34	4,117	35.721	1,869	<b>KSS403_0360</b>	<b>MS4R050</b>	56C
					<b>MS4R140</b>	143/145TC
4.01	4,872	34.758	1,852	<b>KSS402_0350</b>	<b>MS4R180</b>	182/184TC

## 45 RPM Output (Approximate)

1.30	1,772	39.454	1,035	<b>KSS203_0390</b>	<b>MS2R050</b>	56C
2.30	3,100	39.187	1,288	<b>KSS303_0390</b>	<b>MS3R050</b>	56C
					<b>MS3R140</b>	143/145TC
3.34	4,500	39.047	1,926	<b>KSS403_0390</b>	<b>MS4R050</b>	56C
					<b>MS4R140</b>	143/145TC

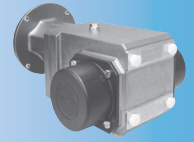
1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

C-Frame	<b>56C</b>	<b>143/145TC</b>	<b>182/184</b>
HP	1/4 to 1-1/2	1 to 2	3 to 5

# Selection Data

# IP69K/STAINLESS STEEL



1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter	

### 43 RPM Output (Approximate)

0.39	544	40.300	927	<b>KSS102_0400</b>	<b>MS1R050</b>	56C
1.20	1,705	40.512	1,299	<b>KSS302_0410</b>	<b>MS3R050</b>	56C
					<b>MS3R140</b>	143/145TC
1.93	2,729	40.512	1,950	<b>KSS402_0410</b>	<b>MS4R050</b>	56C
					<b>MS4R140</b>	143/145TC

### 40 RPM Output (Approximate)

1.10	1,772	46.225	1,151	<b>KSS202_0460</b>	<b>MS2R050</b>	56C
					<b>MS2R140</b>	143/145TC
1.14	1,772	45.223	1,083	<b>KSS203_0450</b>	<b>MS2R050</b>	56C
					<b>MS3R050</b>	56C
1.89	3,048	46.225	1,343	<b>KSS302_0460</b>	<b>MS3R140</b>	143/145TC
					<b>MS3R050</b>	56C
2.01	3,100	44.892	1,333	<b>KSS303_0450</b>	<b>MS3R140</b>	143/145TC
					<b>MS3R050</b>	56C
2.62	4,240	46.308	2,038	<b>KSS402_0460</b>	<b>MS4R050</b>	56C
					<b>MS4R140</b>	143/145TC
3.17	4,872	44.536	2,012	<b>KSS403_0450</b>	<b>MS4R050</b>	56C
					<b>MS4R140</b>	143/145TC

### 35 RPM Output (Approximate)

0.25	442	50.310	980	<b>KSS102_0500</b>	<b>MS1R050</b>	56C
0.55	900	46.918	963	<b>KSS102_0470</b>	<b>MS1R050</b>	56C
1.03	1,772	49.759	1,118	<b>KSS203_0500</b>	<b>MS2R050</b>	56C
1.85	3,100	48.631	1,360	<b>KSS303_0490</b>	<b>MS3R050</b>	56C
					<b>MS3R140</b>	143/145TC
1.35	2,387	50.427	2,097	<b>KSS402_0500</b>	<b>MS4R050</b>	56C
					<b>MS4R140</b>	143/145TC
2.89	4,872	48.944	2,076	<b>KSS403_0490</b>	<b>MS4R050</b>	56C
					<b>MS4R140</b>	143/145TC

### 30 RPM Output (Approximate)

0.38	753	56.095	970	<b>KSS102_0560</b>	<b>MS1R050</b>	56C
0.95	1,772	54.25	1,151	<b>KSS203_0540</b>	<b>MS2R050</b>	56C
					<b>MS3R050</b>	56C
1.20	2,345	55.705	1,407	<b>KSS302_0560</b>	<b>MS3R140</b>	143/145TC
					<b>MS3R050</b>	56C
1.67	3,100	53.883	1,395	<b>KSS303_0540</b>	<b>MS3R140</b>	143/145TC
					<b>MS4R050</b>	56C
1.93	3,752	55.705	2,168	<b>KSS402_0560</b>	<b>MS4R140</b>	143/145TC
					<b>MS4R050</b>	56C
2.63	4,872	53.690	2,141	<b>KSS403_0540</b>	<b>MS4R050</b>	56C
					<b>MS4R140</b>	143/145TC

1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

C-Frame	56C	143/145TC	182/184
HP	1/4 to 1-1/2	1 to 2	3 to 5

KSS Series: RIGHT ANGLE — Solid Shaft / Hollow Output

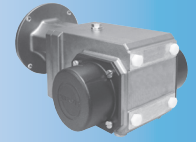
# KSS Series: RIGHT ANGLE — Solid Shaft/Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter	
<b>27 RPM Output (Approximate)</b>						
0.78	1,772	66.027	1,229	<b>KSS203_0660</b>	<b>MS2R050</b>	56C
1.38	3,100	65.499	1,465	<b>KSS303_0650</b>	<b>MS3R050</b>	56C
					<b>MS3R140</b>	143/145TC
1.32	3,016	66.346	2,298	<b>KSS403_0660</b>	<b>MS4R050</b>	56C
2.10	4,872	67.298	2,309	<b>KSS403_0670</b>	<b>MS4R050</b>	56C
					<b>MS4R140</b>	143/145TC
2.16	4,872	65.499	2,288	<b>KSS403_0650</b>	<b>MS4R050</b>	56C
					<b>MS4R140</b>	143/145TC
<b>25 RPM Output (Approximate)</b>						
0.25	616	70.029	1,064	<b>KSS102_0700</b>	<b>MS1R050</b>	56C
0.75	1,772	68.419	1,244	<b>KSS203_0680</b>	<b>MS2R050</b>	56C
1.35	3,100	66.868	1,473	<b>KSS303_0670</b>	<b>MS3R050</b>	56C
					<b>MS3R140</b>	143/145TC
1.35	3,283	69.338	2,332	<b>KSS402_0690</b>	<b>MS4R050</b>	56C
					<b>MS4R140</b>	143/145TC
<b>22 RPM Output (Approximate)</b>						
0.65	1,772	79.615	1,308	<b>KSS203_0800</b>	<b>MS2R050</b>	56C
1.15	3,100	78.410	1,532	<b>KSS303_0780</b>	<b>MS3R050</b>	56C
					<b>MS3R140</b>	143/145TC
1.81	4,872	78.095	2,426	<b>KSS403_0780</b>	<b>MS4R050</b>	56C
					<b>MS4R140</b>	143/145TC
<b>19 RPM Output (Approximate)</b>						
0.57	1,772	90.787	1,350	<b>KSS203_0910</b>	<b>MS2R050</b>	56C
1.00	3,100	90.061	1,575	<b>KSS303_0900</b>	<b>MS3R050</b>	56C
					<b>MS3R140</b>	143/145TC
1.57	4,872	90.061	2,520	<b>KSS403_0900</b>	<b>MS4R050</b>	56C
					<b>MS4R140</b>	143/145TC
<b>16 RPM Output (Approximate)</b>						
0.47	1,772	109.471	1,350	<b>KSS203_1090</b>	<b>MS2R050</b>	56C
0.84	3,100	107.814	1,575	<b>KSS303_1080</b>	<b>MS3R050</b>	56C
					<b>MS3R140</b>	143/145TC
1.32	4,872	107.381	2,520	<b>KSS403_1070</b>	<b>MS4R050</b>	56C
					<b>MS4R140</b>	143/145TC

1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

C-Frame	56C	143/145TC	182/184
HP	1/4 to 1-1/2	1 to 2	3 to 5



# Selection Data

# IP69K/STAINLESS STEEL

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter	

### 13 RPM Output (Approximate)

0.38	1,772	135.335	1,350	<b>KSS203_1350</b>	<b>MS2R050</b>	56C
0.67	3,100	134.292	1,575	<b>KSS303_1340</b>	<b>MS3R050</b>	56C
1.05	4,872	134.399	2,520	<b>KSS403_1340</b>	<b>MS4R050</b>	56C
					<b>MS4R140</b>	143/145TC

### 10 RPM Output (Approximate)

0.28	1,772	181.048	1,350	<b>KSS203_1810</b>	<b>MS2R050</b>	56C
0.50	3,048	178.737	1,575	<b>KSS303_1790</b>	<b>MS3R050</b>	56C
0.77	4,737	179.056	2,520	<b>KSS403_1790</b>	<b>MS4R050</b>	56C

### 8 RPM Output (Approximate)

0.19	1,407	217.538	1,350	<b>KSS203_2180</b>	<b>MS2R050</b>	56C
0.13	1,172	271.923	1,350	<b>KSS203_2720</b>	<b>MS2R050</b>	56C
0.51	3,752	215.391	2,520	<b>KSS403_2150</b>	<b>MS4R050</b>	56C

### 6 RPM Output (Approximate)

0.19	1,407	217.538	1,350	<b>KSS203_2180</b>	<b>MS2R050</b>	56C
0.13	1,172	271.923	1,350	<b>KSS203_2720</b>	<b>MS2R050</b>	56C

1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

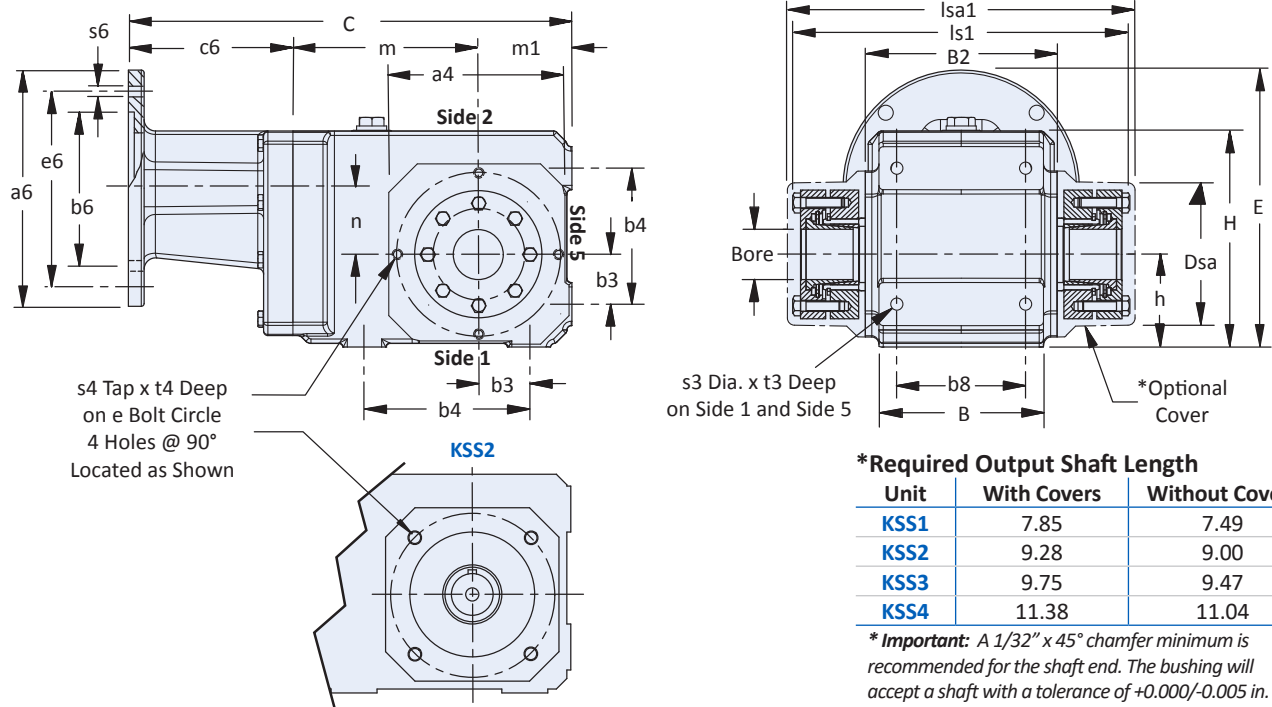
2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

C-Frame	56C	143/145TC	182/184
HP	1/4 to 1-1/2	1 to 2	3 to 5

KSS Series: RIGHT ANGLE — Solid Shaft / Hollow Output

# KSS Series: RIGHT ANGLE — Solid Shaft/Hollow Output

## “W” Double Bushing Output with “G” Pilot Circle Diameter (PCD) Tapped Holes



**Table 1 KSS Series – “W” Double Wobble-Free Bushing Output with “G” Pilot Circle Diameter (PCD) Tapped Holes – Dimensions (in)**

Base Module	a4	B2	b3	b4	b7	b8	Dsa	e	H	h	ls1	lsa1	m1	s3	s4	t3	t4
KSS1	4.53	4.17	1.18	3.54	2.95	2.76	3.07	3.54	4.96	2.36	7.64	7.80	2.36	M8x1.25	M8x1.25	0.51	0.51
KSS2	4.57	5.28	1.38	4.53	3.74	3.54	3.92	4.53	5.94	2.56	8.90	9.36	2.56	M10x1.50	M8x1.25	0.63	0.51
KSS3	5.20	5.75	1.38	5.12	4.13	4.13	3.78	4.53	6.56	2.95	9.41	9.95	2.95	M10x1.50	M8x1.25	0.63	0.55
KSS4	5.99	6.81	1.97	6.10	5.00	4.72	4.33	5.12	7.89	3.54	11.06	11.60	3.54	M12x1.75	M10x1.5	0.75	0.63

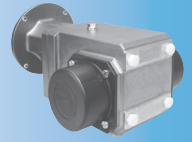
**Table 2 KSS Series – “WG” Style Motor Adapter Dimensions (in)**

Base Module	NEMA C-Face	a6	B	b6	C	c6	E	e6	m	n	s6	Wt. lbs
KSS102WG_MS1R050	56C	6.50	3.54	4.500	10.55	3.81	7.03	5.87	4.38	1.42	0.41	29
KSS202WG_MS2R050	56C	6.50	4.41	4.500	12.20	4.53	7.62	5.87	5.11	1.81	0.41	40
KSS202WG_MS2R140	143/145TC	6.50	4.41	4.500	12.20	4.53	7.62	5.87	5.11	1.81	0.41	40
KSS203WG_MS2R050	56C	6.50	4.53	4.500	13.07	3.31	6.64	5.87	7.20	0.83	0.41	53
KSS302WG_MS3R050	56C	6.50		4.500	13.23	4.37		5.87	5.91	2.09	0.41	55
KSS302WG_MS3R140	143/145TC	6.50	5.51	4.500	13.23	4.37	8.29	5.87	5.91	2.09	0.41	55
KSS302WG_MS3R180	182/184TC	9.00		8.500	14.57	6.59		7.25	5.03	2.07	0.55	67
KSS303WG_MS3R050	56C	6.50	5.51	4.500	15.22	4.00	6.83	5.87	8.27	0.63	0.41	55
KSS303WG_MS3R140	143/145TC	6.50	5.51	4.500	15.22	4.00	6.83	5.87	8.27	0.63	0.41	55
KSS402WG_MS4R050	56C	6.50		4.500	14.76	4.53	9.96	5.87			0.41	84
KSS402WG_MS4R140	143/145TC	6.50	5.71	4.500	14.76	4.53	9.96	5.87	6.69	2.36	0.41	84
KSS402WG_MS4R180	182/184TC	9.00		8.500	15.79	5.55	10.91	7.25			0.55	89
KSS403WG_MS4R050	56C	6.50	5.71	4.500	16.46	3.86	8.39	5.87	9.06	0.98	0.41	94
KSS403WG_MS4R140	143/145TC	6.50	5.71	4.500	16.46	3.86	8.39	5.87	9.06	0.98	0.41	94

**Table 3 “WFBSS” Double Side Bushings Stock Bore Sizes**

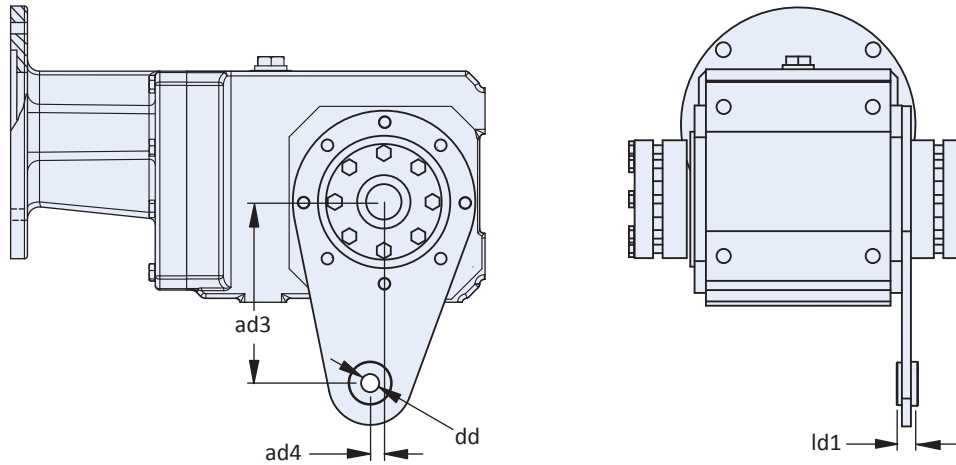
Base Module	Inches						Metric – mm
	1	1-3/16	1-1/4	1-3/8	1-7/16	1-1/2	40
KSS1	WFBSS1-100	—	—	—	—	—	—
KSS2	WFBSS2-100	WFBSS2-103	WFBSS2-104	WFBSS2-106	WFBSS2-107	WFBSS2-108	—
KSS3	WFBSS3-100	WFBSS3-103	WFBSS3-104	WFBSS3-106	WFBSS3-107	WFBSS3-108	—
KSS4	—	—	WFBSS4-104	—	WFBSS4-107	WFBSS4-108	—





## “W” Double Bushing Output with “GD” Torque Arm Bracket

Refer to page 24 for all other dimensions



**Table 4 “GD” Torque Arm**

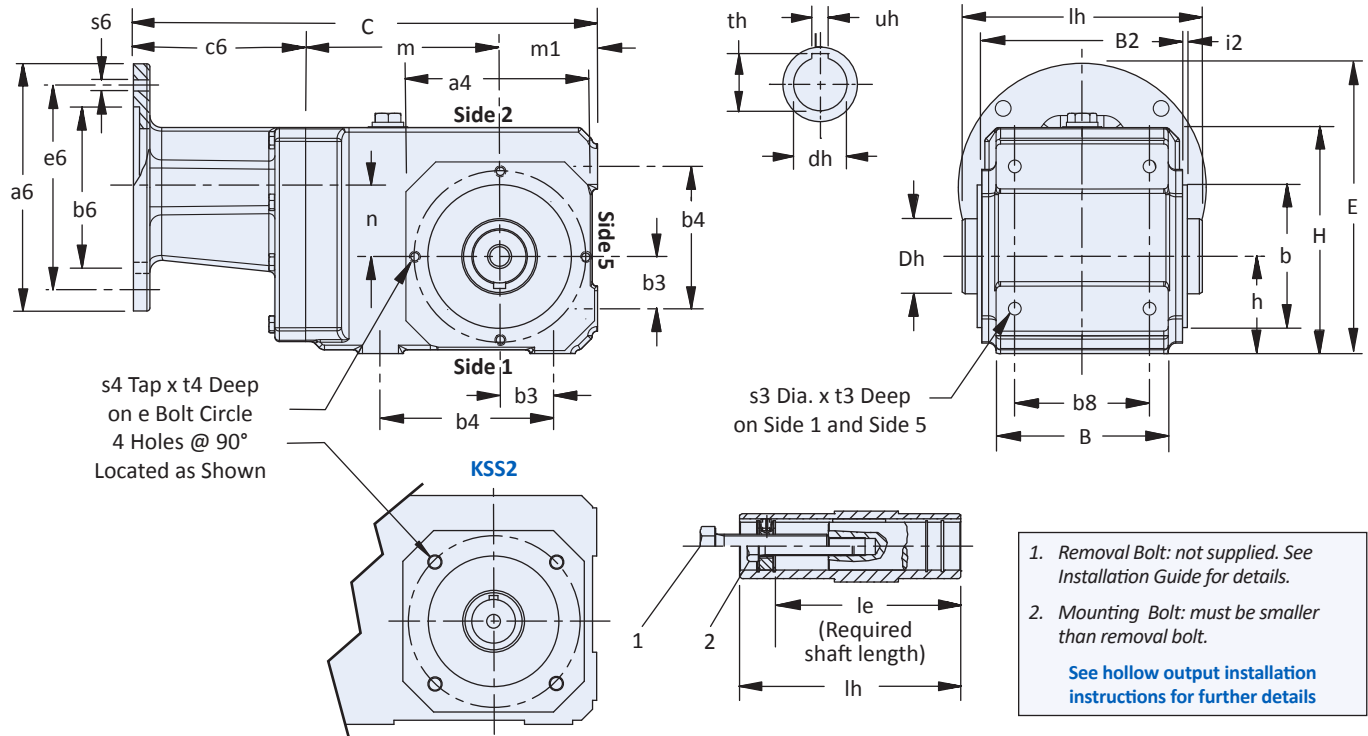
Base Module	Kit Number	mm			
		ad3	ad4	dd	ld1
<b>KSS1</b>	CS213227	130	10	13	15
<b>KSS2</b>	CS129573	130	10	13	15
<b>KSS3</b>	CS129573	130	10	13	15
<b>KSS4</b>	CS139679	130	10	13	15

Note: a bushing output plastic cover cannot be used on the Torque Arm side of speed reducer. A plastic cover can only be used on the side opposite the torque arm.

**KSS Series: RIGHT ANGLE — Solid Shaft / Hollow Output**

# KSS Series: RIGHT ANGLE — Solid Shaft/Hollow Output

## “A” Hollow Bore Output with “G” Pilot Circle Diameter (PCD) Tapped Holes



**Table 1 KSS Series – “A” Hollow Output with “G” Pilot Circle Diameter (PCD) Tapped Holes – Dimensions (in)**

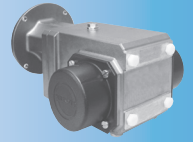
Base Module	a4	b	B2	b4	b7	b8	e	H	h	i2	lh	m1	s3	s4	t3	t4
KSS1	4.53	2.95	4.17	3.54	2.95	2.76	3.54	4.96	2.36	0.12	4.72	2.36	M8x1.25	M8x1.25	0.51	0.51
KSS2	4.57	3.74	5.28	4.53	3.74	3.54	4.53	5.94	2.56	0.12	5.83	2.56	M10x1.50	M8x1.25	0.63	0.51
KSS3	5.20	3.74	5.75	5.12	4.13	4.13	4.53	6.56	2.95	0.12	6.30	2.95	M10x1.50	M8x1.25	0.63	0.55
KSS4	5.99	4.33	6.81	6.10	5.00	4.72	5.12	7.89	3.54	0.14	7.40	3.54	M12x1.75	M10x1.5	0.75	0.63

**Table 2 KSS Series – “AG” Style Motor Adapter Dimensions (in)**

Base Module	NEMA C-Face	a6	B	b3	b6	C	c6	E	e6	m	n	s6	Wt. lbs
KSS102AG_MS1R050	56C	6.50	3.54	1.18	4.500	10.55	3.81	7.03	5.87	4.37	1.42	0.41	29
KSS202AG_MS2R050	56C	6.50	4.41	1.38	4.500	12.20	4.53	7.62	5.87	5.12	1.81	0.41	40
KSS202AG_MS2R140	143/145TC	6.50	4.41	1.38	4.500	12.20	4.53	7.62	5.87	5.12	1.81	0.41	40
KSS203AG_MS2R050	56C	6.50	4.53	1.54	4.500	13.07	3.31	6.64	5.87	7.20	0.83	0.41	53
KSS302AG_MS3R050	56C	6.50			4.500	13.23	4.37	8.29	5.87	5.91	2.09	0.41	55
KSS302AG_MS3R140	143/145TC	6.50	5.51	1.38	4.500	13.23	4.37	8.29	5.87	5.91	2.09	0.41	55
KSS302AG_MS3R180	182/184TC	9.00			8.500	14.57	6.59	9.52	7.25	5.02	2.07	0.55	67
KSS303AG_MS3R050	56C	6.50	5.51	1.38	4.500	15.22	4.00	6.83	5.87	8.27	0.63	0.41	55
KSS303AG_MS3R140	143/145TC	6.50	5.51	1.38	4.500	15.22	4.00	6.83	5.87	8.27	0.63	0.41	55
KSS402AG_MS4R050	56C	6.50			4.500	14.76	4.53	9.66	5.87			0.41	84
KSS402AG_MS4R140	143/145TC	6.50	5.71	1.97	4.500	14.76	4.53	9.66	5.87	6.69	2.36	0.41	84
KSS402AG_MS4R180	182/184TC	9.00			8.500	15.79	5.55	10.91	7.25			0.55	89
KSS403AG_MS4R050	56C	6.50	5.71	1.97	4.500	16.46	3.86	8.39	5.87	9.06	0.98	0.41	94
KSS403AG_MS4R140	143/145TC	6.50	5.71	1.97	4.500	16.46	3.86	8.39	5.87	9.06	0.98	0.41	94

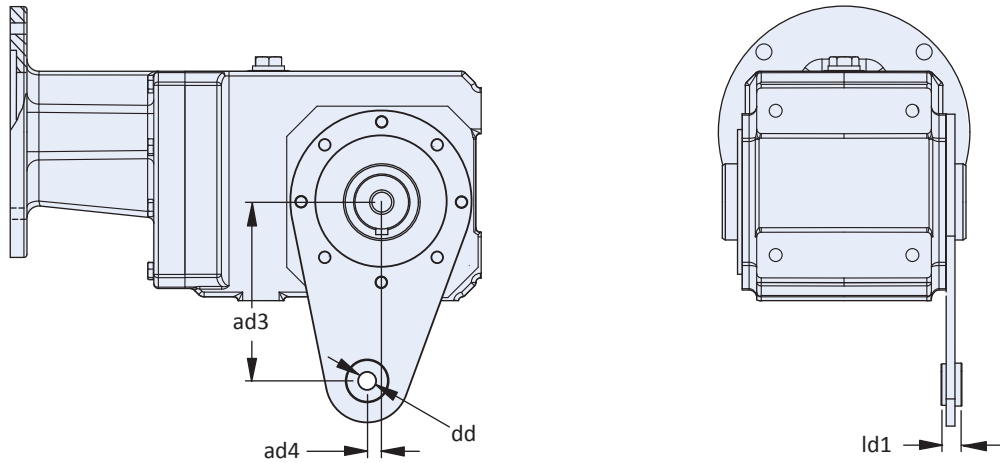
**Table 3 “A” Hollow Bore Output — Standard Sizes (see page 14 for other available output options)**

Base Module	Inches					
	Dh	dh	le	th	uh	Removal Bolt 1
KSS1	1.57	1	3.86	1.11	1/4	1/2 – 13
KSS2	1.97	1-1/4	4.78	1.37	1/4	1/2 – 13
KSS3	1.97	1-3/8	4.92	1.52	5/16	5/8 – 11
KSS4	2.17	1-1/2	6.18	1.67	3/8	3/4 – 10



## “A” Hollow Bore Output with “GD” Torque Arm Bracket

Refer to page 26 for all other dimensions



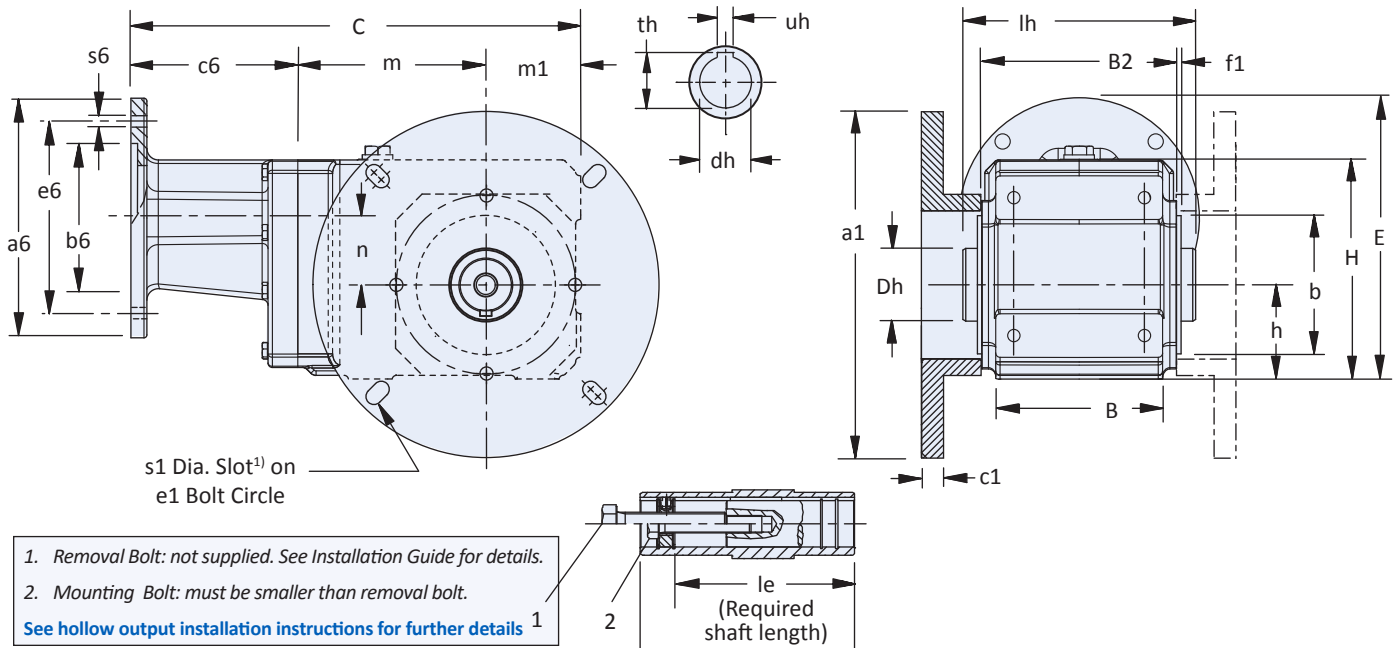
**Table 4 “GD” Torque Arm**

Base Module	Kit Number	mm			
		ad3	ad4	dd	ld1
<b>KSS1</b>	CS213227	130	10	13	15
<b>KSS2</b>	CS129573	130	10	13	15
<b>KSS3</b>	CS129573	130	10	13	15
<b>KSS4</b>	CS139679	130	10	13	15

**KSS Series: RIGHT ANGLE — Solid Shaft / Hollow Output**

# KSS Series: RIGHT ANGLE — Solid Shaft/Hollow Output

## “A” Hollow Bore Output with “F” Round Flange Housing



**Table 1 KSS Series – “A” Hollow Output with “F” Round Flange Housing – Dimensions (in)**

Base Module	a1	b	B2	c1	c2	e1		f1	H	h	lh	m1	s1 <sup>1)</sup>
						Min.	Max. <sup>1)</sup>						
KSS1	6.75	2.95	4.17	0.55	1.50	5.87	—	0.12	4.96	2.36	4.72	2.36	0.33
KSS2	8.74	3.74	5.28	0.55	1.50	7.48	8.00	0.12	5.94	2.56	5.28	2.56	0.41
KSS3	8.74	3.74	5.75	0.55	1.50	7.48	8.00	0.12	6.56	2.95	6.30	2.95	0.41
KSS4	9.84	4.33	6.81	0.55	1.50	8.46	—	0.14	7.89	3.54	7.40	3.54	0.53

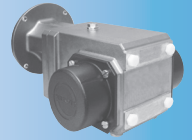
1) KSS1 & KSS4 mounting bolt hole is not a slot.

**Table 2 KSS Series – “AF” Style Motor Adapter Dimensions (in)**

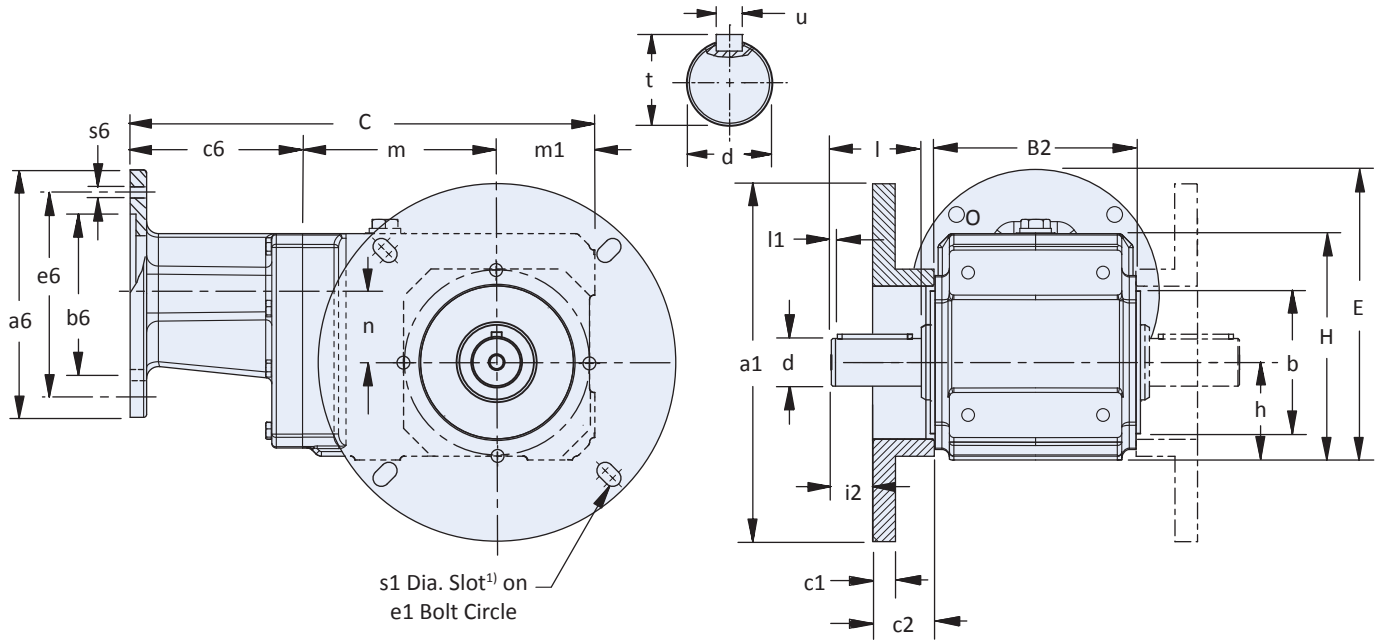
Base Module	NEMA C-Face	a6	B	b6	C	c6	E	e6	m	n	s6	Wt. lbs
KSS102AF_MS1R050	56C	6.50	3.54	4.500	10.09	3.81	7.03	5.87	4.38	1.42	0.41	29
KSS202AF_MS2R050	56C	6.50	4.41	4.500	12.20	4.53	7.62	5.87	5.11	1.81	0.41	40
KSS202AF_MS2R140	143/145TC											
KSS203AF_MS2R050	56C	6.50	4.53	4.500	13.07	3.31	6.64	5.87	7.20	1.81	0.41	53
KSS302AF_MS3R050	56C	6.50	5.51	4.500	13.23	4.37	8.29	5.87	5.91	2.09	0.41	55
KSS302AF_MS3R140	143/145TC											
KSS302AF_MS3R180	182/184TC	9.00		8.500	14.57	6.59	9.52	7.25	5.03	2.07	0.55	67
KSS303AF_MS3R050	56C	6.50	5.51	4.500	15.22	4.00	6.83	5.87	8.27	0.63	0.41	55
KSS303AF_MS3R140	143/145TC											
KSS402AF_MS4R050	56C	6.50	5.71	4.500	14.76	4.53	9.96	5.87	6.69	2.36	0.41	84
KSS402AF_MS4R140	143/145TC											
KSS402AF_MS4R180	182/184TC	9.00		8.500	15.79	5.55	10.91	7.25			0.55	89
KSS403AF_MS4R050	56C	6.50	5.71	4.500	16.46	3.86	8.39	5.87	9.06	0.98	0.41	94
KSS403AF_MS4R140	143/145TC											

**Table 3 “A” Hollow Bore Output — Standard Sizes** (see page 14 for other available output options)

Base Module	Inches						Removal Bolt 1
	Dh	dh	le	th	uh		
KSS1	1.57	1	3.86	1.11	1/4		1/2 – 13
KSS2	1.97	1-1/4	4.78	1.37	1/4		1/2 – 13
KSS3	1.97	1-3/8	4.92	1.52	5/16		5/8 – 11
KSS4	2.17	1-1/2	6.18	1.67	3/8		3/4 – 10



## “V” Solid Shaft Output with “F” Round Flange Housing



**Table 1** KSS Series – “V” Solid Shaft Output with “F” Round Flange Housing Dimensions (in)

Base Module	a1	b	B2	c1	c2	e1		H	h	i2	l	l1	m1	s1 <sup>1)</sup>
						Min.	Max. <sup>1)</sup>							
KSS1	6.75	2.95	4.17	0.55	1.50	5.87	—	4.96	2.36	0.94	1.97	0.16	2.36	0.33
KSS2	8.74	3.74	5.28	0.55	1.50	7.48	8.00	5.94	2.56	1.21	2.36	0.16	2.56	0.41
KSS3	8.74	3.74	5.75	0.55	1.50	7.48	8.00	6.56	2.95	1.21	2.36	0.16	2.95	0.41
KSS4	9.84	4.33	6.81	0.55	1.50	8.46	—	7.89	3.54	1.63	2.76	0.16	3.54	0.53

1) KSS1 & KSS4 mounting bolt hole is not a slot.

**Table 2** KSS Series – “VF” Style Motor Adapter Dimensions (in)

Base Module	NEMA C-Face	a6	b6	C	c6	E	e6	m	n	s6	Wt. lbs
KSS102VF_MS1R050	56C	6.50	4.500	10.55	3.81	7.03	5.87	4.38	1.42	0.41	29
KSS202VF_MS2R050	56C	6.50	4.500	12.20	4.53	7.62	5.87	5.11	1.81	0.41	40
KSS202VF_MS2R140	143/145TC										
KSS203VF_MS2R050	56C	6.50	4.500	13.07	3.31	6.64	5.87	7.20	0.83	0.41	53
KSS302VF_MS3R050	56C	6.50	4.500	13.23	4.37	8.29	5.87	5.91	2.09	0.41	55
KSS302VF_MS3R140	143/145TC	6.50	4.500	13.23	4.37	8.29	5.87	5.91	2.09	0.41	55
KSS302VF_MS3R180	182/184TC	9.00	8.500	14.57	6.59	9.52	7.25	5.03	2.07	0.55	67
KSS303VF_MS3R050	56C	6.50	4.500	15.22	4.00	6.83	5.87	8.27	0.63	0.41	55
KSS303VF_MS3R140	143/145TC										
KSS402VF_MS4R050	56C	6.50	4.500	14.76	4.53	9.96	5.87	6.69	2.36	0.41	84
KSS402VF_MS4R140	143/145TC	6.50	4.500	14.76	4.53	9.96	5.87				
KSS402VF_MS4R180	182/184TC	9.00	8.500	15.79	5.55	10.91	7.25	5.03	2.07	0.55	89
KSS403VF_MS4R050	56C	6.50	4.500	16.46	3.86	8.39	5.87	9.06	0.98	0.41	94
KSS403VF_MS4R140	143/145TC										

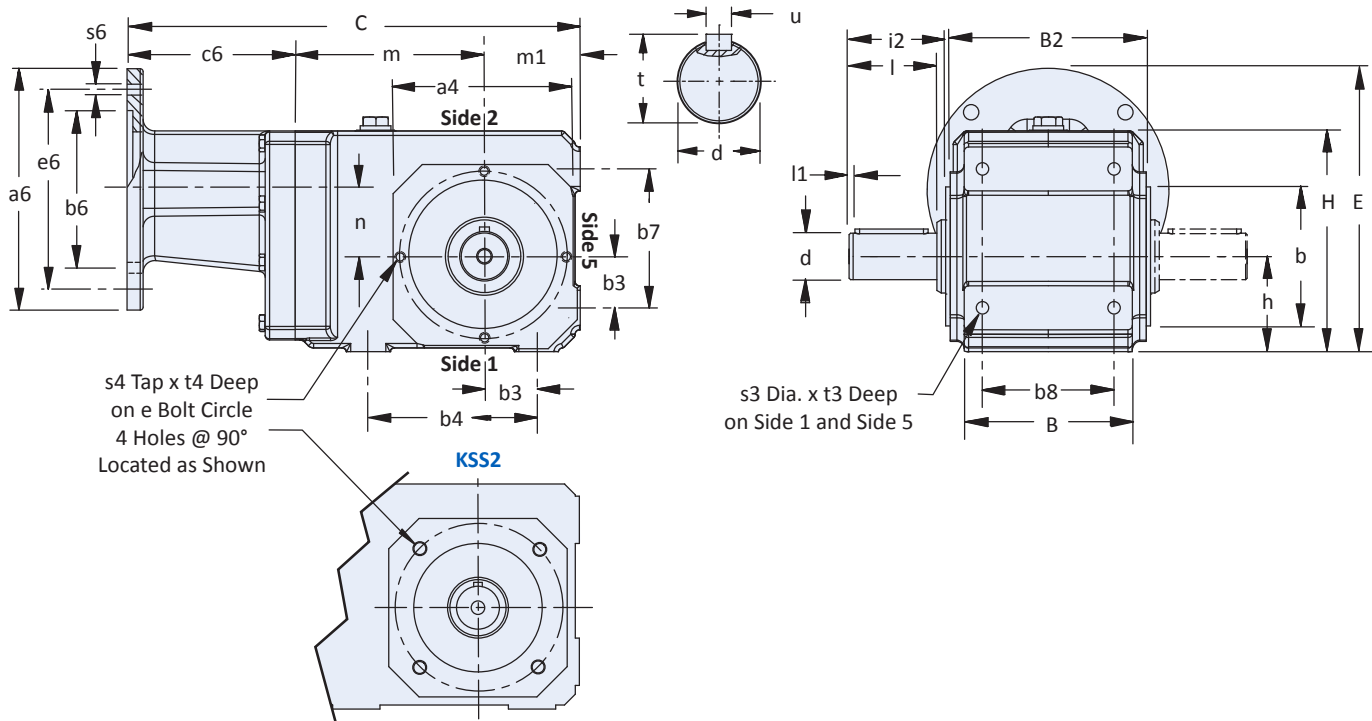
**Table 3** “V” Solid Shaft Output — Standard Sizes

Base Module	Inches		
	d	t	u— Key
KSS1	1	1.11	1/4 x 1/4 x 1-9/16
KSS2	1-1/4	1.36	1/4 x 1/4 x 1-15/16
KSS3	1-1/4	1.36	1/4 x 1/4 x 1-15/16
KSS4	1-3/8	1.51	5/16 x 5/16 x 2-5/16

KSS Series: RIGHT ANGLE — Solid Shaft / Hollow Output

# KSS Series: RIGHT ANGLE — Solid Shaft/Hollow Output

## “V” Solid Shaft Output with “G” Pilot Circle Diameter (PCD) Tapped Holes



**Table 1** KSS Series – “V” Solid Shaft Output with “G” Pilot Circle Diameter (PCD) Tapped Holes – Dimensions (in)

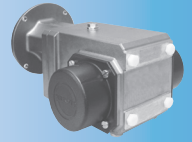
Base Module	a4	b	B2	b3	b4	b7	b8	e	H	h	i2	l	l1	m1	s3	s4	t3	t4
KSS1	4.53	2.95	4.17	1.18	3.54	2.95	2.76	3.54	4.96	2.36	2.32	1.97	0.16	2.36	M8x1.25	M8x1.25	0.51	0.51
KSS2	4.57	3.74	5.28	1.38	4.53	3.74	3.54	4.53	5.94	2.56	2.60	2.36	0.16	2.56	M10x1.50	M8x1.25	0.63	0.51
KSS3	5.20	3.74	5.75	1.38	5.12	4.13	4.13	4.53	6.56	2.95	2.60	2.36	0.16	2.95	M10x1.50	M8x1.25	0.63	0.55
KSS4	5.99	4.33	6.81	1.97	6.10	5.00	4.72	5.12	7.89	3.54	3.39	2.76	0.16	3.54	M12x1.75	M10x1.5	0.75	0.63

**Table 2** KSS Series – “VG” Style Motor Adapter Dimensions (in)

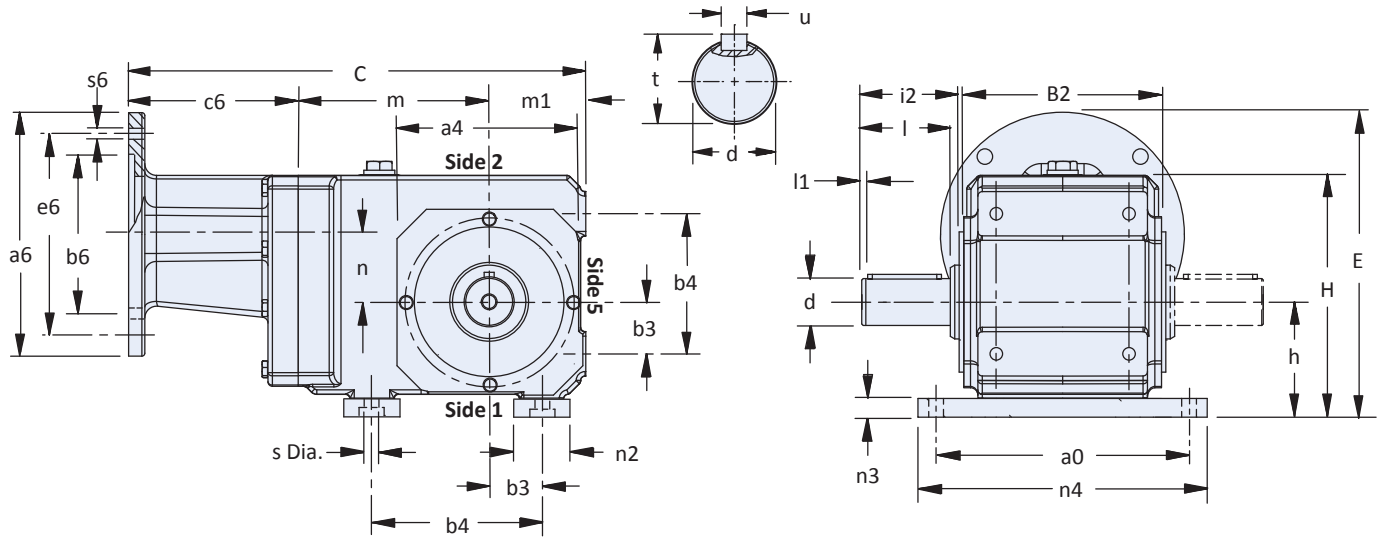
Base Module	NEMA C-Face	a6	B	b6	C	c6	E	e6	m	n	s6	Wt. lbs
KSS102VG_MS1R050	56C	6.50	3.54	4.500	10.55	3.81	7.03	5.87	4.38	1.42	0.41	29
KSS202VG_MS2R050	56C	6.50	4.41	4.500	12.20	4.53	7.62	5.87	5.11	1.81	0.41	40
KSS202VG_MS2R140	143/145TC	6.50	4.53	4.500	13.07	3.31	6.64	5.87	7.20	0.83	0.41	53
KSS203VG_MS2R050	56C	6.50	4.53	4.500	13.23	4.37	8.29	5.87	5.91	2.09	0.41	55
KSS302VG_MS3R050	56C	6.50	5.51	4.500	13.23	4.37	8.29	5.87	5.91	2.09	0.41	55
KSS302VG_MS3R140	143/145TC	6.50	5.51	4.500	13.23	4.37	8.29	5.87	5.91	2.09	0.41	55
KSS302VG_MS3R180	182/184TC	9.00	8.500	14.57	6.59	9.52	7.25	5.03	2.07	0.55	0.55	67
KSS303VG_MS3R050	56C	6.50	5.51	4.500	15.22	4.00	6.83	5.87	8.27	0.63	0.41	55
KSS303VG_MS3R140	143/145TC	6.50	5.51	4.500	15.22	4.00	6.83	5.87	8.27	0.63	0.41	55
KSS402VG_MS4R050	56C	6.50	5.71	4.500	14.76	4.53	9.96	5.87	6.69	2.36	0.41	84
KSS402VG_MS4R140	143/145TC	6.50	5.71	4.500	14.76	4.53	9.96	5.87	6.69	2.36	0.41	84
KSS402VG_MS4R180	182/184TC	9.00	8.500	15.79	5.55	10.91	7.25	0.55	0.55	0.55	0.55	89
KSS403VG_MS4R050	56C	6.50	5.71	4.500	16.46	3.86	8.39	5.87	9.06	0.98	0.41	94
KSS403VG_MS4R140	143/145TC	6.50	5.71	4.500	16.46	3.86	8.39	5.87	9.06	0.98	0.41	94

**Table 3** “V” Solid Shaft Output — Standard Sizes

Base Module	Inches		
	d	t	u— Key
KSS1	1	1.11	1/4 x 1/4 x 1-9/16
KSS2	1-1/4	1.36	1/4 x 1/4 x 1-15/16
KSS3	1-1/4	1.36	1/4 x 1/4 x 1-15/16
KSS4	1-3/8	1.51	5/16 x 5/16 x 2-5/16



## “V” Solid Shaft Output with “NG” Foot Mount Housing



**Table 1** KSS Series – “V” Solid Shaft Output with “NG” Foot Mount – Dimensions (in)

Base Module	a0	a4	B2	b3	b4	b7	e	H	h	i2	l	l1	m1	n2	n3	n4	s
KSS1	4.53	4.53	4.17	1.18	3.54	2.95	3.54	5.46	2.36	2.32	1.97	0.16	2.36	1.50	0.50	5.51	0.35
KSS2	6.73	4.57	5.28	1.38	4.53	3.74	4.53	6.44	3.07	2.60	2.36	0.16	2.56	1.50	0.50	7.72	0.39
KSS3	6.73	5.20	5.75	1.38	5.12	4.13	4.53	7.06	3.44	2.60	2.36	0.16	2.95	1.50	0.50	7.72	0.39
KSS4	7.87	5.99	6.81	1.97	6.10	5.00	5.12	8.64	3.54	3.39	2.76	0.16	3.54	1.50	0.75	9.06	0.55

**Table 2** KSS Series – “VNG” Style Motor Adapter Dimensions (in)

Base Module	NEMA C-Face	a4	a6	b6	C	c6	E	e6	m	n	s6	Wt. lbs
KSS102VNG_MS1R050	56C	4.53	6.50	4.500	10.55	3.81	7.53	5.87	4.38	1.42	0.41	29
KSS202VNG_MS2R050	56C	4.57	6.50	4.500	12.20	4.53	8.12	5.87	5.11	1.81	0.41	40
KSS202VNG_MS2R140	143/145TC											
KSS203VNG_MS2R050	56C	4.57	6.50	4.500	13.07	3.31	7.14	5.87	7.20	0.83	0.41	53
KSS302VNG_MS3R050	56C		6.50	4.500	13.23	4.37	8.79	5.87	5.91	2.09	0.41	55
KSS302VNG_MS3R140	143/145TC	5.20	6.50	4.500	13.23	4.37	8.79	5.87	5.91	2.09	0.41	55
KSS302VNG_MS3R180	182/184TC		9.00	8.500	14.57	6.59	10.02	7.25	5.03	2.07	0.55	67
KSS303VNG_MS3R050	56C		6.50	4.500	15.22	4.00	7.33	5.87	8.27	0.63	0.41	55
KSS303VNG_MS3R140	143/145TC	5.20	6.50	4.500	15.22	4.00	7.33	5.87	8.27	0.63	0.41	55
KSS402VNG_MS4R050	56C		6.50	4.500	14.76	4.53	10.41	5.87			0.41	84
KSS402VNG_MS4R140	143/145TC	5.99	6.50	4.500	14.76	4.53	10.41	5.87	6.69	2.36	0.41	84
KSS402VNG_MS4R180	182/184TC		9.00	8.500	15.79	5.55	11.66	7.25			0.55	89
KSS403VNG_MS4R050	56C		6.50	4.500	16.46	3.86	9.14	5.87	9.06	0.98	0.41	94
KSS403VNG_MS4R140	143/145TC	5.99	6.50	4.500	16.46	3.86	9.14	5.87	9.06	0.98	0.41	94

**Table 3** “V” Solid Shaft Output — Standard Sizes

Base Module	Inches		
	d	t	u– Key
KSS1	1	1.11	1/4 x 1/4 x 1-9/16
KSS2	1-1/4	1.36	1/4 x 1/4 x 1-15/16
KSS3	1-1/4	1.36	1/4 x 1/4 x 1-15/16
KSS4	1-3/8	1.51	5/16 x 5/16 x 2-5/16

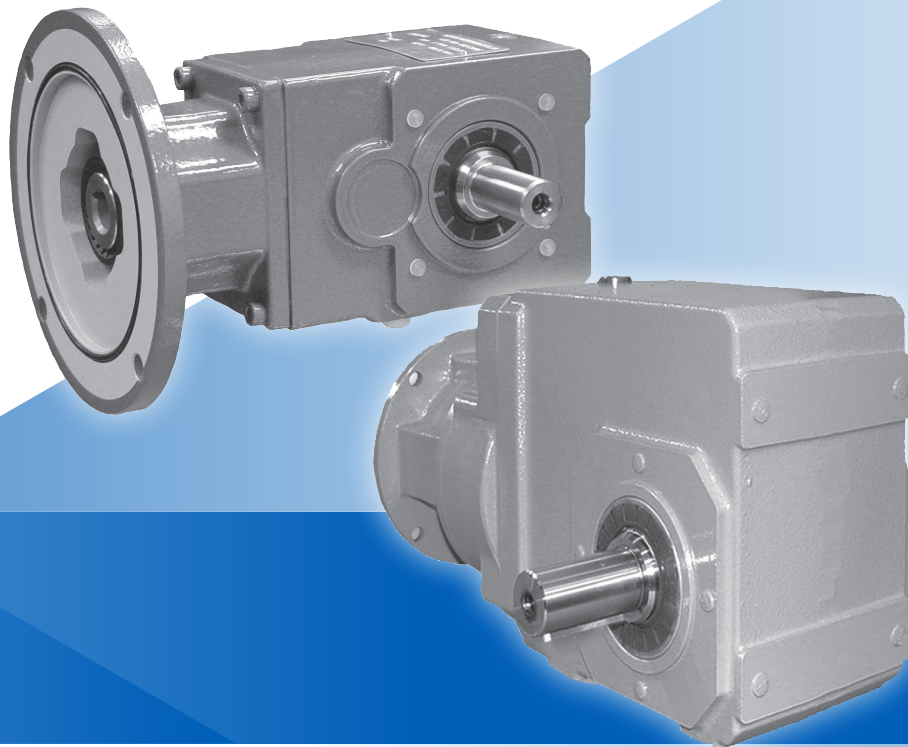
KSS Series: RIGHT ANGLE — Solid Shaft / Hollow Output

## K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

### K/KL Series Features

- Input rating up to: 2 HP (KL); 105 HP (K)
- Ratio options: 4:1 – 32:1 (KL); 4:1 – 373.7:1 (K)
- Output Torque capability up to: 443 lb-in (KL); 92,250 lb-in (K)
- NEMA input capabilities: 56C (KL); 56C, 143/145TC, 182/184TC, 213/215TC, 254/256TC, 284/286TC, 324/326TC, 364/365TC (K)
- Output bore diameters: 3/4" (KL); 1" – 4" (K)
- Housing style options: flange, feet, or tapped holes (K/KL); torque arm bracket (K and KL2 only)

*The K/KL Series offer higher input-to-output efficiencies than conventional worm gear drives, reducing costs with smaller sized gear drives and motors, and optimum energy savings.*



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HOUR SERVICE

### K/KL Series Benefits

- No maintenance - totally enclosed with no breather to allow contaminants in or oil out
- Lubricated for life with Mobil oil
- Simple motor mounting and removal with Bowex coupling
- Energy savings - up to 97% efficiency
- Easy installation and removal with our patented bushing system and any horizontal mounting position
- Reliability guaranteed with 3 year warranty
- Adaptability - mounting gear reducer from either machine side means less storeroom stock
- Durability - IP69K Certified to prevent water and dust ingress
- Assembled in USA
- Combine units to achieve slower speeds to meet your application needs (K Series)

### K/KL Food & Corrosion Resistant Options

#### "F" Option for Food Duty Applications

- Totally enclosed unit — no breathers, maintenance free, lubricated for life
- Mobil SHC CIBUS 220 food grade oil
- Anti-microbial clear coat
- 316 stainless steel epoxy coating
- Stainless steel shaft, hollow bore or double bushing output
- USDA Accepted Equipment

#### "B" Option for Corrosion Resistant Applications

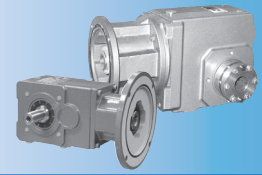
- Totally enclosed unit — no breathers, maintenance free, lubricated for life
- Mobil 600XP220 mineral oil
- 316 stainless steel epoxy coating
- Stainless steel shaft, hollow bore or double bushing output

### Other K/KL Design Options Available:

- Plated or stainless steel hardware
- IP69K certified to prevent water and dust ingress (see page 6 for full details)







# Overview

## K/KL Ordering Options At-a-Glance

K and KL Series are available in a wide range of user-selected design options that tailor the speed reducer to your motor and exact application requirements. Use the appropriate order codes below to build a part number for the complete assembly.

### Part Number Examples:

	1	2	3	4	5	6	7	8	9	0	I**
Standard duty KL Series	KL	2	0	2	A	F	0040	ML2R/	050		
Standard duty K Series	K	2	0	2	A	F	0040	MR140/	050		EL1256
Food duty K Series	K	2	0	2	A	F	0040	MR140/	050	F	EL1256

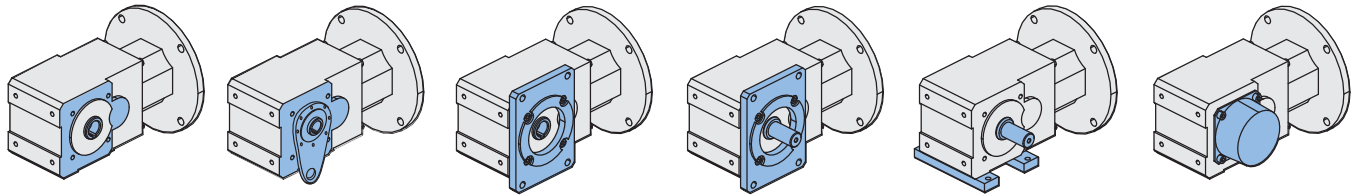
Design Option	Part Number Code	Description
<b>1 Series</b>	<b>K</b> <b>KL</b>	Modular right angle helical/bevel Compact right angle helical/bevel
<b>2 Size</b>	<b>2</b>	K Series: 10 sizes of speed reducers (1 thru 10); KL Series: size 2 only
<b>3 Generation</b>	<b>0</b>	0 for sizes K1 thru K4; 1 for sizes K5 thru K10; 0 for KL
<b>4 # of Stages</b>	<b>2</b>	Two, three or four stage (determined by ratio)
<b>5 Output*</b>	<b>A</b> <b>P</b> <b>V</b> <b>W</b>	Hollow bore output (K Series, see page 36); KL Series $\varnothing 20$ mm* Solid shaft output with key (KL only), $\varnothing 0.75''$ or 20 mm (specify side 3, 4 or double sided)* Solid shaft output with key (K only, see page 36), (specify side 3, 4, or double sided) K Series: Single or double wobble-free bushing (specify side 3 or 4 for single bushing) KL Series: Double wobble-free bushing ( $\varnothing 0.75''$ )
<b>6 Housing</b>	<b>F</b> <b>G</b> <b>GD</b> <b>NG</b>	Output flange mount (specify side 3 or 4) Note: square flange for KL; round flange for K Pilot Circle Diameter (PCD) tapped holes Torque arm bracket mounting for KL2 or K Series (specify side 1 or 5; or 2 on K1 only) Foot mounting (specify side 1 or 5; or side 2 on K1 only)
<b>7 Ratio</b>	<b>0040</b>	Ratios range from 4:1 to 373.7:1 (K Series) or 4:1 to 32:1 (KL Series) Refer to Selection Data tables. Note: if a slower speed is required, units can be combined to achieve the necessary ratio for low speed applications. Contact STÖBER Drives Inc.
<b>8 Motor Adapter</b>	<b>MR140 thru</b> <b>MR350</b> <b>ML2R</b>	K Series: Round motor adapter sizes (refer to Selection Data tables) KL Series: Round motor adapter
<b>9 NEMA Frame Size</b> (refer to Selection Data tables)	<b>050</b> <b>140</b> <b>180</b> <b>210</b> <b>250</b> <b>280</b> <b>320</b> <b>360</b>	56C 143/145TC 182/184TC 213/215TC 254/256TC 284/286TC 324/326TC 364/365TC
<b>0 Food &amp; Corrosion Resistant Option</b>	<b>F</b> <b>B</b>	Food duty service Corrosion resistant duty service
<b>I Mounting Position**</b> <i>Refer to page 37 illustrations</i>	<b>EL1 EL2</b> <b>EL3 EL4</b> <b>EL5 EL6</b> <b>EL1256</b>	K Series: Mounting position codes required for 3 year warranty; KL Series: Mounting position is unrestricted, no code required

K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

\* Standard KL Series Hollow Bore and Solid Shaft options are carbon steel; contact factory for stainless steel option. Double solid shaft is only available in metric.  
\*\* Mounting position is added to "notes" section of order.

# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

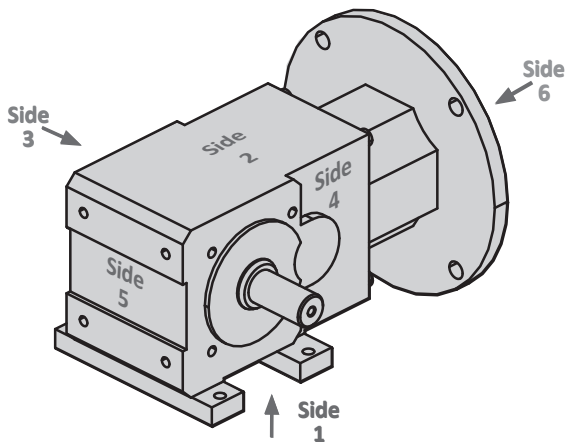
## KL Output and Housing Configurations



<b>See Page</b>	page 67	page 69	page 67	page 68	page 68	page 69
<b>Output</b>	<b>A</b> Hollow Bore	<b>A</b> Hollow Bore	<b>A</b> Hollow Bore	<b>P</b> Solid Shaft	<b>P</b> Solid Shaft	<b>W</b> Double Bushing
<b>Housing</b>	<b>G</b> Tapped Holes	<b>GD</b> Torque Arm Bracket	<b>F</b> Flange Mount	<b>F</b> Flange Mount	<b>NG</b> Foot Mount	<b>G</b> Tapped Holes

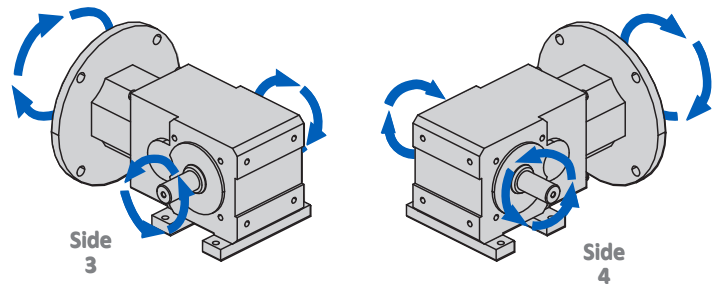
### KL Series Orientation

Unrestricted mounting position



### KL Series Direction of Rotation

Output available on side 3, 4 or both. Note: With a double output, the shaft rotation of Side 3 will be the OPPOSITE direction of Side 4 when viewed from Side 5.



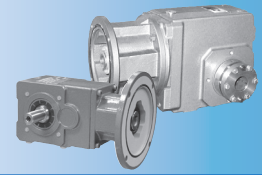
### KL Series Output Options

**BLUE:** standard output diameters in stock

**BLACK:** optional diameters in stock

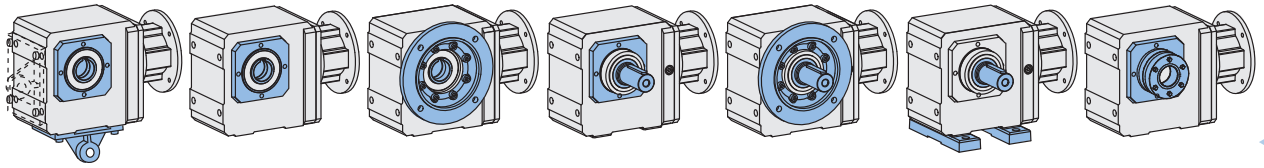
Other options are available upon request. Please contact STÖBER to learn about other options and their deliveries.

KL Series			KL2		
"P" Solid Shaft*	Carbon Steel	Inches	3/4	Metric	20
	Stainless Steel	Inches	3/4	Metric	20
*Double shaft configuration available in metric only					
"A" Hollow Bore	Carbon Steel	Inches	3/4	Metric	20
	Stainless Steel	Inches	3/4		—
"WFB" Wobble Free Double Bushing	Stainless Steel	Inches	3/4		—



# Overview

## K Output and Housing Configurations



<b>See Page</b>	page 70	page 72	page 74	page 76	page 78	page 80	page 82 & page 84
<b>Output</b>	A Hollow Bore	A Hollow Bore	A Hollow Bore	V Solid Shaft	V Solid Shaft	V Solid Shaft	W Wobble Free Bushing Single or Double
<b>Housing</b>	GD Torque Arm Bracket	G Tapped Holes	F Flange Mount	G Tapped Holes	F Flange Mount	NG Foot Mount	G Tapped Holes

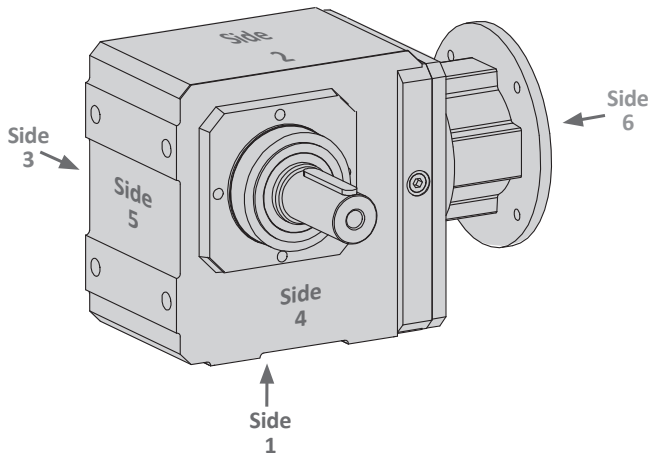
### Availability\*

<b>Standard Duty</b>	K1-K10	K1-K10	K1-K10	K1-K10	K1-K10	K1-K10	K1-K8
<b>Food &amp; Corrosion Resistant Duty**</b>	K1-K9	K1-K9	K1-K9	K1-K9	K1-K9	K1-K9	K1-K8

\* See Output Options Chart page 36 for standard and optional solid shaft, hollow bore and wobble free bushing options.

\*\* On K5 and above, food and corrosion resistant duty availability is dependent on mounting position, ratio, input speed and ambient temperature. Breathers may be required. Please contact the factory for support.

## K Series Orientation



## K Series Direction of Rotation

Output available on side 3, 4 or both. Note: With a double output, the shaft rotation of Side 3 will be the OPPOSITE direction of Side 4 when viewed from Side 5.

### 2 Stage

K102  
K202  
K302  
K402

### 3 Stage

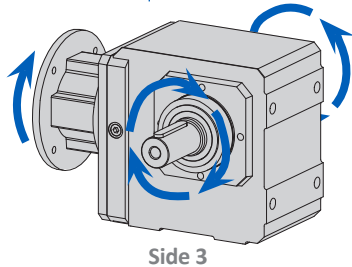
K513 K813  
K613 K913  
K713 K1013

### 3 Stage

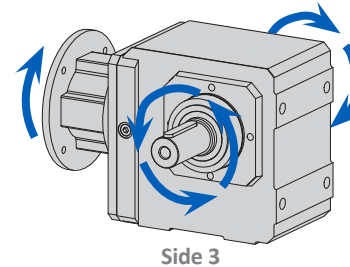
K203  
K303  
K403

### 4 Stage

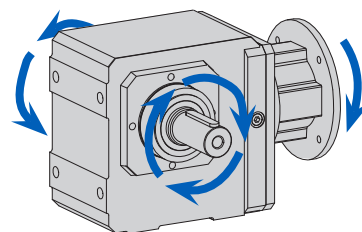
K514 K814  
K614 K914  
K714 K1014



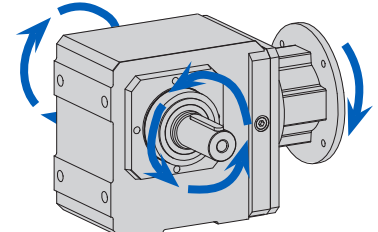
Side 3



Side 3



Side 4



Side 4

K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

## K Series Output Options

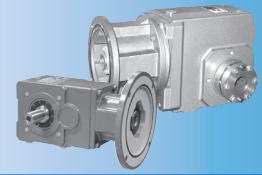
**BLUE:** standard output diameters in stock

**BLACK:** optional diameters in stock

Other options are available upon request. Please contact STÖBER to learn about other options and their deliveries.

K Series			KL2	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
"V" Solid Shaft	Carbon Steel	Inches	3/4*	1	1-1/4	1-1/4	1-3/8	1-3/4	1-3/4	2-3/8	2-7/8	3-5/8	4-3/8
		Metric	20	25	30	30	40	45	50	60	70	90	110
	Stainless Steel	Inches	3/4	1	1-1/4	1-1/4	1-3/8	1-3/4	1-3/4	2-3/8	2-7/8	3-5/8	—
		Metric	20	25	—	—	—	45	—	—	—	—	—
"A" Hollow Bore	Carbon Steel	Inches	3/4	1	1-3/16	1-3/8	1-1/2	2	2	2-3/8	2-3/4	3-1/4	4
		Metric	20	25	30	35	40	50	50	60	70	90	—
	Stainless Steel	Inches	3/4	1	1-1/4	1-3/8	1-1/2	2	2	2-3/8	—	2-15/16 3	—
		Metric	—	25	30	35	40	50	—	60	—	3-7/16 75	—
"W" Wobble Free Bushing (single and Double Bushings)	Stainless Steel*	Inches	3/4	1	1 1-3/16 1-1/4	1* 1-3/16 1-1/4 1-3/8 1-7/16 1-1/2	1-1/4 1-7/16 1-1/2	1-7/16 1-1/2 1-15/16 2 2	1-7/16 1-1/2 1-15/16 2 2-3/16	1-15/16 2 2-3/8	2-3/16 2-3/8 2-7/16 2-3/4	—	—
		Metric	—	—	—	—	40	40	—	—	—	—	—

\*Also available in carbon steel



# Overview

## K Mounting Position Options

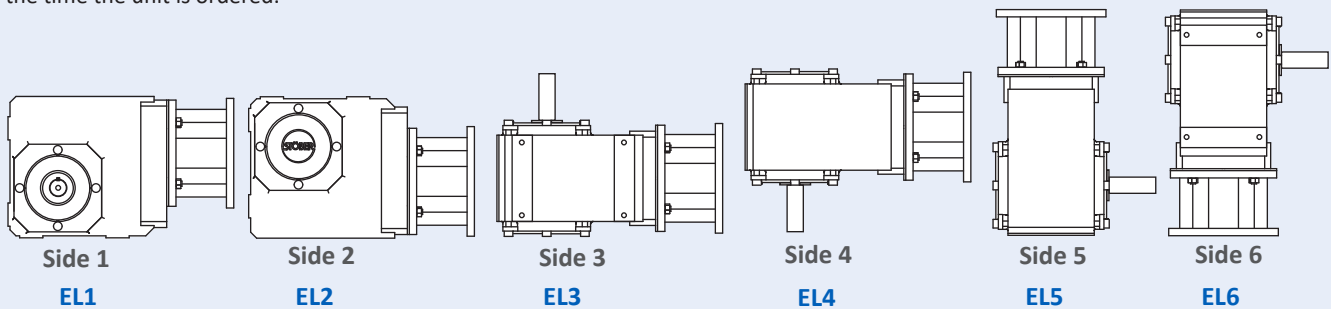
When ordering any K unit, the mounting position must be specified. Use one of the mounting position order codes illustrated below that corresponds to the intended application.

**Note:** All illustrations below are shown with a solid shaft output on side 4. K units can have a solid shaft, hollow or single bushing output on either Side 3 or Side 4. **The desired output side must be specified when ordering.**

### Standard Duty

All STÖBER standard duty units are filled with the correct amount of lubrication before shipping. In order to provide the proper lubrication quantity, the mounting position must be specified at the time the unit is ordered.

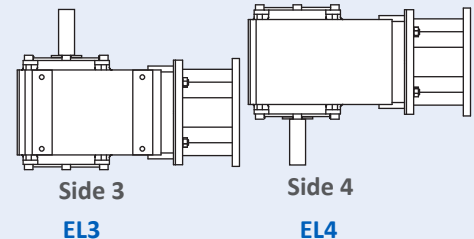
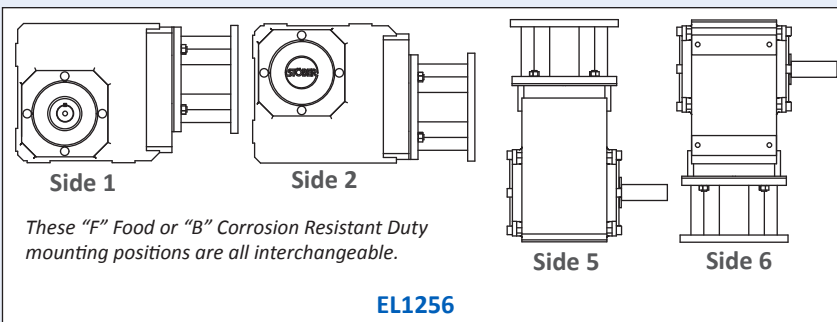
**DO NOT mount standard duty reducers in a position other than the mounting position specified on the order!**



### Food & Corrosion Resistant Duty

Food and Corrosion Resistant Duty units are equipped with specialized seals, higher oil level, and additional features compared to standard units. These added features enable all horizontal output positions (EL1, 2, 5 and 6) to be used interchangeably, subject to size and ratio. On K5 and above, food and corrosion resistant duty availability is dependent on mounting position, ratio, input speed and ambient temperature. Breathers may be required. Please contact the factory for support. Contact STÖBER for details.

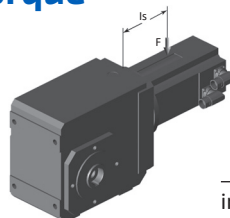
**DO NOT mount horizontal Food and Corrosion Resistant Duty reducers in a vertical position, or mount vertical position reducers other than specified on the order!**



K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

## Permissible Motor Tilting Torque

The permissible tilting torque of the motor attached to the gear unit is a result of the static and dynamic load "F" from the motor weight, mass acceleration, and vibration multiplied by the distance from the center of gravity "l<sub>s</sub>" of the motor.



$$M_{1k} = F \times l_s \leq M_{1K}$$

M <sub>1K</sub>	MR140	MR160	MR200	MR250	MR300	MR350
in.lbs	221	531	1106	2212	5310	10,620

# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

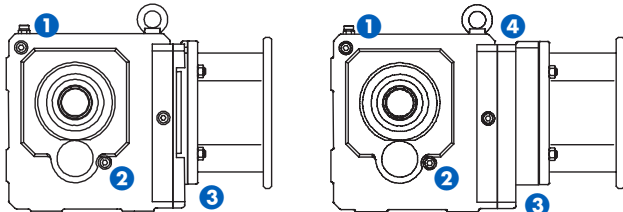
## K Series Lubrication Maintenance

K102 thru K403 are supplied without breathers and are lubricated for life and maintenance free.

Breathers are provided on K513 thru K1014, located as shown\*. STOBER recommends changing the lubrication in breather supplied units after 10,000 hours for normal operating conditions or every

5,000 hours for wet operating conditions.

*\*K513 and larger units with the Food & Corrosion Resistant option can exclude a breather. Contact STOBER for details.*



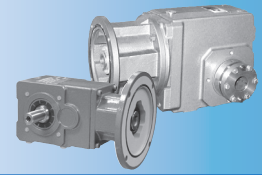
**3 Stage Units**  
(K513 thru K1013)

**4 Stage Units**  
(K514 thru K1014)

### Drain Plug and Vent Location

Mounting Position	1	2 *	2a *	3	4
EL1	Vent			Drain	
EL2	Drain			Vent	
EL3		Vent	Drain		
EL4		Drain	Vent		
EL5	K513-K1013	Drain		Vent	
	K514-K1014	Drain			Vent
EL6	K513-K1013	Vent		Drain	
	K514-K1014	Vent			Drain

*\* Position 2a is on the opposite side of 2.*



# Overview

K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

## K/KL Sizing/Selection:

1. Find the **RPM Output (Approximate)** nearest the application requirement. (If the exact Output RPM is required, divide the Input RPM [1750] by the value listed in the Exact Ratio column.)
- 2a. In the **Input HP** column, locate the rating that is greater than or equal to the required HP, or;
- 2b. If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.
3. Confirm that the **Overhung Load** is acceptable for the application.
4. Choose the appropriate **Base Module** and **Motor Adapter** part number code (see page 33 for complete ordering information). For K Series units, an optional input shaft, in place of the NEMA C-face motor adapter, is also available.

## Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>435 RPM Output (Approximate)</b>						
2.08*	291	4.000	225	KL202_0040	ML2R050	56C
3.92*	548	4.000	402	K102_0040	MR160/050	56C
					MR160/140	143/145TC
7.00*	979	4.000	483	K202_0040	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
9.22*	1,289	4.000	563	K302_0040	MR160/050	56C
					MR160/140	143/145TC
9.22	1,289	4.000	901	K402_0040	MR160/050	56C
					MR160/140	143/145TC
12.26*	1,714	4.000	563	K302_0040	MR200/180	182/184TC
18.39*	2,572	4.000	901	K402_0040	MR200/180	182/184TC
					MR250/210	213/215TC
<b>400 RPM Output (Approximate)</b>						
6.60*	1,008	4.364	497	K202_0044	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
9.22*	1,406	4.364	580	K302_0044	MR160/050	56C
					MR160/140	143/145TC
9.22	1,406	4.364	928	K402_0044	MR160/050	56C
					MR160/140	143/145TC
11.57*	1,765	4.364	580	K302_0044	MR200/180	182/184TC
17.36*	2,648	4.364	928	K402_0044	MR200/180	182/184TC
					MR250/210	213/215TC

1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) **Motor HP for TEFC NEMA C-Frame @ 1750 RPM**

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75

\* **Thermal HP Limit**

Base Module Size	KL2	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
HP Limit	3.017	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.63	67.05

# K/KL Series: RIGHT ANGLE – Solid Shaft/Hollow Output

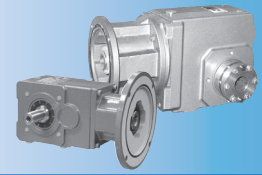
1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>340 RPM Output (Approximate)</b>						
5.89*	1,067	5.177	526	K202_0052	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
<b>325 RPM Output (Approximate)</b>						
8.73*	1,640	5.375	621	K302_0054	MR160/050	56C
					MR160/140	143/145TC
9.22	1,747	5.422	997	K402_0054	MR160/050	56C
					MR160/140	143/145TC
10.07*	1,892	5.375	621	K302_0054	MR200/180	182/184TC
15.02*	2,847	5.422	997	K402_0054	MR200/180	182/184TC
					MR250/210	213/215TC
<b>315 RPM Output (Approximate)</b>						
3.14*	612	5.568	449	K102_0056	MR160/050	56C
					MR160/140	143/145TC
<b>290 RPM Output (Approximate)</b>						
2.99*	627	6.000	460	K102_0060	MR160/050	56C
					MR160/140	143/145TC
5.34	1,120	6.000	553	K202_0060	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
9.22*	1,933	6.000	645	K302_0060	MR160/050	56C
					MR160/140	143/145TC
9.22	1,933	6.000	1,031	K402_0060	MR160/050	56C
					MR160/140	143/145TC
9.36*	1,962	6.000	645	K302_0060	MR200/180	182/184TC
14.04*	2,945	6.000	1,031	K402_0060	MR200/180	182/184TC
					MR250/210	213/215TC

1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75





# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>260 RPM Output (Approximate)</b>						
2.80	649	6.644	476	K102_0066	MR160/050	56C
					MR160/140	143/145TC
4.97	1,161	6.683	573	K202_0067	MR160/050	56C
					MR160/140	143/145TC
7.92*	1,865	6.740	670	K302_0067	MR160/050	56C
					MR160/140	143/145TC
8.66*	2,040	6.740	670	K302_0067	MR200/180	182/184TC
8.73	2,050	6.719	1,071	K402_0067	MR160/050	56C
					MR160/140	143/145TC
13.02*	3,058	6.719	1,071	K402_0067	MR200/180	182/184TC
					MR250/210	213/215TC
<b>245 RPM Output (Approximate)</b>						
4.77	1,186	7.118	585	K202_0071	MR160/050	56C
					MR160/140	143/145TC
<b>235 RPM Output (Approximate)</b>						
8.14*	2,104	7.391	691	K302_0074	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
9.22	2,402	7.456	1,109	K402_0075	MR160/050	56C
					MR160/140	143/145TC
12.14	3,166	7.456	1,109	K402_0075	MR200/180	182/184TC
					MR250/210	213/215TC
21.97*	5,562	7.347	1,325	K513_0073	MR200/180	182/184TC
23.08*	5,842	7.347	1,325	K513_0073	MR250/210	213/215TC
24.58*	6,201	7.323	1,575	K613_0073	MR200/180	182/184TC
24.58	6,305	7.445	2,870	K813_0074	MR200/180	182/184TC
24.58	6,405	7.563	2,189	K713_0076	MR200/180	182/184TC
30.56*	7,712	7.323	1,575	K613_0073	MR250/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC
39.32	10,087	7.445	2,870	K813_0074	MR250/210	213/215TC
39.32*	10,247	7.563	2,189	K713_0076	MR250/210	213/215TC
48.95*	12,757	7.563	2,189	K713_0076	MR300/250	254/256TC
					MR300/280	284/286TC
73.72*	18,914	7.445	2,870	K813_0074	MR300/250	254/256TC
					MR300/280	284/286TC

K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

\* Thermal HP Limit

Base Module Size	KL2	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
HP Limit	3.017	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.63	67.05

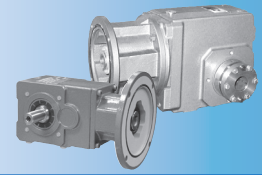
# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>220 RPM Output (Approximate)</b>						
1.47*	411	8.000	284	KL202_0080	ML2R050	56C
105.20*	28,763	7.934	6,570	K913_0079	MR350/320	324/326TC
<b>215 RPM Output (Approximate)</b>						
21.56*	6,044	8.134	1,371	K513_0081	MR200/180	182/184TC
					MR250/210	213/215TC
24.58*	6,865	8.107	1,629	K613_0081	MR200/180	182/184TC
28.56*	7,978	8.107	1,629	K613_0081	MR250/210	213/215TC
					MR300/250	254/256TC
<b>210 RPM Output (Approximate)</b>						
2.41	699	8.309	513	K102_0083	MR160/050	56C
					MR160/140	143/145TC
4.27	1,253	8.397	618	K202_0084	MR160/050	56C
					MR160/140	143/145TC
6.87	2,029	8.444	722	K302_0084	MR160/050	56C
					MR160/140	143/145TC
7.45*	2,199	8.444	722	K302_0084	MR200/180	182/184TC
7.70	2,256	8.377	1,153	K402_0084	MR160/050	56C
					MR160/140	143/145TC
11.24	3,291	8.377	1,153	K402_0084	MR200/180	182/184TC
					MR250/210	213/215TC
24.58	6,980	8.243	2,969	K813_0082	MR200/180	182/184TC
39.32	11,169	8.243	2,969	K813_0082	MR250/210	213/215TC
39.32*	11,345	8.373	2,264	K713_0084	MR250/180	182/184TC
					MR250/210	213/215TC
45.74*	13,197	8.373	2,264	K713_0084	MR300/250	254/256TC
					MR300/280	284/286TC
73.72*	20,941	8.243	2,969	K813_0082	MR300/250	254/256TC
					MR300/280	284/286TC

1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75



# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter

## 190 RPM Output (Approximate)

2.24	725	9.249	532	K102_0092	MR160/050	56C
					MR160/140	143/145TC
4.02	1,292	9.190	637	K202_0092	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
7.00	2,268	9.267	745	K302_0093	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
8.73	2,819	9.238	1,191	K402_0092	MR160/050	56C
					MR160/140	143/145TC
10.53	3,400	9.238	1,191	K402_0092	MR200/180	182/184TC
					MR250/210	213/215TC
19.60*	6,190	9.168	1,427	K513_0092	MR200/180	182/184TC
19.91*	6,290	9.168	1,427	K513_0092	MR250/210	213/215TC
24.58	7,781	9.188	2,335	K713_0092	MR200/180	182/184TC
24.58	7,862	9.284	3,089	K813_0093	MR200/180	182/184TC
39.32*	12,449	9.188	2,335	K713_0092	MR250/210	213/215TC
39.32	12,579	9.284	3,089	K813_0093	MR250/210	213/215TC
42.99*	13,612	9.188	2,335	K713_0092	MR300/250	254/256TC
					MR300/280	284/286TC
73.72*	23,586	9.284	3,089	K813_0093	MR300/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC

## 170 RPM Output (Approximate)

2.11	747	10.140	548	K102_0100	MR160/050	56C
					MR160/140	143/145TC
3.78	1,332	10.073	657	K202_0100	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
5.98	2,117	10.135	768	K302_0100	MR160/050	56C
					MR160/140	143/145TC
6.60	2,337	10.135	768	K302_0100	MR200/180	182/184TC
6.66	2,351	10.098	1,227	K402_0100	MR160/050	56C
					MR160/140	143/145TC
9.92	3,503	10.098	1,227	K402_0100	MR200/180	182/184TC
					MR250/210	213/215TC
18.60*	6,507	10.150	1,476	K513_0100	MR200/180	182/184TC
					MR250/210	213/215TC

\* Thermal HP Limit

Base Module Size	KL2	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
HP Limit	3.017	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.63	67.05

K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter

## 170 RPM Output Continued

24.58	8,614	10.172	2,416	<b>K713_0100</b>	<b>MR200/180</b>	182/184TC
24.58	8,705	10.279	3,196	<b>K813_0105</b>	<b>MR200/180</b>	182/184TC
39.32*	13,782	10.172	2,416	<b>K713_0100</b>	<b>MR250/210</b>	213/215TC
39.32	13,927	10.279	3,196	<b>K813_0105</b>	<b>MR250/210</b>	213/215TC
40.17*	14,082	10.172	2,416	<b>K713_0100</b>	<b>MR300/250</b>	254/256TC
					<b>MR300/280</b>	284/286TC
69.06*	24,461	10.279	3,196	<b>K813_0105</b>	<b>MR300/250</b>	254/256TC
					<b>MR300/280</b>	284/286TC

## 150 RPM Output (Approximate)

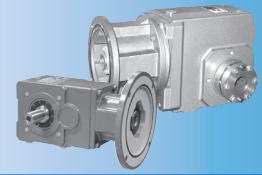
1.93	781	11.565	573	<b>K102_0115</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
3.45	1,394	11.546	687	<b>K202_0115</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
					<b>MR200/180</b>	182/184TC
6.02	2,445	11.610	803	<b>K302_0115</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
					<b>MR200/180</b>	182/184TC
7.70	3,102	11.518	1,282	<b>K402_0115</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
9.09	3,660	11.518	1,282	<b>K402_0115</b>	<b>MR200/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
17.04*	6,791	11.569	1,542	<b>K513_0115</b>	<b>MR200/180</b>	182/184TC
17.05*	6,797	11.569	1,542	<b>K513_0115</b>	<b>MR250/210</b>	213/215TC
19.60	7,702	11.407	1,825	<b>K613_0115</b>	<b>MR200/180</b>	182/184TC
21.48	8,721	11.781	2,537	<b>K713_0120</b>	<b>MR200/180</b>	182/184TC
22.74*	8,939	11.407	1,825	<b>K613_0115</b>	<b>MR250/210</b>	213/215TC
					<b>MR300/250</b>	254/256TC
36.43*	14,788	11.781	2,537	<b>K713_0120</b>	<b>MR250/210</b>	213/215TC
					<b>MR300/250</b>	254/256TC
					<b>MR300/280</b>	284/286TC

## 140 RPM Output (Approximate)

1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

### 2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75



# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
1.82	804	12.618	590	K102_0125	MR160/050	56C
					MR160/140	143/145TC
3.24	1,439	12.705	710	K202_0125	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
5.12	2,251	12.577	825	K302_0125	MR160/050	56C
					MR160/140	143/145TC
5.71	2,511	12.577	825	K302_0125	MR200/180	182/184TC
5.86	2,594	12.658	1,323	K402_0125	MR160/050	56C
					MR160/140	143/145TC
8.53	3,777	12.658	1,323	K402_0125	MR200/180	182/184TC
					MR250/210	213/215TC
15.93*	7,032	12.808	1,595	K513_0130	MR200/180	182/184TC
					MR250/210	213/215TC
19.60	8,527	12.629	1,888	K613_0125	MR200/180	182/184TC
21.25*	9,248	12.629	1,888	K613_0125	MR250/210	213/215TC
					MR300/250	254/256TC
73.72*	31,819	12.525	7,650	K913_0125	MR300/180	182/184TC
					MR300/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC
105.20*	45,406	12.525	7,650	K913_0125	MR350/320	324/326TC

## 125 RPM Output (Approximate)

K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

\* Thermal HP Limit

Base Module Size	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
HP Limit	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.63	67.05

# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
1.69	835	14.114	612	K102_0140	MR160/050	56C
					MR160/140	143/145TC
3.06	1,481	13.851	730	K202_0140	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
5.33	2,599	13.935	854	K302_0140	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
6.66	3,232	13.885	1,364	K402_0140	MR160/050	56C
					MR160/140	143/145TC
8.02	3,895	13.885	1,364	K402_0140	MR200/180	182/184TC
					MR250/210	213/215TC
21.48	9,655	13.043	2,625	K713_0130	MR200/180	182/184TC
24.58	11,163	13.182	3,472	K813_0130	MR200/180	182/184TC
34.04*	15,299	13.043	2,625	K713_0130	MR250/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC
39.32	17,861	13.182	3,472	K813_0130	MR250/210	213/215TC
58.50*	26,575	13.182	3,472	K813_0130	MR300/250	254/256TC
					MR300/280	284/286TC

## 120 RPM Output (Approximate)

8.46	4,235	14.536	1,664	K513_0145	MR160/050	56C
					MR160/140	143/145TC
14.64	7,335	14.536	1,664	K513_0145	MR200/180	182/184TC
					MR250/210	213/215TC
17.24	8,512	14.332	1,970	K613_0145	MR200/180	182/184TC
18.92	9,650	14.802	2,738	K713_0150	MR200/180	182/184TC
19.53	9,646	14.332	1,970	K613_0145	MR250/210	213/215TC
					MR300/250	254/256TC
22.11	11,309	14.842	3,612	K813_0150	MR200/180	182/184TC
					MR250/210	213/215TC
31.29*	15,957	14.802	2,738	K713_0150	MR300/250	254/256TC
					MR300/280	284/286TC
39.12	20,007	14.842	3,612	K813_0150	MR250/210	213/215TC
54.06*	27,647	14.842	3,612	K813_0150	MR300/250	254/256TC
					MR300/280	284/286TC

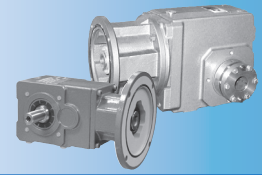
## 110 RPM Output (Approximate)

0.79*	443	16.000	358	KL202_0160	ML2R050	56C
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1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75



# Selection Data

K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
8.46	4,689	16.093	1,721	K513_0160	MR160/050	56C
					MR160/140	143/145TC
13.68	7,588	16.093	1,721	K513_0160	MR200/180	182/184TC
					MR250/210	213/215TC
17.24	9,425	15.868	2,038	K613_0160	MR200/180	182/184TC
18.25	9,979	15.868	2,038	K613_0160	MR250/210	213/215TC
					MR300/250	254/256TC
105.20*	57,555	15.876	10,190	K1013_0160	MR350/320	324/326TC
					MR350/360	364/365TC

## 105 RPM Output (Approximate)

1.51	883	16.714	648	K102_0165	MR160/050	56C
					MR160/140	143/145TC
2.68	1,581	16.858	780	K202_0170	MR160/050	56C
					MR160/140	143/145TC
4.03	2,389	16.939	911	K302_0170	MR160/050	56C
					MR160/140	143/145TC
4.65	2,753	16.939	1,458	K402_0170	MR160/050	56C
					MR160/140	143/145TC
4.68	2,774	16.939	911	K302_0170	MR200/180	182/184TC
7.03	4,162	16.939	1,458	K402_0170	MR200/180	182/184TC
8.68	5,129	17.156	2,091	K613_0170	MR160/050	56C
					MR160/140	143/145TC
15.25	9,014	17.156	2,091	K613_0170	MR200/180	182/184TC
17.32	10,242	17.156	2,091	K613_0170	MR250/210	213/215TC
					MR300/250	254/256TC
18.92	10,684	16.388	2,832	K713_0165	MR200/180	182/184TC
22.11	12,521	16.432	3,737	K813_0165	MR200/180	182/184TC
					MR250/210	213/215TC
29.23	16,508	16.388	2,832	K713_0165	MR300/250	254/256TC
					MR300/280	284/286TC
39.12	22,151	16.432	3,737	K813_0165	MR250/210	213/215TC
50.51*	28,601	16.432	3,737	K813_0165	MR300/250	254/256TC
					MR300/280	284/286TC

## 100 RPM Output (Approximate)

1.46	898	17.563	659	K102_0175	MR160/050	56C
					MR160/140	143/145TC

\* Thermal HP Limit

Base Module Size	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
HP Limit	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.63	67.05

# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
2.62	1,600	17.469	789	K202_0175	MR160/050	56C
					MR160/140	143/145TC
4.62	2,793	17.293	917	K302_0175	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
5.86	3,567	17.405	1,471	K402_0175	MR160/050	56C
					MR160/140	143/145TC
6.90	4,200	17.405	1,471	K402_0175	MR200/180	182/184TC
7.57	4,556	17.481	1,769	K513_0175	MR160/050	56C
					MR160/140	143/145TC
12.95	7,800	17.481	1,769	K513_0175	MR200/180	182/184TC
					MR250/210	213/215TC
19.85	11,851	17.327	3,803	K813_0175	MR200/180	182/184TC
35.15	20,990	17.327	3,803	K813_0175	MR250/210	213/215TC
48.76*	29,111	17.327	3,803	K813_0175	MR300/250	254/256TC
					MR300/280	284/286TC

## 95 RPM Output (Approximate)

15.67	9,865	18.275	2,937	K713_0185	MR200/180	182/184TC
27.18	17,119	18.275	2,937	K713_0185	MR250/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC

## 90 RPM Output (Approximate)

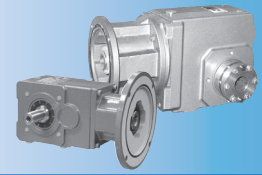
7.57	5,044	19.353	1,830	K513_0195	MR160/050	56C
					MR160/140	143/145TC

1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75





# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
8.68	5,679	18.994	2,164	K613_0190	MR160/050	56C
					MR160/140	143/145TC
11.95	7,972	19.353	1,830	K513_0195	MR200/180	182/184TC
					MR250/210	213/215TC
15.25	9,980	18.994	2,164	K613_0190	MR200/180	182/184TC
16.19	10,596	18.994	2,164	K613_0190	MR250/210	213/215TC
19.85	13,121	19.1837	3,803	K813_0175	MR200/180	182/184TC
35.15	23,238	19.183	3,934	K813_0190	MR250/210	213/215TC
45.56*	30,115	19.183	3,934	K813_0190	MR300/250	254/256TC
					MR300/280	284/286TC
73.72*	48,429	19.063	8,800	K913_0190	MR300/180	182/184TC
					MR300/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC
83.04*	54,548	19.063	8,800	K913_0190	MR350/320	324/326TC
					MR350/360	364/365TC

## 85 RPM Output (Approximate)

1.33	940	20.150	690	K102_0200	MR160/050	56C
					MR160/140	143/145TC
2.37	1,683	20.327	830	K202_0200	MR160/050	56C
					MR160/140	143/145TC
3.56	2,526	20.278	967	K302_0200	MR160/050	56C
					MR160/140	143/145TC
4.03	2,849	20.197	1,546	K402_0200	MR160/050	56C
					MR160/140	143/145TC
4.15	2,945	20.278	967	K302_0200	MR200/180	182/184TC
6.25	4,413	20.197	1,546	K402_0200	MR200/180	182/184TC
15.67	10,922	20.233	3,038	K713_0200	MR200/180	182/184TC
25.40	17,710	20.233	3,038	K713_0200	MR250/210	213/215TC
					MR300/250	254/256TC

## 80 RPM Output (Approximate)

6.36	4,817	21.992	1,910	K513_0220	MR160/050	56C
					MR160/140	143/145TC

\* Thermal HP Limit

Base Module Size	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
HP Limit	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.63	67.05

K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
7.39	5,518	21.684	2,261	K613_0220	MR160/050	56C
					MR160/140	143/145TC
10.52	7,972	21.992	1,910	K513_0220	MR200/180	182/184TC
					MR250/210	213/215TC
12.98	9,702	21.684	2,261	K613_0220	MR200/180	182/184TC
14.82	11,074	21.684	2,261	K613_0220	MR250/210	213/215TC

## 75 RPM Output (Approximate)

1.21	986	23.265	723	K102_0230	MR160/050	56C
					MR160/140	143/145TC
2.17	1,758	23.180	867	K202_0230	MR160/050	56C
					MR160/140	143/145TC
3.79	3,084	23.292	1,013	K302_0230	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
4.65	3,786	23.292	1,621	K402_0230	MR160/050	56C
					MR160/140	143/145TC
5.68	4,628	23.292	1,621	K402_0230	MR200/180	182/184TC
13.54	10,610	22.739	3,159	K713_0230	MR200/180	182/184TC
15.67	12,440	23.044	4,182	K813_0230	MR200/180	182/184TC
23.50	18,413	22.739	3,159	K713_0230	MR250/210	213/215TC
					MR300/250	254/256TC
27.75	22,036	23.044	4,182	K813_0230	MR250/210	213/215TC
40.32*	32,014	23.044	4,182	K813_0230	MR300/250	254/256TC
					MR300/280	284/286TC

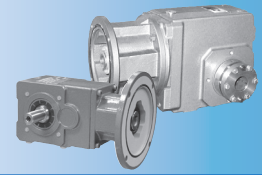
## 73 RPM Output (Approximate)

6.36	5,334	24.348	1,976	K513_0240	MR160/050	56C
					MR160/140	143/145TC

1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75



# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
7.39	6,109	24.007	2,339	K613_0240	MR160/050	56C
					MR160/140	143/145TC
9.50	7,972	24.348	1,976	K513_0240	MR200/180	182/184TC
					MR250/210	213/215TC
12.98	10,741	24.007	2,339	K613_0240	MR200/180	182/184TC
13.85	11,456	24.007	2,339	K613_0240	MR250/210	213/215TC
35.15	29,004	23.943	9,495	K913_0240	MR250/180	182/184TC
					MR250/210	213/215TC
62.77*	51,785	23.943	9,495	K913_0240	MR300/250	254/256TC
					MR300/280	284/286TC
71.33*	58,854	23.943	9,495	K913_0240	MR350/320	324/326TC
97.49*	79,931	23.793	11,661	K1013_0240	MR350/320	324/326TC
					MR350/360	364/365TC

## 70 RPM Output (Approximate)

0.96	851	25.220	743	K102_0250	MR160/050	56C
2.02	1,772	25.130	891	K202_0250	MR160/050	56C
					MR160/140	143/145TC
2.91	2,566	25.259	1,041	K302_0250	MR160/050	56C
					MR160/140	143/145TC
3.34	2,956	25.279	1,666	K402_0250	MR160/050	56C
					MR160/140	143/145TC
3.48	3,070	25.259	1,041	K302_0250	MR200/180	182/184TC
5.02	4,434	25.279	1,666	K402_0250	MR200/180	182/184TC
13.54	11,746	25.175	3,268	K713_0250	MR200/180	182/184TC
15.67	13,773	25.513	4,327	K813_0260	MR200/180	182/184TC
21.96	19,048	25.175	3,268	K713_0250	MR250/210	213/215TC
					MR300/250	254/256TC
27.75	24,397	25.513	4,327	K813_0260	MR250/210	213/215TC
37.67	33,118	25.513	4,327	K813_0260	MR300/250	254/256TC

## 60 RPM Output (Approximate)

1.07	1,049	28.048	770	K102_0280	MR160/050	56C
					MR160/140	143/145TC

K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

\* Thermal HP Limit

Base Module Size	KL2	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
HP Limit	3.017	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.63	67.05

# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
1.81	1,772	27.950	923	K202_0280	MR160/050	56C
					MR160/140	143/145TC
3.18	3,100	27.883	1,076	K302_0280	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
4.03	3,917	27.771	1,719	K402_0280	MR160/050	56C
					MR160/140	143/145TC
5.02	4,872	27.771	1,719	K402_0280	MR200/180	182/184TC
5.11	5,136	29.181	2,099	K513_0290	MR160/050	56C
					MR160/140	143/145TC
5.97	5,923	28.772	2,485	K613_0290	MR160/050	56C
					MR160/140	143/145TC
7.93	7,972	29.181	2,099	K513_0290	MR200/180	182/184TC
					MR250/210	213/215TC
10.48	10,395	28.772	2,485	K613_0290	MR200/180	182/184TC
11.33	11,434	29.285	3,437	K713_0290	MR200/180	182/184TC
12.27	12,169	28.772	2,485	K613_0290	MR250/210	213/215TC
13.54	13,649	29.254	4,529	K813_0290	MR200/180	182/184TC
					MR250/210	213/215TC
19.85	20,033	29.285	3,437	K713_0290	MR300/210	213/215TC
					MR300/250	254/256TC
					MR250/210	213/215TC
23.91	24,103	29.254	4,529	K813_0290	MR250/210	213/215TC
34.39	34,664	29.254	4,529	K813_0290	MR300/250	254/256TC
					MR300/280	284/286TC

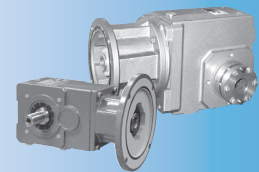
## 55 RPM Output (Approximate)

0.40*	443	32.000	450	KL202_0320	ML2R050	56C
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1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75



# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
2.76	3,100	32.649	1,134	K303_0330	MR160/050	56C
					MR160/140	143/145TC
3.34	3,733	32.390	1,809	K403_0320	MR160/050	56C
					MR160/140	143/145TC
5.11	5,687	32.308	2,171	K513_0320	MR160/050	56C
					MR160/140	143/145TC
5.97	6,557	31.855	2,571	K613_0320	MR160/050	56C
					MR160/140	143/145TC
7.16	7,972	32.308	2,171	K513_0320	MR200/180	182/184TC
10.48	11,508	31.855	2,571	K613_0320	MR200/180	182/184TC
11.33	12,659	32.423	3,555	K713_0320	MR200/180	182/184TC
11.47	12,589	31.855	2,571	K613_0320	MR250/210	213/215TC
13.54	15,112	32.389	4,685	K813_0320	MR200/180	182/184TC
					MR250/210	213/215TC
18.55	20,724	32.423	3,555	K713_0320	MR300/250	254/256TC
					MR250/210	213/215TC
23.91	26,686	32.389	4,685	K813_0320	MR250/210	213/215TC
27.75	30,711	32.116	10,471	K913_0320	MR250/180	182/184TC
					MR250/210	213/215TC
32.13	35,860	32.389	4,685	K813_0320	MR300/250	254/256TC
					MR300/280	284/286TC
49.56	54,851	32.116	10,471	K913_0320	MR300/250	254/256TC
					MR300/280	284/286TC
56.03*	62,006	32.116	10,471	K913_0320	MR350/320	364/365TC
58.79	63,887	31.535	12,810	K1013_0320	MR300/180	182/184TC
					MR300/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC
78.29*	85,073	31.535	12,810	K1013_0320	MR350/320	324/326TC
					MR350/360	364/365TC

K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

## 52 RPM Output (Approximate)

0.55	647	33.707	819	K102_0340	MR140/050	56C
1.16	1,364	33.618	981	K202_0340	MR160/050	56C
					MR160/140	143/145TC
1.89	2,217	33.618	1,145	K302_0340	MR160/050	56C
					MR160/140	143/145TC
2.62	3,084	33.678	1,833	K402_0340	MR160/050	56C
					MR160/140	143/145TC

## 50 RPM Output (Approximate)

0.87	1,063	35.105	830	K102_0350	MR160/050	56C
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\* Thermal HP Limit

Base Module Size	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
HP Limit	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.63	67.05

## K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
1.47	1,772	34.554	990	K202_0350	MR160/050	56C
					MR160/140	143/145TC
2.51	3,100	35.833	1,170	K303_0360	MR160/050	56C
					MR160/140	143/145TC
2.55	3,100	34.731	1,157	K302_0350	MR160/050	56C
					MR160/140	143/145TC
3.34	4,065	34.758	1,852	K402_0350	MR160/050	56C
					MR160/140	143/145TC
3.34	4,117	35.721	1,869	K403_0360	MR160/050	56C
					MR160/140	143/145TC
4.01	4,872	34.758	1,852	K402_0350	MR200/180	182/184TC
4.50	5,402	34.800	2,226	K513_0350	MR160/050	56C
					MR160/140	143/145TC
5.11	6,092	34.610	2,643	K613_0350	MR160/050	56C
					MR160/140	143/145TC
6.65	7,972	34.800	2,226	K513_0350	MR200/180	182/184TC
8.95	10,673	34.610	2,643	K613_0350	MR200/180	182/184TC
9.98	12,191	35.438	3,662	K713_0350	MR200/180	182/184TC
10.77	12,844	34.610	2,643	K613_0350	MR250/210	213/215TC
11.33	14,109	36.138	4,859	K813_0360	MR200/180	182/184TC
17.41	21,259	35.438	3,662	K713_0350	MR250/210	213/215TC
					MR300/250	254/256TC
19.95	24,839	36.138	4,859	K813_0360	MR250/210	213/215TC
29.87	37,194	36.138	4,859	K813_0360	MR300/250	254/256TC
					MR300/280	284/286TC

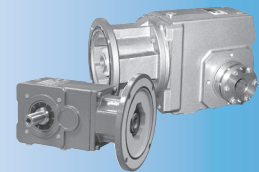
### 45 RPM Output (Approximate)

1.30	1,772	39.454	1,035	K203_0390	MR140/050	56C
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1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75



# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
2.30	3,100	39.187	1,205	K303_0390	MR160/050	56C
					MR160/140	143/145TC
3.34	4,500	39.047	1,926	K403_0390	MR160/050	56C
					MR160/140	143/145TC
4.50	5,981	38.529	2,302	K513_0390	MR160/050	56C
					MR160/140	143/145TC
5.11	6,745	38.319	2,734	K613_0380	MR160/050	56C
					MR160/140	143/145TC
6.01	7,972	38.529	2,302	K513_0390	MR200/180	182/184TC
8.95	11,817	38.319	2,734	K613_0380	MR200/180	182/184TC
9.73	12,844	38.319	2,734	K613_0380	MR250/210	213/215TC
9.98	13,497	39.234	3,789	K713_0390	MR200/180	182/184TC
					MR250/210	213/215TC
15.73	21,259	39.234	3,789	K713_0390	MR300/250	254/256TC
					MR250/180	182/184TC
24.72	32,411	38.042	11,079	K913_0380	MR250/210	213/215TC
					MR300/250	254/256TC
43.99	57,666	38.042	11,079	K913_0380	MR300/280	284/286TC
					MR350/320	324/326TC
47.30	62,006	38.042	11,079	K913_0380	MR300/180	182/184TC
					MR300/210	213/215TC
50.44	67,096	38.601	13,703	K1013_0390	MR300/250	254/256TC
					MR300/280	284/286TC
67.07*	89,219	38.601	13,703	K1013_0390	MR350/320	324/326TC
					MR350/360	364/365TC

K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

## 43 RPM Output (Approximate)

0.38	541	40.300	869	K102_0400	MR140/050	56C
0.72	1,023	40.394	1,043	K202_0400	MR140/050	56C
1.20	1,705	40.512	1,218	K302_0410	MR160/050	56C
					MR160/140	143/145TC
1.93	2,729	40.512	1,950	K402_0410	MR160/050	56C
					MR160/140	143/145TC
11.33	15,621	40.009	5,027	K813_0400	MR200/180	182/184TC
19.95	27,499	40.009	5,027	K813_0400	MR250/210	213/215TC
26.99	37,204	40.009	5,027	K813_0400	MR300/250	254/256TC
					MR300/280	284/286TC

## 40 RPM Output (Approximate)

0.55	900	46.918	914	K102_0470	MR140/050	56C
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\* Thermal HP Limit

Base Module Size	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
HP Limit	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.63	67.05

# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
1.10	1,772	46.225	1,091	K202_0460	MR160/050	56C
					MR160/140	143/145TC
1.14	1,772	45.223	1,083	K203_0450	MR140/050	56C
1.89	3,048	46.225	1,273	K302_0460	MR160/050	56C
					MR160/140	143/145TC
2.01	3,100	44.892	1,261	K303_0450	MR160/050	56C
					MR160/140	143/145TC
2.62	4,240	46.308	2,038	K402_0460	MR160/050	56C
					MR160/140	143/145TC
3.17	4,872	44.536	2,012	K403_0450	MR160/050	56C
					MR160/140	143/145TC
3.74	5,603	43.500	2,397	K513_0440	MR160/050	56C
					MR160/140	143/145TC
4.22	6,261	43.111	2,843	K613_0430	MR160/050	56C
					MR160/140	143/145TC
5.32	7,972	43.500	2,397	K513_0440	MR200/180	182/184TC
7.38	10,965	43.111	2,843	K613_0430	MR200/180	182/184TC
8.00	12,417	45.054	3,967	K713_0450	MR200/180	182/184TC
8.65	12,844	43.111	2,843	K613_0430	MR250/180	182/184TC
					MR250/210	213/215TC
9.98	15,222	44.250	5,199	K813_0440	MR200/180	182/184TC
13.69	21,259	45.054	3,967	K713_0450	MR250/180	182/184TC
					MR250/210	213/215TC
17.49	26,663	44.250	5,199	K813_0440	MR250/210	213/215TC
24.40	37,204	44.250	5,199	K813_0440	MR300/210	213/215TC
					MR300/250	254/256TC

## 35 RPM Output (Approximate)

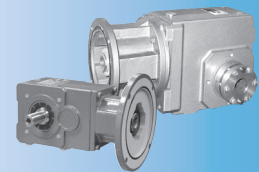
0.25	442	50.310	935	K102_0500	MR140/050	56C
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1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75





## Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
0.48	853	50.492	1,124	K202_0500	MR140/050	56C
0.77	1,364	50.492	1,311	K302_0500	MR140/050	56C
1.03	1,772	49.759	1,118	K203_0500	MR140/050	56C
1.35	2,387	50.427	2,097	K402_0500	MR160/050	56C
					MR160/140	143/145TC
1.85	3,100	48.631	1,295	K303_0491	MR160/050	56C
					MR160/140	143/145TC
2.89	4,872	48.944	2,076	K403_0490	MR160/050	56C
					MR160/140	143/145TC
3.74	6,203	48.161	2,480	K513_0480	MR160/050	56C
					MR160/140	143/145TC
4.22	6,932	47.730	2,941	K613_0480	MR160/050	56C
					MR160/140	143/145TC
4.80	7,972	48.161	2,480	K513_0480	MR200/180	182/184TC
7.38	12,140	47.730	2,941	K613_0480	MR200/180	182/184TC
7.81	12,844	47.730	2,941	K613_0480	MR250/180	182/184TC
8.00	13,747	49.881	4,104	K713_0500	MR200/180	182/184TC
9.98	16,853	48.991	5,378	K813_0490	MR200/180	182/184TC
12.37	21,259	49.881	4,104	K713_0500	MR250/180	182/184TC
					MR250/210	213/215TC
17.49	29,520	48.991	5,378	K813_0490	MR250/210	213/215TC
19.95	33,636	48.937	12,050	K913_0490	MR250/180	182/184TC
					MR250/210	213/215TC
22.04	37,204	48.991	5,378	K813_0490	MR300/210	213/215TC
					MR300/250	254/256TC
35.44	59,756	48.937	12,050	K913_0490	MR300/250	254/256TC
					MR300/280	284/286TC
41.49	69,403	48.543	14,790	K1013_0490	MR300/180	182/184TC
					MR300/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC
55.15	92,250	48.543	14,790	K1013_0490	MR350/320	324/326TC

K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

### 30 RPM Output (Approximate)

0.38	753	56.095	970	K102_0560	MR140/050	56C
0.72	1,407	55.542	1,160	K202_0560	MR140/050	56C

# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
0.95	1,772	54.250	1,151	<b>K203_0540</b>	<b>MR140/050</b>	56C
1.20	2,345	55.705	1,355	<b>K302_0560</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
1.67	3,100	53.883	1,340	<b>K303_0540</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
1.93	3,752	55.705	2,168	<b>K402_0560</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
2.63	4,872	53.690	2,141	<b>K403_0540</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
2.84	5,699	58.297	2,643	<b>K513_0580</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
3.36	6,658	57.545	3,131	<b>K613_0580</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
3.97	7,972	58.297	2,643	<b>K513_0580</b>	<b>MR200/180</b>	182/184TC
5.87	11,633	57.545	3,131	<b>K613_0580</b>	<b>MR200/180</b>	182/184TC
6.42	12,949	58.570	4,330	<b>K713_0590</b>	<b>MR200/180</b>	182/184TC
6.48	12,844	57.545	3,131	<b>K613_0580</b>	<b>MR250/180</b>	182/184TC
7.37	15,014	59.082	5,724	<b>K813_0590</b>	<b>MR200/180</b>	182/184TC
10.53	21,259	58.570	4,330	<b>K713_0590</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
13.00	26,457	59.082	5,724	<b>K813_0590</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
18.27	37,204	59.082	5,724	<b>K813_0590</b>	<b>MR300/210</b>	213/215TC
					<b>MR300/250</b>	254/256TC

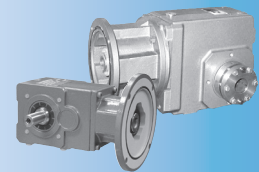
  

27 RPM Output (Approximate)						
0.78	1,772	66.027	1,229	<b>K203_0660</b>	<b>MR140/050</b>	56C
1.35	3,100	66.868	1,440	<b>K303_0670</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC

1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75



# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
1.37	3,100	65.499	1,430	K303_0650	MR160/050	56C
					MR160/140	143/145TC
2.10	4,872	67.298	2,309	K403_0670	MR160/050	56C
					MR160/140	143/145TC
2.16	4,872	65.499	2,288	K403_0650	MR160/050	56C
					MR160/140	143/145TC
2.84	6,310	64.544	2,734	K513_0650	MR160/050	56C
					MR160/140	143/145TC
3.36	7,371	63.710	3,239	K613_0640	MR160/050	56C
					MR160/140	143/145TC
3.58	7,972	64.544	2,734	K513_0650	MR200/180	182/184TC
5.85	12,844	63.710	3,239	K613_0640	MR200/180	182/184TC
6.42	14,337	64.846	4,480	K713_0650	MR200/180	182/184TC
7.37	16,622	65.412	5,922	K813_0650	MR200/180	182/184TC
9.51	21,259	64.846	4,480	K713_0650	MR250/180	182/184TC
					MR250/210	213/215TC
13.00	29,292	65.412	5,922	K813_0650	MR250/180	182/184TC
					MR250/210	213/215TC
15.22	34,499	66.833	5,965	K814_0670	MR250/180	182/184TC
					MR250/210	213/215TC
15.85	34,454	63.071	13,113	K913_0630	MR250/180	182/184TC
					MR250/210	213/215TC
16.51	37,204	65.412	5,922	K813_0650	MR300/210	213/215TC
					MR300/250	254/256TC
28.20	61,289	63.071	13,113	K913_0630	MR300/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC
34.03	72,176	61.553	16,009	K1013_0620	MR300/180	182/184TC
					MR300/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC

K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

## 25 RPM Output (Approximate)

0.25	616	70.029	1,045	K102_0700	MR140/050	56C
0.48	1,172	69.427	1,250	K202_0690	MR140/050	56C
0.77	1,876	69.427	1,458	K302_0690	MR140/050	56C

## K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
1.35	3,283	69.338	2,332	K402_0690	MR160/050	56C
					MR160/140	143/145TC
2.43	5,877	70.083	2,810	K513_0700	MR160/050	56C
					MR160/140	143/145TC
2.84	6,723	68.772	3,322	K613_0690	MR160/050	56C
					MR160/140	143/145TC
4.91	11,639	68.772	3,322	K613_0690	MR200/180	182/184TC
5.47	13,414	71.203	4,621	K713_0710	MR200/180	182/184TC
6.42	15,852	71.701	6,106	K813_0720	MR200/180	182/184TC
7.84	19,244	71.203	4,621	K713_0710	MR250/180	182/184TC
11.26	27,814	71.701	6,106	K813_0720	MR250/210	213/215TC
12.93	31,935	71.701	6,106	K813_0720	MR300/210	213/215TC

### 23 RPM Output (Approximate)

2.84	7,443	76.140	3,437	K613_0760	MR160/050	56C
					MR160/140	143/145TC
4.90	12,844	76.140	3,437	K613_0760	MR200/180	182/184TC
14.04	36,283	75.004	13,893	K913_0750	MR250/180	182/184TC
					MR250/210	213/215TC
14.82	37,204	73.993	6,170	K814_0740	MR250/180	182/184TC
					MR250/210	213/215TC
23.56	60,903	75.004	13,893	K913_0750	MR300/210	213/215TC
					MR300/250	254/256TC
28.20	73,149	75.276	17,119	K1013_0750	MR300/180	182/184TC
					MR300/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC

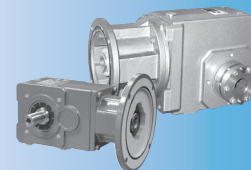
### 22 RPM Output (Approximate)

0.65	1,772	79.615	1,308	K203_0800	MR140/050	56C
1.15	3,100	78.410	1,518	K303_0780	MR160/050	56C
					MR160/140	143/145TC

1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75



## Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
1.81	4,872	78.095	2,426	K403_0780	MR160/050	56C
					MR160/140	143/145TC
2.43	6,506	77.592	2,907	K513_0780	MR160/050	56C
					MR160/140	143/145TC
5.47	14,851	78.832	4,781	K713_0790	MR200/180	182/184TC
6.42	17,551	79.384	6,317	K813_0790	MR200/180	182/184TC
7.83	21,259	78.832	4,781	K713_0790	MR250/180	182/184TC
11.26	30,795	79.384	6,317	K813_0790	MR250/180	182/184TC
					MR250/210	213/215TC
12.93	35,365	79.384	6,317	K813_0790	MR300/210	213/215TC

### 20 RPM Output (Approximate)

1.98	5,965	87.290	3,024	K513_0870	MR160/050	56C
					MR160/140	143/145TC
2.32	6,875	86.178	3,582	K613_0860	MR160/050	56C
					MR160/140	143/145TC
2.76	7,972	85.034	2,998	K514_0850	MR160/050	56C
					MR160/140	143/145TC
4.44	13,607	89.004	4,950	K713_0890	MR200/180	182/184TC
4.83	14,803	89.004	4,950	K713_0890	MR250/180	182/184TC
5.47	16,533	87.763	6,525	K813_0880	MR200/180	182/184TC
6.54	19,755	89.061	4,950	K714_0890	MR200/180	182/184TC
7.68	23,220	87.763	6,525	K813_0880	MR250/180	182/184TC
12.34	37,204	88.885	6,525	K814_0890	MR250/180	182/184TC
					MR250/210	213/215TC

### 19 RPM Output (Approximate)

0.57	1,772	90.787	1,350	K203_0910	MR140/050	56C
1.00	3,100	90.061	1,575	K303_0900	MR160/050	56C
1.57	4,872	90.061	2,520	K403_0900	MR160/050	56C
					MR160/140	143/145TC
2.50	7,972	94.145	3,026	K514_0940	MR160/050	56C
					MR160/140	143/145TC
6.54	20,801	93.777	14,625	K914_0940	MR200/180	182/184TC
15.22	47,672	92.352	14,625	K914_0920	MR250/180	182/184TC
					MR250/210	213/215TC
20.18	65,598	94.329	18,000	K1013_0940	MR300/180	182/184TC
					MR300/210	213/215TC
					MR300/250	254/256TC

### 18 RPM Output (Approximate)

1.98	6,604	96.643	3,026	K513_0970	MR160/050	56C
					MR160/140	143/145TC

K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
2.32	7,612	95.412	3,600	K613_0950	MR160/050	56C
					MR160/140	143/145TC
4.44	15,065	98.540	4,950	K713_0990	MR200/180	182/184TC
4.83	16,394	98.540	4,950	K713_0990	MR250/180	182/184TC
5.47	18,305	97.166	6,525	K813_0970	MR200/180	182/184TC
6.36	21,259	98.604	4,950	K714_0990	MR200/180	182/184TC
7.68	25,708	97.166	6,525	K813_0970	MR250/180	182/184TC
11.15	37,204	98.408	6,525	K814_0980	MR250/180	182/184TC
					MR250/210	213/215TC
11.26	37,012	95.412	14,625	K913_0950	MR250/180	182/184TC
					MR250/210	213/215TC
14.48	47,620	95.412	14,625	K913_0950	MR300/210	213/215TC
20.18	65,598	94.329	18,000	K1013_0940	MR300/180	182/184TC
					MR300/210	213/215TC
					MR300/250	254/256TC

## 16 RPM Output (Approximate)

0.47	1,772	109.471	1,350	K203_1090	MR140/050	56C
0.83	3,100	107.814	1,575	K303_1080	MR160/050	56C
					MR160/140	143/145TC
1.32	4,872	107.381	2,520	K403_1070	MR160/050	56C
					MR160/140	143/145TC
2.08	7,972	112.834	3,026	K514_1130	MR160/050	56C
					MR160/140	143/145TC
3.34	12,621	111.254	3,600	K614_1110	MR160/050	56C
					MR160/140	143/145TC
5.47	21,259	114.700	4,950	K714_1150	MR200/180	182/184TC
6.54	25,415	114.579	6,525	K814_1150	MR200/180	182/184TC
9.72	37,204	112.838	6,525	K814_1130	MR250/180	182/184TC
					MR250/210	213/215TC

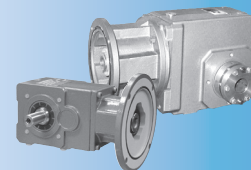
## 14 RPM Output (Approximate)

1.88	7,972	124.924	3,026	K514_1250	MR160/050	56C
					MR160/140	143/145TC

1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75



## Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
3.08	12,844	123.174	3,600	K614_1230	MR160/050	56C
					MR160/140	143/145TC
4.94	21,259	126.990	4,950	K714_1270	MR200/180	182/184TC
6.54	27,901	125.788	14,625	K914_1260	MR200/180	182/184TC
6.54	28,138	126.855	6,525	K814_1270	MR200/180	182/184TC
8.78	37,204	124.927	6,525	K814_1250	MR250/180	182/184TC
					MR250/210	213/215TC
14.76	62,006	123.877	14,625	K914_1240	MR250/180	182/184TC
					MR250/210	213/215TC

### 13 RPM Output (Approximate)

0.38	1,772	135.335	1,350	K203_1350	MR140/050	56C
0.67	3,100	134.292	1,575	K303_1340	MR160/050	56C
1.05	4,872	134.399	2,520	K403_1340	MR160/050	56C
1.75	7,972	134.560	3,026	K514_1350	MR160/050	56C
					MR160/140	143/145TC
2.83	12,844	133.827	3,600	K614_1340	MR160/050	56C
					MR160/140	143/145TC
3.10	14,402	137.025	4,950	K714_1370	MR160/050	56C
					MR160/140	143/145TC
6.54	31,395	141.539	6,525	K814_1420	MR200/180	182/184TC
7.87	37,204	139.388	6,525	K814_1390	MR250/180	182/184TC

### 12 RPM Output (Approximate)

1.58	7,972	148.977	3,026	K514_1490	MR160/050	56C
					MR160/140	143/145TC
2.56	12,844	148.165	3,600	K614_1480	MR160/050	56C
					MR160/140	143/145TC
3.10	15,945	151.706	4,950	K714_1520	MR160/050	56C
					MR160/140	143/145TC
6.54	33,049	148.996	14,625	K914_1490	MR200/180	182/184TC
12.46	62,006	146.732	14,625	K914_1470	MR250/180	182/184TC
					MR250/210	213/215TC
15.22	76,857	148.889	18,000	K1014_1490	MR250/180	182/184TC
					MR250/210	213/215TC

### 11 RPM Output (Approximate)

4.08	21,259	153.668	4,950	K714_1540	MR200/180	182/184TC
6.54	34,759	156.703	6,525	K814_1570	MR200/180	182/184TC
7.11	37,204	154.322	6,525	K814_1540	MR250/180	182/184TC

K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>10 RPM Output (Approximate)</b>						
0.28	1,772	181.048	1,350	<b>K203_1810</b>	<b>MR140/050</b>	56C
0.50	3,048	178.737	1,575	<b>K303_1790</b>	<b>MR160/050</b>	56C
0.77	4,737	179.056	2,520	<b>K403_1790</b>	<b>MR160/050</b>	56C
1.40	7,972	168.200	3,026	<b>K514_1680</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
2.27	12,844	166.694	3,600	<b>K614_1670</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
2.63	15,514	174.209	4,950	<b>K714_1740</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
3.55	21,259	176.462	4,950	<b>K714_1760</b>	<b>MR200/180</b>	182/184TC
5.81	34,132	173.313	6,525	<b>K814_1730</b>	<b>MR200/180</b>	182/184TC
6.43	37,204	170.679	6,525	<b>K814_1710</b>	<b>MR250/180</b>	182/184TC

<b>9 RPM Output (Approximate)</b>						
1.26	7,972	186.221	3,026	<b>K514_1860</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
2.05	12,844	184.554	3,600	<b>K614_1850</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
2.63	17,176	192.874	4,950	<b>K714_1930</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
3.21	21,259	195.368	4,950	<b>K714_1950</b>	<b>MR200/180</b>	182/184TC
5.72	37,204	191.882	6,525	<b>K814_1920</b>	<b>MR200/180</b>	182/184TC
5.80	37,204	188.966	6,525	<b>K814_1890</b>	<b>MR250/180</b>	182/184TC
6.54	42,515	191.670	14,625	<b>K914_1920</b>	<b>MR200/180</b>	182/184TC
					<b>MR250/180</b>	182/184TC
9.69	62,006	188.757	14,625	<b>K914_1890</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC

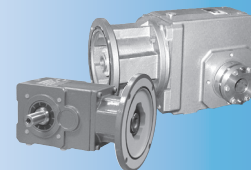
<b>8 RPM Output (Approximate)</b>						
0.19	1,407	217.538	1,350	<b>K203_2180</b>	<b>MR140/050</b>	56C
0.31	2,345	218.176	1,575	<b>K303_2180</b>	<b>MR140/050</b>	56C
0.51	3,752	215.391	2,520	<b>K403_2150</b>	<b>MR160/050</b>	56C
1.04	7,972	225.417	3,026	<b>K514_2250</b>	<b>MR160/050</b>	56C

1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75





## Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
1.70	12,844	222.507	3,600	K614_2230	MR160/050	56C
					MR160/140	143/145TC
2.36	18,092	226.472	4,950	K714_2260	MR160/050	56C
					MR160/140	143/145TC
4.60	36,082	231.404	6,525	K814_2310	MR200/180	182/184TC
4.81	37,204	227.888	6,525	K814_2280	MR250/180	182/184TC

### 7 RPM Output (Approximate)

0.94	7,972	249.569	3,026	K514_2500	MR160/050	56C
1.29	11,639	265.917	3,600	K614_2660	MR160/050	56C
					MR160/140	143/145TC
1.54	12,844	246.347	3,600	K614_2460	MR160/050	56C
					MR160/140	143/145TC
2.50	21,259	250.737	4,950	K714_2510	MR160/050	56C
					MR160/140	143/145TC
4.28	37,204	256.198	6,525	K814_2560	MR200/180	182/184TC
5.72	47,896	247.029	14,625	K914_2470	MR200/180	182/184TC
7.52	62,006	243.275	14,625	K914_2430	MR250/180	182/184TC
11.16	89,859	237.418	18,000	K1014_2370	MR250/180	182/184TC

### 6 RPM Output (Approximate)

0.13	1,172	271.923	1,350	K203_2720	MR140/050	56C
0.20	1,876	271.923	1,575	K303_2720	MR140/050	56C
0.35	3,283	271.572	2,520	K403_2720	MR140/050	56C
0.78	7,972	300.023	3,026	K514_3000	MR160/050	56C

K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

## K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
0.79	7,268	270.989	3,026	<a href="#">K514_2710</a>	<a href="#">MR160/050</a>	56C
1.29	12,844	294.408	3,600	<a href="#">K614_2940</a>	<a href="#">MR160/050</a>	56C
					<a href="#">MR160/140</a>	143/145TC
2.06	21,259	304.817	4,950	<a href="#">K714_3050</a>	<a href="#">MR160/050</a>	56C
					<a href="#">MR160/140</a>	143/145TC
2.06	19,244	275.319	4,950	<a href="#">K714_2750</a>	<a href="#">MR160/050</a>	56C
					<a href="#">MR160/140</a>	143/145TC
3.35	31,935	280.830	6,525	<a href="#">K814_2810</a>	<a href="#">MR200/180</a>	182/184TC
3.35	35,365	310.919	6,525	<a href="#">K814_3110</a>	<a href="#">MR200/180</a>	182/184TC
3.41	31,935	276.563	6,525	<a href="#">K814_2770</a>	<a href="#">MR250/180</a>	182/184TC
3.41	35,365	306.194	6,525	<a href="#">K814_3060</a>	<a href="#">MR250/180</a>	182/184TC
4.82	47,993	293.764	14,625	<a href="#">K914_2940</a>	<a href="#">MR200/180</a>	182/184TC
9.17	90,262	290.350	18,000	<a href="#">K1014_2900</a>	<a href="#">MR250/180</a>	182/184TC
					<a href="#">MR250/210</a>	213/215TC

### 5 RPM Output (Approximate)

0.53	6,105	337.521	3,026	<a href="#">K514_3380</a>	<a href="#">MR160/050</a>	56C
0.53	6,761	373.684	3,026	<a href="#">K514_3740</a>	<a href="#">MR160/050</a>	56C
0.76	8,600	333.223	3,600	<a href="#">K614_3330</a>	<a href="#">MR160/050</a>	56C
0.76	9,524	368.926	3,600	<a href="#">K614_3690</a>	<a href="#">MR160/050</a>	56C
1.27	14,803	344.148	4,950	<a href="#">K714_3440</a>	<a href="#">MR160/050</a>	56C
					<a href="#">MR160/140</a>	143/145TC
3.76	47,620	373.696	14,625	<a href="#">K914_3740</a>	<a href="#">MR200/180</a>	182/184TC

**NOTE:** For slower speeds than those shown, units can be combined. Contact STÖBER Drives Inc.

1) Overhung Load is measured at the center of the shaft extension. Hollow output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

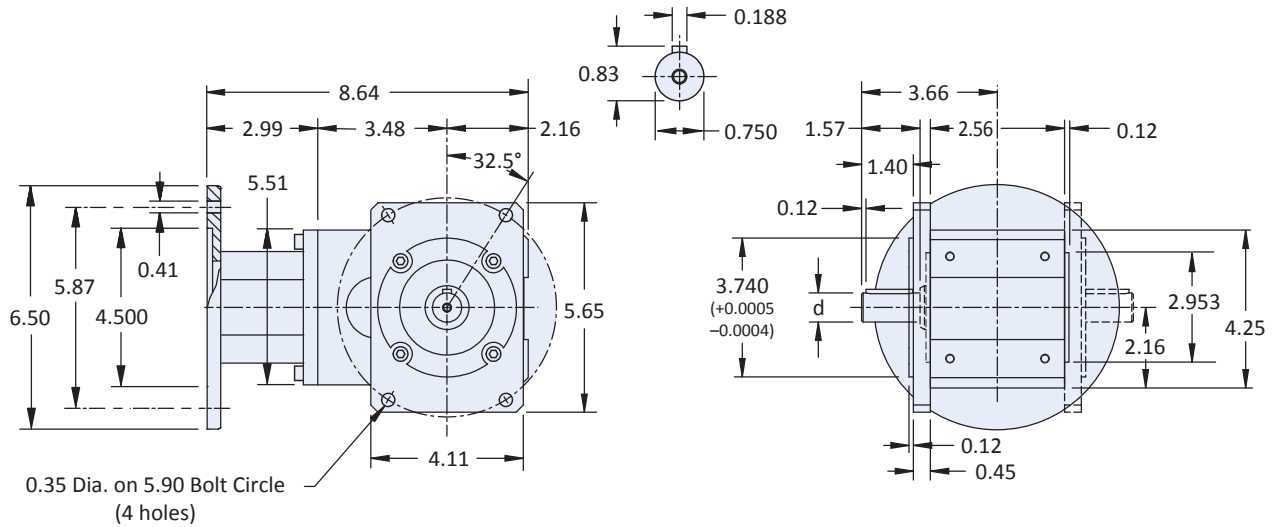
Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75



# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

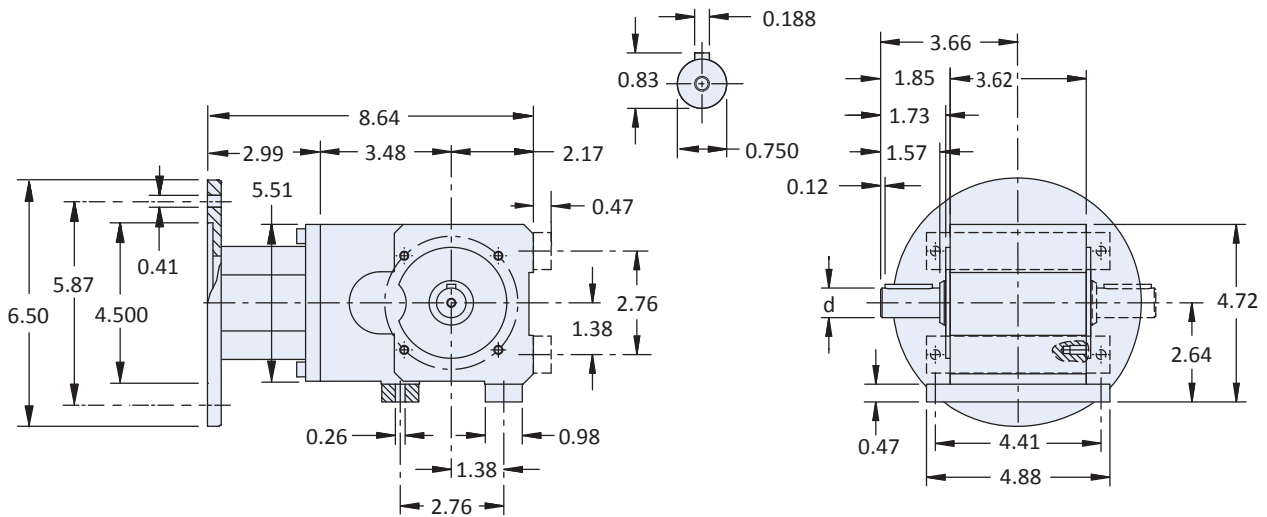
## KL Series with "P" Solid Shaft Output

### "F" Output Flange Housing



## KL Series with "P" Solid Shaft Output

### "NG" Foot Mounting Housing



#### "P" Solid Shaft Output Options

BLUE designates standard shaft diameters. Black designates optional diameters readily available from inventory.

	Carbon Steel		Stainless Steel*	
	Inches	Metric	Inches	Metric
Dimension "d"	3/4	20	3/4	20

\* Stainless steel is ideal for food and beverage or harsh washdown environments.



# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

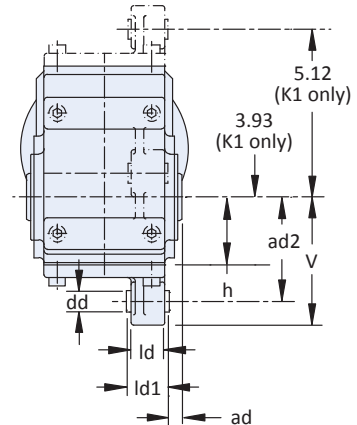
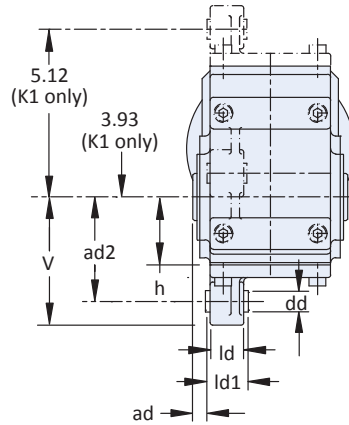
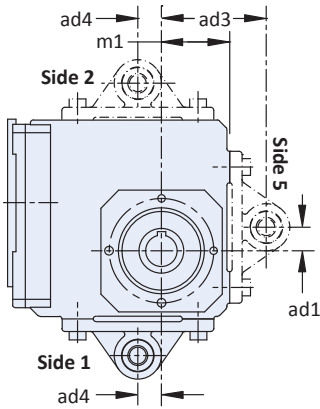
## K Series with "A" Hollow Output

### "GD" Torque Arm Bracket Housing (Torque arm supplied by others)

K102AGD thru K403AGD

**Important:**

On K102 thru K1014, brackets can be mounted on Side 1 (shown) or Side 5 (opposite input side).  
On K102 ONLY, the bracket can also be mounted on Side 2 (top).



K513AGD thru K1014AGD

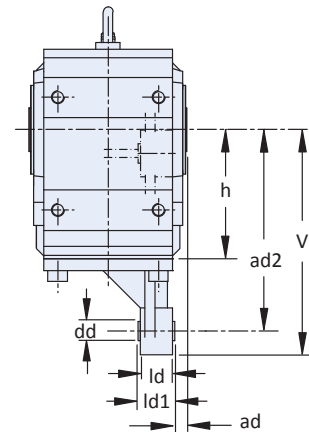
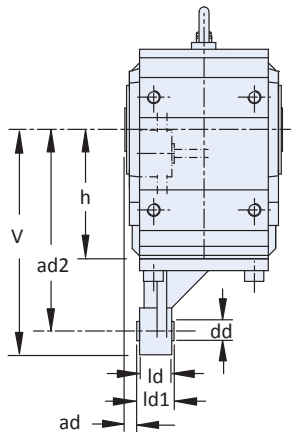
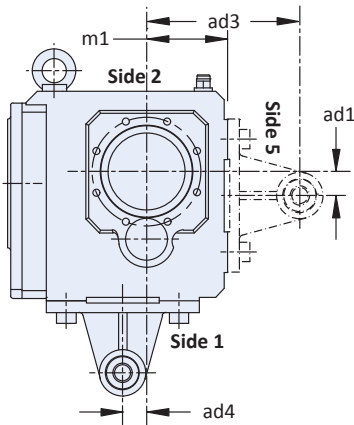
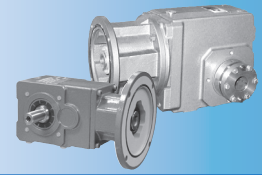


Table 1 "K" Series Dimensions (Inches) — "GD" Torque Arm Bracket

Base Module	ad	ad1	ad2	ad3	ad4	dd	H9	h	ld	ld1	m1	V
K1	0.51	0.59	3.54	3.54	0.59	0.47	+0.017/-0.000	2.36	0.94	1.10	2.36	4.39
K2	0.53	0.89	3.93	3.93	0.89	0.63	+0.017/-0.000	2.56	1.26	1.50	2.56	4.82
K3	0.47	0.98	4.72	4.72	0.98	0.63	+0.017/-0.000	2.95	1.26	1.50	2.95	5.61
K4	0.67	1.08	5.91	5.91	1.08	0.79	+0.020/-0.000	3.54	1.57	1.81	3.54	7.00
K5	0.67	1.18	9.84	7.48	1.18	0.79	+0.020/-0.000	6.30	1.57	1.81	3.93	10.98
K6	0.81	1.18	9.84	7.09	1.18	0.79	+0.020/-0.000	7.48	1.57	1.81	4.72	10.98
K7	0.91	1.38	11.81	8.39	1.38	0.79	+0.020/-0.000	8.35	2.52	2.76	4.92	13.15
K8	1.02	1.77	13.78	9.06	1.77	0.94	+0.020/-0.000	10.43	4.02	4.53	5.71	15.20
K9	1.02	1.77	17.72	12.40	1.77	0.94	+0.020/-0.000	12.40	4.02	4.53	7.09	19.20
K10	0.24	2.17	21.65	15.75	2.36	1.57	+0.024/-0.000	14.76	4.65	4.88	8.86	24.01



# Dimensional Data

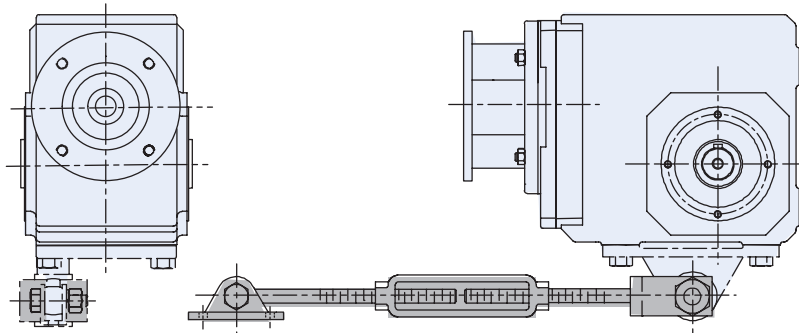
## Torque Arm Mounting Methods

(STOBER can supply the torque arm bracket. The user has to supply the torque arm for Example 1 and 2)

The following mounting methods are recommended for stabilizing the reducer without compromising reducer life.

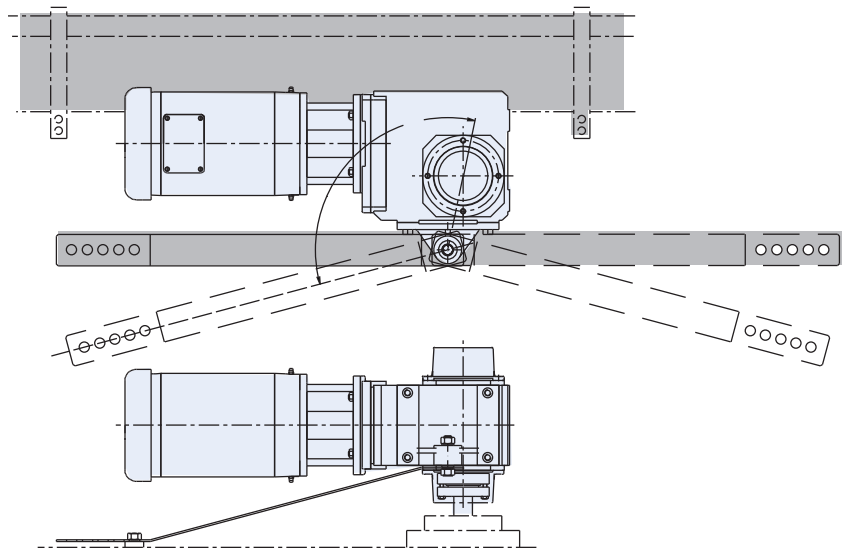
### Example 1: Torque Arm Bracket with Turnbuckle Torque Arm

This method uses a turnbuckle assembly that pivots from the torque arm bracket to mount to an acceptable location.



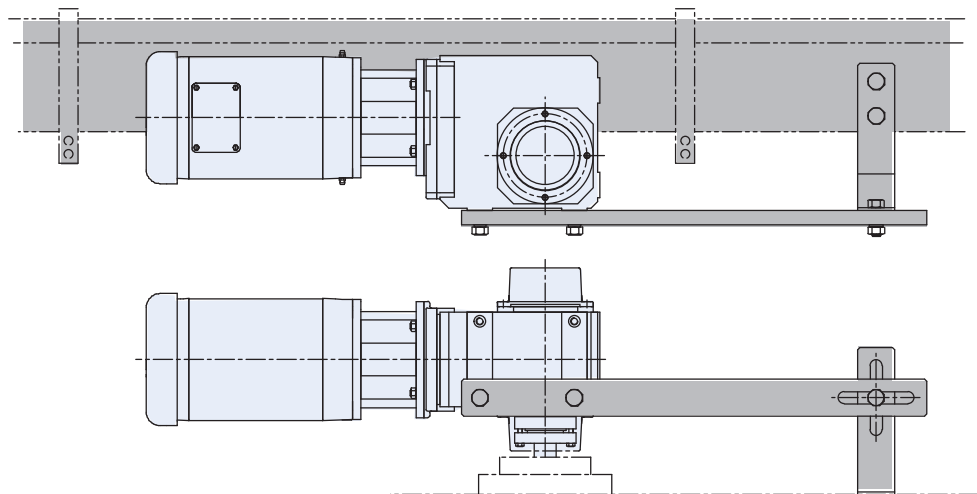
### Example 2: Torque Arm Bracket with Fabricated Steel Torque Arm

The torque arm bracket can be ordered with the right angle reducer and the torque arm fabricated from thin steel by the customer to mount in an acceptable location.



### Example 3: Fabricated Torque Arm

Using the mounting holes in the reducer housing, a torque arm can be fabricated to mount directly to the machinery. Notice that the fabrication must be 2 pieces with a slot in each piece to allow the connecting bolt to move in all directions.



K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

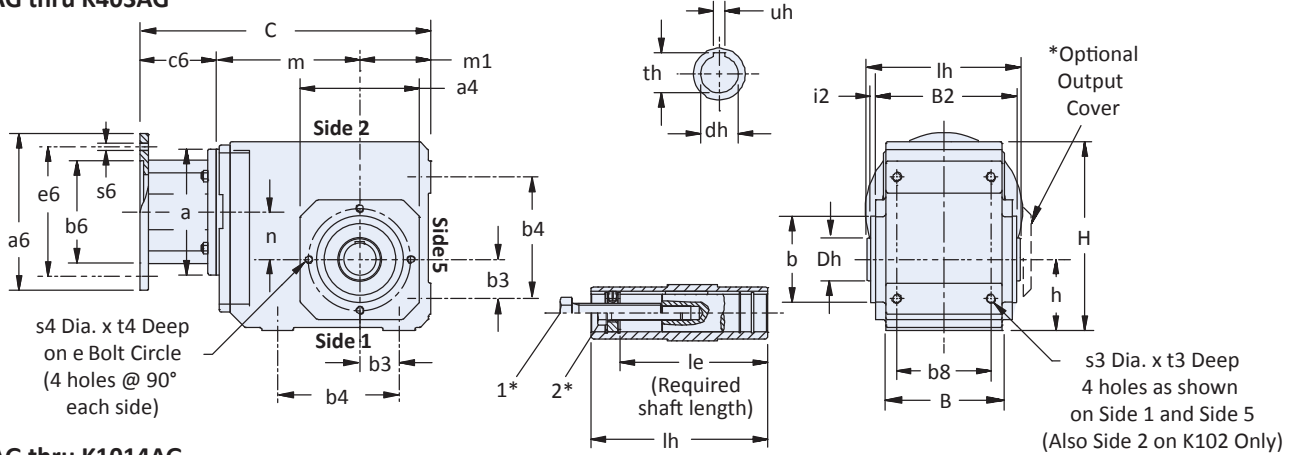
# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

## K Series with "A" Hollow Output

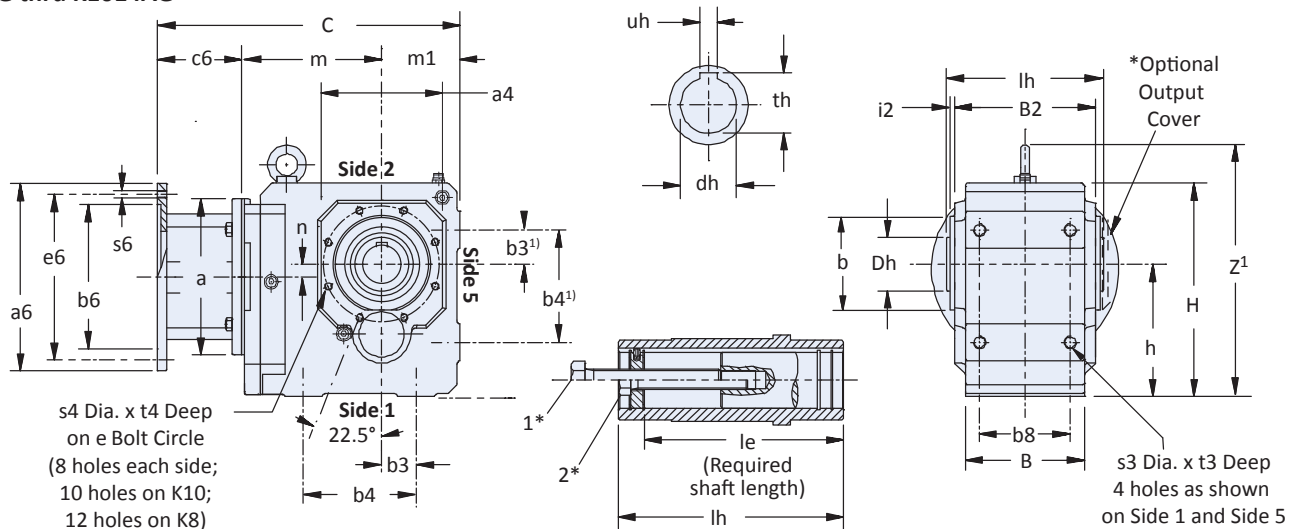
### "G" Pilot Circle Diameter (PCD) Tapped Holes

\* Optional output cover is not a standard part of the A-G configuration and must be ordered separately.

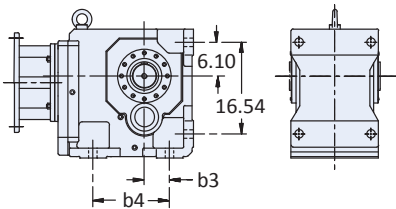
#### K102AG thru K403AG



#### K513AG thru K1014AG



#### Size K10 Mounting Feet (Dimensions b3 and b4)



<sup>2)</sup> Mounting feet are integral on the K10 housing. Note that b3= 6.10 and b4 = 16.54 on Side 5 of the K10. Hole locations are as shown above.

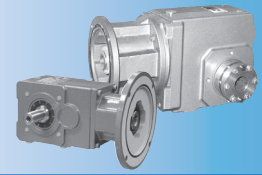
- \* 1. Removal Bolt: not supplied. See Installation Guide for details.
- 2. Mounting Bolt: must be smaller than removal bolt.

See hollow output installation instructions for further details

Table 4 Motor Adapter Dimensions (Inches)

Motor Adapter	NEMA C-Flange	a	a6	b6	c6	e6	s6	Wt. lbs
MR140/050	56C	5.51	6.50	4.500	3.31	5.87	0.41	9
MR160/050	56C	6.30	6.50	4.500	3.86	5.87	0.41	16
MR160/140	143/145TC	7.87	9.00	8.500	4.80	7.25	0.55	23
MR200/180	182/184TC	9.84	9.00	8.500	5.31	7.25	0.55	36
MR250/180	213/215TC		9.00	8.500		7.25		
MR300/180	213/215TC		9.00	8.500		7.25		
MR300/210	254/256TC	11.81	9.00	8.500	6.50	7.25	0.57	75
MR300/250	284/286TC		11.13	10.500		9.00		
MR300/280	324/326TC	13.78	13.37	12.500	7.09	11.00	0.70	133
MR350/320	364/365TC							
MR350/360								





# Dimensional Data

**Table 1 K Series Unit Dimensions (Inches) — “G” Pilot Circle Diameter (PCD) Tapped Holes**

Base Module	a4	b	j6	B2	b3	b4	b8	e	H	h	lh	s3	s4	t3	t4
K1	4.13	2.953	+0.0005/-0.0003	4.17	1.18	3.54	2.76	3.54	6.30	2.36	4.72	M8x1.25	M8x1.25	0.51	0.51
K2	4.57	3.228	+0.0005/-0.0004	5.28	1.38	4.53	3.54	3.94	7.48	2.56	5.83	M10x1.5	M8x1.25	0.63	0.51
K3	5.20	3.740	+0.0005/-0.0004	5.75	1.57	5.12	4.13	4.53	8.39	2.95	6.30	M10x1.5	M8x1.25	0.63	0.55
K4	5.98	4.331	+0.0005/-0.0004	6.81	1.97	6.10	4.72	5.12	9.45	3.54	7.40	M12x1.75	M10x1.5	0.75	0.63
K5	5.71	4.331	+0.0005/-0.0004	7.28	1.57	5.51	4.92	5.12	10.24	6.30	7.87	M16x2.0	M10x1.5	1.02	0.63
K6	7.09	5.512	+0.0006/-0.0004	7.87	1.97	6.30	5.12	6.50	12.20	7.48	8.46	M16x2.0	M10x1.5	1.02	0.63
K7	7.68	6.102	+0.0006/-0.0004	8.90	2.17	7.09	5.71	7.28	13.46	8.35	9.53	M20x2.5	M12x1.75	1.30	0.75
K8	8.90	7.283	+0.0006/-0.0005	11.10	2.95	9.45	7.28	8.46	16.14	10.43	11.81	M24x3.0	M12x1.75	1.50	0.75
K9	11.02	9.055	+0.0006/-0.0005	12.99	3.74	11.02	8.86	10.43	19.49	12.40	13.78	M30x3.5	M16x2.0	1.89	1.02
K10	13.38	9.843	+0.0006/-0.0005	15.60	4.53 <sup>1)</sup>	13.78 <sup>1)</sup>	12.99	11.81	23.27	14.76	16.14	1.54 <sup>2)</sup>	M20x2.5	1.77	1.30

<sup>1)</sup> Mounting feet are integral on the K10 housing as shown in inset drawing, facing page. Note b3 = 6.10 and b4 = 16.54 on Side 5 of the K10.

<sup>2)</sup> For size K10, “j” are thru holes, not tapped. See side 5 view on Size K10 Mounting Feet drawing, facing page.

**Table 2 K Series Unit Dimensions (Inches) — “G” Pilot Circle Diameter (PCD) Tapped Holes**

Base Module	B	Dh	i2	le	m1	z1	Removal Bolt 1
K1	3.54	1.57	0.12	3.86	2.36	—	1/2 – 13
K2	4.53	1.77	0.12	4.78	2.56	—	1/2 – 13
K3	5.12	1.97	0.12	4.92	2.95	—	5/8 – 11
K4	5.83	2.17	0.14	6.18	3.54	—	3/4 – 10
K5	6.30	2.56	0.14	6.46	3.94	12.28	3/4 – 10
K6	6.61	2.76	0.14	7.05	4.72	14.25	3/4 – 10
K7	7.48	3.35	0.14	8.43	4.92	15.87	1 – 8
K8	9.25	3.94	0.16	10.35	5.71	18.54	1 – 8
K9	11.22	4.33	0.20	11.89	7.09	22.24	1 – 8
K10	15.59	5.12	0.28	14.25	8.86	26.77	1-1/4 – 7

**Table 3 K Series Unit Dimensions (Inches) — Standard “A” Hollow Bore Output**

(see page 36 for all other optional outputs)

Base Module	Stainless Steel			Carbon Steel		
	dh	th	uh	dh	th	uh
K1	1	1.11	1/4	1	1.11	1/4
K2	1-1/4	1.36	1/4	1-3/16	1.31	1/4
K3	1-3/8	1.52	5/16	1-3/8	1.52	5/16
K4	1-1/2	1.67	3/8	1-1/2	1.67	3/8
K5	2	2.13	1/2	2	2.13	1/2
K6	2	2.23	1/2	2	2.23	1/2
K7	—	—	—	2-3/8	2.66	5/8
K8	—	—	—	2-3/4	3.03	5/8
K9	—	—	—	3-1/4	3.59	3/4
K10	—	—	—	4	4.25	1

**Table 5 K Series Unit Dimensions (inches) — “MR” Motor Adapter**

Base Module	MR140/050			MR160/050 MR160/140			MR200/180			MR250/180 MR250/210			MR300/180 MR300/210 MR300/250 MR300/280			MR350/320 MR350/360			Wt. lbs* <sup>*</sup>
	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	
K102	10.55	4.88	1.42	11.26	5.04	1.42	—	—	—	—	—	—	—	—	—	—	—	—	31
K202	11.50	5.63	1.81	12.21	5.79	1.81	13.23	5.87	1.81	—	—	—	—	—	—	—	—	—	40
K203	12.96	7.09	1.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	12.68	6.42	2.07	13.38	6.57	2.07	14.40	6.65	2.07	—	—	—	—	—	—	—	—	—	67
K303	14.13	7.87	2.07	15.08	8.27	0.63	—	—	—	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	14.76	7.36	2.36	15.74	7.44	2.36	16.41	7.56	2.36	—	—	—	—	—	—	93
K403	15.51	8.66	2.36	16.46	9.06	0.91	—	—	—	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	14.57	6.77	0.59	15.59	6.85	0.59	16.22	6.97	0.59	—	—	—	—	—	—	106
K514	—	—	—	16.26	8.46	0.59	—	—	—	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	16.10	7.52	0.71	17.12	7.60	0.71	17.75	7.72	0.71	19.49	8.27	0.71	—	—	—	170
K614	—	—	—	17.79	9.21	0.71	—	—	—	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	18.42	8.70	0.79	19.05	8.82	0.79	20.75	9.33	0.79	—	—	—	221
K714	—	—	—	19.13	10.35	0.79	20.86	11.14	0.79	—	—	—	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	20.23	9.72	0.94	20.82	9.80	0.94	22.52	10.31	0.94	—	—	—	309
K814	—	—	—	—	—	—	22.64	12.13	0.94	23.62	12.60	0.20	—	—	—	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	23.97	11.57	0.98	25.68	12.09	0.98	27.17	12.99	0.98	508
K914	—	—	—	—	—	—	25.79	13.90	0.98	26.77	14.37	0.98	—	—	—	—	—	—	530
K1013	—	—	—	—	—	—	—	—	—	—	—	—	30.79	15.43	1.10	32.29	16.34	1.10	913
K1014	—	—	—	—	—	—	—	—	—	31.89	17.72	1.10	—	—	—	—	—	—	993

\* Weight is base unit only. MR weight must be added separately.

K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

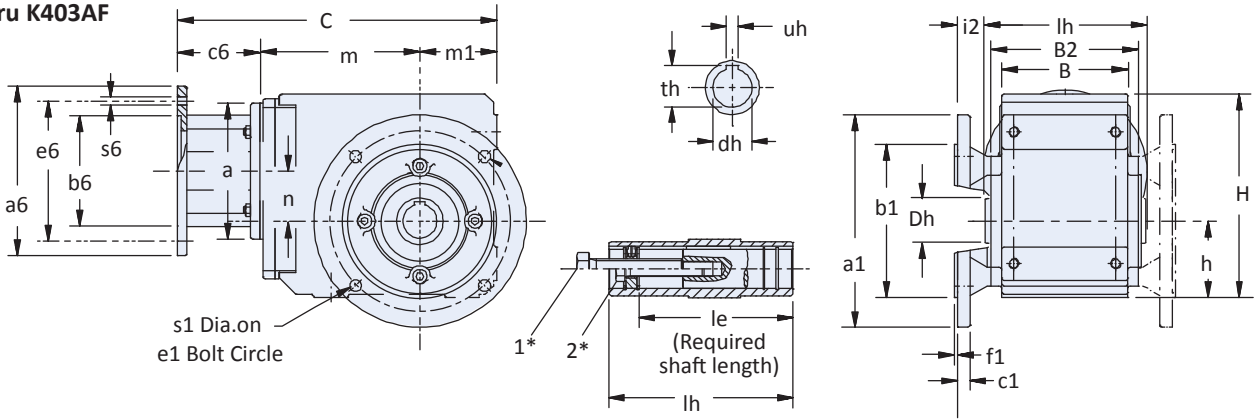
# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

## K Series with "A" Hollow Output

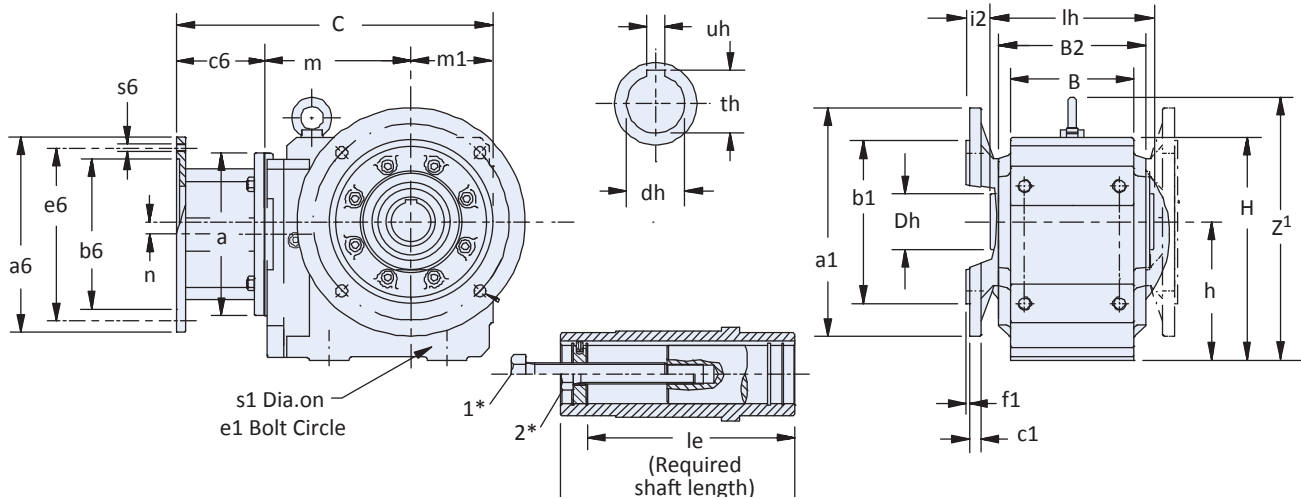
Other flange sizes available, see page 86 for details.

### "F" Round Flange Housing

K102AF thru K403AF



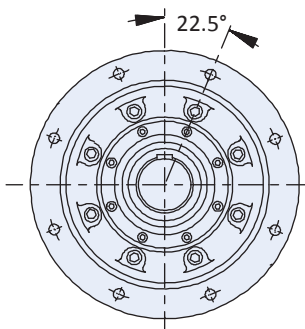
K513AF thru K1014AF



- \* 1. Removal Bolt: not supplied. See Installation Guide for details.
- 2. Mounting Bolt: must be smaller than removal bolt.

See hollow output installation instructions for further details

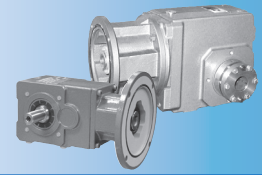
Size K9 and K10 Flange



K913 thru K1014 has 8 mounting holes in the output flange located as shown.

Table 3 Motor Adapter Dimensions (Inches)

Motor Adapter	NEMA C-Flange	a	a6	b6	c6	e6	s6	Wt. lbs
MR140/050	56C	5.51	6.50	4.500	3.31	5.87	0.41	9
MR160/050	56C	6.30	6.50	4.500	3.86	5.87	0.41	16
MR160/140	143/145TC	7.87	9.00	8.500	4.80	7.25	0.55	23
MR200/180	182/184TC	9.84	9.00	8.500	5.31	7.25	0.55	36
MR250/180	182/184TC	11.81	9.00	8.500	6.50	7.25	0.57	75
MR250/210	213/215TC		9.00	8.500		7.25		
MR300/210	213/215TC		9.00	8.500		7.25		
MR300/250	254/256TC	13.78	9.00	8.500	7.09	7.25	0.70	133
MR300/280	284/286TC		11.13	10.500		9.00		
MR350/320	324/326TC		13.37	12.500		11.00		
MR350/360	364/365TC							



# Dimensional Data

**Table 1 K Series Unit Dimensions (Inches) — “F” Round Flange Housing**

Base Module	a1 <sup>1)</sup>	B	b1			B2	c1	Dh	e1	f1	H	h	i2	le	lh	m1	s1	Z <sup>1</sup>	Removal Bolt 1
K1	6.30	3.54	4.331	+0.0005/-0.0004	4.17	0.39	1.57	5.12	0.14	6.30	2.36	1.26	3.86	4.72	2.36	0.35	—	1/2 – 13	
K2	7.87	4.53	5.118	+0.0006/-0.0004	5.28	0.47	1.77	6.50	0.14	7.48	2.56	1.26	4.78	5.83	2.56	0.43	—	1/2 – 13	
K3	7.87	5.12	5.118	+0.0006/-0.0004	5.75	0.55	1.97	6.50	0.14	8.39	2.95	1.50	4.92	6.30	2.95	0.43	—	5/8 – 11	
K4	9.84	5.83	7.087	+0.0006/-0.0004	6.81	0.59	2.17	8.46	0.16	9.45	3.54	1.57	6.18	7.40	3.54	0.55	—	3/4 – 10	
K5	9.84	6.30	7.087	+0.0006/-0.0004	7.28	0.59	2.56	8.46	0.16	10.24	6.30	1.56	6.46	7.87	3.94	0.55	12.28	3/4 – 10	
K6	11.81	6.61	9.055	+0.0006/-0.0005	7.87	0.67	2.76	10.43	0.16	12.20	7.48	1.42	7.05	8.46	4.72	0.55	14.25	3/4 – 10	
K7	13.78	7.48	9.842	+0.000/-0.001	8.90	0.71	3.35	11.81	0.20	13.46	8.35	1.73	8.43	9.53	4.92	0.71	15.87	1 – 8	
K8	15.75	9.25	11.811	+0.000/-0.001	11.10	0.79	3.94	13.78	0.20	16.14	10.43	1.77	10.35	11.81	5.71	0.71	18.54	1 – 8	
K9	17.72	11.22	13.780	+0.000/-0.001	12.99	0.91	4.33	15.75	0.20	19.49	12.40	1.97	11.89	13.78	7.09	0.71	22.24	1 – 8	
K10	21.65	15.75	17.716	+0.000/-0.002	15.60	0.98	5.12	19.69	0.20	23.27	14.76	3.07	14.25	16.14	8.86	0.71	26.77	1-1/4 – 7	

1) See page 86 for other flange sizes. Optional flanges are not available for all sizes.

**Table 2 K Series Unit Dimensions (Inches) — Standard “A” Hollow Bore Output** (see page 36 for all other optional outputs)

Base Module	Stainless Steel			Carbon Steel		
	dh	th	uh	dh	th	uh
K1	1	1.11	1/4	1	1.11	1/4
K2	1-1/4	1.36	1/4	1-3/16	1.31	1/4
K3	1-3/8	1.52	5/16	1-3/8	1.52	5/16
K4	1-1/2	1.67	3/8	1-1/2	1.67	3/8
K5	2	2.13	1/2	2	2.13	1/2
K6	2	2.23	1/2	2	2.23	1/2
K7	—	—	—	2-3/8	2.66	5/8
K8	—	—	—	2-3/4	3.03	5/8
K9	—	—	—	3-1/4	3.59	3/4
K10	—	—	—	4	4.25	1

**Table 4 K Series Unit Dimensions (inches) — “MR” Motor Adapter**

Base Module	MR140/050			MR160/050 MR160/140			MR200/180			MR250/180 MR250/210			MR300/180 MR300/210 MR300/250 MR300/280			MR350/320 MR350/360			Wt. lbs* <sup>*</sup>
	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	
K102	10.55	4.88	1.42	11.26	5.04	1.42	—	—	—	—	—	—	—	—	—	—	—	—	31
K202	11.50	5.63	1.81	12.21	5.79	1.81	13.23	5.87	1.81	—	—	—	—	—	—	—	—	—	40
K203	12.96	7.09	1.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	12.68	6.42	2.07	13.38	6.57	2.07	14.40	6.65	2.07	—	—	—	—	—	—	—	—	—	67
K303	14.13	7.87	2.07	15.08	8.27	0.63	—	—	—	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	14.76	7.36	2.36	15.74	7.44	2.36	16.41	7.56	2.36	—	—	—	—	—	—	93
K403	15.51	8.66	2.36	16.46	9.06	0.91	—	—	—	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	14.57	6.77	0.59	15.59	6.85	0.59	16.22	6.97	0.59	—	—	—	—	—	—	106
K514	—	—	—	16.26	8.46	0.59	—	—	—	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	16.10	7.52	0.71	17.12	7.60	0.71	17.75	7.72	0.71	19.49	8.27	0.71	—	—	—	170
K614	—	—	—	17.79	9.21	0.71	—	—	—	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	18.42	8.70	0.79	19.05	8.82	0.79	20.75	9.33	0.79	—	—	—	221
K714	—	—	—	19.13	10.35	0.79	20.86	11.14	0.79	—	—	—	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	20.23	9.72	0.94	20.82	9.80	0.94	22.52	10.31	0.94	—	—	—	309
K814	—	—	—	—	—	—	22.64	12.13	0.94	23.62	12.60	0.20	—	—	—	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	23.97	11.57	0.98	25.68	12.09	0.98	27.17	12.99	0.98	508
K914	—	—	—	—	—	—	25.79	13.90	0.98	26.77	14.37	0.98	—	—	—	—	—	—	530
K1013	—	—	—	—	—	—	—	—	—	—	—	—	30.79	15.43	1.10	32.29	16.34	1.10	913
K1014	—	—	—	—	—	—	—	—	—	31.89	17.72	1.10	—	—	—	—	—	—	993

\* Weight is base unit only. MR weight must be added separately.

K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

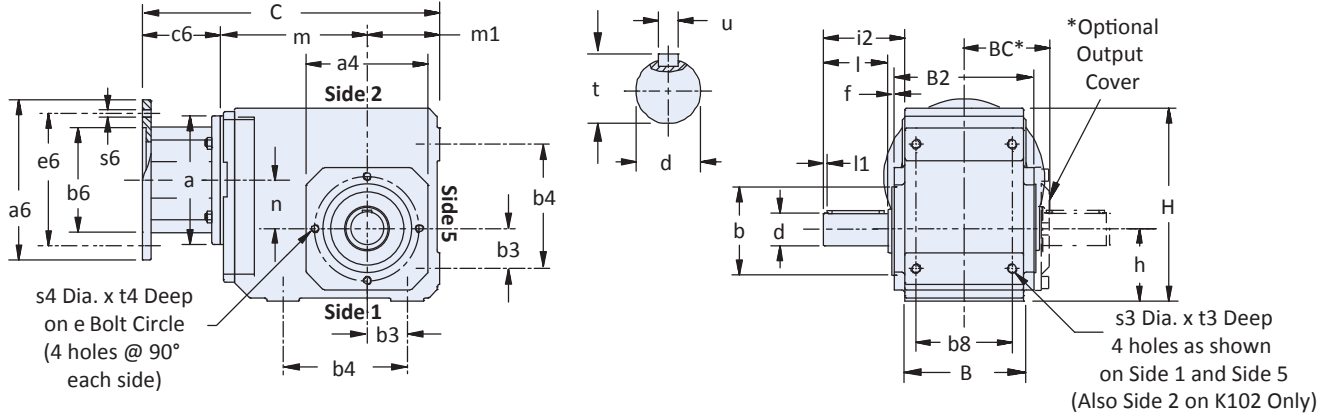
# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

## K Series with "V" Solid Shaft Output

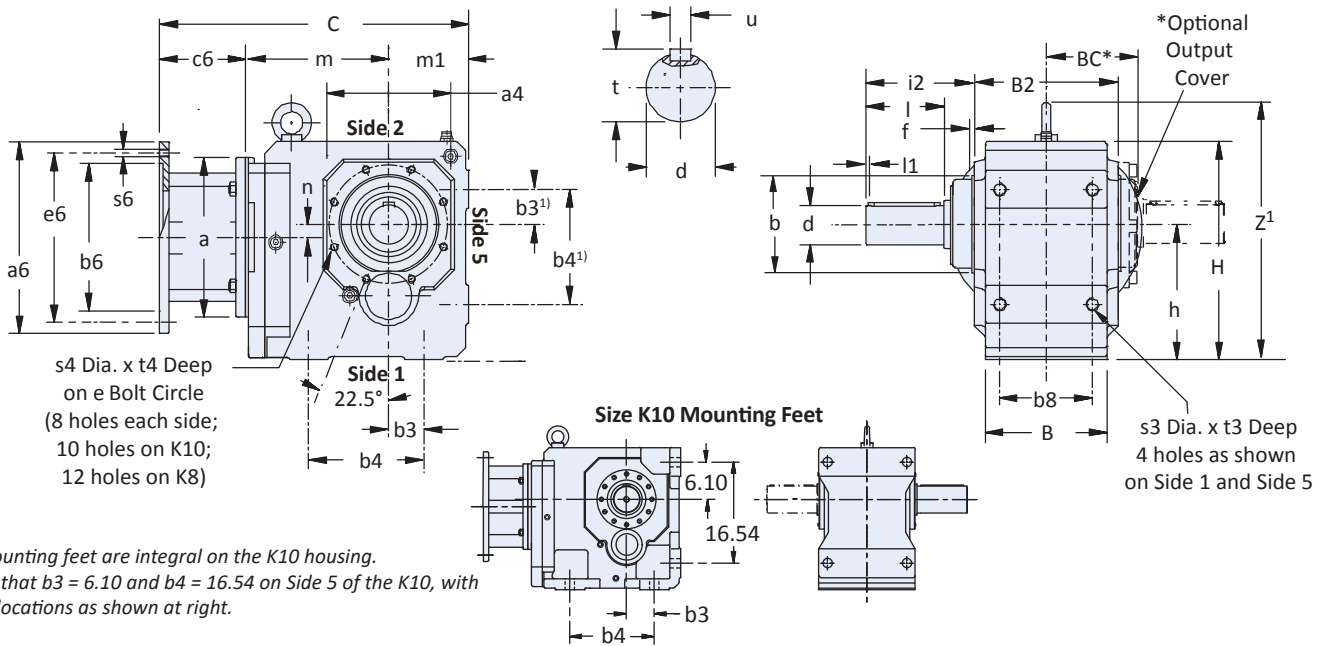
### "G" Pilot Circle Diameter (PCD) Tapped Holes

\* Optional output cover is not a standard part of the V-G configuration and must be ordered separately. Dimension BC is from Center Side 5 to the outer edge of optional cover.

#### K102VG thru K403VG



#### K513VG thru K1014VG



<sup>2)</sup> Mounting feet are integral on the K10 housing.  
Note that  $b_3 = 6.10$  and  $b_4 = 16.54$  on Side 5 of the K10, with hole locations as shown at right.

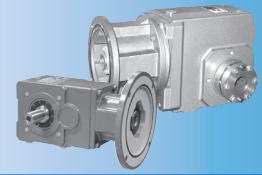
**Table 3 K Series — "V" Shaft Output (Carbon Steel)**

(see page 36 for standard SS, and other optional outputs)

Base Module	Standard Shaft – inches			Optional Shaft – mm		
	d	t	u – Key	d	t	u – Key
K1	1	1.11	1/4x1/4x1-9/16	25k6	28	A8x7x40
K2	1-1/4	1.36	1/4x1/4x1-15/16	30k6	33	A8x7x50
K3	1-1/4	1.36	1/4x1/4x1-15/16	30k6	33	A8x7x50
K4	1-3/8	1.51	5/16x5/16x2-5/16	40k6	43	A12x8x70
K5	1-3/4	1.92	3/8x3/8x3-5/32	45k6	48.5	A14x9x80
K6	1-3/4	1.92	3/8x3/8x3-5/32	50k6	53.5	A14x9x90
K7	2-3/8	2.65	5/8x5/8x3-15/16	60k6	64	A18x11x110
K8	2-7/8	3.21	3/4x3/4x4-5/16	70m6	74.5	A20x12x125
K9	3-5/8	4.01	7/8x7/8x5-1/2	90m6	95	A25x14x140
K10	4-3/8	4.82	1x1x7-1/8	110m6	116	A28x16x180

**Table 4 Motor Adapter Dimensions (Inches)**

Motor Adapter	NEMA C-Flange	a	a6	b6	c6	e6	s6	Wt. lbs
MR140/050	56C	5.51	6.50	4.500	3.31	5.87	0.41	9
MR160/050	56C	6.30	6.50	4.500	3.86	5.87	0.41	16
MR160/140	143/145TC	7.87	9.00	8.500	4.80	7.25	0.55	23
MR200/180	182/184TC	9.84	9.00	8.500	5.31	7.25	0.55	36
MR250/180	182/184TC		9.00	8.500		7.25		
MR250/210	213/215TC		9.00	8.500		7.25		
MR300/180	182/184TC		9.00	8.500		7.25		
MR300/210	213/215TC	11.81	9.00	8.500	6.50	7.25	0.57	75
MR300/250	254/256TC		9.00	8.500		7.25		
MR300/280	284/286TC		11.13	10.500		9.00		
MR350/320	324/326TC	13.78	13.37	12.500	7.09	11.00	0.70	133
MR350/360	364/365TC							



# Dimensional Data

**Table 1 K Series Unit Dimensions (Inches) — “G” Pilot Circle Diameter (PCD) Tapped Holes**

Base Module	a4	BC	B2	b3	b4	b8	e	H	h	l	t3	t4
K1	4.13	2.64	4.17	1.18	3.54	2.76	3.54	6.30	2.36	1.97	0.51	0.51
K2	4.57	3.23	5.28	1.38	4.53	3.54	3.94	7.48	2.56	2.36	0.63	0.51
K3	5.20	3.46	5.75	1.57	5.12	4.13	4.53	8.39	2.95	2.36	0.63	0.55
K4	5.98	4.08	6.81	1.97	6.10	4.72	5.12	9.45	3.54	2.76	0.75	0.63
K5	5.71	4.31	7.28	1.57	5.51	4.92	5.12	10.24	6.30	3.54	1.02	0.63
K6	7.09	4.61	7.87	1.97	6.30	5.12	6.50	12.20	7.48	3.54	1.02	0.63
K7	7.68	5.08	8.90	2.17	7.09	5.71	7.28	13.46	8.35	4.72	1.30	0.75
K8	8.90	6.26	11.10	2.95	9.45	7.28	8.46	16.14	10.43	5.51	1.50	0.75
K9	11.02	7.48	12.99	3.74	11.02	8.86	10.43	19.49	12.40	6.69	1.89	1.02
K10	13.38	9.59	15.60	4.53 <sup>1)</sup>	13.78 <sup>1)</sup>	12.99	11.81	23.27	14.76	8.27	1.77	1.30

<sup>1)</sup> Mounting feet are integral on the K10 housing as shown in Size K10 Mounting Feet drawing, facing page. Note b3 = 6.10 and b4 = 16.54 on Side 5 of the K10.

**Table 2 K Series Unit Dimensions (Inches) — “G” Pilot Circle Diameter (PCD) Tapped Holes**

Base Module	B	b	j6	f	i2	l1	m1	s3	s4	z <sup>1</sup>
K1	3.54	2.953	+0.0005/-0.0003	0.16	2.32	0.16	2.36	M8 x 1.25	M8 x 1.25	—
K2	4.53	3.228	+0.0005/-0.0004	0.16	2.56	0.16	2.56	M10 x 1.5	M8 x 1.25	—
K3	5.12	3.740	+0.0005/-0.0004	0.16	2.60	0.16	2.95	M10 x 1.5	M8 x 1.25	—
K4	5.83	4.331	+0.0005/-0.0004	0.16	3.39	0.16	3.54	M12 x 1.75	M10 x 1.5	—
K5	6.30	4.331	+0.0005/-0.0004	0.16	5.10	0.16	3.94	M16 x 2.0	M10 x 1.5	12.28
K6	6.61	5.512	+0.0006/-0.0004	0.16	5.35	0.16	4.72	M16 x 2.0	M10 x 1.5	14.25
K7	7.48	6.102	+0.0006/-0.0004	0.18	6.46	0.16	4.92	M20 x 2.5	M12 x 1.75	15.87
K8	9.25	7.283	+0.0006/-0.0005	0.20	7.28	0.20	5.71	M24 x 3.0	M12 x 1.75	18.54
K9	11.22	9.055	+0.0006/-0.0005	0.20	8.66	0.31	7.09	M30 x 3.5	M16 x 2.0	22.24
K10	14.02	9.843	+0.0006/-0.0005	0.28	9.45	0.59	8.86	1.54*	M20 x 2.5	26.77

<sup>1)</sup> For size K10, “J” are thru holes, not tapped. See side 5 view on Size K10 Mounting Feet drawing, facing page.

**Table 5 K Series Unit Dimensions (inches) — “MR” Motor Adapter**

Base Module	MR140/050			MR160/050 MR160/140			MR200/180			MR250/180 MR250/210			MR300/180 MR300/210 MR300/250 MR300/280			MR350/320 MR350/360			Wt. lbs* <sup>1)</sup>
	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	
K102	10.55	4.88	1.42	11.26	5.04	1.42	—	—	—	—	—	—	—	—	—	—	—	—	31
K202	11.50	5.63	1.81	12.21	5.79	1.81	13.23	5.87	1.81	—	—	—	—	—	—	—	—	—	40
K203	12.96	7.09	1.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	12.68	6.42	2.07	13.38	6.57	2.07	14.40	6.65	2.07	—	—	—	—	—	—	—	—	—	67
K303	14.13	7.87	2.07	15.08	8.27	0.63	—	—	—	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	14.76	7.36	2.36	15.74	7.44	2.36	16.41	7.56	2.36	—	—	—	—	—	—	93
K403	15.51	8.66	2.36	16.46	9.06	0.91	—	—	—	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	14.57	6.77	0.59	15.59	6.85	0.59	16.22	6.97	0.59	—	—	—	—	—	—	106
K514	—	—	—	16.26	8.46	0.59	—	—	—	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	16.10	7.52	0.71	17.12	7.60	0.71	17.75	7.72	0.71	19.49	8.27	0.71	—	—	—	170
K614	—	—	—	17.79	9.21	0.71	—	—	—	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	18.42	8.70	0.79	19.05	8.82	0.79	20.75	9.33	0.79	—	—	—	221
K714	—	—	—	19.13	10.35	0.79	20.86	11.14	0.79	—	—	—	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	20.23	9.72	0.94	20.82	9.80	0.94	22.52	10.31	0.94	—	—	—	309
K814	—	—	—	—	—	—	22.64	12.13	0.94	23.62	12.60	0.20	—	—	—	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	23.97	11.57	0.98	25.68	12.09	0.98	27.17	12.99	0.98	508
K914	—	—	—	—	—	—	25.79	13.90	0.98	26.77	14.37	0.98	—	—	—	—	—	—	530
K1013	—	—	—	—	—	—	—	—	—	—	—	—	30.79	15.43	1.10	32.29	16.34	1.10	913
K1014	—	—	—	—	—	—	—	—	—	31.89	17.72	1.10	—	—	—	—	—	—	993

\* Weight is base unit only. MR weight must be added separately.

K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

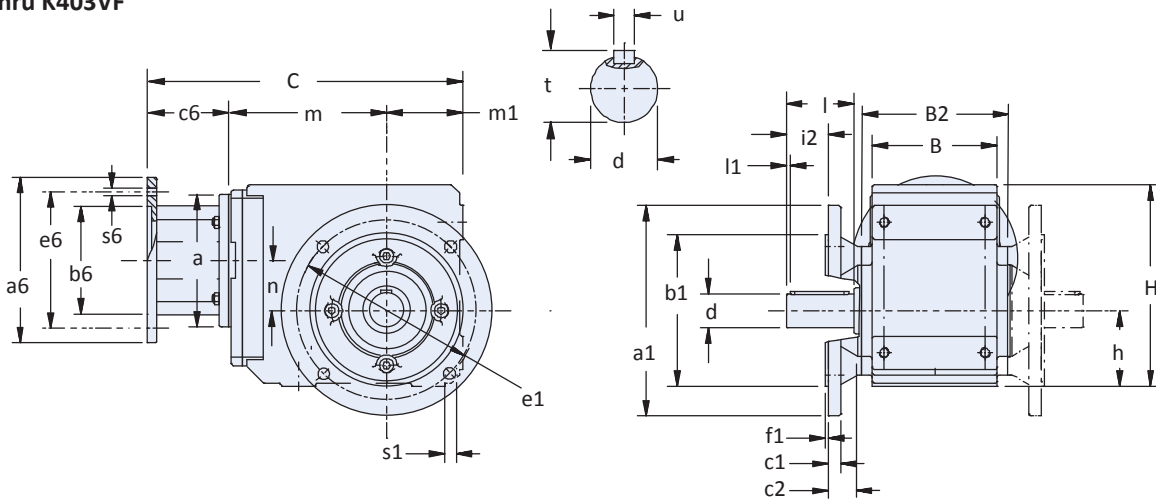
# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

## K Series with "V" Solid Shaft Output

Other flange sizes available, see page 86 for details.

### "F" Round Flange Housing

K102VF thru K403VF



K513VF thru K1014VF

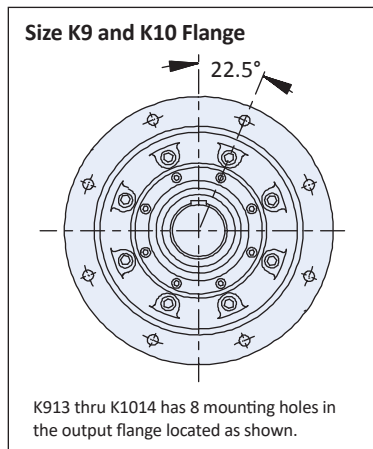
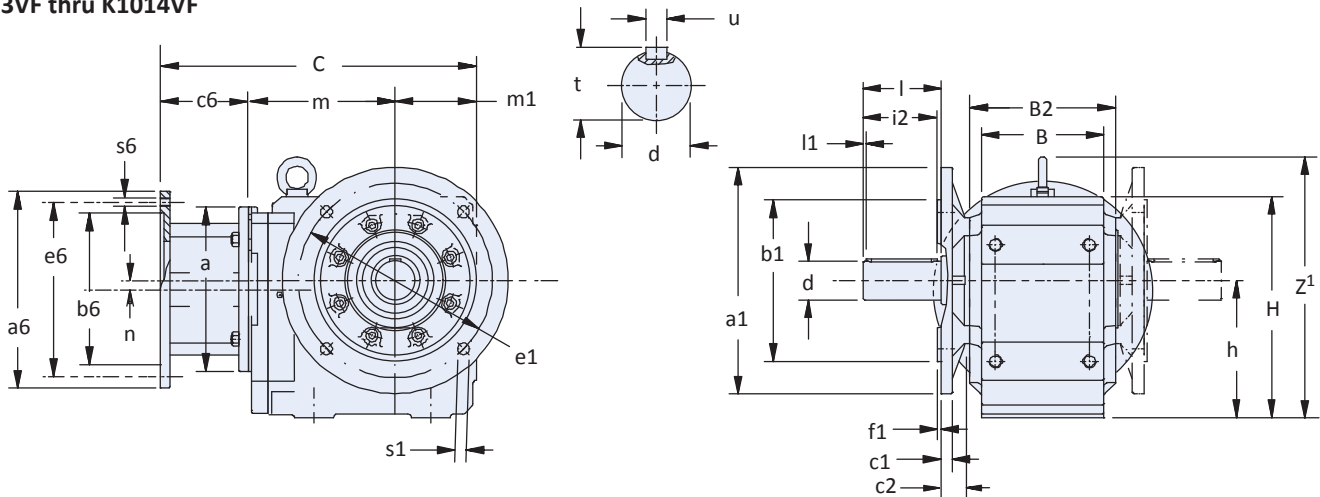
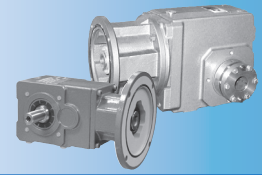


Table 3 Motor Adapter Dimensions (Inches)

Motor Adapter	NEMA C-Flange	a	a6	b6	c6	e6	s6	Wt. lbs
MR140/050	56C	5.51	6.50	4.500	3.31	5.87	0.41	9
MR160/050	56C	6.30	6.50	4.500	3.86	5.87	0.41	16
MR160/140	143/145TC							
MR200/180	182/184TC	7.87	9.00	8.500	4.80	7.25	0.55	23
MR250/180	182/184TC							
MR250/210	213/215TC	9.84	9.00	8.500	5.31	7.25	0.55	36
MR300/180	182/184TC							
MR300/210	213/215TC							
MR300/250	254/256TC	11.81	9.00	8.500	6.50	7.25	0.57	75
MR300/280	284/286TC							
MR350/320	324/326TC	13.78	13.37	12.500	7.09	11.00	0.70	133
MR350/360	364/365TC							



# Dimensional Data

**Table 1 K Series Unit Dimensions (Inches) — “F” Round Flange Housing**

Base Module	a1 <sup>1)</sup>	B	b1			B2	c1	c2	e1	f1	H	h	i2	l	l1	m1	s1	z <sup>1</sup>
K1	6.30	3.54	4.331	+0.0005/-0.0004	4.17	0.39	1.26	5.12	0.14	6.30	2.36	1.18	1.97	0.16	2.36	0.35	—	
K2	7.87	4.53	5.118	+0.0006/-0.0004	5.28	0.47	1.26	6.50	0.14	7.48	2.56	1.42	2.36	0.16	2.56	0.43	—	
K3	7.87	5.12	5.118	+0.0006/-0.0004	5.75	0.55	1.50	6.50	0.14	8.39	2.95	1.22	2.36	0.16	2.95	0.43	—	
K4	9.84	5.83	7.087	+0.0006/-0.0005	6.81	0.59	1.57	8.46	0.16	9.45	3.54	1.95	3.14	0.16	3.54	0.55	—	
K5	9.84	6.30	7.087	+0.0006/-0.0005	7.28	0.59	1.56	8.46	0.16	10.24	6.30	3.54	3.54	0.16	3.54	0.55	12.28	
K6	11.81	6.61	9.055	+0.0006/-0.0005	7.87	0.67	1.42	10.43	0.16	12.20	7.48	3.94	3.94	0.16	4.72	0.55	14.25	
K7	13.78	7.48	9.842	+0.000/-0.001	8.90	0.71	1.73	11.81	0.20	13.46	8.35	4.72	4.72	0.16	4.92	0.71	15.87	
K8	15.75	9.25	11.811	+0.000/-0.001	11.10	0.79	1.77	13.78	0.20	16.14	10.43	5.51	5.51	0.20	5.71	0.71	18.54	
K9	17.72	11.22	13.780	+0.000/-0.001	12.99	0.91	1.97	15.75	0.20	19.49	12.40	6.69	6.69	0.31	7.09	0.71	22.24	
K10	21.65	15.75	17.716	+0.000/-0.002	14.02	0.98	3.07	19.69	0.20	23.27	14.76	8.27	8.27	0.59	8.86	0.71	26.77	

1) See page 86 for other flange sizes. Optional flanges are not available for all sizes.

**Table 2 K Series Unit Dimensions — “V” Shaft Output (Carbon Steel)**

(see page 36 for standard SS, and other optional outputs)

Base Module	Standard Shaft – inches			Optional Shaft – mm		
	d	t	u – Key	d	t	u – Key
K1	1	1.11	1/4 x 1/4 x 1-9/16	25k6	28	A8 x 7 x 40
K2	1-1/4	1.36	1/4 x 1/4 x 1-15/16	30k6	33	A8 x 7 x 50
K3	1-1/4	1.36	1/4 x 1/4 x 1-15/16	30k6	33	A8 x 7 x 50
K4	1-3/8	1.51	5/16 x 5/16 x 2-5/16	40k6	43	A12 x 8 x 70
K5	1-3/4	1.92	3/8 x 3/8 x 3-5/32	45k6	48.5	A14 x 9 x 80
K6	1-3/4	1.92	3/8 x 3/8 x 3-5/32	50k6	53.5	A14 x 9 x 90
K7	2-3/8	2.65	5/8 x 5/8 x 3-15/16	60k6	64	A18 x 11 x 110
K8	2-7/8	3.21	3/4 x 3/4 x 4-5/16	70m6	74.5	A20 x 12 x 125
K9	3-5/8	4.01	7/8 x 7/8 x 5-1/2	90m6	95	A25 x 14 x 140
K10	4-3/8	4.82	1 x 1 x 7-1/8	110m6	116	A28 x 16 x 180

**Table 4 K Series Unit Dimensions (inches) — “MR” Motor Adapter**

Base Module	MR140/050			MR160/050 MR160/140			MR200/180			MR250/180 MR250/210			MR300/180 MR300/210 MR300/250 MR300/280			MR350/320 MR350/360			Wt. lbs*
	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	
K102	10.55	4.88	1.42	11.26	5.04	1.42	—	—	—	—	—	—	—	—	—	—	—	—	31
K202	11.50	5.63	1.81	12.21	5.79	1.81	13.23	5.87	1.81	—	—	—	—	—	—	—	—	—	40
K203	12.96	7.09	1.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	12.68	6.42	2.07	13.38	6.57	2.07	14.40	6.65	2.07	—	—	—	—	—	—	—	—	—	67
K303	14.13	7.87	2.07	15.08	8.27	0.63	—	—	—	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	14.76	7.36	2.36	15.74	7.44	2.36	16.41	7.56	2.36	—	—	—	—	—	—	93
K403	15.51	8.66	2.36	16.46	9.06	0.91	—	—	—	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	14.57	6.77	0.59	15.59	6.85	0.59	16.22	6.97	0.59	—	—	—	—	—	—	106
K514	—	—	—	16.26	8.46	0.59	—	—	—	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	16.10	7.52	0.71	17.12	7.60	0.71	17.75	7.72	0.71	19.49	8.27	0.71	—	—	—	170
K614	—	—	—	17.79	9.21	0.71	—	—	—	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	18.42	8.70	0.79	19.05	8.82	0.79	20.75	9.33	0.79	—	—	—	221
K714	—	—	—	19.13	10.35	0.79	20.86	11.14	0.79	—	—	—	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	20.23	9.72	0.94	20.82	9.80	0.94	22.52	10.31	0.94	—	—	—	309
K814	—	—	—	—	—	—	22.64	12.13	0.94	23.62	12.60	0.20	—	—	—	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	23.97	11.57	0.98	25.68	12.09	0.98	27.17	12.99	0.98	508
K914	—	—	—	—	—	—	25.79	13.90	0.98	26.77	14.37	0.98	—	—	—	—	—	—	530
K1013	—	—	—	—	—	—	—	—	—	—	—	—	30.79	15.43	1.10	32.29	16.34	1.10	913
K1014	—	—	—	—	—	—	—	—	—	31.89	17.72	1.10	—	—	—	—	—	—	993

\* Weight is base unit only. MR weight must be added separately.

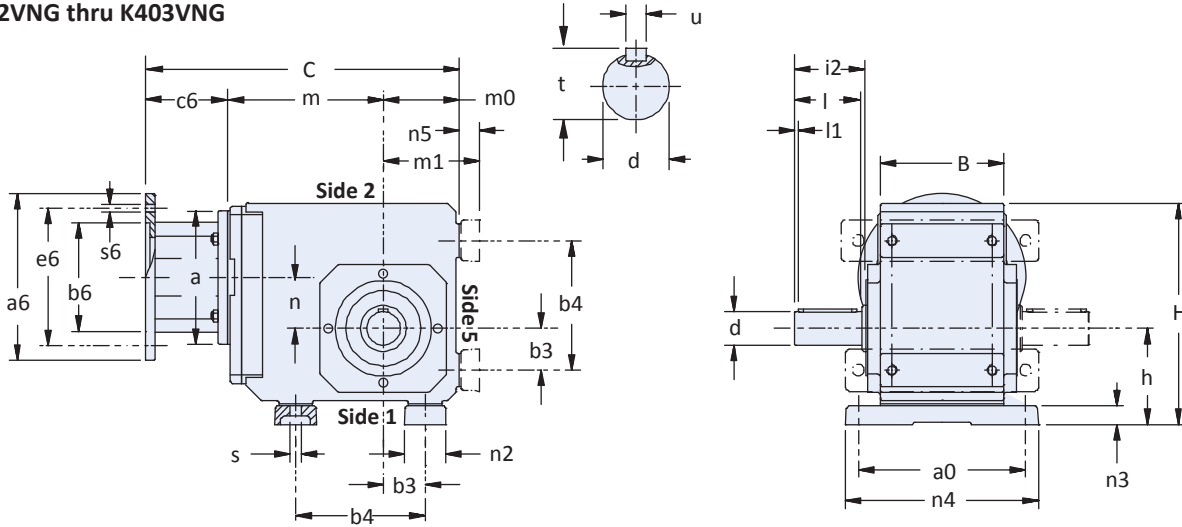
K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

## K Series with "V" Solid Shaft Output

### "NG" Foot Mounting Housing

K102VNG thru K403VNG



K513VNG thru K1014VNG

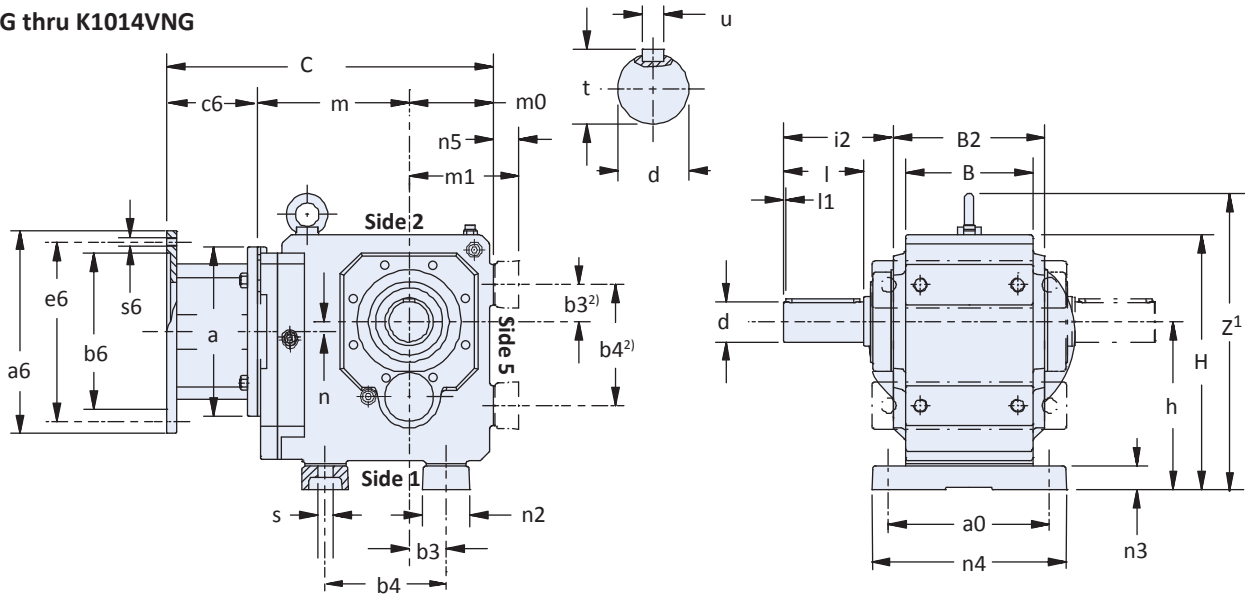
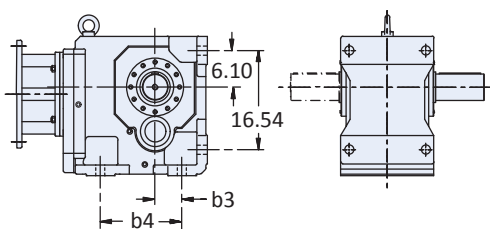


Table 3 Motor Adapter Dimensions (Inches)

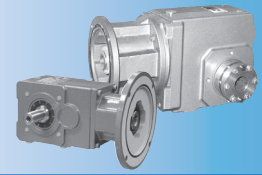
Motor Adapter	NEMA C-Flange	a	a6	b6	c6	e6	s6	Wt. lbs
MR140/050	56C	5.51	6.50	4.500	3.31	5.87	0.41	9
MR160/050	56C	6.30	6.50	4.500	3.86	5.87	0.41	16
MR160/140	143/145TC	7.87	9.00	8.500	4.80	7.25	0.55	23
MR200/180	182/184TC	9.84	9.00	8.500	5.31	7.25	0.55	36
MR250/180	182/184TC	11.81	9.00	8.500	6.50	7.25	0.57	75
MR300/210	213/215TC		9.00	8.500		7.25		
MR300/250	254/256TC	11.13	9.00	8.500	7.09	7.25	0.70	133
MR300/280	284/286TC		11.13	10.500		9.00		
MR350/320	324/326TC	13.78	13.37	12.500	7.09	11.00	0.70	133
MR350/360	364/365TC							

Size K10 Mounting Feet (Dimensions F and FA)



<sup>2)</sup> Mounting feet are integral on the K10 housing. Note that b3 = 6.10 and b4 = 16.54 on Side 5 of the K10. Hole locations are as shown above.





# Dimensional Data

**Table 1 K Series Unit Dimensions (inches) — “NG” Foot Mounting Housing**

Base Module	a0	B	B2	b3	b4	H	h	i2	l	l1	m0	m1	n2	n3	n4	n5	s	z <sup>1</sup>
K1	4.53	3.54	—	1.18	3.54 <sup>1)</sup>	6.81	2.95	2.32	1.97	0.16	2.36	2.95	1.18	0.51	5.51	0.59	0.35	—
K2	6.10	4.53	—	1.38	4.53	8.39	3.46	2.56	2.36	0.16	2.56	3.46	1.57	0.79	7.28	0.91	0.43	—
K3	6.69	5.12	—	1.57	5.12	9.29	3.86	2.60	2.36	0.16	2.95	3.86	1.77	0.79	7.87	0.91	0.43	—
K4	7.87	5.83	—	1.97	6.10	10.43	4.53	3.39	2.76	0.16	3.54	4.53	1.97	0.87	9.06	0.98	0.55	—
K5	7.87	6.30	7.28	1.57	5.51	11.42	7.48	5.10	3.54	0.16	3.54	5.12	2.36	1.06	9.45	1.18	0.71	13.46
K6	8.27	6.61	7.87	1.97	6.30	13.39	8.66	5.35	3.54	0.16	4.72	5.91	2.56	1.06	9.84	1.18	0.71	15.43
K7	9.45 <sup>2)</sup>	7.48	8.90	2.17	7.09	14.96	9.84	6.46	4.72	0.16	4.92	6.42	2.76	1.38	11.42	1.50	0.87	17.36
K8	11.81	9.25	11.10	2.95	9.45	17.91	12.20	7.28	5.51	0.20	5.71	7.48	3.35	1.61	14.17	1.77	1.02	20.31
K9	14.17	11.22	12.99	3.74	11.02	21.46	14.37	8.66	6.69	0.31	7.09	9.06	3.74	1.81	16.93	1.97	1.30	24.21
K10	12.99	15.75	14.02	4.53 <sup>3)</sup>	13.78 <sup>3)</sup>	23.27	14.76	9.45	8.27	0.59	—	8.86	4.72	1.77	15.75	1.77	1.54	26.77

<sup>1)</sup> Mounting holes are also located on Side 2 of the K1 unit ONLY.

<sup>2)</sup> For a0 with mounting on side 1 only; a0 when mounting on optional side 5 is 9.49”.

<sup>3)</sup> Mounting feet are integral on the K10 housing as shown on inset drawing, facing page. Note b3 = 6.10 and b4 = 16.54 on Side 5 of the K10.

**Table 2 K Series Unit Dimensions — “V” Shaft Output (Carbon Steel)**

(see page 36 for standard SS, and other optional outputs)

Base Module	Standard Shaft – inches			Optional Shaft – mm		
	d	t	u – Key	d	t	u – Key
K1	1	1.11	1/4 x 1/4 x 1-9/16	25k6	28	A8 x 7 x 40
K2	1-1/4	1.36	1/4 x 1/4 x 1-15/16	30k6	33	A8 x 7 x 50
K3	1-1/4	1.36	1/4 x 1/4 x 1-15/16	30k6	33	A8 x 7 x 50
K4	1-3/8	1.51	5/16 x 5/16 x 2-5/16	40k6	43	A12 x 8 x 70
K5	1-3/4	1.92	3/8 x 3/8 x 3-5/32	45k6	48.5	A14 x 9 x 80
K6	1-3/4	1.92	3/8 x 3/8 x 3-5/32	50k6	53.5	A14 x 9 x 90
K7	2-3/8	2.65	5/8 x 5/8 x 3-15/16	60k6	64	A18 x 11 x 110
K8	2-7/8	3.21	3/4 x 3/4 x 4-5/16	70m6	74.5	A20 x 12 x 125
K9	3-5/8	4.01	7/8 x 7/8 x 5-1/2	90m6	95	A25 x 14 x 140
K10	4-3/8	4.82	1 x 1 x 7-1/8	110m6	116	A28 x 16 x 180

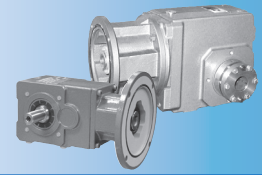
**Table 4 K Series Unit Dimensions (inches) — “MR” Motor Adapter**

Base Module	MR140/050									MR160/050			MR160/140			MR200/180			MR250/180			MR250/210			MR300/180			MR300/210			MR300/250			MR300/280			MR350/320			MR350/360			Wt. lbs* <sup>*</sup>
	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n							
K102	10.55	4.88	1.42	11.26	5.04	1.42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31							
K202	11.50	5.63	1.81	12.21	5.79	1.81	13.23	5.87	1.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	40								
K203	12.96	7.09	1.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53									
K302	12.68	6.42	2.07	13.38	6.57	2.07	14.40	6.65	2.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	67									
K303	14.13	7.87	2.07	15.08	8.27	0.63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	73									
K402	—	—	—	14.76	7.36	2.36	15.74	7.44	2.36	16.41	7.56	2.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	93									
K403	15.51	8.66	2.36	16.46	9.06	0.91	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	100									
K513	—	—	—	14.57	6.77	0.59	15.59	6.85	0.59	16.22	6.97	0.59	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	106									
K514	—	—	—	16.26	8.46	0.59	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	109									
K613	—	—	—	16.10	7.52	0.71	17.12	7.60	0.71	17.75	7.72	0.71	19.49	8.27	0.71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	170									
K614	—	—	—	17.79	9.21	0.71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	177									
K713	—	—	—	—	—	—	18.42	8.70	0.79	19.05	8.82	0.79	20.75	9.33	0.79	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	221								
K714	—	—	—	19.13	10.35	0.79	20.86	11.14	0.79	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	234									
K813	—	—	—	—	—	—	20.23	9.72	0.94	20.82	9.80	0.94	22.52	10.31	0.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	309								
K814	—	—	—	—	—	—	22.64	12.13	0.94	23.62	12.60	0.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	331								
K913	—	—	—	—	—	—	—	—	—	23.97	11.57	0.98	25.68	12.09	0.98	27.17	12.99	0.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	508								
K914	—	—	—	—	—	—	25.79	13.90	0.98	26.77	14.37	0.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	530								
K1013	—	—	—	—	—	—	—	—	—	—	—	—	30.79	15.43	1.10	32.29	16.34	1.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	913								
K1014	—	—	—	—	—	—	—	—	—	31.89	17.72	1.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	993								

\* Weight is base unit only. MR weight must be added separately.

K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output





# Dimensional Data

**Table 1 K Series Unit Dimensions (Inches) – “W” Single Side Wobble Free Bushing**

Base Module	a4	B	B2	b3	b4	b8	Ds	Dsa	Dss	e	f
K1	4.13	3.54	4.17	1.18	3.54	2.76	1.54	3.07	2.76	3.54	0.12
K2	4.57	4.53	5.28	1.38	4.53	3.54	1.73	3.46	3.07	3.94	0.12
K3	5.20	5.12	5.75	1.57	5.12	4.13	1.93	3.78	3.31	4.53	0.14
K4	5.98	5.83	6.81	1.97	6.10	4.72	2.13	4.33	3.82	5.12	0.14
K5	5.71	6.30	7.28	1.57	5.51	4.92	2.56	4.53	4.13	5.12	0.14
K6	7.09	6.61	7.87	1.97	6.30	5.12	2.91	5.00	4.65	6.50	0.14
K7	7.68	7.48	8.90	2.17	7.09	5.71	3.35	5.75	5.43	7.28	0.14
K8	8.90	9.25	11.10	2.95	9.45	7.28	3.94	6.95	6.22	8.46	0.16

**Table 2 K Series Unit Dimensions (Inches) – “W” Single Side Wobble Free Bushing**

Base Module	H	h	i2	ls	lsa	m1	s3	s4	t3	t4	z <sup>1</sup>
K1	6.30	2.36	0.95	6.97	7.05	2.36	M8 x 1.25	M8 x 1.25	0.51	0.51	—
K2	7.48	2.57	1.02	8.23	8.46	2.56	M10 x 1.5	M8 x 1.25	0.63	0.51	—
K3	8.39	2.95	1.02	8.72	8.99	2.95	M10 x 1.5	M8 x 1.25	0.63	0.55	—
K4	9.45	3.54	1.14	10.22	10.49	3.54	M12 x 1.75	M10 x 1.5	0.75	0.63	—
K5	10.24	6.30	1.18	10.77	11.00	3.94	M16 x 2.0	M10 x 1.5	1.02	0.63	12.28
K6	12.20	7.48	1.38	11.46	11.73	4.72	M16 x 2.0	M10 x 1.5	1.02	0.63	14.25
K7	13.46	8.35	1.61	14.52	14.07	4.92	M20 x 2.5	M12 x 1.75	1.30	0.75	15.87
K8	16.14	10.43	2.03	16.59	16.92	5.71	M24 x 3.0	M12 x 1.75	1.50	0.75	18.54

**Table 3 “WF” Single Side Bushings Stock Bore Sizes — Stainless Steel**

NOTE: Single side bushing kits include 1 each of the pressure and locking ring, tapered cone, support ring, and all hardware to mount the kit into the MGS reducer. The WF1 bushing does not use a tapered cone. Covers are optional.

Base Module	Imperial – Inches															Metric – mm		
	1	1-3/16	1-1/4	1-3/8	1-7/16	1-1/2	1-5/8	1-11/16	1-3/4	1-7/8	1-15/16	2	2-3/16	2-3/8	2-7/16	2-3/4	40	
K1	WF1-100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
K2	WFK2-100	WFK2-103	WFK2-104	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
K3	WF3-100	WF3-103	WF3-104	WF3-106	WF3-107	WF3-108*	—	—	—	—	—	—	—	—	—	—	—	—
K4	—	—	WF4-104	—	WF4-107	WF4-108	—	—	—	—	—	—	—	—	—	—	—	WF4-40
K5	—	—	—	—	WF5-107	WF5-108	—	—	—	—	WF5-115	WF5-200	—	—	—	—	—	WF5-40
K6	—	—	—	—	WF6-107	WF6-108	—	—	—	—	WF6-115	WF6-200	WF6-203	—	—	—	—	—
K7	—	—	—	—	—	—	—	—	—	—	WF7-115	WF7-200	—	WF7-206	—	—	—	—
K8	—	—	—	—	—	—	—	—	—	—	—	—	WF8-203	WF8-206	WF8-207	WF8-212	—	—

\*Base module size K3 is also available with a carbon steel single side 1-1/2” bushing PN SWF3-108

**Table 6 K Series Unit Dimensions (inches) — “MR” Motor Adapter**

Base Module	MR140/050			MR160/050 MR160/140			MR200/180			MR250/180 MR250/210			MR300/180 MR300/210 MR300/250 MR300/280			MR350/320 MR350/360			Wt. lbs*
	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	
K102	10.55	4.88	1.42	11.26	5.04	1.42	—	—	—	—	—	—	—	—	—	—	—	—	31
K202	11.50	5.63	1.81	12.21	5.79	1.81	13.23	5.87	1.81	—	—	—	—	—	—	—	—	—	40
K203	12.96	7.09	1.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	12.68	6.42	2.07	13.38	6.57	2.07	14.40	6.65	2.07	—	—	—	—	—	—	—	—	—	67
K303	14.13	7.87	2.07	15.08	8.27	0.63	—	—	—	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	14.76	7.36	2.36	15.74	7.44	2.36	16.41	7.56	2.36	—	—	—	—	—	—	93
K403	15.51	8.66	2.36	16.46	9.06	0.91	—	—	—	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	14.57	6.77	0.59	15.59	6.85	0.59	16.22	6.97	0.59	—	—	—	—	—	—	106
K514	—	—	—	16.26	8.46	0.59	—	—	—	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	16.10	7.52	0.71	17.12	7.60	0.71	17.75	7.72	0.71	19.49	8.27	0.71	—	—	—	170
K614	—	—	—	17.79	9.21	0.71	—	—	—	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	18.42	8.70	0.79	19.05	8.82	0.79	20.75	9.33	0.79	—	—	—	221
K714	—	—	—	19.13	10.35	0.79	20.86	11.14	0.79	—	—	—	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	20.23	9.72	0.94	20.82	9.80	0.94	22.52	10.31	0.94	—	—	—	309
K814	—	—	—	—	—	—	22.64	12.13	0.94	23.62	12.60	0.20	—	—	—	—	—	—	331

\* Weight is base unit only. MR weight must be added separately.

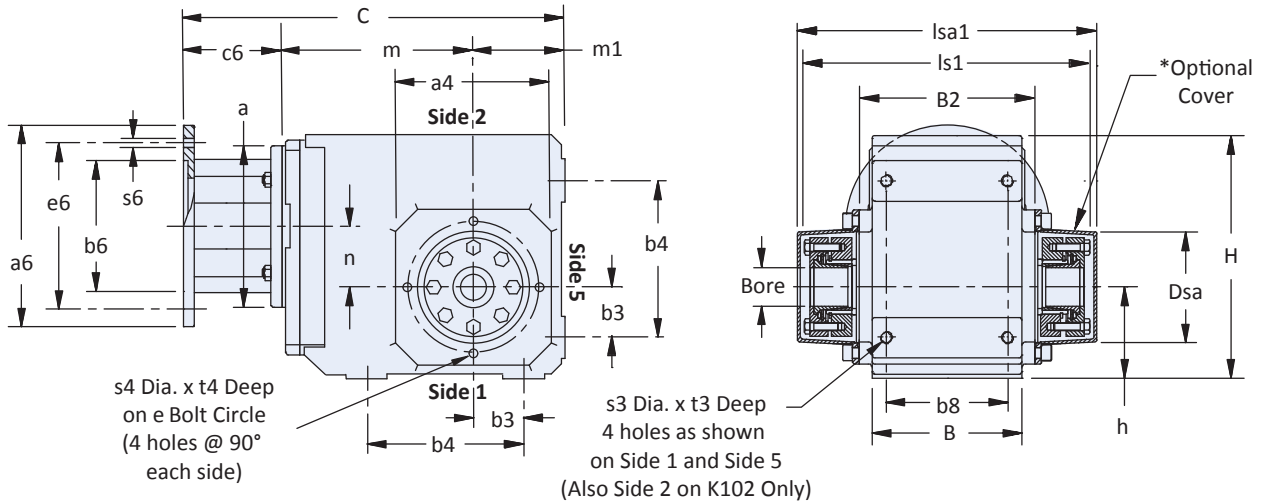
K/CL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

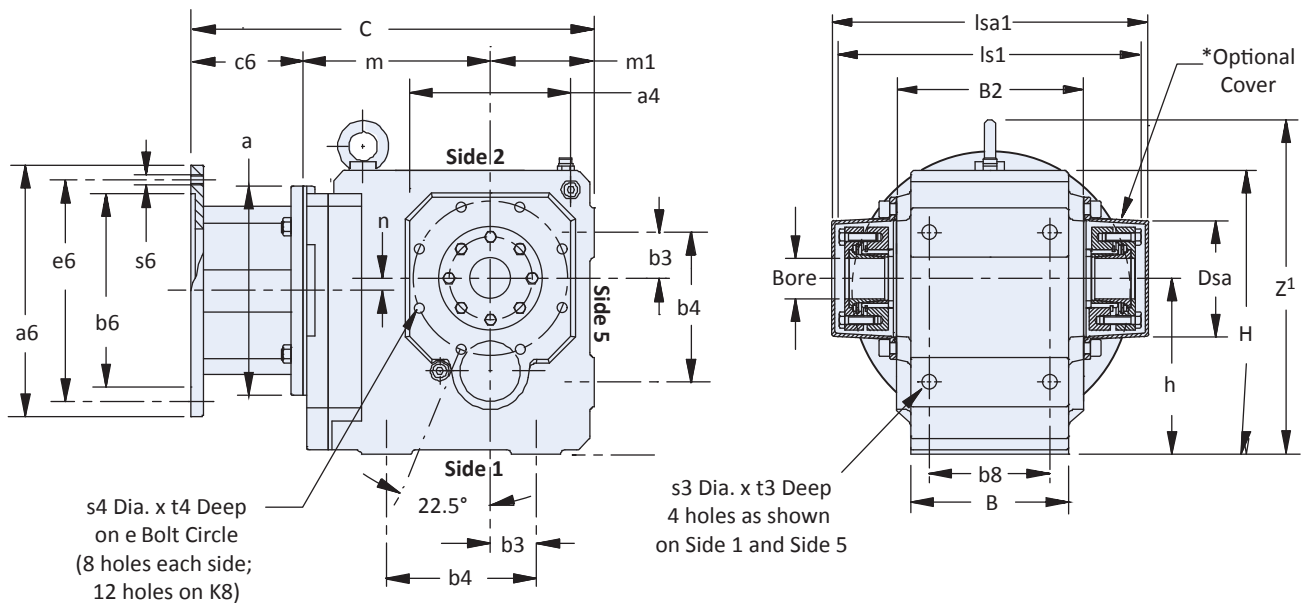
## K Series with DOUBLE "W" Wobble Free Bushing Output

### "G" Pilot Circle Diameter (PCD) Tapped Holes

#### K102WG thru K403WG



#### K513WG thru K814WG



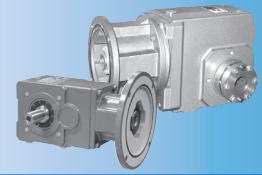
**Table 4 Required Output Shaft Length\***

Base Module	With Covers	Without Covers
K1	7.97	7.73
K2	9.23	8.99
K3	9.76	9.50
K4	11.42	11.11
K5	11.89	11.61
K6	12.99	12.75
K7	14.83	14.33
K8	17.60	17.29

\* **Important:** A  $1/32"$  x  $45^\circ$  chamfer minimum is recommended for the shaft end. The bushing will accept a shaft with a tolerance of  $+0.000/-0.005$  in.

**Table 5 Motor Adapter Dimensions (Inches)**

Motor Adapter	NEMA C-Flange	a	a6	b6	c6	e6	s6	Wt. lbs
MR140/050	56C	5.51	6.50	4.500	3.31	5.87	0.41	9
MR160/050	56C	6.30	6.50	4.500	3.86	5.87	0.41	16
MR160/140	143/145TC	6.30	6.50	4.500	3.86	5.87	0.41	16
MR200/180	182/184TC	7.87	9.00	8.500	4.80	7.25	0.55	23
MR250/180	182/184TC	9.84	9.00	8.500	5.31	7.25	0.55	36
MR250/210	213/215TC	9.84	9.00	8.500	5.31	7.25	0.55	36
MR300/180	182/184TC	11.81	9.00	8.500	6.50	7.25	0.57	75
MR300/210	213/215TC	11.81	9.00	8.500	6.50	7.25	0.57	75
MR300/250	254/256TC	11.81	9.00	8.500	6.50	7.25	0.57	75
MR300/280	284/286TC	11.13	10.500	9.000	9.00	9.00	0.57	75



# Dimensional Data

K/KL Series: RIGHT ANGLE — Solid Shaft / Hollow Output

**Table 1 K Series Unit Dimensions (Inches) – “W” Double Wobble Free Bushing**

Base Module	a4	B	B2	b3	b4	b8	Dsa	e	H	h
K1	4.13	3.54	4.17	1.18	3.54	2.76	3.07	3.54	6.30	2.36
K2	4.57	4.53	5.28	1.38	4.53	3.54	3.46	3.94	7.48	2.56
K3	5.20	5.12	5.75	1.57	5.12	4.13	3.78	4.53	8.39	2.95
K4	5.98	5.83	6.81	1.97	6.10	4.72	4.33	5.12	9.45	3.54
K5	5.71	6.30	7.28	1.57	5.51	4.92	4.54	5.12	10.24	6.30
K6	7.09	6.61	7.87	1.97	6.30	5.12	5.00	6.50	12.20	7.48
K7	7.68	7.48	8.90	2.17	7.09	5.71	5.75	7.28	13.46	8.35
K8	8.90	9.25	11.10	2.95	9.45	7.28	6.95	8.46	16.14	10.43

**Table 2 K Series Unit Dimensions (Inches) – “W” Double Wobble Free Bushing**

Base Module	ls1	lsa1	L	m1	s3	s4	t3	t4	z <sup>1</sup>
K1	7.64	7.80	3.66	2.36	M8 x 1.25	M8 x 1.25	0.51	0.51	—
K2	8.90	9.36	4.26	2.56	M10 x 1.5	M8 x 1.25	0.63	0.51	—
K3	9.41	9.95	4.54	2.95	M10 x 1.5	M8 x 1.25	0.63	0.55	—
K4	11.06	11.60	5.33	3.54	M12 x 1.75	M10 x 1.5	0.75	0.63	—
K5	11.63	12.09	5.61	3.94	M16 x 2.0	M10 x 1.5	1.02	0.63	12.28
K6	12.68	13.22	6.10	4.72	M16 x 2.0	M10 x 1.5	1.02	0.63	14.25
K7	15.06	15.36	7.29	4.92	M20 x 2.5	M12 x 1.75	1.30	0.75	15.87
K8	18.02	18.68	8.70	5.71	M24 x 3.0	M12 x 1.75	1.50	0.75	18.54

**Table 3 “WFB” Double Side Bushings Stock Bore Sizes — Stainless Steel**

NOTE: A double side bushing kit includes 2 each of a pressure ring and clamp ring, flanged and tapered cone, and all hardware to mount the kit into the reducer. The WFB1 does not use a tapered cone. All double bushing kits include covers.

Base Module	Imperial – Inches															Metric – mm		
	1	1-3/16	1-1/4	1-3/8	1-7/16	1-1/2	1-5/8	1-11/16	1-3/4	1-7/8	1-15/16	2	2-3/16	2-3/8	2-7/16		2-3/4	40
K1	WFB1-100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
K2	WFBK2-100	WFBK2-103	WFBK2-104	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
K3	WFB3-100	WFB3-103	WFB3-104	WFB3-106	WFB3-107	WFB3-108*	—	—	—	—	—	—	—	—	—	—	—	—
K4	—	—	WFB4-104	—	WFB4-107	WFB4-108	—	—	—	—	—	—	—	—	—	—	—	WFB4-40
K5	—	—	—	—	WFB5-107	WFB5-108	—	—	—	—	WFB5-115	WFB5-200	—	—	—	—	—	WFB5-40
K6	—	—	—	—	WFB6-107	WFB6-108	—	—	—	—	WFB6-115	WFB6-200	WFB6-203	—	—	—	—	—
K7	—	—	—	—	—	—	—	—	—	—	WFB7-115	WFB7-200	—	WFB7-206	—	—	—	—
K8	—	—	—	—	—	—	—	—	—	—	—	—	WFB8-203	WFB8-206	WFB8-207	WFB8-212	—	—

\*Base module size K3 is also available with a carbon steel double side 1-1/2” bushing PN SWF3C-108

**Table 6 K Series Unit Dimensions (inches) — “MR” Motor Adapter**

Base Module	MR140/050			MR160/050 MR160/140			MR200/180			MR250/180 MR250/210			MR300/180 MR300/210 MR300/250 MR300/280			MR350/320 MR350/360			Wt. lbs* <sup>1</sup>
	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	
K102	10.55	4.88	1.42	11.26	5.04	1.42	—	—	—	—	—	—	—	—	—	—	—	—	31
K202	11.50	5.63	1.81	12.21	5.79	1.81	13.23	5.87	1.81	—	—	—	—	—	—	—	—	—	40
K203	12.96	7.09	1.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	12.68	6.42	2.07	13.38	6.57	2.07	14.40	6.65	2.07	—	—	—	—	—	—	—	—	—	67
K303	14.13	7.87	2.07	15.08	8.27	0.63	—	—	—	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	14.76	7.36	2.36	15.74	7.44	2.36	16.41	7.56	2.36	—	—	—	—	—	—	93
K403	15.51	8.66	2.36	16.46	9.06	0.91	—	—	—	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	14.57	6.77	0.59	15.59	6.85	0.59	16.22	6.97	0.59	—	—	—	—	—	—	106
K514	—	—	—	16.26	8.46	0.59	—	—	—	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	16.10	7.52	0.71	17.12	7.60	0.71	17.75	7.72	0.71	19.49	8.27	0.71	—	—	—	170
K614	—	—	—	17.79	9.21	0.71	—	—	—	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	18.42	8.70	0.79	19.05	8.82	0.79	20.75	9.33	0.79	—	—	—	221
K714	—	—	—	19.13	10.35	0.79	20.86	11.14	0.79	—	—	—	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	20.23	9.72	0.94	20.82	9.80	0.94	22.52	10.31	0.94	—	—	—	309
K814	—	—	—	—	—	—	22.64	12.13	0.94	23.62	12.60	0.20	—	—	—	—	—	—	331

\* Weight is base unit only. MR weight must be added separately.

# K/KL Series: RIGHT ANGLE — Solid Shaft/Hollow Output

## Optional “F” Round Flange Housing

### “AF” Hollow Output with Flange Housing

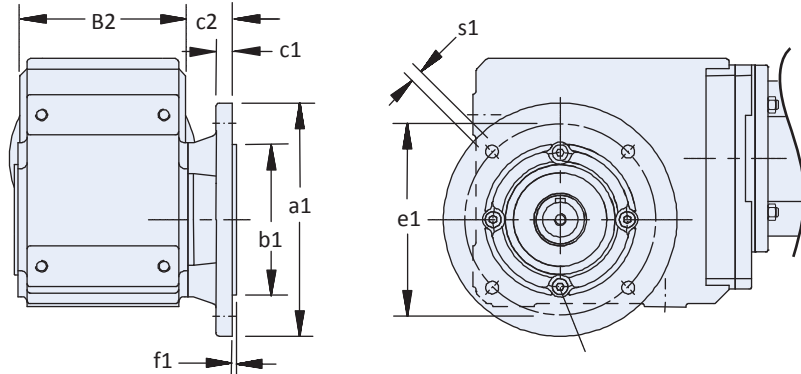
### “VF” Shaft Output with Flange Housing

AF units shown.

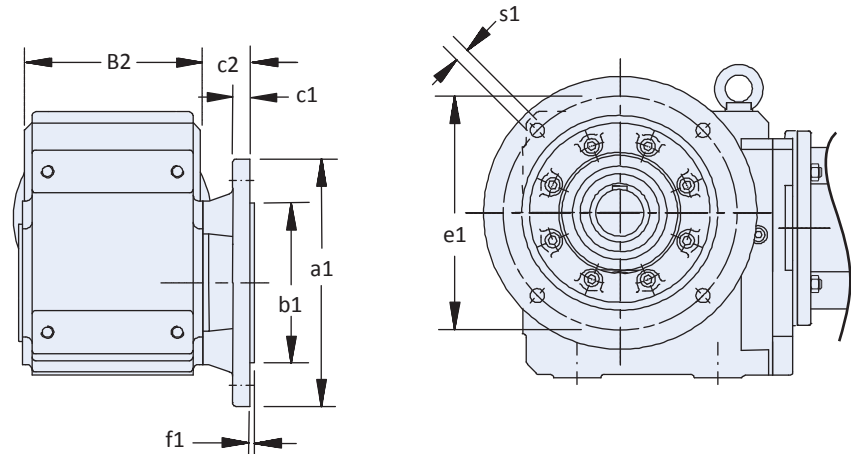
See page 74 for complete AF dimensions

See page 78 for complete VF dimensions

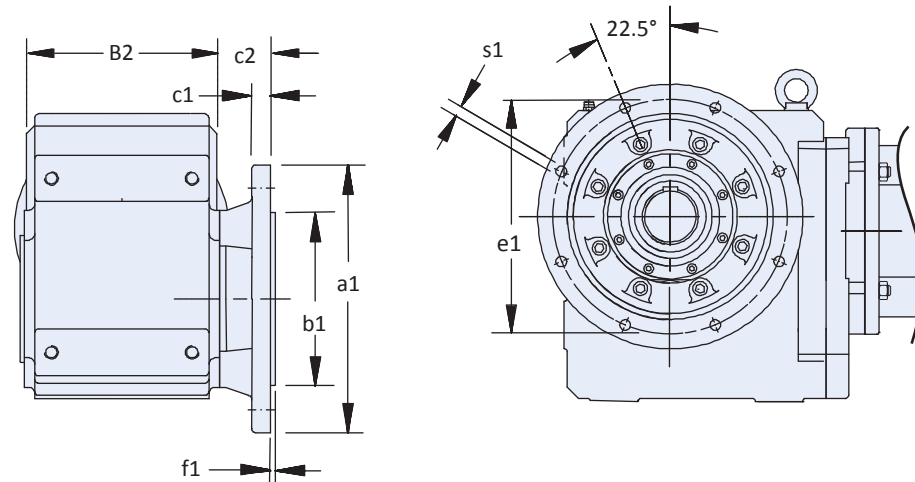
K102\_F thru K403\_F

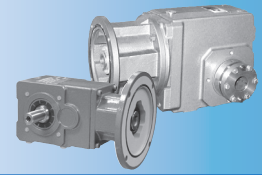


K513\_F thru K814\_F



K913\_F thru K1014\_F





# Dimensional Data

**Table 1 Flange Dimensions (Inches) – Standard and Optional**

Base Module	Flange Size	a1	b1	B2	c1	c2	e1	f1	s1
K1	140	5.512	3.740 +0.001/-0.0004	4.17	0.39	1.26	4.53	0.12	0.35
	160*	6.300	4.331 +0.001/-0.0004				5.12		
K2	160	6.300	4.331 +0.001/-0.0004	5.28	0.47	1.26	5.12	0.14	0.35
	200*	7.874	5.118 +0.001/-0.0004				6.50		0.43
K3	160	6.300	4.331 +0.001/-0.0004	5.75	0.55	1.50	5.12	0.14	0.35
	200*	7.874	5.118 +0.001/-0.0004				6.50		0.43
	250	9.843	7.087 +0.001/-0.0004				8.46		0.55
K4	250*	9.843	7.087 +0.001/-0.0004	6.81	0.59	1.57	8.46	0.16	0.55
K5	250*	9.843	7.087 +0.001/-0.0004	7.28	0.59	1.56	8.46	0.16	0.55
K6	300*	11.811	9.055 +0.001/-0.001	7.87	0.67	1.42	10.43	0.16	0.55
K7	300	11.811	9.055 +0.001/-0.001	8.90	0.71	1.73	10.43	0.20	0.55
	350*	13.780	9.842 +0.000/-0.001				11.81		0.71
K8	350	13.780	9.842 +0.000/-0.001	11.10	0.79	1.77	11.81	0.20	0.71
	400*	15.748	11.811 +0.000/-0.001				13.78		
	450	17.717	13.781 +0.000/-0.001				15.75		
K9	450*	17.717	13.780 +0.000/-0.001	12.99	0.91	1.97	15.75	0.20	0.71
K10	550*	21.654	17.717 +0.000/-0.002	14.02	0.98	3.07	19.69	0.20	0.71

\* This is the standard flange and will be shipped unless otherwise specified. Optional flanges are not available for all sizes.

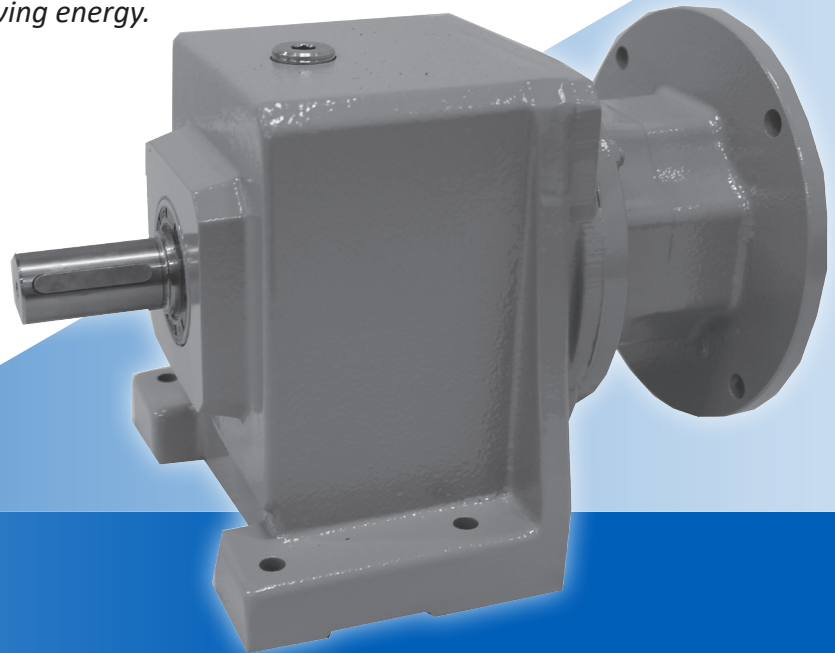
**K/KL Series: RIGHT ANGLE – Solid Shaft / Hollow Output**

## C Series: INLINE — Solid Shaft Output

### C Series Features

- Input rating up to 105 HP
- Ratio options: 2:1 – 276:1
- Output Torque capability up to 53,000 lb-in
- NEMA input capabilities of 56C, 143/145TC, 182/184TC, 213/215TC, 254/256TC, 284/286TC, 324/326TC, 364/365TC
- Output shaft diameters from 1" – 3-5/8"
- Housing style options: feet, flange or tapped holes

*C Series inline versatile gear drives offer you performance, durability, and economy for a wide range of constant speed applications. High efficiency helical gearing keeps motor size to a minimum while conserving energy.*



**SHIPS in  
1 DAY!**  
NO EXPEDITE FEE FOR 24  
HOUR SERVICE

### C Series Benefits

- No maintenance - totally enclosed with no breather to allow contaminants in or oil out
- Lubricated for life with Mobil oil
- Simple motor mounting and removal with Bowex coupling system
- Energy savings - up to 97% efficiency
- Easy installation with any horizontal mounting position
- Reliability guaranteed with 3 year warranty
- Durability - IP69K Certified to prevent water and dust ingress
- Assembled in USA
- Combine units to achieve slower speeds to meet your application needs

### C Series Food & Corrosion Resistant Options

#### "F" Option for Food Duty Applications

- Totally enclosed unit — no breathers, maintenance free, lubricated for life
- Mobil SHC CIBUS 220 food grade oil
- Anti-microbial clear coat
- 316 stainless steel epoxy coating
- Stainless steel shaft, hollow bore or double bushing output
- USDA Accepted Equipment

#### "B" Option for Corrosion Resistant Duty Applications

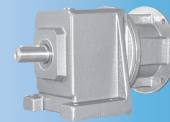
- Totally enclosed unit — no breathers, maintenance free, lubricated for life
- Mobil 600XP220 mineral oil
- 316 stainless steel epoxy coating
- Stainless steel shaft, hollow bore or double bushing output

### Other C Series Design Options Available:

- Plated or stainless steel hardware
- IP69K certified (see page 6 for full details)







# Overview

## C Ordering Options At-a-Glance

C Series are available in a wide range of user-selected design options that tailor the speed reducer to your motor and exact application requirements. Use the appropriate order codes below to build a part number for the complete assembly.

### Part Number Examples:

	1	2	3	4	5	6	7	8	9	0*
Standard duty	C	2	0	2	N	0040	MR140/	050		EL1
Food duty	C	2	0	2	N	0040	MR140/	050	F	EL1234

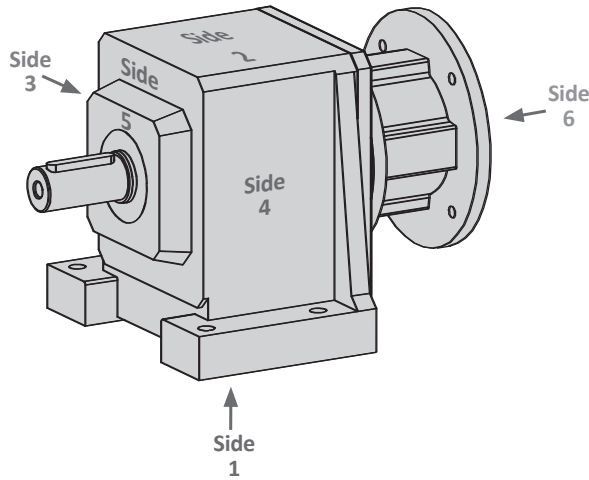
Design Option	Part Number Code	Description
1 Series	C	Concentric helical (output and input in line/gears are all helical)
2 Size	2	10 sizes of speed reducers (0 thru 9)
3 Generation	0 1	0 for sizes C0 thru C5; 1 for sizes C6 thru C9
4 # of Stages	2 3	Two or three stages (determined by ratio)
5 Housing	F	Output flange mount
	G	Pilot Circle Diameter (PCD) tapped holes
	N	Foot mounting
	Q	Square output flange (not bolt on)
6 Ratio	0040	Ratios range from 2:1 to 276:1 (refer to Selection Data tables) Note: if a slower speed is required, units can be combined to achieve the necessary ratio for low speed applications. Contact STÖBER Drives Inc.
7 Motor Adapter	MR140 thru MR350	Round motor adapter sizes (refer to Selection Data tables)
	050 140 180 210 250 280 320 360	56C 143/145TC 182/184TC 213/215TC 254/256TC 284/286TC 324/326TC 364/365TC
8 NEMA Frame Size (refer to Selection Data tables)		
9 Food & Corrosion Resistant Option	F	Food duty service
	B	Corrosion resistant duty service
0 Mounting Position* <i>Refer to page 91 illustrations</i>	EL1 EL2 EL3 EL4 EL5 EL6	Mounting positions for 3 year warranty
	EL1234 EL5 EL6	

\* Mounting position is added to "notes" section of order

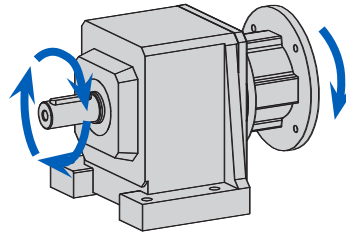
C Series: INLINE — Solid Shaft Output

# C Series: INLINE — Solid Shaft Output

## C Series Orientation

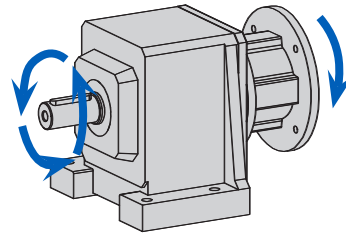


## C Series Direction of Rotation



### All 2 Stage Units

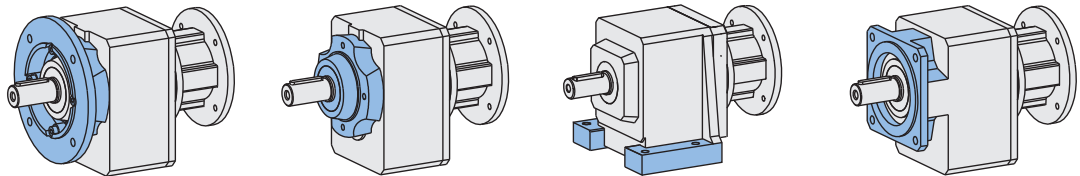
C002	C612
C102	C712
C202	C812
C302	C912
C402	
C502	



### All 3 Stage Units

C103	C613
C203	C713
C303	C813
C403	C913
C503	

## C Output and Housing Configurations



See Page	page 122	page 124	page 126	page 128
Housing Style	F Flange Mount	G Tapped Holes	N Foot Mount	Q Square Flange

### Availability\*

Standard Duty	C0-C9	C0-C9	C0-C9	C0-C4
Food & Corrosion Resistant Duty**	C0-C8	C0-C8	C0-C8	C0-C4

\* Refer to Output Options chart below for standard and optional solid shaft options. Food and Corrosion Resistant Duty require stainless steel.

\*\* On C6 and above, food and corrosion resistant duty availability is dependent on mounting position, ratio, input speed and ambient temperature. Breathers may be required. Please contact the factory for support.

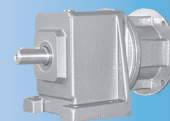
## C Series Output Options

**BLUE:** standard output diameters in stock

**BLACK:** optional diameters in stock

Other options are available upon request. Please contact STÖBER to learn about other options and their deliveries.

			C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
Solid Shaft	Carbon Steel	Inches	3/4	1	1-1/4	1-1/4	1-5/8	1-5/8	2-1/8	2-3/8	2-7/8	3-5/8
		Metric	20	25	30	30	40	40	50	60	70	90
	Stainless Steel	Inches	3/4	1	1-1/4	1-1/4	1-5/8	1-5/8	2-1/8	2-3/8	2-7/8	—
		Metric	—	—	—	25	—	—	—	—	—	—



# Overview

C Series: INLINE — Solid Shaft Output

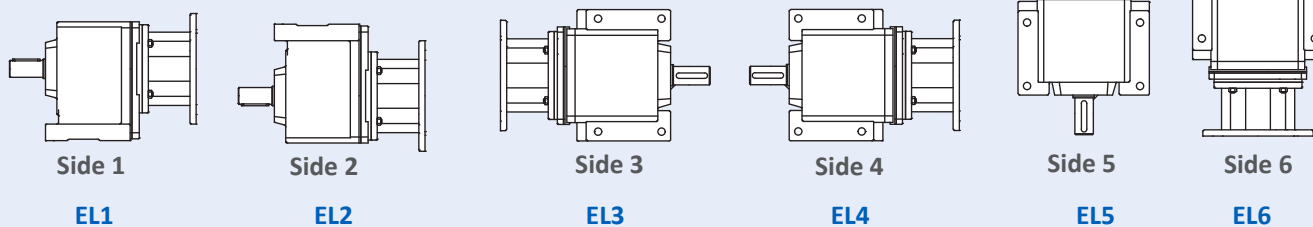
## C Mounting Position Options

When ordering any C unit, the mounting position must be specified. Use one of the mounting position order codes illustrated below that corresponds to the intended application.

### Standard Duty

All STÖBER standard duty units are filled with the correct amount of lubrication before shipping. In order to provide the proper lubrication quantity, the mounting position must be specified at the time the unit is ordered.

**DO NOT mount any reducer in a position other than the mounting position specified on the order!**

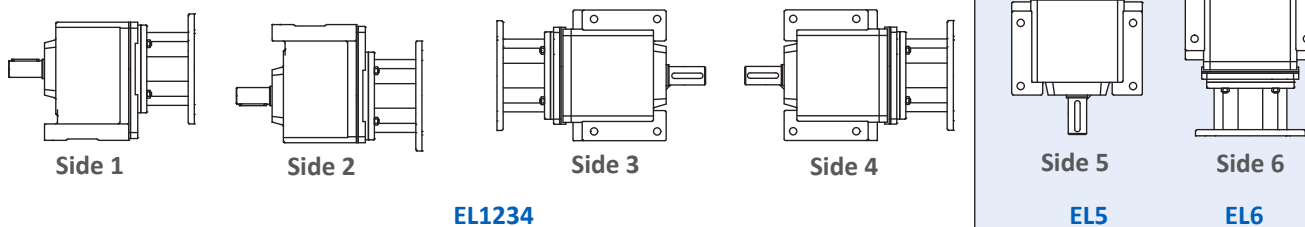


### Food & Corrosion Resistant Duty

Food and Corrosion Resistant Duty units are equipped with specialized seals, higher oil level, and additional features compared to standard units. These added features enable all horizontal output positions (EL1, 2, 3 and 4) to be used interchangeably, subject to size and ratio. On C6 and above, food and corrosion resistant duty availability is dependent on mounting position, ratio, input speed and ambient temperature. Breathers may be required. Please contact the factory for support. Contact STÖBER for details.

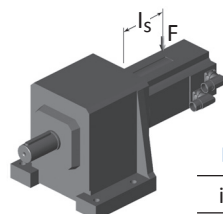
**DO NOT mount horizontal Food and Corrosion Resistant Duty reducers in a vertical position, or mount vertical position reducers other than specified on the order!**

*These mounting positions for "F" Food or "B" Corrosion Resistant Duty are all interchangeable.*



## Permissible Motor Tilting Torque

The permissible tilting torque of the motor attached to the gear unit is a result of the static and dynamic load "F" from the motor weight, mass acceleration, and vibration multiplied by the distance from the center of gravity "l<sub>s</sub>" of the motor.



$$M_{1k} = F \times l_s \leq M_{1k}$$

M <sub>1k</sub>	MR140	MR160	MR200	MR250	MR300	MR350
in.lbs	221	531	1106	2212	5310	10,620

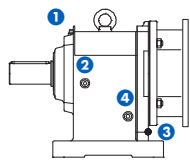
# C Series: INLINE — Solid Shaft Output

## C Series Lubrication Maintenance

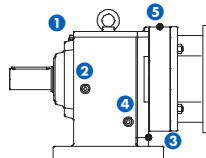
C002 thru C502/C503 are supplied without breathers and are lubricated for life and maintenance free.

Breathers are provided on standard units C612/C613 thru C912/C913, located as shown\*. STOBBER recommends changing the lubrication in breather supplied units after 10,000 hours for normal operating conditions or every 5,000 hours for wet operating conditions.

*\*C612/C613 and larger units with the Food & Corrosion Resistant option can exclude a breather. Contact STOBBER for details.*



**2 Stage Units**  
(C612 thru C912)

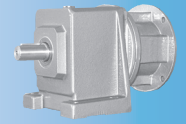


**3 Stage Units**  
(C613 thru C913)

### Drain Plug and Vent Location

Mounting Position	1	2 *	2a *	3	5
<b>EL1</b>	Vent			Drain	
<b>EL2</b>	Drain			Vent	
<b>EL3</b>		Vent	Drain		
<b>EL4</b>		Drain	Vent		
<b>EL5</b>	C612-C912	Drain		Vent	
		C613-C913	Drain		Vent
<b>EL6</b>	Vent			Drain	

\* Position 2a is on the opposite side of 2.



# Selection Data

## C Sizing/Selection:

1. Find the **RPM Output (Approximate)** nearest the application requirement. (If the exact Output RPM is required, divide the Input RPM [1750] by the value listed in the Nominal Ratio column.)
- 2a. In the **Input HP** column, locate the rating that is greater than or equal to the required HP, or;
- 2b. If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.
3. Confirm that the **Overhung Load** is acceptable for the application.
4. Choose the appropriate **Base Module**, **Motor Adapter** and **NEMA C-Frame** part number order codes (see page 89 for complete ordering information). An optional input shaft, in place of the NEMA C-face motor adapter, is also available.

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>875 RPM Output (Approximate)</b>						
4.17*	291	1.997	121	C002_0020	MR160/050	56C
					MR160/140	143/145TC
8.29*	585	2.018	218	C102_0020	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
9.22*	647	2.009	269	C202_0020	MR160/050	56C
					MR160/140	143/145TC
9.22*	651	2.020	362	C302_0020	MR160/050	56C
					MR160/140	143/145TC
12.70*	892	2.009	269	C202_0020	MR200/180	182/184TC
19.97*	1,411	2.020	362	C302_0020	MR200/180	182/184TC
20.71*	1,463	2.020	362	C302_0020	MR250/210	213/215TC
21.97*	1,512	1.968	616	C402_0020	MR200/180	182/184TC
24.58*	1,698	1.976	700	C502_0020	MR200/180	182/184TC
30.65*	2,109	1.968	616	C402_0020	MR250/210	213/215TC
39.32*	2,717	1.976	700	C502_0020	MR250/210	213/215TC
47.38*	3,273	1.976	700	C502_0020	MR300/250	254/256TC
					MR300/280	284/286TC

C Series: INLINE — Solid Shaft Output

1) Overhung Load is measured at the center of the shaft extension.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75

\* Thermal HP Limit

Base Module Size	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
HP Limit	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.63	67.05

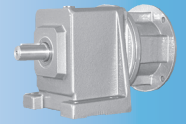
# C Series: INLINE — Solid Shaft Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>795 RPM Output (Approximate)</b>						
7.88*	600	2.177	223	C102_0022	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
9.22	701	2.177	371	C302_0022	MR160/050	56C
					MR160/140	143/145TC
9.22	704	2.184	276	C202_0022	MR160/050	56C
					MR160/140	143/145TC
12.01*	917	2.184	276	C202_0022	MR200/180	182/184TC
					MR200/180	182/184TC
19.70*	1,499	2.177	371	C302_0022	MR250/180	182/184TC
					MR250/180	182/184TC
					MR250/210	213/215TC
<b>730 RPM Output (Approximate)</b>						
7.40*	619	2.394	231	C102_0024	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
<b>705 RPM Output (Approximate)</b>						
8.73*	755	2.475	288	C202_0025	MR160/050	56C
					MR160/140	143/145TC
9.22	809	2.510	389	C302_0025	MR160/050	56C
					MR160/140	143/145TC
11.05*	956	2.475	288	C202_0025	MR200/180	182/184TC
17.59*	1,544	2.510	389	C302_0025	MR200/180	182/184TC
17.92*	1,572	2.510	389	C302_0025	MR250/210	213/215TC
19.60*	1,683	2.456	663	C402_0025	MR200/180	182/184TC
26.44*	2,271	2.456	663	C402_0025	MR250/210	213/215TC
<b>680 RPM Output (Approximate)</b>						
7.03*	635	2.582	236	C102_0026	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
<b>650 RPM Output (Approximate)</b>						
8.73*	821	2.690	296	C202_0027	MR160/050	56C
					MR160/140	143/145TC
9.22	872	2.705	399	C302_0027	MR160/050	56C
					MR160/140	143/145TC
10.45*	983	2.690	296	C202_0027	MR200/180	182/184TC
17.04*	1,612	2.705	399	C302_0027	MR200/180	182/184TC
					MR250/210	213/215TC

1) Overhung Load is measured at the center of the shaft extension.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75



# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>630 RPM Output (Approximate)</b>						
3.36*	325	2.769	135	C002_0028	MR160/050	56C
					MR160/140	143/145TC
<b>565 RPM Output (Approximate)</b>						
3.14*	336	3.067	140	C002_0031	MR160/050	56C
					MR160/140	143/145TC
6.24*	674	3.091	251	C102_0031	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
7.92*	859	3.103	310	C202_0031	MR160/050	56C
					MR160/140	143/145TC
8.73	949	3.110	418	C302_0031	MR160/050	56C
					MR160/140	143/145TC
9.50*	1,031	3.103	310	C202_0031	MR200/180	182/184TC
15.28*	1,661	3.110	418	C302_0031	MR200/180	182/184TC
15.53*	1,689	3.110	418	C302_0031	MR250/210	213/215TC
17.04*	1,846	3.099	717	C402_0031	MR200/180	182/184TC
19.60	2,108	3.077	811	C502_0031	MR200/180	182/184TC
22.64*	2,454	3.099	717	C402_0031	MR250/210	213/215TC
34.42*	3,703	3.077	811	C502_0031	MR250/210	213/215TC
35.26*	3,794	3.077	811	C502_0031	MR300/250	254/256TC
					MR300/280	284/286TC
<b>525 RPM Output (Approximate)</b>						
2.97*	345	3.318	144	C002_0033	MR160/050	56C
					MR160/140	143/145TC
5.93*	691	3.334	257	C102_0033	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
<b>520 RPM Output (Approximate)</b>						
7.92*	933	3.373	319	C202_0034	MR160/050	56C
					MR160/140	143/145TC
8.73	1,023	3.352	429	C302_0034	MR160/050	56C
					MR160/140	143/145TC
8.99*	1,060	3.373	319	C202_0034	MR200/180	182/184TC
14.77*	1,732	3.352	429	C302_0034	MR200/180	182/184TC
					MR250/210	213/215TC

C Series: INLINE — Solid Shaft Output

\* Thermal HP Limit

Base Module Size	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
HP Limit	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.63	67.05

# C Series: INLINE — Solid Shaft Output

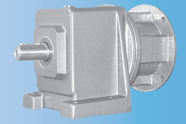
1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>450 RPM Output (Approximate)</b>						
2.70	362	3.835	151	C002_0038	MR160/050	56C
					MR160/140	143/145TC
5.36	727	3.883	271	C102_0039	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
6.87	934	3.888	335	C202_0039	MR160/050	56C
					MR160/140	143/145TC
7.70	1,044	3.878	450	C302_0039	MR160/050	56C
					MR160/140	143/145TC
8.18*	1,111	3.888	335	C202_0039	MR200/180	182/184TC
8.46	1,151	3.894	773	C402_0039	MR160/050	56C
					MR160/140	143/145TC
13.41*	1,818	3.878	450	C302_0039	MR200/180	182/184TC
					MR250/210	213/215TC
14.86*	2,024	3.894	773	C402_0039	MR200/180	182/184TC
17.24	2,330	3.867	875	C502_0039	MR200/180	182/184TC
19.45*	2,648	3.894	773	C402_0039	MR250/210	213/215TC
<b>450 RPM Output (Continued)</b>						
30.22*	4,086	3.867	875	C502_0039	MR250/210	213/215TC
30.28*	4,094	3.867	875	C502_0039	MR300/250	254/256TC
					MR300/280	284/286TC
<b>420 RPM Output (Approximate)</b>						
2.56	372	4.149	155	C002_0041	MR160/050	56C
					MR160/140	143/145TC
5.09	746	4.189	278	C102_0042	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
6.87	1,016	4.226	344	C202_0042	MR160/050	56C
					MR160/140	143/145TC
7.70	1,125	4.179	461	C302_0042	MR160/050	56C
					MR160/140	143/145TC
7.73*	1,143	4.226	344	C202_0042	MR200/180	182/184TC
12.75*	1,864	4.179	461	C302_0042	MR200/180	182/184TC
					MR250/210	213/215TC
24.58	3,595	4.184	1,307	C612_0042	MR200/180	182/184TC

1) Overhung Load is measured at the center of the shaft extension.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75





# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>420 RPM Output Continued</b>						
39.32*	5,752	4.184	1,307	<b>C612_0042</b>	<b>MR250/210</b>	213/215TC
53.33*	7,802	4.184	1,307	<b>C612_0042</b>	<b>MR300/250</b>	254/256TC
					<b>MR300/280</b>	284/286TC
105.20*	15,541	4.225	2,458	<b>C812_0042</b>	<b>MR350/320</b>	324/326TC
					<b>MR350/360</b>	364/365TC
<b>410 RPM Output (Approximate)</b>						
24.58	3,659	4.259	1,807	<b>C712_0043</b>	<b>MR200/180</b>	182/184TC
39.32	5,855	4.259	1,807	<b>C712_0043</b>	<b>MR250/210</b>	213/215TC
73.72*	10,978	4.259	1,807	<b>C712_0043</b>	<b>MR300/250</b>	254/256TC
					<b>MR300/280</b>	284/286TC
<b>375 RPM Output (Approximate)</b>						
2.37	387	4.680	161	<b>C002_0047</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
4.75	773	4.658	288	<b>C102_0047</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
					<b>MR200/180</b>	182/184TC
5.98	975	4.667	356	<b>C202_0047</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
6.66	1,088	4.675	479	<b>C302_0047</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
7.24	1,181	4.667	356	<b>C202_0047</b>	<b>MR200/180</b>	182/184TC
7.57	1,238	4.682	822	<b>C402_0047</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
8.68	1,404	4.629	929	<b>C502_0046</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
11.62	1,899	4.675	479	<b>C302_0047</b>	<b>MR200/180</b>	182/184TC
11.84	1,935	4.675	479	<b>C302_0047</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
13.28	2,174	4.682	822	<b>C402_0047</b>	<b>MR200/180</b>	182/184TC
15.25	2,468	4.629	929	<b>C502_0046</b>	<b>MR200/180</b>	182/184TC
17.20*	2,815	4.682	822	<b>C402_0047</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
26.64*	4,312	4.629	929	<b>C502_0046</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
26.86*	4,347	4.629	929	<b>C502_0046</b>	<b>MR300/250</b>	254/256TC
					<b>MR300/280</b>	284/286TC

C Series: INLINE — Solid Shaft Output

\* Thermal HP Limit

Base Module Size	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
HP Limit	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.63	67.05

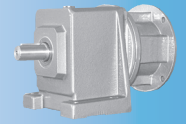
# C Series: INLINE — Solid Shaft Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>345 RPM Output (Approximate)</b>						
2.25	397	5.063	165	C002_0051	MR160/050	56C
					MR160/140	143/145TC
4.51	793	5.025	295	C102_0050	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
5.98	1,060	5.072	366	C202_0051	MR160/050	56C
					MR160/140	143/145TC
6.66	1,173	5.038	491	C302_0050	MR160/050	56C
					MR160/140	143/145TC
6.85	1,214	5.072	366	C202_0051	MR200/180	182/184TC
					MR200/180	182/184TC
11.26	1,983	5.038	491	C302_0050	MR250/210	213/215TC
					MR250/210	213/215TC
24.58	4,367	5.083	1,394	C612_0051	MR200/180	182/184TC
39.32*	6,988	5.083	1,394	C612_0051	MR250/210	213/215TC
46.84*	8,325	5.083	1,394	C612_0051	MR300/250	254/256TC
					MR300/280	284/286TC
<b>330 RPM Output (Approximate)</b>						
73.72*	13,690	5.311	1,945	C712_0053	MR300/180	182/184TC
					MR300/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC
<b>300 RPM Output (Approximate)</b>						
2.05	416	5.824	173	C002_0058	MR160/050	56C
					MR160/140	143/145TC
4.07	835	5.875	311	C102_0059	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
5.12	1,036	5.791	382	C202_0058	MR160/050	56C
					MR160/140	143/145TC
5.86	1,201	5.859	516	C302_0059	MR160/050	56C
					MR160/140	143/145TC
6.27	1,269	5.791	382	C202_0058	MR200/180	182/184TC
					MR200/180	182/184TC
6.36	1,309	5.891	888	C402_0059	MR160/050	56C
					MR160/140	143/145TC
7.39	1,510	5.850	1,005	C502_0059	MR160/050	56C
					MR160/140	143/145TC

1) Overhung Load is measured at the center of the shaft extension.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75



# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>300 RPM Output (Continued)</b>						
10.18	2,086	5.859	516	C302_0059	MR200/180	182/184TC
					MR250/210	213/215TC
11.15	2,296	5.891	888	C402_0059	MR200/180	182/184TC
12.98	2,656	5.850	1,005	C502_0059	MR200/180	182/184TC
14.76*	3,039	5.891	888	C402_0059	MR250/180	182/184TC
					MR250/210	213/215TC
22.70*	4,642	5.850	1,005	C502_0059	MR250/210	213/215TC
22.98*	4,700	5.850	1,005	C502_0059	MR300/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC
<b>275 RPM Output (Approximate)</b>						
1.94	427	6.300	178	C002_0063	MR160/050	56C
					MR160/140	143/145TC
3.87	856	6.338	319	C102_0063	MR160/050	56C
					MR160/140	143/145TC
5.12	1,127	6.295	393	C202_0063	MR200/180	182/184TC
					MR160/050	56C
5.86	1,294	6.314	529	C302_0063	MR160/140	143/145TC
					MR160/050	56C
5.93	1,305	6.295	393	C202_0063	MR160/140	143/145TC
					MR200/180	182/184TC
9.69	2,138	6.314	529	C302_0063	MR200/180	182/184TC
					MR250/210	213/215TC
<b>265 RPM Output (Approximate)</b>						
21.48	4,895	6.518	1,515	C612_0065	MR200/180	182/184TC
37.98*	8,656	6.518	1,515	C612_0065	MR250/210	213/215TC
39.69*	9,045	6.518	1,515	C612_0065	MR300/250	254/256TC
					MR300/280	284/286TC
73.72*	17,193	6.670	2,862	C812_0067	MR300/180	182/184TC
					MR300/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC
105.09*	24,508	6.670	2,862	C812_0067	MR350/320	324/326TC
					MR350/360	364/365TC

**C Series: INLINE — Solid Shaft Output**

\* Thermal HP Limit

Base Module Size	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
HP Limit	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.63	67.05

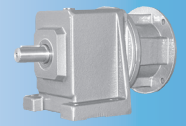
# C Series: INLINE — Solid Shaft Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>245 RPM Output (Approximate)</b>						
24.58	6,110	7.111	1,559	<b>C612_0071</b>	<b>MR200/180</b>	182/184TC
24.58	6,321	7.357	2,169	<b>C712_0074</b>	<b>MR200/180</b>	182/184TC
37.45*	9,311	7.111	1,559	<b>C612_0071</b>	<b>MR300/250</b>	254/256TC
					<b>MR300/280</b>	284/286TC
39.32	10,114	7.357	2,169	<b>C712_0074</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
60.59*	15,587	7.357	2,169	<b>C712_0074</b>	<b>MR300/250</b>	254/256TC
					<b>MR300/280</b>	284/286TC
<b>225 RPM Output (Approximate)</b>						
1.70	457	7.714	190	<b>C002_0077</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
3.37	918	7.796	342	<b>C102_0078</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
4.03	1,100	7.800	422	<b>C202_0078</b>	<b>MR200/180</b>	182/184TC
					<b>MR160/050</b>	56C
4.65	1,274	7.841	569	<b>C302_0078</b>	<b>MR160/140</b>	143/145TC
					<b>MR160/050</b>	56C
5.11	1,396	7.816	976	<b>C402_0078</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
5.14	1,402	7.800	422	<b>C202_0078</b>	<b>MR200/180</b>	182/184TC
5.97	1,621	7.763	1,104	<b>C502_0078</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
8.08	2,216	7.841	569	<b>C302_0078</b>	<b>MR200/180</b>	182/184TC
8.38	2,299	7.841	569	<b>C302_0078</b>	<b>MR250/210</b>	213/215TC
8.95	2,446	7.816	976	<b>C402_0078</b>	<b>MR200/180</b>	182/184TC
10.48	2,846	7.763	1,104	<b>C502_0078</b>	<b>MR200/180</b>	182/184TC
12.22	3,340	7.816	976	<b>C402_0078</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
18.30	4,966	7.763	1,104	<b>C502_0078</b>	<b>MR250/210</b>	213/215TC
19.03	5,165	7.763	1,104	<b>C502_0078</b>	<b>MR300/210</b>	213/215TC
					<b>MR300/250</b>	254/256TC

1) Overhung Load is measured at the center of the shaft extension.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75



# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>210 RPM Output (Approximate)</b>						
1.85	531	8.235	194	C002_0082	MR160/050	56C
					MR160/140	143/145TC
3.68	1,063	8.263	348	C102_0083	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
6.19	1,772	8.190	429	C202_0082	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
8.73	2,518	8.250	579	C302_0083	MR160/050	56C
					MR160/140	143/145TC
9.78	2,822	8.250	579	C302_0083	MR200/180	182/184TC
					MR250/210	213/215TC
					MR200/180	182/184TC
16.37*	4,742	8.285	995	C402_0083	MR250/210	213/215TC
					MR200/180	182/184TC
18.92	5,418	8.190	1,635	C612_0082	MR200/180	182/184TC
19.60	5,661	8.263	1,127	C502_0083	MR200/180	182/184TC
					MR250/210	213/215TC
24.53*	7,086	8.263	1,127	C502_0083	MR300/250	254/256TC
					MR250/210	213/215TC
33.39*	9,560	8.190	1,635	C612_0082	MR250/210	213/215TC
					MR300/250	254/256TC
34.08*	9,760	8.190	1,635	C612_0082	MR300/280	284/286TC
					MR350/320	324/326TC
105.20*	30,486	8.288	3,795	C912_0083	MR350/360	364/365TC
<b>205 RPM Output (Approximate)</b>						
22.11	6,564	8.490	2,275	C712_0085	MR200/180	182/184TC
					MR250/210	213/215TC
39.12	11,612	8.490	2,275	C712_0085	MR300/250	254/256TC
					MR300/280	284/286TC
55.08*	16,349	8.490	2,275			
<b>195 RPM Output (Approximate)</b>						
21.48	6,848	9.118	1,694	C612_0091	MR200/180	182/184TC
					MR250/210	213/215TC
31.73*	10,115	9.118	1,694	C612_0091	MR300/250	254/256TC
					MR300/280	284/286TC
					MR300/180	182/184TC
73.72*	23,310	9.043	3,168	C812_0090	MR300/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC
					MR350/320	324/326TC
85.79*	27,125	9.043	3,168	C812_0090	MR350/320	324/326TC

C Series: INLINE — Solid Shaft Output

\* Thermal HP Limit

Base Module Size	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
HP Limit	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.63	67.05

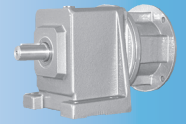
# C Series: INLINE — Solid Shaft Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>190 RPM Output (Approximate)</b>						
1.65	531	9.228	202	C002_0092	MR160/050	56C
					MR160/140	143/145TC
3.26	1,063	9.326	363	C102_0093	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
5.40	1,772	9.387	449	C202_0094	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
8.73	2,841	9.310	602	C302_0093	MR160/050	56C
					MR160/140	143/145TC
9.03	2,938	9.310	602	C302_0093	MR200/180	182/184TC
					MR250/210	213/215TC
15.05*	4,872	9.261	1,032	C402_0093	MR200/180	182/184TC
					MR250/210	213/215TC
19.60	6,345	9.261	1,171	C502_0093	MR200/180	182/184TC
21.89*	7,086	9.261	1,171	C502_0093	MR250/210	213/215TC
					MR300/250	254/256TC
<b>175 RPM Output (Approximate)</b>						
15.67	5,538	10.111	1,753	C612_0100	MR200/180	182/184TC
19.85	6,879	9.912	2,395	C712_0099	MR200/180	182/184TC
27.75	9,810	10.111	1,753	C612_0100	MR250/210	213/215TC
29.62*	10,470	10.111	1,753	C612_0100	MR300/250	254/256TC
					MR300/280	284/286TC
35.15	12,183	9.912	2,395	C712_0099	MR250/210	213/215TC
49.68*	17,215	9.912	2,395	C712_0099	MR300/250	254/256TC
					MR300/280	284/286TC
73.72*	26,166	10.151	3,292	C812_0100	MR300/180	182/184TC
					MR300/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC
79.43*	28,190	10.151	3,292	C812_0100	MR350/320	324/326TC
					MR350/360	364/365TC

1) Overhung Load is measured at the center of the shaft extension.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75



# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter

## 170 RPM Output (Approximate)

1.48	531	10.297	209	C002_0105	MR160/050	56C
					MR160/140	143/145TC
2.93	1,063	10.383	376	C102_0105	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
4.94	1,772	10.260	463	C202_0105	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
7.70	2,770	10.286	623	C302_0105	MR160/050	56C
					MR160/140	143/145TC
8.45	3,037	10.286	623	C302_0105	MR200/180	182/184TC
					MR250/210	213/215TC
					MR160/050	56C
8.46	3,077	10.410	1,073	C402_0105	MR160/140	143/145TC
					MR200/180	182/184TC
13.39	4,872	10.410	1,073	C402_0105	MR250/210	213/215TC
					MR200/180	182/184TC
17.24	6,257	10.383	1,216	C502_0105	MR200/180	182/184TC
					MR250/210	213/215TC
					MR300/250	254/256TC
19.52	7,086	10.383	1,216	C502_0105	MR300/280	284/286TC

## 150 RPM Output (Approximate)

1.32	531	11.540	218	C002_0115	MR160/050	56C
					MR160/140	143/145TC
2.60	1,063	11.717	391	C102_0115	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
4.31	1,772	11.760	484	C202_0120	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
7.64	3,100	11.607	648	C302_0115	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
					MR250/210	213/215TC
8.46	3,440	11.636	1,114	C402_0115	MR160/050	56C
					MR160/140	143/145TC
11.98	4,872	11.636	1,114	C402_0115	MR200/180	182/184TC
					MR250/210	213/215TC
17.24	7,012	11.636	1,263	C502_0115	MR200/180	182/184TC

C Series: INLINE — Solid Shaft Output

\* Thermal HP Limit

Base Module Size	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
HP Limit	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.63	67.05

# C Series: INLINE — Solid Shaft Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>150 RPM Output (Continued)</b>						
17.42	7,086	11.636	1,263	C502_0115	MR250/210	213/215TC
					MR300/250	254/256TC
18.92	7,579	11.457	1,828	C612_0115	MR200/180	182/184TC
22.11	9,093	11.761	2,536	C712_0120	MR200/180	182/184TC
27.25	10,915	11.457	1,828	C612_0115	MR250/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC
39.12	16,086	11.761	2,536	C712_0120	MR250/210	213/215TC
43.08*	17,716	11.761	2,536	C712_0120	MR300/250	254/256TC
					MR300/280	284/286TC
105.20*	43,313	11.775	4,266	C912_0120	MR350/320	324/326TC
					MR350/360	364/365TC

## 140 RPM Output (Approximate)

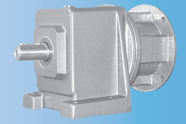
1.21	531	12.567	224	C002_0125	MR160/050	56C
					MR160/140	143/145TC
2.44	1,063	12.455	399	C102_0125	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
4.11	1,772	12.315	492	C202_0125	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
6.66	2,887	12.400	663	C302_0125	MR160/050	56C
					MR160/140	143/145TC
7.15	3,100	12.400	663	C302_0125	MR200/180	182/184TC
					MR250/210	213/215TC
7.57	3,311	12.519	1,141	C402_0125	MR160/050	56C
					MR160/140	143/145TC
8.68	3,771	12.429	1,291	C502_0125	MR160/050	56C
					MR160/140	143/145TC
11.13	4,872	12.519	1,141	C402_0125	MR200/180	182/184TC
					MR250/210	213/215TC
13.54	5,956	12.581	1,886	C612_0125	MR200/180	182/184TC
15.25	6,626	12.429	1,291	C502_0125	MR200/180	182/184TC
16.31	7,086	12.429	1,291	C502_0125	MR250/210	213/215TC
					MR300/250	254/256TC
23.91	10,518	12.581	1,886	C612_0125	MR250/180	182/184TC
					MR250/210	213/215TC
25.60	11,261	12.581	1,886	C612_0125	MR300/250	254/256TC

1) Overhung Load is measured at the center of the shaft extension.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75





# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>140 RPM Output (Continued)</b>						
35.15	15,670	12.749	3,552	C812_0125	MR250/180	182/184TC
					MR250/210	213/215TC
62.77*	27,978	12.749	3,552	C812_0125	MR300/250	254/256TC
					MR300/280	284/286TC
68.23*	30,415	12.749	3,552	C812_0125	MR350/320	324/326TC
					MR350/360	364/365TC

## 130 RPM Output (Approximate)

15.67	7,220	13.182	2,634	C712_0130	MR200/180	182/184TC
19.85	9,529	13.730	2,670	C712_0135	MR200/180	182/184TC
27.75	12,790	13.182	2,634	C712_0130	MR250/210	213/215TC
35.15	16,876	13.730	2,670	C712_0135	MR250/210	213/215TC
36.90	17,716	13.730	2,670	C712_0135	MR300/250	254/256TC
					MR300/280	284/286TC
41.08*	18,932	13.182	2,634	C712_0130	MR300/250	254/256TC
					MR300/280	284/286TC

## 125 RPM Output (Approximate)

1.08	531	14.083	233	C002_0140	MR160/050	56C
					MR160/140	143/145TC
2.16	1,063	14.056	416	C102_0140	MR160/050	56C
					MR160/140	143/145TC
3.59	1,772	14.115	514	C202_0140	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
6.34	3,100	13.993	690	C302_0140	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
					MR250/210	213/215TC
7.57	3,701	13.993	1,185	C402_0140	MR160/050	56C
					MR160/140	143/145TC
8.68	4,226	13.929	1,341	C502_0140	MR160/050	56C
					MR160/140	143/145TC
9.96	4,872	13.993	1,185	C402_0140	MR200/180	182/184TC
					MR250/210	213/215TC
					MR200/180	182/184TC
14.55	7,086	13.929	1,341	C502_0140	MR250/210	213/215TC
					MR250/210	213/215TC
15.67	7,748	14.145	1,961	C612_0140	MR200/180	182/184TC

\* Thermal HP Limit

Base Module Size	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
HP Limit	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.63	67.05

C Series: INLINE — Solid Shaft Output

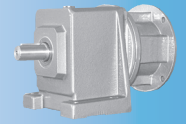
# C Series: INLINE — Solid Shaft Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>125 RPM Output (Continued)</b>						
23.28	11,515	14.145	1,961	C612_0140	MR250/210	213/215TC
					MR300/250	254/256TC
64.84*	31,201	13.763	3,644	C812_0140	MR300/180	182/184TC
					MR300/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC
					MR350/320	324/326TC
					MR350/360	364/365TC
<b>115 RPM Output (Approximate)</b>						
0.97	531	15.637	241	C002_0155	MR160/050	56C
					MR160/140	143/145TC
1.94	1,063	15.708	432	C102_0155	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
3.32	1,772	15.283	528	C202_0155	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
5.71	3,100	15.543	715	C302_0155	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
7.39	4,056	15.708	1,396	C502_0155	MR160/050	56C
					MR160/140	143/145TC
12.90	7,086	15.708	1,396	C502_0155	MR200/180	182/184TC
					MR250/210	213/215TC
<b>105 RPM Output (Approximate)</b>						
6.36	3,501	15.750	1,232	C402_0160	MR160/050	56C
					MR160/140	143/145TC
8.85	4,872	15.750	1,232	C402_0160	MR200/180	182/184TC
					MR250/210	213/215TC
11.33	6,419	16.203	2,052	C612_0160	MR200/180	182/184TC
13.54	7,922	16.734	2,852	C712_0165	MR200/180	182/184TC
19.95	11,300	16.203	2,052	C612_0160	MR250/210	213/215TC
21.63	12,252	16.203	2,052	C612_0160	MR300/210	213/215TC
					MR300/250	254/256TC
23.91	13,989	16.734	2,852	C712_0165	MR250/210	213/215TC
27.75	16,592	17.101	3,917	C812_0170	MR250/180	182/184TC
					MR250/210	213/215TC

1) Overhung Load is measured at the center of the shaft extension.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75



# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>105 RPM Output (Continued)</b>						
35.04	20,499	16.734	2,852	C712_0165	MR300/250	254/256TC
					MR300/280	284/286TC
49.56	29,635	17.101	3,917	C812_0170	MR300/250	254/256TC
					MR300/280	284/286TC
58.79	33,841	16.463	4,770	C912_0165	MR300/180	182/184TC
					MR300/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC
78.29*	45,063	16.463	4,770	C912_0165	MR350/320	324/326TC
					MR350/360	364/365TC
<b>100 RPM Output (Approximate)</b>						
0.87	531	17.525	250	C002_0175	MR160/050	56C
					MR160/140	143/145TC
1.72	1,063	17.727	449	C102_0175	MR160/050	56C
					MR160/140	143/145TC
2.89	1,772	17.517	553	C202_0175	MR160/050	56C
					MR160/140	143/145TC
5.06	3,100	17.540	744	C302_0175	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
6.36	3,913	17.604	1,279	C402_0175	MR160/050	56C
					MR160/140	143/145TC
7.39	4,545	17.604	1,450	C502_0175	MR160/050	56C
					MR160/140	143/145TC
7.92	4,872	17.604	1,279	C402_0175	MR200/180	182/184TC
					MR250/210	213/215TC
11.51	7,086	17.604	1,450	C502_0175	MR200/180	182/184TC
					MR250/210	213/215TC
13.54	8,332	17.600	2,109	C612_0175	MR200/180	182/184TC
					MR250/180	182/184TC
18.71	11,515	17.600	2,109	C612_0175	MR250/210	213/215TC
					MR300/250	254/256TC
					MR350/320	324/326TC
35.15	21,248	17.287	3,931	C812_0175	MR250/180	182/184TC
					MR250/210	213/215TC
52.76	31,889	17.287	3,931	C812_0175	MR300/250	254/256TC
					MR300/280	284/286TC
86.13*	53,148	17.648	4,882	C912_0175	MR350/320	324/326TC
					MR350/360	364/365TC

**C Series: INLINE — Solid Shaft Output**

\* Thermal HP Limit

Base Module Size	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
HP Limit	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.63	67.05

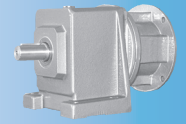
# C Series: INLINE — Solid Shaft Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>90 RPM Output (Approximate)</b>						
9.98	6,844	19.607	2,187	C612_0195	MR200/180	182/184TC
15.67	10,002	18.261	2,936	C712_0185	MR200/180	182/184TC
17.49	11,987	19.607	2,187	C612_0195	MR250/180	182/184TC
					MR250/210	213/215TC
18.74	12,844	19.607	2,187	C612_0195	MR300/210	213/215TC
					MR300/250	254/256TC
24.72	17,511	20.257	4,145	C812_0200	MR250/180	182/184TC
					MR250/210	213/215TC
27.75	17,716	18.261	2,936	C712_0185	MR250/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC
43.99	31,156	20.257	4,145	C812_0200	MR300/250	254/256TC
					MR300/280	284/286TC
50.44	35,541	20.152	5,103	C912_0200	MR300/180	182/184TC
					MR300/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC
<b>85 RPM Output (Approximate)</b>						
0.73	531	20.714	264	C002_0210	MR160/050	56C
					MR160/140	143/145TC
1.46	1,063	20.844	474	C102_0210	MR160/050	56C
					MR160/140	143/145TC
2.46	1,772	20.583	583	C202_0210	MR160/050	56C
					MR160/140	143/145TC
4.26	3,100	20.800	787	C302_0210	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
5.11	3,732	20.899	1,354	C402_0210	MR160/050	56C
					MR160/140	143/145TC
5.97	4,353	20.844	1,534	C502_0210	MR160/050	56C
					MR160/140	143/145TC
6.67	4,872	20.899	1,354	C402_0210	MR200/180	182/184TC
					MR250/210	213/215TC

1) Overhung Load is measured at the center of the shaft extension.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75



# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>85 RPM Output Continued</b>						
9.72	7,086	20.844	1,534	C502_0210	MR200/180	182/184TC
					MR250/210	213/215TC
11.33	8,189	20.672	3,060	C712_0210	MR200/180	182/184TC
19.95	14,416	20.672	3,060	C712_0210	MR250/210	213/215TC
29.41	21,259	20.672	3,060	C712_0210	MR300/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC
<b>75 RPM Output (Approximate)</b>						
0.65	531	23.214	275	C002_0230	MR160/050	56C
					MR160/140	143/145TC
1.29	1,063	23.523	494	C102_0240	MR160/050	56C
					MR160/140	143/145TC
2.15	1,772	23.593	611	C202_0240	MR160/050	56C
					MR160/140	143/145TC
3.78	3,100	23.472	820	C302_0230	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
5.11	4,172	23.359	1,405	C402_0230	MR160/050	56C
					MR160/140	143/145TC
5.97	4,872	23.359	1,405	C402_0230	MR200/180	182/184TC
5.97	4,879	23.359	1,594	C502_0230	MR160/050	56C
					MR160/140	143/145TC
8.68	7,086	23.359	1,594	C502_0230	MR200/180	182/184TC
					MR250/210	213/215TC
11.33	8,979	22.667	2,295	C612_0230	MR200/180	182/184TC
13.54	10,975	23.182	3,179	C712_0230	MR200/180	182/184TC
14.53	11,515	22.667	2,295	C612_0230	MR250/210	213/215TC
					MR300/250	254/256TC
21.86	17,716	23.182	3,179	C712_0230	MR250/210	213/215TC
					MR300/250	254/256TC
27.75	22,498	23.188	4,336	C812_0230	MR250/180	182/184TC
					MR250/210	213/215TC
39.33	31,889	23.188	4,336	C812_0230	MR300/250	254/256TC
					MR300/280	284/286TC
58.79	48,080	23.390	5,363	C912_0230	MR300/180	182/184TC
					MR300/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC
64.99	53,148	23.390	5,363	C912_0230	MR350/320	324/326TC
					MR350/360	364/365TC

C Series: INLINE — Solid Shaft Output

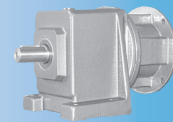
# C Series: INLINE — Solid Shaft Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>70 RPM Output (Approximate)</b>						
0.61	531	24.972	281	C002_0250	MR160/050	56C
1.21	1,063	25.133	505	C102_0250	MR160/050	56C
					MR160/140	143/145TC
2.06	1,772	24.641	619	C202_0250	MR160/050	56C
					MR160/140	143/145TC
3.58	3,100	24.800	835	C302_0250	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
4.50	3,925	24.923	1,436	C402_0250	MR160/050	56C
					MR160/140	143/145TC
5.11	4,478	25.073	1,632	C502_0250	MR160/050	56C
					MR160/140	143/145TC
5.59	4,872	24.923	1,436	C402_0250	MR200/180	182/184TC
8.00	6,971	24.928	2,369	C612_0250	MR200/180	182/184TC
8.08	7,086	25.073	1,632	C502_0250	MR200/180	182/184TC
					MR250/210	213/215TC
9.98	8,835	25.313	3,274	C712_0250	MR200/180	182/184TC
14.04	12,235	24.928	2,369	C612_0250	MR250/180	182/184TC
					MR250/210	213/215TC
14.74	12,844	24.928	2,369	C612_0250	MR300/210	213/215TC
17.49	15,476	25.313	3,274	C712_0250	MR250/180	182/184TC
					MR250/210	213/215TC
19.95	18,173	26.058	4,508	C812_0260	MR250/180	182/184TC
					MR250/210	213/215TC
24.02	21,259	25.313	3,274	C712_0250	MR300/250	254/256TC
35.44	32,285	26.058	4,508	C812_0260	MR300/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC
41.49	36,763	25.342	5,508	C912_0250	MR300/180	182/184TC
					MR300/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC

1) Overhung Load is measured at the center of the shaft extension.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75



# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>60 RPM Output (Approximate)</b>						
0.54	531	27.986	292	<b>C002_0280</b>	<b>MR160/050</b>	56C
1.07	1,063	28.364	526	<b>C102_0280</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
1.79	1,772	28.243	648	<b>C202_0280</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
3.17	3,100	27.986	869	<b>C302_0280</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
					<b>MR200/180</b>	182/184TC
4.50	4,388	27.857	1,490	<b>C402_0280</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
5.00	4,872	27.857	1,490	<b>C402_0280</b>	<b>MR200/180</b>	182/184TC
5.11	5,018	28.099	1,695	<b>C502_0280</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
7.21	7,086	28.099	1,695	<b>C502_0280</b>	<b>MR200/180</b>	182/184TC
9.98	9,574	27.429	2,446	<b>C612_0270</b>	<b>MR200/180</b>	182/184TC
11.33	11,344	28.636	3,411	<b>C712_0290</b>	<b>MR200/180</b>	182/184TC
12.01	11,515	27.429	2,446	<b>C612_0270</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
17.69	17,716	28.636	3,411	<b>C712_0290</b>	<b>MR250/210</b>	213/215TC
					<b>MR300/250</b>	254/256TC
24.72	23,744	27.467	4,587	<b>C812_0270</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
33.21	31,889	27.467	4,587	<b>C812_0270</b>	<b>MR300/250</b>	254/256TC
					<b>MR300/280</b>	284/286TC
50.44	50,495	28.631	5,737	<b>C912_0290</b>	<b>MR300/180</b>	182/184TC
					<b>MR300/210</b>	213/215TC
					<b>MR300/250</b>	254/256TC
					<b>MR300/280</b>	284/286TC
53.09	53,148	28.631	5,737	<b>C912_0290</b>	<b>MR350/320</b>	324/326TC

**C Series: INLINE — Solid Shaft Output**

# C Series: INLINE — Solid Shaft Output

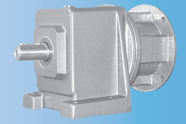
1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>55 RPM Output (Approximate)</b>						
0.49	531	31.256	303	<b>C002_0310</b>	<b>MR160/050</b>	56C
0.98	1,063	31.071	542	<b>C102_0310</b>	<b>MR160/050</b>	56C
1.65	1,772	30.692	666	<b>C202_0310</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
2.86	3,100	31.040	900	<b>C302_0310</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
3.74	4,071	31.154	1,547	<b>C402_0310</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
4.22	4,602	31.231	1,756	<b>C502_0310</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
4.47	4,872	31.154	1,547	<b>C402_0310</b>	<b>MR200/180</b>	182/184TC
6.42	7,270	32.406	2,585	<b>C612_0320</b>	<b>MR200/180</b>	182/184TC
6.49	7,086	31.231	1,756	<b>C502_0310</b>	<b>MR200/180</b>	182/184TC
11.26	12,755	32.406	2,585	<b>C612_0320</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
11.34	12,844	32.406	2,585	<b>C612_0320</b>	<b>MR300/180</b>	182/184TC
					<b>MR300/210</b>	213/215TC
34.03	38,232	32.134	5,962	<b>C912_0320</b>	<b>MR300/180</b>	182/184TC
					<b>MR300/210</b>	213/215TC
					<b>MR300/250</b>	254/256TC
					<b>MR300/280</b>	284/286TC

1) Overhung Load is measured at the center of the shaft extension.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
<b>C-Frame</b>	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
<b>HP</b>	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75





# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>50 RPM Output (Approximate)</b>						
0.43	531	35.028	315	<b>C002_0350</b>	<b>MR160/050</b>	56C
0.87	1,063	35.065	564	<b>C102_0350</b>	<b>MR160/050</b>	56C
1.44	1,772	35.179	697	<b>C202_0350</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
2.53	3,100	35.028	937	<b>C302_0350</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
3.74	4,551	34.821	1,605	<b>C402_0350</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
4.00	4,872	34.821	1,605	<b>C402_0350</b>	<b>MR200/180</b>	182/184TC
					<b>MR160/050</b>	56C
4.22	5,158	35.000	1,824	<b>C502_0350</b>	<b>MR160/140</b>	143/145TC
					<b>MR200/180</b>	182/184TC
5.79	7,086	35.000	1,824	<b>C502_0350</b>	<b>MR250/210</b>	213/215TC
					<b>MR200/180</b>	182/184TC
7.37	8,714	33.797	3,605	<b>C712_0340</b>	<b>MR200/180</b>	182/184TC
8.00	9,751	34.872	2,649	<b>C612_0350</b>	<b>MR200/180</b>	182/184TC
9.45	11,515	34.872	2,649	<b>C612_0350</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
9.98	12,239	35.065	3,649	<b>C712_0350</b>	<b>MR200/180</b>	182/184TC
					<b>MR250/180</b>	182/184TC
13.00	15,356	33.797	3,605	<b>C712_0340</b>	<b>MR250/210</b>	213/215TC
					<b>MR250/180</b>	182/184TC
14.45	17,716	35.065	3,649	<b>C712_0350</b>	<b>MR250/210</b>	213/215TC
					<b>MR300/250</b>	254/256TC
15.85	18,615	33.585	4,905	<b>C812_0340</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
17.99	21,259	33.797	3,605	<b>C712_0340</b>	<b>MR300/210</b>	213/215TC
					<b>MR300/250</b>	254/256TC
19.95	24,641	35.333	4,989	<b>C812_0350</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
25.81	31,889	35.333	4,989	<b>C812_0350</b>	<b>MR300/250</b>	254/256TC
					<b>MR300/210</b>	213/215TC
28.20	33,114	33.585	4,905	<b>C812_0340</b>	<b>MR300/250</b>	254/256TC
					<b>MR300/280</b>	284/286TC
					<b>MR300/180</b>	182/184TC
41.49	52,231	36.005	6,192	<b>C912_0360</b>	<b>MR300/210</b>	213/215TC
					<b>MR300/250</b>	254/256TC
					<b>MR300/280</b>	284/286TC

**C Series: INLINE — Solid Shaft Output**

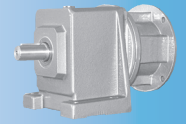
# C Series: INLINE — Solid Shaft Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>45 RPM Output (Approximate)</b>						
0.73	1,063	41.567	597	<b>C102_0420</b>	<b>MR160/050</b>	56C
1.24	1,772	40.850	733	<b>C202_0410</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
2.14	3,100	41.354	990	<b>C302_0410</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
2.84	4,141	41.751	1,705	<b>C402_0420</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
3.34	4,872	41.751	1,705	<b>C402_0420</b>	<b>MR200/180</b>	182/184TC
3.36	4,894	41.688	1,933	<b>C502_0420</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
4.86	7,086	41.688	1,933	<b>C502_0420</b>	<b>MR200/180</b>	182/184TC
5.47	7,530	39.396	2,759	<b>C612_0390</b>	<b>MR200/180</b>	182/184TC
6.42	9,201	41.016	3,845	<b>C712_0410</b>	<b>MR200/180</b>	182/184TC
7.85	10,812	39.396	2,759	<b>C612_0390</b>	<b>MR250/180</b>	182/184TC
11.26	16,144	41.016	3,845	<b>C712_0410</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
12.94	18,554	41.016	3,845	<b>C712_0410</b>	<b>MR300/210</b>	213/215TC
14.04	19,603	39.938	5,197	<b>C812_0400</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
23.56	32,904	39.938	5,197	<b>C812_0400</b>	<b>MR300/210</b>	213/215TC
					<b>MR300/250</b>	254/256TC
28.20	38,747	39.298	6,375	<b>C912_0390</b>	<b>MR300/180</b>	182/184TC
					<b>MR300/210</b>	213/215TC
					<b>MR300/250</b>	254/256TC
					<b>MR300/280</b>	284/286TC

1) Overhung Load is measured at the center of the shaft extension.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
<b>C-Frame</b>	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
<b>HP</b>	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75



# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>40 RPM Output (Approximate)</b>						
0.33	531	46.815	347	C002_0470	MR140/050	56C
0.65	1,063	46.909	621	C102_0470	MR160/050	56C
1.08	1,772	46.822	767	C202_0470	MR160/050	56C
					MR160/140	143/145TC
1.90	3,100	46.667	1,031	C302_0470	MR160/050	56C
					MR160/140	143/145TC
2.84	4,629	46.667	1,770	C402_0470	MR160/050	56C
					MR160/140	143/145TC
3.36	5,485	46.719	2,008	C502_0470	MR160/050	56C
					MR160/140	143/145TC
4.34	7,086	46.719	2,008	C502_0470	MR200/180	182/184TC
6.42	10,169	45.333	2,891	C612_0450	MR200/180	182/184TC
7.27	11,515	45.333	2,891	C612_0450	MR250/180	182/184TC
7.37	12,071	46.818	4,019	C712_0470	MR200/180	182/184TC
10.82	17,716	46.818	4,019	C712_0470	MR250/180	182/184TC
					MR250/210	213/215TC
15.85	25,241	45.538	5,429	C812_0460	MR250/180	182/184TC
					MR250/210	213/215TC
20.03	31,889	45.538	5,429	C812_0460	MR300/210	213/215TC
					MR300/250	254/256TC
33.29	53,148	45.655	6,702	C912_0460	MR300/180	182/184TC
					MR300/210	213/215TC
					MR300/250	254/256TC
					MR300/280	284/286TC

**C Series: INLINE — Solid Shaft Output**

<b>35 RPM Output (Approximate)</b>						
0.30	531	49.944	355	C002_0500	MR140/050	56C
0.61	1,063	49.944	635	C102_0500	MR140/050	56C
1.03	1,772	49.227	780	C202_0490	MR160/050	56C
1.78	3,100	49.745	1,053	C302_0500	MR160/050	56C
					MR160/140	143/145TC
2.43	4,270	50.192	1,813	C402_0500	MR160/050	56C
					MR160/140	143/145TC
2.84	4,942	49.821	2,051	C502_0500	MR160/050	56C
					MR160/140	143/145TC
4.07	7,086	49.821	2,051	C502_0500	MR200/180	182/184TC
6.54	11,105	49.277	2,973	C613_0490	MR200/180	182/184TC
12.13	21,259	50.845	4,131	C713_0510	MR250/180	182/184TC
					MR250/210	213/215TC
15.22	25,789	49.176	5,570	C813_0490	MR250/180	182/184TC
					MR250/210	213/215TC

# C Series: INLINE — Solid Shaft Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>30 RPM Output (Approximate)</b>						
0.27	531	55.972	368	<b>C002_0560</b>	<b>MR140/050</b>	56C
0.54	1,063	56.364	661	<b>C102_0560</b>	<b>MR140/050</b>	56C
0.90	1,772	56.424	816	<b>C202_0560</b>	<b>MR160/050</b>	56C
1.58	3,100	56.136	1,096	<b>C302_0560</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
2.43	4,773	56.101	1,882	<b>C402_0560</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
2.84	5,538	55.833	2,131	<b>C502_0560</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
3.63	7,086	55.833	2,131	<b>C502_0560</b>	<b>MR200/180</b>	182/184TC
5.47	10,534	55.111	3,086	<b>C612_0550</b>	<b>MR200/180</b>	182/184TC
5.98	11,515	55.111	3,086	<b>C612_0550</b>	<b>MR250/180</b>	182/184TC
6.42	12,746	56.818	4,286	<b>C712_0570</b>	<b>MR200/180</b>	182/184TC
					<b>MR250/180</b>	182/184TC
8.92	17,716	56.818	4,286	<b>C712_0570</b>	<b>MR250/210</b>	213/215TC
					<b>MR250/180</b>	182/184TC
14.04	26,581	54.154	5,752	<b>C812_0540</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
16.84	31,889	54.154	5,752	<b>C812_0540</b>	<b>MR300/210</b>	213/215TC
					<b>MR300/250</b>	254/256TC
27.23	53,148	55.833	7,167	<b>C912_0560</b>	<b>MR300/180</b>	182/184TC
					<b>MR300/210</b>	213/215TC
					<b>MR300/250</b>	254/256TC
					<b>MR300/280</b>	284/286TC

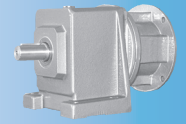
## 28 RPM Output (Approximate)

0.48	1,054	62.431	684	<b>C102_0620</b>	<b>MR140/050</b>	56C
0.77	1,658	61.354	840	<b>C202_0610</b>	<b>MR140/050</b>	56C
1.35	2,932	61.920	1,133	<b>C302_0620</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
1.98	4,335	62.515	1,951	<b>C402_0630</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
2.32	5,054	62.431	2,212	<b>C502_0620</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
5.87	12,844	63.462	3,234	<b>C613_0630</b>	<b>MR200/180</b>	182/184TC
9.56	21,259	64.547	4,473	<b>C713_0650</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
15.22	34,593	65.963	6,143	<b>C813_0660</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC

1) Overhung Load is measured at the center of the shaft extension.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75



# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>25 RPM Output (Approximate)</b>						
0.43	1,063	70.455	712	C102_0700	MR140/050	56C
0.72	1,772	70.324	879	C202_0700	MR140/050	56C
1.27	3,100	69.875	1,179	C302_0700	MR160/050	56C
					MR160/140	143/145TC
1.98	4,845	69.875	2,025	C402_0700	MR160/050	56C
					MR160/140	143/145TC
2.32	5,664	69.965	2,297	C502_0700	MR160/050	56C
					MR160/140	143/145TC
4.44	10,686	68.889	3,324	C612_0690	MR200/180	182/184TC
4.78	11,515	68.889	3,324	C612_0690	MR250/180	182/184TC
5.47	13,293	69.545	4,585	C712_0700	MR200/180	182/184TC
7.29	17,716	69.545	4,585	C712_0700	MR250/180	182/184TC
11.26	27,115	68.889	6,233	C812_0690	MR250/180	182/184TC
					MR250/210	213/215TC
13.24	31,889	68.889	6,233	C812_0690	MR300/210	213/215TC
20.18	49,367	69.965	7,727	C912_0700	MR300/180	182/184TC
					MR300/210	213/215TC
					MR300/250	254/256TC
<b>22 RPM Output (Approximate)</b>						
0.38	1,063	81.638	748	C103_0820	MR140/050	56C
0.65	1,772	79.589	916	C203_0800	MR160/050	56C
1.12	3,100	80.427	1,236	C303_0800	MR160/050	56C
					MR160/140	143/145TC
1.75	4,872	80.810	2,125	C403_0810	MR160/050	56C
					MR160/140	143/145TC
2.55	7,086	80.596	2,408	C503_0810	MR160/050	56C
					MR160/140	143/145TC
3.10	8,085	75.814	3,432	C613_0760	MR160/050	56C
					MR160/140	143/145TC
4.85	12,844	76.795	3,447	C613_0770	MR200/180	182/184TC
6.54	17,879	79.339	6,533	C813_0790	MR200/180	182/184TC
6.54	18,245	80.965	4,824	C713_0810	MR200/180	182/184TC
7.74	21,259	79.734	4,799	C713_0800	MR250/180	182/184TC
13.67	36,804	78.133	6,500	C813_0780	MR250/180	182/184TC
					MR250/210	213/215TC
15.22	40,763	77.728	8,003	C913_0780	MR250/180	182/184TC
					MR250/210	213/215TC

C Series: INLINE — Solid Shaft Output

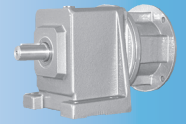
# C Series: INLINE — Solid Shaft Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>20 RPM Output (Approximate)</b>						
0.34	1,063	92.131	765	<b>C103_0920</b>	<b>MR140/050</b>	56C
0.56	1,772	91.225	945	<b>C203_0910</b>	<b>MR160/050</b>	56C
0.99	3,100	90.759	1,271	<b>C303_0910</b>	<b>MR160/050</b>	56C
1.57	4,872	90.323	2,183	<b>C403_0900</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
2.28	7,086	90.323	2,475	<b>C503_0900</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
3.76	11,515	88.778	3,600	<b>C613_0890</b>	<b>MR200/180</b>	182/184TC
5.75	17,716	89.416	4,950	<b>C713_0890</b>	<b>MR250/180</b>	182/184TC
6.54	20,466	90.821	6,750	<b>C813_0910</b>	<b>MR200/180</b>	182/184TC
10.35	31,889	89.441	6,750	<b>C813_0890</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
<b>18 RPM Output (Approximate)</b>						
3.82	12,844	97.634	3,600	<b>C613_0980</b>	<b>MR200/180</b>	182/184TC
5.80	19,811	99.141	4,950	<b>C713_0990</b>	<b>MR200/180</b>	182/184TC
6.32	21,259	97.634	4,950	<b>C713_0980</b>	<b>MR250/180</b>	182/184TC
10.74	37,204	100.511	6,750	<b>C813_1010</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
<b>16 RPM Output (Approximate)</b>						
0.28	1,063	111.091	765	<b>C103_1110</b>	<b>MR140/050</b>	56C
0.47	1,772	109.206	945	<b>C203_1090</b>	<b>MR160/050</b>	56C
0.83	3,100	108.213	1,271	<b>C303_1080</b>	<b>MR160/050</b>	56C
1.31	4,872	107.714	2,183	<b>C403_1080</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
1.89	7,086	108.649	2,475	<b>C503_1090</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
3.10	11,310	106.057	3,600	<b>C613_1060</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
4.66	17,716	110.455	4,950	<b>C713_1100</b>	<b>MR250/180</b>	182/184TC
6.54	24,243	107.578	6,750	<b>C813_1080</b>	<b>MR200/180</b>	182/184TC
8.74	31,889	105.943	6,750	<b>C813_1060</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
13.97	53,148	110.434	8,325	<b>C913_1100</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC

1) Overhung Load is measured at the center of the shaft extension.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
C-Frame	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75



# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>13 RPM Output (Approximate)</b>						
0.38	1,772	136.027	945	<b>C203_1360</b>	<b>MR160/050</b>	56C
0.66	3,100	135.441	1,271	<b>C303_1350</b>	<b>MR160/050</b>	56C
1.05	4,872	134.643	2,183	<b>C403_1350</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
1.52	7,086	135.333	2,475	<b>C503_1350</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
2.48	11,515	134.838	3,600	<b>C613_1350</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
3.74	17,716	137.338	4,950	<b>C713_1370</b>	<b>MR200/180</b>	182/184TC
3.80	17,716	135.25	4,950	<b>C713_1350</b>	<b>MR250/180</b>	182/184TC
4.59	20,942	132.371	4,950	<b>C713_1320</b>	<b>MR200/180</b>	182/184TC
4.73	21,259	130.359	4,950	<b>C713_1300</b>	<b>MR250/180</b>	182/184TC
6.54	31,186	138.389	6,750	<b>C813_1380</b>	<b>MR200/180</b>	182/184TC
6.79	31,889	136.286	6,750	<b>C813_1360</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
8.33	37,204	129.541	6,750	<b>C813_1300</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
<b>10 RPM Output (Approximate)</b>						
1.91	11,515	175.289	3,600	<b>C613_1750</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
5.19	31,889	178.359	6,750	<b>C813_1780</b>	<b>MR200/180</b>	182/184TC
8.76	53,148	176.097	8,325	<b>C913_1760</b>	<b>MR250/180</b>	182/184TC
					<b>MR250/210</b>	213/215TC
<b>9.5 RPM Output (Approximate)</b>						
0.28	1,772	181.046	945	<b>C203_1810</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
0.50	3,100	180.444	1,271	<b>C303_1800</b>	<b>MR160/050</b>	56C
0.78	4,872	180.444	2,183	<b>C403_1800</b>	<b>MR160/050</b>	56C
1.14	7,086	180.646	2,475	<b>C503_1810</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC

**C Series: INLINE — Solid Shaft Output**

# C Series: INLINE — Solid Shaft Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs.)	Part Number Codes (in blue)		
Input HP	Output Torque (in. lbs.)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>8 RPM Output (Approximate)</b>						
0.23	1,772	220.995	945	<b>C203_2210</b>	<b>MR140/050</b>	56C
0.41	3,100	217.061	1,271	<b>C303_2170</b>	<b>MR160/050</b>	56C
0.65	4,872	216.925	2,183	<b>C403_2170</b>	<b>MR160/050</b>	56C
0.95	7,086	215.889	2,475	<b>C503_2160</b>	<b>MR160/050</b>	56C
1.57	11,515	213.096	3,600	<b>C613_2130</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
4.36	31,889	212.103	6,750	<b>C813_2120</b>	<b>MR200/180</b>	182/184TC
7.16	53,148	215.357	8,325	<b>C913_2150</b>	<b>MR250/180</b>	182/184TC
<b>6 RPM Output (Approximate)</b>						
0.19	1,772	275.436	945	<b>C203_2750</b>	<b>MR140/050</b>	56C
0.33	3,100	273.677	1,271	<b>C303_2740</b>	<b>MR140/050</b>	56C
0.52	4,872	270.183	2,183	<b>C403_2700</b>	<b>MR160/050</b>	56C
0.76	7,086	270.532	2,475	<b>C503_2710</b>	<b>MR160/050</b>	56C
1.26	11,515	266.37	3,600	<b>C613_2660</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
3.43	31,889	269.815	6,750	<b>C813_2700</b>	<b>MR200/180</b>	182/184TC
3.48	31,889	265.714	6,750	<b>C813_2660</b>	<b>MR250/180</b>	182/184TC

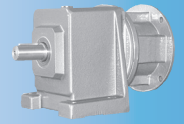
**NOTE: For slower speeds than those shown, units can be combined. Contact STÖBER Drives Inc.**

1) Overhung Load is measured at the center of the shaft extension.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210	250	280	320	360
<b>C-Frame</b>	56C	143/145TC	182/184TC	213/215TC	254/256TC	284/286TC	324/326TC	364/365TC
<b>HP</b>	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10	15, 20	25, 30	40, 50	60, 75



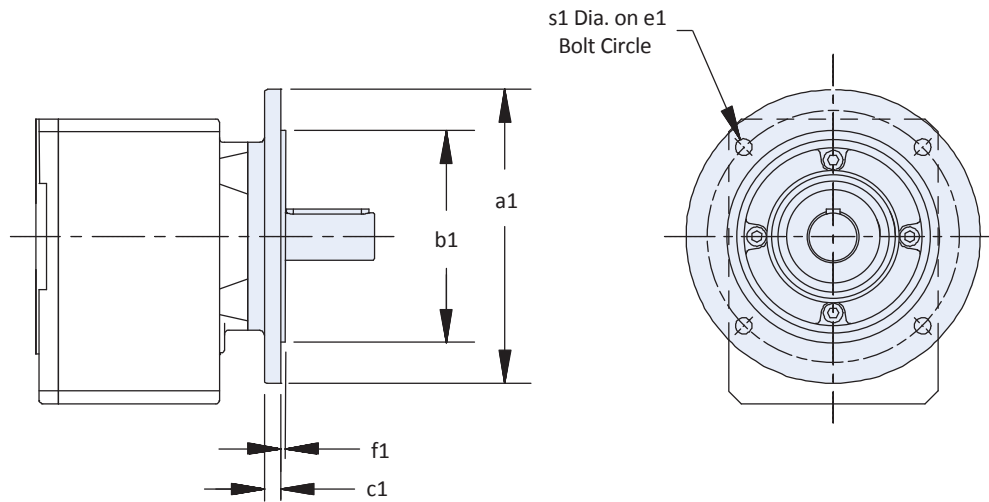


# Dimensional Data

## Optional Output Flanges

For “F” Round Output Flange Units Only

(Note: optional flanges are not available on all sizes)



**Table 1** Flange Dimensions (Inches) – Standard and Optional

Base Module	Flange Size	a1	b1	c1	e1	f1	s1
C0	120	4.724	3.150				0.28
	140	5.512	3.740	+0.001/-0.0004	0.39	0.12	0.35
	160*	6.300	4.331				0.35
C1	140	5.512	3.740		0.32		0.35
	160	6.300	4.331	+0.001/-0.0004	0.39	0.14	0.35
	200*	7.874	5.118		0.47		0.43
C2	160	6.300	4.331		0.39	0.14	0.35
	200*	7.874	5.118	+0.001/-0.0004	0.47	0.14	0.43
	250	9.843	7.087		0.47	0.16	0.55
C3	160	6.300	4.331		0.39	0.14	0.35
	200	7.874	5.118	+0.001/-0.0004	0.47	0.14	0.43
	250*	9.843	7.087		0.47	0.16	0.55
C4	200	7.874	5.118	+0.001/-0.0004			0.43
	250*	9.843	7.087	+0.001/-0.0004	0.55	0.16	0.55
	300	11.811	9.055	+0.001/-0.001			0.55
C5	250	9.843	7.087	+0.001/-0.0004	0.55	0.16	0.55
	300*	11.811	9.055	+0.001/-0.001	0.63		0.55
C6	300*	11.811	9.055	+0.001/-0.001	0.67	0.16	0.55
C7	350*	13.780	9.842	+0.000/-0.001	0.71	0.20	0.71
C8	350	13.780	9.842		0.71		0.71
	400*	15.748	11.811	+0.000/-0.001	0.79	0.20	0.71
	450	17.717	13.780		0.79		0.71
C9	450*	17.717	13.780	+0.000/-0.001	0.91	0.20	0.71

\* This is the standard flange and will be shipped unless otherwise specified. Optional flanges are not available for all sizes.

Please contact STÖBER for ordering assistance.

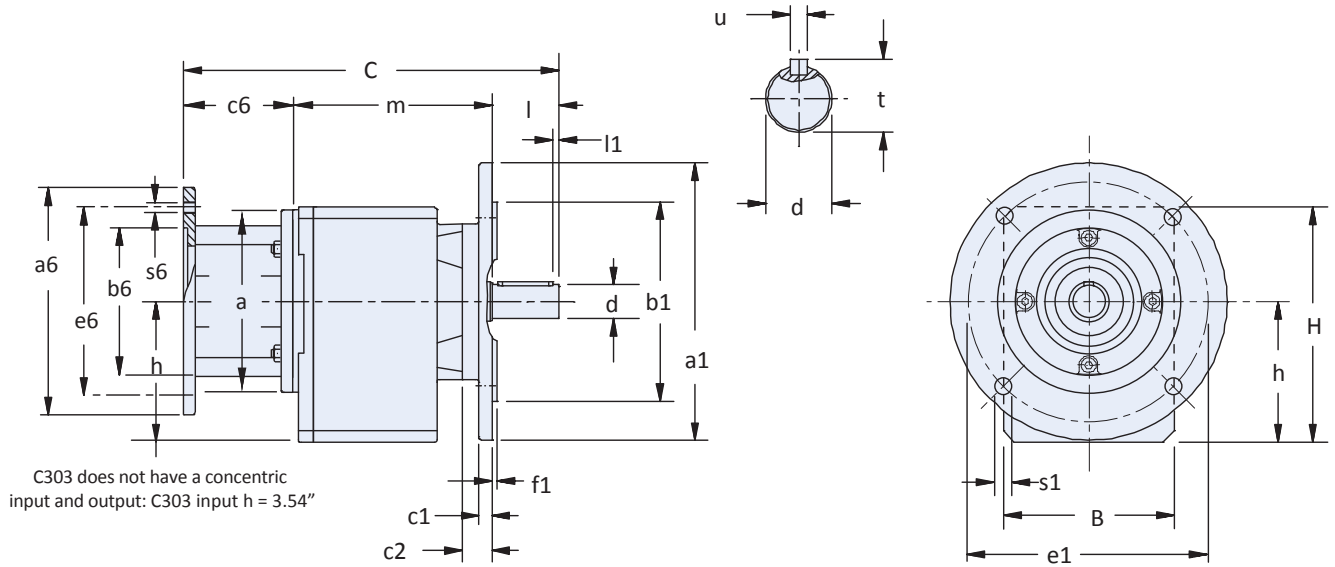
C Series: INLINE — Solid Shaft Output

# C Series: INLINE — Solid Shaft Output

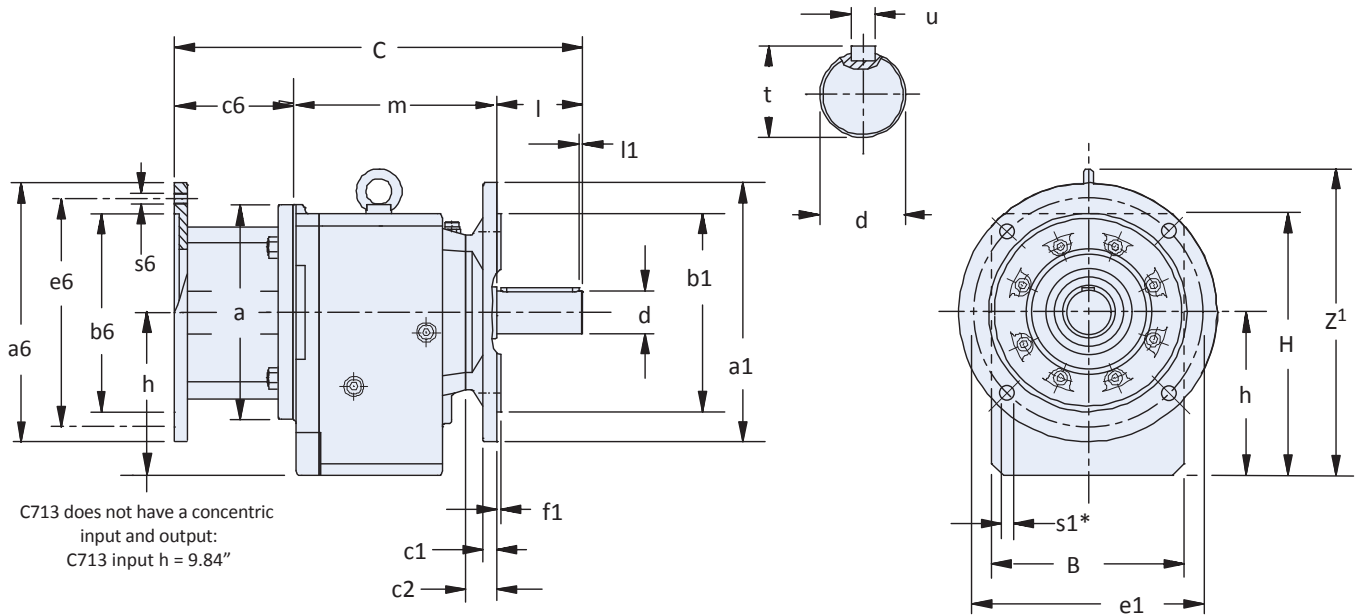
## "F" Round Output Flange —

C002F thru C503F

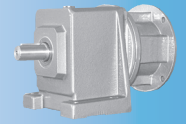
Optional Output Flanges available on most models, see page 121 for details.



C612F thru C913F



\* NOTE: Instead of 4 holes as shown in the drawing, the C912 and C913 output flange has 8  $\varnothing$  "s1" mounting holes on "e1" bolt circle (located 22.5° from horizontal).



# Dimensional Data

**Table 1 C Series Unit Dimensions (Inches) – “F” Round Flange Housing**

Base Module	a1*	B	b1	c1	c2	e1	f1	H	h	l	l1	s1	z <sup>1</sup>
C0	6.30	3.82	4.331	0.39	0.71	5.12	0.12	5.55	3.11	1.57	0.16	0.35	—
C1	7.87	5.12	5.118	0.47	0.83	6.50	0.14	6.89	3.94	1.97	0.16	0.43	—
C2	7.87	5.59	5.118	0.47	1.06	6.50	0.14	7.56	4.41	2.36	0.16	0.43	—
C3	9.84	6.06	7.087	0.47	1.06	8.46	0.16	8.35	5.00 <sup>1)</sup>	2.36	0.16	0.55	—
C4	9.84	7.01	7.087	0.55	1.10	8.46	0.16	9.55	5.61	3.15	0.16	0.55	—
C5	11.81	7.68	9.055	0.63	1.14	10.43	0.16	11.26	6.54	3.15	0.16	0.55	—
C6	11.81	8.86	9.055	0.67	1.42	10.43	0.16	11.97	7.44	3.94	0.20	0.55	14.01
C7	13.78	10.43	9.842	0.71	1.73	11.81	0.20	14.61	9.09 <sup>1)</sup>	4.72	0.20	0.71	17.00
C8	15.75	12.20	11.811	0.79	1.77	13.78	0.20	17.52	11.22	5.51	0.39	0.71	19.92
C9	17.72	14.37	13.780	0.91	1.97	15.75 <sup>2)</sup>	0.20	20.63	13.15	6.69	0.39	0.71 <sup>2)</sup>	23.39

\* See page 121 for other available output flanges.

1) C303 and C713 do not have a concentric input and output. Refer to the h input height dimension on the drawing for these units.

2) C912 and C913 have 8 mounting holes in the output flange instead of 4 as shown in the drawing.

**Table 2 C Series — Shaft Output (Carbon Steel)**

(see page 90 for standard SS, and other optional outputs)

Base Module	Standard Shaft - inches			Optional Shaft - mm		
	d	t	u	d	t	u
C0	3/4	0.83	3/16x3/16x1-7/32	20k6	22.5	A6x6x32
C1	1	1.11	1/4x1/4x1-9/16	25k6	28	A8x7x40
C2	1-1/4	1.36	1/4x1/4x1-15/16	30k6	33	A8x7x50
C3	1-1/4	1.36	1/4x1/4x1-15/16	30k6	33	A8x7x50
C4	1-5/8	1.79	3/8x3/8x2-7/8	40k6	43	A12x8x70
C5	1-5/8	1.79	3/8x3/8x2-7/8	40k6	43	A12x8x70
C6	2-1/8	2.35	1/2x1/2x3-5/32	50k6	53.5	A14x9x90
C7	2-3/8	2.65	5/8x5/8x3-15/16	60m6	64	A18x11x100
C8	2-7/8	3.21	3/4x3/4x4-5/16	70m6	74.5	A20x12x125
C9	3-5/8	4.01	7/8x7/8x5-1/2	90m6	95	A25x14x140

**Table 3 Motor Adapter Dimensions (Inches)**

Motor Adapter	NEMA C-Flange	a	a6	b6	c6	e6	s6	Wt. lbs
MR140/050	56C	5.51	6.50	4.500	3.31	5.87	0.41	9
MR160/050	56C	6.30	6.50	4.500	3.86	5.87	0.41	16
MR160/140	143/145TC	7.87	9.00	8.500	4.80	7.25	0.55	23
MR200/180	182/184TC	9.84	9.00	8.500	5.31	7.25	0.55	36
MR250/180	182/184TC	11.81	9.00	8.500	6.50	7.25	0.57	75
MR250/210	213/215TC		9.00	8.500		7.25		
MR300/180	182/184TC	13.78	9.00	8.500	10.500	7.25	0.70	133
MR300/210	213/215TC		9.00	8.500		7.25		
MR300/250	254/256TC		9.00	8.500		7.25		
MR300/280	284/286TC	11.13	10.500	9.00				
MR350/320	324/326TC	13.78	13.37	12.500	7.09	11.00	0.70	133
MR350/360	364/365TC							

**Table 4 C Series Unit Dimensions (Inches) – “MR” Motor Adapter**

Base Module	MR140/050			MR160/050 MR160/140			MR200/180			MR250/180 MR250/210			MR300/180 MR300/210 MR300/250 MR300/280			MR350/320 MR350/360			Wt. lbs*
	C	l	m	C	l	m	C	l	m	C	l	m	C	l	m	C	l	m	
C002	9.37	1.57	4.49	10.08	1.57	4.65	—	—	—	—	—	—	—	—	—	—	—	—	18
C102	10.67	1.97	5.39	11.38	1.97	5.55	12.40	1.97	5.63	—	—	—	—	—	—	—	—	—	29
C103	12.13	1.97	6.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34
C202	11.77	2.36	6.10	12.48	2.36	6.26	13.50	2.36	6.34	—	—	—	—	—	—	—	—	—	38
C203	13.23	2.36	7.56	14.17	2.36	7.95	—	—	—	—	—	—	—	—	—	—	—	—	45
C302	—	—	—	13.23	2.36	7.01	14.25	2.36	7.09	14.88	2.36	7.21	—	—	—	—	—	—	49
C303	13.98	2.36	8.31	14.92	2.36	8.70	—	—	—	—	—	—	—	—	—	—	—	—	56
C402	—	—	—	15.12	3.15	8.11	16.14	3.15	8.19	16.77	3.15	8.31	—	—	—	—	—	—	71
C403	—	—	—	16.81	3.15	9.80	—	—	—	—	—	—	—	—	—	—	—	—	78
C502	—	—	—	15.95	3.15	8.94	16.97	3.15	9.02	17.59	3.15	9.13	19.33	3.15	9.68	—	—	—	95
C503	—	—	—	17.64	3.15	10.63	—	—	—	—	—	—	—	—	—	—	—	—	111
C612	—	—	—	—	—	—	17.91	3.94	9.17	18.54	3.94	9.29	20.24	3.94	9.80	—	—	—	115
C613	—	—	—	18.62	3.94	10.82	20.35	3.94	11.61	—	—	—	—	—	—	—	—	—	159
C712	—	—	—	—	—	—	20.00	4.72	10.48	20.59	4.72	10.56	22.29	4.72	11.07	—	—	—	199
C713	—	—	—	—	—	—	22.40	4.72	12.88	23.38	4.72	13.35	—	—	—	—	—	—	221
C812	—	—	—	—	—	—	—	—	—	23.22	5.51	12.40	24.53	5.51	12.52	26.42	5.51	13.82	322
C813	—	—	—	—	—	—	25.04	5.51	14.73	26.02	5.51	15.20	—	—	—	—	—	—	342
C912	—	—	—	—	—	—	—	—	—	—	—	—	27.56	6.69	14.37	29.06	6.69	15.28	596
C913	—	—	—	—	—	—	—	—	—	27.87	6.69	15.87	—	—	—	—	—	—	678

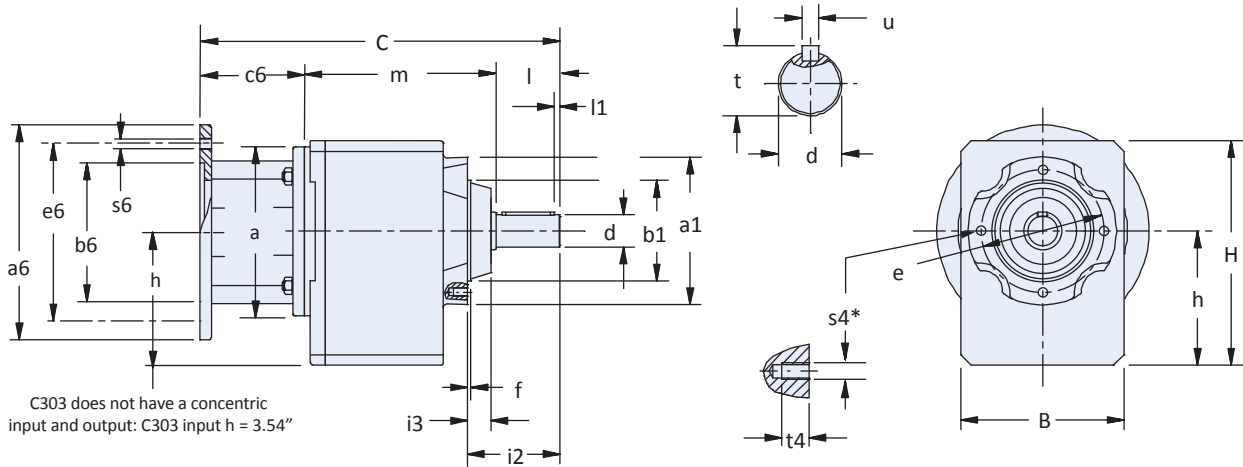
\* Weight is base unit only. MR weight must be added separately.

C Series: INLINE — Solid Shaft Output

# C Series: INLINE — Solid Shaft Output

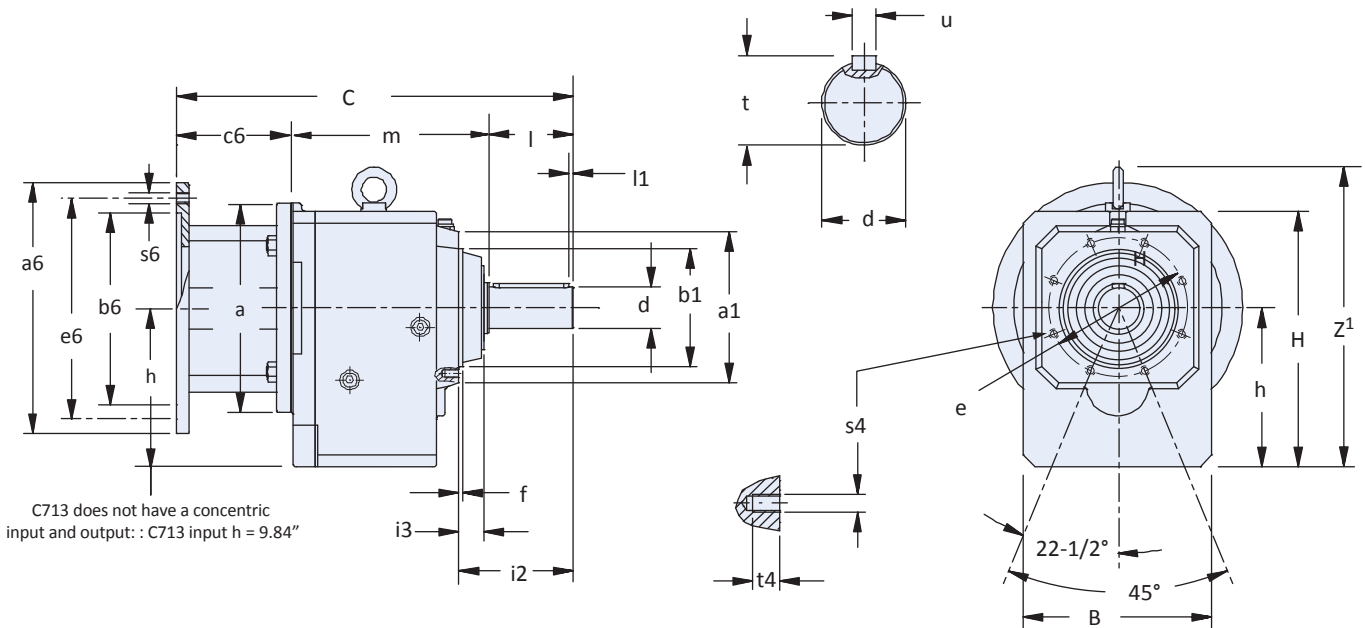
## “G” Pilot Circle Diameter (PCD) Tapped Holes —

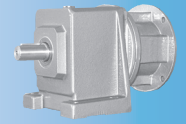
C002G thru C503G



\* NOTE: Instead of 4 holes as shown in the drawing, the C502/C503 has 8 holes located as shown in drawing below for C612G – C913G.

C612G thru C913G





# Dimensional Data

**Table 1 C Series Unit Dimensions (Inches) – “G” Pilot Circle Diameter (PCD) Tapped Holes**

Base Module	a1	B	b1	e	f	H	h	i2	i3	l	l1	t4	s4	Z1
C0	3.43	3.82	2.165	2.95	0.12	5.55	3.11	2.28	0.55	1.57	0.16	0.39	M6x1	—
C1	4.72	5.12	3.150	3.94	0.12	6.89	3.94	2.80	0.67	1.97	0.16	0.51	M6x1	—
C2	5.51	5.59	3.740	4.53	0.12	7.56	4.41	3.43	0.87	2.36	0.16	0.51	M8x1.25	—
C3	5.51	6.06	3.740	4.53	0.12	8.35	5.00 <sup>1)</sup>	3.43	0.87	2.36	0.16	0.51	M8x1.25	—
C4	6.30	7.01	4.331	5.12	0.14	9.55	5.61	4.25	0.87	3.15	0.16	0.63	M10x1.5	—
C5	7.56	7.68	5.118	6.50 <sup>2)</sup>	0.14	11.26	6.54	4.29	0.91	3.15	0.16	0.63	M10x1.5	—
C6	7.09	8.86	5.512	6.50	0.20	11.97	7.44	5.35	1.18	3.94	0.20	0.63	M10x1.5	14.01
C7	7.68	10.43	6.102	7.28	0.31	14.61	9.09 <sup>1)</sup>	6.46	1.46	4.72	0.20	0.75	M12x1.75	17.00
C8	8.90	12.20	7.283	8.46	0.20	17.52	11.22	7.28	1.46	5.51	0.39	0.75	M12x1.75	19.92
C9	11.02	14.37	9.055	10.43	0.20	20.63	13.15	8.66	1.65	6.69	0.39	1.02	M16x2	23.39

1) C303 and C713 do not have a concentric input and output. Refer to the h input height dimension on the drawing for these units.  
 2) C502 and C503 have 8 mounting holes in the output flange instead of 4 as shown in the drawing.

**Table 2 C Series — Shaft Output (Carbon Steel)**

(see page 90 for standard SS, and other optional outputs)

Base Module	Standard Shaft - inches			Optional Shaft - mm		
	d	t	u	d	t	u
C0	3/4	0.83	3/16x3/16x1-7/32	20k6	22.5	A6x6x32
C1	1	1.11	1/4x1/4x1-9/16	25k6	28	A8x7x40
C2	1-1/4	1.36	1/4x1/4x1-15/16	30k6	33	A8x7x50
C3	1-1/4	1.36	1/4x1/4x1-15/16	30k6	33	A8x7x50
C4	1-5/8	1.79	3/8x3/8x2-7/8	40k6	43	A12x8x70
C5	1-5/8	1.79	3/8x3/8x2-7/8	40k6	43	A12x8x70
C6	2-1/8	2.35	1/2x1/2x3-5/32	50k6	53.5	A14x9x90
C7	2-3/8	2.65	5/8x5/8x3-15/16	60m6	64	A18x11x100
C8	2-7/8	3.21	3/4x3/4x4-5/16	70m6	74.5	A20x12x125
C9	3-5/8	4.01	7/8x7/8x5-1/2	90m6	95	A25x14x140

**Table 3 Motor Adapter Dimensions (Inches)**

Motor Adapter	NEMA C-Flange	a	a6	b6	c6	e6	s6	Wt. lbs
MR140/050	56C	5.51	6.50	4.500	3.31	5.87	0.41	9
MR160/050	56C	6.30	6.50	4.500	3.86	5.87	0.41	16
MR160/140	143/145TC	7.87	9.00	8.500	4.80	7.25	0.55	23
MR200/180	182/184TC	9.84	9.00	8.500	5.31	7.25	0.55	36
MR250/210	213/215TC	11.81	9.00	8.500	6.50	7.25	0.57	75
MR300/180	182/184TC	11.81	9.00	8.500	6.50	7.25	0.57	75
MR300/210	213/215TC	11.81	9.00	8.500	6.50	7.25	0.57	75
MR300/250	254/256TC	11.13	10.500	9.00	7.25	9.00	0.70	133
MR300/280	284/286TC	13.78	13.37	12.500	7.09	11.00	0.70	133
MR350/320	324/326TC	13.78	13.37	12.500	7.09	11.00	0.70	133
MR350/360	364/365TC	13.78	13.37	12.500	7.09	11.00	0.70	133

**Table 4 C Series Unit Dimensions (Inches) – “MR” Motor Adapter**

Base Module	MR140/050			MR160/050 MR160/140			MR200/180			MR250/180 MR250/210			MR300/180 MR300/210 MR300/250 MR300/280			MR350/320 MR350/360			Wt. lbs*
	C	l	m	C	l	m	C	l	m	C	l	m	C	l	m	C	l	m	
C002	9.37	1.57	4.49	10.08	1.57	4.65	—	—	—	—	—	—	—	—	—	—	—	—	18
C102	10.67	1.97	5.39	11.38	1.97	5.55	12.40	1.97	5.63	—	—	—	—	—	—	—	—	—	29
C103	12.13	1.97	6.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34
C202	11.77	2.36	6.10	12.48	2.36	6.26	13.50	2.36	6.34	—	—	—	—	—	—	—	—	—	38
C203	13.23	2.36	7.56	14.17	2.36	7.95	—	—	—	—	—	—	—	—	—	—	—	—	45
C302	—	—	—	13.23	2.36	7.01	14.25	2.36	7.09	14.88	2.36	7.21	—	—	—	—	—	—	49
C303	13.98	2.36	8.31	14.92	2.36	8.70	—	—	—	—	—	—	—	—	—	—	—	—	56
C402	—	—	—	15.12	3.15	8.11	16.14	3.15	8.19	16.77	3.15	8.31	—	—	—	—	—	—	71
C403	—	—	—	16.81	3.15	9.80	—	—	—	—	—	—	—	—	—	—	—	—	78
C502	—	—	—	15.95	3.15	8.94	16.97	3.15	9.02	17.59	3.15	9.13	19.33	3.15	9.68	—	—	—	95
C503	—	—	—	17.64	3.15	10.63	—	—	—	—	—	—	—	—	—	—	—	—	111
C612	—	—	—	—	—	—	17.91	3.94	9.17	18.54	3.94	9.29	20.24	3.94	9.80	—	—	—	115
C613	—	—	—	18.62	3.94	10.82	20.35	3.94	11.61	—	—	—	—	—	—	—	—	—	159
C712	—	—	—	—	—	—	20.00	4.72	10.48	20.59	4.72	10.56	22.29	4.72	11.07	—	—	—	199
C713	—	—	—	—	—	—	22.40	4.72	12.88	23.38	4.72	13.35	—	—	—	—	—	—	221
C812	—	—	—	—	—	—	—	—	—	23.22	5.51	12.40	24.53	5.51	12.52	26.42	5.51	13.82	322
C813	—	—	—	—	—	—	25.04	5.51	14.73	26.02	5.51	15.20	—	—	—	—	—	—	342
C912	—	—	—	—	—	—	—	—	—	—	—	—	27.56	6.69	14.37	29.06	6.69	15.28	596
C913	—	—	—	—	—	—	—	—	—	27.87	6.69	15.87	—	—	—	—	—	—	678

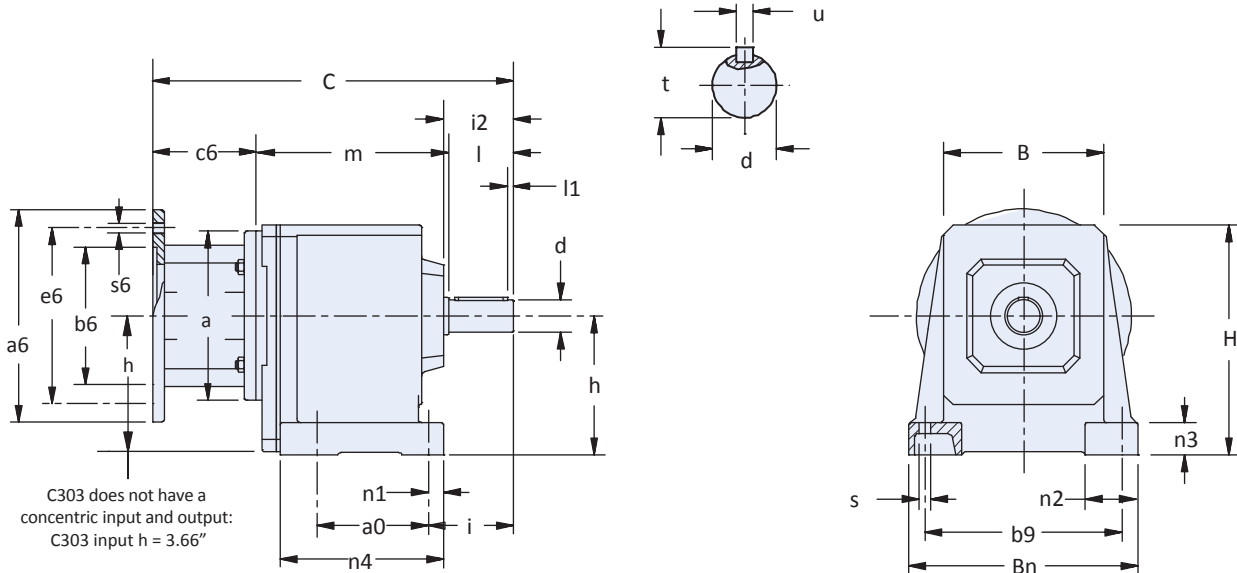
\* Weight is base unit only. MR weight must be added separately.

C Series: INLINE — Solid Shaft Output

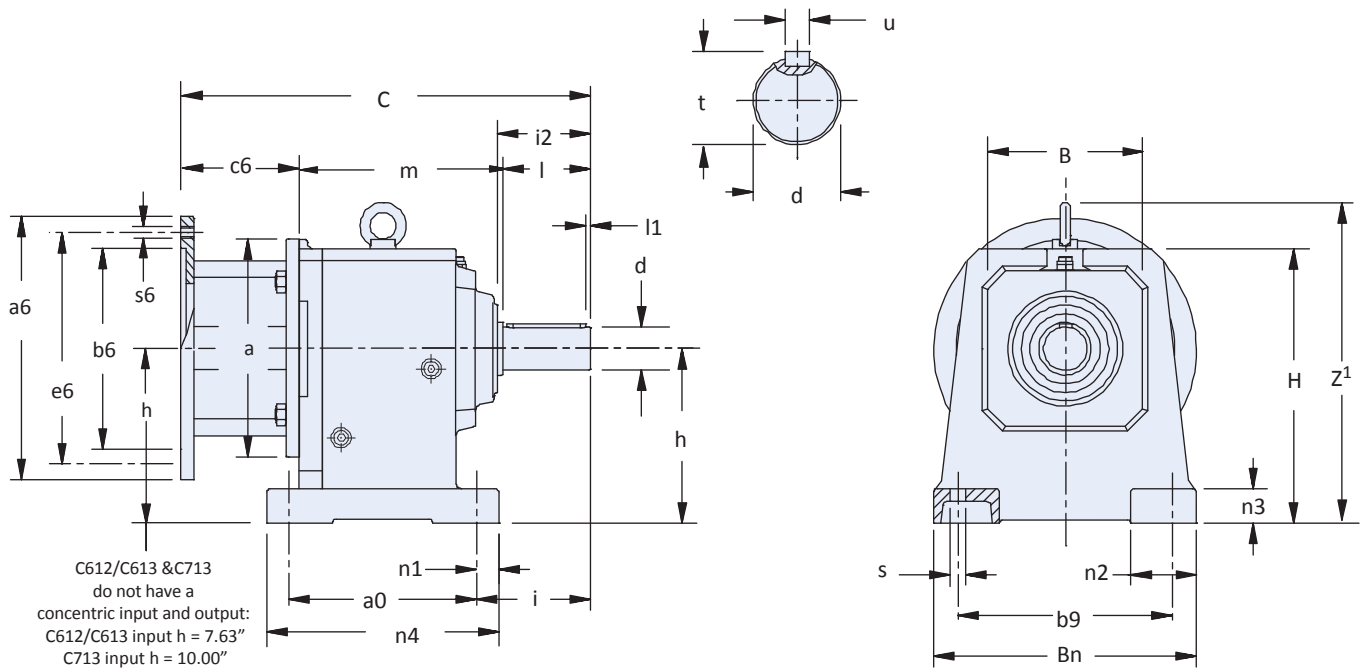
# C Series: INLINE — Solid Shaft Output

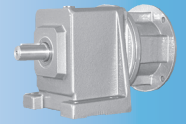
## “N” Foot Mount —

C002N thru C503N



C612N thru C913N





# Dimensional Data

**Table 1 C Series Unit Dimensions (Inches) – “N” Foot Mount Housing**

Base Module	a0	B	Bn	b9	H	h	i	i2	l	l1	n1	n2	n3	n4	s	Z1
C0	2.44	3.62	5.20	4.33	5.67	3.23	2.17	1.73	1.57	0.16	0.43	1.38	0.79	3.74	0.28	—
C1	2.76	4.88	6.93	5.91	6.97	4.02	2.64	2.13	1.97	0.16	0.51	1.65	0.98	4.65	0.35	—
C2	3.35	5.43	7.87	6.69	7.68	4.53	3.11	2.56	2.36	0.16	0.55	1.97	1.18	5.31	0.43	—
C3	4.13	5.91	8.46	7.28	8.46	5.12 <sup>1)</sup>	3.11	2.56	2.36	0.16	0.55	1.97	1.18	6.06	0.43	—
C4	4.33	6.89	10.04	8.66	9.65	5.71	4.13	3.39	3.15	0.16	0.75	2.36	1.38	7.09	0.55	—
C5	5.12	7.56	11.42	9.65	11.42	6.69	4.25	3.39	3.15	0.16	0.87	2.76	1.57	7.76	0.71	—
C6	8.46	6.97	11.81	9.65	12.40	7.87 <sup>1)</sup>	5.12	4.17	3.94	0.20	0.98	2.95	1.57	10.43	0.71	14.44
C7	9.25	7.56	14.37	11.81	14.76	9.25 <sup>1)</sup>	6.42	5.00	4.72	0.20	0.98	3.54	1.97	11.22	0.71	17.16
C8	11.81	8.78	17.13	13.39	17.72	11.42	7.48	5.83	5.51	0.39	1.14	3.74	2.17	14.17	0.87	20.12
C9	13.39	10.91	20.08	15.75	20.87	13.39	8.74	7.01	6.69	0.39	1.34	4.33	2.36	16.14	1.02	23.63

1) C303, C612/C613 and C713 do not have a concentric input and output. Refer to the h input height dimension on the drawing for these units.

**Table 2 C Series — Shaft Output (Carbon Steel)**

(see page 90 for standard SS, and other optional outputs)

Base Module	Standard Shaft - inches			Optional Shaft - mm		
	d	t	u	d	t	u
C0	3/4	0.83	3/16x3/16x1-7/32	20k6	22.5	A6x6x32
C1	1	1.11	1/4x1/4x1-9/16	25k6	28	A8x7x40
C2	1-1/4	1.36	1/4x1/4x1-15/16	30k6	33	A8x7x50
C3	1-1/4	1.36	1/4x1/4x1-15/16	30k6	33	A8x7x50
C4	1-5/8	1.79	3/8x3/8x2-7/8	40k6	43	A12x8x70
C5	1-5/8	1.79	3/8x3/8x2-7/8	40k6	43	A12x8x70
C6	2-1/8	2.35	1/2x1/2x3-5/32	50k6	53.5	A14x9x90
C7	2-3/8	2.65	5/8x5/8x3-15/16	60m6	64	A18x11x100
C8	2-7/8	3.21	3/4x3/4x4-5/16	70m6	74.5	A20x12x125
C9	3-5/8	4.01	7/8x7/8x5-1/2	90m6	95	A25x14x140

**Table 3 Motor Adapter Dimensions (Inches)**

Motor Adapter	NEMA C-Flange	a	a6	b6	c6	e6	s6	Wt. lbs
MR140/050	56C	5.51	6.50	4.500	3.31	5.87	0.41	9
MR160/050	56C	6.30	6.50	4.500	3.86	5.87	0.41	16
MR160/140	143/145TC	7.87	9.00	8.500	4.80	7.25	0.55	23
MR200/180	182/184TC	9.84	9.00	8.500	5.31	7.25	0.55	36
MR250/180	182/184TC	11.81	9.00	8.500	6.50	7.25	0.57	75
MR250/210	213/215TC		9.00	8.500		7.25		
MR300/180	182/184TC	13.78	9.00	8.500	11.13	7.25	0.70	133
MR300/210	213/215TC		9.00	8.500		7.25		
MR300/250	254/256TC		9.00	8.500		7.25		
MR300/280	284/286TC	13.37	11.13	10.500	7.09	9.00	0.70	133
MR350/320	324/326TC		13.78	13.37		12.500		
MR350/360	364/365TC	13.37	13.37	12.500	7.09	11.00	0.70	133

**Table 4 C Series Unit Dimensions (Inches) – “MR” Motor Adapter**

Base Module	MR140/050			MR160/050 MR160/140			MR200/180			MR250/180 MR250/210			MR300/180 MR300/210 MR300/250 MR300/280			MR350/320 MR350/360			Wt. lbs* <sup>a</sup>
	C	l	m	C	l	m	C	l	m	C	l	m	C	l	m	C	l	m	
C002	9.37	1.57	4.49	10.08	1.57	4.65	—	—	—	—	—	—	—	—	—	—	—	—	18
C102	10.67	1.97	5.39	11.38	1.97	5.55	12.40	1.97	5.63	—	—	—	—	—	—	—	—	—	29
C103	12.13	1.97	6.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34
C202	11.77	2.36	6.10	12.48	2.36	6.26	13.50	2.36	6.34	—	—	—	—	—	—	—	—	—	38
C203	13.23	2.36	7.56	14.17	2.36	7.95	—	—	—	—	—	—	—	—	—	—	—	—	45
C302	—	—	—	13.23	2.36	7.01	14.25	2.36	7.09	14.88	2.36	7.21	—	—	—	—	—	—	49
C303	13.98	2.36	8.31	14.92	2.36	8.70	—	—	—	—	—	—	—	—	—	—	—	—	56
C402	—	—	—	15.12	3.15	8.11	16.14	3.15	8.19	16.77	3.15	8.31	—	—	—	—	—	—	71
C403	—	—	—	16.81	3.15	9.80	—	—	—	—	—	—	—	—	—	—	—	—	78
C502	—	—	—	15.95	3.15	8.94	16.97	3.15	9.02	17.59	3.15	9.13	19.33	3.15	9.68	—	—	—	95
C503	—	—	—	17.64	3.15	10.63	—	—	—	—	—	—	—	—	—	—	—	—	111
C612	—	—	—	—	—	—	17.91	3.94	9.17	18.54	3.94	9.29	20.24	3.94	9.80	—	—	—	115
C613	—	—	—	18.62	3.94	10.82	20.35	3.94	11.61	—	—	—	—	—	—	—	—	—	159
C712	—	—	—	—	—	—	20.00	4.72	10.48	20.59	4.72	10.56	22.29	4.72	11.07	—	—	—	199
C713	—	—	—	—	—	—	22.40	4.72	12.88	23.38	4.72	13.35	—	—	—	—	—	—	221
C812	—	—	—	—	—	—	—	—	—	23.22	5.51	12.40	24.53	5.51	12.52	26.42	5.51	13.82	322
C813	—	—	—	—	—	—	25.04	5.51	14.73	26.02	5.51	15.20	—	—	—	—	—	—	342
C912	—	—	—	—	—	—	—	—	—	—	—	—	27.56	6.69	14.37	29.06	6.69	15.28	596
C913	—	—	—	—	—	—	—	—	—	27.87	6.69	15.87	—	—	—	—	—	—	678

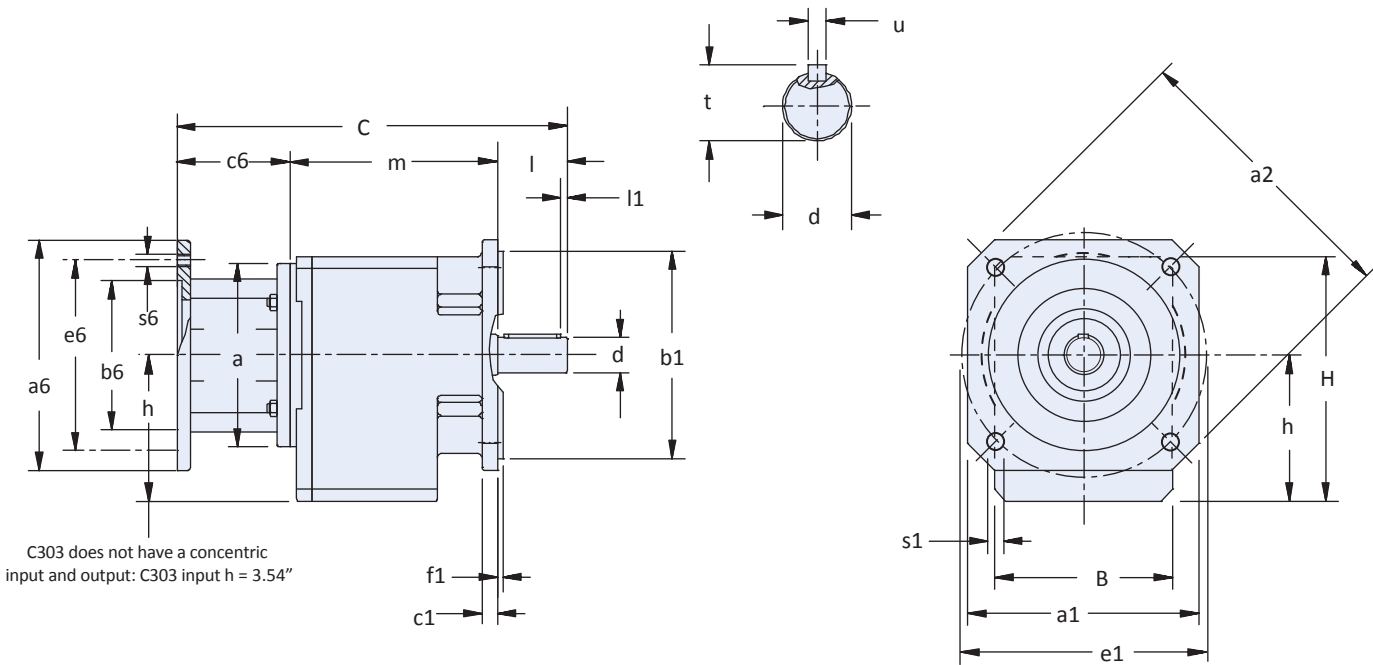
\* Weight is base unit only. MR weight must be added separately.

C Series: INLINE — Solid Shaft Output

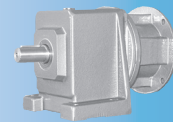
# C Series: INLINE — Solid Shaft Output

## "Q" Square Output Flange

C002Q thru C403Q







# Dimensional Data

**Table 1 C Series Unit Dimensions (Inches) – “Q” Square Flange Housing**

Base Module	a1	a2	B	b1	c1	e1	f1	H	h	l	l1	s1
<b>C0</b>	4.88	6.30	3.82	4.33	0.35	5.12	0.14	5.55	3.11	1.57	0.16	0.35
<b>C1</b>	5.71	7.56	5.12	5.12	0.43	6.50	0.14	6.89	3.94	1.97	0.16	0.43
<b>C2</b>	5.71	7.56	5.59	5.12	0.43	6.50	0.14	7.56	4.41	2.36	0.16	0.43
<b>C3</b>	7.87	9.84	6.06	7.09	0.55	8.46	0.16	8.35	5.00 <sup>1)</sup>	2.36	0.16	0.55
<b>C4</b>	7.87	9.84	7.01	7.09	0.55	8.46	0.16	9.55	5.61	3.15	0.16	0.55

1) C303 does not have a concentric input and output. Refer to the h input height dimension on the drawing for these units.

**Table 2 C Series — Shaft Output (Carbon Steel)**

(see page 90 for standard SS, and other optional outputs)

Base Module	Standard Shaft - inches			Optional Shaft - mm		
	d	t	u	d	t	u
<b>C0</b>	3/4	0.83	3/16x3/16x1-7/32	20k6	22.5	A6x6x32
<b>C1</b>	1	1.11	1/4x1/4x1-9/16	25k6	28	A8x7x40
<b>C2</b>	1-1/4	1.36	1/4x1/4x1-15/16	30k6	33	A8x7x50
<b>C3</b>	1-1/4	1.36	1/4x1/4x1-15/16	30k6	33	A8x7x50
<b>C4</b>	1-5/8	1.79	3/8x3/8x2-7/8	40k6	43	A12x8x70

**Table 3 Motor Adapter Dimensions (Inches)**

Motor Adapter	NEMA C-Flange	a	a6	b6	c6	e6	s6	Wt. lbs
<b>MR140/050</b>	56C	5.51	6.50	4.500	3.31	5.87	0.41	9
<b>MR160/050</b>	56C	6.30	6.50	4.500	3.86	5.87	0.41	16
<b>MR160/140</b>	143/145TC	6.30	6.50	4.500	3.86	5.87	0.41	16
<b>MR200/180</b>	182/184TC	7.87	9.00	8.500	4.80	7.25	0.55	23
<b>MR250/180</b>	182/184TC	9.84	9.00	8.500	5.31	7.25	0.55	36
<b>MR250/210</b>	213/215TC	9.84	9.00	8.500	5.31	7.25	0.55	36

**Table 4 C Series Unit Dimensions (Inches) – “MR” Motor Adapter**

Base Module	MR140/050			MR160/050 MR160/140			MR200/180			MR250/180 MR250/210			Wt. lbs*
	C	l	m	C	l	m	C	l	m	C	l	m	
<b>C002</b>	9.37	1.57	4.49	10.08	1.57	4.65	—	—	—	—	—	—	18
<b>C102</b>	10.67	1.97	5.39	11.38	1.97	5.55	12.40	1.97	5.63	—	—	—	29
<b>C103</b>	12.13	1.97	6.85	—	—	—	—	—	—	—	—	—	34
<b>C202</b>	11.77	2.36	6.10	12.48	2.36	6.26	13.50	2.36	6.34	—	—	—	38
<b>C203</b>	13.23	2.36	7.56	14.17	2.36	7.95	—	—	—	—	—	—	45
<b>C302</b>	—	—	—	13.23	2.36	7.01	14.25	2.36	7.09	14.88	2.36	7.21	49
<b>C303</b>	13.98	2.36	8.31	14.92	2.36	8.70	—	—	—	—	—	—	56
<b>C402</b>	—	—	—	15.12	3.15	8.11	16.14	3.15	8.19	16.77	3.15	8.31	71
<b>C403</b>	—	—	—	16.81	3.15	9.8	—	—	—	—	—	—	78

\* Weight is base unit only. MR weight must be added separately.

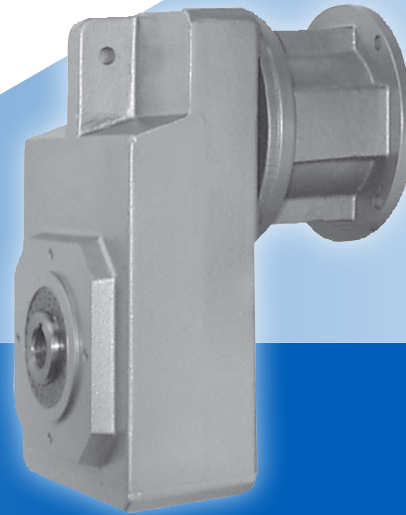
**C Series: INLINE — Solid Shaft Output**

## F Series: OFFSET — Solid Shaft/Hollow Output

### F Series Features

- Input rating up to 33 HP
- Ratio options: 4.3:1 — 552:1
- Output Torque capability up to 9743 lb-in
- NEMA input capabilities of 56C, 143/145TC, 182/184TC, 213/215TC
- Output bore diameters from 3/4" to 2"
- Housing style options: feet, flange or tapped holes

*Compact size and flexibility make these gear drives a popular choice for applications that require high performance, efficiency, and durability. F Series gear drives are available with a wide selection of exact ratios and output speeds to eliminate the need for expensive and maintenance prone external input drives.*



**SHIPS in  
1 DAY!**  
NO EXPEDITE FEE FOR 24  
HOUR SERVICE

### F Series Benefits

- No maintenance - totally enclosed with no breather to allow contaminants in or oil out
- Lubricated for life with Mobil oil
- Simple motor mounting and removal with Bowex coupling system
- Energy savings - up to 97% efficiency
- Easy installation and removal with our patented bushing system and any horizontal mounting position
- Reliability guaranteed with 3 year warranty
- Adaptability
- Durability - IP69K Certified to prevent water and dust ingress
- Assembled in USA
- Combine units to achieve slower speeds to meet your application needs

### F Series Food & Corrosion Resistant Options

#### "F" Option for Food Duty Applications

- Totally enclosed unit — no breathers, maintenance free, lubricated for life
- Mobil SHC CIBUS 220 food grade oil
- Anti-microbial clear coat
- 316 stainless steel epoxy coating
- Stainless steel shaft, hollow bore or double bushing output
- USDA Accepted Equipment

#### "B" Option for Corrosion Resistant Duty Applications

- Totally enclosed unit — no breathers, maintenance free, lubricated for life
- Mobil 600XP220 mineral oil
- 316 stainless steel epoxy coating
- Stainless steel shaft, hollow bore or double bushing output

### Other F Series Design Options Available:

- Plated or stainless steel hardware
- IP69K certified (see page 6 for full details)





# Overview

## F Ordering Options At-a-Glance

F Series are available in a wide range of user-selected design options that tailor the speed reducer to your motor and exact application requirements. Use the appropriate order codes below to build a part number for the complete assembly.

### Part Number Examples:

	1	2	3	4	5	6	7	8	9	0	I*
Standard duty	F	2	0	2	A	G	0043	MR140/	050		EL1
Food duty	F	2	0	2	A	G	0043	MR140/	050	F	EL1234

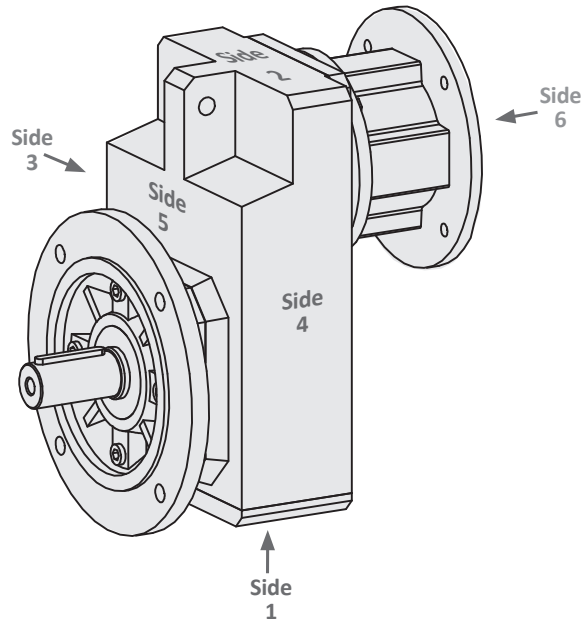
Design Option	Part Number Code	Description
1 Series	F	Offset helical (output is offset from input; gears are all helical)
2 Size	2	5 sizes of speed reducers (1, 2, 3, 4, 6)
3 Generation	0	First generation
4 # of Stages	2 3	Two or three stages (determined by ratio)
5 Output	A	Hollow bore output
	V	Solid shaft output (only available with output flange housing)
	W	Single or double wobble-free bushing
6 Housing	F	Output flange mount
	G	Pilot Circle Diameter (PCD) tapped holes
	GN	Foot mounting (with tapped holes for side mounting)
7 Ratio	0043	Ratios range from 4.3:1 to 552:1 (refer to Selection Data tables) Note: if a slower speed is required, units can be combined to achieve the necessary ratio for low speed applications. Contact STÖBER Drives Inc.
8 Motor Adapter	MR140 thru MR250	Round motor adapter sizes (refer to Selection Data tables)
9 NEMA Frame Size (refer to Selection Data tables)	050	56C
	140	143/145TC
	180	182/184TC
	210	213/215TC
0 Food & Corrosion Resistant Option	F	Food duty service
	B	Corrosion resistant duty service
I Mounting Position* <i>Refer to page 133 illustrations</i>	EL1 EL2	Mounting positions for 3 year warranty
	EL3 EL4	
	EL5 EL6	
	EL1234	
	EL5 EL6	

F Series: OFFSET — Solid Shaft / Hollow Output

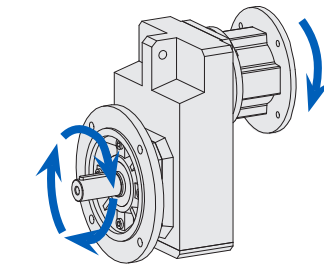
\* Mounting position is added to "notes" section of order.

# F Series: OFFSET — Solid Shaft/Hollow Output

## F Series Orientation

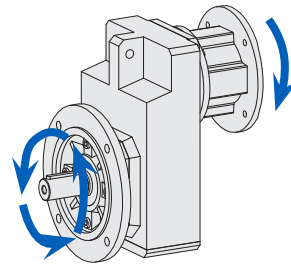


## F Series Direction of Rotation



### All 2 Stage Units

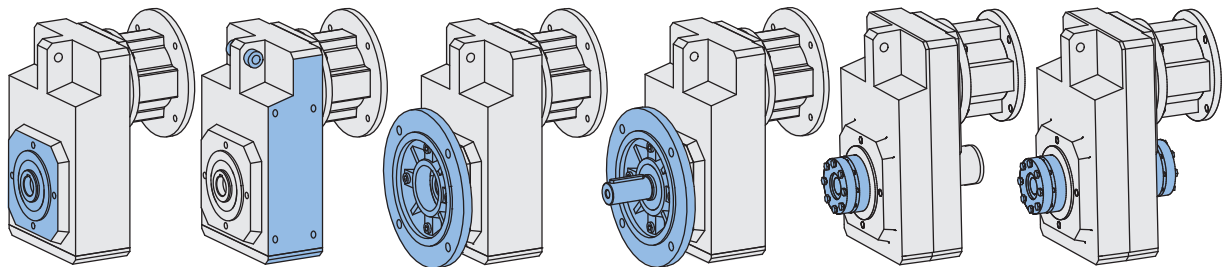
F102  
F202  
F302  
F402  
F602



### All 3 Stage Units

F203  
F303  
F403  
F603

## F Output and Housing Configurations



See Page	page 143	page 144	page 146	page 147	page 148	page 150
Output	A Hollow Bore	A Hollow Bore	A Hollow Bore	V Solid Shaft	W Wobble Free Single Bushing*	W Wobble Free Double Bushing*
Housing	G Tapped Holes	GN Foot Mount (Sides 3 & 4)	F Flange Mount	F Flange Mount	G Tapped Holes	G Tapped Holes

\* Single and double bushing outputs can be configured on side 5 (as shown); or on side 6 for two stage units only (same side as input). Please specify with order..

### Availability\*

Standard Duty	F1-F6	F1-F6	F1-F6	F1-F6	F1-F6	F1-F6 (2 stage units only)
Food & Corrosion Resistant Duty	F2-F4	F2-F4	F2-F4	—	F1-F6	F1-F6 (2 stage units only)

\* See Output Options Chart page 133 for standard and optional solid shaft, hollow bore and wobble free bushing options.



# Overview

## F Series Output Options

BLUE: standard output diameters in stock

BLACK: optional diameters in stock

Other options are available upon request. Please contact STÖBER to learn about other options and their deliveries.

			F1	F2	F3	F4	F6
"V" Solid Shaft	Carbon Steel	Inches	1	1-1/4	1-3/8	1-5/8	2-1/8
		Metric	—	—	—	—	—
	Stainless Steel	Inches	—	—	—	—	—
		Metric	—	—	—	—	—
"A" Hollow Bore	Carbon Steel	Inches	3/4	1	1-1/4	1-7/16 1-1/2	2
		Metric	20	25	30	40	50
	Stainless Steel	Inches	—	—	1-1/4	1-1/2	—
		Metric	—	—	—	—	—
"W" Wobble Free Bushing	Stainless Steel Single & Double Bushings	Inches	3/4	1 1-3/16	1 1-3/16 1-1/4 1-7/16 1-1/2	1-7/16 1-1/2	1-7/16 1-1/2 1-15/16 2
	(Double Bushings only available with two stage units)	Metric	20	—	—	40*	—

\* Double bushing only

F Series: OFFSET — Solid Shaft / Hollow Output

## F Mounting Position Options

When ordering any F unit, the mounting position must be specified. Use one of the mounting position order codes illustrated below that corresponds to the intended application.

### Standard Duty

All STÖBER standard duty units are filled with the correct amount of lubrication before shipping. In order to provide the proper lubrication quantity, the mounting position must be specified at the time the unit is ordered.

### Food & Corrosion Resistant Duty

Food and Corrosion Resistant Duty units are equipped with specialized seals, higher oil level, and additional features compared to standard units. These added features enable all horizontal output positions (EL1, 2, 3 and 4) to be used interchangeably, subject to size and ratio. Contact STÖBER for details.

**DO NOT mount any reducer in a position other than the mounting position specified on the order!**

*The only exception are the horizontal "F" & "B" duty reducers illustrated below.*

These mounting positions for "F" Food or "B" Corrosion Resistant Duty are all interchangeable.

Side 1      Side 2      Side 3      Side 4

Standard Duty: EL1      EL2      EL3      EL4

Food & Corrosion Resistant: EL1234

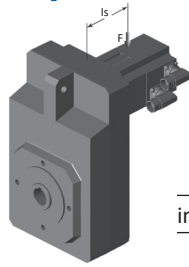
Side 5      Side 6

EL5      EL6

# F Series: OFFSET — Solid Shaft/Hollow Output

## Permissible Motor Tilting Torque

The permissible tilting torque of the motor attached to the gear unit is a result of the static and dynamic load “F” from the motor weight, mass acceleration, and vibration multiplied by the distance from the center of gravity “ $l_s$ ” of the motor.



$$M_{1k} = F \times l_s \leq M_{1K}$$

$M_{1K}$	MR140	MR160	MR200	MR250
in.lbs	221	531	1106	2212



# Selection Data

## F Sizing/Selection:

1. Find the **RPM Output (Approximate)** nearest the application requirement. (If the exact Output RPM is required, divide the Input RPM [1750] by the value listed in the Nominal Ratio column.)
- 2a. In the **Input HP** column, locate the rating that is greater than or equal to the required HP, or;
- 2b. If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.
3. Confirm that the **Overhung Load** is acceptable for the application.
4. Choose the appropriate **Base Module**, **Motor Adapter** and **NEMA C-Frame** part number order codes (see page 131 for complete ordering information). An optional input shaft, in place of the NEMA C-face motor adapter, is also available.

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>405 RPM Output (Approximate)</b>						
3.83*	577	4.308	275	F102_0043	MR160/050	56C
					MR160/140	143/145TC
<b>385 RPM Output (Approximate)</b>						
21.97*	3,492	4.546	833	F602_0045	MR200/180	182/184TC
33.79*	5,371	4.546	833	F602_0045	MR250/210	213/215TC
<b>375 RPM Output (Approximate)</b>						
7.22*	1,180	4.680	363	F202_0047	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
9.22*	1,496	4.644	503	F302_0046	MR160/050	56C
					MR160/140	143/145TC
9.22*	1,507	4.678	622	F402_0047	MR160/050	56C
					MR160/140	143/145TC
12.07*	1,960	4.644	503	F302_0046	MR200/180	182/184TC
19.84*	3,244	4.678	622	F402_0047	MR200/180	182/184TC
					MR250/210	213/215TC
<b>315 RPM Output (Approximate)</b>						
6.44*	1,250	5.552	385	F202_0056	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC

F Series: OFFSET — Solid Shaft / Hollow Output

\* **Thermal HP Limit**

Base Module Size	F1	F2	F3	F4	F6
HP Limit	2.95	5.36	7.38	12.34	14.75

1) Overhung Load is measured at the center of the shaft extension. Hollow bore output units are not intended to support overhung loads. If a load rating is required, use 50% of the published overhung load.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM	Order Code	050	140	180	210
C-Frame		56C	143/145TC	182/184TC	213/215TC
HP		1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10

# F Series: OFFSET — Solid Shaft/Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>305 RPM Output (Approximate)</b>						
8.73*	1,746	5.720	540	F302_0057	MR160/050	56C
					MR160/140	143/145TC
9.22	1,873	5.813	669	F402_0058	MR160/050	56C
					MR160/140	143/145TC
10.50*	2,101	5.720	540	F302_0057	MR200/180	182/184TC
17.16*	3,488	5.813	669	F402_0058	MR200/180	182/184TC
					MR250/210	213/215TC
19.60*	3,887	5.673	897	F602_0057	MR200/180	182/184TC
29.15*	5,782	5.673	897	F602_0057	MR250/210	213/215TC
<b>270 RPM Output (Approximate)</b>						
2.92	661	6.462	315	F102_0065	MR160/050	56C
					MR160/140	143/145TC
<b>244 RPM Output (Approximate)</b>						
2.73	683	7.156	326	F102_0072	MR160/050	56C
					MR160/140	143/145TC
5.43*	1,361	7.167	419	F202_0072	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
7.92*	1,985	7.172	582	F302_0072	MR160/050	56C
					MR160/140	143/145TC
8.73	2,198	7.202	719	F402_0072	MR160/050	56C
					MR160/140	143/145TC
9.03*	2,265	7.172	582	F302_0072	MR200/180	182/184TC
14.88*	3,746	7.202	719	F402_0072	MR200/180	182/184TC
					MR250/210	213/215TC
17.04*	4,264	7.159	969	F602_0072	MR200/180	182/184TC
24.96*	6,248	7.159	969	F602_0072	MR250/210	213/215TC

1) Overhung Load is measured at the center of the shaft extension.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210
C-Frame	56C	143/145TC	182/184TC	213/215TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10





# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter

## 195 RPM Output (Approximate)

2.35	736	8.948	351	F102_0089	MR160/050	56C
					MR160/140	143/145TC
4.66	1,468	9.006	452	F202_0090	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
6.87	2,159	8.986	627	F302_0090	MR160/050	56C
					MR160/140	143/145TC
7.70	2,418	8.980	773	F402_0090	MR160/050	56C
					MR160/140	143/145TC
7.77*	2,442	8.986	627	F302_0090	MR200/180	182/184TC
8.46	2,659	8.995	1,046	F602_0090	MR160/050	56C
					MR160/140	143/145TC
12.84*	4,032	8.980	773	F402_0090	MR200/180	182/184TC
					MR250/210	213/215TC
14.86*	4,674	8.995	1,046	F602_0090	MR200/180	182/184TC
21.44*	6,742	8.995	1,046	F602_0090	MR250/210	213/215TC

## 160 RPM Output (Approximate)

2.06	787	10.920	375	F102_0110	MR160/050	56C
					MR160/140	143/145TC
4.13	1,560	10.803	480	F202_0110	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
5.98	2,253	10.785	667	F302_0110	MR160/050	56C
					MR160/140	143/145TC
6.66	2,520	10.825	823	F402_0110	MR160/050	56C
					MR160/140	143/145TC
6.88	2,595	10.785	667	F302_0110	MR200/180	182/184TC
7.57	2,861	10.818	1,112	F602_0110	MR160/050	56C
					MR160/140	143/145TC
11.34	4,291	10.825	823	F402_0110	MR200/180	182/184TC
					MR250/210	213/215TC
13.28	5,024	10.818	1,112	F602_0110	MR200/180	182/184TC
18.96*	7,170	10.818	1,112	F602_0110	MR250/210	213/215TC

F Series: OFFSET — Solid Shaft / Hollow Output

\* Thermal HP Limit

Base Module Size	F1	F2	F3	F4	F6
HP Limit	2.95	5.36	7.38	12.34	14.75

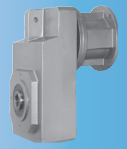
# F Series: OFFSET — Solid Shaft/Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>130 RPM Output (Approximate)</b>						
1.78	846	13.588	403	F102_0135	MR160/050	56C
					MR160/140	143/145TC
3.54	1,686	13.625	519	F202_0135	MR160/050	56C
					MR160/140	143/145TC
5.12	2,395	13.384	716	F302_0135	MR160/050	56C
					MR160/140	143/145TC
5.86	2,781	13.569	887	F402_0135	MR160/050	56C
					MR160/140	143/145TC
5.96	2,789	13.384	716	F302_0135	MR200/180	182/184TC
6.36	3,025	13.609	1,200	F602_0135	MR160/050	56C
					MR160/140	143/145TC
9.75	4,627	13.569	887	F402_0135	MR200/180	182/184TC
					MR250/210	213/215TC
11.15	5,304	13.609	1,200	F602_0135	MR200/180	182/184TC
16.27*	7,740	13.609	1,200	F602_0135	MR250/210	213/215TC
<b>95 RPM Output (Approximate)</b>						
1.45	937	18.457	446	F102_0185	MR160/050	56C
					MR160/140	143/145TC
2.87	1,872	18.651	576	F202_0185	MR160/050	56C
					MR160/140	143/145TC
4.76	3,122	18.774	802	F302_0190	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
7.90	5,142	18.620	986	F402_0185	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
13.25	8,578	18.522	1,330	F602_0185	MR200/180	182/184TC
					MR250/210	213/215TC

1) Overhung Load is measured at the center of the shaft extension.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210
C-Frame	56C	143/145TC	182/184TC	213/215TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10



# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>75 RPM Output (Approximate)</b>						
1.25	1,010	23.080	481	F102_0230	MR160/050	56C
					MR160/140	143/145TC
2.47	2,020	23.434	622	F202_0230	MR160/050	56C
					MR160/140	143/145TC
4.09	3,365	23.520	864	F302_0240	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
6.82	5,534	23.214	1,061	F402_0230	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
8.46	6,880	23.272	1,436	F602_0230	MR160/050	56C
					MR160/140	143/145TC
11.38	9,256	23.272	1,436	F602_0230	MR200/180	182/184TC
					MR250/210	213/215TC
<b>60 RPM Output (Approximate)</b>						
1.08	1,063	28.167	514	F102_0280	MR160/050	56C
					MR160/140	143/145TC
2.16	2,126	28.112	660	F202_0280	MR160/050	56C
					MR160/140	143/145TC
3.59	3,543	28.230	919	F302_0280	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
6.02	5,890	27.986	1,130	F402_0280	MR160/050	56C
					MR160/140	143/145TC
					MR200/180	182/184TC
7.57	7,401	27.986	1,527	F602_0280	MR160/050	56C
					MR160/140	143/145TC
9.96	9,744	27.986	1,527	F602_0280	MR200/180	182/184TC
					MR250/210	213/215TC

F Series: OFFSET — Solid Shaft / Hollow Output

\* Thermal HP Limit

Base Module Size	F1	F2	F3	F4	F6
HP Limit	2.95	5.36	7.38	12.34	14.75

# F Series: OFFSET — Solid Shaft/Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>50 RPM Output (Approximate)</b>						
0.87	1,063	35.049	553	<b>F102_0350</b>	<b>MR160/050</b>	56C
1.72	2,126	35.455	714	<b>F202_0350</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
2.89	3,543	35.034	987	<b>F302_0350</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
5.06	6,201	35.079	1,218	<b>F402_0350</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
					<b>MR200/180</b>	182/184TC
6.36	7,825	35.208	1,648	<b>F602_0350</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
7.92	9,744	35.208	1,648	<b>F602_0350</b>	<b>MR200/180</b>	182/184TC
<b>35 RPM Output (Approximate)</b>						
0.65	1,063	46.429	607	<b>F102_0460</b>	<b>MR160/050</b>	56C
1.29	2,126	47.045	784	<b>F202_0470</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
2.15	3,543	47.185	1,090	<b>F302_0470</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
3.78	6,201	46.944	1,342	<b>F402_0470</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
					<b>MR200/180</b>	182/184TC
5.11	8,344	46.719	1,811	<b>F602_0470</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
5.97	9,744	46.719	1,811	<b>F602_0470</b>	<b>MR200/180</b>	182/184TC
<b>30 RPM Output (Approximate)</b>						
0.54	1,063	55.972	646	<b>F102_0560</b>	<b>MR160/050</b>	56C
1.07	2,126	56.727	835	<b>F202_0570</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
1.79	3,543	56.486	1,158	<b>F302_0560</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
3.17	6,201	55.972	1,423	<b>F402_0560</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
					<b>MR200/180</b>	182/184TC
4.50	8,775	55.714	1,920	<b>F602_0560</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
5.00	9,744	55.714	1,920	<b>F602_0560</b>	<b>MR200/180</b>	182/184TC

1) Overhung Load is measured at the center of the shaft extension.

2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210
C-Frame	56C	143/145TC	182/184TC	213/215TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10



# Selection Data

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>25 RPM Output (Approximate)</b>						
0.43	1,063	70.056	696	<b>F102_0700</b>	<b>MR160/050</b>	56C
0.87	2,126	70.130	896	<b>F202_0700</b>	<b>MR160/050</b>	56C
1.44	3,543	70.359	1,245	<b>F302_0700</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
2.53	6,201	70.056	1,534	<b>F402_0700</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
3.74	9,102	69.643	2,069	<b>F602_0700</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
4.00	9,744	69.643	2,069	<b>F602_0700</b>	<b>MR200/180</b>	182/184TC
<b>19 RPM Output (Approximate)</b>						
0.33	1,063	93.631	767	<b>F102_0940</b>	<b>MR140/050</b>	56C
0.65	2,126	93.818	987	<b>F202_0940</b>	<b>MR160/050</b>	56C
1.08	3,543	93.644	1,370	<b>F302_0940</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
1.90	6,201	93.333	1,688	<b>F402_0930</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
2.84	9,258	93.333	2,281	<b>F602_0930</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
<b>15 RPM Output (Approximate)</b>						
0.27	1,063	111.944	814	<b>F102_1120</b>	<b>MR140/050</b>	56C
0.54	2,126	112.727	1,049	<b>F202_1130</b>	<b>MR140/050</b>	56C
0.90	3,543	112.848	1,458	<b>F302_1130</b>	<b>MR160/050</b>	56C
1.58	6,201	112.273	1,795	<b>F402_1120</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
2.43	9,546	112.202	2,425	<b>F602_1120</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
<b>13 RPM Output (Approximate)</b>						
0.43	2,126	140.909	1,130	<b>F202_1410</b>	<b>MR140/050</b>	56C
0.72	3,543	140.648	1,569	<b>F302_1410</b>	<b>MR140/050</b>	56C
1.27	6,201	139.750	1,931	<b>F402_1400</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
1.98	9,690	139.750	2,609	<b>F602_1400</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC

F Series: OFFSET — Solid Shaft / Hollow Output

# F Series: OFFSET — Solid Shaft/Hollow Output

1750 RPM Input		Nominal Ratio	Overhung Load Output Shaft <sup>1)</sup> (lbs)	Part Number Codes (in blue)		
Input HP	Output Torque (lb-in)			Base Module	Motor Adapter/ NEMA Motor	Compatible NEMA C-Frame <sup>2)</sup> with Designated Motor Adapter
<b>10 RPM Output (Approximate)</b>						
0.34	2,126	184.261	1,215	<b>F203_1840</b>	<b>MR140/050</b>	56C
0.56	3,543	182.449	1,688	<b>F303_1820</b>	<b>MR160/050</b>	56C
0.99	6,201	181.519	2,081	<b>F403_1820</b>	<b>MR160/050</b>	56C
1.57	9,744	180.646	2,813	<b>F603_1810</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
<b>8 RPM Output (Approximate)</b>						
0.28	2,126	222.182	1,215	<b>F203_2220</b>	<b>MR140/050</b>	56C
0.47	3,543	218.413	1,688	<b>F303_2180</b>	<b>MR160/050</b>	56C
0.83	6,201	216.426	2,081	<b>F403_2160</b>	<b>MR160/050</b>	56C
1.31	9,744	215.429	2,813	<b>F603_2150</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
<b>6 RPM Output (Approximate)</b>						
0.22	2,126	274.675	1,215	<b>F203_2750</b>	<b>MR140/050</b>	56C
0.38	3,543	272.055	1,688	<b>F303_2720</b>	<b>MR160/050</b>	56C
0.66	6,201	270.881	2,081	<b>F403_2710</b>	<b>MR160/050</b>	56C
1.05	9,744	269.286	2,813	<b>F603_2690</b>	<b>MR160/050</b>	56C
					<b>MR160/140</b>	143/145TC
<b>5 RPM Output (Approximate)</b>						
0.17	2,126	367.455	1,215	<b>F203_3670</b>	<b>MR140/050</b>	56C
0.28	3,543	362.092	1,688	<b>F303_3620</b>	<b>MR160/050</b>	56C
0.50	6,201	360.889	2,081	<b>F403_3610</b>	<b>MR160/050</b>	56C
0.78	9,744	360.889	2,813	<b>F603_3610</b>	<b>MR160/050</b>	56C
<b>4 RPM Output (Approximate)</b>						
0.14	2,126	441.515	1,215	<b>F203_4420</b>	<b>MR140/050</b>	56C
0.23	3,543	441.990	1,688	<b>F303_4420</b>	<b>MR140/050</b>	56C
0.41	6,201	434.121	2,081	<b>F403_4340</b>	<b>MR160/050</b>	56C
0.65	9,744	433.849	2,813	<b>F603_4340</b>	<b>MR160/050</b>	56C
<b>3 RPM Output (Approximate)</b>						
0.19	3,543	550.872	1,688	<b>F303_5510</b>	<b>MR140/050</b>	56C
0.33	6,201	547.354	2,081	<b>F403_5470</b>	<b>MR140/050</b>	56C
0.52	9,744	540.367	2,813	<b>F603_5400</b>	<b>MR160/050</b>	56C

**NOTE: For slower speeds than those shown, units can be combined. Contact STÖBER Drives Inc.**

1) Overhung Load is measured at the center of the shaft extension.

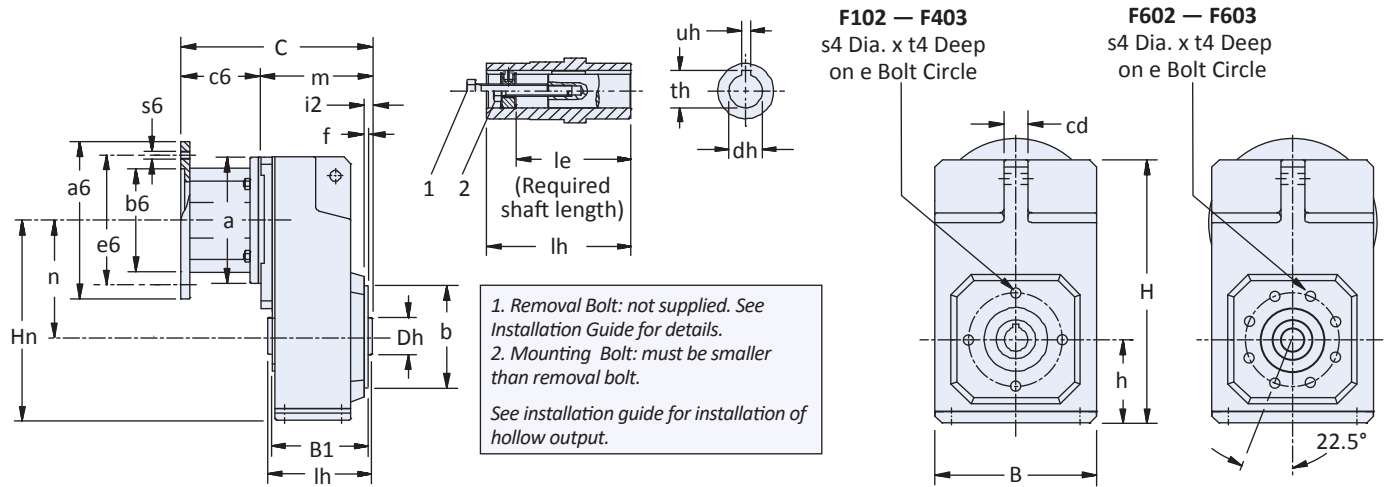
2) Motor HP for TEFC NEMA C-Frame @ 1750 RPM

Order Code	050	140	180	210
C-Frame	56C	143/145TC	182/184TC	213/215TC
HP	1/4 to 1-1/2	1, 1-1/2, 2	3, 5	7-1/2, 10



# Selection Data

## "A" Hollow Output with "G" Pilot Circle Diameter (PCD) Tapped Holes — All Sizes



**Table 1 F Series Unit Dimensions (Inches) — "G" Pilot Circle Diameter (PCD) Tapped Holes**

Base Module	B	b	B1	cd	Dh	e	f	H	h	Hn	i2	le	lh	n	s4	t4	Removal Bolt 1
F1	5.71	2.756	3.43	0.79	1.38	3.35	0.10	9.37	2.91	6.93	0.26	2.87	3.74	4.02	M8x1.25	0.51	3/8-16
F2	7.09	3.740	4.13	0.87	1.77	4.53	0.12	11.77	3.66	8.82	0.31	3.62	4.53	5.16	M8x1.25	0.51	1/2-13
F3	8.11	4.331	4.72	1.18	1.97	5.12	0.14	13.23	4.17	10.06	0.33	4.06	5.12	5.89	M10x1.5	0.63	1/2-13
F4	9.06	4.331	5.31	1.18	2.17	5.12	0.14	14.57	4.57	11.22	0.33	4.49	5.71	6.65 <sup>1)</sup>	M10x1.5	0.63	3/4-10
F6	10.43	5.118	6.54	1.38	2.76	6.50	0.14	17.64	5.39	13.11	0.41	5.63	7.09	7.72	M10x1.5	0.63	3/4-10

<sup>1)</sup> CD is 5.19 for F403 with MR160/050 or MR160/140 input

**Table 2 F Series Unit Dimensions (Inches) — Standard "A" Hollow Bore Output**  
 (see page 133 for all other optional outputs)

Base Module	Stainless Steel			Carbon Steel		
	dh	th	uh	dh	th	uh
F1	—	—	—	3/4	0.84	3/16
F2	1	1.12	1/4	1	1.12	1/4
F3	1-1/4	1.37	1/4	1-1/4	1.37	1/4
F4	1-1/2	1.67	3/8	1-1/2	1.67	3/8
F6	—	—	—	2	2.23	1/2

**Table 3 F Series Unit Dimensions (inches) — "MR" Motor Adapter**

Motor Adapter	NEMA C-Flange	a	a6	b6	c6	e6	s6	Wt. lbs
MR140/050	56C	5.51	6.50	4.500	3.31	5.87	0.41	9
MR160/050	56C	6.30	6.50	4.500	3.86	5.87	0.41	16
MR160/140	143/145TC	7.87	9.00	8.500	4.80	7.25	0.55	23
MR200/180	182/184TC	9.84	9.00	8.500	5.31	7.25	0.55	36
MR250/180	182/184TC	—	—	—	—	—	—	—
MR250/210	213/215TC	—	—	—	—	—	—	—

**Table 4 Motor Adapter Dimensions (Inches)**

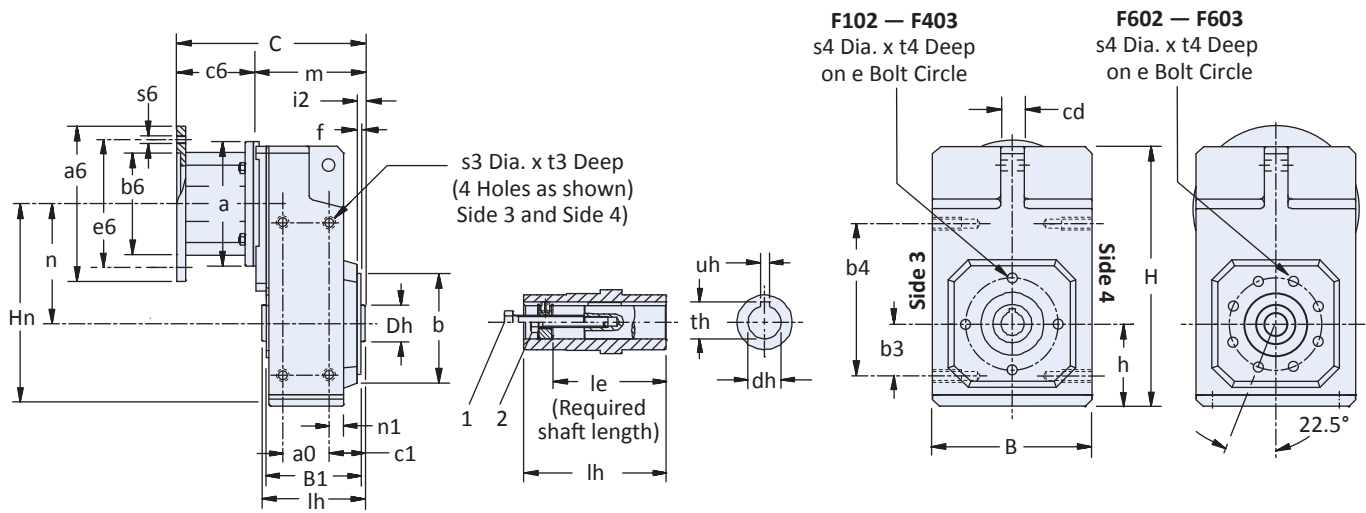
Base Module	MR140/050		MR160/050 MR160/140		MR200/180		MR250/180 MR250/210		Wt. lbs*
	C	m	C	m	C	m	C	m	
F102	7.40	4.09	8.11	4.25	—	—	—	—	38
F202	8.15	4.84	8.86	5.00	9.88	5.08	—	—	51
F203	9.61	6.30	—	—	—	—	—	—	64
F302	8.74	5.43	9.45	5.59	10.47	5.67	—	—	67
F303	10.20	6.89	11.14	7.28	—	—	—	—	73
F402	—	—	10.04	6.18	11.06	6.26	11.68	6.38	84
F403	10.79	7.48	11.73	7.87	—	—	—	—	91
F602	—	—	11.34	7.48	12.36	7.56	12.99	7.68	165
F603	—	—	13.03	9.17	—	—	—	—	177

\* Weight is base unit only. MR weight must be added separately.

F Series: OFFSET — Solid Shaft / Hollow Output

# F Series: OFFSET — Solid Shaft/Hollow Output

## "A" Hollow Output with "GN" Foot Mounting — All Sizes



1. Removal Bolt: not supplied. See Installation Guide for details.  
 2. Mounting Bolt: must be smaller than removal bolt.  
 See installation guide for installation of hollow output.

**Table 1 F Series Unit Dimensions (Inches) — "GN" Foot Mount Housing**

Base Module	a0	B	b	B1	b3	b4	C1	cd	Dh	e	f	H
F1	1.97	5.71	2.756	3.43	1.57	5.51	1.14	0.79	1.38	3.35	0.10	9.37
F2	2.52	7.09	3.740	4.13	2.17	6.89	1.32	0.87	1.77	4.53	0.12	11.77
F3	2.83	8.11	4.331	4.72	2.36	7.87	1.48	1.18	1.97	5.12	0.14	13.23
F4	3.43	9.06	4.331	5.31	2.76	8.66	1.48	1.18	2.17	5.12	0.14	14.57
F6	4.25	10.43	5.118	6.54	3.35	10.63	1.83	1.38	2.76	6.50	0.14	17.64

<sup>1)</sup> CD is 5.19 for F403 with MR160/050 or MR160/140 input

**Table 2 F Series Unit Dimensions (Inches) — "GN" Foot Mount Housing**

Base Module	h	Hn	i2	le	lh	n	n1	s3	s4	t3	t4	Removal Bolt 1
F1	2.91	6.93	0.26	2.87	3.74	4.02	0.39	M6	M8x1.25	0.43	0.51	3/8 – 16
F2	3.66	8.82	0.31	3.62	4.53	5.16	0.41	M8	M8x1.25	0.51	0.51	1/2 – 13
F3	4.17	10.06	0.33	4.06	5.12	5.89	0.49	M10	M10x1.5	0.63	0.63	1/2 – 13
F4	4.57	11.22	0.33	4.49	5.71	6.65 <sup>1)</sup>	0.49	M10	M10x1.5	0.63	0.63	3/4 – 10
F6	5.39	13.11	0.41	5.63	7.09	7.72	0.61	M12	M10x1.5	0.75	0.63	3/4 – 10





# Dimensional Data

**Table 3 F Series Unit Dimensions (Inches) — Standard “A” Hollow Bore Output**  
(see page 133 for all other optional outputs)

Base Module	Stainless Steel			Carbon Steel		
	dh	th	uh	dh	th	uh
F1	—	—	—	3/4	0.84	3/16
F2	1	1.12	1/4	1	1.12	1/4
F3	1-1/4	1.37	1/4	1-1/4	1.37	1/4
F4	1-1/2	1.67	3/8	1-1/2	1.67	3/8
F6	—	—	—	2	2.23	1/2

**Table 4 F Series Unit Dimensions (inches) — “MR” Motor Adapter**

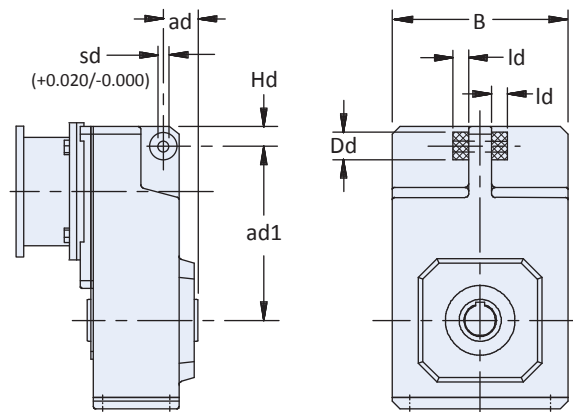
Motor Adapter	NEMA C-Flange	a	a6	b6	c6	e6	s6	Wt. lbs
MR140/050	56C	5.51	6.50	4.500	3.31	5.87	0.41	9
MR160/050	56C	6.30	6.50	4.500	3.86	5.87	0.41	16
MR160/140	143/145TC							
MR200/180	182/184TC	7.87	9.00	8.500	4.80	7.25	0.55	23
MR250/180	182/184TC	9.84	9.00	8.500	5.31	7.25	0.55	36
MR250/210	213/215TC							

**Table 5 Motor Adapter Dimensions (Inches)**

Base Module	MR140/050		MR160/050 MR160/140		MR200/180		MR250/180 MR250/210		Wt. lbs*
	C	m	C	m	C	m	C	m	
F102	7.40	4.09	8.11	4.25	—	—	—	—	38
F202	8.15	4.84	8.86	5.00	9.88	5.08	—	—	51
F203	9.61	6.30	—	—	—	—	—	—	64
F302	8.74	5.43	9.45	5.59	10.47	5.67	—	—	67
F303	10.20	6.89	11.14	7.28	—	—	—	—	73
F402	—	—	10.04	6.18	11.06	6.26	11.68	6.38	84
F403	10.79	7.48	11.73	7.87	—	—	—	—	91
F602	—	—	11.34	7.48	12.36	7.56	12.99	7.68	165
F603	—	—	13.03	9.17	—	—	—	—	177

\* Weight is base unit only. MR weight must be added separately.

## Rubber Buffer Option for Torque Arm Bracket Mounting



**Table 1 F Series Unit Dimensions (Inches) – Rubber Buffer Option**

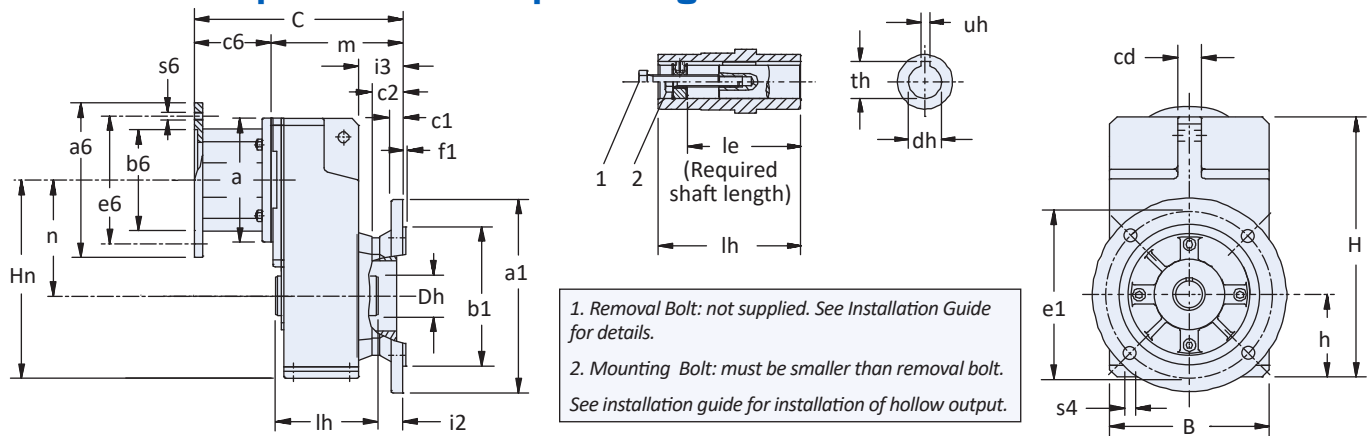
Base Module	Part Number	ad	ad1	B	Dd	Hd	Id	sd
F1	126850	1.38	5.91	5.72	1.18	0.55	0.59	0.43
F2	126850	1.57	7.12	7.10	1.18	0.98	0.59	0.43
F3	126851	1.77	8.07	8.12	1.57	0.96	0.79	0.55
F4	126851	1.77	8.98	9.06	1.57	1.02	0.79	0.55
F6	126852	2.77	10.63	10.44	2.36	1.02	1.18	0.57

Order two (2) rubber buffers for each unit.  
Torque arms are not supplied by STÖBER.

F Series: OFFSET — Solid Shaft / Hollow Output

# F Series: OFFSET — Solid Shaft/Hollow Output

## "A" Hollow Output with "F" Output Flange — All Sizes



**Table 1 F Series Unit Dimensions (Inches) — "F" Round Flange Housing**

Base Module	a1	B	b1	cd	c1	c2	Dh	e1	f1	H
F1	6.30	5.71	4.331	0.79	0.39	0.26	1.38	5.12	0.14	9.37
F2	7.87	7.09	5.118	0.87	0.55	0.31	1.77	6.50	0.14	11.77
F3	9.84	8.11	7.087	1.18	0.59	0.33	1.97	8.46	0.16	13.23
F4	9.84	9.06	7.087	1.18	0.59	0.33	2.17	8.46	0.16	14.57
F6	11.81	10.43	9.055	1.38	0.67	0.41	2.76	10.43	0.16	17.64

<sup>1)</sup> CD is 5.19 for F403 with MR160/050 or MR160/140 input

**Table 2 F Series Unit Dimensions (Inches) — "F" Round Flange Housing**

Base Module	h	Hn	i2	i3	le	lh	n	s4	Removal Bolt 1
F1	2.91	6.93	1.00	1.75	2.87	3.74	4.02	M8x1.25	3/8 – 16
F2	3.66	8.82	1.18	2.09	3.62	4.53	5.16	M8x1.25	1/2 – 13
F3	4.17	10.06	1.24	2.22	4.06	5.12	5.89	M10x1.5	1/2 – 13
F4	4.57	11.22	1.24	2.22	4.49	5.71	6.65 <sup>1)</sup>	M10x1.5	3/4 – 10
F6	5.39	13.11	1.16	2.38	5.63	7.09	7.72	M10x1.5	3/4 – 10

**Table 3 F Series Unit Dimensions (Inches) — Standard "A" Hollow Bore Output**

(see page 133 for all other optional outputs)

Base Module	Stainless Steel			Carbon Steel		
	dh	th	uh	dh	th	uh
F1	—	—	—	3/4	0.84	3/16
F2	1	1.12	1/4	1	1.12	1/4
F3	1-1/4	1.37	1/4	1-1/4	1.37	1/4
F4	1-1/2	1.67	3/8	1-1/2	1.67	3/8
F6	—	—	—	2	2.23	1/2

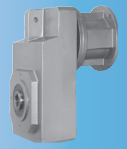
**Table 4 F Series Unit Dimensions (inches) — "MR" Motor Adapter**

Motor Adapter	NEMA C-Flange	a	a6	b6	c6	e6	s6	Wt. lbs
MR140/050	56C	5.51	6.50	4.500	3.31	5.87	0.41	9
MR160/050	56C	6.30	6.50	4.500	3.86	5.87	0.41	16
MR160/140	143/145TC	6.30	9.00	8.500	4.80	7.25	0.55	23
MR200/180	182/184TC	7.87	9.00	8.500	4.80	7.25	0.55	23
MR250/180	182/184TC	9.84	9.00	8.500	5.31	7.25	0.55	36
MR250/210	213/215TC	9.84	9.00	8.500	5.31	7.25	0.55	36

**Table 5 Motor Adapter Dimensions (Inches)**

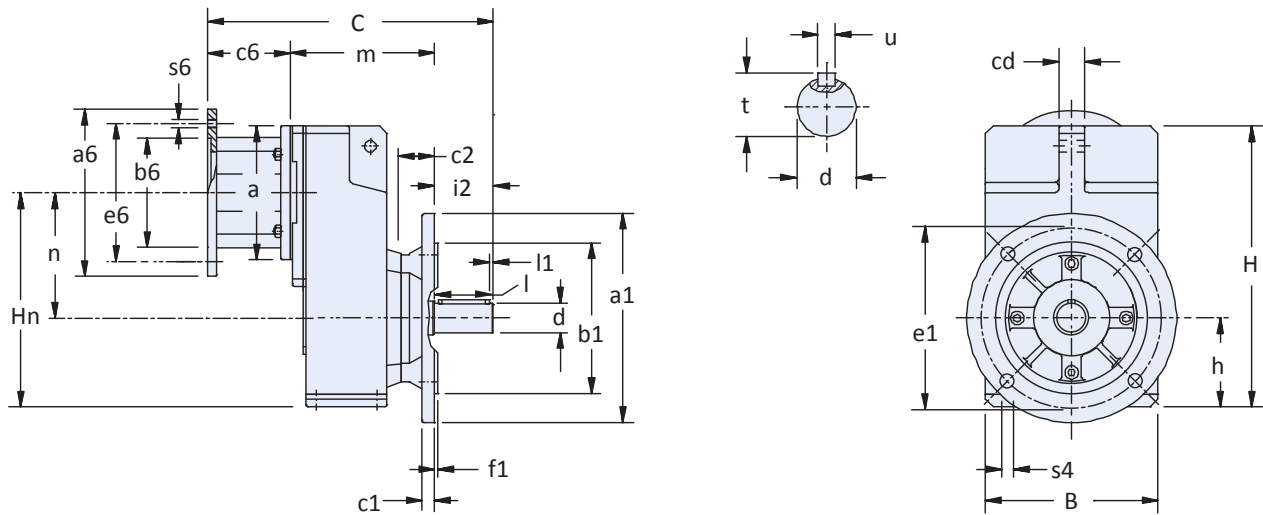
Base Module	MR140/050		MR160/050		MR160/140		MR200/180		MR250/180		Wt. lbs*
	C	m	C	m	C	m	C	m	C	m	
F102	8.43	5.12	9.13	5.27	—	—	—	—	—	—	38
F202	9.34	6.03	10.04	6.18	11.06	6.26	—	—	—	—	51
F203	10.79	7.48	—	—	—	—	—	—	—	—	64
F302	10.00	6.69	10.71	6.85	11.73	6.93	—	—	—	—	67
F303	11.46	8.15	12.38	8.52	—	—	—	—	—	—	73
F402	—	—	11.30	7.44	12.32	7.52	12.95	7.64	—	—	84
F403	12.05	8.74	12.99	9.13	—	—	—	—	—	—	91
F602	—	—	12.52	8.66	13.54	8.74	14.17	8.86	—	—	165
F603	—	—	14.21	10.35	—	—	—	—	—	—	177

\* Weight is base unit only. MR weight must be added separately.



# Dimensional Data

## "V" Shaft Output with "F" Output Flange — All Sizes



**Table 1 F Series Unit Dimensions (Inches) — "F" Round Flange Housing**

Base Module	a1	B	b1	cd	c1	c2	e1	f1	H	h	Hn	i2	l	l1	n	s4
<b>F1</b>	6.30	5.71	4.331	0.79	0.39	0.26	5.12	0.14	9.37	2.91	6.93	1.97	1.97	0.16	4.02	0.35
<b>F2</b>	7.87	7.09	5.118	0.87	0.55	0.31	6.50	0.14	11.77	3.66	8.82	2.36	2.36	0.16	5.16	0.43
<b>F3</b>	9.84	8.11	7.087	1.18	0.59	0.33	8.46	0.16	13.23	4.17	10.06	2.75	2.76	0.16	5.89	0.55
<b>F4</b>	9.84	9.06	7.087	1.18	0.59	0.33	8.46	0.16	14.57	4.57	11.22	3.15	3.15	0.16	6.65 <sup>1)</sup>	0.55
<b>F6</b>	11.81	10.43	9.055	1.38	0.67	0.41	10.43	0.16	17.64	5.39	13.11	3.94	3.94	0.20	7.72	0.55

1) C.D. is 5.19 for F403 with MR160/050 or MR160/140 input.

**Table 2 Series Unit Dimensions (Inches) — Standard "V" Solid Shaft Output**

Base Module	Carbon Steel		
	d	t	u
<b>F1</b>	1	1.11	1/4x1/4x1-9/16
<b>F2</b>	1-1/4	1.36	1/4x1/4x1-15/16
<b>F3</b>	1-3/8	1.51	5/16x5/16x2-5/16
<b>F4</b>	1-5/8	1.79	3/8x3/8x2-7/8
<b>F6</b>	2-1/8	2.35	1/2x1/2x3-5/32

**Table 3 F Series Unit Dimensions (inches) — "MR" Motor Adapter**

Motor Adapter	NEMA C-Flange	a	a6	b6	c6	e6	s6	Wt. lbs
<b>MR140/050</b>	56C	5.51	6.50	4.500	3.31	5.87	0.41	9
<b>MR160/050</b>	56C	6.30	6.50	4.500	3.86	5.87	0.41	16
<b>MR160/140</b>	143/145TC	6.30	6.50	4.500	3.86	5.87	0.41	16
<b>MR200/180</b>	182/184TC	7.87	9.00	8.500	4.80	7.25	0.55	23
<b>MR250/180</b>	182/184TC	9.84	9.00	8.500	5.31	7.25	0.55	36
<b>MR250/210</b>	213/215TC	9.84	9.00	8.500	5.31	7.25	0.55	36

**Table 4 Motor Adapter Dimensions (Inches)**

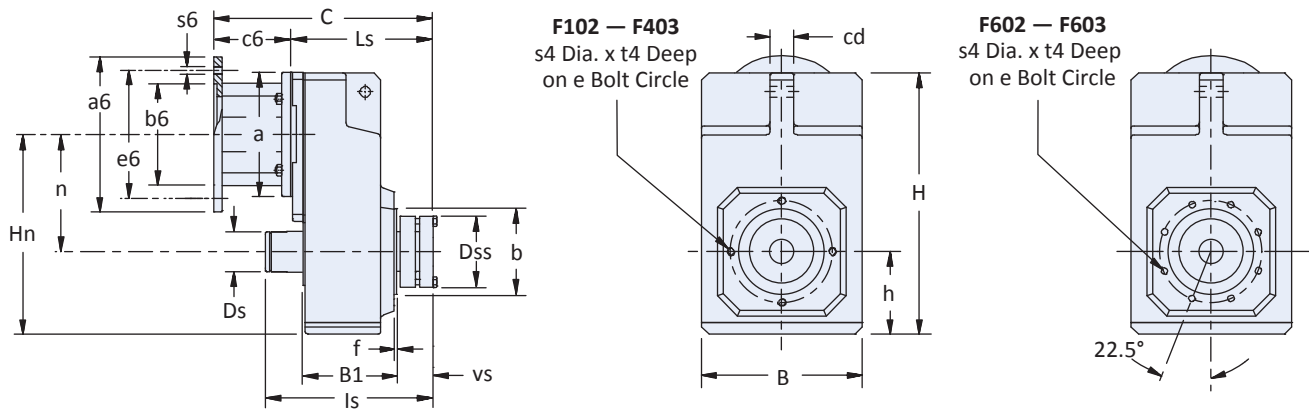
Base Module	MR140/050			MR160/050 MR160/140			MR200/180			MR250/180 MR250/210			Wt. lbs*
	C	l	m	C	l	m	C	l	m	C	l	m	
<b>F102</b>	10.40	1.97	5.12	11.10	1.97	5.27	—	—	—	—	—	—	38
<b>F202</b>	11.70	2.36	6.03	12.40	2.36	6.18	13.42	2.36	6.26	—	—	—	51
<b>F203</b>	13.15	2.36	7.48	—	—	—	—	—	—	—	—	—	64
<b>F302</b>	12.76	2.76	6.69	13.47	2.76	6.85	14.49	2.76	6.93	—	—	—	67
<b>F303</b>	14.22	2.76	8.15	15.13	2.76	8.52	—	—	—	—	—	—	73
<b>F402</b>	—	—	—	14.45	3.15	7.44	15.47	3.15	7.52	16.10	3.15	7.64	84
<b>F403</b>	15.20	3.15	8.74	16.14	3.15	9.13	—	—	—	—	—	—	91
<b>F602</b>	—	—	—	16.46	3.94	8.66	17.48	3.94	8.74	18.11	3.94	8.86	165
<b>F603</b>	—	—	—	18.15	3.94	10.35	—	—	—	—	—	—	177

\* Weight is base unit only. MR weight must be added separately.

F Series: OFFSET — Solid Shaft / Hollow Output

# F Series: OFFSET — Solid Shaft/Hollow Output

## “W” Single Bushing with “G” Pilot Circle Diameter (PCD) Tapped Holes — All Sizes



**Table 1 F Series Unit Dimensions (Inches) — “W” Single Side Wobble Free Bushing**

Base Module	B	b	B1	cd	Ds	Dss	e	f
F1	5.71	2.953	3.43	0.79	1.35	2.68	3.54	0.10
F2	7.09	3.740	4.13	0.87	1.74	3.07	4.53	0.12
F3	8.11	4.331	4.72	1.18	1.90	3.31	5.12	0.14
F4	9.06	4.331	5.31	1.18	2.14	3.82	5.12	0.14
F6	10.43	5.118	6.54	1.38	2.53	4.13	6.50	0.14

1) C.D. is 5.19 for F403 with MR160/050 or MR160/140 input.

**Table 2 F Series Unit Dimensions (Inches) — “W” Single Side Wobble Free Bushing**

Base Module	H	h	Hn	ls	n	s4	t4	vs
F1	9.37	2.91	6.93	6.40	4.02	M8x1.25	0.51	1.18
F2	11.77	3.66	8.82	7.26	5.16	M8x1.25	0.51	1.54
F3	13.23	4.17	10.06	7.95	5.89	M10x1.5	0.63	1.54
F4	14.57	4.57	11.22	8.93	6.65 <sup>1)</sup>	M10x1.5	0.63	1.78
F6	17.64	5.39	13.11	10.24	7.72	M10x1.5	0.63	1.77

**Table 3 Bushing Capscrew Dimensions**

Base Module	Bushings Capscrew Qty – Size x Length (mm)	Tightening Torque	
		in. lbs	Nm
F1	6 – M6 x 1 x 25	89	10
F2	8 – M6 x 1 x 30	89	10
F3	8 – M6 x 1 x 30	89	10
F4	8 – M8 x 1.25 x 30	221	25
F6	8 – M8 x 1.25 x 30	221	25

**Table 4 Required Output Shaft Length\***

Base Module	Length (in)
F1	6.57
F2	7.51
F3	8.20
F4	9.18
F6	10.48

\* **Important:** A 1/32" x 45° chamfer minimum is recommended for the shaft end. The bushing will accept a shaft with a tolerance of +0.000/-0.005 in.



# Dimensional Data

**Table 5 F Series Unit Dimensions (inches) — “MR” Motor Adapter**

Motor Adapter	NEMA C-Flange	a	a6	b6	c6	e6	s6	Wt. lbs
MR140/050	56C	5.51	6.50	4.500	3.31	5.87	0.41	9
MR160/050	56C	6.30	6.50	4.500	3.86	5.87	0.41	16
MR160/140	143/145TC							
MR200/180	182/184TC	7.87	9.00	8.500	4.80	7.25	0.55	23
MR250/180	182/184TC	9.84	9.00	8.500	5.31	7.25	0.55	36
MR250/210	213/215TC							

**Table 6 Motor Adapter Dimensions (Inches)**

Base Module	MR140/050		MR160/050 MR160/140		MR200/180		MR250/180 MR250/210		Wt. lbs*
	C	Ls	C	Ls	C	Ls	C	Ls	
F102	8.42	5.11	9.13	5.27	—	—	—	—	38
F202	9.50	6.19	10.21	6.35	11.23	6.43	—	—	51
F203	10.96	7.65	—	—	—	—	—	—	64
F302	10.09	6.78	10.80	6.94	11.82	7.02	—	—	67
F303	11.55	8.24	12.49	8.63	—	—	—	—	73
F402	—	—	11.63	7.77	12.65	7.85	13.28	7.97	84
F403	12.38	9.07	13.32	9.46	—	—	—	—	91
F602	—	—	12.84	8.98	13.86	9.06	14.49	9.18	165
F603	—	—	14.53	10.67	—	—	—	—	177

\* Weight is base unit only. MR weight must be added separately.

**Table 7 “WF” Single Side Bushings Stock Bore Sizes — Stainless Steel**

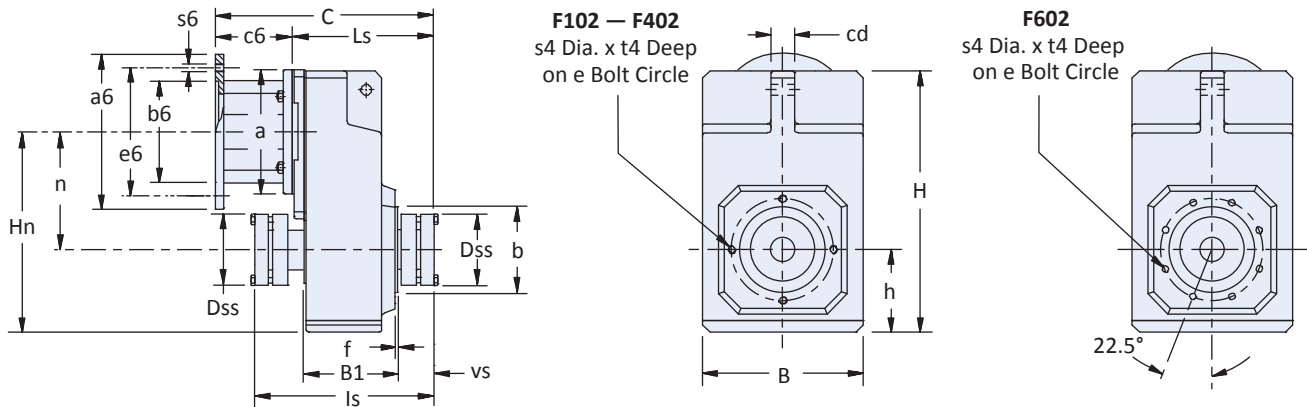
NOTE: Single side bushing kits include 1 each of the pressure and locking ring, tapered cone, support ring, and all hardware to mount the kit into the MGS reducer. The WF1 bushing does not use a tapered cone. The bushing will accept a shaft with a tolerance of +0.000/-0.005.

Base Module	Imperial — Inches													Metric — mm		
	3/4	1	1-3/16	1-1/4	1-3/8	1-7/16	1-1/2	1-5/8	1-11/16	1-3/4	1-7/8	1-15/16	2	20	30	35
F1	WF1-075	—	—	—	—	—	—	—	—	—	—	—	—	WF1-20	—	—
F2	—	WF2-100	WF2-103	—	—	—	—	—	—	—	—	—	—	—	WF2-30	—
F3	—	WF3-100	WF3-103	WF3-104	WF3-106	WF3-107	WF3-108	—	—	—	—	—	—	—	WF3-30	WF3-35
F4	—	WF4-100	WF4-103	WF4-104	WF4-106	WF4-107	WF4-108	—	—	—	—	—	—	—	—	—
F6	—	—	—	—	—	WF5-107	WF5-108	WF5-110	WF5-111	WF5-112	WF5-114	WF5-115	WF5-200	—	—	—

F Series: OFFSET — Solid Shaft / Hollow Output

# F Series: OFFSET — Solid Shaft/Hollow Output

## “W” Double Bushing with “G” Pilot Circle Diameter (PCD) Tapped Holes — Two Stage Units Only



**Table 1 F Series Unit Dimensions (Inches) — “W” Double Side Wobble Free Bushing**

Base Module	B	b	B1	cd	Dss	e	f
F102	5.71	2.953	3.43	0.79	2.68	3.54	0.10
F202	7.09	3.740	4.13	0.87	3.07	4.53	0.12
F302	8.11	4.331	4.72	1.18	3.31	5.12	0.14
F402	9.06	4.331	5.31	1.18	3.82	5.12	0.14
F602	10.43	5.118	6.54	1.38	4.13	6.50	0.14

**Table 2 F Series Unit Dimensions (Inches) — “W” Double Side Wobble Free Bushing**

Base Module	H	h	Hn	ls	n	s4	t4	vs
F102	9.37	2.91	6.93	6.73	4.02	M8x1.25	0.51	1.18
F202	11.77	3.66	8.82	7.77	5.16	M8x1.25	0.51	1.54
F302	13.23	4.17	10.06	8.46	5.89	M10x1.5	0.63	1.54
F402	14.57	4.57	11.22	9.57	6.65	M10x1.5	0.63	1.78
F602	17.64	5.39	13.11	10.84	7.72	M10x1.5	0.63	1.77

**Table 3 Bushing Capscrew Dimensions**

Base Module	Bushings Capscrew Qty – Size x Length (mm)	Tightening Torque	
		in. lbs	Nm
F102	6 – M6 x 1 x 25	89	10
F202	8 – M6 x 1 x 30	89	10
F302	8 – M6 x 1 x 30	89	10
F402	8 – M8 x 1.25 x 30	221	25
F602	8 – M8 x 1.25 x 30	221	25

**Table 4 Required Output Shaft Length\***

Base Module	Length (in)
F102	7.04
F202	8.18
F302	8.89
F402	10.03
F602	11.30

\* **Important:** A 1/32" x 45° chamfer minimum is recommended for the shaft end. The bushing will accept a shaft with a tolerance of +0.000/-0.005 in.



# Dimensional Data

**Table 5 F Series Unit Dimensions (inches) — “MR” Motor Adapter**

Motor Adapter	NEMA C-Flange	a	a6	b6	c6	e6	s6	Wt. lbs
MR140/050	56C	5.51	6.50	4.500	3.31	5.87	0.41	9
MR160/050	56C	6.30	6.50	4.500	3.86	5.87	0.41	16
MR160/140	143/145TC							
MR200/180	182/184TC	7.87	9.00	8.500	4.80	7.25	0.55	23
MR250/180	182/184TC	9.84	9.00	8.500	5.31	7.25	0.55	36
MR250/210	213/215TC							

**Table 6 Motor Adapter Dimensions (Inches)**

Base Module	MR140/050		MR160/050 MR160/140		MR200/180		MR250/180 MR250/210		Wt. lbs*
	C	Ls	C	Ls	C	Ls	C	Ls	
F102	8.42	5.11	—	—	—	—	—	—	38
F202	9.50	6.19	10.21	6.35	—	—	—	—	51
F302	10.09	6.78	10.80	6.94	11.82	7.02	—	—	67
F402	—	—	11.63	7.77	12.65	7.85	—	—	84
F602	—	—	12.84	8.98	13.86	9.06	14.49	9.18	165

\* Weight is base unit only. MR weight must be added separately.

**Table 7 “WFN” Double Side Bushings Stock Bore Sizes — Stainless Steel**

NOTE: Single side bushing kits include 1 each of the pressure and locking ring, tapered cone, support ring, and all hardware to mount the kit into the MGS reducer. The WF1 bushing does not use a tapered cone. The bushing will accept a shaft with a tolerance of +0.000/-0.005.

Base Module	Imperial — Inches													Metric — mm			
	3/4	1	1-3/16	1-1/4	1-3/8	1-7/16	1-1/2	1-5/8	1-11/16	1-3/4	1-7/8	1-15/16	2	20	30	35	40
F102	WFN1-075	—	—	—	—	—	—	—	—	—	—	—	—	WFN1-20	—	—	—
F202	—	WFNK2-100	WFNK2-103	—	—	—	—	—	—	—	—	—	—	—	—	—	—
F302	—	WFN3-100	WFN3-103	WFN3-104	WFN3-106	WFN3-107	WFN3-108	—	—	—	—	—	—	—	WFN3-30	WFN3-35	—
F402	—	WFN4-100	WFN4-103	WFN4-104	WFN4-106	WFN4-107	WFN4-108	—	—	—	—	—	—	—	—	—	WFN4-40
F602	—	—	—	—	—	WFN5-107	WFN5-108	WFN5-110	WFN5-111	WFN5-112	WFN5-114	WFN5-115	WFN5-200	—	—	—	WFN5-40

F Series: OFFSET — Solid Shaft / Hollow Output

# Technical Reference

## Output Options

**BLUE:** standard output diameters in stock  
**BLACK:** optional diameters in stock  
 Other options are available upon request. Please contact STÖBER to learn about other options and their deliveries.

**Important:** Refer to specific product dimension drawings for hollow bore and wobble free bushing required shaft length specifications.

### KSS Series (Stainless Steel)

		KSS1	KSS2	KSS3	KSS4
<b>Solid Shaft</b>	<b>Inches</b>	<b>1</b>	<b>1-1/4</b>	<b>1-1/4</b>	<b>1-3/8</b>
<b>Hollow Bore</b>	<b>Inches</b>	<b>1</b>	<b>1-1/4</b>	<b>1-3/8</b>	<b>1-1/2</b>
	Req. Shaft Length	3.86	4.78	4.92	6.18
<b>Wobble Free Bushing</b>	<b>Inches</b>	1	1 1-3/16 1-1/4 1-3/8 1-7/16 1-1/2	1 1-3/16 1-1/4 1-3/8 1-7/16 1-1/2	1-3/16 1-1/4 1-3/8 1-7/16 1-1/2
	<b>Metric</b>	25	30 35	30 35	40
Req. Shaft Length	wCovers	7.85	9.28	9.75	11.38
	w/oCovers	7.49	9.00	9.47	11.04

### KL Series

			KL2
<b>Solid Shaft</b>	<b>Carbon Steel</b>	<b>Inches</b>	<b>3/4</b>
		<b>Metric</b>	20
	<b>Stainless Steel</b>	<b>Inches</b>	<b>3/4</b>
		<b>Metric</b>	20 22
<b>Hollow Bore</b>	<b>Carbon Steel</b>	<b>Inches</b>	<b>3/4</b>
		<b>Metric</b>	20
	<b>Stainless Steel</b>	<b>Inches</b>	<b>3/4</b>
		Req. Shaft Length	
<b>Wobble Free Double Bushing</b>	<b>Stainless Steel</b>	<b>Inches</b>	<b>3/4</b>
		Req. Shaft Length	
	w/oCovers		6.97

### K Series

			K1	K2	K3	K4	K5	K6	K7	K8	K9	K10	
<b>Solid Shaft</b>	<b>Carbon Steel</b>	<b>Inches</b>	<b>1</b>	<b>1-1/4</b>	<b>1-1/4</b>	<b>1-3/8</b>	<b>1-3/4</b>	<b>1-3/4</b>	<b>2-3/8</b>	<b>2-7/8</b>	<b>3-5/8</b>	<b>4-3/8</b>	
		<b>Metric</b>	25	30	30	40	45	50	60	70	90	110	
	<b>Stainless Steel</b>	<b>Inches</b>	<b>1</b>	<b>1-1/4</b>	<b>1-1/4</b>	<b>1-3/8</b>	<b>1-3/4</b>	<b>1-3/4</b>	<b>2-3/8</b>	<b>2-7/8</b>	<b>3-5/8</b>	—	
		<b>Metric</b>	25	30	—	—	45	—	—	—	—	—	
<b>Hollow Bore</b>	<b>Carbon Steel</b>	<b>Inches</b>	<b>1</b>	<b>1-3/16</b>	<b>1-3/8</b>	<b>1-1/2</b>	<b>2</b>	<b>2</b>	<b>2-3/8</b>	<b>2-3/4</b>	<b>3-1/4</b>	<b>4</b>	
		<b>Metric</b>	25	30	35	40	50	50	60	70	90	—	
	<b>Stainless Steel</b>	<b>Inches</b>	<b>1</b>	<b>1-1/4</b>	<b>1-3/8</b>	<b>1-1/2</b>	<b>2</b>	<b>2</b>	<b>2-3/8</b>	—	2-15/16 3 3-7/16	—	
		<b>Metric</b>	25	30	35	40	50	—	60	—	—	—	
Req. Shaft Length			3.86	4.78	4.92	6.18	6.46	7.05	8.43	10.35	11.89	14.25	
<b>Wobble Free Bushing</b> <small>(Stainless Steel except where noted)</small>	<b>Inches</b>	<b>Single &amp; Double</b>	1	1 1-3/16 1-1/4	1* 1-3/16* 1-1/4* 1-3/8* 1-7/16* 1-1/2*	1 1-3/16 1-1/4 1-3/8 1-7/16 1-1/2	1-7/16 1-1/2 1-5/8 1-11/16 1-3/4 1-7/8 1-15/16 2	1-7/16 1-1/2 1-5/8 1-11/16 1-3/4 1-15/16 2-3/16	1-15/16 2 2-3/16 2-3/8	2-3/16 2-3/8 2-7/16 2-3/4	—	—	
		<b>Metric</b>	<b>Single</b>	25	30	30 35	—	—	—	—	—	—	—
	Req. Shaft Length	wCovers	<b>All</b>	7.97	9.23	9.76	11.42	11.89	12.99	14.83	17.60	—	—
		w/oCovers	<b>Single</b>	7.06	8.32	8.81	10.26	10.80	11.81	13.41	16.20	—	—
		<b>Double</b>	7.73	8.99	9.50	11.11	11.61	12.75	14.33	17.29	—	—	

\*Also available in carbon steel



## C Series

			C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
Solid Shaft	Carbon Steel	Inches	3/4	1	1-1/4	1-1/4	1-5/8	1-5/8	2-1/8	2-3/8	2-7/8	3-5/8
		Metric	20	25	30	30	40	40	50	60	70	90
	Stainless Steel	Inches	3/4	1	1-1/4	1-1/4	1-5/8	1-5/8	2-1/8	2-3/8	2-7/8	—
		Metric	—	—	—	25	—	—	—	—	—	—

## F Series

			F1	F2	F3	F4	F6
Solid Shaft	Carbon Steel	Inches	1	1-1/4	1-3/8	1-5/8	2-1/8
		Metric	—	—	—	—	—
	Stainless Steel	Inches	—	—	—	—	—
		Metric	—	—	—	—	—

Hollow Bore	Carbon Steel	Inches	3/4	1	1-1/4	1-7/16 1-1/2	2
		Metric	20	25	30	40	50
	Stainless Steel	Inches	—	—	1-1/4	1-1/2	—
		Metric	—	—	—	—	—
Req. Shaft Length			2.87	3.62	4.06	4.49	5.63

Wobble Free Bushing (Single & Double Bushings*)	Stainless Steel	Inches	3/4	1 1-3/16	1 1-3/16 1-1/4 1-7/16 1-1/2	1-7/16 1-1/2	1-7/16 1-1/2 1-15/16 2
			Metric	20	—	—	40**
		Req. Shaft Length		Single	6.57	7.51	8.20
		Double	7.04	8.18	8.89	10.03	11.30

\* Double bushings only available with two stage units \*\* Double bushing only

## Standard & Optional Output Flange Sizes

### K Series

Base Module	Flange Size		
K1	140	160*	
K2	160	200*	
K3	160	200*	250
K4	250*		
K5	250*		
K6	300*		
K7	300	350*	
K8	350	400*	450
K9	450*		
K10	550*		

### C Series

Base Module	Flange Size		
C0	120	140	160*
C1	140	160	200*
C2	160	200*	250
C3	160	200	250*
C4	200	250*	300
C5	250	300*	
C6	300*		
C7	350*		
C8	350	400*	450
C9	450*		

\* This is the standard flange size and will be shipped unless otherwise specified. Optional flanges are not available for all sizes.

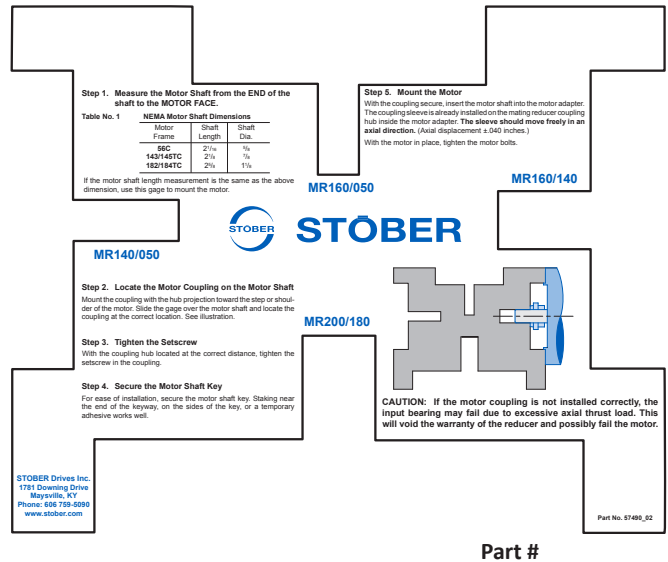
# Technical Reference

## STOBER Motor Hub Mounting Gage

For ease of motor coupling hub location and installation, the STOBER motor hub mounting gage is designed to fit most sizes of “MR” style motor adapters (used with C, F and K units), as well as The “MS” style adapters with the KSS series.

This simple-to-use gage makes it easy to position the motor coupling hub on the shaft quickly and accurately, insuring maximum motor/speed reducer performance and life.

A paper motor hub mounting gage is included with each MGS speed reducer order. Stainless steel motor hub mounting gages are also available. Contact STOBER to order, using the appropriate part number listed below.

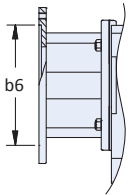


### Gages for C, F, K Series

	Paper	Stainless Steel
Gages for use with MR140/050, MR160/050, MR160/140 and MR200/180 adapters	57490	5000070
Gage for use with MR 250/210 and MR300/250 adapters	213000	5000069
<b>Gages for KSS Series</b>		
Gages for use with KSS Series all MS style adapters	5000085	5000084

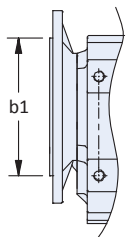
## Tolerances

### Motor Adapter (KSS, KL, K, C, F)



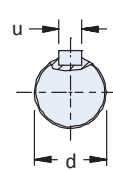
Bore (in)	Pilot Bore Diameter b6
1.96 — 3.15	+0.0007/-0.0005
3.15 — 4.72	+0.0008/-0.0006
4.72 — 7.09	+0.0010/-0.0007
7.09 — 9.84	+0.0012/-0.0008
9.84 — 12.40	+0.0014/-0.0009

### Output – Flange Mount (KSS, KL, K, C, F)



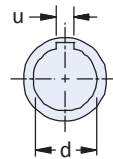
Diameter (in)	Pilot Diameter b1
>1.96 — 3.15	+0.0005/-0.0003
>3.15 — 4.72	+0.0005/-0.0004
>4.72 — 7.09	+0.0006/-0.0004
>7.09 — 9.84	+0.0006/-0.0005
>9.84 — 12.40	+0.0006/-0.0006
>12.40 — 15.74	+0.0007/-0.0007

### Output – Solid Shaft (KSS, KL, K, C, F)



Diameter (in)	d	u
0.39 — 0.71	+0.0000/-0.0005	+0.0019/ -0.0000
0.71 — 1.18	+0.0000/-0.0006	
1.18 — 1.97	+0.0000/-0.0007	
1.97 — 3.15	+0.0000/-0.0008	
3.15 — Up	+0.0000/-0.0009	

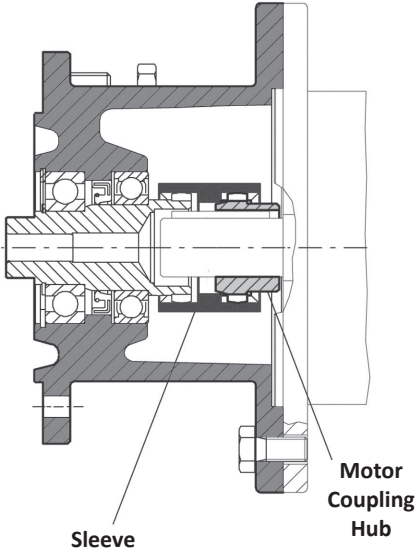
### Output – Hollow Bore (KSS, KL, K, C, F)



Bore (in)	d	u
0.39 — 0.71	+0.0007/-0.0000	+0.0019/ -0.0000
0.71 — 1.18	+0.0008/-0.0000	
1.18 — 1.97	+0.0010/-0.0000	
1.97 — 3.15	+0.0012/-0.0000	
3.15 — Up	+0.0014/-0.0000	

## Motor Adapter Coupling Hub and Sleeve

Motor coupling hub and sleeves are provided with the motor adapter. These parts, with a coupling shaft component that is part of the reducer, make a complete coupling to connect the motor to the reducer.



### “MR” Motor Adapters (K, C, F)

Adapter	NEMA Frame	Motor Hub	Sleeve
MR140/050	56C	M-19 x 5/8	M-19
MR160/050	56C	M-24 x 5/8	M-24
MR160/140	143/145TC	M-24 x 7/8	M-24
MR200/050	56C	M-32 x 5/8	M-32
MR200/140	143/145TC	M-32 x 7/8	M-32
MR200/180	182/184TC	M-32 x 1-1/8	M-32
MR250/180	182/184TC	M-38 x 1-1/8	M-38
MR250/210	213/215TC	M-38 x 1-3/8	M-38
MR300/180	182/184TC	M-48 x 1-1/8	M-48
MR300/210	213/215TC	M-48 x 1-3/8	M-48
MR300/250	254/256TC	M-48 x 1-5/8	M-48
MR300/280	284/286TC	M-48 x 1-7/8	M-48
MR350/320	324/326TC	M-65 x 2-1/8	M-65
MR350/360	364/365TC	M-65 x 2-3/8	M-65

### “MS\_R” Motor Adapters (KSS)

Adapter	NEMA Frame	Motor Hub	Sleeve
MS1R050	56C	M-19 x 5/8	M-19
MS2R050	56C	M-24 x 5/8	M-24
MS2R140	143/145TC	M-24 x 7/8	M-24
MS3R050	56C	M-24 x 5/8	M-24
MS3R140	143/145TC	M-24 x 7/8	M-24
MS3R180	182/184TC	M-32 x 1-1/8	M-32
MS4R050	56C	M-24 x 5/8	M-24
MS4R140	143/145TC	M-24 x 7/8	M-24
MS4R180	182/184TC	M-32 x 1-1/8	M-32
MS5R050	56C	M-32 x 5/8	M-32
MS5R140	143/145TC	M-32 x 7/8	M-32
MS5R180	182/184TC	M-32 x 1-1/8	M-32
MS7R180	182/184TC	M-32 x 1-1/8	M-32

### “ML” Motor Adapters (KL)

Adapter	NEMA Frame	Motor Hub	Sleeve
ML2R050	56C	M-19 x 5/8	M-19

## Thermal Ratings

HP	kW	Series - Size				
		KSS	KL	K	C	F
2.95	2.2	1		1	0	1
2.00	2.2					
3.02	2.3		2			
5.36	4.0	2		2	1	2
6.00	4.5					
7.38	5.5	3		3	2	3
11.25	8.4					
12.34	9.2	4		4	3	4
14.75	11.0			5	4	5
20.12	15.0			6	5	6
29.50	22.0			7	6	
40.23	30.0			8	7	
53.64	40.0			9	8	
67.05	50.0			10	9	

# Technical Reference

## Conversions

Imperial to Metric	Metric to Imperial
1 inch x 25.4 = mm	mm x 0.03937 = inch
1 in <sup>2</sup> x 645.16 = mm <sup>2</sup>	1 mm <sup>2</sup> x 0.0015 = in <sup>2</sup>
1 lb x 0.453 = kg	1 kg x 2.205 = lb
1 US gal x 3.785 = L	1 L x 0.264 = US gal
1 HP x 0.746 = kW	1 kW x 1.341 = HP
1 lb x 4.45 = N	1 N x 0.225 = lb
1 lb in x 0.113 = Nm	1 Nm x 8.85 = lb in
1 lb ft x 1.36 = Nm	1 Nm x 0.737 = lb ft
1 lb ft x .1383 = kgm	1 kgm x 7.233 = lb ft
1 lb in x .0115 = kgm	1 kgm x 86.798 = lb ft
1 lb in <sup>2</sup> x 0.00029 = kgm <sup>2</sup>	1 kgm <sup>2</sup> (J) x 3418.0 = lb in <sup>2</sup> (WR <sup>2</sup> )
1 PSI x 0.0689 = bar	1 bar x 14.5 = PSI
1 PSI x 0.00689 = N/mm <sup>2</sup>	1 N/mm <sup>2</sup> x 145.04 = PSI
°F = 32 + 9/5 x °C	°C = 5/9 (°F-32)

## Calculating HP

Use this equation to calculate the HP required for an application:

$$HP = \frac{1.732 \times \text{Volts} \times \text{Amps} \times \text{Eff} \times \text{PF}}{746}$$

Where: **Volts** = Motor Running Volts (i.e. 230V or 460V)

**Amps** = Measured Full Load Amps

**Eff** = Motor Efficiency

**PF** = Motor Power Factor

## Formulas

1 HP =	36 in.lbs @ 1750 RPM
1 HP =	54 in.lbs @ 1160 RPM
HP =	Force x FPM / 33,000
HP =	T (in.lbs) x RPM / 63,025
HP =	T (ft.lbs) x RPM / 5,252
T (in.lbs) =	63,025 x HP / RPM
T (ft.lbs) =	5,252 x HP / RPM
Feet/Minute =	0.2618 x Dia. (in) x RPM
Meters/Minute =	0.00314 x Dia. (mm) x RPM
RPM =	Feet/Minute / 0.2618 x Dia. (in)
RPM =	63,025 x HP / Torque
T =	Force x Lever Arm
F =	Torque / Radius

## Return Delivery Note

Service Notification: 400003901

Terms relating to returns of unit for refurbishment are as follows:

1. Products sent to STÖBER for evaluation, repair and/or maintenance ("Returned Products") will be held for 30 business days. If, after STÖBER contacts, or attempts to contact, the Customer regarding such product, the Customer does not respond within 25 days, STÖBER will consider the Customer's product to be abandoned and may dispose of such product at its discretion. STÖBER may retain any residual scrap value for the disposal of the Customer's product. The shipment to STÖBER of any Returned Products constitutes acceptance of all terms contained herein.
2. All returned products must be returned freight prepaid to Maysville, Ky. and are subject to inspection prior to issue of credit.
3. For a level 1 evaluation the Non-warranty inspection fee is \$100.00. This fee is not charged if repair and/or a replacement is purchased. A purchase order is required. A level 1 evaluation will include Visual inspection, evaluate unit for failure mode as described by customer. Failure explanation via e-mail with pictures as needed.
4. For a level 2 evaluation the Non-warranty inspection fee is \$500. Oil Sample Inspection, Bearing Inspection, Seal Inspection, Gearing Inspection and Root Cause Analysis performed by SDI. Failure Report in PDF format with Pictures.
5. For a level 3 evaluation the Non-warranty inspection fee is \$1000 + all outside lab fees and shipping cost. A purchase order is required. Oil Sample saved, Bearing Inspection performed by original manufacture, Seal Inspection performed by original manufacture. Gearing Inspection and Root Cause Analysis performed by SDI. Failure Report in PDF format with Pictures.
6. Units returned freight collect or without an RGA number clearly marked on outside of shipping package will NOT be accepted.
7. If RGA is for product damaged during shipment to you, please contact carrier who caused damage for inspection. Upon completion of inspection, have DAMAGING carrier return goods to STÖBER Drives Inc.
8. Receipt of this unit will be REFUSED, if not in a secure, well-supported package so that they are not damaged in shipment to us.
9. Warranty on original unit remains in place after repair. No new warranty is issued for repaired units.

# Terms and Conditions of Sale

- 1. GENERAL.** All orders for products supplied by STOBBER DRIVES INC. ("STOBBER") shall be subject to these terms and conditions of sales. All transactions shall be governed by the laws of the Commonwealth of Kentucky. No modifications hereto will be binding unless agreed to in writing by STOBBER.
- 2. CUSTOMER.** The term "Customer," as used herein, means the distributor, resale dealer, original equipment manufacturer or first end-user customer that purchases the STOBBER products.
- 3. WARRANTY.** STOBBER products shall be free from defects in material and workmanship for a maximum of 5-years (single shift operation or 30 months multiple shift operation) for ServoFit products (ServoFit Modular System, ServoFit Precision Planetary Gearheads, and ServoFit Geared Motors) and MGS Long Life products; 3-years (single shift operation or 18 months multiple shift operation) for other MGS products; 2-years (single shift operation or 12 months multiple shift operation) for ComTrac products, from the date of shipment to the Customer. For ServoFit products, the motor on ServoFit Geared Motors, as well as all normal wear items, including oil seals and bearings, shall be covered for a period of 2-years (single shift operation or 12 months multiple shift operation). In the event that a product proves to be defective, STOBBER's sole obligation shall be, at its option, to repair or replace the product. The repaired or replacement product will be shipped F.O.B. STOBBER's facilities, freight prepaid by STOBBER.

No employee, agent or representative of STOBBER has the authority to waive, alter, vary or add to the terms hereof without the prior written approval of an officer of STOBBER. It is expressly agreed that (a) this section constitutes the final expression of the parties' understanding with respect to the warranty and (b) this section is a complete and exclusive statement of the terms of the warranty.

STOBBER shall have no obligation under the warranty set forth above in the event that:

- (a) The Customer fails, within the warranty period to notify STOBBER in writing and provide STOBBER with evidence satisfactory to STOBBER of the alleged defect within five (5) days after it becomes known to the customer;
- (b) After inspection of a product, STOBBER determines, in its sole discretion, that it is not defective in material or workmanship;
- (c) Repair or replacement of a product is required through normal wear and tear;
- (d) Any part in a product or any ingredient contained in a product requires replacement or repair through routine usage or normal wear and tear;
- (e) A product is not maintained or used in accordance with STOBBER's applicable operating and/or maintenance manuals, whether by the Customer or any third party;
- (f) A product has been subject to misuse, misapplication, negligence, neglect (including, but not limited to, improper maintenance or storage), accident, catastrophe, improper installation, modification, adjustment, repair or lubrication, whether by the Customer or any third party, without the prior written consent of STOBBER. Misuse shall include, but not be limited to, deterioration in a product due to chemical action and wear caused by the presence of abrasive materials;
- (g) The system of connected rotating parts into which the product becomes incorporated is not compatible with the product, or it is not free from critical speed or torsional or other type of vibration within the specified operating range, no matter how induced; or
- (h) The transmitted load and imposed torsional thrust and overhung loads are not within the published capacity limits for the unit sold.

Items manufactured by other parties but installed in or affixed to STOBBER's products are not warranted by STOBBER and bear only those warranties, express or implied, which are given by the manufacturer of such items, if any.

THE WARRANTY SET FORTH ABOVE IS INTENDED SOLELY FOR THE BENEFIT OF THE Customer AND DOES NOT APPLY TO ANY THIRD PARTY. ALL CLAIMS MUST BE MADE BY THE CUSTOMER AND MAY NOT BE MADE BY ANY THIRD PARTY. THIS WARRANTY MAY NOT BE TRANSFERRED OR ASSIGNED, IN WHOLE OR IN PART, BY THE CUSTOMER FOR ANY REASON WHATSOEVER. ANY SUCH ATTEMPTED TRANSFER OR ASSIGNMENT SHALL BE NULL AND VOID.

THIS WARRANTY TAKES THE PLACE OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, WHICH ARE HEREBY DISCLAIMED AND EXCLUDED BY STOBBER, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF USE AND ALL OBLIGATIONS OR LIABILITIES ON THE PART OF STOBBER FOR DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE USE, REPAIR OR PERFORMANCE OF THE PRODUCTS.

**4. MODIFICATIONS.** STOBBER reserves the right, without notice to the Customer, to (a) change the specifications of any product, (b) improve a product in any manner that STOBBER deems necessary or appropriate and (c) discontinue the manufacture of any product.

**5. PURCHASE ORDERS.** The Customer will submit purchase orders for the products to STOBBER in writing, whether by mail or telefax, which shall set forth, at a minimum: (a) an identification of the products ordered, (b) prices for such products, (c) quantities, (d) requested delivery dates and (e) shipping instructions and shipping addresses.

**6. ACCEPTANCE OF ORDERS.** All purchase orders received from the Customer are subject to acceptance by STOBBER in writing.

**7. MODIFICATION OF ORDERS.** No accepted purchase order shall be modified or canceled except upon the written agreement of STOBBER and the Customer. Mutually agreed cancellations shall be subject to reasonable charges based upon expenses already incurred by STOBBER and commitments made by STOBBER. Mutually agreed change orders shall be subject to all provisions of these Terms and Conditions of Sale.

**8. PRICE INCREASES.** STOBBER may increase its prices for the products by providing the original purchaser of the products with at least thirty (30) days' prior written notice. Increased prices for products shall not apply to purchase orders accepted prior to the effective date of the price increase unless such orders provide for delivery more than thirty (30) days after the date of acceptance of the order.

**9. PRICING AND DELIVERY TERMS.** In accordance with KRS 355.2-319(1)(b), all products are delivered F.O.B. STOBBER's warehouse facility in Maysville, Kentucky, or such other facility as STOBBER may designate. Orders are then shipped per Customer's shipping instructions as set forth in Customer's purchase order. **CATALOG PRICING DOES NOT INCLUDE SHIPPING, HANDLING AND TAXES.** Once delivered to a common carrier of the Customer's choosing [or of STOBBER's choosing if Customer has failed to specify a common carrier on or before five (5) days prior to the requested delivery date] STOBBER shall have no further responsibility for the products and all risk of damage, loss or delay shall pass to the Customer. A handling fee is added to freight costs by STOBBER to cover the cost of having to pay the carrier within seven (7) days when the terms with the Customer are net 30. The Customer has the option of shipping collect with our carrier or the carrier of choice.

**10. PAYMENT TERMS.** Net 30 days. All orders will be shipped either prepaid by the Customer or C.O.D., at STOBBER's option, unless the Customer has established a previously approved credit line. If STOBBER approves a credit line for the Customer, all payments shall be due within thirty (30) days of the date of the invoice. If any invoice is not paid in full within such thirty (30) day period, then finance charges shall be assessed at the rate of one and one-half percent (1½%) per month (eighteen percent (18%) per year). If such rate is deemed to be usurious at any time, it shall be reduced to the maximum rate permitted by applicable

law. STOBBER may stop or withhold shipment of products if the Customer does not fulfill its payment obligations. If STOBBER is insecure about payment for any reason, STOBBER may require full or partial payment in advance and as a condition to the continuation of its delivery of products.

**11. SECURITY INTEREST.** Unless and until the products are paid for in full, STOBBER reserves a security interest in them to secure the unpaid balance of the purchase price. The Customer hereby grants to STOBBER a power of attorney, coupled with an interest, to execute and file on behalf of the Customer all necessary financing statements and other documents required or appropriate to protect the security interest granted herein.

**12. ACCEPTANCE OF PRODUCTS.** The Customer will conduct any incoming inspection tests as soon as possible upon arrival of the products, but in no event later than ten (10) days after the date of receipt. Any products not rejected by written notice to STOBBER within such period shall be deemed accepted by the Customer. STOBBER shall not be liable for any additional costs, expenses or damages incurred by the Customer, directly or indirectly, as a result of any shortage, damage or discrepancy in a shipment.

**13. LIMITATION OF REMEDIES.**

(a) STOBBER SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE CAUSED BY DELAY IN FURNISHING THE CUSTOMER WITH PRODUCTS.

(b) IN NO EVENT SHALL STOBBER'S LIABILITY INCLUDE ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL LOSSES OR DAMAGES, EVEN IF STOBBER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH POTENTIAL LOSS OR DAMAGE.

**14. MADE-TO-ORDER PRODUCTS.** STOBBER reserves the right to revoke and amend any price quotations offered to the Customer for made-to-order products, provided that such price quotations have not been accepted by the Customer prior to the date of revocation or amendment.

**15. DIES, TOOLS AND EQUIPMENT.** Charges incurred by the Customer for dies, tools and other equipment shall not confer ownership or the right to possession therein by the Customer. All such dies, tools and equipment shall remain the property of STOBBER, and STOBBER shall have the exclusive right to possession thereof. STOBBER shall maintain such tools and equipment in good working order.

**16. REGULATORY LAWS AND STANDARDS.** STOBBER makes no representation that its products conform to state or local laws, ordinances, regulations, codes or standards except as may be otherwise agreed to in writing by STOBBER.

**17. SIZES AND WEIGHTS.** STOBBER's products are made only in the sizes and to the specifications set forth in its catalogs and other literature. If any alteration is requested, such altered product will be treated as a made-to-order item. STOBBER assumes no responsibility for typographical errors which may appear in its catalogs or literature, and cannot accept alteration charges caused by such errors. Since weights shown in STOBBER's catalogs are approximate, they cannot be used in determining freight allowances set forth in its catalogs and other literature. Freight allowances will be determined at the time of shipment and shall be based on actual shipping weight.

**18. SYSTEM DESIGN.** Responsibility for system design to ensure proper use and application of STOBBER's products within their published specifications and ratings rests solely with the Customer. This includes, but is not limited to, an analysis of loads created by torsional vibrations within the entire system, regardless of how induced.

## STOBBER DRIVES INC.

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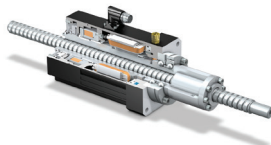


## ServoStop

### Motor Adapter with Integrated Brake

Motor adapter integrated brake module provides redundant braking during power failures or emergency stops in hazardous situations. Available with ServoFit P, PA, PH, PHA, PK, PHK, C, F and K Series Gearheads.

- Saves braking at EMERGENCY STOP and power cut
- Prevents accidental sliding or falling of vertical axis with gravity load absolutely reliable
- Manual hand release available
- Fits all standard servo motors
- IP54 Rated; CSA Approved
- Higher safety for vertical applications per EN ISO 13849, Category 1, 2 & 3



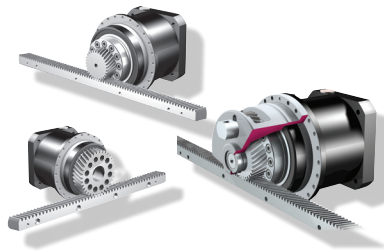
## Spindle Nut Direct Drive

- Axial angular contact ball bearing absorbs high axial forces from the ball screw
- Flange meets DIN 69051-5 requirements
- Liquid cooling channel available as an option for added performance



## ServoFit® Gear Reducers

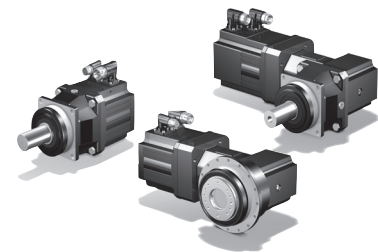
- Inline concentric, offset or right angle
- Helical, bevel or worm gear driven
- Input RPM up to 8,000
- Output torques to +200,000 lb-in
- Ratios from 3:1 to 600:1
- Backlash as low as <1 arc minute
- Food and corrosion resistant duty stainless steel available



## Rack and Pinion Systems

STÖBER and Atlanta partner on ZV, ZR, ZTR, ZTRS Series high efficiency rack and pinion drives which feature an innovative pinion bearing for high linear force applications.

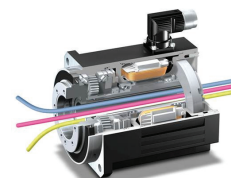
- Gear unit and rack optimally mated together as a system
- Ready to install drive solutions
- Easy selection and calculations done by STÖBER for a total engineered solution
- Optimize inertia mismatch by changing the gear ratio or pinion tooth count
- Forces up to 122 kN or 27,400 lbs
- Precision linear backlash as low as 7 µm
- Gearing size ranges from Mod. 2 – 10



## Servo Gearmotors

ED and EZ Series are compact, highly-dynamic, electronically commutated, permanent magnet brushless servo motors coupled to STÖBER gearheads.

- Mounting the motor directly to the gearbox eliminates a motor coupling and housing, adapter or additional input seals and bearings to reduce inertia up to 75%
- Smoother running for optimal performance; dynamic, minimal torque/speed ripple; UL/CE/CSA approved
- Options include: washdown, food coatings, spring and magnetic brakes, forced air cooling, water cooling, high dynamic performance with low inertia, encoder options, PTC or KTY winding protection, high inertia option, motor speeds up to 6000 RPM, and high torque density



## Hollow Bore Motors

- Flanged hollow shaft motor features a large internal hollow shaft (28 to 42 mm) that allows feeding of supply lines, including not only power cables, hydraulic pipes and pneumatic hoses, but also shafts and laser beams.
- 2 sizes – 5 and 7
- Extremely compact

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MGS Version 31 Form #442933 04/22





**STOBER**

**MGS<sup>®</sup> Speed Reducers**

**V.28**