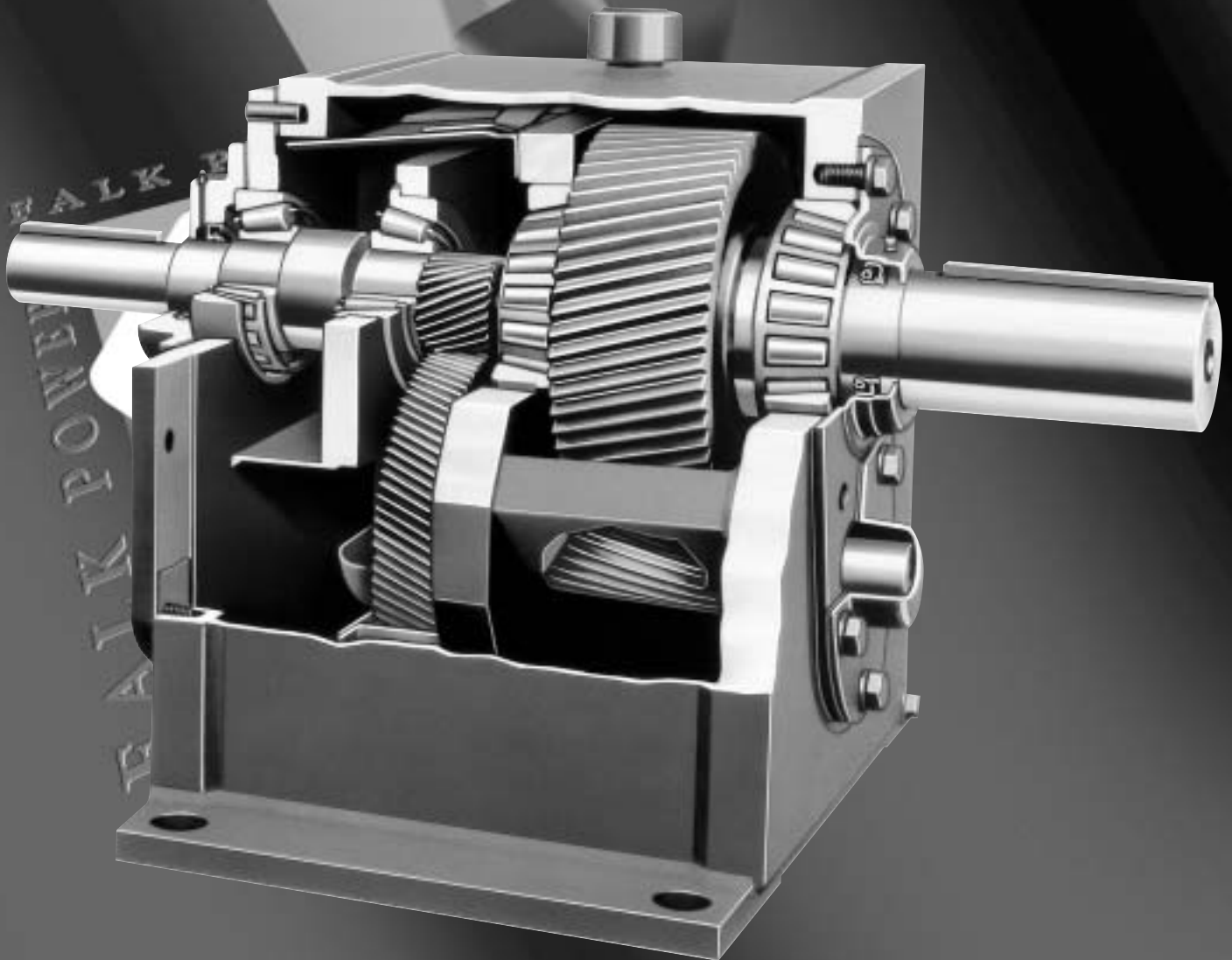


UltraMax[®]

Strong and versatile, the concentric drive that's
rugged enough for parallel shaft challenges



FALK[®]



A practical alternative for both gearmotor and parallel shaft drives, the Falk UltraMax® delivers a winning punch

The fight for productivity has a brand new contender: the Falk UltraMax. The UltraMax drive delivers all the performance of a parallel shaft gear drive, with the economy of a gearmotor.

Designed to meet the tough challenges of medium and heavy-duty concentric gear drive operation, UltraMax gives you everything you choose Falk equipment for – outstanding design, durability, long-life, easy maintenance and overall efficiency.

UltraMax comes in ten sizes, with an output torque range of 282 Nm through 67 800 Nm, or 2500 lb./in. through 600,000 lb./in.

With UltraMax, you get more power for your dollar, with savings of up to 30% over a comparably rated parallel shaft gear drive.

And, as always, when you team up with Falk, you are assured of application and delivery assistance, backed up by service and support where and when you need it.

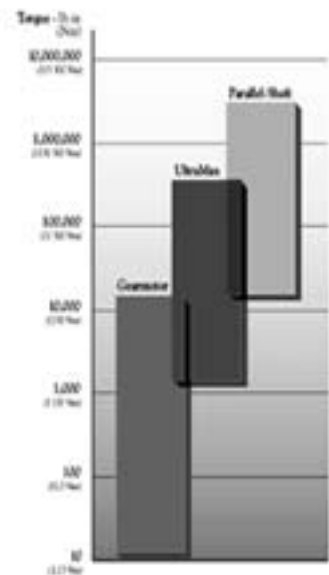
Falk UltraMax. Performance you can rely on, round after round.

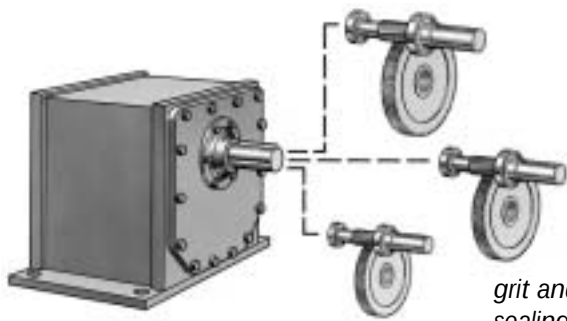
Parallel shaft performance meets gearmotor economy in UltraMax, the perfect concentric alternative

UltraMax can be used in high torque applications that once required more expensive parallel-shaft drives. Tough and versatile, the compact, long-lasting UltraMax offers a fully-featured concentric design that works in today's global markets. A competitive price and performance-related cost savings give UltraMax bottom-line appeal.

Optimized Design

The UltraMax incorporates the latest in design technology. With its high torque density, Ultramax is the right choice for new applications. And users with Falk's 1000F concentric drive in existing applications will appreciate the drop-in interchangeability the UltraMax offers.





Superior Availability

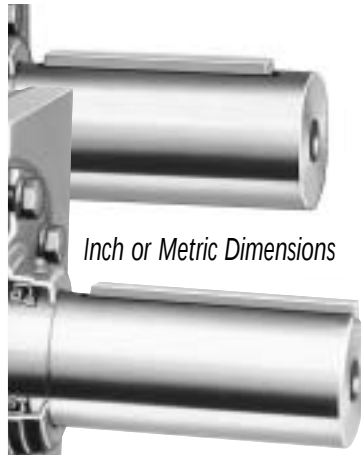
UltraMax delivers the power and reliability of a parallel shaft drive with the availability of a gearmotor. With Falk's local Finished Assembly Program, Falk distributors can build and ship finished UltraMax drives within hours. And the large UltraMax inventory at regional Falk Distribution Centers ensures quick delivery regardless of size, ratio, or accessories.

Life Extending Extras

Rugged tapered roller bearings at all locations provide load-carrying capacity superior to ball bearings. An automotive-type dipstick makes oil checks easy. Grease-purgeable seal cavities at all seal locations protect the seals from

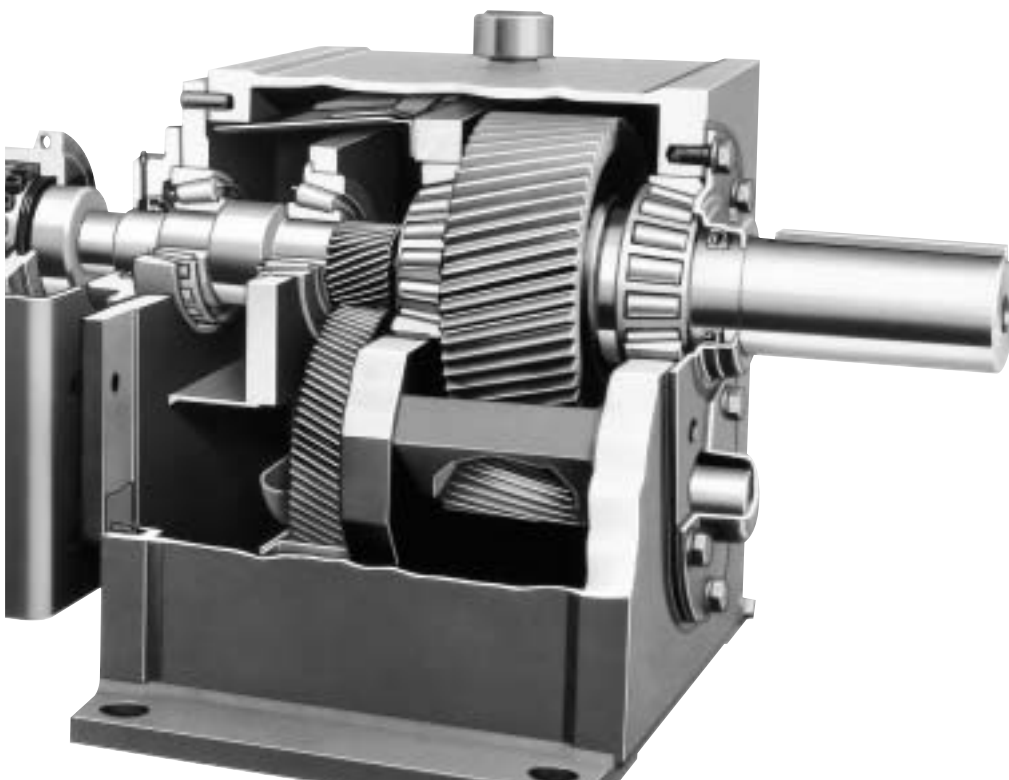


grit and abrasives that deteriorate sealing. Optional Viton seals are available for severe duty applications.



Inch or Metric Dimensions

UltraMax is designed for worldwide use. Shaft extensions and keyways are available in inch or metric dimensions. Economical, pre-engineered accessories such as motor brackets, motor mounts and flanged motor adapters are readily available to suit both NEMA and IEC frame motors.

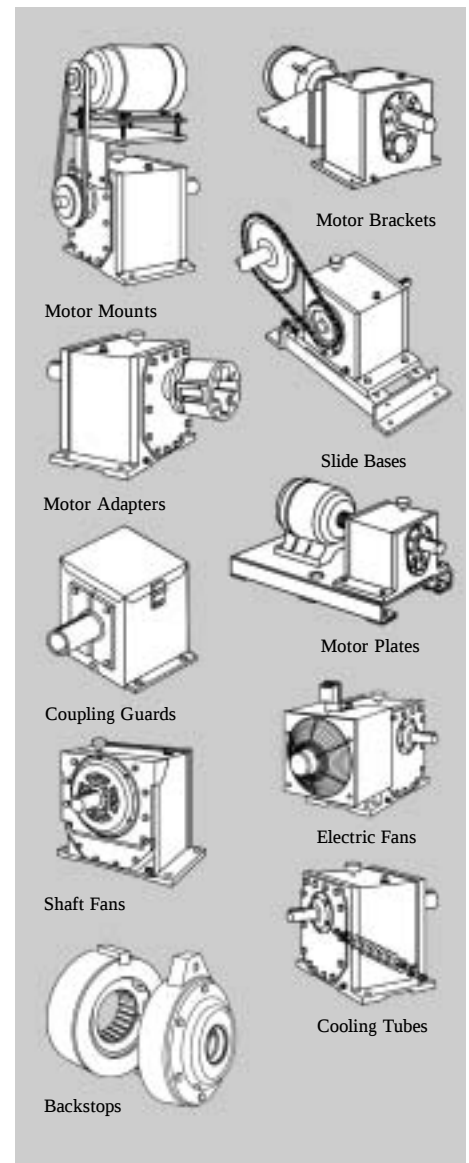


Single Source For Gear Drive Packages

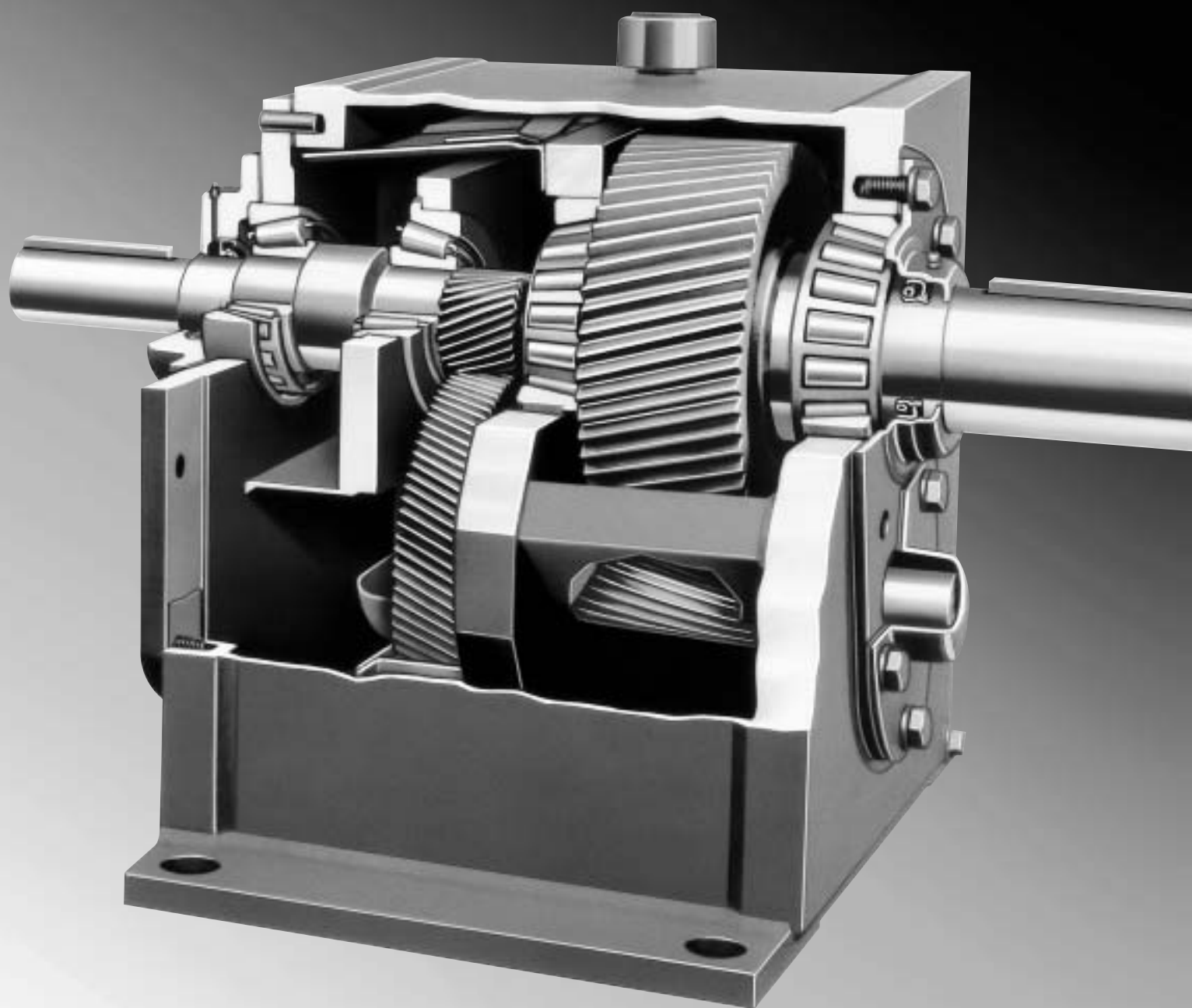
Associated couplings and OSHA-approved coupling guards, as well as electric motors, can be included in complete Falk supplied drive packages.

Full Accessory Package

Economical integral backstops, slide bases and motor plates are available. Efficient shaft driven cooling fans, electric fans or cooling tubes can be specified as needed.



UltraMax[®] Concentric Gear Drive Selection Guide



Selection Guide 311-110, September 2003

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Falk Factory Warranty We're so confident in the performance and reliability of our latest generation of Falk heavy-duty products that we're backing this comprehensive offering with the best standard warranty in the business. Our full, 3-year Heavy-Duty Warranty provides "shaft-to-shaft" protection on all Falk components – *including bearings and seals*. It's an industry first... and one more powerful reason why Falk is your ultimate bottom-line drive and coupling value. ★

★ Warranty extends for 3 years from date of shipment. Does not apply to Falk Omnibox, Ultramite, Fluid Couplings, Renew and spare parts. Warranty applies to Steelflex and Lifelign couplings with the use of Falk Long Term grease.

Basic Information

Safety Notes

Falk Gear Drives The Falk name on the gear drive is the purchaser's assurance that the drive was engineered, rated and manufactured to sound design practices.

When one prime mover drives two pieces of equipment, one of which is either a standard Falk geared drive or a customer standard geared drive, the division of power between each machine is the responsibility of the customer. The power supplied to the geared drive must be equal to or less than the power for which the drive was selected using the appropriate service factor for the application. The customer must also assume the responsibility of isolating the geared drive from any vibratory or transient load induced by the driven equipment.

Install and operate Falk products in conformance with applicable local and national safety codes and per Falk installation manuals which are shipped with gear drives and are also available upon request. Suitable guards for rotating members may be purchased from Falk as optional accessories. Consult your local Falk Representative for complete details.

People Conveying Equipment Selection of Falk products for applications whose primary purpose is the transportation of people is not approved. This includes such applications as freight or passenger elevators, escalators, man lift platforms, and ski tows and ski lifts.

If the primary purpose of the application is material conveyance and occasionally people are transported, the Falk warranty may remain in effect provided the design and load conditions are not exceeded and certification to the appropriate safety codes and load conditions has been obtained by the system designer or end user from the appropriate enforcement authorities.

Gear Drive Ratings

All gear drive ratings in this selection guide allow 100% overload for starting loads and momentary overloads for electric motor driven applications operating ten hours per day under uniform conditions (unity service factor). For other conditions, compute an equivalent power by multiplying the actual power required for the application by the appropriate service factor.

Gear Drive Identification Tables in this selection guide identify gear drives by size, type and ratio. See Drive Identification Page 12.

Horsepower & Torque Gear drive mechanical horsepower and torque ratings are tabulated in the selection guide to permit selections for specific application requirements. NOTE: Drives may be selected using the Quick Selection tables under most circumstances. Refer to those tables starting on Page 15 for selection guidelines.

Thermal Ratings must be considered when selecting a gear drive. Refer to Page 42 for more information.

Stored & Inactive Drives Each gear drive is spin-tested with a rust preventive oil that will protect parts against rust for a period of four months in an outdoor shelter or twelve months in a dry building after shipment from the Factory.

Periodically inspect stored or inactive drives and spray internal parts with rust inhibitor every six months or more often, if necessary. Drain oil before adding rust inhibitor. Indoor dry storage is recommended.

Drives ordered for extended storage can be treated at the Factory with a special preservative and sealed to rust-proof parts for periods longer than those cited above, if specified on the order.

Refer to appropriate service manual for extended storage of gear drives which have been in service.

Conditions Affecting Selections

Non-Standard Application Procedures

The following conditions may affect the UltraMax gear drive selection procedure, drive size and auxiliary equipment being furnished.

Excessive Overloads The maximum momentary or starting load must not exceed 200% of rated load (100% overload). Rated load is defined as gear drive rating with a service factor of 1.0. If the maximum starting or momentary load exceeds the above conditions, compute a second equivalent power rating by dividing the peak load by two. The gear drive selected must have capacity equal to, or in excess of, the larger equivalent power rating.

Frequency of Starts Starting frequency is an important consideration when selecting a gear drive. Applications involving 2 to 3 equally spaced starts per hour must utilize a minimum 1.5 service factor for unloaded starts, and a minimum 1.75 service factor for fully loaded starts. For applications involving more than 3 starts per hour, refer to Falk the application specifics such as starting frequency and maximum starting torque. AC motors also have similar limitations. The addition of a fluid coupling as a soft start device would increase the number of allowable starts.

Reversing Service Applications involving either more than 20 reversals per ten hour period, or less than 20 reversals per ten hour period with peak torques greater than 200% of normal load must be referred to the Factory.

Brake Equipped Applications When a gear drive is equipped with a "working" brake that is used to decelerate the motion of the system and the brake is located between the prime mover and the gear drive, select the drive based on the brake rating or the highest equivalent power rating, whichever is greater. If the brake is used for holding only and is applied after the motion of the system has come to rest, the brake rating must be less than 200% of the catalog rating, refer the application to the Factory. Also refer to the Factory all applications in which the brake is located on the output shaft of the gear drive.

Oversized Prime Mover Published service factors do not cover applications that require oversize prime movers for high energy or peak loads. Refer such applications to the Factory for selection of suitable drives.

Speed Variation or Multi-Speed Applications Type FC and FZ gear drives offered in this selection guide are designed to operate with splash lubrication on any single speed application and any ratio shown in the selection guide unless otherwise noted. It is essential that all orders indicate the desired operating speed and ratio so that the proper internal oil distribution accessories can be supplied for the specific speed.

These drives are assembled with a variety of standard internal lubrication components such as oil pans and oil deflectors to ensure proper splash lubrication. In addition, different oil levels are necessary for various drive sizes, speeds and ratios. Consequently, to operate an existing drive at different speeds from those shown on the nameplate, full application and nameplate information must be referred to the Factory for review of the lubrication system.

All variable or multi-speed applications will be referred to the Engineering Department to specify lubrication components for adequate lubrication at the slowest speed, without excessive heating or churning at the highest speed. It is essential that all orders indicate minimum and maximum speeds, as well as the speed duration cycles.

When selecting gear drives for multi-speed or variable speed applications, determine the speed which develops the greatest torque and select the drive on this basis. If the speed is not listed in the selection table, use the next lower speed.

Application Adjusted Thermal Rating, Page 42 The Application Adjusted Thermal Rating is the actual power rating without service factor that a gear drive will transmit continually for three hours or more without overheating. The Application Adjusted Thermal Rating considers the environmental factors of the application which will affect the ability of the drive to dissipate heat. These factors include ambient temperature, air movement, altitude (thin air does not remove heat effectively,) inlet water temperature and duty cycle (percentage of an hour that the drive operates). Factors for these conditions must be used to modify the Basic Thermal Rating when determining the Application Adjusted Thermal Rating.

Checking the thermal rating is extremely important, for if a gear drive creates heat faster than it can be dissipated, severe damage may occur.

Thermal ratings need not be considered when the operating period does not exceed three hours and the shut down time equals or exceeds the running time. However, when the running time exceeds the shutdown time, selection must be made on the basis of adequate thermal rating using the Application Adjusted Thermal Rating.

Effects of Solar Energy If a drive operates in the sun at ambient temperatures over 100°F (38°C), then special measures must be taken to protect the drive from solar energy. This protection can consist of a canopy over the drive or reflective paint on the drive. If neither is possible, additional cooling may be required, such as shaft fans, electric fans, cooling tubes, or heat exchangers.

Overhung Loads & Thrust Loads The overhung load and thrust load ratings published in this selection guide are based on a service factor of unity and a combination of the most unfavorable conditions of rotation, speed, direction of applied load and drive loading. If the calculated load exceeds the published value, or if an overhung load and thrust load are applied simultaneously to a shaft, refer to tables and guidelines on Pages 48 through 55.

Product Modifications Falk can supply special product modifications to suit your application needs. Contact your local Falk Representative for housing modifications, special ratios, special shafts, special mounting conditions, accessory modifications and other special application requirements.

Non-Standard Motors

Factory approval is required for motors and motor positions that vary from those shown in this selection guide. Motor brackets are designed to suit the standard Type T10 Steelflex couplings furnished with the drives and current standard 1750 rpm, single speed, A-C, NEMA, T & U series motor frames. Use of oversize motors, the extending or modifying of motor brackets, addition of clutches, brakes, etc., require Factory approval. Normally, motor plates are recommended for these applications.

Mounting Positions

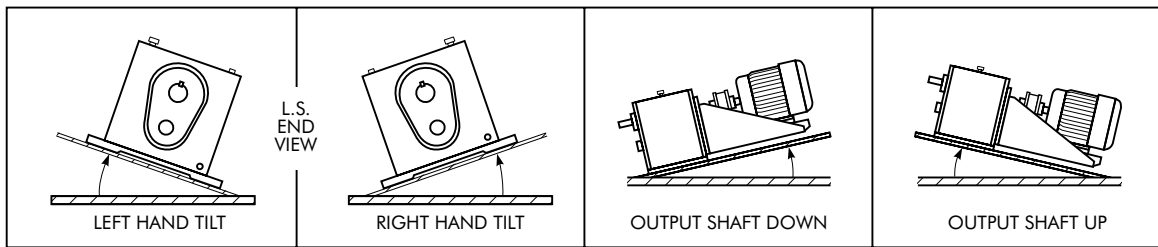
UltraMax drives can be modified to permit mounting in positions other than conventional floor mounting. Some of these include ceiling, wall and various inclined vertical and tilted positions. Consult Falk to determine what modifications are required for your specific application.

Motor Brackets

Falk motor brackets provide an economical "soft" mounting for standard NEMA T & U-frame and IEC B3 induction type electric motors. It is expected that the weight, location, and starting torque of the motor will cause cantilevered motor brackets to deflect downward or twist to varying degrees. The gear drive/motor/coupling selections found in the Falk selection guide are engineered to be within acceptable deflection limits as determined by the Falk Corporation. However, because the motor bracket is a "soft" motor support, deflection and vibration magnitude of the bracket may exceed levels normally considered acceptable for rigidly, "hard" mounted machinery.

For applications using other than pre-selected standard gear drive/motor/coupling combinations, the use of a motor plate is recommended. If a motor bracket is to be used, it becomes the customer's responsibility to support the rear of the motor bracket as necessary to diminish motor bracket deflection and vibration to within satisfactory levels determined by the customer. For recommended bracket support, contact the Falk Corporation.

Use of oversized motors, the extending or modifying of the motor brackets, addition of clutches, brakes, etc., require Factory approval. Motor plates are recommended for these applications.



Maximum Standard Allowable Tilt & Incline Mounting Limits ★

DRIVE SIZE ★	TILTED †						INCLINED						DRIVE SIZE ★
	Double Reduction		Triple Reduction		Quadruple Reduction		Double Reduction		Triple Reduction		Quadruple Reduction		
	Left Hand	Right Hand	Left Hand	Right Hand	Left Hand	Right Hand	L.S. Shaft Down	L.S. Shaft Up	L.S. Shaft Down	L.S. Shaft Up	L.S. Shaft Down	L.S. Shaft Up	
2040	5°	5°	5°	5°	...	...	5°	10°	5°	10°	...	...	2040
2050	2°	5°	2°	5°	10°	5°	2°	10°	2°	10°	2°	10°	2050
2060	5°	5°	5°	5°	5°	5°	5°	2°	2°	2°	2°	2°	2060
2070	5°	5°	5°	5°	5°	5°	5°	2°	2°	2°	2°	2°	2070
2080	5°	5°	5°	5°	5°	5°	5°	2°	5°	2°	2°	2°	2080
2090	5°	5°	5°	5°	5°	5°	5°	2°	5°	2°	5°	2°	2090
2100	5°	5°	5°	5°	5°	5°	5°	2°	5°	2°	5°	2°	2100
2110	5°	5°	5°	5°	5°	5°	5°	2°	5°	2°	5°	2°	2110
2120	5°	5°	5°	5°	5°	5°	5°	2°	5°	2°	5°	2°	2120
2130	5°	5°	5°	5°	5°	5°	5°	2°	5°	2°	5°	2°	2130

★ Maximum limits shown above apply to standard Type FC/FZ drives without modification. For applications requiring higher tilt or incline angles, Refer to Falk.

Oil level must be checked when drive is in the tilted or inclined position.

† Size 2060-2130 drives: dipstick must be located on high side of drive as shown in picture.

Service Factors

Table 1 — Class/Service Factor Conversion Table

Class	Service Factor
I	1.00
II	1.41
III	2.00

Service Factors

UltraMax drives may be selected by Service Factor or Load Classification. Selections may vary, so compare Service Factor against Load Classification on Pages 10 or 11. Selecting the lowest Service Factor from Table 1 will result in the most economical selection.

A gear drive is rated to a specific application by the use of Service Factor. Each application has its conditions and operating requirements. These have been analyzed and catalogued. Numerical values, based on field experience, have been assigned to these classifications for intermittent service of 3 to 10 hours per day and for service over 10 hours per day and also for the type of prime mover. . . electric motor or engine. Values for most applications are listed by Application on Page 9, Table 4 and by Industry at right, Table 3. Refer unlisted applications to the Factory.

Since most industrial applications are electric motor driven, Service Factors are based on the use of electric motors. These factors can be easily converted to engine-drive factors as outlined in Table 2 below.

Service Factors are based on the assumption that the system is free of dynamic vibrations, as explained in the Basic Information section, and that maximum momentary or starting loads do not exceed 200% of the rated load. Refer applications subject to repetitive shocks and applications where exceedingly high energy load must be absorbed, as when stalling, refer to the Factory for special considerations.

Occasional & Intermittent Service or Engine Driven Applications

Engine driven applications and applications operating up to 3 hours per day, continuously or intermittently, require adjusted Service Factors. Determine normal Service Factor for the application from the 3 to 10 hours per day column in Tables 3 or 4. Next, in the first column of Table 2 below, find this same Service Factor in bold face type. Then, to the right, under the desired hours of service and prime mover, locate the converted Service Factor.

For example, from Table 4, the Service Factor is 1.25 for a uniformly loaded belt conveyor. From Table 1, for the same application the following are the Service Factors for various conditions.

1. Engine driven (multi-cylinder): 3 to 10 hours per day, use 1.50.
2. Engine driven (multi-cylinder): over 10 hours per day, use 1.75.
3. Motor driven (electric): up to 3 hours intermittently, use 1.00.

Table 2 — Service Factor Conversions

Table 3 or 4 3 to 10 Hour Service Factor	3 to 10 Hours per Day	Over 10 Hours per Day	Intermittent — Up to 3 Hours per Day †	
	Multi-Cyl. Engine ‡	Multi-Cyl. Engine ‡	Motor	Multi-Cyl. Engine ‡
1.00 (Class I)	1.25	1.50	1.00	1.00
1.25	1.50	1.75	1.00	1.25
1.41 (Class II)	1.75	2.00	1.25	1.50
1.50	1.75	2.00	1.25	1.50
1.75	2.00	2.25	1.50	1.75
2.00 (Class III)	2.25	2.50	1.75	2.00

† For applications operating one half hour or less per day and applications driven by single cylinder engines, refer to Falk.

‡ These service factors are based on the assumption that the system is free from serious critical and torsional vibrations and that maximum momentary or starting loads do not exceed 200% of the normal load.

Table 3 — Service Factors Listed by Industry

(For electric motor, steam turbine or hydraulic motor drives . . . recommendations are MINIMUM and normal conditions are assumed.)

Service			Service		
Industry	3 to 10 Hour	Over 10 Hour	Industry	3 to 10 Hour	Over 10 Hour
BOTTLING AND BREWING					
Bottling Machinery	1.00	1.25	Embosser	1.25	1.25
Brew Kettles, Continuous Duty	1.25	1.25	Extruder	1.50	1.50
Can Filling machines	1.00	1.25	Foundry Rols—Lumpbreaker, Wire	1.25	1.25
Cookers—Continuous Duty	1.25	1.25	Turning, Dandy & Return Rols	1.50	1.50
Mash Tubs—Continuous Duty	1.25	1.25	Kiln Drive	1.50	1.50
Scale Hoppers—Frequent Starts	1.25	1.50	Mt. Hope & Paper Rols	1.25	1.25
CLAY WORKING INDUSTRY					
Brick Press	1.75	2.00	Platter	1.50	1.50
Briquette Machines	1.75	2.00	Presses (Felt & Suction)	1.25	1.25
Clay Working Machinery	1.25	1.50	Pulper (Continuous)	2.00	2.00
Pug Mills	1.25	1.50	Repulper (Heavy Shock)	2.00	2.00
DISTILLING See Brewing					
DREDGES					
Cable Reels, Conveyors	1.25	1.50	Screens	1.50	1.50
Cutter Head, Jig Drives & Pumps	2.00	2.00	Chip & Rotary	2.00	2.00
Maneuvering Winches	1.75	2.00	Vibrating	1.25	1.25
Screen Drives	1.75	2.00	Size Press	1.25	1.25
Stackers, Utility Winches	1.25	1.50	Super Calenders	1.25	1.25
FOOD INDUSTRY					
Beet Slicers	1.25	1.50	Thickener & Washer	1.50	1.50
Bottling, Can Filling Machine	1.00	1.25	AC Motor	1.25	1.25
Cereal Cookers	1.00	1.25	DC Motor	1.50	1.50
Dough Mixers, Meat Grinders	1.25	1.50	Vacuum Pumps	1.25	1.25
LUMBER INDUSTRY					
Barkers—Spindle Feed	1.25	1.50	Wind & Unwind Stand	1.25	1.25
Barkers—Main Drive	1.75	1.75	Winders (Surface Type)	1.25	1.25
Carriage Drive	Refer to Falk		♦ Yankee Dryers	1.25	1.25
Conveyors			PLASTIC INDUSTRY		
Burner	1.25	1.50	Batch Drop Mill, 2 smooth rolls	1.25	1.25
Main or Heavy Duty	1.50	1.50	Calenders	1.50	1.50
Main Log	1.75	2.00	Compounding Mills	1.25	1.25
Re-Saw Merry-Go-Round	1.25	1.50	Continuous Feed, Holding &	1.25	1.25
Slab	1.75	2.00	Blend Mill	1.50	1.50
Transfer	1.25	1.50	Extruders	1.50	1.50
Chains—Floor	1.50	1.50	Variable Speed Drive	1.50	1.50
Chains—Green	1.50	1.75	Fixed Speed Drive	1.75	1.75
Cut-Off Saws—Chain & Drag	1.50	1.75	Intensive Internal Mixers		
Debarking Drums	1.75	2.00	Batch Mixers	1.75	1.75
Feeds—Edger	1.25	1.50	Continuous Mixers	1.50	1.50
Feeds—Gang	1.75	1.75	RUBBER INDUSTRY		
Feeds—Trimmer	1.25	1.50	Batch Drop Mill, 2 smooth rolls	1.50	1.50
Log Deck	1.75	1.75	Calenders	1.50	1.50
Log Hauls—Incline, Well Type	1.75	1.75	Cracker, 2 corrugated rolls	2.00	2.00
Log Turning Devices	1.75	1.75	Cracker Warmer—2 roll,	1.75	1.75
Planer Feed	1.25	1.50	1 corrugated roll		
Planer Tilting Hoists	1.50	1.50	Extruders		
Rolls—Live—Off Bearing—Roll Cases	1.75	1.75	Continuous Screw Operation	1.75	1.75
Sorting Table, Tipple Hoist	1.25	1.50	Intermittent Screw Operation	1.75	1.75
Transfers—Chain & Craneway	1.50	1.75	Holding, Feed & Blend Mill—2 Roll	1.25	1.25
Tray Drives	1.25	1.50	Intensive Internal Mixers		
Vanner Lathe Drives	Refer to Falk		Batch Mixers	1.75	1.75
OIL INDUSTRY					
Chillers	1.25	1.50	Continuous Mixers	1.50	1.50
Oil Well Pumping	Refer to Falk		Mixing Mill—2 smooth rolls		
Paraffin Filter Press	1.25	1.50	(if corrugated rolls are used, use	1.50	1.50
Rotary Kilns	1.25	1.50	Cracker Warmer service factors)	1.50	1.50
PAPER MILLS ★					
Agitator (Mixer)	1.50		Refiner—2 roll	1.50	1.50
Agitator for Pure Liquids	1.25		SEWAGE DISPOSAL		
Barking Drums, Barkers—Mech.	2.00		Bar Screens	1.25	1.25
Beater	1.50		Chemical Feeders	1.25	1.25
Breaker Stack	1.25		Collectors	1.25	1.25
♦ Calender	1.25		Dewatering Screens	1.50	1.50
Chipper	2.00		Scum Breakers	1.50	1.50
Chip Feeder	1.50		Slow or Rapid Mixers	1.50	1.50
Coating Rols	1.25		Thickeners	1.50	1.50
Conveyors—			Vacuum Filters	1.50	1.50
Chip, Bark, Chemical	1.25		SUGAR INDUSTRY		
Log (incl. Slab)	2.00		Cane Knives, Crushers	1.75	1.75
Couch Rols	1.25		Mills (low speed end)	1.75	1.75
Cutter	2.00		TEXTILE INDUSTRY		
Cylinder molds	1.25		Batchers, Calenders	1.25	1.50
♦ Dryers —			Card Machines	1.25	1.50
Paper Mach. & Conveyor Type	1.25		Dry Cans, Dryers	1.25	1.50
			Dyeing Machinery	1.25	1.50
			Knitting Machinery	Refer to Falk	
			Looms, Mangles, Nappers, Pads	1.25	1.50
			Range Drives	Refer to Falk	
			Slashers, Soapers, Spinners, Tenter	1.25	1.50
			Frames, Washers, Winders		
			WINDLASS		
			Refer to Falk		

★ Service Factors for paper mill applications are applied to the nameplate rating of the electric drive motor at the motor rated base speed and are consistent with those shown in TAPPI standards.

♦ Anti-friction bearings only.

• A service factor of 1.00 may be applied at base speed of a super calender operating over a speed range of part constant hp and part constant torque where the constant hp speed range is greater than 1.5 to 1. A service factor of 1.25 is applicable to super calenders operating at constant torque over the entire speed range or where the constant hp speed range is less than 1.5 to 1.

Table 4 — Service Factors Listed by Application

(For electric motor, steam turbine or hydraulic motor drives . . . recommendations are MINIMUM and normal conditions are assumed.)

Service			Service			Service			Service		
Application	3 to 10 Hour	Over 10 Hour	Application	3 to 10 Hour	Over 10 Hour	Application	3 to 10 Hour	Over 10 Hour	Application	3 to 10 Hour	Over 10 Hour
AGITATORS			▲ CONVEYORS—Uniformly loaded or Fed:			▲ HOISTS			PUMPS		
Pure Liquids	1.00	1.25	Apron, Bucket	1.25	1.50	Heavy Duty	1.75	2.00	Centrifugal	1.25	1.25
Liquids & Solids	1.25	1.50	Assembly, Belt, Chain, Flight, Oven, Screw	1.25	1.25	Medium Duty	1.25	1.50	Proportioning	1.25	1.50
Liquids-Variable Density	1.25	1.50				Skip Hoist	1.25	1.50	Reciprocating		
APRON CONVEYORS			▲ CONVEYORS—Heavy Duty, Not Uniformly Fed			INDUCED DRAFT FANS	1.50	1.50	Single Act., 3 or more Cyl.	1.25	1.50
Uniformly Loaded or Fed	1.25	1.50	Apron, Assembly, Belt, Bucket, Chain, Flight, Oven, Screw	1.25	1.50	KILNS	See Mills, Rotary		Double Act., 2 or more Cyl.	1.25	1.50
Heavy Duty	1.25	1.50	CONVEYORS—Severe Duty			LAUNDRY WASHERS	1.50	2.00	Single Act., 1 or 2 Cyl.	Refer to Falk	
APRON FEEDERS	1.25	1.50	Live Roll	Refer to Falk		LAUNDRY TUMBLERS	1.25	1.50	Double Acting, 1 Cyl.	Refer to Falk	
ASSEMBLY CONVEYORS			Reciprocating Shaker	1.75	2.00	LINE SHAFTS			Rotary: Gear, Lobe, Vane	1.00	1.25
Uniformly Loaded or Fed	1.25	1.25	COOKERS (Brewing & Distilling), (food)	1.25	1.25	Driving Processing Equipment	1.25	1.50	PUNCH PRESSES (Gear Driven)	1.75	2.00
Heavy Duty	1.25	1.50	COOLING TOWER FANS	Refer to Falk		Other Line Shafts, Light	1.00	1.25	RECIPROCATING CONVEYORS & FEEDERS	1.75	2.00
BALL MILLS	See Mills, Rotary					LIVE ROLL CONVEYORS	Refer to Falk		RECIPROCATING COMPRESSORS		
BARGE HAUL PULLERS	1.75	2.00	▲ CRANES			LOBE BLOWERS OR COMPRESSORS	1.25	1.50	Multi-Cylinder	1.50	1.75
BARKING			Dry Dock Cranes, Main Hoist, Bridge and Trolley Travel	Refer to Falk		LOG HAULS (Lumber)			Single Cylinder	1.75	2.00
Drums (Coupling Connected)	2.00		CRUSHERS			Incline-well Type	1.75	1.75	ROD MILLS	See Mills, Rotary	
Mechanical	2.00		Ore or Stone	1.75	2.00	LOOMS (Textile)	1.25	1.50	ROTARY		
BAR SCREENS (Sewage)	1.25	1.25	Sugar	1.75		LUMBER INDUSTRY	See Table 3		Pumps	1.00	1.25
BATCHERS (Textile)	1.25	1.50	DEWATERING SCREENS (Sewage)	1.50	1.50	MACHINE TOOLS			Screens (Sand or Gravel)	1.25	1.50
BELT CONVEYORS			DISC FEEDERS	1.00	1.25	Auxiliary Drives	1.00	1.25	RUBBER & PLASTICS INDUSTRIES	See Table 3	
Uniformly Loaded or Fed	1.25	1.25	DISTILLING	See Table 3		Bending Rolls	1.25	1.50	SAND MULLERS	1.25	1.50
Heavy Duty	1.25	1.50	DOUBLE ACTING PUMPS			Main Drives	1.25	1.50	SCREENS		
BELT FEEDERS	1.25	1.50	2 or more Cylinders	1.25	1.50	Notching Press (Belted)	Refer to Falk		Air Washing	1.00	1.25
BENDING ROLLS (Machine)	1.25	1.50	Single Cylinder	Refer to Falk		Plate Planers	1.75	2.00	Rotary—Sand or Gravel	1.25	1.50
BLOWERS			DOUGH MIXER (Food)	1.25	1.50	Punch Press (Gearing)	1.75	2.00	Traveling Water Intake	1.00	1.25
Centrifugal	1.25	1.25	DRAW BENCH (Metal Mills)			Tapping machines	1.75	2.00	SCREW CONVEYORS		
Lobe	1.25	1.50	Carriage & Main Drive	1.25	1.50	MANGLE (Textile)	1.25	1.50	Uniform	1.25	1.25
Vane	1.25	1.50	DREDGES	See Table 3		MASH TUBS (Brewing & Distilling)	1.25	1.25	Heavy Duty or Feeder	1.25	1.50
BOTTLING MACHINERY	1.00	1.25	DRY DOCK CRANES	Refer to Falk		MEAT GRINDERS (Food)	1.25	1.50	SCUM BREAKERS (Sewage)	1.50	1.50
BREWING	See Table 3		DRYERS & COOLERS (Mills, Rotary)	1.50		METAL MILLS			SEWAGE DISPOSAL	See Table 3	
BRICK PRESS (Clay Working)	1.75	2.00	DYEING MACHINERY (Textile)	1.25	1.50	Draw Bench Carriages & Main Drives	1.25	1.50	SHAKER CONVEYORS	1.75	2.00
BRIQUETTE MACHINES (Clay Working)	1.75	2.00	ELEVATORS			Pinch, Dryer & Scrubber			SHEETERS (Rubber)	1.50	
BUCKET			Bucket-Uniform Load	1.25	1.50	Rolls, Reversing	Refer to Falk		SINGLE ACTING PUMP		
Conveyors Uniform	1.25	1.50	Bucket-Heavy Duty	1.25	1.50	Slitters	1.25	1.50	1 or 2 Cylinders	Refer to Falk	
Conveyors Heavy Duty	1.25	1.50	Bucket-Continuous	1.25	1.50	Table Conveyors, Non-Reversing	1.50	1.50	3 or more Cylinders	1.25	1.50
Elevators Continuous	1.25	1.50	Centrifugal Discharge	1.25	1.25	Group Drives	1.50	1.50	▲ SKI TOWS & LIFTS	Not Approved	
Elevators Heavy Duty	1.25	1.50	▲ Escalators	Not Approved		Non-Reversing Individual	2.00	2.00	▲ SKIP HOIST	1.25	1.50
CALENDERS			▲ Freight	Not Approved		Drives	Refer to Falk		SLAB PUSHERS	1.50	1.50
Rubber and Plastic	See Table 3		▲ Gravity Discharge	1.00	1.25	Reversing	Refer to Falk		SLITTERS (Metal)	1.25	1.50
Textile	1.25	1.50	▲ Man Lifts, Passenger	Not Approved		Wire Drawing & Flattening	1.25	1.50	SLUDGE COLLECTORS (Sewage)	1.25	1.25
CANE KNIVES	1.75		EXTRUDERS (Plastic & Rubber)	See Table 3		Machines	1.50	1.50	SOAPERS (Textile)	1.25	1.50
CAN FILLING MACHINES	1.00	1.25	FANS			Wire Winding Machines	1.50	1.50	SPINNERS (Textile)	1.25	1.50
CARD MACHINES (Textile)	1.25	1.50	Centrifugal	1.25	1.25	MILLS, ROTARY			STEERING GEARS	Refer to Falk	
CAR DUMPERS	1.75	2.00	Cooling Towers	Refer to Falk		Ball and Rod Mills			STOKERS	1.00	1.25
CAR PULLERS	1.25	1.50	Forced Draft	1.25		with Spur Ring Gear	2.00		STONE CRUSHERS	1.75	2.00
CEMENT KILNS	See Mills, Rotary		Induced Draft	1.50	1.50	with Helical Ring Gear	1.50		SUGAR INDUSTRY	See Table 3	
CENTRIFUGAL			Large (Mine, etc.)	1.50	1.50	Direct Connected	2.00		TABLE CONVEYORS (Non-Reversing)		
Blowers, Compressors, Discharge Elevators, Fans or Pumps	1.25	1.25	Large Industrial	1.50	1.50	Cement Kilns, Dryers & Coolers, Pebble, Plain & Wedge Bar Mills	1.75	2.00	Group Drives	1.50	1.50
CHAIN CONVEYORS			Light (Small Diameter)	1.00	1.25	Tumbling Barrels	1.75	2.00	Individual Drives	2.00	2.00
Uniformly Loaded or Fed	1.25	1.25	FEEDERS			MIXER (Also see Agitators)	1.25	1.50	Reversing	Refer to Falk	
Heavy Duty	1.25	1.50	Apron, Belt	1.25	1.50	Concrete, Cont. & Int.	1.25	1.50	TENTER FRAMES (Textile)	1.25	1.50
CHEMICAL FEEDERS (Sewage)	1.25	1.25	Disc	1.00	1.25	Constant Density	1.25	1.50	TEXTILE INDUSTRY	See Table 3	
CLARIFIERS	1.00	1.25	Reciprocating	1.75	2.00	Variable Density	1.25	1.50	THICKENERS (Sewage)	1.50	1.50
CLASSIFIERS	1.25	1.50	Screw	1.25	1.50	NAPPERS (Textile)	1.25	1.50	TUMBLING BARRELS	1.75	2.00
CLAY WORKING	See Table 3		FLIGHT CONVEYORS			OIL INDUSTRY	See Table 3		VACUUM FILTERS (Sewage)	1.50	1.50
COLLECTORS (Sewage)	1.25	1.25	Uniform	1.25	1.25	ORE CRUSHERS	1.75	2.00	VANE BLOWERS	1.25	1.50
COMPRESSORS			Heavy	1.25	1.50	OVEN CONVEYORS			WINCHES (Dredges)	1.25	1.50
Centrifugal	1.25	1.25	FOOD INDUSTRY	See Table 3		Uniform	1.25	1.25	WINDERS (Textile)	1.25	1.50
Lobe	1.25	1.50	GENERATORS (Not Welding)	1.00	1.25	Heavy Duty	1.25	1.50	WINDLASS	Refer to Falk	
Reciprocating			GRAVITY DISCHARGE ELEVATORS	1.00	1.25	PAPER MILLS	See Table 3		WIRE		
Multi-Cylinder	1.50	1.75	HAMMER MILLS	1.75	2.00	▲ PASSENGER ELEVATORS	Not Approved		Drawing Machines	1.25	1.50
Single-Cylinder	1.75	2.00				PEBBLE MILLS	1.50		Winding Machines	1.50	1.50
CONCRETE MIXERS						PLATE PLANERS	1.75	2.00			
Continuous	1.25	1.50				PRINTING PRESSES	Refer to Falk				
Intermittent	1.25	1.50				PROPORTIONING PUMPS	1.25	1.50			
						PUG MILLS (Clay)	1.25	1.50			
						PULLERS (Barge Haul)	1.75	2.00			

▲ Selection of Falk products for applications whose primary purpose is the transportation of people is not approved. This includes such applications as freight or passenger elevators, escalators, man lifts, work lift platforms and ski tows and ski lifts. If the primary purpose of the application is material conveyance and occasionally people are transported, the Falk warranty may remain in effect provided the design load conditions are not exceeded and certification to the appropriate safety codes and load conditions has been obtained by the system designer or end user from the appropriate enforcement authorities.

□ Contact your local Falk representative for proper selection of a Falk RAM mixer drive.

Load Classification Factors

Table 5 — Class/Service Factor Conversion Table

Class	Service Factor
I	1.00
II	1.41
III	2.00

Load Classification Factors

UltraMax drives may be selected by Service Factor or Load Classification. Selections may vary, so compare Load Classification against Service Factor on Pages 8 or 9. Selecting the lowest Service Factor from Table 5 will result in the most economical selection.

A drive is rated to a specific application by the use of Load Classification Factors. Each application has its own conditions and operating requirements. These have been analyzed and catalogued. Numerical values, based on field experience, have been assigned to these classifications for intermittent service of 3 to 10 hours per day and for service over 10 hours per day and also for the type of prime mover. . . electric motor or engine. Values for most applications are listed by Application on Page 11, Table 7 and by Industry at right, Table 6. Refer unlisted applications to the Factory.

Since most industrial applications are electric motor driven, Load Classification Factors are based on the use of electric motors. These factors can be easily converted to engine-drive factors as outlined in Table 2, Page 8.

Load Classification Factors are based on the assumption that the system is free of dynamic vibrations, as explained in the Basic Information section, and that maximum momentary or starting loads do not exceed 200% of the rated load. Refer applications subject to repetitive shocks and applications where exceedingly high energy load must be absorbed, as when stalling, refer to the Factory for special consideration.

Table 6 — Load Classification Factors Listed by Industry

(For electric motor, steam turbine or hydraulic motor drives . . . recommendations are MINIMUM and normal conditions are assumed.)

Industry	Service		Industry	Service	
	3 to 10 Hour	Over 10 Hour		3 to 10 Hour	Over 10 Hour
BREWING & DISTILLING			PAPER MILLS		
Bottling Machinery	I	II	Agitator (Mixer)	II	II
Brew Kettles, Continuous Duty	—	II	Barker—Auxiliaries—Hyd.	—	III
Can Filling Machines	I	II	Barker, Mechanical	—	III
Cookers—Continuous Duty	—	II	Barking Drum	—	III
Mash Tubs—Continuous Duty	—	II	Beater & Pulper	—	II
Scale Hoppers—Frequent Starts	II	II	Bleacher	—	II
CLAY WORKING INDUSTRY			♦ Calenders	—	II
Brick Press	III	III	♦ Calenders—Super	—	II
Briquette Machines	III	III	Converting Mach.—Except	—	II
Clay Working Machinery	—	II	Cutters—Platers	—	II
Pug Mills	II	II	Conveyors	—	II
DISTILLING	See Brewing		Couch	—	II
DREDGES			Cutters, Platers	—	III
Cable Reels	II	—	Cylinders	—	II
Conveyors	II	II	♦ Dryers	—	II
Cutter Head Drives	III	III	Felt Stretchers	—	II
Jig Drives	—	III	Felt Whippers	—	III
Maneuvering Winches	III	—	Jordans	—	II
Pumps	III	III	Log Haul	—	III
Screen Drives	III	III	Presses	—	II
Stackers	II	II	Pulper (Continuous)	—	III
Utility Winches	II	—	Repulper (Heavy Shock)	—	III
FOOD INDUSTRY			Stock Chests	—	II
Beet Slicers	II	II	Suction Rolls	—	II
Bottling, Can Filling Machine	I	II	Washers & Thickeners	—	II
Cereal Cookers	I	II	Winders	—	II
Dough Mixers, Meat Grinders	II	II	RUBBER INDUSTRY		
LUMBER INDUSTRY			Mixer	III	III
Barkers—Spindle Feed	II	III	Rubber Calender	—	II
Barkers—Main Drive	III	III	Rubber Mill (2 or more)	II	II
Carriage Drive	Refer to Falk		Sheeter	—	II
Conveyors	II	III	Tire Building Machines	Refer to Falk	
Burner	II	III	Tire, Tube Press Openers	Refer to Falk	
Main or Heavy Duty	II	III	Tubers & Strainers	II	II
Main Log	III	III	SEWAGE DISPOSAL		
Re-Saw Merry-Go-Round	II	III	Aerators	Refer to Falk	
Slab	II	III	Bar Screens	II	II
Transfer	II	III	Chemical Feeders	—	II
Chains—Floor	II	III	Collectors	—	II
Chains—Green	II	III	Dewatering Screens	—	II
Cut-Off Saws—Chain & Drag	II	III	Grit Collectors	—	II
Debarking Drums	III	III	Scum Breakers	—	II
Feeds—Edger	III	III	Slow or Rapid Mixers	—	II
Feeds—Gang	III	III	Sludge Collectors	—	II
Feeds—Trimmer	II	III	Thickeners	—	II
Log Deck	III	III	Vacuum Filters	II	II
Log Hauls—Incline, Well Type	III	III	TEXTILE INDUSTRY		
Log Turning Devices	III	III	Batchers, Calenders	II	II
Planer Feed	II	III	Card Machines	II	II
Planer Tilting Hoists	II	III	Cloth Finishing Machines,		
Rolls—Live—Off Bearing—			Calenders, Dryers, Pads,		
Roll Cases	III	III	Tenters, Washers)	II	II
Sorting Table, Tipple Hoist	II	III	Dry Cans	—	II
Transfers—Chain & Craneway	II	III	Dyeing Machinery	—	II
Tray Drives	II	III	Knitting Machinery	Refer to Falk	
OIL INDUSTRY			Looms, Mangles, Nappers	II	II
Chillers	II	II	Range Drives	Refer to Falk	
Oil Well Pumping	Refer to Falk		Soapers, Spinners	—	II
Paraffin Filter Press	II	II	Tenter Frames	—	II
Rotary Kilns	II	II	Winders	—	II
			Yarn Preparatory Machinery,		
			(Cards, Spinners, Slashers)	II	II

♦ Anti-friction bearings only.

Table 7 — Load Classification Factors Listed by Application

(For electric motor, steam turbine or hydraulic motor drives . . . recommendations are MINIMUM and normal conditions are assumed.)

Service			Service			Service			PUG MILLS (Clay)		
Application	3 to 10 Hour	Over 10 Hour	Application	3 to 10 Hour	Over 10 Hour	Application	3 to 10 Hour	Over 10 Hour	Application	3 to 10 Hour	Over 10 Hour
AERATORS	Refer to Falk		CONCRETE MIXERS			FORMING MACHINES (Metal Mills)	III	III	PULLERS (Barge Haul)	III	III
AGITATORS			Continuous	II	II	GENERATORS (Not Welding)	I	II	PUMPS		
Paper Mills	II	II	Intermittent	II	—	GRAVITY DISCHARGE ELEVATORS	I	II	Centrifugal	II	II
Pure Liquids	I	II	CONVERTING MACHINES (Paper)	—	II	GRIT COLLECTORS (Sewage)	II	II	Proportioning	II	II
Liquids & Solids	II	II				HAMMER MILLS	III	III	Reciprocating		
Liquids-Variable Density	II	II	▲ CONVEYORS—Uniformly Loaded or Fed:			INDUCED DRAFT FANS	II	II	Single Act., 3 or more Cyl.	II	II
APRON CONVEYORS			Apron, Assembly, Belt, Bucket, Chain, Flight, Oven, Screw	II	II	KILNS (Mills, Rotary)	II	II	Double Act., 2 or more Cyl.	II	II
Uniformly Loaded or Fed.	II	II	▲ CONVEYORS—Heavy Duty, Not Uniformly Fed			Cement	Refer to Falk		Single Act., 1 or 2 Cyl.	Refer to Falk	
Heavy Duty	II	II	Apron, Assembly, Belt, Bucket, Chain, Flight, Oven, Screw	II	II	LAUNDRY WASHERS	II	III	Rotary: Gear, Lobe, Vane	Refer to Falk	II
APRON FEEDERS	II	II	Live Roll (Package)	II	II	LAUNDRY TUMBLERS	II	II	PUNCH PRESSES (Gear Driven)	III	III
ASSEMBLY CONVEYORS			Reciprocating, Shaker	III	III	LINE SHAFTS			RECIPROCATING		
Uniformly Loaded or Fed.	II	II	COOKERS (Brewing & Distilling), (food)	II	II	Heavy Shock Load	III	III	Conveyors & Feeders	III	III
Heavy Duty	II	II	COOLING TOWER FANS	Refer to Falk		Moderate Shock Load	II	II	RECIPROCATING COMPRESSORS		
BALL MILLS	III	III	COUCH (Paper)	—	II	Uniform Load	I	II	Multi-Cylinder	II	III
BARGE HAUL PULLERS	III	III	▲ CRANES & HOISTS			LIVE ROLL CONVEYORS	II	II	Single Cylinder	III	III
BARKING			Main Hoists			Package	II	II	ROD MILLS	III	III
Drums	—	III	Heavy Duty	III	III	LOBE BLOWERS OR COMPRESSORS	II	II	ROTARY		
Hydraulic Auxiliaries	—	III	Medium Duty	II	II	LOG HAULS (Paper & Lumber)	III	III	Pumps: Gear, Lobe, Vane	I	II
Mechanical	—	III	Reversing	II	II	LOOMS (Textile)	II	II	Screens (Sand or Gravel)	II	II
BAR SCREENS (Sewage)	II	II	Skip Hoists	II	II	LUMBER INDUSTRY	See Table 6		RUBBER & PLASTICS INDUSTRIES	See Table 6	
BATCHERS (Textile)			Trolley Drive	II	II	MACHINE TOOLS			SAND MULLERS	Refer to Falk	
BEATERS & PULPERS (Paper)	—	II	Bridge Drive	II	II	Auxiliary Drives	I	II	SCREENS		
BELT CONVEYORS			CRUSHERS			Bending Rolls	II	II	Air Washing	I	II
Uniformly Loaded or Fed.	II	II	Ore or Stone	III	III	Main Drives	II	II	Rotary—Sand or Gravel	II	II
Heavy Duty	II	II	CUTTERS (Paper)	—	III	Notching Press (Belted)	Refer to Falk	III	Traveling Water Intake	II	II
BELT FEEDERS	II	II	CYLINDERS (Paper)	—	II	Plate Planers	III	III	SCREW CONVEYORS		
BENDING ROLLS (Machine)	II	II	DEWATERING SCREENS (Sewage)	II	II	Punch Press (Geared)	III	III	Uniform	II	II
BLEACHERS (Paper)	—	II	DISC FEEDERS	See Table 6		Tapping machines	III	III	Heavy Duty or Feeder	II	II
BLOWERS			DISTILLING	See Table 6		MANGLE (Textile)	II	II	SCUM BREAKERS (Sewage)	II	II
Centrifugal	II	II	DOUBLE ACTING PUMPS			MASH TUBS (Brewing & Distilling)	—	II	SEWAGE DISPOSAL	See Table 6	
Lobe	II	II	2 or more Cylinders	II	II	MEAT GRINDERS (Food)	II	II	SHAKER CONVEYORS	III	III
Vane	II	II	Single Cylinder	Refer to Falk		METAL MILLS			SHEETERS (Rubber)	II	II
BOTTLING MACHINERY	I	II	DOUGH MIXER (Food)	II	II	Draw Bench Carriages & Main Drives	III	III	SINGLE ACTING PUMP		
BREWING	See Table 6		DRAW BENCH (Metal Mills)	III	III	Forming Machines	III	III	1 or 2 Cylinders	Refer to Falk	II
BRICK PRESS (Clay Working)	III	III	Carriage & Main Drive	III	III	Pinch, Dryer & Scrubber	II	II	3 or more Cylinders	Refer to Falk	II
BRIQUETTE MACHINES (Clay Working)	III	III	DREDGES	See Table 6		Rolls, Reversing	Refer to Falk		SKI TOWS & LIFTS	Not Approved	
BUCKET			DRYERS & COOLERS (Mills, Rotary)	II	II	Slitters	II	II	▲ SKIP HOIST	II	II
Conveyors Uniform	II	II	DYEING MACHINERY (Textile)	II	II	Table Conveyors	III	III	Non-Reversing	III	III
Conveyors Heavy Duty	II	II	ELEVATORS			Non-Reversing	Refer to Falk		Reversing	Refer to Falk	
Elevators Continuous	II	II	Bucket-Uniform Load	II	II	Reversing	Refer to Falk		TENTER FRAMES (Textile)	See Table 6	
Elevators Uniform	II	II	Bucket-Heavy Duty	II	II	Wire Drawing & Flattening Machines	II	III	TEXTILE INDUSTRY		
Elevators Heavy Duty	II	II	Bucket-Continuous	II	II	Wire Winding Machines	II	II	THICKENERS (Sewage)	II	II
CALENDERS			Centrifugal Discharge	II	II	MILLS, ROTARY			TUMBLING BARRELS	III	III
Rubber	II	II	Escalators	Not Approved		Ball, Pebble, Rod	III	III	VACUUM FILTERS (Sewage)	II	II
Textile	II	II	Freight	Not Approved		Cement Kilns	Refer to Falk	III	VANE BLOWERS	II	II
CANE KNIVES	II	III	Gravity Discharge	II	II	Coolers, Dryers, Kilns	II	III	WINCHES (Dredges)	II	—
CAN FILLING MACHINES	I	II	Man Lifts, Passenger	Not Approved		Tumbling Barrels	III	III	WINDERS (Textile)		
CARD MACHINES (Textile)	II	II	FANS			MIXER (Also see Agitators)			Paper	—	II
CAR DUMPERS	III	—	Centrifugal	II	II	Concrete—Continuous	II	II	Textile	II	II
CAR PULLERS	II	—	Cooling Towers	Refer to Falk		Concrete—Intermittent	II	—	WINDLASS	Refer to Falk	
CEMENT KILNS	Refer to Falk		Forced Draft	II	II	Constant Density	II	II	WIRE		
CENTRIFUGAL			Induced Draft	II	II	Variable Density	II	II	Drawing Machines	II	III
Blowers, Compressors, Discharge Elevators, Fans or Pumps	II	II	Large (Mine, etc.)	II	II	NAPPERS (Textile)	See Table 6		Winding Machines	II	II
CHAIN CONVEYORS			Light (Small Diameter)	I	II	OIL INDUSTRY					
Uniformly Loaded or Fed.	II	II	FEEDERS			ORE CRUSHERS	III	III			
Heavy Duty	II	II	Apron, Belt	I	II	OVEN CONVEYORS					
CHEMICAL FEEDERS (Sewage)	I	II	Disc	II	II	Uniform	II	II			
CLARIFIERS	I	II	Reciprocating	III	III	Heavy Duty	II	II			
CLASSIFIERS			Screw	II	II	PAPER MILLS	See Table 6				
CLAY WORKING	See Table 6		FELT			PASSENGER ELEVATORS	Not Approved				
COLLECTORS (Sewage)	II	II	Stretchers (Paper)	—	II	PEBBLE MILLS	III	III			
COMPRESSORS			Whippers (Paper)	—	III	PLATE PLANERS	III	III			
Centrifugal	II	II	FLIGHT CONVEYORS			PRESSES PAPER	—	II			
Lobe	II	II	Uniform	II	II	PROPORTIONING PUMPS	II	II			
Reciprocating	II	III	Heavy	II	II						
Multi-Cylinder	II	III	FOOD INDUSTRY	See Table 6							
Single-Cylinder	III	III									

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☐ Contact your local Falk representative for proper selection of a Falk RAM mixer drive.

How to Select/Quick Selection Method

Selection Information

This catalog contains two methods of selection. The Quick Selection Method and the Horsepower and Torque Rating Table Method.

Before proceeding, determine which selection procedure to use. Use the Quick Selection Method if your application meets the following guidelines.

- 1750 rpm input
- Standard ratios for double, triple or quadruple reductions
- 80°F ambient at sea level (0 to 2500 ft.)

NOTE: If the above guidelines cannot be met, use the horsepower-torque rating table selection method, Page 32. Also, if you have an unusual application involving any of the following conditions refer to Pages 6 & 7.

- Excessive Overloads
- Reversing Service
- Brake Equipped Applications
- Oversized Prime Movers
- Multi-Speed or Variable Speed Applications
- Excessive Ambient Temperatures
- Thermal Rating Application Factors
- Excessive Overhung Loads or Thrust Loads
- Product Modifications
- Non-Standard Motors or Prime Movers
- Non-Standard Motor Bracket Applications
- Non-Horizontal Mounting Positions

How to Select By Quick Selection

1. Determine Service Factor or Load Classification Factor — See Pages 8 & 9 or 10 & 11.
2. Determine Motor Horsepower
3. Determine Drive Output Speed.
4. Select Drive Size — Use Quick Selection Tables, Pages 15 thru 31; find the table for your motor horsepower and locate the correct drive size opposite the nearest output rpm and the required service factor determined in Steps 1 thru 3.
5. Select Drive Configuration — Type FC or FZ, see Pages 58 thru 61.
6. Check Minimum Cooling Required. If a required cooling accessory is not acceptable check a larger size drive
7. Check Overhung Load — Minimum allowable sprocket pitch diameters are provided for the L.S. Shaft based on the sprocket being mounted one shaft diameter from the seal cage and a service factor of unity. Where overhung load is proportional to torque; e.g., pinion, sprocket, or sheave applications, adjustment to the published values must be made based on the required service factor. The pitch diameter of the sprocket being used must not be less than the value (Pd) shown. If the sprocket is located at a distance other than one shaft diameter from the seal cage, refer to the instructions on Page 48.
8. Check External Thrust Load — Thrust loads are provided on Page 55. If thrust and overhung loads are applied simultaneously, or if loads exceed these capacities, consult the Factory.
9. Check Drive Dimensions — Pages 58 thru 61.
10. Place the Order — How to Order information on Page 14.

Example

Application: Belt conveyor, heavy duty, head shaft speed is 40 rpm ambient temperature 100°F(38°C) at sea level.

Duty Cycle: 16 hours per day.

Driver: 50 hp electric motor, 1750 rpm.

Output: 11.3" pitch diameter sprocket with a 2:1 chain drive to the headshaft. Sprocket will be mounted 4.00" from drive seal cage.

1. Service Factor from Page 9 is 1.50.
2. Motor Horsepower is 50 hp.
3. The head shaft speed must be multiplied by the chain drive ratio to obtain the drive output rpm (40 rpm x 2 = 80 rpm).
4. From Page 25, in the 50 hp Quick Selection Table, the correct selection is a Size 2070F2, 20.54:1 exact ratio drive.

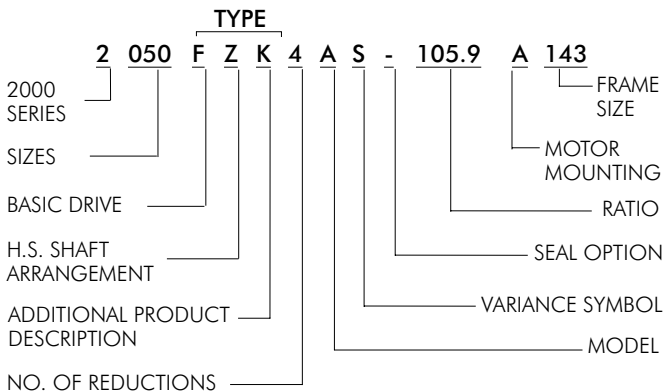
50 HP/1750 rpm/326T Motor

Approx. L.S. Shaft rpm	DRIVE SIZE & Reduction	Exact Ratio	HP Rating	Service Factor	Minimum Cooling Required	L.S. Shaft OHL Capacity (lb)†	Minimum L.S. Shaft Sprocket Pitch Dia†
100	2060F 2	17.19	69.8	1.40	None	6500	9.69
100	2070F 2	17.33	102	2.04	None	8500	7.41
100	2080F 2	17.34	149	2.98	None	7480	8.42
84	2060F 2	21.13	59.3	1.19	None	6500	11.54
84	2070F 2	20.54	84.8	1.70	None	8500	8.82
84	2080F 2	20.98	117	2.34	None	10200	7.35
68	2070F 2	25.12	68.0	1.36	None	8500	10.90
68	2080F 2	25.17	96.7	1.93	None	11000	8.42
56	2070F 2	31.08	53.1	1.06	None	8500	13.24

5. From Page 61, the desired configuration is a Type FZ.
6. No cooling accessory is required.
7. Overhung Load Check — From the 50 hp Quick Selection Table, the minimum sprocket diameter is 8.82". This value is based on the sprocket being mounted one shaft diameter from the seal cage. Since the sprocket will be mounted 4.00" from the seal cage, refer to the Load Location Factor Table on Page 49. Opposite the 4.00" and Size 2070, find the Load Location Factor for this distance. Multiply the allowable pitch diameter by the load location factor (8.82 x 1.13) to determine the actual minimum pitch diameter. The 11.3" sprocket diameter in the example exceeds the actual minimum allowable (9.97") and is therefore acceptable.
8. Check External Thrust Load Capacity on Page 55. For this example there is no external thrust.
9. Check Dimensions on Pages 58 thru 61.
10. Place the Order. How to Order information on Page 14.

UltraMax Drive Identification

UltraMax drives in this selection guide, product nameplates and customer orders are identified through the following nomenclature. Use the appropriate designations when placing an order or inquiring with a Falk representative.



Sizes

2040 thru 2050 — Cast iron housings
2060 thru 2130 — Fabricated steel housings

Drive Arrangement

C — Concentric Gear Drive
Z — Concentric Gear Drive w/ motor bracket & input coupling
M — Concentric Gear Drive w/ motor plate & input coupling
A — Concentric Gear Drive w/ motor adapter
D — Concentric Gear Drive w/ motor mount

Additional Product Description

K — Torque rated basic drive

Reductions

2, 3, 4, etc.

Model

A, B, C, etc.

Variance Symbol

A — Drive w/ backstop
B — Drive w/ shaft fan
C — Drive w/ backstop & shaft fan
D — Drive w/ electric fan
E — Drive w/ electric fan & backstop
F — Drive w/ cooling tubes
G — Drive w/ cooling tubes & backstop
H — Drive w/ pump & cooler (air)
J — Drive w/ pump & cooler (air) & backstop
K — Drive w/ pump & cooler (water)
L — Drive w/ pump & cooler (water) & backstop
S — Modified or special drive

Seal Option

- — Standard Nitrile seals
V — Viton® seals

Ratio

Exact ratio to four digits.

Motor Mounting

A — NEMA Foot Mounted motor, T Frame
B — NEMA Foot Mounted motor, TS Frame
C — NEMA "C" Face motor, T Frame
E — NEMA "C" Face motor, TS Frame
G — IEC Foot Mounted motor, Short (S) Frame
H — IEC Foot Mounted motor, Medium (M) Frame
J — IEC Foot Mounted motor, Long (L) Frame
L — IEC B-5 ("D" flange) motor
S — Special Motor/Motor Mounting; e.g., DC motor, Fluid Coupling.

Motor Frame Size

NEMA 042-500 or IEC 055-1080 (Note: 108 used for IEC 1080 frame). NEMA motor frame is Falk standard.

How to Order UltraMax Drives

The following information is required to quote or ship UltraMax drives to your requirements.

Drive

- A. Size and Type from selection tables.
- B. Ratio.
- C. Input and/or output speed (rpm).
- D. Horsepower — Motor or brake
- E. Service Factor for application.
- F. Mounting position —Horizontal. See Page 7 for tilt limits.
- G. Auxiliary equipment — Bed plate, couplings, backstop, etc.
- H. Thrust and overhung loads —Specify type and amount.

Motor — Prime Mover

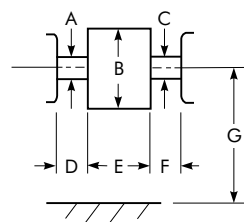
- A. Type — Motor or engine.
- B. Horsepower.
- C. Speed — rpm.
- D. Frame size — Dimension prints if Falk is to furnish mounting surface and/or mount the equipment.
- E. Motor — Weight, driver characteristics; e.g., enclosure, modifications and accessories, altitude, brake, etc.
- F. Furnished by: Falk... Purchaser...
- G. Fitted by: Falk... Purchaser...

Driven Machine

- A. Required horsepower or torque.
- B. RPM
- C. Application description —Belt conveyor, agitator, etc.
- D. Service —Duty cycle, hours per day, reversals per minute if reversing.
- E. Ambient temperature and operating conditions — Outdoor, taconite dust, etc.

Auxiliary Equipment

- A. Motors — If Falk is to furnish, specify complete information, e.g. current characteristics, enclosure, modifications, accessories, etc.
- B. Couplings — Specify size, type, driver or driven hub bore and keyway size.
- C. Backstop —Specify direction of rotation of the low speed shaft (clockwise or counter clockwise) when looking toward the drive from the low speed end.
- D. Motor Mount — Specify complete motor information, required belt centers and mounting arrangement.
- E. Motor Plate — Specify complete motor, auxiliary equipment and coupling information.
- F. Electric Fan Position
- G. Cooling Tube Water Inlet & Outlet Position
- H. Coupling Guards — Furnish description of couplings or other equipment to be guarded and all dimensions A-G below.
- J. Motor Bracket — Specify complete motor information including motor weight, auxiliary equipment and coupling information.



B & E...Max Cplg Dim
D & F...Exposed Shaft

Quick Selection Tables

1 HP/1750 rpm/143T Motor★

Approx. L.S. Shaft rpm	DRIVE SIZE & Reduction	Exact Ratio	HP Rating	Service Factor	Minimum Cooling Required	L.S. Shaft OHL Capacity (lb)†	Minimum L.S. Shaft Sprocket Pitch Dia†	Motors are available from Falk or Falk Distributors.
11.0	2040F 3	159.4	2.50	2.50	None	3400	3.37	1 HP/143T Motor
6.0	2050F 4	286.1	2.49	2.49	None	5250	4.00	Energy Efficient Motor
5.0	2050F 4	343.3	2.08	2.08	None	5250	4.80	Falk Part No. 2918104
4.0	2050F 4	417.1	1.71	1.71	None	5250	6.00	TEFC, 1750 rpm
4.0	2060F 4	449.4	2.80	2.80	None	6500	4.85	208-230/460 Volts,
3.2	2050F 4	508.3	1.40	1.40	None	5250	7.50	3 Phase, 60 Hz,
3.2	2060F 4	543.0	2.32	2.32	None	6500	6.06	NEMA B,
2.7	2060F 4	649.5	1.94	1.94	None	6500	7.18	1.15 Service Factor
2.7	2070F 4	641.4	2.81	2.81	None	8500	5.49	Premium Efficiency Motor
2.2	2060F 4	795.9	1.58	1.58	None	6500	8.81	Falk Part No. 2918124
2.2	2070F 4	785.9	2.29	2.29	None	8500	6.74	TEFC, 1750 rpm
2.2	2080F 4	772.8	2.86	2.86	None	11000	5.21	230/460 Volts,
1.8	2060F 4	965.5	1.30	1.30	None	6500	10.77	3 Phase, 60 Hz,
1.8	2070F 4	961.2	1.86	1.86	None	8500	8.24	NEMA B,
1.8	2080F 4	927.2	2.25	2.25	None	11000	6.36	1.15 Service Factor
								Motors meeting other specifications are available upon request.

1.5 HP/1750 rpm/145T Motor★

Approx. L.S. Shaft rpm	DRIVE SIZE & Reduction	Exact Ratio	HP Rating	Service Factor	Minimum Cooling Required	L.S. Shaft OHL Capacity (lb)†	Minimum L.S. Shaft Sprocket Pitch Dia†	Motors are available from Falk or Falk Distributors.
16.5	2040F 3	105.0	3.80	2.53	None	3400	3.37	1.5 HP/145T Motor
13.5	2040F 3	125.0	3.16	2.11	None	3400	4.12	Energy Efficient Motor
11.0	2040F 3	159.4	2.50	1.67	None	3400	5.05	Falk Part No. 2918105
9.0	2050F 4	187.5	3.53	2.35	None	5250	4.00	TEFC, 1750 rpm
7.5	2050F 4	231.5	3.08	2.05	None	5250	4.80	230/460 Volts,
6.0	2050F 4	286.1	2.49	1.66	None	5250	6.00	3 Phase, 60 Hz,
6.0	2060F 4	296.3	4.24	2.83	None	6500	4.85	NEMA B,
5.0	2050F 4	343.3	2.08	1.39	None	5250	7.20	1.15 Service Factor
5.0	2060F 4	363.2	3.46	2.31	None	6500	5.82	Premium Efficiency Motor
4.0	2050F 4	417.1	1.71	1.14	None	5250	9.00	Falk Part No. 2918125
4.0	2060F 4	449.4	2.80	1.87	None	6500	7.27	TEFC, 1750 rpm
4.0	2070F 4	443.8	4.06	2.71	None	8500	5.56	230/460 Volts,
3.2	2060F 4	543.0	2.32	1.55	None	6500	9.09	3 Phase, 60 Hz,
3.2	2070F 4	542.7	3.30	2.20	None	8500	6.95	NEMA B,
3.2	2080F 4	523.5	3.98	2.65	None	11000	5.37	1.15 Service Factor
2.7	2060F 4	649.5	1.94	1.29	None	6500	10.77	Premium Efficiency Motor
2.7	2070F 4	641.4	2.81	1.87	None	8500	8.24	Falk Part No. 2918125
2.7	2080F 4	638.7	4.14	2.76	None	11000	6.36	TEFC, 1750 rpm
2.2	2060F 4	795.9	1.58	1.05	None	6500	13.22	230/460 Volts,
2.2	2070F 4	785.9	2.29	1.53	None	8500	10.11	3 Phase, 60 Hz,
2.2	2080F 4	772.8	2.86	1.91	None	11000	7.81	NEMA B,
1.8	2070F 4	961.2	1.86	1.24	None	8500	12.35	1.15 Service Factor
1.8	2080F 4	927.2	2.25	1.50	None	11000	9.55	Motors meeting other specifications are available upon request.
1.8	2090F 4	945.2	4.44	2.96	None	14000	7.50	

★ Drive selections found in the Quick Selection Tables are based on an ambient temperature of 80°F(27°C) at sea level (0 to 2500 ft.). If the environmental factors differ for your specific application, the application adjusted thermal rating must be calculated to verify the drive selection. See the Quick Selection example on Page 12 and the application adjusted thermal rating procedure on Page 42.

† Published values of overhung load and sprocket pitch diameter are for loads applied one shaft diameter from the seal cage with a service factor of unity. Where overhung load is proportional to torque (i.e. pinion, sprocket, or sheave applications) adjustment to the published values must be made based on the minimum required service factor. Refer to Page 48 for additional information.

Quick Selection Tables

2 HP/1750 rpm/145T Motor★

Approx. L.S. Shaft rpm	DRIVE SIZE & Reduction	Exact Ratio	HP Rating	Service Factor	Minimum Cooling Required	L.S. Shaft OHL Capacity (lb)†	Minimum L.S. Shaft Sprocket Pitch Dia†	
25.0	2040F_3	69.99	5.69	2.85	None	3400	2.96	Motors are available from Falk or Falk Distributors.
20.0	2040F_3	82.37	4.79	2.40	None	3400	3.71	
16.5	2040F_3	105.0	3.80	1.90	None	3400	4.49	
13.5	2040F_3	125.0	3.16	1.58	None	3400	5.49	2 HP/145T Motor
13.5	2050F_3	127.7	5.58	2.79	None	5250	3.56	
11.0	2040F_3	159.4	2.50	1.25	None	3400	6.74	
11.0	2050F_3	156.9	4.54	2.27	None	5250	4.36	Energy Efficient Motor Falk Part No. 2918106 TEFC, 1750 rpm 208-230/460 Volts, 3 Phase, 60 Hz, NEMA B, 1.15 Service Factor
9.0	2050F_4	187.5	3.53	1.77	None	5250	5.33	
7.5	2050F_4	231.5	3.08	1.54	None	5250	6.40	
7.5	2060F_4	239.6	5.17	2.59	None	6500	5.17	
6.0	2050F_4	286.1	2.49	1.25	None	5250	8.00	
6.0	2060F_4	296.3	4.24	2.12	None	6500	6.46	
5.0	2050F_4	343.3	2.08	1.04	None	5250	9.60	
5.0	2060F_4	363.2	3.46	1.73	None	6500	7.75	
5.0	2070F_4	358.7	5.03	2.52	None	8500	5.93	
4.0	2060F_4	449.4	2.80	1.40	None	6500	9.69	
4.0	2070F_4	443.8	4.06	2.03	None	8500	7.41	Premium Efficiency Motor Falk Part No. 2918126 TEFC, 1750 rpm 230/460 Volts, 3 Phase, 60 Hz, NEMA B, 1.15 Service Factor
4.0	2080F_4	436.4	5.06	2.53	None	11000	5.73	
3.2	2060F_4	543.0	2.32	1.16	None	6500	12.12	
3.2	2070F_4	542.7	3.30	1.65	None	8500	9.26	
3.2	2080F_4	523.5	3.98	1.99	None	11000	7.16	
2.7	2070F_4	641.4	2.81	1.41	None	8500	10.98	
2.7	2080F_4	638.7	4.14	2.07	None	11000	8.48	
2.2	2070F_4	785.9	2.29	1.15	None	8500	13.48	
2.2	2080F_4	772.8	2.86	1.43	None	11000	10.41	
2.2	2090F_4	783.1	5.36	2.68	None	14000	8.18	Motors meeting other specifications are available upon request.
1.8	2080F_4	927.2	2.25	1.13	None	11000	12.73	
1.8	2090F_4	945.2	4.44	2.22	None	14000	10.00	
1.8	2100F_4	999.9	5.88	2.94	None	17000	8.24	

3 HP/1750 rpm/182T Motor★

Approx. L.S. Shaft rpm	DRIVE SIZE & Reduction	Exact Ratio	HP Rating	Service Factor	Minimum Cooling Required	L.S. Shaft OHL Capacity (lb)†	Minimum L.S. Shaft Sprocket Pitch Dia†	
37.0	2040F_3	45.86	8.67	2.89	None	3400	3.00	Motors are available from Falk or Falk Distributors.
30.0	2040F_3	57.62	6.91	2.30	None	3400	3.71	
25.0	2040F_3	69.99	5.69	1.90	None	3400	4.45	
20.0	2040F_3	82.37	4.79	1.60	None	3400	5.56	3 HP/182T Motor
20.0	2050F_3	84.70	8.41	2.80	None	5250	3.60	
16.5	2040F_3	105.0	3.80	1.27	None	3400	6.74	
16.5	2050F_3	104.1	6.85	2.28	None	5250	4.36	Energy Efficient Motor Falk Part No. 2918107 TEFC, 1750 rpm 208-230/460 Volts, 3 Phase, 60 Hz, NEMA B, 1.15 Service Factor
13.5	2040F_3	125.0	3.16	1.05	None	3400	8.24	
13.5	2050F_3	127.7	5.58	1.86	None	5250	5.33	
11.0	2050F_3	156.9	4.54	1.51	None	5250	6.55	
11.0	2060F_3	156.7	7.96	2.65	None	6500	5.29	
9.0	2050F_4	187.5	3.53	1.18	None	5250	8.00	
9.0	2060F_3	190.1	6.62	2.21	None	6500	6.46	
7.5	2050F_4	231.5	3.08	1.03	None	5250	9.60	
7.5	2060F_4	239.6	5.17	1.72	None	6500	7.75	
7.5	2070F_4	236.6	7.62	2.54	None	8500	5.93	Premium Efficiency Motor Falk Part No. 2918127 TEFC, 1750 rpm 230/460 Volts, 3 Phase, 60 Hz, NEMA B, 1.15 Service Factor
6.0	2060F_4	296.3	4.24	1.41	None	6500	9.69	
6.0	2070F_4	292.6	6.16	2.05	None	8500	7.41	
5.0	2060F_4	363.2	3.46	1.15	None	6500	11.63	
5.0	2070F_4	358.7	5.03	1.68	None	8500	8.89	
5.0	2080F_4	360.7	7.32	2.44	None	11000	6.87	
4.0	2070F_4	443.8	4.06	1.35	None	8500	11.12	
4.0	2080F_4	436.4	5.06	1.69	None	11000	8.59	
3.2	2070F_4	542.7	3.30	1.10	None	8500	13.90	
3.2	2080F_4	523.5	3.98	1.33	None	11000	10.74	Motors meeting other specifications are available upon request.
3.2	2090F_4	533.7	7.86	2.62	None	14000	8.44	
2.7	2080F_4	638.7	4.14	1.38	None	11000	12.73	
2.7	2090F_4	644.9	6.50	2.17	None	14000	10.00	
2.7	2100F_4	660.4	8.90	2.97	None	17000	8.24	
2.2	2090F_4	783.1	5.36	1.79	None	14000	12.27	
2.2	2100F_4	844.5	6.90	2.30	None	17000	10.11	
1.8	2090F_4	945.2	4.44	1.48	None	14000	15.00	
1.8	2100F_4	999.9	5.88	1.96	None	17000	12.35	
1.8	2110F_4	967.6	8.75	2.92	None	18500	11.35	

(See footnotes on Page 15.)

5 HP/1750 rpm/184T Motor★

Approx. L.S. Shaft rpm	DRIVE SIZE & Reduction	Exact Ratio	HP Rating	Service Factor	Minimum Cooling Required	L.S. Shaft OHL Capacity (lb)†	Minimum L.S. Shaft Sprocket Pitch Dia‡	
68.0	2040F 2	25.25	14.6	2.92	None	3400	2.72	
56.0	2040F 2	29.43	12.8	2.56	None	3400	3.31	
45.0	2040F 3	38.08	10.4	2.08	None	3400	4.12	
37.0	2040F 3	45.86	8.67	1.73	None	3400	5.01	
30.0	2040F 3	57.62	6.91	1.38	None	3400	6.18	
30.0	2050F 3	55.63	12.8	2.56	None	5250	4.00	
25.0	2040F 3	69.99	5.69	1.14	None	3400	7.41	
25.0	2050F 3	68.61	10.4	2.08	None	5250	4.80	
20.0	2050F 3	84.70	8.41	1.68	None	5250	6.00	
20.0	2060F 3	85.69	14.7	2.94	None	6500	4.85	Motors are available from Falk or Falk Distributors.
16.5	2050F 3	104.1	6.85	1.37	None	5250	7.27	
16.5	2060F 3	106.5	11.4	2.28	None	6500	5.87	
13.5	2050F 3	127.7	5.58	1.12	None	5250	8.89	5 HP/184T Motor
13.5	2060F 3	131.3	9.54	1.91	None	6500	7.18	
13.5	2070F 3	129.6	13.9	2.78	None	8500	5.49	Energy Efficient Motor Falk Part No. 2918108
11.0	2060F 3	156.7	7.96	1.59	None	6500	8.81	
11.0	2070F 3	151.1	11.9	2.38	None	8500	6.74	
9.0	2060F 3	190.1	6.62	1.32	None	6500	10.77	TEFC, 1750 rpm
9.0	2070F 3	184.8	9.65	1.93	None	8500	8.24	208-230/460 Volts,
9.0	2080F 4	192.3	13.7	2.74	None	11000	6.36	3 Phase, 60 Hz,
7.5	2060F 4	239.6	5.17	1.03	None	6500	12.92	NEMA B,
7.5	2070F 4	236.6	7.62	1.52	None	8500	9.88	1.15 Service Factor
7.5	2080F 4	237.8	11.1	2.22	None	11000	7.64	Premium Efficiency Motor
6.0	2070F 4	292.6	6.16	1.23	None	8500	12.35	Falk Part No. 2918128
6.0	2080F 4	291.5	9.06	1.81	None	11000	9.55	TEFC, 1750 rpm
6.0	2090F 4	284.5	14.7	2.94	None	14000	7.50	230/460 Volts,
5.0	2070F 4	358.7	5.03	1.01	None	8500	14.82	3 Phase, 60 Hz,
5.0	2080F 4	360.7	7.32	1.46	None	11000	11.45	NEMA B,
5.0	2090F 4	351.9	11.9	2.38	None	14000	9.00	1.15 Service Factor
4.0	2080F 4	436.4	5.06	1.01	None	11000	14.32	
4.0	2090F 4	431.4	9.72	1.94	None	14000	11.25	Motors meeting other
4.0	2100F 4	437.6	13.4	2.68	None	17000	9.26	specifications are
3.2	2090F 4	533.7	7.86	1.57	None	14000	14.06	available upon request.
3.2	2100F 4	518.1	11.3	2.26	None	17000	11.58	
2.7	2090F 4	644.9	6.50	1.30	None	14000	16.67	
2.7	2100F 4	660.4	8.90	1.78	None	17000	13.73	
2.7	2110F 4	653.6	12.9	2.58	None	18500	12.61	
2.2	2090F 4	783.1	5.36	1.07	None	14000	20.45	
2.2	2100F 4	844.5	6.90	1.38	None	17000	16.84	
2.2	2110F 4	791.4	11.1	2.22	None	18500	15.48	
2.2	2120F 4	783.6	14.8	2.96	None	19000	15.07	
1.8	2100F 4	999.9	5.88	1.18	None	17000	20.59	
1.8	2110F 4	967.6	8.75	1.75	None	18500	18.92	
1.8	2120F 4	961.3	12.1	2.42	None	19000	18.42	

(See footnotes on Page 15.)

Quick Selection Tables

7.5 HP/1750 rpm/213T Motor★

Approx. L.S. Shaft rpm	DRIVE SIZE & Reduction	Exact Ratio	HP Rating	Service Factor	Minimum Cooling Required	L.S. Shaft OHL Capacity (lb)†	Minimum L.S. Shaft Sprocket Pitch Dia†	
84.0	2040F_2	19.81	19.3	2.57	None	3400	3.31	
68.0	2040F_2	25.25	14.6	1.95	None	3400	4.09	
56.0	2040F_2	29.43	12.8	1.71	None	3400	4.96	
45.0	2040F_3	38.08	10.4	1.39	None	3400	6.18	
45.0	2050F_3	37.57	18.9	2.52	None	5250	4.00	
37.0	2040F_3	45.86	8.67	1.16	None	3400	7.51	
37.0	2050F_3	45.64	15.6	2.08	None	5250	4.86	
30.0	2050F_3	55.63	12.8	1.71	None	5250	6.00	
30.0	2060F_3	56.62	22.2	2.96	None	6500	4.85	
25.0	2050F_3	68.61	10.4	1.39	None	5250	7.20	
25.0	2060F_3	70.64	17.1	2.28	None	6500	5.82	
20.0	2050F_3	84.70	8.41	1.12	None	5250	9.00	
20.0	2060F_3	85.69	14.7	1.96	None	6500	7.27	
20.0	2070F_3	86.43	20.8	2.77	None	8500	5.56	
16.5	2060F_3	106.5	11.4	1.52	None	6500	8.81	Motors are available from Falk or Falk Distributors.
16.5	2070F_3	101.7	17.7	2.36	None	8500	6.74	7.5 HP/213T Motor
13.5	2060F_3	131.3	9.54	1.27	None	6500	10.77	
13.5	2070F_3	129.6	13.9	1.85	None	8500	8.24	Energy Efficient Motor
13.5	2080F_3	130.4	19.9	2.65	None	11000	6.36	Falk Part No. 2918109
11.0	2060F_3	156.7	7.96	1.06	None	6500	13.22	TEFC, 1750 rpm
11.0	2070F_3	151.1	11.9	1.59	None	8500	10.11	208-230/460 Volts,
11.0	2080F_3	156.4	16.3	2.17	None	11000	7.81	3 Phase, 60 Hz,
9.0	2070F_3	184.8	9.65	1.29	None	8500	12.35	NEMA B,
9.0	2080F_4	192.3	13.7	1.83	None	11000	9.55	1.15 Service Factor
9.0	2090F_3	193.6	21.6	2.88	None	14000	7.50	
7.5	2070F_4	236.6	7.62	1.02	None	8500	14.82	Premium Efficiency Motor
7.5	2080F_4	237.8	11.1	1.48	None	11000	11.45	Falk Part No. 2918129
7.5	2090F_4	236.7	17.7	2.36	None	14000	9.00	TEFC, 1750 rpm
6.0	2080F_4	291.5	9.06	1.21	None	11000	14.32	230/460 Volts,
6.0	2090F_4	284.5	14.7	1.96	None	14000	11.25	3 Phase, 60 Hz,
6.0	2100F_4	306.1	19.2	2.56	None	17000	9.26	NEMA B,
5.0	2090F_4	351.9	11.9	1.59	None	14000	13.50	1.15 Service Factor
5.0	2100F_4	371.9	15.8	2.11	None	17000	11.12	
4.0	2090F_4	431.4	9.72	1.30	None	14000	16.88	Motors meeting other
4.0	2100F_4	437.6	13.4	1.79	None	17000	13.90	specifications are
4.0	2110F_4	434.9	20.1	2.68	None	18500	12.77	available upon request.
3.2	2090F_4	533.7	7.86	1.05	None	14000	21.09	
3.2	2100F_4	518.1	11.3	1.51	None	17000	17.37	
3.2	2110F_4	531.7	15.9	2.12	None	18500	15.96	
3.2	2120F_4	535.7	21.7	2.89	None	19000	15.54	
2.7	2100F_4	660.4	8.90	1.19	None	17000	20.59	
2.7	2110F_4	653.6	12.9	1.72	None	18500	18.92	
2.7	2120F_4	657.2	17.7	2.36	None	19000	18.42	
2.2	2110F_4	791.4	11.1	1.48	None	18500	23.22	
2.2	2120F_4	783.6	14.8	1.97	None	19000	22.61	
2.2	2130F_4	782.8	18.3	2.44	None	22500	19.09	
1.8	2110F_4	967.6	8.75	1.17	None	18500	28.38	
1.8	2120F_4	961.3	12.1	1.61	None	19000	27.63	
1.8	2130F_4	940.9	15.4	2.05	None	22500	23.33	

(See footnotes on Page 15.)

10 HP/1750 rpm/215T Motor★

Approx. L.S. Shaft rpm	DRIVE SIZE & Reduction	Exact Ratio	HP Rating	Service Factor	Minimum Cooling Required	L.S. Shaft OHL Capacity (lb)†	Minimum L.S. Shaft Sprocket Pitch Dia‡	
420	2040F 2	4.120	28.5	2.85	None	2530	1.19	
380	2040F 2	4.655	28.5	2.85	None	2650	1.25	
125	2040F 2	13.86	28.1	2.81	None	3030	3.33	
100	2040F 2	16.83	23.3	2.33	None	3030	4.16	
84.0	2040F 2	19.81	19.3	1.93	None	3400	4.41	
68.0	2040F 2	25.25	14.6	1.46	None	3400	5.45	
68.0	2050F 2	25.27	28.0	2.80	None	5250	3.53	
56.0	2040F 2	29.43	12.8	1.28	None	3400	6.62	
56.0	2050F 2	30.16	23.5	2.35	None	5250	4.29	
45.0	2040F 3	38.08	10.4	1.04	None	3400	8.24	
45.0	2050F 3	37.57	18.9	1.89	None	5250	5.33	
37.0	2050F 3	45.64	15.6	1.56	None	5250	6.49	
37.0	2060F 3	46.65	26.9	2.69	None	6500	5.24	Motors are available
30.0	2050F 3	55.63	12.8	1.28	None	5250	8.00	from Falk or
30.0	2060F 3	56.62	22.2	2.22	None	6500	6.46	Falk Distributors.
25.0	2050F 3	68.61	10.4	1.04	None	5250	9.60	
25.0	2060F 3	70.64	17.1	1.71	None	6500	7.75	10 HP/215T Motor
25.0	2070F 3	71.14	25.3	2.53	None	8500	5.93	
20.0	2060F 3	85.69	14.7	1.47	None	6500	9.69	Energy Efficient Motor
20.0	2070F 3	86.43	20.8	2.08	None	8500	7.41	Falk Part No. 2918110
16.5	2060F 3	106.5	11.4	1.14	None	6500	11.75	TEFC, 1750 rpm
16.5	2070F 3	101.7	17.7	1.77	None	8500	8.98	208-230/460 Volts,
16.5	2080F 3	107.7	23.8	2.38	None	11000	6.94	3 Phase, 60 Hz,
13.5	2070F 3	129.6	13.9	1.39	None	8500	10.98	NEMA B,
13.5	2080F 3	130.4	19.9	1.99	None	11000	8.48	1.15 Service Factor
11.0	2070F 3	151.1	11.9	1.19	None	8500	13.48	
11.0	2080F 3	156.4	16.3	1.63	None	11000	10.41	Premium Efficiency Motor
11.0	2090F 3	157.5	26.6	2.66	None	14000	8.18	Falk Part No. 2918130
9.0	2080F 4	192.3	13.7	1.37	None	11000	12.73	TEFC, 1750 rpm
9.0	2090F 3	193.6	21.6	2.16	None	14000	10.00	230/460 Volts,
9.0	2100F 4	202.3	28.9	2.89	None	17000	8.24	3 Phase, 60 Hz,
7.5	2080F 4	237.8	11.1	1.11	None	11000	15.27	NEMA B,
7.5	2090F 4	236.7	17.7	1.77	None	14000	12.00	1.15 Service Factor
7.5	2100F 4	243.7	24.1	2.41	None	17000	9.88	
6.0	2090F 4	284.5	14.7	1.47	None	14000	15.00	Motors meeting other
6.0	2100F 4	306.1	19.2	1.92	None	17000	12.35	specifications are
5.0	2090F 4	351.9	11.9	1.19	None	14000	18.00	available upon request.
5.0	2100F 4	371.9	15.8	1.58	None	17000	14.82	
5.0	2110F 4	352.3	24.8	2.48	None	18500	13.62	
4.0	2100F 4	437.6	13.4	1.34	None	17000	18.53	
4.0	2110F 4	434.9	20.1	2.01	None	18500	17.03	
4.0	2120F 4	445.7	26.0	2.60	None	19000	16.58	
3.2	2100F 4	518.1	11.3	1.13	None	17000	23.16	
3.2	2110F 4	531.7	15.9	1.59	None	18500	21.28	
3.2	2120F 4	535.7	21.7	2.17	None	19000	20.72	
2.7	2110F 4	653.6	12.9	1.29	None	18500	25.23	
2.7	2120F 4	657.2	17.7	1.77	None	19000	24.56	
2.7	2130F 4	643.3	25.9	2.59	None	22500	20.74	
2.2	2110F 4	791.4	11.1	1.11	None	18500	30.96	
2.2	2120F 4	783.6	14.8	1.48	None	19000	30.14	
2.2	2130F 4	782.8	18.3	1.83	None	22500	25.45	
1.8	2120F 4	961.3	12.1	1.21	None	19000	36.84	
1.8	2130F 4	940.9	15.4	1.54	None	22500	31.11	

(See footnotes on Page 15.)

Quick Selection Tables

15 HP/1750 rpm/254T Motor★

Approx. L.S. Shaft rpm	DRIVE SIZE & Reduction	Exact Ratio	HP Rating	Service Factor	Minimum Cooling Required	L.S. Shaft OHL Capacity (lb)†	Minimum L.S. Shaft Sprocket Pitch Dia†
640	2040F_2	2.723	39.8	2.65	None	2380	1.24
575	2040F_2	3.076	39.8	2.65	None	2380	1.38
520	2040F_2	3.279	34.7	2.31	None	2530	1.44
470	2040F_2	3.705	34.7	2.31	None	2530	1.59
420	2040F_2	4.120	28.5	1.90	None	2530	1.78
380	2040F_2	4.655	28.5	1.90	None	2650	1.88
230	2040F_2	7.368	44.7	2.98	None	2380	3.45
190	2040F_2	9.158	38.2	2.55	None	2670	3.73
155	2040F_2	11.03	33.3	2.22	None	2840	4.29
125	2040F_2	13.86	28.1	1.87	None	3030	4.99
100	2040F_2	16.83	23.3	1.55	None	3030	6.24
100	2050F_2	16.65	42.3	2.82	None	4370	4.32
84	2040F_2	19.81	19.3	1.29	None	3400	6.62
84	2050F_2	20.56	34.4	2.29	None	5120	4.39
68	2050F_2	25.27	28.0	1.87	None	5250	5.29
56	2050F_2	30.16	23.5	1.57	None	5250	6.43
56	2060F_2	31.69	39.7	2.65	None	6500	5.19
45	2050F_3	37.57	18.9	1.26	None	5250	8.00
45	2060F_3	38.46	32.3	2.15	None	6500	6.46
37	2050F_3	45.64	15.6	1.04	None	5250	9.73
37	2060F_3	46.65	26.9	1.79	None	6500	7.86
37	2070F_3	46.27	37.8	2.52	None	8500	6.01
30	2060F_3	56.62	22.2	1.48	None	6500	9.69
30	2070F_3	56.63	31.7	2.11	None	8500	7.41
30	2080F_3	57.56	44.9	2.99	None	11000	5.73
25	2060F_3	70.64	17.1	1.14	None	6500	11.63
25	2070F_3	71.14	25.3	1.69	None	8500	8.89
25	2080F_3	69.64	36.9	2.46	None	11000	6.87
20	2070F_3	86.43	20.8	1.39	None	8500	11.12
20	2080F_3	87.65	30.1	2.01	None	11000	8.59
16.5	2070F_3	101.7	17.7	1.18	None	8500	13.48
16.5	2080F_3	107.7	23.8	1.59	None	11000	10.41
16.5	2090F_3	103.4	40.4	2.69	None	14000	8.18
13.5	2080F_3	130.4	19.9	1.33	None	11000	12.73
13.5	2090F_3	129.7	32.3	2.15	None	14000	10.00
13.5	2100F_3	133.8	43.8	2.92	None	17000	8.24
11.0	2080F_3	156.4	16.3	1.09	None	11000	15.62
11.0	2090F_3	157.5	26.6	1.77	None	14000	12.27
11.0	2100F_3	158.4	37.0	2.47	None	17000	10.11
9.0	2090F_3	193.6	21.6	1.44	None	14000	15.00
9.0	2100F_4	202.3	28.9	1.93	None	17000	12.35
7.5	2090F_4	236.7	17.7	1.18	None	14000	18.00
7.5	2100F_4	243.7	24.1	1.61	None	17000	14.82
7.5	2110F_4	234.3	37.3	2.49	None	18500	13.62
6.0	2100F_4	306.1	19.2	1.28	None	17000	18.53
6.0	2110F_4	285.6	30.6	2.04	None	18500	17.03
6.0	2120F_4	292.7	39.6	2.64	None	19000	16.58
5.0	2100F_4	371.9	15.8	1.05	None	17000	22.24
5.0	2110F_4	352.3	24.8	1.65	None	18500	20.43
5.0	2120F_4	361.0	32.1	2.14	None	19000	19.89
4.0	2110F_4	434.9	20.1	1.34	None	18500	25.54
4.0	2120F_4	445.7	26.0	1.73	None	19000	24.87
4.0	2130F_4	433.5	38.5	2.57	None	22500	21.00
3.2	2110F_4	531.7	15.9	1.06	None	18500	31.93
3.2	2120F_4	535.7	21.7	1.45	None	19000	31.09
3.2	2130F_4	535.1	31.1	2.07	None	22500	26.25
2.7	2120F_4	657.2	17.7	1.18	None	19000	36.84
2.7	2130F_4	643.3	25.9	1.73	None	22500	31.11
2.2	2130F_4	782.8	18.3	1.22	None	22500	38.18
1.8	2130F_4	940.9	15.4	1.03	None	22500	46.67

Motors are available
from Falk or
Falk Distributors.

15 HP/254T Motor

Energy Efficient Motor
Falk Part No. 2918111
TEFC, 1750 rpm
230/460 Volts,
3 Phase, 60 Hz,
NEMA B,
1.15 Service Factor

Premium Efficiency Motor
Falk Part No. 2918131
TEFC, 1750 rpm
230/460 Volts,
3 Phase, 60 Hz,
NEMA B,
1.15 Service Factor

Motors meeting other
specifications are
available upon request.

(See footnotes on Page 15.)

20 HP/1750 rpm/256T Motor★

Approx. L.S. Shaft rpm	DRIVE SIZE & Reduction	Exact Ratio	HP Rating	Service Factor	Minimum Cooling Required	L.S. Shaft OHL Capacity (lb)†	Minimum L.S. Shaft Sprocket Pitch Dia‡
1170	2040F 2	1.465	57.6	2.88	None	2030	1.06
950	2040F 2	1.820	50.8	2.54	None	2040	1.30
860	2040F 2	2.057	50.8	2.54	None	2150	1.36
780	2040F 2	2.191	50.1	2.50	None	2200	1.47
700	2040F 2	2.475	45.4	2.27	None	2290	1.57
640	2040F 2	2.723	39.8	1.99	None	2380	1.65
575	2040F 2	3.076	39.8	1.99	None	2380	1.84
520	2040F 2	3.279	34.7	1.74	None	2530	1.92
470	2040F 2	3.705	34.7	1.74	None	2530	2.12
420	2040F 2	4.120	28.5	1.43	None	2530	2.37
420	2050F 2	4.001	56.7	2.84	None	2730	2.20
380	2040F 2	4.655	28.5	1.43	None	2650	2.50
350	2040F 2	4.929	57.6	2.88	None	2260	3.19
280	2040F 2	6.122	50.8	2.54	None	2280	3.95
230	2040F 2	7.368	44.7	2.24	None	2380	4.60
190	2040F 2	9.158	38.2	1.91	None	2670	4.97
155	2040F 2	11.03	33.3	1.67	None	2840	5.72
125	2040F 2	13.86	28.1	1.41	None	3030	6.65
125	2050F 2	13.50	52.1	2.61	None	4370	4.61
100	2040F 2	16.83	23.3	1.17	None	3030	8.32
100	2050F 2	16.65	42.3	2.12	None	4370	5.77
84	2050F 2	20.56	34.4	1.72	None	5120	5.86
84	2060F 2	21.13	59.3	2.97	None	6500	4.62
68	2050F 2	25.27	28.0	1.40	None	5250	7.06
68	2060F 2	25.63	49.0	2.45	None	6500	5.70
56	2050F 2	30.16	23.5	1.18	None	5250	8.57
56	2060F 2	31.69	39.7	1.99	None	6500	6.92
56	2070F 2	31.08	53.1	2.66	None	8500	5.29
45	2060F 3	38.46	32.3	1.62	None	6500	8.62
45	2070F 3	37.83	46.2	2.31	None	8500	6.59
37	2060F 3	46.65	26.9	1.35	None	6500	10.48
37	2070F 3	46.27	37.8	1.89	None	8500	8.01
37	2080F 3	47.23	53.9	2.70	None	11000	6.19
30	2060F 3	56.62	22.2	1.11	None	6500	12.92
30	2070F 3	56.63	31.7	1.59	None	8500	9.88
30	2080F 3	57.56	44.9	2.25	None	11000	7.64
25	2070F 3	71.14	25.3	1.27	None	8500	11.86
25	2080F 3	69.64	36.9	1.85	None	11000	9.16
25	2090F 3	69.86	59.8	2.99	None	14000	7.20
20	2070F 3	86.43	20.8	1.04	None	8500	14.82
20	2080F 3	87.65	30.1	1.51	None	11000	11.45
20	2090F 3	85.18	49.1	2.46	None	14000	9.00
16.5	2080F 3	107.7	23.8	1.19	None	11000	13.88
16.5	2090F 3	103.4	40.4	2.02	None	14000	10.91
16.5	2100F 3	104.6	56.0	2.80	None	17000	8.98
13.5	2080F 3	130.4	19.9	1.00	None	11000	16.97
13.5	2090F 3	129.7	32.3	1.62	None	14000	13.33
13.5	2100F 3	133.8	43.8	2.19	None	17000	10.98
11.0	2090F 3	157.5	26.6	1.33	None	14000	16.36
11.0	2100F 3	158.4	37.0	1.85	None	17000	13.48
11.0	2110F 3	155.7	53.8	2.69	None	18500	12.38
9.0	2090F 3	193.6	21.6	1.08	None	14000	20.00
9.0	2100F 4	202.3	28.9	1.45	None	17000	16.47
9.0	2110F 4	192.9	45.3	2.27	None	18500	15.14
9.0	2120F 4	197.7	58.6	2.93	None	19000	14.74
7.5	2100F 4	243.7	24.1	1.21	None	17000	19.76
7.5	2110F 4	234.3	37.3	1.87	None	18500	18.16
7.5	2120F 4	240.1	48.3	2.42	None	19000	17.68
6.0	2110F 4	285.6	30.6	1.53	None	18500	22.70
6.0	2120F 4	292.7	39.6	1.98	None	19000	22.11
6.0	2130F 4	288.4	57.8	2.89	None	22500	18.67
5.0	2110F 4	352.3	24.8	1.24	None	18500	27.24
5.0	2120F 4	361.0	32.1	1.61	None	19000	26.53
5.0	2130F 4	351.4	47.4	2.37	None	22500	22.40
4.0	2110F 4	434.9	20.1	1.01	None	18500	34.05
4.0	2120F 4	445.7	26.0	1.30	None	19000	33.16
4.0	2130F 4	433.5	38.5	1.93	None	22500	28.00
3.2	2120F 4	535.7	21.7	1.09	None	19000	41.45
3.2	2130F 4	535.1	31.1	1.56	None	22500	35.00
2.7	2130F 4	643.3	25.9	1.30	None	22500	41.48

(See footnotes on Page 15.)

Motors are available
from Falk or
Falk Distributors.

20 HP/256T Motor

Energy Efficient Motor
Falk Part No. 2918112
TEFC, 1750 rpm
230/460 Volts,
3 Phase, 60 Hz,
NEMA B,
1.15 Service Factor

Premium Efficiency Motor
Falk Part No. 2918132
TEFC, 1750 rpm
230/460 Volts,
3 Phase, 60 Hz,
NEMA B,
1.15 Service Factor

Motors meeting other
specifications are
available upon request.

Quick Selection Tables

25 HP/1750 rpm/284T Motor★

Approx. L.S. Shaft rpm	DRIVE SIZE & Reduction	Exact Ratio	HP Rating	Service Factor	Minimum Cooling Required	L.S. Shaft OHL Capacity (lb)†	Minimum L.S. Shaft Sprocket Pitch Dia‡
1170	2040F_2	1.465	57.6	2.30	None	2030	1.33
950	2040F_2	1.820	50.8	2.03	None	2040	1.63
860	2040F_2	2.057	50.8	2.03	None	2150	1.70
780	2040F_2	2.191	50.1	2.00	None	2200	1.84
700	2040F_2	2.475	45.4	1.82	None	2290	1.97
640	2040F_2	2.723	39.8	1.59	None	2380	2.07
575	2040F_2	3.076	39.8	1.59	None	2380	2.30
520	2040F_2	3.279	34.7	1.39	None	2530	2.39
520	2050F_2	3.283	68.0	2.72	None	2730	2.22
470	2040F_2	3.705	34.7	1.39	None	2530	2.65
420	2040F_2	4.120	28.5	1.14	None	2530	2.96
420	2050F_2	4.001	56.7	2.27	None	2730	2.75
380	2040F_2	4.655	28.5	1.14	None	2650	3.13
380	2050F_2	4.512	68.0	2.72	None	3140	2.64
350	2040F_2	4.929	57.6	2.30	None	2260	3.98
280	2040F_2	6.122	50.8	2.03	None	2280	4.93
230	2040F_2	7.368	44.7	1.79	None	2380	5.75
190	2040F_2	9.158	38.2	1.53	None	2670	6.21
155	2040F_2	11.03	33.3	1.33	None	2840	7.16
155	2050F_2	11.08	63.2	2.53	None	4020	5.06
125	2040F_2	13.86	28.1	1.12	None	3030	8.32
125	2050F_2	13.50	52.1	2.08	None	4370	5.77
100	2050F_2	16.65	42.3	1.69	None	4370	7.21
100	2060F_2	17.19	69.8	2.79	None	6500	4.85
84	2050F_2	20.56	34.4	1.38	None	5120	7.32
84	2060F_2	21.13	59.3	2.37	None	6500	5.77
68	2050F_2	25.27	28.0	1.12	None	5250	8.82
68	2060F_2	25.63	49.0	1.96	None	6500	7.13
68	2070F_2	25.12	68.0	2.72	None	8500	5.45
56	2060F_2	31.69	39.7	1.59	None	6500	8.65
56	2070F_2	31.08	53.1	2.12	None	8500	6.62
45	2060F_3	38.46	32.3	1.29	None	6500	10.77
45	2070F_3	37.83	46.2	1.85	None	8500	8.24
45	2080F_3	38.88	63.7	2.55	None	11000	6.36
37	2060F_3	46.65	26.9	1.08	None	6500	13.10
37	2070F_3	46.27	37.8	1.51	None	8500	10.02
37	2080F_3	47.23	53.9	2.16	None	11000	7.74
30	2070F_3	56.63	31.7	1.27	None	8500	12.35
30	2080F_3	57.56	44.9	1.80	None	11000	9.55
30	2090F_3	57.53	72.3	2.89	None	14000	7.50
25	2070F_3	71.14	25.3	1.01	None	8500	14.82
25	2080F_3	69.64	36.9	1.48	None	11000	11.45
25	2090F_3	69.86	59.8	2.39	None	14000	9.00
20	2080F_3	87.65	30.1	1.20	None	11000	14.32
20	2090F_3	85.18	49.1	1.96	None	14000	11.25
20	2100F_3	88.36	66.2	2.65	None	17000	9.26
16.5	2090F_3	103.4	40.4	1.62	None	14000	13.64
16.5	2100F_3	104.6	56.0	2.24	None	17000	11.23
13.5	2090F_3	129.7	32.3	1.29	None	14000	16.67
13.5	2100F_3	133.8	43.8	1.75	None	17000	13.73
13.5	2110F_3	128.2	65.1	2.60	None	18500	12.61
11.0	2090F_3	157.5	26.6	1.06	None	14000	20.45
11.0	2100F_3	158.4	37.0	1.48	None	17000	16.84
11.0	2110F_3	155.7	53.8	2.15	None	18500	15.48
11.0	2120F_3	158.2	73.2	2.93	None	19000	15.07
9.0	2100F_4	202.3	28.9	1.16	None	17000	20.59
9.0	2110F_4	192.9	45.3	1.81	None	18500	18.92
9.0	2120F_4	197.7	58.6	2.34	None	19000	18.42
7.5	2110F_4	234.3	37.3	1.49	None	18500	22.70
7.5	2120F_4	240.1	48.3	1.93	None	19000	22.11
7.5	2130F_4	237.4	67.0	2.68	None	22500	18.67
6.0	2110F_4	285.6	30.6	1.22	None	18500	28.38
6.0	2120F_4	292.7	39.6	1.58	None	19000	27.63
6.0	2130F_4	288.4	57.8	2.31	None	22500	23.33
5.0	2120F_4	361.0	32.1	1.28	None	19000	33.16
5.0	2130F_4	351.4	47.4	1.90	None	22500	28.00
4.0	2120F_4	445.7	26.0	1.04	None	19000	41.45
4.0	2130F_4	433.5	38.5	1.54	None	22500	35.00
3.2	2130F_4	535.1	31.1	1.24	None	22500	43.75
2.7	2130F_4	643.3	25.9	1.04	None	22500	51.85

Motors are available
from Falk or
Falk Distributors.

25 HP/284T Motor

Energy Efficient Motor
Falk Part No. 2918113
TEFC, 1750 rpm
230/460 Volts,
3 Phase, 60 Hz,
NEMA B,
1.15 Service Factor

Premium Efficiency Motor
Falk Part No. 2918133
TEFC, 1750 rpm
230/460 Volts,
3 Phase, 60 Hz,
NEMA B,
1.15 Service Factor

Motors meeting other
specifications are
available upon request.

(See footnotes on Page 15.)

30 HP/1750 rpm/286T Motor★

Approx. L.S. Shaft rpm	DRIVE SIZE & Reduction	Exact Ratio	HP Rating	Service Factor	Minimum Cooling Required	L.S. Shaft OHL Capacity (lb)†	Minimum L.S. Shaft Sprocket Pitch Dia‡
1170	2040F 2	1.465	57.6	1.92	None	2030	1.59
950	2040F 2	1.820	50.8	1.69	None	2040	1.95
950	2050F 2	1.822	87.5	2.92	None	2450	1.62
860	2040F 2	2.057	50.8	1.69	None	2150	2.04
780	2040F 2	2.191	50.1	1.67	None	2200	2.20
700	2040F 2	2.475	45.4	1.51	None	2290	2.36
640	2040F 2	2.723	39.8	1.33	None	2380	2.48
640	2050F 2	2.702	79.2	2.64	None	2580	2.29
575	2040F 2	3.076	39.8	1.33	None	2380	2.76
520	2040F 2	3.279	34.7	1.16	None	2530	2.87
520	2050F 2	3.283	68.0	2.27	None	2730	2.66
470	2040F 2	3.705	34.7	1.16	None	2530	3.18
470	2050F 2	3.714	79.2	2.64	None	2730	2.95
420	2050F 2	4.001	56.7	1.89	None	2730	3.30
380	2050F 2	4.512	68.0	2.27	None	3140	3.17
350	2040F 2	4.929	57.6	1.92	None	2260	4.78
280	2040F 2	6.122	50.8	1.69	None	2280	5.92
230	2040F 2	7.368	44.7	1.49	None	2380	6.91
230	2050F 2	7.598	87.0	2.90	None	3300	4.98
190	2040F 2	9.158	38.2	1.27	None	2670	7.45
190	2050F 2	9.119	76.5	2.55	None	3700	5.38
155	2040F 2	11.03	33.3	1.11	None	2840	8.59
155	2050F 2	11.08	63.2	2.11	None	4020	6.07
125	2050F 2	13.50	52.1	1.74	None	4370	6.92
100	2050F 2	16.65	42.3	1.41	None	4370	8.65
100	2060F 2	17.19	69.8	2.33	None	6500	5.82
84	2050F 2	20.56	34.4	1.15	None	5120	8.79
84	2060F 2	21.13	59.3	1.98	None	6500	6.92
84	2070F 2	20.54	84.8	2.83	None	8500	5.29
68	2060F 2	25.63	49.0	1.63	None	6500	8.55
68	2070F 2	25.12	68.0	2.27	None	8500	6.54
56	2060F 2	31.69	39.7	1.32	None	6500	10.38
56	2070F 2	31.08	53.1	1.77	None	8500	7.94
56	2080F 2	31.15	77.7	2.59	None	11000	6.14
45	2060F 3	38.46	32.3	1.08	None	6500	12.92
45	2070F 3	37.83	46.2	1.54	None	8500	9.88
45	2080F 3	38.88	63.7	2.12	None	11000	7.64
37	2070F 3	46.27	37.8	1.26	None	8500	12.02
37	2080F 3	47.23	53.9	1.80	None	11000	9.29
37	2090F 3	48.23	86.3	2.88	None	14000	7.30
30	2070F 3	56.63	31.7	1.06	None	8500	14.82
30	2080F 3	57.56	44.9	1.50	None	11000	11.45
30	2090F 3	57.53	72.3	2.41	None	14000	9.00
25	2080F 3	69.64	36.9	1.23	None	11000	13.75
25	2090F 3	69.86	59.8	1.99	None	14000	10.80
25	2100F 3	71.64	81.6	2.72	None	17000	8.89
20	2080F 3	87.65	30.1	1.00	None	11000	17.18
20	2090F 3	85.18	49.1	1.64	None	14000	13.50
20	2100F 3	88.36	66.2	2.21	None	17000	11.12
16.5	2090F 3	103.4	40.4	1.35	None	14000	16.36
16.5	2100F 3	104.6	56.0	1.87	None	17000	13.48
16.5	2110F 3	104.9	82.5	2.75	None	18500	12.38
13.5	2090F 3	129.7	32.3	1.08	None	14000	20.00
13.5	2100F 3	133.8	43.8	1.46	None	17000	16.47
13.5	2110F 3	128.2	65.1	2.17	None	18500	15.14
13.5	2120F 3	128.9	89.7	2.99	None	19000	14.74
11.0	2100F 3	158.4	37.0	1.23	None	17000	20.21
11.0	2110F 3	155.7	53.8	1.79	None	18500	18.57
11.0	2120F 3	158.2	73.2	2.44	None	19000	18.09
9.0	2110F 4	192.9	45.3	1.51	None	18500	22.70
9.0	2120F 4	197.7	58.6	1.95	None	19000	22.11
9.0	2130F 4	199.0	81.0	2.70	None	22500	18.67
7.5	2110F 4	234.3	37.3	1.24	None	18500	27.24
7.5	2120F 4	240.1	48.3	1.61	None	19000	26.53
7.5	2130F 4	237.4	67.0	2.23	None	22500	22.40
6.0	2110F 4	285.6	30.6	1.02	None	18500	34.05
6.0	2120F 4	292.7	39.6	1.32	None	19000	33.16
6.0	2130F 4	288.4	57.8	1.93	None	22500	28.00
5.0	2120F 4	361.0	32.1	1.07	None	19000	39.79
5.0	2130F 4	351.4	47.4	1.58	None	22500	33.60
4.0	2130F 4	433.5	38.5	1.28	None	22500	42.00
3.2	2130F 4	535.1	31.1	1.04	None	22500	52.50

Motors are available
from Falk or
Falk Distributors.

30 HP/286T Motor

Energy Efficient Motor
Falk Part No. 2918114
TEFC, 1750 rpm
230/460 Volts,
3 Phase, 60 Hz,
NEMA B,
1.15 Service Factor

Premium Efficiency Motor
Falk Part No. 2918134
TEFC, 1750 rpm
230/460 Volts,
3 Phase, 60 Hz,
NEMA B,
1.15 Service Factor

Motors meeting other
specifications are
available upon request.

(See footnotes on Page 15.)

Quick Selection Tables

40 HP/1750 rpm/324T Motor★

Approx. L.S. Shaft rpm	DRIVE SIZE & Reduction	Exact Ratio	HP Rating	Service Factor	Minimum Cooling Required	L.S. Shaft OHL Capacity (lb)†	Minimum L.S. Shaft Sprocket Pitch Dia‡
1170	2040F_2	1.465	57.6	1.44	None	2030	2.12
1170	2050F_2	1.476	115	2.88	None	2420	1.78
950	2040F_2	1.820	50.8	1.27	None	2040	2.60
950	2050F_2	1.822	87.5	2.19	None	2450	2.17
860	2040F_2	2.057	50.8	1.27	None	2150	2.73
860	2050F_2	2.028	115	2.88	None	2320	2.53
780	2040F_2	2.191	50.1	1.25	None	2200	2.94
780	2050F_2	2.252	90.3	2.26	None	2660	2.43
700	2040F_2	2.475	45.4	1.14	None	2290	3.14
700	2050F_2	2.504	102	2.55	None	2530	2.85
640	2040F_2	2.723	39.8	1.00	None	2380	3.31
640	2050F_2	2.702	79.2	1.98	None	2580	3.05
575	2040F_2	3.076	39.8	1.00	None	2380	3.68
575	2050F_2	3.095	90.3	2.26	None	2580	3.40
520	2050F_2	3.283	68.0	1.70	None	2730	3.55
470	2050F_2	3.714	79.2	1.98	None	2730	3.93
420	2050F_2	4.001	56.7	1.42	None	2730	4.40
420	2060F_2	4.130	114	2.85	None	5450	2.20
380	2050F_2	4.512	68.0	1.70	None	3140	4.22
380	2060F_2	4.567	114	2.85	None	5750	2.31
350	2040F_2	4.929	57.6	1.44	None	2260	6.37
350	2050F_2	4.980	114	2.85	None	3120	4.62
280	2040F_2	6.122	50.8	1.27	None	2280	7.89
280	2050F_2	6.147	100	2.50	None	3170	5.68
230	2040F_2	7.368	44.7	1.12	None	2380	9.21
230	2050F_2	7.598	87.0	2.18	None	3300	6.64
190	2050F_2	9.119	76.5	1.91	None	3700	7.17
155	2050F_2	11.08	63.2	1.58	None	4020	8.09
155	2060F_2	11.26	110	2.75	None	6500	5.00
125	2050F_2	13.50	52.1	1.30	None	4370	9.23
125	2060F_2	13.72	90.7	2.27	None	6500	6.20
100	2050F_2	16.65	42.3	1.06	None	4370	11.53
100	2060F_2	17.19	69.8	1.75	None	6500	7.75
100	2070F_2	17.33	102	2.55	None	8500	5.93
84	2060F_2	21.13	59.3	1.48	None	6500	9.23
84	2070F_2	20.54	84.8	2.12	None	8500	7.06
84	2080F_2	20.98	117	2.93	None	10200	5.88
68	2060F_2	25.63	49.0	1.23	None	6500	11.40
68	2070F_2	25.12	68.0	1.70	None	8500	8.72
68	2080F_2	25.17	96.7	2.42	None	11000	6.74
56	2070F_2	31.08	53.1	1.33	None	8500	10.59
56	2080F_2	31.15	77.7	1.94	None	11000	8.18
45	2070F_3	37.83	46.2	1.16	None	8500	13.18
45	2080F_3	38.88	63.7	1.59	None	11000	10.18
45	2090F_3	39.51	98.7	2.47	None	14000	8.00
37	2080F_3	47.23	53.9	1.35	None	11000	12.38
37	2090F_3	48.23	86.3	2.16	None	14000	9.73
37	2100F_3	48.39	119	2.98	None	17000	8.01
30	2080F_3	57.56	44.9	1.12	None	11000	15.27
30	2090F_3	57.53	72.3	1.81	None	14000	12.00
30	2100F_3	57.29	102	2.55	None	17000	9.88
25	2090F_3	69.86	59.8	1.50	None	14000	14.40
25	2100F_3	71.64	81.6	2.04	None	17000	11.86
20	2090F_3	85.18	49.1	1.23	None	14000	18.00
20	2100F_3	88.36	66.2	1.66	None	17000	14.82
20	2110F_3	86.02	101	2.53	None	18500	13.62
16.5	2090F_3	103.4	40.4	1.01	None	14000	21.82
16.5	2100F_3	104.6	56.0	1.40	None	17000	17.97
16.5	2110F_3	104.9	82.5	2.06	None	18500	16.51
16.5	2120F_3	107.0	108	2.70	None	19000	16.08
13.5	2100F_3	133.8	43.8	1.10	None	17000	21.96
13.5	2110F_3	128.2	65.1	1.63	None	18500	20.18
13.5	2120F_3	128.9	89.7	2.24	None	19000	19.65
11.0	2110F_3	155.7	53.8	1.35	None	18500	24.77
11.0	2120F_3	158.2	73.2	1.83	None	19000	24.11
11.0	2130F_3	154.8	93.6	2.34	None	22500	20.36
9.0	2110F_4	192.9	45.3	1.13	None	18500	30.27
9.0	2120F_4	197.7	58.6	1.47	None	19000	29.47
9.0	2130F_4	199.0	81.0	2.03	None	22500	24.89
7.5	2120F_4	240.1	48.3	1.21	None	19000	35.37
7.5	2130F_4	237.4	67.0	1.68	None	22500	29.87
6.0	2130F_4	288.4	57.8	1.45	None	22500	37.33
5.0	2130F_4	351.4	47.4	1.19	None	22500	44.80

Motors are available
from Falk or
Falk Distributors.

40 HP/324T Motor

Energy Efficient Motor
Falk Part No. 2918115
TEFC, 1750 rpm
230/460 Volts,
3 Phase, 60 Hz,
NEMA B,
1.15 Service Factor

Premium Efficiency Motor
Falk Part No. 2918135
TEFC, 1750 rpm
230/460 Volts,
3 Phase, 60 Hz,
NEMA B,
1.15 Service Factor

Motors meeting other
specifications are
available upon request.

(See footnotes on Page 15.)

50 HP/1750 rpm/326T Motor★

Approx. L.S. Shaft rpm	DRIVE SIZE & Reduction	Exact Ratio	HP Rating	Service Factor	Minimum Cooling Required	L.S. Shaft OHL Capacity (lb)†	Minimum L.S. Shaft Sprocket Pitch Dia‡
1170	2040F 2	1.465	57.6	1.15	None	2030	2.65
1170	2050F 2	1.476	115	2.30	None	2420	2.23
950	2040F 2	1.820	50.8	1.02	None	2040	3.25
950	2050F 2	1.822	87.5	1.75	None	2450	2.71
860	2040F 2	2.057	50.8	1.02	None	2150	3.41
860	2050F 2	2.028	115	2.30	None	2320	3.16
780	2040F 2	2.191	50.1	1.00	None	2200	3.67
780	2050F 2	2.252	90.3	1.81	None	2660	3.04
780	2060F 2	2.295	149	2.98	None	4670	1.73
700	2050F 2	2.504	102	2.04	None	2530	3.56
700	2060F 2	2.537	149	2.98	None	4840	1.86
640	2050F 2	2.702	79.2	1.58	None	2580	3.82
640	2060F 2	2.827	142	2.84	None	5020	1.96
575	2050F 2	3.095	90.3	1.81	None	2580	4.25
575	2060F 2	3.126	142	2.84	None	5020	2.18
520	2050F 2	3.283	68.0	1.36	None	2730	4.44
520	2060F 2	3.400	128	2.56	None	5450	2.22
470	2050F 2	3.714	79.2	1.58	None	2730	4.91
470	2060F 2	3.759	128	2.56	None	5450	2.46
420	2050F 2	4.001	56.7	1.13	None	2730	5.49
420	2060F 2	4.130	114	2.28	None	5450	2.75
380	2050F 2	4.512	68.0	1.36	None	3140	5.28
380	2060F 2	4.567	114	2.28	None	5750	2.88
350	2050F 2	4.980	114	2.28	None	3120	5.77
280	2050F 2	6.147	100	2.00	None	3170	7.10
280	2060F 2	6.256	149	2.98	None	5240	4.29
230	2050F 2	7.598	87.0	1.74	None	3300	8.30
230	2060F 2	7.708	142	2.84	None	5770	4.75
190	2050F 2	9.119	76.5	1.53	None	3700	8.96
190	2060F 2	9.269	128	2.56	None	6140	5.40
155	2050F 2	11.08	63.2	1.26	None	4020	10.11
155	2060F 2	11.26	110	2.20	None	6500	6.25
125	2050F 2	13.50	52.1	1.04	None	4370	11.53
125	2060F 2	13.72	90.7	1.81	None	6500	7.75
125	2070F 2	13.50	131	2.62	None	8500	5.93
100	2060F 2	17.19	69.8	1.40	None	6500	9.69
100	2070F 2	17.33	102	2.04	None	8500	7.41
100	2080F 2	17.34	149	2.98	None	7480	8.42
84	2060F 2	21.13	59.3	1.19	None	6500	11.54
84	2070F 2	20.54	84.8	1.70	None	8500	8.82
84	2080F 2	20.98	117	2.34	None	10200	7.35
68	2070F 2	25.12	68.0	1.36	None	8500	10.90
68	2080F 2	25.17	96.7	1.93	None	11000	8.42
56	2070F 2	31.08	53.1	1.06	None	8500	13.24
56	2080F 2	31.15	77.7	1.55	None	11000	10.23
56	2090F 2	31.15	133	2.66	None	14000	8.04
45	2080F 3	38.88	63.7	1.27	None	11000	12.73
45	2090F 3	39.51	98.7	1.97	None	14000	10.00
45	2100F 3	40.24	135	2.70	None	17000	8.24
37	2080F 3	47.23	53.9	1.08	None	11000	15.48
37	2090F 3	48.23	86.3	1.73	None	14000	12.16
37	2100F 3	48.39	119	2.38	None	17000	10.02
30	2090F 3	57.53	72.3	1.45	None	14000	15.00
30	2100F 3	57.29	102	2.04	None	17000	12.35
30	2110F 3	56.56	145	2.90	None	18500	11.35
25	2090F 3	69.86	59.8	1.20	None	14000	18.00
25	2100F 3	71.64	81.6	1.63	None	17000	14.82
25	2110F 3	68.94	125	2.50	None	18500	13.62
20	2100F 3	88.36	66.2	1.32	None	17000	18.53
20	2110F 3	86.02	101	2.02	None	18500	17.03
20	2120F 3	88.15	131	2.62	None	19000	16.58
16.5	2100F 3	104.6	56.0	1.12	None	17000	22.46
16.5	2110F 3	104.9	82.5	1.65	None	18500	20.64
16.5	2120F 3	107.0	108	2.16	None	19000	20.10
13.5	2110F 3	128.2	65.1	1.30	None	18500	25.23
13.5	2120F 3	128.9	89.7	1.79	None	19000	24.56
13.5	2130F 3	128.5	127	2.54	None	22500	20.74
11.0	2110F 3	155.7	53.8	1.08	None	18500	30.96
11.0	2120F 3	158.2	73.2	1.46	None	19000	30.14
11.0	2130F 3	154.8	93.6	1.87	None	22500	25.45
9.0	2120F 4	197.7	58.6	1.17	None	19000	36.84
9.0	2130F 4	199.0	81.0	1.62	None	22500	31.11
7.5	2130F 4	237.4	67.0	1.34	None	22500	37.33
6.0	2130F 4	288.4	57.8	1.16	None	22500	46.67

Motors are available
from Falk or
Falk Distributors.

50 HP/326T Motor

Energy Efficient Motor
Falk Part No. 2918116
TEFC, 1750 rpm
230/460 Volts,
3 Phase, 60 Hz,
NEMA B,
1.15 Service Factor

Premium Efficiency Motor
Falk Part No. 2918136
TEFC, 1750 rpm
230/460 Volts,
3 Phase, 60 Hz,
NEMA B,
1.15 Service Factor

Motors meeting other
specifications are
available upon request.

(See footnotes on Page 15.)

Quick Selection Tables

60 HP/1750 rpm/364T Motor*

Approx. L.S. Shaft rpm	DRIVE SIZE & Reduction	Exact Ratio	HP Rating	Service Factor	Minimum Cooling Required	L.S. Shaft OHL Capacity (lb)†	Minimum L.S. Shaft Sprocket Pitch Dia†
1170	2050F_2	1.476	115	1.92	None	2420	2.67
950	2050F_2	1.822	87.5	1.46	None	2450	3.25
950	2060F_2	1.833	172	2.87	None	4420	1.80
860	2050F_2	2.028	115	1.92	None	2320	3.79
860	2060F_2	2.027	172	2.87	None	4580	1.92
780	2050F_2	2.252	90.3	1.51	None	2660	3.64
780	2060F_2	2.295	149	2.48	None	4670	2.08
700	2050F_2	2.504	102	1.70	None	2530	4.27
700	2060F_2	2.537	149	2.48	None	4840	2.23
640	2050F_2	2.702	79.2	1.32	None	2580	4.58
640	2060F_2	2.827	142	2.37	None	5020	2.35
575	2050F_2	3.095	90.3	1.51	None	2580	5.10
575	2060F_2	3.126	142	2.37	None	5020	2.62
520	2050F_2	3.283	68.0	1.13	None	2730	5.33
520	2060F_2	3.400	128	2.13	None	5450	2.67
470	2050F_2	3.714	79.2	1.32	None	2730	5.89
470	2060F_2	3.759	128	2.13	None	5450	2.95
420	2060F_2	4.130	114	1.90	None	5450	3.30
420	2070F_2	3.954	164	2.73	None	6280	2.87
380	2050F_2	4.512	68.0	1.13	None	3140	6.34
380	2060F_2	4.567	114	1.90	None	5750	3.46
380	2070F_2	4.573	164	2.73	None	6690	2.97
350	2060F_2	4.998	172	2.87	Shaft Fan	5110	4.23
280	2060F_2	6.256	149	2.48	Shaft Fan	5240	5.15
230	2060F_2	7.708	142	2.37	Shaft Fan	5770	5.70
190	2060F_2	9.269	128	2.13	Shaft Fan	6140	6.48
155	2060F_2	11.26	110	1.83	Shaft Fan	6500	7.50
155	2070F_2	11.08	159	2.65	None	8210	5.94
125	2060F_2	13.72	90.7	1.51	Shaft Fan	6500	9.30
125	2070F_2	13.50	131	2.18	None	8500	7.12
100	2060F_2	17.19	69.8	1.16	Shaft Fan	6500	11.63
100	2070F_2	17.33	102	1.70	None	8500	8.89
100	2080F_2	17.34	149	2.48	None	7480	10.11
84	2070F_2	20.54	84.8	1.41	None	8500	10.59
84	2080F_2	20.98	117	1.95	None	10200	8.82
68	2070F_2	25.12	68.0	1.13	None	8500	13.08
68	2080F_2	25.17	96.7	1.61	None	11000	10.11
68	2090F_2	25.66	155	2.58	None	14000	7.94
56	2080F_2	31.15	77.7	1.30	None	11000	12.27
56	2090F_2	31.15	133	2.22	None	14000	9.64
45	2080F_3	38.88	63.7	1.06	None	11000	15.27
45	2090F_3	39.51	98.7	1.65	None	14000	12.00
45	2100F_3	40.24	135	2.25	None	17000	9.88
37	2090F_3	48.23	86.3	1.44	None	14000	14.59
37	2100F_3	48.39	119	1.98	None	17000	12.02
37	2110F_3	46.56	168	2.80	None	18500	11.04
30	2090F_3	57.53	72.3	1.20	None	14000	18.00
30	2100F_3	57.29	102	1.70	None	17000	14.82
30	2110F_3	56.56	145	2.42	None	18500	13.62
25	2090F_3	69.86	59.8	1.00	None	14000	21.60
25	2100F_3	71.64	81.6	1.36	None	17000	17.79
25	2110F_3	68.94	125	2.08	None	18500	16.35
25	2120F_3	68.05	169	2.82	None	19000	15.92
20	2100F_3	88.36	66.2	1.10	None	17000	22.24
20	2110F_3	86.02	101	1.68	None	18500	20.43
20	2120F_3	88.15	131	2.18	None	19000	19.89
16.5	2110F_3	104.9	82.5	1.38	None	18500	24.77
16.5	2120F_3	107.0	108	1.80	None	19000	24.11
16.5	2130F_3	105.9	150	2.50	None	22500	20.36
13.5	2110F_3	128.2	65.1	1.09	None	18500	30.27
13.5	2120F_3	128.9	89.7	1.50	None	19000	29.47
13.5	2130F_3	128.5	127	2.12	None	22500	24.89
11.0	2120F_3	158.2	73.2	1.22	None	19000	36.17
11.0	2130F_3	154.8	93.6	1.56	None	22500	30.55
9.0	2130F_4	199.0	81.0	1.35	None	22500	37.33
7.5	2130F_4	237.4	67.0	1.12	None	22500	44.80

Motors are available
from Falk or
Falk Distributors.

60 HP/364T Motor

Energy Efficient Motor
Falk Part No. 2918117
TEFC, 1750 rpm
230/460 Volts,
3 Phase, 60 Hz,
NEMA B,
1.15 Service Factor

Premium Efficiency Motor
Falk Part No. 2918137
TEFC, 1750 rpm
230/460 Volts,
3 Phase, 60 Hz,
NEMA B,
1.15 Service Factor

Motors meeting other
specifications are
available upon request.

(See footnotes on Page 15.)

75 HP/1750 rpm/365T Motor★

Approx. L.S. Shaft rpm	DRIVE SIZE & Reduction	Exact Ratio	HP Rating	Service Factor	Minimum Cooling Required	L.S. Shaft OHL Capacity (lb)†	Minimum L.S. Shaft Sprocket Pitch Dia‡	
1170	2060F_2	1.548	190	2.53	None	4360	1.85	
950	2060F_2	1.833	172	2.29	None	4420	2.25	
860	2060F_2	2.027	172	2.29	None	4580	2.40	
780	2060F_2	2.295	149	1.99	None	4670	2.59	
700	2060F_2	2.537	149	1.99	None	4840	2.79	
640	2060F_2	2.827	142	1.89	None	5020	2.94	
575	2060F_2	3.126	142	1.89	None	5020	3.27	
520	2060F_2	3.400	128	1.71	None	5450	3.33	
520	2070F_2	3.211	193	2.57	None	6280	2.89	
470	2060F_2	3.759	128	1.71	None	5450	3.69	
470	2070F_2	3.713	193	2.57	None	6280	3.20	
420	2060F_2	4.130	114	1.52	None	5450	4.13	
420	2070F_2	3.954	164	2.19	None	6280	3.58	
380	2060F_2	4.567	114	1.52	None	5750	4.32	
380	2070F_2	4.573	164	2.19	None	6690	3.72	
350	2060F_2	4.998	172	2.29	Shaft Fan	5110	5.28	Motors are available from Falk or Falk Distributors.
280	2060F_2	6.256	149	1.99	Shaft Fan	5240	6.44	
230	2060F_2	7.708	142	1.89	Shaft Fan	5770	7.12	
190	2060F_2	9.269	128	1.71	Shaft Fan	6140	8.10	75 HP/365T Motor
190	2070F_2	8.996	193	2.57	None	7570	6.57	
155	2060F_2	11.26	110	1.47	Shaft Fan	6500	9.38	Energy Efficient Motor
155	2070F_2	11.08	159	2.12	None	8210	7.43	Falk Part No. 2918118
125	2060F_2	13.72	90.7	1.21	Shaft Fan	6500	11.63	TEFC, 1750 rpm
125	2070F_2	13.50	131	1.75	Shaft Fan	8500	8.89	230/460 Volts,
125	2080F_2	13.67	189	2.52	None	7480	10.11	3 Phase, 60 Hz,
100	2070F_2	17.33	102	1.36	Shaft Fan	8500	11.12	NEMA B,
100	2080F_2	17.34	149	1.99	None	7480	12.63	1.15 Service Factor
84	2070F_2	20.54	84.8	1.13	Shaft Fan	8500	13.24	
84	2080F_2	20.98	117	1.56	None	10200	11.03	Premium Efficiency Motor
84	2090F_2	21.01	188	2.51	Shaft Fan	14000	8.04	Falk Part No. 2918138
68	2080F_2	25.17	96.7	1.29	None	11000	12.63	TEFC, 1750 rpm
68	2090F_2	25.66	155	2.07	Shaft Fan	14000	9.93	230/460 Volts,
56	2080F_2	31.15	77.7	1.04	None	11000	15.34	3 Phase, 60 Hz,
56	2090F_2	31.15	133	1.77	Shaft Fan	14000	12.05	NEMA B,
56	2100F_2	31.21	183	2.44	Shaft Fan	17000	9.93	1.15 Service Factor
45	2090F_3	39.51	98.7	1.32	None	14000	15.00	
45	2100F_3	40.24	135	1.80	None	17000	12.35	Motors meeting other
45	2110F_3	38.38	196	2.61	None	18500	12.50	specifications are
37	2090F_3	48.23	86.3	1.15	None	14000	18.24	available upon request.
37	2100F_3	48.39	119	1.59	None	17000	15.02	
37	2110F_3	46.56	168	2.24	None	18500	13.81	
30	2100F_3	57.29	102	1.36	None	17000	18.53	
30	2110F_3	56.56	145	1.93	None	18500	17.03	
30	2120F_3	57.02	202	2.69	None	19000	16.58	
25	2100F_3	71.64	81.6	1.09	None	17000	22.24	
25	2110F_3	68.94	125	1.67	None	18500	20.43	
25	2120F_3	68.05	169	2.25	None	19000	19.89	
20	2110F_3	86.02	101	1.35	None	18500	25.54	
20	2120F_3	88.15	131	1.75	None	19000	24.87	
20	2130F_3	81.72	200	2.67	None	22500	21.00	
16.5	2110F_3	104.9	82.5	1.10	None	18500	30.96	
16.5	2120F_3	107.0	108	1.44	None	19000	30.14	
16.5	2130F_3	105.9	150	2.00	None	22500	25.45	
13.5	2120F_3	128.9	89.7	1.20	None	19000	36.84	
13.5	2130F_3	128.5	127	1.69	None	22500	31.11	
11.0	2130F_3	154.8	93.6	1.25	None	22500	38.18	
9.0	2130F_4	199.0	81.0	1.08	None	22500	46.67	

(See footnotes on Page 15.)

Quick Selection Tables

100 HP/1750 rpm/405T Motor*

Approx. L.S. Shaft rpm	DRIVE SIZE & Reduction	Exact Ratio	HP Rating	Service Factor	Minimum Cooling Required	L.S. Shaft OHL Capacity (lb)†	Minimum L.S. Shaft Sprocket Pitch Dia†
1170	2060F_2	1.548	190	1.90	Shaft Fan	4360	2.47
950	2060F_2	1.833	172	1.72	Shaft Fan	4420	3.00
950	2070F_2	1.783	282	2.82	Shaft Fan	4810	2.76
860	2060F_2	2.027	172	1.72	Shaft Fan	4580	3.20
860	2070F_2	2.062	282	2.82	Shaft Fan	4870	3.01
780	2060F_2	2.295	149	1.49	Shaft Fan	4670	3.46
780	2070F_2	2.197	279	2.79	Shaft Fan	5120	3.16
700	2060F_2	2.537	149	1.49	Shaft Fan	4840	3.72
700	2070F_2	2.541	279	2.79	Shaft Fan	5190	3.47
640	2060F_2	2.827	142	1.42	Shaft Fan	5020	3.92
640	2070F_2	2.683	239	2.39	Shaft Fan	5590	3.52
575	2060F_2	3.126	142	1.42	Shaft Fan	5020	4.37
575	2070F_2	3.103	239	2.39	Shaft Fan	5590	3.92
520	2060F_2	3.400	128	1.28	Shaft Fan	5450	4.45
520	2070F_2	3.211	193	1.93	Shaft Fan	6280	3.86
470	2060F_2	3.759	128	1.28	Shaft Fan	5450	4.92
470	2070F_2	3.713	193	1.93	Shaft Fan	6280	4.27
420	2060F_2	4.130	114	1.14	Shaft Fan	5450	5.50
420	2070F_2	3.954	164	1.64	Shaft Fan	6280	4.78
380	2060F_2	4.567	114	1.14	Shaft Fan	5750	5.77
380	2070F_2	4.573	164	1.64	Shaft Fan	6690	4.96
350	2060F_2	4.998	172	1.72	Shaft Fan	5110	7.05
350	2070F_2	4.996	255	2.55	Shaft Fan	6060	5.94
280	2060F_2	6.256	149	1.49	Shaft Fan	5240	8.59
280	2070F_2	6.155	258	2.58	Shaft Fan	6190	7.27
230	2060F_2	7.708	142	1.42	Shaft Fan	5770	9.49
230	2070F_2	7.517	231	2.31	Shaft Fan	6670	8.21
190	2060F_2	9.269	128	1.28	Shaft Fan	6140	10.80
190	2070F_2	8.996	193	1.93	Shaft Fan	7570	8.76
190	2080F_2	8.923	272	2.72	Shaft Fan	5460	12.15
155	2060F_2	11.26	110	1.10	Shaft Fan	6500	12.51
155	2070F_2	11.08	159	1.59	Shaft Fan	8210	9.90
155	2080F_2	11.13	231	2.31	Shaft Fan	6350	12.80
125	2070F_2	13.50	131	1.31	Shaft Fan	8500	11.86
125	2080F_2	13.67	189	1.89	Shaft Fan	7480	13.48
125	2090F_2	13.98	269	2.69	Shaft Fan	11900	8.47
100	2070F_2	17.33	102	1.02	Shaft Fan	8500	14.82
100	2080F_2	17.34	149	1.49	Shaft Fan	8900	16.84
100	2090F_2	16.78	235	2.35	Shaft Fan	13800	10.59
84	2080F_2	20.98	117	1.17	Shaft Fan	10200	14.71
84	2090F_2	21.01	188	1.88	Shaft Fan	14000	10.71
84	2100F_2	21.58	256	2.56	Shaft Fan	15500	9.68
68	2090F_2	25.66	155	1.55	Shaft Fan	14000	13.24
68	2100F_2	25.55	226	2.26	Shaft Fan	16900	10.96
56	2090F_2	31.15	133	1.33	Shaft Fan	14000	16.07
56	2100F_2	31.21	183	1.83	Shaft Fan	17000	13.24
56	2110F_2	31.12	263	2.63	None	18100	13.39
45	2100F_3	40.24	135	1.35	None	17000	16.47
45	2110F_3	38.38	196	1.96	None	18500	16.67
45	2120F_3	39.36	269	2.69	None	19000	14.74
37	2100F_3	48.39	119	1.19	None	17000	20.03
37	2110F_3	46.56	168	1.68	None	18500	18.41
37	2120F_3	47.71	239	2.39	None	19000	17.92
30	2100F_3	57.29	102	1.02	None	17000	24.71
30	2110F_3	56.56	145	1.45	None	18500	22.70
30	2120F_3	57.02	202	2.02	None	19000	22.11
30	2130F_3	57.30	276	2.76	None	22500	18.67
25	2110F_3	68.94	125	1.25	None	18500	27.24
25	2120F_3	68.05	169	1.69	None	19000	26.53
25	2130F_3	68.47	237	2.37	None	22500	22.40
20	2110F_3	86.02	101	1.01	None	18500	34.05
20	2120F_3	88.15	131	1.31	None	19000	33.16
20	2130F_3	81.72	200	2.00	None	22500	28.00
16.5	2120F_3	107.0	108	1.08	None	19000	40.19
16.5	2130F_3	105.9	150	1.50	None	22500	33.94
13.5	2130F_3	128.5	127	1.27	None	22500	41.48

Motors are available
from Falk or
Falk Distributors.

100 HP/405T Motor

Energy Efficient Motor
Falk Part No. 2918119
TEFC, 1750 rpm
230/460 Volts,
3 Phase, 60 Hz,
NEMA B,
1.15 Service Factor

Premium Efficiency Motor
Falk Part No. 2918139
TEFC, 1750 rpm
230/460 Volts,
3 Phase, 60 Hz,
NEMA B,
1.15 Service Factor

Motors meeting other
specifications are
available upon request.

(See footnotes on Page 15.)

125 HP/1750 rpm/444T Motor★

Approx. L.S. Shaft rpm	DRIVE SIZE & Reduction	Exact Ratio	HP Rating	Service Factor	Minimum Cooling Required	L.S. Shaft OHL Capacity (lb)†	Minimum L.S. Shaft Sprocket Pitch Dia‡
1170	2060F 2	1.548	190	1.52	Shaft Fan	4360	3.09
950	2060F 2	1.833	172	1.38	Shaft Fan	4420	3.75
950	2070F 2	1.783	282	2.26	Shaft Fan	4810	3.45
860	2060F 2	2.027	172	1.38	Shaft Fan	4580	4.00
860	2070F 2	2.062	282	2.26	Shaft Fan	4870	3.76
780	2060F 2	2.295	149	1.19	Shaft Fan	4670	4.32
780	2070F 2	2.197	279	2.23	Shaft Fan	5120	3.94
700	2060F 2	2.537	149	1.19	Shaft Fan	4840	4.65
700	2070F 2	2.541	279	2.23	Shaft Fan	5190	4.34
640	2060F 2	2.827	142	1.14	Shaft Fan	5020	4.90
640	2070F 2	2.683	239	1.91	Shaft Fan	5590	4.40
575	2060F 2	3.126	142	1.14	Shaft Fan	5020	5.46
575	2070F 2	3.103	239	1.91	Shaft Fan	5590	4.90
520	2060F 2	3.400	128	1.02	Shaft Fan	5450	5.56
520	2070F 2	3.211	193	1.54	Shaft Fan	6280	4.82
470	2060F 2	3.759	128	1.02	Shaft Fan	5450	6.15
470	2070F 2	3.713	193	1.54	Shaft Fan	6280	5.34
420	2070F 2	3.954	164	1.31	Shaft Fan	6280	5.97
380	2070F 2	4.573	164	1.31	Shaft Fan	6690	6.20
380	2090F 2	4.763	330	2.64	None	11500	3.60
350	2060F 2	4.998	172	1.38	Elec Fan	5110	8.81
350	2070F 2	4.996	255	2.04	Shaft Fan	6060	7.43
350	2080F 2	5.161	370	2.96	Shaft Fan	4720	9.53
280	2060F 2	6.256	149	1.19	Elec Fan	5240	10.73
280	2070F 2	6.155	258	2.06	Shaft Fan	6190	9.09
280	2080F 2	6.290	362	2.90	Shaft Fan	4370	12.87
230	2060F 2	7.708	142	1.14	Elec Fan	5770	11.87
230	2070F 2	7.517	231	1.85	Shaft Fan	6670	10.27
230	2080F 2	7.638	324	2.59	Shaft Fan	4800	13.30
190	2060F 2	9.269	128	1.02	Elec Fan	6140	13.50
190	2070F 2	8.996	193	1.54	Shaft Fan	7570	10.95
190	2080F 2	8.923	272	2.18	Shaft Fan	5460	15.18
155	2070F 2	11.08	159	1.27	Shaft Fan	8210	12.38
155	2080F 2	11.13	231	1.85	Shaft Fan	6350	16.00
155	2090F 2	11.51	312	2.50	Shaft Fan	11000	9.24
125	2070F 2	13.50	131	1.05	Elec Fan	8500	14.82
125	2080F 2	13.67	189	1.51	Shaft Fan	7480	16.84
125	2090F 2	13.98	269	2.15	Shaft Fan	11900	10.59
125	2100F 2	14.01	359	2.87	Shaft Fan	13400	9.40
100	2080F 2	17.34	149	1.19	Shaft Fan	8900	21.06
100	2090F 2	16.78	235	1.88	Shaft Fan	11900	13.24
100	2100F 2	17.29	309	2.47	Shaft Fan	13400	11.75
84	2090F 2	21.01	188	1.50	Shaft Fan	14000	13.39
84	2100F 2	21.58	256	2.05	Shaft Fan	15500	12.10
68	2090F 2	25.66	155	1.24	Shaft Fan	14000	16.54
68	2100F 2	25.55	226	1.81	Shaft Fan	16900	13.71
68	2110F 2	25.39	307	2.46	None	16800	15.97
56	2090F 2	31.15	133	1.06	Shaft Fan	14000	20.09
56	2100F 2	31.21	183	1.46	Shaft Fan	17000	16.54
56	2110F 2	31.12	263	2.10	None	18100	16.74
56	2120F 2	31.89	353	2.82	None	19000	14.80
45	2100F 3	40.24	135	1.08	Shaft Fan	17000	20.59
45	2110F 3	38.38	196	1.57	None	18500	20.83
45	2120F 3	39.36	269	2.15	None	19000	18.42
45	2130F 3	39.60	332	2.66	None	22500	15.56
37	2110F 3	46.56	168	1.34	None	18500	23.01
37	2120F 3	47.71	239	1.91	None	19000	22.40
37	2130F 3	47.26	322	2.58	None	22500	18.92
30	2110F 3	56.56	145	1.16	None	18500	28.38
30	2120F 3	57.02	202	1.62	None	19000	27.63
30	2130F 3	57.30	276	2.21	None	22500	23.33
25	2110F 3	68.94	125	1.00	None	18500	34.05
25	2120F 3	68.05	169	1.35	None	19000	33.16
25	2130F 3	68.47	237	1.90	None	22500	28.00
20	2120F 3	88.15	131	1.05	None	19000	41.45
20	2130F 3	81.72	200	1.60	None	22500	35.00
16.5	2130F 3	105.9	150	1.20	None	22500	43.75
13.5	2130F 3	128.5	127	1.02	None	22500	53.85

Motors are available
from Falk or
Falk Distributors.

125 HP/444T Motor

Energy Efficient Motor
Falk Part No. 2918120
TEFC, 1750 rpm
460 Volts,
3 Phase, 60 Hz,
NEMA B,
1.15 Service Factor

Premium Efficiency Motor
Falk Part No. 2918140
TEFC, 1750 rpm
460 Volts,
3 Phase, 60 Hz,
NEMA B,
1.15 Service Factor

Motors meeting other
specifications are
available upon request.

(See footnotes on Page 15.)

Quick Selection Tables

150 HP/1750 rpm/445T Motor★

Approx. L.S. Shaft rpm	DRIVE SIZE & Reduction	Exact Ratio	HP Rating	Service Factor	Minimum Cooling Required	L.S. Shaft OHL Capacity (lb)†	Minimum L.S. Shaft Sprocket Pitch Dia†
1170	2060F_2	1.548	190	1.27	Shaft Fan	4360	3.71
950	2060F_2	1.833	172	1.15	Shaft Fan	4420	4.50
950	2070F_2	1.783	282	1.88	Shaft Fan	4810	4.14
860	2060F_2	2.027	172	1.15	Shaft Fan	4580	4.80
860	2070F_2	2.062	282	1.88	Shaft Fan	4870	4.51
780	2070F_2	2.197	279	1.86	Shaft Fan	5120	4.73
700	2070F_2	2.541	279	1.86	Shaft Fan	5190	5.20
640	2070F_2	2.683	239	1.59	Shaft Fan	5590	5.28
575	2070F_2	3.103	239	1.59	Shaft Fan	5590	5.88
520	2070F_2	3.211	193	1.29	Shaft Fan	6280	5.79
470	2070F_2	3.713	193	1.29	Shaft Fan	6280	6.40
420	2070F_2	3.954	164	1.09	Shaft Fan	6280	7.17
380	2070F_2	4.573	164	1.09	Shaft Fan	6690	7.43
350	2060F_2	4.998	172	1.15	Electric Fan	5110	10.57
350	2070F_2	4.996	255	1.70	Electric Fan	6060	8.91
350	2080F_2	5.161	370	2.47	Shaft Fan	4720	11.44
280	2070F_2	6.155	258	1.72	Electric Fan	6190	10.90
280	2080F_2	6.290	362	2.41	Shaft Fan	4370	15.45
230	2070F_2	7.517	231	1.54	Electric Fan	6670	12.32
230	2080F_2	7.638	324	2.16	Shaft Fan	5150	15.96
190	2070F_2	8.996	193	1.29	Electric Fan	7570	13.14
190	2080F_2	8.923	272	1.81	Shaft Fan	5460	18.22
190	2090F_2	9.257	386	2.57	Shaft Fan	10300	9.66
155	2070F_2	11.08	159	1.06	Electric Fan	8210	14.85
155	2080F_2	11.13	231	1.54	Shaft Fan	6350	19.20
155	2090F_2	11.51	312	2.08	Shaft Fan	11000	11.09
155	2100F_2	11.58	411	2.74	None	12600	9.68
125	2080F_2	13.67	189	1.26	Electric Fan	7480	20.21
125	2090F_2	13.98	269	1.79	Shaft Fan	11900	12.71
125	2100F_2	14.01	359	2.39	Shaft Fan	13400	11.28
100	2090F_2	16.78	235	1.57	Shaft Fan	11900	15.88
100	2100F_2	17.29	309	2.06	Shaft Fan	13400	14.10
100	2110F_2	17.01	433	2.89	None	13300	20.86
84	2090F_2	21.01	188	1.25	Shaft Fan	14000	16.07
84	2100F_2	21.58	256	1.71	Shaft Fan	15500	14.52
84	2110F_2	20.76	401	2.67	None	12400	18.15
68	2090F_2	25.66	155	1.03	Shaft Fan	14000	19.85
68	2100F_2	25.55	226	1.51	Shaft Fan	16900	16.45
68	2110F_2	25.39	307	2.05	None	16800	19.17
68	2120F_2	25.91	439	2.93	None	17500	15.88
56	2100F_2	31.21	183	1.22	Shaft Fan	17000	19.85
56	2110F_2	31.12	263	1.75	None	18100	20.09
56	2120F_2	31.89	353	2.35	None	19000	17.76
45	2110F_3	38.38	196	1.31	Shaft Fan	18500	25.00
45	2120F_3	39.36	269	1.79	None	19000	22.11
45	2130F_3	39.60	332	2.21	None	22500	18.67
37	2110F_3	46.56	168	1.12	Shaft Fan	18500	27.61
37	2120F_3	47.71	239	1.59	None	19000	26.88
37	2130F_3	47.26	322	2.15	None	22500	22.70
30	2120F_3	57.02	202	1.35	None	19000	33.16
30	2130F_3	57.30	276	1.84	None	22500	28.00
25	2120F_3	68.05	169	1.13	None	19000	39.79
25	2130F_3	68.47	237	1.58	None	22500	33.60
20	2130F_3	81.72	200	1.33	None	22500	42.00
16.5	2130F_3	105.9	150	1.00	None	22500	50.91

Motors are available
from Falk or
Falk Distributors.

150 HP/445T Motor

Energy Efficient Motor
Falk Part No. 2918121
TEFC, 1750 rpm
460 Volts,
3 Phase, 60 Hz,
NEMA B,
1.15 Service Factor

Premium Efficiency Motor
Falk Part No. 2918141
TEFC, 1750 rpm
460 Volts,
3 Phase, 60 Hz,
NEMA B,
1.15 Service Factor

Motors meeting other
specifications are
available upon request.

(See footnotes on Page 15.)

200 HP/1750 rpm★

Approx. L.S. Shaft rpm	DRIVE SIZE & Reduction	Exact Ratio	HP Rating	Service Factor	Minimum Cooling Required	L.S. Shaft OHL Capacity (lb)†	Minimum L.S. Shaft Sprocket Pitch Dia‡	
950	2070F_2	1.783	282	1.41	Electric Fan	4810	5.51	
860	2070F_2	2.062	282	1.41	Electric Fan	4870	6.02	
780	2070F_2	2.197	279	1.40	Electric Fan	5120	6.31	
700	2070F_2	2.541	279	1.40	Electric Fan	5190	6.94	
640	2070F_2	2.683	239	1.20	Electric Fan	5590	7.04	
575	2070F_2	3.103	239	1.20	Electric Fan	5590	7.84	
350	2070F_2	4.996	255	1.28	Electric Fan	6060	11.88	
350	2080F_2	5.161	370	1.85	Electric Fan	4720	15.25	
350	2090F_2	5.050	599	3.00	Shaft Fan	8620	8.35	Motors are available
280	2070F_2	6.155	258	1.29	Electric Fan	6190	14.54	from Falk or
280	2080F_2	6.290	362	1.81	Electric Fan	4370	20.59	Falk Distributors.
280	2090F_2	6.050	538	2.69	Shaft Fan	8870	10.15	
230	2070F_2	7.517	231	1.16	Electric Fan	6670	16.43	200 HP Motor
230	2080F_2	7.638	324	1.62	Electric Fan	5150	21.27	
230	2090F_2	7.581	451	2.25	Shaft Fan	8870	12.35	Energy Efficient Motor
190	2080F_2	8.923	272	1.36	Electric Fan	5460	24.29	Falk Part No. 2918122
190	2090F_2	9.257	386	1.93	Shaft Fan	10300	12.88	TEFC, 1750 rpm
190	2100F_2	9.218	497	2.48	Shaft Fan	11900	11.15	460 Volts,
155	2080F_2	11.13	231	1.16	Electric Fan	6350	25.60	3 Phase, 60 Hz,
155	2090F_2	11.51	312	1.56	Shaft Fan	11000	14.78	NEMA B, 445T,
155	2100F_2	11.58	411	2.06	Shaft Fan	12600	12.90	1.15 Service Factor
125	2090F_2	13.98	269	1.35	Shaft Fan	11900	16.94	
125	2100F_2	14.01	359	1.80	Shaft Fan	13400	15.04	Premium Efficiency Motor
125	2110F_2	13.94	519	2.60	Shaft Fan	9060	22.25	Falk Part No. 2918142
100	2090F_2	16.78	235	1.18	Shaft Fan	11900	21.18	TEFC, 1750 rpm
100	2100F_2	17.29	309	1.55	Shaft Fan	13400	18.81	460 Volts,
100	2110F_2	17.01	433	2.17	Shaft Fan	13300	27.81	3 Phase, 60 Hz,
84	2100F_2	21.58	256	1.28	Shaft Fan	15500	19.35	NEMA B, 447T
84	2110F_2	20.76	401	2.00	Shaft Fan	12400	24.19	1.15 Service Factor
84	2120F_2	21.12	510	2.55	None	16100	18.63	
68	2100F_2	25.55	226	1.13	Shaft Fan	16900	21.93	Motors meeting other
68	2110F_2	25.39	307	1.54	Shaft Fan	16800	25.56	specifications are
68	2120F_2	25.91	439	2.20	None	17500	21.18	available upon request.
68	2130F_2	25.36	582	2.91	None	22500	16.47	
56	2110F_2	31.12	263	1.32	Shaft Fan	18100	26.79	
56	2120F_2	31.89	353	1.77	None	19000	23.68	
56	2130F_2	30.89	477	2.38	None	22500	20.00	
45	2120F_3	39.36	269	1.35	Shaft Fan	19000	29.47	
45	2130F_3	39.60	332	1.66	Shaft Fan	22500	24.89	
37	2120F_3	47.71	239	1.20	Shaft Fan	19000	35.85	
37	2130F_3	47.26	322	1.61	Shaft Fan	22500	30.27	
30	2120F_3	57.02	202	1.01	Shaft Fan	19000	44.21	
30	2130F_3	57.30	276	1.38	Shaft Fan	22500	37.33	
25	2130F_3	68.47	237	1.19	Shaft Fan	22500	44.80	
20	2130F_3	81.72	200	1.00	Shaft Fan	22500	56.00	

(See footnotes on Page 15.)

How to Select/ Rating Table Method by Horsepower or Torque

Selection Information

The Quick Selection Method may be used in place of the Horsepower and Torque Rating Table Method if the application meets the following guidelines:

- 1750 rpm input
- Standard ratios for double, triple or quadruple reductions

NOTE: If you have an unusual application involving any of the following conditions refer to Pages 6 & 7.

- Excessive Overloads
- Reversing Service
- Brake Equipped Applications
- Oversized Prime Movers
- Multi-Speed or Variable Speed Applications
- Excessive Ambient Temperatures
- Thermal Rating Application Factors
- Excessive Overhung Loads or Thrust Loads
- Product Modifications
- Non-Standard Motors or Prime Movers
- Non-Standard Motor Bracket Applications
- Non-Horizontal Mounting Positions

How to Select By Horsepower

1. Determine Service Factor or Load Classification Factor — See Pages 8 & 9 or 10 & 11.
2. Calculate Equivalent Horsepower — Multiply the actual horsepower to be transmitted by the Service Factor.
3. Determine Drive Input Speed, Output Speed and Ratio.
4. Determine Drive Size — Select the nearest standard ratio from the Horsepower Rating Tables starting on Page 33. Opposite the high speed shaft rpm, and the desired ratio and output speed, trace right to a horsepower capacity equal to or in excess of the equivalent horsepower calculated in Step 2. Read the drive size at the top of the column. When the required input speed falls between two tabulated input speeds of a drive with the same number of gear reductions, interpolate to determine gear drive rating.
5. Select Drive Configuration — Type FC or FZ. See Pages 58-61.
6. Check Thermal Horsepower Ratings — See Page 42 for instructions.
7. Check Overhung Loads and Thrust Capacity — See Pages 48-55 for instructions.
8. Check Gear Drive Dimensions — Pages 58 thru 61.
9. Place the Order — See Page 14 for How to Order.

Example

Application: Belt conveyor, uniformly fed, requires 13 hp at the head shaft.

Duty Cycle: 10 hours per day.

Driver: 17 hp multi-cylinder engine, 1600 rpm, coupling connected to drive.

Output: 115 rpm.

1. From Service Factor table, Page 9. . . motor driven, uniformly fed, belt conveyor, 10 hour service requires 1.25 Service Factor. From Table 2, Page 8, convert this service factor for motor drive to 1.50 for engine drive.
2. Equivalent horsepower — $1.50 \times 13 = 19.5$ hp.
3. Input Speed is 1600 rpm, output is 115 rpm, resulting in a required ratio of 13.9:1.

4. Refer to the Horsepower Ratings/Double Reduction Selection Table on Page 34 for ratios 1.50 through 31.39.
 - A. Since 1600 rpm input is not listed, proportion the equivalent horsepower to the nearest published input speed: $1750 \div 1600 \times 19.5 = 21.3$ hp. In the 1750 high speed shaft section opposite 13.95 ratio, trace right to 28.1 (nearest hp exceeding equivalent hp) and read drive size 2040 at the top of column.
5. For this example we will assume that a Type FC horizontal concentric shaft drive is desired.
6. Check the thermal rating on Page 45, since the thermal hp capacity of the 2040F2 exceeds the required hp(13hp) at both 1750 and 1430 rpm, no additional cooling is required. (NOTE: for actual thermal capacity interpolate between values at 1750 and 1430 rpm).
7. Refer to Page 48 if a chain drive is required between the gear drive low speed shaft and the conveyor. The drive overhung load capacity must be checked.
8. Dimensions and weights for this drive are listed on Page 58.
9. Place the order for the gear drive per instructions on Page 14.

How to Select By Torque

Simply follow the steps outlined in the horsepower method, substituting torque values for horsepower.

To check thermal capacity, convert the actual required torque to horsepower and check against the thermal rating. To convert, use the torque (lb.-in.) and speed (rpm) at low speed shaft of the drive in the following formula:

$$\text{hp} = \frac{\text{torque} \times \text{output speed}}{63,000}$$

Example

A drive to power a traveling water intake screen, 24 hours per day, is to deliver 30,000 pound-inches output torque when output shaft operates at 5 rpm. Source of power is a 3 hp, 1750 rpm motor.

1. From Service Factor table, Page 9. . . traveling water screen requires 1.25 Service Factor for 24 hour service.
2. Equivalent Torque — $1.25 \times 30,000 = 37,500$ pound-inches.
3. Input speed is 1750 rpm, output is 5 rpm, resulting in a required ratio of 350:1.
4. Refer to the output Torque Capacity/Quadruple Reduction Selection Table on Page 41. Closest standard ratio is 357.5. In the 1750 high speed shaft section, opposite 357.5 ratio, trace right to 45.2 (x 1000) (nearest torque exceeding equivalent torque) and read drive size 2060 at top of column.
5. For this example we will assume that a Type FC horizontal concentric shaft drive is desired.
6. Check thermal rating, Page 46. Convert torque to horsepower. $\frac{30,000 \times 5}{63,000} = 2.38$ hp

The thermal rating is 18.6 for a size 2060F4 which exceeds the application hp is satisfactory.

7. Refer to Page 48 to check overhung load capacity if a chain drive is required on the low speed shaft.
8. Dimensions and weights for this drive are given on Page 60.
9. Place the order for the drive per instructions on Page 14.

Horsepower & Torque Ratings/Double Reduction

(TORQUE IS IN POUND INCHES AT LOW SPEED SHAFT. . .
MULTIPLY VALUES LISTED BELOW BY 1000)

High Speed Shaft rpm	Nominal Ratios ± 4%	Approx. L.S. Shaft rpm	HORSEPOWER ♦						TORQUE †					
			DRIVE SIZE						DRIVE SIZE					
			2040	2050	2060	2070	2080	2090	2040	2050	2060	2070	2080	2090
3500	1.50	2340	93.5	187	308	...	645	973	2.47	4.97	8.58		18.1	26.3
	1.84	1900	82.5	142	280	459	602	880	2.70	4.66	9.24	14.7	20.4	28.5
	2.03	1720	82.5	187	280	459	602	973	3.05	6.83	10.2	17.0	22.3	36.6
	2.25	1560	81.3	147	243	454	588	763	3.21	5.96	10.0	18.0	24.3	31.0
	2.49	1400	73.7	166	243	454	588	880	3.28	7.48	11.1	20.8	26.5	39.7
	2.76	1280	64.7	129	231	412	526	666	3.17	6.27	11.8	19.9	26.4	33.0
	3.05	1150	64.7	147	231	412	526	763	3.58	8.19	13.0	23.0	28.8	43.1
	3.38	1040	56.4	114	209	375	443	603	3.33	6.74	12.8	21.7	26.0	37.2
	3.74	940	56.4	129	209	375	443	666	3.76	8.62	14.1	25.1	28.3	45.9
	4.13	840	48.0	98.2	185	325	434	516	3.56	7.07	13.8	23.1	31.8	38.7
	4.57	760	48.0	114	185	322	434	603	4.02	9.26	15.2	26.5	34.6	51.7
	5.06	700	93.5	186	280	415	602	973	8.29	16.7	25.2	37.3	55.9	88.4
	6.20	560	82.5	163	243	419	588	874	9.09	18.0	27.4	46.4	66.6	95.2
	7.59	460	72.7	141	231	381	526	732	9.64	19.3	32.1	51.6	72.3	99.9
	9.30	380	62.0	126	209	337	443	627	10.2	20.7	34.9	54.6	71.2	104
	11.39	310	54.0	110	185	302	394	506	10.7	21.9	37.5	60.2	78.9	105
	13.95	250	45.7	96.5	160	256	338	437	11.4	23.5	39.5	62.2	83.2	110
	17.09	200	39.7	82.7	131	199	272	382	12.0	24.8	40.5	62.1	84.9	115
	20.93	168	35.3	68.1	111	166	225	305	12.6	25.2	42.2	61.4	85.0	115
	25.63	136	23.8	49.9	97.0	129	184	253	10.8	22.7	44.7	58.3	83.4	117
	31.39	112	20.8	42.8	77.4	102	148	224	11.0	23.2	44.1	57.1	83.0	126
2900	1.50	1900	82.0	164	270	...	566	853	2.61	5.26	9.08		19.2	27.9
	1.84	1560	72.3	125	245	402	527	771	2.86	4.95	9.76	15.6	21.6	30.2
	2.03	1400	72.3	164	245	402	527	853	3.23	7.23	10.8	18.0	23.5	38.7
	2.25	1280	71.3	129	213	398	515	669	3.39	6.31	10.6	19.0	25.7	32.8
	2.49	1150	64.6	145	213	398	515	771	3.47	7.89	11.7	22.0	28.0	41.9
	2.76	1040	56.7	113	203	361	461	584	3.35	6.63	12.5	21.0	28.0	35.0
	3.05	940	56.7	129	203	361	461	669	3.79	8.67	13.8	24.3	30.5	45.6
	3.38	840	49.4	99.6	183	320	388	528	3.52	7.10	13.5	22.3	27.5	39.3
	3.74	760	49.4	113	183	320	388	584	3.98	9.12	14.9	25.8	29.9	48.6
	4.13	700	42.0	86.1	162	269	380	453	3.76	7.48	14.5	23.1	33.6	41.0
	4.57	620	42.0	99.6	162	269	380	528	4.25	9.76	16.1	26.7	36.6	54.6
	5.06	560	82.0	163	245	364	527	853	8.78	17.6	26.6	39.5	59.1	93.6
	6.20	460	72.3	142	213	368	515	767	9.62	19.0	28.9	49.2	70.4	101
	7.59	380	63.7	124	203	334	461	642	10.2	20.5	34.0	54.5	76.5	106
	9.30	310	54.4	110	183	295	388	550	10.8	21.8	36.8	57.7	75.2	111
	11.39	250	47.4	96.6	162	259	345	444	11.4	23.2	39.6	62.3	83.4	111
	13.95	200	40.1	84.6	140	214	296	383	12.1	24.8	41.7	62.8	87.9	116
	17.09	168	34.8	69.6	111	165	238	335	12.7	25.2	41.5	62.1	89.6	122
	20.93	136	30.9	56.6	97.5	138	186	268	13.3	25.3	44.7	61.6	84.8	122
	25.63	112	20.8	43.7	80.7	109	154	221	11.4	24.0	44.9	59.5	84.2	123
	31.39	90	18.2	37.6	65.5	85.6	125	196	11.6	24.6	45.1	57.8	84.6	133
2400	1.50	1560	71.8	144	236	...	496	747	2.76	5.58	9.59		20.3	29.5
	1.84	1280	63.3	109	215	352	462	676	3.02	5.21	10.3	16.5	22.9	32.0
	2.03	1150	63.3	144	215	352	462	747	3.42	7.67	11.4	19.1	24.9	41.0
	2.25	1040	62.4	113	186	349	451	586	3.59	6.68	11.2	20.1	27.2	34.7
	2.49	940	56.6	127	186	349	451	676	3.68	8.35	12.4	23.3	29.6	44.4
	2.76	840	49.7	98.8	178	316	404	511	3.55	7.01	13.2	22.3	29.6	37.0
	3.05	760	49.7	113	178	316	404	586	4.01	9.18	14.6	25.7	32.2	48.3
	3.38	700	43.3	87.2	160	265	340	452	3.73	7.51	14.3	22.3	29.1	40.7
	3.74	620	43.3	98.8	160	265	340	511	4.21	9.63	15.8	25.8	31.7	51.4
	4.13	560	36.8	75.4	142	223	319	385	3.98	7.92	15.4	23.1	34.1	42.1
	4.57	510	36.8	87.2	142	223	319	452	4.50	10.3	17.0	26.8	37.1	56.5
	5.06	460	71.8	143	215	319	462	747	9.29	18.7	28.2	41.8	62.6	99.0
	6.20	380	63.3	125	186	322	451	671	10.2	20.2	30.5	52.0	74.5	107
	7.59	310	55.8	109	178	293	404	562	10.8	21.7	36.0	57.8	81.0	112
	9.30	250	47.6	96.5	160	259	340	481	11.4	23.1	38.9	61.2	79.6	117
	11.39	200	41.5	84.7	142	216	303	389	12.0	24.6	42.0	62.8	88.5	118
	13.95	168	35.1	71.0	123	178	257	336	12.8	25.2	44.3	63.1	92.2	123
	17.09	136	30.5	57.8	93.4	138	198	294	13.5	25.3	42.2	62.8	90.1	129
	20.93	112	26.1	47.0	81.0	116	157	234	13.6	25.4	44.9	62.5	86.5	129
	25.63	90	18.2	38.3	67.0	91.5	130	194	12.1	25.4	45.1	60.3	85.9	131
	31.39	74	16.0	32.2	54.3	71.7	105	172	12.4	25.5	45.2	58.5	85.9	141

♦ When selecting gear drives by hp method, check required hp (without service factor) against the application adjusted thermal hp ratings. For ratings at speeds higher than 3500 rpm, refer to Falk.

† When selecting gear drives by torque method, convert required torque (without service factor) to hp and check against the application adjusted thermal hp ratings. For ratings at speeds higher than 3500 rpm, refer to Falk.

Horsepower Ratings/Double Reduction

High Speed Shaft rpm	Nominal Ratios $\pm 4\%$	Approx. L.S. Shaft rpm	DRIVE SIZE ♦									
			2040	2050	2060	2070	2080	2090	2100	2110	2120	2130
1750	1.50	1170	57.6	115	190		397	599				
	1.84	950	50.8	87.5	172	282	370	542				
	2.03	860	50.8	115	172	282	370	599				
	2.25	780	50.1	90.3	149	279	362	470				
	2.49	700	45.4	102	149	279	362	542				
	2.76	640	39.8	79.2	142	239	324	410				
	3.05	575	39.8	90.3	142	239	324	470				
	3.38	520	34.7	68.0	128	193	272	330				
	3.74	470	34.7	79.2	128	193	272	410				
	4.13	420	28.5	56.7	114	164	233	281				
	4.57	380	28.5	68.0	114	164	233	330				
	5.06	350	57.6	114	172	255	370	599	762			
	6.20	280	50.8	100	149	258	362	538	647			
	7.59	230	44.7	87.0	142	231	324	451	568			
	9.30	190	38.2	76.5	128	193	272	386	497	750		
	11.39	155	33.3	63.2	110	159	231	312	411	627	869	1050
	13.95	125	28.1	52.1	90.7	131	189	269	359	519	753	927
	17.09	100	23.3	42.3	69.8	102	149	235	309	433	629	794
	20.93	84	19.3	34.4	59.3	84.8	117	188	256	401	510	635
	25.63	68	14.6	28.0	49.0	68.0	96.7	155	226	307	439	582
	31.39	56	12.8	23.5	39.7	53.1	77.7	133	183	263	353	477
1430	1.50	950	50.0	98.5	157		345	520				
	1.84	780	44.1	76.0	149	245	322	470				
	2.03	700	44.1	98.5	149	245	322	520				
	2.25	640	43.5	75.2	130	228	314	408				
	2.49	575	39.4	88.1	130	228	314	470				
	2.76	520	33.9	67.8	124	195	281	356				
	3.05	470	33.9	75.2	124	195	281	408				
	3.38	420	29.5	56.4	111	160	237	269				
	3.74	380	29.5	67.8	111	160	237	356				
	4.13	350	23.5	46.9	96.1	136	194	230				
	4.57	310	23.5	56.4	96.1	136	194	269				
	5.06	280	50.0	98.5	149	222	322	520	661			
	6.20	230	44.1	86.8	130	224	314	467	562			
	7.59	190	38.8	75.1	124	190	274	391	493			
	9.30	155	33.1	62.8	109	160	235	335	432	651		
	11.39	125	28.9	51.9	90.4	130	190	269	357	513	754	912
	13.95	100	23.3	42.7	74.4	107	155	230	312	424	635	757
	17.09	84	19.2	34.7	57.7	84.0	123	199	265	357	514	649
	20.93	68	15.9	28.1	48.6	69.3	96.9	161	213	334	423	520
	25.63	56	12.7	22.9	40.1	56.1	79.8	132	186	255	360	497
	31.39	45	10.9	19.2	32.4	43.7	64.0	109	152	218	293	397
1170	1.50	780	43.0	82.2	129		287	442				
	1.84	640	38.3	66.0	130	213	279	396				
	2.03	575	38.3	82.2	130	213	279	442				
	2.25	520	37.8	62.4	113	188	273	341				
	2.49	470	34.2	73.3	113	188	273	396				
	2.76	420	28.1	56.2	107	163	244	295				
	3.05	380	28.1	62.4	107	163	237	341				
	3.38	350	24.4	46.6	94.1	133	206	224				
	3.74	310	24.4	56.2	94.1	133	205	295				
	4.13	280	19.4	38.7	79.6	113	161	188				
	4.57	255	19.4	46.5	79.6	113	161	224				
	5.06	230	43.0	82.2	130	193	279	442	575			
	6.20	190	38.3	73.3	113	188	272	396	488			
	7.59	155	33.7	61.7	107	156	225	340	428			
	9.30	125	28.1	51.6	89.8	131	194	291	375	558		
	11.39	100	23.9	42.6	74.2	107	156	224	310	420	617	748
	13.95	84	19.1	35.0	61.0	88.1	127	188	271	352	519	620
	17.09	68	15.7	28.4	47.7	68.9	101	165	221	298	421	533
	20.93	56	13.1	23.1	39.8	56.7	80.1	132	177	277	352	434
	25.63	45	10.5	18.8	32.8	46.2	65.9	108	152	211	296	414
	31.39	37	8.96	15.8	26.5	36.0	52.7	89.4	125	180	241	329

♦ (See footnote on Page 33.)

Torque Ratings/Double Reduction

(TORQUE IS IN POUND INCHES AT LOW SPEED SHAFT. . . MULTIPLY VALUES LISTED BELOW BY 1000)

High Speed Shaft rpm	Nominal Ratios ±4%	Approx. L.S. Shaft rpm	DRIVE SIZE †									
			2040	2050	2060	2070	2080	2090	2100	2110	2120	2130
1750	1.50	1170	3.04	6.11	10.6		22.3	32.4				
	1.84	950	3.33	5.74	11.4	18.1	25.1	35.2				
	2.03	860	3.76	8.40	12.6	20.9	27.4	45.1				
	2.25	780	3.95	7.32	12.3	22.1	30.0	38.2				
	2.49	700	4.05	9.19	13.6	25.5	32.6	48.8				
	2.76	640	3.90	7.71	14.5	23.1	32.6	40.7				
	3.05	575	4.41	10.1	16.0	26.7	35.5	53.1				
	3.38	520	4.10	8.04	15.7	22.3	31.9	40.7				
	3.74	470	4.63	10.6	17.3	25.8	34.8	56.5				
	4.13	420	4.23	8.17	17.0	23.3	34.1	42.1				
	4.57	380	4.78	11.0	18.7	27.0	37.2	56.6				
	5.06	350	10.2	20.4	31.0	45.9	68.7	109	139			
	6.20	280	11.2	22.1	33.6	57.2	82.0	117	149			
	7.59	230	11.9	23.8	39.4	62.5	89.1	123	156			
	9.30	190	12.6	25.1	42.7	62.5	87.4	129	165	256		
	11.39	155	13.2	25.2	44.6	63.4	92.5	129	171	259	361	448
	13.95	125	14.0	25.3	44.8	63.7	93.0	135	181	260	380	481
	17.09	100	14.1	25.4	43.2	63.6	93.0	142	192	265	393	490
	20.93	84	13.8	25.5	45.1	62.7	88.4	142	199	300	388	486
	25.63	68	13.3	25.5	45.2	61.5	87.6	143	208	281	409	531
	31.39	56	13.6	25.5	45.3	59.4	87.1	149	206	295	405	531
1430	1.50	950	3.23	6.40	10.7		23.7	34.4				
	1.84	780	3.54	6.10	12.0	19.2	26.8	37.3				
	2.03	700	4.00	8.80	13.3	22.3	29.1	47.9				
	2.25	640	4.20	7.46	13.1	22.1	31.8	40.6				
	2.49	575	4.30	9.72	14.5	25.5	34.6	51.8				
	2.76	520	4.07	8.07	15.4	23.1	34.6	43.2				
	3.05	470	4.59	10.3	17.1	26.7	37.6	56.4				
	3.38	420	4.26	8.16	16.6	22.6	34.1	40.6				
	3.74	380	4.82	11.1	18.4	26.2	37.1	60.1				
	4.13	350	4.27	8.27	17.5	23.7	34.8	42.2				
	4.57	310	4.82	11.2	19.3	27.4	37.9	56.5				
	5.06	280	10.9	21.6	32.8	48.9	73.2	116	148			
	6.20	230	11.9	23.5	35.8	60.7	87.0	124	159			
	7.59	190	12.6	25.1	42.1	62.9	92.2	131	166			
	9.30	155	13.4	25.2	44.5	63.4	92.4	137	175	271		
	11.39	125	14.0	25.3	44.8	63.4	93.1	136	182	259	383	476
	13.95	100	14.2	25.4	45.0	63.6	93.4	142	193	260	392	481
	17.09	84	14.2	25.5	43.7	64.1	94.0	147	202	268	393	490
	20.93	68	13.9	25.5	45.2	62.7	89.6	149	202	306	394	487
	25.63	56	14.1	25.5	45.3	62.1	88.5	149	209	285	411	555
	31.39	45	14.1	25.5	45.2	59.8	87.8	150	209	299	412	540
1170	1.50	780	3.39	6.53	10.8		24.1	35.8				
	1.84	640	3.75	6.47	12.8	20.5	28.3	38.4				
	2.03	575	4.24	8.98	14.2	23.7	30.9	49.7				
	2.25	520	4.46	7.57	14.0	22.2	33.8	41.4				
	2.49	470	4.56	9.88	15.4	25.7	36.8	53.4				
	2.76	420	4.12	8.18	16.3	23.6	36.7	43.8				
	3.05	380	4.65	10.4	18.0	27.2	38.8	57.6				
	3.38	350	4.31	8.24	17.2	23.0	36.2	41.3				
	3.74	310	4.87	11.2	19.0	26.6	39.2	60.8				
	4.13	280	4.30	8.34	17.7	24.1	35.3	42.2				
	4.57	255	4.86	11.3	19.6	27.8	38.4	57.5				
	5.06	230	11.4	22.0	35.0	51.9	77.5	120	157			
	6.20	190	12.6	24.3	38.1	62.3	92.1	129	169			
	7.59	155	13.4	25.2	44.4	63.1	92.5	139	176			
	9.30	125	13.9	25.3	44.8	63.5	93.2	145	186	284		
	11.39	100	14.2	25.4	45.0	63.8	93.5	139	193	259	384	477
	13.95	84	14.3	25.4	45.1	64.0	93.5	142	204	264	391	482
	17.09	68	14.2	25.5	44.2	64.3	94.3	149	206	273	394	492
	20.93	56	14.0	25.6	45.3	62.7	90.5	149	206	310	400	497
	25.63	45	14.3	25.6	45.3	62.5	89.3	149	209	288	413	565
	31.39	37	14.2	25.7	45.2	60.2	88.4	150	210	302	414	547

† (See footnote on Page 33.)

Horsepower Ratings/Double Reduction

High Speed Shaft rpm	Nominal Ratios $\pm 4\%$	Approx. L.S. Shaft rpm	DRIVE SIZE ♦									
			2040	2050	2060	2070	2080	2090	2100	2110	2120	2130
870	1.50	580	32.6	62.4	98.2		213	329				
	1.84	470	28.9	53.7	106	173	212	296				
	2.03	430	28.9	62.4	106	173	212	329				
	2.25	390	29.5	47.2	91.6	143	212	258				
	2.49	350	27.8	55.6	91.6	143	212	296				
	2.76	320	21.1	42.4	82.9	124	187	225				
	3.05	290	21.1	47.2	82.9	124	179	258				
	3.38	260	18.3	35.1	71.2	101	164	171				
	3.74	235	18.3	42.1	71.2	101	154	225				
	4.13	210	14.5	29.1	60.1	85.5	122	140				
	4.57	190	14.5	34.8	60.0	85.5	122	171				
	5.06	175	32.6	62.4	106	151	212	329	467			
	6.20	140	29.1	55.6	91.6	142	204	296	397			
	7.59	115	26.6	46.1	80.5	117	169	258	348			
	9.30	95	21.1	38.5	67.1	98.2	145	221	305	421		
	11.39	77	17.8	31.7	55.4	80.0	116	171	248	321	466	559
	13.95	62	14.2	26.1	45.5	65.8	95.0	140	206	268	397	470
	17.09	50	11.7	21.2	35.8	51.4	75.1	123	167	226	313	407
	20.93	42	9.80	17.2	29.6	42.2	60.2	98.4	133	207	267	330
	25.63	34	7.83	14.0	24.4	34.7	49.4	80.7	114	159	221	313
	31.39	28	6.69	11.7	19.7	27.0	39.5	66.6	93.1	135	180	249
720	1.50	470	27.2	52.2	82.4		177	276				
	1.84	390	24.1	46.4	92.4	149	176	250				
	2.03	350	24.1	52.2	92.4	149	176	276				
	2.25	320	24.5	39.4	80.2	120	178	217				
	2.49	290	24.1	46.4	80.2	120	178	250				
	2.76	260	17.6	35.3	69.2	104	157	189				
	3.05	235	17.6	39.4	69.2	104	149	217				
	3.38	210	15.3	29.2	59.4	84.3	137	143				
	3.74	190	15.3	35.0	59.4	84.3	128	189				
	4.13	175	12.1	24.2	50.1	71.4	102	116				
	4.57	155	12.1	28.9	49.8	71.4	102	143				
	5.06	140	27.2	52.2	92.4	125	176	276	405			
	6.20	115	24.2	46.3	80.2	118	169	250	347			
	7.59	95	22.1	38.2	66.8	97.2	140	217	305			
	9.30	77	17.6	31.9	55.7	81.5	120	183	258	354		
	11.39	62	14.8	26.3	45.9	66.3	96.6	143	206	269	392	471
	13.95	50	11.8	21.6	37.7	54.5	78.8	116	171	224	333	395
	17.09	42	9.71	17.6	29.8	42.6	62.3	102	139	189	259	342
	20.93	34	8.14	14.2	24.5	34.9	50.1	81.6	111	172	223	276
	25.63	28	6.49	11.6	20.2	28.8	41.1	66.9	94.1	133	183	262
	31.39	22	5.55	9.71	16.3	22.4	32.8	55.2	77.1	113	149	207
580	1.50	390	22.1	42.5	67.2		142	226				
	1.84	320	19.6	37.7	77.6	121	141	204				
	2.03	290	19.6	42.5	77.6	121	141	226				
	2.25	260	19.8	31.9	68.9	98.0	145	177				
	2.49	235	19.5	37.7	68.9	98.0	145	204				
	2.76	210	14.3	28.7	56.3	84.3	128	154				
	3.05	190	14.3	31.9	56.3	84.3	121	177				
	3.38	175	12.3	23.7	48.3	68.6	112	116				
	3.74	155	12.3	28.3	48.3	68.6	104	154				
	4.13	140	9.77	19.6	40.7	58.0	82.8	93.1				
	4.57	130	9.77	23.3	40.3	58.0	82.8	116				
	5.06	115	22.1	42.5	77.6	101	141	226	333			
	6.20	95	19.7	37.3	66.3	95.7	137	204	285			
	7.59	77	17.8	30.9	53.9	78.6	113	177	250			
	9.30	62	14.3	25.8	44.9	65.8	97.1	148	208	290		
	11.39	50	11.9	21.2	37.0	53.5	78.0	116	166	220	320	386
	13.95	42	9.51	17.4	30.4	44.0	63.6	93.1	138	183	272	323
	17.09	34	7.83	14.2	24.1	34.3	50.2	82.3	112	154	209	279
	20.93	28	6.58	11.5	19.7	28.1	40.6	65.8	89.7	139	181	225
	25.63	22	5.23	9.34	16.3	23.3	33.3	54.0	75.9	108	148	213
	31.39	18	4.48	7.83	13.2	18.1	26.5	44.5	62.2	91.3	120	168

♦ (See footnote on Page 33.)

Torque Ratings/Double Reduction

(TORQUE IS IN POUND INCHES AT LOW SPEED SHAFT. . . MULTIPLY VALUES LISTED BELOW BY 1000)

High Speed Shaft rpm	Nominal Ratios ±4%	Approx. L.S. Shaft rpm	DRIVE SIZE †									
			2040	2050	2060	2070	2080	2090	2100	2110	2120	2130
870	1.50	580	3.46	6.67	11.0		24.1	35.8				
	1.84	470	3.81	7.08	14.1	22.3	29.0	38.6				
	2.03	430	4.30	9.16	15.6	25.8	31.5	49.8				
	2.25	390	4.68	7.70	15.2	22.8	35.3	42.2				
	2.49	350	4.98	10.1	16.8	26.3	38.4	53.7				
	2.76	320	4.16	8.30	17.0	24.1	37.8	44.9				
	3.05	290	4.70	10.6	18.8	27.9	39.4	58.6				
	3.38	260	4.35	8.34	17.5	23.5	38.7	42.4				
	3.74	235	4.91	11.3	19.4	27.2	39.6	62.4				
	4.13	210	4.33	8.43	18.0	24.5	35.9	42.2				
	4.57	190	4.89	11.4	19.8	28.3	39.1	59.0				
	5.06	175	11.6	22.5	38.4	54.6	79.2	120	172			
	6.20	140	12.9	24.8	41.5	63.3	92.9	130	184			
	7.59	115	14.2	25.4	44.9	63.7	93.5	142	193			
	9.30	95	14.0	25.4	45.0	64.0	93.7	148	204	289		
	11.39	77	14.2	25.4	45.2	64.2	93.5	143	208	266	390	480
	13.95	62	14.2	25.5	45.2	64.3	94.1	142	209	271	403	491
	17.09	50	14.3	25.6	44.6	64.5	94.3	149	209	278	394	505
	20.93	42	14.1	25.6	45.3	62.8	91.4	150	208	311	408	508
	25.63	34	14.3	25.6	45.3	63.1	90.0	150	211	292	415	575
	31.39	28	14.3	25.6	45.2	60.8	89.1	150	210	304	416	557
720	1.50	470	3.49	6.74	11.2		24.2	36.3				
	1.84	390	3.84	7.40	14.8	23.3	29.1	39.4				
	2.03	350	4.34	9.26	16.4	26.9	31.6	50.5				
	2.25	320	4.70	7.76	16.1	23.1	35.8	42.9				
	2.49	290	5.22	10.2	17.8	26.7	39.0	54.8				
	2.76	260	4.19	8.35	17.1	24.4	38.4	45.6				
	3.05	235	4.74	10.7	18.9	28.2	39.6	59.6				
	3.38	210	4.39	8.39	17.7	23.7	39.1	42.9				
	3.74	190	4.96	11.4	19.5	27.4	39.8	63.3				
	4.13	175	4.36	8.47	18.1	24.7	36.3	42.3				
	4.57	155	4.93	11.4	19.9	28.6	39.5	59.6				
	5.06	140	11.7	22.7	40.4	54.6	79.5	122	180			
	6.20	115	13.0	24.9	43.9	63.5	93.0	132	195			
	7.59	95	14.2	25.4	45.1	63.9	93.6	144	204			
	9.30	77	14.1	25.5	45.2	64.2	93.7	148	208	293		
	11.39	62	14.3	25.5	45.2	64.3	94.0	144	209	270	396	489
	13.95	50	14.3	25.5	45.3	64.4	94.3	142	210	273	408	498
	17.09	42	14.3	25.6	44.8	64.6	94.5	150	210	281	394	513
	20.93	34	14.1	25.5	45.3	62.7	92.0	150	210	313	412	513
	25.63	28	14.3	25.7	45.3	63.3	90.5	150	210	295	415	581
	31.39	22	14.3	25.6	45.2	60.9	89.4	150	211	308	416	560
580	1.50	390	3.52	6.81	11.3		24.1	36.9				
	1.84	320	3.88	7.46	15.5	23.4	28.9	39.9				
	2.03	290	4.38	9.36	17.1	27.1	31.5	51.3				
	2.25	260	4.71	7.80	17.2	23.4	36.2	43.4				
	2.49	235	5.24	10.3	19.0	27.0	39.4	55.5				
	2.76	210	4.23	8.42	17.3	24.6	38.8	46.1				
	3.05	190	4.78	10.7	19.1	28.4	40.0	60.3				
	3.38	175	4.38	8.45	17.8	23.9	39.7	43.2				
	3.74	155	4.95	11.4	19.7	27.7	40.1	64.1				
	4.13	140	4.37	8.52	18.3	24.9	36.6	42.1				
	4.57	130	4.94	11.4	20.0	28.8	39.8	60.0				
	5.06	115	11.8	23.0	42.1	54.8	79.0	124	183			
	6.20	95	13.1	24.9	45.1	64.0	93.6	134	199			
	7.59	77	14.2	25.5	45.1	64.2	93.7	146	207			
	9.30	62	14.2	25.6	45.2	64.3	94.1	149	208	298		
	11.39	50	14.3	25.5	45.3	64.4	94.3	145	209	274	401	497
	13.95	42	14.3	25.5	45.3	64.5	94.5	141	210	277	414	506
	17.09	34	14.3	25.7	45.0	64.6	94.5	150	210	285	394	520
	20.93	28	14.2	25.7	45.2	62.7	92.5	150	210	314	415	519
	25.63	22	14.3	25.6	45.4	63.6	91.0	150	211	298	417	587
	31.39	18	14.3	25.7	45.4	61.1	89.7	151	211	309	416	564

† (See footnote on Page 33.)

Horsepower Ratings/ Triple Reduction

High Speed Shaft rpm	Nominal Ratios $\pm 4\%$	Approx. L.S. Shaft rpm	DRIVE SIZE ♦									
			2040	2050	2060	2070	2080	2090	2100	2110	2120	2130
1750	38.44	45	10.4	18.9	32.3	46.2	63.7	98.7	135	196	269	332
	47.08	37	8.67	15.6	26.9	37.8	53.9	86.3	119	168	239	322
	57.66	30	6.91	12.8	22.2	31.7	44.9	72.3	102	145	202	276
	70.62	25	5.69	10.4	17.1	25.3	36.9	59.8	81.6	125	169	237
	86.50	20	4.79	8.41	14.7	20.8	30.1	49.1	66.2	101	131	200
	105.9	16.5	3.80	6.85	11.4	17.7	23.8	40.4	56.0	82.5	108	150
	129.7	13.5	3.16	5.58	9.54	13.9	19.9	32.3	43.8	65.1	89.7	127
	158.9	11.0	2.50	4.54	7.96	11.9	16.3	26.6	37.0	53.8	73.2	93.6
	194.6	9.0	...	...	6.62	9.65	...	21.6	...	...	...	...
1430	38.44	37	8.53	15.5	26.7	37.7	52.1	85.7	115	170	233	283
	47.08	30	7.09	12.7	22.0	31.0	44.0	70.7	98.6	143	197	278
	57.66	25	5.65	10.5	18.1	25.9	36.7	59.3	83.4	122	165	227
	70.62	20	4.65	8.48	14.1	20.7	30.3	48.9	66.8	103	139	195
	86.50	16.5	3.92	6.88	12.0	17.0	24.6	40.1	54.2	82.8	107	163
	105.9	13.5	3.10	5.60	9.41	14.5	19.5	33.1	45.8	68.0	88.4	124
	129.7	11.0	2.59	4.56	7.83	11.4	16.3	26.4	35.8	53.4	73.4	104
	158.9	9.0	2.04	3.71	6.54	9.74	13.3	21.7	30.3	44.0	59.9	77.3
	194.6	7.5	...	...	5.41	7.89	...	17.7	...	...	...	...
1170	38.44	30	6.99	12.7	21.9	30.9	42.6	70.6	96.1	143	196	231
	47.08	25	5.80	10.4	18.0	25.5	36.0	57.9	80.8	119	162	230
	57.66	20	4.62	8.56	14.8	21.2	30.0	48.6	68.3	101	135	189
	70.62	16.5	3.81	6.94	11.6	16.9	24.9	40.0	54.7	84.5	114	160
	86.50	13.5	3.21	5.63	9.81	13.9	20.1	32.9	44.3	67.8	87.8	134
	105.9	11.0	2.54	4.58	7.73	11.8	15.9	27.1	37.5	55.7	72.4	103
	129.7	9.0	2.12	3.74	6.40	9.29	13.4	21.6	29.3	43.8	60.1	85.0
	158.9	7.5	1.67	3.04	5.36	7.97	10.9	17.8	24.8	36.1	49.0	63.8
	194.6	6.0	...	...	4.42	6.47	...	14.5	...	...	...	...
870	38.44	22	5.20	9.42	16.3	23.0	31.7	52.6	72.3	109	146	172
	47.08	18	4.32	7.76	13.4	19.0	26.8	43.1	60.2	90.0	120	172
	57.66	15	3.44	6.37	11.0	15.8	22.3	36.2	50.8	76.4	101	142
	70.62	12.5	2.83	5.17	8.71	12.6	18.5	29.8	40.7	62.9	84.6	119
	86.50	10.0	2.39	4.19	7.29	10.4	15.0	24.4	33.0	50.5	65.3	99.4
	105.9	8.3	1.89	3.41	5.78	8.81	11.8	20.1	27.9	41.4	53.8	76.7
	129.7	6.8	1.58	2.78	4.76	6.91	9.95	16.1	21.8	32.6	44.7	63.2
	158.9	5.5	1.24	2.26	3.99	5.93	8.14	13.2	18.4	26.9	36.5	47.9
	194.6	4.5	...	...	3.29	4.81	...	10.8	...	...	...	...
720	38.44	18	4.31	7.80	13.5	19.0	26.2	43.5	59.9	91.1	121	142
	47.08	15	3.58	6.43	11.1	15.8	22.2	35.7	49.8	75.2	99.7	142
	57.66	12.5	2.85	5.27	9.14	13.1	18.5	29.9	42.1	63.5	83.5	117
	70.62	10.0	2.34	4.28	7.24	10.4	15.4	24.7	33.7	52.1	70.0	98.2
	86.50	8.3	1.98	3.47	6.04	8.58	12.4	20.2	27.3	41.8	54.1	82.2
	105.9	6.8	1.56	2.82	4.80	7.29	9.79	16.7	23.1	34.3	44.6	63.5
	129.7	5.5	1.31	2.30	3.94	5.72	8.24	13.3	18.1	27.0	37.0	52.3
	158.9	4.5	1.03	1.87	3.30	4.91	6.74	11.0	15.3	22.3	30.2	39.8
	194.6	3.8	...	...	2.72	3.99	...	8.91	...	...	...	...
580	38.44	15	3.47	6.29	10.8	15.3	21.1	35.1	48.3	74.2	97.4	115
	47.08	12.5	2.88	5.18	8.93	12.7	17.9	28.8	40.2	61.1	80.4	115
	57.66	10.0	2.29	4.25	7.36	10.5	14.9	24.1	33.9	51.2	67.3	94.5
	70.62	8.3	1.89	3.45	5.85	8.39	12.4	19.9	27.2	42.0	56.4	79.1
	86.50	6.8	1.60	2.79	4.86	6.91	9.98	16.3	22.0	33.7	43.6	66.3
	105.9	5.5	1.26	2.27	3.88	5.87	7.89	13.4	18.6	27.6	35.9	51.1
	129.7	4.5	1.05	1.85	3.17	4.61	6.64	10.7	14.6	21.8	29.8	42.1
	158.9	3.8	0.83	1.51	2.66	3.96	5.43	8.83	12.3	18.0	24.3	32.2
	194.6	3.0	...	...	2.19	3.21	...	7.18	...	...	...	...

♦ (See footnote on Page 33.)

Torque Ratings/Triple Reduction

(TORQUE IS IN POUND INCHES AT LOW SPEED SHAFT. . . MULTIPLY VALUES LISTED BELOW BY 1000)

High Speed Shaft rpm	Nominal Ratios ± 4%	Approx. L.S. Shaft rpm	DRIVE SIZE †									
			2040	2050	2060	2070	2080	2090	2100	2110	2120	2130
1750	38.44	45	14.3	25.6	44.7	62.9	89.2	140	196	271	381	473
	47.08	37	14.3	25.6	45.2	63.0	91.6	150	207	282	411	548
	57.66	30	14.3	25.6	45.2	64.6	93.0	150	210	295	415	569
	70.62	25	14.3	25.7	43.5	64.8	92.5	150	210	310	414	584
	86.50	20	14.2	25.6	45.3	64.7	95.0	151	211	313	416	588
	105.9	16.5	14.4	25.7	43.7	64.8	92.3	150	211	311	416	572
	129.7	13.5	14.2	25.6	45.1	64.9	93.4	151	211	300	416	587
	158.9	11.0	14.3	25.7	44.9	64.7	91.8	151	211	302	417	522
	194.6	9.0	...	...	45.3	64.2	...	151	...	...	...	...
1430	38.44	37	14.3	25.7	45.2	62.8	89.2	149	204	287	404	494
	47.08	30	14.3	25.5	45.2	63.2	91.6	150	210	293	414	579
	57.66	25	14.3	25.7	45.1	64.6	93.1	150	210	304	415	573
	70.62	20	14.3	25.6	43.9	64.9	93.0	151	211	313	417	588
	86.50	16.5	14.2	25.7	45.3	64.7	95.0	150	211	314	416	587
	105.9	13.5	14.3	25.7	44.2	65.0	92.6	151	211	314	417	578
	129.7	11.0	14.3	25.7	45.3	65.1	93.6	151	211	302	417	589
	158.9	9.0	14.3	25.7	45.1	64.8	91.6	151	211	302	417	527
	194.6	7.5	...	...	45.3	64.2	...	151	...	...	...	...
1170	38.44	30	14.3	25.7	45.4	62.9	89.2	150	208	296	415	493
	47.08	25	14.3	25.6	45.2	63.5	91.6	150	211	298	416	585
	57.66	20	14.3	25.6	45.1	64.6	93.0	151	211	308	415	583
	70.62	16.5	14.4	25.6	44.1	64.7	93.4	150	211	314	418	590
	86.50	13.5	14.2	25.7	45.3	64.7	94.9	151	211	314	417	590
	105.9	11.0	14.4	25.7	44.3	64.6	92.2	151	211	314	417	587
	129.7	9.0	14.3	25.7	45.2	64.8	94.1	151	211	302	417	588
	158.9	7.5	14.3	25.7	45.2	64.8	91.8	151	212	303	417	532
	194.6	6.0	...	...	45.2	64.4	...	151	...	...	...	...
870	38.44	22	14.3	25.6	45.4	63.0	89.2	150	211	303	416	493
	47.08	18	14.3	25.6	45.3	63.7	91.7	151	211	303	415	589
	57.66	15	14.4	25.7	45.1	64.8	93.0	151	211	313	417	589
	70.62	12.5	14.3	25.7	44.6	64.9	93.3	151	211	314	417	590
	86.50	10.0	14.3	25.7	45.2	65.1	95.2	151	211	315	417	588
	105.9	8.3	14.4	25.7	44.6	64.9	92.1	151	211	314	417	588
	129.7	6.8	14.3	25.7	45.3	64.9	93.9	151	211	303	417	588
	158.9	5.5	14.3	25.7	45.3	64.9	92.2	151	211	303	418	537
	194.6	4.5	...	...	45.3	64.4	...	151	...	...	...	...
720	38.44	18	14.4	25.6	45.4	62.9	89.1	150	211	306	417	492
	47.08	15	14.4	25.7	45.3	64.0	91.7	151	211	306	416	587
	57.66	12.5	14.4	25.7	45.3	64.9	93.2	151	211	314	417	587
	70.62	10.0	14.3	25.7	44.8	64.7	93.8	151	211	314	417	588
	86.50	8.3	14.3	25.7	45.3	64.9	95.1	151	211	315	417	588
	105.9	6.8	14.3	25.7	44.8	64.9	92.3	151	211	315	418	588
	129.7	5.5	14.3	25.7	45.3	64.9	94.0	151	212	303	417	588
	158.9	4.5	14.4	25.7	45.2	64.9	92.2	152	212	304	418	539
	194.6	3.8	...	...	45.2	64.5	...	151	...	...	...	...
580	38.44	15	14.4	25.7	45.1	62.9	89.1	151	211	309	416	495
	47.08	12.5	14.3	25.7	45.3	63.8	91.8	151	211	309	417	590
	57.66	10.0	14.3	25.7	45.3	64.6	93.2	151	211	315	417	588
	70.62	8.3	14.4	25.7	44.9	64.8	93.8	151	212	314	417	588
	86.50	6.8	14.3	25.7	45.2	64.9	95.0	151	211	315	417	588
	105.9	5.5	14.4	25.7	44.9	64.8	92.3	151	211	314	417	588
	129.7	4.5	14.3	25.7	45.2	64.9	94.0	151	212	304	417	588
	158.9	3.8	14.4	25.7	45.3	65.0	92.2	151	212	304	418	542
	194.6	3.0	...	...	45.2	64.4	...	151	...	...	...	...

† (See footnote on Page 33.)

Horsepower Ratings/Quadruple Reduction

High Speed Shaft rpm	Nominal Ratios $\pm 4\%$	Approx. L.S. Shaft rpm	DRIVE SIZE ♦								
			2050	2060	2070	2080	2090	2100	2110	2120	2130
1750	194.6	9.0	3.53	...	...	13.7	...	28.9	45.3	58.6	81.0
	238.4	7.5	3.08	5.17	7.62	11.1	17.7	24.1	37.3	48.3	67.0
	291.9	6.0	2.49	4.24	6.16	9.06	14.7	19.2	30.6	39.6	57.8
	357.5	5.0	2.08	3.46	5.03	7.32	11.9	15.8	24.8	32.1	47.4
	437.9	4.0	1.71	2.80	4.06	5.06	9.72	13.4	20.1	26.0	38.5
	536.3	3.2	1.40	2.32	3.30	3.98	7.86	11.3	15.9	21.7	31.1
	656.8	2.7	1.14	1.94	2.81	4.14	6.50	8.90	12.9	17.7	25.9
	804.5	2.2	.920	1.58	2.29	2.86	5.36	6.90	11.1	14.8	18.3
	985.3	1.8	.750	1.30	1.86	2.25	4.44	5.88	8.75	12.1	15.4
1430	194.6	7.5	2.89	...	...	11.2	...	23.6	37.0	47.9	68.2
	238.4	6.0	2.52	4.29	6.23	9.07	14.5	19.7	30.5	39.5	57.4
	291.9	5.0	2.04	3.47	5.03	7.40	12.0	15.7	25.0	32.4	47.2
	357.5	4.0	1.70	2.83	4.11	5.98	9.74	12.9	20.3	26.3	38.8
	437.9	3.2	1.40	2.29	3.32	4.14	7.95	11.0	16.4	21.3	31.4
	536.3	2.7	1.15	1.89	2.70	3.26	6.42	9.27	13.0	17.7	25.5
	656.8	2.2	.930	1.58	2.30	3.38	5.32	7.27	10.6	14.4	21.2
	804.5	1.8	.750	1.29	1.88	2.34	4.38	5.64	9.04	12.1	15.0
	985.3	1.5	.610	1.06	1.52	1.84	3.63	4.80	7.15	9.87	12.6
1170	194.6	6.0	2.36	...	...	9.18	...	19.3	30.3	39.2	56.0
	238.4	5.0	2.06	3.51	5.09	7.42	11.8	16.1	24.9	32.3	46.9
	291.9	4.0	1.67	2.84	4.12	6.06	9.85	12.8	20.5	26.5	38.6
	357.5	3.2	1.39	2.31	3.36	4.90	7.97	10.6	16.6	21.5	31.7
	437.9	2.7	1.14	1.87	2.72	3.39	6.50	8.98	13.4	17.4	25.7
	536.3	2.2	.940	1.55	2.21	2.67	5.26	7.58	10.6	14.5	20.8
	656.8	1.8	.760	1.29	1.88	2.77	4.35	5.95	8.66	11.8	17.3
	804.5	1.5	.620	1.06	1.53	1.91	3.58	4.61	7.39	9.91	12.2
	985.3	1.2	.500	.870	1.25	1.51	2.97	3.93	5.85	8.08	10.3
870	194.6	4.5	1.76	...	...	6.83	...	14.4	22.5	29.2	41.6
	238.4	3.8	1.53	2.61	3.79	5.52	8.81	12.0	18.6	24.0	34.9
	291.9	3.0	1.24	2.11	3.06	4.51	7.33	9.54	15.2	19.7	28.7
	357.5	2.5	1.03	1.72	2.50	3.64	5.93	7.86	12.3	16.0	23.6
	437.9	2.0	.850	1.39	2.02	2.52	4.84	6.68	10.0	13.0	19.1
	536.3	1.6	.700	1.15	1.64	1.98	3.91	5.64	7.91	10.8	15.5
	656.8	1.3	.570	.960	1.40	2.06	3.23	4.42	6.44	8.78	12.9
	804.5	1.1	.460	.780	1.14	1.42	2.66	3.43	5.50	7.37	9.10
	985.3	.90	.370	.650	.930	1.12	2.21	2.92	4.35	6.01	7.66
720	194.6	3.8	1.46	...	...	5.65	...	11.9	18.7	24.2	34.5
	238.4	3.0	1.27	2.16	3.13	4.57	7.29	9.91	15.4	19.9	28.9
	291.9	2.5	1.03	1.75	2.54	3.73	6.07	7.90	12.6	16.3	23.8
	357.5	2.0	.860	1.42	2.07	3.01	4.91	6.50	10.2	13.2	19.5
	437.9	1.6	.700	1.15	1.67	2.09	4.00	5.53	8.28	10.7	15.8
	536.3	1.3	.580	.950	1.36	1.64	3.23	4.67	6.55	8.92	12.8
	656.8	1.1	.470	.800	1.16	1.70	2.68	3.66	5.33	7.27	10.7
	804.5	.90	.380	.650	.940	1.18	2.20	2.84	4.55	6.10	7.53
	985.3	.75	.310	.540	.770	0.93	1.83	2.42	3.60	4.97	6.34
580	194.6	3.0	1.17	...	...	4.55	...	9.57	15.0	19.5	27.8
	238.4	2.5	1.02	1.74	2.52	3.68	5.87	7.98	12.4	16.0	23.3
	291.9	2.0	.830	1.41	2.04	3.00	4.89	6.36	10.2	13.1	19.2
	357.5	1.6	.690	1.15	1.67	2.43	3.95	5.24	8.23	10.7	15.7
	437.9	1.3	.570	.930	1.35	1.68	3.22	4.45	6.67	8.64	12.7
	536.3	1.1	.470	.770	1.09	1.32	2.61	3.76	5.28	7.19	10.3
	656.8	.90	.380	.640	.930	1.37	2.16	2.95	4.30	5.86	8.59
	804.5	.75	.310	.520	.760	0.95	1.78	2.29	3.67	4.91	6.06
	985.3	.60	.250	.430	.620	0.75	1.47	1.95	2.90	4.00	5.11

♦ (See footnote on Page 33.)

Torque Ratings/Quadruple Reduction

High Speed Shaft rpm	Nominal Ratios ±4%	Approx. L.S. Shaft rpm	(TORQUE IS IN POUND INCHES AT LOW SPEED SHAFT. . . MULTIPLY VALUES LISTED BELOW BY 1000)								
			DRIVE SIZE †								
			2050	2060	2070	2080	2090	2100	2110	2120	2130
1750	194.6	9.0	23.8	...	...	94.8	...	210	315	417	580
	238.4	7.5	25.7	44.6	64.9	95.0	151	211	315	418	573
	291.9	6.0	25.6	45.2	64.9	95.1	151	212	315	417	600
	357.5	5.0	25.7	45.2	64.9	95.0	151	212	315	417	600
	437.9	4.0	25.7	45.3	64.9	79.5	151	211	315	417	601
	536.3	3.2	25.6	45.4	64.5	75.0	151	211	304	418	599
	656.8	2.7	25.7	45.4	64.9	95.2	151	212	304	419	600
	804.5	2.2	25.7	45.3	64.8	79.6	151	210	316	417	516
	985.3	1.8	25.7	45.2	64.4	75.1	151	212	305	419	522
1430	194.6	7.5	23.9	...	...	94.9	...	210	314	417	598
	238.4	6.0	25.7	45.3	64.9	95.0	151	211	315	418	600
	291.9	5.0	25.7	45.3	64.8	95.0	150	212	315	418	600
	357.5	4.0	25.7	45.3	64.9	95.0	151	211	315	418	601
	437.9	3.2	25.7	45.3	64.9	79.6	151	212	314	418	600
	536.3	2.7	25.8	45.2	64.6	75.2	151	212	305	418	601
	656.8	2.2	25.7	45.2	65.0	95.1	151	212	305	417	601
	804.5	1.8	25.7	45.2	65.1	79.7	151	210	315	418	517
	985.3	1.5	25.7	45.1	64.4	75.2	151	211	305	418	522
1170	194.6	6.0	23.8	...	...	95.0	...	210	315	417	600
	238.4	5.0	25.7	45.3	64.8	95.0	150	211	314	418	599
	291.9	4.0	25.7	45.3	64.9	95.1	151	211	315	418	599
	357.5	3.2	25.7	45.2	64.9	95.2	151	212	315	418	600
	437.9	2.7	25.6	45.3	65.0	79.7	151	212	314	418	600
	536.3	2.2	25.7	45.3	64.6	75.3	151	211	303	418	599
	656.8	1.8	25.7	45.1	64.9	95.3	151	212	305	418	599
	804.5	1.5	25.7	45.4	64.7	79.5	151	210	315	418	514
	985.3	1.2	25.7	45.3	64.7	75.4	151	212	305	418	522
870	194.6	4.5	23.9	...	...	95.1	...	211	314	418	599
	238.4	3.8	25.6	45.3	64.9	95.1	151	212	316	417	600
	291.9	3.0	25.7	45.3	64.8	95.2	151	211	314	417	599
	357.5	2.5	25.6	45.2	64.9	95.1	151	212	314	418	601
	437.9	2.0	25.7	45.2	64.9	79.6	151	212	315	420	600
	536.3	1.6	25.7	45.2	64.5	75.1	151	212	305	419	601
	656.8	1.3	25.7	45.2	65.0	95.3	151	211	305	418	601
	804.5	1.1	25.7	45.2	64.9	79.5	151	210	315	418	516
	985.3	.90	25.7	45.2	64.6	75.2	151	211	305	418	522
720	194.6	3.8	24.0	...	...	95.1	...	211	316	419	601
	238.4	3.0	25.7	45.3	64.8	95.1	151	211	316	418	600
	291.9	2.5	25.8	45.4	65.0	95.1	151	212	315	417	600
	357.5	2.0	25.7	45.1	65.0	95.0	151	211	314	417	600
	437.9	1.6	25.7	45.2	64.8	79.8	151	212	315	417	599
	536.3	1.3	25.7	45.3	64.6	75.1	151	212	305	418	599
	656.8	1.1	25.7	45.2	65.1	95.0	151	212	305	418	602
	804.5	.90	25.7	45.3	64.9	79.8	151	210	315	418	516
	985.3	.75	25.7	45.3	64.6	75.3	151	212	305	418	522
580	194.6	3.0	23.8	...	...	95.0	...	210	314	419	601
	238.4	2.5	25.6	45.3	64.8	95.1	151	211	316	417	601
	291.9	2.0	25.7	45.4	64.8	95.0	151	211	316	416	601
	357.5	1.6	25.7	45.4	65.1	95.2	151	212	315	420	599
	437.9	1.3	25.7	45.2	65.1	79.6	151	212	315	418	598
	536.3	1.1	25.7	45.2	64.3	75.1	151	212	305	418	599
	656.8	.90	25.7	45.3	64.9	95.1	151	212	305	418	600
	804.5	.75	25.7	45.3	65.0	79.7	151	210	315	418	515
	985.3	.60	25.7	45.3	64.6	75.2	151	212	305	418	522

† (See footnote on Page 33.)

Thermal Horsepower

Thermal horsepower is the actual horsepower (without service factor) that a drive will transmit continually for three hours or more without overheating.

Thermal ratings need not be considered when the continuous operating period does not exceed three hours and the shutdown time equals or exceeds the running time. However, when the running time exceeds the shutdown time, selection must be made on a basis of adequate thermal rating.

The duty cycle factor considers an increase in the Basic Thermal Rating for gear drives that operate less than 100% of any one hour time period. If a drive operates for more than three hours and operates continuously for any given hour of the day, then the duty cycle must be considered 100%.

Checking the thermal horsepower is extremely important, for if the drive creates heat faster than it can be dissipated, severe damage may occur.

The application adjusted thermal capacity must be greater than the actual brake horsepower. Determine the Application Adjusted Thermal Capacity by multiplying the Basic Thermal Capacity, Pages 44 thru 46, by the appropriate environmental factors (Tables 1-5). Compare the actual power rating required (without service factor) with the application adjusted thermal rating. If the actual load exceeds the application adjusted thermal rating, Shaft Fans, Electric Fan, or Cooling Tubes may be added, an optional oil-to-water or oil-to-air heat exchanger may be used, or a larger drive may be selected. (**NOTE:** Sizes 2040 and 2050 are not available with shaft fan, electric fan or cooling tubes.)

Application Adjusted Thermal Rating

$P_{TA} = B_1 \times B_2 \times B_3 \times B_4 \times B_5 \times P_T$ where:

P_{TA} = Application Adjusted Thermal Rating

P_T = Basic Thermal Rating (Pages 44 thru 46)

B_1 = Ambient Air Temperature Factor, Table 8

B_2 = Altitude Factor, Table 9

B_3 = Ambient Air Velocity Factor, Table 10

B_4 = Inlet Water Temperature Factor, Table 11

B_5 = Duty Cycle Factor, Table 12

Thermal Rating Example

A ball mill with helical ring gear, has a 500 hp, 1750 rpm motor coupling connected to an UltraMax Size 2110FC2 drive with a ratio of 9.30:1. From the Service Factor Table on Page 9, the minimum service factor is 1.50. From Page 32 the mechanical horsepower rating is 750 hp. The actual service factor is

$$750 \div 500 = 1.50.$$

Check to see if the actual horsepower rating is greater than the application adjusted thermal rating under the following conditions:

Ambient Temperature = 120°F

Altitude = Sea Level

Installed Environment = Indoors (large room, air velocity undefined) Inlet Water Temperature = 100°F

Continuous Duty

First find P_{TA} with no auxiliary cooling ($P_{TA} = B_1 \times B_2 \times B_3 \times B_5 \times P_T$).

$$B_1 = .69 \text{ (Table 8)}$$

$$B_2 = 1.00 \text{ (Table 9)}$$

$$B_3 = 1.00 \text{ (Table 10)}$$

$$B_5 = 1.00 \text{ (Table 12)}$$

$$P_T = 179 \text{ (Page 45)}$$

$$P_{TA} = .69 \times 1.00 \times 1.00 \times 1.00 \times 179 = 124 \text{ thermal hp.}$$

This drive will require cooling because 124 thermal hp is less than the motor horsepower of 500. First try a shaft fan as shown below.

$$P_{TA} \text{ with Shaft Fan} = B_1 \times B_2 \times B_5 \times P_T$$

$$B_1 = .69 \text{ (Table 8)}$$

$$B_2 = 1.00 \text{ (Table 9)}$$

$$B_5 = 1.00 \text{ (Table 12)}$$

$$P_T = 672 \text{ (Page 45)}$$

$$P_{TA} = .69 \times 1.00 \times 1.00 \times 672 = 464 \text{ thermal hp which is still less than 500. Next try an electric fan.}$$

$$P_{TA} \text{ with an Electric Fan} = B_1 \times B_2 \times B_5 \times P_T$$

$$B_1 = .69 \text{ (Table 8)}$$

$$B_2 = 1.00 \text{ (Table 9)}$$

$$B_5 = 1.00 \text{ (Table 12)}$$

$$P_T = 795 \text{ (Page 45)}$$

$$P_{TA} = .69 \times 1.00 \times 1.00 \times 795 = 549 \text{ thermal hp which is acceptable.}$$

Cooling Tubes are also acceptable.

$$P_{TA} \text{ with Cooling Tubes} = B_1 \times B_4 \times B_5 \times P_T$$

$$B_1 = .91 \text{ (Table 8)}$$

$$B_4 = .83 \text{ (Table 11)}$$

$$B_5 = 1.00 \text{ (Table 12)}$$

$$P_T = 1520 \text{ (Page 45)}$$

$$P_{TA} = .91 \times .83 \times 1.00 \times 1520 = 1150 \text{ thermal hp.}$$

Table 8 — Ambient Temperature Factor – B₁
(For all cooling methods.)

Ambient Temperature ★	Factor with or without Shaft or Electric Fan	Factor with Cooling Tubes
50°F	1.19	1.06
60°F	1.13	1.04
70°F	1.07	1.02
80°F	1.00	1.00
90°F	.93	.98
100°F	.85	.96
110°F	.78	.94
120°F	.69	.91

Table 9 — Altitude Factor – B₂
(For air cooling only.)

Altitude — ft. Sea Level = 0	Factor with or without Auxiliary Cooling
0 to 2,500	1.00
2,500	.95
5,000	.90
7,500	.85
10,000	.81
12,500	.76
15,000	.72

Table 10 — Ambient Air Velocity Factor – B₃
(For no auxiliary cooling only.)

Sustained Ambient Air Velocity† – fpm	Installed Environment	Factor Without Shaft or Electric Fan or Cooling Tubes
Less than 100 fpm (1 mph)	Small Confined Space	.75
Between 100 fpm & 275 fpm (1 to 3 mph)	Large Indoor Room	1.00
Between 275 fpm & 725 fpm (3 to 8 mph)	Large Indoor Room	1.40
Greater than 725 fpm (8 mph)	Outdoors	1.90

† The sustained ambient air velocity must be a continuous flow of air directly onto the gear drive. If the air flow cannot be counted on to be continuous, an ambient air velocity factor of 1.00 must be used.

Table 11 — Inlet Water Temperature Factor – B₄
(For water cooling only.)

Inlet Water Temperature	Factor with Cooling Tubes Only
50°F	1.11
60°F	1.05
70°F	1.00
80°F	.94
90°F	.88
100°F	.83

Table 12 — Duty Cycle Factor‡ – B₅
(For all cooling methods.)

% Operating Time Per Hour	Factor With or Without Auxiliary Cooling
100%	1.00
80%	1.05
60%	1.15
40%	1.35
20%	1.80

‡ The duty cycle factor must be based on the percentage of each hour that the drive is operating. For example: a gear drive operating for 48 minutes and resting for 12 minutes every hour of the day has an 80% duty cycle, but a drive operating for four hours and resting for four hours has a 100% duty cycle. Where % run time per hour falls between values shown above, use next higher % run time.

Basic Thermal Ratings ★/Double Reduction

Nominal Ratios	High Speed Shaft rpm	Auxiliary Cooling	DRIVE SIZE					
			2040	2050	2060	2070	2080	2090
1.50 thru 2.49	3500	None Shaft Fan Electric Fan Cooling Tubes						
	2900	None Shaft Fan Electric Fan Cooling Tubes						
	2400	None Shaft Fan Electric Fan Cooling Tubes						
	1750	None Shaft Fan Electric Fan Cooling Tubes	60.5	65.5	79.3 153 245 580	92.1 178 288 651	118 237 361 740	176 560 664 1190
	1430	None Shaft Fan Electric Fan Cooling Tubes	64.3	72.5	84.8 146 243 539	100 170 286 610	127 224 358 696	196 523 676 1140
	1170	None Shaft Fan Electric Fan Cooling Tubes	67.0	77.8	88.4 138 239 497	104 161 281 566	131 211 351 648	212 485 677 1080
	870	None Shaft Fan Electric Fan Cooling Tubes	67.9	83.5	88.2 125 229 445	104 146 269 497	130 189 334 571	220 426 655 970
	720	None Shaft Fan Electric Fan Cooling Tubes	67.2	84.7	60.5 89.9 195 458	101 136 260 501	127 176 322 549	224 394 641 901
	580	None Shaft Fan Electric Fan Cooling Tubes	65.6	84.4	65.8 91.0 195 423	75.8 105 228 475	89.0 129 277 533	226 363 621 823
2.76 thru 4.57	3500	None Shaft Fan Electric Fan Cooling Tubes						
	2900	None Shaft Fan Electric Fan Cooling Tubes						
	2400	None Shaft Fan Electric Fan Cooling Tubes						
	1750	None Shaft Fan Electric Fan Cooling Tubes	58.2	66.4	80.3 147 229 461	92.5 171 273 537	117 228 343 623	178 512 598 920
	1430	None Shaft Fan Electric Fan Cooling Tubes	59.0	71.6	83.4 138 225 420	97.5 162 269 494	123 214 338 574	194 467 593 860
	1170	None Shaft Fan Electric Fan Cooling Tubes	58.8	74.1	84.5 129 219 418	99.8 152 263 450	126 200 330 526	201 426 582 796
	870	None Shaft Fan Electric Fan Cooling Tubes	57.1	74.6	57.6 91.4 185 416	65.5 104 217 470	76.2 126 260 532	151 368 555 698
	720	None Shaft Fan Electric Fan Cooling Tubes	55.5	73.6	63.0 91.0 185 385	72.1 104 218 438	83.8 126 264 501	167 338 538 703
	580	None Shaft Fan Electric Fan Cooling Tubes	53.5	71.7	66.5 88.9 181 348	76.6 103 215 400	89.8 127 263 461	178 236 450 686

★ Basic thermal ratings listed are for an ambient temperature of 80°F (27°C), from sea level to 2500 ft. Application adjusted thermal ratings must be calculated using the application correction factors on Page 43 before comparing to the required load. For cooling beyond the range of cooling tubes, refer to Falk for the selection of oil-to-water or oil-to-air heat exchangers. Thermal ratings with cooling tubes are based on a maximum water inlet temperature of 70°F (21°C) with a 2 gpm flow rate.

☐ External cooling required for selections in shaded areas; refer to Falk.

Basic Thermal Ratings ★/Double Reduction

Nominal Ratios	High Speed Shaft rpm	Auxiliary Cooling	DRIVE SIZE									
			2040	2050	2060	2070	2080	2090	2100	2110	2120	2130
5.06 thru 11.39	3500	None	21.7	...								
		Shaft Fan	...	...								
		Electric Fan	...	...								
		Cooling Tubes	...	...								
	2900	None	34.1	19.7								
		Shaft Fan	...	...								
		Electric Fan	...	...								
		Cooling Tubes	...	...								
	2400	None	36.4	34.6								
		Shaft Fan	...	...								
		Electric Fan	...	...								
		Cooling Tubes	...	...								
	1750	None	40.4	50.0	57.7	72.0	87.9	122	151	179	211	205
		Shaft Fan	...	...	108	133	170	362	507	672	914	967
		Electric Fan	...	...	170	212	255	424	600	795	1090	1240
		Cooling Tubes	...	...	321	384	426	1010	1290	1520	2410	2290
	1430	None	42.0	51.8	61.1	75.9	92.3	132	166	198	242	253
		Shaft Fan	...	...	102	126	159	332	467	620	854	912
		Electric Fan	...	...	167	210	251	423	603	806	1130	1310
		Cooling Tubes	...	...	291	351	390	928	1190	1420	2280	2860
	1170	None	42.5	54.6	62.4	77.4	93.8	141	179	216	268	281
		Shaft Fan	...	...	95.7	119	149	303	428	569	790	859
		Electric Fan	...	...	162	205	245	415	596	801	1130	1330
		Cooling Tubes	...	...	268	318	355	845	1100	1320	2130	2690
	870	None	41.7	55.9	61.9	77.6	93.3	145	190	235	300	317
		Shaft Fan	...	...	86.4	108	134	265	374	498	697	771
		Electric Fan	...	...	154	195	233	398	575	777	1110	1320
		Cooling Tubes	...	...	282	316	347	726	953	1160	1890	2420
	720	None	40.6	55.4	44.3	53.4	91.6	144	192	240	314	338
		Shaft Fan	...	...	64.2	77.2	125	243	343	456	641	715
		Electric Fan	...	...	133	164	224	384	557	754	1090	1290
		Cooling Tubes	...	...	288	339	354	654	864	1060	1740	2240
	580	None	39.1	54.1	46.9	57.0	65.6	141	189	240	320	352
		Shaft Fan	...	...	63.5	76.9	92.5	220	311	413	582	653
		Electric Fan	...	...	131	163	191	367	534	725	1050	1250
		Cooling Tubes	...	...	261	310	340	731	790	948	1560	2020
13.95 thru 31.39	3500	None	31.6	35.5	...	...	...	...				
		Shaft Fan	...	...	...	...	...	...				
		Electric Fan	...	...	131	167	204	325				
		Cooling Tubes	...	...	230	286	325	746				
	2900	None	33.2	39.0	...	...	...	...				
		Shaft Fan	...	...	...	...	...	...				
		Electric Fan	...	...	131	170	207	332				
		Cooling Tubes	...	...	211	265	302	691				
	2400	None	33.8	42.2	...	...	...	...				
		Shaft Fan	...	...	...	...	...	...				
		Electric Fan	...	...	130	170	206	333				
		Cooling Tubes	...	...	192	243	278	633				
	1750	None	33.4	44.3	50.0	61.8	75.6	61.5	65.3	175	213	221
		Shaft Fan	...	...	82.8	107	136	281	403	543	763	862
		Electric Fan	...	...	125	164	199	324	467	628	884	1060
		Cooling Tubes	...	...	225	267	265	538	707	855	1410	1820
	1430	None	32.6	44.3	33.3	38.3	75.9	71.7	82.4	90.5	75.8	253
		Shaft Fan	...	...	61.0	73.4	125	252	361	485	683	777
		Electric Fan	...	...	107	136	192	315	456	613	870	1050
		Cooling Tubes	...	...	231	284	281	481	636	776	1280	1670
	1170	None	31.6	43.5	35.8	42.5	48.3	81.6	94.9	107	112	85.3
		Shaft Fan	...	...	59.4	73.3	90.3	226	323	434	612	699
		Electric Fan	...	...	106	137	162	304	441	595	848	1020
		Cooling Tubes	...	...	212	263	293	521	673	699	1160	1520
	870	None	29.8	41.7	37.6	46.6	54.0	96.0	114	130	144	146
		Shaft Fan	...	...	55.0	69.2	84.7	150	193	246	521	596
		Electric Fan	...	...	103	134	159	246	339	446	808	977
		Cooling Tubes	...	...	170	215	242	539	685	799	1130	1280
	720	None	28.6	40.3	38.3	48.6	57.0	102	124	148	167	166
		Shaft Fan	...	...	52.5	67.0	82.0	144	190	243	295	542
		Electric Fan	...	...	99.6	131	156	246	346	459	607	943
		Cooling Tubes	...	...	154	195	221	493	636	751	1200	1370
	580	None	27.2	38.5	38.2	49.2	58.3	105	134	162	187	191
		Shaft Fan	...	...	49.5	63.9	78.1	137	184	236	292	299
		Electric Fan	...	...	95.7	126	151	241	344	459	626	718
		Cooling Tubes	...	...	136	174	198	442	577	689	1120	1400

★ See footnotes on Page 44.

Basic Thermal Ratings ★/Triple & Quadruple Reduction

Nominal Ratios	High Speed Shaft rpm	Auxiliary Cooling	DRIVE SIZE									
			2040	2050	2060	2070	2080	2090	2100	2110	2120	2130
TRIPLE REDUCTION												
38.44 thru 86.50	1750	None	20.1	29.2	31.8	41.5	55.0	80.0	120	135	161	176
		Shaft Fan	...	...	...	...	...	...	206	252	358	409
		Electric Fan	...	...	79.1	105	130	187	298	400	551	680
		Cooling Tubes	...	...	163	208	237	452	650	760	1160	1460
	1430	None	19.1	27.9	31.1	41.1	50.7	75.0	110	130	163	184
		Shaft Fan	...	...	...	...	...	...	187	229	324	372
		Electric Fan	...	...	75.7	101	125	180	288	385	532	658
		Cooling Tubes	...	...	147	189	217	412	598	702	1080	1360
	1170	None	18.1	26.5	30.1	40.1	49.6	70.0	100	125	161	187
		Shaft Fan	...	...	...	...	...	...	169	208	293	338
		Electric Fan	...	...	72.2	97.5	120	172	276	369	511	632
		Cooling Tubes	...	...	132	171	197	374	547	644	993	1260
870	None	16.7	24.6	28.5	38.2	47.3	63.4	94.6	120	157	183	
	Shaft Fan	...	...	...	...	...	...	147	181	254	294	
	Electric Fan	...	...	67.1	90.8	112	160	258	344	477	590	
	Cooling Tubes	...	...	112	146	169	321	474	562	872	1110	
720	None	15.9	23.4	27.3	36.7	45.6	61.0	91.6	116	152	179	
	Shaft Fan	...	...	...	...	...	...	134	166	232	269	
	Electric Fan	...	...	63.8	86.6	107	152	246	328	455	563	
	Cooling Tubes	...	...	100	131	152	289	430	512	797	1020	
580	None	14.9	22.1	25.9	35.0	43.4	58.1	87.6	111	146	172	
	Shaft Fan	...	...	...	...	...	...	122	151	209	244	
	Electric Fan	...	...	60.2	81.8	101	144	233	310	431	532	
	Cooling Tubes	...	...	88.1	116	134	255	382	457	715	918	
105.9 thru 194.6	1750	None	13.0	18.4	23.5	31.4	35.8	50.0	74.7	100	130	157
		Shaft Fan	...	...	...	...	...	...	146	189	266	321
		Electric Fan	...	...	56.1	75.8	86.3	130	207	290	396	514
		Cooling Tubes	...	...	90.2	118	123	272	384	460	705	969
	1430	None	12.3	17.5	22.6	30.3	34.6	48.6	72.6	97.1	126	153
		Shaft Fan	...	...	...	...	...	...	131	169	236	286
		Electric Fan	...	...	53.3	72.1	82.2	123	198	276	377	490
		Cooling Tubes	...	...	79.9	105	110	244	346	415	639	884
	1170	None	11.7	16.6	21.6	29.0	33.2	46.7	70.0	93.3	121	149
		Shaft Fan	...	...	...	...	...	...	117	151	211	256
		Electric Fan	...	...	50.5	68.5	78.0	117	188	262	358	465
		Cooling Tubes	...	...	70.6	93.9	98.6	218	310	373	576	803
870	None	10.7	15.3	20.1	27.1	31.0	43.8	65.7	87.3	113	140	
	Shaft Fan	...	...	...	...	...	...	100	130	179	219	
	Electric Fan	...	...	46.5	63.2	72.0	108	174	242	330	430	
	Cooling Tubes	...	...	58.4	78.4	82.5	183	262	315	490	689	
720	None	10.2	14.6	19.1	25.9	29.6	41.8	62.8	83.3	108	134	
	Shaft Fan	...	...	...	...	...	...	91.1	118	162	199	
	Electric Fan	...	...	44.1	60.0	68.3	103	165	229	313	408	
	Cooling Tubes	...	...	51.7	69.6	73.5	163	234	282	439	622	
580	None	9.5	13.7	18.0	24.4	27.9	39.5	59.5	78.7	102	127	
	Shaft Fan	...	...	...	...	...	...	82.0	106	145	179	
	Electric Fan	...	...	41.4	56.5	64.3	97.0	155	216	294	384	
	Cooling Tubes	...	...	44.9	60.7	68.0	142	204	247	385	549	
QUADRUPLE REDUCTION												
238.4 thru 985.3	580 thru 1750	None	...	16.1	18.6	23.5	29.6	38.8	48.5	58.9	72.6	85.7

★ See footnote on Page 44.

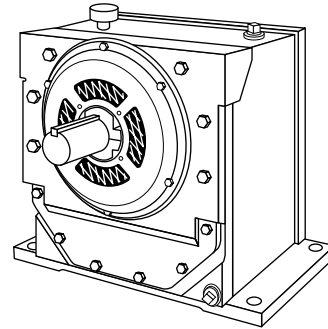
Cooling for UltraMax Drives

As noted on Page 6, the application adjusted thermal capacity is the actual horsepower (without Service Factor) that a drive will transmit continually for three hours or more without overheating. If a drive creates heat faster than it can be dissipated, severe damage may occur.

Shaft Driven Cooling Fans

Falk cooling fans provide a simple and inexpensive way to utilize the mechanical rating of UltraMax gear drives by lowering operating temperatures, thus increasing thermal horsepower capacity. Cooling fans have been successfully used on electric motors and other related machinery for many years. They eliminate the need for water or oil cooling, pumps and external piping. The sound level at 1750 rpm is about the same as that from fans on totally enclosed, fan cooled driving motors. Less than one quarter of one percent cataloged horsepower rating is required to drive the fans. For dimensions, refer to Page 60.

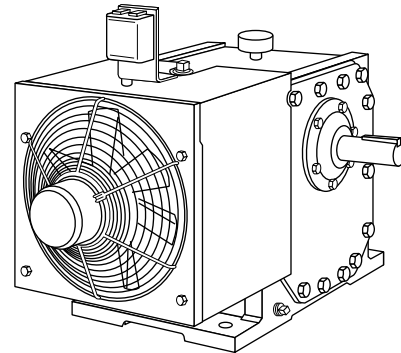
Shaft Driven Cooling Fan



Electric Cooling Fans

Electric fans achieve thermal capacities up to twice that of shaft driven fans and can be thermostatically controlled to shut off when not required. Electric fans can be mounted on either side of the drive permitting full use of usable shaft extension. For dimensions, refer to Page 70.

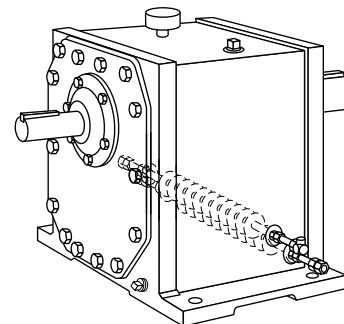
Electric Cooling Fan



Cooling Tubes

Falk cooling tubes are an economical alternative for thermal requirements beyond the range of fans. A series of straight, finned tubes are provided directly in the sump of the drive. Water is circulated through these tubes to cool the oil. Since there are no joints or connections inside the drive, leakage of water into the drive is eliminated. For dimensions, refer to Page 71.

Cooling Tubes



External Pumps & Coolers

Type PC external pump and cooler assemblies provide cooling capacity beyond the range of fans and cooling tubes, and will allow the drive to run at full mechanical rating. Packages are available for all UltraMax sizes. For selection, price and delivery, provide full application details to your local Falk district office.

Overhung Loads

High & Low Speed Shaft

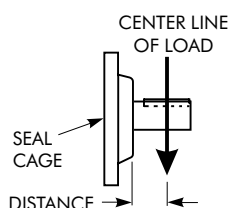
The overhung load and thrust ratings published in this selection guide are based on a combination of the most unfavorable conditions or rotation, speed, direction of applied load and drive loading. If the calculated load exceeds the published value, or if an overhung load and thrust load are applied simultaneously to a shaft, consult Factory and provide complete application information (hp, rpm, driven machine, hours of operation per day, direction of rotation, direction and location of applied loads).

Overhung Loads — Overhung load is imposed upon a shaft when a pinion, sprocket or sheave is used as a power take-off. The magnitude of the load varies with the type of take-off and its proximity to the shaft bearing. Calculate the load (including minimum required service factor) and check the result against the tabulated overhung load rating.

Overhung Load Formula:

The overhung load formula below considers the transmitted horsepower without service factor. This is appropriate for applications where starting loads, momentary overloads and brake capacities do not exceed 200% of drive rating (100% overload). For other conditions, compute an equivalent power by multiplying the transmitted horsepower by the appropriate service factor.

$$\text{Overhung Load} = \frac{126,000 \times \text{hp} \times F_c \times L_f}{\text{Pitch Dia} \times \text{rpm}}$$



F_c = Load Connection Factor.

Sprocket ★	1.00
Machined Pinion & Gear ★	1.25
Synchronous (Timing) Belts	1.30
V-Belt	1.50
Flat Belt	2.50

L_f = Load Location Factor *

L.S.S. — See table on Page 49.

H.S.S. — See instructions at right.

- ★ Refer all multiple chain sprocket and pinion mounted applications to the Factory for deflection analysis.
- * Load Location Factors for drives with fan or external backstop, refer to Selection Guide 311-112.

Locate the center of the load as close to the drive seal cage as practical to minimize the overhung load and increase bearing life.

Consult Factory for Higher Overhung Load Ratings — In many cases, overhung load capacity in excess of that published is available. Published ratings are based on a combination of the most unfavorable conditions of rotation, speed, direction of applied load, and drive loading. If the actual load should exceed the published capacity, refer full details to the Factory; provide complete application information (see page 14), as well as direction of rotation, location and direction of applied load.

Low Speed Shaft

Calculate low speed shaft overhung load using the formula and F_c values at left. The L_f load location factors tabulated on Page 49 are based on the distance from the center line of the load to the drive seal cage.

Low Speed Shaft Overhung Load Example — An UltraMax size 2070FC2 drive is used to drive a uniformly loaded chain conveyor. The drive is driven by a 50 hp, 1750 rpm, electric motor coupling connected to the high speed shaft. The low speed shaft is rotating at 85.2 rpm and is chain connected to the conveyor shaft. The drive mounted sprocket has a pitch diameter of 12.85 inches, and the center line of the teeth is located 3.00 inches out from the low speed seal cage.

$$\text{Overhung Load} = \frac{126,000 \times (50 \times 1.00) \times .98}{12.85 \times 85.2} = 5639 \text{ lbs.}$$

Since the allowable overhung load of the 2070 is 8,500 lbs., this application is acceptable.

Thrust Loads — Refer to Page 55 for low speed shaft thrust capacities. Thrust capacities are for pure thrust loads. If thrust and overhung loads are applied simultaneously, or if loads exceed these capacities, consult Factory.

High Speed Shaft

High speed shaft overhung load ratings published on Pages 51 thru 54 are for normal conditions where the center line of the load is one shaft diameter from the seal cage (or external backstop), and for speeds of 1170 rpm or lower. Where the center line of the load is one shaft diameter or closer, calculate the high speed shaft overhung load using $L_f = 1$ in the formula at left. Check the result against the rating on Pages 51 thru 54. Higher overhung load capacities are available when the full drive torque rating is not utilized. Refer to the Factory for higher ratings for these conditions or if the calculated load (using $L_f = 1$) exceeds the published value or if the load is applied at a distance greater than one shaft diameter from the high speed shaft seal cage or external backstop. High speed shaft load location factors are available in selection guide 311-312.

High Speed Shaft Overhung Load Example — A 15 hp, 1750 rpm motor with a 4 inch pitch diameter sheave is V-belt connected to an UltraMax size 2060FC2 drive which has a nominal ratio of 31.39:1. A 12 inch pitch diameter sheave is mounted on the drive high speed shaft 1.50 inches (less than one shaft diameter) from the seal cage. Calculate the high speed shaft rpm and overhung load as follows:

$$\text{Drive high speed shaft rpm} = \frac{4}{12} \times 1750 = 583 \text{ rpm}$$

Using the overhung load formula,

$$\text{Overhung Load} = \frac{126,000 \times 15 \times 1.50 \times 1.00}{12 \times 583} = 405 \text{ lbs.}$$

From the table on Page 51, in the 580 high speed shaft rpm section, the overhung load capacity for a 2060FC2 drive with a 31.39:1 ratio is 600 lbs. The actual load is less than the published capacity and is therefore acceptable.

Double, Triple & Quadruple Reduction

LSS L_f Load Location Factors *

Based on distance from center line of load to reducer seal cage

DISTANCE Inches	DRIVE SIZE										DISTANCE Inches
	2040	2050	2060	2070	2080	2090	2100	2110	2120	2130	
1	.85	.82	.82	.79	.80	.78	.77	.75	.76	.74	1
1½	.92	.88	.87	.84	.84	.82	.80	.79	.78	.76	1½
1¾	.96	.91	.90	.86	.86	.83	.82	.80	.80	.77	1¾
2	1.00	.94	.92	.89	.88	.85	.83	.82	.81	.79	2
2½	1.13	1.00	.97	.93	.92	.89	.87	.85	.84	.81	2½
2¾	1.20	1.06	1.00	.95	.94	.91	.88	.86	.85	.83	2¾
3	1.26	1.11	1.05	.98	.96	.93	.90	.88	.86	.84	3
3¼	1.33	1.17	1.10	1.00	.98	.94	.92	.89	.88	.85	3¼
3½	1.39	1.23	1.15	1.04	1.00	.96	.93	.91	.89	.87	3½
4	1.53	1.34	1.24	1.13	1.08	1.00	.97	.94	.92	.89	4
4½	...	1.45	1.34	1.22	1.16	1.07	1.00	.97	.95	.92	4½
4¾	...	1.51	1.39	1.26	1.20	1.10	1.03	.98	.96	.93	4¾
5	...	1.57	1.44	1.30	1.24	1.14	1.06	1.00	.97	.95	5
5¼	...	...	1.48	1.34	1.28	1.17	1.10	1.03	.99	.96	5¼
5½	...	...	1.53	1.39	1.32	1.21	1.13	1.06	1.00	.97	5½
5¾	...	...	...	1.43	1.36	1.24	1.16	1.09	1.03	.99	5¾
6	...	...	...	1.47	1.40	1.28	1.19	1.12	1.06	1.00	6
6½	...	...	...	1.56	1.48	1.35	1.25	1.18	1.11	1.05	6½
7	...	...	...	...	1.56	1.42	1.32	1.24	1.17	1.11	7
7½	...	...	...	...	...	1.49	1.38	1.30	1.22	1.16	7½
8	...	...	...	...	...	1.56	1.45	1.36	1.28	1.21	8
8½	...	...	...	...	...	...	1.51	1.42	1.33	1.26	8½
9	...	...	...	...	...	...	1.57	1.48	1.39	1.32	9
9½	...	...	...	...	...	...	...	1.54	1.45	1.37	9½
10	...	...	...	...	...	...	...	...	1.50	1.42	10
10½	...	...	...	...	...	...	...	...	1.56	1.47	10½
11	...	...	...	...	...	...	...	...	...	1.53	11
11½	...	...	...	...	...	...	...	...	...	1.58	11½

* Interpolate for intermediate values. For example L_f is 1.12 for Size 2080 when the distance is 4¾ inches.

Double Reduction — Ratios 1.50 through 4.57

LSS Overhung Load Ratings ▲/Pounds

Multiply values listed below by 1000. . .Consult Factory for higher overhung load ratings

Approx. L.S. Shaft rpm	DRIVE SIZE			
	2040	2050	2060	2070
2340	1.65	2.04	3.61	4.16
1900	1.74	1.86	3.78	4.32
1720	1.82	2.17	3.92	4.40
1560	1.82	1.96	4.01	4.41
1400	1.92	2.29	4.15	4.47
1280	1.92	2.08	4.21	4.61
1150	2.03	2.42	4.36	4.67
1040	2.04	2.45	4.42	4.81
940	2.15	2.32	4.58	4.87
840	2.20	2.66	4.67	5.12
760	2.29	2.53	4.84	5.19
640	2.38	2.58	5.02	5.59
520	2.53	2.73	5.45	6.28
420	2.65	3.14	5.75	6.69
350	2.92	3.60	6.15	7.11
280‡	3.10	3.70	6.50	7.70

Double, Triple & Quadruple Reduction— Ratios 5.06 through 985.3

LSS Overhung Load Ratings ▲/Pounds

Multiply values listed below by 1000. . .Consult Factory for higher overhung load ratings

Approx. L.S. Shaft rpm	DRIVE SIZE									
	2040	2050	2060	2070	2080	2090	2100	2110	2120	2130
700	1.83	2.53	4.40	5.41	3.93	7.01	8.01	4.63	8.40	11.6
560	1.93	2.68	4.66	5.42	3.95	7.20	8.48	4.90	8.70	12.1
460	2.04	2.83	4.78	5.63	3.90	7.61	8.98	5.18	8.93	12.5
380	2.16	2.99	4.98	5.93	4.13	8.07	9.62	5.71	9.37	13.1
350	2.26	3.12	5.11	6.06	4.72	8.62	9.87	5.70	9.62	14.3
310	2.28	3.17	5.24	6.19	4.37	8.87	10.2	6.24	9.91	13.9
280	2.38	3.30	5.77	6.67	5.15	8.87	10.5	6.06	10.7	14.9
230	2.51	3.50	5.88	6.98	4.80	9.42	11.1	6.65	11.0	15.4
190	2.67	3.70	6.14	7.57	5.46	10.3	11.9	7.13	11.5	16.1
155	2.84	4.02	6.50	8.21	6.35	11.0	12.6	8.04	12.2	17.1
125	3.03	4.37	6.50	8.50	7.48	11.9	13.4	9.06	13.0	18.2
100	3.29	4.74	6.50	8.50	8.90	13.8	14.6	13.4	14.3	19.8
84	3.40	5.12	6.50	8.50	10.2	14.0	15.5	12.4	16.1	22.0
68	3.40	5.25	6.50	8.50	11.0	14.0	16.9	14.5	17.5	22.5
56	3.40	5.25	6.50	8.50	11.0	14.0	17.0	16.8	19.0	22.5
45	3.40	5.25	6.50	8.50	11.0	14.0	17.0	18.5	19.0	22.5
37	3.40	5.25	6.50	8.50	11.0	14.0	17.0	18.5	19.0	22.5
28 ‡	3.40	5.25	6.50	8.50	11.0	14.0	17.0	18.5	19.0	22.5

▲ Published values of overhung load are for loads applied one shaft diameter from the seal cage with a service factor of unity. Where overhung load is proportional to torque (i.e. pinion, sprocket, or sheave applications) an appropriate service factor should be considered in the overhung load calculation.

‡ The last overhung load value in each drive size column applies to all lower output speeds for that drive. Published ratings are based on a combination of the most unfavorable conditions of loading. For higher ratings, refer full data to **Falk**.

Double Reduction

HSS Overhung Load Ratings ★/Pounds

Consult Factory for higher overhung load ratings

High Speed Shaft rpm ‡	Nominal Ratios	Approx. L.S. Shaft rpm	DRIVE SIZE									
			WITH OR WITHOUT BACKSTOP						WITHOUT BACKSTOP			
			2040	2050	2060	2070	2080	2090	2100	2110	2120	2130
1170	5.06	230	10	250	0	570	10	220	1290			
	6.20	190	0	220	0	660	20	290	1400			
	7.59	155	30	440	10	800	620	380	1400			
	9.30	125	50	500	290	800	440	550	1400	1430		
	11.39	100	100	300	540	800	1050	1250	1400	1500	1300	1370
	13.95	84	190	410	600	800	1050	1250	1400	1500	1500	1750
	17.09	68	350	490	600	800	1050	1250	1400	1500	1500	1750
	20.93	56	400	500	600	800	1050	1250	1400	1500	1500	1750
	25.63	45	110	500	600	800	1050	1250	1400	1500	1500	1390
	31.39	37	160	500	600	800	1050	1250	1400	1500	1500	1750
870	5.06	175	150	500	0	800	580	1070	1400			
	6.20	140	130	500	0	800	690	1080	1400			
	7.59	115	90	500	340	800	1050	1040	1400			
	9.30	95	40	500	600	800	1050	1210	1400	1500		
	11.39	77	100	300	600	800	1050	1250	1400	1500	1500	1750
	13.95	62	190	400	600	800	1050	1250	1400	1500	1500	1750
	17.09	50	400	480	600	800	1050	1250	1400	1500	1500	1750
	20.93	42	400	500	600	800	1050	1250	1400	1500	1500	1750
	25.63	34	280	500	600	800	1050	1250	1400	1500	1500	1750
	31.39	28	330	500	600	800	1050	1250	1400	1500	1500	1750
720	5.06	140	240	500	0	800	1050	1250	1400			
	6.20	115	230	500	0	800	1050	1250	1400			
	7.59	95	200	500	580	800	1050	1250	1400			
	9.30	77	30	500	600	800	1050	1250	1400	1500		
	11.39	62	90	290	600	800	1050	1250	1400	1500	1500	1750
	13.95	50	180	400	600	800	1050	1250	1400	1500	1500	1750
	17.09	42	400	480	600	800	1050	1250	1400	1500	1500	1750
	20.93	34	400	500	600	800	1050	1250	1400	1500	1500	1750
	25.63	28	390	500	600	800	1050	1250	1400	1500	1500	1750
	31.39	22	400	500	600	800	1050	1250	1400	1500	1500	1750
580	5.06	115	350	500	110	800	1050	1250	1400			
	6.20	95	340	500	190	800	1050	1250	1400			
	7.59	77	330	500	600	800	1050	1250	1400			
	9.30	62	20	500	600	800	1050	1250	1400	1500		
	11.39	50	90	290	600	800	1050	1250	1400	1500	1500	1750
	13.95	42	180	400	600	800	1050	1250	1400	1500	1500	1750
	17.09	34	400	480	600	800	1050	1250	1400	1500	1500	1750
	20.93	28	400	500	600	800	1050	1250	1400	1500	1500	1750
	25.63	22	400	500	600	800	1050	1250	1400	1500	1500	1750
	31.39	18	400	500	600	800	1050	1250	1400	1500	1500	1750

★ Published values of overhung load are for loads applied one shaft diameter from the seal cage with a service factor of unity. Where overhung load is proportional to torque (i.e. pinion, sprocket, or sheave applications) an appropriate service factor should be considered in the overhung load calculation.

‡ For input speeds higher than 1170 rpm, refer to Selection Guide 311-112.

■ For high speed shaft overhung load for Type FC drives with backstop, refer to Table on Page 54.

Triple Reduction

HSS Overhung Load Ratings★/Pounds

Consult Factory for higher overhung load ratings

High Speed Shaft rpm ‡	Nominal Ratios	Approx. L.S. Shaft rpm	DRIVE SIZE									
			WITH OR WITHOUT BACKSTOP						WITHOUT BACKSTOP			
			2040	2050	2060	2070	2080	2090	2100	2110	2120	2130
1170	38.44	30	270	300	400	270	580	280	700	800	900	800
	47.08	25	270	300	400	530	580	620	700	800	900	810
	57.66	20	270	300	400	460	580	620	700	800	900	1000
	70.62	16.5	270	300	400	530	580	620	700	800	900	1000
	86.50	13.5	270	300	400	530	580	620	700	800	900	1000
	105.9	11.0	270	300	400	530	580	620	700	800	900	1000
	129.7	9.0	270	300	350	400	580	620	700	800	900	1000
	158.9	7.5	270	300	210	360	580	620	700	800	900	1000
	194.6	6.0	...	...	260	450	...	620	...	...	...	...
870	38.44	22	270	300	400	460	580	620	700	800	900	790
	47.08	18	270	300	400	530	580	620	700	800	900	790
	57.66	15	270	300	400	460	580	620	700	800	900	1000
	70.62	12.5	270	300	400	520	580	620	700	800	900	1000
	86.50	10.0	270	300	400	530	580	620	700	800	900	1000
	105.9	8.3	270	300	400	530	580	620	700	800	900	1000
	129.7	6.8	270	300	400	530	580	620	700	800	900	1000
	158.9	5.5	270	300	200	360	580	620	700	800	900	1000
	194.6	4.5	...	...	260	450	...	620	...	...	...	...
720	38.44	18	270	300	400	530	580	620	700	800	900	800
	47.08	15	270	300	400	530	580	620	700	800	900	800
	57.66	12.5	270	300	400	460	580	620	700	800	900	1000
	70.62	10.0	270	300	400	530	580	620	700	800	900	1000
	86.50	8.3	270	300	400	530	580	620	700	800	900	1000
	105.9	6.8	270	300	400	530	580	620	700	800	900	1000
	129.7	5.5	270	300	400	530	580	620	700	800	900	1000
	158.9	4.5	270	300	210	360	580	620	700	800	900	1000
	194.6	3.8	...	...	260	450	...	620	...	...	...	...
580	38.44	15.0	270	300	400	530	580	620	700	800	900	780
	47.08	12.5	270	300	400	530	580	620	700	800	900	780
	57.66	10.0	270	300	400	470	580	620	700	800	900	1000
	70.62	8.3	270	300	400	530	580	620	700	800	900	1000
	86.50	6.8	270	300	400	530	580	620	700	800	900	1000
	105.9	5.5	270	300	400	530	580	620	700	800	900	1000
	129.7	4.5	270	300	400	530	580	620	700	800	900	1000
	158.9	3.8	270	300	200	360	580	620	700	800	900	1000
	194.6	3.0	...	...	260	450	...	620	...	...	...	...

(See footnotes on Page 51.)

Quadruple Reduction

HSS Overhung Load Ratings ★/Pounds

Consult Factory for higher overhung load ratings

High Speed Shaft rpm ‡	Nominal Ratios	Approx. L.S. Shaft rpm	DRIVE SIZE								
			WITH OR WITHOUT BACKSTOP					WITHOUT BACKSTOP			
			2050	2060	2070	2080	2090	2100	2110	2120	2130
1170	194.6	6.0	150	...	...	230	...	470	590	650	340
	238.4	5.0	150	150	140	230	240	520	150	650	300
	291.9	4.0	150	150	160	230	410	520	240	650	530
	357.5	3.2	150	150	170	230	440	520	300	650	690
	437.9	2.7	150	150	170	230	440	520	590	650	700
	536.3	2.2	150	150	170	230	440	520	590	650	700
	656.8	1.8	150	150	170	230	440	520	590	650	700
	804.5	1.5	150	150	170	230	440	520	590	650	700
	985.3	1.2	150	150	170	230	440	520	590	650	700
870	194.6	4.5	150	...	...	230	...	470	590	650	700
	238.4	3.8	150	150	140	230	240	520	150	650	650
	291.9	3.0	150	150	160	230	410	520	240	650	590
	357.5	2.5	150	150	170	230	440	520	300	650	700
	437.9	2.0	150	150	170	230	440	520	590	650	700
	536.3	1.6	150	150	170	230	440	520	590	650	700
	656.8	1.3	150	150	170	230	440	520	590	650	700
	804.5	1.1	150	150	170	230	440	520	590	650	700
	985.3	.90	150	150	170	230	440	520	590	650	700
720	194.6	3.8	150	...	...	230	...	470	590	650	700
	238.4	3.0	150	150	140	230	240	520	150	650	700
	291.9	2.5	150	150	160	230	410	520	240	650	590
	357.5	2.0	150	150	170	230	440	520	300	650	700
	437.9	1.6	150	150	170	230	440	520	590	650	700
	536.3	1.3	150	150	170	230	440	520	590	650	700
	656.8	1.1	150	150	170	230	440	520	590	650	700
	804.5	.90	150	150	170	230	440	520	590	650	700
	985.3	.75	150	150	170	230	440	520	590	650	700
580	194.6	3.0	150	...	...	230	...	470	590	650	700
	238.4	2.5	150	150	140	230	240	520	150	650	700
	291.9	2.0	150	150	160	230	410	520	230	650	590
	357.5	1.6	150	150	170	230	440	520	300	650	700
	437.9	1.3	150	150	170	230	440	520	590	650	700
	536.3	1.1	150	150	170	230	440	520	590	650	700
	656.8	.90	150	150	170	230	440	520	590	650	700
	804.5	.75	150	150	170	230	440	520	590	650	700
	985.3	.60	150	150	170	230	440	520	590	650	700

(See footnotes on Page 51.)

Double, Triple & Quadruple Reduction with External Backstops

HSS Overhung Load Ratings ★/Pounds

Consult Factory for higher overhung load ratings

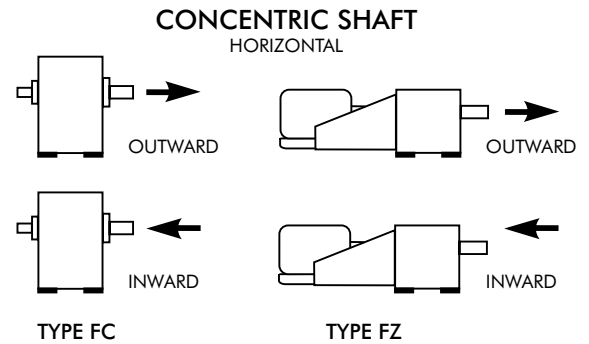
High Speed Shaft rpm ‡	Nominal Ratios	Approx. L.S. Shaft rpm	DRIVE SIZE			
			2100	2110	2120	2130
FC2 DOUBLE REDUCTION						
1170	5.06	230	560			
	6.20	190	630			
	7.59	155	630			
	9.30	125	630	710		
	11.39	100	630	710	650	680
	13.95	84	630	710	720	870
	17.09	68	630	710	720	870
	20.93	56	630	710	720	870
	25.63	45	630	710	720	700
	31.39	37	630	710	720	870
870	5.06	175	615			
	6.20	140	630			
	7.59	115	630			
	9.30	95	630	710		
	11.39	77	630	710	720	870
720	5.06	140	630			
	6.20	115	630			
	7.59	95	630			
	9.30	77	630	710		
	11.39	62	630	710	720	870
580	5.06	115	630			
	6.20	95	630			
	7.59	77	630			
	9.30	62	630	710		
	11.39	50	630	710	720	870
FC3 TRIPLE REDUCTION						
1170	38.44	30	280	330	400	360
	47.08	25	280	330	400	450
870	38.44	22	280	330	400	360
	47.08	19	280	330	400	380
	57.60	15	280	330	400	450
FC4 QUADRUPLE REDUCTION						
1170	194.6	6.0	175	230	260	240
	238.4	5.0	190	60	260	210
	291.9	4.0	190	95	260	240
	357.5	3.2	190	120	260	280
	437.9	2.7	190	230	260	280

★ Published values of overhung load are for loads applied one shaft diameter from the backstop with a service factor of unity. Where overhung load is proportional to torque (i.e. pinion, sprocket, or sheave applications) an appropriate service factor should be considered in the overhung load calculation. Refer to Falk for OHL ratings of drives with both a fan and an external backstop.

‡ For input speeds higher than 1170 rpm, refer to Selection Guide 311-112.

LSS Thrust Loads

Thrust Loads — External thrust loads are often imposed upon gear drive bearings by agitators, mixers and similar equipment through solid couplings and also some flexible couplings. Calculate the direction and magnitude of the thrust and check the result against the tabulated thrust value.



Ratios 1.50 through 4.57

LSS Thrust Load Capacity */Pounds

Thrust inward or outward. . .multiply values listed below by 1000

Approx. L.S. Shaft rpm	DRIVE SIZE			
	2040	2050	2060	2070
2340	1.80	2.14	3.25	3.88
1900	1.80	1.93	3.38	3.93
1720	1.80	2.22	3.50	3.75
1560	1.80	2.29	3.50	3.74
1400	1.80	2.30	3.50	3.48
1280	1.80	2.08	3.50	3.82
1150	1.80	2.30	3.50	3.51
1040	1.80	2.30	3.50	3.90
940	1.80	2.30	3.50	3.55
840	1.80	2.30	3.50	4.14
760	1.80	2.30	3.50	3.82
640	1.80	2.30	3.50	4.90
520	1.80	2.30	3.50	4.90
420	1.80	2.30	3.50	4.90
350	1.80	2.30	3.50	4.90
280 ‡	1.80	2.30	3.50	4.90

Ratios 5.06 through 985.3

LSS Thrust Load Capacity */Pounds

Thrust inward or outward. . .multiply values listed below by 1000

Approx. L.S. Shaft rpm	DRIVE SIZE									
	2040	2050	2060	2070	2080	2090	2100	2110	2120	2130
700	1.79	2.30	3.50	4.90	3.41	4.37	6.06	2.48	6.53	9.95
560	1.80	2.30	3.50	4.90	2.73	4.45	6.42	2.62	6.61	10.1
460	1.80	2.30	3.50	4.90	2.67	4.70	6.80	2.77	6.53	10.4
380	1.80	2.30	3.50	4.90	3.06	4.98	7.27	3.07	6.77	10.8
350	1.80	2.30	3.50	4.90	4.22	5.38	7.46	3.05	8.04	11.3
310	1.80	2.30	3.50	4.90	2.99	5.53	7.76	3.37	7.10	11.3
280	1.80	2.30	3.50	4.90	3.35	5.48	7.94	3.24	8.13	11.3
230	1.80	2.30	3.50	4.90	3.28	5.82	8.42	3.57	8.04	11.3
190	1.80	2.30	3.50	4.90	3.79	6.46	8.91	3.84	8.34	11.3
155	1.80	2.30	3.50	4.90	4.50	6.86	9.20	4.36	8.73	11.3
125	1.80	2.30	3.50	4.90	5.38	7.49	9.20	4.95	9.29	11.3
100	1.80	2.30	3.50	4.90	5.40	8.00	9.20	7.87	10.3	11.3
84	1.80	2.30	3.50	4.90	5.40	8.00	9.20	6.99	10.3	11.3
68	1.80	2.30	3.50	4.90	5.40	8.00	9.20	8.40	10.3	11.3
56	1.80	2.30	3.50	4.90	5.40	8.00	9.20	10.3	10.3	11.3
45	1.80	2.30	3.50	4.90	5.40	8.00	9.20	10.3	10.3	11.3
37	1.80	2.30	3.50	4.90	5.40	8.00	9.20	10.3	10.3	11.3
28 ‡	1.80	2.30	3.50	4.90	5.40	8.00	9.20	10.3	10.3	11.3

* Thrust capacities are for pure thrust loads. If thrust and overhung loads are applied simultaneously, or loads exceed these capacities, refer to Falk.

‡ The last thrust capacity value in each drive size column applies to all lower output speeds for that drive.

Exact Ratios */Double, Triple & Quadruple Reduction

Double Reduction

Nominal Ratios	DRIVE SIZE									
	2040	2050	2060	2070	2080	2090	2100	2110	2120	2130
1.50	1.465	1.476	1.548		1.561 *	1.504				
1.84	1.820	1.822	1.833	1.783	1.887	1.801				
2.03	2.057	2.028	2.027	2.062	2.055	2.089				
2.25	2.191	2.252	2.295	2.197	2.299	2.257				
2.49	2.475	2.504	2.537	2.541	2.504	2.503				
2.76	2.723	2.702	2.827	2.683	2.792	2.756				
3.05	3.076	3.095	3.126	3.103	3.041	3.137				
3.38	3.279	3.283	3.400	3.211 *	3.262	3.428				
3.74	3.705	3.714	3.759	3.713	3.553 *	3.830				
4.13	4.120	4.001	4.130	3.954 *	4.067	4.164				
4.57	4.655	4.512	4.567	4.573	4.430	4.763 *				
5.06	4.929	4.980	4.998	4.996	5.161	5.050	5.071			
6.20	6.122	6.147	6.256	6.155	6.290	6.050	6.417			
7.59	7.368	7.598	7.708	7.517	7.638	7.581	7.641			
9.30	9.158	9.119	9.269	8.996	8.923 *	9.257	9.218	9.463		
11.39	11.03	11.08	11.26	11.08	11.13	11.51	11.58	11.46	11.54	11.85
13.95	13.86	13.50	13.72	13.50	13.67	13.98	14.01	13.94	14.00	14.42
17.09	16.83	16.65	17.19	17.33	17.34	16.78	17.29	17.01	17.37	17.15
20.93	19.81 *	20.56	21.13	20.54	20.98	21.01	21.58	20.76	21.12	21.25
25.63	25.25	25.27	25.63	25.12	25.17	25.66	25.55	25.39	25.91	25.36
31.39	29.43 *	30.16	31.69	31.08	31.15	31.15	31.21	31.12	31.89	30.89

Triple Reduction

Nominal Ratios	DRIVE SIZE									
	2040	2050	2060	2070	2080	2090	2100	2110	2120	2130
38.44	38.08	37.57	38.46	37.83	38.88	39.51	40.24 *	38.38	39.36	39.60
47.08	45.86	45.64	46.65	46.27	47.23	48.23	48.39	46.56	47.71	47.26
57.66	57.62	55.63	56.62	56.63	57.56	57.53	57.29	56.56	57.02	57.30
70.62	69.99	68.61	70.64	71.14	69.64	69.86	71.64	68.94	68.05	68.47
86.50	82.37 *	84.70	85.69	86.43	87.65	85.18	88.36	86.02	88.15	81.72 *
105.9	105.0	104.1	106.5	101.7	107.7	103.4	104.6	104.9	107.0	105.9
129.7	125.0	127.7	131.3	129.6	130.4	129.7	133.8	128.2	128.9	128.5
158.9	159.4	156.9	156.7	151.1	156.4	157.5	158.4	155.7	158.2	154.8
194.6	...	...	190.1	184.8 *	...	193.6				

Quadruple Reduction

Nominal Ratios	DRIVE SIZE								
	2050	2060	2070	2080	2090	2100	2110	2120	2130
194.6	187.5	...	...	192.3	...	202.3	192.9	197.7	199.0
238.4	231.5	239.6	236.6	237.8	236.7	243.7	234.3	240.1	237.4
291.9	286.1	296.3	292.6	291.5	284.5	306.1	285.6	292.7	288.4
357.5	343.3	363.2	358.7	360.7	351.9	371.9	352.3	361.0	351.4
437.9	417.1	449.4	443.8	436.4	431.4	437.6	434.9	445.7	433.5
536.3	508.3 *	543.0	542.7	523.5	533.7	518.1	531.7	535.7	535.1
656.8	627.0	649.5	641.4	638.7	644.9	660.4	653.6	657.2	643.3
804.5	774.1	795.9	785.9	772.8	783.1	844.5	791.4	783.6	782.8
985.3	951.5	965.5	961.2	927.2 *	945.2	999.9	967.6	961.3	940.9

* Except where noted with an (*) asterisk, exact ratios are within $\pm 4\%$ for double and triple reduction, and $\pm 5\%$ of quadruple reduction nominal ratios.

Availability & Compatibility of Accessories

DRIVE SIZES 2040 & 2050	Motor Mount	Motor Bracket	C-Face Adapter	Motor Plate	Slide Base	Slide Rails	Internal Backstop
Motor Mount	...	...	...	...	OK⑦	...	OK
Motor Bracket	...	...	...	...	OK	...	OK
C-Face Adapter	...	...	...	...	OK	...	OK
Motor Plate	...	...	...	...	...	OK⑨	OK
Slide Base	OK⑦	OK	OK	...	...	...	OK
Slide Rails	...	...	...	OK⑨	...	...	OK
Internal Backstop	OK	OK	OK	OK	OK	OK	...

DRIVE SIZES 2060 thru 2130	Motor Mount	Motor Bracket	C-Face Adapter	Motor Plate	Slide Base	Slide Rails	External Backstop①	Internal Backstop②	Shaft Fan	Elec. Fan Rt. Hand⑤	Elec. Fan Left hand	Cooling Tubes	Pump & Cooler	Ext. Backstop & Fan
Motor Mount	...	...	...	...	OK⑦	...	...	OK	...	OK③	OK④	OK	OK	...
Motor Bracket	...	...	...	...	OK	...	OK	OK	OK⑩	OK	OK	OK	OK	...
C-Face Adapter	...	...	...	...	OK	...	...	OK	...	OK	OK	OK	OK	...
Motor Plate	...	...	...	...	...	OK⑨	OK	OK	OK	OK	OK	OK	OK	OK
Slide Base	OK⑦	OK	OK	...	...	...	OK	OK	OK	OK⑤	OK⑤	...	OK	OK
Slide Rails	...	...	...	OK⑨	...	...	OK	OK	OK	OK	OK	OK	OK	OK
External Backstop①	...	OK	...	OK	OK	OK	...	...	OK	OK⑥	OK⑥	OK	OK	...
Internal Backstop②	OK	OK	OK	OK	OK	OK	...	...	OK	OK	OK	OK	OK	...
Shaft Fan	...	OK⑩	...	OK	OK	OK	OK	OK	...	...	...	...	...	...
Electric Fan – Right Hand⑤	OK③	OK	OK	OK	OK⑤	OK	OK⑥	OK	...	...	...	...	...	...
Electric Fan – Left Hand⑤	OK④	OK	OK	OK	OK⑤	OK	OK⑥	OK	...	...	...	...	...	...
Cooling Tubes	OK	OK	OK	OK	...	OK	OK	OK	...	...	...	...	...	...
Pump & Cooler	OK	OK	OK	OK	OK	OK	OK	OK	...	...	...	...	...	...
Ext. Backstop & Fan	...	...	...	OK	OK	OK	...	...	...	...	...	...	...	...

① External backstops used only on 2100 thru 2130.

② Internal backstops used only on 2040 thru 2090.

③ Motor mount mounted at 9 o'clock position only.

④ Motor mount mounted at 3 and 12 o'clock positions only.

⑤ Drive sizes 2080 thru 2130 only.

⑥ Electric fan is not available on drives with #60 backstop.

⑦ Must check for clearance between L.S. shaft sprocket and motor mount. When motor mount used in 3 & 9 o'clock position, must check for clearance between the motor mount and slide base Drive Sizes 2040 thru 2080 only.

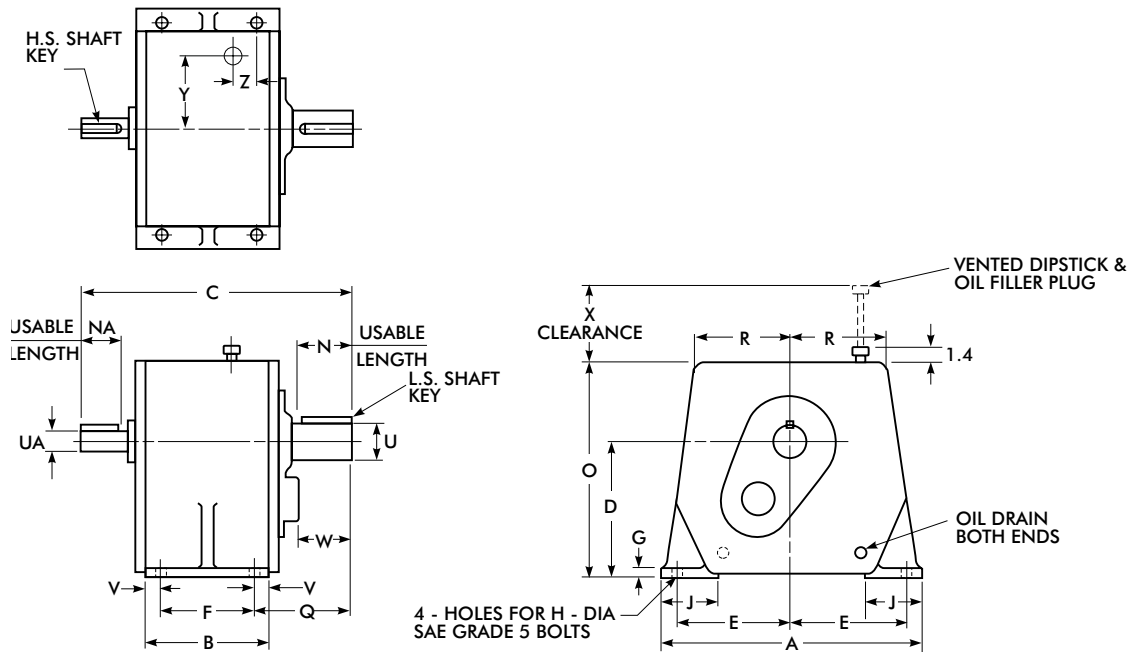
⑧ Left and right hand as viewed when facing H.Q. shaft.

⑨ Use of slide rails requires a motor plate.

⑩ Bolted brackets (designed for 326T frame and smaller) cannot be used with shaft fans due to interference.

Type FC Double, Triple & Quadruple Reduction

Dimensions — Inches



DRIVE SIZE ★	A	B	D	E	F	G	H	J	N	O	Q	R	LOW SPEED SHAFT *		V	W •		X	Y	Z	Max AA	Wt-lb Ave
													U	Key		W/O	With					
2040	15.00	7.90	8.50	6.60	6.10	.80	.750	4.3	4.00	12.92	6.86	5.9	2.0000	.500 x .500 x 3.50	.90	3.54	3.24	7.50	2.90	2.06	17.98	200
2050	16.60	8.98	9.60	7.30	7.10	1.00	.875	4.5	5.00	14.52	8.10	6.7	2.5000	.625 x .625 x 4.50	.94	4.16	3.92	8.70	3.40	2.90	18.98	340

DRIVE SIZE ★	Double Reduction — FC2/FZ2				Triple Reduction — FC3/FZ3				Quadruple Reduction — FC4/FZ4			
	C	NA	HIGH SPEED SHAFT *		C	NA	HIGH SPEED SHAFT *		C	NA	HIGH SPEED SHAFT *	
			UA	Key			UA	Key			UA	Key
2040	18.44	2.76	1.3750	.312 x .312 x 2.50	18.44	2.76	1.3750	.312 x .312 x 2.50	19.98	2.00	1.0000	.250 x .250 x 1.50
2050	21.54	3.26	1.6250	.375 x .375 x 3.00	21.54	3.26	1.6250	.375 x .375 x 3.00				

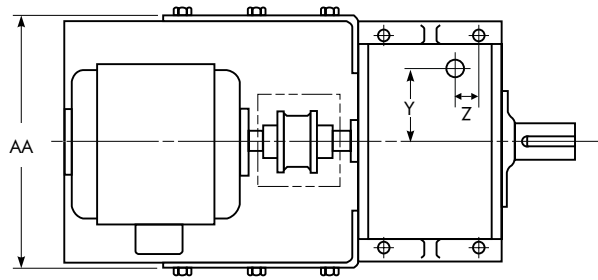
★ Dimensions are for reference only and are subject to change without notice unless certified. Drives are for horizontal floor mounted operation unless specifically stated otherwise. Refer to Falk for other mountings.

* Shaft diameters under 3" are held to limits of +.0000", −.0005". Shaft keyseat depth is one-half of key height.

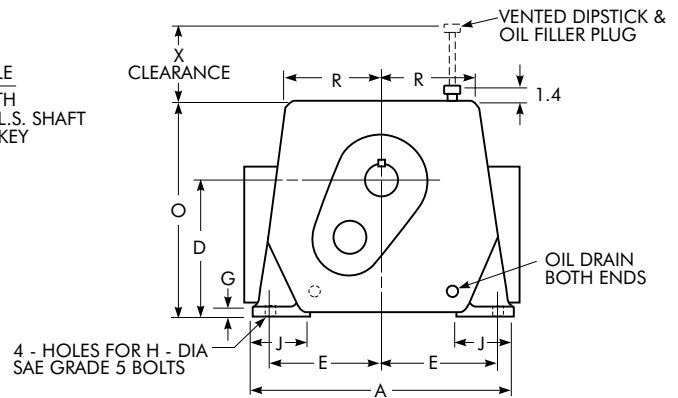
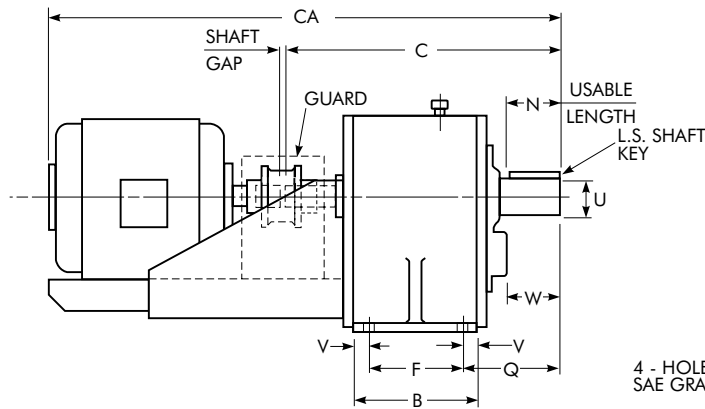
• Dimension W is clearance with and without (W/O) internal backstop. For drive with backstop, indicate low speed shaft rotation when viewing drive from the end of the low speed shaft.

Type FZ Double, Triple & Quadruple Reduction

Dimensions — Inches



DIMENSIONS ON PAGE 58
(CA IN TABLE BELOW)



DRIVE SIZE	Average Weight of Drive Only lb ■	Max. ♦ NEMA T & U Frame Size	CA – APPROXIMATE OVERALL LENGTH WITH MOTOR AND TYPE T COUPLING ‡											
			MOTOR FRAME SIZE ♦											
			143T	145T	182T	184T	213T	215T	254T	256T	284TS	286TS	324TS	326TS
OPEN MOTORS														
2040	200	286	33.9	33.9	33.9	33.9	35.0	36.2	39.9	41.5	43.9	43.9		
2050	340	326	36.2	36.2	36.2	36.2	37.5	39.0	42.4	44.2	46.2	46.2	48.8	48.8
TEFC MOTORS														
2040	200	286	30.7	31.2	33.2	34.2	39.0	39.0	45.2	45.2	46.3	46.3		
2050	340	326	33.7	34.2	36.3	37.3	41.6	41.6	47.8	47.8	48.9	48.9	52.9	52.9

‡ CA dimensions are approximate and may vary with motor manufacturer.

■ Weight shown is for Type FC drive. For Type FZ drive weight, add average drive weight to approximate weight below.

♦ Brackets for Sizes 2040 thru 2050 will accept either T, TS, U or US frame motors. Do not exceed the gear drive ratings shown in the selection tables. Standard length and semi-standard length blank bracket dimensions are covered in Engineering 317-315.

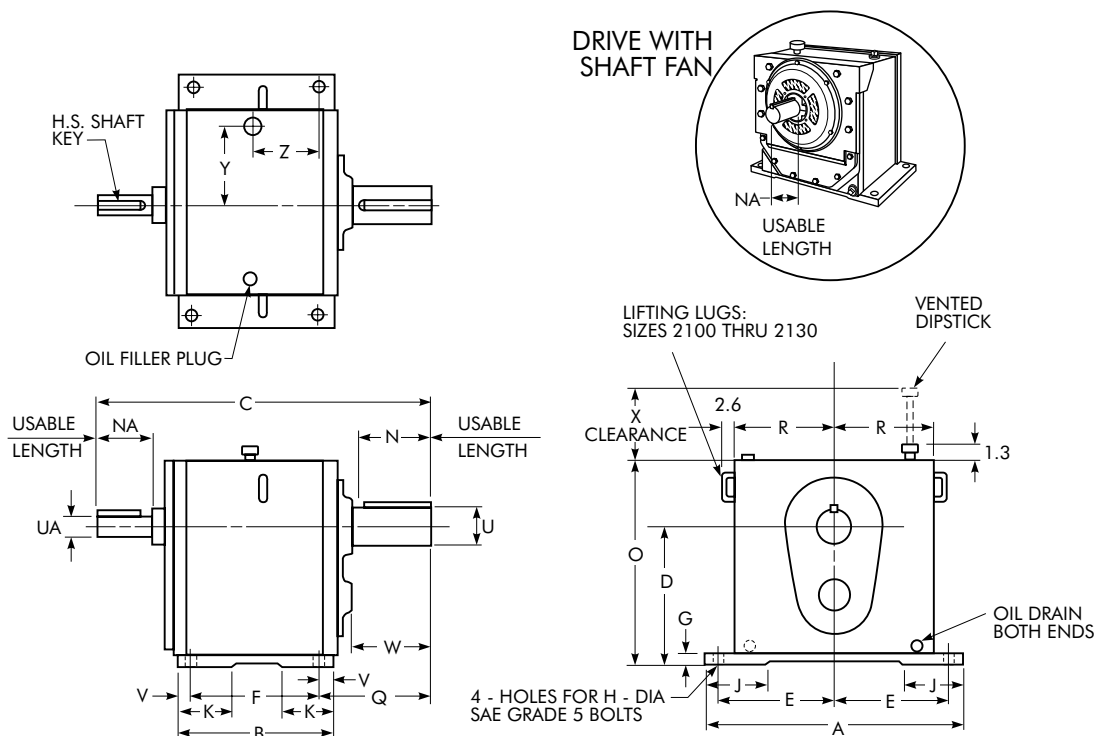
□ Refer to Pages 6 and 7 for instructions when using other than T-frame motors.

APPROXIMATE WEIGHTS OF FALK MOTOR BRACKETS/COUPLINGS AND MOTORS — lbs

HP	1	1 ½	2	3	5	7 ½	10	15	20	25	30	40	50	60	75	100	125	150	200
FRAME ♦	143T	145T	145T	182T	184T	213T	215T	254T	256T	284T	286T	324T	326T	364T	365T	404T	405T	444T	445T
DRIVE SIZE																			
Bracket & Coupling Weights																			
2040-2070	60	60	60	60	60	65	65	80	80	100	100	110	110	165	180	270	270		
2080-2090	65	65	65	65	75	80	80	95	100	115	115	120	120	165	180	270	285	340	
2100-2130	70	70	70	85	85	90	90	110	110	120	120	130	135	310	310	375	375	445	485
1750 rpm Motor Weights																			
TEFC General Purpose Motor	30	35	40	60	80	120	165	230	265	360	380	490	526	650	780	1050	1505	1530	1700
TEFC High Efficiency Motor	30	45	55	70	85	125	170	235	300	450	440	560	650	785	870	1150	1520	1710	1850
OPEN MOTOR	30	35	35	60	70	120	145	190	215	255	315	370	400	575	640	810	895	1195	1375

Type FC Double, Triple & Quadruple Reduction

Dimensions — Inches



DRIVE SIZE ★	A	B	D	E	F	G	H	J	K	N	O	Q	R	LOW SPEED SHAFT *			V	W●		X	Y	Z	Average Wt lb
																		W/O	With				
														U	Key								
2060	18.40 ■	12.00	10.60	8.20	10.00	.66	1.000	4.2	±	5.50	15.60	8.00	6.9	2.750	.625 x .625 x 5.00	1.0	4.83	4.42	11.2	5.64	4.92	340	
2070	21.00 ■	13.70	11.66	9.30	11.30	.66	1.125	4.5	±	6.50	17.16	9.20	7.9	3.250	.750 x .750 x 6.00	1.2	5.78	5.21	12.3	6.60	5.64	480	
2080	23.00 ■	15.80	12.78	10.20	13.20	.78	1.250	5.5	±	7.00	18.98	10.00	8.7	3.500	.875 x .875 x 6.50	1.3	6.25	5.84	13.4	6.96	6.70	680	
2090	26.00	17.50	15.74	11.40	14.30	.90	1.500	7.0	±	8.00	23.06	11.50	9.6	4.000	1.000 x 1.000 x 7.00	1.6	7.51	6.95	15.6	8.00	7.20	950	
2100	27.60 ■	19.16	17.40	12.20	14.96	1.00	1.500	9.0	7.0	9.00	26.00	13.14	10.7	4.500	1.000 x 1.000 x 8.50	2.1	9.54	•	15.9	9.06	7.56	1320	
2110	29.40	21.48	19.50	13.10	17.28	1.00	1.500	9.0	7.0	9.50	28.80	13.72	11.6	5.000	1.250 x 1.250 x 8.50	2.1	10.22	•	17.2	9.90	8.06	1560	
2120	32.48	23.60	21.90	14.44	18.80	1.24	1.750	9.0	7.0	10.00	32.50	14.58	12.6	5.500	1.250 x 1.250 x 9.00	2.4	10.68	•	19.0	10.62	9.36	2210	
2130	34.00	25.10	24.70	15.20	19.30	1.24	1.750	9.0	7.0	11.00	36.20	16.16	13.5	6.000	1.500 x 1.500 x 10.00	2.9	11.78	•	20.4	11.50	9.52	2900	

DRIVE SIZE ★	Double Reduction — FC2					Triple Reduction — FC3					Quadruple Reduction — FC4				
	C	NA		HIGH SPEED SHAFT *		C	NA		HIGH SPEED SHAFT *		C	NA	HIGH SPEED SHAFT *		
		W/O Shaft Fan	With Shaft Fan	UA	Key		W/O Shaft Fan	With Shaft Fan	UA	Key			UA	Key	
2060	24.94	3.68	2.38	1.8750	.500 x .500 x 3.25	24.32	3.26	...	1.5000	.375 x .375 x 3.00	23.56	2.50	1.2500	.250 x .250 x 2.25	
2070	28.34	4.26	2.94	2.1250	.500 x .500 x 3.75	27.28	3.18	...	1.7500	.375 x .375 x 3.00	26.54	2.44	1.3750	.312 x .312 x 2.50	
2080	31.68	4.50	3.16	2.2500	.500 x .500 x 4.00	30.64	3.68	...	2.0000	.500 x .500 x 3.50	29.90	2.95	1.6250	.375 x .375 x 3.00	
2090	35.08	4.76	3.12	2.5000	.625 x .625 x 4.00	33.66	3.88	...	2.0000	.500 x .500 x 3.50	32.92	3.26	1.6250	.375 x .375 x 3.00	
2100	38.50	5.26	3.35	2.7500	.625 x .625 x 4.75	37.14	4.00	2.34	2.1250	.500 x .500 x 3.50	36.66	3.76	1.8750	.500 x .500 x 3.25	
2110	42.02	5.62	3.55	3.0000	.750 x .750 x 5.00	40.10	4.00	2.58	2.1250	.500 x .500 x 3.50	39.62	3.50	1.8750	.500 x .500 x 3.00	
2120	45.38	6.26	4.09	3.2500	.750 x .750 x 5.50	43.40	4.26	2.54	2.2500	.500 x .500 x 3.75	42.62	3.62	2.0000	.500 x .500 x 3.25	
2130	48.58	6.76	4.51	3.5000	.875 x .875 x 6.00	45.98	4.26	2.54	2.2500	.500 x .500 x 3.75	45.20	3.62	2.0000	.500 x .500 x 3.25	

★ Dimensions are for reference only and are subject to change without notice unless certified. Drives are for horizontal floor mounted operation unless specifically stated otherwise. Refer to Falk for other mountings.

✱ Shaft diameters under 3" are held to limits of $+.0000"$, $-.0005"$. Shaft diameters 3" and over are held to limits of $+.000"$, $-.001"$. Shaft keyseat depth is one-half of key height.

‡ Drive Sizes 2060 thru 2090 have foundation pads full length of base.

● Dimension W is clearance with and without (W/O) internal backstop. For Sizes 2100 thru 2130FC, an external backstop is mounted on an extended high speed shaft; see 315-810 for details. For drive with backstop, indicate low speed shaft rotation when viewing drive from the end of the low speed shaft.

■ Allow clearance for the following: bracket widths (Type FZ):

Size 2060 with 364 and 365 frame motors, 19.88

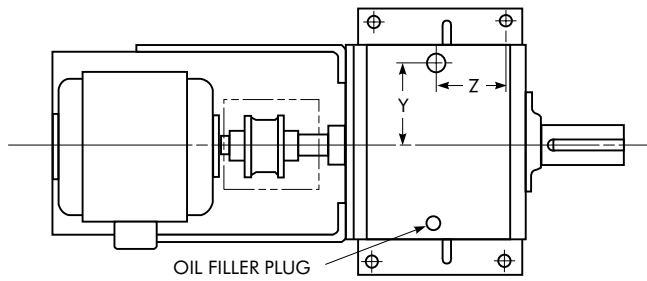
Size 2070 with 404 and 405 frame motors, 22.78

Size 2080 with 444 and 445 frame motors, 25.06

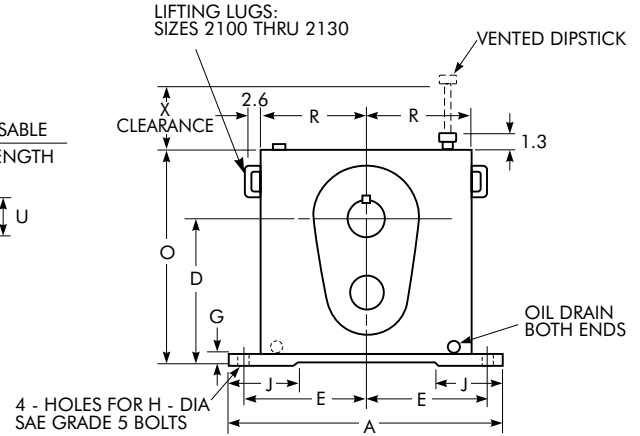
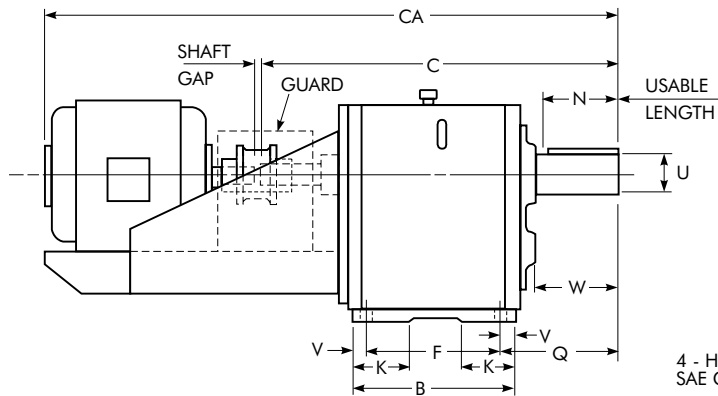
Size 2100 with 364 and 445 frame motors, 28.50

Type FZ Double, Triple & Quadruple Reduction

Dimensions — Inches



DIMENSIONS ON PAGE 60
(CA IN TABLE BELOW)



DRIVE SIZE	Average Weight of Drive Only lb ■	Max ♦ NEMA T & U Frame Size	CA – APPROXIMATE OVERALL LENGTH WITH MOTOR AND TYPE T COUPLING ‡																
			MOTOR FRAME SIZE ♦																
			143T	145T	182T	184T	213T	215T	254T	256T	284TS	286TS	324TS	326TS	364TS	365TS	404TS	405TS	444TS
OPEN MOTORS																			
2060	340	365	39.2	39.2	39.2	39.2	40.8	42.4	45.5	47.3	49.0	49.0	51.8	51.8	52.4	52.6			
2070	480	405	42.0	42.0	42.0	42.0	43.2	45.7	49.0	50.7	51.9	52.0	54.7	54.7	55.2	56.0	58.6	59.8	
2080	680	445	44.6	44.6	44.6	44.6	46.7	48.2	52.5	54.1	54.4	55.3	58.0	58.0	58.4	59.8	61.6	62.9	
2090	950	445	47.6	47.6	47.6	47.6	49.6	51.1	54.4	57.7	57.4	58.7	60.9	61.3	61.8	62.8	64.8	66.3	69.7
2100	1320	445	50.9	50.9	51.5	51.5	53.0	54.6	57.8	59.5	60.7	62.5	63.5	64.9	66.3	66.6	69.7	69.8	74.7
2110	1560	445	53.9	53.9	54.5	54.5	55.9	57.5	60.7	62.5	63.7	63.7	66.7	68.2	69.3	69.7	72.7	73.3	77.7
2120	2210	445	56.6	56.6	56.6	56.6	58.6	61.0	63.9	65.8	66.2	67.0	69.7	69.7	72.3	73.6	75.6	76.8	80.6
2130	2900	445	...	59.3	59.3	59.3	61.3	62.8	66.6	68.7	68.9	69.7	72.4	72.4	74.9	76.6	78.3	79.7	83.8
TEFC MOTORS																			
2060	340	365	36.5	36.9	39.0	40.0	45.2	45.2	50.7	50.7	53.0	53.0	55.8	55.8	57.4				
2070	480	405	38.8	39.3	42.4	43.4	47.3	47.3	53.8	53.8	55.9	55.9	58.7	58.7	60.4	60.3			
2080	680	445	42.0	42.5	44.6	46.4	50.7	50.7	57.3	57.3	59.0	59.0	62.0	62.0	63.9	63.9	68.2		
2090	950	445	45.1	45.5	47.6	49.4	53.8	53.8	59.3	59.3	61.6	62.2	62.2	62.2	65.6	67.2	71.3		
2100	1320	445	...	50.0	51.6	52.6	57.1	57.1	62.6	62.6	65.0	65.0	67.8	67.8	70.6	70.6	74.5	74.5	
2110	1560	445	...	...	54.7	55.7	59.6	59.6	65.7	65.7	67.9	67.9	70.7	70.7	72.3	72.3	78.0	78.0	83.4
2120	2210	445	...	...	57.6	58.6	62.6	62.6	68.9	68.9	71.0	71.0	73.8	73.8	75.4	75.4	80.1	80.1	86.7
2130	2900	445	...	...	...	61.2	65.2	65.2	70.9	70.9	73.6	73.6	76.3	76.3	78.0	78.0	82.7	82.7	87.6

‡ CA dimensions are approximate and may vary with motor manufacturer.

♦ Brackets will accept either T, TS, U or US frame motors. Do not exceed the gear drive ratings shown in the selection tables. Standard length and semi-standard length blank bracket dimensions are covered in Engineering 317-315.

■ Weight shown is for Type FC drive. For Type FZ drive weight, add average drive weight to approximate weight at bottom of Page 59.

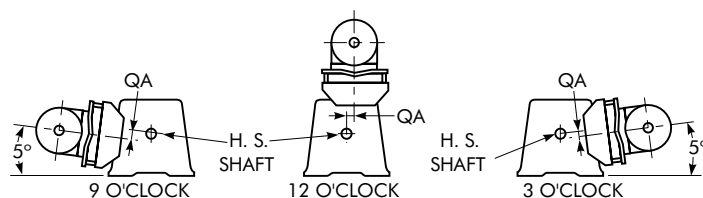
□ Refer to Pages 6 and 7 for instructions when using other than T-frame motors.

Type MM

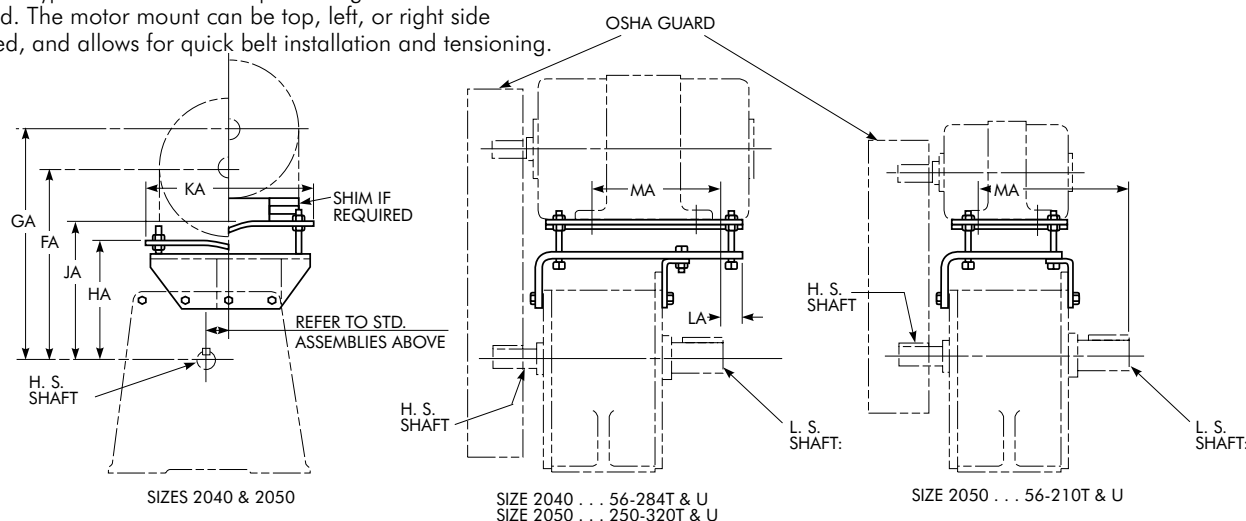
Motor Mounts/Dimensions — Inches

Standard Assemblies

Assemblies are viewed from high speed end of drive. For 3 and 9 o'clock assemblies, refer to (†) footnote below to determine dimensions FA, GA, HA and JA. Refer to Page 58 for drive dimensions.



Space-saving Type MM motor mounts are designed for use on UltraMax Type FC drives when input through a belt drive is required. The motor mount can be top, left, or right side mounted, and allows for quick belt installation and tensioning.



DRIVE SIZE ★	MINIMUM AND MAXIMUM SHAFT CENTERS														3 & 9 ♦ O'clock FA & GA Addition	HA Min.	JA Max.	PA	Dimension QA Std Assemblies Clock Positions		
	12 O'clock Mounting * ♦																		3	9	12
	56		140		180		210		250		280		320								
	FA	GA	FA	GA	FA	GA	FA	GA	FA	GA	FA	GA	FA	GA							
MM2040	13.10	16.10	13.10	16.10	14.10	17.10	14.86	17.86	15.86	18.86	16.60	19.60	...	...	1.84	9.60	12.60	8.32	2.00	2.00	0
	...	...	...	...	...	...	...	...	...	...	...	...	18.31	21.10	1.84	10.31	13.10	8.32	2.00	2.00	0
MM2050	14.06	17.00	14.06	17.00	15.06	18.00	15.82	18.76	16.82	19.76	17.56	20.50	18.56	21.50	2.14	10.56	13.50	9.30	2.34	2.34	0

DRIVE SIZE ★	56 thru 210			250 thru 284			250 thru 320			320 ‡			DIMENSION MA						
	KA	LA	Motor Mount Wt-lb	KA	LA	Motor Mount Wt-lb	KA	LA	Motor Mount Wt-lb	KA	LA	Motor Mount Wt-lb	56	140	180	210	250	280	320
MM2040	13.00	-2.28 ●	55	14.00	2.02	70	...	...	...	16.00	5.27	118	12.68	13.18	12.68	11.92	11.16	10.68	10.22
MM2050	15.00	...	60	...	...	...	16.00	2.72	90	...	...	...	15.28	15.78	15.28	14.54	13.78	13.28	12.78

★ Dimensions are for reference only and are subject to change without notice unless certified.

♦ When determining belt length for minimum shaft centers, follow the belt manufacturer's installation allowance recommendations and also provide for future belt tensioning. Motors may be shimmed up to 1.5".

‡ Motor mount extends .56" below Size 2040 with 320 frame when mounted in 3 and 9 o'clock positions.

● Measure (-) LA to left of shaft end instead of as shown; shaft extends beyond bracket.

♦ To determine shaft centers for 3 & 9 o'clock mountings, add amount shown in the "3 & 9 o'clock Addition" column to the 12 o'clock FA & GA dimensions. Dimensions HA and JA will increase the same amounts.

How to Order

Your nearby Falk Representative or Authorized Distributor will be pleased to analyze your new or existing application requirements and recommend the most efficient and economical motor mount selections. At the same time, if you wish, his wide experience in the field of power transmission qualifies him to examine your installation and perhaps point out additional ways to increase efficiency and reduce cost with other Falk precision products.

The following information is required to make proper selection:

1. Falk Drive — size and type as shown on nameplate or from selection tables in this selection guide.
2. Motor make — horsepower and type.
3. NEMA motor frame size. Check dimension table to make certain motor mount is available for your motor frame size.
4. Required belt centers. If not known, the motor mount will be selected with minimum belt centers (Dimension FA above) based on information from Steps 1 thru 3.
5. Clock position — specify preferred mounting arrangement.

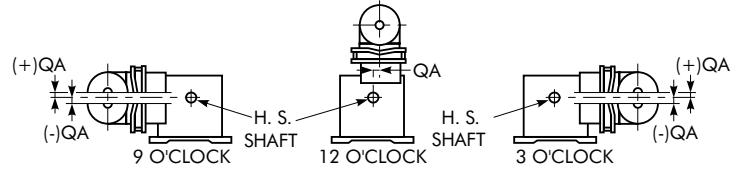
Type MM

Motor Mounts/Dimensions — Inches

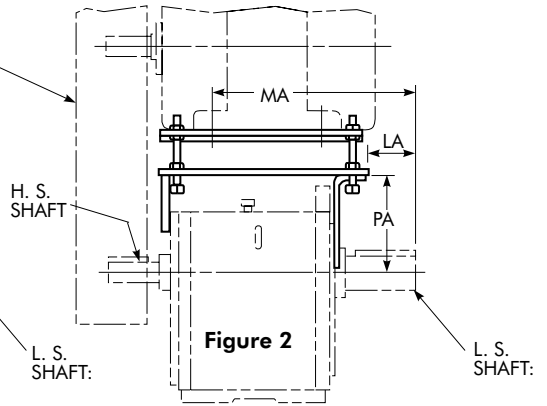
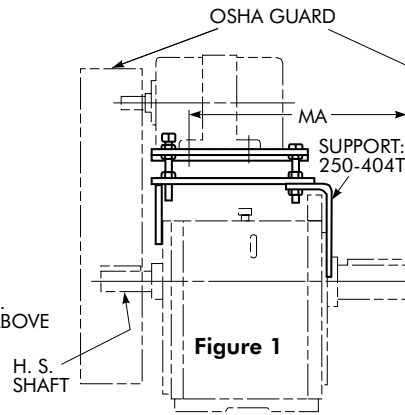
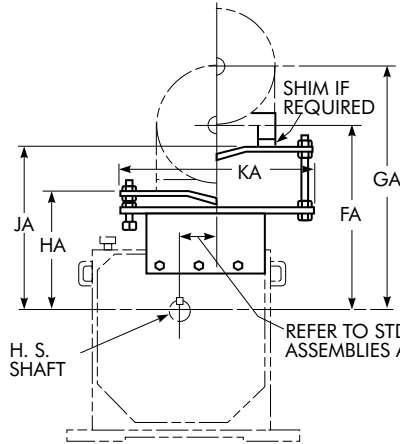
Standard Assemblies

Assemblies are viewed from high speed end of drive. For 3 and 9 o'clock assemblies, refer to (♦) footnote below to determine dimensions FA, GA, HA and JA. Refer to Page 60 for drive dimensions.

NOTE: Motor mounts are not available for Drive Sizes 2100 thru 2130 with external backstops or drive Sizes 2060 thru 2130 with shaft fans.



Space-saving Type MM motor mounts are designed for use on UltraMax Type FC drives when input through a belt drive is required. The motor mount can be top, left, or right side mounted, and allows for quick belt installation and tensioning.



SIZES 2060 - 2130

SIZES 2060-2100 . . . 140-210T & U▲
SIZES 2110-2130 . . . 140-400T & U▲

SIZES 2060-2100 . . . 250-400T & U
(Size 2060 Max. U-Frame is 404)

MOTOR MOUNT & DRIVE SIZE ★	MINIMUM AND MAXIMUM SHAFT CENTERS																3 & 9 ♦ O'clock FA & GA Addition	HA † Min	JA * Max	PA
	12 O'clock Mounting * ♦																			
	140		180		210		250		280		320		360		400					
	FA	GA	FA	GA	FA	GA	FA	GA	FA	GA	FA	GA	FA	GA	FA	GA				
MM2060	16.42	20.02	17.42	21.02	18.18	21.78	19.18	22.78	19.92	23.52	20.92	24.52	22.60	25.52	23.60	26.52	1.96	12.92	16.52	11.48
MM2070	16.92	20.52	17.92	21.52	18.68	22.28	19.68	23.28	20.42	24.02	21.42	25.02	23.10	26.02	24.10	27.02	2.40	13.42	17.02	11.98
MM2080	17.82	21.42	18.82	22.42	19.58	23.18	20.58	24.18	21.32	24.92	22.32	25.92	23.76	26.92	24.76	27.92	2.50	14.32	17.92	12.76
MM2090	18.94	22.54	19.94	23.54	20.70	24.30	21.70	25.30	22.44	26.04	23.44	27.04	24.88	28.04	25.88	29.04	2.32	15.44	19.04	13.88
MM2100	21.32	24.92	22.32	25.92	23.08	26.68	24.08	27.68	24.82	28.42	25.82	29.42	27.26	30.42	28.26	31.42	2.10	17.82	21.42	16.26
MM2110	22.02	25.62	23.02	26.62	23.78	27.38	24.78	28.38	25.52	29.12	26.52	30.12	27.96	31.12	28.96	32.12	2.20	18.52	22.12	16.96
MM2120	21.72	25.32	22.72	26.32	23.48	27.08	24.48	28.08	25.22	28.82	26.22	29.82	27.66	30.82	28.66	31.82	1.90	18.22	21.82	16.66
MM2130	22.62	26.22	23.62	27.22	24.38	27.98	25.38	28.98	26.12	29.72	27.12	30.72	28.56	31.72	29.56	32.72	2.00	19.12	22.72	17.56

DRIVE SIZE ★	140 thru 210		250 thru 320			360 thru 400			DIMENSION MA ‡ FC2, FC3 & FC4								Dimension QA Standard Assemblies Clock Positions		
	KA	Mtr Mt Wi-lb	KA	LA	Mtr Mt Wi-lb	KA	LA	Mtr Mt Wi-lb	140	180	210	250	280	320	360	400	3	9	12
MM2060	15.00	60	16.00	.08	115	20.00	(+)3.52 •	200	18.74	18.24	17.48	16.74	16.24	15.74	15.36	14.60	(-)0.84 ■	(+)1.84 ■	2.24 ■
MM2070	15.00	60	16.00	2.80 †	115	20.00	(+)0.82 • †	200	21.46	20.96	20.20	19.46	18.96	18.46	18.06	17.32	(-)2.64 ■	(-)1.76 ■	2.24 ■
MM2080	15.00	75	20.00	1.92 †	170	20.00	1.92 †	220	24.42	23.92	23.16	22.42	21.92	21.42	20.80	20.04	(-)2.44	(-)1.32	3.94
MM2090	15.00	75	20.00	4.94 †	175	20.00	4.94 †	225	27.44	26.94	26.18	25.44	24.94	24.44	23.82	23.06	(-)2.44	(-)1.32	3.94
MM2100	15.00	80	20.00	8.38	195	20.00	8.38	245	30.96	30.46	29.70	28.96	28.46	27.96	27.26	26.50	(-)0.40	(+)0.40	2.76
MM2110	15.00	80	20.00	Use	190	20.00	Use	240	34.00	33.50	32.74	32.00	31.50	31.00	30.30	29.54	(-)0.40	(+)0.40	2.76
MM2120	15.00	80	20.00	Figure	190	20.00	Figure	240	36.88	36.38	35.62	34.88	34.38	33.88	33.18	32.42	(-)2.76	(-)2.76	2.76
MM2130	15.00	80	20.00	1	190	20.00	1	240	39.46	38.96	38.20	37.46	36.96	36.46	35.76	35.00	(-)2.76	(-)2.76	2.76

★ Dimensions are for reference only and subject to change without notice unless certified.

▲ A support is furnished only for 250T and larger frames.

* When determining belt length for minimum shaft centers, follow the belt manufacturer's installation allowance recommendations and also provide for future belt tensioning. Motors may be shimmed up to 1.5".

† For 360 and 400 frames add the following to the "HA" dimension: .68" for Sizes 2060 and 2070FC; .44" for Sizes 2080 thru 2130FC.

♦ To determine shaft centers for 3 & 9 o'clock mountings, add amount shown in the 3 & 9 o'clock Addition column to the 12 o'clock FA & GA dimensions. Dimensions HA and JA will increase the same amounts.

‡ Sizes 2070, 2110 and 2130FC2: add .12" to dimensions MA & LA; Sizes 2080 & 2090FC2: add .38" to dimensions MA & LA.

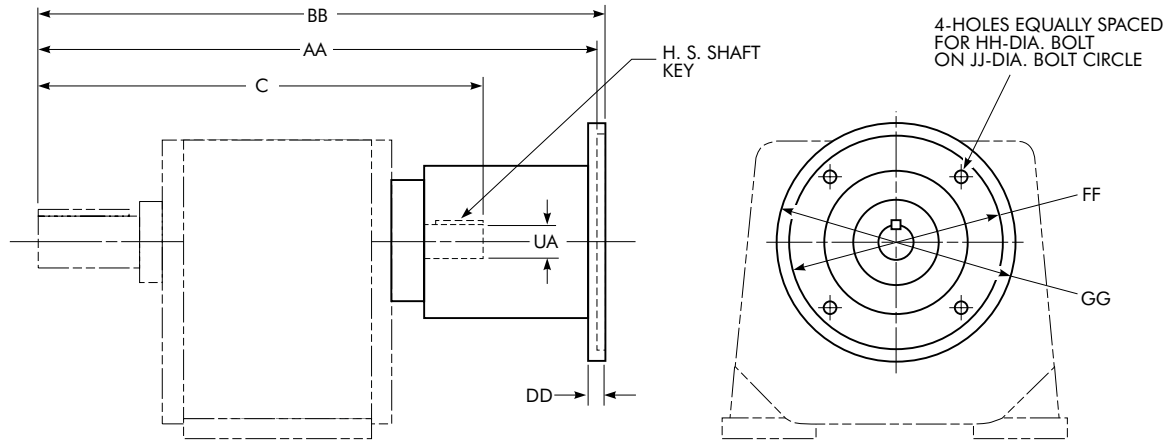
● Bracket extends beyond end of shaft; (+)LA is from end of shaft, (right), to end of bracket.

■ Dimension QA for Sizes 2060 and 2070FC with the 360-400 motor frames are: add .46" for 3 o'clock; add .34" for 9 o'clock and use 4.34" for 12 o'clock.

Type MC

Motor Adapters/Dimensions — Inches

Type MC motor adapters provide for quick flange mounting of NEMA C-face motors on UltraMax Type FC drives.



MOTOR ADAPTER & DRIVE SIZE ★	Drive Type & Reduction	Motor Frame Size	Dimensions — Inches									
			C	AA	BB	DD	FF	GG	HH	JJ	UA	Key
MC2040	FC2	182-184	18.44	22.61	22.81	.64	8.502	9.25	.500	7.250	1.375	.312 x .312 x 2.5
		213-256	18.44	23.11	23.31	.64	8.502	9.25	.500	7.250	1.375	.312 x .312 x 2.5
		284-286 †	18.44	23.86	24.06	.64	10.502	11.50	.500	9.000	1.375	.312 x .312 x 2.5
	FC3	56-145	18.44	21.27	21.52	.64	4.502	7.38	.375	5.875	1.375	.312 x .312 x 2.5
		182-184	18.44	22.64	22.84	.64	8.502	9.25	.500	7.250	1.375	.312 x .312 x 2.5
		213-215	18.44	23.14	23.34	.64	8.502	9.25	.500	7.250	1.375	.312 x .312 x 2.5
MC2050	FC2	182-184	21.54	25.81	26.01	.64	8.502	9.25	.500	7.250	1.625	.375 x .375 x 3.0
		213-256	21.54	26.31	26.51	.64	8.502	9.25	.500	7.250	1.625	.375 x .375 x 3.0
		284-286 †	21.54	27.06	27.26	.64	10.502	11.50	.500	9.000	1.625	.375 x .375 x 3.0
	FC3	56-145	21.54	24.43	24.68	.64	4.502	7.38	.375	5.875	1.625	.375 x .375 x 3.0
		182-184	21.54	25.81	26.01	.64	8.502	9.25	.500	7.250	1.625	.375 x .375 x 3.0
		213-256	21.54	26.31	26.51	.64	8.502	9.25	.500	7.250	1.625	.375 x .375 x 3.0
	FC4	56-145	19.98	23.56	23.81	.64	4.502	7.38	.375	5.875	1.000	.250 x .250 x 1.5
		182-184	19.98	24.94	25.14	.64	8.502	9.25	.500	2.250	1.000	.250 x .250 x 1.5
MC2060	FC2	213-215	24.94	29.26	29.46	.64	8.502	9.25	.500	7.250	1.875	.500 x .500 x 3.2
		254-256	24.94	29.76	29.96	.64	8.502	9.25	.500	7.250	1.875	.500 x .500 x 3.2
		284-286 †	24.94	30.51	30.71	.64	10.502	11.50	.500	9.000	1.875	.500 x .500 x 3.2
	FC3	143-145	24.32	27.48	27.73	.64	4.502	7.38	.375	5.875	1.500	.375 x .375 x 3.0
		182-184	24.32	28.85	29.05	.64	8.502	9.25	.500	7.250	1.500	.375 x .375 x 3.0
		213-256	24.32	29.35	29.55	.64	8.502	9.25	.500	7.250	1.500	.375 x .375 x 3.0
	FC4	56-145	23.56	27.36	26.61	.64	4.502	7.38	.375	5.875	1.250	.250 x .250 x 2.2
		182-184	23.56	28.73	28.93	.64	8.502	9.25	.500	7.250	1.250	.250 x .250 x 2.2
MC2070	FC3	182-184	27.28	31.52	31.72	.64	8.502	9.25	.500	7.250	1.750	.375 x .375 x 3.0
		213-256	27.28	32.02	32.22	.64	8.502	9.25	.500	7.250	1.750	.375 x .375 x 3.0
		284-286 †	27.28	32.77	32.97	.64	10.502	11.50	.500	9.000	1.750	.375 x .375 x 3.0
	FC4	56-145	26.54	30.07	30.32	.64	4.502	7.38	.375	5.875	1.375	.312 x .312 x 2.5
		182-215	26.54	31.45	31.65	.64	8.502	9.25	.500	7.250	1.375	.312 x .312 x 2.5
MC2080	FC3	182-215	30.64	34.96	35.16	.64	8.502	9.25	.500	7.250	2.000	.500 x .500 x 3.5
		254-256	30.64	35.46	35.66	.64	8.502	9.25	.500	7.250	2.000	.500 x .500 x 3.5
		284-286 †	30.64	36.21	36.41	.64	10.502	11.50	.500	9.000	2.000	.500 x .500 x 3.5
	FC4	56-145	29.90	32.80	33.05	.64	4.502	7.38	.375	5.875	1.625	.375 x .375 x 3.0
		182-184	29.90	34.18	34.38	.64	8.502	9.25	.500	7.250	1.625	.375 x .375 x 3.0
		231-215	29.90	34.68	34.88	.64	8.502	9.25	.500	7.250	1.625	.375 x .375 x 3.0

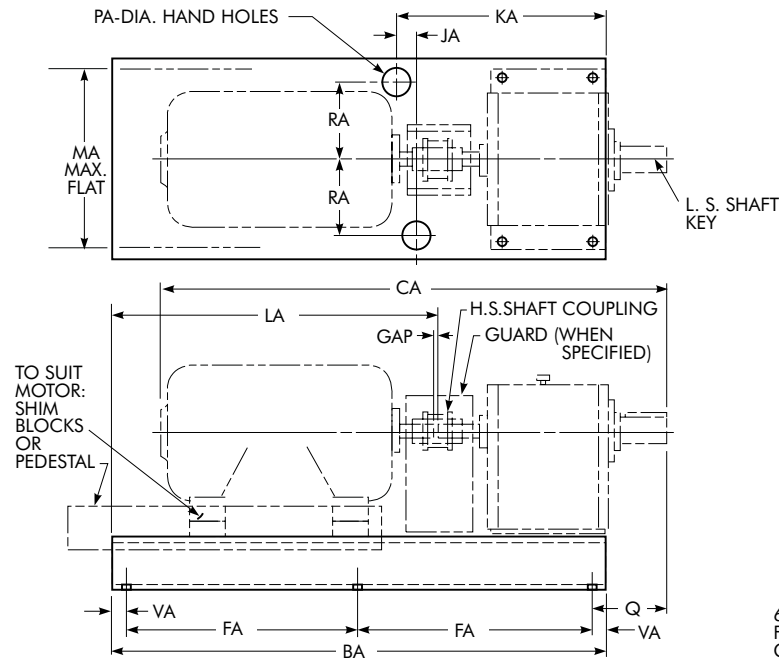
★ Dimensions are for reference only and are subject to change without notice unless certified.

‡ Motor frames 182-256 will have conduit box mounted at 45° for drive Size 2080F3 only.

† Adapter for motor frames 284-286 uses an 8 hole pattern.

Type MP

Motor Plates/Dimensions — Inches

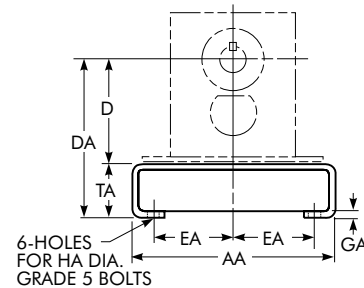


Type MP motor plates are used to accommodate oversize motors, special couplings, clutches, or brakes. Motor plates allow for simplified installation of the total assembly, and also provide a rigid, "hard" mounting of the UltraMax and motor when required.

Hand holes provide access to the drive, motor, and motor plate foundation bolts: they also provide simplified handling and venting when the motor plate is grouted in place.

Standard motor plates are available; each plate accommodating two drive sizes, for example, MP40/50 is for size 2040/2050 drives.

Special motor plates can be designed to accommodate special couplings, clutches, brakes and prime movers which will not fit on the standard motor plates shown here.



DRIVE SIZE ★	Motor Plate (MP) Size	D	DA ±.14	LA			Q
				F2	F3	F4	
2040	MP40/50	8.50	14.50	33.52	33.52	34.56	7.46
2050	MP40/50	9.60	15.60	31.62	31.62	33.18	8.66
2060	MP60/70-2	10.60	16.60	22.06	22.68	23.44	8.50
	MP60/70	10.60	16.60	40.06	40.68	41.44	8.50
2070	MP60/70-2	11.66	17.66	19.66	20.72	21.46	9.50
	MP60/70	11.66	17.66	37.66	38.72	39.46	9.50
2080	MP80/90-2	12.78	21.78	37.02	38.06	38.80	11.20
	MP80/90	12.78	21.78	52.02	53.06	53.80	11.20
2090	MP80/90-2	15.74	24.74	34.82	36.24	36.98	12.40
	MP80/90	15.74	24.74	49.82	51.24	51.98	12.40

DRIVE SIZE ★	Motor Plate (MP) Size	D	DA ±.14	LA — W/O Backstop			LA — W/Backstop			Q
				FC2	FC3	FC4	FC2	FC3	FC4	
2100	100/110-2	17.40	26.40	32.54	33.90	34.38	25.94	28.30	28.58	13.54
	100/110	17.40	26.40	58.54	59.90	60.38	51.94	54.30	54.58	13.54
2110	100/110-2	19.50	28.50	29.60	31.52	32.00	23.00	25.90	26.40	14.12
	100/110	19.50	28.50	55.60	57.52	58.00	49.00	51.90	52.40	14.12
2120	120/130-4	21.90	30.90	26.80	28.78	29.56	20.20	23.32	23.58	14.68
	120/130-2	21.90	30.90	46.80	48.78	49.56	40.20	43.32	43.58	14.68
	120/130	21.90	30.90	74.80	76.78	77.56	68.20	71.32	71.58	14.68
2130	120/130-4	24.70	33.70	24.68	27.28	28.06	18.08	21.82	22.08	15.76
	120/130-2	24.70	33.70	44.68	47.28	48.06	38.08	41.82	42.08	15.76
	120/130	24.70	33.70	72.68	75.28	76.06	66.08	69.82	70.08	15.76

DRIVE SIZE ★	Motor Plate (MP) Size	AA*	BA	EA	FA	GA	HA	JA	KA	MA	PA	RA	TA +.20 -.00	VA	Wt-lb (w/o drive)
2040/2050	MP40/50	20.00	46.00	7.50	21.50	.50	1.000	0	15.50	18.00	5.00	6.70	5.90	1.50	270
	MP60/70-2	25.00	40.00	10.00	18.50	.50	1.000	0	20.00	23.00	6.00	8.00	5.90	1.50	272
2060/2070	MP60/70	25.00	58.00	10.00	27.50	.50	1.000	1.00	22.00	23.00	6.00	8.00	5.90	1.50	380
	MP80/90-2	30.00	60.00	11.80	27.50	.75	1.500	0	23.30	26.50	6.00	9.00	8.90	2.50	874
2080/2090	MP80/90	30.00	75.00	11.80	35.00	.75	1.500	1.00	31.00	26.50	6.00	9.00	8.90	2.50	980
2100/2110	MP100/110-2	35.00	60.00	14.20	27.50	.75	1.500	0	30.00	31.50	6.00	12.00	8.90	2.50	942
	MP100/110	35.00	86.00	14.20	40.50	.75	1.500	2.00	36.00	31.50	6.00	12.00	8.90	2.50	1150
2120/2130	MP120/130-4	39.00	60.00	16.20	27.50	.75	1.500	0	30.00	35.50	6.00	14.00	8.90	2.50	1008
	MP120/130-2	39.00	80.00	16.20	37.50	.75	1.500	0	38.24	35.50	6.00	14.24	8.90	2.50	1294
	MP120/130	39.00	108.00	16.20	51.50	.75	1.500	4.00	46.00	35.50	6.00	14.00	8.90	2.50	1610

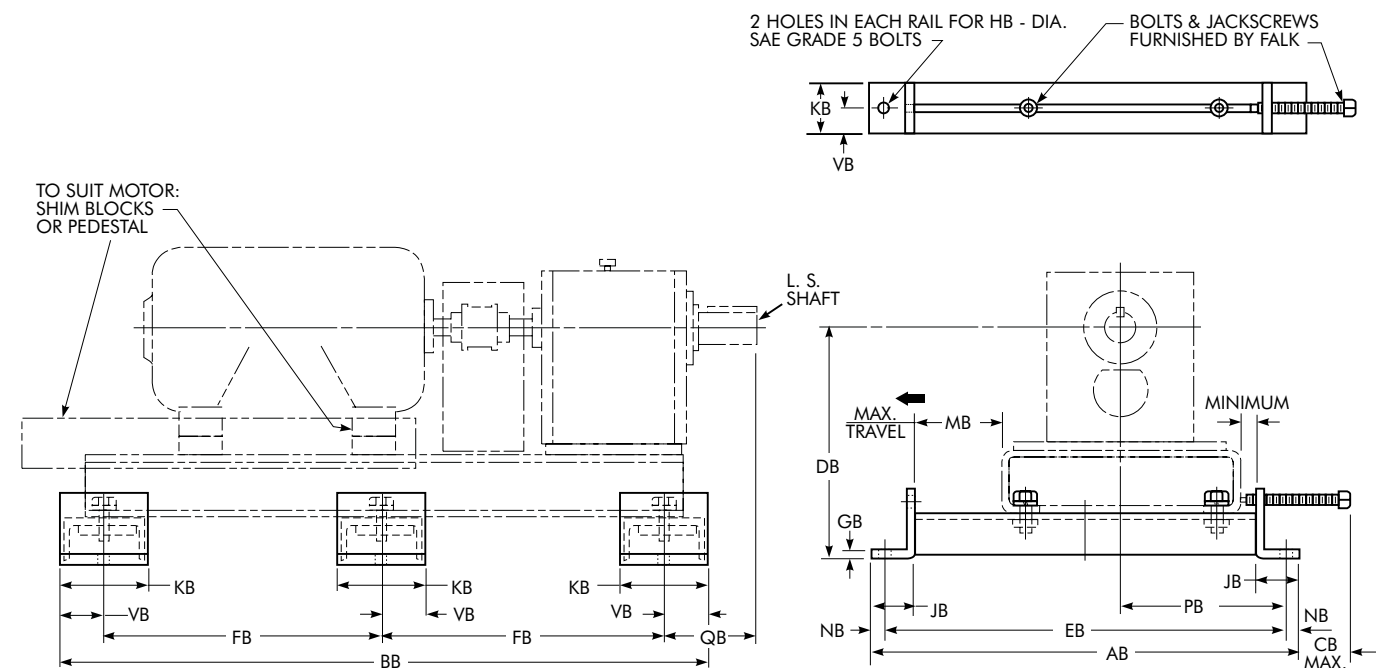
★ Dimensions are for reference only and are subject to change without notice unless certified.

* When a motor pedestal is furnished, dimension AA is 1.24" wider for MP 40/50, 1.50" wider for MP60 thru 90 and 1.00" wider for MP100 thru 130.

Type SR

Slide Rails/Dimensions — Inches

Type SR slide rails can be used in conjunction with UltraMax MP motor plates for positioning of the drive assembly, and to facilitate chain and belt drive installation, tensioning, and service.



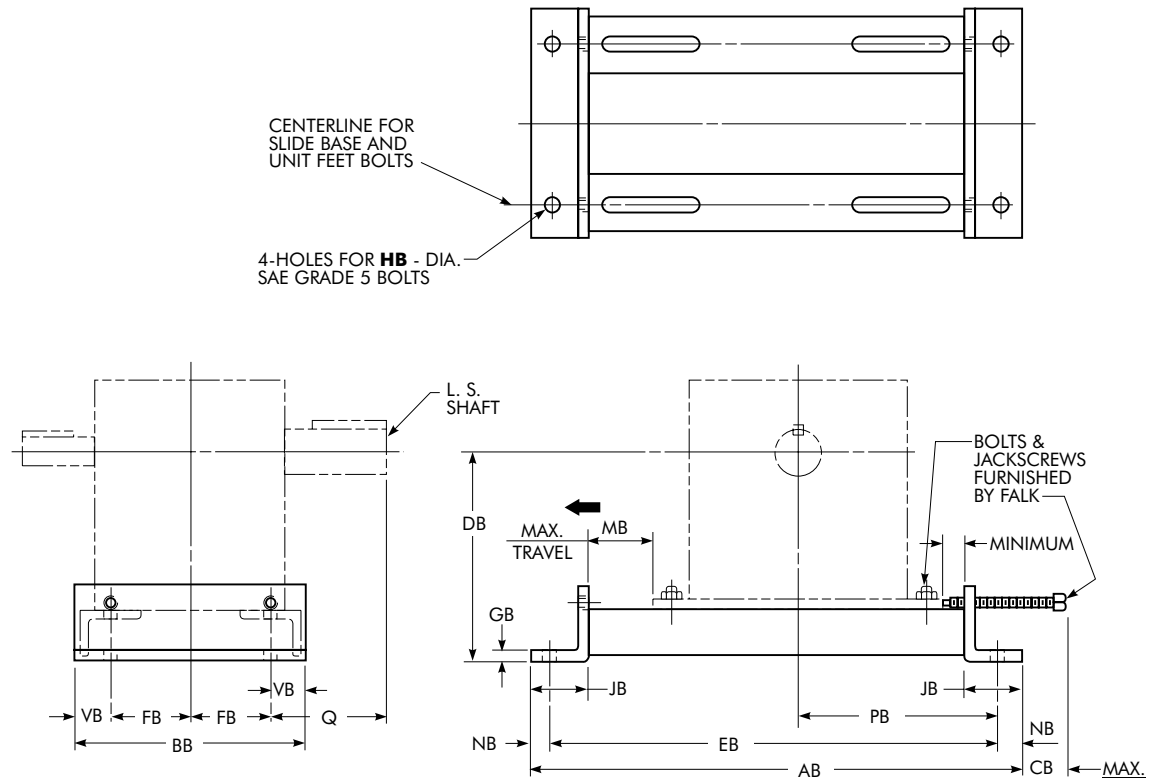
SLIDE RAIL & DRIVE SIZE ★	Motor Plate Size	AB	BB	CB Max	DB	EB	FB	GB	HB	JB	KB	MB	NB	PB Min	QB	VB
SR2040	MP40/50	40.00	50.00	4.20	18.26	37.40	21.50	.75	1.00	4.00	7.00	6.44	1.30	13.00	7.46	3.50
SR2050	MP40/50	40.00	50.00	4.20	19.36	37.40	21.50	.75	1.00	4.00	7.00	6.44	1.30	13.00	8.66	3.50
SR2060	MP60/70-2	40.00	44.00	4.20	20.36	37.40	18.50	.75	1.00	4.00	7.00	6.44	1.30	15.50	8.50	3.50
	MP60/70	40.00	62.00	4.20	20.36	37.40	27.50	.75	1.00	4.00	7.00	6.44	1.30	15.50	8.50	3.50
SR2070	MP60/70-2	40.00	44.00	4.20	21.42	37.40	18.50	.75	1.00	4.00	7.00	6.44	1.30	15.50	9.50	3.50
	MP60/70	40.00	62.00	4.20	21.42	37.40	27.50	.75	1.00	4.00	7.00	6.44	1.30	15.50	9.50	3.50
SR2080	MP80/90-2	60.00	64.60	3.38	27.04	56.00	27.50	1.00	1.50	6.00	9.60	7.20	2.00	19.30	11.20	4.80
	MP80/90	60.00	79.60	3.38	27.04	56.00	35.00	1.00	1.50	6.00	9.60	7.20	2.00	19.30	11.20	4.80
SR2090	MP80/90-2	60.00	64.60	3.38	30.00	56.00	27.50	1.00	1.50	6.00	9.60	7.20	2.00	19.30	12.40	4.80
	MP80/90	60.00	79.60	3.38	30.00	56.00	35.00	1.00	1.50	6.00	9.60	7.20	2.00	19.30	12.40	4.80
SR2100	MP100/110-2	60.00	64.60	3.38	31.66	56.00	27.50	1.00	1.50	6.00	9.60	7.20	2.00	21.80	13.54	4.80
	MP100/110	60.00	90.60	3.38	31.66	56.00	40.50	1.00	1.50	6.00	9.60	7.20	2.00	21.80	13.54	4.80
SR2110	MP100/110-2	60.00	64.60	3.38	33.76	56.00	27.50	1.00	1.50	6.00	9.60	7.20	2.00	21.80	14.12	4.80
	MP100/110	60.00	90.60	3.38	33.76	56.00	40.50	1.00	1.50	6.00	9.60	7.20	2.00	21.80	14.12	4.80
SR2120	MP120/130-4	60.00	64.60	3.38	36.16	56.00	27.50	1.00	1.50	6.00	9.60	7.20	2.00	23.80	14.68	4.80
	MP120/130-2	60.00	84.60	3.38	36.16	56.00	37.50	1.00	1.50	6.00	9.60	7.20	2.00	23.80	14.68	4.80
	MP120/130	60.00	112.60	3.38	36.16	56.00	51.50	1.00	1.50	6.00	9.60	7.20	2.00	23.80	14.68	4.80
SR2130	MP120/130-4	60.00	64.60	3.38	38.96	56.00	27.50	1.00	1.50	6.00	9.60	7.20	2.00	23.80	15.76	4.80
	MP120/130-2	60.00	84.60	3.38	38.96	56.00	37.50	1.00	1.50	6.00	9.60	7.20	2.00	23.80	15.76	4.80
	MP120/130	60.00	112.60	3.38	38.96	56.00	51.50	1.00	1.50	6.00	9.60	7.20	2.00	23.80	15.76	4.80

★ Dimensions are for reference only and are subject to change without notice unless certified.

Type SB

Slide Bases/Dimensions — Inches

Type SB slide bases provide for convenient positioning of UltraMax drives, and facilitate chain and belt installation tensioning and service. The slide base is permanently bolted to the foundation, and when a change of position is desired, the drive is easily shifted by loosening the gear drive foundation bolts and turning the adjusting screws. After the desired belt or chain tension is obtained, the drive foundation bolts are tightened, and the machine is ready for operation. All drives on slide bases are available with motor mounts in the 12 o'clock position; Sizes 2090 and larger are also available with motor mounts in the 3 and 9 o'clock positions.



SLIDE BASE & DRIVE SIZE ★	Q	AB	BB	CB Max	DB	EB	FB	GB	HB	JB	MB	NB	PB Min	VB	Wt-lb Approx.
SB2040	6.86	25.02	10.20	3.36	10.76	23.22	3.05	.50	.750	2.50	4.10	.90	9.54	2.04	41
SB2050	8.10	28.30	11.60	3.56	12.36	26.30	3.55	.50	.875	3.00	4.70	1.00	10.80	2.24	62
SB2060	8.00	31.32	14.70	2.78	13.86	28.72	5.00	.62	1.000	3.50	4.70	1.30	12.00	2.35	92
SB2070	9.20	33.72	16.40	2.90	14.92	31.12	5.65	.62	1.125	3.50	4.70	1.30	13.20	2.54	104
SB2080	10.00	37.68	19.00	4.18	16.54	34.88	6.60	.75	1.250	4.00	5.70	1.40	14.58	2.90	169
SB2090	11.50	44.72	21.00	2.18	20.00	39.72	7.15	1.00	1.500	6.00	5.70	2.50	17.00	3.35	228
SB2100	13.14	46.16	21.20	2.26	21.66	41.16	7.48	1.00	1.500	6.00	5.70	2.50	17.72	3.12	264
SB2110	13.72	49.10	23.60	3.22	25.76	44.10	8.64	1.00	1.500	6.00	6.76	2.50	18.66	3.16	344
SB2120	14.58	52.12	25.60	3.24	28.16	47.12	9.40	1.00	1.750	6.00	6.76	2.50	20.18	3.40	382
SB2130	16.16	53.64	26.20	3.24	30.96	48.64	9.65	1.00	1.750	6.00	6.76	2.50	20.94	3.44	394

★ Dimensions are for reference only and are subject to change without notice unless certified. All drives on slide bases are available with motor mounts in the 12 o'clock position; Sizes 2090 and larger are also available with motor mounts in the 3 and 9 o'clock positions.

Types IBS & EBS

Backstops

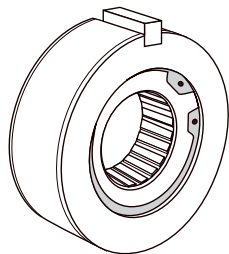
Prevent Reverse Rotation

Backstops provide positive prevention of reverse rotation or backrun without backlash on conveyors, elevator head shafts and similar applications. Designed as standard accessories, backstops can be furnished on all horizontal concentric shaft drives.

To prevent damage to backstops due to incorrect motor shaft rotation at start up, couplings are NOT assembled when drives are furnished with backstops. After completing the electrical connection, check motor and drive shaft rotations. Then complete alignment and assembly of coupling.

DO NOT use a backstop as a substitute for a brake.

Both types of backstops (internal or external) are designed to prevent reverse rotation 5 times or less in eight hours, with one minute or more in the over-running direction between backstopping load applications. If backstopping operations are more frequent, or the time between operations is less than one minute, the backstop is classified as a working or indexing device and the application must be referred to the Factory for selection. When ordering, specify low speed shaft rotation when viewing drive from the end of the low speed shaft.



Internal (IBS) cartridge type

Drive Sizes 2040 thru 2090

Internal backstop . . . cartridge type . . . compact . . . reliable . . . no measurable power loss.

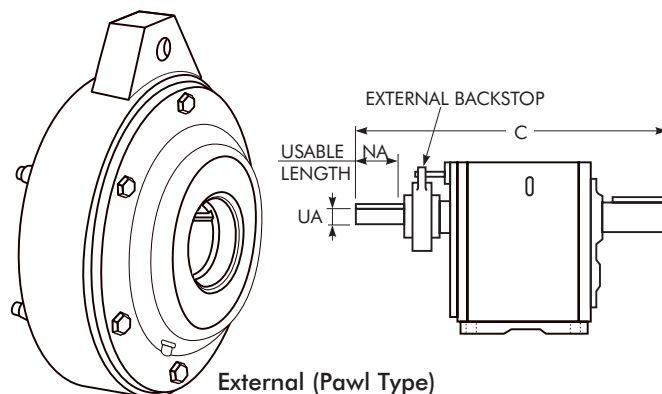
Can be added . . . removed . . . or reversed without disturbing revolving elements.

Mounted internally on the outer end of the low speed pinion shaft . . . backstop load transmitted only through low speed gear set.

Positive continuous lubrication . . . 50% or more of backstop is immersed in oil.

Drive dimensions with and without backstops . . . identical except for dimension W shown on dimension pages.

Backstops are NOT available for drive Sizes 2040-2090 with 1.5 thru 4.57:1 ratios.



External (Pawl Type)

Drive Sizes 2100 thru 2130

DO NOT use Falk External Backstops (Pawl Type) in tandem. Refer to Falk all applications involving the need for two or more backstops in one system. The Falk Pawl type backstop is designed to operate during overrunning within a speed range of 400 to 1800rpm. Contact Falk for creep drive applications, and for continuous speeds less than 400 rpm, or greater than 1800 rpm. Refer to Falk for tilt limits of backstops.

TYPE FC — External Pawl type backstop is mounted on extended high speed shaft. Refer to Backstop Selection Table on Page 69 for all backstop selections.

TYPE FZ — External Pawl type backstop is mounted on extended high speed shaft. Motor brackets for drives with external backstops may be slightly longer and are furnished blank (not drilled). Refer to price list for information required by Falk to drill and/or mount motor.

Falk self-contained backstop . . . precision manufactured . . . for either direction of rotation.

Backstop housing . . . case hardened on the inner periphery . . . precision ground. Pawls pivot about hardened steel pins in forged rotor hub.

Bearings . . . pre-lubricated and sealed (or shielded) and require no future lubrication.

Grease-purged seals . . . standard on Pawl Type.

Drive dimensions with and without external backstops . . . identical except for the high speed shaft extension . . . see below.

DRIVE SIZE ★	DOUBLE REDUCTION — FC2/FZ2					TRIPLE REDUCTION — FC3/FZ3				QUADRUPLE REDUCTION — FC4/FZ4			
	C	Ratio Range	NA	High Speed Shaft *		C	NA	High Speed Shaft *		C	NA	High Speed Shaft *	
				UA	Key			UA	Key			UA	Key
2100	45.10	5.06-13.95 17.09-31.39	5.24 6.22	2.7500 2.1250	.625 x .625 x 11.00 .500 x .500 x 11.00	42.74	3.88	2.1250	.500 x .500 x 9.00	42.26	3.38	1.8750	.500 x .500 x 8.00
2110	48.62	7.59-20.93 25.63-31.39	5.62 6.62	3.0000 2.1250	.750 x .750 x 11.50 .500 x .500 x 11.50	45.70	3.82	2.1250	.500 x .500 x 9.00	45.22	3.32	1.8750	.500 x .500 x 8.00
2120	51.98	11.39-31.39	6.22	3.2500	.750 x .750 x 12.00	48.86	4.00	2.1250	.500 x .500 x 9.00	48.60	3.74	2.0000	.500 x .500 x 8.00
2130	55.18	13.95-31.39	6.76	3.5000	.875 x .875 x 12.50	51.44	4.00	2.1250	.500 x .500 x 9.00	51.18	3.76	2.0000	.500 x .500 x 8.00

★ Dimensions are for reference only and are subject to change without notice unless certified.

★ Shaft diameters under 3" are held to limits of +.0000", -.0005". Shaft diameters 3" and over are held to limits of +.000", -.001". Shaft keyseat depth is one-half key height. Key extends from the end of the shaft through the backstop.

Type EBS

External (Pawl Type) Backstop Selections/580 rpm or higher

Nominal Ratios		DRIVE SIZE				Nominal Ratios
		2100	2110	2120	2130	
Double Reduction	5.06			★Drive rating exceeds backstop rating. Refer to Falk.		5.06
	6.20					6.20
	7.59					7.59
	9.30					9.30
	11.39					11.39
	13.95					13.95
	17.09					17.09
	20.93					20.93
	25.63					25.63
Triple Reduction	31.39					31.39
Quadruple Reduction	38.44					38.44
	47.08					47.08
	57.66					57.66
	70.62					70.62
	86.50					86.50
	105.90					105.90
	129.70					129.70
	158.90					158.90
	194.60					194.60
Quadruple Reduction	238.40					238.40
	291.90					291.90
	357.50					357.50
	437.90					437.90
	536.30					536.30
	656.80					656.80
	804.50					804.50
	985.30					985.30

★ Gear drive maximum rating at 580 rpm exceeds #60 B1F rating. #60 backstop may be used only if required high speed shaft torque is less than 40,320 lb-in.

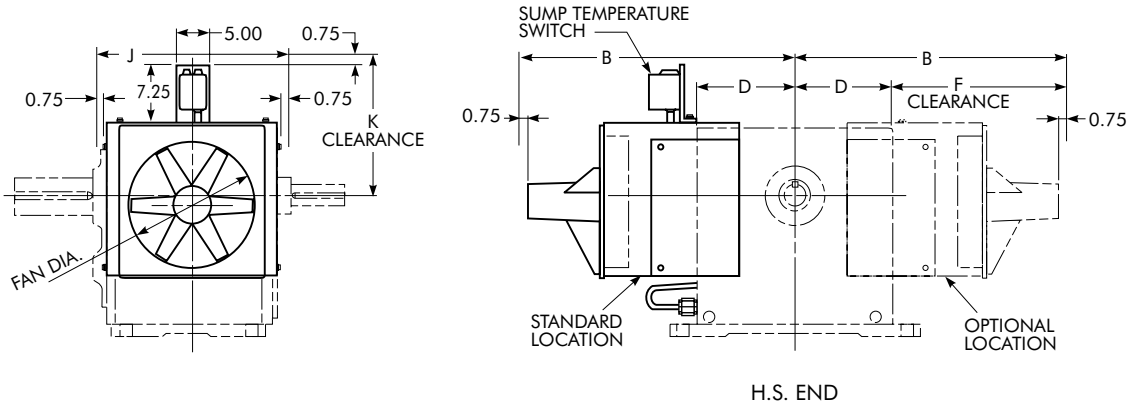
Type EF

Electric Fans/Dimensions — Inches

Electric fans achieve thermal capacities up to twice that of shaft fans, are unaffected by shaft rotation and speeds, and are thermostatically controlled to shut off when not required. Electric fans can be mounted on either side of the UltraMax and permit full use of the UltraMax usable shaft extensions. Electric fans are available with the following motor packages:

- 60 Hz, 3 Phase, 220/380 VAC
- 60 Hz, 3 Phase, 265/460 VAC
- 50 Hz, 3 Phase, 220/380 VAC

Other motor package options may be available. Consult Factory for selection, price and delivery.



ELECTRIC FAN, DRIVE SIZE & REDUCTION ★	Electric Fan Dia — Inches	B	D	F	J	K
EF2060 FC2/3 & FZ2/3	12	24.63	6.9	17.73	17.05	14.30
EF2070 FC2/3 & FZ2/3	12	25.59	7.9	17.69	19.05	14.87
EF2080 FC2/3 & FZ2/3	12	26.33	8.7	17.63	21.42	15.37
EF2090 FC2/3 & FZ2/3	14	28.21	9.6	18.61	23.30	16.53
EF2100 FC2/3 & FZ2/3	16	30.15	10.7	19.45	25.05	17.20
EF2110 FC2/3 & FZ2/3	18	32.01	11.6	20.41	27.67	18.40
EF2120 FC2/3 & FZ2/3	20	34.12	12.6	21.52	30.05	19.78
EF2130 FC2/3 & FZ2/3	22	37.93	13.5	24.43	31.55	20.66

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Type CT

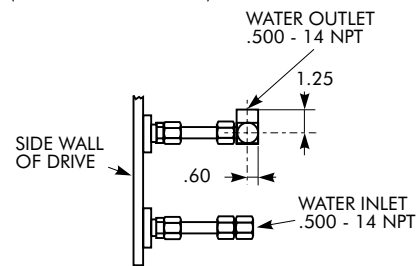
Cooling Tubes/Dimensions — Inches

Cooling tubes are an economical alternative to pumps and coolers for thermal requirements beyond the range of fans. Water is circulated through a series of finned tubes in the sump of the drive. All joints and connections are external, eliminating any chance of leakage into the drive.

A minimum flow rate of 2 gallons per minute of clean water is required to prevent tube fouling. The maximum flow rate to prevent tube erosion is 5 gallons per minute. Thermal power ratings are based on a water inlet temperature of 70°F (21°C) with 2 gallons per minute flow rate.

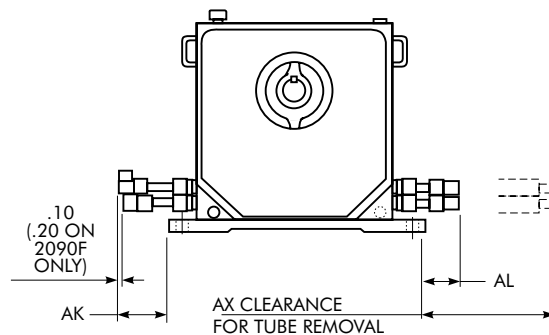
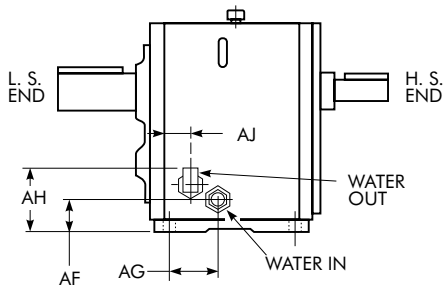
WATER INLET & OUTLET CONNECTIONS

(All Sizes & Reductions)

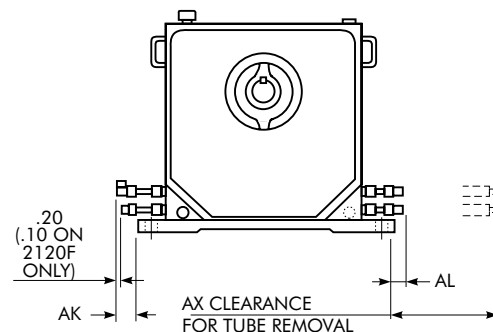
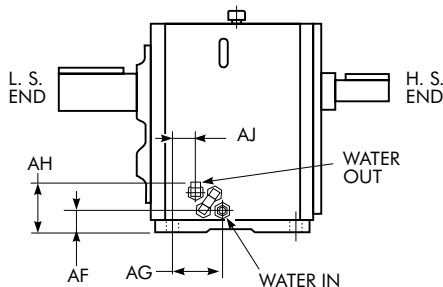


Provide Clearance for Water Connections

DRIVE SIZES 2060F, 2070F, & 2080F ALL REDUCTIONS & RATIOS (1.50 - 985:1) ★
DRIVE SIZES 2090F2 - RATIOS (1.50 - 4.57:1 ONLY)



DRIVE SIZES 2090F2, F3, & F4 RATIOS (5.06 - 985:1) ★
DRIVE SIZES 2100-2130F ALL REDUCTIONS & RATIOS (1.50 - 985:1)



COOLING TUBE & DRIVE SIZE ★	Drive Reduction	AF	AG	AH	AJ	AK	AL	AX	Std No. of Tubes
CT2060	FC/FZ 2, 3 & 4	2.16	3.80	4.56	1.80	2.7	2.8	19.0	2
CT2070	FC/FZ 2, 3 & 4	2.16	4.35	3.81	2.08	2.6	2.8	21.2	2
CT2080	FC/FZ 2, 3 & 4	2.30	5.40	3.81	2.39	2.4	2.6	22.4	2
CT2090	FC/FZ 2, 3 & 4	2.59	5.60	6.13	2.32	1.7	1.8	23.3	4
CT2090	FC/FZ 2 ■	2.59	5.60	4.10	2.59	1.7	1.8	23.3	2
CT2100	FC/FZ 2, 3 & 4	2.75	6.11	6.29	2.83	1.6	1.7	25.0	4
CT2110	FC/FZ 2, 3 & 4	2.75	6.50	6.29	3.22	2.0	2.1	27.4	4
CT2120	FC/FZ 2, 3 & 4	2.99	8.52	6.74	2.94	1.4	1.6	28.9	6
CT2130	FC/FZ 2, 3 & 4	2.99	8.19	8.83	6.23	1.4	1.5	30.5	8

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■ Ratios 1.50 thru 4.57 only.

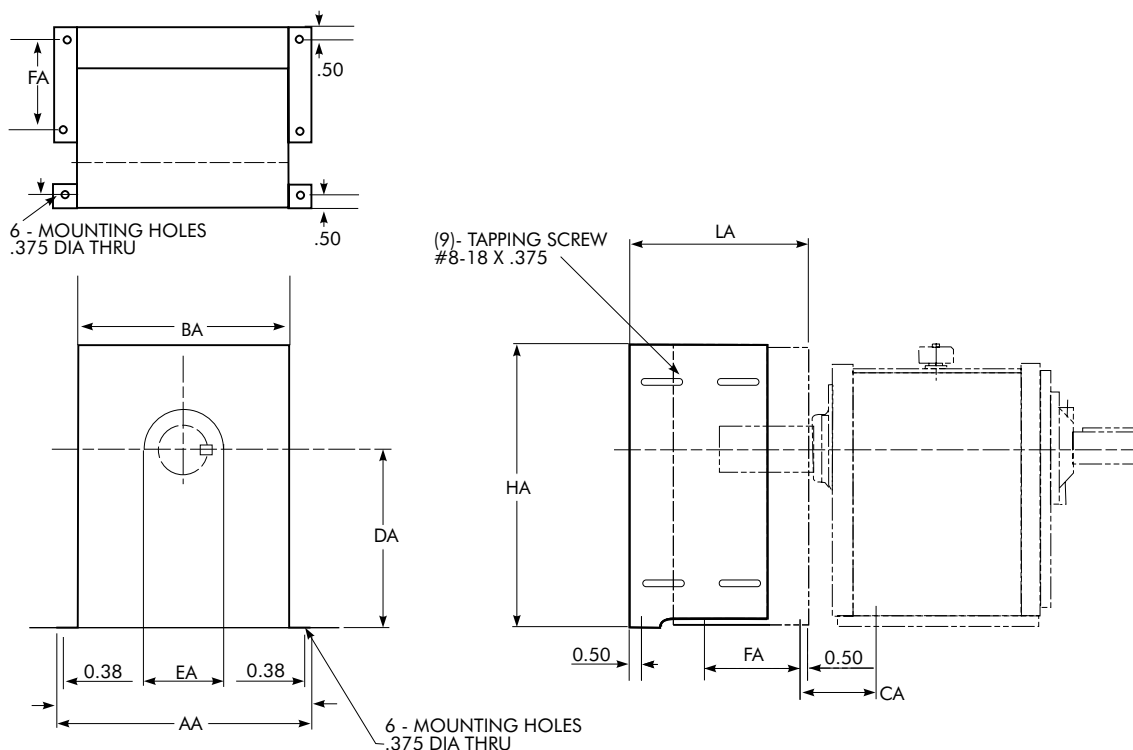
Coupling Guards

Dimensions — Inches

Falk UltraMax standard low speed coupling guards provide quick delivery at a low price. In stock at Falk, each guard is designed for a specific size UltraMax, and can be adjusted to suit a number of standard couplings and driven equipment requirements. The guards are 14 gauge steel, painted with Falk standard paint. Safety Yellow paint can be provided at additional cost with extended delivery.

Falk has designed the UltraMax end of the guard for close mounting, minimal clearance and maximum guarding. The buyer assumes full responsibility for proper guarding of the driven machine end to applicable national and local standards.

For special, made-to-order guards, provide complete details to your Falk District Office for a quotation.



DRIVE SIZE	Guard Part Number	DIMENSIONS								Max Coupling Size	
		AA	BA	CA	DA	EA	FA	HA	LA Min-Max	Type T	Type G
2040	787354	13.05	10.55	3.68	8.50	4.00	3.75	13.77	6.27-11.15	1080	1030
2050	787355	13.42	10.92	3.91	9.60	4.50	5.00	15.06	7.65-13.65	1090	1030
2060	787356	15.10	12.55	3.22	10.60	4.75	5.75	16.90	8.40-15.15	1100	1035
2070	787357	16.05	13.55	3.44	11.66	5.25	7.25	18.44	9.88-18.14	1110	1040
2080	787358	17.30	14.80	3.72	12.78	5.50	7.75	20.18	10.41-19.16	1120	1045
2090	787359	18.80	16.30	4.24	15.74	6.00	9.38	23.89	12.02-22.40	1130	1050
2100	787360	20.30	17.80	4.89	17.40	6.50	11.00	26.30	13.32-25.65	1140	1055
2110	787361	23.05	20.55	5.00	19.50	7.00	11.75	29.76	14.41-27.16	1150	1060
2120	787362	24.80	22.30	5.34	21.90	7.50	13.25	33.05	15.90-30.15	1160	1070
2130	787363	27.41	25.05	5.90	24.70	8.30	14.75	37.23	17.40-33.15	1170	1070