



DODGE[®]

2009

DODGE[®] **MAGNAGEAR**

**GEARING
ENGINEERING CATALOG**



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Features/Benefits

Specifications

Nomenclature

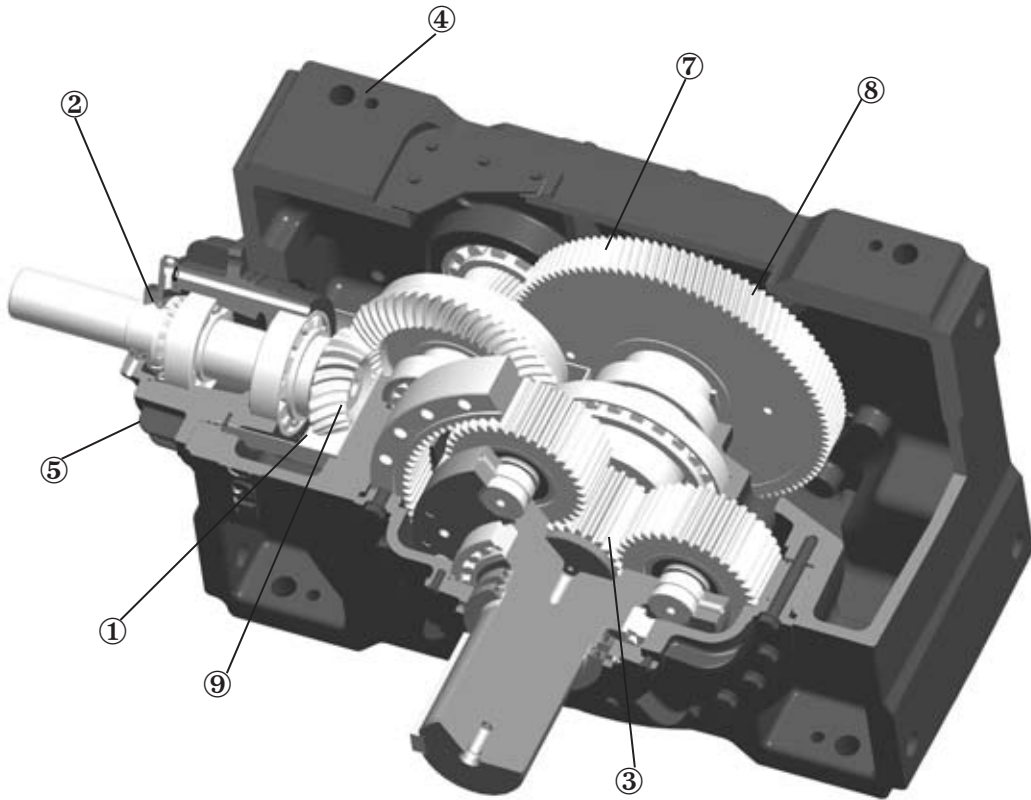
Easy Selection

Selection/Dimensions

FEATURES/BENEFITS



MagnaGear XTR



1. **Longer-Life Bearings**
Bearing designs meet or exceed AGMA standards, resulting in projected L-10 life over twice that of most competitors
2. **Tandem Lip Seals**
Working together, MagnaGear XTR reducer's standard HNBR lip seals minimize shaft wear, provide high temperature protection and twice the sealing power to contain lubricant and protect against contaminants
3. **Power Dense Design**
Heavy-duty power dense design gives you more power in less space and proven DODGE Planetary Gearing
4. **Universal Housing**
Rugged cast iron housing with multiple mounting pads allows a variety of mounting configurations and is reversible to minimize spares
5. Housing designed to increase heat dissipation
6. **Oversized Inspection Covers**
Oversized inspection covers on the MagnaGear XTR reducer housing allows easy accessibility
7. High precision hardened and ground gearing
8. Gear tooth geometry designed to maximize efficiency
9. Available in right angle or parallel shaft configurations

MagnaGear XTR Design Elements and Proven Dodge Features

MagnaGear XTR Advantages

- Maximum reliability
- Proven Dodge reducer technology
- Longer bearing life
- Premium seal arrangement
- Premium gearing designed with FEA (Finite Element Analysis) computer modeling
- Improved heat dissipation
- Capabilities exceeding 2,500 Hp
- Lower Total Cost of Ownership
- Easy maintenance



SPECIFICATIONS



GENERAL SPECIFICATIONS for DODGE MAGNAGEAR Speed Reducers to 920,000 in-lbs

MagnaGear speed reducers are a 2 or 3 stage reduction in a parallel or right angle shaft configuration. Gearing type is helical, bevel helical and planetary. Output shaft is solid or hollow with a twin taper bushing. Mounting configurations include foot or shaft mounting and standard mounting accessories include solid base, swing base and tunnel housing. Cooling systems include a shaft mounted fan, electric fan or external cooling system with a water to oil or air to oil heat exchanger.

Gearing

MagnaGear sizes G100 through G390 utilize helical or bevel helical gearing. Sizes G525 through G920 utilize helical or bevel helical gearing with a planetary gear output.

Gear materials are a carburizing grade alloy steel which meets an AGMA Grade 2 standard. All gearing is case carburized to ensure a high surface durability and resilient tooth core for greater impact resistance and longer service life.

Bevel, helical, planet gears and sun pinion are ground after heat treating and carburizing to an AGMA Q11 minimum quality level. Gear quality is equivalent to DIN Grade 6 standard.

Castings

MagnaGear housings are constructed of Class 30 gray iron. Housings are suitable for horizontal output shaft mounting on 4 sides. The same housings are used for parallel and right angle reducers.

Housings are a mono-block construction. MagnaGear sizes G525 and larger have oversized assembly covers for ease of maintenance. All housings include bolted end covers instead of bore plugs. Housings and assembly covers are precision matched to ensure proper gear alignment.

Housings include cast cooling fins for greater thermal horsepower capabilities.

Pipe fittings and plugs are NPT.

Lubrication

Gearing is splash and dip lubricated. Bearings are lubricated by dip and by gravity feed.

Mineral based EP oils are the preferred lubricant, suitable for operating temperatures up to 200°F (93°C) as well as for low ambient temperatures down to 25°F (-4°C). For applications outside this temperature range, synthetic lubricants which are suitable for operating temperatures up to 212°F (100°C) as well

as for low ambient temperatures down to -15°F (-26°C) may be used. Recommended oil viscosity ISO grade is 220EP to 320EP, depending on output RPM and ambient temperature.

MagnaGear reducers are compatible with rust and oxidation inhibiting (R&O) and polyalpha olefin (PAO) lubricants.

Oil sampling ports are standard.

Bearings

Bearings are spherical type on planetary gears, all others are tapered roller type.

Bearings ratings are based on a minimum unadjusted L-10 life of 5000 hours, providing a minimum 25,000 hour average life.

Sealing

Input and output shaft seals are a tandem radial lip arrangement. Between the tandem seals is a grease purge cavity.

Seals are constructed of hydrogenated nitrile butadiene rubber (HNBR).

Shafts

MagnaGear sizes G100 through G390 are available with a twin taper bushing hollow output shaft. The taper bushing is manufactured from ductile iron.

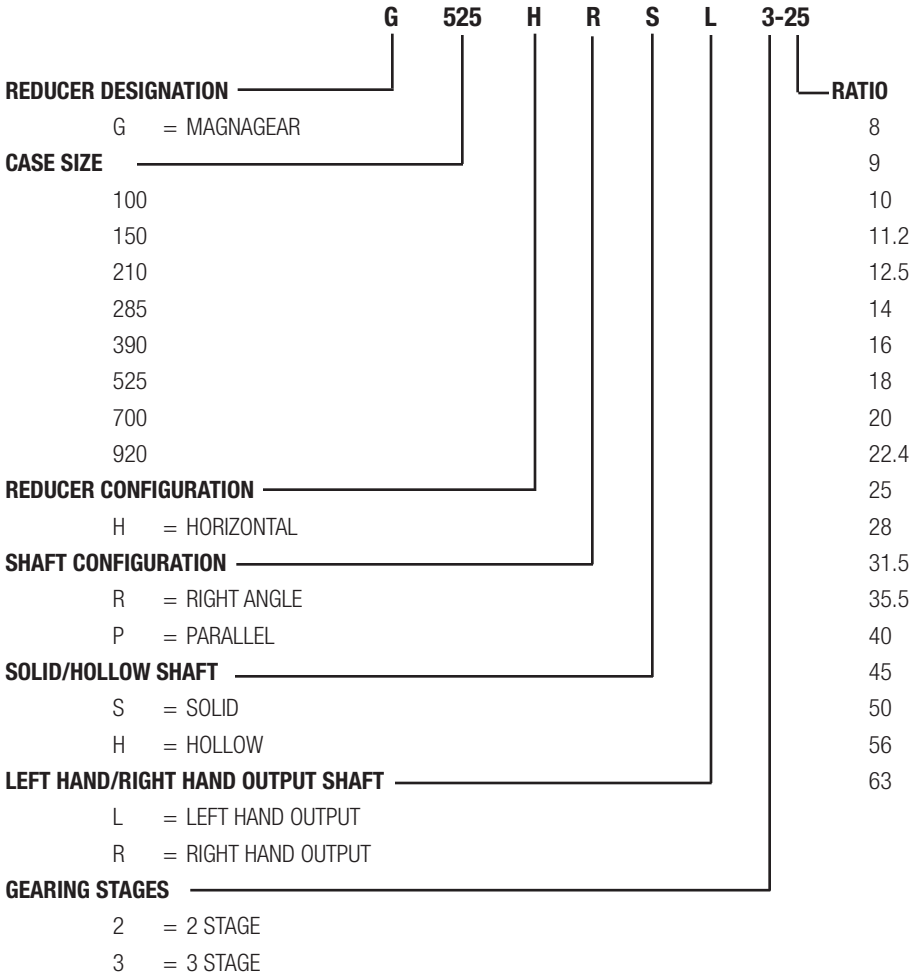
Shaft extensions are metric dimensions to conform to global standards.

Backstops

Backstops are a centrifugal throw out, lift off design which eliminates sprag sliding and reduces wear. Backstops are integrally mounted on the input shaft of parallel MagnaGear reducers or on the intermediate shaft of right angle reducers.

Backstops are lubricated by the oil in the reducer and are EP and synthetic oil compatible.

MAGNAGEAR



NOMENCLATURE EXAMPLE: G525HRSL3-25

EASY SELECTION



MagnaGear Reducer

EASY SELECTION METHOD (for 1750 RPM motors)

When to Use Easy Selection

The MagnaGear Easy Selection tables are for electric motor selections up to 1400 Hp with input speeds of 1750 rpm using AGMA recommended service factors. For all other motor/prime mover input speeds and horse powers, use the Horsepower/Torque Selection Method on pages 73 through 89.

NOTE: If your application has unusual requirements (i.e., excessive shock or overloads, extreme ambient temperatures, non-standard motors or oversized equipment), refer to Horsepower/ Torque Selection Method.

How to Select

Step 1: Determine Service Factor – See Table 2 to determine service factor for applications under normal conditions. Note: When service factor exceeds 2.0, Horsepower/ Torque Selection Method must be used.

Step 2: Determine Unit Size – See Easy Selection tables on pages 10 through 15. Find the service factor table that is required for the application. Read the unit size under required horsepower and opposite the required low speed shaft RPM. Note: For applications where fan cooling is unacceptable, use easy selection table with an increased service factor.

Step 3: Check External Thrust and Overhung Load – Consult DODGE about external thrust loads and overhung loads.

Step 4: Check Dimensions – See specification/dimension section, pages 18 through 72 for dimensions, weights, drawings and part numbers.

Step 5: Select Accessories.

Example: Easy Selection Method

A 300 Hp 1750 RPM motor is used to drive a heavy duty belt conveyor at 80 rpm operating 16 hours per day. A parallel shaft reducer is required. The reducer is coupling connected at both the input and output shafts.

Step 1: Determine Service Factor – From Table 2, Service Factors, locate “Belt Conveyors - Heavy Duty not Uniformly Fed”. Select the Service Factor of 1.50 under the column headed 10+ hours/day of service.

Step 2: Determine Unit Size – Turn to the Easy Selection Table for Parallel Reducers with a 1.5 Service Factor (page 11). Find the column headed by 350 motor horsepower and read down to a 78 low speed shaft rpm. A MagnaGear G525 is the correct selection and the nominal ratio is 22.4:1.

Step 3: Check External Thrust and Overhung Load – Since the input and output shafts are coupling connected, thrust and overhung loads will not exist. Consult DODGE about external thrust loads and overhung loads.

Step 4: Check Dimensions – Refer to the dimensions for a Dodge MagnaGear size G525 reducer located on page 63. The part number for the reducer is **449722** and is found on page 61.

Step 5: Select Accessories – A mechanical cooling fan is required for this example. Refer to the accessory part numbers for a Dodge MagnaGear size G525 reducer located on page 62. The part number for a mechanical cooling fan kit is **453954**.

MagnaGear

The service factors that follow are adapted from AGMA 6019-E89 Appendix A.

Applications which expose the gear drive to high starting torques, extreme repetitive shock, or where high energy loads must be absorbed as when stalling, require special consideration. Service factors for these special applications should be agreed upon by the user and DODGE since variations of the values in the table may be required.

The service factors in the table are based upon the use of an electric or hydraulic motor or the use of a steam or gas turbine as a prime mover. If the prime mover is a single or multi-cylinder engine, then the service factor must be adjusted in accordance with Table 1.

Table 1: Conversion Table For Single Or Multi-Cylinder Engines To Find Equivalent Single Or Multi-Cylinder Application Factor Or Service Factor

| Steam and Gas Turbines, Hydraulic or Electric Motor | Single Cylinder Engines | Multi Cylinder Engines |
|---|-------------------------|------------------------|
| 1.00 | 1.50 | 1.25 |
| 1.25 | 1.75 | 1.50 |
| 1.50 | 2.00 | 1.75 |
| 1.75 | 2.25 | 2.00 |
| 2.00 | 2.50 | 2.25 |
| 2.25 | 2.75 | 2.50 |
| 2.50 | 3.00 | 2.75 |
| 2.75 | 3.25 | 3.00 |
| 3.00 | 3.50 | 3.25 |
| 3.50 | 4.00 | 3.75 |

Table 2: Service Factors

| Application | Service | | Application | Service | | Application | Service | |
|---------------------------------|---------------|-------------|--|---------------|-------------|---|---------------|-------------|
| | 3-10 Hrs./Day | 10+Hrs./Day | | 3-10 Hrs./Day | 10+Hrs./Day | | 3-10 Hrs./Day | 10+Hrs./Day |
| AGITATORS | | | Scale Hoppers - | | | Reciprocating: | | |
| Pure Liquids | 1.00 | 1.25 | Frequent Starts | 1.25 | 1.50 | Multi-cylinder | 1.50 | 1.75 |
| Liquids & Solids | 1.25 | 1.50 | BRICK PRESS (Clay Working) | 1.75 | 2.00 | Single Cylinder | 1.75 | 2.00 |
| Liquids - Variable Density | 1.25 | 1.50 | BRIQUETTE MACHINES (Clay Working) | 1.75 | 2.00 | CONCRETE MIXERS | | |
| APRON CONVEYORS | | | BUCKET | | | Continuous | 1.25 | 1.50 |
| Uniformly Loaded or Fed | 1.00 | 1.25 | Conveyors Uniform | 1.00 | 1.25 | Intermittent | 1.25 | 1.50 |
| Heavy Duty | 1.25 | 1.50 | Conveyors Heavy Duty | 1.25 | 1.50 | CONVEYORS - Uniformly Loaded or Fed: | | |
| APRON FEEDERS | 1.25 | 1.50 | Elevators Cont. | 1.00 | 1.25 | Apron Assembly, Belt, Bucket, chain, Flight | | |
| ASSEMBLY CONVEYORS | | | Elevators Uniform | 1.00 | 1.25 | Oven, Screw | 1.00 | 1.25 |
| Uniformly Loaded or Fed | 1.00 | 1.25 | Elevators Heavy Duty | 1.25 | 1.50 | CONVEYORS - Heavy Duty | | |
| Heavy Duty | 1.25 | 1.50 | CALENDERS | | | Not Uniformly Fed: | | |
| BALL MILLS | ▲ | ▲ | Rubber | | 1.50 | Apron, Assembly, Belt, Bucket, Chain, Flight, Oven, Screw | 1.25 | 1.50 |
| BARGE HAUL PULLERS | 1.25 | 1.50 | Textile | 1.25 | 1.50 | CONVEYORS-Severe Duty | | |
| BARKING | | | CANE KNIVES | | 1.50 | Live Roll Reciprocating | † | † |
| Drums (coupling connected) | | 2.00 | CAN FILLING MACHINES | 1.00 | 1.25 | Shaker | 1.75 | 2.00 |
| Mechanical | | 2.00 | CARD MACHINES (Textile) | 1.25 | 1.50 | COOKERS (Brewing & Distilling), (Food) | 1.25 | 1.25 |
| BAR SCREENS (Sewage) | 1.25 | 1.25 | CAR DUMPERS | 1.75 | 2.00 | COOLING TOWER FANS | † | † |
| BATCHERS (Textile) | 1.25 | 1.50 | CAR PULLERS | 1.25 | 1.50 | CRANES | † | † |
| BELT CONVEYORS | | | CEMENT KILNS | ▲ | ▲ | CRUSHERS | | |
| Uniformly Loaded or Fed | 1.00 | 1.25 | CENTRIFUGAL | | | Ore or Stone | 1.75 | 2.00 |
| Heavy Duty | 1.25 | 1.50 | Blowers, compressors, Discharge Elevators, Fans or Pumps | 1.00 | 1.25 | Sugar | | 1.50 |
| BELT FEEDERS | 1.25 | 1.50 | CHAIN CONVEYORS | 1.00 | 1.25 | DEWATERING SCREENS | | |
| BENDING ROLLS | | | Uniformly Loaded or Fed | 1.00 | 1.25 | (Sewage) | 1.50 | 1.50 |
| (Machine) | 1.25 | 1.50 | Heavy Duty | 1.25 | 1.50 | DISC FEEDERS | 1.00 | 1.25 |
| BLOWERS | | | CHEMICAL FEEDERS | 1.25 | 1.25 | DISTILLING (See Brewing) | | |
| Centrifugal | 1.00 | 1.25 | (Sewage) | 1.25 | 1.25 | DOUBLE ACTING PUMPS | | |
| Lobe | 1.25 | 1.50 | CLARIFIERS | 1.00 | 1.25 | 2 or More Cylinders | 1.25 | 1.50 |
| Vane | 1.25 | 1.50 | CLASSIFIERS | 1.25 | 1.50 | Single Cylinder | † | † |
| BOTTLING MACHINERY | 1.00 | 1.25 | CLAY WORKING IND. | | | DOUGH MIXER (Food) | 1.25 | 1.50 |
| BREWING & DISTILLING | | | Brick Press | 1.75 | 2.00 | DRAW BENCH (Metal | | |
| Bottling Machinery | 1.00 | 1.25 | Briquette Machines | 1.75 | 2.00 | Mills) carriage & Main Drive | 1.25 | 1.50 |
| Brew Kettles, Cont. Duty | 1.25 | 1.25 | Pug Mills | 1.25 | 1.50 | DREDGES | | |
| Can Filling Machines | 1.00 | 1.25 | COLLECTORS (Sewage) | 1.25 | 1.25 | Cable Reels, Conveyors | 1.25 | 1.50 |
| Cookers - Cont. Duty | 1.25 | 1.25 | COMPRESSORS | | | Cutter Head & Jig Drives | 2.00 | 2.00 |
| Mash Tubs - Cont. Duty | 1.25 | 1.25 | Centrifugal | 1.00 | 1.25 | | | |
| | | | Lobe | 1.25 | 1.50 | | | |

EASY SELECTION



MagnaGear

Table 2: Service Factors (continued)

| Application | Service | | Application | Service | | Application | Service | |
|-----------------------------|---------------|------------|---------------------------------|---------------|------------|------------------------------------|---------------|------------|
| | 3-10 Hrs./Day | 10+Hrs/Day | | 3-10 Hrs./Day | 10+Hrs/Day | | 3-10 Hrs./Day | 10+Hrs/Day |
| Maneuvering Winches | 1.25 | 1.50 | COMPRESSORS | 1.25 | 1.50 | with Helical Ring Gear | | |
| Pumps | 2.00 | 2.00 | LOG HAULS (Lumber) | | | Direct connected | | 2.00 |
| Screen Drives | 1.75 | 2.00 | Incline-well Type | 1.75 | 1.75 | Cement Kilns, Dryers, | | |
| Stackers, Utility Winches | 1.25 | 1.50 | LOOMS (Textile) | 1.25 | 1.50 | Coolers, Pebble, Plain | | |
| DRY DOCK CRANES | † | † | LUMBER INDUSTRY | | | & Wedge Bar Mills | | 1.50 |
| DRYERS & COOLERS | | | Barkers - Spindle Feed | 1.25 | 1.50 | Tumbling Barrels | 1.75 | 2.00 |
| (Mills, Rotary) | | 1.50 | Barkers - Main Drive | 1.75 | 1.75 | MIXERS (Also see Agitators) | | |
| DYEING MACHINERY | | | Carriage Drive | † | † | Concrete, Cont. & Int. | 1.25 | 1.50 |
| (Textile) | 1.25 | 1.50 | Conveyors | | | Constant Density | 1.00 | 1.25 |
| ELEVATORS | | | Burner | 1.25 | 1.50 | Variable Density | 1.25 | 1.50 |
| Bucket - Uniform Load | 1.00 | 1.25 | Main or Heavy Duty | 1.50 | 1.50 | NAPPERS (Textile) | 1.25 | 1.50 |
| Bucket - Heavy Duty | 1.25 | 1.50 | Main Log | 1.75 | 2.00 | OIL INDUSTRY | | |
| Centrifugal Discharge | 1.00 | 1.25 | Re-Saw Merry-Go- | | | Chillers | 1.25 | 1.50 |
| Escalators | 1.00 | 1.25 | Round | 1.25 | 1.50 | Oil Well Pumping | † | † |
| Freight | 1.25 | 1.50 | Slab | 1.75 | 2.00 | Paraffin Filter Press | 1.25 | 1.50 |
| Gravity Discharge | 1.00 | 1.25 | Transfer | 1.25 | 1.50 | Rotary Kilns | 1.25 | 1.50 |
| Man. Lifts, Passenger | † | † | Chains - Floor | 1.50 | 1.50 | ORE CRUSHERS | 1.75 | 2.00 |
| EXTRUDERS | | | Chains - Green | 1.50 | 1.75 | OVEN CONVEYORS | | |
| General | 1.50 | 1.50 | Cut-Off Saws - Chain | | | Uniform | 1.00 | 1.25 |
| Plastics | | | & Drag | 1.50 | 1.75 | Heavy Duty | 1.25 | 1.50 |
| Variable Speed Drive | 1.50 | 1.50 | Debarking Drums | 1.75 | 2.00 | PAPER MILLS (1) | | |
| Fixed Speed Drive | 1.75 | 1.75 | Feeds - Edger | 1.25 | 1.50 | Agitator (Mixer) | | 1.50 |
| Rubber | | | Feeds - Gang | 1.75 | 1.75 | Agitator for Pure Liquids | | 1.25 |
| Continuous Screw | | | Feeds - Trimmer | 1.25 | 1.50 | Barking Drums, Barkers | | |
| Operation | 1.75 | 1.75 | Log Deck | 1.75 | 1.75 | - Mech. | | 2.00 |
| Intermittent Screw | | | Log Hauls - Incline, | | | Beater | | 1.50 |
| Operation | 1.75 | 1.75 | Well Type | 1.75 | 1.75 | Breaker Stack | | 1.25 |
| FANS | | | Log Turning Devices | 1.75 | 1.75 | Calender (2) | | 1.25 |
| Centrifugal | 1.00 | 1.25 | Planer Feed | 1.25 | 1.50 | Chipper | | 2.00 |
| Cooling Towers | † | † | Planer Tilting Hoists | 1.25 | 1.50 | Chip Feeder | | 1.50 |
| Forced Draft | 1.25 | 1.25 | Rolls - Live - Off | | | Coating Rolls | | 1.25 |
| Induced Draft | 1.50 | 1.50 | Bearing - Roll cases | 1.75 | 1.75 | Conveyors - | | |
| Large (Mine, etc.) | 1.50 | 1.50 | Sorting Table, Tipple | | | Chip, Bark, Chemical | | 1.25 |
| Large Industrial | 1.50 | 1.50 | Hoist | 1.25 | 1.50 | Log (Incl. Slab) | | 2.00 |
| Light (Small Diameter) | 1.00 | 1.25 | Transfer - Chain & | | | Couch Rolls | | 1.25 |
| FEEDERS | | | Craneway | 1.50 | 1.75 | Cutter | | 2.00 |
| Apron, Belt | 1.25 | 1.50 | Tray Drives | 1.25 | 1.50 | Cylinder Molds | | 1.25 |
| Disc | 1.00 | 1.25 | Veneer Lathe Drives | † | † | Dryers (2) | | |
| Reciprocating | 1.75 | 2.00 | MACHINE TOOLS | | | Paper Mach. & | | |
| Screw | 1.25 | 1.50 | Auxiliary Drives | 1.00 | 1.25 | Conveyor Type | | 1.25 |
| FLIGHT | | | Banding Rolls | 1.25 | 1.50 | Embosser | | 1.25 |
| Conveyors, Uniform | 1.00 | 1.25 | Main Drives | 1.25 | 1.50 | Extruder | | 1.50 |
| Conveyors, Heavy | 1.25 | 1.50 | Notching Press (Belted) | † | † | Fourdrinier Rolls - | | |
| FOOD/INDUSTRY | | | Plate Planers | 1.75 | 2.00 | Lumpbreaker, Wire | | |
| Beet Slicers | 1.25 | 1.50 | Punch Press (Gearing) | 1.75 | 2.00 | Turning, Dandy & | | |
| Bottling, Can Filling | | | Tapping Machines | 1.75 | 2.00 | Return Rolls | | 1.25 |
| Machine | 1.00 | 1.25 | MANGLE (Textile) | 1.25 | 1.50 | Jordan | | 1.50 |
| Cereal Cookers | 1.00 | 1.25 | MASH TUBS (Brewing & | | | Kiln Drive | | 1.50 |
| Dough Mixers, Meat | | | Distilling | 1.25 | 1.25 | Mt. Hope & Paper Rolls | | 1.25 |
| Grinders | 1.25 | 1.50 | MEAT GRINDERS (Food) | 1.25 | 1.50 | Platter | | 1.50 |
| GENERATORS (Not | | | METAL MILLS | | | Presses (Felt & Suction) | | 1.25 |
| Welding) | 1.00 | 1.25 | Draw Bench Carriages | | | Pulper | | 2.00 |
| GRAVITY DISCHARGE | | | & Main Drives | 1.25 | 1.50 | Reel (Surface Type) | | 1.25 |
| ELEVATORS | 1.00 | 1.25 | Pinch, Dryer & Scrubber | | | Screens - | | |
| HAMMER MILLS | 1.75 | 2.00 | Rolls Reversing | † | † | Chip, Rotary | | 1.50 |
| HOISTS (See Cranes) | † | † | Slitters | 1.25 | 1.50 | Vibrating | | 2.00 |
| INDUCED DRAFT FANS | 1.50 | 1.50 | Table Conveyors, | | | Size Press | | 1.25 |
| KILNS | ▲ | ▲ | Non-Reversing | | | Super Calender (3) | | 1.25 |
| LAUNDRY | | | Group Drives | 1.50 | 1.50 | Thickener & Washer - | | |
| Tumblers | 1.25 | 1.50 | Individual Drives | 2.00 | 2.00 | AC Motor | | 1.50 |
| Washers | 1.50 | 2.00 | Reversing | † | † | DC Motor | | 1.25 |
| LINE SHAFTS | | | Wire Drawing & | | | Vacuum Pumps | | 1.50 |
| Driving Processing | | | Flattening Machines | | | Wind & Unwind Stand | | 1.25 |
| Equipment | 1.25 | 1.50 | Wire Winding Machines | 1.50 | 1.50 | Winders (Surface Type) | | 1.25 |
| Other Line Shafts, Light | † | 1.25 | MILLS, ROTARY | | | Yankee Dryer (2) | | 1.25 |
| LIVE ROLL CONVEYORS | † | † | Ball and Rod Mills | | | PASSENGER ELEVATORS | † | † |
| LOBE BLOWERS OR | | | with Spur Ring Gear | | 2.00 | PEBBLE MILLS | ▲ | ▲ |

MagnaGear

Table 2: Service Factors (continued)

| Application | Service | | Application | Service | | Application | Service | |
|--|---------------|-------------|--|---------------|-------------|--|---------------|-------------|
| | 3-10 Hrs./Day | 10+Hrs./Day | | 3-10 Hrs./Day | 10+Hrs./Day | | 3-10 Hrs./Day | 10+Hrs./Day |
| PLASTICS INDUSTRY | | | Mixing Mill-2smooth rolls (If corrugated rolls are used, then use the same service factors that are used for a Cracker-Warmer) | 1.50 | 1.50 | SLITTERS (Metal) | 1.25 | 1.50 |
| Primary Processing | | | Batch Drop Mill | 1.50 | 1.50 | SLUDGE COLLECTORS (Sewage) | 1.25 | 1.25 |
| Intensive Internal Mixers | | | 2 Smooth Rolls | 1.50 | 1.50 | SOAPERS (Textile) | 1.25 | 1.50 |
| Batch Mixers | 1.75 | 1.75 | Cracker Warmer-2 | | | SPINNERS (Textile) | 1.25 | 1.50 |
| Continuous Mixers | 1.50 | 1.50 | Rolls: 1 corrugated Roll | 1.75 | 1.75 | STEERING GEARS | | |
| Batch Drop Mill - 2 Smooth Rolls | 1.25 | 1.25 | Cracker-2 corrugated | 2.00 | 2.00 | STOKERS | 1.00 | 1.25 |
| Continuous Feed, Holding & Blend Mill | 1.25 | 1.25 | Rolls | 2.00 | 2.00 | STONE CRUSHERS | 1.75 | 2.00 |
| Compounding Mill | 1.25 | 1.25 | Holding, Feed & Blend | | | SUGAR INDUSTRY | | |
| Calenders | 1.50 | 1.50 | Mill-2 Rolls | 1.25 | 1.25 | Cane Knives, Crushers | | |
| Secondary Processing | | | Refiner-2 Rolls | 1.50 | 1.50 | Mill | | 1.50 |
| Blow Molders | 1.50 | 1.50 | Calenders | 1.50 | 1.50 | TABLE CONVEYORS (Non-Reversing) | | |
| Coating | 1.25 | 1.25 | SAND MULLERS | 1.25 | 1.50 | Group Drives | 1.50 | 1.50 |
| Film | 1.25 | 1.25 | SCREENS | | | Individual Drives | 2.00 | 2.00 |
| Pipe | 1.25 | 1.25 | Air Washing | 1.00 | 1.25 | Reversing | † | † |
| Pre-Plasticizers | 1.50 | 1.50 | Rotary-Sand or Gravel | 1.25 | 1.50 | TENTER FRAMES (Textile) | 1.25 | 1.50 |
| Rods | 1.25 | 1.25 | Traveling Water Intake | 1.00 | 1.25 | TEXTILE INDUSTRY | | |
| Sheets | 1.25 | 1.25 | SCREW CONVEYORS | | | Batchers, calenders | 1.25 | 1.50 |
| Tubing | 1.25 | 1.50 | Uniform | 1.00 | 1.25 | Card Machines | 1.25 | 1.50 |
| PLATE PLANERS | 1.75 | 2.00 | Heavy Duty or Feeder | 1.25 | 1.50 | Dry Cans, Dryers | 1.25 | 1.50 |
| PRINTING PRESSES | † | † | SCUM BREAKERS (Sewage) | 1.50 | 1.50 | Dyeing Machinery | 1.25 | 1.50 |
| PROPORTIONING PUMPS | 1.25 | 1.50 | SEWAGE DISPOSAL | | | Knitting Machinery | † | † |
| PUG MILLS (Clay) | 1.25 | 1.50 | Bar Screens | 1.25 | 1.25 | Looms, Mangles | | |
| PULLERS (Barge Haul) | 1.25 | 1.50 | Chemical Feeders | 1.25 | 1.25 | Nappers, Pads | 1.25 | 1.50 |
| PUMPS | | | Collectors | 1.25 | 1.25 | Range Drives | † | † |
| Centrifugal | 1.00 | 1.25 | Dewatering Screens | 1.50 | 1.50 | Slashers, Soapers | | |
| Proportioning | 1.25 | 1.50 | Scum Breakers | 1.50 | 1.50 | Spinners | 1.25 | 1.50 |
| Reciprocating | | | Slow or Rapid Mixers | 1.50 | 1.50 | Tenter Framers, | | |
| Single Act., 3 or More Cyl. | 1.25 | 1.50 | Thickeners | 1.50 | 1.50 | Washers, Winders | 1.25 | 1.50 |
| Double Act, 2 or More Cyl. | 1.25 | 1.50 | Vacuum Filters | 1.50 | 1.50 | THICKNESS (Sewage) | 1.50 | 1.50 |
| Single Act., 1 or 2 Cyl. | † | † | SHAKER CONVEYORS | 1.75 | 2.00 | TUMBLING BARRELS | 1.75 | 2.00 |
| Double Act, 1 Cyl. | † | † | SHEETERS (Rubber) | | | VACUUM FILTERS (Sewage) | 1.50 | 1.50 |
| Rotary: Gear, Lobe, Vane | 1.00 | 1.25 | SINGLE ACTING PUMP | | | VANE BLOWERS | 1.25 | 1.50 |
| PUNCH PRESS | | | 1 or 2 Cylinders | † | † | WINCHES (Dredges) | 1.25 | 1.50 |
| ; (Gear Driven) | 1.75 | 2.00 | 3 or More Cylinders | 1.25 | 1.50 | WINDERS (Textile) | 1.25 | 1.50 |
| RECIPROCATING | | | SKIP HOIST | † | † | WINDGLASS | † | † |
| Conveyors, Feeders | 1.75 | 2.00 | SLAB PUSHERS | 1.50 | 1.50 | WIRE | | |
| RECIPROCATING COMPRESSORS | | | | | | Drawing Machines | 1.25 | 1.50 |
| Multi Cylinder | 1.50 | 1.75 | | | | Winding Machines | 1.50 | 1.50 |
| Single Cylinder | 1.75 | 2.00 | | | | | | |
| REVERSING DIRECTION APPLICATION | † | † | | | | | | |
| ROD MILLS | ▲ | ▲ | | | | | | |
| ROTARY | | | | | | | | |
| Pumps | 1.00 | 1.25 | | | | | | |
| Screens (Sand and Gravel) | 1.25 | 1.50 | | | | | | |
| RUBBER INDUSTRY | | | | | | | | |
| Intensive Internal Mixers | | | | | | | | |
| Batch Mixers | 1.75 | 1.75 | | | | | | |
| | 1.50 | 1.50 | | | | | | |

† Consult DODGE
 ▲ See Mill, Rotary
 (1) Service factors for paper mill applications are applied to the nameplate rating of the electric motor at the motor rated base speed
 (2) Using anti-friction bearings only. Use 1.50 for sleeve bearings
 (3) When a super calender operates over a speed range of part constant horsepower and part constant torque and the constant horsepower speed range is greater than 1.5:1, use a service factor of 1.00 at base speed. When operating at constant torque over the entire speed range or when the constant horsepower speed range is less than 1.5:1, a 1.25 service factor should be used.

EASY SELECTION



Parallel - MagnaGear Reducers 1750 RPM - 1.0 Service Factor

| Nominal Ratio | Approx. Low Speed Shaft RPM | Unit Red. | MagnaGear Offset Parallel Reducer Size Used with Motor Horsepower of: | | | | | | | | | |
|---------------|-----------------------------|----------------------------|---|-----|------|------|------|------|------|------|------|------|
| | | | 50 | 75 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 |
| 8.00 | 219 | D O U B L E | 100 | 100 | 100 | 100♣ | 100♣ | 100♣ | 100● | 150● | 150● | 150● |
| 9.00 | 194 | | 100 | 100 | 100 | 100♣ | 100♣ | 100♣ | 100● | 150● | 150● | 150● |
| 10.0 | 175 | | 100 | 100 | 100 | 100♣ | 100♣ | 100♣ | 100● | 150● | 150● | 150● |
| 11.2 | 156 | | 100 | 100 | 100 | 100♣ | 100♣ | 100● | 150● | 150● | 150● | 210● |
| 12.5 | 140 | | 100 | 100 | 100 | 100♣ | 100♣ | 100● | 150● | 150● | 210● | 210● |
| 14.0 | 125 | | 100 | 100 | 100 | 100♣ | 100♣ | 150♣ | 150● | 210♣ | 210● | 285● |
| 16.0 | 109 | | 100 | 100 | 100 | 100♣ | 100♣ | 150♣ | 210♣ | 210● | 210● | 285● |
| 18.0 | 97 | | 100 | 100 | 100 | 100♣ | 150♣ | 150♣ | 210♣ | 210● | 285● | 285● |
| 20.0 | 88 | | 100 | 100 | 100 | 100♣ | 150♣ | 150♣ | 210♣ | 285♣ | 285● | 285● |
| 22.4 | 78 | | 100 | 100 | 100♣ | 150♣ | 150♣ | 210♣ | 210♣ | 285♣ | 390● | 390● |
| 25.0 | 70 | T R I P L E | 100 | 100 | 100♣ | 150♣ | 150♣ | 210♣ | 285♣ | 285♣ | 390● | 390● |
| 28.0 | 63 | | 100 | 100 | 150 | 150♣ | 210♣ | 210♣ | 285♣ | 390♣ | 390● | 525● |
| 31.5 | 56 | | 100 | 100 | 150 | 150♣ | 210♣ | 285♣ | 285♣ | 390● | 390● | - |
| 35.5 | 49 | | 100 | 100 | 150 | 210 | 210♣ | 285♣ | 390♣ | 390● | - | - |
| 40.0 | 44 | | 100 | 150 | 150 | 210 | 210♣ | 285♣ | 390♣ | - | - | - |
| 45.0 | 39 | | 100 | 150 | 210 | 210 | 285 | 390♣ | 390♣ | - | - | - |
| 50.0 | 35 | | 100 | 150 | 210 | 285 | 285 | 390♣ | - | - | - | - |
| 56.0 | 31 | | 100 | 150 | 210 | 285 | 285 | - | - | - | - | - |
| 63.0 | 28 | | 150 | 210 | 285 | 285 | 390 | - | - | - | - | - |

| Nominal Ratio | Approx. Low Speed Shaft RPM | Unit Red. | MagnaGear Offset Parallel Reducer Size Used with Motor Horsepower of: | | | | | | | | | | |
|---------------|-----------------------------|----------------------------|---|------|------|------|------|------|------|------|------|------|------|
| | | | 500 | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 | |
| 8.00 | 219 | D O U B L E | 210● | 210■ | 285■ | 285■ | 285■ | 390■ | 390■ | 390■ | 525■ | 525■ | |
| 9.00 | 194 | | 210● | 285● | 285■ | 285■ | 390■ | 390■ | 390■ | 525■ | 525■ | 525■ | 525■ |
| 10.0 | 175 | | 210● | 285● | 285■ | 390● | 390■ | 390■ | 525■ | 525■ | 525■ | 700■ | 700■ |
| 11.2 | 156 | | 285● | 285● | 390● | 390■ | 390■ | 525■ | 525■ | 525■ | 700■ | 700■ | 700■ |
| 12.5 | 140 | | 285● | 285● | 390● | 390■ | 525● | 525■ | 525■ | 700■ | 700■ | 700■ | 700■ |
| 14.0 | 125 | | 285● | 390● | 390● | 525● | 525● | 525■ | 700■ | 700■ | 700■ | 920■ | 920■ |
| 16.0 | 109 | | 285● | 390● | 525● | 525● | 525■ | 700■ | 700■ | 700■ | 920■ | 920■ | 920■ |
| 18.0 | 97 | | 390● | 525● | 525● | 525● | 700● | 700● | 700● | 920■ | 920■ | - | - |
| 20.0 | 88 | | 390● | 525● | 525● | 700● | 700● | 700● | 920● | 920■ | - | - | - |
| 22.4 | 78 | | 525● | 525● | 525● | 700● | 700● | 920● | 920■ | - | - | - | - |
| 25.0 | 70 | 525● | 525● | 700● | 700● | 920● | 920● | - | - | - | - | - | |
| 28.0 | 63 | 525● | 700● | 700● | 920● | 920● | - | - | - | - | - | - | |

- ♣ Shaft Driven Cooling Fan Required
- Electric Cooling Fan Required
- Heat Exchanger Required

Parallel - MagnaGear Reducers 1750 RPM - 1.5 Service Factor

| Nominal Ratio | Approx. Low Speed Shaft RPM | Unit Red. | MagnaGear Offset Parallel Reducer Size Used with Motor Horsepower of: | | | | | | | | | |
|---------------|-----------------------------|----------------------------|---|-----|-----|------|------|------|------|------|------|------|
| | | | 50 | 75 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 |
| 8.00 | 219 | D O U B L E | 100 | 100 | 100 | 100❖ | 100❖ | 150❖ | 150❖ | 150● | 210● | 210● |
| 9.00 | 194 | | 100 | 100 | 100 | 100❖ | 100❖ | 150❖ | 150❖ | 210❖ | 210● | 285❖ |
| 10.0 | 175 | | 100 | 100 | 100 | 100❖ | 100❖ | 150❖ | 150❖ | 210❖ | 210● | 285❖ |
| 11.2 | 156 | | 100 | 100 | 100 | 100❖ | 150❖ | 150❖ | 210❖ | 210❖ | 285❖ | 285● |
| 12.5 | 140 | | 100 | 100 | 100 | 100❖ | 150❖ | 150❖ | 210❖ | 285❖ | 285❖ | 285● |
| 14.0 | 125 | | 100 | 100 | 100 | 150 | 150❖ | 210❖ | 210❖ | 285❖ | 285❖ | 390● |
| 16.0 | 109 | | 100 | 100 | 100 | 150 | 150❖ | 210❖ | 285❖ | 285❖ | 390❖ | 390● |
| 18.0 | 97 | | 100 | 100 | 150 | 150 | 150❖ | 210❖ | 285❖ | 285❖ | 390❖ | 525 |
| 20.0 | 88 | | 100 | 100 | 150 | 150 | 210 | 285❖ | 285❖ | 390❖ | 390❖ | 525 |
| 22.4 | 78 | | 100 | 100 | 150 | 150❖ | 210❖ | 285❖ | 390❖ | 390❖ | 525❖ | 525● |
| 25.0 | 70 | T R I P L E | 100 | 150 | 150 | 210 | 210❖ | 285❖ | 390❖ | 525❖ | 525❖ | 525● |
| 28.0 | 63 | | 100 | 150 | 210 | 210 | 285 | 390❖ | 390❖ | 525❖ | 525❖ | 700 |
| 31.5 | 56 | | 100 | 150 | 210 | 210 | 285 | 390❖ | - | - | - | - |
| 35.5 | 49 | | 100 | 150 | 210 | 285 | 285 | 390❖ | - | - | - | - |
| 40.0 | 44 | | 150 | 210 | 210 | 285 | 390 | - | - | - | - | - |
| 45.0 | 39 | | 150 | 210 | 285 | 285 | 390 | - | - | - | - | - |
| 50.0 | 35 | | 150 | 210 | 285 | 390 | 390 | - | - | - | - | - |
| 56.0 | 31 | | 150 | 210 | 285 | 390 | - | - | - | - | - | - |
| 63.0 | 28 | | 210 | 285 | 390 | 390 | - | - | - | - | - | - |

| Nominal Ratio | Approx. Low Speed Shaft RPM | Unit Red. | MagnaGear Offset Parallel Reducer Size Used with Motor Horsepower of: | | | | | | | | | |
|---------------|-----------------------------|----------------------------|---|------|------|------|------|------|------|------|------|------|
| | | | 500 | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 |
| 8.00 | 219 | D O U B L E | 285● | 285● | 390● | 390● | 525● | 525■ | 700● | 700■ | 700■ | 700■ |
| 9.00 | 194 | | 285● | 390● | 390● | 525● | 525● | 700● | 700● | 700■ | 700■ | 920■ |
| 10.0 | 175 | | 285● | 390● | 390● | 525● | 525● | 700● | 700● | 700■ | 920■ | 920■ |
| 11.2 | 156 | | 390● | 390● | 525● | 525● | 700● | 700● | 700■ | 920● | 920■ | 920■ |
| 12.5 | 140 | | 390● | 525● | 525● | 700● | 700● | 700● | 920● | 920● | 920■ | - |
| 14.0 | 125 | | 390● | 525● | 525● | 700● | 700● | 920● | 920● | 920● | - | - |
| 16.0 | 109 | | 525● | 525● | 700● | 700● | 920● | 920● | - | - | - | - |
| 18.0 | 97 | | 525● | 700● | 700● | 920● | 920● | - | - | - | - | - |
| 20.0 | 88 | | 525● | 700● | 920● | 920● | - | - | - | - | - | - |
| 22.4 | 78 | | 525● | 700● | 920● | - | - | - | - | - | - | - |
| 25.0 | 70 | | 700● | 920● | 920● | - | - | - | - | - | - | - |
| 28.0 | 63 | | 920● | 920● | - | - | - | - | - | - | - | - |

- ❖ Shaft Driven Cooling Fan Required
- Electric Cooling Fan Required
- Heat Exchanger Required

EASY SELECTION



Parallel - MagnaGear Reducers 1750 RPM - 2.0 Service Factor

| Nominal Ratio | Approx. Low Speed Shaft RPM | Unit Red. | MagnaGear Offset Parallel Reducer Size Used with Motor Horsepower of: | | | | | | | | | |
|---------------|-----------------------------|----------------------------|---|-----|-----|------|------|----------|------|------|------|------|
| | | | 50 | 75 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 |
| 8.00 | 219 | D O U B L E | 100 | 100 | 100 | 100❖ | 150❖ | 150❖ | 210❖ | 210❖ | 285❖ | 285❖ |
| 9.00 | 194 | | 100 | 100 | 100 | 100❖ | 150❖ | 150❖ | 210❖ | 285❖ | 285❖ | 285❖ |
| 10.0 | 175 | | 100 | 100 | 100 | 150 | 150❖ | 210❖ | 210❖ | 285❖ | 285❖ | 390❖ |
| 11.2 | 156 | | 100 | 100 | 100 | 150 | 150❖ | 210❖ | 285❖ | 285❖ | 390❖ | 390● |
| 12.5 | 140 | | 100 | 100 | 100 | 150 | 150❖ | 210❖ | 285❖ | 285❖ | 390❖ | 390● |
| 14.0 | 125 | | 100 | 100 | 150 | 150 | 210 | 285 | 285❖ | 390❖ | 390❖ | 525❖ |
| 16.0 | 109 | | 100 | 100 | 150 | 210 | 210 | 285❖ | 285❖ | 390❖ | 525❖ | 525❖ |
| 18.0 | 97 | | 100 | 150 | 150 | 210 | 210 | 285❖ | 390❖ | 525❖ | 525❖ | 525❖ |
| 20.0 | 88 | | 100 | 150 | 150 | 210 | 285 | 285❖ | 390❖ | 525❖ | 525❖ | 700❖ |
| 22.4 | 78 | | 100 | 150 | 210 | 210 | 285 | 390❖ | 525❖ | 525❖ | 525❖ | 700❖ |
| 25.0 | 70 | T R I P L E | 100 | 150 | 210 | 285 | 285 | 390❖ | 525❖ | 525❖ | 700❖ | 700❖ |
| 28.0 | 63 | | 150 | 210 | 210 | 285 | 390 | 525❖ (1) | 525❖ | 700❖ | 700❖ | 920❖ |
| 31.5 | 56 | | 150 | 210 | 285 | 285 | 390 | - | - | - | - | - |
| 35.5 | 49 | | 150 | 210 | 285 | 390 | 390 | - | - | - | - | - |
| 40.0 | 44 | | 150 | 210 | 285 | 390 | - | - | - | - | - | - |
| 45.0 | 39 | | 210 | 285 | 390 | 390 | - | - | - | - | - | - |
| 50.0 | 35 | | 210 | 285 | 390 | - | - | - | - | - | - | - |
| 56.0 | 31 | | 210 | 285 | - | - | - | - | - | - | - | - |
| 63.0 | 28 | | 285 | 390 | - | - | - | - | - | - | - | - |

| Nominal Ratio | Approx. Low Speed Shaft RPM | Unit Red. | MagnaGear Offset Parallel Reducer Size Used with Motor Horsepower of: | | | | | | | | | |
|---------------|-----------------------------|----------------------------|---|------|------|------|------|------|------|------|------|------|
| | | | 500 | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 |
| 8.0 | 219 | D O U B L E | 390● | 390● | 525● | 700● | 700● | 700● | 920● | 920● | 920■ | 920■ |
| 9.0 | 194 | | 390● | 525● | 525● | 700● | 700● | 700● | 920● | 920● | 920■ | - |
| 10.0 | 175 | | 390● | 525● | 700● | 700● | 700● | 920● | 920● | 920● | - | - |
| 11.2 | 156 | | 525● | 525● | 700● | 700● | 920● | 920● | - | - | - | - |
| 12.5 | 140 | | 525● | 700● | 700● | 920● | 920● | - | - | - | - | - |
| 14.0 | 125 | | 525● | 700● | 920● | 920● | - | - | - | - | - | - |
| 16.0 | 109 | | 700 | 700● | 920● | 920● | - | - | - | - | - | - |
| 18.0 | 97 | | 700 | 920● | 920● | - | - | - | - | - | - | - |
| 20.0 | 88 | | 700 | 920● | - | - | - | - | - | - | - | - |
| 22.4 | 78 | | 920 | - | - | - | - | - | - | - | - | - |
| 25.0 | 70 | | 920 | - | - | - | - | - | - | - | - | - |

- ❖ Shaft Driven Cooling Fan Required
- Electric Cooling Fan Required
- Heat Exchanger Required
- (1) Double Reduction

Right Angle - MagnaGear Reducers 1750 RPM - 1.0 Service Factor

| Nominal Ratio | Approx. Low Speed Shaft RPM | Unit Red. | MagnaGear Right Angle Reducer Size Used with Motor Horsepower of: | | | | | | | | | |
|---------------|-----------------------------|----------------------------|---|-----|------|------|------|------|------|------|------|------|
| | | | 50 | 75 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 |
| 12.5 | 140 | T R I P L E | 100 | 100 | 100❖ | 100❖ | 100❖ | 100● | 150● | 150● | 210● | 210● |
| 14.0 | 125 | | 100 | 100 | 100❖ | 100❖ | 100❖ | 150❖ | 150● | 210● | 210● | 210● |
| 16.0 | 109 | | 100 | 100 | 100❖ | 100❖ | 100❖ | 150❖ | 150● | 210● | 210● | 285● |
| 18.0 | 97 | | 100 | 100 | 100❖ | 100❖ | 150❖ | 150❖ | 210❖ | 210● | 285● | 285● |
| 20.0 | 88 | | 100 | 100 | 100❖ | 100❖ | 150❖ | 150● | 210● | 285● | 285● | 390● |
| 22.4 | 78 | | 100 | 100 | 100❖ | 150❖ | 150❖ | 210❖ | 210● | 285● | 285● | 390● |
| 25.0 | 70 | | 100 | 100 | 100❖ | 150❖ | 150❖ | 210❖ | 285 | 285● | 390● | 390● |
| 28.0 | 63 | | 100 | 100 | 150❖ | 150❖ | 150❖ | 210❖ | 285 | 390● | 390● | 525● |
| 31.5 | 56 | | 100 | 100 | 150❖ | 150❖ | 210❖ | 285❖ | 285● | 390● | 525● | 525● |
| 35.5 | 49 | | 100 | 100 | 150❖ | 210❖ | 210❖ | 285❖ | 390● | 390● | 525● | 525● |
| 40.0 | 44 | | 100 | 150 | 150❖ | 210❖ | 285❖ | 285❖ | 390● | 525● | 525● | 525● |
| 45.0 | 39 | | 100 | 150 | 210 | 210❖ | 285❖ | 390❖ | 525❖ | 525● | 525● | 700● |
| 50.0 | 35 | | 100 | 150 | 210 | 285❖ | 285❖ | 390● | 525● | 525● | 700● | 700● |
| 56.0 | 31 | | 100 | 150 | 210 | 285❖ | 285❖ | 390● | 525● | 700● | 700● | 920● |
| 63.0 | 28 | | 150 | 210 | 210 | 285❖ | 390❖ | 525❖ | 525● | 700● | 700● | 920● |

| Nominal Ratio | Approx. Low Speed Shaft RPM | Unit Red. | MagnaGear Right Angle Reducer Size Used with Motor Horsepower of: | | | | | | | | | |
|---------------|-----------------------------|----------------------------|---|------|------|------|------|------|------|------|------|------|
| | | | 500 | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 |
| 12.5 | 140 | T R I P L E | 285● | 390● | 525● | 525■ | 525■ | 525■ | 700■ | 700■ | 700■ | 700■ |
| 14.0 | 125 | | 285● | 390● | 525● | 525■ | 525■ | 525■ | 700■ | 700■ | 700■ | 700■ |
| 16.0 | 109 | | 390● | 390● | 525● | 525■ | 525■ | 700■ | 700■ | 700■ | 920■ | 920■ |
| 18.0 | 97 | | 390● | 525● | 525● | 525■ | 700■ | 700■ | 700■ | 920■ | 920■ | 920■ |
| 20.0 | 88 | | 390● | 525● | 525■ | 700■ | 700■ | 700■ | 920■ | 920■ | 920■ | - |
| 22.4 | 78 | | 525● | 525● | 525■ | 700■ | 700■ | 920■ | 920■ | 920■ | - | - |
| 25.0 | 70 | | 525● | 525● | 700● | 920● | 920■ | 920■ | - | - | - | - |
| 28.0 | 63 | | 525● | 700● | 700● | 920● | 920■ | - | - | - | - | - |
| 31.5 | 56 | | 700● | 700● | 920■ | 920■ | - | - | - | - | - | - |
| 35.5 | 49 | | 700● | 920● | 920■ | - | - | - | - | - | - | - |
| 40.0 | 44 | | 700● | 920● | - | - | - | - | - | - | - | - |
| 45.0 | 39 | | 920● | 920● | - | - | - | - | - | - | - | - |
| 50.0 | 35 | | 920● | - | - | - | - | - | - | - | - | - |
| 56.0 | 31 | | 920● | - | - | - | - | - | - | - | - | - |
| 63.0 | 28 | | - | - | - | - | - | - | - | - | - | - |

- ❖ Shaft Driven Cooling Fan Required
- Electric Cooling Fan Required
- Heat Exchanger Required

EASY SELECTION



Right Angle - MagnaGear Reducers 1750 RPM - 1.5 Service Factor

| Nominal Ratio | Approx. Low Speed Shaft RPM | Unit Red. | MagnaGear Right Angle Reducer Size Used with Motor Horsepower of: | | | | | | | | | |
|---------------|-----------------------------|----------------------------|---|-----|------|------|------|------|------|------|------|------|
| | | | 50 | 75 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 |
| 12.5 | 140 | T R I P L E | 100 | 100 | 100❖ | 100❖ | 150❖ | 150❖ | 210❖ | 210● | 285● | 390● |
| 14.0 | 125 | | 100 | 100 | 100❖ | 150❖ | 150❖ | 210❖ | 210❖ | 210● | 285● | 390● |
| 16.0 | 109 | | 100 | 100 | 100❖ | 150❖ | 150❖ | 210❖ | 285❖ | 285❖ | 390● | 390● |
| 18.0 | 97 | | 100 | 100 | 150 | 150❖ | 150❖ | 210❖ | 285❖ | 285❖ | 390● | 525❖ |
| 20.0 | 88 | | 100 | 100 | 150 | 150 | 210❖ | 285❖ | 285❖ | 390● | 390● | 525● |
| 22.4 | 78 | | 100 | 100 | 150 | 210 | 210❖ | 285❖ | 390❖ | 390● | 525❖ | 525● |
| 25.0 | 70 | | 100 | 150 | 150 | 210 | 210❖ | 285❖ | 390❖ | 390● | 525❖ | 525● |
| 28.0 | 63 | | 100 | 150 | 150 | 210 | 285 | 390❖ | 390❖ | 525❖ | 525❖ | 700❖ |
| 31.5 | 56 | | 100 | 150 | 210 | 210❖ | 285❖ | 390❖ | 525❖ | 525● | 700● | 700● |
| 35.5 | 49 | | 100 | 150 | 210 | 285 | 285❖ | 390❖ | 525❖ | 525● | 700● | 920● |
| 40.0 | 44 | | 100 | 210 | 285 | 285 | 390❖ | 525❖ | 525❖ | 525● | 700● | 920● |
| 45.0 | 39 | | 100 | 210 | 285 | 285 | 390❖ | 525❖ | 700❖ | 700❖ | 920● | 920● |
| 50.0 | 35 | | 100 | 210 | 285 | 390 | 525❖ | 525❖ | 700❖ | 700● | 920● | - |
| 56.0 | 31 | | 100 | 285 | 285 | 390 | 525❖ | 700❖ | 700❖ | 920● | - | - |
| 63.0 | 28 | | 150 | 285 | 390 | 525 | 525❖ | 700❖ | 920❖ | 920● | - | - |

| Nominal Ratio | Approx. Low Speed Shaft RPM | Unit Red. | MagnaGear Right Angle Reducer Size Used with Motor Horsepower of: | | | | | | | | | |
|---------------|-----------------------------|----------------------------|---|------|------|------|------|------|------|------|------|------|
| | | | 500 | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 |
| 12.5 | 140 | T R I P L E | 525● | 525● | 700● | 700● | 700■ | 920■ | 920■ | 920■ | - | - |
| 14.0 | 125 | | 525● | 525● | 700● | 700● | 700■ | 920■ | 920■ | 920■ | - | - |
| 16.0 | 109 | | 525● | 525● | 700● | 700● | 920● | 920■ | - | - | - | - |
| 18.0 | 97 | | 525● | 700● | 700● | 920● | 920● | - | - | - | - | - |
| 20.0 | 88 | | 525● | 700● | 920● | 920● | - | - | - | - | - | - |
| 22.4 | 78 | | 700● | 700● | 920● | 920● | - | - | - | - | - | - |
| 25.0 | 70 | | 700● | 920● | 920● | - | - | - | - | - | - | - |
| 28.0 | 63 | | 920● | 920● | - | - | - | - | - | - | - | - |
| 31.5 | 56 | | 920● | - | - | - | - | - | - | - | - | - |
| 35.5 | 49 | | 920● | - | - | - | - | - | - | - | - | - |
| 40.0 | 44 | | - | - | - | - | - | - | - | - | - | - |
| 45.0 | 39 | | - | - | - | - | - | - | - | - | - | - |
| 50.0 | 35 | | - | - | - | - | - | - | - | - | - | - |
| 56.0 | 31 | | - | - | - | - | - | - | - | - | - | - |
| 63.0 | 28 | | - | - | - | - | - | - | - | - | - | - |

- ❖ Shaft Driven Cooling Fan Required
- Electric Cooling Fan Required
- Heat Exchanger Required

Right Angle - MagnaGear Reducers 1750 RPM - 2.0 Service Factor

| Nominal Ratio | Approx. Low Speed Shaft RPM | Unit Red. | MagnaGear Right Angle Reducer Size Used with Motor Horsepower of: | | | | | | | | | |
|---------------|-----------------------------|----------------------------|---|-----|------|------|------|------|------|------|------|------|
| | | | 50 | 75 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 |
| 12.5 | 140 | T R I P L E | 100 | 100 | 100❖ | 150❖ | 150❖ | 210❖ | 285❖ | 390❖ | 525❖ | 525❖ |
| 14.0 | 125 | | 100 | 100 | 150 | 150❖ | 210 | 210❖ | 285❖ | 390❖ | 525❖ | 525❖ |
| 16.0 | 109 | | 100 | 100 | 150 | 150❖ | 210 | 285❖ | 390❖ | 390❖ | 525❖ | 525❖ |
| 18.0 | 97 | | 100 | 150 | 150 | 210 | 210 | 285❖ | 390❖ | 525❖ | 525❖ | 525❖ |
| 20.0 | 88 | | 100 | 150 | 150 | 210 | 285 | 390❖ | 390❖ | 525❖ | 525❖ | 700❖ |
| 22.4 | 78 | | 100 | 150 | 210 | 210 | 285 | 390❖ | 525❖ | 525❖ | 525❖ | 700❖ |
| 25.0 | 70 | | 100 | 150 | 210 | 285 | 285 | 390❖ | 525❖ | 525❖ | 700❖ | 920❖ |
| 28.0 | 63 | | 150 | 150 | 210 | 285 | 390 | 525❖ | 525❖ | 700❖ | 700❖ | 920❖ |
| 31.5 | 56 | | 150 | 210 | 285 | 285 | 390❖ | 525❖ | 700❖ | 700❖ | 920❖ | 920● |
| 35.5 | 49 | | 150 | 210 | 285 | 390 | 390❖ | 525❖ | 700❖ | 920❖ | 920❖ | - |
| 40.0 | 44 | | 150 | 285 | 285 | 390 | 525❖ | 525❖ | 700❖ | 920❖ | - | - |
| 45.0 | 39 | | 210 | 285 | 390 | 525 | 525❖ | 700❖ | 920❖ | 920❖ | - | - |
| 50.0 | 35 | | 210 | 285 | 390 | 525 | 525❖ | 700❖ | 920❖ | - | - | - |
| 56.0 | 31 | | 210 | 285 | 390 | 525 | 700❖ | 920❖ | 920❖ | - | - | - |
| 63.0 | 28 | | 210 | 390 | 525 | 525 | 700❖ | 920❖ | - | - | - | - |

| Nominal Ratio | Low Speed Shaft RPM | Unit Red. | MagnaGear Right Angle Reducer Size Used with Motor Horsepower of: | | | | | | | | | |
|---------------|---------------------|----------------------------|---|------|------|------|-----|------|------|------|------|------|
| | | | 500 | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 |
| 12.5 | 140 | T R I P L E | 525● | 700● | 700● | 920● | - | - | - | - | - | - |
| 14.0 | 125 | | 525● | 700● | 700● | 920● | - | - | - | - | - | - |
| 16.0 | 109 | | 700● | 700● | 920● | 920● | - | - | - | - | - | - |
| 18.0 | 97 | | 700● | 920● | 920● | - | - | - | - | - | - | - |
| 20.0 | 88 | | 700● | 920● | - | - | - | - | - | - | - | - |
| 22.4 | 78 | | 920● | 920● | - | - | - | - | - | - | - | - |
| 25.0 | 70 | | 920● | - | - | - | - | - | - | - | - | - |
| 28.0 | 63 | | - | - | - | - | - | - | - | - | - | - |
| 31.5 | 56 | | - | - | - | - | - | - | - | - | - | - |
| 35.5 | 49 | | - | - | - | - | - | - | - | - | - | - |
| 40.0 | 44 | | - | - | - | - | - | - | - | - | - | - |
| 45.0 | 39 | | - | - | - | - | - | - | - | - | - | - |
| 50.0 | 35 | | - | - | - | - | - | - | - | - | - | - |
| 56.0 | 31 | | - | - | - | - | - | - | - | - | - | - |
| 63.0 | 28 | | - | - | - | - | - | - | - | - | - | - |

- ❖ Shaft Driven Cooling Fan Required
- Electric Cooling Fan Required
- Heat Exchanger Required

SELECTION/DIMENSIONS



MagnaGear G100 Parallel Shaft Part Numbers

| Nominal Ratio | | | Solid Shaft | Solid Shaft with Backstop | Hollow Shaft | Hollow Shaft with Backstop |
|----------------------------|---------|--------|-------------|---------------------------|--------------|----------------------------|
| D O U B L E | G100HP2 | 8.00 | 449024 | 449037 | 448999 | 449012 |
| | G100HP2 | 9.00 | 449025 | 449038 | 449000 | 449013 |
| | G100HP2 | 10.0 | 449026 | 449039 | 449001 | 449014 |
| | G100HP2 | 11.2 | 449027 | 449040 | 449002 | 449015 |
| | G100HP2 | 12.5 | 449028 | 449041 | 449003 | 449016 |
| | G100HP2 | 14.0 | 449029 | 449042 | 449004 | 449017 |
| | G100HP2 | 16.0 | 449030 | 449043 | 449006 | 449018 |
| | G100HP2 | 18.0 | 449032 | 449044 | 449007 | 449019 |
| | G100HP2 | 20.0 | 449033 | 449045 | 449008 | 449020 |
| T R I P L E | G100HP2 | 22.4 | 449034 | 449046 | 449009 | 449021 |
| | G100HP3 | 25.0 | 448979 | 448988 | 448960 | 448969 |
| | G100HP3 | 28.0 | 448980 | 448989 | 448961 | 448971 |
| | G100HP3 | 31.5 | 448981 | 448990 | 448962 | 448972 |
| | G100HP3 | 35.5 | 448982 | 448991 | 448963 | 448973 |
| | G100HP3 | 40.0 | 448983 | 448992 | 448964 | 448974 |
| | G100HP3 | 45.0 | 448984 | 448993 | 448965 | 448975 |
| | G100HP3 | 50.0 | 448985 | 448994 | 448966 | 448976 |
| | G100HP3 | 56.0 | 448986 | 448995 | 448967 | 448977 |
| G100HP3 | 63.0 | 448987 | 448996 | 448968 | 448978 | |

MagnaGear G100 Right Angle Shaft Part Numbers

| Nominal Ratio | | | Solid Shaft | Solid Shaft with Backstop | Hollow Shaft | Hollow Shaft with Backstop |
|----------------------------|---------|--------|-------------|---------------------------|--------------|----------------------------|
| T R I P L E | G100HR3 | 12.5 | 448930 | 448945 | 448900 | 448915 |
| | G100HR3 | 14.0 | 448931 | 448946 | 448901 | 448916 |
| | G100HR3 | 16.0 | 448932 | 448947 | 448902 | 448917 |
| | G100HR3 | 18.0 | 448933 | 448948 | 448903 | 448918 |
| | G100HR3 | 20.0 | 448934 | 448949 | 448904 | 448919 |
| | G100HR3 | 22.4 | 448935 | 448950 | 448905 | 448920 |
| | G100HR3 | 25.0 | 448936 | 448951 | 448906 | 448921 |
| | G100HR3 | 28.0 | 448937 | 448952 | 448907 | 448922 |
| | G100HR3 | 31.5 | 448938 | 448953 | 448908 | 448923 |
| | G100HR3 | 35.5 | 448939 | 448954 | 448909 | 448924 |
| | G100HR3 | 40.0 | 448940 | 448955 | 448910 | 448925 |
| | G100HR3 | 45.0 | 448941 | 448956 | 448911 | 448926 |
| | G100HR3 | 50.0 | 448942 | 448957 | 448912 | 448927 |
| | G100HR3 | 56.0 | 448943 | 448958 | 448913 | 448928 |
| G100HR3 | 63.0 | 448944 | 448959 | 448914 | 448929 | |

MagnaGEAR G100 Accessory Part Numbers

Shaft Driven Fan Kits

| MagnaGear | Shaft Configuration | Reduction | Ratio | Part Number |
|-----------|---------------------|-----------|-----------|---------------|
| G100HP2 | Parallel | Double | 8 - 22.4 | 454007 |
| G100HP3 | Parallel | Triple | 25 - 63 | 454006 |
| G100HR3 | Right Angle | Triple | 12.5 - 63 | 454005 |

Mechanical fan kit includes fan, fan shroud, fan guard and mounting hardware.

Electric Fan Kits

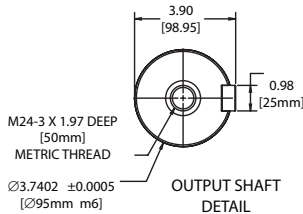
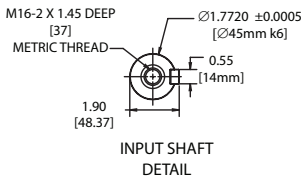
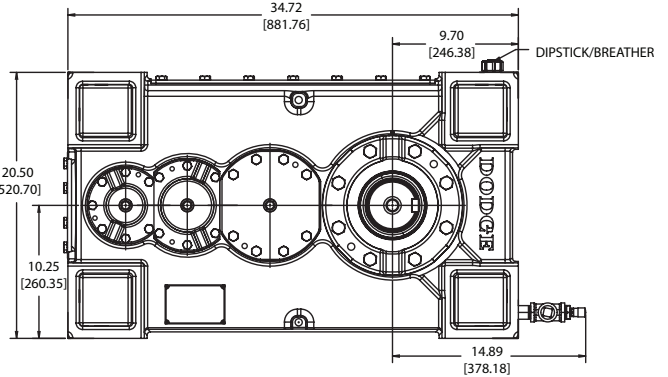
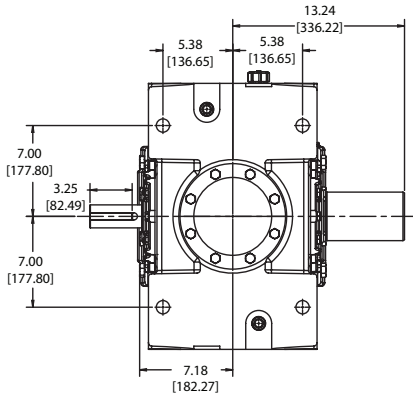
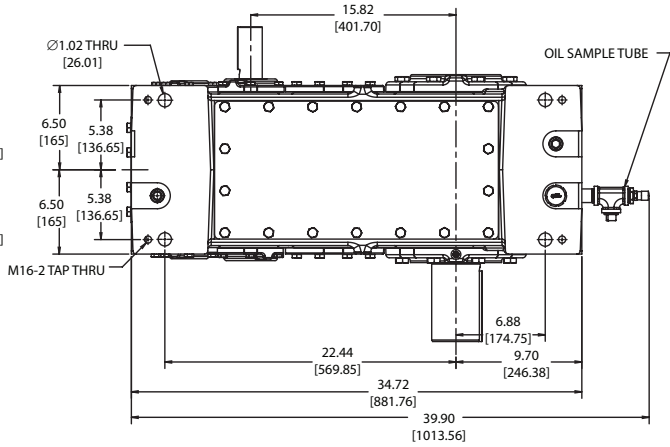
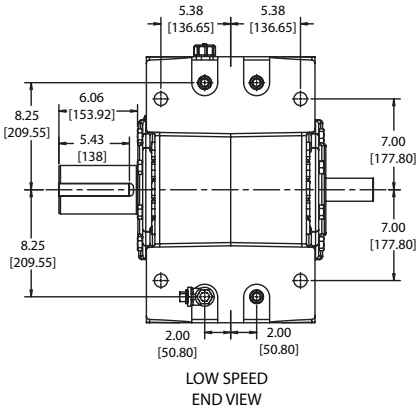
| MagnaGear | Shaft Configuration | Reduction | Ratio | Voltage | Phase | Part Number |
|-----------|---------------------|-----------|-------|---------|-------|---------------|
| All G100 | All | All | All | 230/460 | 3 | 454078 |
| All G100 | All | All | All | 115/230 | 1 | 454079 |
| All G100 | All | All | All | 575 | 3 | 454080 |

Electrical fan kit includes fan, electric motor, fan shroud, fan guard and mounting hardware.

SELECTION/DIMENSIONS



MagnaGear G100 Parallel Shaft DOUBLE REDUCTION (8:1 TO 22.4:1) SOLID OUTPUT SHAFT

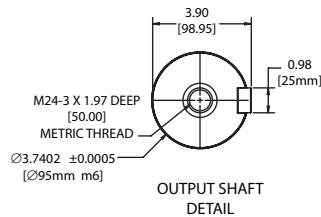
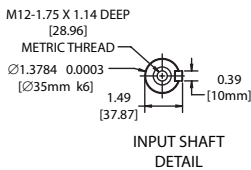
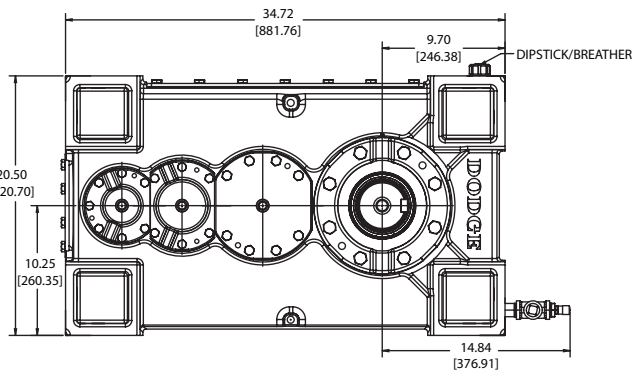
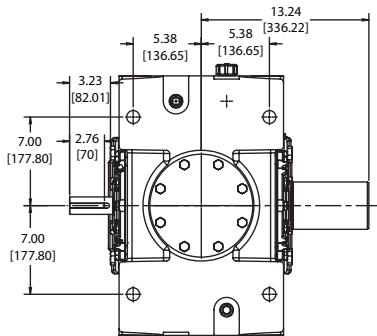
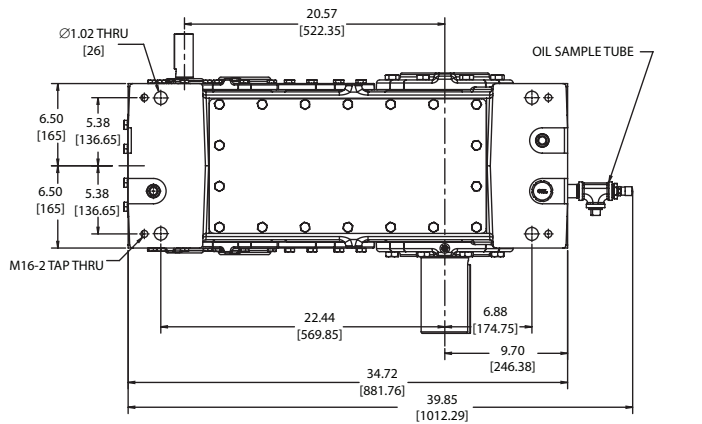
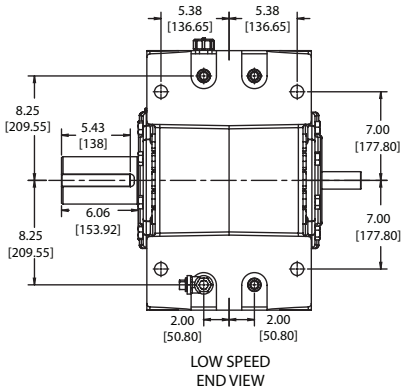


Weight without oil: 1138 lbs
 Dimensions in [] are millimeters.
 Drawing for reference only. Contact DODGE for certified drawing.

SELECTION/DIMENSIONS



MagnaGear G100 Parallel Shaft TRIPLE REDUCTION (25:1 TO 63:1) SOLID OUTPUT SHAFT



Weight without oil: 1163 lbs
 Dimensions in [] are millimeters.
 Drawing for reference only. Contact DODGE for certified drawing.

Features/Benefits

Specifications

Nomenclature

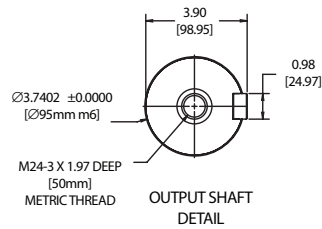
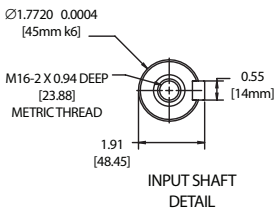
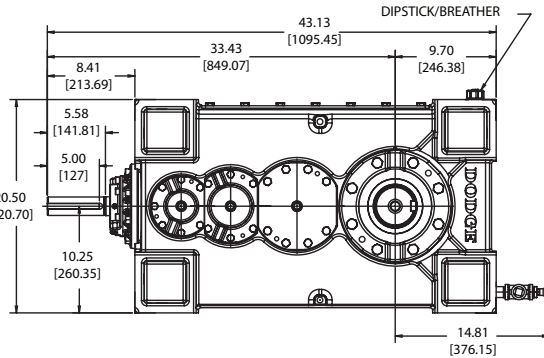
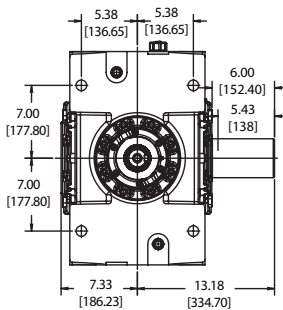
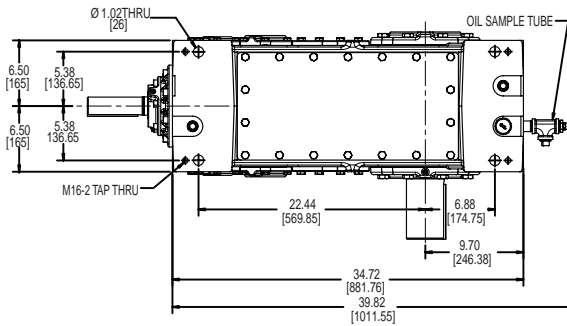
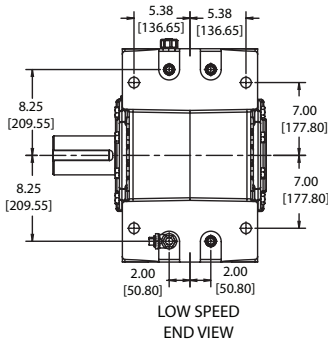
Easy Selection

Selection/Dimensions

SELECTION/DIMENSIONS



MagnaGear G100 Right Angle Shaft TRIPLE REDUCTION (12.5:1 TO 63:1) SOLID OUTPUT SHAFT

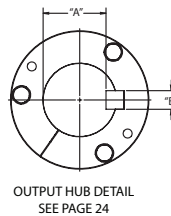
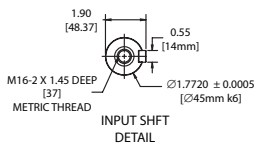
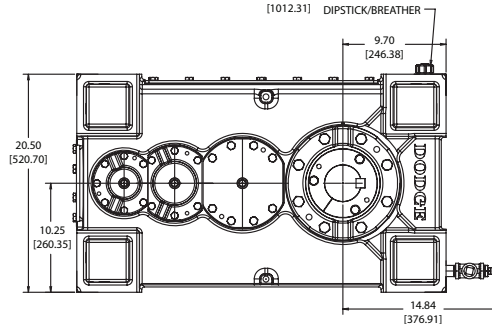
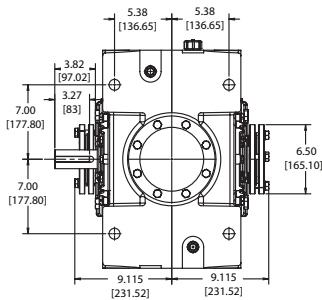
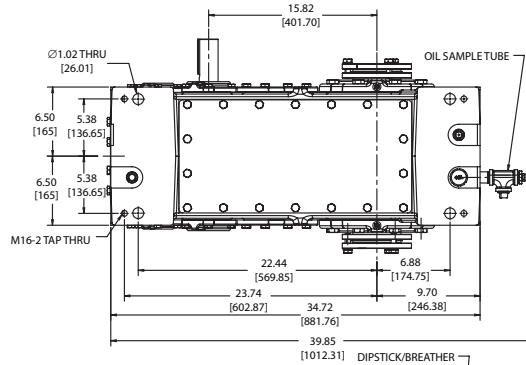
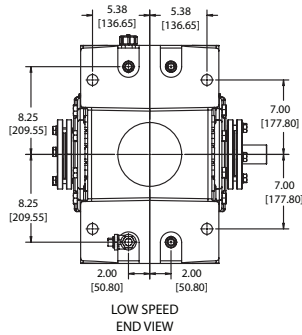


Weight without oil: 1245 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

SELECTION/DIMENSIONS



MagnaGear G100 Parallel Shaft DOUBLE REDUCTION (8:1 TO 22.4:1) HOLLOW OUTPUT SHAFT

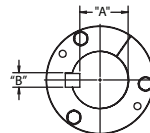
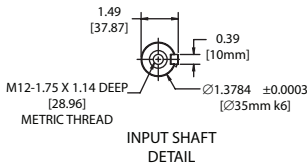
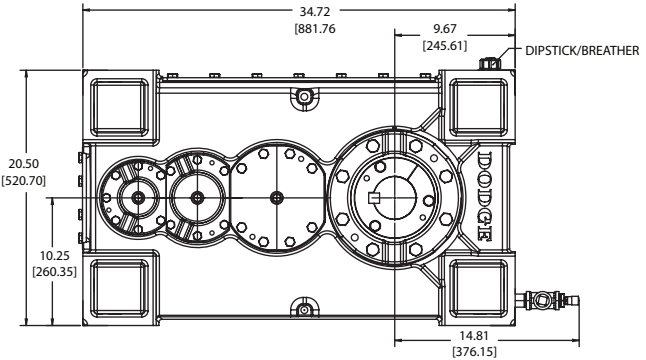
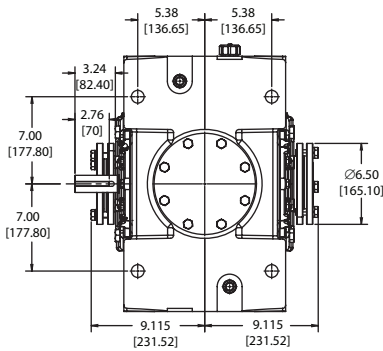
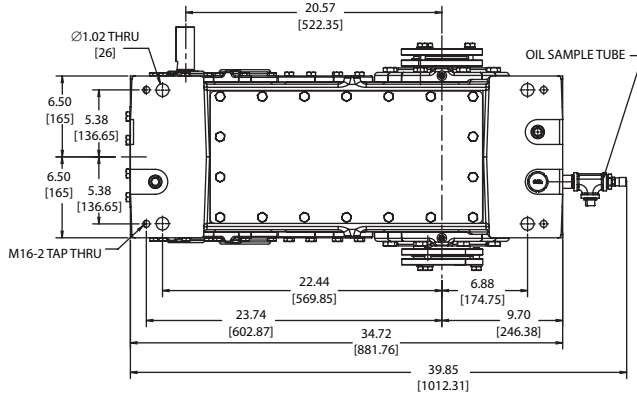
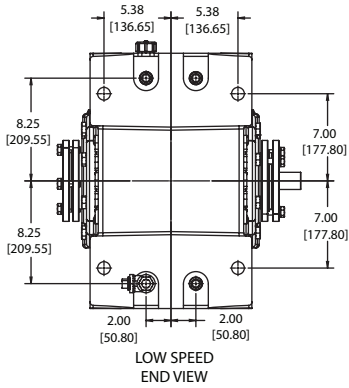


Weight without oil: 1103 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

SELECTION/DIMENSIONS



MagnaGear G100 Parallel Shaft TRIPLE REDUCTION (25:1 TO 63:1) HOLLOW OUTPUT SHAFT



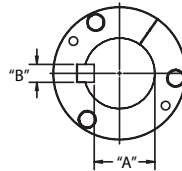
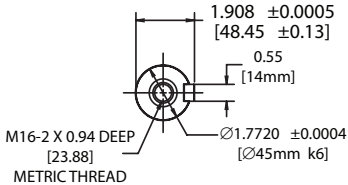
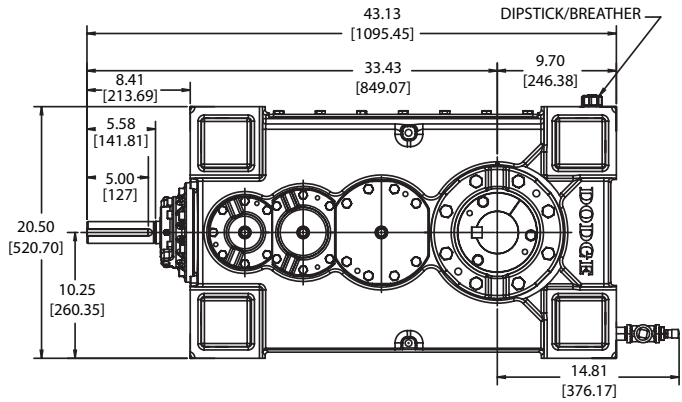
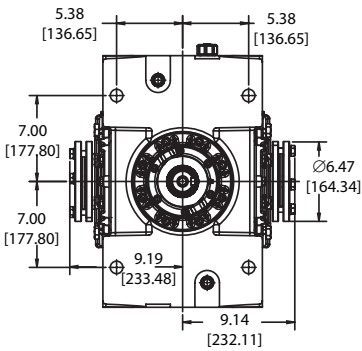
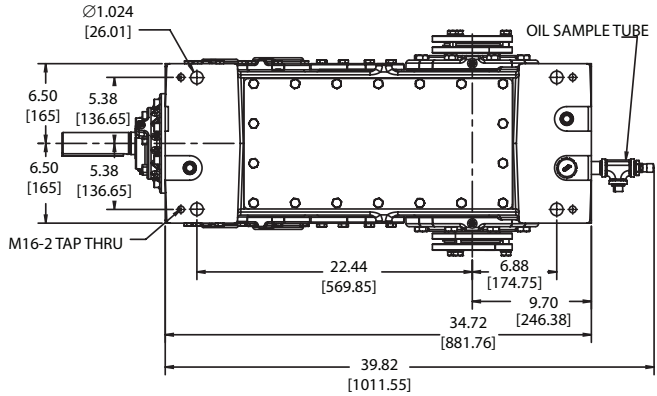
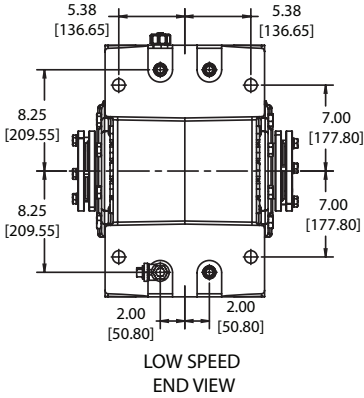
OUTPUT HUB DETAIL
SEE PAGE 24

Weight without oil: 1127 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

SELECTION/DIMENSIONS



MagnaGear G100 Right Angle Shaft TRIPLE REDUCTION (12.5:1 TO 63:1) HOLLOW OUTPUT SHAFT



OUTPUT HUB
DETAIL
SEE PAGE 24

Weight without oil: 1210 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

Features/Benefits

Specifications

Nomenclature

Easy Selection

Selection/Dimensions

SELECTION/DIMENSIONS



MagnaGear G100 Hollow Bore Diameter

| Bore Dia. | "A" | "B" |
|-----------|--------|------|
| 3-7/16" | 2.943" | 7/8" |
| 3-3/16" | 2.768" | 3/4" |
| 3" | 2.577" | 3/4" |
| 2-15/16" | 2.514" | 3/4" |
| 2-7/8" | 2.450" | 3/4" |
| 2-11/16" | 2.338" | 5/8" |
| 2-1/2" | 2.148" | 5/8" |
| 2-7/16" | 2.443" | 5/8" |
| 2-3/8" | 2.021" | 5/8" |

| Bore Dia. | "A" | "B" |
|-----------|--------|------|
| 2-1/4" | 1.972" | 1/2" |
| 2-3/16" | 1.909" | 1/2" |
| 90mm | 81mm | 25mm |
| 85mm | 76mm | 22mm |
| 80mm | 71mm | 22mm |
| 75mm | 67.5mm | 20mm |
| 70mm | 62.5mm | 20mm |
| 65mm | 58mm | 20mm |
| 60mm | 53mm | 18mm |

MagnaGear G150 Parallel Shaft Part Numbers

| Nominal Ratio | | | Solid Shaft | Solid Shaft with Backstop | Hollow Shaft | Hollow Shaft with Backstop |
|----------------------------|---------|------|---------------|---------------------------|---------------|----------------------------|
| D O U B L E | G150HP2 | 8.00 | 449170 | 449182 | 449146 | 449158 |
| | G150HP2 | 9.00 | 449171 | 449183 | 449147 | 449159 |
| | G150HP2 | 10.0 | 449172 | 449184 | 449148 | 449160 |
| | G150HP2 | 11.2 | 449173 | 449185 | 449149 | 449161 |
| | G150HP2 | 12.5 | 449174 | 449186 | 449150 | 449162 |
| | G150HP2 | 14.0 | 449175 | 449187 | 449151 | 449163 |
| | G150HP2 | 16.0 | 449176 | 449188 | 449152 | 449164 |
| | G150HP2 | 18.0 | 449177 | 449189 | 449153 | 449165 |
| | G150HP2 | 20.0 | 449178 | 449190 | 449154 | 449166 |
| T R I P L E | G150HP3 | 25.0 | 449126 | 449135 | 449107 | 449117 |
| | G150HP3 | 28.0 | 449127 | 449136 | 449108 | 449118 |
| | G150HP3 | 31.5 | 449128 | 449137 | 449110 | 449119 |
| | G150HP3 | 35.5 | 449129 | 449138 | 449111 | 449120 |
| | G150HP3 | 40.0 | 449130 | 449139 | 449112 | 449121 |
| | G150HP3 | 45.0 | 449131 | 449140 | 449113 | 449122 |
| | G150HP3 | 50.0 | 449132 | 449141 | 449114 | 449123 |
| | G150HP3 | 56.0 | 449133 | 449142 | 449115 | 449124 |
| | G150HP3 | 63.0 | 449134 | 449143 | 449116 | 449125 |

MagnaGear G150 Right Angle Shaft Part Numbers

| Nominal Ratio | | | Solid Shaft | Solid Shaft with Backstop | Hollow Shaft | Hollow Shaft with Backstop |
|----------------------------|---------|---------------|---------------|---------------------------|---------------|----------------------------|
| T R I P L E | G150HR3 | 12.5 | 449077 | 449092 | 449047 | 449062 |
| | G150HR3 | 14.0 | 449078 | 449093 | 449048 | 449063 |
| | G150HR3 | 16.0 | 449079 | 449094 | 449049 | 449064 |
| | G150HR3 | 18.0 | 449080 | 449095 | 449050 | 449065 |
| | G150HR3 | 20.0 | 449081 | 449096 | 449051 | 449066 |
| | G150HR3 | 22.4 | 449082 | 449097 | 449052 | 449067 |
| | G150HR3 | 25.0 | 449083 | 449098 | 449053 | 449068 |
| | G150HR3 | 28.0 | 449084 | 449099 | 449054 | 449069 |
| | G150HR3 | 31.5 | 449085 | 449100 | 449055 | 449070 |
| | G150HR3 | 35.5 | 449086 | 449101 | 449056 | 449071 |
| | G150HR3 | 40.0 | 449087 | 449102 | 449057 | 449072 |
| | G150HR3 | 45.0 | 449088 | 449103 | 449058 | 449073 |
| | G150HR3 | 50.0 | 449089 | 449104 | 449059 | 449074 |
| | G150HR3 | 56.0 | 449090 | 449105 | 449060 | 449075 |
| G150HR3 | 63.0 | 449091 | 449106 | 449061 | 449076 | |

G150 Accessory Part Numbers

Shaft Driven Fan Kits

| MagnaGear | Shaft Configuration | Reduction | Ratio | Part Number |
|-----------|---------------------|-----------|-----------|---------------|
| G150HP2 | Parallel | Double | 8 - 22.4 | 451010 |
| G150HP3 | Parallel | Triple | 25 - 63 | 454009 |
| G150HR3 | Right Angle | Triple | 12.5 - 63 | 454008 |

Mechanical fan kit includes fan, fan shroud, fan guard and mounting hardware.

Electric Fan Kits

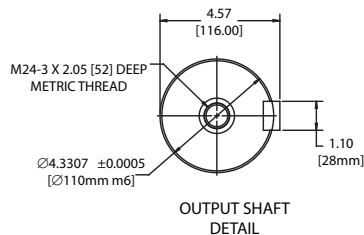
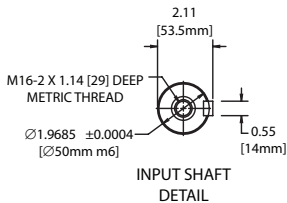
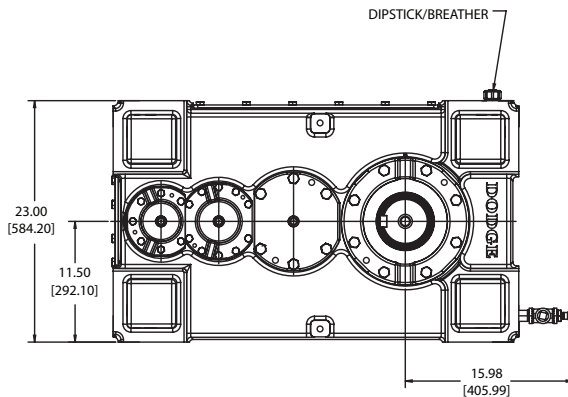
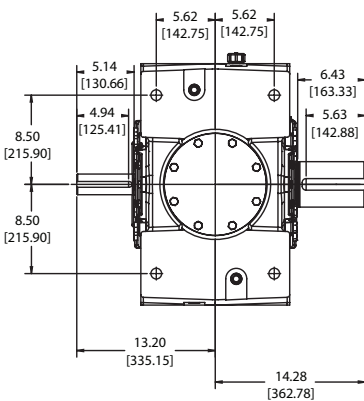
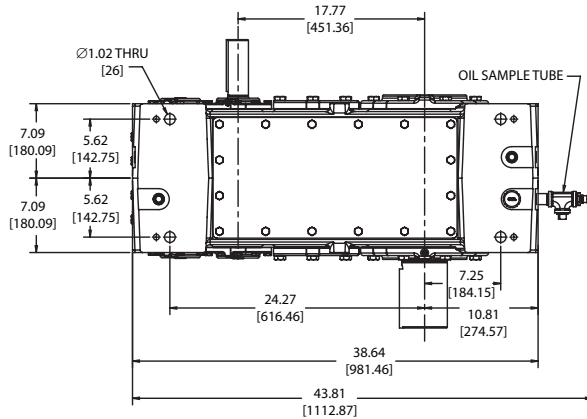
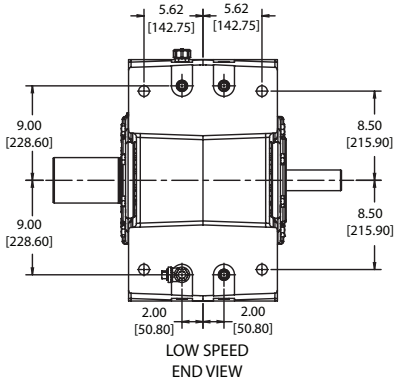
| MagnaGear | Shaft Configuration | Reduction | Ratio | Voltage | Phase | Part Number |
|-----------|---------------------|-----------|-------|---------|-------|---------------|
| All G150 | All | All | All | 230/460 | 3 | 454047 |
| All G150 | All | All | All | 115/230 | 1 | 454048 |
| All G150 | All | All | All | 575 | 3 | 454049 |

Electrical fan kit includes fan, electric motor, fan shroud, fan guard and mounting hardware.

SELECTION/DIMENSIONS



MagnaGear G150 Parallel Shaft DOUBLE REDUCTION (8:1 TO 22.4:1) SOLID OUTPUT SHAFT

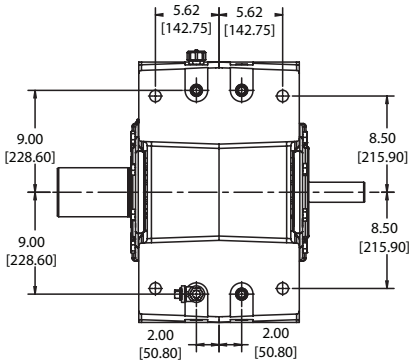


Weight without oil: 1619 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

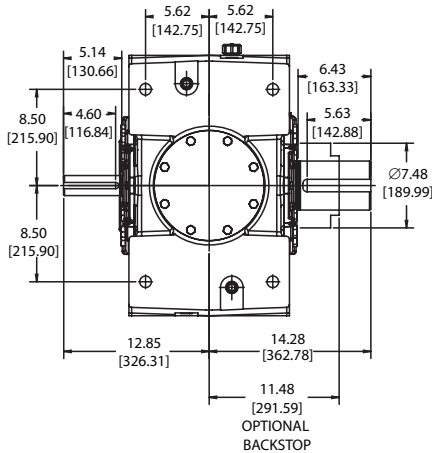
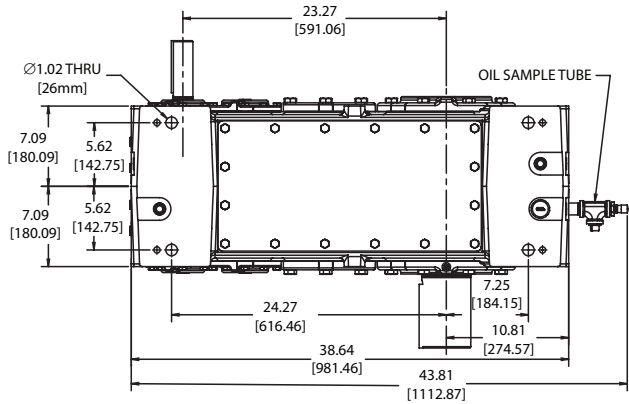
SELECTION/DIMENSIONS



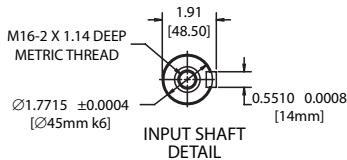
MagnaGear G150 Parallel Shaft TRIPLE REDUCTION (25:1 TO 63:1) SOLID OUTPUT SHAFT



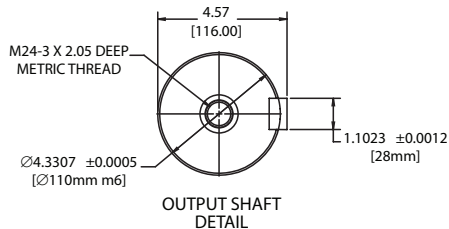
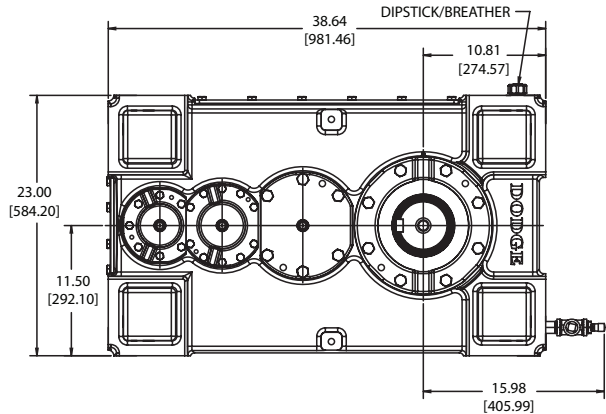
LOW SPEED
END VIEW



OPTIONAL
BACKSTOP



INPUT SHAFT
DETAIL



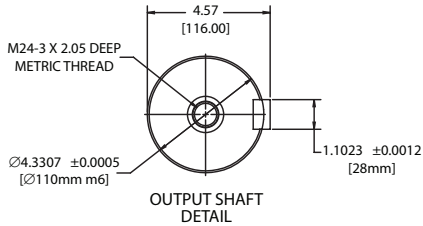
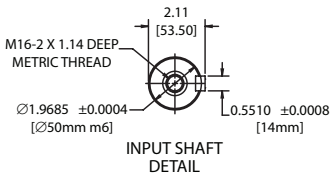
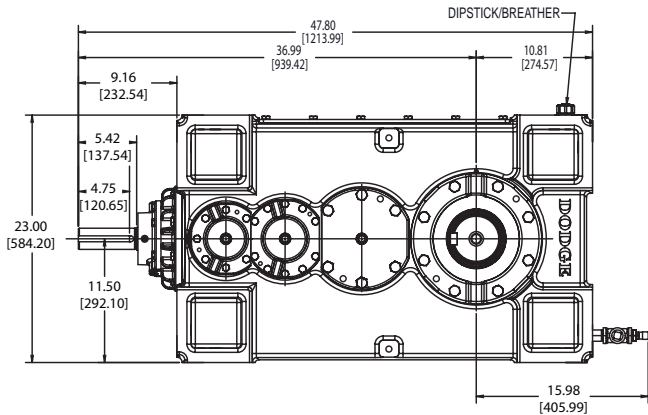
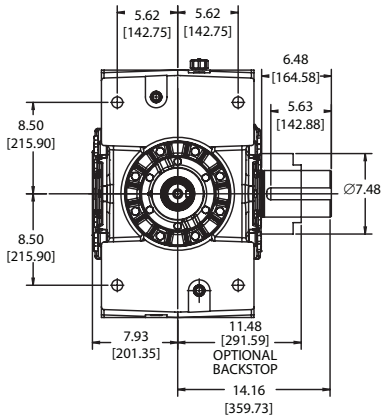
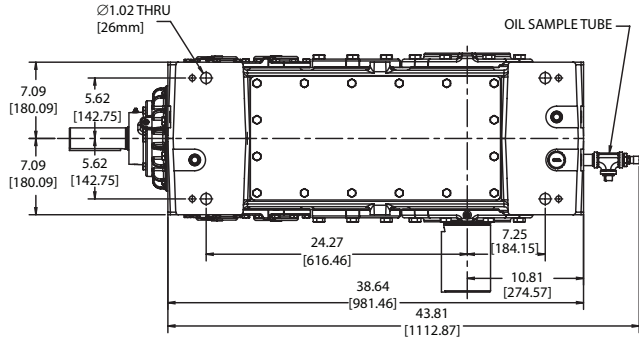
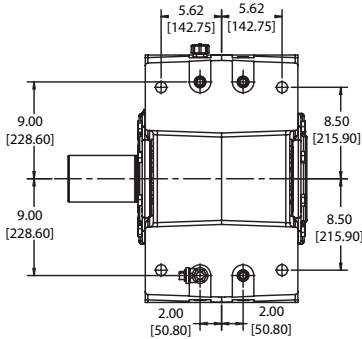
OUTPUT SHAFT
DETAIL

Weight without oil: 1655 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

SELECTION/DIMENSIONS



MagnaGear G150 Right Angle Shaft TRIPLE REDUCTION (12.5:1 TO 63:1) SOLID OUTPUT SHAFT



Weight without oil: 1714 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

Features/Benefits

Specifications

Nomenclature

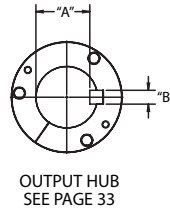
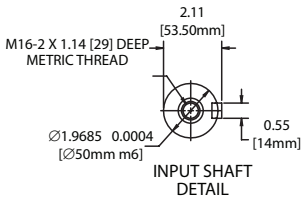
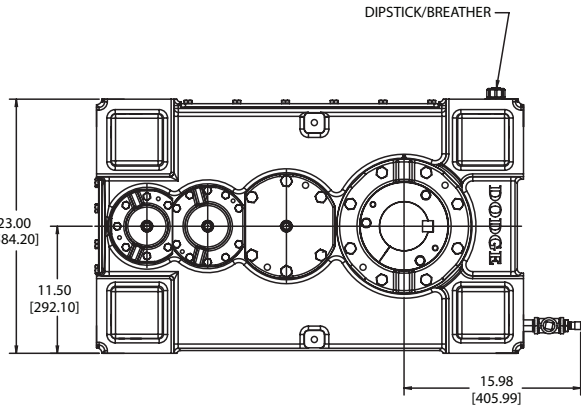
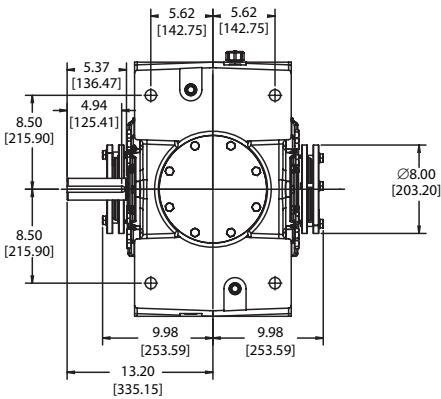
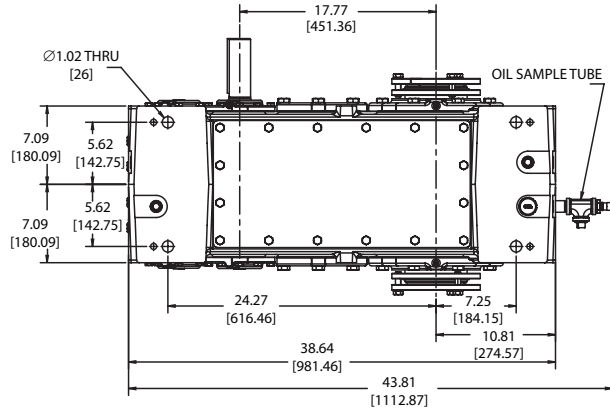
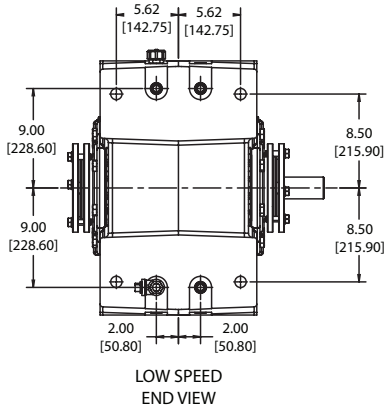
Easy Selection

Selection/Dimensions

SELECTION/DIMENSIONS



MagnaGear G150 Parallel Shaft DOUBLE REDUCTION (8:1 TO 22.4:1) HOLLOW OUTPUT SHAFT

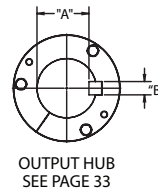
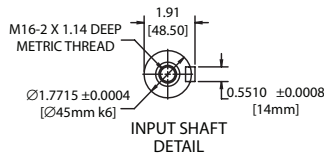
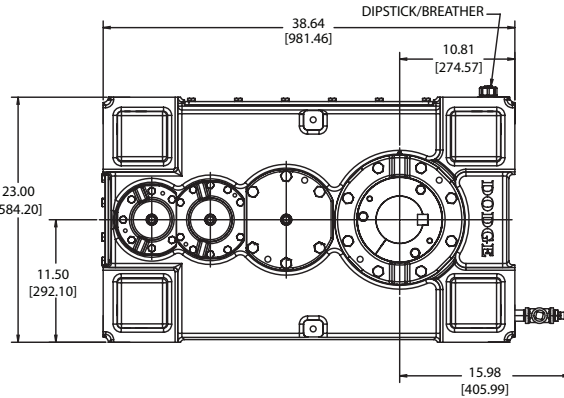
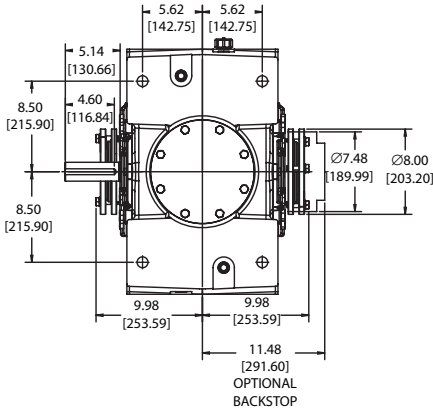
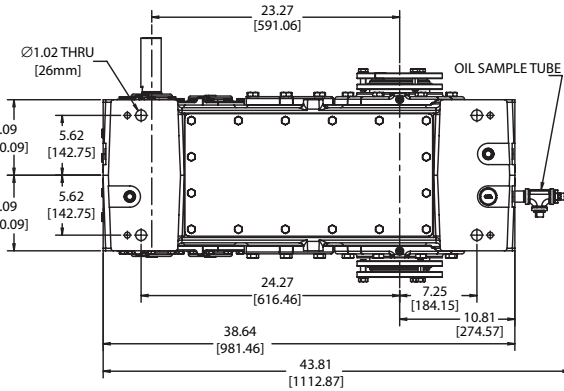
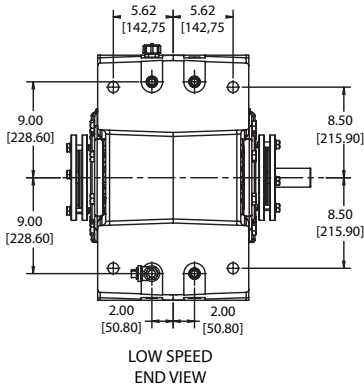


Weight without oil: 1556 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

SELECTION/DIMENSIONS



MagnaGear G150 Parallel Shaft TRIPLE REDUCTION (25:1 TO 63:1) HOLLOW OUTPUT SHAFT

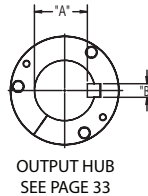
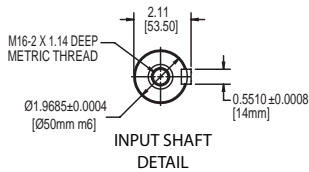
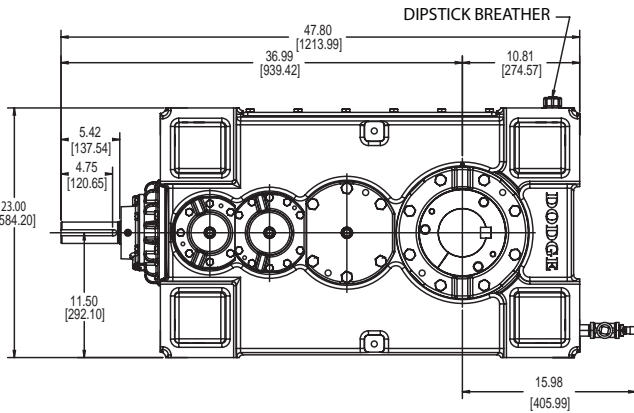
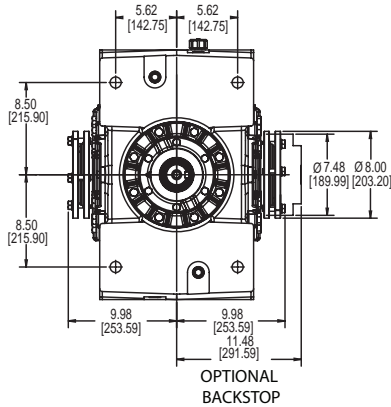
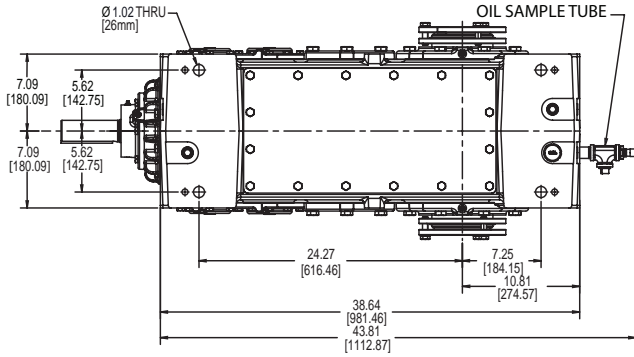
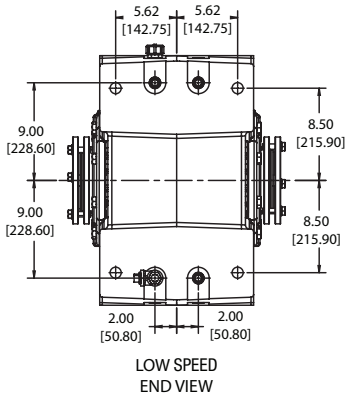


Weight without oil: 1593 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

SELECTION/DIMENSIONS



MagnaGear G150 Right Angle Shaft TRIPLE REDUCTION (12.5:1 TO 63:1) HOLLOW OUTPUT SHAFT



Weight without oil: 1651 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

SELECTION/DIMENSIONS



MagnaGear G150 Hollow Bore Diameter

| Bore Dia. | "A" | "B" |
|-----------|--------|------|
| 4-7/16" | 3.880" | 1" |
| 4-3/16" | 3.627" | 1" |
| 3-15/16" | 3.373" | 1" |
| 3-7/16" | 2.943" | 7/8" |
| 3-3/16" | 2.768" | 3/4" |
| 3" | 2.577" | 3/4" |
| 2-15/16" | 2.514" | 3/4" |

| Bore Dia. | "A" | "B" |
|-----------|--------|------|
| 110mm | 100mm | 28mm |
| 100mm | 90mm | 28mm |
| 95mm | 86mm | 25mm |
| 90mm | 81mm | 25mm |
| 85mm | 76mm | 22mm |
| 80mm | 71mm | 22mm |
| 75mm | 67.5mm | 20mm |

Features/Benefits

Specifications

Nomenclature

Easy Selection

Selection/Dimensions

SELECTION/DIMENSIONS



MagnaGear G210 Parallel Shaft Part Numbers

| Nominal Ratio | | | Solid Shaft | Solid Shaft with Backstop | Hollow Shaft | Hollow Shaft with Backstop |
|----------------------------|---------|--------|-------------|---------------------------|--------------|----------------------------|
| D O U B L E | G210HP2 | 8.00 | 449317 | 449329 | 449292 | 449305 |
| | G210HP2 | 9.00 | 449318 | 449330 | 449293 | 449306 |
| | G210HP2 | 10.0 | 449319 | 449331 | 449294 | 449307 |
| | G210HP2 | 11.2 | 449320 | 449332 | 449295 | 449308 |
| | G210HP2 | 12.5 | 449321 | 449333 | 449296 | 449309 |
| | G210HP2 | 14.0 | 449322 | 449334 | 449297 | 449310 |
| | G210HP2 | 16.0 | 449323 | 449335 | 449298 | 449311 |
| | G210HP2 | 18.0 | 449324 | 449336 | 449299 | 449312 |
| | G210HP2 | 20.0 | 449325 | 449337 | 449300 | 449313 |
| | G210HP2 | 22.4 | 449326 | 449338 | 449301 | 449314 |
| T R I P L E | G210HP3 | 25.0 | 449272 | 449281 | 449253 | 449262 |
| | G210HP3 | 28.0 | 449273 | 449282 | 449254 | 449263 |
| | G210HP3 | 31.5 | 449274 | 449283 | 449255 | 449264 |
| | G210HP3 | 35.5 | 449275 | 449284 | 449256 | 449265 |
| | G210HP3 | 40.0 | 449276 | 449285 | 449257 | 449267 |
| | G210HP3 | 45.0 | 449277 | 449286 | 449258 | 449268 |
| | G210HP3 | 50.0 | 449278 | 449287 | 449259 | 449269 |
| | G210HP3 | 56.0 | 449279 | 449288 | 449260 | 449270 |
| G210HP3 | 63.0 | 449280 | 449289 | 449261 | 449271 | |

MagnaGear G210 Right Angle Shaft Part Numbers

| Nominal Ratio | | | Solid Shaft | Solid Shaft with Backstop | Hollow Shaft | Hollow Shaft with Backstop |
|----------------------------|---------|--------|-------------|---------------------------|--------------|----------------------------|
| T R I P L E | G210HR3 | 12.5 | 449222 | 449237 | 449192 | 449207 |
| | G210HR3 | 14.0 | 449223 | 449238 | 449193 | 449208 |
| | G210HR3 | 16.0 | 449224 | 449240 | 449194 | 449209 |
| | G210HR3 | 18.0 | 449225 | 449241 | 449195 | 449210 |
| | G210HR3 | 20.0 | 449226 | 449242 | 449196 | 449211 |
| | G210HR3 | 22.4 | 449227 | 449243 | 449197 | 449212 |
| | G210HR3 | 25.0 | 449228 | 449244 | 449198 | 449213 |
| | G210HR3 | 28.0 | 449229 | 449245 | 449199 | 449214 |
| | G210HR3 | 31.5 | 449230 | 449246 | 449200 | 449215 |
| | G210HR3 | 35.5 | 449231 | 449247 | 449201 | 449216 |
| | G210HR3 | 40.0 | 449232 | 449248 | 449202 | 449217 |
| | G210HR3 | 45.0 | 449233 | 449249 | 449203 | 449218 |
| | G210HR3 | 50.0 | 449234 | 449250 | 449204 | 449219 |
| | G210HR3 | 56.0 | 449235 | 449251 | 449205 | 449220 |
| G210HR3 | 63.0 | 449236 | 449252 | 449206 | 449221 | |

MagnaGear G210 Accessory Part Numbers Shaft Driven Fan Kits

| MagnaGear | Shaft Configuration | Reduction | Ratio | Part Number |
|-----------|---------------------|-----------|-----------|---------------|
| G210HP2 | Parallel | Double | 8 - 22.4 | 454013 |
| G210HP3 | Parallel | Triple | 25 - 63 | 454012 |
| G210HR3 | Right Angle | Triple | 12.5 - 63 | 454011 |

Mechanical fan kit includes fan, fan shroud, fan guard and mounting hardware.

Electric Fan Kits

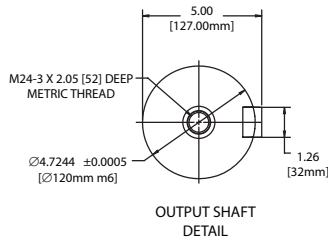
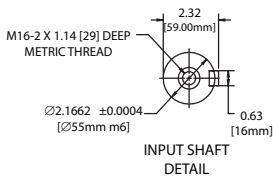
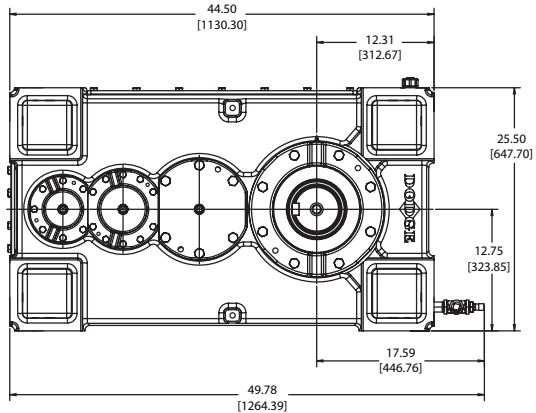
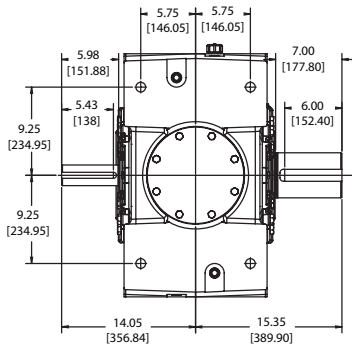
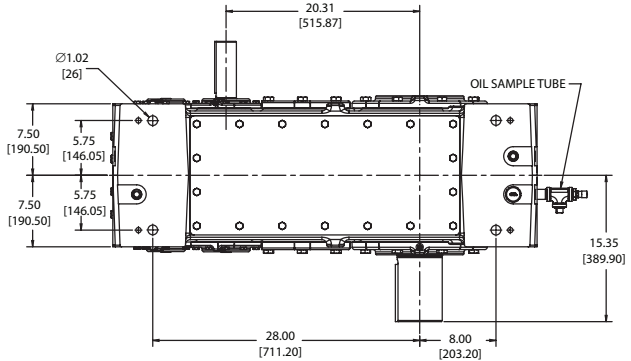
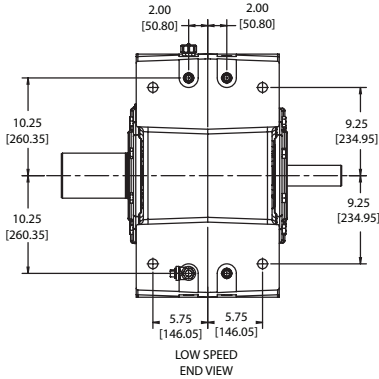
| MagnaGear | Shaft Configuration | Reduction | Ratio | Voltage | Phase | Part Number |
|-----------|---------------------|-----------|-------|---------|-------|---------------|
| All G210 | All | All | All | 230/460 | 3 | 454044 |
| All G210 | All | All | All | 115/230 | 1 | 454045 |
| All G210 | All | All | All | 575 | 3 | 454046 |

Electrical fan kit includes fan, electric motor, fan shroud, fan guard and mounting hardware.

SELECTION/DIMENSIONS



MagnaGear G210 Parallel Shaft DOUBLE REDUCTION (8:1 TO 22.4:1) SOLID OUTPUT SHAFT

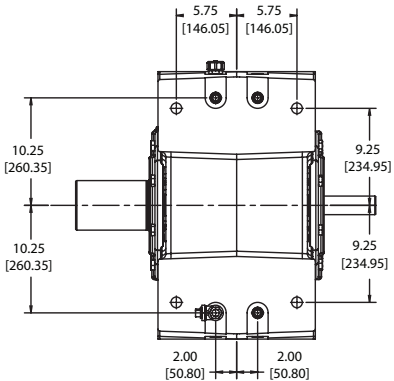


Weight without oil: 2134 lbs
 Dimensions in [] are millimeters.
 Drawing for reference only. Contact DODGE for certified drawing.

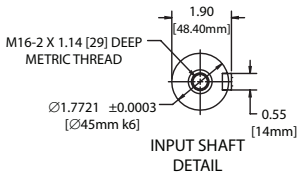
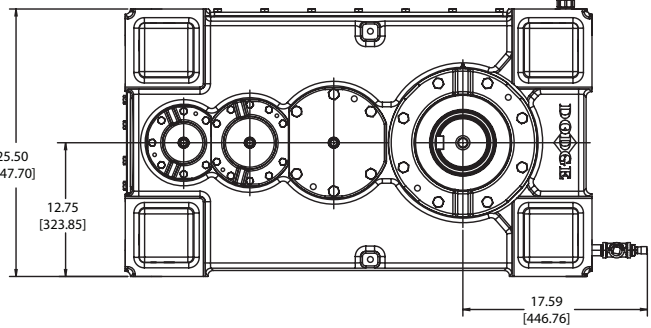
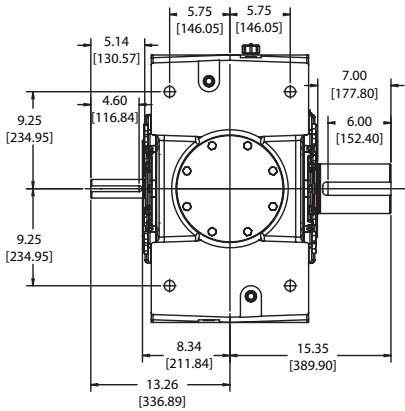
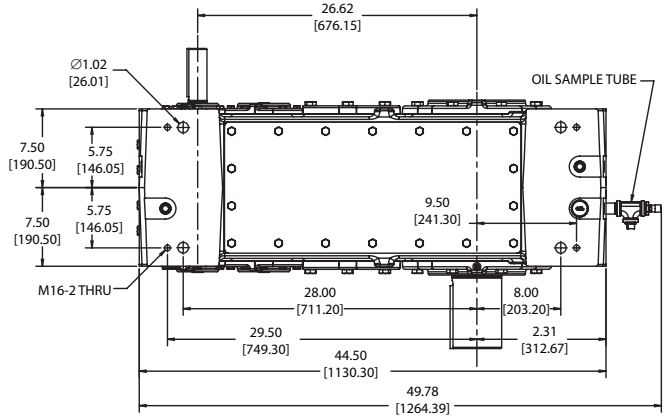
SELECTION/DIMENSIONS



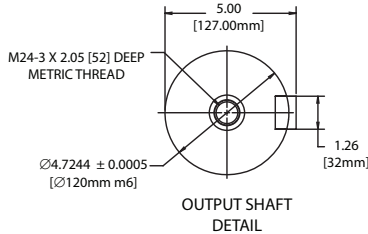
MagnaGear G210 Parallel Shaft TRIPLE REDUCTION (25:1 TO 63:1) SOLID OUTPUT SHAFT



LOW SPEED
END VIEW



INPUT SHAFT
DETAIL



OUTPUT SHAFT
DETAIL

Weight without oil: 2187 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

Features/Benefits

Specifications

Nomenclature

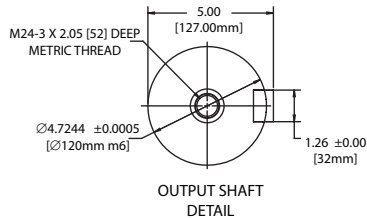
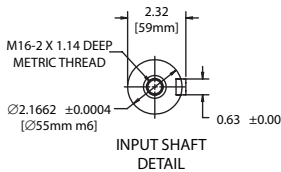
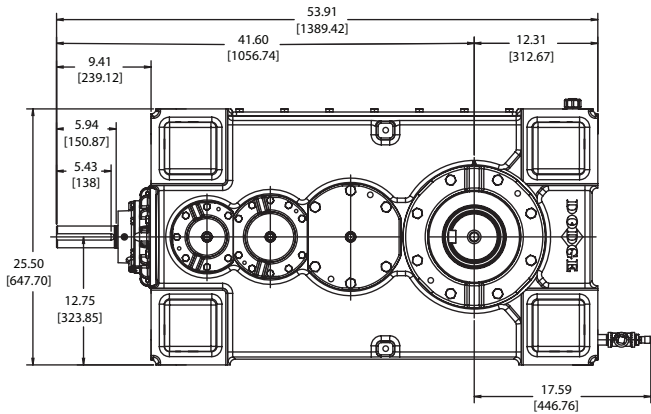
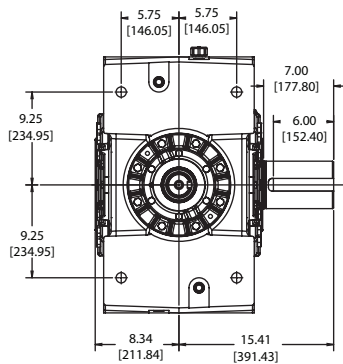
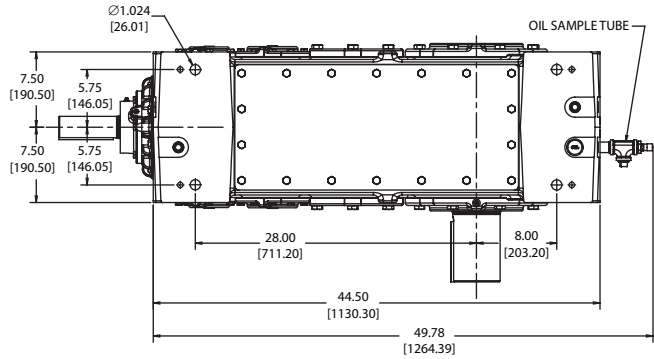
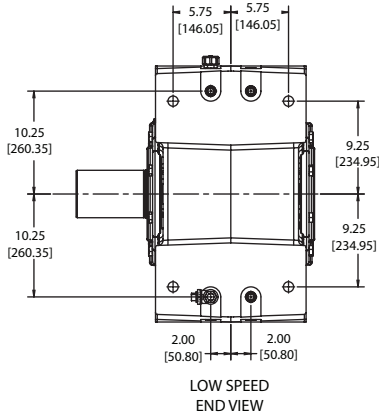
Easy Selection

Selection/Dimensions

SELECTION/DIMENSIONS



MagnaGear G210 Right Angle Shaft TRIPLE REDUCTION (12.5:1 TO 63:1) SOLID OUTPUT SHAFT

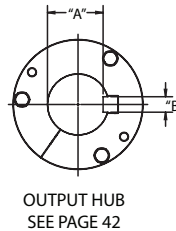
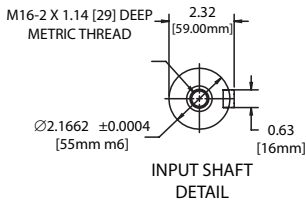
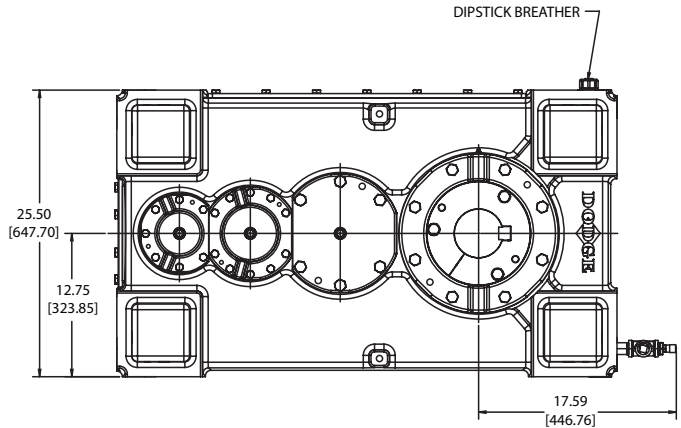
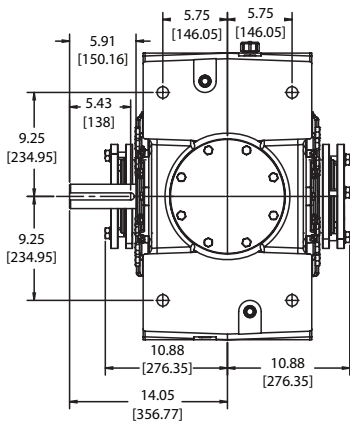
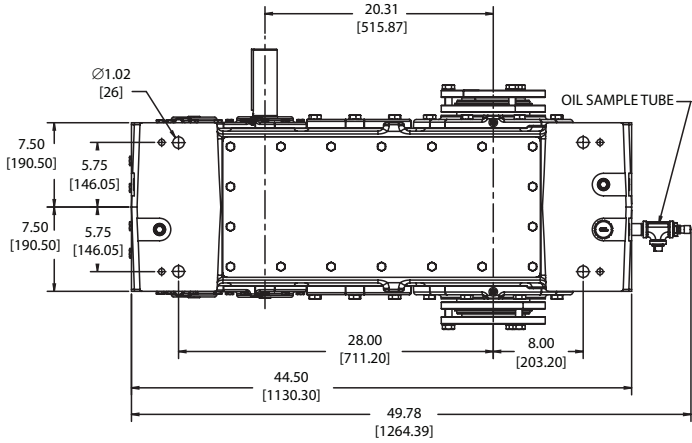
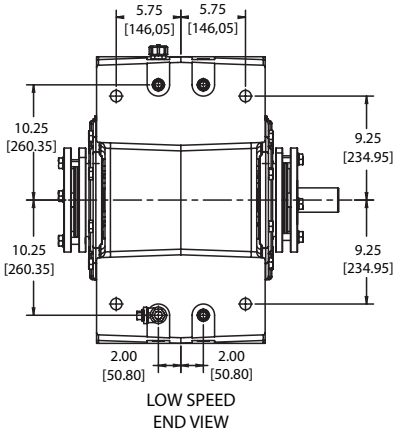


Weight without oil: 2253 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

SELECTION/DIMENSIONS



MagnaGear G210 Parallel Shaft DOUBLE REDUCTION (8:1 TO 22.4:1) HOLLOW OUTPUT SHAFT



Weight without oil: 2057 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

Features/Benefits

Specifications

Nomenclature

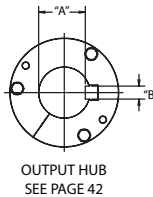
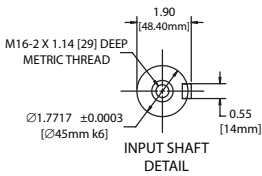
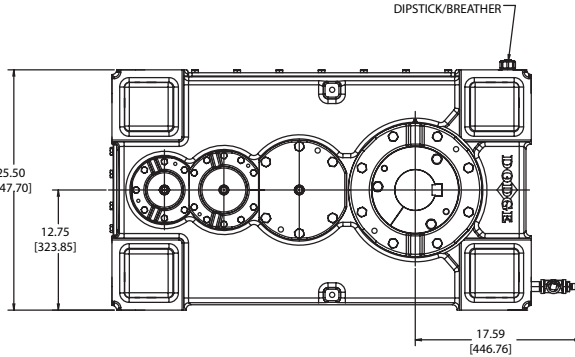
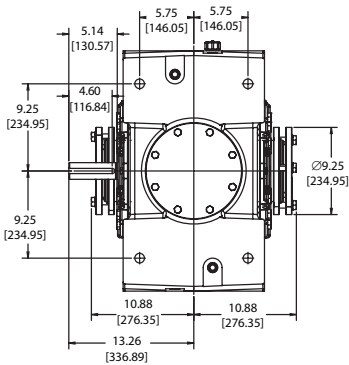
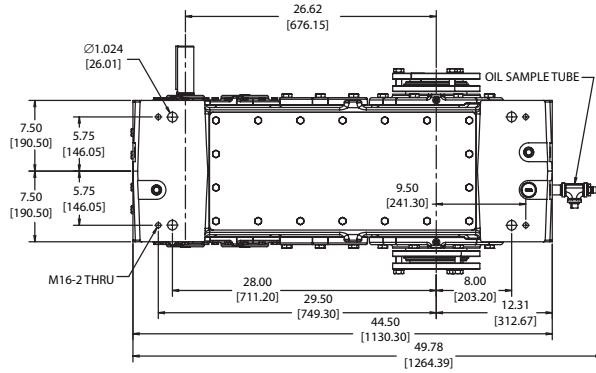
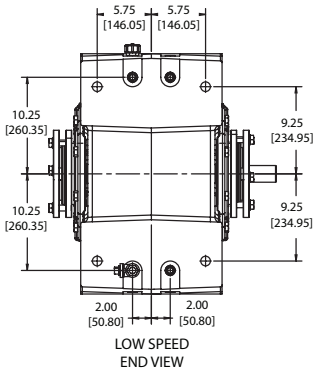
Easy Selection

Selection/Dimensions

SELECTION/DIMENSIONS

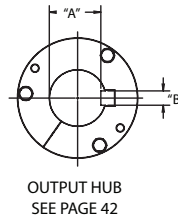
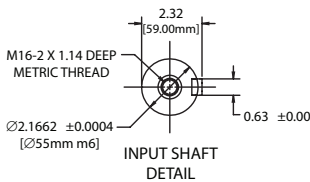
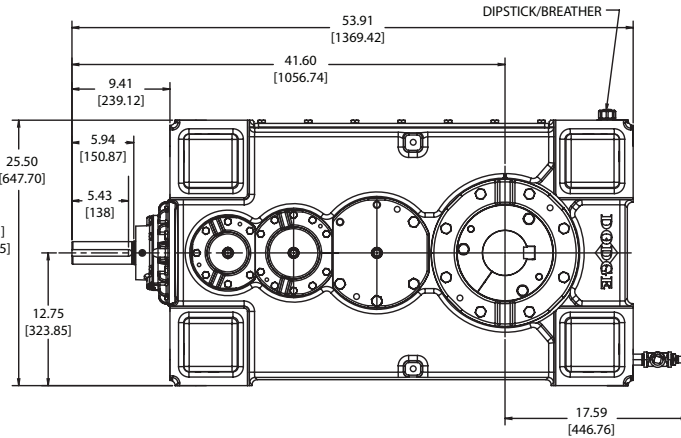
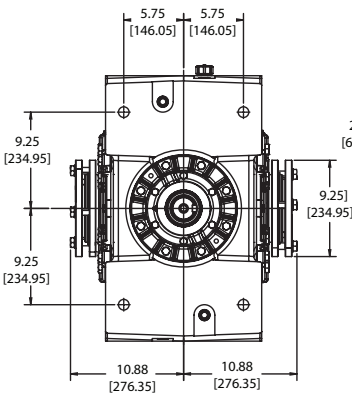
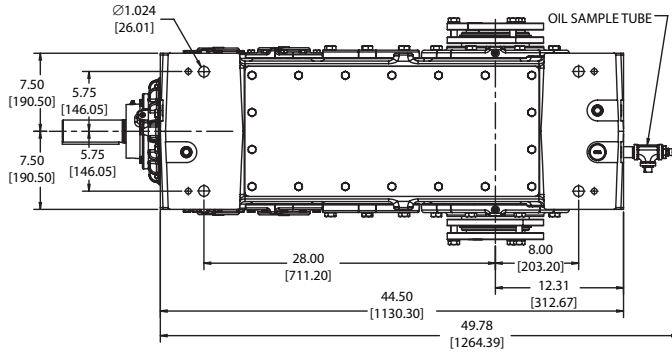
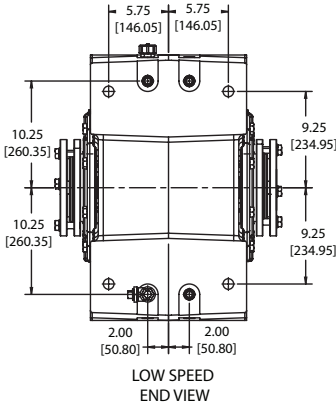


MagnaGear G210 Parallel Shaft TRIPLE REDUCTION (25:1 TO 63:1) HOLLOW OUTPUT SHAFT



Weight without oil: 2111 lbs
 Dimensions in [] are millimeters.
 Drawing for reference only. Contact DODGE for certified drawing.

MagnaGear G210 Right Angle Shaft TRIPLE REDUCTION (12.5:1 to 25:1) HOLLOW OUTPUT SHAFT



Weight without oil: 2175 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

SELECTION/DIMENSIONS



MagnaGear G210 Hollow Bore Diameter

| Bore Dia. | "A" | "B" |
|-----------|--------|--------|
| 4-15/16" | 4.232" | 1-1/4" |
| 4-7/16" | 3.880" | 1" |
| 4-3/16" | 3.627" | 1" |
| 3-15/16" | 3.373" | 1" |
| 3-7/16" | 2.943" | 7/8" |

| Bore Dia. | "A" | "B" |
|-----------|-------|------|
| 130mm | 118mm | 40mm |
| 125mm | 114mm | 32mm |
| 120mm | 109mm | 32mm |
| 110mm | 100mm | 28mm |
| 100mm | 90mm | 28mm |
| 95mm | 86mm | 25mm |
| 90mm | 81mm | 25mm |

MagnaGear G285 Parallel Shaft Part Numbers

| Nominal Ratio | | | Solid Shaft | Solid Shaft with Backstop | Hollow Shaft | Hollow Shaft with Backstop |
|----------------------------|---------|--------|-------------|---------------------------|--------------|----------------------------|
| D O U B L E | G285HP2 | 8.0 | 449461 | 449473 | 449437 | 449449 |
| | G285HP2 | 9.0 | 449462 | 449474 | 449438 | 449450 |
| | G285HP2 | 10.0 | 449463 | 449475 | 449439 | 449451 |
| | G285HP2 | 11.2 | 449464 | 449476 | 449440 | 449452 |
| | G285HP2 | 12.5 | 449465 | 449477 | 449441 | 449453 |
| | G285HP2 | 14.0 | 449466 | 449478 | 449442 | 449454 |
| | G285HP2 | 16.0 | 449467 | 449479 | 449443 | 449455 |
| | G285HP2 | 18.0 | 449468 | 449480 | 449444 | 449456 |
| | G285HP2 | 20.0 | 449469 | 449481 | 449445 | 449457 |
| | G285HP2 | 22.4 | 449470 | 449482 | 449446 | 449458 |
| T R I P L E | G285HP3 | 25.0 | 449417 | 449426 | 449399 | 449408 |
| | G285HP3 | 28.0 | 449418 | 449427 | 449400 | 449409 |
| | G285HP3 | 31.5 | 449419 | 449428 | 449401 | 449410 |
| | G285HP3 | 35.5 | 449420 | 449429 | 449402 | 449411 |
| | G285HP3 | 40.0 | 449421 | 449430 | 449403 | 449412 |
| | G285HP3 | 45.0 | 449422 | 449431 | 449404 | 449413 |
| | G285HP3 | 50.0 | 449423 | 449432 | 449405 | 449414 |
| | G285HP3 | 56.0 | 449424 | 449433 | 449406 | 449415 |
| G285HP3 | 63.0 | 449425 | 449434 | 449407 | 449416 | |

MagnaGear G285 Right Angle Shaft Part Numbers

| Nominal Ratio | | | Solid Shaft | Solid Shaft with Backstop | Hollow Shaft | Hollow Shaft with Backstop |
|----------------------------|---------|------|-------------|---------------------------|--------------|----------------------------|
| T R I P L E | G285HR3 | 12.5 | 449339 | 449384 | 449369 | 449354 |
| | G285HR3 | 14.0 | 449340 | 449385 | 449370 | 449355 |
| | G285HR3 | 16.0 | 449341 | 449386 | 449371 | 449356 |
| | G285HR3 | 18.0 | 449342 | 449387 | 449372 | 449357 |
| | G285HR3 | 20.0 | 449343 | 449388 | 449373 | 449358 |
| | G285HR3 | 22.4 | 449344 | 449389 | 449374 | 449359 |
| | G285HR3 | 25.0 | 449345 | 449390 | 449375 | 449360 |
| | G285HR3 | 28.0 | 449346 | 449391 | 449376 | 449361 |
| | G285HR3 | 31.5 | 449347 | 449392 | 449377 | 449362 |
| | G285HR3 | 35.5 | 449348 | 449393 | 449378 | 449363 |
| | G285HR3 | 40.0 | 449349 | 449394 | 449379 | 449364 |
| | G285HR3 | 45.0 | 449350 | 449395 | 449380 | 449365 |
| | G285HR3 | 50.0 | 449351 | 449396 | 449381 | 449366 |
| | G285HR3 | 56.0 | 449352 | 449397 | 449382 | 449367 |
| | G285HR3 | 63.0 | 449353 | 449398 | 449383 | 449368 |

MagnaGear G285 Accessory Part Numbers

Shaft Driven Fan Kits

| MagnaGear | Shaft Configuration | Reduction | Ratio | Part Number |
|-----------|---------------------|-----------|-----------|---------------|
| G285HP2 | Parallel | Double | 8 - 22.4 | 454015 |
| G285HP3 | Parallel | Triple | 25 - 63 | 454014 |
| G285HR3 | Right Angle | Triple | 12.5 - 63 | 451526 |

Mechanical fan kit includes fan, fan shroud, fan guard and mounting hardware.

Electric Fan Kits

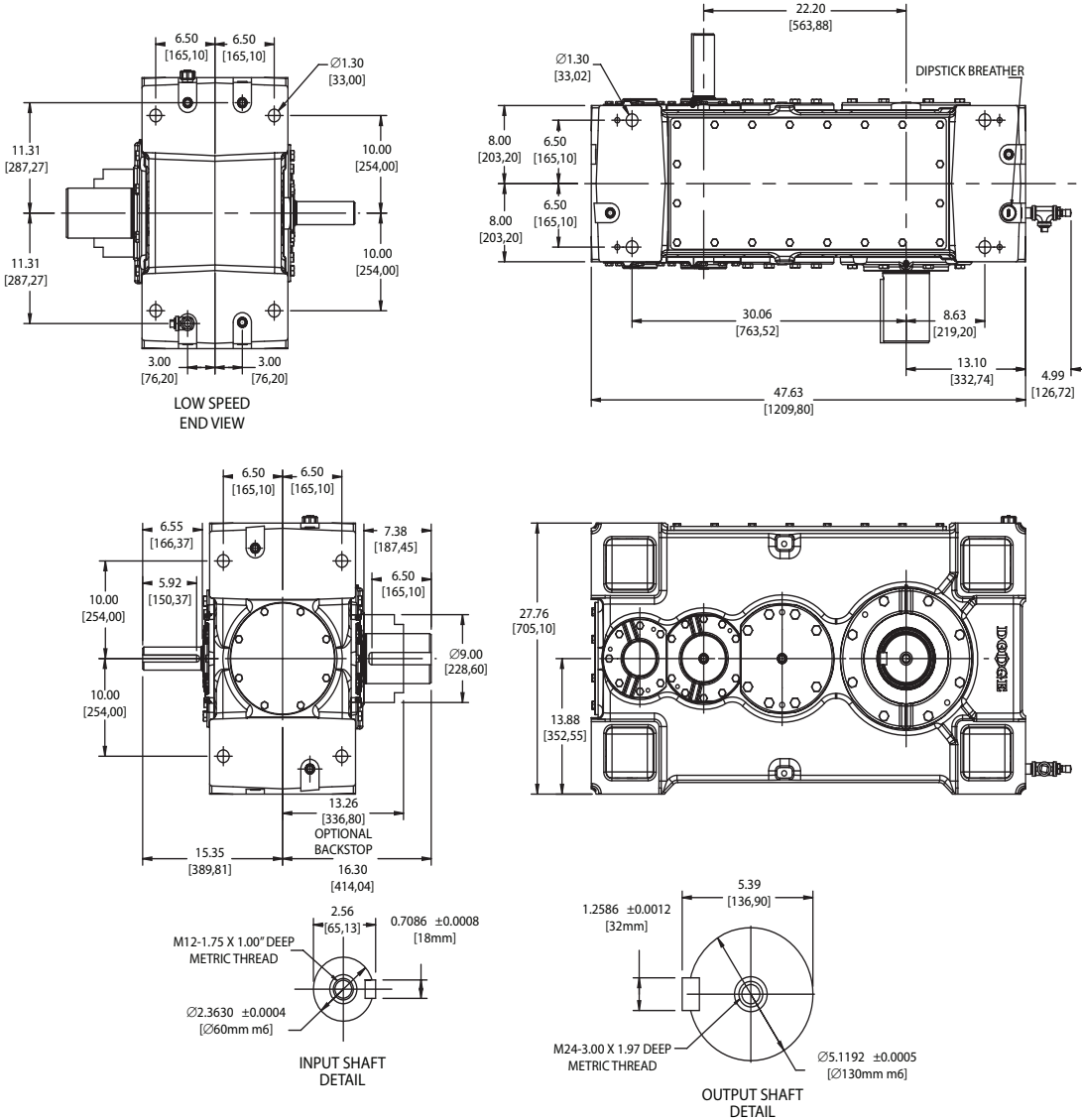
| MagnaGear | Shaft Configuration | Reduction | Ratio | Voltage | Phase | Part Number |
|-----------|---------------------|-----------|-------|---------|-------|---------------|
| All G285 | All | All | All | 230/460 | 3 | 454023 |
| All G285 | All | All | All | 115/230 | 1 | 454024 |
| All G285 | All | All | All | 575 | 3 | 454025 |

Electrical fan kit includes fan, electric motor, fan shroud, fan guard and mounting hardware.

SELECTION/DIMENSIONS



MagnaGear G285 Parallel Shaft DOUBLE REDUCTION (8:1 TO 22.4:1) SOLID OUTPUT SHAFT



Weight without oil: 2379 lbs
 Dimensions in [] are millimeters.
 Drawing for reference only. Contact DODGE for certified drawing.

Features/Benefits

Specifications

Nomenclature

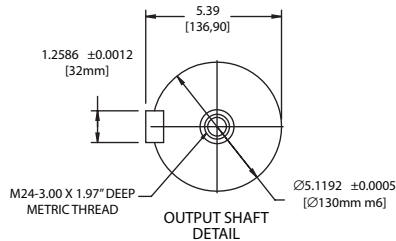
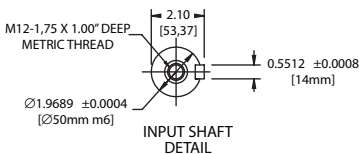
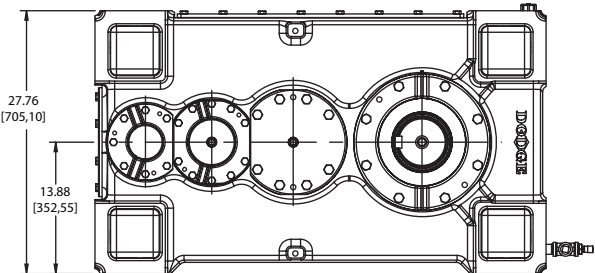
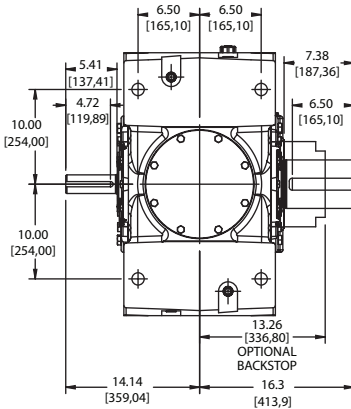
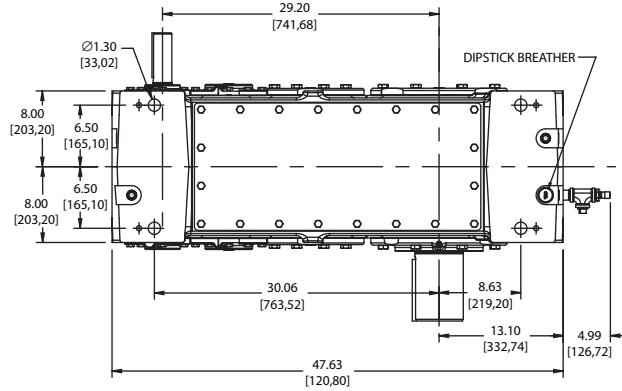
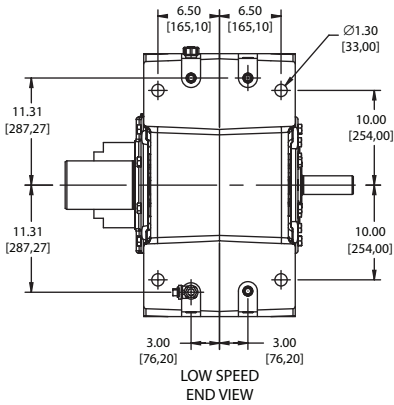
Easy Selection

Selection/Dimensions

SELECTION/DIMENSIONS



MagnaGear G285 Parallel Shaft TRIPLE REDUCTION (25:1 TO 63:1) SOLID OUTPUT SHAFT

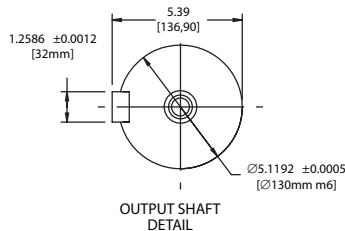
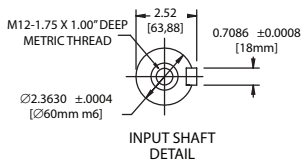
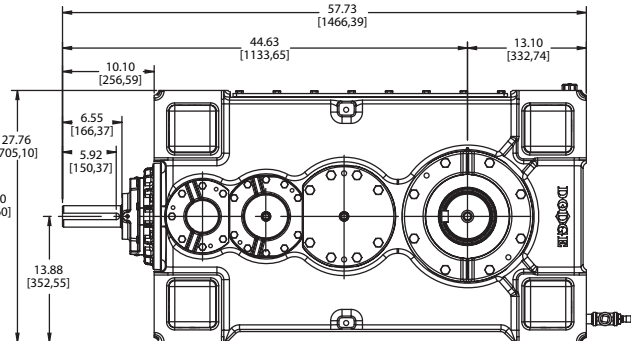
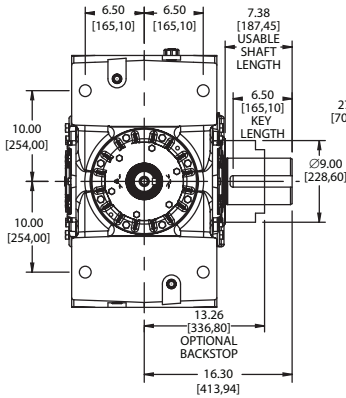
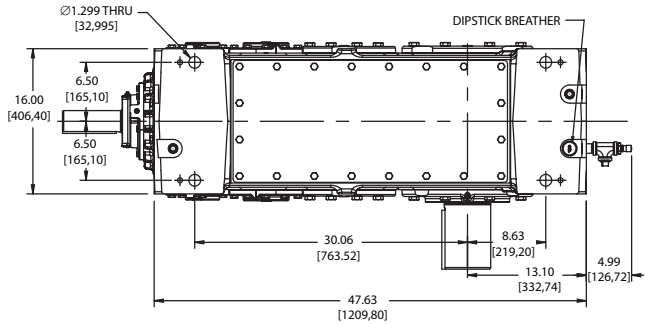
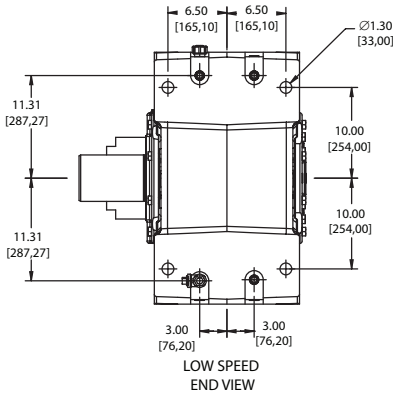


Weight without oil: 2450 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

SELECTION/DIMENSIONS



MagnaGear G285 Right Angle Shaft TRIPLE REDUCTION (12.5:1 TO 63:1) SOLID OUTPUT SHAFT



Weight without oil: 2536 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

Features/Benefits

Specifications

Nomenclature

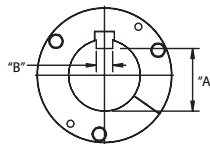
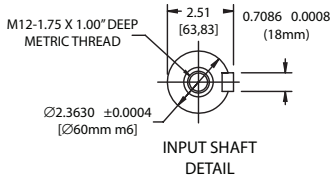
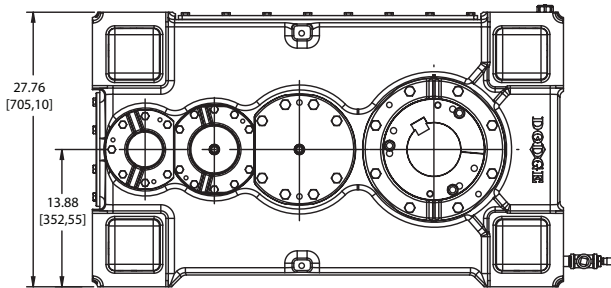
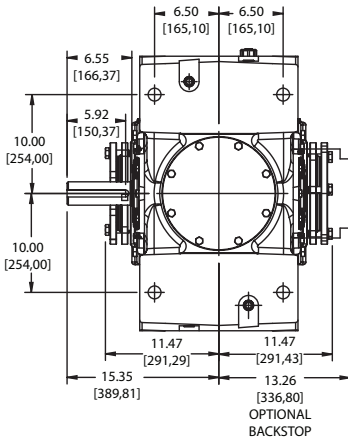
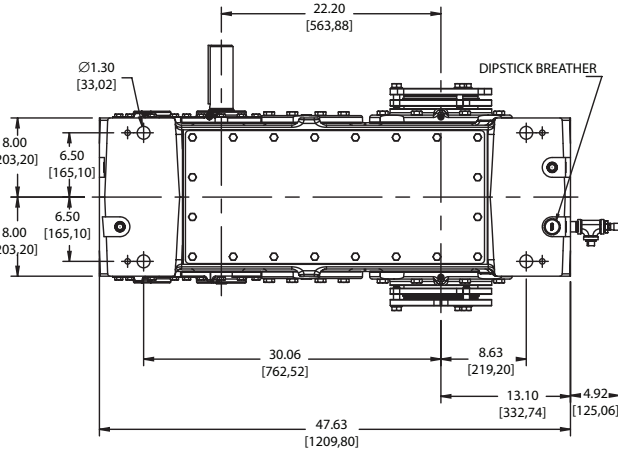
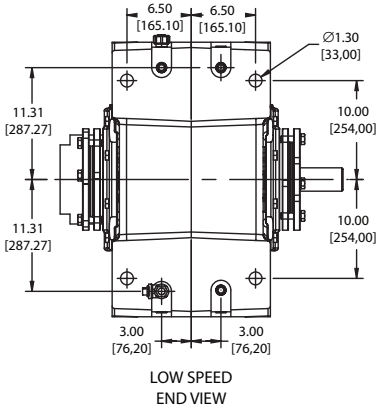
Easy Selection

Selection/Dimensions

SELECTION/DIMENSIONS



MagnaGear G285 Parallel Shaft DOUBLE REDUCTION (8:1 TO 22.4:1) HOLLOW OUTPUT SHAFT

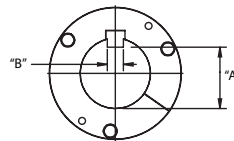
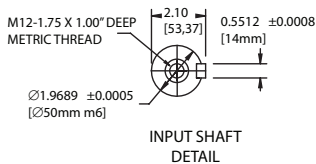
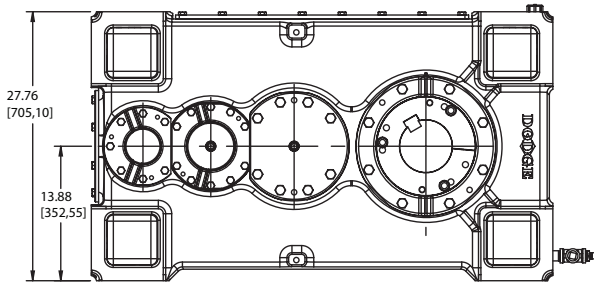
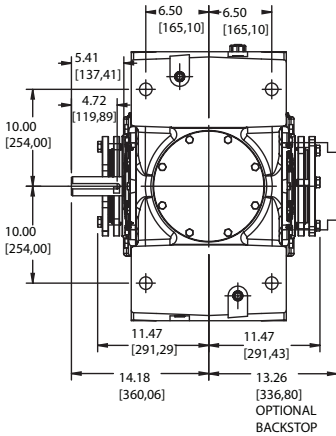
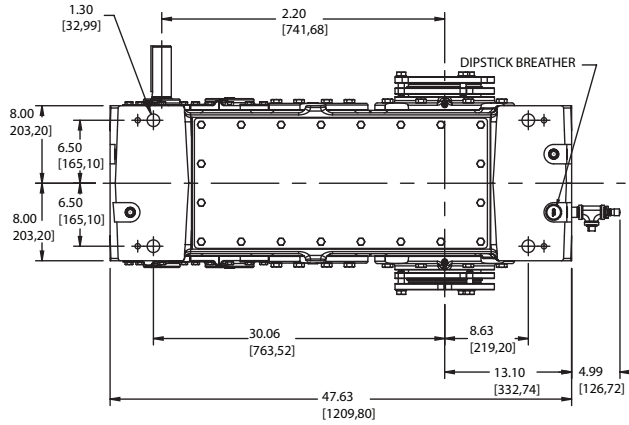
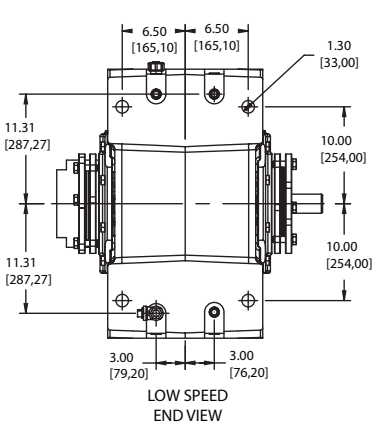


Weight without oil: 2256 lbs
 Dimensions in [] are millimeters.
 Drawing for reference only. Contact DODGE for certified drawing.

SELECTION/DIMENSIONS



MagnaGear G285 Parallel Shaft TRIPLE REDUCTION (12.5:1 TO 63:1) HOLLOW OUTPUT SHAFT



Weight without oil: 2319 lbs
 Dimensions in [] are millimeters.
 Drawing for reference only. Contact DODGE for certified drawing.

Features/Benefits

Specifications

Nomenclature

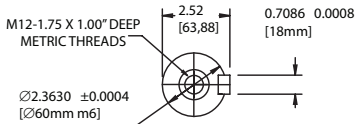
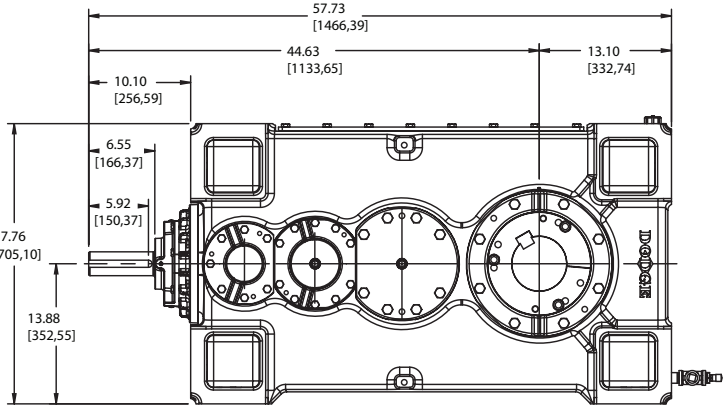
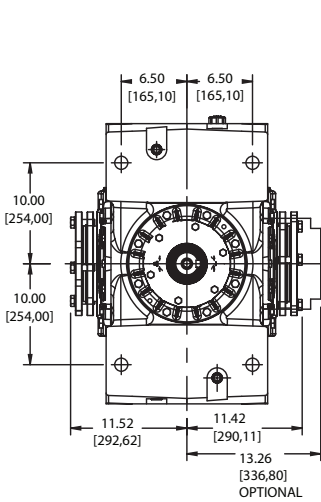
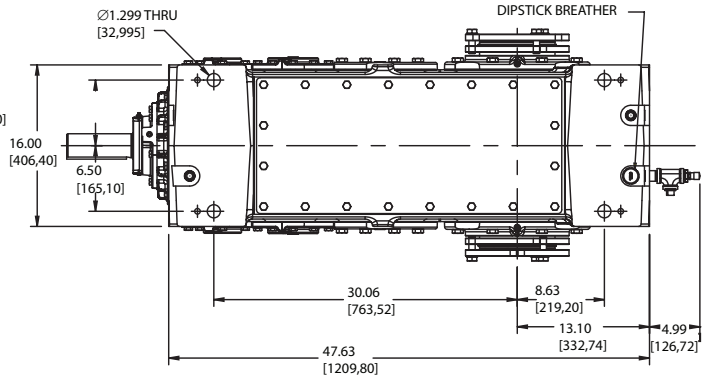
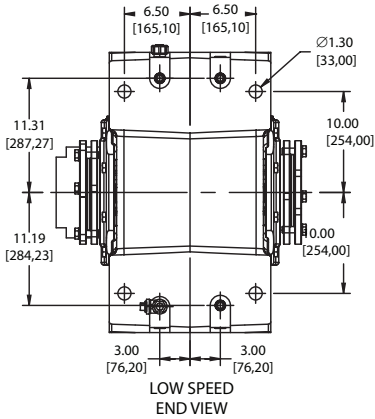
Easy Selection

Selection/Dimensions

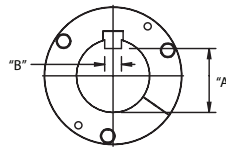
SELECTION/DIMENSIONS



MagnaGear G285 Right Angle Shaft TRIPLE REDUCTION (12.5:1 TO 63:1) HOLLOW OUTPUT SHAFT



INPUT SHAFT
DETAIL



OUTPUT HUB
SEE PAGE 51

Weight without oil: 2413 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

SELECTION/DIMENSIONS



MagnaGear G285 Hollow Bore Diameter

| Bore Dia. | "A" | "B" |
|-----------|--------|--------|
| 6" | 5.155" | 1-1/2" |
| 5-15/16" | 5.091" | 1-1/2" |
| 5-7/16" | 4.740" | 1-1/4" |
| 4-15/16" | 4.232" | 1-1/4" |
| 4-7/16" | 3.880" | 1" |
| 4-3/16" | 3.627" | 1" |
| 3-15/16" | 3.373" | 1" |

| Bore Dia. | "A" | "B" |
|-----------|-------|------|
| 150mm | 138mm | 36mm |
| 130mm | 119mm | 32mm |
| 125mm | 114mm | 32mm |
| 120mm | 109mm | 32mm |
| 110mm | 100mm | 28mm |
| 100mm | 90mm | 28mm |

Features/Benefits

Specifications

Nomenclature

Easy Selection

Selection/Dimensions

MagnaGear G390 Parallel Shaft Part Numbers

| Nominal Ratio | | | Solid Shaft | Solid Shaft with Backstop | Hollow Shaft | Hollow Shaft with Backstop |
|----------------------------|---------|------|-------------|---------------------------|--------------|----------------------------|
| D O U B L E | G390HP2 | 8.00 | 449607 | 449619 | 449583 | 449595 |
| | G390HP2 | 9.00 | 449608 | 449620 | 449584 | 449596 |
| | G390HP2 | 10.0 | 449609 | 449621 | 449585 | 449597 |
| | G390HP2 | 11.2 | 449610 | 449622 | 449586 | 449598 |
| | G390HP2 | 12.5 | 449611 | 449623 | 449587 | 449599 |
| | G390HP2 | 14.0 | 449612 | 449624 | 449588 | 449600 |
| | G390HP2 | 16.0 | 449613 | 449625 | 449589 | 449601 |
| | G390HP2 | 18.0 | 449614 | 449626 | 449590 | 449602 |
| | G390HP2 | 20.0 | 449615 | 449627 | 449591 | 449603 |
| | G390HP2 | 22.4 | 449616 | 449628 | 449592 | 449604 |
| T R I P L E | G390HP3 | 25.0 | 449563 | 449572 | 449545 | 449554 |
| | G390HP3 | 28.0 | 449564 | 449573 | 449546 | 449555 |
| | G390HP3 | 31.5 | 449565 | 449574 | 449547 | 449556 |
| | G390HP3 | 35.5 | 449566 | 449575 | 449548 | 449557 |
| | G390HP3 | 40.0 | 449567 | 449576 | 449549 | 449558 |
| | G390HP3 | 45.0 | 449568 | 449577 | 449550 | 449559 |
| | G390HP3 | 50.0 | 449569 | 449578 | 449551 | 449560 |
| | G390HP3 | 56.0 | 449570 | 449579 | 449552 | 449561 |
| | G390HP3 | 63.0 | 449571 | 449580 | 449553 | 449562 |

MagnaGear G390 Right Angle Shaft Part Numbers

| Nominal Ratio | | | Solid Shaft | Solid Shaft with Backstop | Hollow Shaft | Hollow Shaft with Backstop |
|----------------------------|---------|--------|-------------|---------------------------|--------------|----------------------------|
| T R I P L E | G390HR3 | 12.5 | 449515 | 449530 | 449483 | 449498 |
| | G390HR3 | 14.0 | 449516 | 449531 | 449484 | 449499 |
| | G390HR3 | 16.0 | 449517 | 449532 | 449485 | 449500 |
| | G390HR3 | 18.0 | 449518 | 449533 | 449486 | 449501 |
| | G390HR3 | 20.0 | 449519 | 449534 | 449487 | 449502 |
| | G390HR3 | 22.4 | 449520 | 449535 | 449488 | 449504 |
| | G390HR3 | 25.0 | 449521 | 449536 | 449489 | 449506 |
| | G390HR3 | 28.0 | 449522 | 449537 | 449490 | 449507 |
| | G390HR3 | 31.5 | 449523 | 449538 | 449491 | 449508 |
| | G390HR3 | 35.5 | 449524 | 449539 | 449492 | 449509 |
| | G390HR3 | 40.0 | 449525 | 449540 | 449493 | 449510 |
| | G390HR3 | 45.0 | 449526 | 449541 | 449494 | 449511 |
| | G390HR3 | 50.0 | 449527 | 449542 | 449495 | 449512 |
| | G390HR3 | 56.0 | 449528 | 449543 | 449496 | 449513 |
| G390HR3 | 63.0 | 449529 | 449544 | 449497 | 449514 | |

MagnaGear G390 Accessory Part Numbers Shaft Driven Fan Kits

| MagnaGear | Shaft Configuration | Reduction | Ratio | Part Number |
|-----------|---------------------|-----------|-----------|---------------|
| G390HP2 | Parallel | Double | 8 - 22.4 | 454018 |
| G390HP3 | Parallel | Triple | 25 - 63 | 454017 |
| G390HR3 | Right Angle | Triple | 12.5 - 63 | 454016 |

Mechanical fan kit includes fan, fan shroud, fan guard and mounting hardware.

Electric Fan Kits

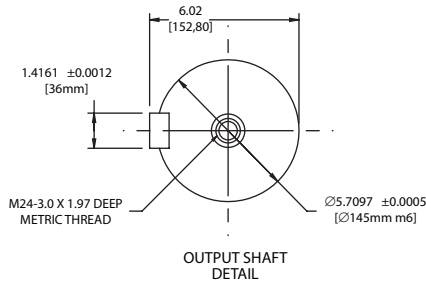
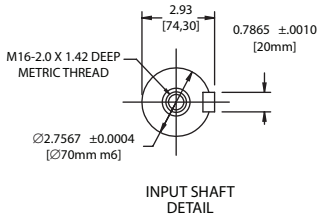
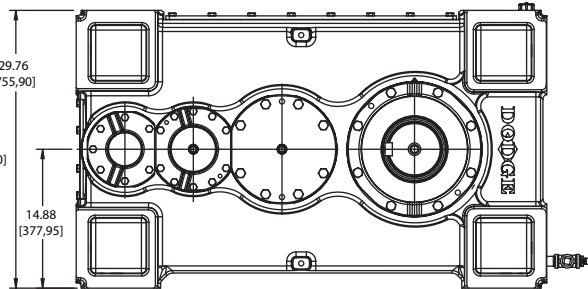
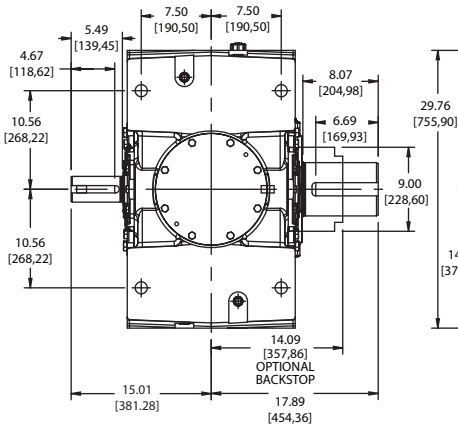
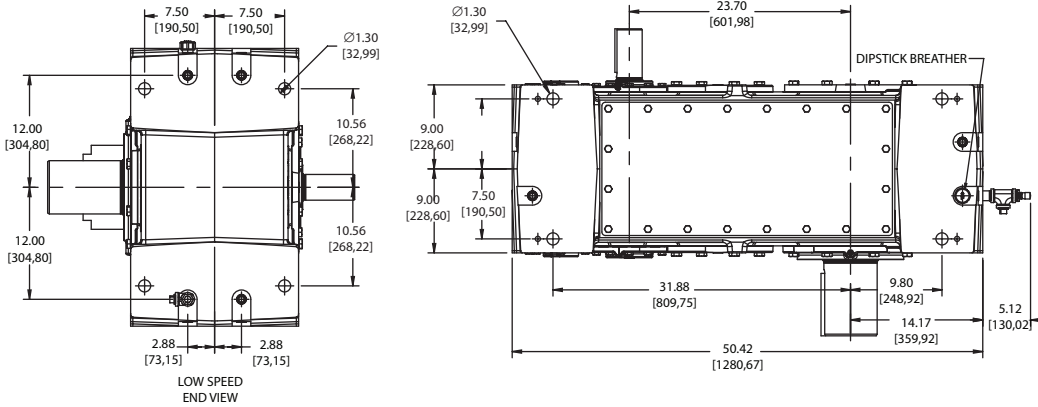
| MagnaGear | Shaft Configuration | Reduction | Ratio | Voltage | Phase | Part Number |
|-----------|---------------------|-----------|-------|---------|-------|---------------|
| All G390 | All | All | All | 230/460 | 3 | 454026 |
| All G390 | All | All | All | 115/230 | 1 | 454027 |
| All G390 | All | All | All | 575 | 3 | 454028 |

Electrical fan kit includes fan, electric motor, fan shroud, fan guard and mounting hardware.

SELECTION/DIMENSIONS



MagnaGear G390 Parallel Shaft DOUBLE REDUCTION (8:1 TO 22.4:1) SOLID OUTPUT SHAFT

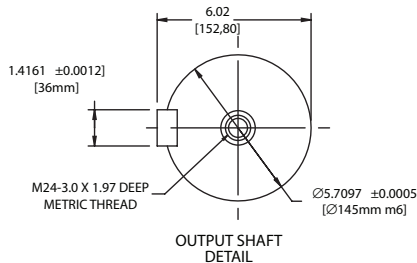
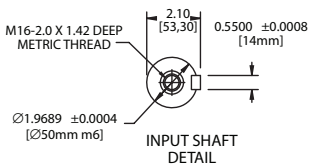
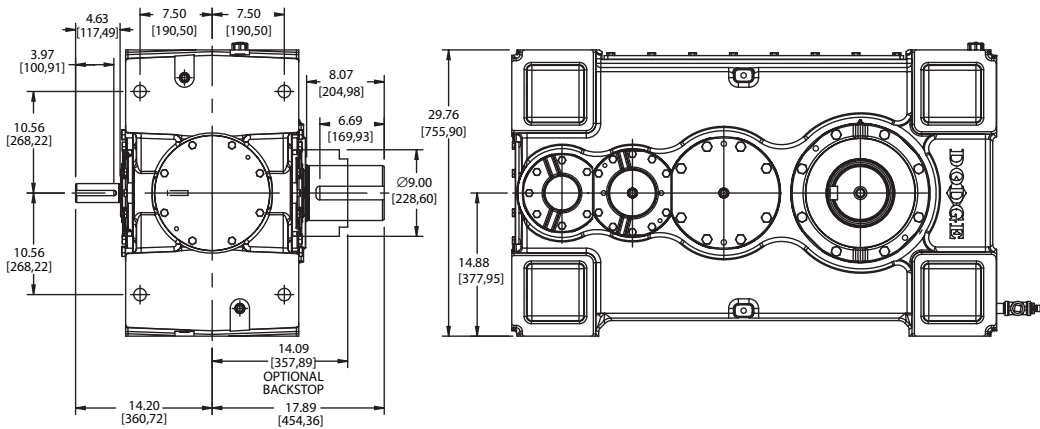
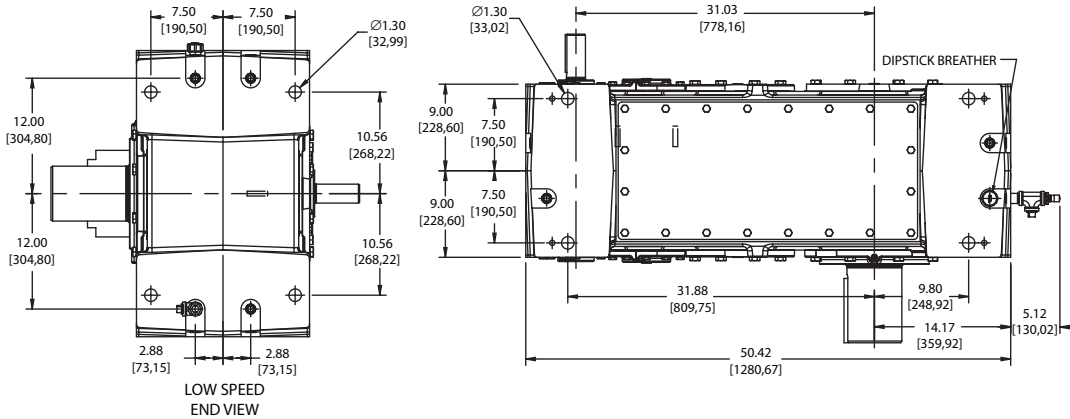


Weight without oil: 3215 lbs
 Dimensions in [] are millimeters.
 Drawing for reference only. Contact DODGE for certified drawing.

SELECTION/DIMENSIONS



MagnaGear G390 Parallel Shaft TRIPLE REDUCTION (12.5:1 TO 63:1) SOLID OUTPUT SHAFT



Weight without oil: 3304 lbs
 Dimensions in [] are millimeters.
 Drawing for reference only. Contact DODGE for certified drawing.

Features/Benefits

Specifications

Nomenclature

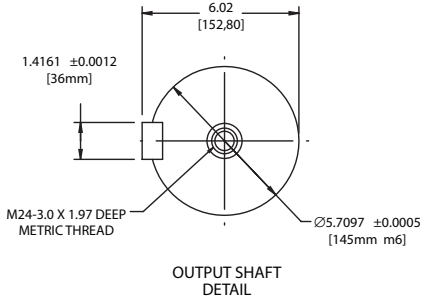
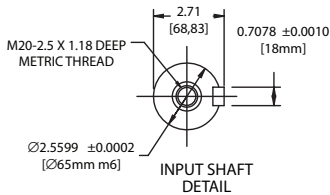
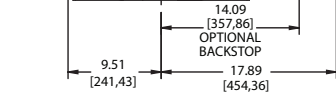
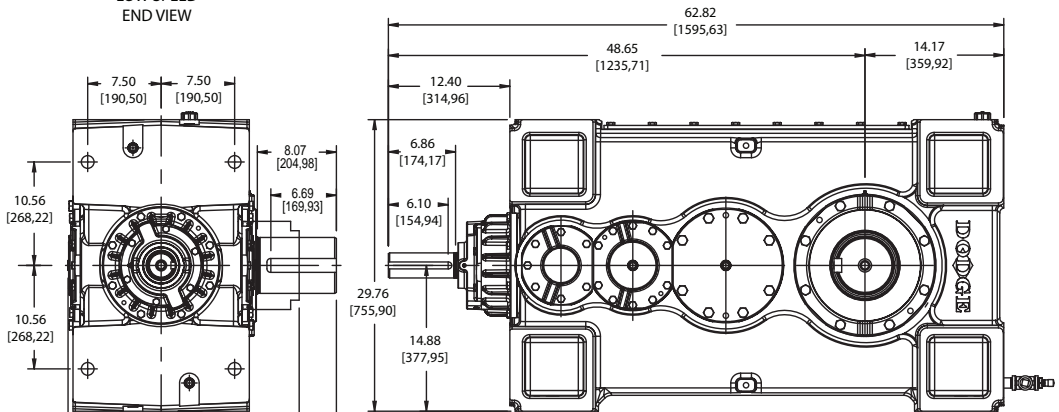
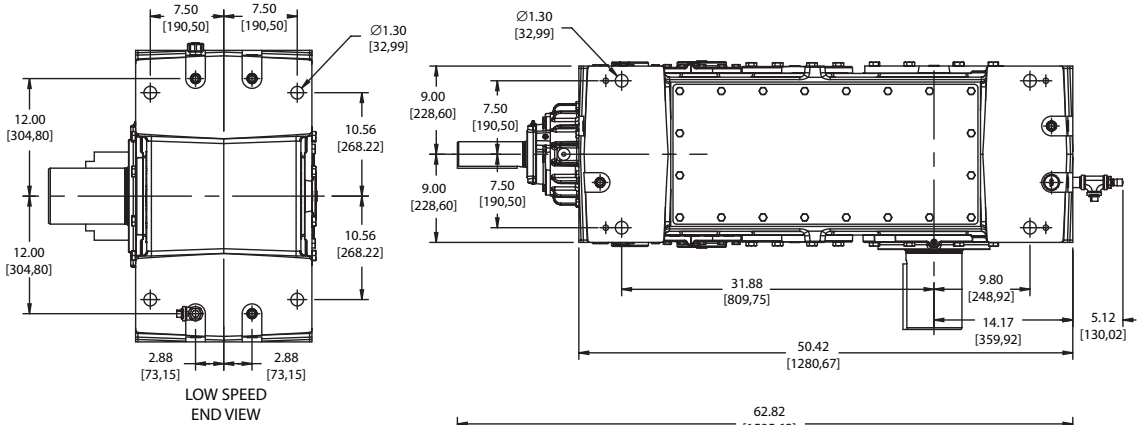
Easy Selection

Selection/Dimensions

SELECTION/DIMENSIONS



MagnaGear G390 Right Angle Shaft TRIPLE REDUCTION (12.5:1 TO 63:1) SOLID OUTPUT SHAFT

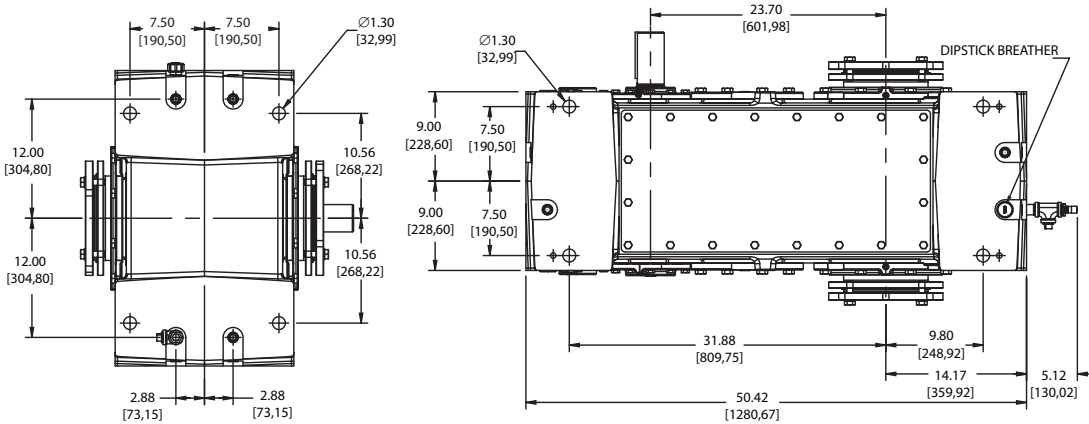


Weight without oil: 3262 lbs
 Dimensions in [] are millimeters.
 Drawing for reference only. Contact DODGE for certified drawing.

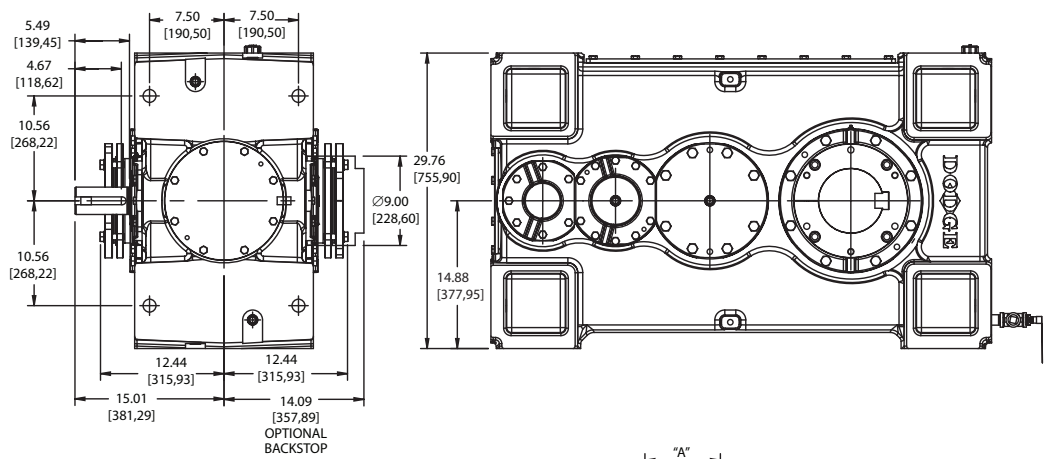
SELECTION/DIMENSIONS



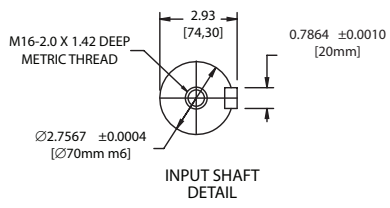
MagnaGear G390 Parallel Shaft DOUBLE REDUCTION (8:1 TO 22.4:1) HOLLOW OUTPUT SHAFT



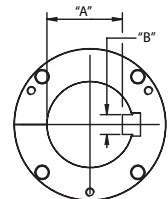
LOW SPEED
END VIEW



OPTIONAL
BACKSTOP



INPUT SHAFT
DETAIL



OUTPUT HUB
SEE PAGE 60

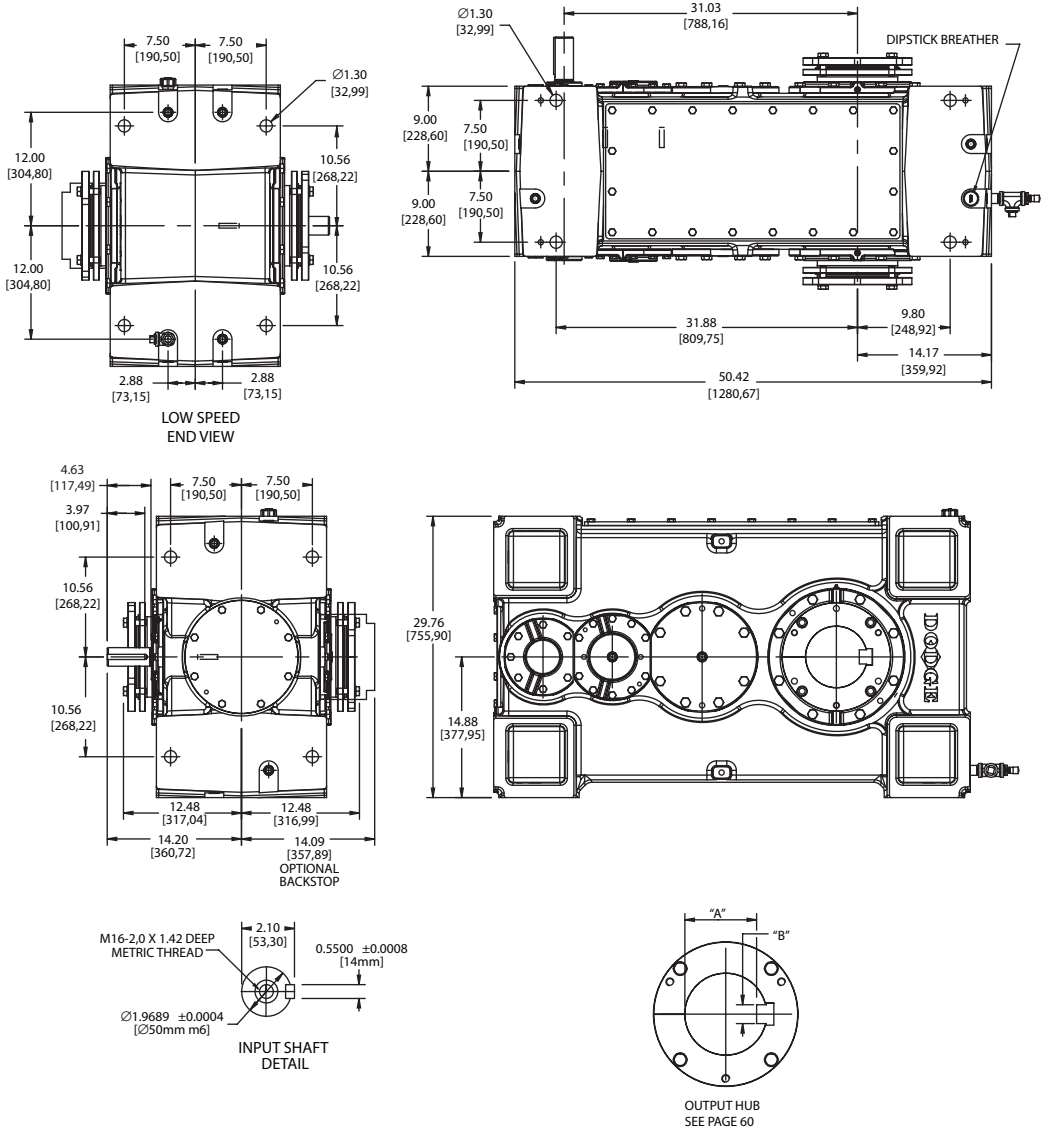
Weight without oil: 3056 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

Features/Benefits
Specifications
Nomenclature
Easy Selection
Selection/Dimensions

SELECTION/DIMENSIONS



MagnaGear G390 Parallel Shaft TRIPLE REDUCTION (25:1 TO 63:1) HOLLOW OUTPUT SHAFT

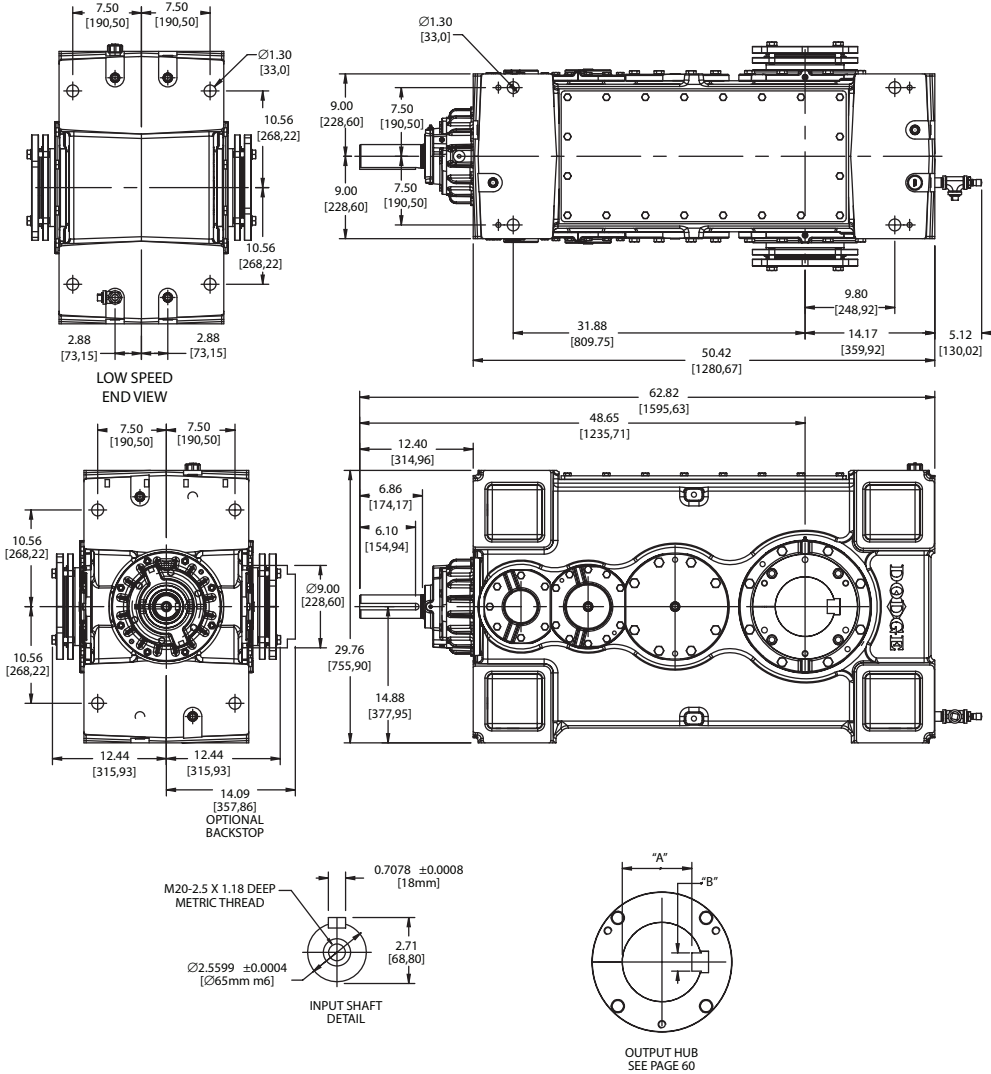


Weight without oil: 3145 lbs
 Dimensions in [] are millimeters.
 Drawing for reference only. Contact DODGE for certified drawing.

SELECTION/DIMENSIONS



MagnaGear G390 Right Angle Shaft TRIPLE REDUCTION (12.5:1 to 63:1) HOLLOW OUTPUT SHAFT



Weight without oil: 3034 lbs
 Dimensions in [] are millimeters.
 Drawing for reference only. Contact DODGE for certified drawing.

Features/Benefits

Specifications

Nomenclature

Easy Selection

Selection/Dimensions

SELECTION/DIMENSIONS



MagnaGear G390 Hollow Bore Diameter

| Bore Dia. | "A" | "B" |
|-----------|--------|--------|
| 7" | 6.014" | 1-3/4" |
| 6-1/2" | 5.662" | 1-1/2" |
| 6-7/16" | 5.599" | 1-1/2" |
| 6" | 5.155" | 1-1/2" |
| 5-15/16" | 5.091" | 1-1/2" |
| 5-7/16" | 4.740" | 1-1/4" |

| Bore Dia. | "A" | "B" |
|-----------|--------|--------|
| 4-15/16" | 4.232" | 1-1/4" |
| 160mm | 147mm | 40mm |
| 150mm | 138mm | 36mm |
| 130mm | 119mm | 32mm |
| 125mm | 114mm | 32mm |

MagnaGear G525 Parallel Shaft Part Numbers

| Nominal Ratio | | | Solid Shaft | Solid Shaft with Backstop |
|----------------------------|---------|------|---------------|---------------------------|
| D O U B L E | G525HP2 | 8.00 | 449713 | 449725 |
| | G525HP2 | 9.00 | 449714 | 449726 |
| | G525HP2 | 10.0 | 449715 | 449727 |
| | G525HP2 | 11.2 | 449716 | 449728 |
| | G525HP2 | 12.5 | 449717 | 449729 |
| | G525HP2 | 14.0 | 449718 | 449730 |
| | G525HP2 | 16.0 | 449719 | 449731 |
| | G525HP2 | 18.0 | 449720 | 449732 |
| | G525HP2 | 20.0 | 449721 | 449733 |
| | G525HP2 | 22.4 | 449722 | 449734 |
| | G525HP2 | 25.0 | 449723 | 449735 |
| | G525HP2 | 28.0 | 449724 | 449736 |

MagnaGear G525 Right Angle Shaft Part Numbers

| Nominal Ratio | | | Solid Shaft | Solid Shaft with Backstop |
|----------------------------|---------|------|---------------|---------------------------|
| T R I P L E | G525HR3 | 12.5 | 449659 | 449674 |
| | G525HR3 | 14.0 | 449660 | 449675 |
| | G525HR3 | 16.0 | 449661 | 449676 |
| | G525HR3 | 18.0 | 449662 | 449677 |
| | G525HR3 | 20.0 | 449663 | 449678 |
| | G525HR3 | 22.4 | 449664 | 449679 |
| | G525HR3 | 25.0 | 449665 | 449680 |
| | G525HR3 | 28.0 | 449666 | 449681 |
| | G525HR3 | 31.5 | 449667 | 449682 |
| | G525HR3 | 35.5 | 449668 | 449683 |
| | G525HR3 | 40.0 | 449669 | 449684 |
| | G525HR3 | 45.0 | 449670 | 449685 |
| | G525HR3 | 50.0 | 449671 | 449686 |
| | G525HR3 | 56.0 | 449672 | 449687 |
| | G525HR3 | 63.0 | 449673 | 449688 |

MagnaGear G525 Accessory Part Numbers

Shaft Driven Fan Kits

| MagnaGear | Shaft Configuration | Reduction | Ratio | Part Number |
|-----------|---------------------|-----------|-----------|---------------|
| G525HP2 | Parallel | Double | 8 - 28 | 453954 |
| G525HR3 | Right Angle | Triple | 12.5 - 63 | 453959 |

Mechanical fan kit includes fan, fan shroud, fan guard and mounting hardware.

Electric Fan Kits

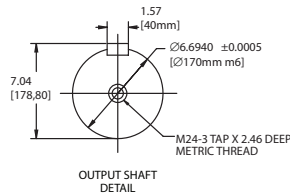
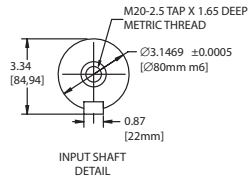
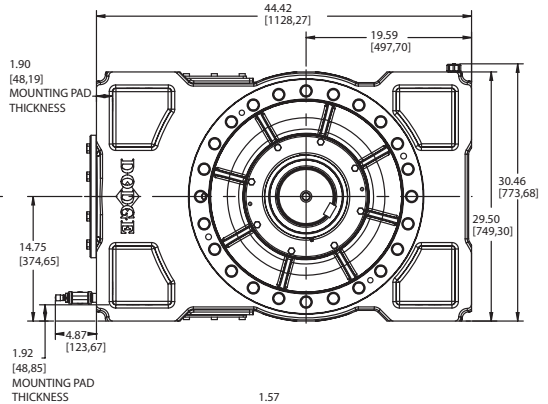
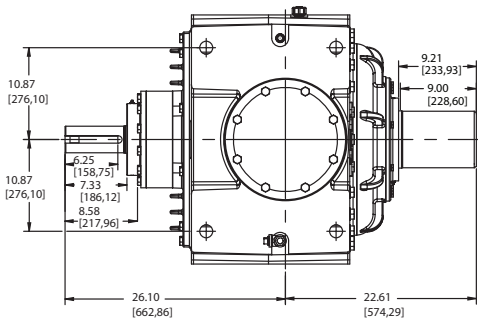
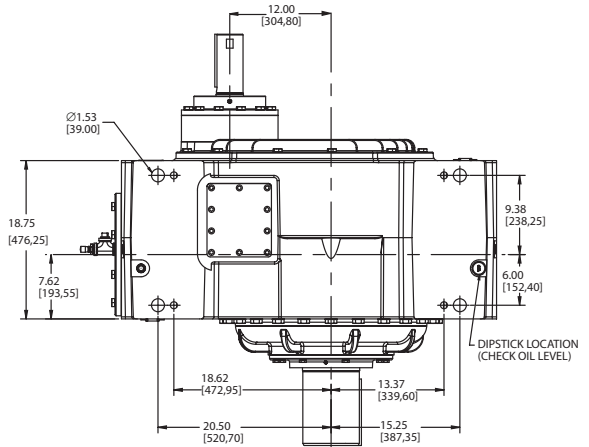
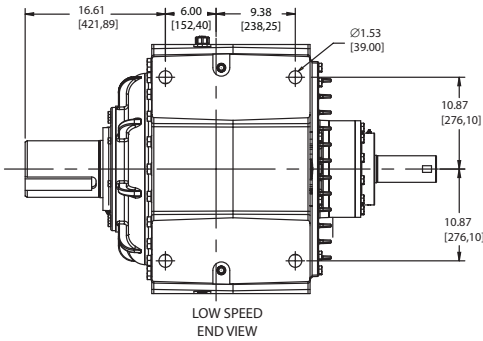
| MagnaGear | Shaft Configuration | Reduction | Ratio | Voltage | Phase | Part Number |
|-----------|---------------------|-----------|-------|---------|-------|---------------|
| All G525 | All | All | All | 230/460 | 3 | 454029 |
| All G525 | All | All | All | 115/230 | 1 | 453388 |
| All G525 | All | All | All | 575 | 3 | 453389 |

Electrical fan kit includes fan, electric motor, fan shroud, fan guard and mounting hardware.

SELECTION/DIMENSIONS



MagnaGear G525 Parallel Shaft DOUBLE REDUCTION (8:1 TO 28:1) SOLID OUTPUT SHAFT



Weight without oil: 3642 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

Features/Benefits

Specifications

Nomenclature

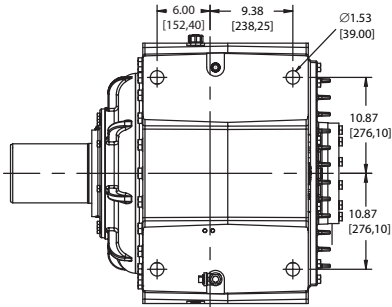
Easy Selection

Selection/Dimensions

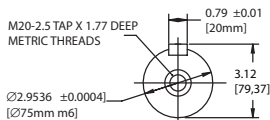
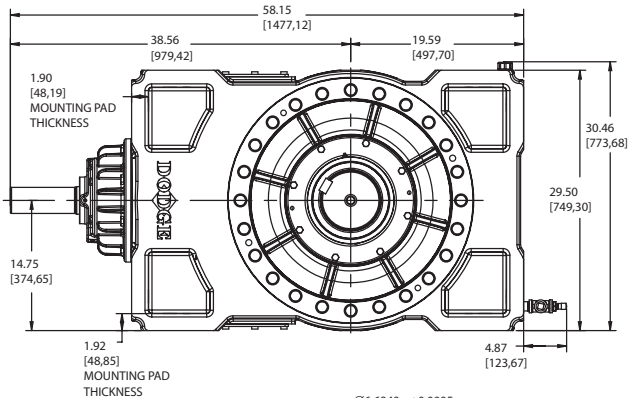
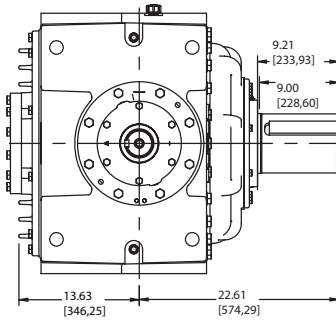
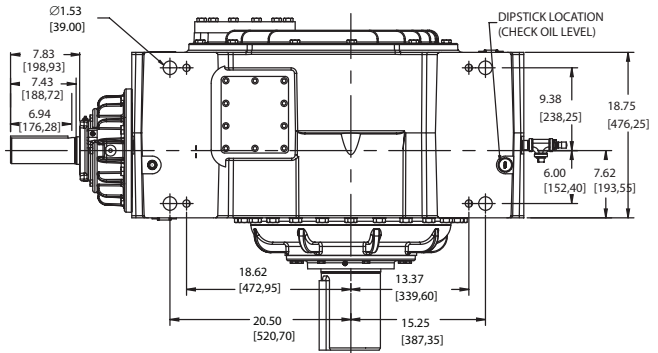
SELECTION/DIMENSIONS



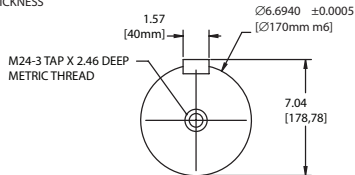
MagnaGear G525 Right Angle Shaft TRIPLE REDUCTION (12.5:1 to 63:1) SOLID OUTPUT SHAFT



LOW SPEED
END VIEW



INPUT SHAFT
DETAIL



OUTPUT SHAFT
DETAIL

Weight without oil: 3836 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

MagnaGear G700 Parallel Shaft Part Numbers

| Nominal Ratio | | | Solid Shaft | Solid Shaft with Backstop |
|----------------------------|---------|------|---------------|---------------------------|
| D O U B L E | G700HP2 | 8.0 | 449821 | 449833 |
| | G700HP2 | 9.0 | 449822 | 449834 |
| | G700HP2 | 10.0 | 449823 | 449835 |
| | G700HP2 | 11.2 | 449824 | 449836 |
| | G700HP2 | 12.5 | 449825 | 449837 |
| | G700HP2 | 14.0 | 449826 | 449838 |
| | G700HP2 | 16.0 | 449827 | 449839 |
| | G700HP2 | 18.0 | 449828 | 449840 |
| | G700HP2 | 20.0 | 449829 | 449841 |
| | G700HP2 | 22.4 | 449830 | 449842 |
| | G700HP2 | 25.0 | 449831 | 449843 |
| | G700HP2 | 28.0 | 449832 | 449844 |

MagnaGear G700 Right Angle Shaft Part Numbers

| Nominal Ratio | | | Solid Shaft | Solid Shaft with Backstop |
|----------------------------|---------|---------------|---------------|---------------------------|
| T R I P L E | G700HR3 | 12.5 | 449767 | 499782 |
| | G700HR3 | 14.0 | 449768 | 499783 |
| | G700HR3 | 16.0 | 449769 | 499784 |
| | G700HR3 | 18.0 | 449770 | 499785 |
| | G700HR3 | 20.0 | 449771 | 499786 |
| | G700HR3 | 22.4 | 449772 | 499787 |
| | G700HR3 | 25.0 | 449773 | 499788 |
| | G700HR3 | 28.0 | 449774 | 499789 |
| | G700HR3 | 31.5 | 449775 | 499790 |
| | G700HR3 | 35.5 | 449776 | 499791 |
| | G700HR3 | 40.0 | 449777 | 499792 |
| | G700HR3 | 45.0 | 449778 | 499793 |
| | G700HR3 | 50.0 | 449779 | 499794 |
| | G700HR3 | 56.0 | 449780 | 499795 |
| G700HR3 | 63.0 | 449781 | 499796 | |

MagnaGear G700 Accessory Part Numbers

Shaft Driven Fan Kits

| MagnaGear | Shaft Configuration | Reduction | Ratio | Part Number |
|-----------|---------------------|-----------|-----------|---------------|
| G700HP2 | Parallel | Double | 8 - 28 | 454020 |
| G700HR3 | Right Angle | Triple | 12.5 - 63 | 454019 |

Mechanical fan kit includes fan, fan shroud, fan guard and mounting hardware.

Electric Fan Kits

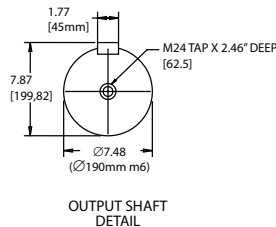
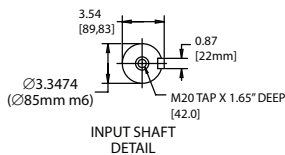
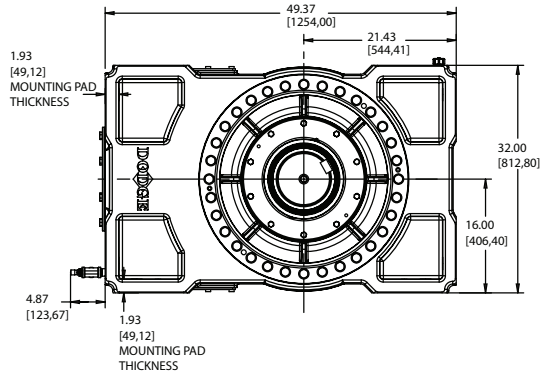
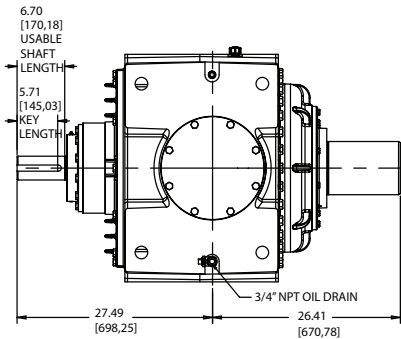
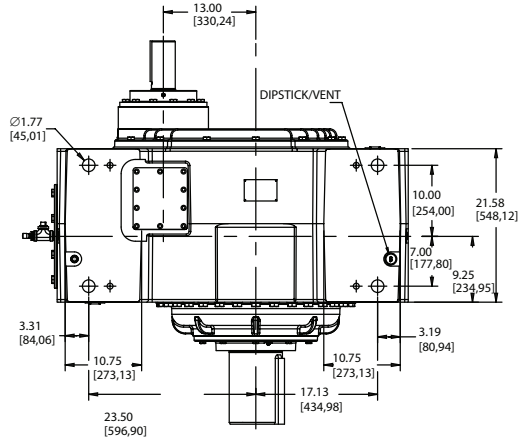
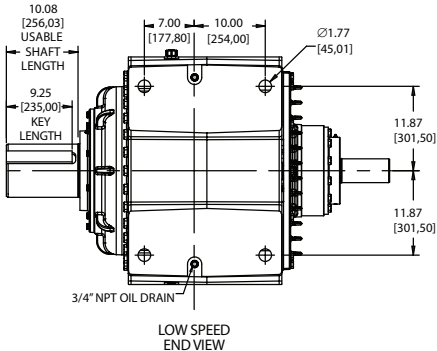
| MagnaGear | Shaft Configuration | Reduction | Ratio | Voltage | Phase | Part Number |
|-----------|---------------------|-----------|-------|---------|-------|---------------|
| All G700 | All | All | All | 230/460 | 3 | 452097 |
| All G700 | All | All | All | 115/230 | 1 | 452055 |
| All G700 | All | All | All | 575 | 3 | 452056 |

Electrical fan kit includes fan, electric motor, fan shroud, fan guard and mounting hardware.

SELECTION/DIMENSIONS



MagnaGear G700 Parallel Shaft DOUBLE REDUCTION (8:1 TO 28:1) SOLID OUTPUT SHAFT



Weight without oil: 4947 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

Features/Benefits

Specifications

Nomenclature

Easy Selection

Selection/Dimensions

MagnaGear G920 Parallel Shaft Part Numbers

| Nominal Ratio | | | Solid Shaft | Solid Shaft with Backstop |
|----------------------------|---------|------|---------------|---------------------------|
| D O U B L E | G920HP2 | 8.00 | 449929 | 449941 |
| | G920HP2 | 9.00 | 449930 | 449942 |
| | G920HP2 | 10.0 | 449931 | 449943 |
| | G920HP2 | 11.2 | 449932 | 449944 |
| | G920HP2 | 12.5 | 449933 | 449945 |
| | G920HP2 | 14.0 | 449934 | 449946 |
| | G920HP2 | 16.0 | 449935 | 449947 |
| | G920HP2 | 18.0 | 449936 | 449948 |
| | G920HP2 | 20.0 | 449937 | 449949 |
| | G920HP2 | 22.4 | 449938 | 449950 |
| | G920HP2 | 25.0 | 449939 | 449951 |
| | G920HP2 | 28.0 | 449940 | 449952 |

MagnaGear G920 Right Angle Shaft Part Numbers

| Nominal Ratio | | | Solid Shaft | Solid Shaft with Backstop |
|----------------------------|---------|------|---------------|---------------------------|
| T R I P L E | G920HR3 | 12.5 | 449875 | 449890 |
| | G920HR3 | 14.0 | 449876 | 449891 |
| | G920HR3 | 16.0 | 449877 | 449892 |
| | G920HR3 | 18.0 | 449878 | 449893 |
| | G920HR3 | 20.0 | 449879 | 449894 |
| | G920HR3 | 22.4 | 449880 | 449895 |
| | G920HR3 | 25.0 | 449881 | 449896 |
| | G920HR3 | 28.0 | 449882 | 449897 |
| | G920HR3 | 31.5 | 449883 | 449898 |
| | G920HR3 | 35.5 | 449884 | 449899 |
| | G920HR3 | 40.0 | 449885 | 449900 |
| | G920HR3 | 45.0 | 449886 | 449901 |
| | G920HR3 | 50.0 | 449887 | 449902 |
| | G920HR3 | 56.0 | 449888 | 449903 |
| | G920HR3 | 63.0 | 449889 | 449904 |

SELECTION/DIMENSIONS



MagnaGear G920 Accessory Part Numbers

Shaft Driven Fan Kits

| MagnaGear | Shaft Configuration | Reduction | Ratio | Part Number |
|-----------|---------------------|-----------|-----------|---------------|
| G920HP2 | Parallel | Double | 8 - 28 | 454022 |
| G920HR3 | Right Angle | Triple | 12.5 - 63 | 454021 |

Mechanical fan kit includes fan, fan shroud, fan guard and mounting hardware.

Electric Fan Kits

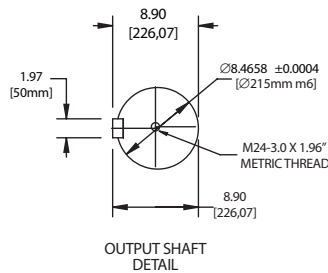
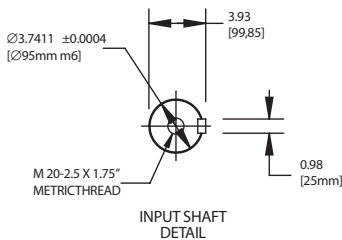
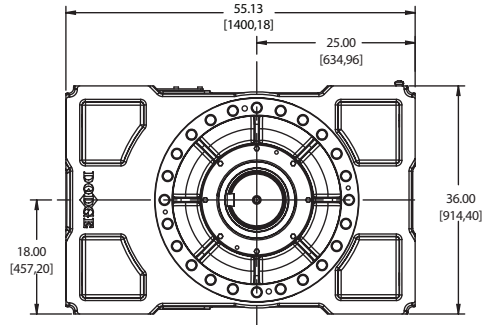
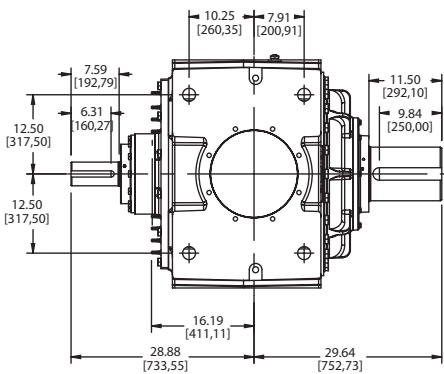
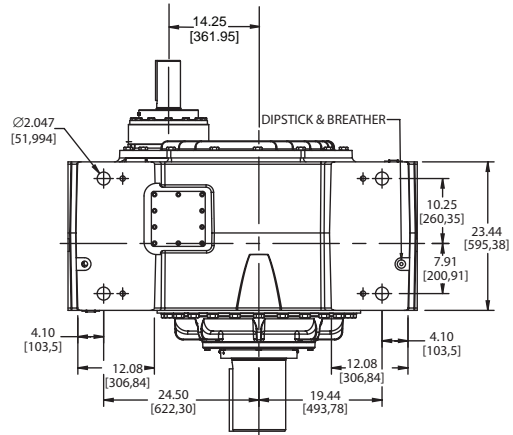
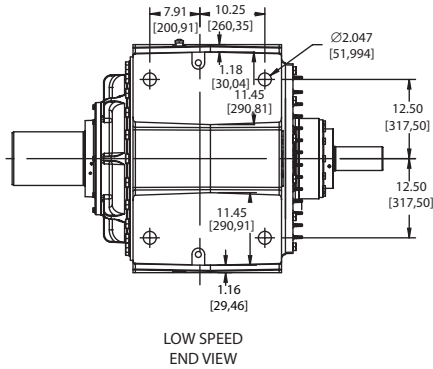
| MagnaGear | Shaft Configuration | Reduction | Ratio | Voltage | Phase | Part Number |
|-----------|---------------------|-----------|-------|---------|-------|---------------|
| All G920 | All | All | All | 230/460 | 3 | 454030 |
| All G920 | All | All | All | 115/230 | 1 | 454031 |
| All G920 | All | All | All | 575 | 3 | 454032 |

Electrical fan kit includes fan, electric motor, fan shroud, fan guard and mounting hardware.

SELECTION/DIMENSIONS



MagnaGear G920 Parallel Shaft DOUBLE REDUCTION (8:1 TO 28:1) SOLID OUTPUT SHAFT



Weight without oil: 6838 lbs
 Dimensions in [] are millimeters.
 Drawing for reference only. Contact DODGE for certified drawing.

Features/Benefits

Specifications

Nomenclature

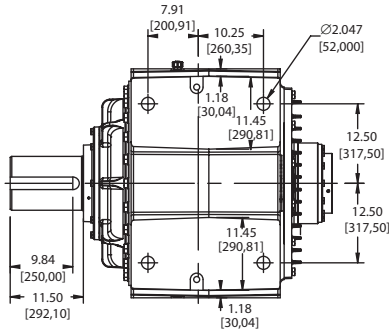
Easy Selection

Selection/Dimensions

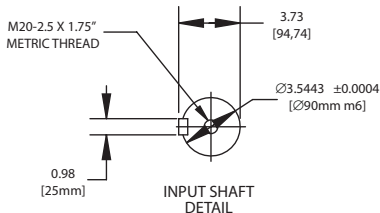
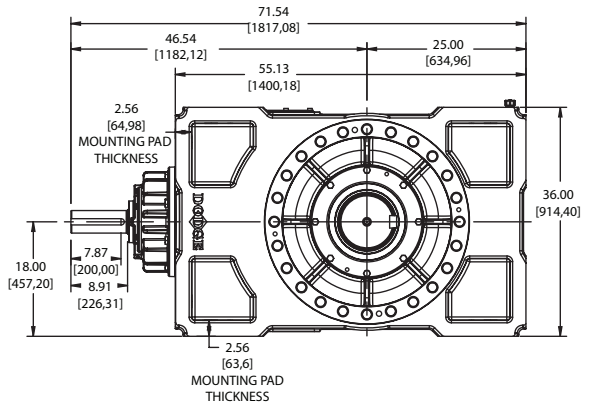
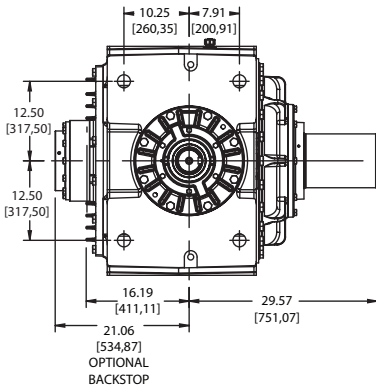
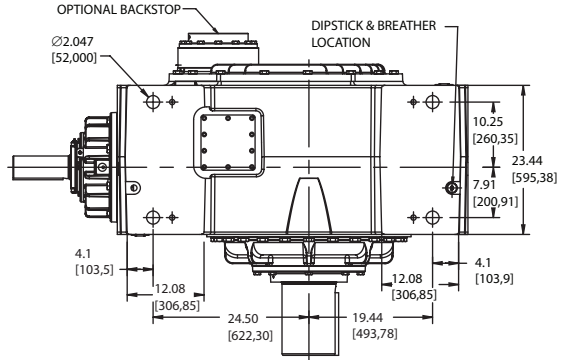
SELECTION/DIMENSIONS



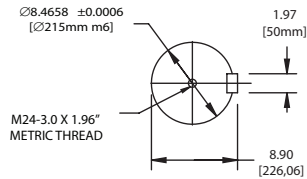
MagnaGear G920 Right Angle Shaft TRIPLE REDUCTION (12.5:1 TO 63:1) SOLID OUTPUT SHAFT



LOW SPEED
END VIEW



INPUT SHAFT
DETAIL



OUTPUT SHAFT
DETAIL

Weight without oil: 7309 lbs
Dimensions in [] are millimeters.
Drawing for reference only. Contact DODGE for certified drawing.

MAGNAGEAR Reducer HORSEPOWER METHOD OF SELECTION

Step 1: Determine Service Factor - See Table 2 for electric motor, hydraulic motor, steam turbine or gas turbine driven applications operating up to 10 hours per day or over 10 hours per day. If the application is engine driven, refer to Table 1 to convert the service factor obtained from Table 2 to the service factor required for engine driven applications. Service factor recommendations are minimum. (For extreme shock or high energy loads which must be absorbed, as when stalling, or for power sources not listed, consult DODGE for special consideration.)

Step 2: Calculate Equivalent Horsepower - Multiply the actual horsepower to be transmitted by the service factor obtained from Step 1.

Step 3: Calculate Required Ratio - Divide the high speed shaft rpm by the low speed shaft rpm.

Step 4: Determine Unit Size and Ratio - Refer to the horsepower tables on pages 75 thru 79. From the high speed input shaft rpm in the left hand column and desired ratio and output speed in the next two columns, trace right into the table and find the horsepower rating equal to or greater than the equivalent horsepower obtained from Step 2.

Step 5: Check Thermal Ratings - Compare the actual horsepower required (without service factor) with the thermal horsepower capacity by referring to the thermal horsepower rating tables on pages 85 thru 89. If the actual transmitted horsepower exceeds the thermal capacity, a shaft driven auxiliary cooling fan, electric auxiliary cooling fan or a heat exchanger may be added to provide additional thermal capacity or a larger reducer may be required.

NOTE: On applications where the continuous running time never exceeds three hours and the idle time is equal to or greater than the running time, thermal limitations can be disregarded and the unit operated at loads up to the listed mechanical rating modified by applicable service factors.

Step 6: Check Overhung and Thrust Loads - Consult DODGE if external thrust loads or overhung loads are present.

Step 7: Check Dimensions - See applicable pages for dimensions, weights, part numbers and instructions on how to order.

TORQUE METHOD OF SELECTION

Determine service factor, equivalent torque and unit size using the same steps as outlined above for the horsepower method, except in Step 4 refer to the torque tables on pages 80 thru 84. Convert the required torque without service factor to horsepower by using the following formula:

$$\text{Horsepower} = \frac{\text{Torque (lb-in)} \times \text{Low Speed Shaft rpm}}{63025}$$

and compare the computed results with the thermal capacities shown on pages 85 thru 89.

EXAMPLES OF SELECTION

Horsepower Method

A ball mill with a helical ring gear operating at 89 rpm is driven by a 600 horsepower 1750 rpm motor. The duty cycle is 24 hours per day. Ambient conditions at the installation are 90 degrees Fahrenheit ambient temperature and an altitude of 5000 feet above sea level. A parallel shaft reducer is required.

Step 1: Determine Service Factor - From Table 2, Service Factors, locate "Mills, Rotary – Ball and Rod Mills with Helical Ring Gear" and under the column headed "10+ Hrs/Day Service" find the Service Factor which is 1.50.

Step 2: Calculate Equivalent Horsepower - Multiply the motor horsepower by the service factor ($600 \times 1.50 = 800$) to get the equivalent horsepower of 800.

Step 3: Calculate Required Ratio - Divide the high speed shaft rpm by the low speed shaft rpm ($1750 / 89 = 19.66$) to get the required ratio of 19.66:1.

Step 4: Determine Unit Size and Ratio - Locate the horsepower table for parallel shaft MAGNAGEAR reducers with a 1750 high speed shaft rpm (page 75). Trace down the ratio column to the closest nominal ratio to the 19.66:1 required ratio and find 20.0:1 ratio. Trace to the right until the horsepower equals or exceeds the calculated equivalent horsepower of 800 and find 1004 horsepower listed under a MAGNAGEAR G700 reducer.

Step 5: Check Thermal Ratings - Refer to the parallel shaft MAGNAGEAR thermal horsepower rating table for parallel reducers on page 85. Locate the table for a 20.0:1 ratio with a 1750 high speed shaft rpm and find the thermal ratings for the MAGNAGEAR G700 reducer. Note the thermal rating without a fan is 262 horsepower, the thermal rating with a shaft fan is 520 horsepower and the thermal rating with an electric fan is 1071 horsepower. These ratings must be adjusted for ambient conditions. From the MAGNAGEAR Thermal Horsepower Rating Adjustment Factor tables on page 89, find the multipliers for 90 degree Fahrenheit ambient temperature and 5000 feet of altitude. Note the factor for 90 degree Fahrenheit ambient is 0.93 and the factor for 5000 feet of altitude is 0.90. (Interpolation can be used to determine factors for values between those listed in the tables). Additional factors for ambient air velocity, duty cycle and maximum oil sump temperature are also provided.

To determine the actual thermal horsepower capacity of the reducer, multiply the thermal horsepower given in the table by the adjustment factors.

ENGINEERING/TECHNICAL



MAGNAGEAR Reducer HORSEPOWER METHOD OF SELECTION

Actual Thermal Hp Capacity = $1071 * 0.93 * 0.90 = 896.4\text{Hp}$. Since 896.4 Hp exceeds the input motor horsepower rating of 600 an electric cooling fan will provide adequate cooling for this application. (Using a shaft fan, the Actual Thermal Hp Capacity = $520 * 0.93 * .90 = 435.2\text{ Hp}$. Since this is less than the input motor Hp rating of 600 adequate cooling would not be provided).

Step 6: Check Overhung and Thrust Loads - Consult Dodge if overhung or thrust loading exists.

Step 7: Check Dimensions - Refer to the specifications/ dimensions pages 65-67 for DODGE MAGNAGEAR G700 parallel reducer with a 20.0:1 ratio. The part number for the reducer is **449829** and for the electric cooling fan kit is **452097**. The exact ratio of the reducer is given on pages 90 thru 91 and is 19.567:1.

Step 8: Check Accessories - Include any accessories that may be required.

TORQUE METHOD

Running 10 hours a day, a heavy duty bucket elevator requires 198,237 lb-in of torque at a 43 rpm. The motor speed is 1170 rpm and is coupling connected. Ambient conditions at the installation are 100 degrees Fahrenheit ambient temperature and an altitude of 2,500 feet. A right angle reducer is required.

Step 1: Determine Service Factor - From Table 1, Service Factors, locate "ELEVATORS – Bucket – Heavy Duty" and under the column headed "3-10 Hrs/Day Service" locate the service factor which is 1.50.

Step 2: Calculate Equivalent Torque - Multiply the system torque of 198,237 by the service factor of 1.50 ($198,237 * 1.50 = 297,356$) to get 297,356 lb-in equivalent torque.

Step 3: Calculate Required Ratio - Divide the high speed shaft rpm by the low speed shaft rpm ($1170 / 43 = 27.2$) to get the required ratio of 27.2:1.

Step 4: Determine Unit Size and Ratio - Locate the torque table for right angle MAGNAGEAR reducers with a 1170 high speed shaft rpm (page 84). Trace down the ratio column to the closest nominal ratio to the 27.2:1 required ratio and find 28.0:1 ratio. Trace to the right until the torque equals or exceeds the calculated equivalent torque of 297,356 and find 307,000 listed under a MAGNAGEAR G285 reducer.

Step 5: Check Thermal Ratings - In order to use the MAGNAGEAR thermal tables the required torque value without service factor (198,237 in-lbs) must be converted to horsepower:

$$\text{Horsepower} = \frac{\text{Torque} \times \text{Reducer Output RPM}}{63025}$$

Example:

$$\begin{aligned} \text{Horsepower} &= \frac{198,237 \times (1170/28)}{63025} \\ &= 131.4 \text{ Hp} \end{aligned}$$

Locate the table for the thermal horsepower ratings for right angle MAGNAGEAR reducers on page 87. Locate the table for a 28.0:1 ratio with an 1170 high speed shaft RPM and find the thermal ratings for a MagnaGear G285 Reducer. Note the thermal rating without a fan is 147 horsepower, the thermal rating with a shaft fan is 215 horsepower and the thermal rating with an electric fan is 460 horsepower. These ratings must be adjusted for ambient conditions. From the MAGNAGEAR Thermal Horsepower Rating Adjustment Factor tables on page 89, find the multipliers for 100 degree Fahrenheit ambient temperature and 2,500 feet of altitude. Note the factor for 100 degree Fahrenheit ambient is 0.86 and the factor for 2,500 feet of altitude is 0.95. (Interpolation can be used to determine factors for values between those listed in the tables). Additional factors for ambient air velocity, duty cycle and maximum oil sump temperatures are also provided.

To determine the actual thermal horsepower capacity of the reducer, multiply the thermal horsepower given in the table by the adjustment factors.

Actual Thermal Hp Capacity = $215 * 0.86 * 0.95 = 184.9\text{ Hp}$. Since 184.9 Hp exceeds the input motor horsepower rating of 131.4 a shaft fan will provide adequate cooling for this application. (Using no cooling, the Actual Thermal Hp Capacity = $147 * 0.86 * 0.95 = 126.4\text{ Hp}$. Since this is less than the input motor Hp rating of 131.4 adequate cooling would not be provided).

Step 6: Check Overhung and Thrust Loads - Consult Dodge if overhung or thrust loading exists.

Step 7: Check Dimensions - Refer to the specifications/ dimensions pages 43, 44 and 47 for DODGE MAGNAGEAR G285 right angle solid shaft reducer with a 28.0:1 ratio. The part number for the reducer is **449346** and for the shaft driven cooling fan kit is **451526**. The exact ratio of the reducer is given on page 91 and is 28.254:1.

Step 8: Check Accessories - Include any accessories that may be required. In the case of an elevator application a backstop is often specified. If a MAGNAGEAR with an integral backstop is required, refer again to the specifications/ dimensions pages 43, 44 and 47 for DODGE MAGNAGEAR G285 right angle solid shaft reducer with a 28.0:1 ratio and a backstop. The part number for the reducer is now **449391**. The part number for the shaft driven cooling fan kit does not change and remains **451526**.

MAGNAGEAR Parallel Shaft Rating

Horsepower Rating

(Multiply listed values by 0.7457 to obtain the power Rating in kilowatt)

| High Speed Rpm | Nominal Ratio | Approx. Low Speed Rpm | Size | | | | | | | |
|----------------|---------------|-----------------------|------|-----|-----|-----|------|------|------|------|
| | | | 100 | 150 | 210 | 285 | 390 | 525 | 700 | 920 |
| 1750 | 8.00 | 219 | 293 | 466 | 646 | 939 | 1279 | 1543 | 2135 | 2849 |
| | 9.00 | 194 | 263 | 418 | 579 | 836 | 1152 | 1430 | 1973 | 2643 |
| | 10.0 | 175 | 238 | 378 | 523 | 761 | 1058 | 1332 | 1817 | 2388 |
| | 11.2 | 156 | 217 | 346 | 470 | 689 | 947 | 1233 | 1631 | 2166 |
| | 12.5 | 140 | 200 | 319 | 427 | 623 | 876 | 1139 | 1480 | 1945 |
| | 14.0 | 125 | 177 | 283 | 386 | 568 | 775 | 1036 | 1330 | 1760 |
| | 16.0 | 109 | 162 | 258 | 355 | 496 | 649 | 938 | 1222 | 1584 |
| | 18.0 | 97 | 145 | 231 | 315 | 446 | 589 | 845 | 1113 | 1435 |
| | 20.0 | 88 | 125 | 199 | 276 | 398 | 531 | 762 | 1004 | 1279 |
| | 22.4 | 78 | 116 | 185 | 260 | 343 | 475 | 692 | 900 | 1179 |
| | 25.0 | 70 | 103 | 165 | 233 | 324 | 437 | 619 | 800 | 1073 |
| | 28.0 | 63 | 92 | 142 | 208 | 293 | 391 | 564 | 735 | 979 |
| | 31.5 | 56 | 83 | 128 | 188 | 264 | 361 | NA | NA | NA |
| | 35.5 | 49 | 76 | 117 | 168 | 240 | 319 | NA | NA | NA |
| | 40.0 | 44 | 70 | 108 | 153 | 209 | 292 | NA | NA | NA |
| | 45.0 | 39 | 62 | 96 | 138 | 188 | 266 | NA | NA | NA |
| | 50.0 | 35 | 57 | 87 | 120 | 167 | 241 | NA | NA | NA |
| 56.0 | 31 | 51 | 78 | 113 | 155 | 217 | NA | NA | NA | |
| 63.0 | 28 | 44 | 67 | 98 | 140 | 194 | NA | NA | NA | |

Note: Shaded area is Triple Reduction.

ENGINEERING/TECHNICAL



MAGNAGEAR Parallel Shaft Rating

Horsepower Rating

(Multiply listed values by 0.7457 to obtain the power Rating in kilowatt)

| High Speed Rpm | Nominal Ratio | Approx. Low Speed Rpm | Size | | | | | | | |
|----------------|---------------|-----------------------|------|-----|-----|-----|------|------|------|------|
| | | | 100 | 150 | 210 | 285 | 390 | 525 | 700 | 920 |
| 1430 | 8.0 | 179 | 244 | 389 | 539 | 784 | 1068 | 1340 | 1862 | 2429 |
| | 9.0 | 159 | 219 | 349 | 483 | 698 | 962 | 1242 | 1682 | 2206 |
| | 10.0 | 143 | 198 | 315 | 436 | 635 | 882 | 1156 | 1515 | 1991 |
| | 11.2 | 128 | 180 | 288 | 391 | 574 | 788 | 1040 | 1359 | 1806 |
| | 12.5 | 114 | 166 | 265 | 355 | 518 | 728 | 948 | 1233 | 1621 |
| | 14.0 | 102 | 147 | 235 | 321 | 472 | 644 | 863 | 1107 | 1467 |
| | 16.0 | 89 | 134 | 214 | 295 | 412 | 539 | 781 | 1017 | 1319 |
| | 18.0 | 79 | 120 | 192 | 262 | 371 | 490 | 703 | 926 | 1194 |
| | 20.0 | 72 | 104 | 165 | 230 | 331 | 442 | 633 | 836 | 1064 |
| | 22.4 | 64 | 96 | 154 | 216 | 286 | 395 | 575 | 749 | 981 |
| | 25.0 | 57 | 86 | 137 | 194 | 269 | 364 | 514 | 665 | 892 |
| | 28.0 | 51 | 77 | 118 | 173 | 243 | 325 | 469 | 610 | 813 |
| | 31.5 | 45 | 69 | 107 | 156 | 220 | 300 | NA | NA | NA |
| | 35.5 | 40 | 63 | 97 | 140 | 200 | 265 | NA | NA | NA |
| | 40.0 | 36 | 58 | 89 | 127 | 174 | 242 | NA | NA | NA |
| | 45.0 | 32 | 52 | 79 | 115 | 156 | 221 | NA | NA | NA |
| | 50.0 | 29 | 47 | 72 | 99 | 139 | 200 | NA | NA | NA |
| 56.0 | 26 | 42 | 65 | 93 | 129 | 180 | NA | NA | NA | |
| 63.0 | 23 | 36 | 55 | 82 | 116 | 160 | NA | NA | NA | |

Note: Shaded area is Triple Reduction.

MAGNAGEAR Parallel Shaft Rating

Horsepower Rating

(Multiply listed values by 0.7457 to obtain the power Rating in kilowatt)

| High Speed Rpm | Nominal Ratio | Approx. Low Speed Rpm | Size | | | | | | | |
|----------------|---------------|-----------------------|------|-----|-----|-----|-----|------|------|------|
| | | | 100 | 150 | 210 | 285 | 390 | 525 | 700 | 920 |
| 1170 | 8.00 | 146 | 204 | 325 | 450 | 655 | 892 | 1180 | 1554 | 2028 |
| | 9.00 | 130 | 182 | 291 | 403 | 582 | 802 | 1068 | 1404 | 1842 |
| | 10.0 | 117 | 165 | 262 | 363 | 528 | 735 | 964 | 1264 | 1662 |
| | 11.2 | 104 | 150 | 239 | 325 | 477 | 655 | 867 | 1133 | 1506 |
| | 12.5 | 94 | 138 | 220 | 295 | 431 | 606 | 790 | 1028 | 1352 |
| | 14.0 | 84 | 122 | 195 | 267 | 393 | 536 | 719 | 923 | 1223 |
| | 16.0 | 73 | 112 | 178 | 246 | 343 | 449 | 650 | 847 | 1098 |
| | 18.0 | 65 | 100 | 160 | 218 | 309 | 408 | 585 | 771 | 995 |
| | 20.0 | 59 | 86 | 138 | 191 | 276 | 368 | 527 | 695 | 886 |
| | 22.4 | 52 | 80 | 128 | 180 | 238 | 329 | 479 | 623 | 816 |
| | 25.0 | 47 | 71 | 114 | 161 | 224 | 303 | 428 | 553 | 742 |
| | 28.0 | 42 | 64 | 98 | 144 | 203 | 271 | 390 | 507 | 676 |
| | 31.5 | 37 | 58 | 89 | 130 | 183 | 250 | NA | NA | NA |
| | 35.5 | 33 | 53 | 81 | 116 | 166 | 220 | NA | NA | NA |
| | 40.0 | 29 | 48 | 74 | 105 | 145 | 201 | NA | NA | NA |
| | 45.0 | 26 | 43 | 66 | 95 | 130 | 183 | NA | NA | NA |
| | 50.0 | 23 | 39 | 60 | 82 | 115 | 166 | NA | NA | NA |
| | 56.0 | 21 | 35 | 53 | 77 | 107 | 149 | NA | NA | NA |
| 63.0 | 19 | 30 | 46 | 68 | 96 | 133 | NA | NA | NA | |

Note: Shaded area is Triple Reduction.

MAGNAGEAR Right Angle Rating

Horsepower Rating

(Multiply listed values by 0.7457 to obtain the power Rating in kilowatt)

| High Speed Rpm | Nominal Ratio | Approx. Low Speed Rpm | Size | | | | | | | |
|----------------|---------------|-----------------------|------|-----|-----|-----|-----|------|------|------|
| | | | 100 | 150 | 210 | 285 | 390 | 525 | 700 | 920 |
| 1750 | 12.5 | 140 | 199 | 317 | 439 | 566 | 666 | 1014 | 1385 | 1766 |
| | 14.0 | 125 | 178 | 284 | 394 | 538 | 628 | 1014 | 1385 | 1791 |
| | 16.0 | 109 | 161 | 256 | 355 | 478 | 595 | 941 | 1234 | 1621 |
| | 18.0 | 97 | 140 | 223 | 318 | 435 | 567 | 846 | 1107 | 1470 |
| | 20.0 | 88 | 126 | 201 | 288 | 393 | 532 | 771 | 1003 | 1320 |
| | 22.4 | 78 | 115 | 183 | 250 | 355 | 480 | 701 | 901 | 1198 |
| | 25.0 | 70 | 106 | 169 | 226 | 313 | 434 | 594 | 778 | 1072 |
| | 28.0 | 63 | 94 | 150 | 205 | 291 | 372 | 542 | 705 | 927 |
| | 31.5 | 56 | 86 | 137 | 189 | 263 | 331 | 492 | 632 | 841 |
| | 35.5 | 49 | 77 | 123 | 167 | 239 | 298 | 445 | 580 | 752 |
| | 40.0 | 44 | 66 | 106 | 146 | 208 | 272 | 400 | 528 | 681 |
| | 45.0 | 39 | 59 | 94 | 130 | 187 | 245 | 360 | 476 | 606 |
| | 50.0 | 35 | 56 | 89 | 121 | 167 | 221 | 327 | 426 | 558 |
| | 56.0 | 31 | 50 | 80 | 110 | 155 | 199 | 292 | 378 | 507 |
| 63.0 | 28 | 45 | 73 | 101 | 140 | 174 | 266 | 346 | 462 | |
| 1430 | 12.5 | 114 | 165 | 263 | 366 | 470 | 554 | 880 | 1203 | 1534 |
| | 14.0 | 102 | 148 | 236 | 327 | 447 | 522 | 836 | 1142 | 1477 |
| | 16.0 | 89 | 133 | 213 | 295 | 397 | 494 | 783 | 1027 | 1351 |
| | 18.0 | 79 | 116 | 185 | 264 | 361 | 472 | 704 | 921 | 1224 |
| | 20.0 | 72 | 105 | 167 | 240 | 327 | 434 | 642 | 835 | 1098 |
| | 22.4 | 64 | 96 | 152 | 207 | 295 | 392 | 583 | 749 | 996 |
| | 25.0 | 57 | 88 | 140 | 188 | 260 | 355 | 494 | 646 | 891 |
| | 28.0 | 51 | 78 | 125 | 170 | 242 | 310 | 450 | 585 | 771 |
| | 31.5 | 45 | 71 | 114 | 157 | 219 | 275 | 409 | 525 | 699 |
| | 35.5 | 40 | 64 | 102 | 139 | 199 | 248 | 370 | 482 | 625 |
| | 40.0 | 36 | 55 | 88 | 122 | 173 | 222 | 332 | 438 | 565 |
| | 45.0 | 32 | 49 | 78 | 108 | 155 | 200 | 299 | 395 | 503 |
| | 50.0 | 29 | 46 | 74 | 100 | 138 | 181 | 271 | 353 | 463 |
| | 56.0 | 26 | 42 | 66 | 91 | 128 | 162 | 242 | 313 | 421 |
| 63.0 | 23 | 38 | 60 | 83 | 116 | 143 | 220 | 287 | 383 | |

MAGNAGEAR Right Angle Rating

Horsepower Rating

(Multiply listed values by 0.7457 to obtain the power Rating in kilowatt)

| High Speed Rpm | Nominal Ratio | Approx. Low Speed Rpm | Size | | | | | | | |
|----------------|---------------|-----------------------|------|-----|-----|-----|-----|-----|------|------|
| | | | 100 | 150 | 210 | 285 | 390 | 525 | 700 | 920 |
| 1170 | 12.5 | 94 | 137 | 219 | 305 | 391 | 461 | 765 | 1045 | 1332 |
| | 14.0 | 84 | 123 | 196 | 272 | 372 | 434 | 723 | 951 | 1253 |
| | 16.0 | 73 | 111 | 177 | 245 | 331 | 412 | 652 | 856 | 1125 |
| | 18.0 | 65 | 97 | 154 | 220 | 301 | 393 | 586 | 767 | 1019 |
| | 20.0 | 59 | 87 | 139 | 199 | 273 | 355 | 534 | 695 | 914 |
| | 22.4 | 52 | 80 | 127 | 173 | 246 | 321 | 485 | 623 | 829 |
| | 25.0 | 47 | 73 | 117 | 157 | 217 | 290 | 411 | 537 | 742 |
| | 28.0 | 42 | 65 | 104 | 142 | 202 | 258 | 374 | 487 | 641 |
| | 31.5 | 37 | 59 | 95 | 130 | 182 | 229 | 340 | 436 | 581 |
| | 35.5 | 33 | 53 | 85 | 115 | 165 | 206 | 307 | 400 | 519 |
| | 40.0 | 29 | 46 | 73 | 101 | 144 | 182 | 276 | 364 | 470 |
| | 45.0 | 26 | 41 | 65 | 89 | 129 | 164 | 248 | 328 | 418 |
| | 50.0 | 23 | 38 | 61 | 83 | 115 | 148 | 225 | 293 | 384 |
| | 56.0 | 21 | 34 | 55 | 76 | 106 | 133 | 201 | 260 | 349 |
| | 63.0 | 19 | 31 | 50 | 69 | 96 | 117 | 183 | 238 | 318 |

ENGINEERING/TECHNICAL



MAGNAGEAR Parallel Shaft Rating

Torque Rating (1,000 In-Lbs)

(Multiply listed values by 113 to obtain torque in Nm)

| High Speed Rpm | Nominal Ratio | Approx. Low Speed Rpm | Size | | | | | | | |
|----------------|---------------|-----------------------|------|-----|-----|-----|-----|-----|-----|-----|
| | | | 100 | 150 | 210 | 285 | 390 | 525 | 700 | 920 |
| 1750 | 8.0 | 219 | 85 | 137 | 187 | 262 | 357 | 455 | 621 | 837 |
| | 9.0 | 194 | 86 | 138 | 190 | 266 | 362 | 471 | 643 | 860 |
| | 10.0 | 175 | 87 | 140 | 192 | 269 | 365 | 491 | 665 | 875 |
| | 11.2 | 156 | 88 | 142 | 194 | 272 | 370 | 511 | 673 | 884 |
| | 12.5 | 140 | 89 | 143 | 196 | 275 | 373 | 522 | 680 | 895 |
| | 14.0 | 125 | 90 | 144 | 198 | 278 | 378 | 527 | 688 | 901 |
| | 16.0 | 109 | 91 | 145 | 200 | 282 | 385 | 533 | 694 | 915 |
| | 18.0 | 97 | 91 | 147 | 202 | 285 | 389 | 538 | 701 | 924 |
| | 20.0 | 88 | 93 | 149 | 204 | 288 | 393 | 544 | 708 | 935 |
| | 22.4 | 78 | 93 | 150 | 205 | 292 | 397 | 549 | 716 | 943 |
| | 25.0 | 70 | 94 | 152 | 208 | 294 | 400 | 555 | 724 | 951 |
| | 28.0 | 63 | 95 | 154 | 210 | 296 | 405 | 559 | 730 | 960 |
| | 31.5 | 56 | 96 | 155 | 212 | 299 | 408 | NA | NA | NA |
| | 35.5 | 49 | 97 | 157 | 215 | 301 | 412 | NA | NA | NA |
| | 40.0 | 44 | 98 | 158 | 217 | 305 | 415 | NA | NA | NA |
| | 45.0 | 39 | 99 | 160 | 219 | 308 | 418 | NA | NA | NA |
| | 50.0 | 35 | 100 | 161 | 221 | 311 | 422 | NA | NA | NA |
| 56.0 | 31 | 100 | 162 | 222 | 313 | 425 | NA | NA | NA | |
| 63.0 | 28 | 102 | 164 | 225 | 306 | 429 | NA | NA | NA | |

NOTE: Shaded area is Triple Reduction

MAGNAGEAR Parallel Shaft Rating

Torque Rating (1,000 In-Lbs)

(Multiply listed values by 113 to obtain torque in Nm)

| High Speed Rpm | Nominal Ratio | Approx. Low Speed Rpm | Size | | | | | | | |
|----------------|---------------|-----------------------|------|-----|-----|-----|-----|-----|-----|-----|
| | | | 100 | 150 | 210 | 285 | 390 | 525 | 700 | 920 |
| 1430 | 8.00 | 179 | 87 | 140 | 191 | 268 | 365 | 483 | 663 | 873 |
| | 9.00 | 159 | 88 | 141 | 194 | 272 | 370 | 500 | 671 | 879 |
| | 10.0 | 143 | 89 | 143 | 196 | 274 | 373 | 521 | 679 | 893 |
| | 11.2 | 128 | 90 | 144 | 198 | 277 | 377 | 527 | 687 | 902 |
| | 12.5 | 114 | 90 | 145 | 200 | 280 | 379 | 532 | 694 | 884 |
| | 14.0 | 102 | 91 | 147 | 202 | 282 | 384 | 537 | 701 | 919 |
| | 16.0 | 89 | 92 | 148 | 203 | 286 | 392 | 542 | 707 | 932 |
| | 18.0 | 79 | 93 | 149 | 205 | 290 | 396 | 548 | 714 | 942 |
| | 20.0 | 72 | 94 | 151 | 208 | 293 | 400 | 553 | 721 | 952 |
| | 22.4 | 64 | 95 | 153 | 209 | 297 | 404 | 558 | 728 | 960 |
| | 25.0 | 57 | 96 | 154 | 212 | 299 | 407 | 564 | 736 | 968 |
| | 28.0 | 51 | 97 | 156 | 214 | 302 | 412 | 569 | 742 | 976 |
| | 31.5 | 45 | 98 | 158 | 216 | 304 | 415 | NA | NA | NA |
| | 35.5 | 40 | 99 | 159 | 218 | 307 | 419 | NA | NA | NA |
| | 40.0 | 36 | 99 | 160 | 220 | 310 | 422 | NA | NA | NA |
| | 45.0 | 32 | 100 | 162 | 222 | 313 | 425 | NA | NA | NA |
| | 50.0 | 29 | 101 | 163 | 225 | 315 | 428 | NA | NA | NA |
| | 56.0 | 26 | 102 | 164 | 226 | 317 | 432 | NA | NA | NA |
| 63.0 | 23 | 103 | 166 | 228 | 310 | 435 | NA | NA | NA | |

Note: Shaded area is Triple Reduction.

ENGINEERING/TECHNICAL



MAGNAGEAR Parallel Shaft Rating

Torque Rating (1,000 In-Lbs)

(Multiply listed values by 113 to obtain torque in Nm)

| High Speed Rpm | Nominal Ratio | Approx. Low Speed Rpm | Size | | | | | | | |
|----------------|---------------|-----------------------|------|-----|-----|-----|-----|-----|-----|-----|
| | | | 100 | 150 | 210 | 285 | 390 | 525 | 700 | 920 |
| 1170 | 8.00 | 146 | 89 | 142 | 195 | 274 | 373 | 520 | 677 | 891 |
| | 9.00 | 130 | 90 | 144 | 197 | 277 | 377 | 525 | 684 | 897 |
| | 10.0 | 117 | 90 | 145 | 199 | 279 | 379 | 531 | 692 | 910 |
| | 11.2 | 104 | 91 | 146 | 201 | 282 | 383 | 537 | 700 | 920 |
| | 12.5 | 94 | 92 | 148 | 203 | 284 | 386 | 542 | 707 | 901 |
| | 14.0 | 84 | 93 | 149 | 205 | 287 | 391 | 547 | 714 | 936 |
| | 16.0 | 73 | 94 | 150 | 207 | 291 | 398 | 552 | 720 | 949 |
| | 18.0 | 65 | 94 | 152 | 209 | 295 | 403 | 557 | 726 | 958 |
| | 20.0 | 59 | 96 | 154 | 212 | 298 | 407 | 563 | 733 | 969 |
| | 22.4 | 52 | 96 | 155 | 213 | 303 | 412 | 568 | 741 | 976 |
| | 25.0 | 47 | 98 | 157 | 215 | 304 | 414 | 573 | 748 | 984 |
| | 28.0 | 42 | 98 | 159 | 218 | 307 | 419 | 578 | 754 | 992 |
| | 31.5 | 37 | 99 | 161 | 220 | 310 | 422 | NA | NA | NA |
| | 35.5 | 33 | 100 | 162 | 222 | 312 | 426 | NA | NA | NA |
| | 40.0 | 29 | 101 | 163 | 224 | 315 | 429 | NA | NA | NA |
| | 45.0 | 26 | 102 | 164 | 225 | 317 | 431 | NA | NA | NA |
| | 50.0 | 23 | 102 | 165 | 228 | 320 | 434 | NA | NA | NA |
| 56.0 | 21 | 103 | 166 | 229 | 321 | 437 | NA | NA | NA | |
| 63.0 | 19 | 104 | 168 | 231 | 314 | 440 | NA | NA | NA | |

Note: Shaded area is Triple Reduction.

MAGNAGEAR Right Angle Rating

Torque Rating (1,000 In-Lbs)

(Multiply listed values by 113 to obtain torque in Nm)

| High Speed Rpm | Nominal Ratio | Approx. Low Speed Rpm | Size | | | | | | | |
|----------------|---------------|-----------------------|------|-----|-----|-----|-----|-----|-----|------|
| | | | 100 | 150 | 210 | 285 | 390 | 525 | 700 | 920 |
| 1750 | 12.5 | 140 | 89 | 143 | 196 | 259 | 301 | 459 | 619 | 797 |
| | 14.0 | 125 | 90 | 144 | 198 | 279 | 326 | 512 | 693 | 896 |
| | 16.0 | 109 | 91 | 146 | 200 | 283 | 347 | 532 | 694 | 912 |
| | 18.0 | 97 | 92 | 147 | 202 | 285 | 364 | 538 | 701 | 922 |
| | 20.0 | 88 | 92 | 149 | 204 | 288 | 386 | 543 | 708 | 932 |
| | 22.4 | 78 | 93 | 150 | 206 | 291 | 380 | 548 | 716 | 941 |
| | 25.0 | 70 | 94 | 151 | 208 | 285 | 393 | 557 | 726 | 952 |
| | 28.0 | 63 | 95 | 153 | 210 | 296 | 390 | 561 | 732 | 965 |
| | 31.5 | 56 | 96 | 154 | 212 | 299 | 378 | 566 | 740 | 973 |
| | 35.5 | 49 | 97 | 156 | 215 | 302 | 390 | 571 | 745 | 983 |
| | 40.0 | 44 | 98 | 158 | 217 | 305 | 392 | 576 | 751 | 992 |
| | 45.0 | 39 | 99 | 160 | 220 | 308 | 391 | 581 | 758 | 1002 |
| | 50.0 | 35 | 100 | 161 | 221 | 311 | 392 | 586 | 765 | 1009 |
| | 56.0 | 31 | 100 | 162 | 223 | 313 | 394 | 591 | 773 | 1017 |
| | 63.0 | 28 | 101 | 163 | 224 | 306 | 391 | 596 | 778 | 1024 |
| 1430 | 12.5 | 114 | 90 | 145 | 199 | 263 | 307 | 487 | 658 | 846 |
| | 14.0 | 102 | 91 | 147 | 201 | 284 | 331 | 517 | 699 | 904 |
| | 16.0 | 89 | 92 | 148 | 203 | 287 | 353 | 542 | 707 | 930 |
| | 18.0 | 79 | 93 | 150 | 205 | 290 | 370 | 548 | 714 | 939 |
| | 20.0 | 72 | 94 | 151 | 207 | 293 | 386 | 553 | 721 | 949 |
| | 22.4 | 64 | 95 | 153 | 210 | 296 | 380 | 558 | 728 | 958 |
| | 25.0 | 57 | 96 | 154 | 212 | 290 | 393 | 566 | 738 | 968 |
| | 28.0 | 51 | 97 | 156 | 214 | 302 | 397 | 571 | 745 | 981 |
| | 31.5 | 45 | 98 | 157 | 216 | 305 | 385 | 575 | 752 | 989 |
| | 35.5 | 40 | 99 | 159 | 218 | 307 | 397 | 580 | 757 | 999 |
| | 40.0 | 36 | 100 | 161 | 221 | 310 | 392 | 585 | 763 | 1008 |
| | 45.0 | 32 | 101 | 162 | 223 | 313 | 391 | 590 | 770 | 1017 |
| | 50.0 | 29 | 101 | 163 | 224 | 316 | 392 | 595 | 777 | 1024 |
| | 56.0 | 26 | 102 | 164 | 226 | 317 | 394 | 600 | 784 | 1032 |
| | 63.0 | 23 | 103 | 165 | 227 | 311 | 391 | 604 | 789 | 1040 |

MAGNAGEAR Right Angle Rating

Torque Rating (1,000 In-Lbs)

(Multiply listed values by 113 to obtain torque in Nm)

| High Speed Rpm | Nominal Ratio | Approx. Low Speed Rpm | Size | | | | | | | |
|----------------|---------------|-----------------------|------|-----|-----|-----|-----|-----|-----|------|
| | | | 100 | 150 | 210 | 285 | 390 | 525 | 700 | 920 |
| 1170 | 12.5 | 94 | 92 | 148 | 202 | 268 | 312 | 518 | 699 | 899 |
| | 14.0 | 84 | 93 | 149 | 205 | 289 | 337 | 546 | 712 | 937 |
| | 16.0 | 73 | 94 | 151 | 207 | 293 | 359 | 552 | 719 | 947 |
| | 18.0 | 65 | 95 | 153 | 209 | 296 | 377 | 557 | 727 | 956 |
| | 20.0 | 59 | 96 | 154 | 211 | 299 | 386 | 562 | 733 | 966 |
| | 22.4 | 52 | 97 | 155 | 214 | 302 | 380 | 567 | 741 | 975 |
| | 25.0 | 47 | 97 | 157 | 216 | 296 | 393 | 575 | 750 | 984 |
| | 28.0 | 42 | 98 | 158 | 218 | 307 | 404 | 580 | 757 | 997 |
| | 31.5 | 37 | 99 | 160 | 220 | 310 | 392 | 584 | 763 | 1005 |
| | 35.5 | 33 | 100 | 161 | 222 | 312 | 404 | 589 | 769 | 1015 |
| | 40.0 | 29 | 101 | 163 | 224 | 315 | 392 | 594 | 775 | 1023 |
| | 45.0 | 26 | 102 | 164 | 226 | 317 | 391 | 599 | 781 | 1033 |
| | 50.0 | 23 | 102 | 165 | 227 | 320 | 392 | 603 | 788 | 1039 |
| | 56.0 | 21 | 103 | 166 | 229 | 321 | 394 | 609 | 795 | 1047 |
| | 63.0 | 19 | 104 | 167 | 230 | 314 | 391 | 613 | 800 | 1054 |

MagnaGear Thermal Horsepower Ratings

Parallel Shaft

| Nominal Ratios | HS Shaft rpm | Cooling | Reducer Size | | | | | | | |
|----------------|--------------|--------------|--------------|-----|-----|-----|-----|------|------|------|
| | | | 100 | 150 | 210 | 285 | 390 | 525 | 700 | 920 |
| 8 - 10 | 1750 | None | 114 | 143 | 177 | 206 | 221 | 222 | 275 | 308 |
| | | Shaft Fan | 220 | 268 | 343 | 415 | 452 | 470 | 544 | 585 |
| | | Electric Fan | 378 | 471 | 585 | 698 | 818 | 931 | 1103 | 1239 |
| | 1430 | None | 110 | 143 | 175 | 206 | 239 | 234 | 275 | 308 |
| | | Shaft Fan | 206 | 251 | 322 | 389 | 424 | 441 | 510 | 548 |
| | | Electric Fan | 408 | 527 | 649 | 770 | 861 | 1052 | 1246 | 1170 |
| | 1170 | None | 119 | 154 | 190 | 223 | 245 | 234 | 275 | 308 |
| | | Shaft Fan | 185 | 226 | 290 | 350 | 381 | 397 | 459 | 493 |
| | | Electric Fan | 386 | 498 | 614 | 728 | 813 | 994 | 992 | 1105 |
| | 870 | None | 130 | 169 | 208 | 244 | 259 | 234 | 275 | 308 |
| | | Shaft Fan | 169 | 220 | 271 | 319 | 337 | 305 | 359 | 403 |
| | | Electric Fan | 364 | 456 | 580 | 632 | 694 | 849 | 847 | 944 |
| 12.5 - 14 | 1750 | None | 111 | 140 | 173 | 202 | 216 | 217 | 277 | 307 |
| | | Shaft Fan | 189 | 238 | 302 | 363 | 389 | 437 | 549 | 584 |
| | | Electric Fan | 361 | 466 | 575 | 681 | 762 | 931 | 1103 | 1239 |
| | 1430 | None | 110 | 143 | 176 | 206 | 226 | 217 | 276 | 306 |
| | | Shaft Fan | 174 | 219 | 279 | 335 | 359 | 403 | 506 | 539 |
| | | Electric Fan | 339 | 438 | 540 | 640 | 716 | 874 | 1036 | 1164 |
| | 1170 | None | 116 | 150 | 185 | 217 | 238 | 234 | 275 | 308 |
| | | Shaft Fan | 178 | 225 | 285 | 343 | 367 | 413 | 518 | 551 |
| | | Electric Fan | 320 | 412 | 509 | 603 | 674 | 824 | 976 | 1097 |
| | 870 | None | 112 | 145 | 179 | 210 | 230 | 226 | 266 | 298 |
| | | Shaft Fan | 155 | 195 | 248 | 299 | 319 | 359 | 451 | 480 |
| | | Electric Fan | 293 | 378 | 466 | 553 | 618 | 755 | 895 | 1006 |
| 16 - 20 | 1750 | None | 105 | 133 | 164 | 191 | 205 | 206 | 262 | 291 |
| | | Shaft Fan | 179 | 225 | 286 | 344 | 368 | 414 | 520 | 553 |
| | | Electric Fan | 312 | 403 | 496 | 589 | 658 | 834 | 1071 | 1192 |
| | 1430 | None | 102 | 133 | 164 | 192 | 211 | 217 | 275 | 297 |
| | | Shaft Fan | 164 | 206 | 262 | 315 | 337 | 379 | 476 | 507 |
| | | Electric Fan | 293 | 378 | 466 | 553 | 618 | 782 | 1005 | 1118 |
| | 1170 | None | 101 | 132 | 162 | 190 | 208 | 214 | 272 | 293 |
| | | Shaft Fan | 145 | 182 | 232 | 279 | 298 | 335 | 421 | 448 |
| | | Electric Fan | 275 | 355 | 438 | 519 | 580 | 735 | 944 | 1051 |
| | 870 | None | 97 | 126 | 155 | 181 | 199 | 205 | 260 | 280 |
| | | Shaft Fan | 130 | 163 | 207 | 249 | 266 | 300 | 376 | 400 |
| | | Electric Fan | 251 | 325 | 400 | 475 | 531 | 672 | 863 | 961 |

MagnaGear Thermal Horsepower Ratings

Parallel Shaft

| Nominal Ratios | HS Shaft rpm | Cooling | Reducer Size | | | | | | | |
|------------------|--------------|--------------|--------------|-----|-----|-----|-----|-----|-----|------|
| | | | 100 | 150 | 210 | 285 | 390 | 525 | 700 | 920 |
| 22 - 28:1 | 1750 | None | 96 | 120 | 149 | 174 | 186 | 187 | 238 | 264 |
| | | Shaft Fan | 163 | 205 | 260 | 313 | 334 | 376 | 472 | 502 |
| | | Electric Fan | 279 | 360 | 443 | 526 | 588 | 745 | 956 | 1064 |
| | 1430 | None | 93 | 120 | 148 | 174 | 190 | 196 | 259 | 268 |
| | | Shaft Fan | 147 | 186 | 236 | 284 | 303 | 341 | 428 | 455 |
| | | Electric Fan | 261 | 337 | 415 | 492 | 550 | 697 | 895 | 996 |
| | 1170 | None | 88 | 116 | 145 | 171 | 192 | 198 | 260 | 270 |
| | | Shaft Fan | 129 | 163 | 207 | 249 | 266 | 299 | 375 | 399 |
| | | Electric Fan | 244 | 316 | 389 | 461 | 516 | 653 | 839 | 934 |
| | 870 | None | 83 | 112 | 140 | 165 | 187 | 193 | 254 | 255 |
| | | Shaft Fan | 108 | 136 | 173 | 208 | 222 | 250 | 314 | 334 |
| | | Electric Fan | 223 | 288 | 355 | 421 | 470 | 596 | 765 | 851 |

MagnaGear Thermal Horsepower Ratings

Parallel Shaft

| Nominal Ratios | HS Shaft rpm | Cooling | Reducer Size | | | | |
|------------------|--------------|--------------|--------------|-----|-----|-----|-----|
| | | | 100 | 150 | 210 | 285 | 390 |
| 31.5 - 45 | 1750 | None | 92 | 116 | 143 | 167 | 179 |
| | | Shaft Fan | 139 | 175 | 223 | 268 | 286 |
| | | Electric Fan | 240 | 310 | 382 | 453 | 506 |
| | 1430 | None | 89 | 112 | 139 | 162 | 173 |
| | | Shaft Fan | 127 | 159 | 202 | 243 | 260 |
| | | Electric Fan | 222 | 286 | 353 | 419 | 468 |
| | 1170 | None | 85 | 107 | 133 | 155 | 166 |
| | | Shaft Fan | 112 | 141 | 179 | 216 | 231 |
| | | Electric Fan | 207 | 268 | 330 | 392 | 438 |
| 50 - 63:1 | 1750 | None | 82 | 104 | 128 | 150 | 160 |
| | | Shaft Fan | 119 | 150 | 191 | 229 | 245 |
| | | Electric Fan | 224 | 289 | 357 | 423 | 473 |
| | 1430 | None | 80 | 100 | 124 | 144 | 154 |
| | | Shaft Fan | 108 | 136 | 173 | 208 | 223 |
| | | Electric Fan | 208 | 268 | 330 | 392 | 438 |
| | 1170 | None | 74 | 97 | 115 | 139 | 144 |
| | | Shaft Fan | 96 | 124 | 154 | 190 | 197 |
| | | Electric Fan | 222 | 248 | 353 | 363 | 468 |

MagnaGear Thermal Horsepower Ratings

Right Angle Shaft

| Nominal Ratios | HS Shaft rpm | Cooling | Reducer Size | | | | | | | |
|------------------|--------------|--------------|--------------|-----|-----|-----|-----|-----|-----|-----|
| | | | 100 | 150 | 210 | 285 | 390 | 525 | 700 | 920 |
| 12.5 - 18 | 1750 | None | 95 | 124 | 156 | 173 | 184 | 179 | 208 | 238 |
| | | Shaft Fan | 164 | 212 | 267 | 305 | 325 | 425 | 493 | 495 |
| | | Electric Fan | 305 | 396 | 498 | 580 | 618 | 709 | 822 | 942 |
| | 1430 | None | 92 | 124 | 158 | 170 | 196 | 191 | 222 | 254 |
| | | Shaft Fan | 160 | 209 | 265 | 301 | 328 | 436 | 506 | 508 |
| | | Electric Fan | 290 | 375 | 473 | 550 | 586 | 672 | 780 | 893 |
| | 1170 | None | 97 | 132 | 168 | 181 | 199 | 198 | 233 | 272 |
| | | Shaft Fan | 152 | 198 | 249 | 285 | 303 | 397 | 459 | 462 |
| | | Electric Fan | 274 | 355 | 447 | 521 | 555 | 636 | 738 | 845 |
| | 870 | None | 90 | 122 | 156 | 166 | 188 | 187 | 223 | 258 |
| | | Shaft Fan | 105 | 152 | 171 | 219 | 208 | 304 | 315 | 355 |
| | | Electric Fan | 260 | 324 | 424 | 475 | 525 | 580 | 699 | 771 |
| 20 - 28 | 1750 | None | 84 | 109 | 138 | 153 | 163 | 158 | 184 | 210 |
| | | Shaft Fan | 139 | 180 | 227 | 259 | 276 | 361 | 419 | 421 |
| | | Electric Fan | 273 | 354 | 445 | 519 | 553 | 634 | 735 | 841 |
| | 1430 | None | 79 | 107 | 136 | 147 | 157 | 156 | 186 | 221 |
| | | Shaft Fan | 129 | 167 | 210 | 241 | 256 | 350 | 388 | 390 |
| | | Electric Fan | 257 | 333 | 420 | 489 | 521 | 597 | 692 | 793 |
| | 1170 | None | 79 | 108 | 137 | 147 | 162 | 161 | 190 | 221 |
| | | Shaft Fan | 115 | 149 | 188 | 215 | 229 | 320 | 348 | 349 |
| | | Electric Fan | 242 | 314 | 395 | 460 | 491 | 562 | 652 | 747 |
| | 870 | None | 76 | 103 | 131 | 140 | 159 | 157 | 188 | 218 |
| | | Shaft Fan | 97 | 126 | 159 | 181 | 193 | 283 | 293 | 294 |
| | | Electric Fan | 221 | 286 | 361 | 420 | 447 | 513 | 595 | 681 |

MagnaGear Thermal Horsepower Ratings

Right Angle Shaft

| Nominal Ratios | HS Shaft rpm | Cooling | Reducer Size | | | | | | | |
|----------------|--------------|--------------|--------------|-----|-----|-----|-----|-----|-----|-----|
| | | | 100 | 150 | 210 | 285 | 390 | 525 | 700 | 920 |
| 31.5 - 45 | 1750 | None | 76 | 99 | 124 | 138 | 147 | 143 | 166 | 190 |
| | | Shaft Fan | 112 | 145 | 183 | 209 | 223 | 291 | 338 | 339 |
| | | Electric Fan | 223 | 289 | 365 | 425 | 452 | 518 | 601 | 689 |
| | 1430 | None | 75 | 97 | 122 | 136 | 145 | 141 | 163 | 187 |
| | | Shaft Fan | 103 | 133 | 168 | 191 | 204 | 267 | 309 | 311 |
| | | Electric Fan | 208 | 270 | 340 | 396 | 422 | 484 | 561 | 642 |
| | 1170 | None | 73 | 94 | 119 | 132 | 141 | 137 | 159 | 182 |
| | | Shaft Fan | 90 | 117 | 148 | 169 | 180 | 235 | 272 | 274 |
| | | Electric Fan | 195 | 253 | 319 | 371 | 395 | 453 | 526 | 602 |
| | 870 | None | 67 | 87 | 110 | 122 | 130 | 127 | 147 | 169 |
| | | Shaft Fan | 76 | 99 | 125 | 143 | 152 | 199 | 231 | 232 |
| | | Electric Fan | 177 | 230 | 289 | 337 | 359 | 411 | 477 | 546 |
| 50 - 63:1 | 1750 | None | 67 | 86 | 109 | 121 | 129 | 125 | 145 | 166 |
| | | Shaft Fan | 94 | 121 | 153 | 175 | 186 | 243 | 282 | 284 |
| | | Electric Fan | 199 | 258 | 326 | 379 | 404 | 463 | 537 | 615 |
| | 1430 | None | 65 | 84 | 106 | 117 | 125 | 122 | 141 | 162 |
| | | Shaft Fan | 85 | 111 | 139 | 159 | 170 | 222 | 257 | 258 |
| | | Electric Fan | 185 | 240 | 302 | 352 | 375 | 430 | 498 | 570 |
| | 1170 | None | 62 | 80 | 101 | 112 | 119 | 116 | 134 | 154 |
| | | Shaft Fan | 76 | 98 | 124 | 141 | 151 | 197 | 228 | 229 |
| | | Electric Fan | 174 | 226 | 285 | 331 | 353 | 405 | 469 | 537 |
| | 870 | None | 57 | 74 | 93 | 103 | 110 | 107 | 124 | 142 |
| | | Shaft Fan | 64 | 83 | 105 | 120 | 127 | 167 | 193 | 194 |
| | | Electric Fan | 159 | 206 | 259 | 302 | 322 | 369 | 428 | 490 |

MagnaGear Thermal Ratings

Ambient Temperature Adjustment Factors

| Ambient Temperature (°F) | B _{ref} |
|--------------------------|------------------|
| 50 | 1.19 |
| 60 | 1.13 |
| 70 | 1.07 |
| 80 | 1.00 |
| 90 | 0.93 |
| 100 | 0.86 |
| 110 | 0.78 |
| 120 | 0.69 |

Altitude Adjustment Factors

| Altitude (ft) | B _A |
|---------------|----------------|
| 0 - Sea Level | 1.00 |
| 2500 | 0.95 |
| 5000 | 0.90 |
| 7500 | 0.85 |
| 10000 | 0.81 |
| 12500 | 0.76 |
| 15000 | 0.72 |
| 17500 | 0.68 |

Ambient Air Velocity Adjustment Factors (Does Not Apply to Reducers with Fan Cooling)

| Ambient Air Velocity (fpm) | Typical Environment | B _V |
|----------------------------|----------------------|----------------|
| ≤ 100 | Small Confined Space | 0.75 |
| > 100 and ≤ 275 | Large Indoor Space | 1.00 |
| > 275 and < 725 | Large Indoor Space | 1.40 |
| ≥ 725 | Outdoors | 1.90 |

Duty Cycle Temperature Adjustment Factors

| Operation Time per Hour | B _D |
|-----------------------------------|----------------|
| 100% (3 or more hours continuous) | 1.00 |
| 80% (Ave 48 min per hour) | 1.05 |
| 60% (Ave 36 min per hour) | 1.15 |
| 40% (Ave 24 min per hour) | 1.35 |
| 20% (Ave 12 min per hour) | 1.80 |

Maximum Allowable Oil Sump Temperature Adjustment Factors

| Max Oil Sump Temp °F | B _T |
|----------------------|----------------|
| 185 | 0.81 |
| 200 | 1.00 |
| 220 | 1.13 |

To determine the actual thermal Hp rating, multiply the rating from the thermal Hp tables by the appropriate factors from the tables above.

Actual Thermal Hp = Thermal Hp Rating from Table * B_{ref} * B_A * B_D * B_T * B_V

Example: A MagnaGear G525 with a shaft fan, right angle, 25:1 ratio will be operated with a 1750RPM input motor. Ambient conditions at the installation site are 100F, 2500ft altitude. MagnaGear will be located in a large indoor space. Duty cycle will be 12 hours continuous operation per day, maximum allowable oil sump temperature is 200F. To calculate the actual thermal Hp rating, find the rated thermal Hp from the right angle thermal Hp table and multiply by the appropriate rating factors. Interpolation can be used to determine factors for values between those listed in the tables.

Actual Thermal Hp = 425 * 0.86 * 0.95 * 1.00 * 1.00 * (Factor B_V N/A due to fan cooling) = 347Hp

MAGNAGEAR Parallel Shaft, Double and Triple Reduction

Actual Ratio

| Nominal Ratio | Actual Ratio | | | | | | | |
|---------------|--------------|----------|----------|----------|----------|----------|----------|----------|
| | Size 100 | Size 150 | Size 210 | Size 285 | Size 390 | Size 525 | Size 700 | Size 920 |
| 8.00 | 8.080 | 8.146 | 8.044 | 7.759 | 7.754 | 8.182 | 8.083 | 8.155 |
| 9.00 | 9.115 | 9.189 | 9.091 | 8.838 | 8.719 | 9.133 | 9.048 | 9.039 |
| 10.0 | 10.195 | 10.278 | 10.180 | 9.813 | 9.579 | 10.227 | 10.161 | 10.172 |
| 11.2 | 11.271 | 11.363 | 11.480 | 10.956 | 10.847 | 11.499 | 11.460 | 11.340 |
| 12.5 | 12.335 | 12.435 | 12.776 | 12.256 | 11.824 | 12.727 | 12.764 | 12.776 |
| 14.0 | 14.053 | 14.167 | 14.264 | 13.571 | 13.543 | 14.126 | 14.370 | 14.211 |
| 16.0 | 15.552 | 15.678 | 15.600 | 15.761 | 16.476 | 15.758 | 15.777 | 16.046 |
| 18.0 | 17.515 | 17.657 | 17.804 | 17.722 | 18.325 | 17.686 | 17.492 | 17.888 |
| 20.0 | 20.611 | 20.737 | 20.560 | 20.096 | 20.526 | 19.818 | 19.576 | 20.297 |
| 22.4 | 22.306 | 22.487 | 22.381 | 23.598 | 23.191 | 22.013 | 22.076 | 22.200 |
| 25.0 | 25.343 | 25.500 | 24.802 | 25.187 | 25.405 | 24.873 | 25.132 | 24.624 |
| 28.0 | 28.589 | 28.766 | 28.031 | 28.119 | 28.767 | 27.510 | 27.577 | 27.235 |
| 31.5 | 31.975 | 32.174 | 31.389 | 31.457 | 31.359 | NA | NA | NA |
| 35.5 | 35.351 | 35.571 | 35.396 | 34.831 | 35.917 | NA | NA | NA |
| 40.0 | 38.687 | 38.928 | 39.392 | 40.453 | 39.519 | NA | NA | NA |
| 45.0 | 44.074 | 44.348 | 43.980 | 45.487 | 43.697 | NA | NA | NA |
| 50.0 | 48.775 | 49.078 | 51.983 | 51.581 | 48.601 | NA | NA | NA |
| 56.0 | 54.933 | 55.274 | 54.897 | 55.893 | 54.439 | NA | NA | NA |
| 63.0 | 64.642 | 64.915 | 63.393 | 63.381 | 61.507 | NA | NA | NA |

Note: Shaded area is Triple Reduction.

MAGNAGEAR Right Angle Triple Reduction

Actual Ratio

| Nominal Ratio | Actual Ratio | | | | | | | |
|---------------|--------------|----------|----------|----------|----------|----------|----------|----------|
| | Size 100 | Size 150 | Size 210 | Size 285 | Size 390 | Size 525 | Size 700 | Size 920 |
| 12.5 | 12.409 | 12.510 | 12.353 | 12.698 | 12.569 | 12.565 | 12.412 | 12.524 |
| 14.0 | 13.998 | 14.112 | 13.962 | 14.409 | 14.401 | 14.026 | 13.895 | 13.882 |
| 16.0 | 15.657 | 15.784 | 15.634 | 16.414 | 16.193 | 15.706 | 15.605 | 15.621 |
| 18.0 | 18.230 | 18.378 | 17.630 | 18.224 | 17.789 | 17.659 | 17.600 | 17.415 |
| 20.0 | 20.390 | 20.556 | 19.620 | 20.346 | 20.144 | 19.545 | 19.603 | 19.620 |
| 22.4 | 22.543 | 22.726 | 22.960 | 22.761 | 21.959 | 21.693 | 22.068 | 21.823 |
| 25.0 | 24.670 | 24.870 | 25.552 | 25.308 | 25.151 | 25.369 | 25.910 | 24.642 |
| 28.0 | 28.105 | 28.333 | 28.528 | 28.254 | 29.115 | 28.775 | 28.859 | 28.884 |
| 31.5 | 31.103 | 31.356 | 31.200 | 31.607 | 31.738 | 31.937 | 32.488 | 32.128 |
| 35.5 | 35.030 | 35.314 | 35.609 | 34.998 | 36.351 | 35.626 | 35.669 | 36.277 |
| 40.0 | 41.221 | 41.473 | 41.120 | 40.646 | 39.996 | 39.986 | 39.547 | 40.441 |
| 45.0 | 46.655 | 47.033 | 46.800 | 45.705 | 44.224 | 44.806 | 44.258 | 45.888 |
| 50.0 | 49.770 | 50.174 | 50.578 | 50.091 | 49.188 | 49.768 | 49.911 | 50.191 |
| 56.0 | 55.572 | 56.023 | 55.841 | 56.550 | 55.097 | 56.234 | 56.821 | 55.672 |
| 63.0 | 61.832 | 62.210 | 61.679 | 60.289 | 62.250 | 62.196 | 62.348 | 61.574 |

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