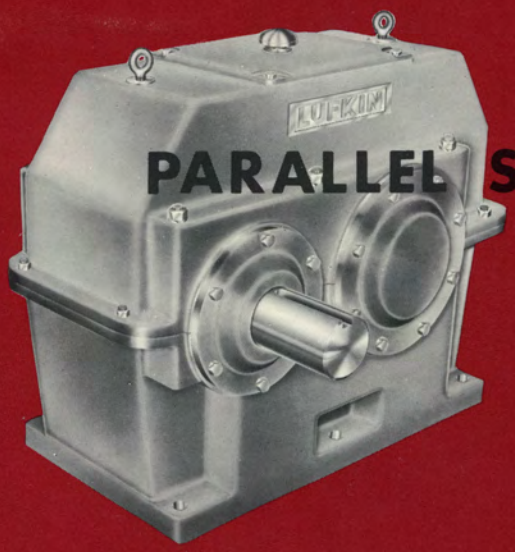
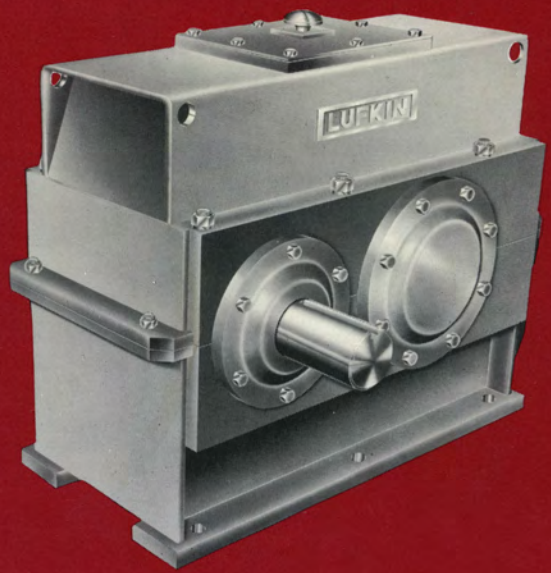
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LUFKIN



PARALLEL SHAFT SPEED REDUCERS



GEAR CATALOG NO. G-32A

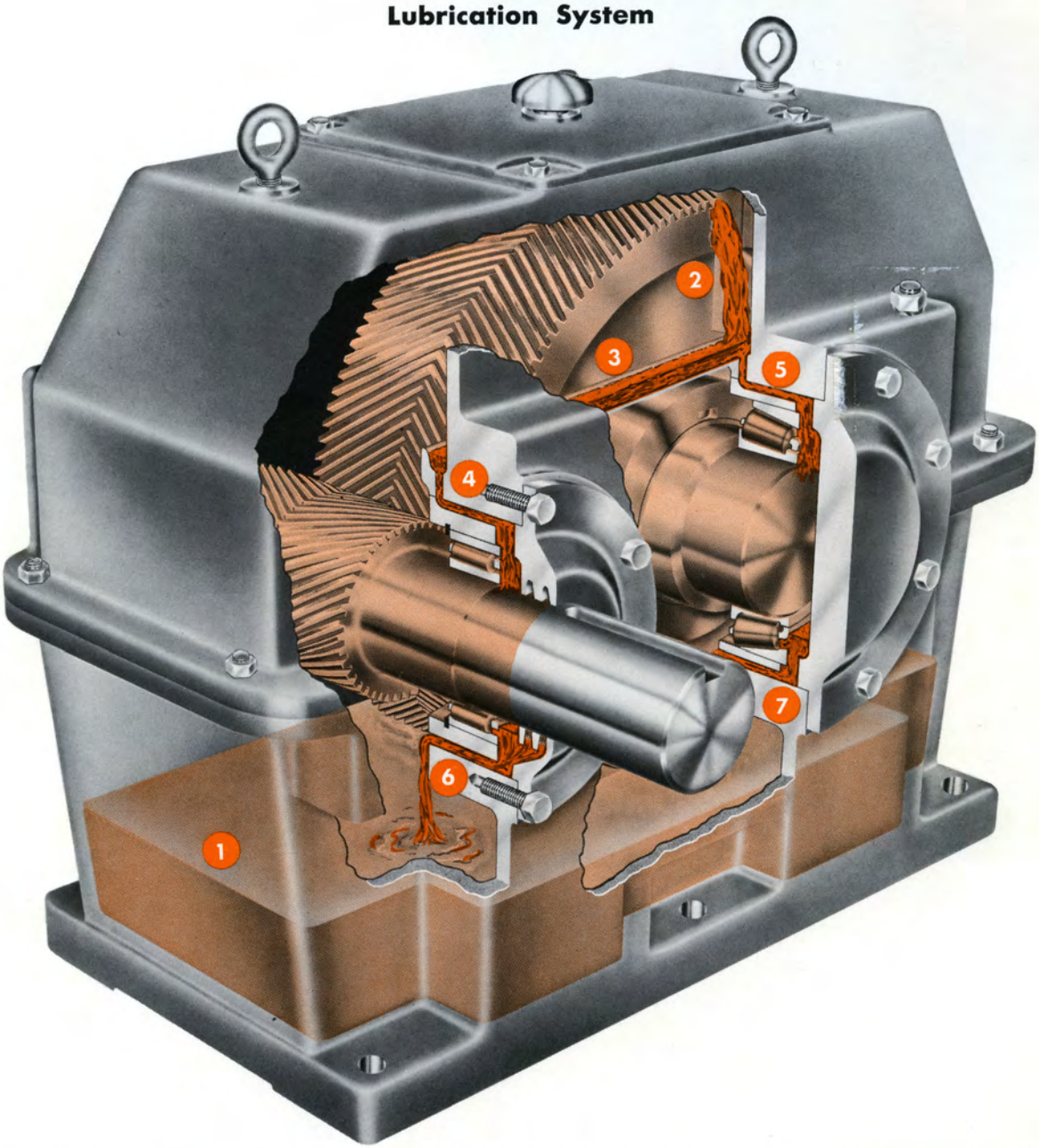
MEMBER OF AGMA

LUFKIN INDUSTRIES, INC.
LUFKIN, TEXAS

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TYPES S, D, T AND Q REDUCERS

Lubrication System



The housing is filled with oil until the level is visible in the sight gage. The gear dips in the bath of oil lubricating the gear teeth. The film of oil which adheres to the side of the gear rim is deflected by wiper 2 into oil trough 3 which is integral with the cover. Oil flows by gravity from the trough through passages 4 and 5 into all bearings and returns to the sump by oil return passages 6 and 7.

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Industrial Gear Reducers

Cast Iron and Fabricated Steel Housings

I. SINGLE REDUCTION REDUCERS TYPE S AND M
Ratios 1.22:1 to 7.59:1
Pages 11-23

II. DOUBLE REDUCTON REDUCERS, TYPE D
Ratios 7.59:1 to 57.6:1
Pages 24-31

III. TRIPLE REDUCTION REDUCERS, TYPE T
Ratios 57.6:1 to 291.9:1
Pages 32-39

IV. QUADRUPLE REDUCTION REDUCERS, TYPE Q
Ratios 291.9:1 to 1810:1
Pages 40-44

V. HI-Q REDUCERS
Ratios 14:1 to 35:1
Pages 45-47

VI. SPECIAL LUFKIN UNITS
Pages 49-51

VII. OTHER LUFKIN GEAR PRODUCTS
Page 52

LUFKIN INDUSTRIES, INC.

Factory and Executive Offices

LUFKIN, TEXAS

Phone: 713-634-4421

Branch Offices

ANACO, VENEZUELA, S.A.
Apartado No. 23
Phone: MGO2-4405

ATLANTA, GEORGIA
5190 Antelope Lane
Stone Mountain, Georgia
30083
Phone: 404-939-3119

BRISBANE, QUEENSLAND, AUSTRALIA
G. P. O. Box 323
Phone: 4-4469

BAKERSFIELD, CALIFORNIA
93302
2500 Parker Lane
P. O. Box 444
Phone: 805-327-3563

BALTIMORE, MARYLAND
P. O. Box 673
Bel Air, Maryland 21014
Phone: 301-879-9264

BUENOS AIRES, ARGENTINA, S. A.
MATPETROL
Esmeralda 155
Phone: 45-4822

CALGARY, ALBERTA, CANADA
5112 Varscliffe Road, N.W.
Phone: 403-288-3073

CASPER, WYOMING 82601
100 Warehouse Rd.
P. O. Box 1849
Phone: 307-234-5346

CLEVELAND, OHIO 44116
Suburban-West Building
Room 226
20800 Center Ridge Road
Phone: 216-331-5722

CRYSTAL LAKE, ILLINOIS 60014
P. O. Box 382
Phone: 815-459-4033

DALLAS, TEXAS 75201
800 Empire Life Bldg.
Phone: 214-748-5127

DENVER, COLORADO 80203
1138 Lincoln Tower Bldg.
Phone: 303-222-9589

EDMONTON, ALBERTA, CANADA
9950-65th Avenue
Phone: 403-435-8571

FREMONT, CALIFORNIA 94538
3100 Mowry Ave.
Phone: 415-793-3911

HOBBS, NEW MEXICO 88240
P. O. Box 97
Phone: 505-393-5211

HOUSTON, TEXAS 77036
Suite 152
6610 Harwin Drive
Phone: 713-781-6850

KILGORE, TEXAS 75662
P. O. Box 871
Phone: 214-984-3875

LAFAYETTE, LOUISIANA 70505
P. O. Box 1353 OCS
Phone: 318-234-2846

LA PAZ, BOLIVIA, S.A.
MATPETROL, Ltda.
Casilla de
Correo No. 1734
Phone: 23807

LONDON, S.W.1, ENGLAND
123 Pall Mall
Suite 18
Phone: 01-930-2662

LOS ANGELES, CALIFORNIA 90010
Suite 2214
3435 Wilshire Blvd.
Phone: 213-487-1660

MARACAIBO, VENEZUELA, S.A.
Apartado No. 1144
Phone: 3132

MEXICO CITY, 7, D.F.
EQUIPOS ESPECIALIZADOS, S.A.
Vallarta #1-909-B
Phone: 46-51-19

NATCHEZ, MISSISSIPPI 39120
P. O. Box 804
Phone: 601-445-4691

NEW YORK, NEW YORK
100 Menlo Park Office Bldg.
Room 408
Edison, New Jersey 08817

ODESSA, TEXAS 79760
1020 West Second Street
P. O. Box 1632
Phone: 915-337-8649

OKLAHOMA CITY, OKLAHOMA 73109
600 S.E. 29th. St.
P. O. Box 95205
Phone: 405-632-2366

PAMPA, TEXAS 79065
P. O. Box 2212
Phone: 806-665-4120

PITTSBURGH, PENNSYLVANIA 15235
Suite 101
201 Penn Center Blvd.
Phone: 412-241-5131

SEATTLE, WASHINGTON 98125
10703 Durland Ave., N.E.
Phone: 206-364-9658

SINGAPORE 11
126 Eng. Neo Ave.
Phone: 634479

TALARA, PERU, S.A.
OILFIELD IMPORTS, S.A.
Apartado No. 1A

TULSA, OKLAHOMA 74119
1302 Petroleum Club Building
Phone: 918-587-7171

TRIPOLI, LIBYA
Sahara Oilfield Services Company of Libya, Ltd.
(Serrag & Co.)
P. O. Box 800
Phone: 34874

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PLANT FACILITIES

From an humble beginning in 1902 as a small repair shop for sawmill and railroad machinery, LUFKIN Industries, Inc. today occupies a modern plant covering over 80 acres with approximately 18 acres under roof. This plant is equipped with ever facility necessary for the manufacture of quality and precision gears. Pioneering the adaptation of the gear reducer to the oil well pumping unit in 1923, LUFKIN has placed over 100,000 of these units in service covering every oil producing country in the world. LUFKIN has gained over these years both the know-how and facilities for producing quality and dependable gears for any industry or application, and has specialized in the production of industrial gears since 1939.

MACHINE SHOP



The main bay of the Machine Shop is 905 feet long and has over 200,000 square feet of floor space. Over 175 modern production machines are in use here. Among these are 21 Sykes herringbone gear generators and a hobbing machine with the capacity to cut a 16 foot pitch diameter, 48 inch face gear.

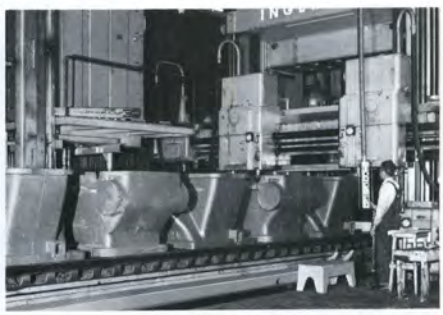
Machine with Indexing Table.



Vertical Boring Mill.
Capacity: 10′ - 6″ diameter.



10T Sykes Gear Generator. Capacity: 10 feet diameter x 24 inch face.



Large Planer Type Milling Machine. Capacity: 9 feet wide x 8 feet high x 26 feet travel.

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Schiess Hobbing Machine, Capacity: 16 Feet Diameter x 48 Inch Face.

MACHINE SHOP



Standard Stocked Gears in Finished Material Warehouse.



Inside View of Structural and Welding Shop.

STRUCTURAL SHOP

All cutting, welding and fabricating of structural parts is performed in the main structural building. This building has three acres under one roof. The structural shop is equipped with all modern equipment for the fabrication of large structural items.



Torch Cut Gears for Slow Speed Application.



Reducer housing and cover castings on Foundry Yard.

FOUNDRY

The Foundry is equipped with the most modern equipment available for the production of gray and nodular iron castings, with a capacity of 175 tons per day.



Large Moulding Machine. Capacity: 12,000 Pounds.



Lapping two pinions with large propulsion gear on special variable center lapper.

GEAR FINISHING

Complete facilities are available for balancing, assembling and testing gear units; all components are thoroughly inspected and tested before shipment.



Dynamic Balancing Machine. Capacity: 10 feet diameter, 13,000 pounds.

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GENERAL SPECIFICATIONS

ENGINEERING

The high speed digital computer is used to assist LUFKIN's design Engineers evaluate each design for maximum practical torque capacity based on the latest AGMA standards. In this analysis, tooth geometry is evaluated to give the user an optimum balance between tooth beam strength and maximum durability rating based on the physical dimensions of the gear set.

HOUSINGS

Housings are of controlled specification high tensile gray iron or heavy steel plate. Housings are two piece construction with joint between housing and cover accurately machined. Interior surfaces are thoroughly shotblasted, cleaned, and painted to insure absolute freedom from foreign particles. Housings are designed for heavy duty service to provide maximum rigidity to assure precision gear alignment. Housings are precision bored and bore alignment is certified before assembly.

Most reducer sizes are available in cast iron or steel construction but some of the smaller units are only available in cast iron and some of the larger units are only available in steel. The type Q, quadruple reduction units are available in steel construction only. If one of the size numbers shown above the rating tables includes an F in the designation (such as SF148C, DF195C, TF220C), these units have steel housings. If the size numbers shown above the rating tables do not include an F in the designation (such as S169C, D220C, T290C), these units have cast iron housings.

GEARS

Gears are double helical type generated on Sykes machines, or cut on hobbing machines. The gear teeth are cut after the gear has been pressed on its shaft and finish turned to assure concentricity between pitch circle and shaft. Final cutting of teeth is done slowly with freshly ground cutters for a better finish. Final finish of teeth is done in lapping machine to insure perfect mating contact between tooth surfaces. Finished gears are carefully balanced. Gear blanks are made of heat treated high tensile alloy steel castings, forgings, ductile iron castings, or fabricated using steel plate and forged alloy rims.

PINIONS

Except for very low ratios which result in large pinion diameters, pinions are made integral with their shafts. Material is heat treated alloy steel. Pinion shaft extensions are ground to nominal dimensions shown in rating tables with tolerance of plus or minus .0005″

BEARINGS

Tapered roller bearings are used on the slow speed shaft with the bearing adjusting shims on the side opposite the shaft extensions. On pinion shafts, solid-roll straight type anti-friction bearings are used which permit perfect alignment of the double helical gears. All anti-friction bearings are mounted in individual bearing carriers. Bearings are designed for long, trouble-free life when properly lubricated.

LUBRICATION

The slow speed gear runs in a bath of oil in the bottom of the housing and provides constant lubrication to the gear-mesh. This splash also furnishes a generous amount of oil to the troughs on the inside of the cover and from these troughs all bearings are lubricated by gravity flow. Oil seals eliminate oil leakage and the entrance of dirt. The lubrication system is simple, positive and fool-proof so long as the housing is filled to the correct lubricant level. See Lubrication Instructions on page 48 for recommended lubricants.

AUXILIARY EQUIPMENT

Reducers are available with any of the required auxiliary equipment such as motor and brake mounting brackets, backstops to prevent reverse rotation, coupling guards, shaft extension covers, tandem seals for more positive sealing, and couplings can be furnished or mounted.

MOTOR BASES

One-piece structural steel bases are available for mounting both the gear reducer and prime mover. These are fabricated by electric welding using heavy section steel plate or structural sections and are stress-relieved after welding. All bases are custom-built to suit each individual job. In some cases common bases can be provided to accommodate the driven machine also.

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EXPLANATION OF RATING TABLES

The Horsepower, Torque and Overhung-Load capacities of all Lufkin Gears are based on the latest Standard Practices of the American Gear Manufacturers Association of which Lufkin has been a member for many years. These ratings are shown for the different units on th efollowing pages:

Single Reduction, Type S&M.....Pages 11-23
Double Reduction, Type D.....Pages 24-31
Triple Reduction, Type T.....Pages 32-39
Quadruple Reduction, Type Q.....Pages 40-44

MECHANICAL RATINGS

The Mechanical Horsepower Ratings listed in the Rating Tables are for a Service Factor of 1 which would be the proper factor for a gear unit being driven by an electric motor up to 10 hours per day and driving a machine classed as a Uniform Load. For any other type of prime mover or driven machine or for any other duration of service the horsepower load would have to be modified by an appropriate Service Factor, as explained on the following pages, before the proper gear reducer could be selected.

The load carrying capacity of a set of gears for a given size housing varies with ratio and speed. Therefore, the Rating Tables show the horsepower ratings for each size reducer at the several standard ratios and motor speeds. The gears will stand 175% overload, or 275% of the mechanical ratings tabulated at starting or momentarily during operation.

OUTPUT TORQUE RATINGS

The Output Torque ratings are based on the mechanical horsepower ratings and must be modified by an appropriate Service Factor before the proper gear reducer can be selected. The gears will stand 175% torque overload or 275% of the tabulated output torque rating at starting or momentarily during operation. The Output Torque ratings are shown immediately following the horsepower ratings.

THERMAL RATINGS

The Thermal Horsepower rating tables are shown immediately following the Output Torque Ratings. These ratings vary with unit speed and ratio. The Thermal Horsepower rating is the average load the unit will deliver continuously without overheating. The **actual horsepower transmitted** by the gear unit may not be greater than the Thermal Horsepower rating unless the unit is equipped with an oil pump and cooler. The Type Q reducers when operated within the speeds and ratios listed, will never require oil pump and cooler.

When additional thermal rating is required, a high speed shaft mounted fan is available to increase the thermal horsepower rating. Using two shaft mounted fans at 1750 RPM pinion speed, generally a 2.0 multiplier can be applied to the tabulated thermal rating. Consult Lufkin concerning the specific application.

SERVICE FACTORS

The selection of a gear unit for a certain job depends upon (1) the type of prime mover, (2) the character of the driven machine and (3) the number of hours per day the unit will operate. These variables enter into the selection of Reducers through the use of Service Factors.

A tabulation of the Character of Load for various types of machinery generally driven by gear units is shown in Table 1, page 10. Table 2, page 10, shows the Service Factors based on the three variables listed above.

In selecting a gear reducer the actual horsepower load to be transmitted is multiplied by the appropriate Service Factor to determine the Equivalent Horsepower. A reducer is then selected from the Rating Tables which has a tabulated rating equal to or greater than the Equivalent Horsepower. Conversely, the tabulated mechanical rating of a reducer divided by the Service Factor will give the Service Rating of that reducer. This Service Rating cannot be higher than the Thermal Horsepower unless means for artificially cooling the oil is provided.

RATIOS

The gear ratios listed in the Rating Tables are standard for each size reducer and these particular ratios are more readily available than any other ratio. The exact ratio required or a very close approximation can be furnished, however. The approximate horsepower rating for intermediate ratios not shown in the tables may be determined by interpolation.

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SELECTION OF GEAR REDUCERS

In order to accurately select the proper gear reducer it is necessary to know:

(1) Horsepower load to be transmitted;
(2) Speed of both input and output shafts, or the speed of one shaft and the gear ratio;
(3) Type of prime mover;
(4) Type of driven machine; and
(5) Hours per day continuous operation.

Knowing the type of driven machine, determine from Table 1, page 10, whether the character of the load is Uniform, Moderate Shock or Heavy Shock. With this information and knowing the type of prime mover and hours of operation, select the proper Service Factor from Table 2, page 10.

Multiply the actual horsepower load to be transmitted by the Service Factor just selected to arrive at the Equivalent Horsepower. This Equivalent Horsepower is the tabulated or catalog rating as listed in the Rating Tables. If the starting load is high, it should also be used as a check to determine Equivalent Horsepower. To do this, divide starting load by 2.75 and if the result is higher than the Equivalent Horsepower just calculated, it should be used as the Equivalent Horsepower in making the selection.

Divide the motor speed by the output speed of the reducer to determine ratio. The type unit to select can be determined from the following range of ratios available:

UNIT TYPE	RATIOS AVAILABLE	PAGE
Type S&M	1.22-7.59	11-14
Type D	7.59-47.8	24-26
Type T	47.8-291.9	32-34
Type Q	291.9-1810	40-41

When selecting a single reduction unit from the rating tables, the ratings printed in blue are for type M reducers. The type M reducer is a medium speed unit for pinion speeds up to 3600 RPM and pitch line velocities up to 5000 feet per minute. The only difference in the type S unit and the type M unit is higher precision gears and a straight roller bearing that permits higher operating speeds.

Refer to the proper Horsepower Rating Table as specified above. In the column showing a ratio nearest to that required and on a horizontal line with the proper input speed, find a listed horsepower which is equal to or greater than the Equivalent Horsepower required. The size of the reducer is shown at the top of the table in which this horsepower rating is found. For intermediate ratios and speeds between those listed, the approximate horsepower rating may be found by interpolation.

The Thermal Horsepower ratings for the reducer types available are shown on the following pages:

Type S&M.....Page 18 & 19
Type D.....Page 29
Type T.....Page 37

On standard Type Q reducers the Thermal Horsepower capacity will always be greater than the load transmitted. The reducer selected should have a Thermal Rating equal to or greater than the **actual horsepower load** to be transmitted in order to avoid overheating of the unit during operation. It is often necessary to go to a larger size reducer to obtain satisfactory thermal capacity. It is possible to equip a reducer with an oil cooling system and thus increase the Thermal Rating in some cases when because of space limitations it is desirable to use the smallest possible reducer.

OUTPUT TORQUE SELECTION

Reducer selection based on Output Torque is the same as the selection based on mechanical horsepower ratings. The same Service Factors must be used to arrive at the Equivalent Torque load to be transmitted.

The Output Torque Ratings for the reducer types available are shown on the following pages:

Type S.....Page 15-18
Type D.....Page 27-29
Type T.....Page 35-37
Type Q.....Page 42-43

The Thermal Horsepower rating of the unit must be checked by converting the transmitted torque to horsepower and referring to the Thermal Horsepower rating tables.

OVERHUNG LOAD

In the event the output shaft of the reducer drives through a pulley, sprocket or gear, the overhung load capacity of the slow speed shaft should be checked. Although standard reducers are designed primarily for straight line torque drive

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SELECTION OF GEAR REDUCERS (cont'd.)

through a flexible coupling, they will stand moderate overhung loads without difficulty.

The following formula will give the actual overhung load imposed on the shaft:

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

Where OL = Overhung load, lbs.
K = Constant for type of external drive
= 1.0 for Sprocket
= 1.25 for pinion
= 1.5 for V-belts
= 2.5 for flat belt
HP = Actual horsepower load
D = Diameter of sprocket, pinion or pulley, inches
RPM = Revolutions per minute of shaft being checked.

If the result of the above calculation shows the overhung load to be higher than the standard reducer will permit as shown in the Overhung Load rating tables on pages 14, 26, 34 and 44, the heavy overhung load type reducer should be specified. Consult LUFKIN for load ratings on the heavy overhung load reducers.

It might be that the actual load is also higher than the heavy overhung load capacity and in such an event it will be necessary to either increase the diameter of the pulley, sprocket or pinion, or go to the Outboard Bearing Type Assembly.

OUTBOARD BEARING ASSEMBLY

In the event the external load is excessive, the reducer shaft may be extended to an outboard bearing. The outboard bearing is supported by a pedestal which is generally built integral with the motor and reducer base. The bases for these units are made of fabricated steel, electric welded, and are especially built for each application.

When the actual overhung load is more than the capacity of the heavy overhung load type reducer, the outboard bearing assembly should be specified.

MOTOR BASES

If a Base for mounting the motor and reducer is desired, it is not necessary to make a selection of a Base. Bases are not made in specific sizes but are custom built for each application. This procedure is economical since the Bases are made of fabricated steel.

To obtain the proper Base on an order, it is only necessary that a certified setting plan for the motor be furnished.

EXAMPLES OF REDUCER SELECTION

Types S, M, D, T, and Q

Example 1

A gear reducer is required to drive a 4 cylinder reciprocating compressor. Electric motor input speed is 2400 RPM and reducer output speed is 600 RPM. Actual load is 500 HP, 24 hours per day.

Service factor: Refer to Table 1, Page 10, for Character of Load and Note that the multicylinder compressor is classified as Moderate Shock. In table 2, Page 10, the service factor for an electric motor operating 24 hours per day with a moderate shock load is 1.5.

Equivalent Horsepower = Service Factor × Actual HP Load = 1.5 x 500 = 750

$$\text{Gear Ratio} = \frac{\text{Input Speed, RPM}}{\text{Output Speed, RPM}} = \frac{2400}{600} = 4.0$$

Refer to the Rating Tables for type S Reducers on pages 11-14. Follow down the column showing a ratio nearest 4.0:1 and observe the horsepower ratings listed for 2400 RPM. Note that the reducer showing an equivalent or catalog rating equal to or greater than the 750 horsepower required is the 127C Reducer size. Note that the rating is printed in blue which requires a Type M Reducer. The proper selection is the M127C or the MF127C which has a catalog rating of 836 HP at a ratio of 4.09:1.

If a cast iron housing is acceptable, the M127C would be selected and if a fabricated housing is required, the MF127C would be selected.

Check the thermal horsepower capacity on Page 18 for the cast iron housing and Page 19 for the fabricated steel housing and note that the transmitted horsepower exceeds the thermal horsepower rating.

Since the thermal rating is less than the actual transmitted horsepower, a pump and cooler must be used.

The M127C or the MF127C with pump and cooler is the proper selection.

Example 2

A gear reducer having a ratio of 3.3:1 is desired to drive a single cylinder reciprocating compressor. The prime mover is a 1400 RPM multi-cylinder engine and will deliver 285 horsepower twenty-four hours a day.

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EXAMPLES (cont'd.)

Service Factor: From Table 1 the Character of the Load is Heavy Shock and from Table 2 the Service Factor is found to be 2.25.

Equivalent Horsepower = 2.25 × 285 = 641 HP.

Refer to the Rating Tables for Single Reduction units and observe that at a ratio of 3.36:1, the S127C or SF127C is the smallest reducer with a Catalog Rating of at least 641 horsepower at the desired ratio and speed. Since the input speed of 1400 RPM is not listed for the SF127C reducer, the approximate Catalog Rating can be found by direct interpolation as follows, observing that at 3.36:1 ratio it has a rating of 819 horsepower at 1750 RPM and at 1150 RPM it has a rating of 581 horsepower.

$$\frac{1400-1150}{1750-1150}\times(819-581)+581=680\ \text{HP}$$

Since a fabricated steel housing is required, check the Thermal Horsepower Rating on page 19. At 3.38:1 ratio the SF127C Reducer has a Thermal Rating less than 285 horsepower. Since the Thermal Rating is less than the actual transmitted horsepower, a pump and cooler must be used or the SF169C Reducer must be selected which has a Thermal Rating greater than the transmitted horsepower.

Example 3

A gear reducer is required to drive a belt conveyor delivering foundry sand. It is probable that the belt will not be loaded at a uniform rate. The prime mover is a 10 horsepower electric motor running 1750 RPM, but the actual load on the drive will not exceed 9 horsepower. The output gear shaft is to operate at approximately 14 RPM and will be equipped with 5.5″ pitch diameter sprocket. The conveyor will operate twenty-four hours per day.

Service Factor: From Table 1 the Character of Load is Moderate Shock and from Table 2 the Service Factor is 1.5.

Equivalent Horsepower = 1.5 x 9 = 13.5 HP.

(Note that the actual load to be transmitted and not the motor rating is multiplied by the Service Factor to get Equivalent Horsepower. However, if there is a possibility that the prime mover can deliver and the driven machine can absorb more horsepower than the actual load as calculated, the possibility of overload should be taken into account in making a reducer selection.)

$$\text{Gear Ratio}=\frac{1750\ \text{RPM}}{14\ \text{RPM}}=125$$

Refer to the Rating Tables for Type T Triple Reduction Units on pages 32-34. Under a ratio of 128.2 and at a speed of 1750 RPM it is found that the T170C Reducer has a mechanical rating of 18.9 horsepower which is satisfactory.

Check the overhung load on the slow speed shaft due to the chain drive:

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

$$=1\times\frac{126{,}000\times 9}{5.5\times 14}=14{,}850$$

Refer to the Overhung Load Table for Triple Reduction Reducers on page 34 and note that the capacity of the slow speed shaft on the T170C Reducer is 13,065 pounds which is less than the actual load imposed.

The T170C Reducer can be used if the Heavy Overhung Load unit is specified. Consult Lufkin for the actual overhung load capacity.

Example 4

A gear reducer is required to drive a uniformly fed belt conveyor requiring 95,000 inch pounds torque. Output speed is 9 RPM using a 1750 RPM motor. The conveyor will operate twenty-four hours per day.

Service Factor: From Table 1, the Character of Load is Uniform and from Table 2 the service factor is 1.25.

Equivalent Torque = 1.25 x 95,000 = 119,000 inch pounds.

$$\text{Gear Ratio}=\frac{1750}{9}=194.5$$

Refer to the Torque rating tables on pages 35-37 for Type T Reducers. Under a ratio of 198.2 it is found that the T195C Reducer has a torque rating of 125,000 inch pounds.

Checking the Thermal Rating of the reducer:

$$\text{H.P.}=\frac{\text{Transmitted Torque}\times\text{RPM}}{63{,}000}$$

$$\text{H.P.}=\frac{95{,}000\times 9}{63{,}000}=13.55\ \text{H.P.}$$

The Thermal Horsepower rating of the T195C is greater than the Mechanical Horsepower rating; therefore, the T195C is the proper selection.

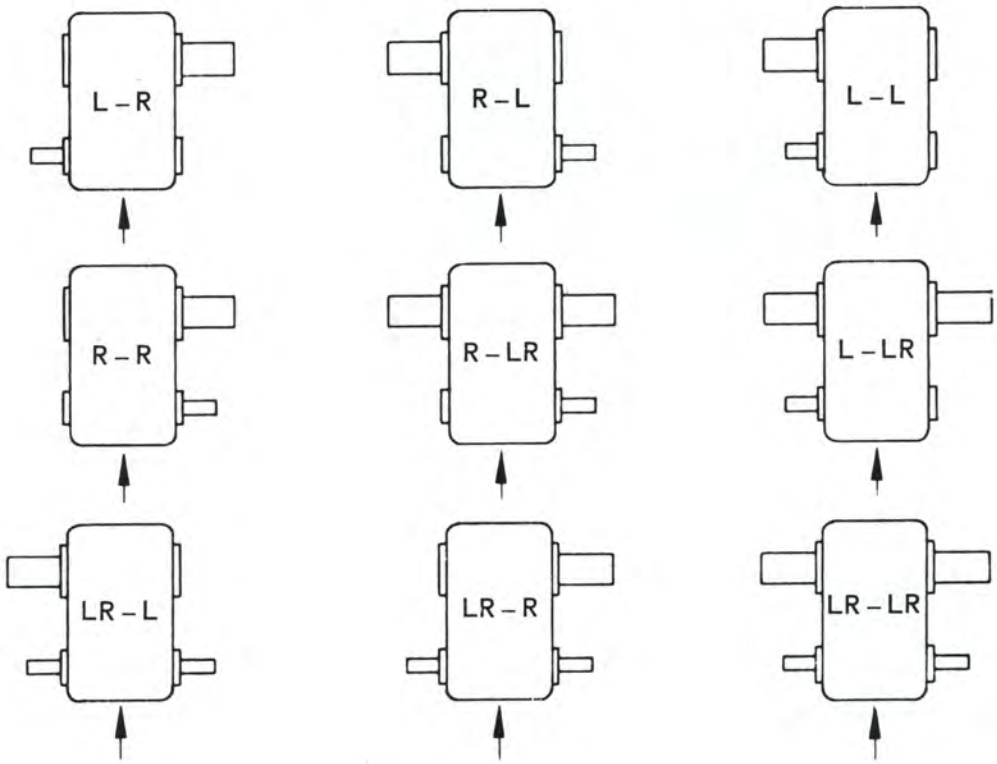
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INFORMATION REQUIRED WITH ORDER OR INQUIRY

The following information should be furnished with a request for a quotation or with a purchase order for a gear reducer in order that we may furnish your exact requirement promptly without the delay of having to request additional information:

1. Actual horsepower to be transmitted, maximum torque load due to starting or stall condition, and frequency of maximum torque condition.
2. Speed of prime mover and driven machine, or speed of either shaft and gear ratio.
3. Type of prime mover (if engine, give number of cylinders).
4. Type of driven machine.
5. Number of hours per day reducer to be in continuous operation.
6. Direction of rotation (clockwise or counterclockwise, looking at extended end of high speed shaft).
7. Type of shaft connection (coupling, pulley, sprocket or gear).
8. If flexible couplings also purchased from us furnish diameter and key dimensions of connecting shafts.
9. If connection other than direct through coupling, furnish diameter of pulley, sprocket or gear, and give approximate direction of external load.
10. Shaft extensions should be specified per shaft arrangement designations shown below.
11. If Motor Base required, furnish certified bolting layout for motor.
12. Report any unusual conditions of installation or operation.

SHAFT ARRANGEMENT
Types S, M, D, T, and Q REDUCERS



NOTES:

1. Code: L = Left; R = Right.
2. Arrows indicate line of sight to determine direction of shaft extensions.
3. Letters preceding the hyphen refer to number and direction of high-speed shaft extensions.
4. Letters following the hyphen refer to number and direction of low-speed shaft extensions.

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SERVICE FACTORS FOR SPEED REDUCER SELECTION

Table 1 below is to be used as a guide for determining the Character of Load imposed on a gear reducer by a representative group of machines generally driven by Gear Reducers. It would be impractical, of course, to list here every machine that might conceivably be driven by a Gear Reducer. It is believed, however, that the list is sufficiently complete so that if a particular machine is not listed it can be determined, by comparison, the character of the load to be imposed on that drive.

For an explanation of the use of these tables in connection with the selection of a Gear Reducer, see pages 6 and 7.

Guide for Selecting Character of Load—Table 1

UNIFORM LOAD

Agitators
- Pure Liquids

Blowers
- Centrifugal
- Vane

Clarifiers

Compressors
- Centrifugal

Conveyors
- (Uniformly Loaded or Fed)
- Apron
- Assembly
- Belt
- Bucket
- Chain
- Flight
- Oven
- Screw

Cranes
- Main Hoists

Elevators
- Bucket—Uniform Load
- Bucket—Continuous
- Centrifugal Discharge
- Escalators
- Gravity Discharge

Extruder
- Light Duty

Fans
- Centrifugal
- Light

Feeders
- Disc

Generators

Line Shafts
- Light

Machine Tools
- Auxiliary Drives

Mixers
- Constant Density

Paper Mills
- Bleacher
- Conveyors
- Presses
- Suction Roll
- Winders

Pumps
- Centrifugal
- Rotary

Rubber and Plastics Industries
- Rubber Mill (3 on line)

Sewage Disposal Equipment
- Bar Screens
- Chemical Feeders
- Collectors

Screens
- Air Washing
- Traveling Water Intake

Stokers

MODERATE SHOCK LOAD

Agitators
- Liquids and Solids
- Liquids—Variable Density

Blowers
- Lobe

Cane Knives

Classifiers

Compressors
- Lobe
- Reciprocating, Multi-Cylinder

Conveyors—(Heavy Duty Not Uniformly Fed)
- Apron
- Assembly
- Belt
- Bucket
- Chain
- Flight
- Oven
- Screw

Crusher
- Sugar

Dredges
- Cable Reels
- Conveyors
- Maneuvering Winches
- Pumps
- Stackers
- Utility Winches

Elevators
- Bucket—Heavy Load
- Freight

Extruder
- Constant Duty

Fans
- Cooling Tower
- Induced Draft
- Large

Feeders
- Apron
- Belt
- Screw

Hoists
- Medium Duty
- Skip

Line Shafts
- Processing Equipment

Lumber Industry
- Barkers—Spindle Feed
- Conveyors—Burner
- Merry-go-Round
- Transfer
- Chains—Green
- Cut-Off Saws
- Feeds-Edger, Trimmer
- Planer Feed
- Sorting Table
- Tipple Hoist
- Transfers, Chain, Craneway
- Tray Drives

Machine Tools
- Bending Roll
- Main Drives

Metal Mills
- Draw Bench, Carriage and Main Drive
- Slitters
- Wire Drawing and Flattening Machine
- Wire Winding Machine

Mills, Rotary Type
- Ball
- Cement Kilns
- Dryers and Coolers
- Kilns
- Pebble
- Rod, Plain and Wedge Bar
- Rubber

Mixers
- Concrete
- Variable Density

Paper Mills
- Agitators
- Barker

Paper Mills (Cont'd)
- Beater and Pulper
- Calenders
- Converting Machine except Cutters, Platers
- Couch
- Cylinders
- Dryers
- Felt Stretchers
- Pulp Machine Reel
- Stock Chests
- Washers and Thickeners

Pumps
- Proportioning
- Reciprocating (3 or more cylinders)

Rubber & Plastics Industries
- Laboratory Equipment
- Refiners
- Rubber Calenders
- Rubber Mill (2 on line)
- Sheeter
- Tubers and Strainers
- Warming Mills

Sand Muller

Sewage Disposal Equipment
- Dewatering Screws
- Scum Breakers
- Slow or Rapid Mixers
- Thickeners
- Vacuum Filters

Screens
- Rotary-Stone or Gravel

Slab Pushers

Sugar Industry
- Cane Knives
- Crushers
- Mills

Textile Machinery

HEAVY SHOCK LOAD

Compressors
- Reciprocating, Single-Cylinder

Conveyors—Heavy Duty
- Shaker

Crushers
- Ore
- Stone

Dredges
- Cutter Head Drives
- Jig Drives
- Screen Drives

Feeders
- Reciprocating

Hammer Mills

Hoists
- Heavy Duty

Lumber Industry
- Barkers—Main Drive
- Conveyors—Main Log
- Conveyors—Slab
- Debarking Drums
- Feeds—Gang
- Log Deck
- Log Hauls—Incline-Well Type
- Log Turning Devices
- Rolls-Live-Off Brg.-Roll Cases

Machine Tools
- Punch Press
- Plate Planers
- Tapping Machine

Metal Mills
- Table Conveyors non-reversing, Individual drives

Mills, Rotary Type
- Tumbling Barrels

Paper Mills
- Barking Drum
- Calenders—Super
- Cutters—Platers
- Felt Whippers
- Jordans
- Log Hauls

Pullers
- Barge Haul

Rubber and Plastics Industries
- Crackers
- Mixing Mills

Service Factors—Table 2

Prime Mover	DURATION OF SERVICE	Character of Load on Driven Machine		
		Uniform	Moderate Shock	Heavy Shock
Electric Motor or Turbine	*Occasional ½ Hour per Day	0.50	0.80	1.25
	*Intermittent 3 Hours per Day	0.80	1.00	1.50
	Up to 10 Hours per Day	1.00	1.25	1.75
	24 Hours per Day	1.25	1.50	2.00
Multi-Cylinder Internal Combustion Engine	*Occasional ½ Hour per Day	0.80	1.00	1.50
	*Intermittent 3 Hours per Day	1.00	1.25	1.75
	Up to 10 Hours per Day	1.25	1.50	2.00
	24 Hours per Day	1.50	1.75	2.25
Single Cylinder Internal Combustion Engine	*Occasional ½ Hour per Day	1.00	1.25	1.75
	*Intermittent 3 Hours per Day	1.25	1.50	2.00
	Up to 10 Hours per Day	1.50	1.75	2.25
	24 Hours per Day	1.75	2.00	2.50

* Maximum momentary or starting load must not exceed 275 percent of gear reducer rating (rating meaning Service Factor of 1).

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HORSEPOWER RATING TABLES

TYPE S AND M—SINGLE REDUCTION UNITS

The Horsepower Ratings listed in the tables below are Mechanical ratings calculated by the A.G.M.A. formula using a Service Factor of 1. See pages 6-8 for information on selecting reducers. See page 18 and 19 for Thermal Horsepower Ratings.

Size No. S64C and M64C

Motor R.P.M.	STANDARD RATIOS 1.23	1.51	1.84	2.24	2.77	3.36	4.14	5.00	6.20	7.47
3600	...	532	459	389	316	255	196	152	111	83.8
3000	519	462	398	337	273	220	169	131	95.7	71.8
2400	436	388	333	281	228	183	141	109	79.2	59.4
2000	377	335	288	243	196	157	121	93.0	67.8	50.7
1750	339	301	258	217	175	141	108	83.0	60.4	45.1
1150	240	213	182	153	123	98.3	75.0	57.6	41.7	31.1
870	190	168	144	120	96.6	77.1	58.7	45.0	32.5	24.2
720	162	143	122	102	81.8	65.2	49.6	37.9	27.4	20.4
580	135	119	101	84.4	67.6	53.8	40.8	31.2	22.5	16.7
High Speed Shaft Diameter	2	2	2	1¾	1¾	1½	1½	1¼	1¼	1¼

Size No. S85C and M85C

Motor R.P.M.	STANDARD RATIOS 1.23	1.49	1.87	2.29	2.76	3.36	4.16	5.07	6.11	7.73
3600	...	...	...	773	647	524	405	313	242	169
3000	...	...	806	672	561	453	350	270	208	146
2400	891	805	677	564	470	379	292	225	173	121
2000	774	698	586	487	406	327	251	193	148	103
1750	697	628	527	437	364	293	225	173	132	92.0
1150	498	448	374	310	257	206	158	121	92.0	63.8
870	396	355	296	245	203	162	124	94.5	72.0	49.7
720	338	303	252	208	172	137	105	79.9	60.8	41.9
580	282	252	210	173	142	114	86.5	65.9	50.1	34.5
High Speed Shaft Diameter	2½	2½	2¼	2¼	2¼	2¼	2	2	2	2

Size No. S106C and M106C

Motor R.P.M.	STANDARD RATIOS 1.22	1.50	1.86	2.24	2.75	3.38	4.16	5.00	6.14	7.46
3600	...	...	...	...	...	909	710	561	423	319
3000	...	...	...	1204	981	789	615	486	365	275
2400	...	...	1197	1013	824	662	515	405	304	228
2000	1361	1203	1039	878	714	572	444	349	261	196
1750	1228	1084	936	790	641	513	398	313	234	175
1150	882	777	668	562	455	362	280	219	163	122
870	704	619	531	446	360	286	221	172	128	95.3
720	603	529	453	380	306	243	187	146	108	80.5
580	503	441	378	316	254	202	155	121	89.4	66.3
High Speed Shaft Diameter	3	3	3	3	3	2⅝	2⅝	2¼	2¼	2¼

Size No. S127C, SF127C, M127C and MF127C

Motor R.P.M.	STANDARD RATIOS 1.23	1.46	1.86	2.24	2.75	3.36	4.09	5.00	6.11	7.64
3600	....	....	....	....	....	....	1148	882	673	487
3000	....	....	....	....	....	1252	997	765	582	420
2400	....	....	....	1597	1301	1053	836	640	486	350
2000	....	....	1639	1387	1129	911	723	552	418	301
1750	1918	1733	1478	1250	1016	819	649	495	375	269
1150	1385	1248	1060	893	723	581	459	349	263	188
870	1109	998	845	711	574	460	362	275	207	174
720	951	855	723	607	490	392	308	233	175	125
580	796	714	603	506	407	326	256	193	145	103
High Speed Shaft Diameter	3½	3¼	3¼	3¼	3¼	3¼	3	3	2⅝	2⅝

Size No. S148C, SF148C, M148C and MF148C

Motor R.P.M.	STANDARD RATIOS 1.24	1.49	1.87	2.29	2.78	3.38	4.09	5.00	6.26	7.62
3600	....	....	....	....	....	....	....	1295	957	722
3000	....	....	....	....	....	....	1464	1125	829	625
2400	....	....	....	....	1908	1537	1231	943	693	521
2000	....	....	....	1982	1658	1333	1066	815	598	449
1750	....	....	2144	1787	1493	1200	958	732	536	402
1150	2056	1838	1544	1283	1068	855	680	517	377	282
870	1650	1472	1234	1023	849	678	538	409	297	221
720	1417	1263	1057	875	726	579	458	347	252	188
580	1189	1058	884	730	605	481	381	288	209	155
High Speed Shaft Diameter	3¾	3¾	3½	3½	3½	3½	3½	3¼	3¼	3

Horsepower ratings shown in blue are for Type M Reducers.
Ratios listed are standard but intermediate ratios are available.
Ratings for intermediate ratios and speeds may be found by direct interpolation.
All units may be operated at speeds lower than the minimum shown. The selection of a reducer for a lower speed may be accomplished by multiplying the desired horsepower by the lowest RPM shown and dividing by the desired RPM. The result will be the equivalent horsepower at lowest RPM shown which can be found in the above tables.

HORSEPOWER

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HORSEPOWER RATING TABLES (Cont'd.)

TYPE S AND M—SINGLE REDUCTION UNITS

Size No. S169C, SF169C, M169C and MF169C

Motor R.P.M.	STANDARD RATIOS 1.24	1.49	1.87	2.28	2.76	3.41	4.16	5.00	6.11	7.62
3600	....	....	....	....	....	....	....	....	1378	1008
3000	....	....	....	....	....	....	1987	1583	1196	873
2400	....	....	....	....	....	2097	1673	1330	1002	730
2000	....	....	....	....	2310	1821	1450	1151	866	629
1750	....	....	....	2529	2083	1640	1305	1034	777	564
1150	2865	2563	2155	1821	1495	1172	929	733	549	396
870	2304	2058	1726	1456	1192	932	737	581	433	312
720	1982	1768	1481	1247	1020	796	628	494	368	265
580	1665	1483	1240	1042	851	663	522	410	305	219
High Speed Shaft Diameter	4¼	4¼	4¼	3¾	3¾	3¾	3½	3½	3½	3½

Size No. S1810C, SF1810C, M1810C and MF1810C

Motor R.P.M.	STANDARD RATIOS 1.51	1.86	2.23	2.79	3.36	4.14	5.00	6.20	7.64	....
3600	....	....	....	....	....	....	....	1821	1340	....
3000	....	....	....	....	....	....	2108	1582	1162	....
2400	....	....	....	....	....	2233	1774	1328	973	....
2000	....	....	....	3087	2504	1939	1537	1149	840	....
1750	....	....	....	2787	2258	1746	1382	1032	753	....
1150	3385	2925	2493	2005	1619	1246	983	731	531	....
870	2723	2348	1997	1602	1290	991	780	578	419	....
720	2343	2017	1713	1372	1103	846	665	491	356	....
580	1968	1692	1435	1147	920	704	552	408	295	....
High Speed Shaft Diameter	4½	4½	4¼	4¼	4¼	3¾	3½	3½	3½	....

Size No. S2011C, SF2011C, M2011C and MF2011C

Motor R.P.M.	STANDARD RATIOS 1.50	1.86	2.24	2.78	3.32	4.16	5.06	6.14	7.57	....
3600	....	....	....	....	....	....	....	....	1776	....
3000	....	....	....	....	....	....	....	2068	1542	....
2400	....	....	....	....	....	2903	2281	1739	1293	....
2000	....	....	....	....	3317	2523	1979	1506	1118	....
1750	....	....	....	3613	2993	2273	1781	1354	1003	....
1150	4449	3792	3208	2607	2153	1627	1270	961	709	....
870	3585	3049	2574	2086	1719	1296	1009	761	560	....
720	3089	2623	2211	1789	1472	1107	860	648	476	....
580	2598	2203	1854	1497	1229	923	716	539	395	....
High Speed Shaft Diameter	5	5	4½	4½	4½	4¼	4¼	3¾	3¾	....

Size No. S2212C, SF2212C, M2212C and MF2212C

Motor R.P.M.	STANDARD RATIOS 1.50	1.82	2.22	2.77	3.40	4.18	5.07	6.10	7.46	....
3600	....	....	....	....	....	....	....	....	2281	....
3000	....	....	....	....	....	....	....	2662	1982	....
2400	....	....	....	....	....	....	2852	2241	1665	....
2000	....	....	....	....	....	3199	2477	1943	1441	....
1750	....	....	....	....	3677	2885	2231	1748	1294	....
1150	....	4841	4132	3303	2650	2070	1595	1244	917	....
870	4507	3900	3321	2648	2119	1651	1268	987	726	....
720	3888	3359	2856	2273	1816	1412	1083	842	618	....
580	3274	2824	2397	1904	1518	1178	902	700	513	....
High Speed Shaft Diameter	5½	5½	5½	4½	4½	4½	4½	4¼	3¾	....

Size No. SF2413C and MF2413C

Motor R.P.M.	STANDARD RATIOS 1.50	1.86	2.24	2.79	3.36	4.09	5.00	6.11	7.57	....
3000	....	....	....	....	....	....	....	....	2419	....
2400	....	....	....	....	....	....	....	2742	2034	....
2000	....	....	....	....	....	4054	3149	2379	1761	....
1750	....	....	....	....	....	3660	2839	2142	1583	....
1150	....	....	5033	4096	3315	2633	2034	1528	1124	....
870	5626	4792	4051	3288	2655	2103	1620	1213	890	....
720	4857	4131	3487	2825	2277	1801	1385	1035	758	....
580	4095	3477	2930	2369	1906	1505	1155	862	630	....
High Speed Shaft Diameter	6	5¾	5½	5½	5½	5½	4½	4½	4¼	....

Horsepower ratings shown in blue are for Type M Reducers.
Ratios listed are standard but intermediate ratios are available.
Ratings for intermediate ratios and speeds may be found by direct interpolation.
All units may be operated at speeds lower than the minimum shown. The selection of a reducer for a lower speed may be accomplished by multiplying the desired horsepower by the lowest RPM shown and dividing by the desired RPM. The result will be the equivalent horsepower at lowest RPM shown which can be found in the above tables.

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HORSEPOWER RATING TABLES (Cont'd.)

TYPE S AND M—SINGLE REDUCTION UNITS

Size No. SF2714C and MF2714C

Motor R.P.M.	STANDARD RATIOS 1.51	1.84	2.21	2.75	3.35	4.06	5.09	6.20	7.64	....
3000	....	....	....	....	....	....	....	....	3085	....
2400	....	....	....	....	....	....	....	3530	2598	....
2000	....	....	....	....	....	....	3995	3067	2252	....
1750	....	....	....	....	....	4797	3604	2763	2026	....
1150	....	....	....	5397	4319	3462	2588	1976	1442	....
870	7231	6238	5401	4342	3465	2771	2065	1572	1144	....
720	6251	5385	4656	3736	2977	2376	1767	1343	976	....
580	5278	4539	3919	3138	2496	1988	1476	1119	811	....
High Speed Shaft Diameter	6½	6½	6	5¾	5½	5	4½	4½	4½	....

Size No. SF3015C and MF3015C

Motor R.P.M.	STANDARD RATIOS 1.50	1.86	2.24	2.75	3.41	4.17	5.00	6.24	7.57	....
2400	....	....	....	....	....	....	....	....	3373	....
2000	....	....	....	....	....	....	....	3853	2928	....
1750	....	....	....	....	....	....	4683	3474	2636	....
1150	....	....	....	6791	5427	4233	3374	2491	1882	....
870	....	7937	6721	5473	4362	3392	2697	1985	1496	....
720	8051	6860	5800	4715	3751	2912	2312	1698	1277	....
580	6809	5791	4888	3966	3148	2439	1933	1417	1063	....
High Speed Shaft Diameter	7¼	7	6½	6	5¾	5¾	5	5	5	....

Size No. SF3318C and MF3318C

Motor R.P.M.	STANDARD RATIOS 1.48	1.81	2.22	2.77	3.34	4.16	5.00	6.33	7.56	....
2400	....	....	....	....	....	....	....	....	4608	....
2000	....	....	....	....	....	....	....	5131	4004	....
1750	....	....	....	....	....	....	....	4630	3609	....
1150	....	....	....	....	7649	5860	4650	3327	2583	....
870	....	....	9342	7478	6159	4705	3724	2655	2056	....
720	....	9647	8072	6449	5303	4043	3194	2273	1757	....
580	9269	8156	6812	5431	4458	3391	2674	1898	1465	....
High Speed Shaft Diameter	9	7¾	7¾	7	6½	6	5¾	5¾	5	....

Size No. SF3824C and MF3824C

Motor R.P.M.	STANDARD RATIOS 1.48	1.85	2.26	2.80	3.34	4.14	5.13	6.13	7.58	....
2000	....	....	....	....	....	....	....	....	6548	....
1750	....	....	....	....	....	....	....	7981	5907	....
1150	....	....	....	....	....	9698	7299	5760	4243	....
870	....	....	....	12164	9973	7805	5857	4610	3386	....
720	....	....	12784	10507	8601	6718	5031	3954	2897	....
580	15235	12897	10807	8864	7244	5646	4218	3309	2419	....
High Speed Shaft Diameter	9 7/16	9 7/16	9 7/16	9 7/16	7¾	7	6½	6½	6	....

Size No. SF4427C and MF4427C

Motor R.P.M.	STANDARD RATIOS 2.21	2.77	3.38	4.08	5.15	6.15	7.61	....	....	....
1750	....	....	....	....	....	....	8044	....	....	....
1150	....	....	....	....	9670	7860	5799	....	....	....
870	....	....	13123	10602	7779	6306	4638	....	....	....
720	....	14175	11336	9142	6693	5417	3976	....	....	....
580	14157	11983	9564	7698	5622	4541	3325	....	....	....
400	10575	8919	7095	5692	4139	3333	2432	....	....	....
200	6003	5031	3979	3174	2292	1836	1331	....	....	....
High Speed Shaft Diameter	10	9 7/16	9 7/16	9 7/16	7¾	7	6½	....	....	....

Horsepower ratings shown in blue are for Type M Reducers.
Ratios listed are standard but intermediate ratios are available.
Ratings for intermediate ratios and speeds may be found by direct interpolation.
All units may be operated at speeds lower than the minimum shown. The selection of a reducer for a lower speed may be accomplished by multiplying the desired horsepower by the lowest RPM shown and dividing by the desired RPM. The result will be the equivalent horsepower at lowest RPM shown which can be found in the above tables.

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HORSEPOWER RATING TABLES (Cont'd.)

TYPE S AND M—SINGLE REDUCTION UNITS

Size No. SF5230C and MF5230C

Motor R.P.M.	STANDARD RATIOS									
	2.27	2.79	3.36	4.16	4.97	6.24	7.54	....	....	....
1150	....	....	....	....	....	11182	8482	....	....	....
870	....	....	....	15383	12197	8995	6804	....	....	....
720	....	....	16330	13288	10518	7740	5843	....	....	....
580	20956	17047	13808	11211	8857	6501	4898	....	....	....
400	15707	12735	10282	8317	6550	4788	3595	....	....	....
200	8970	7230	5805	4665	3653	2652	1979	....	....	....
High Speed Shaft Diameter	11¾	11	10	9 7/16	9 7/16	7¾	7¼	....	....	....

Size No. SF6033C and MF6033C

Motor R.P.M.	STANDARD RATIOS									
	2.25	2.77	3.37	4.19	5.14	6.13	7.63	....	....	....
1150	....	....	....	....	....	....	11945	....	....	....
870	....	....	....	....	16694	13055	9604	....	....	....
720	....	....	....	17963	14416	11254	8261	....	....	....
580	....	24651	19842	15183	12158	9473	6936	....	....	....
400	22773	18477	14822	11298	9013	7000	5104	....	....	....
200	13086	10553	8416	6371	5050	3899	2824	....	....	....
High Speed Shaft Diameter	13	12½	11¾	10	9 7/16	9 7/16	7¾	....	....	....

Horsepower ratings shown in blue are for Type M Reducers.
Ratios listed are standard but intermediate ratios are available.
Ratings for intermediate ratios and speeds may be found by direct interpolation.
All units may be operated at speeds lower than the minimum shown. The selection of a reducer for a lower speed may be accomplished by multiplying the desired horsepower by the lowest RPM shown and dividing by the desired RPM. The result will be the equivalent horsepower at lowest RPM shown which can be found in the above tables.

OVERHUNG LOAD CAPACITIES

SLOW SPEED SHAFTS

The table below shows moderate overhung load capacities for standard Type S Reducers. It is assumed that the external load is acting one shaft diameter out from the seal. Special Heavy Overhung Load capacity reducers are available if actual loading exceeds the tabulated values. Consult us for recommendations.
The table below does not apply for double extended slow speed shafts. Present your application to us for recommendations.
The actual load imposed on a shaft for a given condition of service may be determined by the formula on the bottom of page 6. For unusual conditions or in case of doubt present your problems to us for recommendations.
Overhung load capacities are figured at the highest speed shown in horsepower rating tables for each size reducer.

Reducer Number	REDUCTION RATIOS									
	1.22	1.50	1.84	2.25	2.76	3.38	4.13	5.06	6.20	7.59
64C	2495	2715	2965	3230	3545	3830	3830	3830	3830	3830
85C	3720	4020	4455	4885	5295	5755	6285	6795	6940	6940
106C	3635	4290	4760	5240	5810	6395	7025	7595	8260	8910
127C	4130	4605	4550	5150	5855	6540	7250	8020	8785	9655
148C	7735	8450	9455	9100	9955	10915	1880	12960	14190	15300
169C	8665	8655	9830	10920	10535	11750	12895	14005	15285	16705
1810C	....	12140	12255	13530	15180	14545	16090	17480	19135	20830
2011C	....	11090	12760	13020	14775	16310	16050	17640	19310	21110
2212C	....	8070	8935	10500	11345	13080	14905	16675	18310	20170
2413C	....	7240	8472	10347	11143	13038	14927	16883	18895	20885
2714C	....	5267	6844	8097	10772	11929	14038	16413	18565	20813
3015C	....	4550	7141	10449	12754	15878	17248	19846	22784	25478
3318C	....	....	11872	14883	18188	21845	23805	27284	31406	34803
3824C	....	....	....	18481	22424	26245	32064	34629	39324	44505
4427C	....	....	....	35329	35449	39639	43058	50401	50944	57137
5230C	....	....	....	41889	51919	53622	56670	60905	69424	70737
6033C	....	....	....	36610	49675	62021	65586	69304	74183	83926

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OUTPUT TORQUE RATING TABLES

1000 INCH POUNDS

TYPE S AND M—SINGLE REDUCTION UNITS

The Output Torque Ratings listed in the tables below are calculated using a Service Factor of 1. See pages 6-8 for information on selecting reducers. See page 18 and 19 for Thermal Horsepower Ratings.

Size No. S64C and M64C

Motor R.P.M.	STANDARD RATIOS									
	1.23	1.51	1.84	2.24	2.77	3.36	4.14	5.00	6.20	7.47
3600	....	14.0	14.7	15.2	15.3	15.0	14.2	13.3	12.0	10.9
3000	13.4	14.6	15.3	15.8	15.8	15.5	14.7	13.7	12.4	11.2
2400	14.1	15.3	16.1	16.5	16.5	16.1	15.2	14.2	12.8	11.6
2000	14.6	15.9	16.6	17.1	17.1	16.6	15.7	14.6	13.2	11.9
1750	15.0	16.3	17.1	17.5	17.5	17.0	16.0	14.9	13.4	12.1
1150	16.2	17.6	18.3	18.7	18.6	18.1	17.0	15.7	14.1	12.7
870	16.9	18.4	19.1	19.5	19.3	18.7	17.5	16.2	14.5	13.0
720	17.4	18.9	19.6	20.0	19.8	19.1	17.9	16.6	14.8	13.3
580	18.0	19.4	20.2	20.5	20.3	19.6	18.3	16.9	15.1	13.5

Size No. S85C and M85C

Motor R.P.M.	STANDARD RATIOS									
	1.23	1.49	1.87	2.29	2.76	3.36	4.16	5.07	6.11	7.73
3600	....	....	....	31.0	31.3	30.8	29.5	27.8	25.8	22.9
3000	....	....	31.6	32.3	32.5	32.0	30.6	28.7	26.7	23.6
2400	28.8	31.4	33.2	33.9	34.1	33.4	31.9	29.9	27.7	24.4
2000	30.0	32.7	34.5	35.2	35.3	34.6	32.9	30.8	28.5	25.1
1750	30.9	33.6	35.5	36.1	36.2	35.4	33.7	31.5	29.1	25.6
1150	33.6	36.5	38.3	38.9	38.8	37.9	35.9	33.4	30.8	26.9
870	35.3	38.3	40.1	40.6	40.5	39.4	37.2	34.6	31.8	27.8
720	36.4	39.4	41.3	41.7	41.6	40.4	38.1	35.4	32.5	28.3
580	37.6	40.7	42.6	43.0	42.7	41.4	39.1	36.2	33.2	28.9

Size No. S106C and M106C

Motor R.P.M.	STANDARD RATIOS									
	1.22	1.50	1.86	2.24	2.75	3.38	4.16	5.00	6.14	7.46
3600	....	....	....	....	....	53.6	51.7	49.1	45.4	41.6
3000	....	....	....	56.6	56.6	55.9	53.7	50.9	47.1	43.0
2400	....	....	58.3	59.6	59.5	58.6	56.2	53.2	49.0	44.6
2000	52.3	56.8	60.8	62.0	61.8	60.7	58.1	54.9	50.5	46.0
1750	54.0	58.5	62.5	63.8	63.4	62.3	59.5	56.2	51.6	46.9
1150	59.0	63.8	67.9	69.1	68.4	67.0	63.8	60.0	54.9	49.7
870	62.3	67.2	71.4	72.4	71.6	69.9	66.4	62.3	56.9	51.4
720	64.4	69.4	73.6	74.6	73.7	71.8	68.1	63.9	58.2	52.5
580	66.8	71.8	76.1	77.0	75.9	73.9	70.0	65.5	59.6	53.7

Size No. S127C, SF127C, M127C and MF127C

Motor R.P.M.	STANDARD RATIOS									
	1.23	1.46	1.86	2.24	2.75	3.36	4.09	5.00	6.11	7.64
3600	....	....	....	....	....	....	82.2	77.2	71.9	65.0
3000	....	....	....	....	....	88.4	85.6	80.2	74.6	67.3
2400	....	....	....	94.0	93.9	92.9	89.8	83.9	77.9	70.1
2000	....	....	95.8	98.0	97.7	96.5	93.1	86.9	80.5	72.3
1750	85.1	91.2	98.8	100	100	99.1	95.5	89.0	82.3	73.9
1150	93.5	99.9	107	109	108	107	102	95.4	87.9	78.6
870	98.9	105	113	115	114	112	107	99.4	91.4	81.4
720	102	109	117	119	117	115	110	102	93.6	83.3
580	106	113	121	123	121	118	113	104	96.0	85.2

Size No. S148C, SF148C, M148C and MF148C

Motor R.P.M.	STANDARD RATIOS									
	1.24	1.49	1.87	2.29	2.78	3.38	4.09	5.00	6.26	7.62
3600	....	....	....	....	....	....	....	113	104	96.2
3000	....	....	....	....	....	....	125	118	108	99.8
2400	....	....	....	....	139	136	132	123	113	104
2000	....	....	....	143	145	141	137	128	117	107
1750	....	....	144	147	149	145	141	131	120	110
1150	139	149	158	161	162	158	152	141	129	117
870	148	158	167	169	171	165	159	147	134	122
720	153	164	173	175	176	170	164	151	138	124
580	160	171	179	181	182	176	169	156	141	128

Torque ratings shown in blue are for Type M Reducers.
Ratings shown are in thousands of in. lbs. at low speed shaft.
Ratings for intermediate ratios and speeds may be found by direct interpolation.
For input speeds lower than speeds shown, use torque rating for minimum speed shown in table.

TORQUE

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OUTPUT TORQUE RATING TABLES (cont'd.)

1000 INCH POUNDS

TYPE S AND M—SINGLE REDUCTION UNITS

Size No. S169C, SF169C, M169C and MF169C

Motor R.P.M.	STANDARD RATIOS									
	1.24	1.49	1.87	2.28	2.76	3.41	4.16	5.00	6.11	7.62
3600	...	...	...	...	...	...	...	...	147	134
3000	...	...	...	...	...	...	176	166	153	139
2400	...	...	...	...	...	187	182	174	160	145
2000	...	...	...	...	201	195	190	181	166	150
1750	...	...	...	207	207	201	195	186	170	154
1150	194	209	221	227	226	219	211	200	183	165
870	206	221	234	240	238	230	222	210	191	172
720	215	230	242	249	246	237	228	216	196	176
580	224	239	252	258	255	245	236	222	202	181

Size No. S1810C, SF1810C, M1810C and MF1810C

Motor R.P.M.	STANDARD RATIOS									
	1.51	1.86	2.23	2.79	3.36	4.14	5.00	6.20	7.64	....
3600	...	...	...	...	...	...	...	197	179	...
3000	...	...	...	...	...	...	221	206	186	...
2400	...	...	...	...	...	242	232	216	195	...
2000	...	...	...	271	265	253	242	224	202	...
1750	...	...	...	279	273	260	248	230	207	...
1150	280	298	304	306	298	282	269	248	222	...
870	298	316	322	323	314	297	282	259	231	...
720	309	328	334	334	324	306	290	266	237	...
580	323	342	347	347	336	316	299	274	244	...

Size No. S2011C, SF2011C, M2011C and MF2011C

Motor R.P.M.	STANDARD RATIOS									
	1.50	1.86	2.24	2.78	3.32	4.16	5.06	6.14	7.57	...
3600	...	...	...	...	...	...	...	...	235	...
3000	...	...	...	...	...	...	...	266	245	...
2400	...	...	...	...	...	317	303	280	257	...
2000	...	...	...	...	347	330	315	291	266	...
1750	...	...	...	362	358	340	324	299	273	...
1150	365	385	394	397	392	370	352	323	294	...
870	389	410	418	420	413	390	369	338	307	...
720	405	426	433	435	428	403	381	348	315	...
580	423	444	451	452	443	417	393	359	324	...

Size No. S2212C, SF2212C, M2212C and MF2212C

Motor R.P.M.	STANDARD RATIOS									
	1.50	1.82	2.22	2.77	3.40	4.18	5.07	6.10	7.46	...
3600	...	...	...	...	...	...	...	...	297	...
3000	...	...	...	...	...	...	...	340	310	...
2400	...	...	...	...	...	...	379	358	326	...
2000	...	...	...	...	...	420	359	373	338	...
1750	...	...	...	...	450	443	407	383	347	...
1150	...	482	502	501	493	473	442	415	374	...
870	489	514	533	531	521	499	465	435	392	...
720	510	535	554	551	540	515	480	448	403	...
580	533	558	577	573	560	534	496	463	415	...

Size No. SF2413C and MF2413C

Motor R.P.M.	STANDARD RATIOS									
	1.50	1.86	2.24	2.79	3.36	4.09	5.00	6.11	7.57	...
3000	...	...	...	...	...	...	...	...	385	...
2400	...	...	...	...	...	...	...	440	404	...
2000	...	...	...	...	...	523	496	458	420	...
1750	...	...	...	...	...	539	511	471	432	...
1150	...	...	619	626	611	590	557	512	466	...
870	611	645	658	664	647	623	587	537	488	...
720	638	671	684	690	670	645	606	554	503	...
580	667	702	714	718	697	669	627	572	518	...

Torque ratings shown in blue are for Type M Reducers.
Ratings shown are in thousands of in. lbs. at low speed shaft.
Ratings for intermediate ratios and speeds may be found by direct interpolation.
For input speeds lower than speeds shown, use torque rating for minimum speed shown in table.

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OUTPUT TORQUE RATING TABLES (cont'd.)

1000 INCH POUNDS

TYPE S AND M—SINGLE REDUCTION UNITS

Size No. SF2714C and MF2714C

Motor R.P.M.	STANDARD RATIOS									
	1.51	1.84	2.21	2.75	3.35	4.06	5.09	6.20	7.64	...
3000	....	....	....	....	....	....	....	....	495	....
2400	....	....	....	....	....	....	....	575	521	....
2000	....	....	....	....	....	....	641	599	542	....
1750	....	....	....	....	....	702	661	617	557	....
1150	....	....	....	813	794	771	723	671	604	....
870	792	832	866	865	842	815	762	706	633	....
720	827	868	902	899	874	845	788	729	653	....
580	867	908	943	938	910	878	817	754	674	....

Size No. SF3015C and MF3015C

Motor R.P.M.	STANDARD RATIOS									
	1.50	1.86	2.24	2.75	3.41	4.17	5.00	6.24	7.57	....
2400	....	....	....	....	....	....	....	....	670	....
2000	....	....	....	....	....	....	....	758	698	....
1750	....	....	....	....	....	....	843	781	719	....
1150	....	....	....	1023	1014	968	924	852	781	....
870	....	1068	1092	1090	1078	1025	977	898	820	....
720	1057	1115	1139	1135	1120	1063	1012	928	846	....
580	1109	1168	1191	1185	1167	1106	1050	961	875	....

Size No. SF3318C and MF3318C

Motor R.P.M.	STANDARD RATIOS									
	1.48	1.81	2.22	2.77	3.34	4.16	5.00	6.33	7.56	....
2400	....	....	....	....	....	....	....	....	914	....
2000	....	....	....	....	....	....	....	1024	953	....
1750	....	....	....	....	....	....	....	1056	982	....
1150	....	....	....	....	1401	1334	1274	1154	1069	....
870	....	....	1502	1501	1491	1416	1348	1218	1125	....
720	....	1527	1568	1564	1551	1470	1398	1260	1162	....
580	1485	1602	1642	1635	1619	1531	1453	1306	1202	....

Size No. SF3824C and MF3824C

Motor R.P.M.	STANDARD RATIOS									
	1.48	1.85	2.26	2.80	3.34	4.14	5.13	6.13	7.58	....
2000	....	....	....	....	....	....	....	....	1564	....
1750	....	....	....	....	....	....	....	1760	1612	....
1150	....	....	....	....	....	2197	2051	1933	1762	....
870	....	....	....	2467	2414	2337	2176	2045	1859	....
720	....	....	2525	2574	2516	2431	2258	2119	1922	....
580	2446	2592	2650	2696	2630	2536	2350	2202	1992	....

Size No. SF4427C and MF4427C

Motor R.P.M.	STANDARD RATIOS									
	2.21	2.77	3.38	4.08	5.15	6.15	7.61	....	....	....
1750	....	....	....	....	....	....	2203	....	....	....
1150	....	....	....	....	2729	2647	2417	....	....	....
870	....	....	3211	3129	2902	2807	2555	....	....	....
720	....	3433	3351	3260	3017	2914	2646	....	....	....
580	3399	3602	3510	3408	3146	3032	2748	....	....	....
400	3682	3888	3775	3654	3359	3228	2914	....	....	....
200	4181	4386	4235	4075	3721	3556	3190	....	....	....

Size No. SF5230C and MF5230C

Motor R.P.M.	STANDARD RATIOS									
	2.27	2.79	3.36	4.16	4.97	6.24	7.54	....	....	....
1150	....	....	....	....	....	3824	3502	....	....	....
870	....	....	....	4636	4389	4066	3713	....	....	....
720	....	....	4806	4840	4773	4228	3853	....	....	....
580	5173	5165	5045	5069	4781	4409	4010	....	....	....
400	5622	5595	5447	5452	5126	4707	4267	....	....	....
200	6422	6353	6151	6117	5719	5215	4699	....	....	....

Torque ratings shown in blue are for Type M Reducers.
Ratings shown are in thousands of in. lbs. at low speed shaft.
Ratings for intermediate ratios and speeds may be found by direct interpolation.
For input speeds lower than speeds shown, use torque rating for minimum speed shown in table.

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OUTPUT TORQUE RATING TABLES (cont'd.)

1000 INCH POUNDS

Types S and M—SINGLE REDUCTION UNITS

Size No. SF6033C And MF6033C

Motor R.P.M.	STANDARD RATIOS									
	2.25	2.77	3.37	4.19	5.14	6.13	7.63	....	....	....
1150	....	....	....	....	....	....	4990	....	....	....
870	....	....	....	....	6213	5795	5303	....	....	....
720	....	....	....	6582	6482	6036	5512	....	....	....
580	....	7425	7260	6906	6787	6307	5745	....	....	....
400	8088	8069	7864	7452	7296	6758	6131	....	....	....
200	9295	9218	8930	8404	8175	7529	6784	....	....	....

Torque ratings shown in blue are for Type M Reducers.
Ratings shown are in thousands of in. lbs. at low speed shaft.
Ratings for intermediate ratios and speeds may be found by direct interpolation.
For input speeds lower than speeds shown, use torque rating for minimum speed shown in table.

THERMAL HORSEPOWER RATINGS

TYPE S AND M
CAST IRON HOUSING

The Thermal Horsepower Rating listed here for a particular unit at a given ratio and speed must be equal to or higher than the ACTUAL HORSEPOWER DELIVERED.

The Table below must be used to check the selection of a gear unit after the selection has been made on the basis of mechanical rating shown on pages 11-14.

Size No.	High Speed Shaft R.P.M.	RATIOS									
		1.22	1.50	1.84	2.25	2.76	3.38	4.13	5.06	6.20	7.59
64C	3600	....	PC	PC	PC	PC	PC	PC	PC	PC	PC
	3000	29.2	30.7	31.7	33.0	35.5	40.3	47.7	53.0	57.7	60.0
	2400	64.5	66.5	68.3	70.3	73.1	79.9	90.3	98.0	....	....
	2000	88.2	89.7	91.5	94.5	96.6	103	113	....	....	....
	1750	101	102	104	108	109	115	....	....	....	....
	1150	129	129	130	136	....	....	....	....	....	....
	870	139	140	140	....	....	....	....	....	....	....
	720	146	....	....	....	....	....	....	....	....	....
	580	....	....	....	....	....	....	....	....	....	....
85C	3600	....	....	....	PC	PC	PC	PC	PC	PC	PC
	3000	....	....	38.0	39.8	43.1	49.1	58.5	65.3	71.2	74.2
	2400	89.8	92.7	95.3	98.1	102	112	127	139	149	....
	2000	124	126	129	133	136	146	160	171	....	....
	1750	143	145	147	152	155	164	177	....	....	....
	1150	186	187	188	196	197	203	....	....	....	....
	870	203	203	204	213	....	....	....	....	....	....
	720	210	210	211	....	....	....	....	....	....	....
	580	216	217	....	....	....	....	....	....	....	....
106C	3600	....	....	....	....	....	PC	PC	PC	PC	PC
	3000	....	....	....	45.4	49.3	56.5	67.7	75.8	82.7	86.2
	2400	....	....	119	122	129	142	163	178	192	199
	2000	163	166	170	175	180	194	215	231	247	....
	1750	192	195	198	205	209	222	241	256	....	....
	1150	256	256	258	269	271	280	....	....	....	....
	870	281	281	282	294	295	....	....	....	....	....
	720	293	293	294	307	....	....	....	....	....	....
	580	301	302	302	....	....	....	....	....	....	....
127C	3600	....	....	....	....	....	....	PC	PC	PC	PC
	3000	....	....	....	....	....	55.1	66.4	74.4	81.4	85.0
	2400	....	....	....	140	147	164	189	207	224	232
	2000	....	....	203	209	216	233	260	280	300	....
	1750	233	236	241	249	254	271	296	315	335	....
	1150	317	318	320	334	336	348	368	....	....	....
	870	349	349	350	366	367	377	....	....	....	....
	720	366	366	367	383	384	....	....	....	....	....
	580	377	377	378	393	394	....	....	....	....	....
148C	3600	....	....	....	....	....	....	....	PC	PC	PC
	3000	....	....	....	....	....	....	PC	PC	PC	PC
	2400	....	....	....	....	....	166	194	214	232	241
	2000	....	....	....	230	148	260	292	316	340	350
	1750	....	....	275	284	239	311	342	366	390	400
	1150	375	376	379	395	291	412	436	454	....	....
	870	418	418	420	439	397	451	474	....	....	....
	720	438	438	440	459	440	470	....	....	....	....
	580	454	454	455	474	460	....	....	....	....	....
169C	3600	....	....	....	....	....	....	....	....	PC	PC
	3000	....	....	....	....	....	....	PC	PC	PC	PC
	2400	....	....	....	....	....	188	220	243	264	274
	2000	....	....	....	....	273	299	338	368	396	408
	1750	....	....	....	335	344	370	408	437	467	479
	1150	453	455	459	478	481	500	530	551	....	....
	870	506	507	509	532	533	548	575	....	....	....
	720	531	531	533	557	558	571	598	....	....	....
	580	550	550	551	576	589	....	....	....	....	....
1810C	3600	....	....	....	....	....	....	....	....	PC	PC
	3000	....	....	....	....	....	....	....	PC	PC	PC
	2400	....	....	....	....	....	....	191	213	232	241
	2000	....	....	....	....	272	292	335	366	395	409
	1750	....	....	....	....	346	375	418	451	484	498
	1150	....	487	492	513	517	538	572	598	629	....
	870	....	554	557	582	584	600	631	651	....	....
	720	....	582	584	610	611	626	656	....	....	....
	580	....	606	608	634	635	649	678	....	....	....
2011C	3600	....	....	....	....	....	....	....	....	....	PC
	3000	....	....	....	....	....	....	....	....	PC	PC
	2400	....	....	....	....	....	....	179	200	218	227
	2000	....	....	....	....	....	301	347	381	413	427
	1750	....	....	....	....	365	398	448	485	522	537
	1150	....	540	546	568	573	598	639	668	705	....
	870	....	624	627	655	657	677	712	736	....	....
	720	....	655	657	687	688	706	740	761	....	....
	580	....	686	688	718	719	735	769	....	....	....
2212C	3600	....	....	....	....	....	....	....	....	....	PC
	3000	....	....	....	....	....	....	....	....	PC	PC
	2400	....	....	....	....	....	....	....	186	204	212
	2000	....	....	....	....	....	414	353	388	421	436
	1750	....	....	....	....	....	441	468	509	548	565
	1150	....	....	583	606	612	731	687	720	760	776
	870	....	672	676	706	708	766	770	797	835	....
	720	....	710	713	745	746	799	804	828	....	....
	580	....	744	746	780	781	....	836	857	....	....

NOTE: Where Thermal Horsepower Ratings are not shown at the right hand side of the above tables, the Thermal Horsepower Rating is higher than the Mechanical Rating of the Reducer shown on pages 11-14 for that ratio and speed.

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THERMAL HORSEPOWER RATINGS

TYPE S AND M

FABRICATED STEEL HOUSING

The Thermal Horsepower Rating listed here for a particular unit at a given ratio and speed must be equal to or higher than the ACTUAL HORSEPOWER DELIVERED.

The Table below must be used to check the selection of a gear unit after the selection has been made on the basis of mechanical rating.

Size No.	High Speed Shaft RPM	RATIOS 1.22	1.50	1.84	2.25	2.76	3.38	4.13	5.06	6.20	7.59
127C	3600	....	....	....	....	....	....	PC	PC	PC	PC
	3000	....	....	....	....	....	PC	PC	PC	PC	PC
	2400	....	....	....	101	107	119	137	150	163	168
	2000	....	....	147	152	156	169	189	203	218	224
	1750	169	172	175	181	185	197	215	229	244	250
	1150	230	231	233	243	244	253	267	277	....	....
	870	254	254	255	266	267	274	287	....	....	....
	720	266	266	267	278	279	285	298	....	....	....
	580	274	274	275	286	287	293	....	....	....	....
148C	3600	....	....	....	....	....	....	....	PC	PC	PC
	3000	....	....	....	....	....	....	PC	PC	PC	PC
	2400	....	....	....	....	108	122	142	157	170	177
	2000	....	....	....	169	176	191	215	233	250	258
	1750	....	....	203	209	214	229	252	269	287	294
	1150	276	277	279	291	292	303	321	334	350	....
	870	307	308	309	323	323	332	348	359	....	....
	720	323	323	324	338	338	346	362	....	....	....
	580	334	334	335	349	350	357	373	....	....	....
169C	3600	....	....	....	....	....	....	....	....	PC	PC
	3000	....	....	....	....	....	....	PC	PC	PC	PC
	2400	....	....	....	....	....	141	166	183	199	207
	2000	....	....	....	....	206	225	255	277	298	308
	1750	....	....	....	253	259	279	308	330	352	361
	1150	342	343	346	361	363	377	399	416	437	....
	870	382	382	383	401	402	413	434	447	....	....
	720	401	401	402	420	420	430	451	463	....	....
	580	415	415	416	434	435	444	464	....	....	....
1810C	3600	....	....	....	....	....	....	....	....	PC	PC
	3000	....	....	....	....	....	....	....	PC	PC	PC
	2400	....	....	....	....	....	....	143	159	174	181
	2000	....	....	....	....	....	219	251	275	297	306
	1750	....	....	....	....	260	281	314	338	363	373
	1150	....	365	369	385	387	403	429	448	472	481
	870	....	416	418	436	438	450	473	489	511	....
	720	....	436	438	457	458	469	492	506	....	....
	580	....	455	456	476	476	487	509	521	....	....
2011C	3600	....	....	....	....	....	....	....	....	....	PC
	3000	....	....	....	....	....	....	....	....	PC	PC
	2400	....	....	....	....	....	....	PC	PC	PC	PC
	2000	....	....	....	....	....	238	275	302	327	339
	1750	....	....	....	....	290	316	355	385	413	426
	1150	....	428	433	450	454	474	506	530	558	569
	870	....	494	497	519	521	536	564	583	610	....
	720	....	519	521	544	545	559	586	603	630	....
	580	....	544	545	569	570	583	609	625	....	....
2212C	3600	....	....	....	....	....	....	....	....	....	PC
	3000	....	....	....	....	....	....	....	....	PC	PC
	2400	....	....	....	....	....	....	....	PC	PC	PC
	2000	....	....	....	....	....	....	274	302	327	339
	1750	....	....	....	....	....	329	372	403	434	447
	1150	....	....	453	471	476	499	534	560	591	603
	870	....	522	525	549	551	568	599	620	649	660
	720	....	552	554	579	581	596	625	644	673	....
	580	....	579	581	606	607	621	650	667	695	....
2413C	3000	....	....	....	....	....	....	....	....	....	PC
	2400	....	....	....	....	....	....	....	....	PC	PC
	2000	....	....	....	....	....	....	248	275	299	311
	1750	....	....	....	....	....	....	381	416	449	464
	1150	....	....	521	528	554	596	627	663	677	
	870	....	586	590	616	618	639	675	700	733	746
	720	....	623	626	654	656	674	708	730	763	....
	580	....	658	660	689	690	706	739	759	791	....
2714C	3000	....	....	....	....	....	....	....	....	....	PC
	2400	....	....	....	....	....	....	....	....	PC	PC
	2000	....	....	....	....	....	....	....	PC	PC	PC
	1750	....	....	....	....	....	....	354	391	424	439
	1150	....	....	....	....	566	599	649	687	729	746
	870	....	648	653	682	686	711	753	784	823	838
	720	....	700	703	735	737	759	799	825	863	878
	580	....	743	746	779	781	800	838	861	898	....
3015C	2400	....	....	....	....	....	....	....	....	....	PC
	2000	....	....	....	....	....	....	....	....	PC	PC
	1750	....	....	....	....	....	....	....	324	353	367
	1150	....	....	....	....	581	620	681	727	774	794
	870	....	....	701	730	736	768	818	855	901	918
	720	....	762	767	801	804	831	878	909	953	970
	580	....	820	824	861	863	886	929	957	999	1015
3318C	2400	....	....	....	....	....	....	....	....	....	PC
	2000	....	....	....	....	....	....	....	....	PC	PC
	1750	....	....	....	....	....	....	....	....	PC	PC
	1150	....	....	....	....	....	664	738	794	850	874
	870	....	....	....	798	808	849	914	961	1017	1038
	720	....	....	868	905	911	945	1003	1044	1096	1116
	580	....	941	946	988	991	1020	1073	1108	1159	1178
3824C	2000	....	....	....	....	....	....	....	....	....	PC
	1750	....	....	....	....	....	....	....	....	PC	PC
	1150	....	....	....	....	....	....	706	774	837	866
	870	....	....	....	....	893	954	1048	1118	1191	1221
	720	....	....	....	1030	1044	1098	1182	1245	1317	1345
	580	....	1127	1136	1186	1192	1237	1311	1363	1432	1458
4427C	Pump And Cooler Required										
5230C	Pump and Cooler Required										
6033C	Pump and Cooler Required										

NOTE: Where Thermal Horsepower Ratings are not shown at the right hand side of the above tables, the Thermal Horsepower Rating is higher than the Mechanical Rating of the Reducer shown on pages 10-14 for that ratio and speed.

PC in above Table means that an oil pump and cooler must be added to the assembly to prevent over-heating, regardless of the horsepower to be delivered.

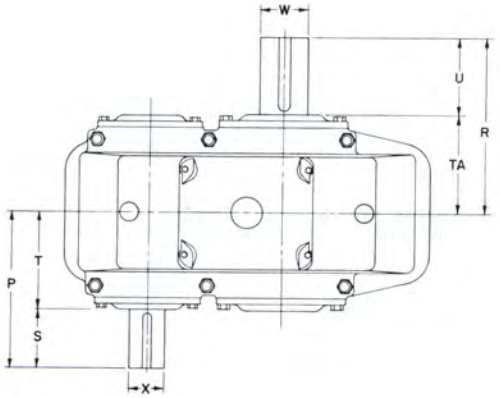
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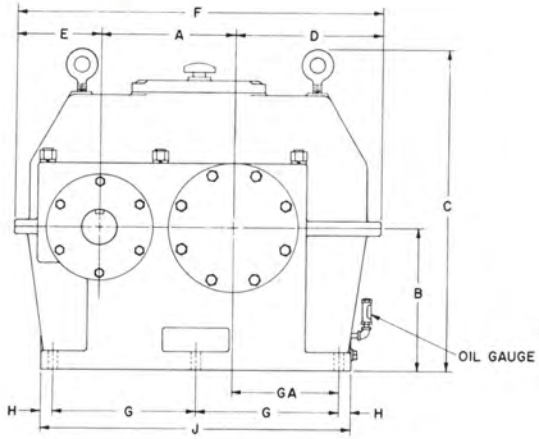
GENERAL DIMENSIONS

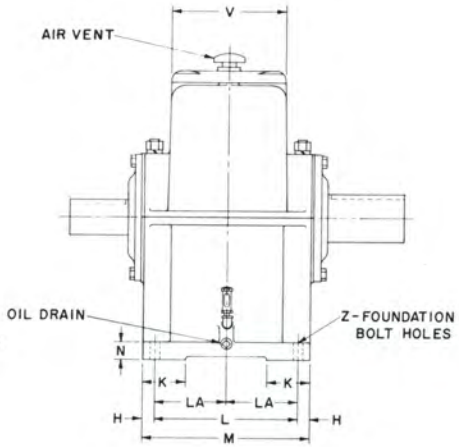
TYPE S

SINGLE REDUCTION GEAR REDUCERS

CAST IRON HOUSING







Size No.	A	B	C	D	E	F	G	GA	H	J	K	L	LA	M	N	P	R	S	T	TA	U	V	W*	X*	Approximate Oil Capacity, Gallons Z-Bolt Holes	Min. Ratio	Max. Ratio	Weight
S64C	6	7	15⅞	7¼	4½	17¾	14	5⅜	¾	15½	3	8½	4¼	10	⅞	10	11	3⅞	6⅛	6⅛	4⅞	6¾	2½	For High Speed Shaft Dia. See Table of H.P. Ratings Pages 11-14	4–11/16	2	1	300
S85C	8	9	20⅛	9¾	5¾	23½	17½	6¾	1	19½	3¼	10	5	12	1	12	13	4⅞	7⅛	7⅛	5⅞	8	3¼		4– ⅞	4½	2½	550
S106C	10	11	23⅞	12	7	29	2 @ 11	8½	1	24	4	12	6	14	1½	14¼	15½	6	8¼	8¼	7¼	9½	4		6– ⅞	7	3½	950
S127C	12	13	28¼	14	8	34	2 @ 13	10	1	28	4	14	7	16	1½	16	17½	6½	9½	9½	8	10½	4½		6–1	11	6	1,480
S148C	14	15	32	15½	9	38½	2 @ 15	11¼	1¼	32½	4½	15	7½	17½	2	17¼	19½	7	10¼	10½	9	12	5		6–1⅛	16	8	2,100
S169C	16	17	36	17½	10	43½	2 @ 17	12¾	1¼	36½	5	17	8½	19½	2	19¼	21½	8	11¼	11½	10	13	5½		6–1⅛	20	10	2,800
S1810C	18	19	40	19½	10	47½	2 @ 19	14¾	1½	41	5½	17½	8¾	20½	2	19¾	23	8	11¾	12	11	14	6		6–1⅜	24	11	3,200
S2011C	20	21	44	22	11	53	2 @ 21½	17	1½	46	5½	19½	9¾	22½	2	21¾	24½	9	12¾	13	11½	15	6¾		6–1⅜	32	14	4,600
S2212C	22	23	48	24	12½	58½	2 @ 23	17¾	1¾	49½	6	20	10	23½	2½	22¾	25½	9½	13¼	13½	12	16	7½		6–1⅝	41	18	6,000

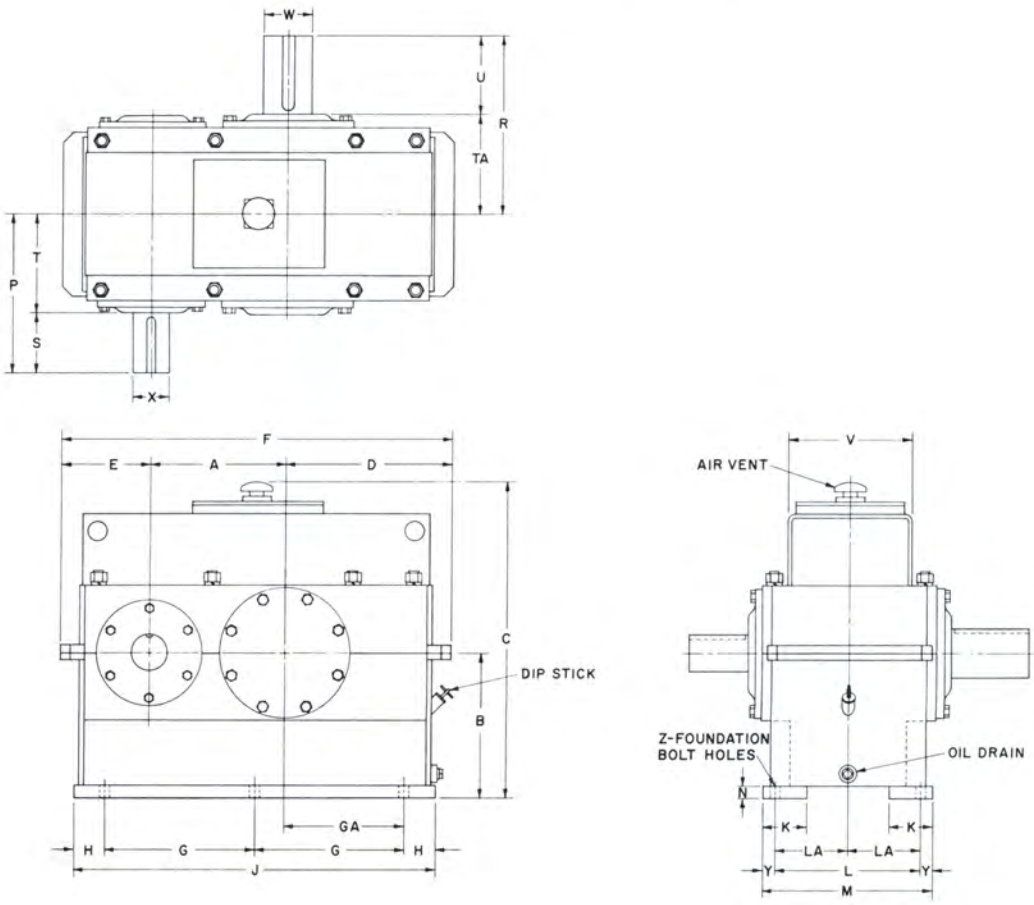
All dimensions are in inches.
* For Shaft Keyways, see Table of Standard Keyways Page 48.

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GENERAL DIMENSIONS

TYPE S
SINGLE REDUCTION GEAR REDUCERS
FABRICATED STEEL HOUSING



Size No.	A	B	C	D	E	F	G	GA	H	J	K	L	LA	M	N	P	R	S	T	TA	U	V	W*	Y	X*	Approximate Oil Capacity, Gallons: Z-Bolt Holes	Min. Ratio	Max. Ratio	Weight
SF127C.....	12	13	28¾	14¾	8¾	35½	2 @ 13	10	3⅛	32¼	4	14	7	16	1¼	16	17½	6½	9½	9½	8	10¾	4½	1	For High Speed Shaft Dia., See Table of H.P. Ratings Pages 11-14.	6–1	10	5	1,550
SF148C.....	14	15	32½	16	9½	39½	2 @ 15	11¼	3¼	36½	4½	15	7½	17½	1¼	17¼	19½	7	10¼	10½	9	12½	5	1¼		6–1⅛	13	6	2,200
SF169C.....	16	17	36¼	18	10½	44½	2 @ 17	12¾	3¾	41½	5	17	8½	19½	1¼	19¼	21½	8	11¼	11½	10	13½	5½	1¼		6–1⅛	16	9	3,000
SF1810C.....	18	19	40¼	20	10½	48½	2 @ 19	14¾	4	46	6	17½	8¾	20½	1¾	19¾	23	8	11¾	12	11	14½	6	1½		6–1⅜	20	10	3,400
SF2011C.....	20	21	44¼	22¼	11¼	53½	2 @ 21½	17	4	51	6	19½	9¾	22½	1¾	21¾	24½	9	12¾	13	11½	15½	6¾	1½		6–1⅜	27	12	4,900
SF2212C.....	22	23	48¼	24¼	12¾	59	2 @ 23	17¾	4¾	55½	6	20	10	23½	1¾	22¾	25½	9½	13¼	13½	12	16½	7½	1¾		6–1⅝	35	16	6,200
SF2413C.....	24	26	53½	26	15	65	2 @ 26½	20	4½	62	8	23½	11¾	27	1¾	25	28	10	15	15	13	17	8	1¾		6–1⅝	48	25	7,400
SF2714C.....	27	28	58	29	16	72	3 @ 20	23	4½	69	8	24½	12¼	28	1¾	26	28½	10½	15½	15½	13	18	8	1¾		8–1⅝	57	27	9,600
SF3015C.....	30	31	64	31	17	78	3 @ 22	25	4½	75	8	26½	13¼	30	1¾	29	32	12	17	17	15	19½	9	1¾		8–1⅝	60	30	13,500
SF3318C.....	33	35	71	34	18	85	3 @ 24	27½	5	82	9	30½	15¼	34	2¾	34	36½	14½	19½	19½	17	22½	10	1¾		8–1⅝	80	33	19,500
SF3824C.....	38	40	80	39	20	97	3 @ 28	32½	5	94	9	36½	18¼	40	2¾	38	42	15½	22½	22½	19½	28½	11¾	1¾		8–1⅝	115	47	25,000
SF4427C.....	44	45	90	44	20	108	3 @ 31	36½	6	105	9	40	20	44	2¾	40	45	16	24	24	21	31½	13	2		8–1⅞	160	73	33,000
SF5230C.....	52	52	104½	52	21	125	4 @ 27½	44½	6	122	9	42	21	46	2¾	45	52	18	27	27	25	34½	15½	2		10–1⅞	170	94	42,000
SF6033C.....	60	59	118	58	24	142	4 @ 31¾	50½	6	139	9	46	23	50	2¾	49	56	20	29	29	27	37½	17	2		10–1⅞	240	115	50,000

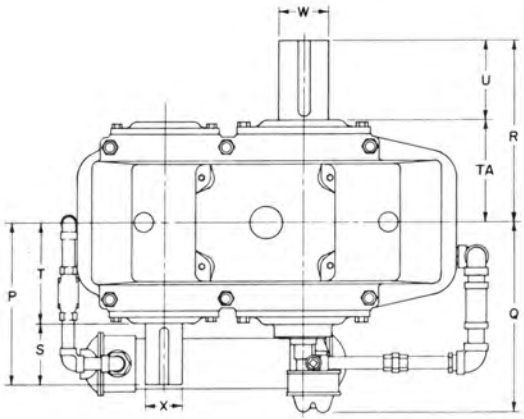
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* For Shaft Keyways, see Table of Standard Keyways Page 48.

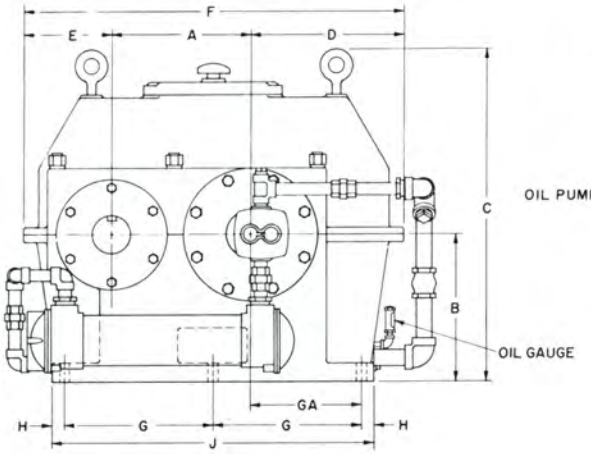
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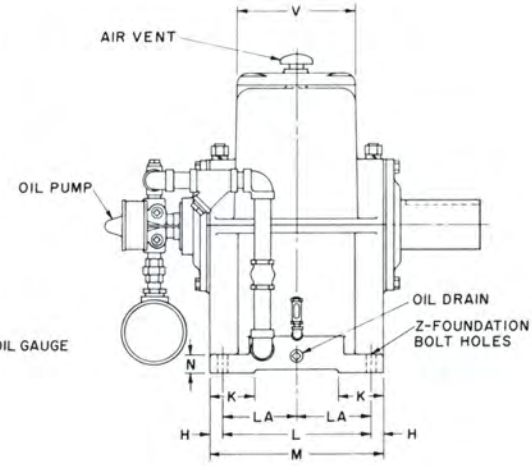
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GENERAL DIMENSIONS

TYPE M—SINGLE REDUCTION UNITS
MEDIUM SPEED GEAR REDUCERS AND SPEED INCREASERS
CAST IRON HOUSING







Size No.	A	B	C	D	E	F	G	GA	H	J	K	L	LA	M	N	P	Q	R	S	T	TA	U	V	W*	X*	Approximate Oil Capacity, Gallons Z-Bolt Holes	Min. Ratio	Max. Ratio	Weight
M64C.....	6	7	15⅞	7¼	4½	17¾	14	5⅜	¾	15½	3	8½	4¼	10	⅞	10	10¼	11	3⅞	6⅛	6⅛	4⅞	6¾	2½	For High Speed Shaft Dia. See Table of H.P. Ratings Pages 11-14.	4–11/16	2	1	350
M85C.....	8	9	20⅛	9¾	5¾	23½	17½	6¾	1	19½	3¼	10	5	12	1	12	11½	13	4⅞	7⅛	7⅛	5⅞	8	3¼		4– ⅞	4½	2½	600
M106C.....	10	11	23⅞	12	7	29	2 @ 11	8½	1	24	4	12	6	14	1½	14¼	15	15½	6	8¼	8¼	7¼	9½	4		6– ⅞	7	3½	1,000
M127C.....	12	13	28¼	14	8	34	2 @ 13	10	1	28	4	14	7	16	1½	16	16½	17½	6½	9½	9½	8	10½	4½		6–1	11	6	1,530
M148C.....	14	15	32	15½	9	38½	2 @ 15	11¼	1¼	32½	4½	15	7½	17½	2	17¼	18	19½	7	10¼	10½	9	12	5		6–1⅛	16	8	2,150
M169C.....	16	17	36	17½	10	43½	2 @ 17	12¾	1¼	36½	5	17	8½	19½	2	19¼	19	21½	8	11¼	11½	10	13	5½		6–1⅛	20	10	2,900
M1810C.....	18	19	40	19½	10	47½	2 @ 19	14¾	1½	41	5½	17½	8¾	20½	2	19¾	20	23	8	11¾	12	11	14	6		6–1⅜	24	11	3,300
M2011C.....	20	21	44	22	11	53	2 @ 21½	17	1½	46	5½	19½	9¾	22½	2	21¾	21	24½	9	12¾	13	11½	15	6¾		6–1⅜	32	14	4,700
M2212C.....	22	23	48	24	12½	58½	2 @ 23	17¾	1¾	49½	6	20	10	23½	2½	22¾	23	25½	9½	13¼	13½	12	16	7½		6–1⅝	41	18	6,100

All dimensions are in inches.
* For Shaft Keyways, see Table of Standard Keyways Page 48.

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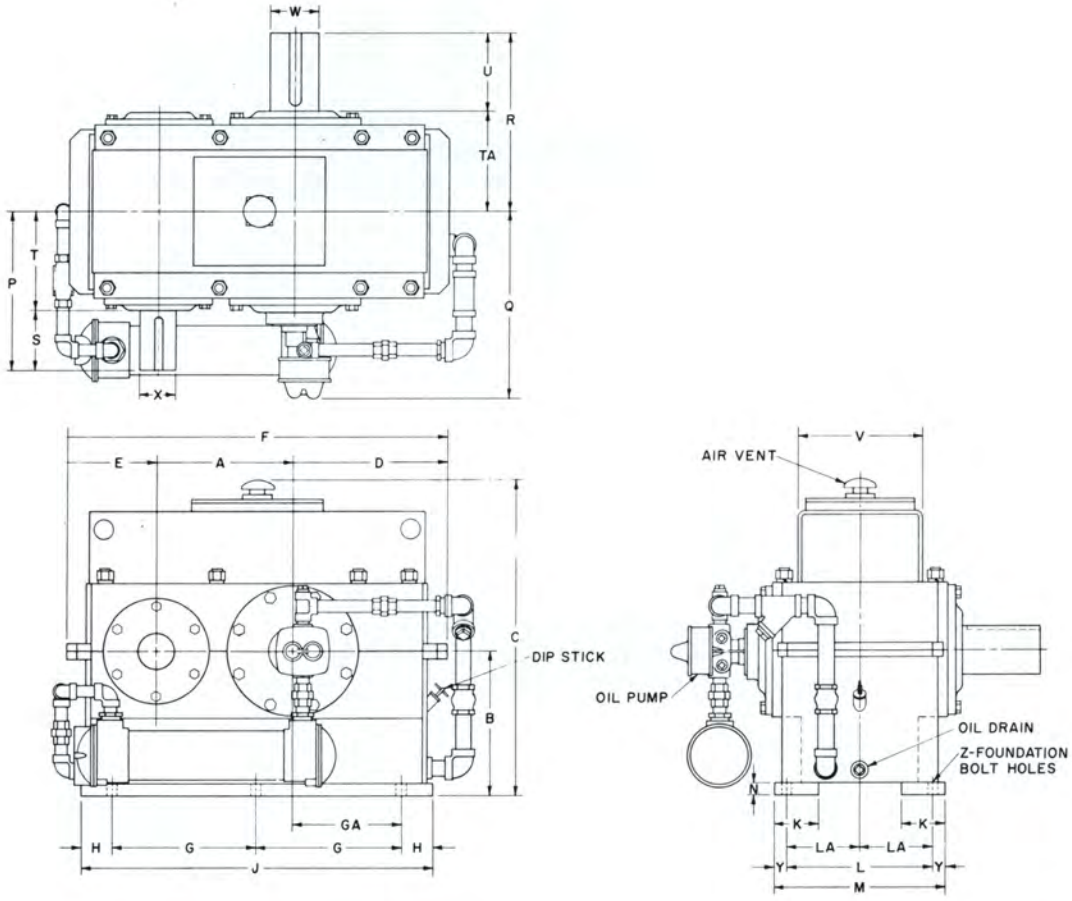
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GENERAL DIMENSIONS

TYPE M—SINGLE REDUCTION UNITS

MEDIUM SPEED GEAR REDUCERS AND SPEED INCREASERS

FABRICATED STEEL HOUSING



Size No.	A	B	C	D	E	F	G	GA	H	J	K	L	LA	M	N	P	Q	R	S	T	TA	U	V	W*	Y	X*	Approximate Oil Capacity, Gallons Z-Bolt Holes	Min. Ratio	Max. Ratio	Weight
MF127C	12	13	28¾	14¾	8¾	35½	2 @ 13	10	3⅛	32¼	4	14	7	16	1¼	16	16½	17½	6½	9½	9½	8	10¾	4½	1	For High Speed Shaft Dia., See Table of H.P. Ratings Pages 11-14.	6—1	10	5	1,600
MF148C	14	15	32½	16	9½	39½	2 @ 15	11¼	3¼	36½	4½	15	7½	17½	1¼	17¼	18	19½	7	10¼	10½	9	12½	5	1¼		6–1⅛	13	6	2,250
MF169C	16	17	36¼	18	10½	44½	2 @ 17	12¾	3¾	41½	5	17	8½	19½	1¼	19¼	19	21½	8	11¼	11½	10	13½	5½	1¼		6–1⅛	16	9	3,100
MF1810C	18	19	40¼	20	10½	48½	2 @ 19	14¾	4	46	6	17½	8¾	20½	1¾	19¾	20	23	8	11¾	12	11	14½	6	1½		6–1⅜	20	10	3,500
MF2011C	20	21	44¼	22¼	11¼	53½	2 @ 21½	17	4	51	6	19½	9¾	22½	1¾	21¾	21	24½	9	12¾	13	11½	15½	6¾	1½		6–1⅜	27	12	5,000
MF2212C	22	23	48¼	24¼	12¾	59	2 @ 23	17¾	4¾	55½	6	20	10	23½	1¾	22¾	23	25½	9½	13¼	13½	12	16½	7½	1¾		6–1⅝	35	16	6,300
MF2413C	24	26	53½	26	15	65	2 @ 26½	20	4½	62	8	23½	11¾	27	1¾	25	24½	28	10	15	15	13	17	8	1¾		6–1⅝	48	25	7,500
MF2714C	27	28	58	29	16	72	3 @ 20	23	4½	69	8	24½	12¼	28	1¾	26	25	28½	10½	15½	15½	13	18	8	1¾		8–1⅝	57	27	9,750
MF3015C	30	31	64	31	17	78	3 @ 22	25	4½	75	8	26½	13¼	30	1¾	29	26½	32	12	17	17	15	19½	9	1¾		8–1⅝	60	30	13,650
MF3318C	33	35	71	34	18	85	3 @ 24	27½	5	82	9	30½	15¼	34	2¾	34	29	36½	14½	19½	19½	17	22½	10	1¾		8–1⅝	80	33	19,650
MF3824C	38	40	80	39	20	97	3 @ 28	32½	5	94	9	36½	18¼	40	2¾	38	32	42	15½	22½	22½	19½	28½	11¾	1¾		8–1⅝	115	47	25,150
MF4427C	44	45	90	44	20	108	3 @ 31	36½	6	105	9	40	20	44	2¾	40	33½	45	16	24	24	21	31½	13	2		8–1⅞	160	73	33,150
MF5230C	52	52	104½	52	21	125	4 @ 27½	44½	6	122	9	42	21	46	2¾	45	36½	52	18	27	27	25	34½	15½	2		10–1⅞	170	94	42,150
MF6033C	60	59	118	58	24	142	4 @ 31¼	50½	6	139	9	46	23	50	2¾	49	38½	56	20	29	29	27	37½	17	2		10–1⅞	240	115	50,150

All dimensions are in inches.
* For Shaft Keyways, see Table of Standard Keyways Page 48.

Above dimensions are not to be used for installation.
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HORSEPOWER RATING TABLES

TYPE D — DOUBLE REDUCTION UNITS

The Horsepower Ratings listed in the tables below are mechanical ratings calculated by the A.G.M.A. formula using a Service Factor of 1. See pages 6, 7 and 8 for information on selecting reducers.

Size No. D100C

	STANDARD RATIOS										
Motor R.P.M.	7.6	9.5	11.2	13.9	17.3	21.5	25.5	32.5	37.2	....	....
1750	56.0	46.1	39.8	31.7	26.0	20.2	17.3	12.9	11.3	....	....
1150	38.5	31.6	27.2	21.6	17.8	13.7	11.7	8.67	7.62	....	....
870	29.9	24.5	21.0	16.7	13.7	10.5	8.97	6.65	5.85	....	....
720	25.2	20.5	17.6	14.0	11.5	8.79	7.50	5.56	4.88	....	....
580	20.6	16.8	14.4	11.4	9.35	7.16	6.10	4.52	3.96	....	....
High Speed Shaft Diameter	1⅛	1⅛	1⅛	1⅛	1⅛	1⅛	¾	¾	¾	....	....

Size No. D120C

	STANDARD RATIOS										
Motor R.P.M.	7.5	9.2	11.3	13.6	16.9	21.3	25.8	31.4	39.4	....	....
1750	93.6	82.6	67.2	55.5	45.4	34.9	29.3	22.9	18.5	....	....
1150	67.9	56.7	46.8	37.9	30.9	23.7	19.9	15.5	12.5	....	....
870	52.8	44.1	36.4	29.3	23.9	18.3	15.3	11.9	9.59	....	....
720	44.5	37.0	30.6	24.6	20.0	15.3	12.8	9.96	8.00	....	....
580	36.5	30.3	25.0	20.1	16.3	12.5	10.4	8.10	6.51	....	....
High Speed Shaft Diameter	1¼	1¼	1¼	1¼	1⅛	1⅛	1⅛	1⅛	1⅛	....	....

Size No. D145C

	STANDARD RATIOS										
Motor R.P.M.	7.5	9.1	11.3	14.0	17.3	20.6	25.5	31.7	38.1	47.2	....
1750	158	137	112	89.7	74.4	59.9	49.4	38.6	32.6	24.9	....
1150	112	95.0	78.5	61.4	50.8	40.8	33.5	26.2	22.0	16.8	....
870	88.0	73.9	61.0	47.6	39.2	31.5	25.8	20.1	16.9	12.9	....
720	74.2	62.2	51.3	39.9	32.9	26.4	21.6	16.8	14.1	10.8	....
580	60.9	51.0	42.0	32.7	26.9	21.5	17.6	13.7	11.5	8.74	....
High Speed Shaft Diameter	1½	1½	1½	1½	1½	1½	1½	1⅛	1⅛	1⅛	....

Size No. D170C and DF170C

	STANDARD RATIOS										
Motor R.P.M.	7.5	9.2	11.1	13.9	16.9	20.3	25.5	30.9	37.5	47.4	....
1750	248	214	173	143	120	98.8	75.5	63.7	51.6	40.7	....
1150	180	151	122	98.3	81.9	67.5	52.5	43.2	35.7	27.5	....
870	140	117	95.9	76.3	63.4	52.2	41.0	33.3	27.7	21.1	....
720	119	98.7	81.3	64.1	53.3	43.8	34.7	27.9	23.2	17.6	....
580	97.6	81.1	67.3	52.5	43.6	35.8	28.5	22.7	18.9	14.3	....
High Speed Shaft Diameter	2	2	2	2	2	1½	1½	1¼	1¼	1¼	....

Size No. D195C and DF195C

	STANDARD RATIOS										
Motor R.P.M.	7.5	9.5	11.5	13.7	16.8	20.6	25.1	30.9	38.7	47.8	....
1750	343	295	249	209	171	139	116	90.7	71.8	56.9	....
1150	251	205	172	144	120	95.0	79.2	61.7	49.8	38.5	....
870	197	160	134	112	92.8	73.5	61.2	47.6	38.5	29.6	....
720	166	135	113	94.0	78.0	61.7	51.3	39.9	32.2	24.8	....
580	137	111	92.7	77.1	63.8	50.5	41.9	32.5	26.2	20.2	....
High Speed Shaft Diameter	2¼	2¼	2¼	2¼	2¼	2¼	2¼	1½	1½	1½	....

Size No. D220C and DF220C

	STANDARD RATIOS										
Motor R.P.M.	7.5	9.3	11.4	14.1	17.4	21.3	25.3	31.5	37.9	46.2	....
1750	468	412	326	272	226	183	157	121	102	81.3	....
1150	348	287	230	188	156	125	108	82.5	69.5	55.1	....
870	273	224	182	146	121	97.2	83.2	63.7	53.6	42.4	....
720	231	189	155	123	102	81.6	69.8	53.4	44.9	35.5	....
580	190	156	128	101	83.2	66.8	57.0	43.6	36.6	28.9	....
High Speed Shaft Diameter	2⅝	2⅝	2⅝	2¼	2¼	2¼	2¼	2	2	2	....

Ratios listed are standard but intermediate ratios are available.

Ratings for intermediate ratios and speeds may be found by direct interpolation.

All units may be operated at speeds lower than the minimum shown. The selection of a reducer for a lower speed may be accomplished by multiplying the desired horsepower by 580 and dividing by the desired speed. The result will be the equivalent horsepower at 580 RPM which can be found in the above tables.

HORSEPOWER

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HORSEPOWER RATING TABLES (cont'd.)

TYPE D — DOUBLE REDUCTION UNITS

Size No. D250C and DF250C

Motor R.P.M.	STANDARD RATIOS										
	7.7	9.3	11.5	13.7	16.9	20.4	25.6	31.1	38.5	47.9	....
1750	679	577	473	406	321	269	215	178	138	109	....
1150	475	403	335	281	226	185	151	121	96.1	73.9	....
870	373	316	263	219	178	144	117	93.8	75.2	57.0	....
720	316	267	222	185	151	121	98.2	78.7	63.6	47.7	....
580	261	220	182	152	125	99.1	80.3	64.3	52.4	38.9	....
High Speed Shaft Diameter	3	3	3	3	3	3	2½	2½	2½	2	....

Size No. D290C and DF290C

Motor R.P.M.	STANDARD RATIOS										
	7.5	9.1	11.3	14.0	17.3	20.6	25.2	31.7	37.9	45.8	....
1750	1018	862	698	571	470	386	323	252	214	169	....
1150	715	605	497	396	330	266	222	172	146	115	....
870	563	475	394	309	257	207	172	133	113	88.5	....
720	477	402	333	261	216	174	145	112	94.7	74.1	....
580	394	332	275	215	177	143	118	91.4	77.3	60.5	....
High Speed Shaft Diameter	3¼	3¼	3¼	3¼	3¼	3	3	3	3	2¼	....

Size No. D340C and DF340C

Motor R.P.M.	STANDARD RATIOS										
	7.7	9.1	11.4	14.1	17.0	20.5	25.5	30.5	38.3	47.2	....
1750	1518	1323	1079	895	715	613	474	407	318	258	....
1150	1070	929	765	623	507	424	334	279	223	176	....
870	844	731	600	487	402	330	264	217	175	136	....
720	716	620	508	411	342	278	224	182	148	114	....
580	593	512	419	339	284	228	185	149	121	93.0	....
High Speed Shaft Diameter	3¾	3¾	3¾	3½	3½	3½	3¼	3¼	3¼	3	....

Size No. D390C and DF390C

Motor R.P.M.	STANDARD RATIOS										
	7.7	9.3	11.5	13.9	16.9	20.5	25.1	31.2	37.8	46.9	....
1750	2183	1896	1530	1336	1049	901	701	598	465	375	....
1150	1577	1343	1095	934	747	625	496	412	327	257	....
870	1247	1059	872	732	592	488	392	320	257	199	....
720	1061	899	745	620	505	411	333	269	218	167	....
580	880	745	620	511	419	338	276	221	181	136	....
High Speed Shaft Diameter	4½	4½	4½	4	4	4	3½	3½	3½	3¼	....

Size No. D440C and DF440C

Motor R.P.M.	STANDARD RATIOS										
	7.6	9.3	11.1	13.7	16.9	21.0	25.8	31.5	38.5	45.8	....
1750	....	2475	2138	1736	1439	1171	960	773	625	516	....
1150	2066	1750	1505	1216	1013	813	679	533	441	354	....
870	1637	1382	1186	956	794	636	529	415	345	274	....
720	1394	1175	1007	810	671	537	446	349	290	230	....
580	1158	974	833	669	553	442	366	287	238	188	....
High Speed Shaft Diameter	4½	4½	4½	4½	4½	3¾	3¾	3¾	3¾	3½	....

Size No. D500C and DF500C

Motor R.P.M.	STANDARD RATIOS										
	7.7	9.3	11.6	13.7	16.9	20.4	25.5	31.3	38.5	46.5	....
1750	....	....	2971	2566	2046	1727	1369	1115	882	735	....
1150	2990	2552	2134	1803	1466	1203	975	770	624	504	....
870	2372	2019	1682	1418	1168	942	774	600	493	391	....
720	2022	1718	1429	1203	998	796	653	506	419	329	....
580	1682	1426	1183	994	825	656	537	415	344	269	....
High Speed Shaft Diameter	5½	5½	5½	5½	5	5	5	4	4	3¾	....

Ratios listed are standard but intermediate ratios are available.

Ratings for intermediate ratios and speeds may be found by direct interpolation.

All units may be operated at speeds lower than the minimum shown. The selection of a reducer for a lower speed may be accomplished by multiplying the desired horsepower by 580 and dividing by the desired speed. The result will be the equivalent horsepower at 580 RPM which can be found in the above tables.

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HORSEPOWER RATING TABLES (cont'd.)

TYPE D—DOUBLE REDUCTION UNITS

Size No. DF560C

Motor R.P.M.	STANDARD RATIOS										
	7.5	9.4	11.4	13.7	17.0	20.6	25.1	31.8	37.6	46.7	....
1750	....	....	....	3248	2610	2182	1845	1447	1233	931	....
1150	3758	3219	2756	2286	1874	1523	1282	1001	862	640	....
870	3079	2549	2176	1800	1493	1193	1002	780	671	497	....
720	2628	2171	1850	1528	1265	1009	846	658	565	418	....
580	2188	1803	1533	1264	1044	832	696	540	463	342	....
High Speed Shaft Diameter	5¾	5¾	5¾	5½	5½	5½	5½	4½	4½	3¾	....

Size No. DF640C

Motor R.P.M.	STANDARD RATIOS										
	7.5	9.2	11.2	13.7	16.6	20.8	25.4	30.9	38.3	45.9	....
1750	....	....	....	....	3696	2991	2453	1998	1618	1315	....
1150	....	4537	3646	3157	2663	2093	1756	1387	1145	906	....
870	4347	3650	2926	2492	2108	1643	1375	1083	892	705	....
720	3716	3114	2514	2118	1788	1391	1162	914	752	593	....
580	3099	2590	2108	1755	1479	1148	957	752	617	487	....
High Speed Shaft Diameter	6	6	6	5¾	5¾	5½	5½	5½	5½	4½	....

Size No. DF720C

Motor R.P.M.	STANDARD RATIOS										
	7.6	9.4	11.2	13.9	16.9	20.9	25.2	31.7	38.6	47.3	....
1750	....	....	....	....	....	3974	3402	2631	2198	1732	....
1150	....	6018	5175	4167	3538	2790	2379	1832	1543	1196	....
870	5714	4789	4097	3296	2791	2195	1866	1433	1204	932	....
720	4892	4060	3442	2805	2371	1861	1580	1211	1016	785	....
580	4055	3326	2817	2320	1963	1538	1303	997	835	644	....
High Speed Shaft Diameter	6½	6½	6½	6	6	6	6	5¾	5¾	5½	....

Ratios listed are standard but intermediate ratios are available.
Ratings for intermediate ratios and speeds may be found by direct interpolation.
All units may be operated at speeds lower than the minimum shown. The selection of a reducer for a lower speed may be accomplished by multiplying the desired horsepower by 580 and dividing by the desired speed. The result will be the equivalent horsepower at 580 RPM which can be found in the above tables.

OVERHUNG LOAD CAPACITIES

SLOW SPEED SHAFTS

The table below shows moderate overhung load capacities for standard Type D Reducers. It is assumed that the external load is acting one shaft diameter out from the seal. Special Heavy Overhung Load capacity reducers are available if actual loading exceeds the tabulated values. Consult us for recommendations.
The table below does not apply for double extended slow speed shafts. Present your application to us for recommendations.
The actual load imposed on a shaft for a given condition of service may be determined by the formula on the bottom of page 6. For unusual conditions or in case of doubt present your problems to us for recommendations.
Overhung load capacities are figured at the highest speed shown in horsepower rating tables for each size reducer.

Reducer Number	REDUCTION RATIOS										
	7.6	9.3	11.4	13.9	17.1	20.9	25.6	31.4	38.4	47.1	.....
100C	3,830	3,830	3,830	3,830	3,830	3,830	3,830	3,830	3,830	.....	.....
120C	5,936	6,327	6,755	7,072	7,072	7,072	7,072	7,072	7,072	.....	.....
145C	6,090	6,500	6,953	7,072	7,072	7,072	7,072	7,072	7,072	7,072	.....
170C	9,752	10,412	11,148	11,903	12,689	13,065	13,065	13,065	13,065	13,065	.....
195C	10,397	11,105	11,852	12,698	13,576	14,554	15,523	16,567	16,567	16,567	.....
220C	16,979	18,110	19,197	19,197	19,197	19,197	19,197	19,197	19,197	19,197	.....
250C	18,176	19,369	20,693	22,074	23,625	23,625	23,625	23,625	23,625	23,625	.....
290C	22,607	24,108	25,799	27,603	29,464	31,561	32,130	32,130	32,130	32,130	.....
340C	19,221	20,503	21,956	23,516	25,312	27,047	29,082	31,059	33,274	35,588	.....
390C	21,032	22,481	24,215	25,801	27,894	29,798	32,142	34,253	36,864	39,496	.....
440C	23,533	25,138	26,845	28,959	31,011	33,401	35,806	38,566	41,358	44,385	.....
500C	35,260	37,671	35,680	38,273	41,377	44,446	47,870	51,499	55,399	59,369	.....
560C	36,344	38,931	41,657	39,141	42,303	45,663	48,820	52,795	56,500	61,380	.....
640C	49,806	48,744	52,822	56,507	52,946	57,174	61,396	66,228	70,992	76,443	.....
720C	65,944	64,355	68,748	74,266	79,284	74,820	79,818	86,162	92,041	99,016	.....

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OUTPUT TORQUE RATING TABLES

1000 INCH POUNDS

TYPE D — DOUBLE REDUCTION UNITS

The Output Torque Ratings listed in the tables below are calculated using a Service Factor of 1. See pages 6-8 for information on selecting reducers. See page 29 for Thermal Horsepower Ratings.

Size No. D100C

	STANDARD RATIOS										
Motor R.P.M.	7.6	9.5	11.2	13.9	17.3	21.5	25.5	32.5	37.2	....	....
1750	15.4	15.7	16.0	15.9	16.2	15.6	15.8	15.0	15.2	....	....
1150	16.1	16.4	16.7	16.5	16.8	16.1	16.3	15.4	15.5	....	....
870	16.5	16.8	17.0	16.9	17.1	16.4	16.5	15.7	15.8	....	....
720	16.8	17.1	17.3	17.1	17.3	16.6	16.7	15.8	15.9	....	....
580	17.1	17.3	17.5	17.3	17.5	16.7	16.9	15.9	16.0	....	....

Size No. D120C

	STANDARD RATIOS										
Motor R.P.M.	7.5	9.2	11.3	13.6	16.9	21.3	25.8	31.4	39.4	....	....
1750	25.3	27.3	27.3	27.2	27.8	26.9	27.3	25.9	26.3	....	....
1150	27.9	28.5	28.9	28.3	28.8	27.7	28.1	26.7	27.0	....	....
870	28.8	29.3	29.8	28.9	29.4	28.3	28.6	27.1	27.4	....	....
720	29.2	29.7	30.2	29.3	29.7	28.6	28.9	27.3	27.6	....	....
580	29.8	30.2	30.7	29.7	30.1	28.9	29.2	27.6	27.9	....	....

Size No. D145C

	STANDARD RATIOS										
Motor R.P.M.	7.5	9.1	11.3	14.0	17.3	20.6	25.5	31.7	38.1	47.2	....
1750	42.8	45.3	45.7	45.3	46.3	44.5	45.3	44.0	44.7	42.4	....
1150	46.5	47.5	48.6	47.2	48.1	46.1	46.8	45.4	45.9	43.4	....
870	47.9	48.9	49.8	48.4	49.2	47.0	47.7	46.2	46.6	44.1	....
720	48.8	49.7	50.6	49.1	49.8	47.6	48.2	46.6	47.1	44.5	....
580	49.8	50.6	51.5	49.8	50.5	48.3	48.8	47.2	47.6	44.9	....

Size No. D170C and DF170C

	STANDARD RATIOS										
Motor R.P.M.	7.5	9.2	11.1	13.9	16.9	20.3	25.5	30.9	37.5	47.4	....
1750	66.7	70.6	69.1	71.6	73.2	72.3	69.5	70.8	69.8	69.5	....
1150	73.7	75.5	73.9	74.8	76.2	75.1	73.5	73.2	73.5	71.4	....
870	76.2	77.8	76.9	76.8	78.1	76.8	75.9	74.5	75.4	72.5	....
720	77.7	79.3	78.9	78.0	79.2	77.9	77.5	75.4	76.2	73.2	....
580	79.4	80.8	80.9	79.3	80.4	79.0	79.1	76.3	77.0	73.9	....

Size No. D195C and DF195C

	STANDARD RATIOS										
Motor R.P.M.	7.5	9.5	11.5	13.7	16.8	20.6	25.1	30.9	38.7	47.8	....
1750	92.4	101	103	103	103	103	105	101	100	97.9	....
1150	103	106	109	108	110	107	109	104	106	101	....
870	107	110	112	111	113	110	111	107	108	102	....
720	109	112	114	113	114	111	113	108	109	103	....
580	111	114	116	115	116	113	114	109	110	105	....

Size No. D220C and DF220C

	STANDARD RATIOS										
Motor R.P.M.	7.5	9.3	11.4	14.1	17.4	21.3	25.3	31.5	37.9	46.3	....
1750	126	137	134	138	142	141	143	138	140	135	....
1150	142	146	144	145	148	147	149	143	145	140	....
870	147	151	151	149	152	150	152	146	147	142	....
720	151	154	155	152	155	152	154	147	149	144	....
580	154	158	159	155	157	155	157	149	151	145	....

Size No. D250C and DF250C

	STANDARD RATIOS										
Motor R.P.M.	7.7	9.3	11.5	13.7	16.9	20.4	25.6	31.1	38.5	47.9	....
1750	188	194	196	200	195	198	198	199	191	188	....
1150	201	206	211	210	209	207	211	207	203	194	....
870	208	213	218	217	218	213	217	211	210	198	....
720	213	218	223	221	223	216	220	214	214	200	....
580	219	223	228	225	229	220	223	217	219	202	....

Ratings shown are in thousands of in. lbs. at low speed shaft.
Ratings for intermediate ratios and speeds may be found by direct interpolation.
For input speeds lower than speeds shown, use torque rating for minimum speed shown in table.

TORQUE

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OUTPUT TORQUE RATING TABLES (Cont'd.)

1000 INCH POUNDS

TYPE D — DOUBLE REDUCTION UNITS

Size No. D290C and DF290C

	STANDARD RATIOS										
Motor R.P.M.	7.5	9.1	11.3	14.0	17.3	20.6	25.2	31.7	37.9	45.8	....
1750	276	284	284	289	293	287	293	287	292	278	....
1150	295	303	307	305	312	300	306	299	303	288	....
870	306	314	322	315	321	309	314	306	310	293	....
720	314	321	329	321	327	314	319	310	314	297	....
580	322	329	337	327	333	320	324	315	318	301	....

Size No. D340C and DF340C

	STANDARD RATIOS										
Motor R.P.M.	7.7	9.1	11.4	14.1	17.0	20.5	25.5	30.5	38.3	47.2	....
1750	421	433	443	453	438	453	435	448	438	439	....
1150	452	463	478	480	473	476	467	467	468	455	....
870	471	482	496	496	494	490	487	479	486	465	....
720	483	493	507	507	509	499	500	486	495	471	....
580	496	506	519	518	524	508	514	494	502	477	....

Size No. D390C and DF390C

	STANDARD RATIOS										
Motor R.P.M.	7.7	9.3	11.5	13.9	16.9	20.5	25.1	31.2	37.8	46.9	....
1750	606	637	633	667	638	667	632	672	633	634	....
1150	666	687	689	709	690	703	681	703	677	660	....
870	696	716	725	735	723	726	711	722	705	675	....
720	716	735	749	752	745	740	730	734	722	685	....
580	737	755	774	770	769	755	752	747	741	695	....

Size No. D440C and DF440C

	STANDARD RATIOS										
Motor R.P.M.	7.6	9.3	11.1	13.7	16.9	21.0	25.8	31.5	38.5	45.8	....
1750	....	826	854	858	880	885	892	877	867	851	....
1150	860	889	915	916	942	936	959	920	930	887	....
870	901	928	953	951	976	967	988	946	964	909	....
720	927	954	977	973	997	987	1007	963	979	923	....
580	956	982	1004	998	1021	1008	1027	980	996	937	....

Size No. D500C and DF500C

	STANDARD RATIOS										
Motor R.P.M.	7.7	9.3	11.6	13.7	16.9	20.4	25.5	31.3	38.5	46.5	....
1750	....	....	1236	1264	1243	1271	1255	1258	1221	1231	....
1150	1263	1305	1351	1351	1355	1347	1360	1323	1315	1285	....
870	1324	1365	1408	1405	1427	1394	1427	1362	1374	1318	....
720	1364	1404	1445	1440	1474	1423	1456	1387	1412	1338	....
580	1409	1446	1486	1477	1512	1455	1486	1413	1437	1360	....

Size No. DF560C

	STANDARD RATIOS										
Motor R.P.M.	7.5	9.4	11.4	13.7	17.0	20.6	25.1	31.8	37.6	46.7	....
1750	....	....	....	1604	1599	1618	1666	1657	1669	1564	....
1150	1550	1663	1716	1718	1747	1718	1762	1744	1777	1636	....
870	1679	1741	1791	1789	1840	1780	1820	1797	1827	1679	....
720	1731	1792	1840	1834	1883	1819	1857	1831	1859	1706	....
580	1789	1847	1893	1884	1930	1861	1897	1867	1893	1735	....

Size No. DF640C

	STANDARD RATIOS										
Motor R.P.M.	7.5	9.2	11.2	13.7	16.6	20.8	25.4	30.9	38.3	45.9	....
1750	....	....	....	....	2212	2236	2246	2220	2233	2174	....
1150	....	2289	2248	2367	2425	2381	2447	2346	2406	2280	....
870	2349	2435	2385	2470	2538	2471	2532	2422	2477	2343	....
720	2426	2509	2475	2536	2601	2528	2586	2471	2523	2384	....
580	2512	2591	2577	2608	2670	2590	2645	2523	2571	2427	....

Ratings shown are in thousands of in. lbs. at low speed shaft.
Ratings for intermediate ratios and speeds may be found by direct interpolation.
For input speeds lower than speeds shown, use torque rating for minimum speed shown in table.

TORQUE

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OUTPUT TORQUE RATING TABLES (Cont'd.)

1000 INCH POUNDS

TYPE D—DOUBLE REDUCTION UNITS

Size No. DF720C

Motor R.P.M.	STANDARD RATIOS										
	7.6	9.4	11.2	13.9	16.9	20.9	25.2	31.7	38.6	47.3	....
1750	....	....	....	....	....	2997	3090	3006	3053	2952	....
1150	....	3097	3186	3169	3271	3203	3288	3184	3261	3103	....
870	3135	3258	3334	3314	3410	3330	3410	3292	3364	3195	....
720	3243	3337	3385	3407	3500	3411	3488	3362	3429	3252	....
580	3337	3394	3439	3499	3598	3500	3572	3436	3500	3314	....

Ratings shown are in thousands of in. lbs. at low speed shaft.
Ratings for intermediate ratios and speeds may be found by direct interpolation.
For input speeds lower than speeds shown, use torque rating for minimum speed shown in table.

THERMAL HORSEPOWER RATINGS

TYPE D—DOUBLE REDUCTION UNITS

The Thermal Horsepower Rating listed here for a particular unit at a given ratio and speed must be equal to or higher than the ACTUAL HORSEPOWER DELIVERED.

The Table below must be used to check the selection of a gear unit after the selection has been made on the basis of mechanical rating shown on pages 24-26.

Size No.	High Speed Shaft R.P.M.	RATIOS										
		7.6	9.3	11.4	13.9	17.1	20.9	25.6	31.4	38.4	47.1	....
100C	1750	32.3	33.1	34.4	....	....	....	....	....	....	....	....
	1150	....	....	....	....	....	....	....	....	....	....	....
	870	....	....	....	....	....	....	....	....	....	....	....
	720	....	....	....	....	....	....	....	....	....	....	....
	580	....	....	....	....	....	....	....	....	....	....	....
120C	1750	45.5	56.9	59.1	....	....	....	....	....	....	....	....
	1150	67.1	....	....	....	....	....	....	....	....	....	....
	870	....	....	....	....	....	....	....	....	....	....	....
	720	....	....	....	....	....	....	....	....	....	....	....
	580	....	....	....	....	....	....	....	....	....	....	....
145C	1750	55.6	56.9	59.1	61.3	63.0	....	....	....	....	....	....
	1150	67.1	68.8	70.1	....	....	....	....	....	....	....	....
	870	73.7	....	....	....	....	....	....	....	....	....	....
	720	....	....	....	....	....	....	....	....	....	....	....
	580	....	....	....	....	....	....	....	....	....	....	....
170C	1750	77.8	79.7	82.8	85.9	88.2	90.9	....	....	....	....	....
	1150	93.9	96.3	98.2	....	....	....	....	....	....	....	....
	870	103	105	....	....	....	....	....	....	....	....	....
	720	108	....	....	....	....	....	....	....	....	....	....
	580	....	....	....	....	....	....	....	....	....	....	....
195C	1750	103	106	110	114	117	120	....	....	....	....	....
	1150	124	128	130	133	....	....	....	....	....	....	....
	870	137	139	....	....	....	....	....	....	....	....	....
	720	143	....	....	....	....	....	....	....	....	....	....
	580	....	....	....	....	....	....	....	....	....	....	....
220C	1750	128	131	137	142	145	150	153	....	....	....	....
	1150	155	159	162	166	....	....	....	....	....	....	....
	870	170	173	175	....	....	....	....	....	....	....	....
	720	178	180	....	....	....	....	....	....	....	....	....
	580	184	....	....	....	....	....	....	....	....	....	....
250C	1750	164	168	174	181	185	191	196	....	....	....	....
	1150	198	203	207	211	215	....	....	....	....	....	....
	870	217	220	224	....	....	....	....	....	....	....	....
	720	227	229	....	....	....	....	....	....	....	....	....
	580	235	....	....	....	....	....	....	....	....	....	....
290C	1750	200	204	213	221	227	234	240	246	....	....	....
	1150	242	248	252	258	263	....	....	....	....	....	....
	870	265	269	273	277	....	....	....	....	....	....	....
	720	277	280	284	....	....	....	....	....	....	....	....
	580	287	290	....	....	....	....	....	....	....	....	....
340C	1750	253	259	269	279	286	295	303	310	316	....	....
	1150	305	313	319	326	333	339	....	....	....	....	....
	870	335	340	345	350	355	....	....	....	....	....	....
	720	350	354	359	364	....	....	....	....	....	....	....
	580	363	366	371	....	....	....	....	....	....	....	....
390C	1750	308	316	328	340	349	359	369	378	388	....	....
	1150	372	381	389	398	406	413	421	....	....	....	....
	870	408	415	421	427	433	439	....	....	....	....	....
	720	427	432	438	444	448	....	....	....	....	....	....
	580	442	447	453	458	....	....	....	....	....	....	....
440C	1750	....	362	376	390	401	413	424	434	443	448	....
	1150	427	438	446	457	466	474	483	490	....	....	....
	870	469	476	483	490	497	504	511	....	....	....	....
	720	490	495	502	509	515	522	....	....	....	....	....
	580	508	513	520	525	530	....	....	....	....	....	....
500C	1750	....	....	419	435	447	460	472	484	493	499	....
	1150	476	488	497	509	519	528	538	546	554	....	....
	870	522	530	538	546	554	562	569	577	....	....	....
	720	546	552	560	567	573	581	589	....	....	....	....
	580	565	571	579	585	591	597	....	....	....	....	....
560C	1750	....	....	....	474	487	502	514	527	538	544	....
	1150	519	531	542	555	565	576	587	595	604	610	....
	870	570	578	587	595	604	612	621	629	633	....	....
	720	595	601	610	618	625	633	642	648	....	....	....
	580	616	623	631	638	644	650	657	....	....	....	....
640C	1750	....	....	....	....	538	555	569	583	595	602	....
	1150	....	....	....	....	625	637	649	658	667	674	....
	870	630	588	599	613	667	677	686	696	700	....	....
	720	658	639	649	658	691	700	710	717	721	....	....
	580	....	665	674	684	....	....	....	....	....	....	....
720C	1750	....	....	....	....	....	590	605	620	633	640	....
	1150	....	625	638	653	665	678	690	700	710	718	....
	870	670	680	690	700	710	720	730	740	745	753	....
	720	700	708	718	728	735	745	755	763	768	770	....
	580	725	733	743	750	758	765	773	783	785	....	....

NOTE: Where Thermal Horsepower Ratings are not shown at the right hand side of the above tables, the Thermal Horsepower Rating is higher than the Mechanical Rating of the Reducer shown on pages 24-26 for that ratio and speed.

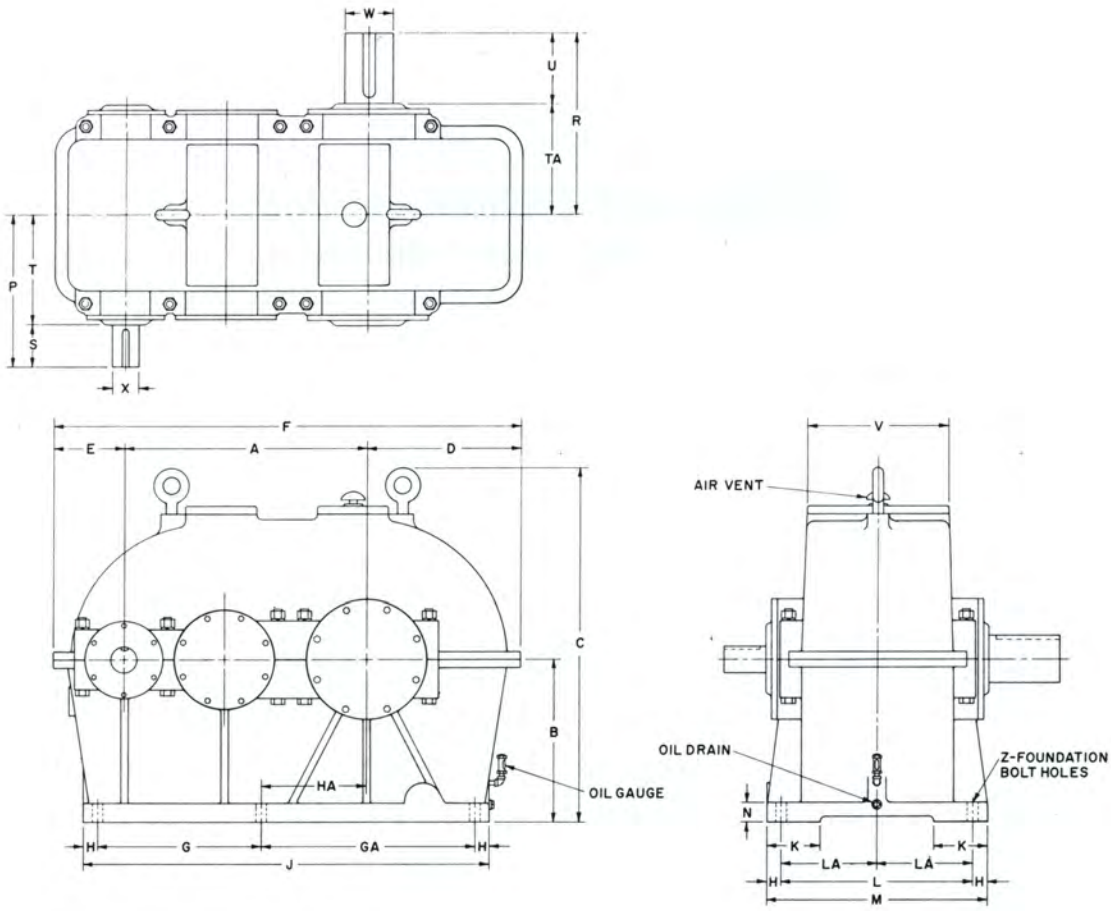
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GENERAL DIMENSIONS

TYPE D

DOUBLE REDUCTION GEAR REDUCERS

CAST IRON HOUSING



Size No.	A	B	C	D	E	F	G	GA	H	HA	J	K	L	LA	M	N	P	R	S	T	TA	U	V	W*	X*	Z-Bolt Holes	Approximate Oil Capacity, Gallons Min. Ratio	Approximate Oil Capacity, Gallons Max. Ratio	Weight
D100C.....	10	8	17½	7½	3¾	21¼	8¼	8¼	¾	3⅛	18		10	5	11½	1	9	11¾	2¼	6¾	6¾	5	8	2½	For High Speed Shaft Dia. See Table of H.P. Ratings on Pages 24-26.	6–9/16	3½	2	275
D120C.....	12	9½	21½	9	4½	25½	9¾	9¾	⅞	3¾	21¼	3½	12	6	13¾	1	10	13¼	2⅝	7⅜	7⅜	5⅞	9½	3¼		6– ⅞	6	4	630
D145C.....	14½	10½	24¼	11	6	31½	12	12	1	4¾	26	4	13½	6¾	15½	1¼	11½	14¼	3⅛	8⅜	8⅜	5⅞	10½	3¼		6– ⅞	10	7	950
D170C.....	17	12½	28¼	12	6½	35½	14	14	1	5¾	30	4	15	7½	17	1½	13½	17	4	9½	9⅝	7⅜	12	4		6– ⅞	14	11	1,350
D195C.....	19½	14	30¾	14	6½	40	17	15	1¼	5	34½	4½	17½	8¾	20	1½	15¼	19	4⅜	10⅞	11	8	14	4½		6–1⅛	17	14	1,750
D220C.....	22	15	35¾	15	7½	44½	14½	21	1¼	10½	38	5	19	9½	21½	1¾	17	21	5¼	11¾	11⅞	9⅛	15	5		6–1⅛	22	17	2,350
D250C.....	25	17	39¾	17	8	50	17	23	1½	11	43	6	21	10½	24	2	18½	23	5⅞	12⅝	12⅞	10⅛	15	5½		6–1⅜	32	25	3,000
D290C.....	29	20	44½	19	9	57	20	27	1½	13	50	6½	24	12	27	2½	20	24½	6⅜	13⅝	13⅞	10⅝	18	6		6–1⅜	45	35	4,100
D340C.....	34	23	51¾	21½	10	65½	23	30	2	14¾	57	7	27	13½	31	2¾	22½	27¾	7⅛	15⅜	15⅝	12⅛	20½	7½		6–1⅝	65	45	6,200
D390C.....	39	27	58½	26½	10½	76	2 @ 23½	16	2	19½	67	8	30	15	34	3	25	31	7⅞	17⅛	17⅜	13⅝	23	8		8–1⅜	100	85	8,600
D440C.....	44	30	63¾	29	12	85	2 @ 26½	17	2	22	74	9	34	17	38	3¼	26½	34	8	18½	18¾	15¼	25	9		8–1⅝	150	120	11,700
D500C.....	50	32	67¼	31	13½	94½	3 @ 20½	20½	2	16¼	86	9	36	18	40	3¼	31	38	9⅜	21⅝	21⅞	16⅛	30¼	10		10–1⅜	190	150	17,900

All dimensions are in inches.

* For Shaft Keyways, see Table of Standard Keyways Page 48.

Above dimensions are not to be used for installation. USE CERTIFIED INSTALLATION PRINT.

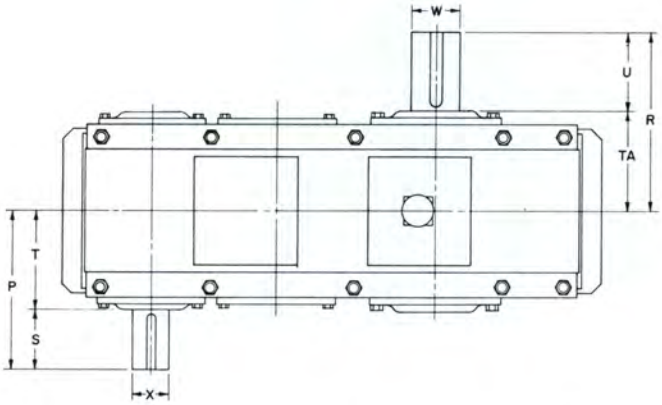
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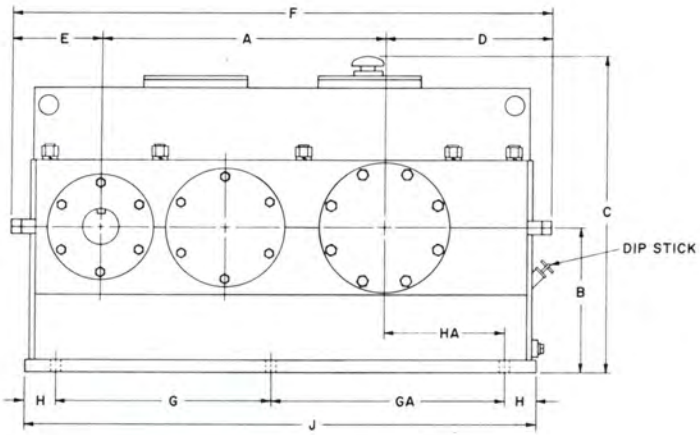
GENERAL DIMENSIONS

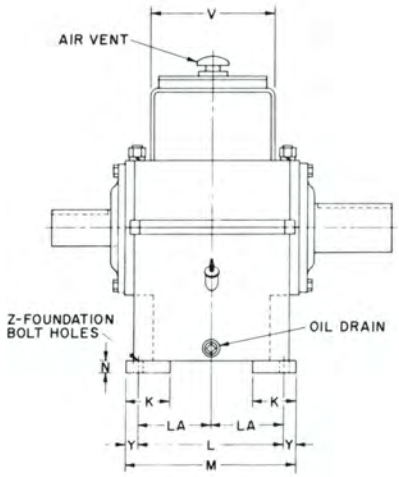
TYPE D

DOUBLE REDUCTION GEAR REDUCERS

FABRICATED STEEL HOUSING







Size No.	A	B	C	D	E	F	G	GA	H	HA	J	K	L	LA	M	N	P	R	S	T	TA	U	V	W*	Y	X*	Z-Bolt Holes	Approximate Oil Capacity, Gallons Min. Ratio	Approximate Oil Capacity, Gallons Max. Ratio	Weight
DF170C..	17	12½	27	12½	7	36½	14	14	2¾	8¼	33½	5	15	7½	17	1¼	13½	17	4	9½	9⅝	7⅜	11½	4	1	For High Speed Shaft Dia. See Table of H.P. Ratings on Pages 24-26.	6– ⅞	15	12	1,350
DF195C..	19½	14	30	14¾	7¼	41½	17	15	3¼	10	38½	6	17½	8¾	20	1¼	15¼	19	4⅜	10⅞	11	8	13	4½	1¼		6–1⅛	19	16	1,750
DF220C..	22	15	32	15½	8	45½	14½	21	3½	10½	42½	6	19	9½	21½	1¼	17	21	5¼	11¾	11⅞	9⅛	14¼	5	1¼		6–1⅛	24	19	2,350
DF250C..	25	17	36	17½	8½	51	17	23	4	12	48	7	21	10½	24	1¼	18½	23	5⅞	12⅝	12⅞	10⅛	15¼	5½	1½		6–1⅜	34	26	3,100
DF290C..	29	20	40½	19¾	9¾	58½	20	27	4¼	14	55½	8	24	12	27	1¾	20	24½	6⅜	13⅜	13⅞	10⅝	19¼	6	1½		6–1⅜	48	39	4,200
DF340C..	34	23	46	22	10½	66½	23	30	5¼	15¼	63½	8	27	13½	31	1¾	22½	27¾	7⅛	15⅜	15⅝	12⅛	20¾	7½	2		6–1⅝	74	58	6,500
DF390C..	39	27	54	27	11	77	2 @ 23½	16	5½	20	74	8	30	15	34	1¾	25	31	7⅞	17⅛	17⅜	13⅝	23¼	8	2		8–1⅝	114	94	8,800
DF440C..	44	30	60	29½	12½	86	2 @ 26½	17	6½	21½	83	9	34	17	38	1¾	26½	34	8	18½	18¾	15¼	24½	9	2		8–1⅝	155	120	11,800
DF500C..	50	32	64½	31½	14	95½	3 @ 20½	20½	5¼	24¾	92½	9	36	18	40	2¾	31	38	9⅜	21⅝	21⅞	16⅛	30¾	10	2		10–1⅝	190	150	16,500
DF560C..	56	34	69	34	14½	104½	3 @ 22½	22½	5¾	26¾	101½	9	38	19	42	2¾	32	41	9½	22½	22¾	18¼	31	11	2		10–1⅝	230	170	23,000
DF640C..	64	38	77	38	16	118	3 @ 25½	25½	6½	30	115	9	40	20	44	2¾	34	43	10⅜	23⅝	23⅞	19⅛	33¼	11¾	2		10–1⅞	300	220	33,000
DF720C..	72	44	88½	43½	16	131½	3 @ 29	29	6¼	35¾	128½	9	44	22	48	2¾	36½	47	11⅛	25⅜	25⅝	21⅜	35¾	13	2		10–1⅞	450	330	46,000

All dimensions are in inches.
* For Shaft Keyways, see Table of Standard Keyways Page 48.

Above dimensions are not to be used for installation.
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HORSEPOWER RATING TABLES

TYPE T—TRIPLE REDUCTION UNITS

The Horsepower Ratings listed in the tables below are Mechanical ratings calculated by the A.G.M.A. formula using a Service Factor of 1. See pages 6-8 for information on selecting reducers. See page 37 for Thermal Horsepower Ratings.

Size No. T145C

Motor R.P.M.	STANDARD RATIOS								
	58.2	71.6	86.5	107.2	129.4	160.4	193.3	240.9	293.0
1750	23.6	20.4	17.8	14.5	11.5	9.38	7.84	6.13	5.07
1150	17.4	14.3	11.9	9.70	7.70	6.25	5.22	4.08	3.37
870	13.3	10.9	9.12	7.41	5.88	4.77	3.98	3.11	2.57
720	11.1	9.11	7.60	6.17	4.89	3.97	3.31	2.58	2.13
580	9.04	7.39	6.16	4.99	3.96	3.21	2.68	2.09	1.72
High Speed Shaft Diameter	⅞	⅞	⅞	⅞	⅞	⅞	¾	¾	¾

Size No. T170C and TF170C

Motor R.P.M.	STANDARD RATIOS								
	57.6	71.1	86.7	103.8	128.2	160.1	197.2	239.2	294.6
1750	41.8	34.3	28.4	23.9	18.9	15.3	12.5	9.73	7.95
1150	28.1	23.0	19.1	16.0	12.7	10.2	8.35	6.48	5.29
870	21.6	17.7	14.6	12.3	9.67	7.80	6.37	4.93	4.03
720	18.0	14.7	12.2	10.2	8.05	6.49	5.29	4.10	3.35
580	14.6	11.9	9.87	8.28	6.53	5.25	4.29	3.32	2.71
High Speed Shaft Diameter	1¼	1¼	1¼	1⅛	1⅛	1⅛	1⅛	1⅛	1⅛

Size No. T195C and TF195C

Motor R.P.M.	STANDARD RATIOS								
	58.2	70.7	86.5	105.7	128.3	156.8	198.2	234.2	293.8
1750	56.2	49.0	40.9	33.9	26.6	21.9	17.5	13.9	11.2
1150	40.1	33.3	27.5	22.7	17.8	14.7	11.7	9.30	7.46
870	30.8	25.5	21.1	17.4	13.6	11.2	8.92	7.09	5.68
720	25.7	21.3	17.6	14.5	11.3	9.32	7.42	5.89	4.72
580	20.9	17.3	14.3	11.8	9.18	7.55	6.01	4.77	3.82
High Speed Shaft Diameter	1½	1½	1½	1½	1½	1½	1⅜	1⅜	1⅜

Size No. T220C and TF220C

Motor R.P.M.	STANDARD RATIOS								
	57.2	71.9	85.3	107.1	132.5	158.9	193.9	235.8	287.7
1750	77.2	65.6	55.9	45.1	34.8	29.2	24.2	19.4	16.0
1150	54.9	44.2	37.6	30.3	23.3	19.5	16.1	12.9	10.7
870	42.2	33.9	28.8	23.2	17.8	14.9	12.3	9.88	8.14
720	35.2	28.3	24.1	19.3	14.8	12.4	10.3	8.22	6.77
580	28.7	23.0	19.5	15.7	12.0	10.1	8.31	6.65	5.48
High Speed Shaft Diameter	1½	1½	1½	1½	1¼	1¼	1¼	1¼	1¼

Size No. T250C and TF250C

Motor R.P.M.	STANDARD RATIOS								
	57.4	70.3	85.0	106.4	127.3	159.3	191.5	233.9	293.2
1750	113	96.3	80.7	65.3	52.9	42.8	35.9	27.7	22.3
1150	78.7	65.0	54.3	43.9	35.5	28.7	24.0	18.5	14.9
870	60.5	49.9	41.7	33.6	27.2	21.9	18.4	14.1	11.4
720	50.6	41.7	34.8	28.0	22.7	18.3	15.3	11.8	9.44
580	41.2	33.9	28.3	22.8	18.4	14.8	12.4	9.53	7.64
High Speed Shaft Diameter	1¾	1¾	1¾	1¾	1¾	1¾	1¼	1¼	1¼

Size No. T290C and TF290C

Motor R.P.M.	STANDARD RATIOS								
	58.6	70.9	87.0	104.3	130.2	156.2	194.1	234.8	291.8
1750	163	140	115	97.8	75.5	63.6	51.7	40.3	32.8
1150	113	94.8	78.1	65.8	50.7	42.6	34.6	26.9	21.8
870	87.2	72.8	59.9	50.4	38.8	32.6	26.4	20.6	16.7
720	72.9	60.9	50.1	42.1	32.4	27.2	22.0	17.1	13.9
580	59.4	49.5	40.7	34.2	26.3	22.0	17.9	13.9	11.2
High Speed Shaft Diameter	2	2	2	2	2	2	1½	1½	1½

Ratios listed are standard but intermediate ratios are available.

Ratings for intermediate ratios and speeds may be found by direct interpolation.

All units may be operated at speeds lower than the minimum shown. The selection of a reducer for a lower speed may be accomplished by multiplying the desired horsepower by 580 and dividing by the desired speed. The result will be the equivalent horsepower at 580 RPM which can be found in the above tables.

HORSEPOWER

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HORSEPOWER RATING TABLES (Cont'd.)

TYPE T—TRIPLE REDUCTION UNITS

Size No. T340C and TF340C

Motor R.P.M.	STANDARD RATIOS								
	56.9	70.2	87.7	107.8	127.4	156.5	198.7	240.9	293.3
1750	262	221	180	148	122	101	80.8	63.2	52.4
1150	182	150	121	100	82.7	68.0	54.1	42.3	34.9
870	140	115	93.7	77.0	63.4	52.1	41.4	32.3	26.7
720	117	96.7	78.3	64.3	52.9	43.4	34.5	26.9	22.2
580	96.2	78.8	63.7	52.3	42.9	35.2	27.9	21.8	18.0
High Speed Shaft Diameter	2¼	2¼	2¼	2¼	2¼	1¾	1¾	1¾	1¾

Size No. T390C and TF390C

Motor R.P.M.	STANDARD RATIOS								
	57.2	69.9	85.7	107.2	132.5	158.7	195.5	241.8	297.8
1750	403	336	279	226	176	148	122	93.5	76.7
1150	274	228	188	153	118	100	82.1	62.6	51.3
870	212	176	145	117	91.2	76.7	62.8	47.9	39.2
720	177	147	121	98.2	76.1	64.0	52.4	39.9	32.6
580	145	120	99.0	79.9	61.9	51.9	42.5	32.4	26.4
High Speed Shaft Diameter	3	3	3	3	2¼	2¼	2¼	2¼	2¼

Size No. T440C and TF440C

Motor R.P.M.	STANDARD RATIOS								
	58.6	71.3	87.1	106.4	131.2	160.4	191.7	242.5	290.2
1750	514	430	358	297	230	190	161	124	104
1150	350	292	242	201	155	128	108	83.5	70.3
870	270	225	187	154	119	98.6	83.1	63.9	53.7
720	227	189	156	129	99.6	82.3	69.3	53.2	44.8
580	185	154	127	105	81.0	66.9	56.3	43.2	36.3
High Speed Shaft Diameter	3¼	3¼	3¼	3¼	3¼	2¼	2¼	2¼	2¼

Size No. T500C and TF500C

Motor R.P.M.	STANDARD RATIOS								
	57.4	70.1	88.0	107.3	128.1	156.1	193.9	237.4	294.9
1750	793	663	538	449	357	297	242	187	152
1150	542	451	365	304	241	200	163	125	102
870	419	348	281	234	185	153	125	96.4	78.3
720	351	292	235	195	155	128	104	80.4	65.2
580	287	238	192	159	126	104	84.8	65.3	52.9
High Speed Shaft Diameter	3½	3½	3½	3½	2¾	2¾	2¾	2¾	2¾

Size No. TF560C

Motor R.P.M.	STANDARD RATIOS								
	58.7	71.0	87.2	104.5	130.9	156.9	190.9	235.7	287.0
1750	985	830	688	583	448	379	315	249	207
1150	673	566	468	395	303	255	212	167	139
870	521	437	361	304	233	196	163	128	106
720	437	366	302	255	194	164	135	107	88.8
580	357	299	246	207	158	133	109	87.1	72.1
High Speed Shaft Diameter	3¾	3¾	3¾	3¾	3¼	3¼	3¼	2¾	2¾

Size No. TF640C

Motor R.P.M.	STANDARD RATIOS								
	56.7	72.0	86.3	106.1	129.4	158.1	197.0	234.3	291.9
1750	1311	1112	936	768	632	525	425	341	277
1150	935	745	626	513	425	350	283	229	186
870	716	570	478	392	325	267	251	176	142
720	597	475	398	326	270	222	179	147	119
580	485	385	323	264	219	180	145	119	96.6
High Speed Shaft Diameter	4	4	4	4	3½	3½	3¼	3¼	3¼

Ratios listed are standard but intermediate ratios are available.
Ratings for intermediate ratios and speeds may be found by direct interpolation.
All units may be operated at speeds lower than the minimum shown. The selection of a reducer for a lower speed may be accomplished by multiplying the desired horsepower by 580 and dividing by the desired speed. The result will be the equivalent horsepower at 580 RPM which can be found in the above tables.

HORSEPOWER

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HORSEPOWER RATING TABLES (Cont'd.)

TYPE T—TRIPLE REDUCTION UNITS

Size No. TF720C

Motor R.P.M.	STANDARD RATIOS								
	56.6	69.4	87.5	104.5	132.4	157.6	194.2	242.5	285.8
1750	1755	1448	1162	982	786	665	544	439	374
1150	1180	972	779	657	525	443	362	292	249
870	904	744	595	502	401	338	276	222	189
720	754	620	496	418	333	281	229	185	157
580	613	504	402	339	270	228	186	149	127
High Speed Shaft Diameter	4½	4½	4½	4½	3½	3½	3½	3½	3½

Ratios listed are standard but intermediate ratios are available.

Ratings for intermediate ratios and speeds may be found by direct interpolation.

All units may be operated at speeds lower than the minimum shown. The selection of a reducer for a lower speed may be accomplished by multiplying the desired horsepower by 580 and dividing by the desired speed. The result will be the equivalent horsepower at 580 RPM which can be found in the above tables.

OVERHUNG LOAD CAPACITIES

SLOW SPEED SHAFTS

The table below shows moderate overhung load capacities for standard Type T Reducers. It is assumed that the external load is acting one shaft diameter out from the seal. Special Heavy Overhung Load capacity reducers are available if actual loading exceeds the tabulated values. Consult us for recommendations.

The table below does not apply for double extended slow speed shafts. Present your application to us for recommendations.

The actual load imposed on a shaft for a given condition of service may be determined by the formula on the bottom of page 6. For unusual conditions or in case of doubt present your problems to us for recommendations.

Overhung load capacities are figured at the highest speed shown in horsepower rating tables for each size reducer.

Reducer Number	REDUCTION RATIOS								
	57.7	70.6	86.5	105.9	129.7	158.9	194.6	238.4	291.9
145C	7,072	7,072	7,072	7,072	7,072	7,072	7,072	7,072	7,072
170C	13,065	13,065	13,065	13,065	13,065	13,065	13,065	13,065	13,065
195C	16,567	16,567	16,567	16,567	16,567	16,567	16,567	16,567	16,567
220C	19,197	19,197	19,197	19,197	19,197	19,197	19,197	19,197	19,197
250C	23,625	23,625	23,625	23,625	23,625	23,625	23,625	23,625	23,625
290C	32,130	32,130	32,130	32,130	32,130	32,130	32,130	32,130	32,130
340C	37,241	39,738	42,401	45,231	46,441	46,441	46,441	46,441	46,441
390C	40,931	43,729	46,704	49,861	53,627	55,683	55,683	55,683	55,683
440C	46,248	49,421	52,800	56,405	60,743	64,817	69,161	74,034	74,065
500C	61,196	65,461	69,998	74,822	80,868	86,314	90,874	90,874	90,874
560C	63,054	67,490	72,209	77,279	83,462	89,176	95,295	101,849	101,849
640C	79,031	84,603	90,609	96,941	104,010	111,069	118,692	120,683	120,683
720C	103,767	110,875	118,463	126,558	135,313	144,444	154,143	162,363	162,363

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OUTPUT TORQUE RATING TABLES

1000 INCH POUNDS

TYPE T—TRIPLE REDUCTION UNITS

The Output Torque Ratings listed in the tables below are calculated using a Service Factor 1. See pages 6-8 for information on selecting reducers. See page 37 for Thermal Horsepower Ratings.

Size No. T145C

Motor R.P.M.	STANDARD RATIOS								
	58.2	71.6	86.5	107.2	129.4	160.4	193.3	240.9	293.0
1750	49.4	52.6	55.5	56.0	53.7	54.2	54.6	53.2	53.5
1150	55.5	56.1	56.5	57.0	54.6	55.0	55.3	53.9	54.1
870	56.2	56.7	57.1	57.5	55.1	55.4	55.7	54.2	54.5
720	56.7	57.1	57.5	57.9	55.4	55.7	55.9	54.5	54.7
580	57.1	57.5	57.9	58.2	55.7	56.0	56.2	54.7	54.9

Size No. T170C and TF170C

Motor R.P.M.	STANDARD RATIOS								
	57.6	71.1	86.7	103.8	128.2	160.1	197.2	239.2	294.6
1750	86.7	87.8	88.7	89.6	87.5	88.3	89.0	83.8	84.4
1150	88.8	89.7	90.6	91.3	89.0	89.7	90.3	84.9	85.4
870	90.0	90.9	91.6	92.2	89.8	90.5	91.0	85.5	85.9
720	90.8	91.6	92.3	92.8	90.4	90.9	91.4	85.9	86.3
580	91.6	92.3	92.9	93.4	90.9	91.4	91.9	86.3	86.6

Size No. T195C and TF195C

Motor R.P.M.	STANDARD RATIOS								
	58.2	70.7	86.5	105.7	128.3	156.8	198.2	234.2	293.8
1750	118	125	128	129	123	124	125	118	119
1150	128	129	130	132	125	126	127	119	120
870	130	131	132	133	126	127	128	120	121
720	131	132	133	134	127	128	129	121	122
580	132	133	134	135	128	129	129	121	122

Size No. T220C and TF220C

Motor R.P.M.	STANDARD RATIOS								
	57.2	71.9	85.3	107.1	132.5	158.9	193.9	235.8	287.7
1750	159	170	172	174	166	167	169	165	166
1150	172	174	176	178	169	170	172	167	168
870	175	177	178	180	171	172	173	169	170
720	176	178	180	181	172	173	174	170	170
580	178	180	181	183	173	174	175	170	171

Size No. T250C and TF250C

Motor R.P.M.	STANDARD RATIOS								
	57.4	70.3	85.0	106.4	127.3	159.3	191.5	233.9	293.2
1750	234	244	247	250	243	246	248	234	236
1150	247	250	253	256	248	250	252	237	239
870	252	254	257	259	251	253	255	240	241
720	254	257	259	261	253	255	256	241	242
580	257	259	261	263	255	256	258	242	244

Size No. T290C and TF290C

Motor R.P.M.			STANDARD RATIOS						
	58.6	70.9	87.0	104.3	130.2	156.2	194.1	234.8	291.8
1750	344	358	363	367	354	358	361	341	344
1150	364	368	373	376	362	365	368	347	349
870	370	374	378	381	366	369	372	350	352
720	374	378	381	384	369	371	374	352	354
580	378	382	385	388	372	374	377	354	356

Ratings shown are in thousands of in. lbs. at low speed shaft.
Ratings for intermediate ratios and speeds may be found by direct interpolation.
For input speeds lower than speeds shown, use torque rating for minimum speed shown in table.

TORQUE

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OUTPUT TORQUE RATING TABLES (Cont'd.)

1000 INCH POUNDS

TYPE T—TRIPLE REDUCTION UNITS

Size No. T340C and TF340C

Motor R.P.M.	STANDARD RATIOS								
	56.9	70.2	87.7	107.8	127.4	156.5	198.7	240.9	293.3
1750	537	561	570	578	564	571	578	549	554
1150	570	578	586	593	578	583	590	559	563
870	580	588	595	601	585	591	596	564	568
720	587	594	601	606	590	595	600	568	571
580	594	601	607	612	595	599	604	571	574

Size No. T390C and TF390C

Motor R.P.M.	STANDARD RATIOS								
	57.2	69.9	85.7	107.2	132.5	158.7	195.5	241.8	297.8
1750	832	847	861	876	841	851	861	814	822
1150	862	875	887	900	863	871	879	830	837
870	880	891	902	914	875	882	890	839	845
720	891	902	912	922	883	889	896	845	850
580	903	912	922	931	891	897	903	850	856

Size No. T440C and TF440C

Motor R.P.M.	STANDARD RATIOS								
	58.6	71.3	87.1	106.4	131.2	160.4	191.7	242.5	290.2
1750	1085	1104	1123	1141	1088	1102	1114	1087	1097
1150	1126	1143	1159	1175	1117	1129	1140	1109	1118
870	1150	1165	1180	1194	1134	1145	1154	1122	1130
720	1165	1179	1193	1206	1146	1155	1163	1130	1137
580	1181	1194	1207	1219	1156	1165	1173	1138	1145

Size No. T500C and TF500C

Motor R.P.M.	STANDARD RATIOS								
	57.4	70.1	88.0	107.3	128.1	156.1	193.9	237.4	294.9
1750	1642	1674	1708	1735	1649	1672	1695	1603	1622
1150	1707	1734	1764	1788	1696	1715	1735	1638	1654
870	1745	1770	1797	1818	1723	1740	1758	1658	1672
720	1769	1793	1817	1837	1740	1756	1772	1671	1684
580	1794	1816	1839	1857	1757	1772	1787	1684	1695

Size No. TF560C

Motor R.P.M.	STANDARD RATIOS								
	58.7	71.0	87.2	104.5	130.9	156.9	190.9	235.7	287.0
1750	2083	2123	2164	2197	2114	2142	2170	2121	2145
1150	2168	2203	2238	2267	2176	2200	2223	2169	2189
870	2218	2250	2282	2308	2212	2233	2255	2197	2215
720	2250	2279	2309	2333	2234	2254	2267	2214	2230
580	2283	2311	2338	2360	2259	2268	2277	2232	2247

Size No. TF640C

Motor R.P.M.	STANDARD RATIOS								
	56.7	72.0	86.3	106.1	129.4	158.1	197.0	234.3	291.9
1750	2677	2884	2910	2937	2947	2993	3020	2880	2918
1150	2910	2941	2963	2986	3020	3039	3059	2950	2982
870	2946	2974	2993	3014	3046	3064	3081	2990	3019
720	2968	2994	3013	3032	3063	3079	3095	3015	3041
580	2992	3016	3033	3050	3080	3094	3109	3041	3065

Ratings shown are in thousands of in. lbs. at low speed shaft.
Ratings for intermediate ratios and speeds may be found by direct interpolation.
For input speeds lower than speeds shown, use torque rating for minimum speed shown in table.

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OUTPUT TORQUE RATING TABLES (Cont'd.)

1000 INCH POUNDS

TYPE T—TRIPLE REDUCTION UNITS

Size No. TF720C

Motor R.P.M.	STANDARD RATIOS								
	56.6	69.4	87.5	104.5	132.4	157.6	194.2	242.5	285.8
1750	3581	3623	3667	3698	3749	3776	3806	3838	3858
1150	3664	3700	3738	3765	3811	3834	3859	3887	3904
870	3712	3745	3779	3803	3846	3867	3889	3915	3930
720	3743	3773	3805	3827	3868	3887	3908	3932	3946
580	3775	3802	3832	3852	3891	3909	3927	3950	3962

Ratings shown are in thousands of in. lbs. at low speed shaft.
Ratings for intermediate ratios and speeds may be found by direct interpolation.
For input speeds lower than speeds shown, use torque rating for minimum speed shown in table.

THERMAL HORSEPOWER RATINGS

TYPE TF

The Thermal Horsepower Rating listed here for a particular unit at a given ratio and speed must be equal to or higher than the ACTUAL HORSEPOWER DELIVERED.
The Table below must be used to check the selection of a gear unit after the selection has been made on the basis of mechanical rating shown on pages 32-34.

Size Gear Unit	High Speed Shaft RPM	RATIOS					
		57.7	70.6	86.5	105.9	129.7	158.9
T440C & TF440C	1750	455	....	....	....	....	....
	1150	....	....	....	....	....	....
T500C & TF500C	1750	507	515	521	....	....	....
	1150	....	....	....	....	....	....
TF560C	1750	553	561	567	574	....	....
	1150	618	....	....	....	....	....
	870	....	....	....	....	....	....
TF640C	1750	611	620	627	635	....	....
	1150	684	684	....	....	....	....
	870	712	....	....	....	....	....
	720	....	....	....	....	....	....
TF720C	1750	650	660	668	675	675	....
	1150	728	728	733	....	....	....
	870	758	....	....	....	....	....
	720	....	....	....	....	....	....

NOTE: Where Thermal Horsepower Ratings are not shown, the Thermal Horsepower Rating is higher than the Mechanical Rating of the Reducer shown on pages 32-34 for that ratio and speed.

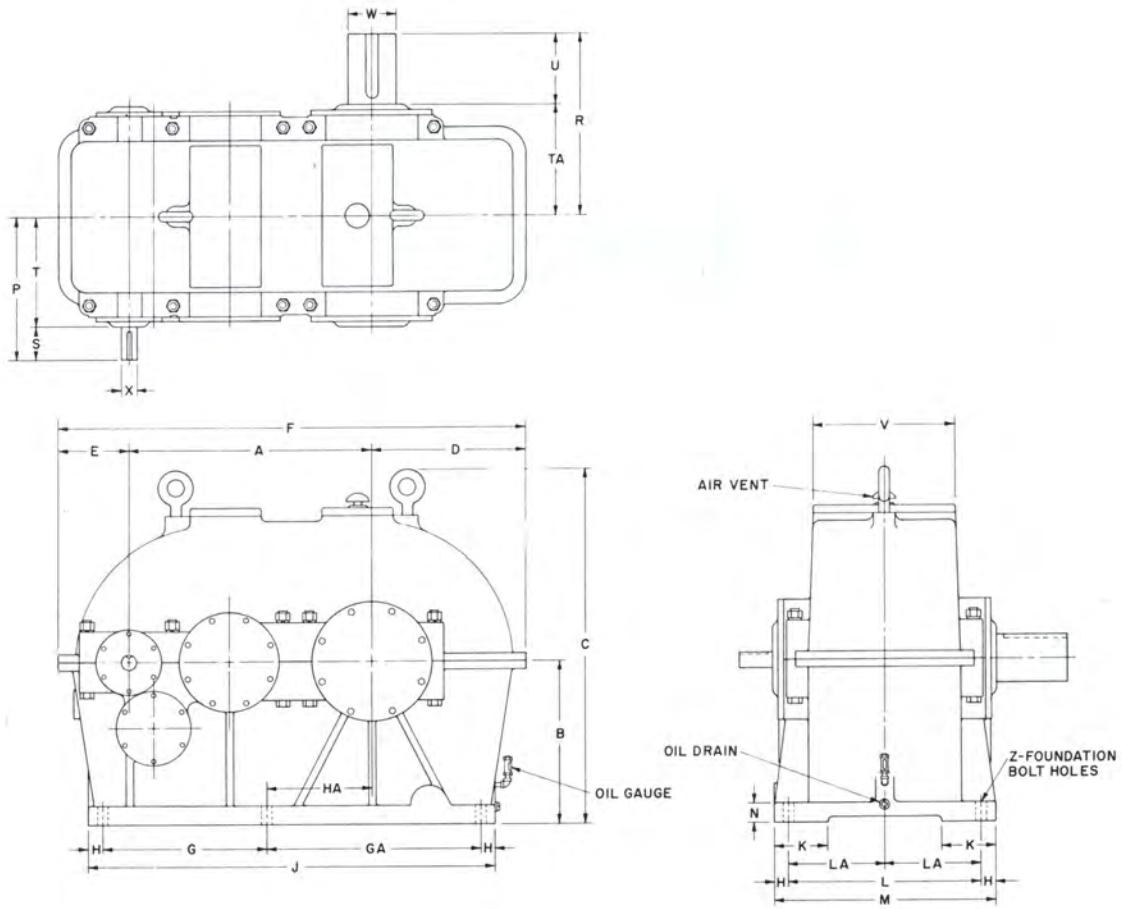
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GENERAL DIMENSIONS

TYPE T

TRIPLE REDUCTION GEAR REDUCERS

CAST IRON HOUSING



Size No.	A	B	C	D	E	F	G	GA	H	HA	J	K	L	LA	M	N	P	R	S	T	TA	U	V	W*	X*	Z-Bolt Holes	Approximate Oil Capacity, Gallons Min. Ratio	Approximate Oil Capacity, Gallons Max. Ratio	Weight
T145C.....	14½	10½	24¼	11	6	31½	12	12	1	4¾	26	4	13½	6¾	15½	1¼	10¼	14¼	1⅞	8⅜	8⅜	5⅞	10½	3¼	For High Speed Shaft Dia. See Table of H.P. Ratings on Page 32-34.	6– ⅞	10	7	1,000
T170C.....	17	12½	28¼	12	6½	35½	14	14	1	5¾	30	4	15	7½	17	1½	12	17	2½	9½	9⅝	7⅜	12	4		6– ⅞	14	11	1,400
T195C.....	19½	14	30¾	14	6½	40	17	15	1¼	5	34½	4½	17½	8¾	20	1½	14	19	3⅛	10⅞	11	8	14	4½		6–1⅛	17	14	1,850
T220C.....	22	15	35¼	15	7½	44½	14½	21	1¼	10½	38	5	19	9½	21½	1¾	15	21	3⅛	11¾	11⅞	9⅛	15	5		6–1⅛	22	17	2,450
T250C.....	25	17	39¾	17	8	50	17	23	1½	11	43	6	21	10½	24	2	16¼	23	3⅝	12⅝	12⅞	10⅛	15	5½		6–1⅜	30	25	3,100
T290C.....	29	20	44½	19	9	57	20	27	1½	13	50	6½	24	12	27	2½	17¾	24½	4⅛	13⅝	13⅞	10⅝	18	6		6–1⅜	42	34	4,300
T340C.....	34	23	51¾	21½	10	65½	23	30	2	14¾	57	7	27	13½	31	2¾	20	27¾	4⅝	15⅜	15⅝	12⅛	20½	7½		6–1⅝	60	42	6,400
T390C.....	39	27	58½	26½	10½	76	2 @ 23½	16	2	19½	67	8	30	15	34	3	23	31	5⅞	17⅛	17⅜	13⅝	23	8		8–1⅝	95	75	9,000
T440C.....	44	30	63¾	29	12	85	2 @ 26½	17	2	22	74	9	34	17	38	3¼	25	34	6½	18½	18¾	15¼	25	9		8–1⅝	135	110	12,300
T500C.....	50	32	67¼	31	13½	94½	3 @ 20½	20½	2	16¼	86	9	36	18	40	3¼	28¾	38	7⅛	21⅝	21⅞	16⅛	30¼	10		10–1⅝	190	150	18,800

All dimensions are in inches.
* For Shaft Keyways, see Table of Standard Keyways Page 48.

Above dimensions are not to be used for installation.
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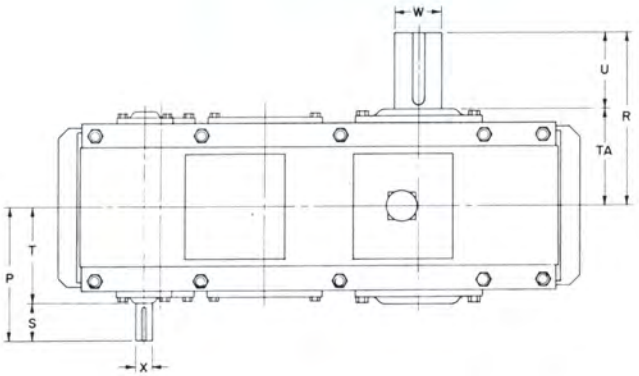
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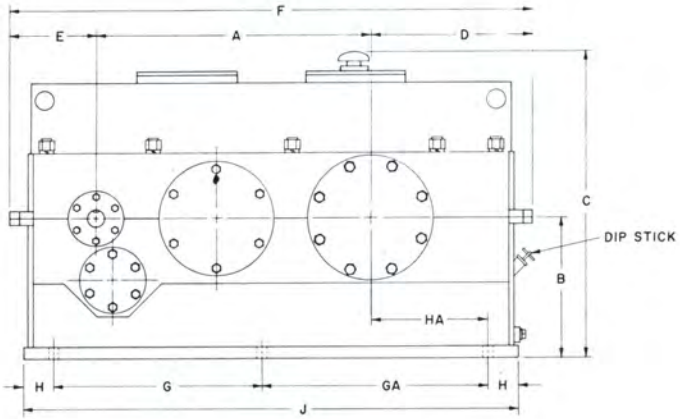
GENERAL DIMENSIONS

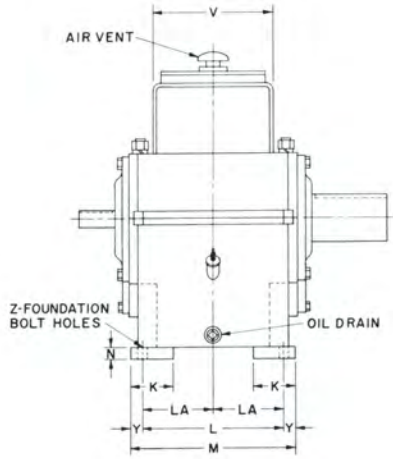
TYPE T

TRIPLE REDUCTION GEAR REDUCERS

FABRICATED STEEL HOUSING







Size No.	A	B	C	D	E	F	G	GA	H	HA	J	K	L	LA	M	N	P	R	S	T	TA	U	V	W*	Y	X*	Z-Bolt Holes	Approximate Oil Capacity, Gallons Min. Ratio	Approximate Oil Capacity, Gallons Max. Ratio	Weight
TF170C..	17	12½	27	12½	7	36½	14	14	2¾	8¼	33½	5	15	7½	17	1¼	12	17	2½	9½	9⅝	7⅜	11½	4	1	For H.S. Shaft Dia., See Table of H.P. Ratings on Page 32-34.	6– ⅞	14	12	1,400
TF195C..	19½	14	30	14¾	7¼	41½	17	15	3¼	10	38½	6	17½	8¾	20	1¼	14	19	3⅛	10⅞	11	8	13	4½	1¼		6–1⅛	18	16	1,850
TF220C..	22	15	32	15½	8	45½	14½	21	3½	10½	42½	6	19	9½	21½	1¼	15	21	3⅛	11¾	11⅞	9⅛	14¼	5	1¼		6–1⅛	23	19	2,450
TF250C..	25	17	36	17½	8½	51	17	23	4	12	48	7	21	10½	24	1¼	16¼	23	3⅝	12⅝	12⅞	10⅛	15¼	5½	1½		6–1⅜	32	26	3,200
TF290C..	29	20	40½	19¾	9¾	58½	20	27	4¼	14	55½	8	24	12	27	1¾	17¾	24½	4⅛	13⅝	13⅞	10⅝	19¼	6	1½		6–1⅜	45	38	4,400
TF340C..	34	23	46	22	10½	66½	23	30	5¼	15¼	63½	8	27	13½	31	1¾	20	27¾	4⅝	15⅜	15⅝	12⅛	20¾	7½	2		6–1⅝	70	55	6,700
TF390C..	39	27	54	27	11	77	2 @ 23½	16	5½	20	74	8	30	15	34	1¾	23	31	5⅞	17⅛	17⅜	13⅝	23¼	8	2		8–1⅝	110	85	9,200
TF440C..	44	30	60	29½	12½	86	2 @ 26½	17	6½	21½	83	9	34	17	38	1¾	25	34	6½	18½	18¾	15¼	24½	9	2		8–1⅝	145	110	12,400
TF500C..	50	32	64½	31½	14	95½	3 @ 20½	20½	5¼	24¾	92½	9	36	18	40	2¾	28¾	38	7⅛	21⅝	21⅞	16⅛	30¾	10	2		10–1⅝	175	140	17,500
TF560C..	56	34	69	34	14½	104½	3 @ 22½	22½	5¾	26¾	101½	9	38	19	42	2¾	30	41	7½	22½	22¾	18¼	31	11	2		10-1⅝	215	160	24,000
TF640C..	64	38	77	38	16	118	3 @ 25½	25½	6½	30	115	9	40	20	44	2¾	32	43	8⅜	23⅝	23⅞	19⅛	33¼	11¾	2		10–1⅞	280	200	35,000
TF720C..	72	44	88½	43½	16	131½	3 @ 29	29	6¼	35¾	128½	9	44	22	48	2¾	34	47	8⅝	25⅜	25⅝	21⅜	35¾	13	2		10–1⅞	420	300	48,000

All dimensions are in inches.
* For Shaft Keyways, see Table of Standard Keyways Page 48.

Above dimensions are not to be used for installation.
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HORSEPOWER RATING TABLES

TYPE Q—QUADRUPLE REDUCTION UNITS

The Horsepower Ratings listed in the tables below are mechanical ratings calculated by the A.G.M.A. formula using a Service Factor of 1. See pages 6-8 for information on selecting reducers.

Size No. QF170C

Motor R.P.M.	STANDARD RATIOS									
	286.8	349.1	449.1	533.7	639.5	778.8	986.1	1201.1	1479.2	1794.1
1750	9.02	7.46	5.83	4.93	4.13	3.40	2.57	2.11	1.71	1.36
1150	5.99	4.95	3.87	3.27	2.74	2.25	1.69	1.39	1.13	.90
870	4.57	3.77	2.94	2.48	2.08	1.71	1.28	1.05	.86	.68
720	3.80	3.13	2.44	2.06	1.73	1.42	1.06	.87	.71	.56
580	3.07	2.53	1.98	1.67	1.39	1.15	.86	.70	.57	.45
High Speed Shaft Diameter	⅞	⅞	⅞	⅞	⅞	⅞	⅞	⅞	⅞	⅞

Size No. QF195C

Motor R.P.M.	STANDARD RATIOS									
	296.1	361.9	442.3	544.7	661.0	807.9	983.3	1236.6	1470.9	1847.9
1750	12.4	10.2	8.33	6.78	5.45	4.48	3.69	2.95	2.48	1.86
1150	8.18	6.71	5.50	4.48	3.61	2.96	2.44	1.95	1.64	1.23
870	6.21	5.09	4.17	3.40	2.74	2.25	1.86	1.48	1.25	.93
720	5.15	4.22	3.46	2.81	2.27	1.87	1.54	1.23	1.03	.77
580	4.16	3.41	2.79	2.27	1.84	1.51	1.24	.99	.83	.62
High Speed Shaft Diameter	1⅛	1⅛	1⅛	1⅛	1⅛	1⅛	1⅛	1⅛	1⅛	1⅛

Size No. QF220C

Motor R.P.M.	STANDARD RATIOS									
	287.9	366.1	439.5	534.9	671.8	794.8	997.2	1179.7	1439.3	1860.2
1750	17.5	13.9	11.6	9.61	7.70	6.53	4.93	4.18	3.44	2.51
1150	11.7	9.24	7.73	6.38	5.10	4.33	3.26	2.77	2.27	1.65
870	8.90	7.04	5.89	4.85	3.88	3.29	2.48	2.10	1.73	1.25
720	7.40	5.85	4.89	4.03	3.22	2.73	2.06	1.74	1.43	1.04
580	5.99	4.73	3.95	3.26	2.60	2.20	1.66	1.41	1.16	.84
High Speed Shaft Diameter	1¼	1¼	1¼	1¼	1¼	1⅛	1⅛	1⅛	1⅛	1⅛

Size No. QF250C

Motor R.P.M.	STANDARD RATIOS									
	286.5	362.6	430.9	539.4	645.2	807.7	962.4	1176.1	1493.6	1824.4
1750	25.4	20.2	17.1	13.8	11.1	8.88	7.46	6.12	4.83	3.76
1150	16.9	13.5	11.4	9.15	7.32	5.86	4.92	4.04	3.18	2.48
870	12.9	10.3	8.67	6.96	5.55	4.44	3.73	3.06	2.41	1.89
720	10.7	8.53	7.21	5.78	4.60	3.68	3.09	2.54	1.99	1.56
580	8.70	6.90	5.83	4.67	3.71	2.97	2.50	2.04	1.61	1.26
High Speed Shaft Diameter	1½	1½	1½	1½	1½	1½	1¼	1¼	1¼	1¼

Size No. QF290C

Motor R.P.M.	STANDARD RATIOS									
	297.8	354.5	435.1	546.5	655.3	800.0	980.7	1197.3	1488.0	1799.8
1750	36.1	30.5	25.0	20.1	16.8	13.8	10.8	8.83	7.12	5.57
1150	24.1	20.3	16.6	13.3	11.2	9.18	7.10	5.83	4.70	3.69
870	18.4	15.5	12.7	10.1	8.49	6.98	5.39	4.42	3.56	2.80
720	15.3	12.9	10.5	8.43	7.05	5.80	4.46	3.66	2.95	2.32
580	12.4	10.4	8.53	6.82	5.70	4.68	3.60	2.95	2.38	1.87
High Speed Shaft Diameter	1¾	1¾	1¾	1¾	1¾	1½	1½	1½	1½	1½

Size No. QF340C

Motor R.P.M.	STANDARD RATIOS									
	291.9	361.6	432.0	535.9	658.4	820.5	999.3	1192.0	1450.1	1835.1
1750	57.9	47.2	39.8	32.3	26.4	21.3	16.4	13.8	11.4	8.83
1150	38.7	31.5	26.5	21.5	17.6	14.2	10.8	9.10	7.49	5.84
870	29.5	23.9	20.2	16.3	13.4	10.8	8.22	6.90	5.68	4.43
720	24.6	19.9	16.8	13.6	11.1	8.94	6.81	5.72	4.71	3.68
580	19.9	16.2	13.6	11.0	8.98	7.23	5.50	4.61	3.80	2.97
High Speed Shaft Diameter	2	2	2	2	2	1¾	1¾	1¾	1¾	1¾

Ratios listed are standard but intermediate ratios are available.

Ratings for intermediate ratios and speeds may be found by direct interpolation.

All units may be operated at speeds lower than the minimum shown. The selection of a reducer for a lower speed may be accomplished by multiplying the desired horsepower by 580 and dividing by the desired speed. The result will be the equivalent horsepower at 580 RPM which can be found in the above tables.

HORSEPOWER

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HORSEPOWER RATING TABLES (Cont'd.)

TYPE Q—QUADRUPLE REDUCTION UNITS

Size No. QF390C

Motor R.P.M.	STANDARD RATIOS									
	295.6	354.4	434.5	547.6	652. 4	804.3	965.5	1190.4	1466.0	1813.4
1750	87.1	73.3	60.2	48.2	40.7	33.2	26.2	21.3	17.3	13.3
1150	58.3	48.9	40.2	32.1	27.1	22.1	17.3	14.1	11.4	8.82
870	44.5	37.3	30.6	24.4	20.6	16.8	13.1	10.7	8.68	6.70
720	37.0	31.1	25.5	20.3	17.1	13.9	10.9	8.84	7.19	5.56
580	30.0	25.2	20.6	16.4	13.9	11.3	8.78	7.14	5.80	4.49
High Speed Shaft Diameter	2¼	2¼	2¼	2¼	1¾	1¾	1¾	1¾	1¾	1¾

Size No. QF440C

Motor R.P.M.	STANDARD RATIOS									
	289.8	362.0	442.4	525.7	666.7	814.7	968.2	1224.7	1463.6	1851.7
1750	116	94.0	77.6	65.7	49.1	40.4	34.2	27.2	22.9	17.5
1150	77.8	62.8	51.7	43.8	32.7	26.9	22.7	18.0	15.1	11.6
870	59.5	47.9	39.5	33.4	24.9	20.5	17.3	13.7	11.5	8.80
720	49.5	39.9	32.8	27.8	20.7	17.0	14.4	11.4	9.56	7.30
580	40.2	32.4	26.6	22.5	16.7	13.8	11.6	9.21	7.72	5.90
High Speed Shaft Diameter	2½	2½	2½	2½	2½	2½	2	2	2	2

Size No. QF500C

Motor R.P.M.	STANDARD RATIOS									
	293.3	361.1	443.5	524.2	660.3	804.4	979.0	1201.1	1491.9	1826.9
1750	175	143	120	100	72.6	59.8	49.2	40.3	32.5	26.3
1150	117	96.0	80.5	67.0	48.0	39.5	32.5	26.6	21.5	17.4
870	89.7	73.3	61.4	51.1	36.5	30.0	24.7	20.2	16.3	13.2
720	74.7	61.1	51.1	42.5	30.2	24.9	20.5	16.7	13.5	11.0
580	60.6	49.5	41.4	34.4	24.4	20.1	16.5	13.5	10.9	8.87
High Speed Shaft Diameter	2¾	2¾	2¾	2¾	2¾	2¾	2	2	2	2

Size No. QF560C

Motor R.P.M.	STANDARD RATIOS									
	286.7	363.7	446.9	549.7	658.9	785.6	989.3	1230.7	1497.3	1848.5
1750	227	181	149	122	102	82.0	65.6	53.1	43.8	34.5
1150	152	121	99.6	81.5	68.4	54.6	43.6	35.2	29.1	22.8
870	116	92.8	76.0	62.2	52.1	41.6	33.2	26.8	22.1	17.4
720	97.3	77.3	63.3	51.7	43.2	34.6	27.6	22.3	18.4	14.4
580	78.9	62.7	51.3	41.8	34.9	28.0	22.3	18.0	14.8	11.6
High Speed Shaft Diameter	2¾	2¾	2¾	2¾	2¾	2¾	2¼	2¼	2¼	2¼

Size No. QF640C

Motor R.P.M.	STANDARD RATIOS									
	293.6	354.5	445.3	546.6	671.9	783.1	1001.4	1233.2	1454.2	1827.2
1750	287	239	191	156	128	110	87.0	70.9	60.3	47.6
1150	191	158	127	103	84.8	73.0	57.5	46.8	39.8	31.6
870	145	120	96.6	79.0	64.5	55.4	43.7	35.5	30.2	24.0
720	120	100	80.2	65.6	53.5	46.0	36.2	29.5	25.0	19.9
580	97.7	81.2	64.8	53.0	43.2	37.1	29.2	23.8	20.2	16.1
High Speed Shaft Diameter	3	3	3	3	3	2¼	2¼	2¼	2¼	2¼

Size No. QF720C

Motor R.P.M.	STANDARD RATIOS									
	287.6	365.3	437.7	525.3	658.7	807.4	993.6	1217.8	1500.6	1781.9
1750	370	294	246	206	165	135	110	90.8	73.9	62.5
1150	246	195	163	136	109	89.6	73.4	60.0	48.8	41.2
870	187	148	124	103	83.2	68.1	55.7	45.6	37.1	31.3
720	155	123	103	86.3	69.1	56.5	46.2	37.8	30.7	25.9
580	126	99.8	83.5	69.8	55.8	45.6	37.3	30.5	24.8	20.9
High Speed Shaft Diameter	3	3	3	3	3	2½	2½	2½	2½	2½

Ratios listed are standard but intermediate ratios are available.

Ratings for intermediate ratios and speeds may be found by direct interpolation.

All units may be operated at speeds lower than the minimum shown. The selection of a reducer for a lower speed may be accomplished by multiplying the desired horsepower by 580 and dividing by the desired speed. The result will be the equivalent horsepower at 580 RPM which can be found in the above tables.

HORSEPOWER

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OUTPUT TORQUE RATING TABLES

1000 INCH POUNDS

TYPE Q—QUADRUPLE REDUCTION UNITS

The Output Torque Ratings listed in the tables below are calculated using a Service Factor of 1. See pages 6-8 for information on selecting reducers.

Size No. QF170C

Motor R.P.M.	STANDARD RATIOS									
	286.8	349.1	449.1	533.7	639.5	778.8	986.1	1201.0	1479.2	1794.1
1750	93.2	93.7	94.3	94.7	95.1	95.5	91.2	91.3	91.5	87.6
1150	94.3	94.7	95.3	95.6	95.9	96.2	91.5	91.6	91.7	88.0
870	94.9	95.3	95.8	96.0	96.3	96.6	91.6	91.7	91.9	88.3
720	95.3	95.7	96.1	96.3	96.6	96.8	91.7	91.8	91.9	88.4
580	95.7	96.0	96.4	96.6	96.8	97.1	91.9	91.9	92.0	88.6

Size No. QF195C

Motor R.P.M.	STANDARD RATIOS									
	296.1	361.9	442.3	544.7	661.0	807.9	983.3	1236.6	1470.9	1847.9
1750	132	132	133	133	130	130	130	131	132	124
1150	133	133	133	134	131	131	132	132	132	124
870	133	133	134	134	131	132	132	133	133	125
720	133	134	134	134	132	132	132	133	133	125
580	134	134	134	134	131	132	133	133	133	125

Size No. QF220C

Motor R.P.M.	STANDARD RATIOS									
	287.9	366.1	439.5	534.9	671.8	794.8	997.2	1179.7	1439.3	1860.2
1750	182	183	184	185	186	187	177	178	178	168
1150	184	185	186	187	188	188	178	179	179	168
870	186	187	187	188	189	189	179	180	180	169
720	186	187	188	189	189	190	180	180	180	169
580	187	188	189	189	190	190	180	180	181	170

Size No. QF250C

Motor R.P.M.	STANDARD RATIOS									
	286.5	362.6	430.9	539.4	645.2	807.7	962.4	1176.1	1493.6	1824.4
1750	262	264	266	268	257	258	259	259	260	247
1150	266	268	269	270	259	259	260	260	261	248
870	268	270	271	272	259	260	260	261	261	249
720	269	271	272	273	260	260	261	261	261	250
580	271	272	273	274	260	261	261	261	262	250

Size No. QF290C

Motor R.P.M.	STANDARD RATIOS									
	297.8	354.5	435.1	546.5	655.3	800.0	980.7	1197.3	1488.0	1799.8
1750	387	389	392	395	397	399	380	381	382	361
1150	393	395	397	399	401	403	382	382	383	364
870	396	398	400	402	403	405	383	383	384	365
720	398	400	401	403	405	406	383	384	384	366
580	400	401	403	405	406	407	384	384	385	366

Size No. QF340C

Motor R.P.M.	STANDARD RATIOS									
	291.9	361.6	432.0	535.9	658.4	820.5	999.3	1192.0	1450.1	1835.1
1750	609	614	618	623	627	630	591	592	593	583
1150	619	623	627	630	634	637	594	595	596	587
870	625	628	631	635	637	640	595	596	597	590
720	628	632	634	637	640	642	596	597	598	591
580	632	635	637	640	642	644	597	598	598	592

Ratings shown are in thousands of in. lbs. at low speed shaft.
Ratings for intermediate ratios and speeds may be found by direct interpolation.
For input speeds lower than speeds shown, use torque rating for minimum speed shown in table.

TORQUE

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OUTPUT TORQUE RATING TABLES (cont'd.)

1000 INCH POUNDS

TYPE Q—QUADRUPLE REDUCTION UNITS

Size No. QF390C

Motor R.P.M.	STANDARD RATIOS									
	295.6	354.4	434.5	547.6	652.4	804.3	965.5	1190.4	1466.0	1813.4
1750	928	935	943	950	956	962	911	914	916	870
1150	944	950	956	963	967	972	916	918	920	876
870	953	958	964	970	974	978	918	920	922	880
720	959	964	969	974	978	982	920	922	923	882
580	965	969	974	979	982	985	922	923	924	885

Size No. QF440C

Motor R.P.M.	STANDARD RATIOS									
	289.8	362.0	442.4	525.7	666.7	814.7	968.2	1224.7	1463.6	1851.7
1750	1213	1225	1236	1244	1179	1186	1192	1199	1205	1166
1150	1235	1246	1255	1261	1194	1200	1205	1211	1215	1175
870	1248	1258	1265	1271	1202	1208	1212	1217	1221	1181
720	1256	1265	1272	1278	1207	1212	1216	1221	1225	1184
580	1265	1273	1279	1284	1213	1217	1221	1225	1229	1187

Size No. QF500C

Motor R.P.M.	STANDARD RATIOS									
	293.3	361.1	433.5	524.2	660.3	804.4	979.0	1201.1	1491.9	1826.9
1750	1848	1867	1882	1896	1726	1731	1736	1741	1746	1727
1150	1884	1900	1912	1924	1737	1742	1746	1750	1754	1742
870	1905	1918	1930	1940	1744	1748	1751	1755	1758	1750
720	1917	1930	1940	1950	1748	1751	1755	1758	1761	1755
580	1930	1942	1951	1960	1752	1755	1758	1761	1764	1760

Size No. QF560C

Motor R.P.M.	STANDARD RATIOS									
	286.7	363.7	446.9	549.7	658.9	785.6	989.3	1230.7	1497.3	1848.5
1750	2349	2377	2399	2420	2436	2320	2337	2352	2364	2294
1150	2397	2420	2439	2456	2470	2350	2364	2376	2386	2313
870	2424	2445	2462	2477	2489	2367	2379	2390	2399	2324
720	2441	2460	2475	2489	2495	2377	2389	2399	2407	2331
580	2459	2476	2489	2496	2500	2388	2398	2407	2415	2338

Size No. QF640C

Motor R.P.M.	STANDARD RATIOS									
	293.6	354.5	445.3	546.6	671.9	783.1	1001.4	1233.2	1454.2	1827.2
1750	3043	3058	3075	3089	3102	3111	3138	3148	3156	3131
1150	3076	3088	3103	3114	3125	3132	3158	3166	3172	3160
870	3094	3105	3118	3128	3137	3144	3168	3176	3181	3176
720	3106	3116	3127	3137	3145	3151	3175	3182	3186	3186
580	3117	3127	3137	3146	3153	3159	3182	3188	3192	3197

Size No. QF720C

Motor R.P.M.	STANDARD RATIOS									
	287.6	365.3	437.7	525.3	658.7	807.4	993.6	1217.8	1500.6	1781.9
1750	3842	3868	3886	3903	3923	3939	3968	3982	3994	4008
1150	3886	3908	3924	3938	3954	3967	3995	4006	4016	4028
870	3912	3931	3945	3957	3972	3983	4009	4019	4028	4040
720	3927	3945	3958	3969	3982	3993	4018	4027	4036	4047
580	3944	3960	3971	3982	3994	4003	4028	4036	4043	4054

Ratings shown are in thousands of in. lbs. at low speed shaft.
Ratings for intermediate ratios and speeds may be found by direct interpolation.
For input speeds lower than speeds shown, use torque rating for minimum speed shown in table.

TORQUE

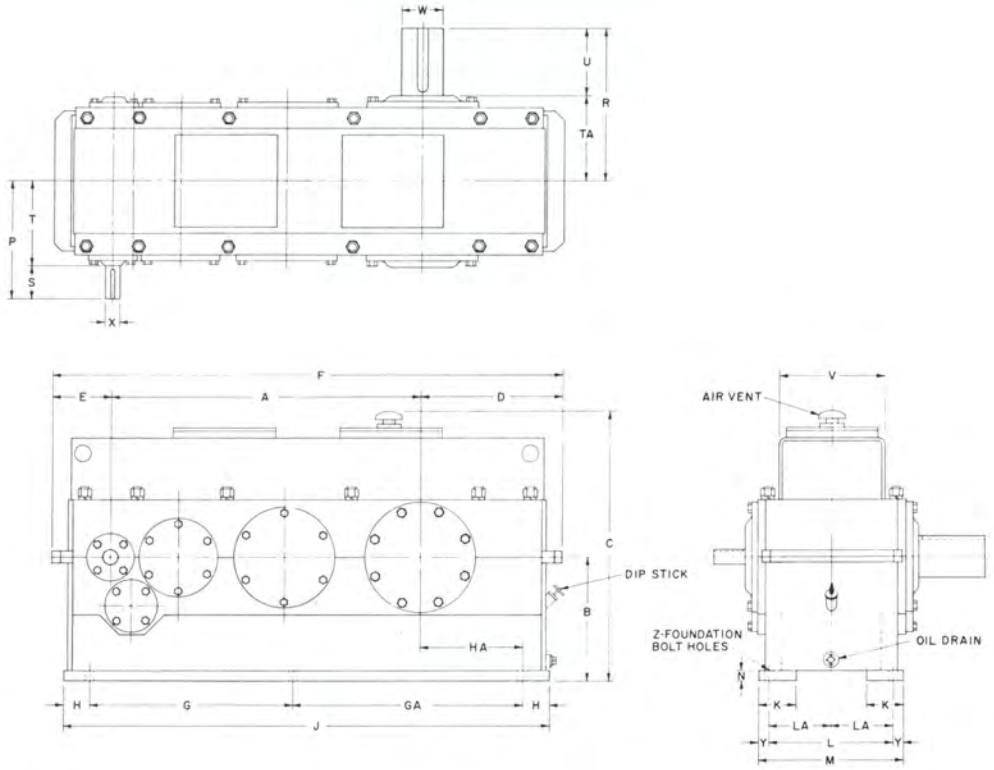
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GENERAL DIMENSIONS

TYPE Q

QUADRUPLE REDUCTION GEAR REDUCERS

FABRICATED STEEL HOUSING



Size No.	A	B	C	D	E	F	G	GA	H	HA	J	K	L	LA	M	N	P	R	S	T	TA	U	V	W*	Y	X*	Z-Bolt Holes	Approximate Oil Capacity, Gallons Min. Ratio	Approximate Oil Capacity, Gallons Max. Ratio	Weight
QF170C..	22½	12½	27	12½	7	42	16¾	16¾	2¾	8¼	39	5	15	7½	17	1¼	12	17	2½	9½	9⅝	7⅜	11½	4	1	For High Speed Shaft Dia., See Table of H.P. Ratings, Pages 40-41.	6– ⅞	16	14	1,450
QF195C..	25½	14	30	14¾	7¼	47½	19	19	3¼	10	44½	6	17½	8¾	20	1¼	14	19	3⅛	10⅞	11	8	13	4½	1¼		6–1⅛	21	18	1,950
QF220C..	28½	15	32	15½	8	52	21	21	3½	10½	49	6	19	9½	21½	1¼	15	21	3⅛	11¾	11⅞	9⅛	14¼	5	1¼		6–1⅛	26	22	2,550
QF250C..	32	17	36	17½	8	57½	23¼	23¼	4	12	54½	7	21	10½	24	1¼	16¼	23	3⅝	12⅝	12⅞	10⅛	15¼	5½	1½		6–1⅜	36	29	3,300
QF290C..	37½	20	40½	19¾	9	66¼	27½	27¼	4¼	14	63¼	8	24	12	27	1¾	17¾	24½	4⅛	13⅝	13⅞	10⅝	19¼	6	1½		6–1⅜	51	43	4,600
QF340C..	44	23	46	22	9½	75½	31	31	5¼	15¼	72½	8	27	13½	31	1¾	20	27¾	4⅝	15⅜	15⅝	12⅛	20¾	7½	2		6–1⅝	80	63	6,900
QF390C..	50	27	54	27	10½	87½	2 @ 24½	24½	5½	20	84½	8	30	15	34	1¾	23	31	5⅞	17⅛	17⅜	13⅝	23¼	8	2		8–1⅛	125	97	9,600
QF440C..	56	30	60	29½	11½	97	2 @ 27	27	6½	21½	94	9	34	17	38	1¾	25	34	6½	18½	18¾	15¼	24½	9	2		8–1⅝	164	124	13,000
QF500C..	63	32	64½	31½	12½	107	3 @ 23½	23	5¼	24¾	103	9	36	18	40	2¾	28¾	38	7⅛	21⅝	21⅞	16⅛	30¾	10	2		10–1⅝	195	155	18,500
QF560C..	70	34	69	34	12½	116½	3 @ 25½	25½	5¾	26¾	113½	9	38	19	42	2¾	30	41	7½	22½	22¾	18¼	31	11	2		10–1⅝	240	180	25,000
QF640C..	80	38	77	38	13½	131½	3 @ 29	28½	6½	30	128½	9	40	20	44	2¾	32	43	8⅜	23⅜	23⅞	19⅛	33¼	11¾	2		10–1⅞	310	220	37,000
QF720C..	90	44	88½	43½	13½	147	3 @ 33	32½	6¼	35¾	144	9	44	22	48	2¾	34	47	8⅝	25⅜	25⅝	21⅜	35¾	13	2		10–1⅞	470	340	50,000

All dimensions are in inches.

* For Shaft Keyways, see Table of Standard Keyways Page 48.

Above dimensions are not to be used for Installation. USE CERTIFIED INSTALLATION PRINT.

OVERHUNG LOAD CAPACITIES

SLOW SPEED SHAFTS

The table below shows moderate overhung load capacities for standard Type Q Reducers. It is assumed that the external load is acting one shaft diameter out from the seal. Special Heavy Overhung Load capacity reducers are available if actual loading exceeds the tabulated values. Consult us for recommendations.

The table below does not apply for double extended slow speed shafts. Present your application to us for recommendations.

The actual load imposed on a shaft for a given condition of service may be determined by the formula on the bottom of page 6. For unusual conditions or in case of doubt present your problems to us for recommendations.

Overhung load capacities are figured at the highest speed shown in horsepower rating tables for each size reducer.

	REDUCER NO.											
SIZE	170C	195C	220C	250C	290C	340C	390C	440C	500C	560C	640C	720C
Overhung Capacity.....	13,065	16,567	19,197	23,625	32,130	46,441	55,683	74,065	90,874	101,849	120,638	162,363

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LUFKIN HI-Q HERRINGBONE GEAR SPEED REDUCERS
DOUBLE REDUCTION UNITS

SPECIFICATIONS

Hi-Q Reducers are built to the same general specifications as those shown for Type S and D assemblies on Page 4 with the exception of the bearings on the slow speed shaft which are bronze bushings. These assemblies are carried in stock with the standard ratios shown in blue below with double extended high speed and slow speed shafts. Other ratios shown are available but are not carried in stock.

HORSEPOWER RATING TABLES

The Horsepower Ratings listed in the tables below are mechanical ratings calculated by the A.G.M.A. formula using a Service Factor of 1. See pages 6, 7 and 8 for information on selecting reducers.

Size No. D40

	STANDARD RATIOS																	
Motor R.P.M.	14.4	15.2	16.0	16.8	17.7	18.7	19.8	21.0	22.3	23.8	25.4	27.2	29.2	31.5	34.1	.....	.....	.....
1750	86.9	83.2	79.5	75.9	72.4	68.9	65.5	62.2	58.8	54.3	49.5	44.9	40.4	36.1	31.9	.....	.....	.....
1150	59.7	57.1	54.5	52.0	49.6	47.1	44.8	42.4	40.1	37.9	34.5	31.3	28.1	25.1	22.2	.....	.....	.....
870	46.3	44.3	42.3	40.3	38.4	36.5	34.6	32.8	31.0	29.3	27.0	24.5	22.0	19.6	17.3	.....	.....	.....
720	38.9	37.2	35.5	33.9	32.2	30.6	29.1	27.5	26.0	24.5	22.9	20.7	18.6	16.5	14.6	.....	.....	.....
580	31.9	30.5	29.1	27.7	26.4	25.0	23.7	22.5	21.2	20.0	18.8	17.0	15.3	13.6	12.0	.....	.....	.....

Size No. D57

	STANDARD RATIOS																
Motor R.P.M.	14.5	15.1	15.8	16.5	17.3	18.1	19.0	19.9	20.9	22.1	23.3	24.6	26.0	27.6	29.3	31.3	33.4	35.9
1750	122	118	113	109	105	100	96.3	92.2	88.2	84.2	80.3	76.4	72.6	68.8	63.6	58.0	52.5	47.2
1150	84.1	81.0	77.9	74.8	71.8	68.9	66.0	63.2	60.4	57.6	54.9	52.2	49.5	46.9	44.3	40.4	36.6	32.8
870	65.4	62.9	60.5	58.1	55.7	53.4	51.2	48.9	46.7	44.6	42.4	40.3	38.3	36.2	34.2	31.7	28.6	25.7
720	55.0	52.9	50.9	48.8	46.9	44.9	43.0	41.1	39.2	37.4	35.6	33.8	32.1	30.4	28.7	26.8	24.2	21.7
580	45.1	43.4	41.7	40.0	38.4	36.8	35.2	33.6	32.1	30.6	29.1	27.6	26.2	24.8	23.4	22.0	19.9	17.9

Size No. D80

	STANDARD RATIOS																
Motor R.P.M.	14.9	15.5	16.2	16.9	17.6	18.4	19.3	20.2	21.2	22.2	23.4	24.6	26.0	27.5	29.2	31.0	33.0	35.3
1750	150	146	142	138	134	130	126	122	119	114	111	106	101	94.9	87.3	79.9	72.8	65.8
1150	112	109	106	102	98.4	94.5	90.7	87.0	83.3	79.7	76.1	72.5	69.0	65.6	61.0	55.8	50.7	45.8
870	89.0	85.8	82.6	79.5	76.4	73.4	70.4	67.5	64.6	61.7	58.9	56.1	53.4	50.7	47.9	43.8	39.8	35.9
720	74.9	72.2	69.5	66.9	64.3	61.7	59.2	56.7	54.3	51.8	49.5	47.1	44.8	42.5	40.3	37.0	33.6	30.3
580	61.5	59.2	57.0	54.8	52.7	50.5	48.5	46.4	44.4	42.4	40.5	38.5	36.6	34.7	32.9	30.5	27.7	25.0

Size No. D114

	STANDARD RATIOS																
Motor R.P.M.	15.2	15.9	16.6	17.4	18.2	19.1	20.0	21.0	22.1	23.3	24.6	26.1	27.7	29.4	31.4	33.5	.....	.....
1750	227	221	214	208	201	195	188	183	175	167	159	151	143	136	128	120	.....	.....
1150	168	162	155	149	143	137	131	126	120	114	109	103	97.9	92.6	87.3	82.1	.....	.....
870	131	126	121	116	111	107	102	97.5	93.0	88.6	84.3	80.0	75.8	71.6	67.5	63.4	.....	.....
720	110	106	102	97.7	93.7	89.7	85.8	81.9	78.2	74.4	70.8	67.1	63.6	60.0	56.6	53.1	.....	.....
580	90.4	86.9	83.5	80.1	76.8	73.5	70.3	67.1	64.0	60.9	57.9	54.9	52.0	49.1	46.2	43.4	.....	.....

Size No. D160

	STANDARD RATIOS																
Motor R.P.M.	14.7	15.4	16.1	16.8	17.6	18.5	19.4	20.4	21.5	22.6	23.9	25.3	26.9	28.7	.....	.....	.....	.....
1150	227	220	213	208	201	194	189	181	172	163	151	139	127	115	.....	.....	.....	.....
870	186	181	174	167	160	153	147	140	134	127	119	109	99.6	90.5	.....	.....	.....	.....
720	158	152	146	141	135	129	123	118	112	107	101	92.4	84.4	76.6	.....	.....	.....	.....
580	130	125	120	115	110	106	101	96.6	92.0	87.6	83.2	76.3	69.7	63.2	.....	.....	.....	.....

Size No. D228

	STANDARD RATIOS																	
Motor R.P.M.	14.7	15.4	16.1	16.8	17.6	18.4	19.4	20.3	21.4	22.6	23.8	25.2	26.8	28.5	30.3	.....	.....	.....
1150	301	292	284	275	267	258	250	241	233	225	214	204	193	179	163	.....	.....	.....
870	247	240	233	224	219	210	201	192	184	175	167	158	150	141	129	.....	.....	.....
720	217	209	201	193	185	177	170	162	155	147	140	133	126	119	109	.....	.....	.....
580	179	172	165	158	152	145	139	133	127	121	115	109	103	97.4	90.2	.....	.....	.....

Ratios listed are standard but intermediate ratios are available.

Ratings for intermediate ratios and speeds may be found by direct interpolation.

All units may be operated at speeds lower than the minimum shown. The selection of a reducer for a lower speed may be accomplishd by multiplying the desired horsepower by the lowest RPM shown and dividing by the desired RPM. The result will be the equivalent horsepower at lowest RPM shown which can be found in the above tables.

HORSEPOWER

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HORSEPOWER RATING TABLES (Cont'd.)

HI-Q SPEED REDUCERS

Size No. D320

Motor R.P.M.	STANDARD RATIOS																					
	14.8	15.4	15.9	16.6	17.2	17.9	18.7	19.5	20.3	21.3	22.2	23.3	24.5	25.7	27.0	28.5	30.1	31.9	....	....	....	....
1150	457	446	435	423	413	401	387	372	359	345	331	318	304	291	278	265	252	239	....	....	....	....
870	371	359	347	335	324	313	301	290	279	268	258	247	237	226	216	206	196	186	....	....	....	....
720	314	303	293	283	274	264	254	245	235	226	217	208	199	190	182	173	164	156	....	....	....	....
580	258	250	241	233	225	217	209	201	193	186	178	171	163	156	149	142	135	128	....	....	....	....

Size No. D456

Motor R.P.M.	STANDARD RATIOS																					
	14.8	15.5	16.1	16.8	17.6	18.3	19.2	20.1	21.1	22.1	23.3	24.5	25.9	27.4	29.0	30.9	32.9	....	....	....	....	....
1150	685	661	637	614	592	569	547	525	503	482	461	440	419	399	378	353	322	....	....	....	....	....
870	536	517	499	480	462	445	427	410	393	376	359	342	325	308	291	275	254	....	....	....	....	....
720	453	437	422	406	391	375	360	345	330	315	300	286	271	257	243	229	216	....	....	....	....	....
580	374	360	347	333	320	307	294	281	268	256	244	232	220	209	198	186	175	....	....	....	....	....

Size No. D640

Motor R.P.M.	STANDARD RATIOS																					
	14.4	15.1	15.8	16.5	17.3	18.2	19.1	20.2	21.6	22.5	23.8	25.2	26.8	28.6	....	....	....	....	....	....	....	....
1150	847	820	795	770	750	720	700	673	637	592	548	505	463	422	....	....	....	....	....	....	....	....
870	696	673	655	635	615	593	573	542	506	470	435	400	367	334	....	....	....	....	....	....	....	....
720	608	592	572	555	538	520	495	463	431	401	370	341	312	284	....	....	....	....	....	....	....	....
580	528	507	487	467	448	428	409	385	359	333	308	283	259	236	....	....	....	....	....	....	....	....

Size No. D912

Motor R.P.M.	STANDARD RATIOS																					
	15.0	15.6	16.3	16.9	17.7	18.4	19.3	20.2	21.1	22.1	23.2	24.4	25.7	27.1	28.7	30.4	....	....	....	....	....	....
870	995	960	924	889	855	822	788	756	724	685	642	600	559	519	479	441	....	....	....	....	....	....
720	834	803	774	745	716	687	660	633	605	585	548	512	477	442	408	375	....	....	....	....	....	....
580	680	655	631	607	583	560	538	515	493	471	450	426	397	368	339	312	....	....	....	....	....	....

Size No. D1280

Motor R.P.M.	STANDARD RATIOS																					
	14.6	15.1	15.7	16.3	17.0	17.7	18.4	19.2	20.0	20.9	21.9	22.9	24.1	25.3	26.6	28.1	29.6	31.4	....	....	....	....
870	1404	1370	1330	1300	1261	1217	1174	1129	1085	1041	982	922	864	807	751	696	642	590	....	....	....	....
720	1220	1181	1140	1100	1060	1021	983	945	907	870	834	788	738	689	640	593	547	503	....	....	....	....
580	998	964	930	897	865	833	801	770	740	709	680	650	614	573	533	493	455	418	....	....	....	....

Size No. D1824

Motor R.P.M.	STANDARD RATIOS																					
	14.5	15.0	15.5	16.1	16.6	17.2	17.9	18.5	19.2	20.0	20.8	21.7	22.6	23.6	24.6	25.8	27.0	28.3	29.8	31.4	33.1	35.0
870	1795	1760	1715	1670	1625	1580	1540	1495	1450	1410	1365	1315	1275	1229	1179	1130	1063	991	921	853	786	722
720	1580	1540	1500	1460	1420	1381	1335	1290	1245	1200	1156	1113	1070	1028	986	945	904	846	786	727	670	615
580	1324	1284	1244	1204	1165	1127	1089	1051	1015	979	943	907	872	837	803	769	736	703	654	605	557	511

Size No. D2560

Motor R.P.M.	STANDARD RATIOS																					
	14.7	15.2	15.7	16.2	16.8	17.4	18.0	18.7	19.4	20.1	20.9	21.7	22.6	23.6	24.6	25.7	26.9	28.2	29.6	31.1	32.7	....
870	2730	2675	2620	2560	2500	2440	2381	2308	2236	2165	2093	2023	1953	1884	1815	1747	1679	1611	1544	1466	1358	....
720	2400	2343	2278	2213	2148	2085	2022	1959	1897	1836	1775	1715	1655	1595	1536	1478	1420	1361	1301	1241	1160	....
580	1998	1943	1888	1833	1779	1726	1673	1621	1569	1518	1467	1416	1365	1313	1261	1210	1159	1109	1059	1011	962	....

Ratios listed are standard but intermediate ratios are available.

Ratings for intermediate ratios and speeds may be found by direct interpolation.

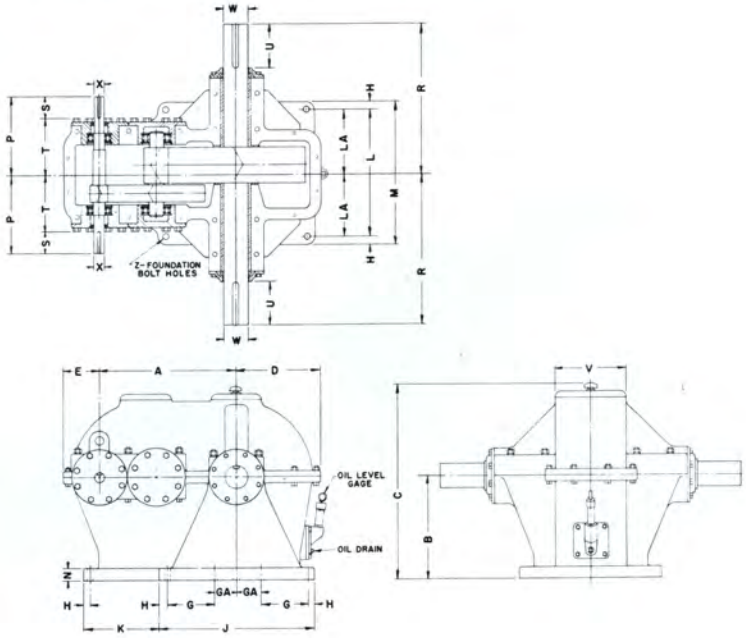
All units may be operated at speeds lower than the minimum shown. The selection of a reducer for a lower speed may be accomplished by multiplying the desired horsepower by 580 and dividing by the desired speed. The result will be the equivalent horsepower at 580 RPM which can be found in the above tables.

HORSEPOWER

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GENERAL DIMENSIONS

HI-Q
DOUBLE REDUCTION HERRINGBONE GEAR REDUCERS



SIZE NO.	A	B	C	D	E	G	GA	H	J	K	L	LA	M	N
*D40	17½	14	27¼	11 9/16	5 11/16	11	11	1	24	11⅝	18	9	20	1½
*D57	20	18	32¾	12 5/16	5½	8½	4	1¼	27½	13¼	22½	11¼	25	2¼
D80	22	18	33 15/16	14	5¾	8½	4	1¼	27½	13¼	22½	11¼	25	2
D114	24	18	34 11/16	14¾	6 9/16	8½	4	1¼	27½	13¼	22½	11¼	25	2
D160	26	27	44¾	15¾	7¼	10½	5¼	1¼	34	15¼	29½	14¾	32	2½
D228	30	27	47½	18¾	8	8½	8½	1½	37	18½	34	17	37	3
D320	34	28	52	20½	8½	10¼	10¼	1½	44	21¾	40	20	43	3¼
D456	38⅜	28	52¾	22¾	9½	11⅜	11⅜	1½	48½	25⅛	43½	21¾	46½	3
D640	41 33/64	28	54½	24½	9½	11⅜	11⅜	1½	48½	25⅛	43½	21¾	46½	3
**D912	48½	30	61	29¾	10⅝	12¼	12¼	1½	52	26½	46¾	23⅜	49¾	3
**D1280	52 9/16	36	69½	32	20½	13¾	13¾	1½	58	39½	47	23½	50	3½
**D1824	58⅞	36	72½	35⅜	16 57/64	13¾	13¾	1½	58	39½	47	23½	50	3½
D2560	70	42	85	42⅜	14⅞	12¼	12¼	1½	76	46	63	31½	66	3½

SIZE NO.	P	R	S	T	U	V	W	X	Z	H.S. Shaft Keyway	S.S. Shaft Keyway	Weight
*D40	10⅝	19⅝	2⅝	8	7	12⅞	4	1 11/16	7–1	½ x ⅛ x 2¾	1 x ¼ x 6	1,250
*D57	11¾	23	2¾	9	7½	16⅛	4	1 5/16	9–1⅛	½ x ¼ x 2⅞	1 x ¼ x 7	1,840
D80	13⅜ 13¾	26½	4 4⅜	9⅜	8⅛	11¾	4 7/16	1 5/16	9–1⅛	9/16 x ⅛ x 4	1¼ x ⅜ x 7½	2,350
D114	13¾	26½	4¼	9½	7 15/16	12½	4 7/16	1 5/16	9–1⅛	9/16 x ⅛ x 4¼	1¼ x ⅜ x 7½	2,450
D160	16⅝	28	5¼	11⅜	8	15¼	5 7/16	2 3/16	9–1⅜	9/16 x ⅛ x 5¼	1¼ x ⅜ x 7	3,695
D228	18 27/32	32	6	12 31/32	7¾	17½	6	2 7/16	12–1⅜	11/16 x 5/32 x 6	1½ x ⅜ x 7½	4,950
D320	23	35½	8 1/16	14 15/16	8¼	20	6 7/16	2 15/16	12–1½	13/16 x 3/16 x 7¾	1½ x ⅜ x 7¾	7,210
D456	23½	41	7 25/32	15 23/32	8¼	22	7	3 7/16	12–1⅜	⅞ x ¼ x 7	1½ x ⅜ x 7¾	9,100
D640	23½	41	7½	16	8¼	24¾	7	3 1/16	12–1⅜	⅞ x ¼ x 7⅞	1½ x ⅜ x 7¾	11,000
**D912	26¼	41	9¾	16 7/16	8⅛	26¼	7	4 3/16	12–1⅜	1 x ¼ x 10	1½ x ⅜ x 7¾	12,000
**D1280	30¾ 27⅜	44½	6¾ 11⅝	24 15⅞	10	23	8½	4 15/16	17–1⅝	1¼ x 7/16 x 11	2 x ¾ x 9⅜	19,000
**D1824	35 30	47½	6⅞ 11⅝	28⅛ 18⅜	9 15/16	26½	9	4 15/16	17–1⅝	1¼ x 7/16 x 11	2 x ¾ x 9⅜	20,941
D2560	42 29⅛	55	6¾ 13⅜	35¼ 15¾	10⅜	26½	11¾	6½	23–1⅝	1½ x ½ x 13	3 x 1 x 9⅜	35,000

* Sizes D40 and D57 are available in one piece housings only. Housing is not split at horizontal centerline as illustrated.
** These reducers are to be used for double extended output shaft applications only. Consult LUFKIN for single extended output shafts.

Where two dimensions are shown under P, S, and T, the first dimension is for the right hand side and the second dimension for the left.

The above dimensions are not to be used for installation.
USE CERTIFIED INSTALLATION PRINT.

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LUBRICATION INSTRUCTIONS

The lubricating oils used in Lufkin Gear Units should be a premium grade straight mineral oil with rust and oxidation inhibitors and antifoam additive. If an extreme pressure lubricant is used, it should have the additives listed above. The maximum sump temperature using extreme pressure lubricants should be limited to 160° F. If this sump temperature is exceeded, contact a Lufkin gear representative for additional information on extreme pressure oils for higher sump temperatures.

Before operating a new gear unit, fill to the proper level with a lubricant which meets the AGMA number shown in the table below. After the first two weeks of operation, the case should be drained, flushed, and refilled with new oil or the original oil may be used if filtered. Under ordinary operating conditions, the oil should be changed every 6 months or 2500 hours of operation, whichever occurs first. If this interval is exceeded, special provisions must be made when selecting a lubricant to guard against increase in oxidation and neutrality number.

It is very important to the satisfactory operation of a gear unit that careful attention be given to proper lubrication and that the lubricant be kept clean. Every precaution should be taken to prevent water and foreign particles from entering the gear case. In unusually dusty atmospheres and where temperature extremes cause excessive condensation inside the case, it will be necessary to change the oil more frequently than specified above.

RECOMMENDED LUBRICANTS FOR LUFKIN GEAR UNITS

GEAR UNIT NUMBER:	AMBIENT TEMPERATURE			
	15°F.—60°F.		50°F.—125°F.	
	AGMA Lubricant No.	Viscosity S.U.V. Secs. at 100°F.	AGMA Lubricant No.	Viscosity S.U.V. Secs. at 100°F.
S64C, S85C, D100C, D120C	2	280–360	3	490–700
S105C, S127C, SF127C, S148C, SF148C, S169C, SF169C, S1810C, SF1810C, S2011C, SF2011C	2	280–360	4	700–1000
S2212C, SF2212C, SF2413C, SF2714C, SF3015C, SF3318C, SF3824C, SF4427C, SF5230C, SF6033C, D145C, D170C, DF170C, D195C, DF195C, D220C, DF220C, D250C, DF250C, D290C, DF290C, D340C, DF340C, D390C, DF390C, D440C, DF440C, D500C, DF500C, DF560C, DF640C, DF720C, T170C, TF170C, T195C, TF195C, T220C, TF220C, T250C, TF250C, T290C, TF290C, T340C, TF340C, QF170C, QF195C, QF220C, QF250C, QF290C, QF340C, D40, D57, D80, D114, D160, D228, D320, D456, D640, D912, D1280, D1824, D2560	3	490–700	4	700–1000
T390C, TF390C, T440C, TF440C, T500C, TF500C, TF560C, TF640C, TF720C, QF390C, QF440C, QF500C, QF560C, QF640C, QF720C	4	700–1000	5	1000–1500
All M Units	2	280–360	3	490–700

AGMA STANDARD KEYWAYS

Diameter of Shafts, Inclusive	RECOMMENDED STANDARD KEYWAYS		
	Width	Depth	Key Stock
5/16 to 7/16"	3/32	3/64	3/32 x 3/32
1/2 to 9/16"	1/8	1/16	1/8 x 1/8
5/8 to 7/8"	3/16	3/32	3/16 x 3/16
15/16 to 1 1/4"	1/4	1/8	1/4 x 1/4
1 5/16 to 1 3/8"	5/16	5/32	5/16 x 5/16
1 7/16 to 1 3/4"	3/8	3/16	3/8 x 3/8
1 13/16 to 2 1/4"	1/2	1/4	1/2 x 1/2
2 5/16 to 2 3/4"	5/8	5/16	5/8 x 5/8
2 13/16 to 3 1/4"	3/4	3/8	3/4 x 3/4
3 5/16 to 3 3/4"	7/8	7/16	7/8 x 7/8

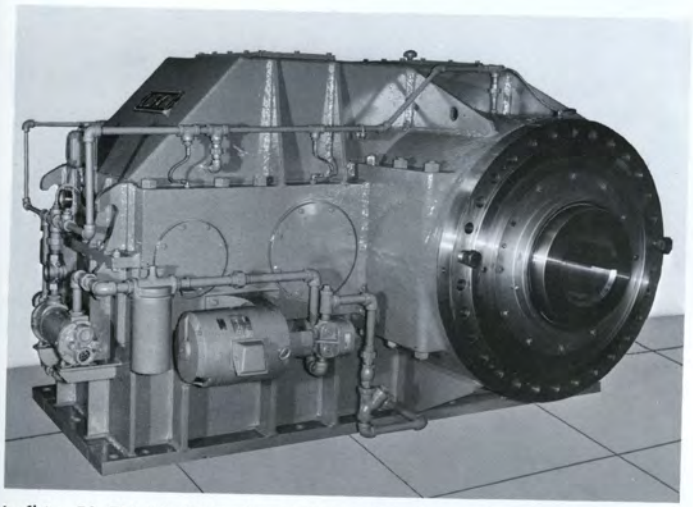
Diameter of Shafts, Inclusive	RECOMMENDED STANDARD KEYWAYS		
	Width	Depth	Key Stock
3 13/16 to 4 1/2"	1	1/2	1 x 1
4 9/16 to 5 1/2"	1 1/4	7/16	1 1/4 x 7/8
5 9/16 to 6 1/2"	1 1/2	1/2	1 1/2 x 1
6 9/16 to 7 1/2"	1 3/4	5/8	1 3/4 x 1 1/4
7 9/16 to 8 15/16"	2	3/4	2 x 1 1/2
9 to 10 15/16"	2 1/2	7/8	2 1/2 x 1 3/4
11 to 12 15/16"	3	1	3 x 2
13 to 14 15/16"	3 1/2	1 1/4	3 1/2 x 2 1/2
15 to 17 15/16"	4	1 1/2	4 x 3
18 to 21"	5	1 3/4	5 x 3 1/2

Lufkin Commercial Gear Reducers are furnished with the above standard keyways in the low speed and high speed shafts. The depth of the keyway in the coupling, pulley or sprocket is the same as the depth of the keyway in the shaft; that is, the depth is one-half of the key height measured from the edge of the keyway.

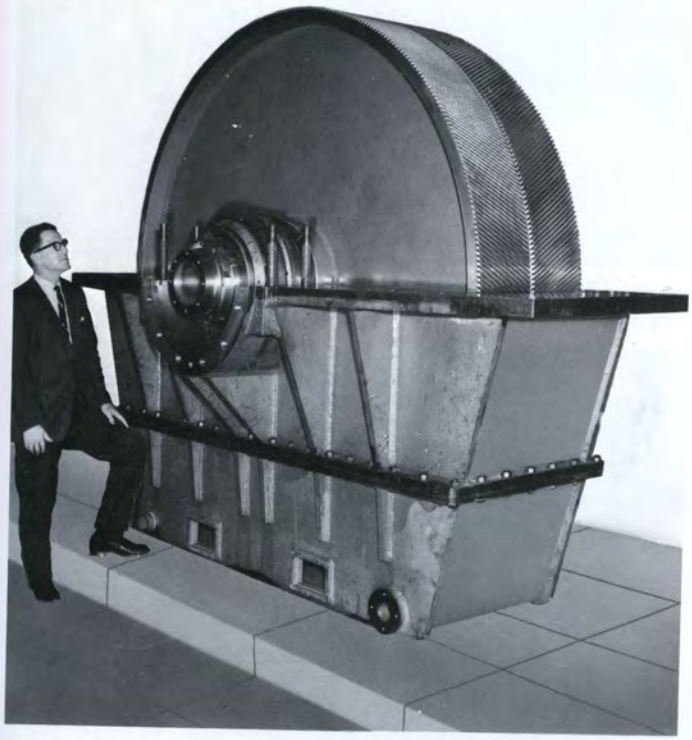
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SPECIAL LUFKIN GEAR UNITS

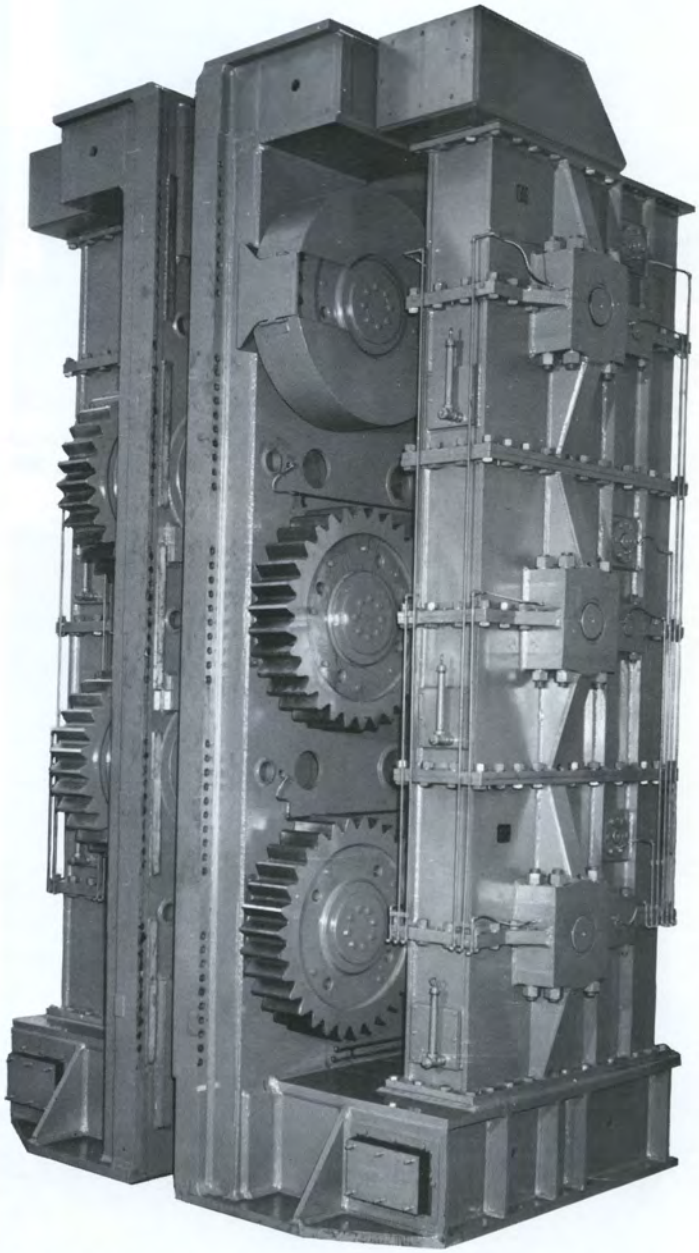
Lufkin Industries, Inc. builds special gear units to meet the demands of industry. Lufkin has the facilities and engineering staff to solve the difficult gear problems. The following pages show a few of the custom engineered units that are presently in operation. Lufkin will be happy to quote on your requirements.



Lufkin BL-EX-15 Extruder drive with thrust bearing designed for 1,000,000 lb. thrust load at 60 RPM output speed.



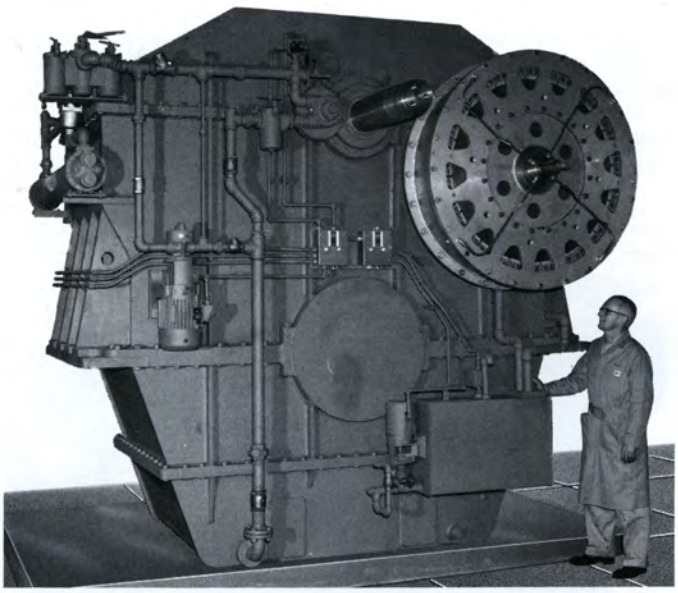
Lufkin VQ6024 Marine Propulsion Gear, Rated 5150 HP at 515 RPM input speed, Ratio 3.94:1.



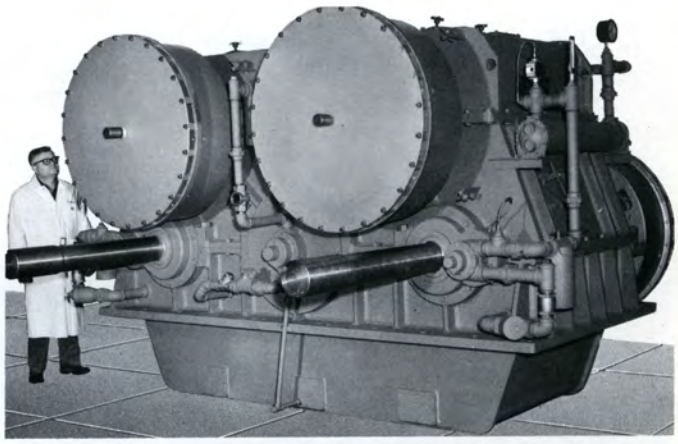
One of 12 similar pinion stands built for elevating off-shore drilling barge. Unit shown is 19 ft. high weighing 146,000 lb. with a lifting capacity of 890 tons. Ratio 6,608:1.

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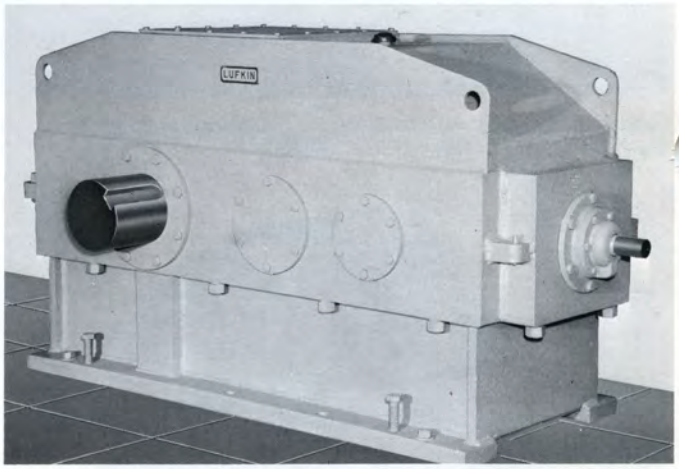
SPECIAL LUFKIN GEAR UNITS



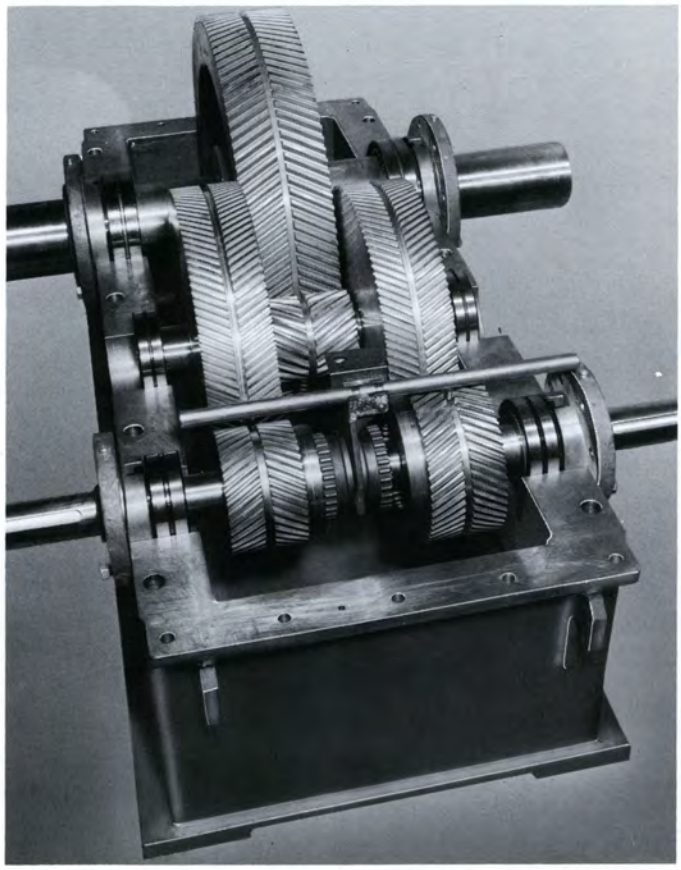
Lufkin RS6024 Marine Propulsion Gear with water cooled clutches for 604 ft. Great Lakes ore boat. Rating 3240 HP, 515 RPM, 4.68:1 Ratio.



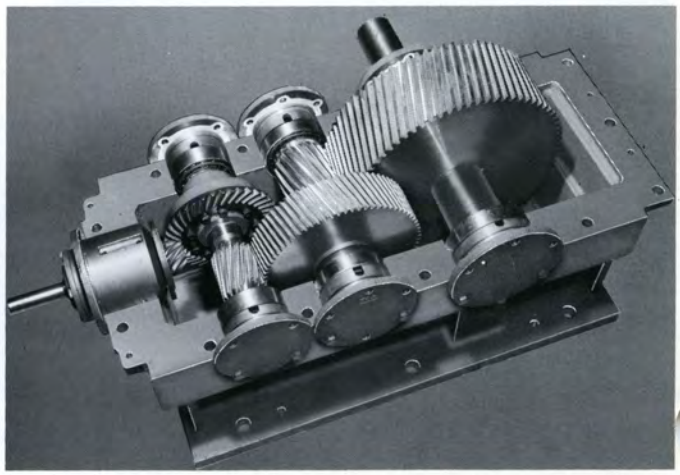
Lufkin RCS8414 Marine Propulsion Gear, Reverse-Reduction compound. Driven by two 1700 HP diesels, 515 RPM, 3.33:1 Ratio.



Lufkin THB340 Reducer, Triple reduction, right angle input. ratio 356:1.



Lufkin D315-2S Speed Reducer. Two ratios for conveyor drive handling coal and salt.



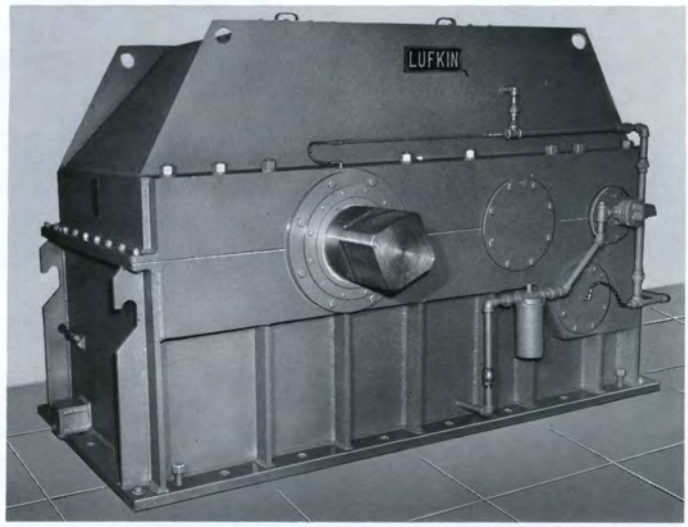
Lufkin Type THB Unit with cover removed showing spiral bevel gears and helical gears in Heavy Fabricated Steel Housing.

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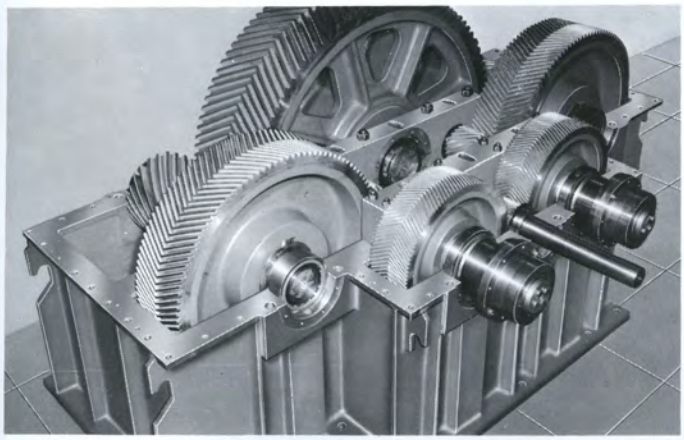
SPECIAL LUFKIN GEAR UNITS



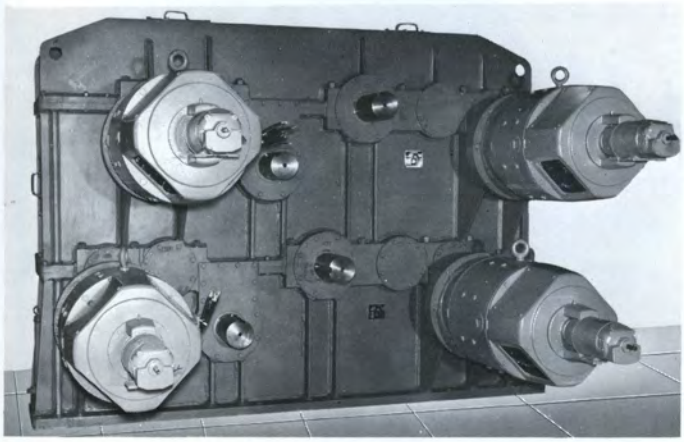
Torch cut gears used for 600,000 lb. welding positioner.



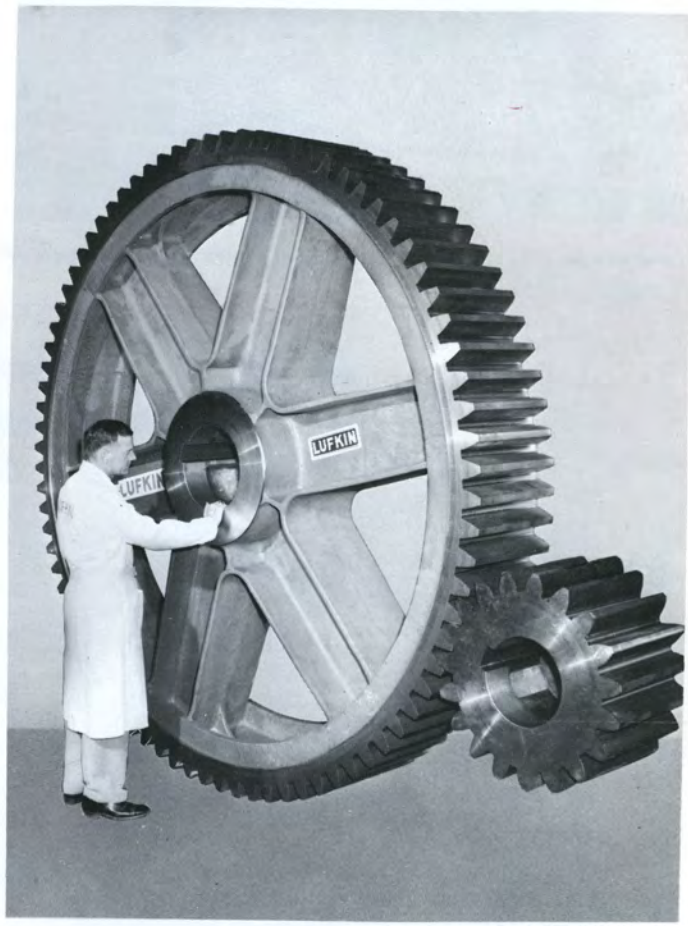
Lufkin T650H Triple Reduction Gear with circulating oil system for sugar mill drive. Rating 250 HP at 1450 RPM input speed, Ratio 236:1.



Lufkin TC4421 Triple Reduction Articulated Unit for sugar mill drive. Rating 508 HP at 689 RPM input.



Lufkin QT290H Triple Reduction, four gear train unit for rubber mill calender drive.

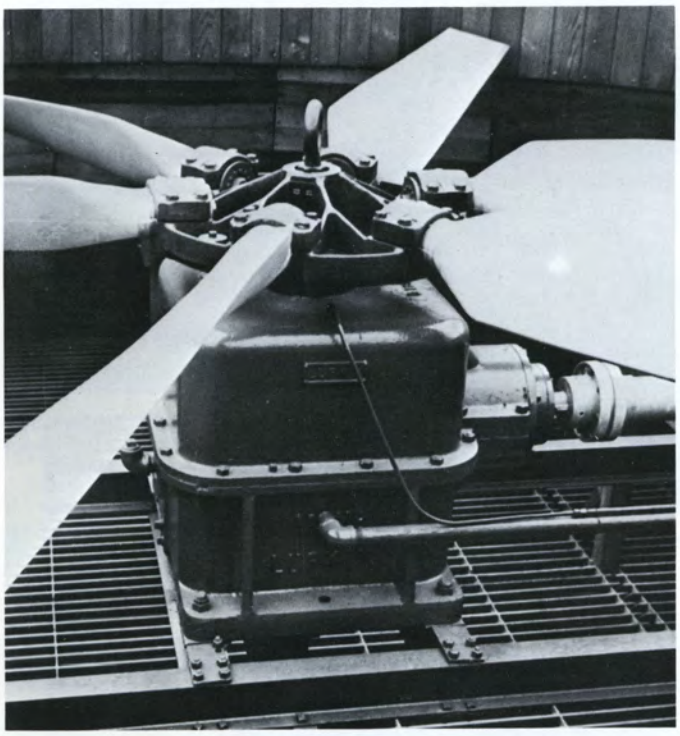


Large replacement open gears for sugar mill in Mexico. 116.39″ pitch diameter, 18″ face, 4.459 circular pitch.

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OTHER LUFKIN GEAR PRODUCTS

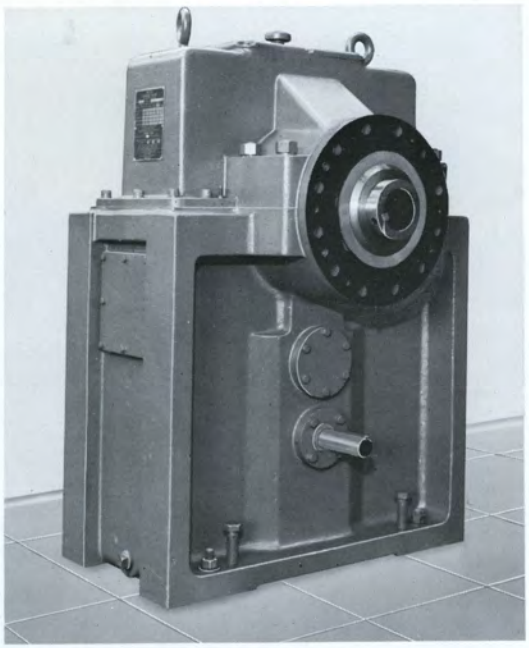
Lufkin Industries, Inc. manufactures a complete line of speed reducers and increasers with cast housings. The photos below show some of the types available.



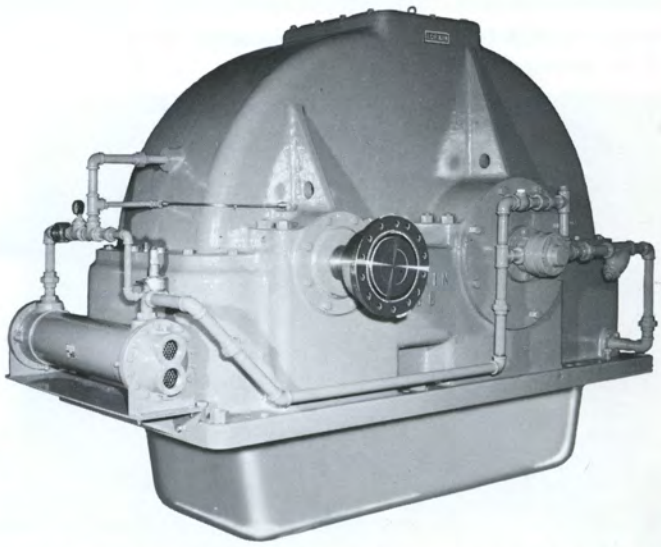
Lufkin Model 115VB Reducer driving 20 foot diameter fan in a large cooling tower.



Lufkin ROS series reverse reduction Marine gears. This series uses hydraulic clutches and is available up to 1800 HP. Smaller units are available with standard SAE flywheel adapters.



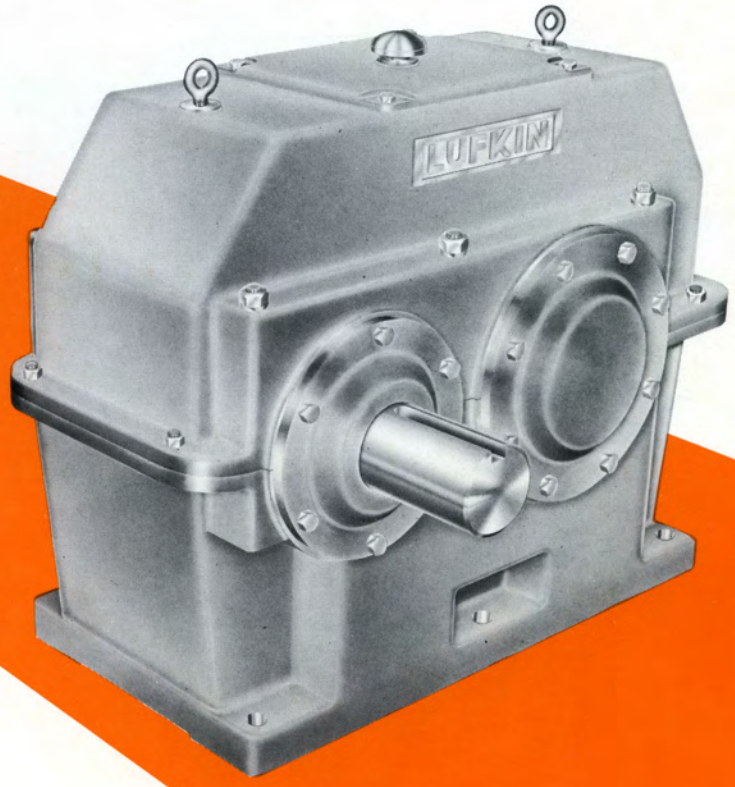
Lufkin Model D165-102C Extruder Drive with integral thrust bearing and speed change gears.

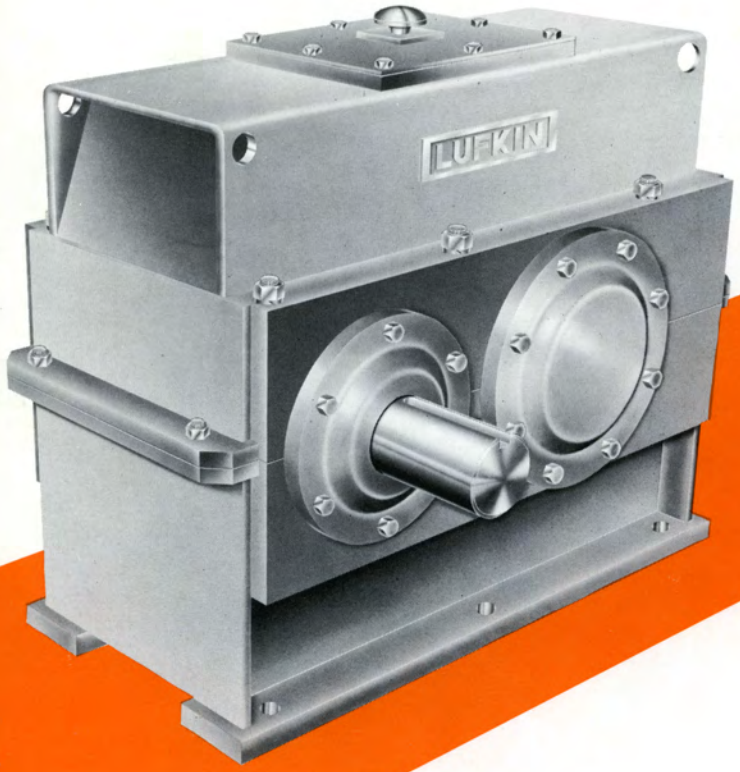


Lufkin Type N High Speed Units with oil pump and cooler for pitch line speeds above 7000 feet per minute.

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TYPE S
Cast Iron Housing





TYPE S
Fabricated Steel Housing

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LUFKIN MILESTONES OF GROWTH

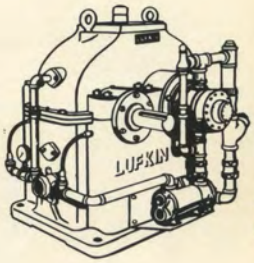
Lufkin Industries, Inc., founded as Lufkin Foundry and Machine Company in 1902 as a repair shop for sawmill and railroad machinery . . . guided by progressive leadership . . . gifted with technical ability . . . located strategically in the growing Southwest . . . of humble origin . . . this company has grown proudly in scope and stature with the advent of each new manufacturing division.

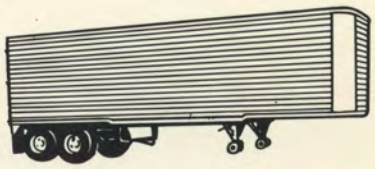


OILFIELD DIVISION
1923



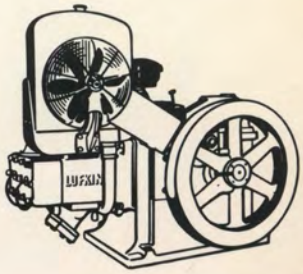
GEAR DIVISION
1939





TRAILER DIVISION
1939

ENGINE
DIVISION
1940



4-72

LUFKIN INDUSTRIES, INC.
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