Model HP

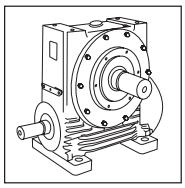
Cone Drive

CAT.HP.11/05.NA

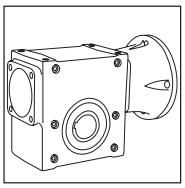
TEXTRON Fluid & Power

PRODUCTS IN THE RANGE

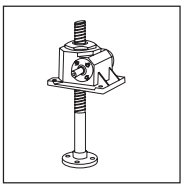
Serving an entire spectrum of mechanical drive applications from food, energy, mining and metal; to automotive, aerospace and marine propulsion, Textron Power Transmission is here to make a positive difference to the supply of drive solutions.



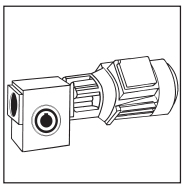
Series A
Worm Gear units and geared motors in single & double reduction types



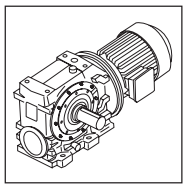
Series B
Conex helicoidal gear geometry right angle gearmotors and reducers



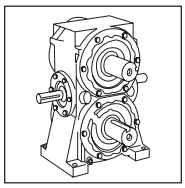
Series BD
Screwjack worm gear unit



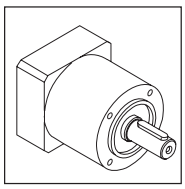
Series BS
Worm gear unit



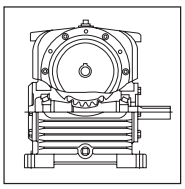
Series C
Right angle drive helical worm geared motors & reducers



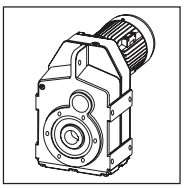
DuoDrive
Dual gears on parallel output shafts



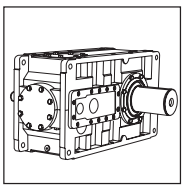
Series E
Economical planetary servo gearboxes



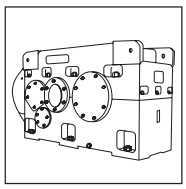
Extruder Drive
Rugged duty reducer takes high screw pressure



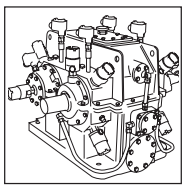
Series F
Parallel angle helical bevel helical geared motors & reducers



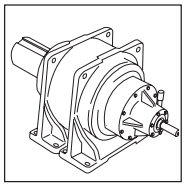
Series G
Helical parallel shaft & bevel helical right angle drive gear units



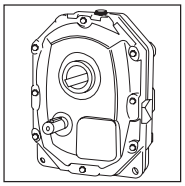
Series H
Large helical parallel shaft & bevel helical right angle drive units



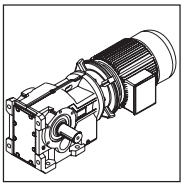
Highspeed
Helical parallel shaft high speed units



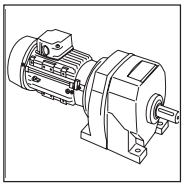
HTP
High torque planetary gear units



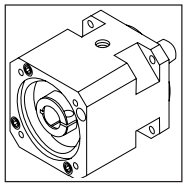
Series J
Shaft mounted helical speed reducers



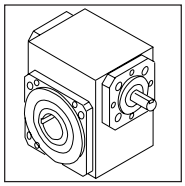
Series K
Right angle helical bevel helical geared motors & reducers



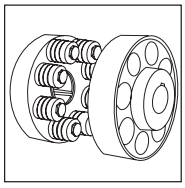
Series M
In-line helical geared motors & reducers



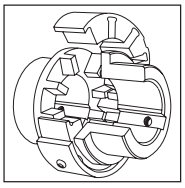
Series P
Precision planetary servo gearboxes



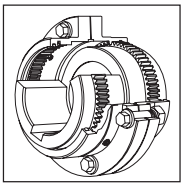
Series W
Precision right angle servo gearboxes



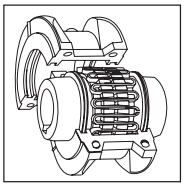
Series X
Cone Ring
Pin and bush elastomer coupling



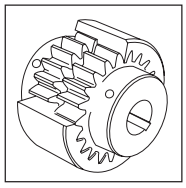
Series X
Flexiwrap
Double flexing elastomer coupling



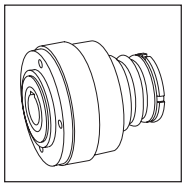
Series X
Gear
Torsionally rigid, high torque coupling



Series X
Grid
Double flexing steel grid coupling



Series X
Nylicon
Gear coupling with nylon sleeve



Series X
Torque Limiter
Overload protection device

Textron Power Transmission can create custom engineered transmission solutions of any size and configuration.

Catalog Contents

0209

Introducing the New Model HP
Double Enveloping Worm Gear Reducer

Textron Power Transmission introduces the Model HP reducers tested and proven to have as much as 50% more torque than our previous reducer model. The performance of the Model HP is based on improved material properties for the worm and gear combined with the use of synthetic lubrication. Along with the metallurgical advancements, the lastest computer and manufacturing technology augment the performance of the Model HP. This means that you can now increase your torque per dollar even more using Textron Power Transmission's new Model HP.

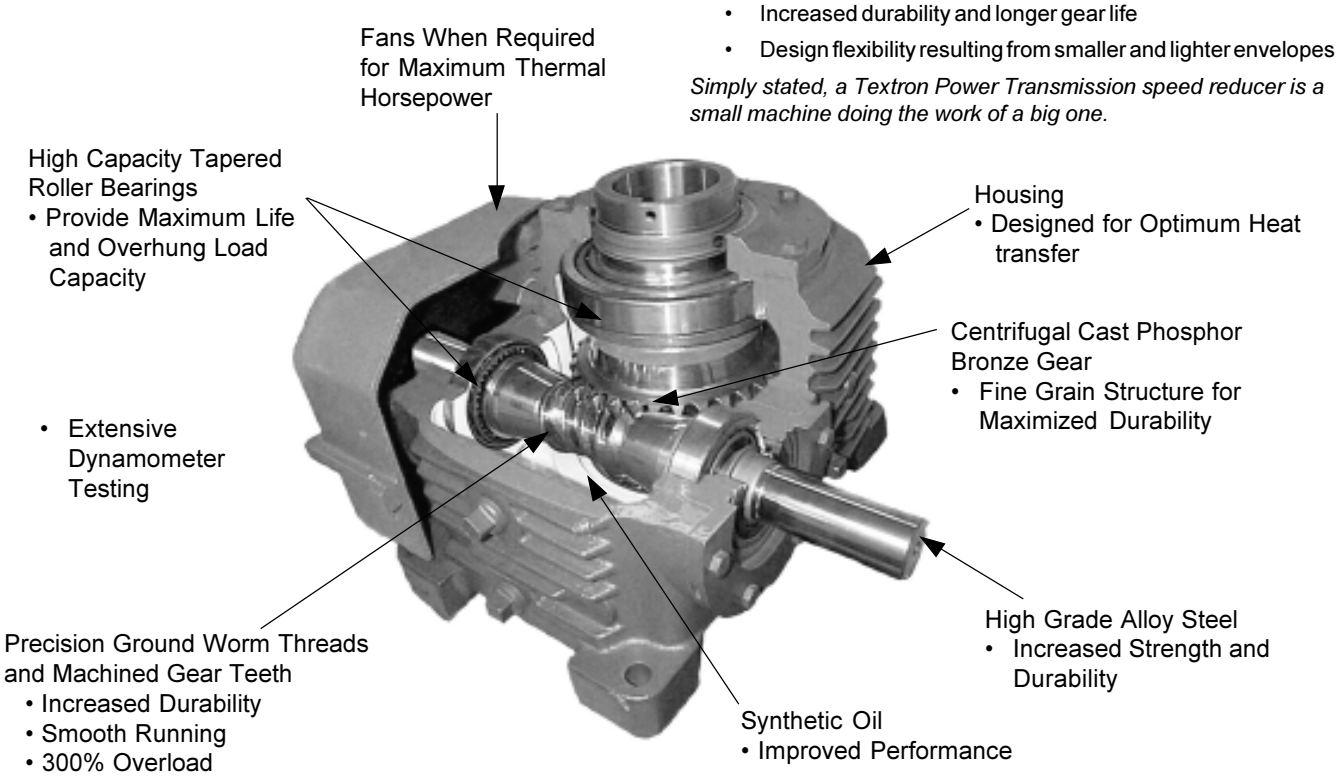
The Textron Power Transmission Drive Advantage

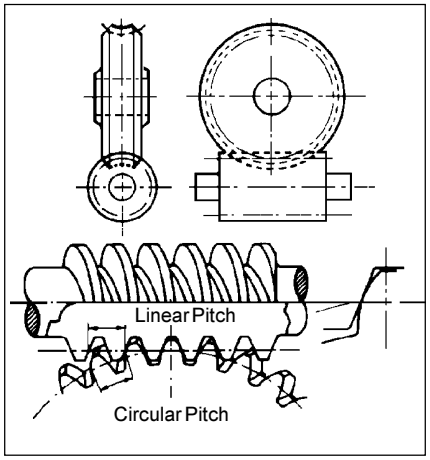
The element that distinguishes Textron Power Transmission products from all the others is the double enveloping design. The term "double-enveloping" is an apt description, as the worm and gear wrap around each other. This greatly increases load carrying capacity by providing more tooth area contact and more teeth in mesh than other worm gear designs.

This design difference leads to many advantages, among them:

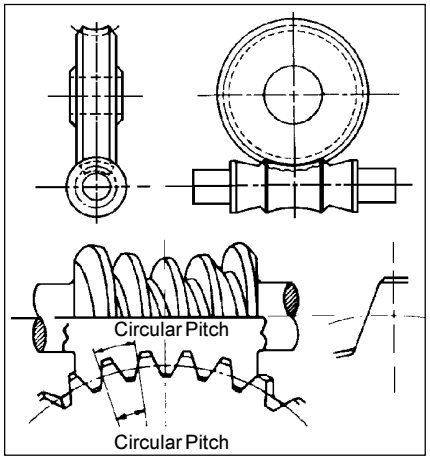
- Higher torque capacity with no increase in size, or conversely, smaller, more reliable speed reducers
- High shock resistance, and the ability to withstand heavy starting and stopping loads
- Low backlash due to the inherent precision of the double-enveloping design
- Increased durability and longer gear life
- Design flexibility resulting from smaller and lighter envelopes

Simply stated, a Textron Power Transmission speed reducer is a small machine doing the work of a big one.

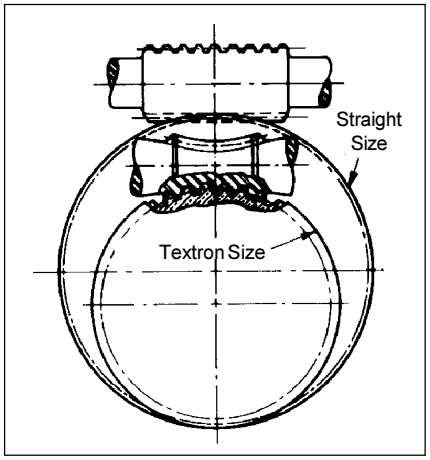




The mesh of common cylindrical worm gearing provides one to one and one-half gear teeth in contact with the worm.



The Textron Power Transmission double-enveloping design typically provides contact between one-eighth of the total number of teeth on the gear and the worm.



The Textron Power Transmission design gearset can carry loads which would require cylindrical worm gearing much larger and heavier.

0209

Proper Application of Textron Power Transmission Products

Textron Power Transmission gearsets and reducers, are designed and built to rigorous specifications. However, Textron Power Transmission must have adequate application information in order to properly design and build products which meet the needs of its customers.

In any applications of Textron Power Transmission products where breakage, damage, disconnection, any other malfunction of any drive train component, or excessive wear could result in personal injury or property damage, a fail-safe device capable of stopping and holding the load in the event of such an occurrence must be incorporated after the drive train.

Textron Power Transmission reserves the right to specify minimum service factors, stress levels, speed limitations, etc. for drives of this nature and will not be responsible for applications of our products that have not been reviewed or approved in writing prior to installation or for products installed or used in a manner different than originally specified by the customer.

Ratings

Textron Power Transmission speed reducers and gearsets are designed in accordance with American Gear Manufacturers Association specification 6030-C87. Ratings for standard reducers as well as standard and special gearsets are shown in this catalog. These ratings allow for starting and **momentary** peak overloads of up to 300% of the catalog rating (service factor = 1). Ratings for worm speeds above 100 RPM not shown in the tables may be obtained by direct interpolation. The output torque ratings for worm speeds of 100 RPM or less are considered to be constant. Horsepower ratings for ratios, sizes, or speeds not shown in the catalog may be obtained by contacting Textron Power Transmission.

The thermal power rating of a speed reducer is the maximum allowable continuous input power with the reducer running in a 80°F ambient condition. The maximum permissible internal operating temperature is 200°F.

The thermal power rating can often be increased with optional water cooling coils or external heat exchanger. In cases of unusually high or low ambient temperatures, please consult Textron Power Transmission for assistance.

Bearings

All standard Textron Power Transmission reducers are furnished with antifriction bearings.
Axial endplay is built into the worm bearings in accordance with the bearing manufacturer's recommendations for the specified operating speed and duty cycle. Typically, size 15 thru size 80 worm bearings will have from .003 to .006 axial endplay built in at assembly. This endplay will decrease as the unit approaches operating temperature. If we are not advised of the specific operating speed and duty cycle, the bearings will be set for continuous service at 1750 RPM input speed. If intermittent service is specified, bearing endplay will be reduced accordingly.
All standard size 15 thru size 80 output shaft mountings use tapered roller bearings set line on line to .002 tight.

Overhung Load Capacity (Chain Pull)

The input and output shafts of all standard Textron Power Transmission reducers are equipped with high quality tapered roller bearings. Contact Textron Power Transmission Application Engineers for input and output shaft overhung load (chain pull) capacities. Shaft limiting values for solid output shafts based on reducer size (based on load applied at the center of the keyway). Shaft limiting values shown are in Lbs.

20	25	30	35	40	50
1060	1420	1850	3500	4560	7180

60	70	80	100	120
10300	13400	14200	18700	32900

Backdriving or Overhauling

Applications such as wheel drives that require a brake on the motor or input shaft to decelerate a high inertial load require special attention to brake selection. These applications should utilize freely overhauling ratios (15:1 or less). If self-locking ratios are used with a brake, the gearset can, under certain conditions, lock-up during deceleration and impose severe shock loading on the reducer and driven equipment. Each reduction should be limited to 15:1 or less to allow the reducer to overhaul. Contact Textron Power Transmission for specific information on backdriving efficiency and brake selection.

Stairstepping

Self-locking ratios (generally 40:1 and higher) are susceptible to the phenomenon of "stairstepping" when backdriving or overhauling. "Stairstepping", which is an erratic rotation of the gearset, occasionally occurs when the gearset is backdriven at worm speeds less than the theoretical lockup speed of the gearset. This erratic rotation of the gearset can be amplified by the rest of the drive train creating a very undesirable operating condition. "Stairstepping" can occur on hoists, or other drives where there is a high inertial load at the output shaft. Contact Textron Power Transmission for specific information.

Self-Locking

It is a common misconception that all worm gears are self-locking or non-overhauling. Actually, worm gear ratios up to 15:1 will overhaul quite freely. Ratios from 20:1 to 40:1 can generally be considered as overhauling with difficulty (particularly from rest). Ratios above 40:1 may or may not overhaul depending on loading, lubrication and the amount of vibration present. Textron Power Transmission cannot guarantee any worm gear ratio to be self-locking. There have been instances where single reduction ratios as high as 100:1 have overhauled. Therefore, it is not acceptable to rely on a worm gear to prevent movement in a system. Whenever a load must be stopped or held in place, a positive mechanical device must be incorporated into the system to prevent rotation of the gearset.

Design Assistance and Customer Service

Textron Power Transmission can save your designers time and money. Our application engineers are experienced in all phases of power transmission. We welcome the opportunity to review and assist you in selecting the right reducer for your application We'll help you benefit from the advantages of design flexibility with our limitless range of sizes, styles and ratios.

When you place an order with Textron Power Transmission, our entire business and manufacturing system is "on deadline" for your order. Our high degree of computer integration means that order processing, materials planning, manufacturing, and shipping become an interconnected, highly efficient mechanism. Virtually all information about your order is immediately available at any time, anywhere in the plant.

Gears

For normal worm speeds up to 3600 rpm, or 2000 feet per minute sliding velocity, Textron Power Transmission gear units rated in accordance with our standard formula, we recommend our standard gear bronze. Gears are chill or centrifugally cast bronze according the following specifications.

Chemical:

Tin	10.00% to 12.00 %
Impurities	.50% Max.
Phosphorus	.05% - .25%
Copper	Remainder

Mechanical : *

Tensile strength	45,000 Lbs./ Sq. In. Min.
Yield Point	25,000 Lbs./ Sq. In. Min.
Elongation in 2"	14% Min.

* Gear mechanical properties are test bar values.

** Worm mechanical properties are typical for 1" rounds having 32 Rc surface hardness.

Worms

Worm threads are cut integral with the worm shaft from #4150 resulphurized steel within the limitations of the chemical specifications shown below.

Chemical :

Carbon	.48% - .53%
Manganese	.75% - 1.30%
Phosphorus	.035% Max
Sulphur	.06% - .10%
Silicon	.15% - .35%
Chromium	.60% - 1.10%
Molybdenum	.15% - .25%

Mechanical :**

Tensile strength	140,000 Lbs./ Sq. In. Min.
Yield Point	120,000 Lbs./ Sq. In. Min.
Reduction in area	40%
Elongation in 2"	12%

Housing, Caps & Carriers

Housing, Caps & Carriers size 15 through size 120 are generally supplied in cast iron. Larger sizes are supplied in welded steel or cast iron at our option.

Solid Output Shafts

Output shafts for size 15 through size 60 are cold drawn steel. Size 70 and greater are heat treated alloy steel, the same as the worm material in the listing above.

0209

Selecting a reducer for your application

We look forward to serving you. Please phone us at 888-994-2663 for help specifying gear ratio, reducer size, and backlash. Or tell us about your application by faxing us the information below to 888-907-2663. Our dedicated teams are waiting for your call.

1 Application:
- Specific type of application or machine.
- Specific consideration; eg. shock loading, low backlash, etc.

2 Duty cycle:
- Continuous or intermittent

If continuous:
- Hours per week

If intermittent:
- How many starts and stops per hour.
- Average “on” time per hour.

3 Ratio and operating speed:
- Variable or continuous input speed.
- Preferred input speed.
- Desired output speed.

4 Loading:
- Horsepower or torque required for starting, running, and stopping.
- General type of driving motor; eg. AC motor, servo motor, or hydraulic motor.
- Special load classification; eg. shock loading, reversing, potential for emergency stops.
- Unusually high inertia loading at the input or output shaft.
- Overhung and/or thrust loading on shafts.
- When units or motors are to be equipped with brakes having a torque rating that exceeds the unit or motor rating, the brake rating must be used to select unit size.

5 Environmental:
- Any unusual environmental conditions such as high or low temperature, grit or other contaminants, or exposure to water.

6 Configuration:
- With or without a Textron Power Transmission supplied drive motor.
- Flange mounting provisions for the drive motor.
- Solid or hollow output shaft.
- Special modifications, dimensions, or features desired.

If Textron Power Transmission is to provide the motor, please provide the following information:
1. Horsepower (HP)
2. RPM
3. Frame Size
4. Phase
5. Cycle (Hertz)
6. Voltage
7. Enclosure
8. Type
9. Design
10. Duty
11. Percent slip
12. Brake rating
13. Conduit box location when exact location is required

If customer is to furnish and mount a C-Face motor, please provide the following information so that the correct motor adaptor and coupling will be provided.
1. Horsepower (HP)
2. Frame Size
3. Speed
4. Motor pilot diameter
5. Motor shaft dimensions
6. Brake rating
7. Complete coupling information and dimensions (if alternate coupling is required and is not being furnished by TPT)

Selection Procedure

The Procedure for Determining Speed Reducer Load Capacity is as Follows:

1. Determine the proper service factor by matching your duty requirements with the "Service Factor" chart in this section.

2. Determine the actual input horsepower required to drive the reducer. In case of operating worm speed under 100 RPM, use only output torque ratings. Multiply this horsepower or torque value by the appropriate service factor rather than adjust the ratings in the Catalog. This will give you the adjusted horsepower or torque required.

3. Find the ratio by dividing the speed of the input shaft by the speed of the output shaft.

4. Referring to the mechanical horsepower ratings charts, select a unit, at the given worm RPM and ratio, having a corresponding mechanical rating (or one slightly in excess) to the adjusted horsepower or torque.

5. Check the actual input horsepower to be transmitted (horsepower before applying service factor) against the thermal rating listed in the rating tables. The thermal rating defines the maximum horsepower which can be transmitted continuously (30 minutes or longer). This is based on an oil sump temperature rise of 120°F above ambient, and must not exceed 200°F. If the thermal rating is lower than the mechanical rating, choose the unit on the basis of the thermal rating. Most standard Textron Power Transmission Reducers come with a fan for auxiliary cooling. Exceptions to this rule are applications, where operation is intermittent and does not permit thermal build-up. For applications involving multiple cycles the average horsepower required should be compared with the thermal rating of the reducer. Water-cooled units are shown on pages 45 and 46.

6. If either input or output shaft is connected to driver or driven mechanism other than by direct shaft coupling, calculate overhung load requirements (Chain Pull) by dividing the torque demand by the pitch radius of the sprocket, sheave, spur or helical gear used. Multiply by the following factor:

Type of Drive	Overhung Load Factor
Chain sprocket	1.00
Spur or helical gearing	1.25
"V" belt sheave	1.50
Flat belt sheave	2.50

Contact Textron Power Transmission Application Engineers for input and output shaft overhung load (chain pull) capacity.

7. Textron Power Transmission's Application Engineering Department is available to assist you with selection of the reducer for your application. Technical personnel using computer programs are available to discuss your application. We invite you to forward all pertinent data to Textron Power Transmissions's Traverse City, Michigan office or your local representative for our full review and selection assistance.

Horsepower, Speed and Torque Relationship

Formula 1: $P = \frac{T_w n}{63{,}000}$

Formula 2: $T_w = \frac{P \cdot 63{,}000}{n}$

Formula 3: $T_G = T_w \cdot m_G \cdot \eta$

Definitions

m_G	=	gear ratio
n	=	rotational speed of worm (rpm)
P	=	power input to worm (Horsepower)
T_w	=	input torque (inch pounds)
T_G	=	output torque (inch pounds)
η	=	efficiency (percent)

Service Factors

Duty Cycle	Hours / Day	Uniform	Moderate Shock	Heavy Shock	Extreme Shock
	1/2	.8	.9	1.0	1.2
	2	.9	1.0	1.2	1.3
	10	1.0	1.3	1.5	1.7
	24	1.3	1.5	1.7	2.0

For continuous operation thermal ratings must be considered.

Example 1
10 HP 1750 RPM motor input, 10 hr per day service with moderate shock loading. This requires a **1.3 service factor**. Selection of a reducer from the Mechanical HP ratings charts is based on 10 HP x 1.3 = 13.00 HP. Thermal ratings shown in the ratings charts must be adequate for 10 HP input.

Example 2
5 HP 1750 RPM motor input, uniform loading operating approximately 2 hours per day. This requires a **0.9 service factor**. Selection of a reducer from Mechanical HP ratings charts is based on 5 HP x 0.9= 4.5 HP. Thermal consideration is not required.

The values shown in the following table are approximate. overall reducer efficiencies which have been determined and substantiated by extensive dynamometer testing. They are for a complete reducer and include all losses within the unit from oil churning, oil seals and bearings. The efficiencies shown are based on the catalog ratings with the unit at normal operating temperature and with an approved lubricant. Varying conditions such as extremely cold or hot ambient temperatures, and excessively high or low loading will affect the efficiency of the reducer.

If the reducer is required to start under load, consideration must be given to the starting efficiency, which would be less than the running efficiency.

For additional information on efficiency under abnormal temperatures and loading and for starting efficiencies, please contact Textron Power Transmission.

Efficiency (Percent) - Single Reduction

SIZE	RPM	RATIO									
		5	**10**	**15**	**20**	**25**	**30**	**40**	**50**	**60**	**70**
20 thru 35	1750	92	90	88	85	84	80	76	73	70	69
	1150	92	90	88	84	84	80	76	73	70	69
	870	92	89	87	83	83	79	75	72	69	68
	580	91	87	85	83	81	75	72	70	66	65
	300	91	86	82	78	77	72	67	64	61	60
	200	90	85	81	77	75	70	63	60	59	58
	100	89	83	79	75	71	68	61	54	53	52
40 thru 80	1750	95	93	91	88	87	83	79	76	73	72
	1150	95	93	91	87	87	83	79	76	73	72
	870	95	92	90	86	86	82	78	75	72	71
	580	94	90	88	86	84	78	75	73	69	68
	300	94	89	85	81	80	75	70	67	64	63
	200	93	88	84	80	78	73	66	63	62	61
	100	92	86	82	78	74	71	64	57	56	55
100 thru 120	1750	97	95	93	90	89	85	81	78	75	74
	1150	97	95	93	89	89	85	81	78	75	74
	870	97	94	92	88	88	84	80	77	74	73
	580	96	92	90	88	86	80	77	75	71	70
	300	96	91	87	83	82	77	72	69	66	65
	200	95	90	86	82	80	75	68	65	64	63
	100	94	88	84	80	76	73	66	59	58	57

The overall reducer efficiency is equal to the product of the efficiencies of each stage at the input speed to that stage.

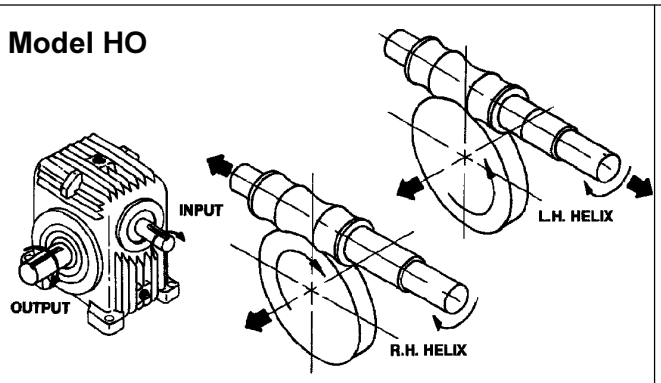
Double reduction overall efficiency = Primary efficiency x secondary efficiency.

Triple reduction overall efficiency = Primary efficiency x secondary efficiency x tertiary efficiency.

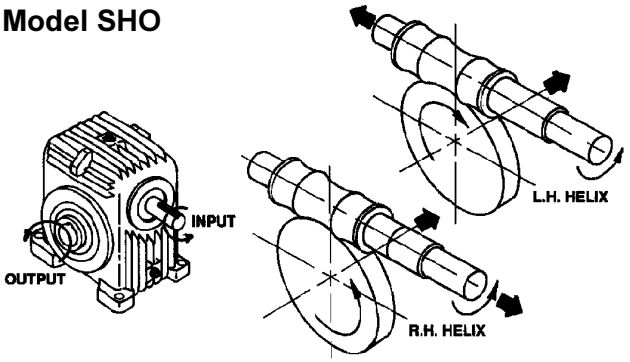
Shaft Rotation and Thrust Direction

Shaft rotations shown for standard right hand and left hand helix gearsets.
Many ratios can be furnished with left hand helix.
When a reducer is built with a left hand helix gearset the output shaft will rotate in opposite direction shown for a right hand helix gearset.

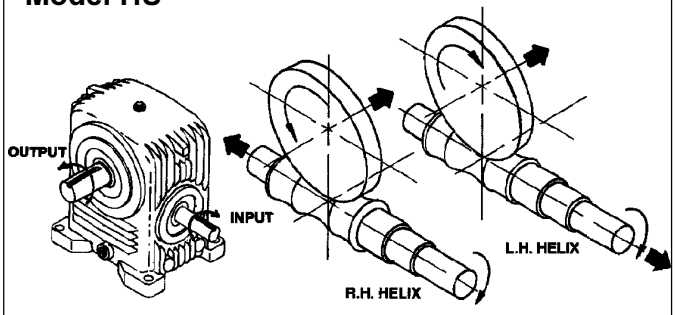
Model HO



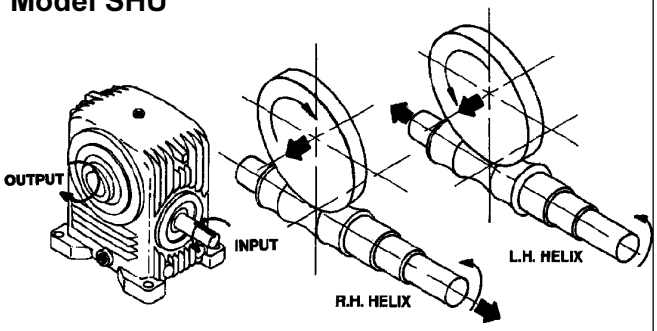
Model SHO



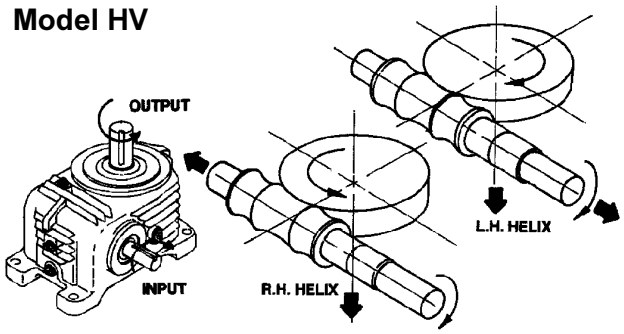
Model HU



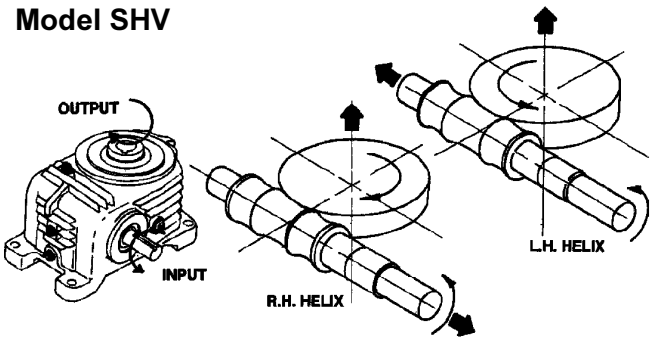
Model SHU



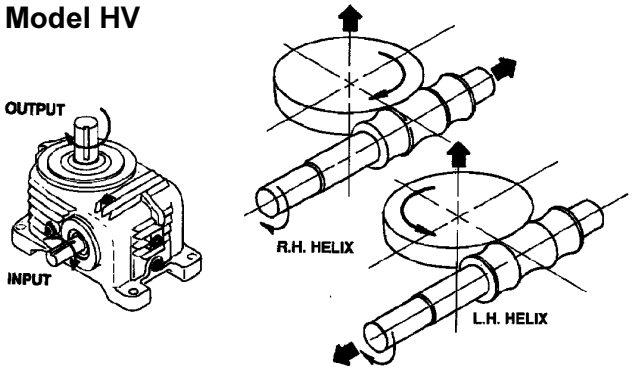
Model HV



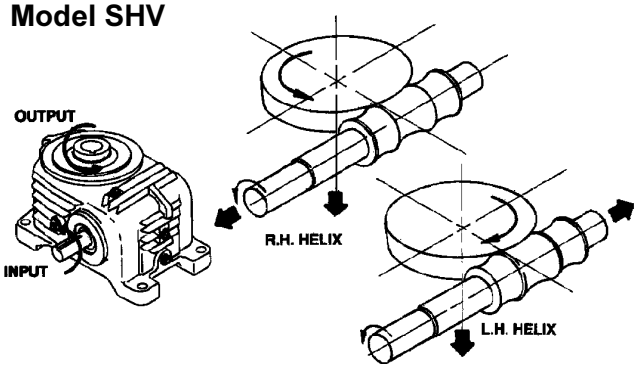
Model SHV



Model HV



Model SHV



Heavy Arrow Indicates Thrust Direction

Model HP

WK^2 Rotational Inertia of Moving Parts ($LB\text{-}IN^2$)

REFERRED TO HIGH SPEED SHAFT
Single Reduction Worm - **Solid** Low Speed Shaft
Single Extended High and Low Speed Shafts

Ratio	UNIT SIZE											
	15	**20**	**25**	**30**	**35**	**40**	**50**	**60**	**70**	**80**	**100**	**120**
5	0.116	0.532	1.06	2.62	5.80	9.86	20.2	52.0	102	168	547	1160
10	0.096	0.365	0.772	1.80	3.36	6.52	12.6	29.5	48.4	92.2	313	590
15	0.092	0.334	0.719	1.65	2.90	5.90	11.2	25.3	38.4	78.0	270	484
20	0.091	0.323	0.700	1.59	2.74	5.69	10.7	23.9	34.9	73.0	254	447
25	0.318	0.691	1.57	2.67	5.59	10.5	23.2	33.3	70.7	247	430	
30	0.090	0.315	0.687	1.55	2.63	5.53	10.3	22.8	32.4	69.5	244	421
40	0.090	0.313	0.682	1.54	2.59	5.48	10.2	22.5	31.5	68.2	240	412
50	0.089	0.311	0.680	1.53	2.57	5.45	10.2	22.3	31.1	67.7	238	408
60	0.089	0.311	0.678	1.53	2.56	5.44	10.1	22.2	30.9	67.4	237	405
70							10.1	22.2	30.8	67.2	237	404

ADDITIONAL WK^2 FOR DOUBLE EXTENDED WORM (HIGH SPEED SHAFT) (ADD DIRECTLY TO ABOVE FIGURES)											
15	**20**	**25**	**30**	**35**	**40**	**50**	**60**	**70**	**80**	**100**	**120**
0.008	0.017	0.028	0.103	0.241	0.727	0.775	1.62	3.11	3.94	5.74	16.5
ADDITIONAL WK^2 FOR DOUBLE EXTENDED SOLID GEARSHAFT (LOW SPEED SHAFT) DIVIDE FIGURE BY SQUARE OF RATIO AND ADD TO ABOVE FIGURES											
15	**20**	**25**	**30**	**35**	**40**	**50**	**60**	**70**	**80**	**100**	**120**
0.013	0.116	0.189	0.511	1.29	4.05	7.83	18.2	27.7	31.9	60.4	332

Single Reduction Worm - **Hollow** Low Speed Shaft
Single Extended High and Low Speed Shafts

Ratio	UNIT SIZE										
	20	**25**	**30**	**35**	**40**	**50**	**60**	**70**	**80**	**100**	**120**
5	0.565	1.40	3.99	7.58	12.8	27.5	64.4	133	206	518	1170
10	0.373	0.858	2.14	3.80	7.25	14.4	32.6	56.1	102	306	593
15	0.337	0.757	1.80	3.10	6.23	12.0	26.7	41.8	82.1	266	486
20	0.325	0.722	1.68	2.86	5.87	11.2	24.6	36.8	75.3	253	448
25	0.319	0.705	1.62	2.74	5.70	10.8	23.7	34.5	72.2	246	431
30	0.316	0.696	1.59	2.68	5.61	10.6	23.2	33.2	70.4	243	421
40	0.313	0.687	1.56	2.62	5.53	10.3	22.7	32.0	68.8	239	412
50	0.312	0.683	1.55	2.59	5.48	10.2	22.4	31.4	68.0	238	408
60	0.311	0.681	1.54	2.58	5.46	10.2	22.3	31.1	67.5	237	405
70						10.2	22.2	30.9	67.3	236	404

ADDITIONAL WK 2 FOR DOUBLE EXTENDED SOLID GEARSHAFT (LOW SPEED SHAFT) DIVIDE FIGURE BY SQUARE OF RATIO AND ADD TO ABOVE FIGURES										
20	**25**	**30**	**35**	**40**	**50**	**60**	**70**	**80**	**100**	**120**
0.017	0.028	0.103	0.241	0.727	0.775	1.62	3.11	3.94	5.74	16.5

* ROTATIONAL INERTIAS LISTED DETERMINED AT HIGH SPEED SHAFT AND INCLUDE ALL MOVING PARTS IN STANDARD REDUCERS.

DOUBLE REDUCTION INERTIA AT HIGH SPEED SHAFT = SECONDARY WK^2 /(PRIMARY RATIO)^2 + PRIMARY WK^2 .
CONVERT FIGURES TO LB-IN-SEC^2 BY DIVIDING BY 386 IN/SEC^2 (GRAVITY).

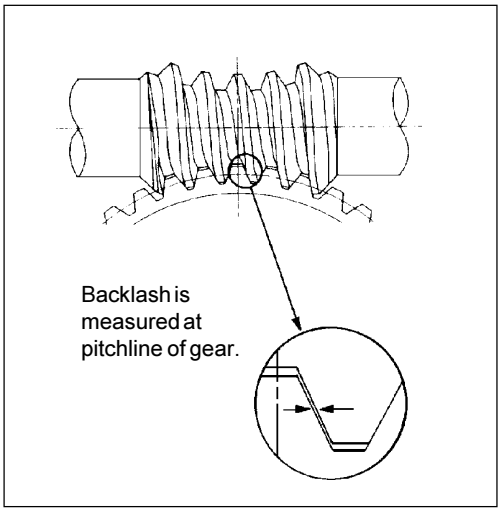
For Extra Precision…
Textron Power Transmission's Low Backlash Gearing

The inherent accuracy of Textron Power Transmission's standard product line fulfils a broad range of precision drive requirements. But, for those applications that demand more precision we have a low backlash gearset to suit your needs. As Textron Power Transmission's manufacturing processes lend themselves to generating precision gearing, these low backlash gearsets and reducers can be obtained at very little additional expense.
Textron Power Transmission also offers low backlash and zero backlash gearing.

Zero Backlash Gearset .000"
Low Backlash Gearset* .000" — .002" for Unit Sizes 15-80
Assembled Reducer* with Low Backlash Gearset .000 — .004"**

* at pitchline of gear.

** does not include worm bearing end play.



Measuring Backlash:
Backlash is measured at the pitchline of the gear by rotating the output shaft while holding the input shaft stationary. Bearings are set at zero end play for measurement, then adjusted afterwards according to loading, speed and duty cycle.

Textron Power Transmission's Low Backlash Gearsets and Reducers offer:

• Accuracy

• Minimum Backlash

• Smooth Motion

Application Assistance:
To assure optimum performance, Textron Power Transmission's application engineers are available to provide further explanations of precision characteristics under operating conditions.

Backlash - Standard Reducers

The following chart lists the backlash for standard reducers. Backlash is defined as the amount of movement at the pitch line of the gear with the worm locked and the gearset on exact center distance. When the gearset is assembled into a machine or reducer, the assembled backlash will increase to the values shown in the tables depending on worm and gear bearing looseness, and the actual center distance on which the gearset is mounted. Backlash is measured at the pitch line of the gear and is not dependent on ratio. Backlash is generally not measured at the worm because the amount of rotation of the worm with gear locked is a function of ratio.

Standard Backlash

SIZE	100 - 499			500 - 999			1000 - 2000			2001 - 3000		
	INCHES	DEGREES	ARC MINUTES	INCHES	DEGREES	ARC MINUTES	INCHES	DEGREES	ARC MINUTES	INCHES	DEGREES	ARC MINUTES
15	0.009	0.44	26	0.009	0.44	26	0.011	0.54	32	0.012	0.59	35
20	0.009	0.32	19	0.009	0.32	19	0.011	0.40	24	0.013	0.47	28
25	0.009	0.26	16	0.009	0.26	16	0.011	0.32	19	0.013	0.38	23
30	0.009	0.22	13	0.009	0.22	13	0.011	0.26	16	0.013	0.31	19
35	0.010	0.20	12	0.010	0.20	12	0.012	0.25	15	0.014	0.29	17
40	0.010	0.18	11	0.011	0.20	12	0.013	0.23	14	0.015	0.27	16
50	0.011	0.16	9	0.012	0.17	10	0.014	0.20	12	0.016	0.23	14
60	0.012	0.14	9	0.013	0.16	9	0.015	0.18	11	0.017	0.20	12
70	0.013	0.13	8	0.015	0.15	9	0.018	0.18	11	0.019	0.19	12
80	0.014	0.12	7	0.016	0.14	8	0.019	0.17	10	0.020	0.18	11
100*	0.024	0.17	10	0.024	0.17	10	0.024	0.17	10	0.024	0.17	10
120*	0.026	0.15	9	0.026	0.15	9	0.026	0.15	9	0.026	0.15	9

Nominal Backlash values in inches, degrees, and arcminutes for standard backlash reducers.
Backlash in inches is measured at pitch line.

* This worm is mounted in a type TDO double locked up tapered roller bearing with a fixed spacer which can be ground to reduce end play for low speeds. Contact Textron Power Transmission.

Low Backlash

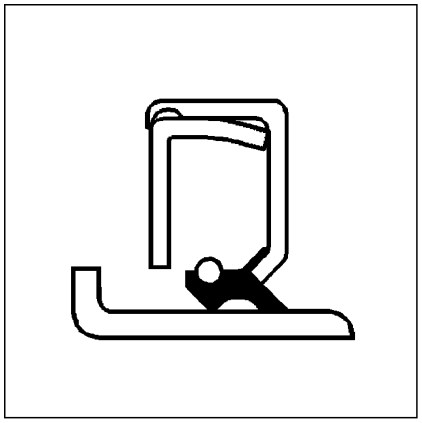
SIZE	100 - 499			500 - 999			1000 - 2000			2001 - 3000		
	INCHES	DEGREES	ARC MINUTES	INCHES	DEGREES	ARC MINUTES	INCHES	DEGREES	ARC MINUTES	INCHES	DEGREES	ARC MINUTES
15	0.003	0.15	9	0.003	0.15	9	0.005	0.24	15	0.006	0.29	18
20	0.003	0.11	6	0.003	0.11	6	0.005	0.18	11	0.007	0.25	15
25	0.003	0.09	5	0.003	0.09	5	0.005	0.15	9	0.007	0.20	12
30	0.003	0.07	4	0.003	0.07	4	0.005	0.12	7	0.007	0.17	10
35	0.003	0.06	4	0.003	0.06	4	0.005	0.10	6	0.007	0.14	9
40	0.003	0.05	3	0.004	0.07	4	0.006	0.11	6	0.008	0.14	9
50	0.003	0.04	3	0.004	0.06	3	0.006	0.09	5	0.008	0.11	7
60	0.003	0.04	2	0.004	0.05	3	0.006	0.07	4	0.008	0.10	6
70	0.003	0.03	2	0.005	0.05	3	0.008	0.08	5	0.009	0.09	6
80	0.003	0.03	2	0.005	0.04	3	0.008	0.07	4	0.009	0.08	5
100*	0.012	0.08	5	0.012	0.08	5	0.012	0.08	5	0.012	0.08	5
120*	0.012	0.07	4	0.012	0.07	4	0.012	0.07	4	0.012	0.07	4

Nominal Backlash values in inches, degrees, and arcminutes for low backlash reducers.
Backlash in inches is measured at pitch line.

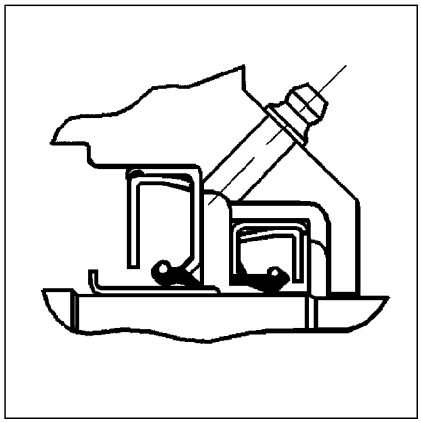
* This worm is mounted in a type TDO double locked up tapered roller bearing with a fixed spacer which can be ground to reduce end play for low speeds. Contact Textron Power Transmission.

0209

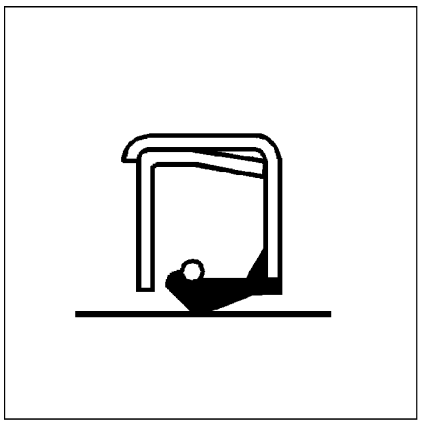
Textron Power Transmission standard speed reducers are furnished with the highest quality available oil seals. The following types are most generally used.



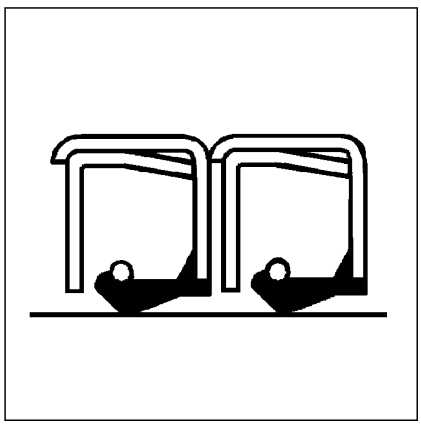
Wear Ring Double Lip Type
Wear Ring Double Lip Type: Consists of a conventional double lip seal with a steel wear sleeve that is pressed on the shaft to provide a specially prepared sealing surface for the oil seal lips. This seal provides an effective proven sealing method and also eliminates seal lip wear on the shaft itself.



"Taconite" Seal Type
Taconite Seal Type: Consists of a double seal arrangement with special cap which embodies grease channels, a grease fitting and purge hole. This arrangement provides a cavity between seals, and around the outside seal for grease packing and purging. The taconite seal is optional at extra cost. This seal is used in areas requiring protection against outside contaminants such as coal dust, cement dust, taconite, water and steam.



Standard Single Lip Type
Standard Type A: A conventional single lip seal which seals directly on a specially prepared shaft surface.



This type seal will be used singularly or tandem to suit sealing requirement.

0209

Lubrication is very important for successful operation of Textron Power Transmission gearsets and speed reducers. Inadequate lubrication can result in increased power consumption, added maintenance and gearset failure. Please review the following recommendations and the "Approved List of Lubricants" shipped with all Model HP gearsets and speed reducers. Textron Power Transmission recommends only those lubricants listed or any lubricant which meets all the requirements of AGMA (American Gear Manufacturers Association) 9004-D94 "Lubrication of Industrial Enclosed Gear Drives" as it applies to double enveloping worm gearing. Use of other lubricants can result in gearset failure which will not be covered under warranty. See reducers nameplate for the recommended lubricant.

Type of Oil
Ratings in this catalog are based on synthetic lubricants. Synthetic lubricants shown in the approved list of synthetic lubricants is recommended for reducers in this catalog. Using a mineral oil will reduce the mechanical power and output torque ratings by 25%.

Ambient Temperature
The oils shown in the table on the following page are for use in an ambient temperature range of approximately 15° to 125°F with the low end of the range depending on the pour point of the specific oil used. If the ambient temperature will be below or above this range please contact Textron Power Transmission for specific recommendations on proper lubricant as well as proper oil seal and shim materials.

Oil Sump Temperatures
The maximum recommended oil sump temperature is 200°F. Where reducers will be used at maximum ambient and full catalog rating. Contact Textron Power Transmission for lubrication recommendations.

Sludge
It is necessary that the oil be clean and free from sludge at all times to obtain long life from a gear unit.
Sludge in gear units may be caused by excessive heat, from dust and dirt and other contaminates and by the presence of moisture or chemical fumes. Therefore, every precaution should be taken to prevent water and foreign particles from entering the gear case.

Model HP Reducers are Shipped without Oil.
At assembly all reducers are treated with a rust inhibitor. This treatment coats all internal parts and will protect the reducer for a period of 30 days. If the unit is to be stored longer than 30 days, see long term storage instructions.

Oil Change
If an approved synthetic lubricant is used, it should be changed after 5000 hours of operation or once per year, whichever occurs first. These change intervals are recommended for units operating under favorable conditions. Where operating conditions are severe, such a rapid rise and fall in temperature of the gear case with accompanied sweating of the inside walls and resulting formation of sludge, or where operation is in moist or dusty atmospheres, or in the presence of chemical fumes or extended running at sump temperatures in excess of 180° F, it may be necessary to change the oil at intervals of one to three months. It is recommended a sampling program be established with your lubricant manufacturer where reducers are exposed to the severe operating conditions, mentioned above.

Oil Level
Model HP reducers are furnished with a bronze colored hex head pipe plug to indicate oil level. An oil level tag is affixed to the unit near the oil level indicator. Oil level should always be checked with the unit stopped. Estimated oil capacities for standard reducers, are listed in this section.

Double and Triple Reductions Reducers.
These units utilize separate housings and are furnished with separate oil sumps. It is important that all sumps are filled to the proper oil level.

Grease Packed Bearings
Bearings that are at least partially submerged in oil do not require special maintenance. However, bearings that are not submerged in oil require grease lubrication. Grease fittings and internal retainers are furnished when required. They should be greased with a high quality lithium base NLGI #2 or NLGI #3 bearing grease at normal maintenance intervals depending on the duty cycle of the reducer.

Extreme Pressure (E.P.) Lubricants
Extreme Pressure (E.P.) lubricants or cylinder oils with sulphur-phosphorus additives are not acceptable and should not be used in Model HP's Speed reducers or worm gearing.

Approved List of Synthetic Lubricants

MANUFACTURER	BRAND NAME
Henkel Corp. / Emery Group	* Emery-2843 Synthetic Lubricant
Keystone / Atochem	* Keystone KSL-367 Synthetic Lubricant
Mobil Oil Corp.	* Mobil SHC634 Synthetic Lubricant
Texaco Lubricants Co.	* Pinnacle 460 Synthetic Lubricant

BEARING GREASE: High quality lithium base NLGI #2 or NLGI #3

Notes:

1) The listed synthetic lubricants are acceptable for use in force feed lubrication systems or other special applications.
2) Worm gears operating at a sliding velocity in excess of 10 m/s (2,000 ft. per min.) may require force feed lubrication. For force feed lubrication recommendations, please contact Textron Power Transmission Engineering.
3) If a Model HP reducer is to be operated at an input RPM other than that shown on the name plate, contact Textron Power Transmission Engineering Department for recommendations.
4) Pour point of the oil used should be 5° C (9°F) less than the minimum ambient temperature expected. For special temperature or operating conditions, contact Textron Power Transmission Engineering Department for the proper lubrication selection.

0209

Oil Capacities

Approximate Quantities in Quarts & Gallons

Single Reduction Reducers - Floor Mounted Position

UNIT SIZE		20	25	30	35	40	50	60	70	80	100	120
WORM OVER GEAR	HO SHO	1 Qt.	1 1/2 Qt.	2 1/2 Qt.	1 Gal.	1 1/2 Gal.	2 1/2 Gal.	3 3/4 Gal.	6 1/2 Gal.	10 1/2 Gal.	19 Gal.	45 Gal.
	ALT OIL LEVEL	1/2 Qt.	1 Qt.	1 1/2 Qt.	2 1/2 Qt.	1 Gal.	1 3/4 Gal.	2 1/2 Gal.	4 Gal.	6 1/2 Gal.	12 1/2 Gal.	26 Gal.
WORM UNDER GEAR	HU SHU	1/2 Qt.	1 Qt.	1 1/2 Qt.	3 1/2 Qt.	1 1/2 Gal.	2 1/4 Gal.	3 1/2 Gal.	5 1/4 Gal.	7 3/4 Gal.	15 Gal.	30 Gal.
VERTICAL OUTPUT SHAFT	HV SHV	1 Qt.	1 Qt.	1 1/2 Qt.	2 1/2 Qt.	1 Gal.	1 3/4 Gal.	2 3/4 Gal.	5 Gal.	6 1/2 Gal.	14 Gal.	26 Gal.

Double Reduction Reducers - Floor Mounted Position

UNIT SIZE	20 / 30	20 / 35	25 / 40	25 / 50	30 / 60	30 / 70	35 / 70	40 / 70	40 / 80	50 / 100	60 / 120
OO-UO-VO OOS-UOS-VOS	3 Qt.	1 1/2 Gal.	1 3/4 Gal.	2 3/4 Gal.	4 1/4 Gal.	7 Gal.	7 1/4 Gal.	7 1/2 Gal.	11 1/2 Gal.	20 3/4 Gal.	47 1/2 Gal.
OU-UU-VU	2 1/2 Qt.	1 Gal.	1 3/4 Gal.	2 1/2 Gal.	4 Gal.	5 1/4 Gal.	5 1/2 Gal.	6 Gal.	8 1/2 Gal.	16 Gal.	30 Gal.
OUS-UUS-VUS			1 1/4 Gal.	2 Gal.	3 1/4 Gal.	6 1/4 Gal.	6 1/2 Gal.	7 Gal.	9 3/4 Gal.	18 1/2 Gal.	34 Gal.
OV-UV-VV OVS-UVS-VVS	2 Qt.	2 Qt.									

Important: Do not overfill units. Fill to center line of oil gauge or to pipe plug identified with oil level sticker. Oil capacities will vary due to mounting positions or type of gear shaft mounting used, such as solid shaft, hollow shaft or spread bearings. Each reducer is built and oil levels are set at the factory for a specific mounting position.

Limiting Speeds for Splash Type Lubrication

The maximum sliding velocity for splash lubrication is 2000 ft. per minute. If the gearset sliding velocity exceeds this value special lubrication provisions are required. Please contact Textron Power Transmission Engineering for specific recommendations.

The ratings charts in the following section are blocked to indicate acceptable operating speeds with splash lubrication for standard reducers and gearsets.

The sliding velocity for standard reducers or gearsets is determined by multiplying the factor from the table by the speed of the worm in RPM.

Sliding Velocity -"V" in ft. per min.
Example: 4.000 C.D. 20:1 Ratio at 3000 RPM:
"V" = Sliding Velocity (Ft/Min.)
"V" = .489 x 3000
"V" = 1467 Ft/Min.

SLIDING VELOCITY FACTOR											
		RATIO									
SIZE	C.D.	5:1	10:1	15:1	20:1	25:1	30:1	40:1	50:1	60:1	70:1
20	2.000	.291	.261	.253	.250	.249	.248	.247	.247	.246	.246
25	2.500	.377	.334	.324	.249	.320	.319	.318	.318	.317	
30	3.000	.457	.382	.369	.363	.362	.361	.360	.359	.359	.359
35	3.500	.533	.453	.439	.433	.431	.430	.429	.428	.428	.428
40	4.000	.613	.512	.495	.489	.486	.485	.484	.483	.483	.482
50	5.000	.722	.632	.612	.605	.600	.598	.597	.596	.595	.595
60	6.000	.888	.763	.740	.731	.726	.724	.723	.722	.722	.722
70	7.000	1.050	.860	.827	.818	.812	.809	.807	.806	.805	.805
80	8.000	1.180	.920	.882	.870	.863	.860	.857	.856	.855	.855
100	10.000	1.468	1.138	1.095	1.080	1.070	1.070	1.070	1.060	1.060	1.060
120	12.000	1.760	1.362	1.308	1.292	1.282	1.278	1.273	1.271	1.270	1.270

Contents

0209

	1	2	3	4	5	6	7	8	9
*									
Example	F	M	S	H	O	35	A123	-	1

1 - Method of auxiliary cooling (if required)

With a fan:	F	(Available only on sizes 35 thru 100)
Internal water cooling coils:	W	
No auxilary cooling:		

2 - Adapter for motor mount (reducers sold with motors mounted will have a "C" before the part number

With a motor adapter:	M
No motor adapter:	

3 - Output shaft option

With a hollow output shaft:	S
With a solid output shaft:	

4 - Single reduction high capacity gearing (will always be a part of the part number)

5 - Worm and gear orientation

Worm is over the gear:	O
Worm is under the gear:	U
Gear shaft is vertical:	V

6 - Size of reducer (center distance is the distance between the centerlines of the input and output shafts in inches)

Size	15	20	25	30	35	40	50	60	70	80	100	120
Center Distance	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00	7.00	8.00	10.00	12.00

7 - Sequential alpha numeric for special features assigned by Textron Power Transmission at completion of design.

Blank if reducer has standard catalog features

8 - Assembly and mounting position (see assembly and mounting positions pages for correct designation).

* This Page May Be Photocopied Allowing The Customer To Enter Their Order

Reducer Size 15 - 1.50 Inch Center Distance

		Worm RPM							
Ratio to 1		**100**	**200**	**300**	**580**	**720**	**870**	**1150**	**1750**
5	Me.HP	0.24	0.45	0.64	1.1	1.4	1.6	1.9	2.5
	Efficiency	89	90	91	91	91	92	92	92
	O.T.	670	635	610	560	540	530	490	420
10	Me.HP	0.16	0.31	0.44	0.78	0.94	1.1	1.4	1.8
	Efficiency	83	85	86	87	87	89	90	90
	O.T.	860	825	800	745	720	715	675	590
15	Me.HP	0.13	0.25	0.36	0.63	0.76	0.89	1.1	1.5
	Efficiency	79	81	82	85	85	87	88	88
	O.T.	990	955	925	880	855	845	805	705
20	Me.HP	0.10	0.19	0.27	0.49	0.58	0.68	0.85	1.1
	Efficiency	75	77	78	83	83	83	84	85
	O.T.	955	930	895	880	850	825	785	700
30	Me.HP	0.07	0.13	0.18	0.33	0.40	0.46	0.58	0.77
	Efficiency	68	70	72	75	75	79	80	80
	O.T.	880	855	835	805	780	795	760	665
40	Me.HP	0.05	0.10	0.14	0.25	0.30	0.35	0.43	0.58
	Efficiency	61	63	67	72	75	75	76	76
	O.T.	795	770	785	775	785	760	725	635
50	Me.HP	0.04	0.08	0.11	0.20	0.24	0.28	0.35	0.46
	Efficiency	54	60	64	70	70	72	73	73
	O.T.	705	735	750	755	735	730	700	610
60	Me.HP	0.03	0.06	0.09	0.16	0.20	0.23	0.29	0.39
	Efficiency	53	59	61	66	66	69	70	70
	O.T.	695	725	715	710	690	700	670	585

Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (In. Lb.)

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

Reducer Size 20 - 2.00 Inch Center Distance

		Worm RPM							
Ratio to 1		**100**	**200**	**300**	**580**	**720**	**870**	**1150**	**1750**
5	Me.HP	0.47	0.88	1.3	2.2	2.6	3.0	3.6	4.6
	Th.HP	0.40	0.73	1.0	1.8	2.2	2.5	3.0	3.4
	Efficiency	89	90	91	91	91	92	92	92
	O.T.	1,330	1,250	1,200	1,095	1,045	1,010	920	760
10	Me.HP	0.32	0.61	0.86	1.5	1.8	2.1	2.6	3.3
	Th.HP	0.25	0.47	0.66	1.2	1.4	1.6	2.0	2.5
	Efficiency	83	85	86	87	87	89	90	90
	O.T.	1,700	1,630	1,560	1,450	1,390	1,365	1,270	1,065
15	Me.HP	0.26	0.49	0.70	1.2	1.5	1.7	2.1	2.7
	Th.HP	0.18	0.33	0.47	0.83	0.99	1.1	1.4	1.8
	Efficiency	79	81	82	85	85	87	88	88
	O.T.	1,965	1,880	1,810	1,715	1,655	1,625	1,515	1,280
20	Me.HP	0.20	0.38	0.54	0.95	1.1	1.3	1.6	2.1
	Th.HP	0.13	0.25	0.36	0.63	0.76	0.88	1.1	1.4
	Efficiency	75	77	78	83	83	83	84	85
	O.T.	1,900	1,830	1,755	1,715	1,650	1,585	1,485	1,265
25	Me.HP	0.16	0.30	0.43	0.77	0.91	1.1	1.3	1.7
	Th.HP	0.11	0.20	0.29	0.51	0.61	0.71	0.87	1.1
	Efficiency	71	75	77	81	81	83	84	84
	O.T.	1,810	1,795	1,745	1,685	1,625	1,595	1,495	1,260
30	Me.HP	0.14	0.25	0.36	0.64	0.77	0.89	1.1	1.4
	Th.HP	0.09	0.17	0.24	0.43	0.51	0.59	0.73	0.93
	Efficiency	68	70	72	75	75	79	80	80
	O.T.	1,745	1,685	1,645	1,570	1,510	1,530	1,430	1,210
40	Me.HP	0.10	0.19	0.27	0.48	0.58	0.67	0.82	1.1
	Th.HP	0.07	0.13	0.18	0.32	0.38	0.45	0.55	0.70
	Efficiency	61	63	67	72	75	75	76	76
	O.T.	1,570	1,525	1,535	1,515	1,515	1,460	1,365	1,155
50	Me.HP	0.08	0.15	0.22	0.39	0.46	0.54	0.66	0.84
	Th.HP	0.05	0.10	0.15	0.26	0.31	0.36	0.44	0.56
	Efficiency	54	60	64	70	70	72	73	73
	O.T.	1,395	1,455	1,470	1,475	1,420	1,405	1,315	1,110
60	Me.HP	0.07	0.13	0.18	0.32	0.39	0.45	0.55	0.71
	Th.HP	0.05	0.09	0.12	0.22	0.26	0.30	0.37	0.47
	Efficiency	53	59	61	66	66	69	70	70
	O.T.	1.370	1,435	1,400	1,395	1,340	1,350	1,265	1,070

Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (In. Lb.)
Th.HP = Thermal Input Power - No Fan

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

Reducer Size 25 - 2.50 Inch Center Distance

		Worm RPM							
Ratio to 1		**100**	**200**	**300**	**580**	**720**	**870**	**1150**	**1750**
5	Me.HP	0.94	1.7	2.5	4.2	4.9	5.6	6.6	8.2
	Th.HP	0.78	1.4	2.0	3.5	4.0	4.2	4.5	5.0
	Efficiency	89	90	91	91	91	92	92	92
	O.T.	2,625	2,440	2,345	2,090	1,975	1,870	1,655	1,365
10	Me.HP	0.65	1.2	1.7	2.9	3.5	4.0	4.7	5.9
	Th.HP	0.50	0.91	1.3	2.3	2.7	3.1	3.6	4.0
	Efficiency	83	85	86	87	87	89	90	90
	O.T.	3,375	3,180	3,050	2,790	2,655	2,560	2,330	1,925
15	Me.HP	0.52	0.96	1.4	2.4	2.8	3.2	3.9	4.8
	Th.HP	0.35	0.64	0.91	1.6	1.9	2.2	2.6	3.2
	Efficiency	79	81	82	85	85	87	88	88
	O.T.	3,895	3,675	3,535	3,320	3,165	3,060	2,795	2,300
20	Me.HP	0.40	0.74	1.0	1.8	2.2	2.5	3.0	3.7
	Th.HP	0.27	0.49	0.70	1.2	1.4	1.7	2.0	2.5
	Efficiency	75	77	78	83	83	83	84	85
	O.T.	3,770	3,575	3,435	3,310	3,155	2,990	2,730	2,270
25	Me.HP	0.32	0.59	0.84	1.5	1.7	2.0	2.4	3.0
	Th.HP	0.21	0.40	0.56	0.98	1.2	1.3	1.6	2.0
	Efficiency	71	75	77	81	81	83	84	84
	O.T.	3,595	3,505	3,415	3,250	3,100	3,010	2,750	2,265
30	Me.HP	0.27	0.50	0.71	1.2	1.5	1.7	2.0	2.5
	Th.HP	0.18	0.33	0.47	0.82	0.98	1.1	1.3	1.7
	Efficiency	68	70	72	75	75	79	80	80
	O.T.	3,460	3,290	3,210	3,025	2,885	2,880	2,640	2,180
40	Me.HP	0.20	0.37	0.53	0.93	1.1	1.3	1.5	1.9
	Th.HP	0.13	0.25	0.35	0.62	0.74	0.84	1.0	1.3
	Efficiency	61	63	67	72	75	75	76	76
	O.T.	3,115	2,970	3,000	2,920	2,900	2,745	2,515	2,080
50	Me.HP	0.16	0.30	0.43	0.75	0.89	1.0	1.2	1.5
	Th.HP	0.11	0.20	0.28	0.50	0.59	0.68	0.81	1.0
	Efficiency	54	60	64	70	70	72	73	73
	O.T.	2,765	2,835	2,875	2,845	2,715	2,645	2,420	2,000
60	Me.HP	0.14	0.25	0.36	0.62	0.74	0.85	1.0	1.3
	Th.HP	0.09	0.17	0.24	0.42	0.49	0.56	0.67	0.85
	Efficiency	53	59	61	66	66	69	70	70
	O.T.	2,715	2,795	2,740	2,685	2,560	2,535	2,330	1,920

Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (In. Lb.)
Th.HP = Thermal Input Power - No Fan

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

Reducer Size 30 - 3.00 Inch Center Distance

		Worm RPM							
Ratio to 1		**100**	**200**	**300**	**580**	**720**	**870**	**1150**	**1750**
5	Me.HP	1.7	3.0	4.3	7.3	8.4	9.3	10.8	13.6
	Th.HP	1.4	2.0	2.5	3.6	4.1	4.3	4.6	5.1
	Efficiency	89	90	91	91	91	92	92	92
	O.T.	4,645	4,300	4,130	3,590	3,335	3,115	2,725	2,250
10	Me.HP	1.1	2.1	3.0	5.2	6.1	6.8	8.0	10.0
	Th.HP	0.88	1.6	2.3	3.2	3.4	3.6	3.8	4.1
	Efficiency	83	85	86	87	87	89	90	90
	O.T.	6,005	5,650	5,425	4,890	4,610	4,415	3,965	3,255
15	Me.HP	0.93	1.7	2.4	4.2	4.9	5.6	6.6	8.2
	Th.HP	0.62	1.1	1.6	2.7	2.9	3.0	3.1	3.3
	Efficiency	79	81	82	85	85	87	88	88
	O.T.	6,930	6,530	6,275	5,825	5,500	5,285	4,755	3,910
20	Me.HP	0.71	1.3	1.9	3.2	3.8	4.3	5.1	6.3
	Th.HP	0.47	0.87	1.2	2.2	2.5	2.7	2.8	2.9
	Efficiency	75	77	78	83	83	83	84	85
	O.T.	6,730	6,350	6,105	5,820	5,505	5,175	4,670	3,880
25	Me.HP	0.57	1.1	1.5	2.6	3.1	3.5	4.1	5.1
	Th.HP	0.38	0.70	1.0	1.7	2.0	2.3	2.3	2.4
	Efficiency	71	75	77	81	81	83	84	84
	O.T.	6,415	6,235	6,070	5,715	5,410	5,210	4,705	3,865
30	Me.HP	0.48	0.88	1.3	2.2	2.6	2.9	3.4	4.3
	Th.HP	0.32	0.59	0.84	1.5	1.7	1.9	2.1	2.2
	Efficiency	68	70	72	75	75	79	80	80
	O.T.	6,175	5,850	5,705	5,335	5,035	4,995	4,515	3,710
40	Me.HP	0.36	0.67	0.95	1.6	1.9	2.2	2.6	3.2
	Th.HP	0.24	0.44	0.63	1.1	1.3	1.5	1.7	1.9
	Efficiency	61	63	67	72	75	75	76	76
	O.T.	5,555	5,280	5,325	5,135	5,060	4,755	4,300	3,535
50	Me.HP	0.29	0.53	0.76	1.3	1.5	1.8	2.1	2.6
	Th.HP	0.19	0.36	0.51	0.88	1.0	1.2	1.4	1.7
	Efficiency	54	60	64	70	70	72	73	73
	O.T.	4,930	5,045	5,100	5,015	4,745	4,585	4,140	3,415
60	Me.HP	0.24	0.45	0.63	1.1	1.3	1.5	1.7	2.2
	Th.HP	0.16	0.30	0.42	0.73	0.86	0.98	1.2	1.4
	Efficiency	53	59	61	66	66	69	70	70
	O.T.	4,845	4,965	4,865	4,735	4,480	4,400	3,975	3,275

Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (In. Lb.)
Th.HP = Thermal Input Power - No Fan

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

Reducer Size 35 - 3.50 Inch Center Distance

		Worm RPM							
Ratio to 1		**100**	**200**	**300**	**580**	**720**	**870**	**1150**	**1750**
5	Me.HP	3.1	5.6	7.9	13.0	14.8	16.4	19.1	23.5
	Th.HP Fan	2.6	4.4	5.7	13.0	14.8	16.4	19.1	23.2
	Efficiency	89	90	91	91	91	92	92	92
	O.T.	8,595	7,930	7,565	6,410	5,890	5,455	4,815	3,900
10	Me.HP	2.1	3.9	5.5	9.3	10.7	12.0	13.9	17.4
	Th.HP Fan	1.6	3.0	4.3	9.3	10.7	12.0	13.9	17.4
	Efficiency	83	85	86	87	87	89	90	90
	O.T.	11,095	10,385	9,995	8,795	8,170	7,735	6,865	5,630
15	Me.HP	1.7	3.1	4.5	7.6	8.8	9.8	11.4	14.3
	Th.HP Fan	1.1	2.1	3.0	7.6	8.8	9.8	11.4	13.9
	Efficiency	79	81	82	85	85	87	88	88
	O.T.	12,805	12,025	11,565	10,470	9,775	9,275	8,245	6,785
20	Me.HP	1.3	2.4	3.4	5.8	6.7	7.6	8.8	11.0
	Th.HP Fan	0.88	1.6	2.3	5.8	6.7	7.6	8.8	11.0
	Efficiency	75	77	78	83	83	83	84	85
	O.T.	12,410	11,655	11,235	10,465	9,775	9,080	8,065	6,725
25	Me.HP	1.1	1.9	2.8	4.7	5.4	6.1	7.1	8.8
	Th.HP Fan	0.71	1.3	1.8	4.7	5.4	6.1	7.1	8.8
	Efficiency	71	75	77	81	81	83	84	84
	O.T.	11,830	11,445	11.185	10.305	9,625	9,165	8,140	6,690
30	Me.HP	0.89	1.6	2.3	3.9	4.5	5.1	5.9	7.4
	Th.HP Fan	0.59	1.1	1.5	3.9	4.5	5.1	5.9	7.4
	Efficiency	68	70	72	75	75	79	80	80
	O.T.	11,390	10,740	10,515	9,610	8,960	8,770	7,795	6,405
40	Me.HP	0.67	1.2	1.7	3.0	3.4	3.9	4.5	5.6
	Th.HP Fan	0.44	0.81	1.2	3.0	3.4	3.9	4.5	5.6
	Efficiency	61	63	67	72	75	75	76	76
	O.T.	10,245	9,695	9,810	9,250	8,980	8,365	7,445	6,100
50	Me.HP	0.53	0.98	1.4	2.4	2.7	3.1	3.6	4.5
	Th.HP Fan	0.36	0.65	0.93	2.4	2.7	3.1	3.6	4.5
	Efficiency	54	60	64	70	70	72	73	73
	O.T.	9,095	9,255	9,395	9,020	8,425	8,055	7,170	5,915
60	Me.HP	0.45	0.82	1.2	2.0	2.3	2.6	3.0	3.8
	Th.HP Fan	0.30	0.54	0.78	2.0	2.3	2.6	3.0	3.8
	Efficiency	53	59	61	66	66	69	70	70
	O.T.	8.940	9,115	8,970	8,515	7,955	7,730	6,885	5,680

Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (In. Lb.)
Th.HP Fan = Thermal Input Power - With Fan

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

Reducer Size 40 - 4.00 Inch Center Distance

		Worm RPM							
Ratio to 1		**100**	**200**	**300**	**580**	**720**	**870**	**1150**	**1750**
5	Me.HP	4.4	8.0	11.3	18.0	20.3	22.4	26.0	31.8
	Th.HP Fan	3.5	5.3	6.9	18.0	20.3	22.4	25.6	28.1
	Efficiency	92	93	94	94	94	95	95	95
	O.T.	12,715	11,770	11,130	9,180	8,350	7,710	6,765	5,445
10	Me.HP	3.1	5.6	7.9	13.1	15.0	16.6	19.3	23.9
	Th.HP Fan	2.4	4.3	5.8	13.1	15.0	16.6	19.3	21.3
	Efficiency	86	88	89	90	90	92	93	93
	O.T.	16,570	15,475	14,800	12,780	11,785	11,055	9,835	8,000
15	Me.HP	2.5	4.5	6.4	10.6	12.2	13.6	15.7	19.6
	Th.HP Fan	1.6	3.0	4.3	10.6	12.2	13.6	15.7	16.8
	Efficiency	82	84	85	88	89	90	91	91
	O.T.	19,160	17,920	17,180	15,270	14,280	13,270	11,770	9,625
20	Me.HP	1.9	3.5	4.9	8.2	9.4	10.5	12.1	15.1
	Th.HP Fan	1.3	2.3	3.3	8.2	9.4	10.5	12.1	14.1
	Efficiency	78	80	81	86	86	86	87	88
	O.T.	18,635	17,430	16,720	15,275	14,130	13,020	11,535	9,555
25	Me.HP	1.5	2.8	4.0	6.6	7.6	8.4	9.8	12.1
	Th.HP Fan	1.0	1.9	2.6	6.6	7.6	8.4	9.8	11.7
	Efficiency	74	78	80	84	84	86	87	87
	O.T.	17,800	17,135	16,655	15,050	13,930	13,140	11,675	9,510
30	Me.HP	1.3	2.3	3.3	5.5	6.4	7.1	8.2	10.2
	Th.HP Fan	0.85	1.6	2.2	5.5	6.4	7.1	8.2	10.1
	Efficiency	71	73	75	78	81	82	83	83
	O.T.	17,170	16,125	15,700	14,080	13,535	12,595	11,230	9,155
40	Me.HP	0.96	1.8	2.5	4.2	4.8	5.3	6.2	7.7
	Th.HP Fan	0.64	1.2	1.7	4.2	4.8	5.3	6.2	7.7
	Efficiency	64	66	70	75	76	78	79	79
	O.T.	15,540	14,620	14,715	13,575	12,730	12,045	10,720	8,735
50	Me.HP	0.77	1.4	2.0	3.3	3.8	4.3	5.0	6.2
	Th.HP Fan	0.52	0.94	1.3	3.3	3.8	4.3	5.0	6.2
	Efficiency	57	63	67	73	74	75	76	76
	O.T.	13,880	13,990	14,125	13,250	12,430	11,610	10,340	8,425
60	Me.HP	0.64	1.2	1.7	2.8	3.2	3.6	4.1	5.1
	Th.HP Fan	0.43	0.78	1.1	2.8	3.2	3.6	4.1	5.1
	Efficiency	56	62	64	69	71	72	73	73
	O.T.	13,655	13,790	13,510	12,540	11,940	11,160	9,945	8,105

Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (In. Lb.)
Th.HP Fan = Thermal Input Power - With Fan

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

Reducer Size 50 - 5.00 Inch Center Distance

		Worm RPM							
Ratio to 1		**100**	**200**	**300**	**580**	**720**	**870**	**1150**	**1750**
5	Me.HP	8.7	15.9	22.0	34.0	38.0	42.2	48.3	58.8
	Th.HP Fan	4.4	6.7	8.6	24.5	27.4	29.5	31.9	35.1
	Efficiency	92	93	94	94	94	95	95	95
	O.T.	25,270	23,305	21,750	17,340	15,620	14,515	12,560	10,060
10	Me.HP	6.0	11.0	15.4	24.5	27.5	30.4	35.3	43.3
	Th.HP Fan	3.9	5.6	7.2	19.9	21.7	23.2	24.9	26.6
	Efficiency	86	88	89	90	90	92	93	93
	O.T.	32,630	30,555	28,850	23,930	21,690	20,275	18,010	14,510
15	Me.HP	4.9	8.9	12.5	20.0	22.5	24.9	28.8	35.3
	Th.HP Fan	3.2	6.0	6.1	16.4	17.6	18.6	19.7	21.0
	Efficiency	82	84	85	88	89	90	91	91
	O.T.	37,735	35,450	33,500	28,675	26,325	24,310	21,575	17,365
20	Me.HP	3.7	6.8	9.6	15.4	17.3	19.1	22.2	27.3
	Th.HP Fan	2.5	4.4	5.4	14.6	15.4	16.2	16.9	17.6
	Efficiency	78	80	81	86	86	86	87	88
	O.T.	36,590	34,415	32,600	28,695	25,995	23,740	21,155	17,315
25	Me.HP	3.0	5.5	7.7	12.4	14.0	15.4	17.9	22.1
	Th.HP Fan	2.0	3.7	4.6	12.4	13.2	13.6	14.0	14.6
	Efficiency	74	78	80	84	84	86	87	87
	O.T.	35,005	33,840	32,480	28,280	25,690	24,030	21,365	17,300
30	Me.HP	2.5	4.6	6.5	10.4	11.7	13.0	15.1	18.5
	Th.HP Fan	1.7	3.1	4.0	10.4	11.5	11.9	12.3	12.6
	Efficiency	71	73	75	78	81	82	83	83
	O.T.	33,765	31,840	30,670	26,460	24,965	23,100	20,555	16,595
40	Me.HP	1.89	3.5	4.9	7.8	8.8	9.8	11.3	13.9
	Th.HP Fan	1.26	2.3	3.3	7.8	8.8	9.8	10.6	11.0
	Efficiency	64	66	70	75	76	78	79	79
	O.T.	30,520	28,915	28,700	25,515	23,485	22,035	19,615	15,835
50	Me.HP	1.5	2.8	3.9	6.3	7.1	7.8	9.1	11.2
	Th.HP Fan	1.0	1.9	2.6	6.3	7.1	7.8	9.1	9.8
	Efficiency	57	63	67	73	74	75	76	76
	O.T.	27,255	27,675	27,545	24,900	22,985	21,240	18,980	15,275
60	Me.HP	1.3	2.3	3.3	5.3	5.9	6.5	7.6	9.3
	Th.HP Fan	0.84	1.6	2.2	5.3	5.9	6.5	7.6	8.8
	Efficiency	56	62	64	69	71	72	73	73
	O.T.	26,810	27,270	26,345	23,620	22,085	20,420	18,255	14,695
70	Me.HP	1.1	2.0	2.8	4.5	5.1	5.6	6.5	8.0
	Th.HP Fan	0.72	1.3	1.9	4.5	5.1	5.6	6.5	7.8
	Efficiency	55	61	63	68	70	71	72	72
	O.T.	26,365	26,870	25,970	23,310	21,800	20,165	18,030	14,510

Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (In. Lb.)
Th.HP Fan = Thermal Input Power - With Fan

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

Reducer Size 60 - 6.00 Inch Center Distance

		Worm RPM							
Ratio to 1		**100**	**200**	**300**	**580**	**720**	**870**	**1150**	**1750**
5	Me.HP	13.3	24.0	32.8	48.3	54.3	59.8	68.3	79.9
	Th.HP Fan	6.3	9.5	12.2	34.9	39.0	42.1	45.5	50.0
	Efficiency	92	93	94	94	94	95	95	95
	O.T.	38,575	35,215	32,365	24,650	22,345	20,585	17,785	13,660
10	Me.HP	9.2	16.8	23.2	35.3	39.5	43.8	50.6	60.6
	Th.HP Fan	5.6	8.0	10.3	28.3	31.0	33.1	35.5	37.9
	Efficiency	86	88	89	90	90	92	93	93
	O.T.	49,995	46,630	43,425	34,480	31,135	29,195	25,790	20,295
15	Me.HP	7.5	13.6	18.9	28.9	32.3	35.7	41.2	49.7
	Th.HP Fan	5.0	7.0	8.7	23.4	25.1	26.5	28.1	30.0
	Efficiency	82	84	85	88	89	90	91	91
	O.T.	57.820	54,100	50,535	41,370	37,735	34,945	30,825	24,430
20	Me.HP	5.7	10.4	14.5	22.2	24.8	27.6	31.6	38.5
	Th.HP Fan	3.8	6.2	7.7	20.8	22.0	23.1	24.0	25.1
	Efficiency	78	80	81	86	86	86	87	88
	O.T.	56.250	52,615	49,185	41,415	37,270	34,345	30,145	24,395
25	Me.HP	4.6	8.4	11.7	17.9	20.1	22.3	25.6	31.0
	Th.HP Fan	3.1	5.3	6.6	17.9	18.8	19.4	20.0	20.8
	Efficiency	74	78	80	84	84	86	87	87
	O.T.	53,725	51,740	49,000	40,925	36,850	34,680	30,450	24,280
30	Me.HP	3.9	7.1	9.8	15.0	16.8	18.7	21.4	26.1
	Th.HP Fan	2.6	4.4	5.7	15.0	16.4	17.0	17.5	18.0
	Efficiency	71	73	75	78	81	82	83	83
	O.T.	51.910	48,685	46,185	38,205	35,825	33,245	29,210	23,385
40	Me.HP	2.9	5.3	7.4	11.3	12.7	14.1	16.1	19.6
	Th.HP Fan	1.9	3.5	4.8	11.3	12.7	14.1	15.2	15.7
	Efficiency	64	66	70	75	76	78	79	79
	O.T.	46.920	44,135	43,225	36,925	33,700	31,800	27,875	22,320
50	Me.HP	2.3	4.3	5.9	9.1	10.2	11.3	12.9	15.7
	Th.HP Fan	1.5	2.8	3.9	9.1	10.2	11.3	12.9	13.9
	Efficiency	57	63	67	73	74	75	76	76
	O.T.	41,900	42,245	41,480	36,035	32,905	30,660	26,890	21,530
60	Me.HP	1.9	3.6	4.9	7.6	8.5	9.4	10.8	13.1
	Th.HP Fan	1.3	2.4	3.3	7.6	8.5	9.4	10.8	12.5
	Efficiency	56	62	64	69	71	72	73	73
	O.T.	41.220	41,630	39,675	34,105	31,610	29,470	25,860	20,705
70	Me.HP	1.7	3.0	4.2	6.5	7.3	8.1	9.2	11.3
	Th.HP Fan	1.1	2.0	2.8	6.5	7.3	8.1	9.2	11.1
	Efficiency	55	61	63	68	70	71	72	72
	O.T.	40,535	41,010	39,110	33,655	31,205	29,100	25,540	20,450

Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (In. Lb.)
Th.HP Fan = Thermal Input Power - With Fan

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

Reducer Size 70 - 7.00 Inch Center Distance

		Worm RPM							
Ratio to 1		**100**	**200**	**300**	**580**	**720**	**870**	**1150**	**1750**
5	Me.HP	20.9	37.3	49.7	72.1	80.5	88.3	100	116
	Th.HP Fan	8.5	12.8	16.5	47.1	52.7	56.9	61.4	67.6
	Efficiency	92	93	94	94	94	95	95	95
	O.T.	60,560	54,625	49,080	36,810	33,110	30,360	26,085	19,780
10	Me.HP	14.6	26.4	36.1	53.5	60.3	66.5	76.2	88.8
	Th.HP Fan	7.6	10.9	13.9	38.2	41.9	44.7	48.0	51.2
	Efficiency	86	88	89	90	90	92	93	93
	O.T.	78,910	73,210	67,510	52,305	47,485	44,320	38,830	29,725
15	Me.HP	11.8	21.4	29.4	43.9	49.4	54.6	62.5	74.0
	Th.HP Fan	7.9	9.5	11.7	31.6	33.9	35.9	37.9	40.5
	Efficiency	82	84	85	88	89	90	91	91
	O.T.	91,425	85,110	78,740	62,970	57,760	53,415	46,775	36,345
20	Me.HP	9.0	16.4	22.6	33.7	38.0	41.8	48.0	56.8
	Th.HP Fan	5.2	8.4	10.3	28.1	29.7	31.2	32.5	33.9
	Efficiency	78	80	81	86	86	86	87	88
	O.T.	88,795	82,780	76,790	63,055	57,220	52,030	45,750	35,995
25	Me.HP	7.3	13.3	18.2	27.3	30.7	33.9	38.9	46.0
	Th.HP Fan	4.2	7.1	8.9	24.4	25.4	26.3	27.0	28.1
	Efficiency	74	78	80	84	84	86	87	87
	O.T.	84,815	81,405	76,360	62,325	56,425	52,710	46,390	35,990
30	Me.HP	6.1	11.1	15.3	22.9	25.7	28.4	32.6	38.7
	Th.HP Fan	4.1	5.9	7.7	21.0	22.1	23.0	23.6	24.3
	Efficiency	71	73	75	78	81	82	83	83
	O.T.	81,815	76,600	72,115	58,185	54,705	50,530	44,495	34,680
40	Me.HP	4.6	8.4	11.5	17.2	19.3	21.3	24.6	29.1
	Th.HP Fan	2.6	4.8	6.4	17.2	18.9	19.8	20.5	21.2
	Efficiency	64	66	70	75	76	78	79	79
	O.T.	73,945	69,565	67,485	56,095	51,465	48,195	42,615	33,095
50	Me.HP	3.7	6.7	9.2	13.8	15.5	17.1	19.7	23.3
	Th.HP Fan	2.1	3.8	5.3	13.8	15.5	16.4	17.6	18.8
	Efficiency	57	63	67	73	74	75	76	76
	O.T.	66,035	66,580	64,770	54,885	50,245	46,465	41,110	31,925
60	Me.HP	3.1	5.6	7.7	11.6	12.9	14.3	16.5	19.6
	Th.HP Fan	1.7	3.2	4.4	11.6	12.9	14.3	15.9	16.9
	Efficiency	56	62	64	69	71	72	73	73
	O.T.	64,960	65,610	61,950	51,950	48,275	44,665	39,540	30,845
70	Me.HP	2.6	4.8	6.6	9.9	11.1	12.3	14.1	16.8
	Th.HP Fan	1.5	2.7	3.8	9.9	11.1	12.3	14.1	15.0
	Efficiency	55	61	63	68	70	71	72	72
	O.T.	63,885	64,640	61,065	51,265	47,655	44,105	39,050	30,465

Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (In. Lb.)
Th.HP Fan = Thermal Input Power - With Fan

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

Reducer Size 80 - 8.00 Inch Center Distance

		Worm RPM							
Ratio to 1		**100**	**200**	**300**	**580**	**720**	**870**	**1150**	**1750**
5	Me.HP	31.0	54.6	71.6	102	114	125	140	162
	Th.HP Fan	12.9	19.5	25.1	71.6	80.1	86.4	93.3	103
	Efficiency	92	93	94	94	94	95	95	95
	O.T.	89,915	80,025	70,695	52,225	46,970	42,965	36,370	27,680
10	Me.HP	21.7	39.2	53.2	77.8	87.6	96.0	111	129
	Th.HP Fan	11.5	16.5	21.2	58.1	63.6	67.9	73.0	77.9
	Efficiency	86	88	89	90	90	92	93	93
	O.T.	117,795	108,785	99,370	76,040	68,995	63,960	56,310	43,035
15	Me.HP	17.6	31.9	43.5	64.1	72.1	79.7	91.1	106
	Th.HP Fan	11.8	14.4	17.8	48.1	51.5	54.5	57.6	61.5
	Efficiency	82	84	85	88	89	90	91	91
	O.T.	136,710	126,715	116,395	91,850	84,225	77,905	68,135	51,925
20	Me.HP	13.5	24.5	33.4	49.4	55.4	61.3	69.9	81.6
	Th.HP Fan	7.9	12.8	15.7	42.7	45.2	47.4	49.3	51.5
	Efficiency	78	80	81	86	86	86	87	88
	O.T.	132,560	123,245	113,525	92,230	83,445	76,370	66,645	51,685
25	Me.HP	10.9	19.7	26.9	40.0	44.9	49.4	56.7	66.0
	Th.HP Fan	6.3	10.8	13.5	37.1	38.6	39.9	41.1	42.7
	Efficiency	74	78	80	84	84	86	87	87
	O.T.	126,825	120,980	113,115	91,175	82,540	76,890	67,595	51,690
30	Me.HP	9.1	16.5	22.6	33.5	37.7	41.6	47.7	55.6
	Th.HP Fan	6.1	9.0	11.7	31.9	33.6	34.9	35.8	36.9
	Efficiency	71	73	75	78	81	82	83	83
	O.T.	122,340	114,045	106,830	85,120	80,255	74,180	65,075	49,820
40	Me.HP	6.9	12.4	17.0	25.3	28.4	31.3	35.9	42.0
	Th.HP Fan	4.0	7.3	9.8	25.3	28.4	30.0	31.1	32.2
	Efficiency	64	66	70	75	76	78	79	79
	O.T.	110,575	103,385	99,975	82,285	75,500	70,750	62,105	47,775
50	Me.HP	5.5	10.0	13.6	20.3	22.8	25.1	28.8	33.7
	Th.HP Fan	3.2	5.8	8.0	20.3	22.8	25.0	26.7	28.6
	Efficiency	57	63	67	73	74	75	76	76
	O.T.	98,745	98,950	95,950	80,305	73,710	68,210	59,905	46,080
60	Me.HP	4.6	8.3	11.4	16.9	19.0	21.0	24.0	28.1
	Th.HP Fan	2.7	4.8	6.8	16.9	19.0	21.0	24.0	25.7
	Efficiency	56	62	64	69	71	72	73	73
	O.T.	97,140	97,510	91,775	76,005	70,820	65,570	57,615	44,320
70	Me.HP	3.9	7.1	9.8	14.5	16.3	18.0	20.6	24.1
	Th.HP Fan	2.3	4.2	5.8	14.5	16.3	18.0	20.6	22.8
	Efficiency	55	61	63	68	70	71	72	72
	O.T.	95,535	96,065	90,460	75,000	69,915	64,745	56,905	43,775

Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (In. Lb.)
Th.HP Fan = Thermal Input Power - With Fan

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

Reducer Size 100 - 10.00 Inch Center Distance

		Worm RPM							
Ratio to 1		**100**	**200**	**300**	**580**	**720**	**870**	**1150**	**1750**
5	Me.HP	58.0	98.6	126	177	197	213	232	273
	Th.HP Fan	23.6	36.5	48.3	138	154	172	186	205
	Efficiency	94	95	96	96	97	97	97	97
	O.T.	171,875	147,605	126,550	92,320	83,450	74,880	61,555	47,595
10	Me.HP	40.9	72.3	95.5	137	152	167	188	216
	Th.HP Fan	19.5	28.5	37.0	103	116	124	136	146
	Efficiency	88	90	91	92	94	94	95	95
	O.T.	226,900	204,850	182,450	136,605	125,365	113,665	97,980	73,910
15	Me.HP	33.1	58.8	78.0	112	126	138	156	179
	Th.HP Fan	16.1	24.0	29.9	83.0	89.9	96.3	103	110
	Efficiency	84	86	87	90	92	92	93	93
	O.T.	262,765	238,975	213,695	164,470	151,805	137,465	118,965	89,975
20	Me.HP	25.4	45.1	60.0	86.3	96.7	106	120	138
	Th.HP Fan	12.8	20.9	25.9	72.4	76.6	80.4	84.4	88.9
	Efficiency	80	82	83	88	88	88	89	90
	O.T.	255,535	233,170	209,185	164,895	148,985	135,485	116,545	89,745
25	Me.HP	20.5	36.4	48.4	69.9	77.9	85.6	97.1	112
	Th.HP Fan	10.2	17.6	22.2	62.0	64.6	67.7	70.2	73.0
	Efficiency	76	80	82	86	88	88	89	89
	O.T.	244,825	229,470	208,520	163,190	149,995	136,400	118,315	89,350
30	Me.HP	17.1	30.5	40.6	58.5	65.3	71.7	81.3	93.5
	Th.HP Fan	11.1	14.5	18.9	51.9	55.4	57.8	59.6	61.4
	Efficiency	73	75	77	80	84	84	85	85
	O.T.	236,430	216,285	196,860	152,620	143,950	130,905	113,605	85,795
40	Me.HP	12.9	22.9	30.5	44.0	49.1	53.9	61.2	70.3
	Th.HP Fan	6.3	11.5	15.5	44.0	46.6	48.9	50.8	52.5
	Efficiency	66	68	72	77	80	80	81	81
	O.T.	214,330	196,625	184,570	147,290	137,460	125,005	108,550	81,975
50	Me.HP	10.3	18.4	24.6	35.5	39.6	43.4	49.5	56.7
	Th.HP Fan	5.0	9.2	12.7	35.5	38.3	40.3	43.2	46.2
	Efficiency	59	65	69	75	77	77	78	78
	O.T.	192,110	188,815	178,120	144,685	133,520	121,070	105,680	79,585
60	Me.HP	8.6	15.4	20.5	29.6	33.1	36.2	41.3	47.3
	Th.HP Fan	4.1	7.6	10.7	29.6	33.1	35.4	38.8	41.3
	Efficiency	58	64	66	71	74	74	75	75
	O.T.	189,105	186,160	170,605	137,150	128,485	116,505	101,750	76,630
70	Me.HP	7.4	13.2	17.6	25.4	28.4	31.1	35.4	40.6
	Th.HP Fan	3.5	6.5	9.1	25.4	28.4	31.1	35.4	36.5
	Efficiency	57	63	65	70	73	73	74	74
	O.T.	186,095	183,495	168,245	135,400	126,920	115,085	100,530	75,705

Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (In. Lb.)
Th.HP Fan = Thermal Input Power - With Fan

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

Reducer Size 120 - 12.00 Inch Center Distance

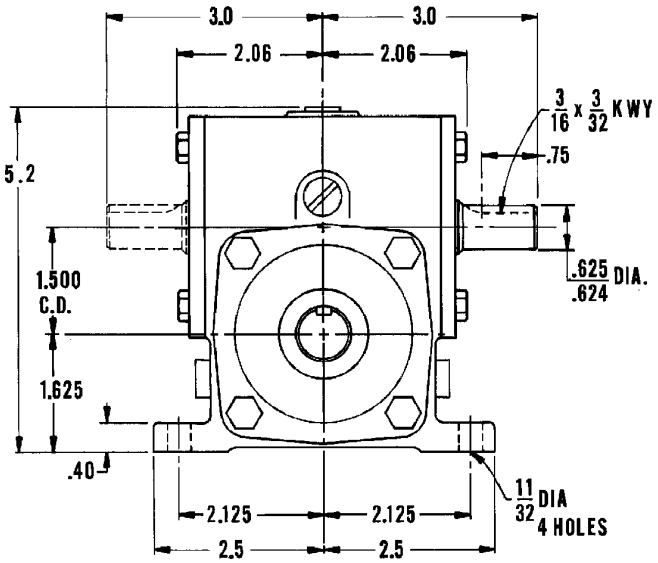
		Worm RPM						
Ratio to 1		**100**	**200**	**300**	**580**	**720**	**870**	**1150**
5	Me.HP	97.7	160	199	279	307	323	361
	Th.HP	33.0	51.0	67.6	96.3	108	120	130
	Efficiency	94	95	96	96	97	97	97
	O.T.	289,165	239,940	201,055	145,480	130,480	113,415	95,795
10	Me.HP	69.4	120	153	218	241	263	287
	Th.HP	27.2	39.8	51.7	71.8	81.3	86.8	95.4
	Efficiency	88	90	91	92	94	94	95
	O.T.	384,890	338,790	292,715	217,870	197,955	179,100	149,495
15	Me.HP	56.2	97.3	126	179	198	217	237
	Th.HP	22.5	33.6	41.8	58.0	62.9	67.3	72.3
	Efficiency	84	86	87	90	92	92	93
	O.T.	445,755	395,415	344,835	262,720	239,385	217,080	181,275
20	Me.HP	43.1	74.8	96.7	138	153	167	184
	Th.HP	17.9	29.2	36.1	50.6	53.6	56.2	59.0
	Efficiency	80	82	83	88	88	88	89
	O.T.	434,270	386,660	336,930	263,530	235,085	213,335	179,375
25	Me.HP	34.7	60.4	78.2	111	123	135	149
	Th.HP	14.2	24.6	31.0	43.3	45.2	47.3	49.1
	Efficiency	76	80	82	86	88	88	89
	O.T.	415,355	380,555	336,700	259,285	237,520	215,625	181,445
30	Me.HP	29.1	50.6	65.7	93.0	103	113	125
	Th.HP	15.5	20.2	26.4	36.3	38.7	40.4	41.7
	Efficiency	73	75	77	80	84	84	85
	O.T.	401,110	358,695	318,615	242,500	227,950	206,930	175,040
40	Me.HP	21.9	36.1	49.4	70.4	78.3	85.6	94.2
	Th.HP	8.7	16.1	21.7	40.5	32.6	34.1	35.5
	Efficiency	66	68	72	77	80	80	81
	O.T.	364,260	326,090	298,725	235,515	219,220	198,380	167,250
50	Me.HP	17.6	30.6	39.7	56.5	62.8	68.7	75.6
	Th.HP	6.9	12.8	17.7	25.2	26.8	28.1	30.2
	Efficiency	59	65	69	75	77	77	78
	O.T.	326,495	313,165	287,710	230,010	211,565	191,450	161,490
60	Me.HP	14.7	25.5	33.1	47.1	52.4	57.3	63.1
	Th.HP	5.8	10.6	14.9	22.0	23.4	24.8	27.1
	Efficiency	58	64	66	71	74	74	75
	O.T.	321,390	308,755	275,570	218,035	203,590	184,235	155,485
70	Me.HP	12.6	21.9	28.4	40.4	45.0	49.2	54.1
	Th.HP	4.9	9.1	12.7	19.6	21.9	22.9	24.9
	Efficiency	57	63	65	70	73	73	74
	O.T.	316,270	304,340	271,755	215,250	201,110	181,990	153,615

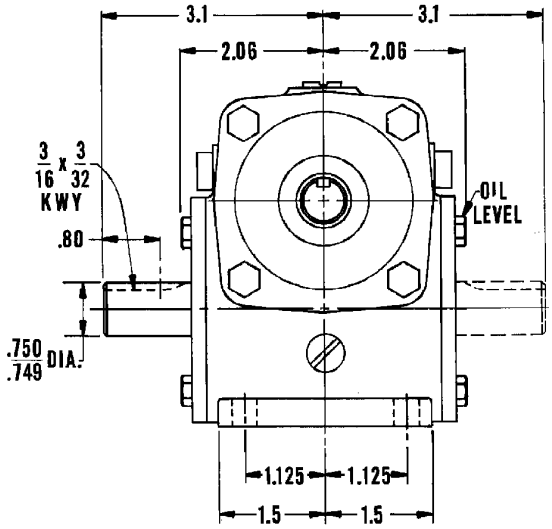
Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (In. Lb.)
Th.HP Fan = Thermal Input Power - No Fan

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

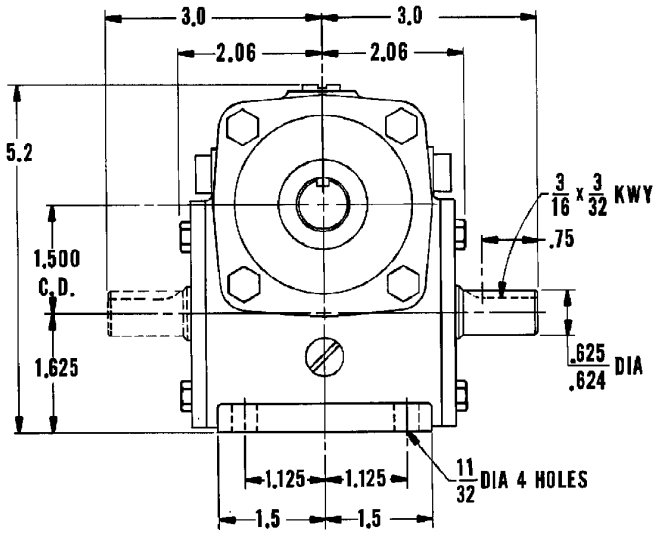
Single Reduction Units 1.500" C.D. Solid Shaft
Size 15

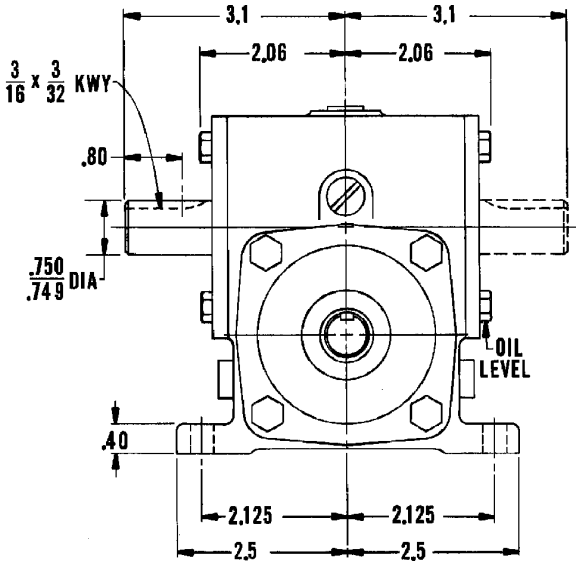
Model HO 15: Worm Over Gear net wt. 11 lbs.





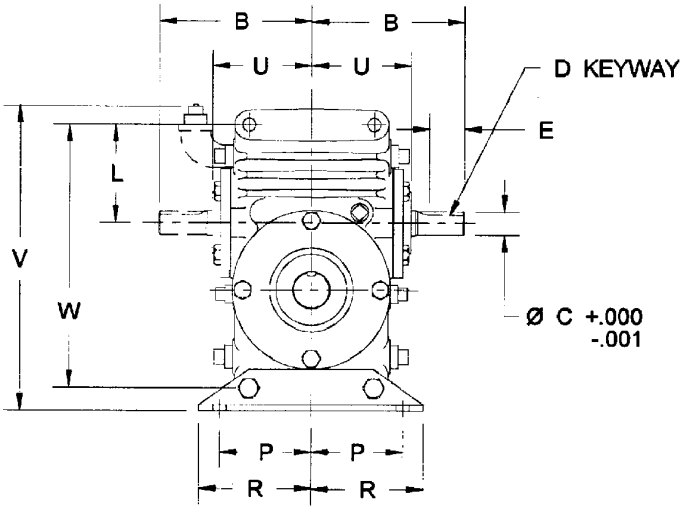
Model HU 15: Worm Under Gear net wt. 11 lbs.

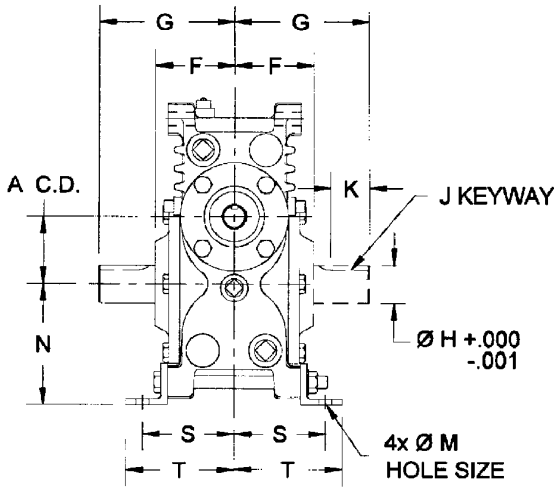




INPUT AND OUTPUT SHAFT MAY EXTEND ON EITHER SIDE OR MAY BE DOUBLE EXTENDED.

Model HO: Worm Over Gear. Sizes 20 - 25

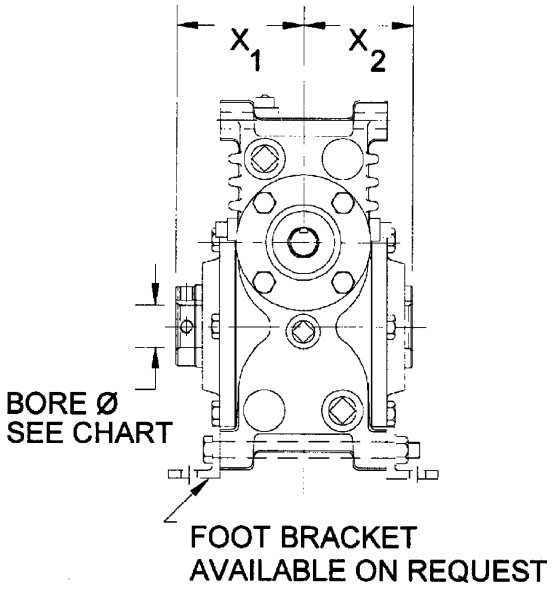




Size	A CD	B	C	D	E	F	G	H	J	K	L	M
20	2.00	4.60	.6875	.1875 x .0938	1.06	2.4	4.06	1.125	.250 x .125	1.18	2.95	.3906
25	2.50	5.25	.750	.1875 x .0938	1.00	2.6	4.50	1.250	.250 x .125	1.38	3.50	.3906

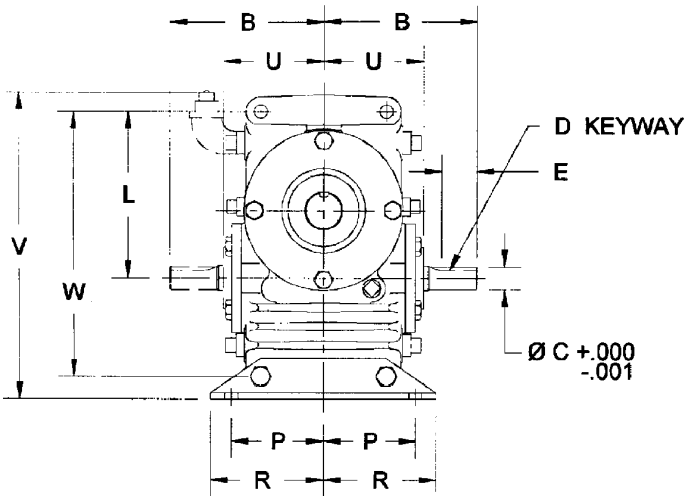
Size	N	P	R	S	T	U	V	W	X_1	X_2	Weight
20	3.62	2.75	3.4	2.75	3.3	3.0	9.4	7.88	3.06	2.62	26 Lbs
25	4.25	3.68	4.4	3.18	3.7	3.8	10.9	9.50	3.12	2.68	45 Lbs

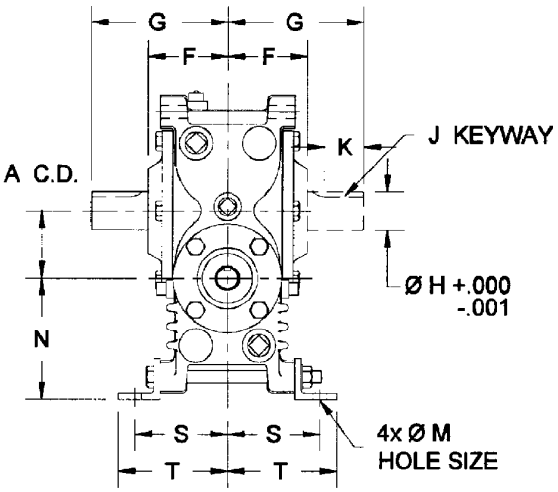
Model SHO: Worm Over Gear



Available Hollow Shaft Bore Sizes			
Bore	Size Reducer		Keyway
	20	25	
1.000	•		1/4 x 1/8
1.125	•		1/4 x 1/8
1.1875	•	•	1/4 x 1/8
1.250	•	•	1/4 x 1/8
1.375	•		1/4 x 1/8
1.4375		•	3/8 x 3/16
1.6875		•	3/8 x 3/16
1.9375		•	1/4 x 1/8
2.000		•	1/4 x 1/8

Model HU: Worm Under Gear. Sizes 20 - 25

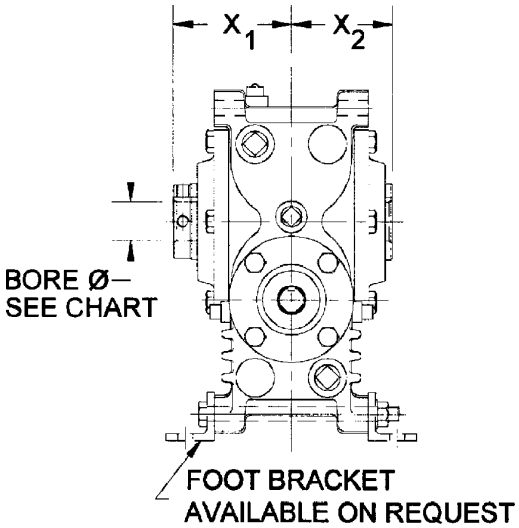




Size	A CD	B	C	D	E	F	G	H	J	K	L	M
20	2.00	4.60	.6875	.1875 x .0938	1.06	2.4	4.06	1.125	.250 x .125	1.18	4.95	.3906
25	2.50	5.25	.750	.1875 x .0938	1.00	2.6	4.50	1.250	.250 x .125	1.38	6.00	.3906

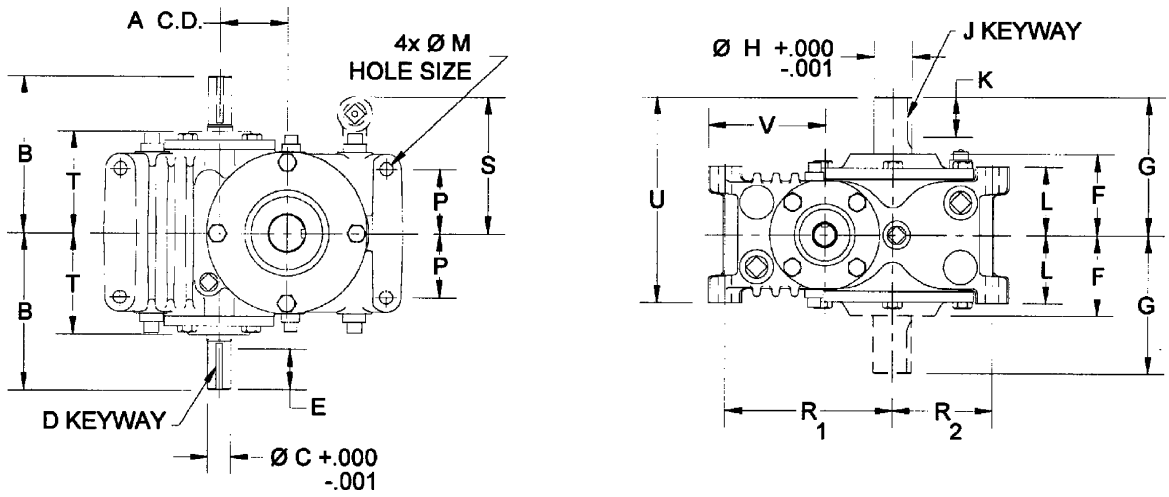
Size	N	P	R	S	T	U	V	W	X_1	X_2	Weight
20	3.62	2.75	3.4	2.75	3.3	3.0	9.4	7.88	3.06	2.62	26 Lbs
25	4.25	3.68	4.4	3.18	3.7	3.8	10.9	9.50	3.12	2.68	45 Lbs

Model SHU: Worm Under Gear



Available Hollow Shaft Bore Sizes			
Bore	Size Reducer		Keyway
	20	25	
1.000	•		1/4 x 1/8
1.125	•		1/4 x 1/8
1.1875	•	•	1/4 x 1/8
1.250	•	•	1/4 x 1/8
1.375	•		1/4 x 1/8
1.4375		•	3/8 x 3/16
1.6875		•	3/8 x 3/16
1.9375		•	1/4 x 1/8
2.000		•	1/4 x 1/8

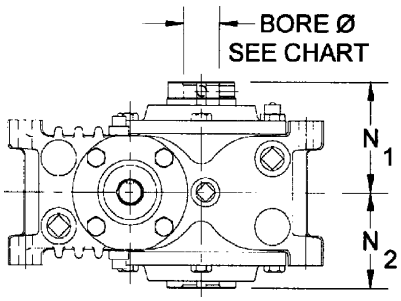
Model HV: Gear Shaft Vertical: Sizes 20 - 25



Size	A CD	B	C	D	E	F	G	H	J	K	L	M
20	2.00	4.60	.6875	.1875 x .0938	1.06	2.4	4.06	1.125	.250 x .125	1.18	2.00	.3906
25	2.50	5.25	.750	.1875 x .0938	1.00	2.6	4.50	1.250	.250 x .125	1.38	2.38	.4531

Size	N_1	N_2	P	R_1	R_2	S	T	U	V	Weight
20	3.06	2.62	1.88	4.94	2.94	4.2	3.0	6.06	3.50	26 Lbs
25	3.12	2.68	2.68	6.00	3.50	5.0	3.8	6.88	4.06	45 Lbs

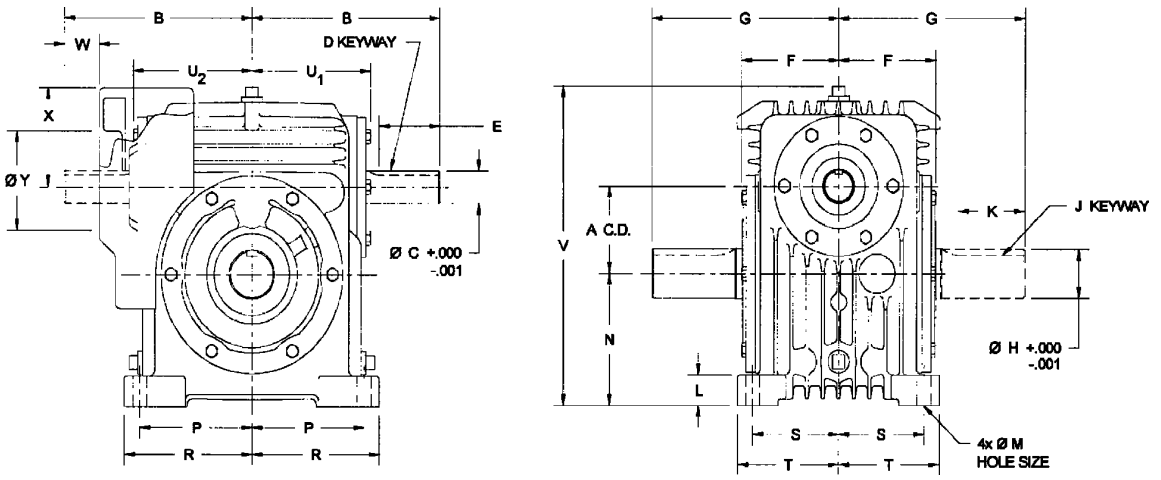
Model SHV: Gear Shaft Vertical



Available Hollow Shaft Bore Sizes			
Bore	Size Reducer		Keyway
	20	25	
1.000	•		1/4 x 1/8
1.125	•		1/4 x 1/8
1.1875	•	•	1/4 x 1/8
1.250	•	•	1/4 x 1/8
1.375	•		1/4 x 1/8
1.4375		•	3/8 x 3/16
1.6875		•	3/8 x 3/16
1.9375		•	1/4 x 1/8
2.000		•	1/4 x 1/8

0209

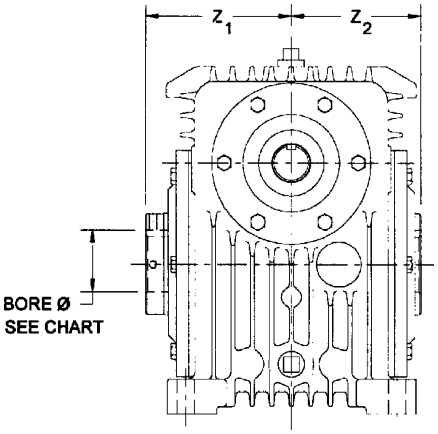
Model FHO: Worm Over Gear: Sizes 30 - 120



Size	A CD	B	C	D	E	F	G	H	J	K	L	M	N
30	3.00	6.68	1.000	.250 x .125	1.75	3.4	5.94	1.500	.375 x .1875	2.00	1.1	.5625	4.75
35	3.50	7.75	1.1875	.250 x .125	2.62	4.2	7.88	1.875	.500 x .250	2.68	1.2	.5625	5.375
40	4.00	9.31	1.500	.375 x .1875	3.00	4.9	9.25	2.250	.500 x .250	3.31	1.4	.6875	6.00
50	5.00	10.50	1.500	.375 x .1875	3.25	5.7	10.31	2.750	.625 x .3125	3.62	1.6	.8125	6.875
60	6.00	11.75	1.750	.375 x .1875	4.00	6.4	12.00	3.250	.750 x .375	4.50	1.8	.8125	7.75
70	7.00	14.50	1.875	.500 x .250	4.50	7.4	13.00	3.375	.875 x .4375	4.88	2.1	.9375	9.00
80	8.00	15.50	2.000	.500 x .250	4.75	7.8	14.00	3.500	.875 x .4375	4.88	2.12	.9375	10.00
100	10.00	19.25	2.375	.625 x .3125	5.00	9.4	15.72	4.000	1.00 x .500	5.12	2.25	1.063	12.00
120	12.00	22.50	3.000	.750 x .375	5.88	12.6	24.00	5.497	1.25 x .625	7.62	3.0	1.3125	14.50

Size	P	R	S	T	U_1	U_2	V	W	X	Y	Z_1	Z_2	Weight
30	4.18	4.9	2.81	3.5	4.6	4.6	11.5				4.06	3.56	73 Lbs.
35	4.88	5.5	3.75	4.4	5.2	5.2	13.1				4.62	4.18	122 Lbs.
40	5.56	6.33	4.25	5.0	6.0	6.1	14.7	1.69	4.68	4.75	5.88	5.18	175 Lbs.
50	6.62	7.45	4.75	5.6	6.9	7.0	17.2	1.88	4.87	4.75	6.25	5.75	290 Lbs.
60	7.12	7.95	5.62	6.45	7.6	7.6	19.4	2.30	6.00	6.50	7.50	6.75	388 Lbs.
70	8.50	9.5	6.62	7.7	9.4	9.4	23.0	3.00	7.00	6.50	8.75	7.75	535 Lbs.
80	9.88	10.8	7.38	8.4	10.8	10.8	24.6	2.62	7.43	10.50	8.75	7.75	690 Lbs.
100	12.62	13.8	8.38	9.6	13.5	14.5	29.8	3.62	8.43	10.50	10.62	10.62	1360 Lbs.
120	16.00	17.4	10.88	12.25	15.8	17.3	36.3				14.00	14.00	2635 Lbs.

Model FSHO: Worm Over Gear

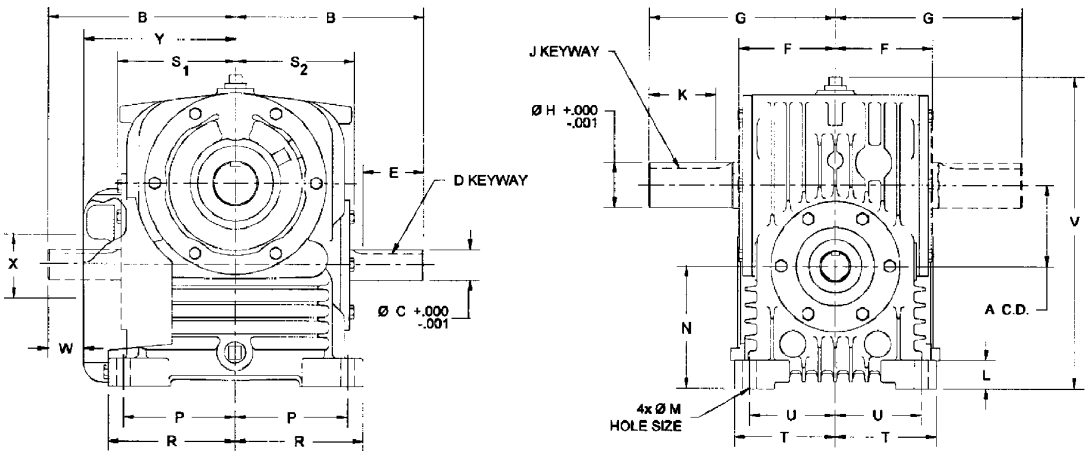


Available Hollow Shaft Bore Sizes									
Bore	Size Reducer								Keyway
	30	35	40	50	60	70 & 80	100	120	
1.500	•								3/8 x 3/16
1.6875	•	•							3/8 x 3/16
1.9375	•	•							1/2 x 1/4
2.1875	•	•							1/2 x 1/4
2.1875			•						5/8 x 5/16
2.4375	•								3/8 x 3/16
2.4375		•	•						5/8 x 5/16
2.500	•	•							3/8 x 3/16
2.6875		•							3/8 x 3/16
2.6875		•							3/8 x 3/16
2.750			•						5/8 x 5/16
2.750				•					5/8 x 5/16
2.9375			•						5/8 x 5/16
2.9375					•				3/4 x 3/8
3.1875				•					5/8 x 5/16
3.4375				•					5/8 x 5/16
3.4375					•				3/4 x 3/8
3.9375					•				3/4 x 3/8
3.9375						•			1 x 1/2
4.4375						•			1 x 1/2
5.9375							•		1 1/4 x 7/16
7.9375								•	1 1/2 x 1/2

Model HP
Single Reduction Unit Dimensions
Sizes 30 - 120

0209

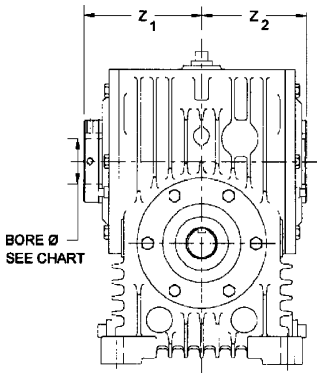
Model FHU: Worm Under Gear: Sizes 30 - 120



Size	A CD	B	C	D	E	F	G	H	J	K	L	M	N
30	3.00	5.94	1.000	.250 x .125	1.75	3.4	5.94	1.500	.375 x .1875	2.00	1.1	.5625	4.75
35	3.50	7.75	1.1875	.250 x .125	2.62	4.2	7.88	1.875	.500 x .250	2.68	1.2	.5625	5.375
40	4.00	9.31	1.500	.375 x .1875	3.00	4.9	9.25	2.250	.500 x .250	3.31	1.4	.6875	6.00
50	5.00	10.50	1.500	.375 x .1875	3.25	5.7	10.31	2.750	.625 x .3125	3.62	1.6	.8125	6.875
60	6.00	11.75	1.750	.375 x .1875	4.00	6.4	12.00	3.250	.750 x .375	4.50	1.8	.8125	7.75
70	7.00	14.50	1.875	.500 x .250	4.50	7.4	13.00	3.375	.875 x .4375	4.88	2.1	.9375	9.00
80	8.00	15.50	2.000	.500 x .250	4.75	7.8	14.00	3.500	.875 x .4375	4.88	2.12	.9375	10.00
100	10.00	19.25	2.375	.625 x .3125	5.00	9.4	15.72	4.000	1.00 x .500	5.12	2.25	1.063	12.00
120	12.00	22.50	3.000	.750 x .375	5.88	12.6	24.00	5.497	1.25 x .625	7.62	3.0	1.3125	14.50

Size	P	R	S_1	S_2	T	U	V	W	X	Y	Z_1	Z_2	Weight
30	4.18	4.9	4.6	4.6	3.5	2.81	13.0				4.06	3.56	83 Lbs.
35	4.88	5.5	5.2	5.2	4.4	3.75	14.6	1.50	4.50	6.25	4.62	4.18	134 Lbs.
40	5.56	6.33	6.1	6.0	5.0	4.25	15.5	1.69	4.75	7.62	5.88	5.18	187 Lbs.
50	6.62	7.45	7.0	6.9	5.6	4.75	18.1	1.88	4.75	8.62	6.25	5.75	305 Lbs.
60	7.12	7.95	7.6	7.6	6.45	5.62	20.9	2.30	6.50	9.46	7.50	6.75	396 Lbs.
70	8.50	9.5	9.4	9.4	7.7	6.62	24.4	3.00	6.50	11.50	8.75	7.75	605 Lbs.
80	9.88	10.8	10.8	10.8	8.4	7.38	27.0	2.37	10.50	13.12	8.75	7.75	880 Lbs.
100	12.62	13.8	14.5	13.5	9.6	8.38	34.6	3.37	10.50	15.87	10.62	10.62	1680 Lbs.
120	16.00	17.4	17.3	15.8	12.25	10.88	41.3				14.00	14.00	2775 Lbs.

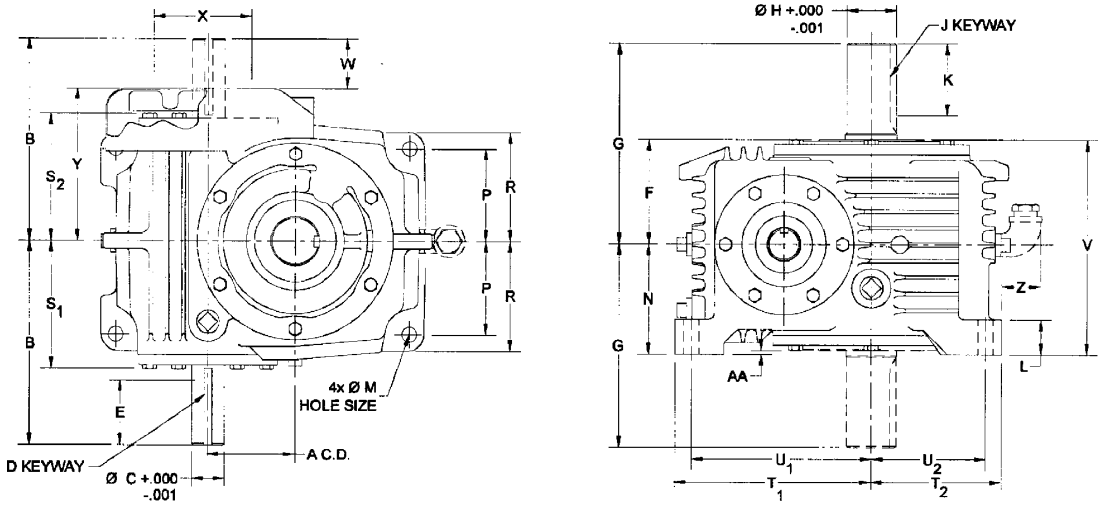
Model FSHU: Worm Under Gear



Available Hollow Shaft Bore Sizes									
Bore	Size Reducer								Keyway
	30	35	40	50	60	70 & 80	100	120	
1.500	•								3/8 x 3/16
1.6875	•	•							3/8 x 3/16
1.9375	•	•							1/2 x 1/4
2.1875	•	•							1/2 x 1/4
2.1875			•						5/8 x 5/16
2.4375	•								3/8 x 3/16
2.4375		•	•						5/8 x 5/16
2.500	•	•							3/8 x 3/16
2.6875		•							3/8 x 3/16
2.6875		•							3/8 x 3/16
2.750			•						5/8 x 5/16
2.750				•					5/8 x 5/16
2.9375			•						5/8 x 5/16
2.9375					•				3/4 x 3/8
3.1875				•					5/8 x 5/16
3.4375				•					5/8 x 5/16
3.4375					•				3/4 x 3/8
3.9375					•				3/4 x 3/8
3.9375						•			1 x 1/2
4.4375						•			1 x 1/2
5.9375							•		1 1/4 x 7/16
7.9375								•	1 1/2 x 1/2

0209

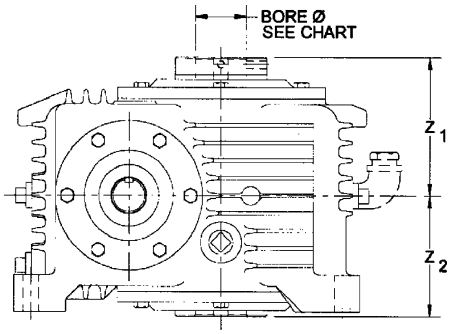
Model FHV: Gear Shaft Vertical: Sizes 30 - 120



Size	A CD	B	C	D	E	F	G	H	J	K	L	M	N	P
30	3.00	6.68	1.000	.250 x .125	1.75	3.4	5.94	1.500	.375 x .1875	2.00	1.1	.5625	3.625	2.88
35	3.50	7.75	1.1875	.250 x .125	2.62	4.3	7.88	1.875	.500 x .250	2.68	1.3	.5625	4.625	3.25
40	4.00	9.31	1.500	.375 x .1875	3.00	5.0	9.25	2.250	.500 x .250	3.31	1.6	.6875	5.00	4.25
50	5.00	10.50	1.500	.375 x .1875	3.25	5.7	10.31	2.750	.625 x .3125	3.62	1.85	.8125	5.75	4.25
60	6.00	11.75	1.750	.375 x .1875	4.00	6.4	12.00	3.250	.750 x .375	4.50	2.12	.8125	6.625	4.88
70	7.00	14.50	1.875	.500 x .250	4.50	7.5	13.00	3.375	.875 x .4375	4.88	2.4	.9375	7.375	6.12
80	8.00	15.50	2.000	.500 x .250	4.75	7.8	14.00	3.500	.875 x .4375	4.88	2.8	.9375	8.375	7.00
100	10.00	19.25	2.375	.625 x .3125	5.00	9.4	15.72	4.000	1.00 x .500	5.12	2.8	1.063	9.50	8.50
120	12.00	22.50	3.000	.750 x .375	5.88	12.6	24.00	5.497	1.25 x .625	7.62	3.0	1.3125	14.00	10.00

Size	R	S_1	S_2	T_1	T_2	U_1	U_2	V	W	X	Y	Z_1	Z_2	AA	Weight
30	3.5	4.6	4.6	6.41	4.49	5.81	3.81	7.1				4.06	3.56	0.2	74 Lbs.
35	4.0	5.2	5.2	7.45	5.25	6.75	4.56	8.9	1.00	4.25	6.75	4.62	4.18	0.4	120 Lbs.
40	5.0	6.0	6.1	9.05	5.95	8.25	5.25	10.8	1.69	4.75	7.62	5.88	5.18	0.1	187 Lbs.
50	5.5	6.9	7.0	10.65	6.60	9.75	5.50	12.3	1.88	4.75	8.62	6.25	5.75	0.05	295 Lbs.
60	6.4	7.6	7.6	12.40	7.50	11.50	5.88	13.9	2.30	6.50	9.46	7.50	6.75	0.2	418 Lbs.
70	8.0	9.4	9.4	14.72	8.58	13.62	7.00	14.8	3.00	6.50	11.50	8.75	7.75	0.1	600 Lbs.
80	8.9	10.8	10.8	14.66	9.64	13.56	7.44	16.2	2.62	10.50	13.20	8.75	7.75	0.56	725 Lbs.
100	10.8	13.5	14.5	11.99	17.91	17.91	9.15	19.2	3.62	10.50	15.62	10.62	10.62	0.1	1550 Lbs.
120	14.2	15.8	17.3	24.05	14.75	22.25	12.50	26.6				14.00	14.00	1.4	2995 Lbs.

Model FSHV: Gear Shaft Vertical

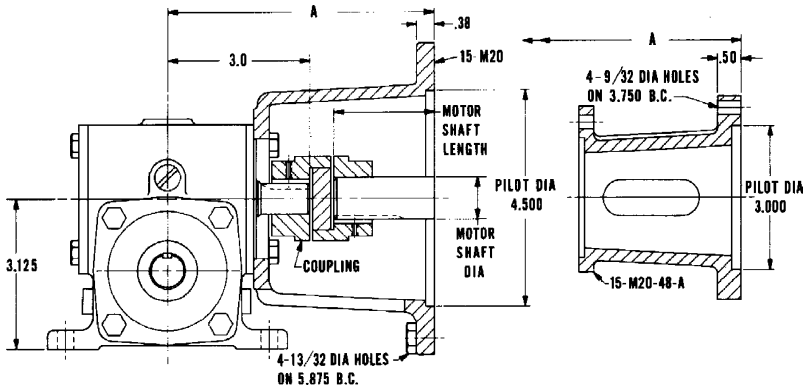


Available Hollow Shaft Bore Sizes									
Bore	Size Reducer								Keyway
	30	35	40	50	60	70 & 80	100	120	
1.500	•								3/8 x 3/16
1.6875	•	•							3/8 x 3/16
1.9375	•	•							1/2 x 1/4
2.1875	•	•							1/2 x 1/4
2.1875			•						5/8 x 5/16
2.4375	•								3/8 x 3/16
2.4375		•	•						5/8 x 5/16
2.500	•	•							3/8 x 3/16
2.6875		•							3/8 x 3/16
2.6875		•							3/8 x 3/16
2.750			•						5/8 x 5/16
2.750				•					5/8 x 5/16
2.9375			•						5/8 x 5/16
2.9375					•				3/4 x 3/8
3.1875				•					5/8 x 5/16
3.4375				•					5/8 x 5/16
3.4375					•				3/4 x 3/8
3.9375					•				3/4 x 3/8
3.9375						•			1 x 1/2
4.4375						•			1 x 1/2
5.9375							•		1 1/4 x 7/16
7.9375								•	1 1/2 x 1/2

Model MHO 15

NEMA "C" Face Motors Adapters add letter "M" before model designation

NEMA C Face Motors



DIMENSIONS							
MOTOR					REDUCER		
FRAME SIZE	PILOT DIA.	SHAFT			A	FLGE. DIA.	COUPLING NUMBER
		LGTH.	DIA.	KWY			
48C	3.000	1.68	.500	FLAT	5.20	4.25	15-140-050/062
56C	4.500	2.06	.625	3/16	5.58	6.50	15-140-062
143TC 145TC	4.500	2.12	.875	3/16	5.58	6.50	15-140-062/088
							15-140-050/075

When ordering specify frame size used.
Remarks : Reducer can be shipped with or without motor to suit requirements. Adapter flange will extend below footline of reducers.
15-M20
Model MHO approx. .187
Model MHU approx. 1.687
15-M20-48A
Model MHU approx. .50
Used w/15-M20-48A

Adapters are available or can be custom designed for motors not matching the NEMA "C" Face dimensions shown above: DC Motors, Servo Motors, Stepper Motors, Hydraulic Motors, Air Motors and others. Couplings other than the standard flexible elastomeric jaw type shown above are available for requirements such as low backlash and high stiffness. Please consult our Application Engineers or Sales Representatives for assistance .

0209

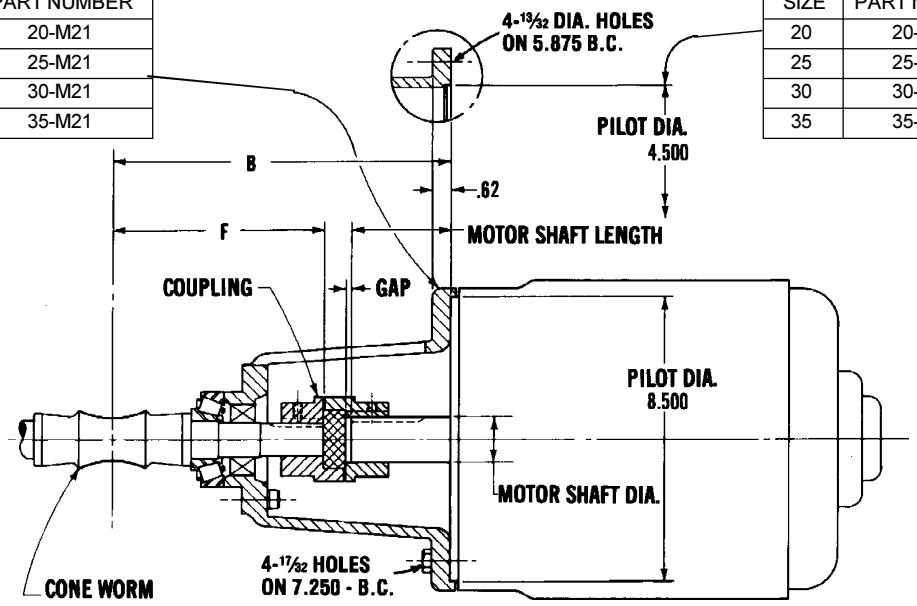
Motor Adapters
For Standard Speed Reducers - Sizes 20, 25, 30 & 35

NEMA "C" Face Motors Adapters add letter "M" before model designation

When motor is mounted vertically above worm, Add - 1 to motor adapter number. Which indicates grease packing of upper worm bearing. (Sizes 30 and 35 Only.) When motor is mounted vertically, a collar is provided for assembly on the worm or motor shaft to prevent the lower coupling half from sliding down the shaft.

MOTOR ADAPTER	
SIZE	PART NUMBER
20	20-M21
25	25-M21
30	30-M21
35	35-M21

MOTOR ADAPTER	
SIZE	PART NUMBER
20	20-M20
25	25-M20
30	30-M20
35	35-M20



Adapters are available or can be custom designed for motors not matching the NEMA "C" Face dimensions shown above: DC Motors, Servo Motors, Stepper Motors, Hydraulic Motors, Air Motors and others. Couplings other than the standard flexible elastomeric jaw type shown above are available for requirements such as low backlash and high stiffness. Please consult our Application Engineers or Sales Representatives for assistance.

MOTOR					B				F				GAP			
FRAME SIZE	PILOT DIA.	SHAFT			REDUCER SIZE				REDUCER SIZE				REDUCER SIZE			
		LGTH.	DIA.	KWY	20	25	30	35	20	25	30	35	20	25	30	35
56 C	4.50	2.06	.625	3/16	7.31	8.00	9.56	10.56	4.59	5.25	6.69	7.75	.06	.06	.06	0
143TC - 145TC	4.50	2.12	.875	3/16	7.31	8.00	9.56	10.56	4.59	5.25	6.69	7.75	0	0	0	† .06
182TC - 184TC	8.50	2.62	1.125	1/4	8.06	8.75	10.18	11.25	4.59	5.25	6.69	7.75	.12	.12	.12	.12
213TC - 215TC	8.50	3.12	1.375	5/16	–	8.75	10.18	11.25	–	4.88	6.31	7.12	–	.12	0	0

For double-extended worms, change part number from -200 to -250. † Recess coupling on motor shaft.

MOTOR FRAME SIZE	COUPLING NUMBER				WORM PART NUMBER			
	REDUCER SIZE				REDUCER SIZE			
	20	25	30	35	20	25	30	35
56 C	720001	720005	720105	720110	20-200	25-200	7300C-200	73500C-200
143TC - 145TC	720004	720007	720107	720112	20-200	25-200	7300C-200	73500C-200
182TC - 184TC	720102	720104	720109	720113	20-200	25-200	7300C-200	73500C-200
213TC - 215TC	–	720152	720154	720203	–	25-200-1	7300C-200-1	73500C-200-2

0209

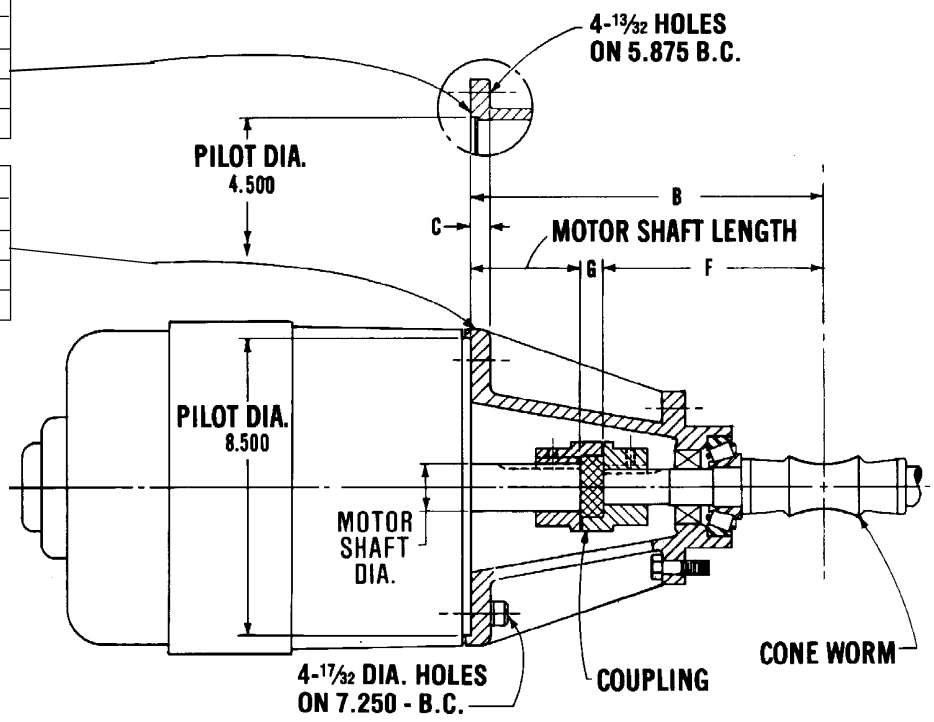
Motor Adapters
For Standard Speed Reducers - Sizes 40, 50 & 60

NEMA "C" Face Motors Adapters add letter "M" before model designation

When motor is mounted vertically above worm, Add - 1 to motor adapter number. Which indicates grease packing of upper worm bearing. When motor is mounted vertically, a collar is provided for assembly on the worm or motor shaft to prevent the lower coupling half from sliding down the shaft.

MOTOR ADAPTER	
SIZE	PART NUMBER
40	40-M20
50	50-M20
60	60-M20

MOTOR ADAPTER	
SIZE	PART NUMBER
40	40-M21
50	50-M21
60	60-M21



Adapters are available or can be custom designed for motors not matching the NEMA "C" Face dimensions shown above: DC Motors, Servo Motors, Stepper Motors, Hydraulic Motors, Air Motors and others. Couplings other than the standard flexible elastomeric jaw type shown above are available for requirements such as low backlash and high stiffness. Please consult our Application Engineers or Sales Representatives for assistance .

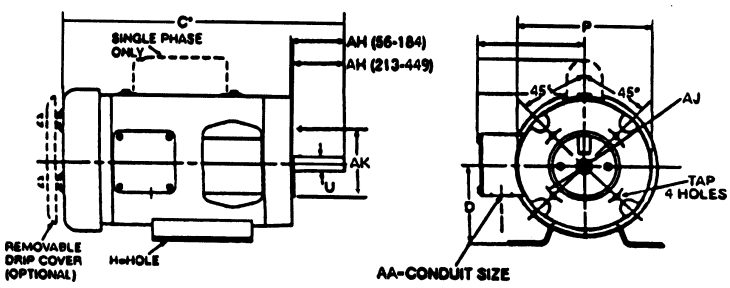
MOTOR					B			C	F			G
FRAME SIZE	PILOT DIA.	SHAFT			REDUCER SIZE				REDUCER SIZE			
		LGTH.	DIA.	KWY	40	50	60		40	50	60	
143TC - 145TC	4.50	2.12	.875	3/16	10.937	12.062	13.125	.62	7.875	9.000	10.062	.937
182TC - 184TC	8.50	2.62	1.125	1/4	12.562	13.687	14.750	.75	9.000	10.125	11.187	.937
213TC - 215TC	8.50	3.12	1.375	5/16	12.562	13.687	14.750	.75	8.500	9.625	10.687	.937
254TC - 256TC	8.50	3.75	1.625	3/8	12.562	13.687	14.750	.75	7.687	8.812	9.875	1.125

For double-extended worms, change part number from -200 to -250.

MOTOR FRAME SIZE	COUPLING NUMBER			WORM PART NUMBER		
	REDUCER SIZE			REDUCER SIZE		
	40	50	60	40	50	60
143TC - 145TC	720207	720207	720212	40-200-3	50-200-3	60-200-3
182TC - 184TC	720208	720208	720213	40-200-1	50-200-1	60-200-1
213TC - 215TC	720209	720209	720214	40-200-2	50-200-2	60-200-2
254TC - 256TC	720258	720258	720260	40-200-4	50-200-4	60-200-4

0209

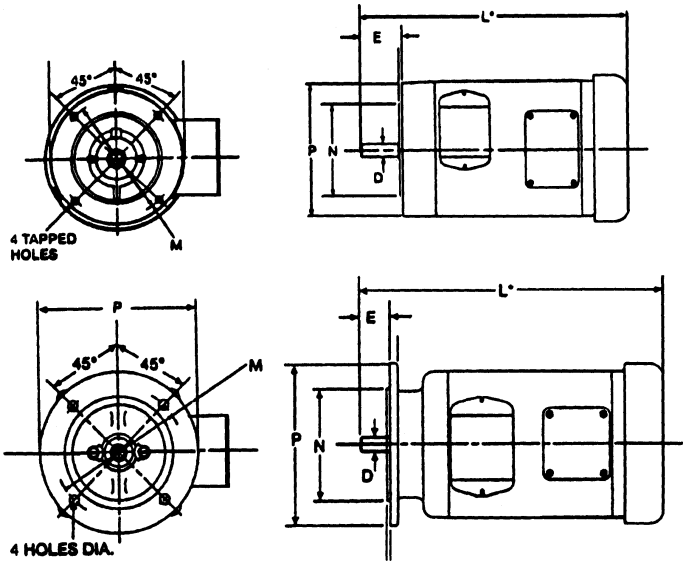
NEMA Motor Frames
(dimensions shown in inch)



NEMA FRAME	U SHAFT DIA.	AH SHAFT LENGTH	AJ BOLT CIRCLE	AK PILOT DIA.	P DIAMETER	C* LENGTH
48C	1/2	1 11/16	3 3/4	3	5 11/16	12.9
56C	5/8	2 1/16	5 7/8	4 1/2	6 5/8	11.4
143-145TC	7/8	2 1/8	5 7/8	4 1/2	6 5/8	13.4
182-184TC	1 1/8	2 5/8	7 1/4	8 1/2	7 7/8	16.5
213-215TC	1 3/8	3 1/8	7 1/4	8 1/2	9 9/16	19.8
254-256TC	1 5/8	3 3/4	7 1/4	8 1/2	12 15/16	23.7
284-286TC	1 7/8	4 3/8	9	10 1/2	14 5/8	27.8
324-326TC	2 1/8	5	11	12 1/2	16 1/2	30.3

* Note: motor length varies by motor manufacturer and horsepower. Dimensions are for reference only.

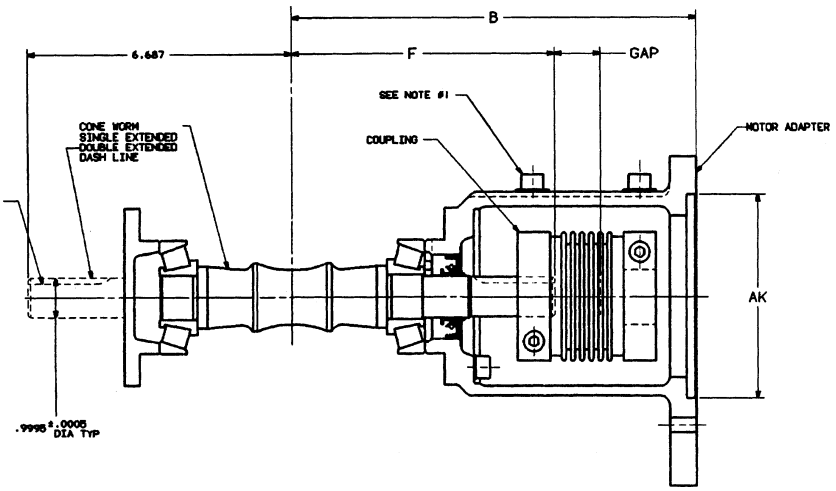
IEC Motor Frames
(dimensions shown in millimeters)



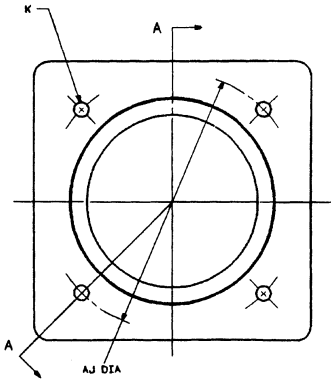
IEC Frame	D Shaft Diameter	E Shaft Length	M Bolt Circle	N Pilot Diameter	P Diameter	M Bolt Circle	N Pilot Diameter	P Diameter	L* Length (Inches) (approx.)
63	11	23	115	95	140	75	60	90	10.2
71	14	30	130	110	160	85	70	105	10.2
80	19	40	165	130	200	100	80	120	12.2
90	24	50	165	130	200	115	95	140	13.0
100	28	60	215	180	250	130	110	160	15.8
112	28	60	215	180	250	130	110	160	15.8
132	38	80	265	230	300	165	130	200	17.7
160	42	110	300	250	350	215	180	250	23.5

* Note: motor length varies by motor manufacturer and horsepower. Dimensions are for reference only.

Size 30

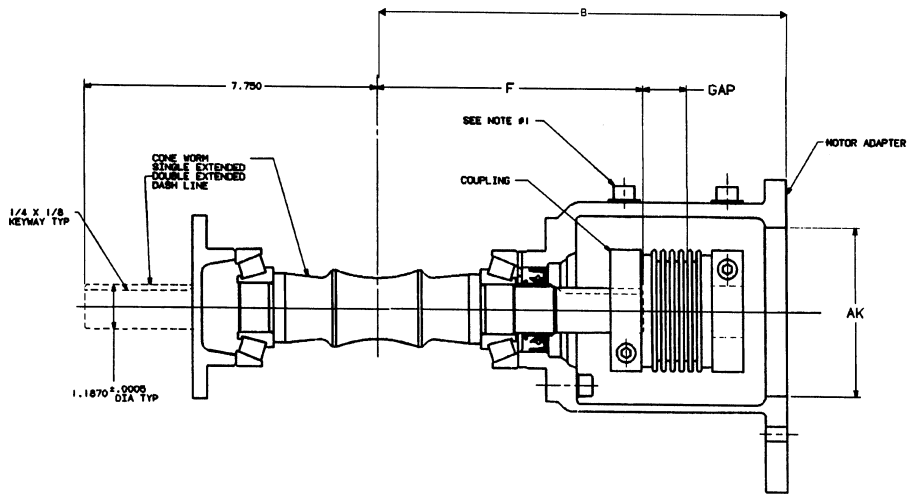


Note#1 Tapped access holes to be assembled in the up position relative to the reducer feet.

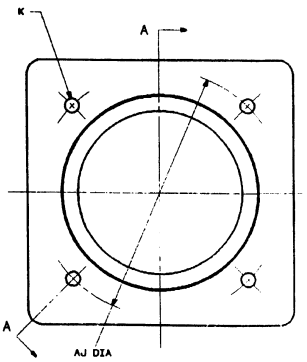


MOTOR							ADAPTER							CONE WORM		
TYPE	MOTOR SERIES	PILOT DIA	SHAFT LENGTH	SHAFT DIA	FLANGE SQUARE	MOTOR HOLES	NUMBER	K	AJ	AK	GAP	B	COU-PLING	Single Extended	Double Extended	F
INDRAMAT	MAC 90	4.33i (110MM)	1.969 (50MM)	.945 (24MM)	5.51 (140MM)	.433 (11MM)	30-M23	M10 TAP	6.496 (165MM)	4.333 DIA	1.66	10.312	KM - 170	7300C-200	7300C-250	6.688
INDRAMAT	MAC 112	5.118 (130MM)	2.362 (60MM)	1.260 (32MM)	7.60 (193MM)	M10 X .59 DP	30-M25A	7/16 DIA		5.120 DIA	1.26					
EMERSON	DXM 6300		1.967 (50MM)		5.59 (142MM)	.433 (11MM)	30-M25	M10 TAP			1.66					
ALLEN BRADLEY	1326AB -BX-21			.945 (24MM)	5.87 (149MM)	.472 (12MM)							KM - 80			
BALDOR	BSM100A		2.362 (60MM)	1.102 (28MM)	5.75 (146MM)	.472 M12	30-M25A	7/16 DIA			1.26		KM - 170			
ELECTRO-CRAFT	S-6XXX	4.500 (114.3MM)	3.15 (80MM)	1.378 (35MM)	7.00 (178MM)	.53 (13.5MM)	30-M24	1/2 - 13 TAPPED	7.874 (200MM)	5.120 DIA	.47		KM - 80			
DELCO FANUC	DXXX		3.110 (79MM)		6.77 (172MM)	.531 (13.5MM)					.51		KM - 170			
YASKAWA	M/F/S 12-30		3.110 (79MM)		7.09 (180MM)	.531 (13.5MM)										
ALLEN BRADLEY	1326AB -BX-11		2.38	1.125	5.87	.406	30-M24A	3/8 - 16 TAPPED	7.000		1.24		KM - 80			

Size 35



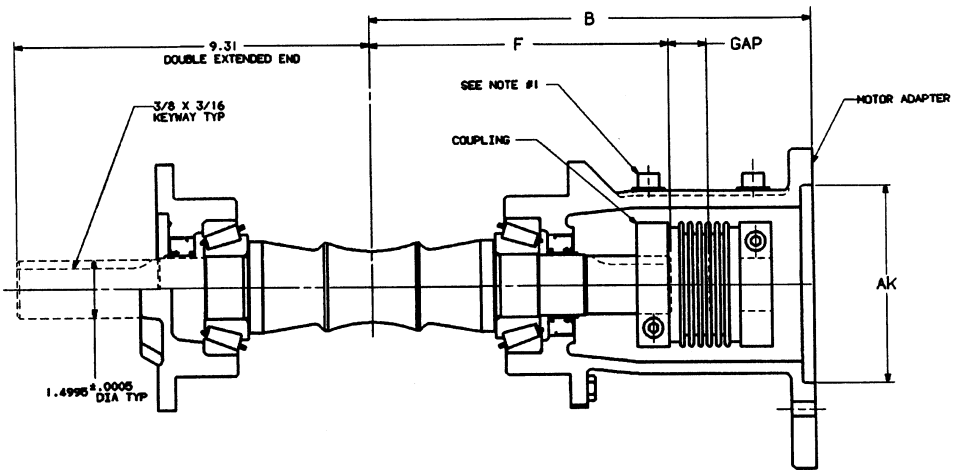
Note#1 Tapped access holes to be assembled in the up position relative to the reducer feet.

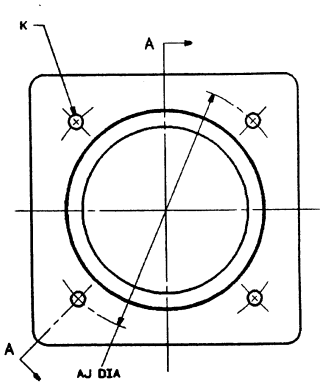


MOTOR							ADAPTER				GAP	B	COU-PLING	CONE WORM		
TYPE	MOTOR SERIES	PILOT DIA	SHAFT LENGTH	SHAFT DIA	FLANGE SQUARE	MOTOR HOLES	NUMBER	K	AJ	AK				Single Extended	Double Extended	F
INDRAMAT	MAC 90	4.33i (110MM)	1.969 (50MM)	.945 (24MM)	5.51 (140MM)	.433 (11MM)	35-M23	M10 TAP	6.496 (165MM)	4.333 DIA	1.85	10.938	KM - 170	73500C-200-2	73500C-250-2	7.125
INDRAMAT	MAC 112	5.118 (130MM)	2.362 (60MM)	1.260 (32MM)	7.60 (193MM)	M10 X .59 DP	35-M25A	7/16 DIA		5.120 DIA	1.45					
EMERSON	DXM 6300		1.967 (50MM)		5.59 (142MM)	.433 (11MM)	35-M25	M10 TAP			1.85					
ALLEN BRADLEY	1326AB -BX-21			.945 (24MM)	5.87 (149MM)	.472 (12MM)							KM - 80			
BALDOR	BSM100A		2.362 (60MM)	1.102 (28MM)	5.75 (146MM)	.472 M12	35-M25A	7/16 DIA			1.45		KM - 170			
ELECTRO-CRAFT	S-6XXX	4.500 (114.3MM)	3.15 (80MM)	1.378 (35MM)	7.00 (178MM)	.53 (13.5MM)	35-M24	1/2 - 13 TAPPED	7.874 (200MM)	4.5015 DIA	.66		KM - 80			
DELCO FANUC	DXXX		3.110 (79MM)	1.102 (28MM)	6.77 (172MM)	.531 (13.5MM)					.70		KM - 170			
YASKAWA	M/F/S 12-30		3.110 (79MM)		7.09 (180MM)	.531 (13.5MM)										
ALLEN BRADLEY	1326AB -BX-11		2.38	1.125	5.87	.406	35-M24A	3/8 - 16 TAPPED	7.000		1.43		KM - 80			

Size 40

Note#1 Tapped access holes to be assembled in the up position relative to the reducer feet.



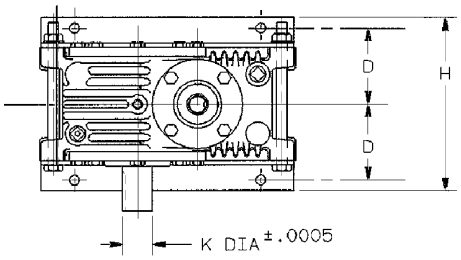


MOTOR							ADAPTER				GAP	B	COU-PLING	CONE WORM		
TYPE	MOTOR SERIES	PILOT DIA	SHAFT LENGTH	SHAFT DIA	FLANGE SQUARE	MOTOR HOLES	NUMBER	K	AJ	AK				Single Extended	Double Extended	F
MAGNETEK	M844	4.33i (110MM)	1.967 (50MM)	.945 (24MM)	4.53 (115MM)	.354 (9MM)	40-M23A	M8 TAP	5.118 (130MM)	4.333 DIA	1.78	11.625	KM - 80	40-200-3	40-250-3	7.875
INDRAMAT	MAC 90				5.51 (140MM)	.433 (11MM)	40-M23	M10 TAP	6.496 (165MM)				KM - 170			
INDRAMAT	MAC 112	5.118 (130MM)	2.362 (60MM)	1.260 (32MM)	7.60 (193MM)	M10 X .59 DP	40-M25A	7/16 DIA		5.120 DIA	1.45					
EMERSON	DXM 6300		1.967 (50MM)		5.59 (142MM)	.433 (11MM)	40-M25	M10 TAP			1.85					
ALLEN BRADLEY	1326AB -BX-21			.945 (24MM)	5.87 (149MM)	.472 (12MM)							KM - 80			
BALDOR	BSM100A		2.362 (60MM)	1.102 (28MM)	5.75 (146MM)	.472 M12	40-M25A	7/16 DIA			1.45		KM - 170			
ELECTRO-CRAFT	S-6XXX	4.500 (114.3MM)	3.15 (80MM)	1.378 (35MM)	7.00 (178MM)	.53 (13.5MM)	40-M24	1/2 - 13 TAPPED	7.874 (200MM)	4.5015 DIA	.66		KM - 80			
DELCO FANUC	DXXX		3.110 (79MM)		6.77 (172MM)	.531 (13.5MM)					.70		KM - 170			
YASKAWA	M/F/S 12-30		3.110 (79MM)		7.09 (180MM)	.531 (13.5MM)										
ALLEN BRADLEY	1326AB -BX-11		2.38	1.125	5.87	.406	40-M24A	3/8 - 16 TAPPED	7.000		1.43		KM - 80			

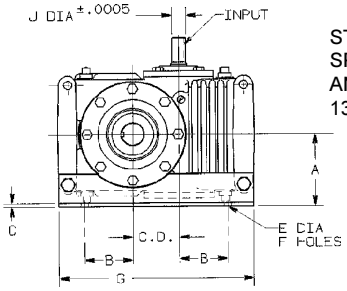
0209

Size 20 to 120

Shown
Model VH



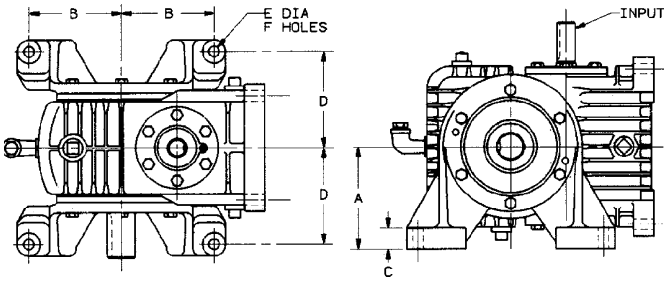
Model SVH Hollow Shaft



STANDARD UNIT WITH SPECIAL FOOT ANGLES DETAIL – 13VR & 13VL.

Size	C.D.	A	B	C	D	E	F	G	H	J	K	FOR DIMENSIONS NOT SHOWN SEE THIS SECTION. SIZE 20 & 25.
20	2.000	3.12	2.06	.187	2.750	.406	4	9.00	6.50	.6875	1.125	
25	2.500	3.87	2.62	.187	3.187	.406	4	10.75	7.25	.7500	1.250	

Shown
Model VHU

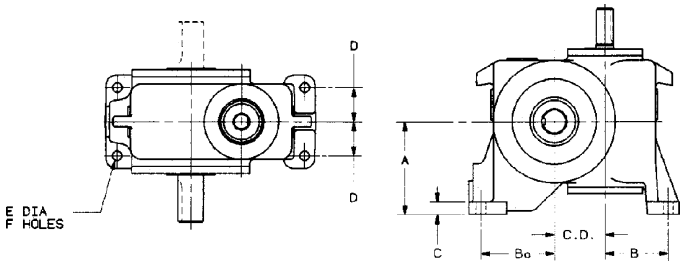


Model SVHU Hollow Shaft

Standard HU or SHU units with foot brackets detail No. 16.
For dimensions not shown see this section for reducer and foot brackets.
For ceiling and wall mounted units see assembly and mounting positions following in this section

Size	C.D.	A	B	C	D	E	F
30	3.000	5.50	5.00	1.2	5.25	.562	4
35	3.500	6.50	6.000	1.3	6.50	.562	4
40	4.000	7.50	6.75	1.5	7.75	.687	4
50	5.000	8.50	7.50	1.8	8.25	.812	4
60	6.000	8.50	8.25	1.5	9.00	.812	4
70	7.000	13.75	10.00	1.5	9.75	.937	4
80	8.000	15.50	11.50	1.8	10.31	.937	4

Shown
Model VH



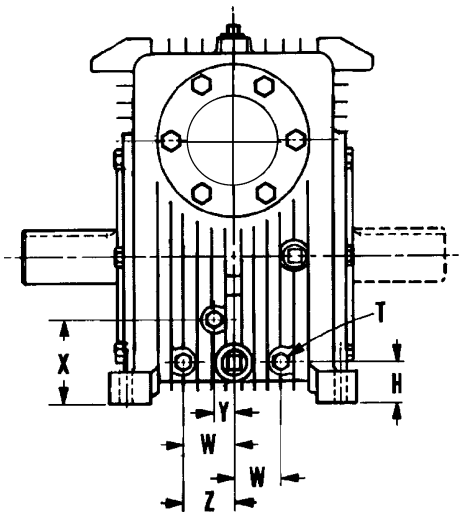
Model SVH Hollow Shaft

All details are standard stocked items except for housings which are manufactured only as required. All dimensions subject to change at final design. Refer to this section for shaft and carrier dimensions.
Ceiling and wall mounted units follow in this section.

Size	C.D.	A	B	B_A	C	D	E	F
30	3.000	5.500	3.750	4.375	.75	2.000	.562	4
35	3.500	6.500	4.000	5.000	.75	3.000	.562	4
40	4.000	7.250	5.000	5.500	1.50	3.250	.687	4
50	5.000	8.000	5.625	6.750	1.70	3.750	.812	4
60	6.000	9.000	6.125	7.500	1.70	4.37	5 .812	4
70	7.000	11.000	6.750	8.875	2.12	5.250	.937	4
80	8.000	12.500	7.125	9.875	2.12	5.250	.937	4
100	10.000	16.000	8.250	11.750	2.37	7.000	1.062	4
120	12.000	18.500	10.125	14.000	2.75	9.250	1.312	6

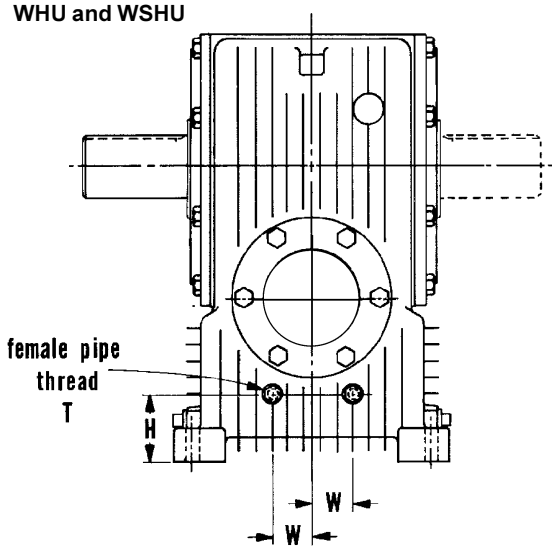
Inlet and Outlet Locations

WHO and WSHO



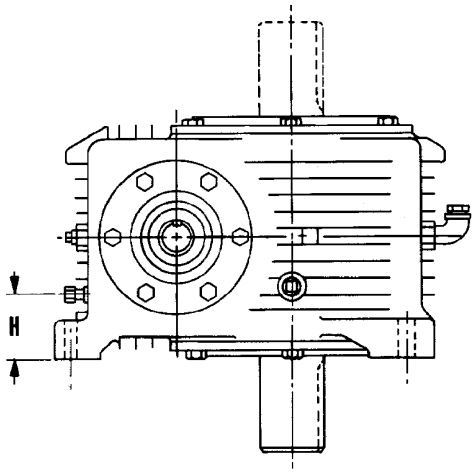
COOLING COIL INLET & OUTLET ARE LOCATED AT END OF HOUSING OPPOSIT INPUT SHAFT.
SEE CAUTION NOTE BELOW

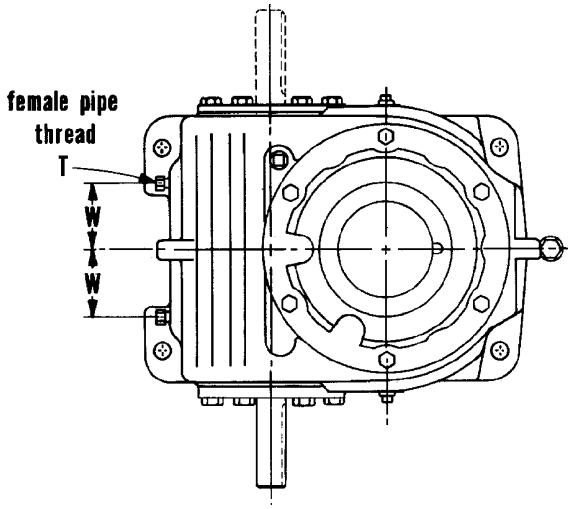
WHU and WSHU



COOLING COIL INLET & OUTLET ARE LOCATED AT END OF HOUSING OPPOSIT INPUT SHAFT.
SEE CAUTION NOTE BELOW

WHV and WSHV





CAUTION: Before connecting water lines to reducer read caution tag attached to reducer.

APPROX DIM.	SIZE 40			SIZE 50			SIZE 60			SIZE 70			SIZE 80			SIZE 100			SIZE 120		
	HO	HU	HV	HO	HU	HV	HO	HU	HV	HO	HU	HV	HO	HU	HV	HO	HU	HV	HO	HU	HV
H	2.1	2.2	3.0	2.4	2.2	3.0	2.5	2.8	3.8	2.5	3.7	3.9	3.5	4.2	4.8	4.0	4.0	5.0	6.2	6.2	10.5
W	1.7	2.1	2.2	2.0	2.4	2.2	2.5	2.5	2.8	–	3.0	4.0	2.5	2.5	4.5	3.8	4.2	6.0	4.2	4.0	6.5
X										5.6											
Y										1.2											
Z																					
T	3/8-18NPT																		1-111/2NPT		

COOLING COILS MAY BE SUPPLIED IN EITHER PLAN OR FINNED O.D. TUBING.

Model HP
Water Cooled
Thermal Horsepower Ratings

Size 40 to 60 - Water Cooling
TRU-FIN Th HP Rating

Model	Ratio to 1	RPM				
		580	720	870	1150	1750
WHO 40	5	–	–	–	–	26
WHV 40	5	–	–	–	20.5	21.8
	10	–	–	–	–	16.2
WHO 50	5	–	29	33	34	36
	10	–	–	23	25	26
	15	–	–	–	–	21
	20	–	–	–	–	16
	25	–	–	–	–	14
	30	–	–	–	–	12
WHO 60	5	–	43	50	51	54
	10	–	–	–	38	39
	15	–	–	–	–	31
	20	–	–	–	–	24
WHU 60	5	–	–	–	57	59
	10	–	–	–	–	44
WHV 60	5	–	–	–	53	55
	10	–	–	–	–	40
	15	–	–	–	–	32
	20	–	–	–	–	25

Size 70 to 100 - Water Cooling
TRU-FIN Th HP Rating

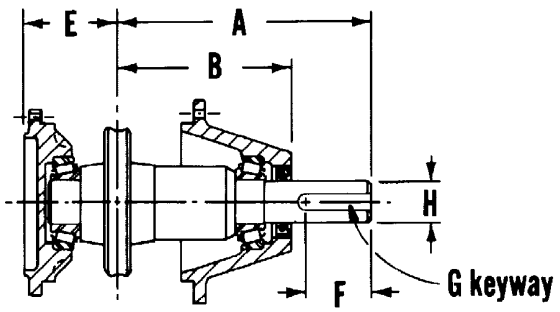
Model	Ratio to 1	RPM							
		100	200	300	580	720	870	1150	1750
WHO 70	5	–	–	–	–	–	–	–	88
	10	–	–	–	–	–	–	–	65
WHU 70	5	–	–	–	–	–	–	78	81
	10	–	–	–	–	–	–	58	59
	15	–	–	–	–	–	–	–	46
	20	–	–	–	–	–	–	–	37
WD 70	5	69	82	98	105	108	126	128	131
	10	42	51	58	68	82	83	94	95
	15	34	40	44	57	61	67	73	74
	20	28	33	36	49	50	50	54	58
	25	24	29	33	43	45	48	51	52
	30	21	24	27	32	36	38	40	41
	35	17	19	23	28	32	32	34	34
	40	14	18	20	26	27	28	29	30
	50	13	17	18	22	24	25	26	27
	60	13	16	18	20	22	23	24	25
WHO 80	5	–	–	–	–	–	–	115	120
	10	–	–	–	–	–	–	–	88
	15	–	–	–	–	–	–	–	70
WD 80	5	–	–	–	–	–	–	–	–
	10	64	76	86	–	–	–	–	–
	15	50	59	65	82	89	–	–	–
	20	–	–	52	71	72	72	78	85
	25	–	–	–	62	66	69	–	75
	30	–	–	–	–	53	55	–	59
	35	–	–	–	–	–	–	–	–
	40	–	–	–	–	–	–	–	–
	50	–	–	–	–	–	–	–	–
WD 100	5	–	–	–	–	–	–	–	–
	10	–	–	–	140	–	180	212	215
	15	–	–	–	–	124	–	155	157
	20	–	–	–	–	–	98	106	114
	25	–	–	–	–	–	–	–	102
	30	–	–	–	–	–	–	77	78
	35	–	–	–	–	–	–	–	63
	40	–	–	–	–	–	–	–	55
	50	–	–	–	–	–	–	–	–

Size 120 - Water Cooling
TRU-FIN Th HP Rating

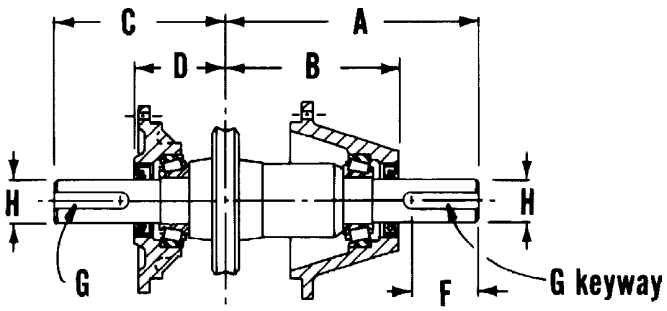
Model	Ratio to 1	RPM							
		100	200	300	580	720	870	1150	1750
WHO 120	5	68	91	116	144	157	179	189	189
	10	47	63	77	100	118	122	135	135
	15	–	52	62	82	91	95	103	103
	20	–	44	53	72	76	78	82	84
	25	–	38	46	62	67	68	71	71
	30	–	32	39	51	56	58	59	59
	40	–	–	33	44	48	49	51	51
	50	–	–	–	37	40	41	44	44
	60	–	–	–	–	–	36	39	39
	70	–	–	–	–	–	–	–	37
WHV 120	10	–	–	–	144	183	185	216	–
	15	–	–	–	116	129	141	158	–
	20	–	–	–	–	101	102	110	–
WD 120	5	–	173.96	218.49	235.29	243.09	306.13	311.83	312.13
	10	77.67	97.36	112.20	134.75	170.16	172.26	200.12	200.12
	15	–	73.48	83.01	108.94	120.78	131.75	146.71	146.71
	20	–	59.58	66.62	92.61	95.31	96.27	103.47	110.02
	25	–	52.76	60.78	79.90	85.71	90.39	96.99	96.99
	30	–	42.74	49.20	60.62	68.84	71.78	75.39	75.39
	40	–	34.15	40.85	52.32	58.70	59.00	61.91	61.91
	50	–	30.60	36.20	46.22	50.04	50.46	53.20	53.20
	60	–	–	32.23	40.02	43.06	44.75	47.48	47.48
	70	–	–	–	36.17	39.49	41.45	43.90	44.93

Important: Water cooled thermal horsepower ratings listed have ratings less than the mechanical horsepower ratings. All other models or models not shown are equal to or exceed the mechanical horsepower ratings.

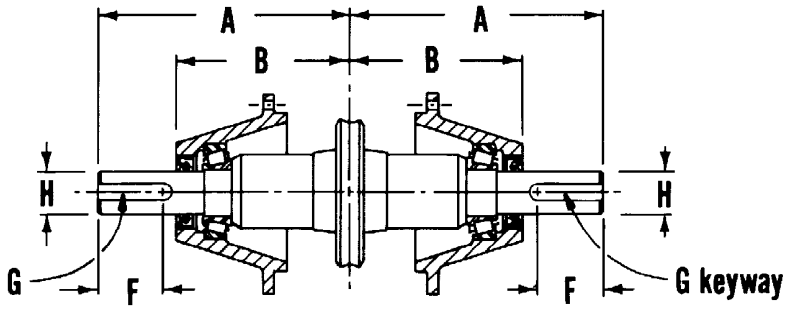
Model HP
Single Reduction Unit
Steeple Bearings



"R" MOUNTING



"S" MOUNTING



"T" MOUNTING

REDUCER SIZE	CENTER DISTANCE	A	B	C	D	E	F	G	H DIA.
25	2.500	7.88	4.9	4.50	2.6	2.6	1.38	1/4 x 1/8	1.250 1.249
30	3.000	8.62	5.9	5.94	3.4	3.4	2.00	3/8 x 3/16	1.500 1.499
35	3.500	10.25	6.3	7.88	4.2	4.2	2.68	1/2 x 1/4	1.875 1.874
40	4.000	11.25	6.6	9.25	4.9	4.9	3.31	1/2 x 1/4	2.250 2.249
50	5.000	13.62	8.6	10.31	5.6	5.6	3.62	5/8 x 5/16	2.750 2.749
60	6.000	15.38	9.6	12.00	6.3	6.4	4.62	3/4 x 3/8	3.250 3.249
70	7.000	19.38	12.5	13.00	7.4	7.4	4.88	7/8 x 7/16	3.375 3.374
80	8.000	19.38	12.9	14.00	7.8	7.8	4.88	7/8 x 7/16	3.500 3.499
100	10.000	24.00	16.5	15.72	9.4	9.4	5.12	1 x 1/2	4.000 3.999
120	12.000	36.00	22.6	24.00	12.6	12.4	9.62	1 1/4 x 5/8	5.497 5.496

When ordering, specify model size, hand of assembly, and steeple bearings using the letter designation R, S, or T for the mounting configuration required.
For R and T mountings, use the standard hand of assembly designation shown throughout the catalog for various sizes of reducers and mounting positions.

For double-extended S mountings on worm over and worm under units, specify steeple bearing on left (L) or right (R) of unit as viewed from the input end.
For S mounting on vertical gear shaft unit, specify steeple bearing opposite feet (U) or through feet (D).

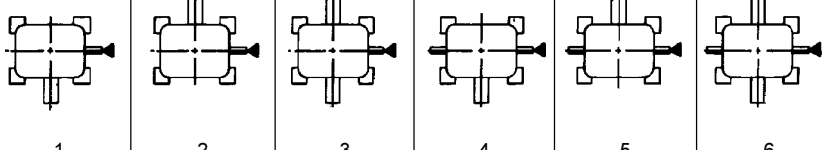
Models FHU, FSHU, FHO, FSHO

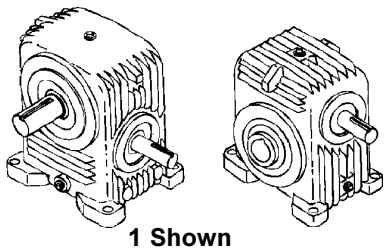
ALL DIAGRAMS SHOW REDUCER WITH FEET ON FAR SIDE. (FANS NOT SHOWN).
Model Prefixes: F = Fan cooled W = Water cooled M = Motorized P = Pressure lube

For mountings 1, 2 and 3 fan cannot be mounted opposite input

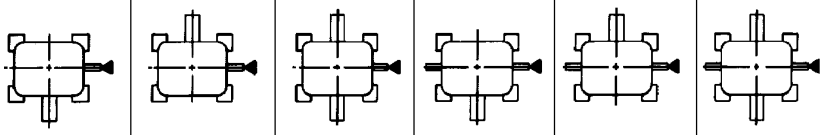
◀ Indicates Input or Drive End

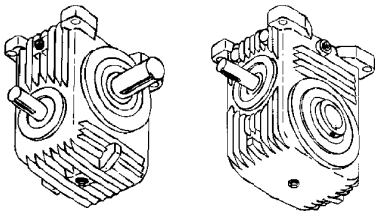
Top View, Floor Mounted



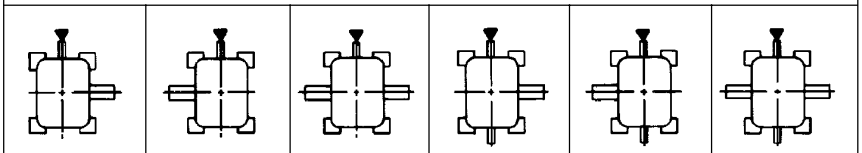

1 Shown

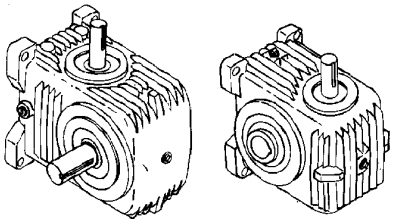
Ceiling Mounted



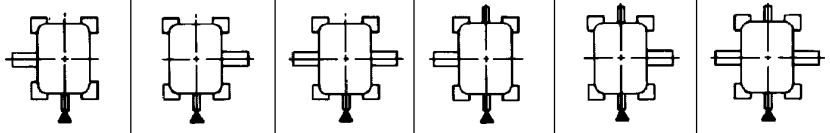

C1 Shown

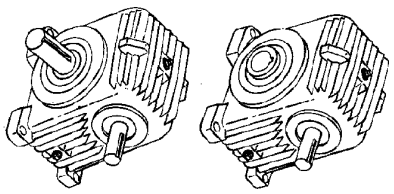
Wall Mounted, Worm Vertical Up



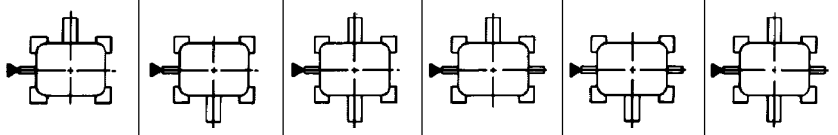

W2 Shown

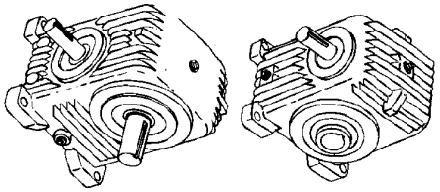
Wall Mounted, Worm Vertical Down Size 100 and larger - contact TPT regarding lubrication of upper worm bearing.



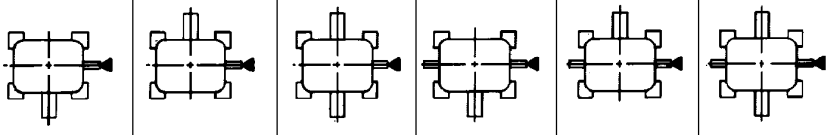

X1 Shown

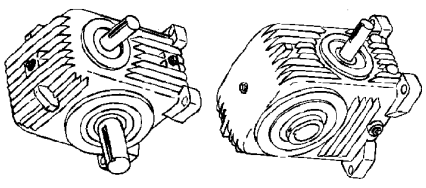
Wall Mounted, Worm Horizontal to the Left




Y2 Shown

Wall Mounted, Worm Horizontal to the Right




Z1 Shown

Models FHV, FSHV

ALL DIAGRAMS SHOW REDUCER WITH FEET ON FAR SIDE. (FANS NOT SHOWN).
Model Prefixes: F = Fan cooled W = Water cooled M = Motorized P = Pressure lube

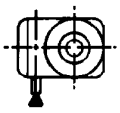
For mountings 7A and 8A fan cannot be mounted opposite input

A Gearshaft Extended Opposite Feet

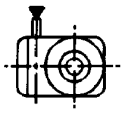
B Gearshaft Extended Through Feet

C Gearshaft Double Extended

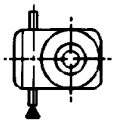
Top View, Floor Mounted



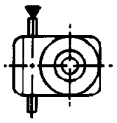
7A
7B
7C



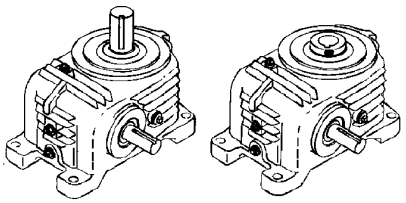
8A
8B
8C



9A
9B
9C

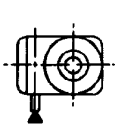


0A
0B
0C

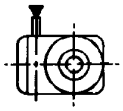


7A Shown

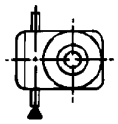
Ceiling Mounted



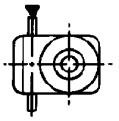
C7A
C7B
C7C



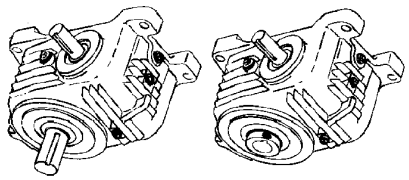
C8A
C8B
C8C



C9A
C9B
C9C

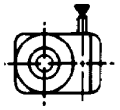


C0A
C0B
C0C

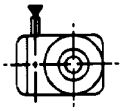


C7A Shown

Wall Mounted, Worm Vertical Up



W7A
W7B
W7C



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W8B
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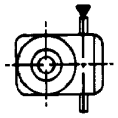
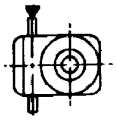


W9A
W9B
W9C



W0A
W0B
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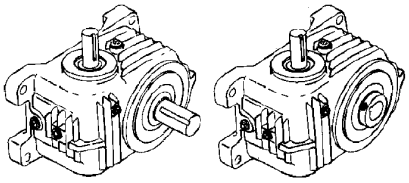
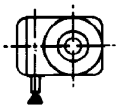


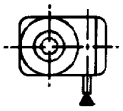
W8A Shown

Wall Mounted, Worm Vertical Down

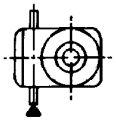
Size 100 and larger - contact TPT regarding lubrication of upper worm bearing.



X7A
X7B
X7C



X8A
X8B
X8C



X9A
X9B
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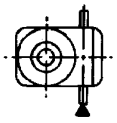

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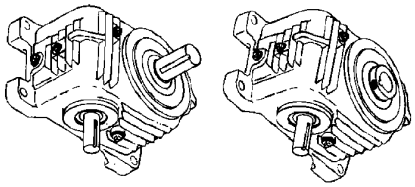
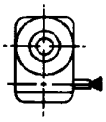
X0B
X0C

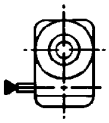


X7A Shown

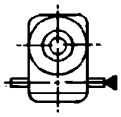
Wall Mounted, Worm Horizontal Under Gear



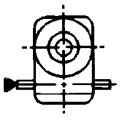
Y7A
Y7B
Y7C



Y8A
Y8B
Y8C



Y9A
Y9B
Y9C



Y0A
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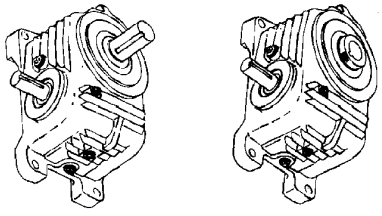
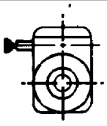
Y0C

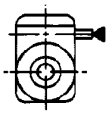


Y7A Shown

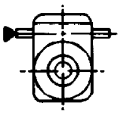
Wall Mounted, Worm Horizontal Over Gear



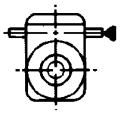
Z7A
Z7B
Z7C



Z8A
Z8B
Z8C



Z9A
Z9B
Z9C



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Z0B
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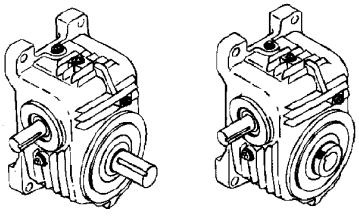


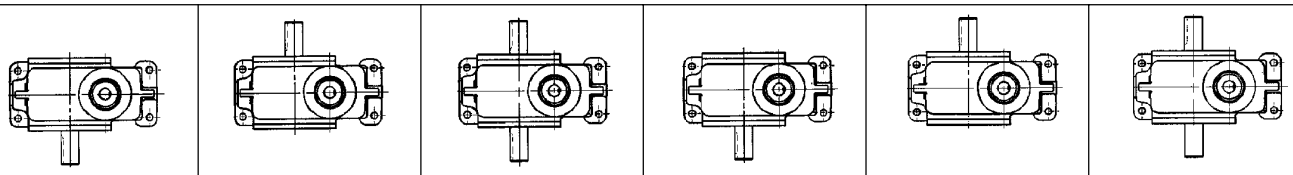
Z7A Shown

Models VH, VHU, SVH, SVHU

ALL DIAGRAMS SHOW REDUCER WITH FEET ON FAR SIDE. (FANS NOT SHOWN).
Model Prefixes: F = Fan cooled W = Water cooled M = Motorized P = Pressure lube

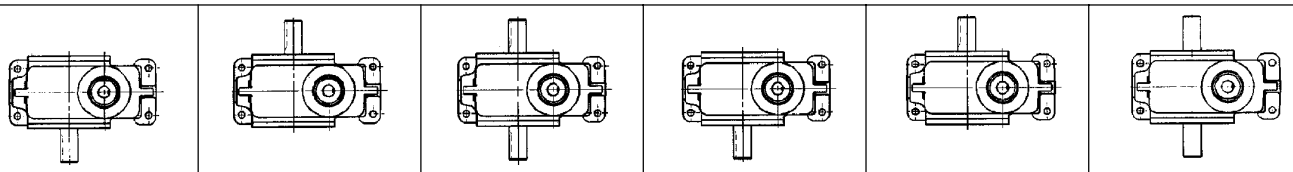
DIAGRAMS 1 THRU 3 HAVE SINGLE EXTENDED INPUT SHAFTS, THE INPUT END EXTENDS UP. DIAGRAMS 4 THRU 6 HAVE DOUBLE EXTENDED INPUT SHAFTS FOR INPUT END EXTENDING DOWN SPECIFY SAME WHEN ORDERING AND ADD LETTER "D" AFTER UNIT SIZE VH50D-1

Top View, Floor Mounted



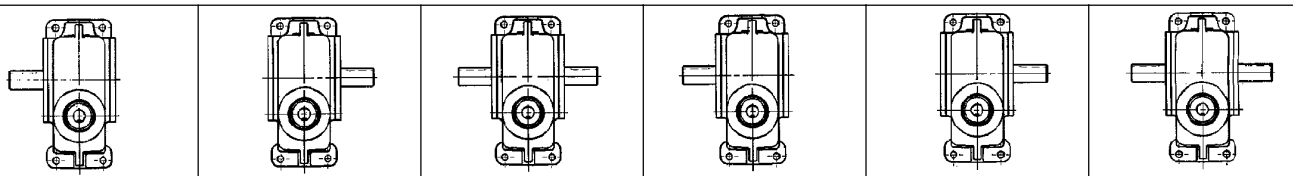
1 2 3 4 5 6

Ceiling Mounted



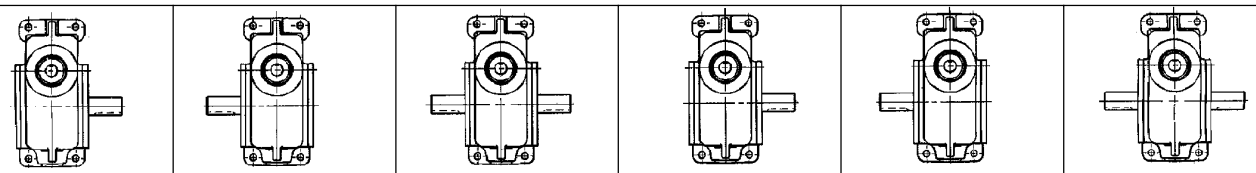
C1 C2 C3 C4 C5 C6

Wall Mounted, Worm Under Gear



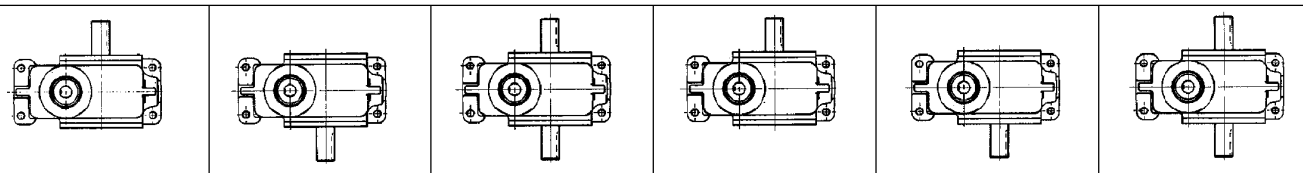
W1 W2 W3 W4 W5 W6

Wall Mounted, Worm Over Gear



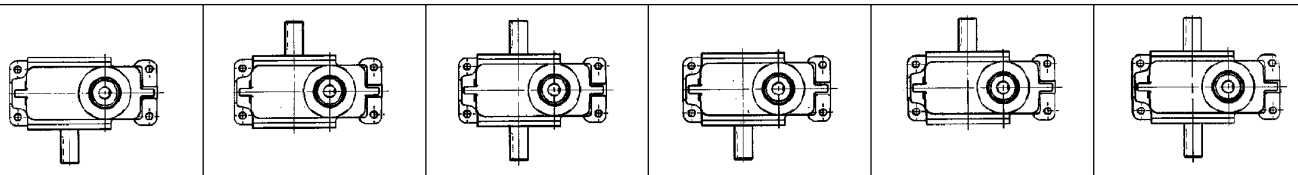
X1 X2 X3 X4 X5 X6

Wall Mounted, Worm to Left of Gear



Y1 Y2 Y3 Y4 Y5 Y6

Wall Mounted, Worm to Right of Gear



Z1 Z2 Z3 Z4 Z5 Z6

Contents

Model HP
Double Reduction Unit Designations

0209

	1	2	3	4	5	6	7	-	8	9	-	10
*								-			-	
Example	F	M	O	U	S	40	D	-	80	D	-	80

1 - Fan Cooled Primary

With a fan:	F	(Available only on sizes 35 thru 60)
No auxilary cooling:		

2 - Adapter for motor mount (reducers sold with motors mounted will have a "C" before the part number

With a motor adapter:	M
No motor adapter:	

3 - Worm orientation of primary

Worm is over the gear:	O
Worm is under the gear:	U
Worm is vertical:	V

4 - Worm and gear orientation of secondary

Worm is over the gear:	O
Worm is under the gear:	U
Worm is vertical:	V

5 - Output shaft option

With a hollow output shaft:	S
With a solid output shaft:	

6 - Size of primary (center distance is the distance between the centerlines of the input and output shafts in inches)

Size	20	25	30	35	40	50	60
Center Distance	2.00	2.50	3.00	3.50	4.00	5.00	6.00

7 - Direction of input shaft on primary

Input shaft points down:	D
Input is up or horizontal:	

8 - Size of secondary (center distance is the distance between the centerlines of the input and output shafts in inches)

Size	30	35	40	50	60	70	80	100	120
Center Distance	3.00	3.50	4.00	5.00	6.00	7.00	8.00	10.00	12.00

9 - Sequential alpha numeric for special features assigned by Textron Power Transmission at completion of design

Blank if reducer has standard catalog features

10 - Assembly and mounting positions (see pages with mountings for correct designation).

* This Page May Be Photocopied Allowing The Customer To Enter Their Order

0209

Size 20 - 30

2.000" primary / 3.000" secondary

HorsePower & Output Torque Ratings for 1.0 Service Factor

		Worm RPM				
Ratio to 1		**100**	**580**	**870**	**1150**	**1750**
75 (5 x 15)	Me.HP	0.23	1.2	1.6	2.1	3.0
	Th.HP	0.23	1.2	1.6	2.1	3.0
	Efficiency	65	72	73	75	75
	O.T.	7050	6805	6475	6415	6170
100 (5 x 20)	Me.HP	0.18	0.92	1.3	1.6	2.3
	Th.HP	0.18	0.92	1.3	1.6	2.3
	Efficiency	61	68	69	71	72
	O.T.	6695	6585	6285	6235	5990
125 (5 x 25)	Me.HP	0.14	0.74	1.0	1.3	1.9
	Th.HP	0.14	0.74	1.0	1.3	1.9
	Efficiency	57	65	65	69	71
	O.T.	6345	6290	6000	6115	5955
150 (10 x 15)	Me.HP	0.12	0.67	0.95	1.2	1.7
	Th.HP	0.12	0.67	0.95	1.2	1.7
	Efficiency	59	66	69	71	71
	O.T.	6920	6960	6925	6840	6475
200 (10 x 20)	Me.HP	0.09	0.51	0.73	0.89	1.3
	Th.HP	0.09	0.51	0.73	0.89	1.3
	Efficiency	54	62	66	68	68
	O.T.	6460	6625	6700	6615	6285
225 (15 x 15)	Me.HP	0.13	0.47	0.67	0.86	1.2
	Th.HP	0.13	0.47	0.67	0.86	1.2
	Efficiency	56	65	66	69	70
	O.T.	6920	7140	6960	6990	6805
250 (10 x 25)	Me.HP	0.08	0.41	0.58	0.72	1.0
	Th.HP	0.08	0.41	0.58	0.72	1.0
	Efficiency	51	58	62	64	64
	O.T.	6105	6295	6380	6305	6000
300 (15 x 20)	Me.HP	0.10	0.36	0.51	0.66	0.95
	Th.HP	0.10	0.36	0.51	0.66	0.95
	Efficiency	51	60	62	65	66
	O.T.	6460	6800	6625	6760	6585
400 (20 x 20)	Me.HP	0.05	0.28	0.41	0.53	0.76
	Th.HP	0.05	0.28	0.41	0.53	0.76
	Efficiency	47	58	59	60	63
	O.T.	6305	6795	6770	6625	6700
500 (25 x 20)	Me.HP	0.06	0.24	0.31	0.45	0.61
	Th.HP	0.06	0.24	0.32	0.45	0.61
	Efficiency	45	57	58	60	62
	O.T.	6305	6845	6740	6720	6835
600 (30 x 20)	Me.HP	0.06	0.21	0.29	0.38	0.56
	Th.HP	0.06	0.21	0.29	0.38	0.56
	Efficiency	43	51	55	57	57
	O.T.	6305	6695	6795	6800	6625
750 (30 x 25)	Me.HP	0.05	0.17	0.24	0.31	0.45
	Th.HP	0.05	0.17	0.24	0.31	0.45
	Efficiency	39	48	52	54	54
	O.T.	5845	6345	6450	6475	6295

		Worm RPM				
Ratio to 1		**100**	**580**	**870**	**1150**	**1750**
1200 (40 x 30)	Me.HP	0.04	0.11	0.17	0.21	0.30
	Th.HP	0.04	0.11	0.17	0.21	0.30
	Efficiency	34	43	47	48	49
	O.T.	5570	6020	6235	6190	6175
1500 (50 x 30)	Me.HP	0.05	0.11	0.15	0.18	0.25
	Th.HP	0.05	0.11	0.15	0.18	0.25
	Efficiency	30	42	43	46	46
	O.T.	5570	6020	5980	6235	6140
1800 (60 x 30)	Me.HP	0.05	0.08	0.12	0.15	0.22
	Th.HP	0.05	0.08	0.12	0.15	0.22
	Efficiency	29	38	41	42	44
	O.T.	5570	5735	6020	5980	6190
2400 (60 x 40)	Me.HP	0.04	0.06	0.09	0.11	0.17
	Th.HP	0.04	0.06	0.09	0.11	0.17
	Efficiency	24	32	36	36	39
	O.T.	4670	4945	5230	5195	5520
3000 (60 x 50)	Me.HP	0.03	0.05	0.07	0.09	0.13
	Th.HP	0.03	0.05	0.07	0.09	0.13
	Efficiency	21	28	32	32	34
	O.T.	4075	4350	4640	4610	4840
3600 (60 x 60)	Me.HP	0.03	0.04	0.06	0.08	0.11
	Th.HP	0.03	0.04	0.06	0.08	0.11
	Efficiency	19	28	31	32	34
	O.T.	3670	4255	4545	4515	4750

OTHER STANDARD RATIO'S AVAILBLE: (CONTACT TEXTRON POWER TRANSMISSION FOR RATINGS)

RATIO :1					
	375	450	625	800	900
	1000	1250	1600	2000	2500

Notes:
Reducers may be used in floor, ceiling, or wall mounted positions, however they must be ordered for the position required so that suitable oil level, grease fittings, filler, and drains are provided. All units can be motorized. Unless specified, standard reducers are supplied with right hand helix gearsets.

IMPORTANT:
In any applications of Textron Power Transmission products where breakage, damage,disconnection, any other malfunction of any drive train component, or excessive wear could result in personal injury or property damage, a fall-safe device capable of stopping and holding the load in the event of such an occurrence must be incorporated after the drive train.

Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (Lb.in)
Th.HP = Thermal Input Power

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

0209

Size 20 - 35

2.000" primary / 3.500" secondary

HorsePower & Output Torque Ratings for 1.0 Service Factor

		Worm RPM				
Ratio to 1		**100**	**580**	**870**	**1150**	**1750**
75 (5 x 15)	Me.HP	0.43	2.2	3.0	3.6	4.6
	Th.HP	0.40	1.8	2.5	3.0	3.4
	Efficiency	65	72	73	75	75
	O.T.	13170	12530	11925	11180	9350
100 (5 x 20)	Me.HP	0.33	1.7	2.3	2.9	4.2
	Th.HP	0.33	1.7	2.3	2.9	3.4
	Efficiency	61	68	69	71	72
	O.T.	12510	12165	11560	11440	10960
125 (5 x 25)	Me.HP	0.26	1.4	1.9	2.4	3.4
	Th.HP	0.26	1.4	1.9	2.4	3.4
	Efficiency	57	65	65	69	71
	O.T.	11850	11595	11035	11235	10910
150 (10 x 15)	Me.HP	0.23	1.2	1.8	2.2	3.1
	Th.HP	0.23	1.2	1.6	2.0	2.5
	Efficiency	59	66	69	71	71
	O.T.	13020	12905	12760	12630	11925
200 (10 x 20)	Me.HP	0.18	0.95	1.3	1.7	2.4
	Th.HP	0.18	0.95	1.3	1.7	2.4
	Efficiency	54	62	66	68	68
	O.T.	12155	12290	12375	12220	11560
225 (15 x 15)	Me.HP	0.25	0.87	1.2	1.6	2.3
	Th.HP	0.18	0.83	1.1	1.4	1.8
	Efficiency	56	65	66	69	70
	O.T.	13020	13280	12905	12955	12530
250 (10 x 25)	Me.HP	0.14	0.76	1.1	1.3	1.9
	Th.HP	0.14	0.76	1.1	1.3	1.9
	Efficiency	51	58	62	64	64
	O.T.	11485	11675	11790	11650	11035
300 (15 x 20)	Me.HP	0.19	0.67	0.95	1.2	1.8
	Th.HP	0.18	0.67	0.95	1.2	1.8
	Efficiency	51	60	62	65	66
	O.T.	12155	12700	12290	12525	12165
400 (20 x 20)	Me.HP	0.10	0.52	0.76	0.98	1.4
	Th.HP	0.10	0.52	0.76	0.98	1.4
	Efficiency	47	58	59	60	63
	O.T.	11860	12680	12610	12290	12375
500 (25 x 20)	Me.HP	0.11	0.45	0.60	0.83	1.1
	Th.HP	0.11	0.45	0.60	0.83	1.1
	Efficiency	45	57	58	60	62
	O.T.	11860	12785	12610	12465	12715
600 (30 x 20)	Me.HP	0.11	0.39	0.55	0.71	1.0
	Th.HP	0.09	0.39	0.55	0.71	0.93
	Efficiency	43	51	55	57	57
	O.T.	11860	12510	12680	12700	12290
750 (30 x 25)	Me.HP	0.09	0.31	0.44	0.57	0.83
	Th.HP	0.09	0.31	0.44	0.57	0.83
	Efficiency	39	48	52	54	54
	O.T.	10990	11850	12040	12065	11675

		Worm RPM				
Ratio to 1		**100**	**580**	**870**	**1150**	**1750**
1200 (40 x 30)	Me.HP	0.08	0.21	0.33	0.38	0.56
	Th.HP	0.07	0.21	0.33	0.38	0.56
	Efficiency	34	43	47	48	49
	O.T.	10480	11280	11650	11550	11505
1500 (50 x 30)	Me.HP	0.08	0.21	0.27	0.33	0.46
	Th.HP	0.05	0.21	0.27	0.33	0.46
	Efficiency	30	42	43	46	46
	O.T.	10480	11280	11170	11650	11490
1800 (60 x 30)	Me.HP	0.07	0.15	0.22	0.28	0.42
	Th.HP	0.05	0.15	0.22	0.28	0.42
	Efficiency	29	38	41	42	44
	O.T.	10480	10790	11280	11170	11550
2400 (60 x 40)	Me.HP	0.07	0.11	0.16	0.21	0.31
	Th.HP	0.05	0.11	0.16	0.21	0.31
	Efficiency	24	32	36	36	39
	O.T.	8790	9300	9800	9710	10295
3000 (60 x 50)	Me.HP	0.06	0.09	0.13	0.17	0.25
	Th.HP	0.05	0.09	0.13	0.17	0.25
	Efficiency	21	28	32	32	34
	O.T.	7665	8180	8695	8610	9035
3600 (60 x 60)	Me.HP	0.05	0.08	0.11	0.14	0.21
	Th.HP	0.05	0.08	0.11	0.14	0.21
	Efficiency	19	28	31	32	34
	O.T.	6905	8005	8515	8435	8860

OTHER STANDARD RATIO'S AVAILBLE: (CONTACT TEXTRON POWER TRANSMISSION FOR RATINGS)

RATIO :1					
	375	450	625	800	900
	1000	1250	1600	2000	2500

Notes:
Reducers may be used in floor, ceiling, or wall mounted positions, however they must be ordered for the position required so that suitable oil level, grease fittings, filler, and drains are provided. All units can be motorized. Unless specified, standard reducers are supplied with right hand helix gearsets.

IMPORTANT:
In any applications of Textron Power Transmission products where breakage, damage,disconnection, any other malfunction of any drive train component, or excessive wear could result in personal injury or property damage, a fall-safe device capable of stopping and holding the load in the event of such an occurrence must be incorporated after the drive train.

Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (Lb.in)
Th.HP = Thermal Input Power

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

0209

Size 25 - 40

2.500" primary / 4.000" secondary

HorsePower & Output Torque Ratings for 1.0 Service Factor

		Worm RPM				
Ratio to 1		**100**	**580**	**870**	**1150**	**1750**
75 (5 x 15)	Me.HP	0.62	3.2	4.4	5.6	7.9
	Th.HP	0.62	3.2	4.2	4.5	5.0
	Efficiency	68	75	75	77	78
	O.T.	19960	18715	17790	17650	16720
100 (5 x 20)	Me.HP	0.48	2.4	3.3	4.3	6.1
	Th.HP	0.48	2.4	3.3	4.3	5.0
	Efficiency	63	71	72	74	75
	O.T.	19005	18145	17280	17165	16270
125 (5 x 25)	Me.HP	0.38	2.0	2.7	3.4	4.9
	Th.HP	0.38	2.0	2.7	3.4	4.9
	Efficiency	60	67	68	72	74
	O.T.	18060	17385	16535	16845	16210
150 (10 x 15)	Me.HP	0.34	1.8	2.5	3.1	4.5
	Th.HP	0.34	1.8	2.5	3.1	4.0
	Efficiency	61	69	72	74	74
	O.T.	19780	19460	19130	18830	17790
200 (10 x 20)	Me.HP	0.26	1.4	1.9	2.4	3.4
	Th.HP	0.26	1.4	1.9	2.4	3.4
	Efficiency	56	64	69	70	70
	O.T.	18530	18580	18595	18320	17280
225 (15 x 15)	Me.HP	0.36	1.3	1.8	2.3	3.3
	Th.HP	0.35	1.3	1.8	2.3	3.2
	Efficiency	58	67	69	71	72
	O.T.	19780	20030	19460	19365	18715
250 (10 x 25)	Me.HP	0.21	1.1	1.6	1.9	2.8
	Th.HP	0.21	1.1	1.6	1.9	2.8
	Efficiency	53	61	65	67	67
	O.T.	17560	17695	17750	17495	16535
300 (15 x 20)	Me.HP	0.27	0.97	1.4	1.8	2.5
	Th.HP	0.27	0.97	1.4	1.8	2.5
	Efficiency	54	63	64	68	69
	O.T.	18530	19125	18580	18820	18145
400 (20 x 20)	Me.HP	0.15	0.76	1.1	1.4	2.0
	Th.HP	0.15	0.76	1.1	1.4	2.0
	Efficiency	50	61	61	62	65
	O.T.	18155	19220	18990	18580	18595
500 (25 x 20)	Me.HP	0.15	0.65	0.87	1.2	1.6
	Th.HP	0.15	0.65	0.87	1.2	1.6
	Efficiency	47	59	61	62	65
	O.T.	18155	19405	19085	18855	19105
600 (30 x 20)	Me.HP	0.16	0.57	0.79	1.0	1.5
	Th.HP	0.16	0.57	0.79	1.0	1.5
	Efficiency	45	53	58	59	59
	O.T.	18155	19005	19220	19125	18580
750 (30 x 25)	Me.HP	0.13	0.46	0.64	0.83	1.2
	Th.HP	0.13	0.46	0.64	0.83	1.2
	Efficiency	41	50	55	56	56
	O.T.	16895	18060	18290	18295	17695

		Worm RPM				
Ratio to 1		**100**	**580**	**870**	**1150**	**1750**
1200 (40 x 30)	Me.HP	0.12	0.30	0.47	0.56	0.81
	Th.HP	0.12	0.30	0.47	0.56	0.81
	Efficiency	35	45	50	50	51
	O.T.	16150	17260	17760	17590	17405
1500 (50 x 30)	Me.HP	0.14	0.31	0.40	0.49	0.67
	Th.HP	0.11	0.31	0.40	0.49	0.67
	Efficiency	31	44	45	48	48
	O.T.	16150	17260	17070	17760	17465
1800 (60 x 30)	Me.HP	0.14	0.22	0.32	0.41	0.60
	Th.HP	0.09	0.22	0.32	0.41	0.60
	Efficiency	31	40	43	44	46
	O.T.	16150	16550	17260	17070	17590
2400 (60 x 40)	Me.HP	0.10	0.17	0.24	0.31	0.45
	Th.HP	0.09	0.17	0.24	0.31	0.45
	Efficiency	26	34	38	39	41
	O.T.	13680	14380	15110	14945	15765
3000 (60 x 50)	Me.HP	0.08	0.13	0.19	0.25	0.37
	Th.HP	0.08	0.13	0.19	0.25	0.37
	Efficiency	23	30	34	34	36
	O.T.	12040	12755	13495	13350	13970
3600 (60 x 60)	Me.HP	0.07	0.11	0.16	0.21	0.31
	Th.HP	0.07	0.11	0.16	0.21	0.30
	Efficiency	21	30	33	34	36
	O.T.	10935	12495	13240	13095	13720

OTHER STANDARD RATIO'S AVAILBLE: (CONTACT TEXTRON POWER TRANSMISSION FOR RATINGS)

RATIO :1

375	450	625	800	900
1000	1250	1600	2000	2500

Notes:
Reducers may be used in floor, ceiling, or wall mounted positions, however they must be ordered for the position required so that suitable oil level, grease fittings, filler, and drains are provided. All units can be motorized. Unless specified, standard reducers are supplied with right hand helix gearsets.

IMPORTANT:
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Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (Lb.in)
Th.HP = Thermal Input Power

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

0209

Size 25 - 50

2.500" primary / 5.000" secondary

HorsePower & Output Torque Ratings for 1.0 Service Factor

		Worm RPM				
Ratio to 1		**100**	**580**	**870**	**1150**	**1750**
75 (5 x 15)	Me.HP	0.35	0.6	0.8	1.0	1.5
	Th.HP	0.30	0.6	0.8	1.0	1.5
	Efficiency	21	30	33	34	36
	O.T.	29925	25710	23005	20855	17405
100 (5 x 20)	Me.HP	0.94	4.2	5.6	6.6	8.2
	Th.HP	0.78	3.5	4.2	4.5	5.0
	Efficiency	63	71	72	74	75
	O.T.	37232	32563	29100	26450	22086
125 (5 x 25)	Me.HP	0.77	3.9	5.3	6.6	8.2
	Th.HP	0.77	3.5	4.2	4.5	5.0
	Efficiency	60	67	68	72	74
	O.T.	36335	34280	32605	32275	27300
150 (10 x 15)	Me.HP	0.65	2.9	4.0	4.7	5.9
	Th.HP	0.50	2.3	3.1	3.6	4.0
	Efficiency	61	69	72	74	74
	O.T.	37465	33065	31105	28660	23680
200 (10 x 20)	Me.HP	0.53	2.7	3.8	4.7	5.9
	Th.HP	0.50	2.3	3.1	3.6	4.0
	Efficiency	56	64	69	70	70
	O.T.	37390	36980	36810	36005	30030
225 (15 x 15)	Me.HP	0.52	2.4	3.2	3.9	4.8
	Th.HP	0.35	1.6	2.2	2.6	3.2
	Efficiency	58	67	69	71	72
	O.T.	39915	39345	36265	33960	28290
250 (10 x 25)	Me.HP	0.42	2.2	3.1	3.8	5.4
	Th.HP	0.42	2.2	3.1	3.6	4.0
	Efficiency	53	61	65	67	67
	O.T.	35430	35220	35135	34445	32605
300 (15 x 20)	Me.HP	0.52	1.9	2.7	3.5	4.8
	Th.HP	0.35	1.6	2.2	2.6	3.2
	Efficiency	54	63	64	68	69
	O.T.	37390	38200	36980	37330	35830
400 (20 x 20)	Me.HP	0.29	1.5	2.2	2.8	3.7
	Th.HP	0.27	1.2	1.7	2.0	2.5
	Efficiency	50	61	61	62	65
	O.T.	36685	38500	37810	36980	34960
500 (25 x 20)	Me.HP	0.31	1.3	1.7	2.4	3.0
	Th.HP	0.21	0.98	1.3	1.6	2.0
	Efficiency	47	59	61	62	65
	O.T.	36685	38940	38120	37645	34885
600 (30 x 20)	Me.HP	0.27	1.1	1.6	2.0	2.5
	Th.HP	0.18	0.82	1.1	1.3	1.7
	Efficiency	45	53	58	59	59
	O.T.	36685	38245	38500	38200	32265
750 (30 x 25)	Me.HP	0.26	0.92	1.3	1.6	2.4
	Th.HP	0.18	0.82	1.1	1.3	1.7
	Efficiency	41	50	55	56	56
	O.T.	34135	36335	36640	36380	35220

		Worm RPM				
Ratio to 1		**100**	**580**	**870**	**1150**	**1750**
1200 (40 x 30)	Me.HP	0.20	0.61	0.95	1.1	1.0
	Th.HP	0.13	0.61	0.84	1.0	1.3
	Efficiency	35	45	50	50	51
	O.T.	32635	34730	35635	35235	34655
1500 (50 x 30)	Me.HP	0.16	0.62	0.80	0.98	1.3
	Th.HP	0.11	0.50	0.68	0.81	1.0
	Efficiency	31	44	45	48	48
	O.T.	32635	34730	34350	35635	34885
1800 (60 x 30)	Me.HP	0.14	0.45	0.63	0.82	1.2
	Th.HP	0.09	0.42	0.56	0.67	0.85
	Efficiency	31	40	43	44	46
	O.T.	32635	33395	34730	34350	35235
2400 (60 x 40)	Me.HP	0.14	0.34	0.48	0.62	0.91
	Th.HP	0.09	0.34	0.48	0.62	0.85
	Efficiency	26	34	38	39	41
	O.T.	27645	29020	30400	30070	31585
3000 (60 x 50)	Me.HP	0.14	0.27	0.38	0.50	0.73
	Th.HP	0.09	0.27	0.38	0.50	0.73
	Efficiency	23	30	34	34	36
	O.T.	24325	25740	27160	26860	27910
3600 (60 x 60)	Me.HP	0.14	0.22	0.32	0.41	0.61
	Th.HP	0.09	0.22	0.32	0.41	0.61
	Efficiency	21	30	33	34	36
	O.T.	22090	25215	26640	26345	27410

OTHER STANDARD RATIO'S AVAILBLE: (CONTACT TEXTRON POWER TRANSMISSION FOR RATINGS)

RATIO :1

350	375	450	625	700
750	800	900	1000	1050
1250	1400	1600	1750	2000
2100	2500	2800	3500	4200

Notes:
Reducers may be used in floor, ceiling, or wall mounted positions, however they must be ordered for the position required so that suitable oil level, grease fittings, filler, and drains are provided. All units can be motorized. Unless specified, standard reducers are supplied with right hand helix gearsets.

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Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (Lb.in)
Th.HP = Thermal Input Power

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

0209

Size 30 - 60

3.000" primary / 6.000" secondary

HorsePower & Output Torque Ratings for 1.0 Service Factor

		Worm RPM				
Ratio to 1		**100**	**580**	**870**	**1150**	**1750**
75 (5 x 15)	Me.HP	1.7	7.3	9.3	10.8	13.6
	Th.HP	1.4	3.6	4.3	4.6	5.1
	Efficiency	68	75	75	77	78
	O.T.	52955	44160	38315	34335	28690
100 (5 x 20)	Me.HP	1.5	7.3	9.3	10.8	13.6
	Th.HP	1.4	3.6	4.3	4.6	5.1
	Efficiency	63	71	72	74	75
	O.T.	59455	54875	48595	43600	36450
125 (5 x 25)	Me.HP	1.2	5.9	8.2	10.3	13.6
	Th.HP	1.2	3.6	4.3	4.6	5.1
	Efficiency	60	67	68	72	74
	O.T.	56485	52415	50050	50450	45000
150 (10 x 15)	Me.HP	1.1	5.2	6.8	8.0	10.0
	Th.HP	0.88	3.2	3.6	3.8	4.1
	Efficiency	61	69	72	74	74
	O.T.	62495	57950	53645	48770	40040
200 (10 x 20)	Me.HP	0.82	4.2	5.9	7.2	10.0
	Th.HP	0.82	3.2	3.6	3.8	4.1
	Efficiency	56	64	69	70	70
	O.T.	58540	56840	56160	55150	50780
225 (15 x 15)	Me.HP	0.93	3.9	5.5	6.6	8.2
	Th.HP	0.62	2.7	3.0	3.1	3.3
	Efficiency	58	67	69	71	72
	O.T.	62495	61895	59530	57775	48095
250 (10 x 25)	Me.HP	0.66	3.4	4.7	5.8	8.3
	Th.HP	0.66	3.2	3.6	3.8	4.1
	Efficiency	53	61	65	67	67
	O.T.	55470	54135	53690	52765	50050
300 (15 x 20)	Me.HP	0.86	3.0	4.2	5.4	7.6
	Th.HP	0.62	2.7	3.0	3.1	3.3
	Efficiency	54	63	64	68	69
	O.T.	58540	59100	56840	57155	54875
400 (20 x 20)	Me.HP	0.46	2.3	3.4	4.4	6.1
	Th.HP	0.46	2.2	2.7	2.8	2.9
	Efficiency	50	61	61	62	65
	O.T.	57360	59590	58580	56840	56160
500 (25 x 20)	Me.HP	0.49	2.0	2.7	3.7	5.0
	Th.HP	0.38	1.7	2.3	2.3	2.4
	Efficiency	47	59	61	62	65
	O.T.	57360	60445	58730	57885	58150
600 (30 x 20)	Me.HP	0.48	1.8	2.5	3.2	4.3
	Th.HP	0.32	1.5	1.9	2.1	2.2
	Efficiency	45	53	58	59	59
	O.T.	57360	59455	59590	59100	54910
750 (30 x 25)	Me.HP	0.41	1.4	2.0	2.6	3.7
	Th.HP	0.32	1.4	1.9	2.1	2.2
	Efficiency	41	50	55	56	56
	O.T.	53375	56485	56705	56285	54135

		Worm RPM				
Ratio to 1		**100**	**580**	**870**	**1150**	**1750**
1200 (40 x 30)	Me.HP	0.36	0.95	1.5	1.7	2.5
	Th.HP	0.24	0.95	1.5	1.7	1.9
	Efficiency	35	45	50	50	51
	O.T.	51025	54150	55315	54530	53685
1500 (50 x 30)	Me.HP	0.29	0.97	1.2	1.5	2.1
	Th.HP	0.19	0.88	1.2	1.4	1.7
	Efficiency	31	44	45	48	48
	O.T.	51025	54150	53550	55315	53985
1800 (60 x 30)	Me.HP	0.24	0.70	0.99	1.3	1.9
	Th.HP	0.16	0.70	0.98	1.2	1.4
	Efficiency	31	40	43	44	46
	O.T.	51025	52285	54150	53550	54530
2400 (60 x 40)	Me.HP	0.24	0.53	0.74	0.97	1.4
	Th.HP	0.16	0.53	0.74	0.97	1.4
	Efficiency	26	34	38	39	41
	O.T.	43225	45435	47400	46875	48880
3000 (60 x 50)	Me.HP	0.24	0.42	0.60	0.78	1.1
	Th.HP	0.16	0.42	0.60	0.78	1.1
	Efficiency	23	30	34	34	36
	O.T.	38030	40300	42345	41875	43195
3600 (60 x 60)	Me.HP	0.22	0.35	0.50	0.65	0.94
	Th.HP	0.16	0.35	0.50	0.65	0.94
	Efficiency	21	30	33	34	36
	O.T.	34 540	39475	41535	41075	42420

OTHER STANDARD RATIO'S AVAILBLE: (CONTACT TEXTRON POWER TRANSMISSION FOR RATINGS)

RATIO :1

350	375	450	625	700
750	800	900	1000	1050
1250	1400	1600	1750	2000
2100	2500	2800	3500	4200

Notes:
Reducers may be used in floor, ceiling, or wall mounted positions, however they must be ordered for the position required so that suitable oil level, grease fittings, filler, and drains are provided. All units can be motorized. Unless specified, standard reducers are supplied with right hand helix gearsets.

IMPORTANT:
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Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (Lb.in)
Th.HP = Thermal Input Power

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

0209

Size 30 - 70

3.000" primary / 7.000" secondary

HorsePower & Output Torque Ratings for 1.0 Service Factor

		Worm RPM				
Ratio to 1		**100**	**580**	**870**	**1150**	**1750**
75 (5 x 15)	Me.HP	1.7	7.3	9.3	10.8	13.6
	Th.HP	1.4	3.6	4.3	4.6	5.1
	Efficiency	68	75	75	77	78
	O.T.	52955	44160	38315	34335	28690
100 (5 x 20)	Me.HP	1.7	7.3	9.3	10.8	13.6
	Th.HP	1.4	3.6	4.3	4.6	5.1
	Efficiency	63	71	72	74	75
	O.T.	65960	56005	48595	43600	36450
125 (5 x 25)	Me.HP	1.7	7.3	9.3	10.8	13.6
	Th.HP	1.4	3.6	4.3	4.6	5.1
	Efficiency	60	67	68	72	74
	O.T.	77805	66415	57630	53140	45000
150 (10 x 15)	Me.HP	1.1	5.2	6.8	8.0	10.0
	Th.HP	0.88	3.2	3.6	3.8	4.1
	Efficiency	61	69	72	74	74
	O.T.	66660	57950	53645	48770	40040
200 (10 x 20)	Me.HP	1.1	5.2	6.8	8.0	10.0
	Th.HP	0.88	3.2	3.6	3.8	4.1
	Efficiency	56	64	69	70	70
	O.T.	81670	72375	67995	61855	50780
225 (15 x 15)	Me.HP	0.93	4.2	5.6	6.6	8.2
	Th.HP	0.62	2.7	3.0	3.1	3.3
	Efficiency	58	67	69	71	72
	O.T.	76925	69030	62630	57775	48095
250 (10 x 25)	Me.HP	1.1	5.2	6.8	8.0	10.0
	Th.HP	0.88	3.2	3.6	3.8	4.1
	Efficiency	53	61	65	67	67
	O.T.	88655	85575	80500	73275	60215
300 (15 x 20)	Me.HP	0.93	4.2	5.6	6.6	8.2
	Th.HP	0.62	2.7	3.0	3.1	3.3
	Efficiency	54	63	64	68	69
	O.T.	93560	86150	78175	73175	60930
400 (20 x 20)	Me.HP	0.71	3.2	4.3	5.1	6.3
	Th.HP	0.47	2.2	2.7	2.8	2.9
	Efficiency	50	61	61	62	65
	O.T.	88780	84920	76520	69095	59750
500 (25 x 20)	Me.HP	0.57	2.6	3.5	4.1	5.1
	Th.HP	0.38	1.7	2.3	2.3	2.4
	Efficiency	47	59	61	62	65
	O.T.	84615	83435	75995	69565	59445
600 (30 x 20)	Me.HP	0.48	22	29	3.4	4.3
	Th.HP	0.32	1.5	1.9	2.1	2.2
	Efficiency	45	53	58	59	59
	O.T.	88780	84920	76520	69095	59750
750 (30 x 25)	Me.HP	0.48	2.2	2.9	3.4	4.3
	Th.HP	0.32	1.5	1.9	2.1	2.2
	Efficiency	41	50	55	56	56
	O.T.	85655	89280	86110	78950	64875

		Worm RPM				
Ratio to 1		**100**	**580**	**870**	**1150**	**1750**
1200 (40 x 30)	Me.HP	0.36	1.5	2.2	2.6	3.2
	Th.HP	0.24	1.1	1.5	1.7	1.9
	Efficiency	35	45	50	50	51
	O.T.	81880	86535	88140	85090	70975
1500 (50 x 30)	Me.HP	0.29	1.3	1.8	2.1	2.6
	Th.HP	0.19	0.88	1.2	1.4	1.7
	Efficiency	31	44	45	48	48
	O.T.	81880	86535	85335	81950	67535
1800 (60 x 30)	Me.HP	0.24	1.1	1.5	1.7	2.2
	Th.HP	0.16	0.73	0.98	1.2	1.4
	Efficiency	31	40	43	44	46
	O.T.	81880	83560	83135	75110	64845
2400 (60 x 40)	Me.HP	0.24	0.84	1.2	1.5	2.2
	Th.HP	0.16	0.73	0.98	1.2	1.4
	Efficiency	26	34	38	39	41
	O.T.	69360	72615	75750	74700	77290
3000 (60 x 50)	Me.HP	0.24	0.67	0.95	1.2	1.8
	Th.HP	0.16	0.67	0.95	1.2	1.4
	Efficiency	23	30	34	34	36
	O.T.	61030	64405	67670	66730	68820
3600 (60 x 60)	Me.HP	0.24	0.56	0.80	1.0	1.5
	Th.HP	0.16	0.56	0.80	1.0	1.4
	Efficiency	21	30	33	34	36
	O.T.	55430	63090	66375	65455	67585

OTHER STANDARD RATIO'S AVAILBLE: (CONTACT TEXTRON POWER TRANSMISSION FOR RATINGS)

RATIO :1

350	375	450	625	700
750	800	900	1000	1050
1250	1400	1600	1750	2000
2100	2500	2800	3500	4200

Notes:
Reducers may be used in floor, ceiling, or wall mounted positions, however they must be ordered for the position required so that suitable oil level, grease fittings, filler, and drains are provided. All units can be motorized. Unless specified, standard reducers are supplied with right hand helix gearsets.

IMPORTANT:
In any applications of Textron Power Transmission products where breakage, damage,disconnection, any other malfunction of any drive train component, or excessive wear could result in personal injury or property damage, a fall-safe device capable of stopping and holding the load in the event of such an occurrence must be incorporated after the drive train.

Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (Lb.in)
Th.HP = Thermal Input Power

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

0209

Size 35 - 70

3.500" primary / 7.000" secondary

HorsePower & Output Torque Ratings for 1.0 Service Factor

		Worm RPM				
Ratio to 1		**100**	**580**	**870**	**1150**	**1750**
75 (5 x 15)	Me.HP	3.1	13.0	10.4	19.1	23.5
	Th.HP Fan	2.6	13.0	16.4	19.1	23.5
	Efficiency	68	75	75	77	78
	O.T.	97930	78835	67070	60665	49710
100 (5 x 20)	Me.HP	2.4	11.6	16.0	19.1	23.5
	Th.HP Fan	2.4	11.6	16.0	19.1	23.5
	Efficiency	63	71	72	74	75
	O.T.	95010	86735	82620	77035	63160
125 (5 x 25)	Me.HP	1.9	9.4	12.9	16.1	22.0
	Th.HP Fan	1.9	9.4	12.9	16.1	22.0
	Efficiency	60	67	68	72	74
	O.T.	90265	82990	79055	79185	73020
150 (10 x 15)	Me.HP	1.7	8.7	12.0	13.9	17.4
	Th.HP Fan	1.6	8.7	120	13.9	17.4
	Efficiency	61	69	72	74	74
	O.T.	99880	94215	91655	84410	69205
200 (10 x 20)	Me.HP	1.3	6.7	9.3	11.3	16.3
	Th.HP Fan	1.3	6.7	9.3	11.3	16.3
	Efficiency	56	64	69	70	70
	O.T.	93560	90240	88815	87180	82620
225 (15 x 15)	Me.HP	1.7	6.2	8.7	11.0	14.3
	Th.HP Fan	1.1	6.2	8.7	11.0	14.3
	Efficiency	58	67	69	71	72
	O.T.	99880	98450	94215	93005	83420
250 (10 x 25)	Me.HP	1.1	5.4	7.5	9.1	13.2
	Th.HP Fan	1.1	5.4	7.5	9.1	13.2
	Efficiency	53	61	65	67	67
	O.T.	88655	85940	85050	83410	79055
300 (15 x 20)	Me.HP	1.4	4.7	6.7	8.5	12.0
	Th.HP Fan	1.1	4.7	6.7	8.5	12.0
	Efficiency	54	63	64	68	69
	O.T.	93560	94005	90240	90270	86735
400 (20 x 20)	Me.HP	0.74	3.7	5.4	6.9	9.7
	Th.HP Fan	0.74	3.7	5.4	6.9	9.7
	Efficiency	50	61	61	62	65
	O.T.	92050	94660	92890	90240	88815
500 (25 x 20)	Me.HP	0.78	3.2	4.3	5.9	7.9
	Th.HP Fan	0.71	3.2	4.3	5.9	7.9
	Efficiency	47	59	61	62	65
	O.T.	92050	96310	93560	91775	92010
600 (30 x 20)	Me.HP	0.81	2.8	3.9	5.0	7.3
	Th.HP Fan	0.59	2.8	3.9	5.0	7.3
	Efficiency	45	53	58	59	59
	O.T.	92050	95010	94660	94005	90240
750 (30 x 25)	Me.HP	0.66	2.3	3.2	4.1	5.8
	Th.HP Fan	0.59	2.3	3.2	4.1	5.8
	Efficiency	41	50	55	56	56
	O.T.	85655	90265	90340	89790	85940

		Worm RPM				
Ratio to 1		**100**	**580**	**870**	**1150**	**1750**
1200 (40 x 30)	Me.HP	0.61	1.5	2.4	2.7	4.0
	Th.HP Fan	0.44	1.5	2.4	2.7	4.0
	Efficiency	35	45	50	50	51
	O.T.	81880	86535	88140	86880	85385
1500 (50 x 30)	Me.HP	0.53	1.6	2.0	2.4	3.3
	Th.HP Fan	0.36	1.6	2.0	2.4	3.3
	Efficiency	31	44	45	48	48
	O.T.	81880	86535	85335	88140	85620
1800 (60 x 30)	Me.HP	0.45	1.1	1.6	2.0	3.0
	Th.HP Fan	0.30	1.1	1.6	2.0	3.0
	Efficiency	31	40	43	44	46
	O.T.	81880	83560	86535	85335	86880
2400 (60 x 40)	Me.HP	0.45	0.84	1.2	1.5	2.2
	Th.HP Fan	0.30	0.84	1.2	1.5	2.2
	Efficiency	26	34	38	39	41
	O.T.	69360	72615	75750	74700	77875
3000 (60 x 50)	Me.HP	0.43	0.67	0.95	1.2	1.8
	Th.HP Fan	0.30	0.67	0.95	12	1.8
	Efficiency	23	30	34	34	36
	O.T.	61030	64405	67670	66730	68 820
3600 (60 x 60)	Me.HP	0.35	0.56	0.80	1.0	1.5
	Th.HP Fan	0.30	0.56	0.80	1.0	1.5
	Efficiency	21	30	33	34	36
	O.T.	55430	63090	66375	65455	67585

OTHER STANDARD RATIO'S AVAILBLE: (CONTACT TEXTRON POWER TRANSMISSION FOR RATINGS)

RATIO :1

350	375	450	625	700
750	800	900	1000	1050
1250	1400	1600	1750	2000
2100	2500	2800	3500	4200

Notes:
Reducers may be used in floor, ceiling, or wall mounted positions, however they must be ordered for the position required so that suitable oil level, grease fittings, filler, and drains are provided. All units can be motorized. Unless specified, standard reducers are supplied with right hand helix gearsets.

IMPORTANT:
In any applications of Textron Power Transmission products where breakage, damage,disconnection, any other malfunction of any drive train component, or excessive wear could result in personal injury or property damage, a fall-safe device capable of stopping and holding the load in the event of such an occurrence must be incorporated after the drive train.

Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (Lb.in)
Th.HP = Thermal Input Power - With Fan

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

0209

Size 40 - 80

4.000" primary / 8.000" secondary

HorsePower & Output Torque Ratings for 1.0 Service Factor

		Worm RPM				
Ratio to 1		**100**	**580**	**870**	**1150**	**1750**
75 (5 x 15)	Me.HP	4.4	18.0	22.4	26.0	31.8
	Th.HP Fan	3.5	18.0	22.4	26.0	31.8
	Efficiency	70	77	78	80	81
	O.T.	144945	112900	94785	85220	69415
100 (5 x 20)	Me.HP	3.5	16.8	22.4	26.0	31.8
	Th.HP Fan	3.5	16.8	22.4	26.0	31.8
	Efficiency	65	73	74	76	77
	O.T.	142620	129680	120210	108220	88200
125 (5 x 25)	Me.HP	2.8	13.6	18.6	23.2	31.5
	Th.HP Fan	2.8	13.6	18.6	23.2	31.5
	Efficiency	62	70	70	74	76
	O.T.	135495	123865	117735	117860	107630
150 (10 x 15)	Me.HP	2.5	12.6	16.6	19.3	23.9
	Th.HP Fan	2.4	12.6	16.6	19.3	23.9
	Efficiency	64	71	75	76	76
	O.T.	149940	140720	134280	120965	98350
200 (10 x 20)	Me.HP	1.9	9.6	13.4	16.4	23.6
	Th.HP Fan	1.9	9.6	13.4	16.4	23.6
	Efficiency	58	67	71	73	73
	O.T.	140450	134790	132605	130125	123040
225 (15 x 15)	Me.HP	2.5	9.0	12.6	15.7	19.6
	Th.HP Fan	1.6	9.0	12.6	15.7	19.6
	Efficiency	61	70	71	74	75
	O.T.	149940	147320	140720	138875	118375
250 (10 x 25)	Me.HP	1.5	7.8	10.8	13.2	19.0
	Th.HP Fan	1.5	7.8	10.8	13.2	19.0
	Efficiency	55	63	67	69	69
	O.T.	133085	128365	126570	124500	117735
300 (15 x 20)	Me.HP	2.0	6.9	9.6	12.2	17.4
	Th.HP Fan	1.6	6.9	9.6	12.2	17.4
	Efficiency	56	65	67	70	71
	O.T.	140450	140665	134790	134790	129680
400 (20 x 20)	Me.HP	1.1	5.4	7.8	10.0	14.0
	Th.HP Fan	1.1	5.4	7.8	10.0	14.0
	Efficiency	51	63	64	64	68
	O.T.	138565	141870	138985	134790	132605
500 (25 x 20)	Me.HP	1.1	4.7	6.2	8.5	11.4
	Th.HP Fan	1.0	4.7	6.2	8.5	11.4
	Efficiency	49	61	63	64	67
	O.T.	138565	143945	140835	137305	136975
600 (30 x 20)	Me.HP	1.2	4.1	5.6	7.3	10.2
	Th.HP Std	0.85	3.7	4.7	4.9	5.1
	Th.HP Fan	0.85	4.09	5.64	7.27	10.21
	Efficiency	47	55	60	61	61
	O.T.	138565	142620	141870	140665	134790
750 (30 x 25)	Me.HP	0.95	3.3	4.5	5.9	8.4
	Th.HP Fan	0.85	3.3	4.5	5.9	8.4
	Efficiency	43	52	57	58	58
	O.T.	128940	135495	135010	133965	128365

		Worm RPM				
Ratio to 1		**100**	**580**	**870**	**1150**	**1750**
1200 (40 x 30)	Me.HP	0.88	2.2	3.4	4.0	5.7
	Th.HP Fan	0.64	2.2	3.4	4.0	5.7
	Efficiency	37	47	51	52	53
	O.T.	123260	129720	131730	129835	127375
1500 (50 x 30)	Me.HP	0.77	2.2	2.9	3.5	4.8
	Th.HP Fan	0.52	2.2	2.9	3.5	4.8
	Efficiency	33	46	47	50	50
	O.T.	123260	129720	128095	131730	128885
1800 (60 x 30)	Me.HP	0.64	1.6	2.3	2.9	4.3
	Th.HP Fan	0.43	1.6	2.3	2.9	4.3
	Efficiency	32	41	45	46	48
	O.T.	123260	125440	129720	128095	129835
2400 (60 x 40)	Me.HP	0.64	1.2	1.7	2.2	3.2
	Th.HP Fan	0.43	1.2	1.7	2.2	3.2
	Efficiency	27	36	40	40	43
	O.T.	104410	109005	113555	112130	116375
3000 (60 x 50)	Me.HP	0.61	0.97	1.4	1.8	2.6
	Th.HP Fan	0.43	0.97	1.4	1.8	2.6
	Efficiency	24	32	35	36	38
	O.T.	91870	96685	101435	100165	102845
3600 (60 x 60)	Me.HP	0.51	0.81	1.1	1.5	2.2
	Th.HP Fan	0.43	0.81	1.1	1.5	2.2
	Efficiency	22	31	35	35	37
	O.T.	83435	94710	99500	98250	101000

OTHER STANDARD RATIO'S AVAILBLE: (CONTACT TEXTRON POWER TRANSMISSION FOR RATINGS)

RATIO :1

350	375	450	625	700
750	800	900	1000	1050
1250	1400	1600	1750	2000
2100	2500	2800	3500	4200

Notes:
Reducers may be used in floor, ceiling, or wall mounted positions, however they must be ordered for the position required so that suitable oil level, grease fittings, filler, and drains are provided. All units can be motorized. Unless specified, standard reducers are supplied with right hand helix gearsets.

IMPORTANT:
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Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (Lb.in)
Th.HP Fan = Thermal Input Power - With Fan

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

0209

Size 50 - 100

5.000" primary / 10.000" secondary

HorsePower & Output Torque Ratings for 1.0 Service Factor

		Worm RPM				
Ratio to 1		**100**	**580**	**870**	**1150**	**1750**
75 (5 x 15)	Me.HP	8.6	34.0	42.2	48.3	58.8
	Th.HP Fan	4.4	34.0	42.2	48.3	58.8
	Efficiency	72	79	80	82	83
	O.T.	291370	218465	182835	162010	131225
100 (5 x 20)	Me.HP	6.6	31.6	42.2	48.3	58.8
	Th.HP Fan	4.4	31.6	42.2	48.3	58.8
	Efficiency	67	75	76	78	79
	O.T.	277970	249835	232170	205965	166925
125 (5 x 25)	Me.HP	5.3	25.5	34.5	42.6	56.0
	Th.HP Fan	4.4	25.5	34.5	42.6	56.0
	Efficiency	63	71	72	76	78
	O.T.	265665	239375	224285	221525	196305
150 (10 x 15)	Me.HP	4.8	23.5	30.4	35.3	43.3
	Th.HP Fan	3.9	23.5	30.4	35.3	43.3
	Efficiency	65	73	76	78	78
	O.T.	295335	270360	252375	226895	182800
200 (10 x 20)	Me.HP	3.7	18.0	25.1	30.9	43.3
	Th.HP Fan	3.7	18.0	25.1	30.9	43.3
	Efficiency	60	68	73	74	74
	O.T.	277285	259000	25~805	251590	232125
225 (15 x 15)	Me.HP	4.9	16.9	23.5	28.8	35.3
	Th.HP Fan	3.2	16.9	23.5	28.8	35.3
	Efficiency	62	71	73	76	76
	O.T.	295335	284725	270360	267220	218780
250 (10 x 25)	Me.HP	2.9	14.6	20.3	24.9	35.3
	Th.HP Fan	2.9	14.6	20.3	24.9	35.3
	Efficiency	57	65	69	71	71
	O.T.	263215	247825	244915	240630	224285
300 (15 x 20)	Me.HP	3.8	12.9	18.0	22.9	32.7
	Th.HP Fan	3.2	12.9	180	22.9	32.7
	Efficiency	57	67	68	72	73
	O.T.	277285	272740	259000	259700	249835
400 (20 x 20)	Me.HP	2.1	10.3	14.7	187	26.3
	Th.HP Fan	2.1	10.3	14.7	187	26.3
	Efficiency	53	65	65	66	70
	O.T.	274950	277780	269405	259000	255805
500 (25 x 20)	Me.HP	2.2	8.8	11.8	16.0	21.3
	Th.HP Fan	2.0	8.8	11.8	16.0	21.3
	Efficiency	50	63	65	66	69
	O.T.	274950	280655	272850	266075	264025
600 (30 x 20)	Me.HP	2.3	7.7	10.8	13.7	18.5
	Th.HP Fan	1.7	7.7	10.8	13.7	18.5
	Efficiency	48	57	62	63	63
	O.T.	274950	277970	277780	272740	252200
750 (30 x 25)	Me.HP	1.8	6.3	8.7	11.1	15.8
	Th.HP Fan	1.7	6.3	8.7	11.1	15.8
	Efficiency	45	54	58	60	60
	O.T.	256465	265665	264750	260135	247825

		Worm RPM				
Ratio to 1		**100**	**580**	**870**	**1150**	**1750**
1200 (40 x 30)	Me.HP	1.7	4.2	6.4	7.5	10.8
	Th.HP Fan	1.3	4.2	6.4	7.5	10.8
	Efficiency	38	49	53	54	55
	O.T.	245570	255940	257570	254930	247965
1500 (50 x 30)	Me.HP	1.5	4.3	5.5	6.6	9.0
	Th.HP Fan	1.0	4.3	5.5	6.6	9.0
	Efficiency	34	47	49	52	52
	O.T.	245570	255940	251610	257570	251160
1800 (60 x 30)	Me.HP	1.3	3.1	4.3	5.6	8.2
	Th.HP Fan	0.84	3.1	4.3	5.6	8.2
	Efficiency	34	43	47	47	50
	O.T.	245570	248595	255940	251610	254930
2400 (60 x 40)	Me.HP	1.3	2.3	3.3	4.2	6.1
	Th.HP Fan	0.84	2.3	3.3	4.2	6.1
	Efficiency	29	37	41	42	45
	O.T.	209290	217100	225040	221235	229300
3000 (60 x 50)	Me.HP	1.2	1.9	2.6	3.4	4.9
	Th.HP Fan	0.84	1.9	2.6	3.4	4.9
	Efficiency	25	33	37	37	39
	O.T.	185165	193495	201890	198480	203530
3600 (60 x 60)	Me.HP	0.97	1.5	2.2	2.8	4.1
	Th.HP Fan	0.84	1.5	2.2	2.8	4.1
	Efficiency	23	32	36	37	39
	O.T.	168930	189715	198195	194845	200025

OTHER STANDARD RATIO'S AVAILBLE: (CONTACT TEXTRON POWER TRANSMISSION FOR RATINGS)

RATIO :1

350	375	450	625	700
750	800	900	1000	1050
1250	1400	1600	1750	2000
2100	2500	2800	3500	4200

Notes:
Reducers may be used in floor, ceiling, or wall mounted positions, however they must be ordered for the position required so that suitable oil level, grease fittings, filler, and drains are provided. All units can be motorized. Unless specified, standard reducers are supplied with right hand helix gearsets.

IMPORTANT:
In any applications of Textron Power Transmission products where breakage, damage,disconnection, any other malfunction of any drive train component, or excessive wear could result in personal injury or property damage, a fall-safe device capable of stopping and holding the load in the event of such an occurrence must be incorporated after the drive train.

Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (Lb.in)
Th.HP Fan = Thermal Input Power - With Fan

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

0209

Size 60 - 120

6.000" primary / 12.000" secondary

HorsePower & Output Torque Ratings for 1.0 Service Factor

		Worm RPM				
Ratio to 1		**100**	**580**	**870**	**1150**	**1750**
75 (5 x 15)	Me.HP	13.3	48.3	59.0	68.3	79.9
	Th.HP Fan	6.3	48.3	59.8	68.3	79.9
	Efficiency	72	79	80	82	83
	O.T.	451330	310590	259340	229425	178200
100 (5 x 20)	Me.HP	11.2	48.3	59.8	68.3	79.9
	Th.HP Fan	6.3	48.3	59.8	68.3	79.9
	Efficiency	67	75	76	78	79
	O.T.	475385	394400	329320	291675	226675
125 (5 x 25)	Me.HP	9.0	43.1	57.7	68.3	79.9
	Th.HP Fan	6.3	43.1	57.7	68.3	79.9
	Efficiency	63	71	72	76	78
	O.T.	452385	403720	374620	355700	279930
150 (10 x 15)	Me.HP	8.2	35.3	43.8	50.6	60.6
	Th.HP Fan	5.6	35.3	43.8	50.6	60.6
	Efficiency	65	73	76	78	78
	O.T.	508205	418900	363470	324945	255715
200 (10 x 20)	Me.HP	6.3	30.5	42.7	50.6	60.6
	Th.HP Fan	5.6	30.5	42.7	50.6	60.6
	Efficiency	60	68	73	74	74
	O.T.	477145	438570	434100	412630	324715
225 (15 x 15)	Me.HP	7.5	28.8	35.7	41.2	49.7
	Th.HP Fan	4.8	28.8	35.7	41.2	49.7
	Efficiency	62	71	73	76	76
	O.T.	508205	484980	424570	383760	307800
250 (10 x 25)	Me.HP	5.1	24.7	34.4	42.0	58.9
	Th.HP Fan	5.1	24.7	34.4	42.0	58.9
	Efficiency	57	65	69	71	71
	O.T.	452935	419680	415635	406625	374620
300 (15 x 20)	Me.HP	6.6	22.0	30.5	38.9	49.7
	Th.HP Fan	4.8	22.0	30.5	38.9	49.7
	Efficiency	57	67	68	72	73
	O.T.	477145	463855	438570	440110	390860
400 (20 x 20)	Me.HP	3.6	17.4	25.0	31.6	38.5
	Th.HP Fan	3.6	17.4	25.0	31.6	38.5
	Efficiency	53	65	65	66	70
	O.T.	475150	472015	456630	438570	385375
500 (25 x 20)	Me.HP	3.7	15.2	20.0	25.6	
	Th.HP Fan	3.1	15.2	20.0	25.6	31.0
	Efficiency	50	63	65	66	69
	O.T.	475150	481995	464880	449405	383580
600 (30 x 20)	Me.HP	3.9	13.3	18.3	21.4	26.1
	Th.HP Fan	2.6	13.3	18.3	21.4	26.1
	Efficiency	48	57	62	63	63
	O.T.	475150	475385	472015	443930	355445
750 (30 x 25)	Me.HP	3.1	10.7	14.8	18.8	26.1
	Th.HP Fan	2.6	10.7	14.8	18.8	26.1
	Efficiency	45	54	58	60	60
	O.T.	443200	452385	451230	443115	419680

		Worm RPM				
Ratio to 1		**100**	**580**	**870**	**1150**	**1750**
1200 (40 x 30)	Me.HP	2.9	7.2	11.0	12.8	18.3
	Th.HP Fan	1.9	7.2	11.0	12.8	18.3
	Efficiency	38	49	53	54	55
	O.T.	424370	439720	442345	434495	419635
1500 (50 x 30)	Me.HP	2.3	7.4	9.3	11.3	15.3
	Th.HP Fan	1.5	7.4	9.3	11.3	15.3
	Efficiency	34	47	49	52	52
	O.T.	424370	439720	428460	442345	426640
1800 (60 x 30)	Me.HP	1.9	5.3	7.5	9.6	13.1
	Th.HP Fan	1.3	5.3	7.5	9.6	13.1
	Efficiency	34	43	47	47	50
	O.T.	424370	427775	439720	428460	422380
2400 (60 x 40)	Me.HP	1.9	4.0	5.6	7.2	10.4
	Th.HP Fan	1.3	4.0	5.6	7.2	10.4
	Efficiency	29	37	41	42	45
	O.T.	361680	373580	386635	378385	390810
3000 (60 x 50)	Me.HP	1.9	3.2	4.5	5.0	8.4
	Th.HP Fan	1.3	3.2	4.5	5.8	8.4
	Efficiency	25	33	37	37	39
	O.T.	319985	332960	346860	339460	346890
3600 (60 x 60)	Me.HP	1.7	2.7	3.8	4.8	7.0
	Th.HP Fan	1.3	2.7	3.8	4.8	7.0
	Efficiency	23	32	36	37	39
	O.T.	291930	326455	340510	333245	340920

OTHER STANDARD RATIO'S AVAILBLE: (CONTACT TEXTRON POWER TRANSMISSION FOR RATINGS)

RATIO :1

350	375	450	625	700
750	800	900	1000	1050
1250	1400	1600	1750	2000
2100	2500	2800	3500	4200

Notes:
Reducers may be used in floor, ceiling, or wall mounted positions, however they must be ordered for the position required so that suitable oil level, grease fittings, filler, and drains are provided. All units can be motorized. Unless specified, standard reducers are supplied with right hand helix gearsets.

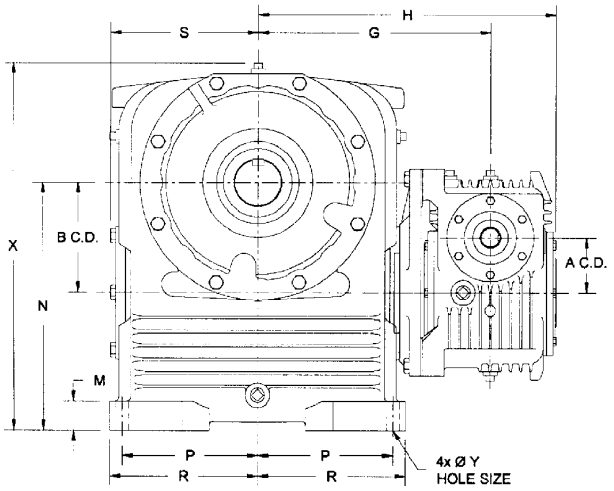
IMPORTANT:
In any applications of Textron Power Transmission products where breakage, damage,disconnection, any other malfunction of any drive train component, or excessive wear could result in personal injury or property damage, a fall-safe device capable of stopping and holding the load in the event of such an occurrence must be incorporated after the drive train.

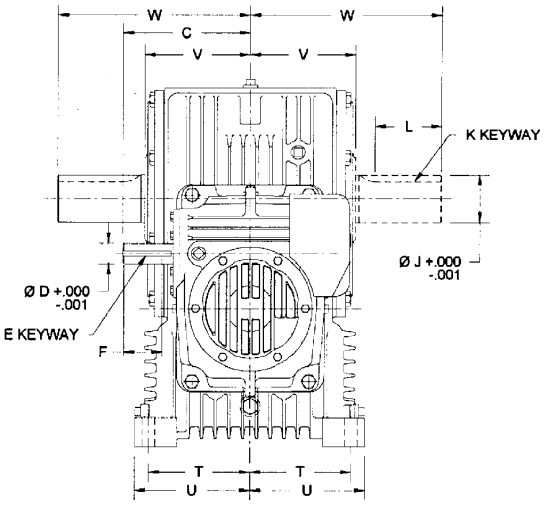
Key: Me.HP = Mech. Input Power (HP) O.T. = Output Torque (Lb.in)
Th.HP Fan = Thermal Input Power - With Fan

Ratings shown are based on using the recommended synthetic lubricant (see approved lubricants)

0209

Model FOU - Models FUU and FVU also available

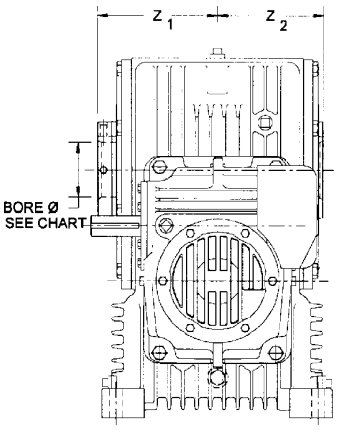




Size	A CD	B CD	C	D	E	F	G	H	J	K	L	M	N
20 - 30	2.00	3.00	4.59	.6875	.1875 x .0938	1.06	6.88	9.68	1.500	.375 x .1875	2.00	1.1	7.75
20 - 35	2.00	3.50	4.59	.6875	.1875 x .0938	1.06	7.50	10.40	1.875	.500 x .250	2.68	1.2	8.875
25 - 40	2.50	4.00	5.25	.750	.1875 x .0938	1.00	8.81	12.11	2.250	.500 x .250	3.31	1.4	10.00
25 - 50	2.50	5.00	5.25	.750	.1875 x .0938	1.00	9.75	13.05	2.750	.625 x .3125	3.62	1.6	11.875
30 - 60	3.00	6.00	6.69	1.000	.250 x .125	1.75	10.47	14.57	3.250	.750 x .375	4.50	1.8	13.75
30 - 70	3.00	7.00	6.69	1.000	.250 x .125	1.75	12.75	16.85	3.375	.875 x .4375	4.88	2.1	16.00
35 - 70	3.50	7.00	7.75	1.1875	.250 x .125	2.62	16.00	20.20	3.375	.875 x .4375	4.88	2.1	16.00
40 - 80	4.00	8.00	9.31	1.500	.375 x .1875	3.00	17.00	22.00	3.500	.875 x .4375	4.88	2.12	18.00
50 - 100	5.00	10.00	10.50	1.500	.375 x .1875	3.25	20.88	26.60	4.000	1.00 x .500	5.12	2.3	22.00
60 - 120	6.00	12.00	11.75	1.750	.375 x .1875	4.00	25.88	32.50	5.497	1.25 x .625	7.62	3.0	26.50

Size	P	R	S	T	U	V	W	X	Y	Z_1	Z_2	Weight
20 - 30	4.18	4.9	4.6	2.81	3.5	3.4	5.94	13.0	.5625	4.06	3.56	111 Lbs.
20 - 35	4.88	5.5	5.2	3.75	4.4	4.2	7.88	14.6	.5625	4.62	4.18	151 Lbs.
25 - 40	5.56	6.33	6.1	4.25	5.0	4.9	9.25	15.5	.6875	5.88	5.18	220 Lbs.
25 - 50	6.62	7.45	7.0	4.75	5.6	5.7	10.31	18.1	.8125	6.25	5.75	324 Lbs.
30 - 60	7.12	7.95	7.6	5.62	6.45	6.4	12.00	20.9	.8125	7.50	6.75	425 Lbs.
30 - 70	8.50	9.5	9.4	6.62	7.7	7.4	13.00	24.4	.9375	8.75	7.75	672 Lbs.
35 - 70	8.50	9.5	9.4	6.62	7.7	7.75	13.00	24.4	.9375	8.75	7.75	800 Lbs.
40 - 80	9.88	10.8	10.8	7.38	8.4	7.8	14.00	27.0	.9375	8.75	7.75	1050 Lbs.
50 - 100	12.62	13.8	14.5	8.38	9.6	9.4	15.72	34.6	1.063	10.62	10.62	1995 Lbs.
60 - 120	16.00	17.4	17.3	10.88	12.25	12.6	24.00	41.3	1.3125	14.00	14.00	3510 Lbs.

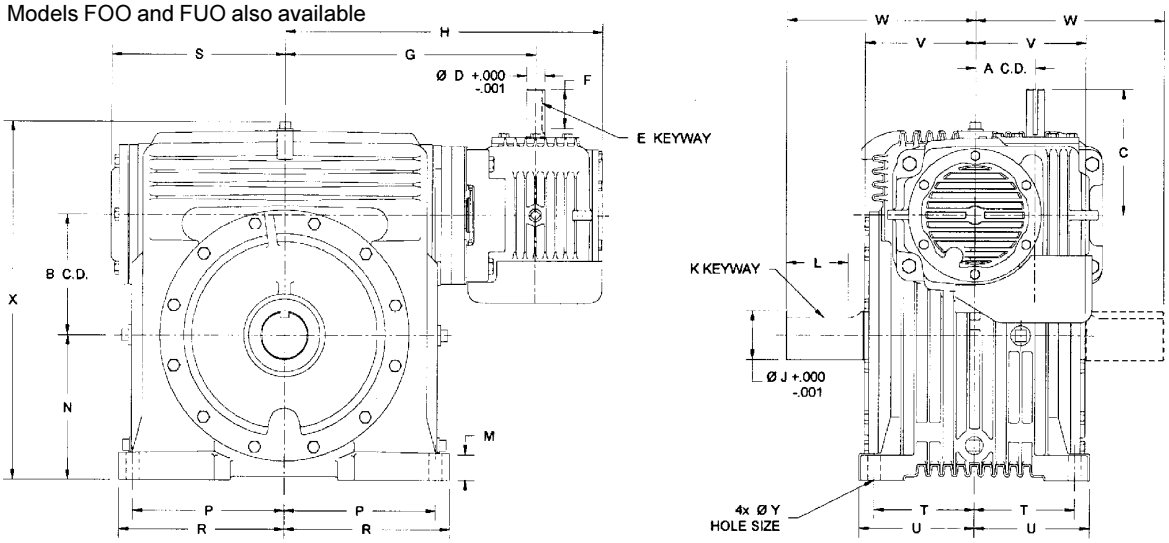
Model FOUS



Bore	Available Hollow Shaft Bore Sizes Size Reducer								Keyway
	30	35	40	50	60	70 & 80	100	120	
1.500	•								3/8 x 3/16
1.6875	•	•							3/8 x 3/16
1.9375	•	•							1/2 x 1/4
2.1875	•	•							1/2 x 1/4
2.1875			•						5/8 x 5/16
2.4375	•								3/8 x 3/16
2.4375		•	•						5/8 x 5/16
2.500	•	•							3/8 x 3/16
2.6875		•							3/8 x 3/16
2.6875		•							3/8 x 3/16
2.750			•						5/8 x 5/16
2.750				•					5/8 x 5/16
2.9375			•						5/8 x 5/16
2.9375					•				3/4 x 3/8
3.1875				•					5/8 x 5/16
3.4375				•					5/8 x 5/16
3.4375					•				3/4 x 3/8
3.9375					•				3/4 x 3/8
3.9375						•			1 x 1/2
4.4375						•			1 x 1/2
5.9375							•		1 1/4 x 7/16
7.9375								•	1 1/2 x 1/2

0209

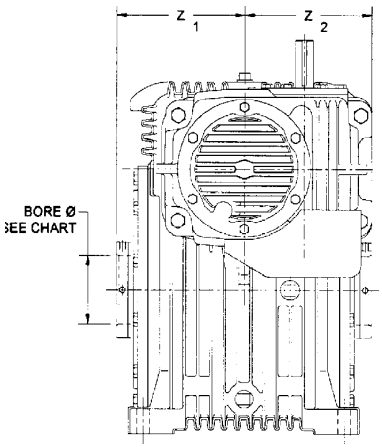
Model FVO - Models FOO and FUO also available



Size	A CD	B CD	C	D	E	F	G	H	J	K	L	M	N
20 - 30	2.00	3.00	4.59	.6875	.1875 x .0938	1.06	6.88	9.68	1.500	.375 x .1875	2.00	1.1	4.75
20 - 35	2.00	3.50	4.59	.6875	.1875 x .0938	1.06	7.50	10.40	1.875	.500 x .250	2.68	1.2	5.375
25 - 40	2.50	4.00	5.25	.750	.1875 x .0938	1.00	8.81	12.11	2.250	.500 x .250	3.31	1.4	6.00
25 - 50	2.50	5.00	5.25	.750	.1875 x .0938	1.00	9.75	13.05	2.750	.625 x .3125	3.62	1.6	6.875
30 - 60	3.00	6.00	6.69	1.000	.250 x .125	1.75	10.47	14.57	3.250	.750 x .375	4.50	1.8	7.75
30 - 70	3.00	7.00	6.69	1.000	.250 x .125	1.75	12.75	16.85	3.375	.875 x .4375	4.88	2.1	9.00
35 - 70	3.50	7.00	7.75	1.1875	.250 x .125	2.62	16.00	20.20	3.375	.875 x .4375	4.88	2.1	9.00
40 - 80	4.00	8.00	9.31	1.500	.375 x .1875	3.00	17.00	22.00	3.500	.875 x .4375	4.88	2.12	10.00
50 - 100	5.00	10.00	10.50	1.500	.375 x .1875	3.25	20.88	26.60	4.000	1.00 x .500	5.12	2.3	12.00
60 - 120	6.00	12.00	11.75	1.750	.375 x .1875	4.00	25.88	32.50	5.497	1.25 x .625	7.62	3.0	14.50

Size	P	R	S	T	U	V	W	X	Y	Z_1	Z_2	Weight
20 - 30	4.18	4.9	4.6	2.81	3.5	3.4	5.94	11.5	.5625	4.06	3.56	111 Lbs.
20 - 35	4.88	5.5	5.2	3.75	4.4	4.2	7.88	13.1	.5625	4.62	4.18	151 Lbs.
25 - 40	5.56	6.33	6.1	4.25	5.0	4.9	9.25	14.7	.6875	5.88	5.18	220 Lbs.
25 - 50	6.62	7.45	7.0	4.75	5.6	5.7	10.31	17.2	.8125	6.25	5.75	324 Lbs.
30 - 60	7.12	7.95	7.6	5.62	6.45	6.4	12.00	19.4	.8125	7.50	6.75	425 Lbs.
30 - 70	8.50	9.5	9.4	6.62	7.7	7.4	13.00	23.0	.9375	8.75	7.75	672 Lbs.
35 - 70	8.50	9.5	9.4	6.62	7.7	7.75	13.00	23.0	.9375	8.75	7.75	800 Lbs.
40 - 80	9.88	10.8	10.8	7.38	8.4	7.8	14.00	24.6	.9375	8.75	7.75	1050 Lbs.
50 - 100	12.62	13.8	14.5	8.38	9.6	9.4	15.72	29.8	1.063	10.62	10.62	1995 Lbs.
60 - 120	16.00	17.4	17.3	10.88	12.25	12.6	24.00	36.3	1.3125	14.00	14.00	3510 Lbs.

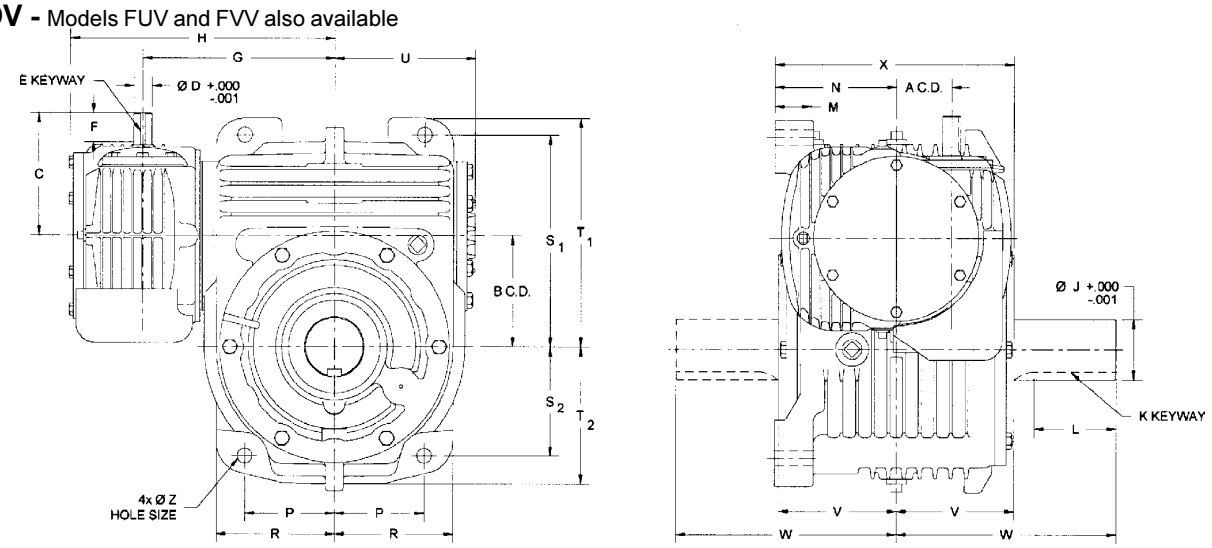
Model FVOS



Available Hollow Shaft Bore Sizes									
Bore	Size Reducer								Keyway
	30	35	40	50	60	70 & 80	100	120	
1.500	•								3/8 x 3/16
1.6875	•	•							3/8 x 3/16
1.9375	•	•							1/2 x 1/4
2.1875	•	•							1/2 x 1/4
2.1875			•						5/8 x 5/16
2.4375	•								3/8 x 3/16
2.4375		•	•						5/8 x 5/16
2.500	•	•							3/8 x 3/16
2.6875		•							3/8 x 3/16
2.6875		•							3/8 x 3/16
2.750			•						5/8 x 5/16
2.750				•					5/8 x 5/16
2.9375			•						5/8 x 5/16
2.9375					•				3/4 x 3/8
3.1875				•					5/8 x 5/16
3.4375				•					5/8 x 5/16
3.4375					•				3/4 x 3/8
3.9375					•				3/4 x 3/8
3.9375						•			1 x 1/2
4.4375						•			1 x 1/2
5.9375							•		1 1/4 x 7/16
7.9375								•	1 1/2 x 1/2

0209

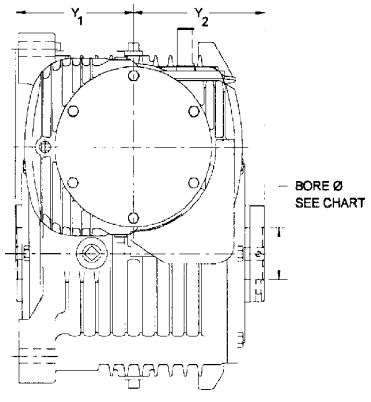
Model FOV - Models FUV and FVV also available



Size	A CD	B CD	C	D	E	F	G	H	J	K	L	M	N
20 - 30	2.00	3.00	4.59	.6875	.1875 x .0938	1.06	6.88	9.68	1.500	.375 x .1875	2.00	1.1	3.625
20 - 35	2.00	3.50	4.59	.6875	.1875 x .0938	1.06	7.50	10.40	1.875	.500 x .250	2.68	1.2	4.625
25 - 40	2.50	4.00	5.25	.750	.1875 x .0938	1.00	8.81	12.11	2.250	.500 x .250	3.31	1.4	5.00
25 - 50	2.50	5.00	5.25	.750	.1875 x .0938	1.00	9.75	13.05	2.750	.625 x .3125	3.62	1.6	5.75
30 - 60	3.00	6.00	6.69	1.000	.250 x .125	1.75	10.47	14.57	3.250	.750 x .375	4.50	1.8	6.625
30 - 70	3.00	7.00	6.69	1.000	.250 x .125	1.75	12.75	16.85	3.375	.875 x .4375	4.88	2.1	7.375
35 - 70	3.50	7.00	7.75	1.1875	.250 x .125	2.62	16.00	20.20	3.375	.875 x .4375	4.88	2.1	7.375
40 - 80	4.00	8.00	9.31	1.500	.375 x .1875	3.00	17.00	22.00	3.500	.875 x .4375	4.88	2.12	8.375
50 - 100	5.00	10.00	10.50	1.500	.375 x .1875	3.25	20.88	26.60	4.000	1.00 x .500	5.12	2.3	9.50
60 - 120	6.00	12.00	11.75	1.750	.375 x .1875	4.00	25.88	32.50	5.497	1.25 x .625	7.62	3.0	14.00

Size	P	R	S_1	S_2	T_1	T_2	U	V	W	X	Y_1	Y_2	Z	Weight
20 - 30	2.88	3.5	5.81	3.81	6.41	4.49	4.6	3.4	5.94	7.1	3.56	4.06	.5625	120 Lbs.
20 - 35	3.25	4.0	6.75	4.56	7.45	5.25	5.2	4.2	7.88	8.9	4.18	4.62	.5625	155 Lbs.
25 - 40	4.25	5.0	8.25	5.25	9.05	5.95	6.1	4.9	9.25	10.8	5.18	5.88	.6875	256 Lbs.
25 - 50	4.25	5.5	9.75	5.50	10.65	6.60	7.0	5.7	10.31	12.3	5.75	6.25	.8125	345 Lbs.
30 - 60	4.88	6.4	11.50	5.88	12.40	7.50	7.6	6.4	12.00	13.9	6.75	7.50	.8125	493 Lbs.
30 - 70	6.12	8.0	13.62	7.00	14.72	8.58	9.4	7.4	13.00	15.5	7.75	8.75	.9375	709 Lbs.
35 - 70	6.12	8.0	13.62	7.00	14.72	8.58	9.4	7.75	13.00	14.8	7.75	8.75	.9375	825 Lbs.
40 - 80	7.00	8.88	13.56	7.44	14.66	9.64	10.8	7.8	14.00	17.375	7.75	8.75	.9375	995 Lbs.
50 - 100	8.50	12.0	16.81	10.25	17.91	11.99	14.5	9.4	15.72	20.12	10.62	10.62	1.063	1990 Lbs.
60 - 120	10.00	14.2	22.25	12.50	24.05	14.75	17.3	12.6	24.00	26.50	14.00	14.00	1.3125	3400 Lbs.

Model FOVS

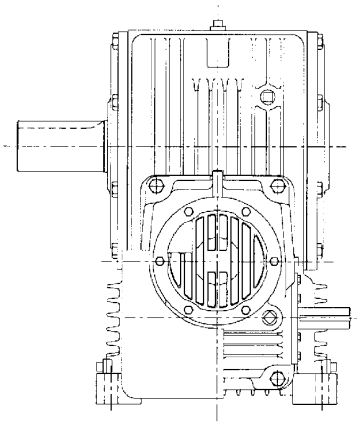


Available Hollow Shaft Bore Sizes									
Bore	Size Reducer								Keyway
	30	35	40	50	60	70 & 80	100	120	
1.500	•								3/8 x 3/16
1.6875	•	•							3/8 x 3/16
1.9375	•	•							1/2 x 1/4
2.1875	•	•							1/2 x 1/4
2.1875			•						5/8 x 5/16
2.4375	•								3/8 x 3/16
2.4375		•	•						5/8 x 5/16
2.500	•	•							3/8 x 3/16
2.6875		•							3/8 x 3/16
2.6875		•							3/8 x 3/16
2.750			•						5/8 x 5/16
2.750				•					5/8 x 5/16
2.9375			•						5/8 x 5/16
2.9375					•				3/4 x 3/8
3.1875				•					5/8 x 5/16
3.4375				•					5/8 x 5/16
3.4375					•				3/4 x 3/8
3.9375					•				3/4 x 3/8
3.9375						•			1 x 1/2
4.4375						•			1 x 1/2
5.9375							•		1 1/4 x 7/16
7.9375								•	1 1/2 x 1/2

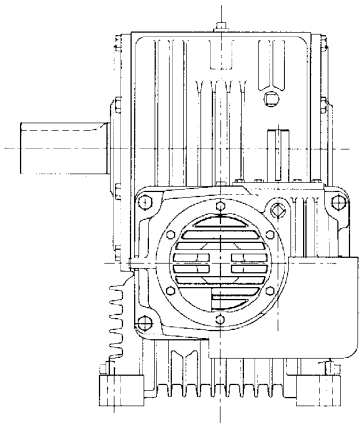
Model HP
Double Reduction Unit
Model Options

The models shown below are the basic model options including those shown on the previous dimension tables. Double reduction reducers allow the flexibility to rotate the primary in any 90° orientation or extend the input and output from either end of the reducer. The input and output shafts shown are single extended, double extended shafts are also available. Add "S" to the part number for a hollow output shaft.

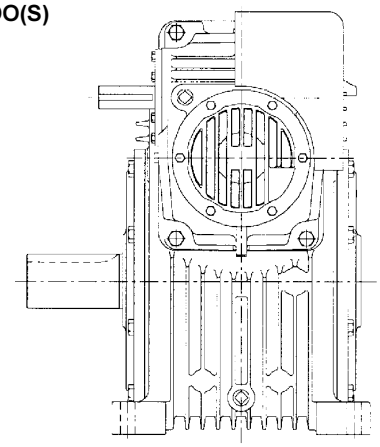
MODEL FUU(S)



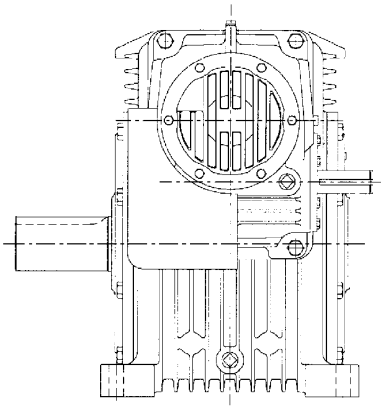
MODEL FVU(S)



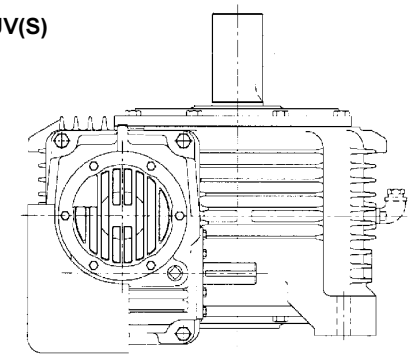
MODEL FOO(S)



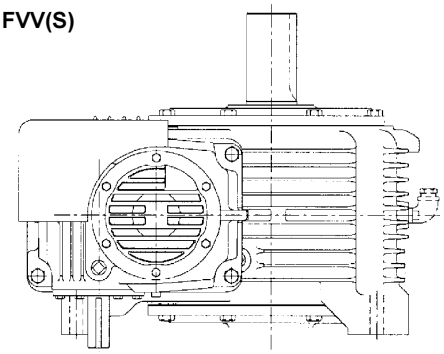
MODEL FUO(S)



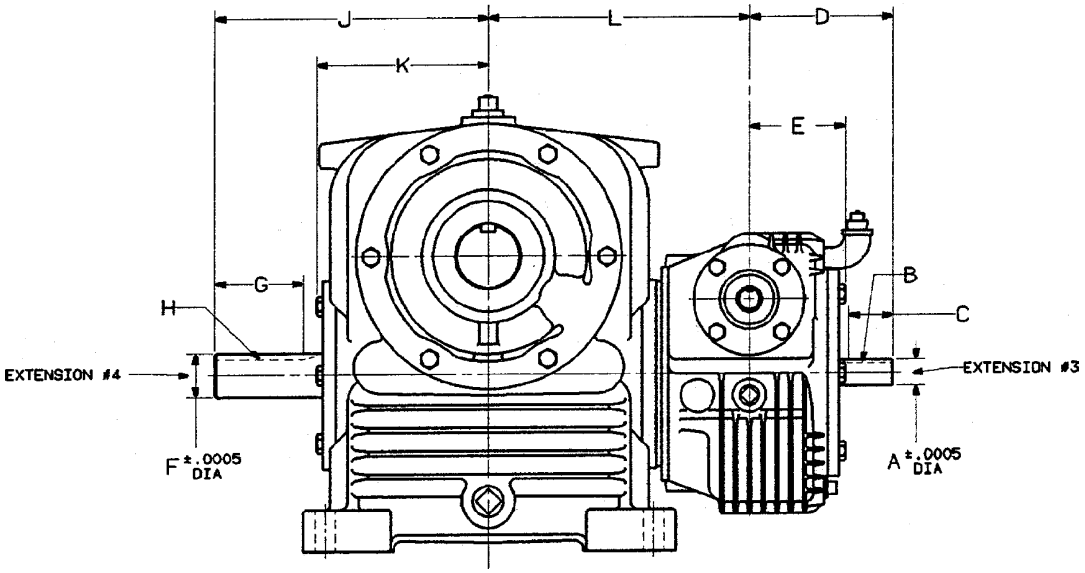
MODEL FUV(S)



MODEL FVV(S)



Model HP
Double Reduction Unit
Shaft Extensions

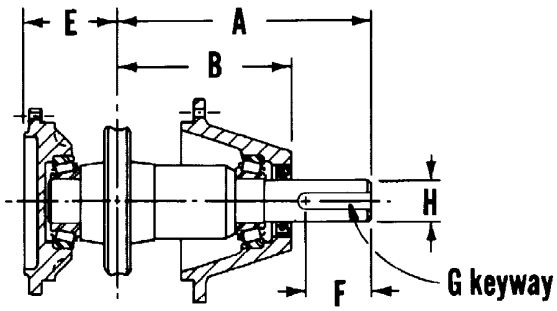


WORM SHAFTS WITH EXTENSIONS SHOWN ARE NON-STOCKED ITEMS MANUFACTURED TO THE INDIVIDUAL ORDER. WHEN ORDERING ADD SHAFT EXTENSION NUMBER IN FRONT OF MOUNTING NUMBER.

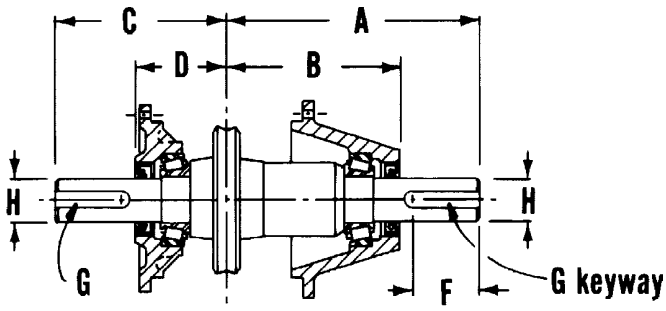
EXAMPLE: OU30-60-3A4 EXTENSION FROM PRIMARY
OU30-60-4A4 EXTENSION FROM SECONDARY
OU30-60-5A4 EXTENSION FROM BOTH PRIMARY AND SECONDARY

UNIT SIZE	PRIMARY SHAFT EXTENSION					SECONDARY SHAFT EXTENSION					
	A DIA	B KEYWAY	C	D	E	F DIA	G KEYWAY	H	J	K	L
20-30	.7495	3/16 x 3/32	1.25	4.37	2.8	.9995	1/4 x 1/8	1.75	6.68	4.6	6.88
20-35	.7495	3/16 x 3/32	1.25	4.37	2.8	1.1870	1/4 x 1/8	2.62	7.75	5.2	7.50
25-40	.8745	3/16 x 3/32	1.50	4.87	3.3	1.4995	3/8 x 3/16	3.00	9.31	6.1	8.81
25-50	.8745	3/16 x 3/32	1.50	4.87	3.3	1.4995	3/8 x 3/16	3.25	10.50	7.0	9.75
30-60	.9995	1/4 x 1/8	1.75	6.37	4.1	1.7495	3/8 x 3/16	4.00	11.75	7.6	10.47
30-70	.9995	1/4 x 1/8	1.75	6.37	4.1	1.8745	1/2 x 1/4	4.50	14.50	9.4	12.75
35-70	1.8745	1/2 x 1/4	2.68	7.87	4.2	1.8745	1/2 x 1/4	4.50	14.50	9.4	16.00
40-80	2.2495	1/2 x 1/4	3.31	9.25	4.9	1.9995	1/2 x 1/4	4.75	15.50	10.8	17.00
50-100	2.7495	5/8 x 5/16	3.62	10.31	5.7	2.3745	5/8 x 5/16	4.25	19.25	14.5	20.88
60-120	3.2495	3/4 x 3/8	4.50	12.00	6.4	2.9995	3/4 x 3/8	4.50	23.25	17.3	25.88

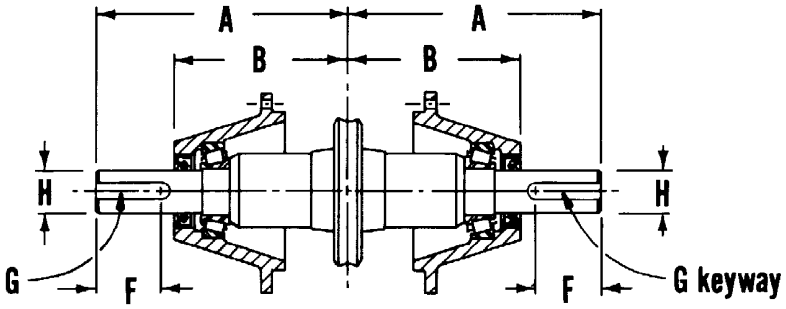
0209



"R" MOUNTING



"S" MOUNTING



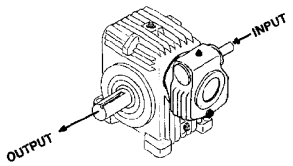
"T" MOUNTING

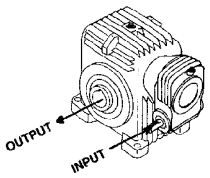
REDUCER SIZE	CENTER DISTANCE	A	B	C	D	E	F	G	H DIA.
20-30	3.000	8.62	5.9	5.94	3.4	3.4	2.00	3/8 x 3/16	1.500 1.499
20-35	3.500	10.25	6.3	7.88	4.2	4.2	2.68	1/2 x 1/4	1.875 1.874
25-40	4.000	11.25	6.6	9.25	4.9	4.9	3.31	1/2 x 1/4	2.250 2.249
25-50	5.000	13.62	8.6	10.31	5.6	5.6	3.62	5/8 x 5/16	2.750 2.749
30-60	6.000	15.38	9.6	12.00	6.3	6.4	4.62	3/4 x 3/8	3.250 3.249
30-70 35-70	7.000	19.38	12.5	13.00	7.4	7.4	4.88	7/8 x 7/16	3.375 3.374
40-80	8.000	19.38	12.9	14.00	7.8	7.8	4.88	7/8 x 7/16	3.500 3.499
50-100	10.000	24.00	16.5	15.72	9.4	9.4	5.12	1 x 1/2	4.000 3.999
60-120	12.000	36.00	22.6	24.00	12.6	12.4	9.62	1 1/4 x 5/8	5.497 5.496

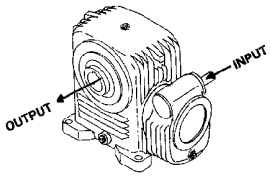
When ordering, specify model size, hand of assembly, and steeple bearings using the letter designation R, S, or T for the mounting configuration required.
For R and T mountings, use the standard hand of assembly designation shown throughout the catalog for various sizes of reducers and mounting positions.

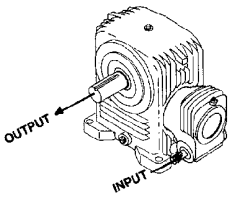
For double-extended S mountings on worm over and worm under units, specify steeple bearing on left (L) or right (R) of unit as viewed from the input end.
For S mounting on vertical gear shaft unit, specify steeple bearing opposite feet (U) or through feet (D).

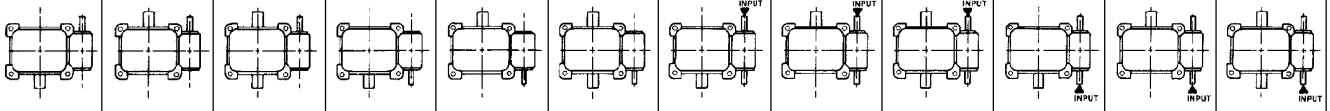
MODELS FOO, FOOS, FUO, FUOS, FOU, FOUS, FUU, FUUS
MODEL PREFIXES: F=FAN COOLED W=WATER COOLED M=MOTORIZED P=PRESSURE LUBE
ALL DIAGRAMS SHOW REDUCER WITH FEET ON FAR SIDE. (FANS NOT SHOWN).





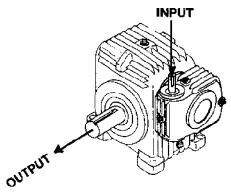


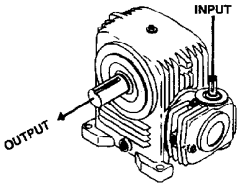




A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12

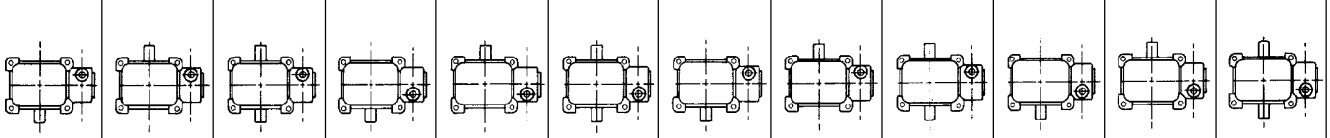
MODELS FVO, FVOS, FVU*, FVUS*
MODEL PREFIXES: F=FAN COOLED W=WATER COOLED M=MOTORIZED P=PRESSURE LUBE
ALL DIAGRAMS SHOW REDUCER WITH FEET ON FAR SIDE. (FANS NOT SHOWN).





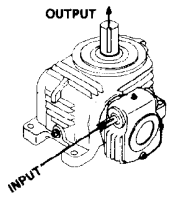
***NOTE: FOR MOTORIZING OF THESE UNITS. -2"/3" C.D. TO 3"/7" C.D. - SPECIAL PARTS MAY BE REQUIRED PLEASE CONTACT TEXTRON POWER TRANSMISSION.**

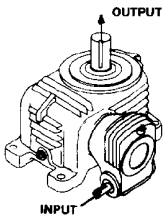
DIAGRAMS B1 THRU B6 HAVE **SINGLE** EXTENDED INPUT SHAFTS, THE INPUT END EXTENDS UP.
DIAGRAMS B7 THRU B12 HAVE **DOUBLE** EXTENDED INPUT SHAFTS. THE INPUT END EXTENDS UP.
FOR INPUT END EXTENDING DOWN SPECIFY SAME WHEN ORDERING AND ADD LETTER “D” AFTER PRIMARY SIZE, EXAMPLE: V040D-80B1



B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12

MODELS FOV, FOVS, FUV, FUVS
MODEL PREFIXES: F=FAN COOLED W=WATER COOLED M=MOTORIZED P=PRESSURE LUBE
ALL DIAGRAMS SHOW REDUCER WITH FEET ON FAR SIDE. (FANS NOT SHOWN).

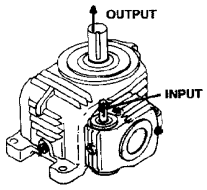


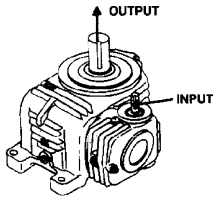


* THESE UNITS MAY REQUIRE SPECIAL PARTS FOR MOTORIZING. PLEASE CONTACT TEXTRON POWER TRANSMISSION.

			*		*		*		*
OUTPUT SHAFT EXTENDED:	OPPOSITE FEET	C1A	C2A	C3A	C4A	C5A	C6A	C7A	C8A
	THROUGH FEET	C1B	C2B	C3B	C4B	C5B	C6B	C7B	C8B
	DOUBLE EXTENDED	C1C	C2C	C3C	C4C	C5C	C6C	C7C	C8C

MODELS FVV, FVVS
MODEL PREFIXES: F=FAN COOLED W=WATER COOLED M=MOTORIZED P=PRESSURE LUBE
ALL DIAGRAMS SHOW REDUCER WITH FEET ON FAR SIDE. (FANS NOT SHOWN).





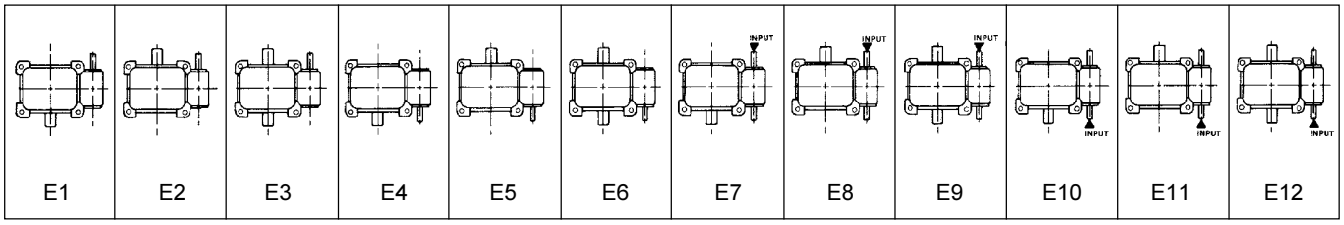
DIAGRAMS D1 THRU D4 HAVE **SINGLE** EXTENDED INPUT SHAFTS, THE INPUT END EXTENDS UP.
DIAGRAMS D5 THRU D8 HAVE **DOUBLE** EXTENDED INPUT SHAFTS. THE INPUT END EXTENDS UP.
FOR INPUT END EXTENDING DOWN SPECIFY SAME WHEN ORDERING AND ADD LETTER “D” AFTER PRIMARY SIZE, EXAMPLE: VV40D-80 DIA.

OUTPUT SHAFT EXTENDED:	OPPOSITE FEET	D1A	D2A	D3A	D4A	D5A	D6A	D7A	D8A
	THROUGH FEET	D1B	D2B	D3B	D4B	D5B	D6B	D7B	D8B
	DOUBLE EXTENDED	D1C	D2C	D3C	D4C	D5C	D6C	D7C	D8C

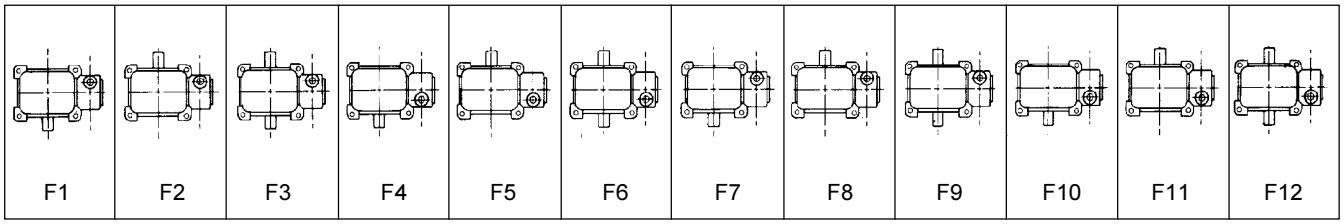
MODELS FOO, FOOS, FOU, FOUS, FUO, FUOS, FUU, FUUS, FVO, FVOS, FVU, FVUS
NOTE DISTINCTION BETWEEN VERTICAL WORM PRIMARIES AND OTHERS. ALL DIAGRAMS SHOW REDUCER WITH FEET ON FAR SIDE. DIAGRAMS 7 THRU 12 DOUBLE EXTENDED INPUT. (FANS NOT SHOWN).

Ceiling Mounted - Output Shaft Horizontal

MODELS FOO, FOOS, FOU, FOUS, FOU, FUOS, FUU, FUUS

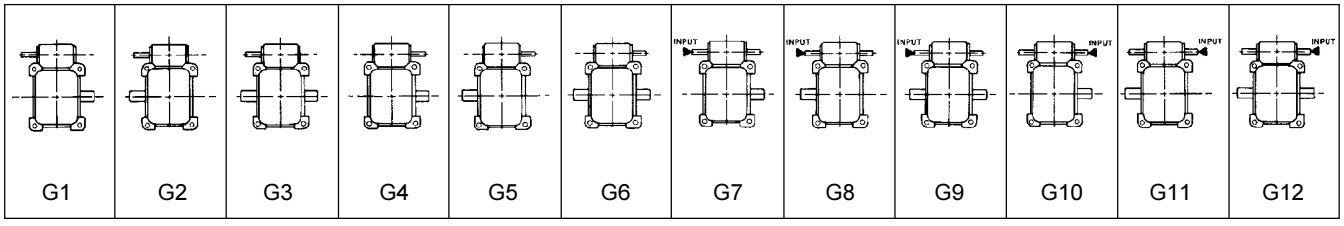


MODELS FVO, FVOS, FVU, FVUS

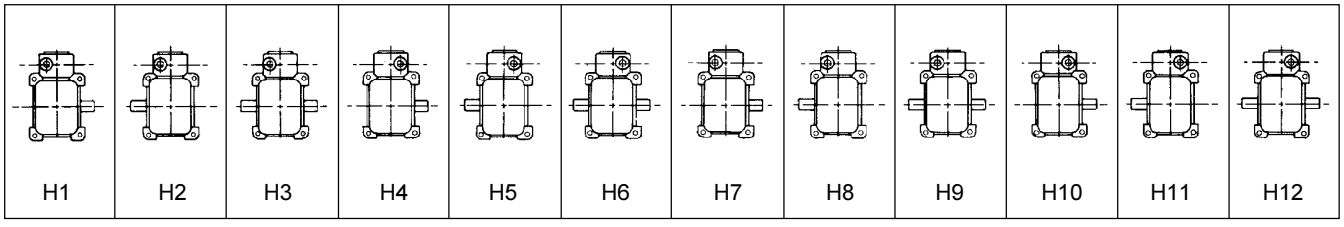


Wall Mounted - Primary Over Secondary - All Shafts Horizontal

MODELS FOO, FOOS, FOU, FOUS, FUO, FUOS, FUU, FUUS



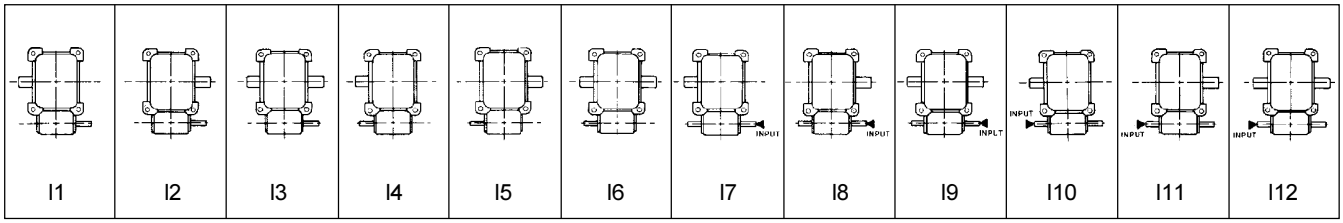
MODELS FVO, FVOS, FVU, FVUS



MODELS FOO, FOOS, FOU, FOUS, FUO, FUOS, FUU, FUUS, FVO, FVOS, FVU, FUS
NOTE DISTINCTION BETWEEN VERTICAL WORM PRIMARIES AND OTHERS. ALL DIAGRAMS SHOW REDUCER WITH FEET ON FAR SIDE. DIAGRAMS 7 THRU 12 DOUBLE EXTENDED INPUT. (FANS NOT SHOWN).

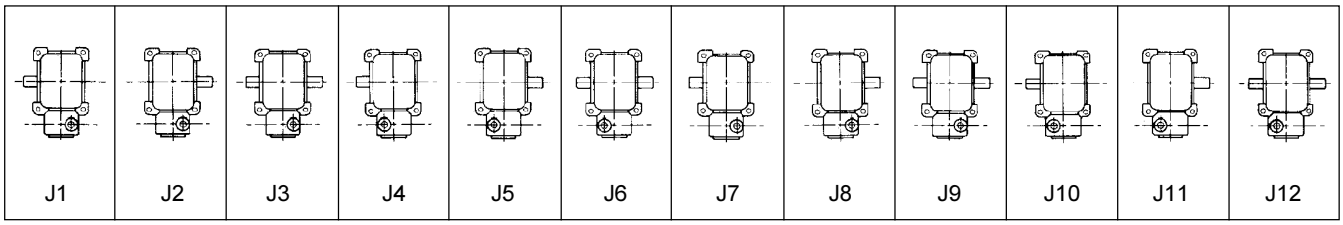
Wall Mounted - Primary Under Secondary - All Shafts Horizontal

MODELS FOO, FOOS, FOU, FOUS, FUO, FUOS, FUU, FUUS



I1	I2	I3	I4	I5	I6	I7	I8	I9	I10	I11	I12

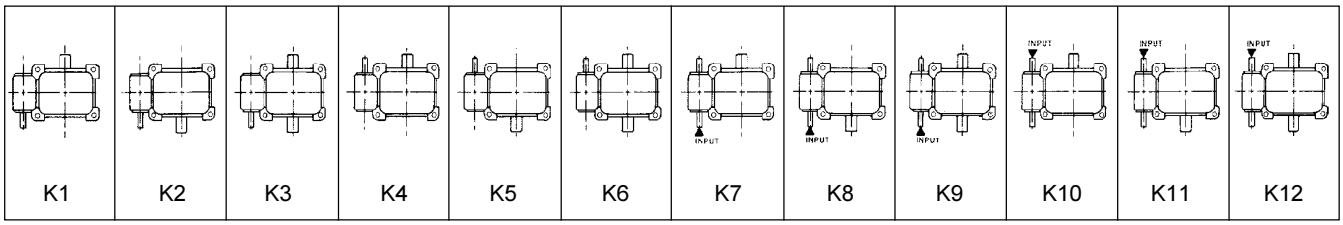
MODELS FVO, FVOS, FVU, FVUS



J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12

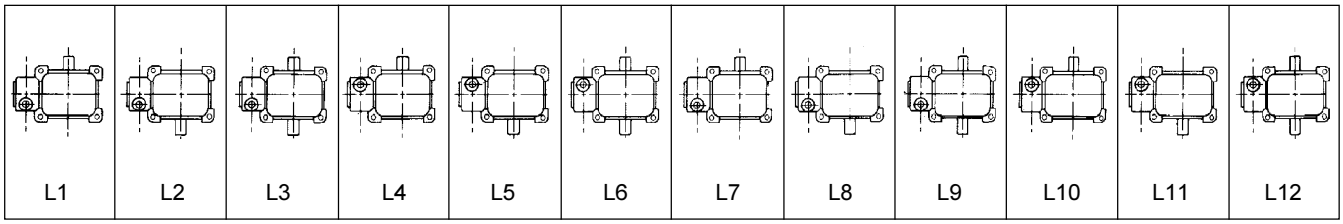
Wall Mounted - Primary to Left of Secondary - Output Shaft Vertical

MODELS FOO, FOOS, FOU, FOUS, FUO, FUOS, FUU, FUUS



K1	K2	K3	K4	K5	K6	K7	K8	K9	K10	K11	K12

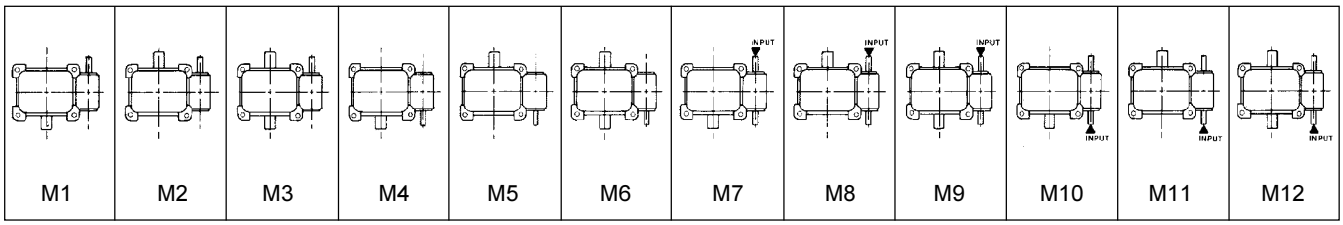
MODELS FVO, FVOS, FVU, FVUS



L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12

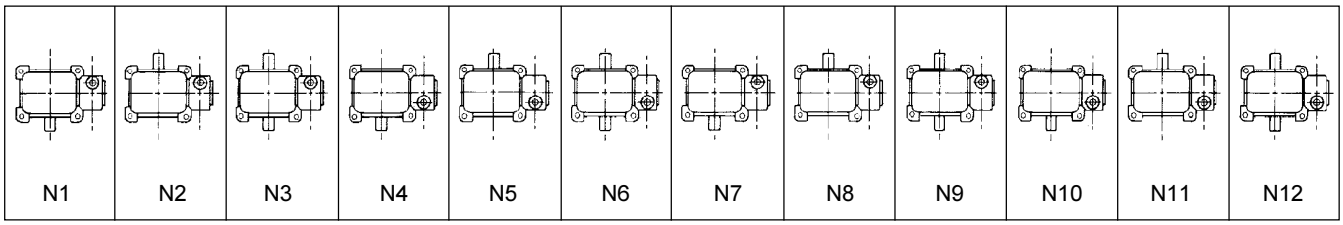
Wall Mounted - Primary to Right of Secondary - Output Shaft Vertical

MODELS FOO, FOOS, FOU, FOUS, FUO, FUOS, FUU, FUUS



M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12

MODELS FVO, FVOS, FVU, FVUS



N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	N11	N12

Models FOV, FOVS, FUV, FUVS, FVV, FVVS

ALL DIAGRAMS SHOW REDUCER WITH FEET ON FAR SIDE. DIAGRAM 5 THRU 8 DOUBLE EXTENDED INPUT.
(FANS NOT SHOWN).

* THESE UNITS MAY REQUIRE SPECIAL PARTS FOR MOTORIZING. PLEASE TEXTRON POWER TRANSMISSION.

Ceiling Mounted Output Shaft Vertical

FOV, FUV FOVS, FUVS			* 		* 		* 		* 
OUTPUT SHAFT EXTENDED:	OPPOSITE FEET	O1A	O2A	O3A	O4A	O5A	O6A	O7A	O8A
	THROUGH FEET	O1B	O2B	O3B	O4B	O5B	O6B	O7B	O8B
	DOUBLE EXTENDED	O1C	O2C	O3C	O4C	O5C	O6C	O7C	O8C

FVV, FVVS									
OUTPUT SHAFT EXTENDED:	OPPOSITE FEET	P1A	P2A	P3A	P4A	P5A	P6A	P7A	P8A
	THROUGH FEET	P1B	P2B	P3B	P4B	P5B	P6B	P7B	P8B
	DOUBLE EXTENDED	P1C	P2C	P3C	P4C	P5C	P6C	P7C	P8C

Wall Mounted - Primary Over Secondary
All Shafts Horizontal

FOV, FUV FOVS, FUVS			* 		* 		* 		* 
OUTPUT SHAFT EXTENDED:	OPPOSITE FEET	Q1A	Q2A	Q3A	Q4A	Q5A	Q6A	Q7A	Q8A
	THROUGH FEET	Q1B	Q2B	Q3B	Q4B	Q5B	Q6B	Q7B	Q8B
	DOUBLE EXTENDED	Q1C	Q2C	Q3C	Q4C	Q5C	Q6C	Q7C	Q8C

FVV, FVVS									
OUTPUT SHAFT EXTENDED:	OPPOSITE FEET	R1A	R2A	R3A	R4A	R5A	R6A	R7A	R8A
	THROUGH FEET	R1B	R2B	R3B	R4B	R5B	R6B	R7B	R8B
	DOUBLE EXTENDED	R1C	R2C	R3C	R4C	R5C	R6C	R7C	R8C

Assembly and Mounting Position Numbers for

0209

Models FOV, FVV, FVVS, FOVS, FUV, FUVS

ALL DIAGRAMS SHOW REDUCER WITH FEET ON FAR SIDE. DIAGRAM 5 THRU 8 DOUBLE EXTENDED INPUT. (FANS NOT SHOWN).

* THESE UNITS MAY REQUIRE SPECIAL PARTS FOR MOTORIZING. PLEASE CONTACT TEXTRON POWER TRANSMISSION.

Wall Mounted - Primary Under Secondary
All Shafts Horizontal

FOV, FUV FOVS, FUVS			* 		* 		* 		* 
OUTPUT SHAFT EXTENDED:	OPPOSITE FEET	S1A	S2A	S3A	S4A	S5A	S6A	S7A	S8A
	THROUGH FEET	S1B	S2B	S3B	S4B	S5B	S6B	S7B	S8B
	DOUBLE EXTENDED	S1C	S2C	S3C	S4C	S5C	S6C	S7C	S8C

FVV, FVVS									
OUTPUT SHAFT EXTENDED:	OPPOSITE FEET	T1A	T2A	T3A	T4A	T5A	T6A	T7A	T8A
	THROUGH FEET	T1B	T2B	T3B	T4B	T5B	T6B	T7B	T8B
	DOUBLE EXTENDED	T1C	T2C	T3C	T4C	T5C	T6C	T7C	T8C

Wall Mounted - Secondary Worm Under
Output Shaft Horizontal

FOV, FUV FOVS, FUVS			* 		* 		* 		* 
OUTPUT SHAFT EXTENDED:	OPPOSITE FEET	U1A	U2A	U3A	U4A	U5A	U6A	U7A	U8A
	THROUGH FEET	U1B	U2B	U3B	U4B	U5B	U6B	U7B	U8B
	DOUBLE EXTENDED	U1C	U2C	U3C	U4C	U5C	U6C	U7C	U8C

FVV, FVVS									
OUTPUT SHAFT EXTENDED:	OPPOSITE FEET	V1A	V2A	V3A	V4A	V5A	V6A	V7A	V8A
	THROUGH FEET	V1B	V2B	V3B	V4B	V5B	V6B	V7B	V8B
	DOUBLE EXTENDED	V1C	V2C	V3C	V4C	V5C	V6C	V7C	V8C

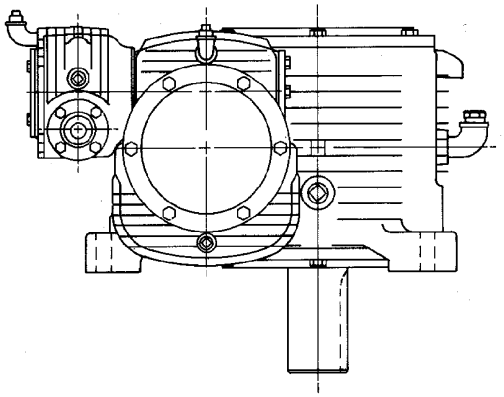
Wall Mounted - Secondary Worm Over
Output Shaft Horizontal

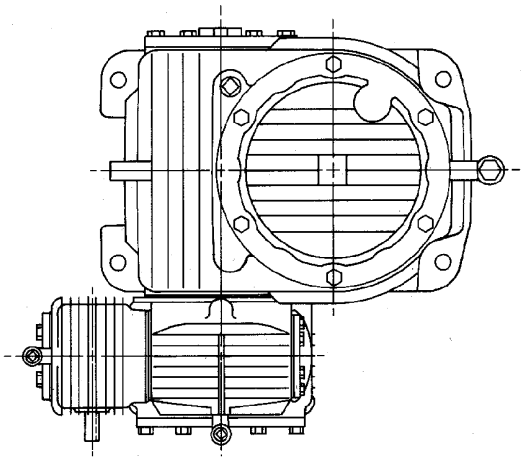
FOV, FUV FOVS, FUVS			* 		* 		* 		* 
OUTPUT SHAFT EXTENDED:	OPPOSITE FEET	W1A	W2A	W3A	W4A	W5A	W6A	W7A	W8A
	THROUGH FEET	W1B	W2B	W3B	W4B	W5B	W6B	W7B	W8B
	DOUBLE EXTENDED	W1C	W2C	W3C	W4C	W5C	W6C	W7C	W8C

FVV, FVVS									
OUTPUT SHAFT EXTENDED:	OPPOSITE FEET	X1A	X2A	X3A	X4A	X5A	X6A	X7A	X8A
	THROUGH FEET	X1B	X2B	X3B	X4B	X5B	X6B	X7B	X8B
	DOUBLE EXTENDED	X1C	X2C	X3C	X4C	X5C	X6C	X7C	X8C

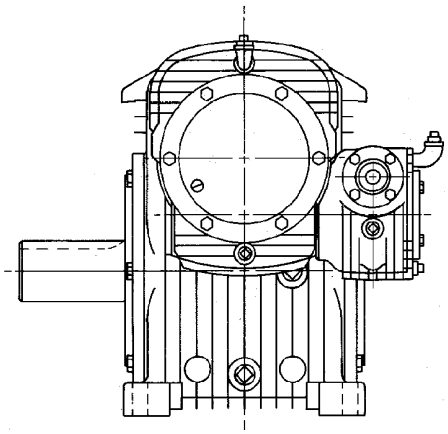
Model HP
Triple Reduction Unit
Typical Configurations

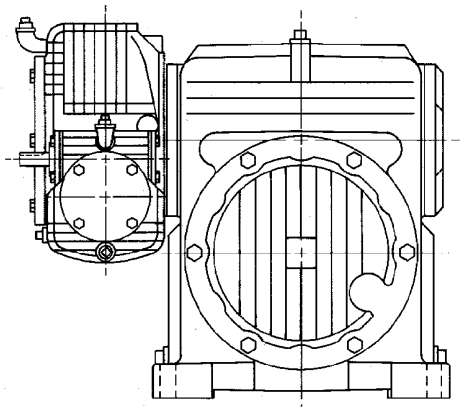
Model UOV Primary Worm Under Gear/Secondary Worm Over Gear/Tertiary Vertical Shaft





Model OUO Primary Worm Over Gear/Secondary Worm Under Gear/Tertiary Worm Over Gear





Model HP triple-reduction worm gear speed reducers consist of three single-reduction speed reducers combined into one assembly. Each worm gearset is enclosed in a heavily-ribbed heat dissipating house of our own special design. Heavy-duty tapered roller bearings provide anti-friction support of the worm and gear shafts. The unique advantages of the Model HP double enveloping worm gearset design contribute to the compact size, strength, and smooth operation of the assembly.

Standardization of parts and maximum use of interchangeable parts reduces cost and speeds delivery. We assemble our speed reducers to order from a stock of standard shelf-hardware parts.

A wide range of center-distance sizes and ratios, plus several standard options, as well as hollow and solid output shafts, enable us to configure a triple-reduction speed reducer to your specific requirements.

CAUTION: It is the purchaser's or user's responsibility to guard all shafting in accordance with current local, state or federal requirements.

Many more sizes and configurations are available. Contact the Textron Power Transmission sales office or your local representative for a configuration to suit your exact requirements.

Model HP
Triple Reduction Units
Torque Ratings

Torque ratings for 1.0 service factor at 1750 RPM input speed

SIZE 20 PRIMARY	SIZE 30 SECONDARY		SIZE 60 TERTIARY
RATIO	RATIO COMBINATION	H.P. INPUT	OUTPUT TORQUE (LB. IN.)
5,000:1	10 x 25 x 20	0.66	56,200
6,000:1	15 x 20 x 20	0.55	56,200
7,500:1	15 x 25 x 20	0.47	56,200
10,000:1	20 x 20 x 25	0.36	53,700
12,500:1	25 x 25 x 20	0.30	56,200
17,500:1	5 x 50 x 70	0.22	34,000
24,000:1	20 x 20 x 60	0.15	37,000
36,000:1	30 x 60 x 20	0.15	56,200
72,000:1	30 x 60 x 40	0.08	44,000
125,000:1	50 x 50 x 50	0.05	40,300
180,000:1	50 x 60 x 60	0.04	35,300

SIZE 20 PRIMARY	SIZE 30 SECONDARY		SIZE 70 TERTIARY
RATIO	RATIO COMBINATION	H.P. INPUT	OUTPUT TORQUE (LB. IN.)
5,000:1	10 x 25 x 20	0.72	87,100
6,000:1	15 x 20 x 20	0.88	88,700
7,500:1	10 x 25 x 30	0.73	81,800
10,000:1	20 x 20 x 25	0.56	84,800
12,500:1	25 x 25 x 20	0.48	88,700
17,500:1	5 x 50 x 70	0.35	54,500
24,000:1	20 x 20 x 60	0.25	59,300
36,000:1	10 x 60 x 60	0.20	58,200
72,000:1	30 x 60 x 40	0.13	70,500
125,000:1	50 x 50 x 50	0.08	64,700
180,000:1	50 x 60 x 60	0.06	56,600

SIZE 20 PRIMARY	SIZE 35 SECONDARY		SIZE 70 TERTIARY
RATIO	RATIO COMBINATION	H.P. INPUT	OUTPUT TORQUE (LB. IN.)
5,000:1	10 x 25 x 20	1.04	88,700
6,000:1	15 x 20 x 20	0.88	88,700
7,500:1	15 x 25 x 20	0.74	88,700
10,000:1	40 x 25 x 10	0.52	78,900
12,500:1	25 x 25 x 20	0.48	88,700
17,500:1	5 x 50 x 70	0.35	54,500
24,000:1	40 x 60 x 10	0.27	71,700
36,000:1	40 x 60 x 15	0.23	85,300
72,000:1	30 x 60 x 40	0.13	70,500
125,000:1	50 x 50 x 50	0.08	64,700
180,000:1	50 x 60 x 60	0.06	56,600

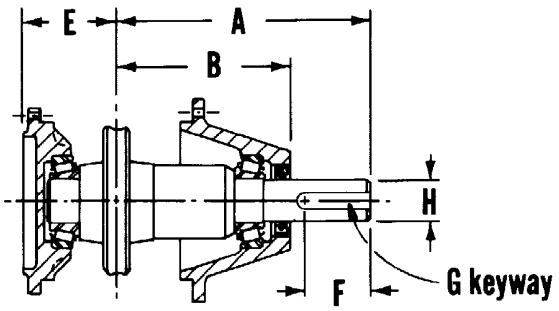
SIZE 25 PRIMARY	SIZE 40 SECONDARY		SIZE 80 TERTIARY
RATIO	RATIO COMBINATION	H.P. INPUT	OUTPUT TORQUE (LB. IN.)
5,000:1	10 x 25 x 20	1.56	132,700
6,000:1	15 x 20 x 20	1.31	132,700
7,500:1	15 x 25 x 20	1.11	132,700
10,000:1	40 x 25 x 10	0.78	117,900
12,500:1	25 x 25 x 20	0.72	132,700
17,500:1	5 x 50 x 70	0.53	81,900
24,000:1	40 x 60 x 10	0.39	103,900
36,000:1	40 x 60 x 15	0.34	127,500
72,000:1	30 x 60 x 40	0.19	106,200
125,000:1	50 x 50 x 50	0.12	97,400
180,000:1	50 x 60 x 60	0.09	85,200

SIZE 25 PRIMARY	SIZE 50 SECONDARY		SIZE 100 TERTIARY
RATIO	RATIO COMBINATION	H.P. INPUT	OUTPUT TORQUE (LB. IN.)
5,000:1	20 X 25 X 10	2.49	226,700
6,000:1	15 x 20 x 20	2.45	255,500
7,500:1	15 x 25 x 20	2.07	255,500
10,000:1	40 x 25 x 10	1.46	226,700
12,500:1	50 x 25 x 10	1.23	226,700
17,500:1	25 x 70 x 10	0.92	208,800
24,000:1	40 x 60 x 10	0.78	212,200
36,000:1	40 x 60 x 15	0.64	245,300
72,000:1	30 x 60 x 40	0.37	213,200
125,000:1	50 x 50 x 50	0.23	192,100
180,000:1	50 x 60 x 60	0.17	172,800

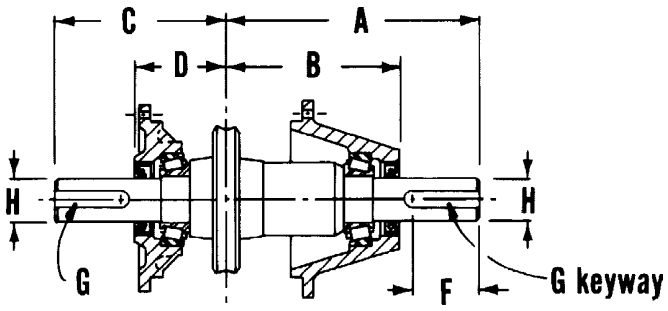
SIZE 30 PRIMARY	SIZE 60 SECONDARY		SIZE 120 TERTIARY
RATIO	RATIO COMBINATION	H.P. INPUT	OUTPUT TORQUE (LB. IN.)
5,000:1	10 X 25 X 20	4.90	433,800
6,000:1	15 x 20 x 20	4.11	433,800
7,500:1	15 x 25 x 20	3.48	433,800
10,000:1	20 x 20 x 25	2.64	415,100
12,500:1	25 x 25 x 20	2.24	433,800
17,500:1	5 x 50 x 70	1.74	285,900
24,000:1	20 x 20 x 60	1.22	311,100
36,000:1	40 x 60 x 15	1.07	416,400
72,000:1	30 x 60 x 40	0.63	364,000
125,000:1	50 x 50 x 50	0.39	326,400
180,000:1	50 x 60 x 60	0.29	299,700

For additional size see top of following page. Additional ratios from 125:1 to 216,000:1 are available. Ratings for other ratios and input speeds may be obtained by contacting the Textron Power Transmission Sales office or your local representative for additional information.

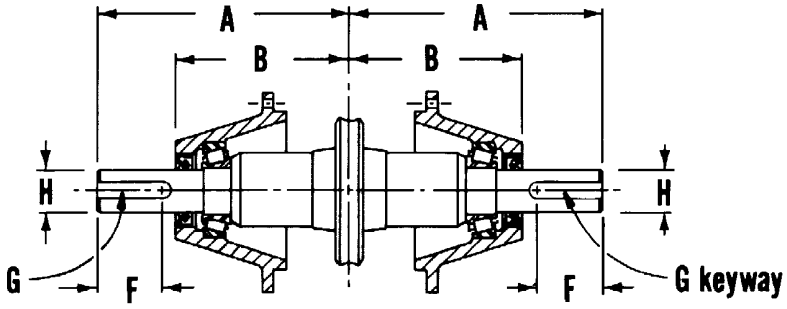
Important: In any applications of Textron Power Transmission products where breakage, damage, disconnection, any other malfunction of any drive train component, or excessive wear could result in personal injury or property damage, a fail-safe device capable of stopping and holding the load in the event of such an occurrence must be incorporated after the drive train.



"R" MOUNTING



"S" MOUNTING



"T" MOUNTING

REDUCER SIZE	CENTER DISTANCE	A	B	C	D	E	F	G	H DIA.
20-30-60	6.000	15.38	9.6	12.00	6.3	6.4	4.62	3/4 x 3/8	3.250 3.249
20-30-70 20-35-70	7.000	19.38	12.5	13.00	7.4	7.4	4.88	7/8 x 7/16	3.375 3.374
25-40-80	8.000	19.38	12.9	14.00	7.8	7.8	4.88	7/8 x 7/16	3.500 3.499
25-50-100	10.000	24.00	16.5	15.72	9.4	9.4	5.12	1 x 1/2	4.000 3.999
30-60-120	12.000	36.00	22.6	24.00	12.6	12.4	9.62	1-1/4 x 5/8	5.497 5.496

When ordering, specify model size, hand of assembly, and steeple bearings using the letter designation R, S, or T for the mounting configuration required.
For R and T mountings, use the standard hand of assembly designation shown throughout the catalog for various sizes of reducers and mounting positions.

For double-extended S mountings on worm over and worm under units, specify steeple bearing on left (L) or right (R) of unit as viewed from the input end.
For S mounting on vertical gear shaft unit, specify steeple bearing opposite feet (U) or through feet (D).

Model HP Gearsets

Model HP gearsets are supplied in matched sets. Each set is inspected for tooth contact and smooth operation with the gears on the exact center distance, and with correct end position of worm and side position of gear. After inspection, an identifying set number is stamped on mating worm and gear. They should always be installed in sets, as marked.

The standardization of gearsets permits us to carry a quantity of stock "blanks," ready for final cutting to any of the ratios found in the tool charts on the following pages. Such standardization results in reduced costs as compared to "made-to-order" gearsets.

All standard Model HP gearsets have right hand-helix threads, however tooling is available for many left hand helix threads and other ratios.

Where a Model HP gearset must be mounted in a specially designed housing, every effort should be made to follow the general design practice for Model HP reducers described in this catalog. If possible, standard mountings, such as those illustrated in this section should be used.

Where standard worm and gear blanks cannot be used, special designs can be developed by Textron Power Transmission.

Selection of the proper gearset depends upon the service characteristics under which the gears are to operate.

WHAT IS BACKLASH?

Backlash is defined as: the amount of movement at the pitch line of the gear when the output shaft is rotated, while holding the input shaft stationary. Bearings are set at zero end play for measurement, then adjusted afterwards according to loading, speed, and duty cycle.

Backlash should not be measured at the worm, because the amount of worm rotation with the gear locked is a function of ratio and helix angle.

A differentiation should be made between the terms "low backlash" and "precision" …precision is a function of concentricity, worm and gear pitch line run out, gear tooth spacing error, and mounting run out. A precision gearset is required to produce uniform, consistent backlash and speed.

Gearset Backlash - (Standard Backlash)

Size	Center Distance, Inches	Inches	Degrees	Arcminutes
15	1.500	0.008	0.39	23
20	2.000	0.008	0.29	17
25	2.500	0.008	0.23	14
30	3.000	0.008	0.19	11
35	3.500	0.009	0.18	11
40	4.000	0.009	0.16	10
50	5.000	0.010	0.14	9
60	6.000	0.012	0.14	9
70	7.000	0.013	0.13	8
80	8.000	0.014	0.12	7
100	10.000	0.017	0.12	7
120	12.000	0.020	0.12	7

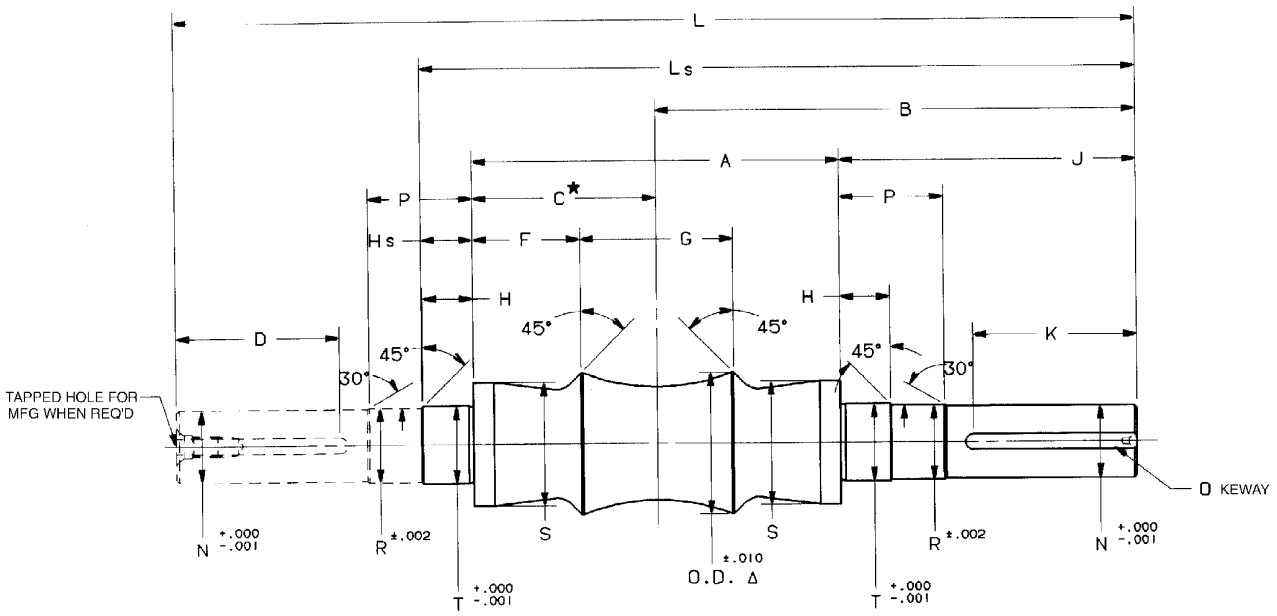
Gearset Backlash - (Low Backlash)

Size	Center Distance, Inches	Inches	Degrees	Arcminutes
15	1.500	0.002	0.097	6
20	2.000	0.002	0.072	4
25	2.500	0.002	0.058	4
30	3.000	0.002	0.047	3
35	3.500	0.002	0.041	2
40	4.000	0.002	0.036	2
50	5.000	0.002	0.028	2
60	6.000	0.002	0.024	1
70	7.000	0.002	0.020	1
80	8.000	0.002	0.018	1
100	10.000	0.004	0.028	2
120	12.000	0.004	0.023	1

Notes: Nominal Backlash values in inches, degrees, and arcminutes for low backlash and standard backlash. Backlash in inches is measured at pitch line. Size 100 and up worm is mounted in a type TDO double locked up tapered roller bearing with a fixed spacer which can be ground to reduce end play for low speeds. Contact Textron Power Transmission.

*Contact Textron Power Transmission for additional Backlash information.

Δ O.D. VARIES WITH RATIO, SEE TOOL CHART.
*DIMENSIONS HELD EXACT IN MANUFACTURING.
DASH LINE INDICATES DOUBLE EXTENDED WORM.
**THESE DIMENSIONS MAY VARY TO SUIT RATIO SELECTED



Size	C.D.	A	B	C*	D	F**	G**	H	J	K
15	1.500	2.000 ± .001	3.00	1.000	.75	.56	.88	—	2.00	.75
20	2.000	2.812 ± .001	4.59	1.406	1.06	.78	1.25	.83	3.187	1.06
25	2.500	4.187 ± .001	5.25	2.093	1.00	1.28	1.62	.78	3.156	1.00
30	3.000	4.812 ± .001	6.68	2.406	1.75	1.40	2.00	.90	4.281	1.75
35	3.500	5.500 ± .001	7.75	2.750	2.62	1.56	2.38	.88	5.000	2.62
40F	4.000	6.500 ± .002	9.31	3.250	3.00	2.00	2.50	1.109	6.06	3.00
50F	5.000	8.500 ± .002	10.50	4.250	3.25	2.62	3.25	.97	6.25	3.25
60F	6.000	9.000 ± .002	11.75	4.500	4.00	2.62	3.75	1.22	7.25	4.00
70F	7.000	9.000 ± .002	14.50	4.500	4.50	2.56	3.88	1.75	10.000	4.50
80F	8.000	10.250 ± .002	15.50	5.125	4.75	2.62	5.00	1.82	10.375	4.75

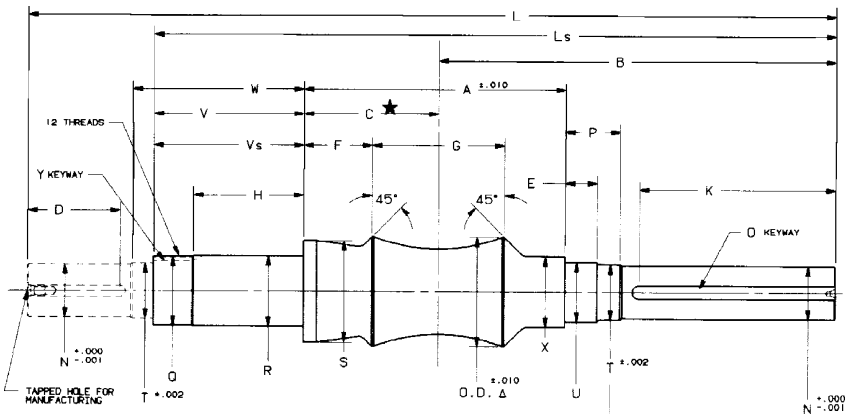
Size	L	N	O	P	R	S	T	Single Extended	
								HS	LS
15	6.00	.625	3/16 x 3/32	.968	—	1.00	.752	.625	4.625
20	9.18	.6875	3/16 x 3/32	1.72	.747	1.15	.7520	.846	6.84
25	10.50	.750	3/16 x 3/32	1.72	.875	1.38	.9395	.812	8.16
30	13.38	1.000	1/4 x 1/8	2.09	1.062	1.56	1.1270	.932	10.03
35	15.50	1.1875	1/4 x 1/8	1.96	1.250	1.84	1.3145	.912	11.41
40F	18.62	1.500	3/8 x 3/16	2.34	1.5625	2.37	1.6270	1.140	13.70
50F	21.00	1.500	3/8 x 3/16	2.25	1.5625	2.75	1.7520	1.042	15.79
60F	23.50	1.750	3/8 x 3/16	2.53	1.8125	3.00	1.8770	1.250	17.50
70F	29.00	1.875	1/2 x 1/4	2.82	2.125	3.812	2.7525	1.750	20.75
80F	31.00	2.000	1/2 x 1/4	2.94	2.125	4.125	3.0025	1.875	22.50

Δ O.D. VARIES WITH RATIO, SEE TOOL CHART.

* DIMENSIONS HELD EXACT IN MANUFACTURING.

DASH LINE INDICATES DOUBLE EXTENDED WORM.

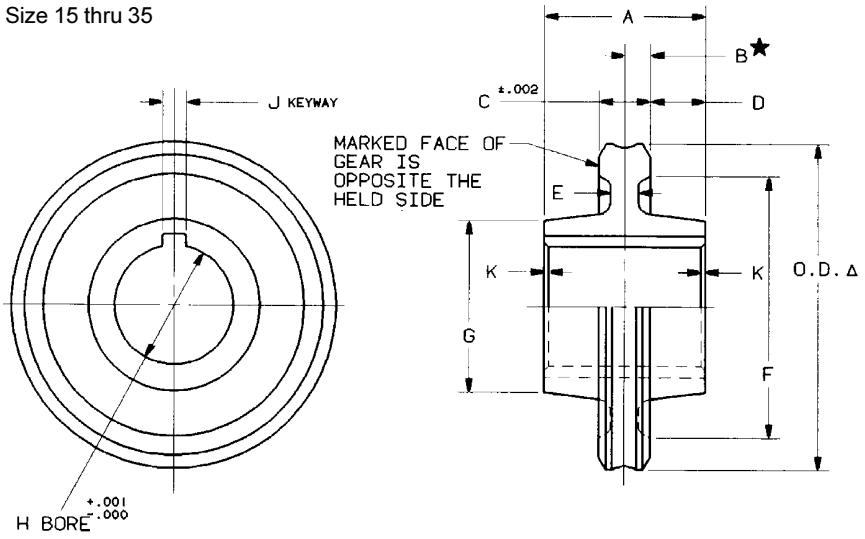
** THESE DIMENSIONS MAY VARY TO SUIT RATIO SELECTED



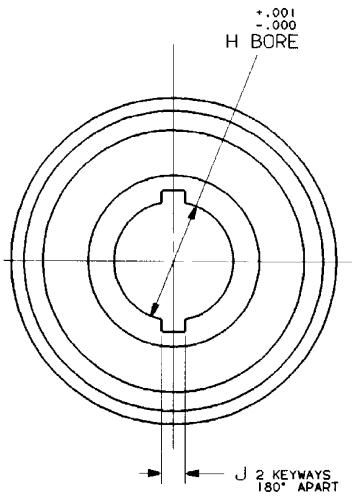
Size	C.D.	A	B	C*	D	E	F**	G**	H	J	K	L	N
100	10.000	12.875	19.25	6.625	4.25	1.53	3.56	6.12	4.38	13.00	5.00	38.50	2.375
120	12.000	14.812	22.50	7.625	4.50	1.81	3.88	7.50	6.25	15.31	5.88	45.75	3.000

Size	O	P	Q	R	S	T	U	V	W	X	Y	Single Extended	
												LS	HS
100	5/8 x 5/16	2.59	3.340 - .011	3.349-.001	4.62	2.437	2.9536-.0006	6.25	7.31	3.50	5/8 x 3/16	32.12	6.25
120	3/4 x 3/8	3.12	3.918-.011	4.0025-.001	5.75	3.125	3.3475-.0008	8.50	9.68	4.00	3/4 x 7/32	38.62	8.50

Size 15 thru 35



Size 40 thru 120



Δ O.D. VARIES WITH RATIO, SEE TOOL CHART.
*DIMENSIONS HELD EXACT IN MANUFACTURING.

Note: Sets are matched with worm over, looking at worm from single extended end, the marked face of gear is to the left.

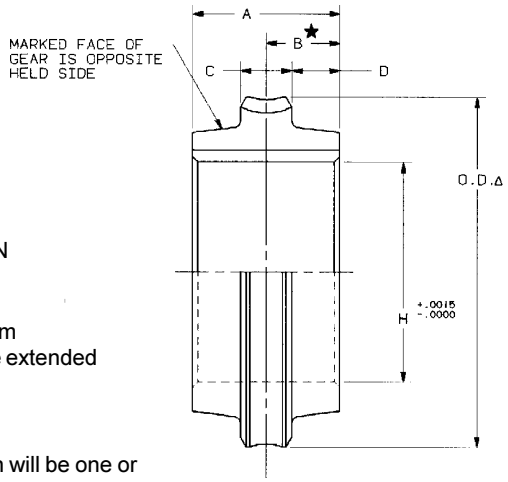
Note: Gear and hub construction will be one or more of several designs at Textron Power Transmission's option.

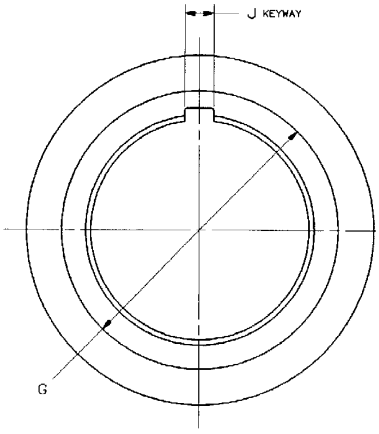
Size	C.D.	A	B*	C	D	E	F MAX.	G	H	J	K
15	1.500	2.000 ± .001	.20	.40	.80 ± .001	—	—	1.28	.748	3/16 x 3/32	.03 x 45°
20	2.000	1.750 ± .001	.281	.5625	.594 ± .001	—	—	1.75	1.2495	1/4 x 1/8	
25	2.500	1.750 ± .001	.375	.750	.500 ± .001	—	—	2.00	1.2495	1/4 x 1/8	
30	3.000	2.625 ± .001	.4375	.875	.875 ± .001	.50	4.00	2.62	1.6245	3/8 x 3/16	
35	3.500	3.125 ± .001	.500	1.000	1.062 ± .001	.50	4.62	3.25	2.1875	1/2 x 1/4	
40	4.000	3.625 ± .002	.5625	1.125	1.250 ± .001	.62	5.50	4.00	2.625	1/2 x 1/4	.06 x 45°
50	5.000	4.250 ± .002	.6875	1.375	1.4375 ± .001	.75	6.88	4.50	3.125	5/8 x 5/16	
60	6.000	5.000 ± .002	.875	1.750	1.625 ± .001	.88	8.38	5.50	3.625	3/4 x 3/8	
70	7.000	5.000 ± .005	.875	1.750	1.625 ± .002	1.00	9.62	6.12	4.000	7/8 x 7/16	
80	8.000	5.750 ± .005	1.125	2.250	1.750 ± .002	1.25	11.09	6.12	4.000	7/8 x 7/16	
100	10.000	6.000 ± .005	1.375	2.750	1.625 ± .002	1.50	14.38	6.25	4.250	1 x 3/8	
120	12.000	6.750 ± .005	1.625	3.250	1.750 ± .002	1.75	17.25	9.00	6.125	1 1/4 x 7/16	

Standard Hollow Shaft, Ring & Flange Type Gears

0209

Hollow Shaft
Size 20 to 80





Δ O.D. VARIES WITH RATIO, SEE TOOL CHART.

*DIMENSIONS HELD EXACT I N MANUFACTURING.

Note: Sets are matched with worm over, looking at worm from single extended end, the marked face of gear is to the left.

Note: Gear and Hub construction will be one or more of several designs at Textron Power Transmission's option.

Size	C.D.	B	C	J	M	N	X	Y
20	2.000	1.875 ± .001	.9375	.594	.641	2.62	2.125	1/4 x 1/8
25	2.500	1.875 ± .001	.9375	.781	.547	3.37	2.875	1/4 x 1/8
30	3.000	3.375 ± .001	1.6875	.906	1.234	4.06	3.4375	3/8 x 3/16
35	3.500	4.000 ± .001	2.000	1.031	1.484	5.06	3.875	3/8 x 3/16
40	4.000	3.000 ± .002	1.500	1.187	.906	5.62	4.375	5/8 x 5/16
50	5.000	4.000 ± .002	2.000	1.437	1.281	6.75	5.125	5/8 x 5/16
60	6.000	5.000 ± .002	2.500	1.812	1.593	8.12	6.000	3/4 x 3/8
70	7.000	5.000 ± .002	2.500	1.750	1.625	9.50	7.375	1 x 1/2
80	8.000	5.000 ± .002	2.500	2.250	1.375	9.62	7.375	1 x 1/2

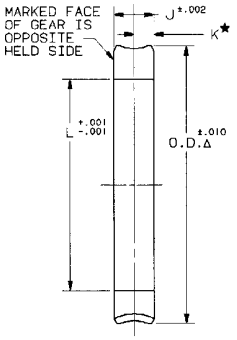
Ring Type Size 70 to 120

Δ O.D. VARIES WITH RATIO, SEE TOOL CHART.

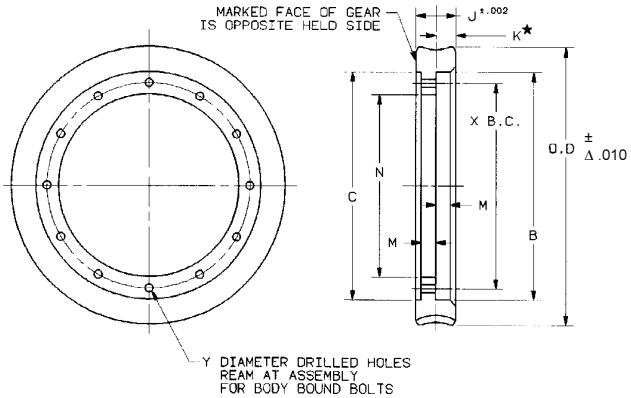
*DIMENSIONS HELD EXACT IN MANUFACTURING.

Note: Sets are matched with worm over, looking at worm from single extended end, the marked face of gear is to the left.

These blanks are stocked and can be cut to any standard ratio desired.



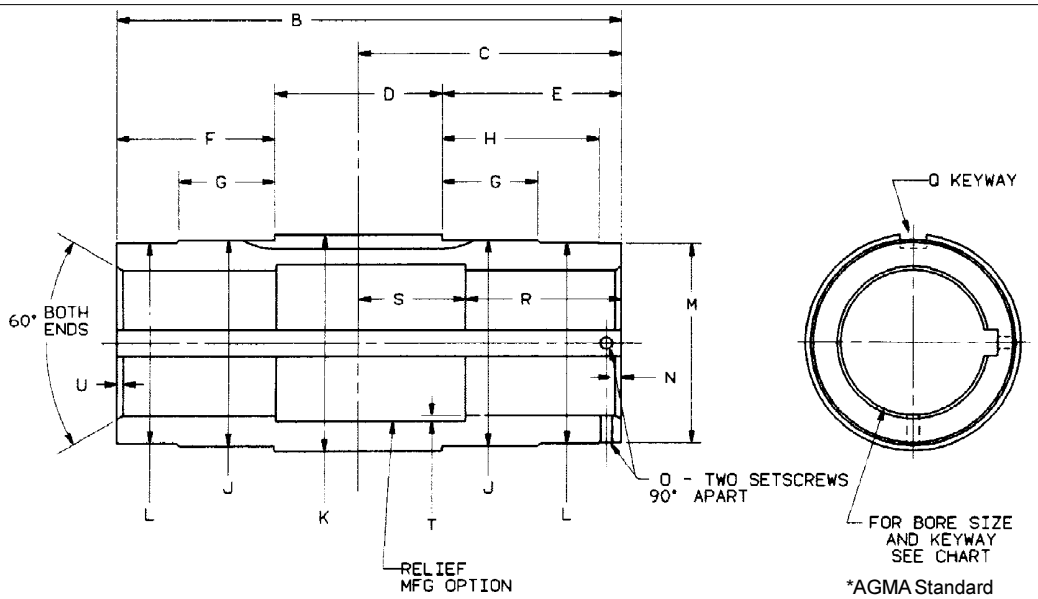
Flange Type Size 40 to 120



Size	C.D.	B	C	J	K*	L	M	N	X	Y	BOLTS	
											NO.	SIZE
40	4.000	5.375 + .001	5.343	1.125	.5625	—	.4375	4.000	4.750	11/32	6	3/8
50	5.000	6.500 + .001	6.468	1.375	.6875	—	.500	4.562	5.500	13/32	6	7/16
60	6.000	7.934 + .001	7.906	1.750	.875	—	.625	5.625	6.750	15/32	8	1/2
70	7.000	9.000 + .001	8.968	1.750	.875	9.250	.750	6.000	7.500	19/32	8	5/8
80	8.000	10.750 + .002	10.718	2.250	1.125	10.625	.750	7.750	9.250	19/32	8	5/8
100	10.000	13.500 + .002	13.468	2.750	1.375	13.375	.875	10.000	11.750	11/16	12	3/4
120	12.000	16.500 + .002	16.468	3.250	1.625	16.125	1.250	12.750	14.625	11/16	12	3/4

0209

Size 20 to 80



*AGMA Standard
Bore Tolerance:
Size 20 thru 35 = +.002 – .000
Size 40 thru 80 = +.003 – .000

THIS SHAFT WILL USE A HOLLOW SHAFT GEAR. PRECEDING IN THIS SECTION.
MATERIAL - TEXTRON POWER TRANSMISSION OPTION - STEEL OR DUCTILE IRON.

BORE INCHES	GEARSHAFT NUMBER	KEYWAY
SIZE 20		
1.375*	20-S60-106	1/4 x 1/8
1.250*	20-S60-104	1/4 x 1/8
1.1875*	20-S60-103	1/4 x 1/8
1.125*	20-S60-102	1/4 x 1/8
1.000*	20-S60-100	1/4 x 1/8
SIZE 25		
2.000*	25-S60-200	1/4 x 1/8
1.9375*	25-S60-115	1/4 x 1/8
1.6875*	25-S60-111	3/8 x 3/16
1.4375*	25-S60-107	3/8 x 3/16
1.250*	25-S60-104	1/4 x 1/8
1.1875*	25-S60-103	1/4 x 1/8

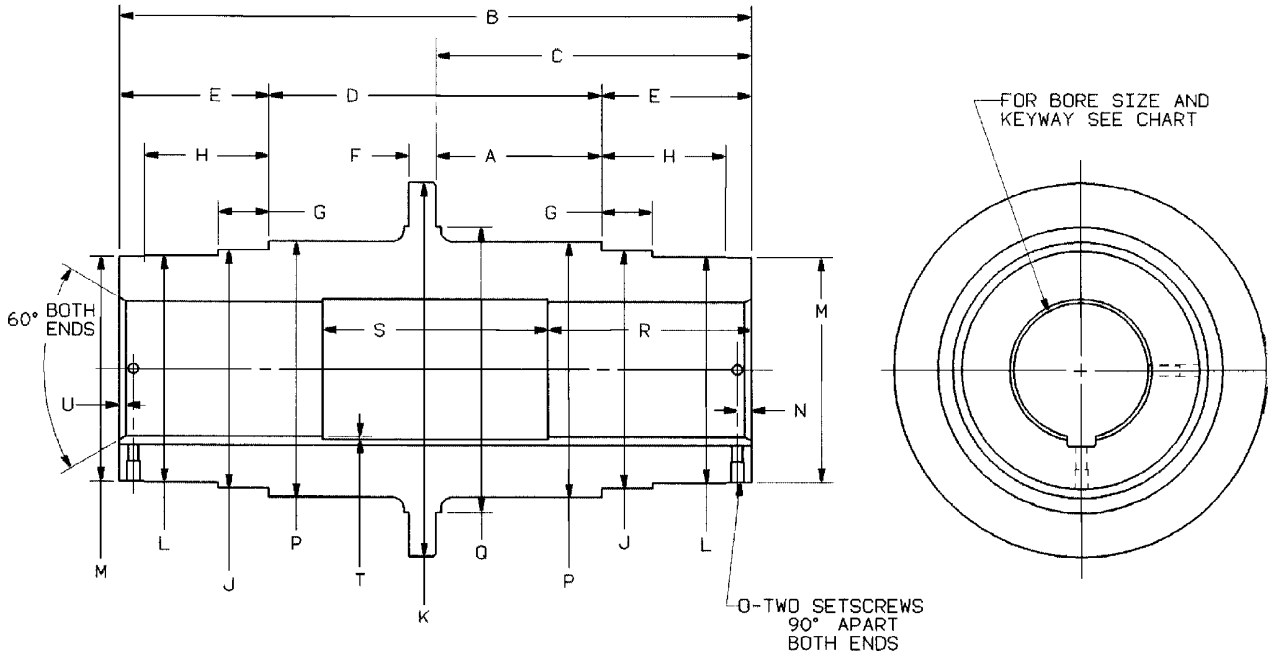
BORE INCHES	GEARSHAFT NUMBER	KEYWAY
SIZE 30		
2.500	30-S60-208	3/8 x 3/16
2.4375*	30-S60-207	3/8 x 3/16
2.1875*	30-S60-203	1/2 x 1/4
1.9375*	30-S60-115	1/2 x 1/4
1.6875*	30-S60-111	3/8 x 3/16
1.500*	30-S60-108	3/8 x 3/16
SIZE 35		
2.750	35-S60-212	3/8 x 3/16
2.6875*	35-S60-211	3/8 x 3/16
2.500	35-S60-208	3/8 x 3/16
2.4375*	35-S60-207	5/8 x 5/16
2.1875*	35-S60-203	1/2 x 1/4
1.9375*	35-S60-115	1/2 x 1/4
1.6875*	35-S60-111	3/8 x 3/16

BORE INCHES	GEARSHAFT NUMBER	KEYWAY
SIZE 40		
2.9375*	40-S60-215	5/8 x 5/16
2.6875*	40-S60-211	5/8 x 5/16
2.4375*	40-S60-207	5/8 x 5/16
2.1875*	40-S60-203	5/8 x 5/16
SIZE 50		
3.4375*	50-S60-307	5/8 x 5/16
3.1875*	50-S60-303	5/8 x 5/16
2.750	50-S60-212	5/8 x 5/16
SIZE 60		
3.9375*	60-S60-315	3/4 x 3/8
3.4375*	60-S60-307	3/4 x 3/8
2.9375*	60-S60-215	3/4 x 3/8
SIZE 70 & 80		
4.4375*	80-S60-407	1 x 1/2
3.9375*	80-S60-315	1 x 1/2

Size	C.D.	B +.030 –.030	C	D	E	F	G	H	J +.000 –.001
20	2.000	5.688	3.062	1.855	2.135	1.698	.86	1.666	2.0015
25	2.500	5.812	3.125	1.855	2.197	1.760	.82	1.730	2.6895
30	3.000	7.625	4.062	3.355	2.385	1.885	.98	1.870	3.2838
35	3.500	8.812	4.625	3.980	2.635	2.197	1.10	2.166	3.6900
40	4.000	11.062	5.875	2.980	4.385	3.697	2.26	3.635	4.1900
50	5.000	12.000	6.250	3.980	4.260	3.760	2.27	3.730	4.8775
60	6.000	14.250	7.500	4.980	5.010	4.260	2.52	4.200	5.6275
70	7.000	16.500	8.750	4.980	6.260	5.260	3.43	5.200	7.0025
80	8.000	16.500	8.750	4.980	6.260	5.260	3.43	5.200	7.0025

Size	K +.0005 –.0005	L +.002 –.002	M	N	O	Q	R	S	T	U
20	2.1270	1.937	1.875	.25	5/16 - 24	1/4 x 1/8				.09
25	2.8770	2.625	2.593	.25	5/16 - 24	1/4 x 1/8				.09
30	3.4395	3.250	3.188	.25	5/16 - 24	3/8 x 3/16				.09
35	3.8775	3.625	3.560	.25	5/16 - 24	3/8 x 3/16				.09
40	4.3775	4.000	3.980 - .010	.31	5/16 - 24	5/8 x 5/16	3.18	4.75	.03	.09
50	5.1275	4.750	4.730 - .010	.25	5/16 - 24	5/8 x 5/16	3.75	4.50	.03	.09
60	6.0025	5.500	5.480 - .010	.31	5/16 - 24	3/4 x 3/8	4.75	5.50	.03	.09
70	7.3775	6.875	6.850 - .010	.44	1/2 - 20	1 x 1/2	5.50	6.50	.03	.25
80	7.3775	6.875	6.850 - .010	.44	1/2 - 20	1 x 1/2	5.50	6.50	.03	.25

Size 100 to 120



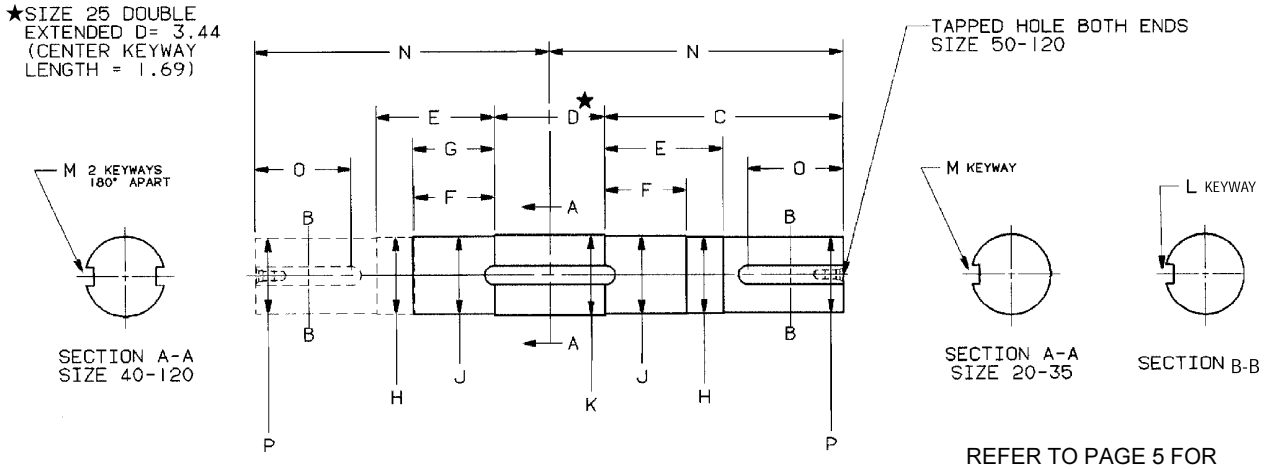
BORE INCHES	GEARSHAFT NUMBER	KEYWAY
SIZE 100		
5.9375	100-S61-515	1-1/4 x 7/16
SIZE 120		
7.9375	120-S61-715	1-1/2 x 1/2
Bore Tolerance: Size 100 thru 120 = +.004 - .000		

THE SPIDER SHAFT WILL USE A FLANGE TYPE GEAR. PRECEDING IN THIS SECTION, MATERIAL - DUCTILE IRON.

Size	C.D.	L ±.002	B	C	B +.030 –.030	E	F	G	H	M +.000 –.010
100	10.000	5.906	21.25	10.62	11.812	4.72	.88	1.81	3.75	8.1275
120	12.000	7.375	28.00	14.00	14.750	6.62	1.19	2.25	5.50	10.5050

Size	B +.030 –.030	L ±.002	M +.000 –.010	N	O	P	Q	R	S	T	U
100	13.505	8.000	7.975	.50	1/2 - 20	9.25	9.88	7.00	7.25	.03	.19
120	16.508	10.000	9.937	.50	1/2 - 20	11.37	12.62	9.00	10.00	.03	.19

Size 15 to 120



REFER TO PAGE 5 FOR GEARSHAFT MATERIAL

Size	C.D.	C	D	E	F	G	H ±.002	J -.001	K -.001	L	M	N	O	P -.001
15	1.500						.750	.750	.750	3/16 x 3/32	3/16 x 3/32	3.10	.80	.750
20	2.000	3.22	1.69		.843	.812		1.1825	1.2520	1/4 x 1/8	1/4 x 1/8	4.06	1.19	1.125
25	2.500	2.78	3.47						1.2520	1/4 x 1/8	1/4 x 1/8	4.50	1.38	1.250
30	3.000	4.66	2.56		1.00	1.03		1.5645	1.6270	3/8 x 3/16	3/8 x 3/16	5.93	2.00	1.500
35	3.500	6.38	3.00	2.81	1.50	1.53	2.000	2.0645	2.1900	1/2 x 1/4	1/2 x 1/4	7.87	2.68	1.875
40	4.000	7.45	3.60	3.26	1.88	1.91	2.3125	2.3642	2.6275	1/2 x 1/4	1/2 x 1/4	9.25	3.31	2.250
50	5.000	8.20	4.22	3.48	1.98	2.04	2.8125	2.8775	3.1275	5/8 x 5/16	5/8 x 5/16	10.31	3.62	2.750
60	6.000	9.51	4.97	3.86	2.32	2.38	3.3125	3.3775	3.6275	3/4 x 3/8	3/4 x 3/8	12.00	4.50	3.250
70	7.000	10.51	4.97	4.40	2.98	3.04	3.500	3.5650	4.0025	7/8 x 7/16	7/8 x 7/16	13.00	4.87	3.375
80	8.000	11.14	5.72	5.04	3.54	3.58	3.5625	3.6275	4.0025	7/8 x 7/16	7/8 x 7/16	14.00	4.87	3.500
100	10.000	12.78	5.87	6.34	4.38	4.41	4.0625	4.1275	4.253	1" x 1/2	1" x 3/8	15.72	5.12	4.000
120F	12.000	20.66	6.69	10.50	7.50	7.62	5.500	5.7540	6.128	1 1/4 x 5/8	1 1/4 x 7/16	24.00	7.62	5.497

0209

Mountings for gearsets with center distances from 1.5" through 12" are detailed in this section.

The mounting assemblies shown in this section are dimensionally identical to the mountings used in standard Model HP Speed Reducers.

Worm mountings are for either single or double-extended shafts horizontally mounted. Vertical worm mountings are available but requirement should be reviewed by Textron Power Transmission application engineers to insure proper lubrication for upper bearing.

Gearshaft mountings are for either single extended, double extended, steeple bearings, or hollow gearshafts. The second suffix letter of these mountings indicates that gearshaft is vertically mounted.

U = shaft extended up

D = shaft extended down

V = shaft double extended up and down

When the second suffix letter is an 'O' it indicates the worm to be mounted over the gear.

Textron Power Transmission will furnish all parts shown for the mounting assembly selected except for the Cone worm, gear and gearshaft. These items must be ordered separately.

For worm and gear dimensions refer to this section.

For gearshaft dimensions refer to this section.

We furnish oil seals as shown for each type and if you require an alternate, please specify type required on your purchase order.

Textron Power Transmission can supply either the complete mounting assembly or individual parts to meet your requirements.

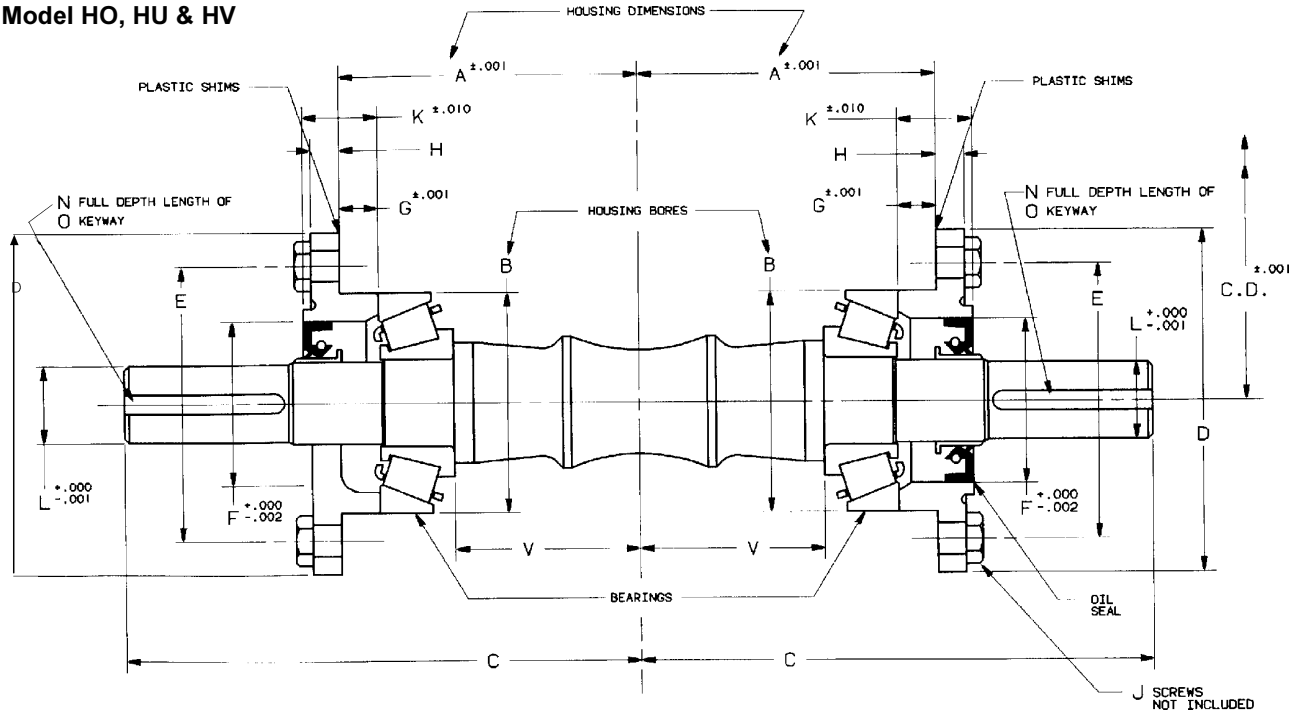
CENTER DISTANCE (C.D.) TOLERANCE

SIZE	C.D.	TOLERANCE
15 to 50	1.500 to 5.000	±.001
60 to 120	6.000 to 12.000	±.002

Listed tolerances are Textron Power Transmission housing bore dimensions. Manufactured gearset center distance is exact.

0209

Size 15 to 35
Standard "A" Mounting (Single Extended)
Standard "E" Mounting (Double Extended)
For Model HO, HU & HV



* NOTE: SIZE 15 ONLY. THE WORM AND GEAR BEARING MOUNTINGS ARE IDENTICAL.
CARRIER DIMENSIONS NOT SHOWN FOLLOW IN THIS SECTION.

Size	C.D.	A	B	C	D	E	F	G	H	J
*15	1.500	1.650	2.601 ± .001	3.00	3.10	3.15	1.250	—	.156	4-1/4 -20
20	2.000	2.4375	2.125 + .001	4.59	3.25	2.69	1.500	.160	.28	4-5/16-24
25	2.500	3.125	2.563 + .001	5.25	3.75	3.12	1.6875	.161	.33	4-5/16- 24
30	3.000	3.875	2.860 + .001	6.69	4.43	3.56	2.125	.504	.38	6-3/8- 24
35	3.500	4.500	3.125 + .002	7.75	4.87	4.00	2.250	.754	.38	6-3/8-24

Size	K	L	N	O	V	TAPERED ROLLER BEARING		OIL SEAL LIP TYPE
						TPT PART NUMBER	MANUFACTURER NUMBER	
15	—	.625	.75	3/16 x 3/32	1.000	**LM11949 LM11910**	LM11949-CONE LM11910-CUP	**075A125**
20	.700	.6875	1.06	3/16 x 3/32	1.406	**321075 321212**	23092-CONE 23256-CUP	**075W150**
25	.742	.750	1.00	3/16 x 3/32	2.093	**323092 323256**	41126-CONE 41286-CUP	**087W168**
30	.915	1.000	1.75	1/4 x 1/8	2.406	**341126 341286**	43132-CONE 43312-CUP	**106W212**
35	.815	1.1875	2.62	1/4 x 1/8	2.750	**343132 343312**	21075-CONE 21212-CUP	**125W225**

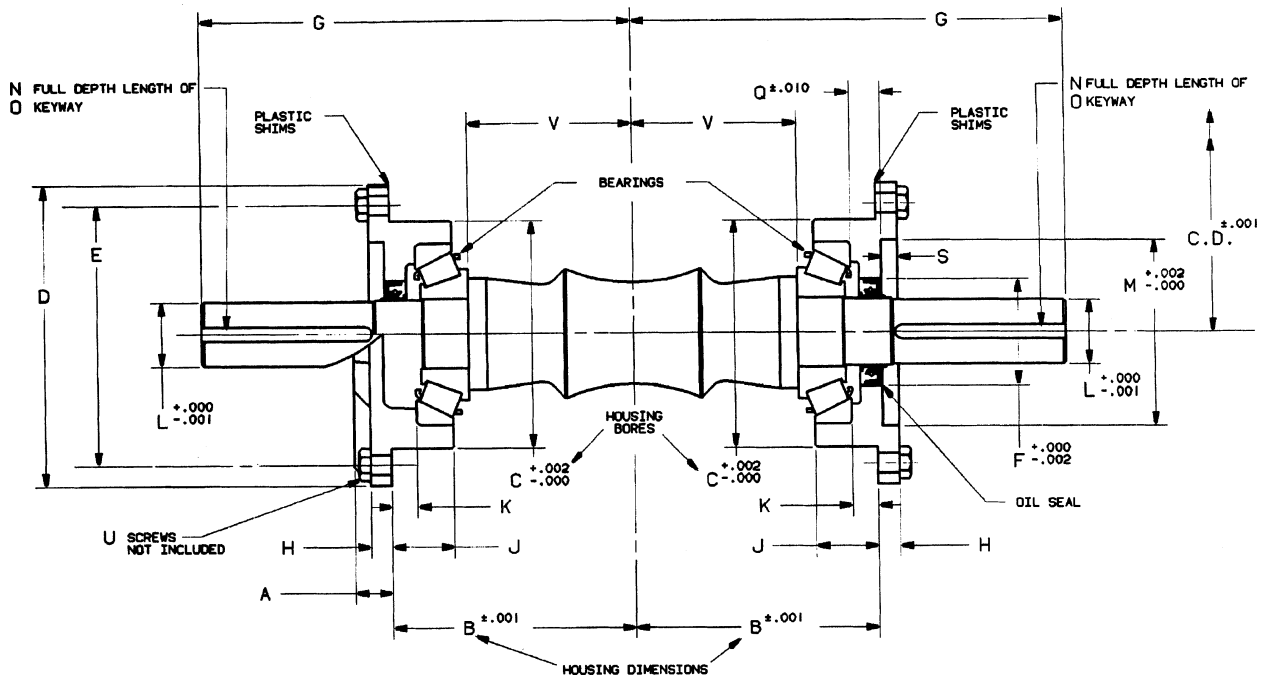
STANDARD WORM MOUNTING COMPLETE MOUNTING PARTS - LESS WORM		SIZE 15	SIZE 20	SIZE 25	SIZE 30	SIZE 35
MOUNTING DESCRIPTION	SINGLE EXTENDED STANDARD WITH LIP TYPE OIL SEAL	15A	20A	25A	30A	35A
	DOUBLE EXTENDED STANDARD WITH LIP TYPE OIL SEAL BOTH ENDS	15E	20E	25E	30E	35E

Textron Power Transmission part numbers are shown in bold print.
Mountings shown are for horizontally mounted worm.

For vertical type mounting contact Textron Power Transmission.
Additional parts are required to insure lubrication of upper bearings.

0209

Size 40 to 80
Standard "FA" Mounting (Single Extended)
Standard "FE" Mounting (Double Extended)
For Model HO, HU & HV



NOTE: ALL BOLT HOLES ARE SHOWN 30° OUT OF POSITION.

Size	C.D.	A	B	C	D	E	F	G	H	J	K	L
40F	4.000	.88	5.187	4.625	6.38	5.375	2.625	9.31	.437	1.56	.757±.002	1.500
50F	5.000	.94	6.000	5.250	7.25	6.125	2.625	10.50	.500	1.56	.570±.002	1.500
60F	6.000	1.00	6.625	6.125	8.12	7.000	2.875	11.75	.560	1.72	.695±.002	1.750
70F	7.000	—	8.250	6.750	9.25	7.875	3.500	14.50	.700	3.20	2.155±.005	1.875
80F	8.000	—	9.625	7.000	9.62	8.250	3.500	15.50	.700	3.85	2.592±.005	2.000

Size	M	N	O	Q	S	U	V	TAPERED ROLLER BEARING		OIL SEAL LIP TYPE
								TPT PART NUMBER	MANUFACTURER NUMBER	
40F	3.875	3.00	3/8 x 3/16	.906	.31	6-3/8-24	3.250	**HM803146** **HM803110**	HM803146-CONE HM803110-CUP	**156W262**
50F	4.500	3.25	3/8 X 3/16	.800	.31	6-1/2-20	4.250	**355175C** **355437**	55175C-CONE 55437-CUP	**156W262**
60F	5.000	4.00	3/8 X 3/16	.962	.43	6-1/2-20	4.500	**372188C** **372487**	72188C-CONE 72487-CUP	**181W287**
70F	5.750	4.50	1/2 X 1/4	1.250	.43	6-5/8-11	4.500	**H913849** **H913810**	H913849-CONE H913810-CUP	**212W350**
80F	5.750	4.75	1/2 X 1/4	.895	.43	6-5/8-11	5.125	**309285** **309220**	9285-CONE 9220-CUP	**212W350**

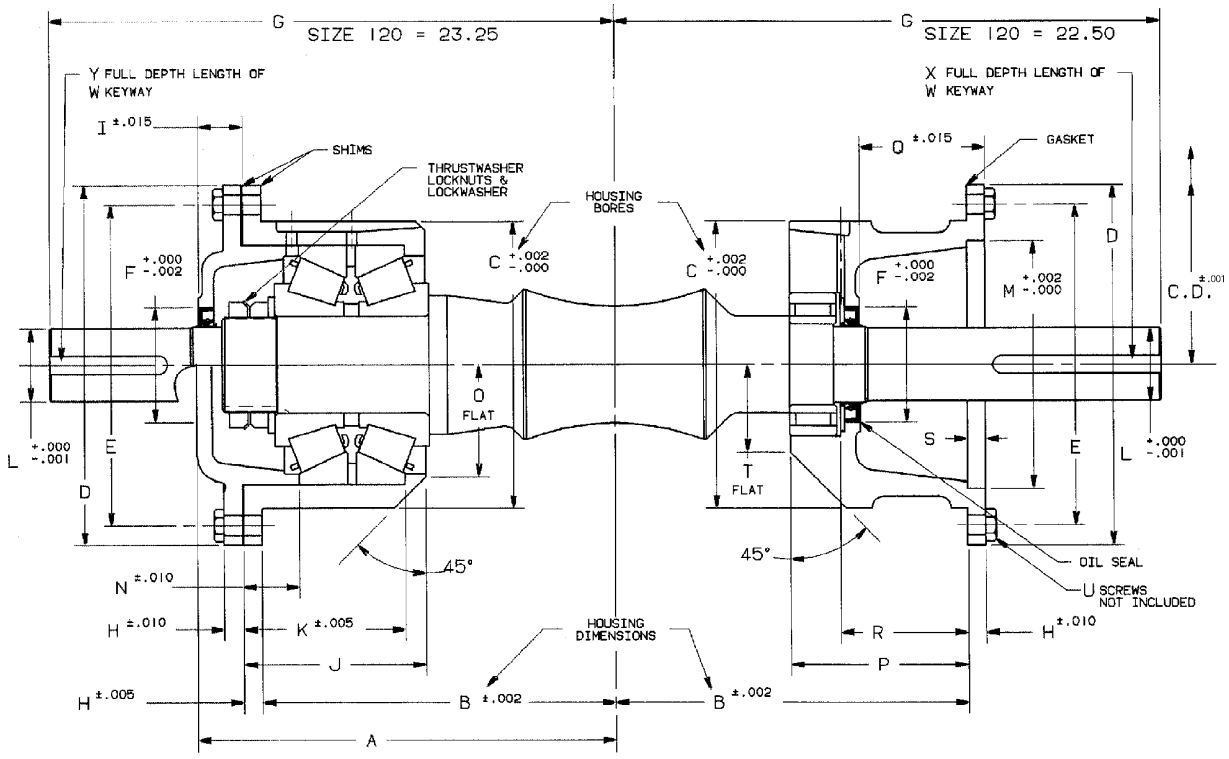
STANDARD WORM MOUNTING COMPLETE MOUNTING PARTS - LESS WORM		SIZE 40F	SIZE 50F	SIZE 60F	SIZE 70F	SIZE 80F
MOUNTING	SINGLE EXTENDED STANDARD WITH LIP TYPE OIL SEAL	40FA	50FA	60FA	70FA	80FA
DESCRIPTION	DOUBLE EXTENDED STANDARD WITH LIP TYPE OIL SEAL BOTH ENDS	40FE	50FE	60FE	70FE	80FE

Textron Power Transmission part numbers are shown in bold print.
Mountings shown are for horizontally mounted worm.

For vertical type mounting contact Textron Power Transmission.
Additional parts are required to insure lubrication of upper bearings.

0209

Size 100 to 120
Standard "A" Mounting (Single Extended)
Standard "E" Mounting (Double Extended)
For Model HO, HU & HV



ALL BOLT HOLES ARE SHOWN 30° OUT OF POSITION.

DOUBLE LOCKED UP TAPERED ROLLER BEARINGS HAVE PRE-GROUND SPACERS TO CONTROL ENDPLAY OF BEARING.

Size	C.D.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
100	10.000	14.44	12.250	9.000	11.62	10.25	3.750	19.25	.750	.70	6.44	5.555	2.375	7.750	2.843	3.6	6.125	4.386	4.50	.54	3.1	6-5/ 8-11
120	12.000	17.19	14.500	11.875	14.87	13.25	4.750	See Above	.750	1.83	7.62	6.656	3.000	10.250	2.328	4.1	8.06	5.166	5.25	.75	3.6	6-3/ 4-10

Size	W	X	Y	BEARING ACCESSORIES			TAPERED ROLLER BEARING			CYLINDRICAL ROLLER RADIAL BEARINGS	OIL SEAL LIP
				THRUST WASHER	LOCK NUT (2)	LOCK WASHER	ASSEMBLY TPT NUMBER	CONSISTING OF			
								CONE AND CONE SPACER	CUP AND CUP SPACER		
100	5/8 x 5/16	5.00	4.25	NOT REQ'D	**155017** AN-17	**155217** W-17	**335311**	90334 (2) X-1-S 90334	90744 (2) Y-4-S90744	**240315** U-1315-L	**243W375**
120	3/4 x 3/8	5.87	4.50	**155320** K91520	**155020** AN-20	**155220** W-20	**334879**	HH923649 (2) K84216	HH923610 (2) K84217	**245217** U-5217-L	**312W475**

STANDARD WORM MOUNTING COMPLETE MOUNTING PARTS - LESS WORM		SIZE 100	SIZE 120
MOUNTING DESCRIPTION	SINGLE EXTENDED STANDARD WITH LIP TYPE OIL SEAL	100A	120A
	DOUBLE EXTENDED STANDARD WITH LIP TYPE OIL SEAL BOTH ENDS	100E	120E

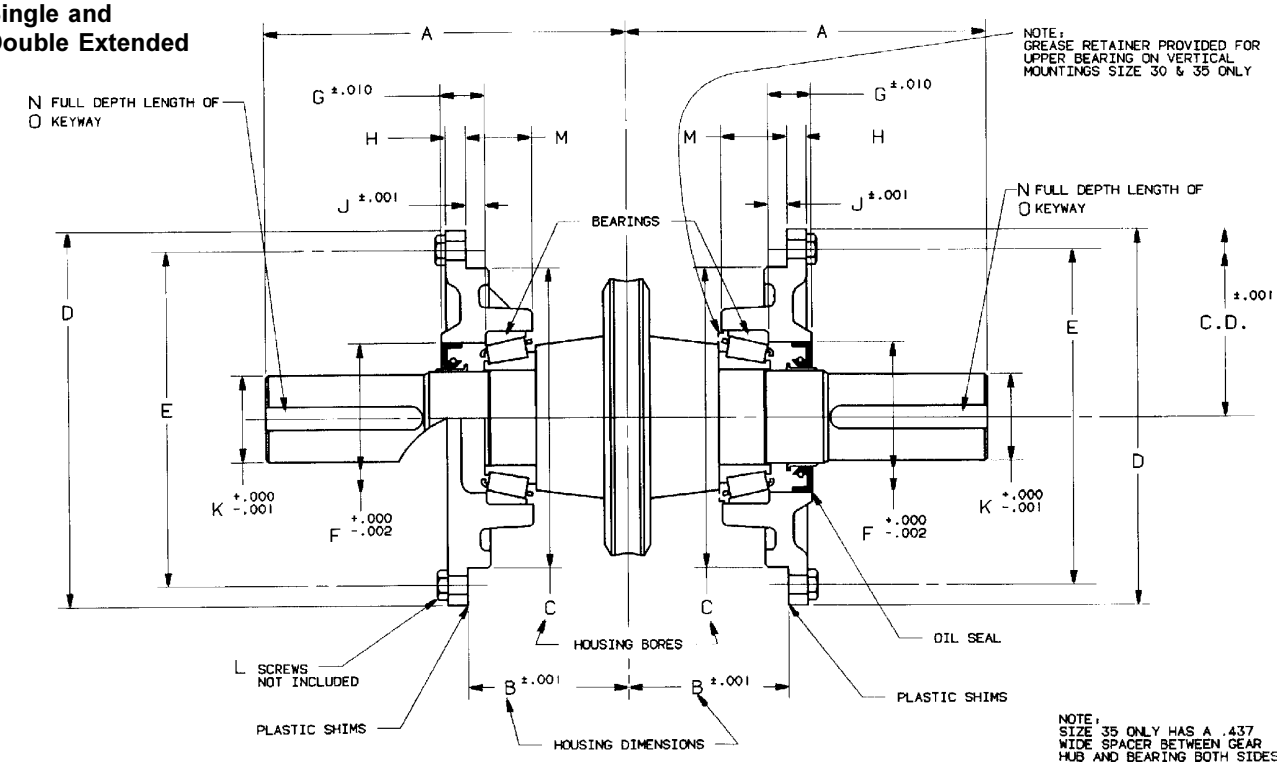
Textron Power Transmision part numbers are shown in bold print.
Mountings shown are for horizontally mounted worm.

For vertical type mounting contact Tetxron Power Transmission.
Additional parts are required to insure lubrication of upper bearings.

Standard Gearshaft Mountings and Bearings

0209

Size 15 to 35 Single and Double Extended



Textron Power Transmission part numbers are shown in bold print.

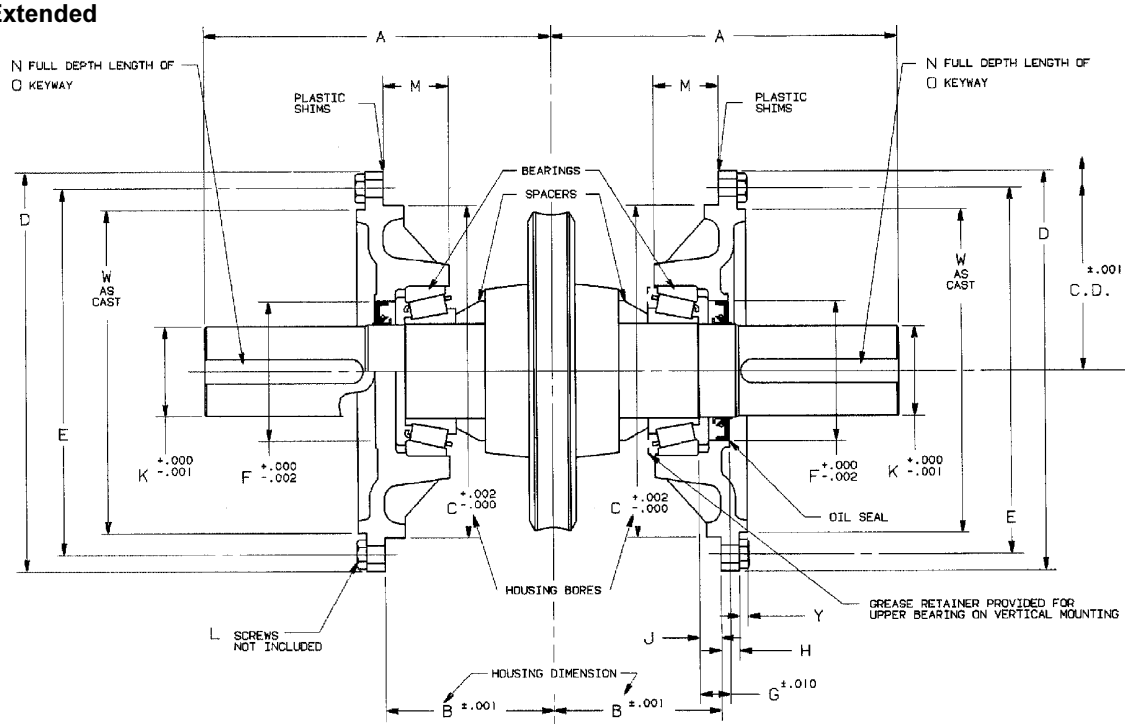
Size	C.D.	A	B	C	D	E	F	G	H	J
15	1.500	3.10	1.650	2.600+ .002	3.10	3.15	1.250	.366	.156	.166
20	2.000	4.06	1.625	3.5005 + .0015	4.75	4.12	2.125	.733	.312	.007
25	2.500	4.50	2.000	4.3755 + .0015	5.69	4.94	2.250	.860	.375	.257
30	3.000	5.94	2.625	5.375 + .002	7.00	6.12	2.500	.898	.437	.382
35	3.500	7.87	3.500	6.500 + .002	8.12	7.25	3.250	.960	.437	.414

Size	K	L	M	N	O	TAPERED ROLLER BEARING		OIL SEAL LIP TYPE
						TPT PART NUMBER	MANUFACTURER NUMBER	
15	.75	4-1/4-20	.50	.80	3/16 x 3/32	**LM11949 LM11910**	LM11949-CONE LM11910-CUP	**075A125**
20	1.125	4-5/16-24	.65	1.19	1/4 x 1/8	**315117 315245**	15117-CONE 15245-CUP	**112W212**
25	1.250	8-5/16-24	.94	1.38	1/4 x 1/8	**302875 302820**	02875-CONE 02820-CUP	**125W225**
30	1.500	6-3/8-24	1.03	2.00	3/8 x 3/16	**326881 326822**	26881-CONE 26822-CUP	**150W250**
35	1.875	6-3/8-24	1.44	2.68	1/2 x 1/4	**333890 333821**	33890-CONE 33821-CUP	**200W325**

STANDARD GEARSHAFT MOUNTING COMPLETE MOUNTING PARTS - LESS GEAR & SHAFT		SIZE 15	SIZE 20	SIZE 25	SIZE 30	SIZE 35
MOUNTING DESCRIPTION	SINGLE EXTENDED - HORIZONTAL	15J	20J	25J	30J	35J
	SINGLE EXTENDED - SHAFT VERTICAL UP			25JU	30JU	35JU
	SINGLE EXTENDED - SHAFT VERTICAL DOWN			25JD	30JD	35JD
	DOUBLE EXTENDED - HORIZONTAL	15K	20K	25K	30K	35K
	DOUBLE EXTENDED - SHAFT VERTICAL			25KV	30KV	35KV

0209

Size 40 to 70
Single and
Double Extended



Texton Power Transmission part numbers are shown in bold print.

Size	C.D.	A	B	C	D	E	F	G	H	J	K
40	4.000	9.25	4.125	7.250	9.00	8.00	3.750	1.050	.437	.385± .002	2.250
50	5.000	10.31	4.750	9.000	11.00	9.87	4.500	1.102	.500	.573 ± .002	2.750
60	6.000	12.00	5.375	10.500	12.50	11.38	5.000	1.045	.593	.322 ± .002	3.250
70	7.000	13.00	6.250	12.500	15.00	13.75	5.250	1.140	.687	.806 ± .005	3.375

Size	L	M	N	O	W	Y	TAPERED ROLLER BEARING		OIL SEAL LIP TYPE
							TPT PART NUMBER	MANUFACTURER NUMBER	
40	6 - 3/8 - 24	1.56	3.31	1/2 x 1/4	7.12	.19	**303977** **303920**	3977-CONE 3920-CUP	**231W375**
50	6 - 1/2 - 20	1.87	3.62	5/8 x 5/16	9.00	.19	**300567** **300563**	567-CONE 563-CUP	**281W450**
60	6 - 1/2 - 20	1.75	4.50	3/4 x 3/8	10.25	.41	**300596** **300592A**	596-CONE 592A-CUP	**331W500**
70	6 - 5/8 - 11	2.43	4.87	7/8 x 7/16	12.25	.32	**300760** **300752**	760-CONE 752-CUP	**350W525**

STANDARD GEARSHAFT MOUNTING COMPLETE MOUNTING PARTS - LESS GEAR & SHAFT		SIZE 40	SIZE 50	SIZE 60	SIZE 70
MOUNTING DESCRIPTION	SINGLE EXTENDED - HORIZONTAL	40L	50L	60L	70L
	SINGLE EXTENDED - SHAFT VERTICAL UP	40LU	50LU	60LU	70LU
	SINGLE EXTENDED - SHAFT VERTICAL DOWN	40LD	50LD	60LD	70LD
	DOUBLE EXTENDED - HORIZONTAL	40M	50M	60M	70M
	DOUBLE EXTENDED - SHAFT VERTICAL	40MV	50MV	60MV	70MV

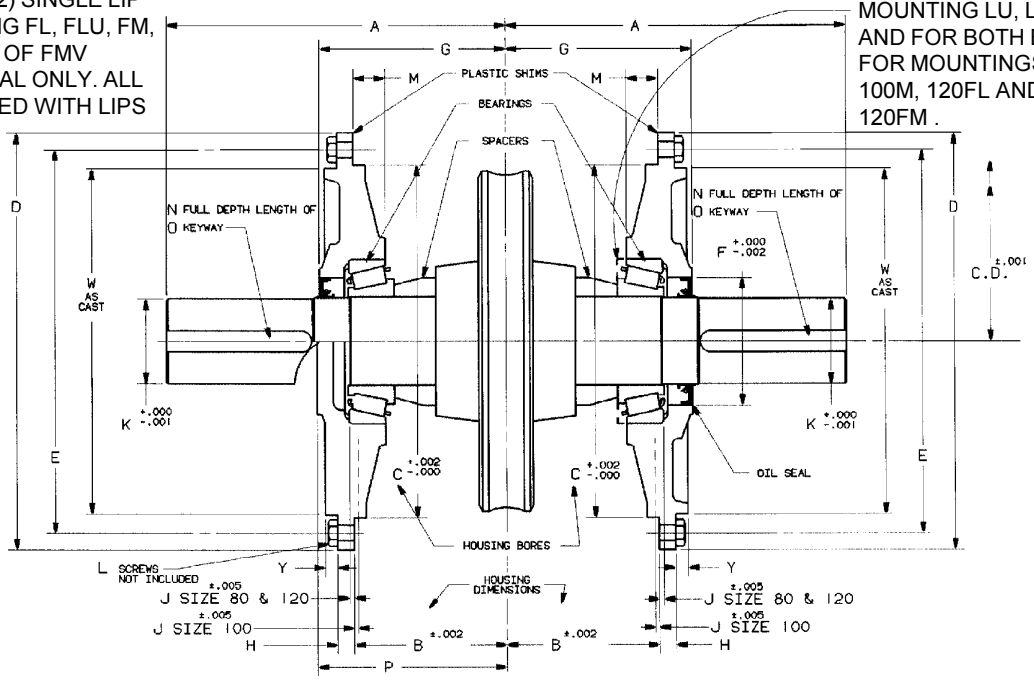
Standard Gearshaft Mountings and Bearings

0209

Size 80 to 120
Single and Double Extended

* SIZE 120F MOUNTINGS FLO, FLD, FMO, AND LOWER END OF FMV REQUIRES (2) SINGLE LIP SEALS. MOUNTING FL, FLU, FM, AND UPPER END OF FMV REQUIRES (1) SEAL ONLY. ALL SEALS ASSEMBLED WITH LIPS INWARD.

NOTE: GREASE RETAINER PROVIDED FOR UPPER BEARING ON VERTICAL MOUNTING LU, LD, MV AND FOR BOTH BEARINGS FOR MOUNTINGS 100L, 100M, 120FL AND 120FM .



Size	A	B	C	D	E	F	G	H	J	K	L Holes	M
80	14.00	6.250	14.500	17.12	15.75	5.250	7.68	.687	.186	3.500	8 5/8-11	1.31
100	15.72	8.000	17.750	20.50	19.12	6.000	9.00	.812	.652	4.000	12-5/8-11	2.03
120F	24.00	10.375	21.500	24.50	23.00	7.500	12.36	.875	.450	5.497	12-3/4-10	1.93

Size	N	O	P	W	Y	TAPERED ROLLER BEARING		OIL SEAL LIP TYPE
						TPT PART NUMBER	MANUFACTURER NUMBER	
80	4.87	7/8 x 7/16	7.84	14.25	.50	**377362 377675**	77362-CONE 77675-CUP	**356W525**
100	5.12	1 x 1/2	9.25	16.82	.38	**371412 371750**	71412-CONE 71750-CUP	**406W600**
120F	7.62	1 1/4 x 5/8	12.50	20.50	—	**EE107057 107105**	EE107057-CONE 107105-CUP	* **550A750**

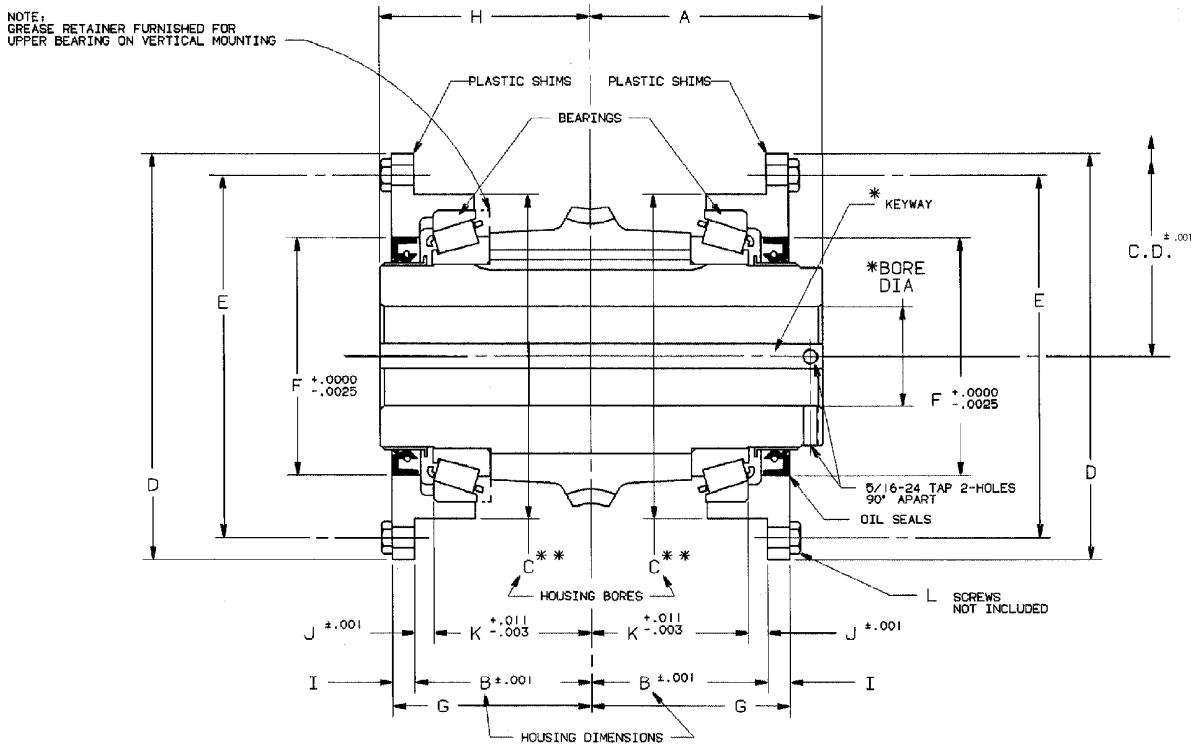
STANDARD GEARSHAFT MOUNTING COMPLETE MOUNTING PARTS - LESS GEAR & SHAFT		SIZE 80	SIZE 100	SIZE 120F
MOUNTING DESCRIPTION	SINGLE EXTENDED - HORIZONTAL-WORM MOUNTED UNDER GEAR	80L	100L	120FL
	SINGLE EXTENDED - HORIZONTAL - WORM MOUNTED OVER GEAR	80LO	100LO	120FLO
	SINGLE EXTENDED - SHAFT VERTICAL UP	80LU	100LU	120FLU
	SINGLE EXTENDED-SHAFT VERTICAL DOWN	80LD	100LD	120FLD
	DOUBLE EXTENDED - HORIZONTAL - WORM MOUNTED UNDER GEAR	80M	100M	120FM
	DOUBLE EXTENDED - HORIZONTAL - WORM MOUNTED OVER GEAR	80MO	100MO	120FMO
	DOUBLE EXTENDED - SHAFT VERTICAL	80MV	100MV	120FMV

* See note above for size 120F.
Textron Power Transmission part numbers are shown in bold print.

Standard Hollow Shaft Gear Mountings and Bearings

0209

Size 20 to 35



Size	C.D.	A	B	C	D	E	F	G	H
20	2.000	3.06	1.625	+.0015 3.5005	4.75	4.12	2.687	2.43	2.62
25	2.500	3.12	2.000	+.0015 4.3755	5.69	4.94	3.500	2.41	2.68
30	3.000	4.06	2.625	+.002 5.375	7.00	6.12	4.250	3.38	3.56
35	3.500	4.62	3.500	+.002 6.500	8.12	7.25	4.750	3.94	4.18

Size	I	J	K	L HOLES		TAPERED ROLLER BEARING		OIL SEAL LIP TYPE
				NO	SIZE	TPT PART NUMBER	MANUFACTURER NUMBER	
20	.375	– .118	1.750	4	5/16 - 24	**300368** **300362A**	368-CONE 362A-CUP	**193W268**
25	.375	.203	–	8	5/16 - 24	**30399A** **30393AS**	399A-CONE 393AS-CUP	**262W350**
30	.437	– .056	2.687	6	3/8 - 24	**327689** **327620**	27689-CONE 27620-CUP	**325W425**
35	.437	.382	–	6	3/8 - 24	**342368** **342584**	42368-CONE 42584-CUP	**362W475**

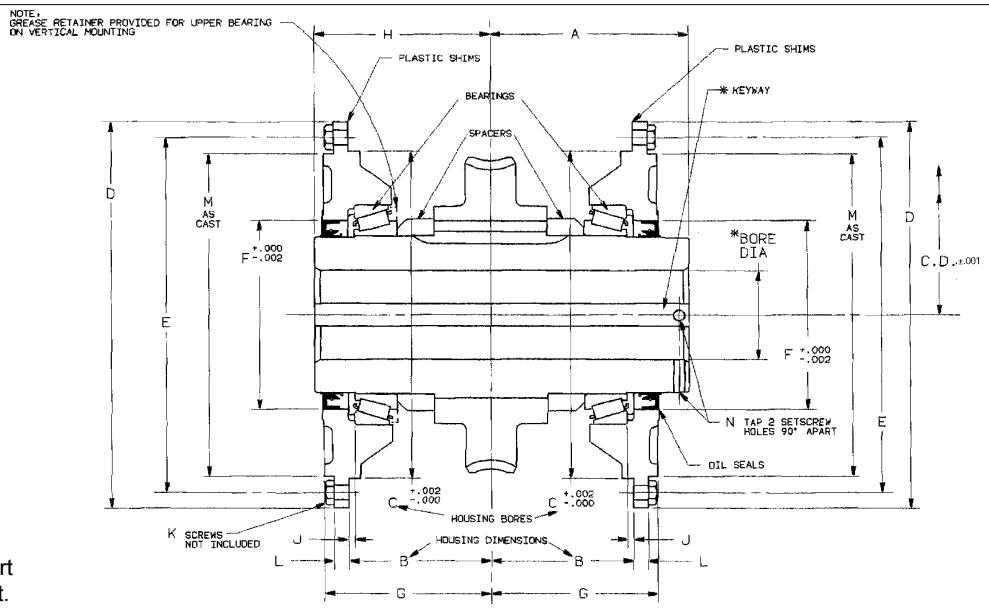
STANDARD GEARSHAFT MOUNTING COMPLETE MOUNTING PARTS - LESS GEAR & SHAFT		SIZE 20	SIZE 25	SIZE 30	SIZE 35
MOUNTING DESCRIPTION	SINGLE EXTENDED - SHAFT HORIZONTAL	S20J	S25J	S30J	S35J
	SINGLE EXTENDED - SHAFT VERTICAL UP	S20JU	S25JU	S30JU	S35JU
	SINGLE EXTENDED - SHAFT VERTICAL DOWN	S20JD	S25JD	S30JD	S35JD

Textron Power Transmission part numbers are shown in bold print.

Standard Hollow Shaft Gear Mountings and Bearings

0209

Size 40 to 120



Textron Power Transmission part numbers are shown in bold print.

Reducer Size	Center Distance	A	B	C	D	E	F	G	H	J
40	4.000	5.87	± .001 4.125	7.250	9.00	8.00	5.000	5.00	5.19	± .002 .322
50	5.000	6.25	± .001 4.750	9.000	11.00	9.87	6.250	5.47	5.75	± .002 .386
60	6.000	7.50	± .001 5.375	10.500	12.50	11.38	6.625	6.38	6.75	± .002 .260
70	7.000	8.75	± .001 6.250	12.500	15.00	13.75	8.375	7.43	7.75	± .005 .270
80	8.000	8.75	± .001 6.250	14.500	17.12	15.75	8.375	7.43	7.75	± .005 .270
100	10.000	10.62	± .002 8.000	17.750	20.50	19.12	10.000	9.38	10.62	± .005 .300
120	12.000	14.00	± .002 10.375	21.500	24.50	23.00	11.750	12.25	14.00	± .005 .780

Size	K HOLES		L	M	N	TAPERED ROLLER BEARING		OIL SEAL LIP TYPE
	NO	SIZE				TPT PART NUMBER	MANUFACTURER NUMBER	
40	6	3/8 - 24	.47	–	5/16 - 24	**356418** **356650**	56418-CONE 56650-CUP	**400W500**
50	6	1/2 - 20	.50	–	5/16 - 24	**348286** **348220**	48286-CONE 48220-CUP	**475W625**
60	6	1/2 - 20	.58	10.25	5/16 -24	**348685** **348620**	48685-CONE 48620-CUP	**550W662**
70	6	5/8 - 11	.68	12.38	1/2 -20	**367790** **367720**	67790-CONE 67720-CUP	**687W837**
80	8	5/8 - 11	.68	14.38	1/2 - 20	**367790** **367720**	67790-CONE 67720-CUP	**687W837**
100	12	5/8 - 11	.82	16.82	1/2 -20	**367985** **367920**	67985-CONE 67920-CUP	**800D1000**
120	12	3/4 - 10	.80	–	1/2 - 20	**LM451349** **LM451310**	LM451349-CONE LM451310-CUP	**1000A1175(2)**

STANDARD HOLLOW GEARSHAFT MOUNTING COMPLETE MOUNTING PARTS - LESS GEAR AND SHAFT		SIZE 40	SIZE 50	SIZE 60	SIZE 70	SIZE 80	SIZE 100	SIZE 120
MOUNTING DESCRIPTION	SINGLE EXTENDED - SHAFT HORIZONTAL	S40 J	S50 J	S60 J	S70 J	S80 J		
	SINGLE EXTENDED - SHAFT VERTICAL UP	S40 JU	S50 JU	S60 JU	S70 JU	S80 JU		
	SINGLE EXTENDED - SHAFT VERTICAL DOWN	S40 JD	S50 JD	S60 JD	S70 JD	S80 JD		
	DOUBLE EXTENDED - SHAFT HORIZONTAL						S100 K	S120 K
	DOUBLE EXTENDED - SHAFT VERTICAL						S100 KV	S120 KV

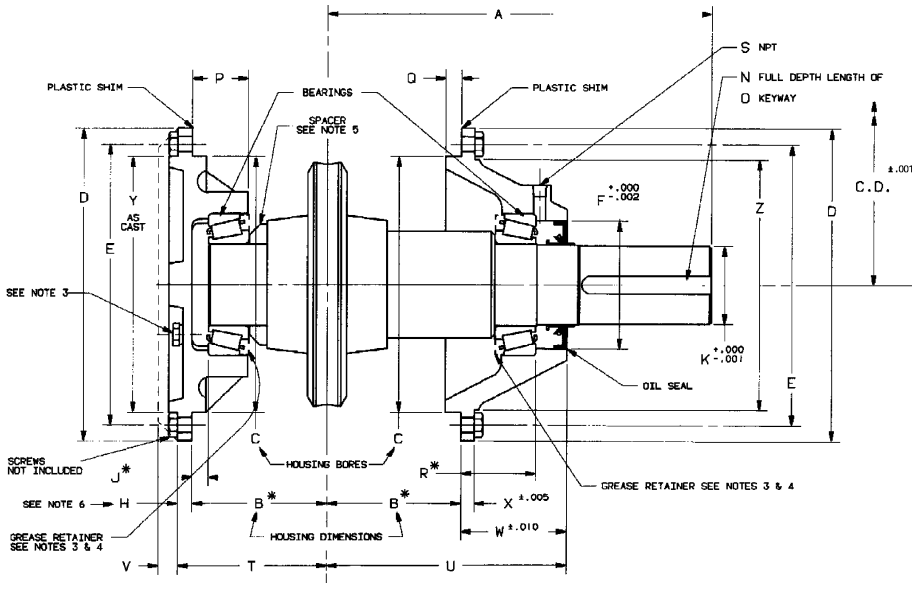
Standard Steeple Gearshaft Mountings and Bearings

0209

Size 25 to 120

Type R
Single Extended
Single Steeple

Note 1: Type "RU" mounting for vertical shaft, gearshaft extended up. See Note 6.
Note 2: Type "RD" mounting for vertical shaft, gearshaft extended down.
Note 3: When worm is mounted under gear oil level plug is located in carrier so that bearings dip in oil size 40-80. Sizes 100 -120 have grease retainers at each bearing.
Note 4: Grease retainer used on vertical mounted shaft at top end when steeple carrier is at top size 25 thru size 120. When st'd. carrier is at top size 30 thru size 120.
Note 5: Size 35 and larger has a spacer between gear and bearing.
Note 6: For "RU" mounting requiring a vertical base or foot brackets the "Y" and "H" dimensions must be machined to the "X" and "Z" dimensions.



*TOLERANCE FOR			
B	Size	25-80	± .001
		100-120	± .002
J	Size	25-35	± .001
		40-60	± .002
		70-120	± .005
R	Size	25-60	± .002
		70-120	± .005

SIZE	C.D.	A	B	C	D	E	F	H	J	K	L	N	O	P	Q
25	2.500	7.87	2.000	4.3755 + .0015	5.68	4.94	2.250	.31	.257	1.250	8 - 5/16 - 24	1.38	1/4 x 1/8	.94	.40
30	3.000	8.62	2.625	5.375 + .002	7.00	6.12	2.500	.38	.382	1.500	6 - 3/8 - 24	2.00	3/8 x 3/16	1.03	.50
35	3.500	10.25	3.500	6.500 + .002	8.12	7.25	3.250	.43	.414	1.875	6 - 3/8 - 24	2.68	1/2 x 1/4	1.43	.50
40	4.000	11.25	4.125	7.250 + .002	9.00	8.00	3.750	.43	.385	2.250	6 - 3/8 - 24	3.31	1/2 x 1/4	1.56	.53
50	5.000	13.62	4.750	9.000 + .002	11.00	9.87	4.500	.50	.573	2.750	6 - 1/2 - 20	3.62	5/8 x 5/16	1.87	.59
60	6.000	15.38	5.375	10.500 + .002	12.50	11.38	5.000	.59	.322	3.250	6 - 1/2 - 20	4.50	3/4 x 3/8	1.75	.66
70	7.000	19.38	6.250	12.500 + .002	15.00	13.75	5.250	.68	.806	3.375	6 - 5/8 - 11	4.87	7/8 x 7/16	2.43	.53
80	8.000	19.38	6.250	14.500 + .002	17.12	15.75	5.250	.68	.186	3.500	8 - 5/8 - 11	4.87	7/8 x 7/16	1.31	.50
100	10.000	24.00	8.000	17.750 + .002	20.50	19.12	6.000	.81	.652	4.000	12 - 5/8 -11	5.12	1 x 1/2	2.03	.50
120	12.000	36.00	10.375	21.500 + .002	24.50	23.00	7.500	.875	.450	5.497	12 - 3/4 -10	9.62	1-1/4 x 5/8	1.93	.875

SIZE	R	S	T	U	V	W	X	Y	Z	TAPERED ROLLER BEARINGS		OIL SEAL
25	1.990	1/4	2.31	4.87		2.835	.281		4.218 -.002	02875-CONE	02820-CUP	**125W225**
30	2.302	1/4	3.06	5.87		3.179	.343		5.343 - .002	26881-CONE	26822-CUP	**150W250**
35	1.771	1/4	3.81	6.25		2.710	.343		6.468 -.002	33890-CONE	33821-CUP	**200W325**
40	1.364	1/4	4.62	6.56	.25	2.393	.375	7.12	6.968 - .002	3977-CONE	3920-CUP	**231W375**
50	2.644	1/4	5.25	8.56	.31	3.730	.437	9.00	8.8125 - .002	567-CONE	563-CUP	**281W450**
60	3.078	1/4	5.94	9.56	.43	4.107	.531	10.25	9.999 - .002	596-CONE	592A-CUP	**331W500**
70	5.034	1/4	6.81	12.50	.38	6.174	.625	12.25	11.999 - .002	760-CONE	752-CUP	**350W525**
80	5.410	1/4	6.87	12.87	.71	6.625	.625	14.25	13.999 - .002	77362-CONE	77675-CUP	**356W525**
100	6.880	1/4	8.75	16.50	.38	8.500	.750	16.82	16.499 - .003	71412-CONE	71750-CUP	**406W600**
120	10.714	1/4	11.25	22.6	1.3	12.19	.88	20.50	—	EE107057	107105	**550A750**

STANDARD GEARSHAFT MOUNTING COMPLETE MOUNTING PARTS - LESS GEAR AND SHAFT		SIZE 25	SIZE 30	SIZE 35	SIZE 40	SIZE 50	SIZE 60	SIZE 70	SIZE 80	SIZE 100	SIZE 120
MOUNTING DESCRIPTION	SINGLE EXTENDED - HORIZONTAL WORM UNDER GEAR	25R	30R	35R	40R	50R	60R	70R	80R	100R	120R
	SINGLE EXTENDED - HORIZONTAL WORM OVER GEAR	25RO	30RO	35RO	40RO	50RO	60RO	70RO	80RO	100RO	120RO
	SINGLE EXTENDED - VERTICAL SHAFT UP	25RU	30RU	35RU	40RU	50RU	60RU	70RU	80RU	100RU	120RU
	SINGLE EXTENDED - VERTICAL SHAFT DOWN	25RD	30RD	35RD	40RD	50RD	60RD	70RD	80RD	100RD	120RD

Textron Power Transmission part numbers are shown in bold print. Contact Textron Power Transmission for additional gearshaft dimensions when required.

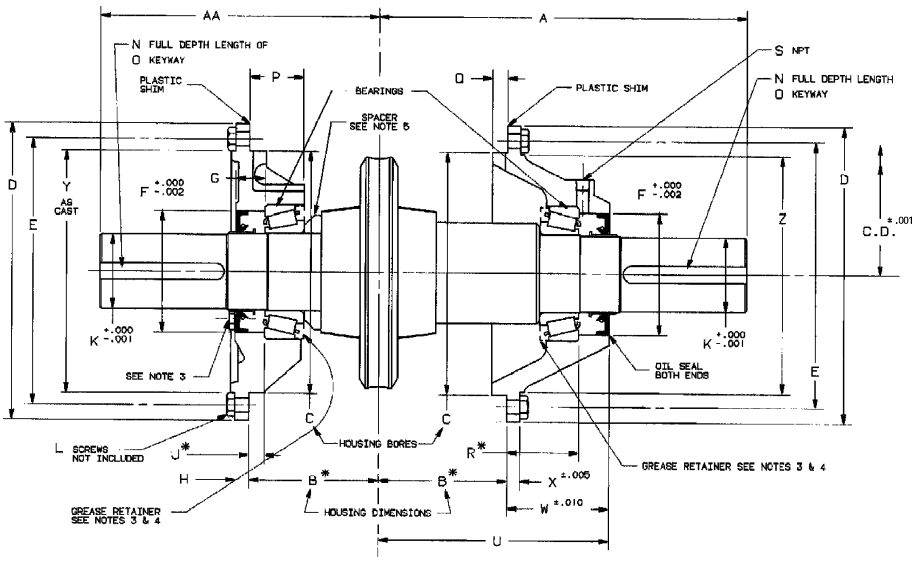
Standard Steeple Gearshaft Mountings and Bearings

0209

Size 25 to 120

Type S
Double Extended
Single Steeple

Note 1: Type "SU" mounting for vertical shaft, longer gearshaft extended up. See Note 6.
Note 2: Type "SD" mounting for vertical shaft, longer gearshaft extended down.
Note 3: When worm is mounted under gear oil level plug is located in carrier so that bearings dip in oil size 40-80. Sizes 100 -120 have grease retainers at each bearing.
Note 4: Grease retainer used on vertical mounted shaft at top end when steeple carrier is at top size 25 thru size 120. When st'd. carrier is at top size 30 thru size 120.
Note 5: Size 35 and larger has a spacer between gear and bearing.
Note 6: For "SU" mounting requiring a vertical base or foot brackets the "Y" and "H" dimensions must be machined to the "X" and "Z" dimensions.



*TOLERANCE FOR			
B	Size	25-80	± .001
		100	± .002
J	Size	25-35	± .001
		40-60	± .002
		70-120	± .005
R	Size	25-60	± .002
		70-120	± .005

SIZE	C.D.	AA	A	B	C	D	E	F	G	H	J	K	L	N	O
25	2.500	4.50	7.87	2.000	4.3755 + .0015	5.68	4.94	2.250	.860	.31	.257	1.250	8 - 5/16 - 24	1.38	1/4 x 1/8
30	3.000	5.94	8.62	2.625	5.375 + .002	7.00	6.12	2.500	.898	.38	.382	1.500	6 - 3/8 - 24	2.00	3/8 x 3/16
35	3.500	7.87	10.25	3.500	6.500 + .002	8.12	7.25	3.250	.960	.43	.414	1.875	6 - 3/8 - 24	2.68	1/2 x 1/4
40	4.000	9.25	11.25	4.125	7.250 + .002	9.00	8.00	3.750	1.050	.43	.385	2.250	6 - 3/8 - 24	3.31	1/2 x 1/4
50	5.000	10.31	13.62	4.750	9.000 + .002	11.00	9.87	4.500	1.102	.50	.573	2.750	6 - 1/2 - 20	3.62	5/8 x 5/16
60	6.000	12.00	15.38	5.375	10.500 + .002	12.50	11.38	5.000	1.045	.59	.322	3.250	6 - 1/2 - 20	4.50	3/4 x 3/8
70	7.000	13.00	19.38	6.250	12.500 + .002	15.00	13.75	5.250	1.140	.68	.806	3.375	6 - 5/8 - 11	4.87	7/8 x 7/16
80	8.000	14.00	19.38	6.250	14.500 + .002	17.12	15.75	5.250	1.213	.68	.186	3.500	8 - 5/8 - 11	4.87	7/8 x 7/16
100	10.000	15.72	24.00	8.000	17.750 + .002	20.50	19.12	6.000	1.625	.89	.652	4.000	12 - 5/8 -11	5.12	1 x 1/2
120	12.000	24.00	36.00	10.375	21.500 + .002	24.50	23.00	7.500	12.36	.875	.450	5.497	12 - 3/4 -10	9.62	1-1/4 x 5/8

SIZE	P	Q	R	S	U	W	X	Y	Z	TAPERED ROLLER BEARINGS		OIL SEAL
25	.94	.40	1.990	1/4	4.87	2.835	.281		4.218 -.002	02875-CONE	02820-CUP	**125W225**
30	1.03	.50	2.302	1/4	5.87	3.179	.343		5.343 - .002	26881-CONE	26822-CUP	**150W250**
35	1.43	.50	1.771	1/4	6.25	2.710	.343		6.468 -.002	33890-CONE	33821-CUP	**200W325**
40	1.56	.53	1.364	1/4	6.56	2.393	.375	7.12	6.968 - .002	3977-CONE	3920-CUP	**231W375**
50	1.87	.59	2.644	1/4	8.56	3.730	.437	9.00	8.8125 - .002	567-CONE	563-CUP	**281W450**
60	1.75	.66	3.078	1/4	9.56	4.107	.531	10.25	9.999 - .002	596-CONE	592A-CUP	**331W500**
70	2.43	.53	5.034	1/4	12.50	6.174	.625	12.25	11.999 - .002	760-CONE	752-CUP	**350W515**
80	1.31	.50	5.410	1/4	12.87	6.625	.625	14.25	13.999 - .002	77362-CONE	77675-CUP	**356W525**
100	2.03	.50	6.880	1/4	16.50	8.500	.750	16.82	16.499 - .003	71412-CONE	71750-CUP	**406W600**
120	1.93	.875	10.714	1/4	22.6	12.19	.88	20.50	—	EE107057	107105	**550A750**

STANDARD GEARSHAFT MOUNTING COMPLETE MOUNTING PARTS - LESS GEAR AND SHAFT		SIZE 25	SIZE 30	SIZE 35	SIZE 40	SIZE 50	SIZE 60	SIZE 70	SIZE 80	SIZE 100	SIZE 120
MOUNTING DESCRIPTION	SINGLE EXTENDED - HORIZONTAL WORM UNDER GEAR	25S	30S	35S	40S	50S	60S	70S	80S	100S	120S
	SINGLE EXTENDED - HORIZONTAL WORM OVER GEAR	25SO	30SO	35SO	40SO	50SO	60SO	70SO	80SO	100SO	120SO
	SINGLE EXTENDED - VERTICAL SHAFT UP	25SU	30SU	35SU	40SU	50SU	60SU	70SU	80SU	100SU	120SU
	SINGLE EXTENDED - VERTICAL SHAFT DOWN	25SD	30SD	35SD	40SD	50SD	60SD	70SD	80SD	100SD	120SD

Textron Power Transmission part numbers are shown in bold print. Contact Textron Power Transmission for additional gearshaft dimensions when required.

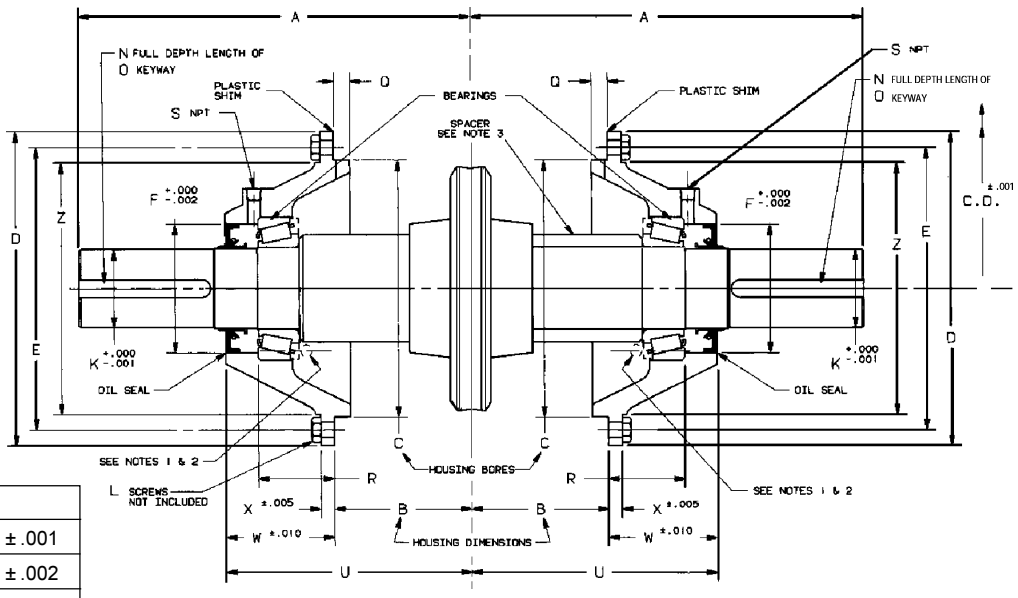
Standard Steeple Gearshaft Mountings and Bearings

0209

Size 25 to 120

Type T
Double Extended
Double Steeple

Note 1: Type "TV" mounting for vertical shaft. Upper bearing has grease retainer.
Note 2: When worm is mounted under gear oil level plug is located in carrier so that bearings dip in oil size 40-80. Size 100-120 have grease retainers at each bearing.
Note 3: Size 35 and larger has a spacer between gear and one bearing.



*TOLERANCE FOR			
B	Size	25-80	± .001
		100-120	± .002
R	Size	25-60	± .002
		70-120	± .005

SIZE	C.D.	A	B	C	D	E	F	K	L	N	O
25	2.500	7.87	2.000	4.3755 + .0015	5.68	4.94	2.250	1.250	8 - 5/16 - 24	1.38	1/4 x 1/8
30	3.000	8.62	2.625	5.375 +.002	7.00	6.12	2.500	1.500	6 - 3/8 - 24	2.00	3/8 x 3/16
35	3.500	10.25	3.500	6.500 +.002	8.12	7.25	3.250	1.875	6 - 3/8 - 24	2.68	1/2 x 1/4
40	4.000	11.25	4.125	7.250 +.002	9.00	8.00	3.750	2.250	6 - 3/8 - 24	3.31	1/2 x 1/4
50	5.000	13.62	4.750	9.000 +.002	11.00	9.87	4.500	2.750	6 - 1/2 - 20	3.62	5/8 x 5/16
60	6.000	15.38	5.375	10.500 +.002	12.50	11.38	5.000	3.250	6 - 1/2 - 20	4.50	3/4 x 3/8
70	7.000	19.38	6.250	12.500 +.002	15.00	13.75	5.250	3.375	6 - 5/8 - 11	4.87	7/8 x 7/16
80	8.000	19.38	6.250	14.500 +.002	17.12	15.75	5.250	3.500	8 - 5/8 - 11	4.87	7/8 x 7/16
100	10.000	24.00	8.000	17.750 +.002	20.50	19.12	6.000	4.000	12 - 5/8 -11	5.12	1 x 1/2
120	12.000	36.00	10.375	21.500 +.002	24.50	23.00	7.500	5.497	12 - 3/4 -10	9.62	1-1/4 x 5/8

SIZE	Q	R	S	U	W	X	Z	TAPERED ROLLER BEARINGS		OIL SEAL
25	.40	1.990	1/4	4.87	2.835	.281	4.218 -.002	02875-CONE	02820-CUP	**125W225**
30	.50	2.302	1/4	5.87	3.179	.343	5.343 - .002	26881-CONE	26822-CUP	**150W250**
35	.50	1.771	1/4	6.25	2.710	.343	6.468 -.002	33890-CONE	33821-CUP	**200W325**
40	.53	1.364	1/4	6.56	2.393	.375	6.968 - .002	3977-CONE	3920-CUP	**231W375**
50	.59	2.644	1/4	8.56	3.730	.437	8.8125- .002	567-CONE	563-CUP	**281W450**
60	.66	3.078	1/4	9.56	4.107	.531	9.999 - .002	596-CONE	592A-CUP	**331W500**
70	.53	5.034	1/4	12.50	6.174	.625	11.999 0 .002	760-CONE	752-CUP	**350W525**
80	.50	5.410	1/4	12.87	6.625	.625	13.999 0 .002	77362-CONE	77675-CUP	**356W525**
100	.50	6.880	1/4	16.50	8.500	.750	16.499 - .003	71412-CONE	71750-CUP	**406W600**
120	.875	10.714	1/4	22.6	12.19	.88	—	EE107057	107105	**550A750**

STANDARD GEARSHAFT MOUNTING COMPLETE MOUNTING PARTS - LESS GEAR AND SHAFT		SIZE 25	SIZE 30	SIZE 35	SIZE 40	SIZE 50	SIZE 60	SIZE 70	SIZE 80	SIZE 100	SIZE 120
MOUNTING DESCRIPTION	DOUBLE EXTENDED - HORIZONTAL WORM UNDER	25T	30T	35T	40T	50T	60T	70T	80T	100T	120T
	DOUBLE EXTENDED - HORIZONTAL WORM OVER	25TO	30TO	35TO	40TO	50TO	60TO	70TO	80TO	100TO	120TO
	DOUBLE EXTENDED - VERTICAL SHAFT	25TV	30TV	35TV	40TV	50TV	60TV	70TV	80TV	100TV	120TV

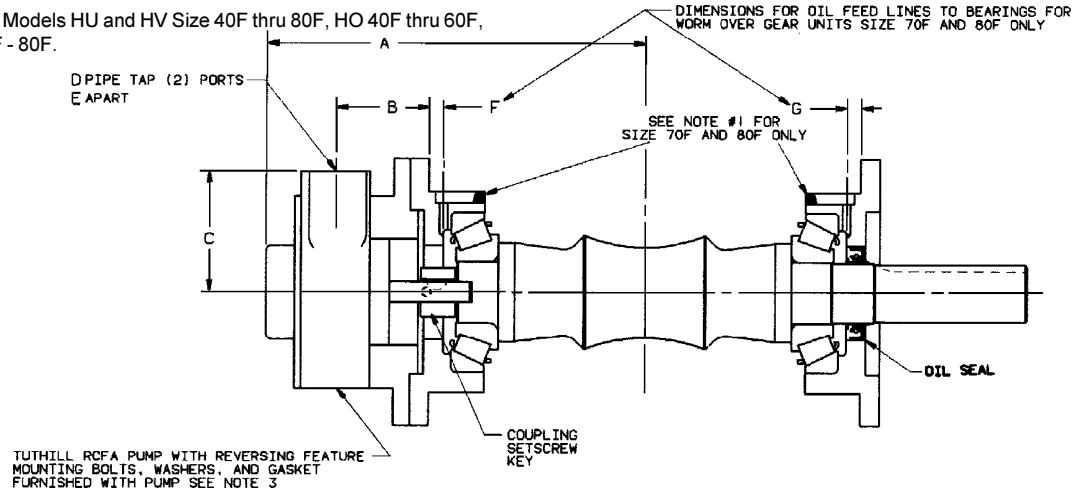
Textron Power Transmission part numbers are shown in bold print. Contact Textron Power Transmission for additional gearshaft dimensions when required.

0209

Size 40 to 80

Standard "FA" Mounting for Models HU and HV Size 40F thru 80F, HO 40F thru 60F, "FAO" Mounting for HO 70F - 80F.

NOTE 1: WORM OVER GEAR MODEL HO 70F & 80F UNITS MOUNTING AO REQUIRE CLOSED OIL GROOVES AS SHOWN.
NOTE 2: FOR DIMENSIONS NOT SHOWN SEE STANDARD MOUNTING SECTION.
NOTE 3: MOUNTING CAN BE FURNISHED WITH OR WITHOUT PUMP, PRICED ACCORDINGLY.



Size	C.D.	A	B	C	D	E	F	G	H	PUMP INFORMATION			
										Cone Number	Tuthill Number	Capacity at 50 P.S.I. 1800RPM	Capacity at 50 P.S.I. 1200RPM
40F	4.000	10.12	2.84	3.68	1" NPT	3.12				186000	#2	8 GPM	6 GPM
50F	5.000	10.96	2.93	3.68	1" NPT	3.12				186000	#2	8 GPM	6 GPM
60F	6.000	11.42	2.76	3.68	1" NPT	3.12				186000	#2	8 GPM	6 GPM
70F	7.000	12.875	2.54	4.87	1 1/4 NPT	4.12	1.80	1.80		186001	#3	17 GPM	11.5 GPM
80F	8.000	14.250	2.54	4.87	1 1/4 NPT	4.12	2.25	2.25		186001	#3	17 GPM	11.5 GPM

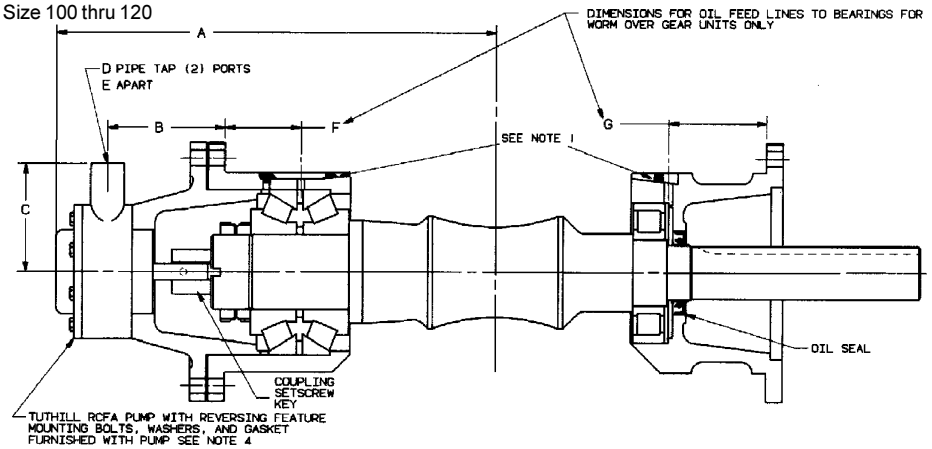
PUMP MOUNTING COMPLETE MOUNTING PARTS - LESS WORM	SIZE 40F	SIZE 50F	SIZE 60F	SIZE 70F	SIZE 80F
SINGLE EXTENDED STANDARD	P40FA	P50FA	P60FA	P70FA	P80FA
SINGLE EXTENDED STANDARD - WORM OVER				P70FAO	P80FAO

Size 100 to 120

Standard "A" Mounting for Model HU Size 100 thru 120 and Model HV Size 100 thru 120

Standard "AO" Mounting for Model HO Size 100 thru 120

NOTE 1: WORM OVER GEAR MODEL HO UNITS MOUNTING AO, REQUIRE CLOSED OIL GROOVES AS SHOWN, SIZE 100 THRU 120.
NOTE 2: FOR DIMENSIONS NOT SHOWN SEE STANDARD WORM MOUNTINGS.
NOTE 3: ADAPTOR CAP FOR PUMP MAY BE MADE AS TWO PIECES INSTEAD OF ONE AS SHOWN.
NOTE 4: MOUNTING CAN BE FURNISHED WITH OR WITHOUT PUMP, PRICED ACCORDINGLY.



Size	C.D.	A	B	C	D	E	F	G	H	PUMP INFORMATION			
										Cone Number	Tuthill Number	Capacity at 50 P.S.I. 1800RPM	Capacity at 50 P.S.I. 1200RPM
100	10.000	19.81	5.25	4.87	1 1/4 NPT	4.12	3.25	4.38		186001	#3	17 GPM	11.5 GPM
120	12.000	23.75	6.59	4.12	1 1/2 NPT	3.75	3.75	5.19		186002	#4	36 GPM	23.5 GPM

PUMP MOUNTING COMPLETE MOUNTING PARTS - LESS WORM	SIZE 100	SIZE 120
SINGLE EXTENDED STANDARD	P100A	P120A
SINGLE EXTENDED STANDARD - WORM OVER	P100AO	P120AO

C.D.	TOOL CHART						AGMA MECHANICAL HORSEPOWER RATINGS									
			GEAR		WORM		INPUT MECHANICAL H. P. RATINGS - 1.0 SERVICE FACTOR									
	Ratio	Tool Number	Pitch Dia.	Outside Dia.	Pitch Dia.	Outside Dia.	WORM SPEEDS									
							100	200	300	580	720	870	1150	1750	2400	3000
Size 15	5:1	71505	2.368	2.495	.632	.870	0.24	0.45	0.64	1.13	1.35	1.58	1.94	2.51	2.98	3.36
	10:1	71510	2.364	2.495	.636	.870	0.16	0.31	0.44	0.78	0.94	1.10	1.37	1.81	2.15	2.44
	15:1	71515	2.368	2.495	.632	.870	0.13	0.25	0.36	0.63	0.76	0.89	1.11	1.48	1.76	1.99
	20:1	71520	2.342	2.448	.658	.870	0.10	0.19	0.27	0.49	0.58	0.68	0.85	1.14	1.35	1.53
	30:1	71530	2.371	2.495	.629	.870	0.07	0.13	0.18	0.33	0.40	0.46	0.58	0.77	0.91	1.03
	40:1	71540	2.343	2.448	.657	.870	0.05	0.10	0.14	0.25	0.30	0.35	0.43	0.58	0.69	0.78
	50:1	71550	2.326	2.424	.674	.870	0.04	0.08	0.11	0.20	0.24	0.28	0.35	0.46	0.55	0.62
	60:1	71560	2.315	2.424	.685	.870	0.03	0.06	0.09	0.16	0.20	0.23	0.29	0.39	0.46	0.52
Size 20*	5:1	7205	3.170	3.350	.830	1.156	0.47	0.88	1.25	2.21	2.62	3.02	3.64	4.59	5.44	6.09
	10:1	7210	3.200	3.380	.800	1.156	0.32	0.61	0.86	1.53	1.83	2.11	2.57	3.28	3.89	4.36
	15:1	7215	3.200	3.380	.800	1.156	0.26	0.49	0.70	1.24	1.48	1.72	2.10	2.69	3.19	3.59
	20:1	7220	3.170	3.350	.830	1.156	0.20	0.38	0.54	0.95	1.13	1.32	1.61	2.06	2.45	2.76
	25:1	7225	3.220	3.420	.780	1.156	0.16	0.30	0.43	0.77	0.91	1.06	1.30	1.66	1.98	2.22
	30:1	7230	3.200	3.380	.800	1.156	0.14	0.25	0.36	0.64	0.77	0.89	1.09	1.40	1.66	1.86
	40:1	7240	3.170	3.350	.830	1.156	0.10	0.19	0.27	0.48	0.58	0.67	0.82	1.05	1.25	1.40
	50:1	7250	3.150	3.320	.850	1.156	0.08	0.15	0.22	0.39	0.46	0.54	0.66	0.84	1.00	1.12
	60:1	7260	3.134	3.280	.866	1.110	0.07	0.13	0.18	0.32	0.39	0.45	0.55	0.71	0.84	0.94
Size 25*	5:1	72505	3.930	4.170	1.070	1.500	0.94	1.72	2.45	4.22	4.95	5.60	6.56	8.23	9.63	10.69
	10:1	72510	3.980	4.230	1.020	1.500	0.65	1.19	1.69	2.95	3.49	3.97	4.72	5.93	6.94	7.75
	15:1	72515	3.980	4.230	1.020	1.500	0.52	0.96	1.37	2.39	2.83	3.24	3.86	4.83	5.72	6.36
	20:1	72520	3.930	4.170	1.070	1.500	0.40	0.74	1.05	1.83	2.17	2.48	2.96	3.71	4.37	4.88
	25:1	72525	4.000	4.270	1.000	1.500	0.32	0.59	0.84	1.48	1.75	2.00	2.39	2.99	3.55	3.96
	30:1	72530	3.980	4.230	1.020	1.500	0.27	0.50	0.71	1.24	1.46	1.68	2.00	2.52	2.97	3.32
	40:1	72540	3.930	4.170	1.070	1.500	0.20	0.37	0.53	0.93	1.10	1.26	1.51	1.90	2.23	2.50
	50:1	72550	3.890	4.080	1.110	1.500	0.16	0.30	0.43	0.75	0.89	1.01	1.21	1.52	1.79	2.00
	60:1	72560	3.880	4.080	1.120	1.500	0.14	0.25	0.36	0.62	0.74	0.85	1.01	1.27	1.50	1.67
Size 30*	5:1	7305	4.700	4.990	1.300	1.810	1.66	3.03	4.32	7.26	8.37	9.34	10.80	13.58	15.75	17.10
	10:1	7310	4.850	5.150	1.150	1.700	1.15	2.11	3.00	5.17	6.05	6.84	8.03	10.05	11.78	13.07
	15:1	7315	4.850	5.150	1.150	1.700	0.93	1.71	2.43	4.20	4.93	5.59	6.57	8.22	9.67	10.74
	20:1	7320	4.800	5.050	1.200	1.700	0.71	1.31	1.86	3.23	3.79	4.30	5.07	6.34	7.44	8.28
	25:1	7325	4.770	4.990	1.230	1.700	0.57	1.06	1.50	2.60	3.05	3.46	4.09	5.11	6.01	6.67
	30:1	7330	4.850	5.150	1.150	1.700	0.48	0.88	1.26	2.18	2.56	2.91	3.43	4.29	5.04	5.59
	40:1	7340	4.800	5.050	1.200	1.700	0.36	0.67	0.95	1.64	1.93	2.19	2.58	3.23	3.79	4.22
	50:1	7350	4.770	4.990	1.230	1.700	0.29	0.53	0.76	1.32	1.55	1.76	2.07	2.60	3.04	3.38
	60:1	7360	4.730	4.940	1.270	1.640	0.24	0.45	0.63	1.10	1.29	1.47	1.73	2.17	2.54	2.82
Size 35*	5:1	73505	5.480	5.800	1.520	2.130	3.06	5.59	7.91	12.97	14.79	16.37	19.11	23.54	27.12	29.01
	10:1	73510	5.630	5.980	1.370	2.040	2.12	3.88	5.53	9.30	10.73	12.00	13.92	17.37	20.22	22.06
	15:1	73515	5.630	5.980	1.370	2.040	1.71	3.14	4.48	7.56	8.76	9.81	11.40	14.27	16.55	18.17
	20:1	73520	5.570	5.900	1.430	2.040	1.31	2.40	3.43	5.80	6.73	7.55	8.76	10.98	12.75	14.01
	25:1	73525	5.530	5.800	1.470	2.040	1.06	1.94	2.77	4.68	5.43	6.10	7.07	8.84	10.27	11.29
	30:1	73530	5.630	5.980	1.370	2.040	0.89	1.62	2.32	3.93	4.55	5.11	5.93	7.41	8.60	9.54
	40:1	73540	5.570	5.900	1.430	2.040	0.67	1.22	1.74	2.96	3.42	3.85	4.47	5.57	6.52	7.17
	50:1	73550	5.530	5.800	1.470	2.040	0.53	0.98	1.40	2.37	2.75	3.09	3.59	4.50	5.23	5.75
	60:1	73560	5.500	5.760	1.500	2.040	0.45	0.82	1.17	1.98	2.29	2.58	2.99	3.75	4.36	4.80

*No tooling charges on 2" - 3.5" c.d.

C.D.	TOOL CHART						AGMA MECHANICAL HORSEPOWER RATINGS									
	Ratio	Tool Number	GEAR		WORM		INPUT MECHANICAL H. P. RATINGS - 1.0 SERVICE FACTOR									
			Pitch Dia.	Outside Dia.	Pitch Dia.	Outside Dia.	WORM SPEEDS									
							100	200	300	580	720	870	1150	1750	2400	3000
Size 40*	5:1	7405	6.270	6.680	1.730	2.400	4.39	8.03	11.3	18.0	20.3	22.4	26.0	31.8	35.8	38.8
	10:1	7410	6.450	6.840	1.550	2.270	3.06	5.58	7.92	13.1	15.0	16.6	19.3	23.9	27.6	29.4
	15:1	7415	6.450	6.840	1.550	2.270	2.47	4.51	6.42	10.6	12.2	13.6	15.7	19.6	22.7	24.4
	20:1	7420	6.400	6.740	1.600	2.270	1.90	3.46	4.91	8.17	9.39	10.5	12.1	15.1	17.4	18.8
	25:1	7425	6.340	6.680	1.660	2.270	1.53	2.79	3.96	6.60	7.58	8.44	9.80	12.1	14.1	15.2
	30:1	7430	6.450	6.840	1.550	2.270	1.28	2.34	3.32	5.54	6.36	7.07	8.23	10.2	11.8	12.8
	40:1	7440	6.400	6.740	1.600	2.270	0.96	1.76	2.50	4.17	4.79	5.33	6.19	7.68	8.89	9.59
	50:1	7450	6.340	6.680	1.660	2.270	0.77	1.41	2.01	3.34	3.84	4.28	4.97	6.16	7.16	7.73
	60:1	7460	6.310	6.620	1.690	2.270	0.64	1.18	1.68	2.79	3.20	3.57	4.14	5.14	5.97	6.45
Size 50*	5:1	7505	7.840	8.280	2.160	3.000	8.72	15.9	22.0	34.0	38.0	42.2	48.3	58.8	65.0	79.1
	10:1	7510	8.090	8.560	1.910	2.850	6.02	11.0	15.4	24.5	27.5	30.4	35.3	43.3	48.1	52.3
	15:1	7515	8.090	8.560	1.910	2.850	4.87	8.93	12.5	20.0	22.5	24.9	28.8	35.3	39.9	43.1
	20:1	7520	8.020	8.420	1.980	2.850	3.72	6.83	9.58	15.4	17.3	19.1	22.2	27.3	30.6	33.1
	25:1	7525	7.950	8.280	2.050	2.850	3.00	5.51	7.73	12.4	14.0	15.4	17.9	22.1	24.9	26.8
	30:1	7530	8.090	8.560	1.910	2.850	2.52	4.62	6.49	10.4	11.7	13.0	15.1	18.5	20.9	22.5
	40:1	7540	8.020	8.420	1.980	2.850	1.89	3.48	4.88	7.83	8.83	9.75	11.3	13.9	15.7	16.9
	50:1	7550	7.950	8.280	2.050	2.850	1.52	2.79	3.92	6.28	7.10	7.82	9.12	11.2	12.6	13.6
	60:1	7560	7.920	8.280	2.080	2.850	1.27	2.33	3.27	5.25	5.92	6.53	7.61	9.32	10.6	11.4
	70:1	7570	7.910	8.280	2.090	2.720	1.09	2.00	2.80	4.51	5.08	5.60	6.53	8.00	9.06	9.76
Size 60*	5:1	7605	9.410	9.975	2.590	3.437	13.3	24.0	32.8	48.3	54.3	59.8	68.3	79.9	89.7	97.5
	10:1	7610	9.580	10.200	2.420	3.437	9.23	16.8	23.2	35.3	39.5	43.8	50.6	60.6	67.2	73.1
	15:1	7615	9.700	10.310	2.300	3.437	7.46	13.6	18.9	28.9	32.3	35.7	41.2	49.7	55.0	60.0
	20:1	7620	9.580	10.200	2.420	3.437	5.72	10.4	14.5	22.2	24.8	27.6	31.6	38.5	42.5	46.1
	25:1	7625	9.540	10.100	2.460	3.437	4.61	8.42	11.7	17.9	20.01	22.3	25.6	31.0	34.2	37.4
	30:1	7630	9.700	10.310	2.300	3.437	3.87	7.06	9.77	15.0	16.8	18.7	21.4	26.1	28.8	31.3
	40:1	7640	9.580	10.200	2.420	3.437	2.91	5.31	7.35	11.3	12.7	14.1	16.1	19.6	21.7	23.7
	50:1	7650	9.540	10.100	2.460	3.437	2.33	4.26	5.90	9.09	10.2	11.3	12.9	15.7	17.4	19.0
	60:1	7660	9.470	9.975	2.530	3.437	1.95	3.55	4.92	7.58	8.48	9.42	10.8	13.1	14.5	15.9
	70:1	7670	9.450	9.975	2.550	3.313	1.67	3.05	4.22	6.51	7.28	8.09	9.25	11.3	12.5	13.6

All ratings to the right of heavy line require force feed lubrication.

*No tooling charges on 2" - 3.5" c.d.

Model HP
Standard Gearsets
- Right Hand Tool Charts & Horsepower Ratings

C.D.	TOOL CHART						AGMA MECHANICAL HORSEPOWER RATINGS									
	Ratio	Tool Number	GEAR		WORM		INPUT MECHANICAL H. P. RATINGS - 1.0 SERVICE FACTOR									
			Pitch Dia.	Outside Dia.	Pitch Dia.	Outside Dia.	WORM SPEEDS									
							100	200	300	580	720	870	1150	1750	2400	3000
Size 70	5:1	7705	10.980	11.600	3.020	4.000	20.9	37.3	49.7	72.1	80.5	88.3	100	116	129	137
	10:1	7710	11.330	11.930	2.670	3.687	14.6	26.4	36.1	53.5	60.3	66.5	76.2	88.8	76.9	109
	15:1	7715	11.270	11.810	2.730	3.687	11.8	21.4	29.4	43.9	49.4	54.6	62.5	74.0	55.1	89.8
	20:1	7720	11.330	11.930	2.670	3.687	9.03	16.4	22.6	33.7	38.0	41.8	48.0	56.8	42.4	69.1
	25:1	7725	11.250	11.810	2.750	3.687	7.28	13.3	18.2	27.3	30.7	33.9	38.9	46.0	34.3	55.7
	30:1	7730	11.190	11.700	2.810	3.687	6.10	11.1	15.3	22.9	25.7	28.4	32.6	38.7	28.8	46.9
	40:1	7740	11.330	11.930	2.670	3.687	4.58	8.36	11.5	17.2	19.3	21.3	24.6	29.1	21.7	35.3
	50:1	7750	11.250	11.810	2.750	3.687	3.68	6.71	9.21	13.8	15.5	17.1	19.7	23.3	17.4	28.3
	60:1	7760	11.190	11.700	2.810	3.687	3.07	5.60	7.68	11.6	12.9	14.3	16.5	19.6	14.6	23.6
	70:1	7770	11.150	11.600	2.850	3.687	2.63	4.81	6.59	9.91	11.1	12.3	14.1	16.8	12.5	20.3
Size 80	5:1	7805	12.550	13.210	3.450	4.625	31.0	54.6	71.6	102	114	125	140	162	150	187
	10:1	7810	13.200	13.960	2.800	4.125	21.7	39.2	53.2	77.8	87.6	96.0	111	129	111	156
	15:1	7815	13.060	13.750	2.940	4.125	17.6	31.9	43.5	64.1	72.1	79.7	91.1	106	79.8	129
	20:1	7820	13.200	13.960	2.800	4.125	13.5	24.5	33.4	49.4	55.4	61.3	69.9	81.6	61.4	100
	25:1	7825	13.100	13.750	2.900	4.125	10.9	19.7	26.9	40.0	44.9	49.4	56.7	66.0	49.7	81.1
	30:1	7830	13.060	13.750	2.940	4.125	9.12	16.5	22.6	33.5	37.7	41.6	47.7	55.6	41.7	67.9
	40:1	7840	13.200	13.960	2.800	4.125	6.86	12.4	17.0	25.3	28.4	31.3	35.9	42.0	31.4	51.1
	50:1	7850	13.100	13.750	2.900	4.125	5.50	9.97	13.6	20.3	22.8	25.1	28.8	33.7	25.3	41.2
	60:1	7860	13.090	13.750	2.910	4.125	4.59	8.32	11.4	16.9	19.0	21.0	24.0	28.1	21.1	34.4
	70:1	7870	13.040	13.750	2.960	3.960	3.94	7.14	9.77	14.5	16.3	18.0	20.6	24.1	18.1	29.5

C.D.	TOOL CHART						AGMA MECHANICAL HORSEPOWER RATINGS								
	Ratio	Tool Number	GEAR		WORM		INPUT MECHANICAL H. P. RATINGS - 1.0 SERVICE FACTOR								
			Pitch Dia.	Outside Dia.	Pitch Dia.	Outside Dia.	WORM SPEEDS								
							100	200	300	580	720	870	1150	1750	2400
Size 100	5:1	8005	15.700	16.500	4.300	5.600	58.0	98.6	126	177	197	213	232	273	289
	10:1	8010	16.400	17.250	3.600	5.062	40.9	72.3	95.5	137	152	167	188	216	240
	15:1	8015	16.400	17.250	3.600	5.062	33.1	58.8	78.0	112	126	138	156	179	201
	20:1	8020	16.450	17.350	3.550	5.062	25.4	45.1	60.0	86.3	96.7	106	120	138	154
	25:1	8025	16.400	17.250	3.600	5.062	20.5	36.4	48.4	69.9	77.9	85.6	97.1	112	126
	30:1	8030	16.300	17.050	3.700	5.062	17.1	30.5	40.6	58.5	65.3	71.7	81.3	93.5	106
	40:1	8040	16.450	17.250	3.550	5.062	12.9	22.9	30.5	44.0	49.1	53.9	61.2	70.3	79.4
	50:1	8050	16.400	17.250	3.600	5.062	10.3	18.4	24.6	35.5	39.6	43.4	49.5	56.7	63.7
	60:1	8060	16.330	17.050	3.670	5.062	8.6	15.4	20.5	29.6	33.1	36.2	41.3	47.3	53.2
	70:1	8070	16.280	17.050	3.720	5.000	7.4	13.2	17.6	25.4	28.4	31.1	35.4	40.6	45.6
Size 120	5:1	8205	18.820	19.750	5.180	6.750	97.7	160	199	279	307	323	361	413	432
	10:1	8210	19.700	20.600	4.300	6.187	69.4	120	153	218	241	263	287	336	366
	15:1	8215	19.700	20.600	4.300	6.187	56.2	97.3	126	179	198	217	237	278	303
	20:1	8220	19.840	20.880	4.160	6.187	43.1	74.8	96.7	138	153	167	184	214	231
	25:1	8225	19.700	20.600	4.300	6.187	34.7	60.4	78.2	111	123	135	149	173	191
	30:1	8230	19.610	20.420	4.390	6.187	29.1	50.6	65.7	93.0	103	113	125	145	160
	40:1	8240	19.840	20.880	4.160	6.187	21.9	38.1	49.4	70.4	78.3	85.6	94.2	110	120
	50:1	8250	19.700	20.600	4.300	6.187	17.6	30.6	39.7	56.5	62.8	68.7	75.6	88.1	96.6
	60:1	8260	19.640	20.420	4.360	6.187	14.7	25.5	33.1	47.1	52.4	57.3	63.1	73.6	80.6
	70:1	8270	19.590	20.420	4.410	6.000	12.6	21.9	28.4	40.4	45.0	49.2	54.1	63.1	69.2

All ratings to the right of heavy line require force feed lubrication.

Information Sheet for Model HP Spare Parts

0209

We look forward to serving you. Please phone us for help and provide the information below.
Our dedicated teams are waiting for your call.

Speed Reducer

Model Number: _____

Serial Number: _____

Note: The Model HP Reducer Model Number is **NOT** enough information to duplicate an existing speed reducer, please provide the serial number.

THE REDUCER MODEL AND SERIAL NUMBER CAN BE FOUND ON THE NAMEPLATE ATTACHED TO THE REDUCER HOUSING.

Gear Set

Stamped Part Number
on Steel Worm: _____

Stamped Part Number
on bronze gear: _____

If available:
Order Number: _____

Previous Customer
P.O. Number & Date _____

Note: In order to duplicate an existing Model HP gearset the worm and gear part numbers are required. If for any reason the gearset part numbers are not available, the gearset can be traced by either of the other numbers.

0209

0209

0209

IMPORTANT

Product Safety Information

General - The following information is important in ensuring safety. It **must** be brought to the attention of personnel involved in the selection of power transmission equipment, those responsible for the design of the machinery in which it is to be incorporated and those involved in its installation, use and maintenance.

Our power transmission equipment will operate safely provided it is selected, installed, used and maintained properly. As with any power transmission equipment **proper precautions must** be taken as indicated in the following paragraphs, to ensure safety.

Potential Hazards - these are **not** necessarily listed in any order of severity as the degree of danger varies in individual circumstances. It is important therefore that the list is studied in its entirety:-

1) Fire/Explosion
   (a) Oil mists and vapour are generated within gear units. It is therefore dangerous to use naked lights in the proximity of gearbox openings, due to the risk of fire or explosion.
   (b) In the event of fire or serious overheating (over (over 570 °F (300 °C)), certain materials (rubber, plastics, etc.) may decompose and produce fumes. Care should be taken to avoid exposure to the fumes, and the remains of burned or overheated plastic/rubber materials should be handled with rubber gloves.

2) Guards - Rotating shafts and couplings must be guarded to eliminate the possibility of physical contact or entanglement of clothing. It should be of rigid construction and firmly secured.

3) Noise - High speed gearboxes and gearbox driven machinery may produce noise levels which are damaging to the hearing with prolonged exposure. Ear defenders should be provided for personnel in these circumstances. Reference should be made to state and federal regulations for reducing exposure of employed persons to noise.

4) Lifting - Where provided (on larger units) only the lifting points or eyebolts must be used for lifting operations (see maintenance manual or general arrangement drawing for lifting point positions). Failure to use the lifting points provided may result in personal injury and/or damage to the product or surrounding equipment. Keep clear of raised equipment.

5) Lubricants and Lubrication
   (a) Prolonged contact with lubricants can be detrimental to the skin. The manufacturer's instruction must be followed when handling lubricants.
   (b) The lubrication status of the equipment must be checked before commissioning. Read and carry out all instructions on the lubricant plate and in the installation and maintenance literature. Heed all warning tags. Failure to do so could result in mechanical damage and in extreme cases risk of injury to personnel.

6) Electrical Equipment - Observe hazard warnings on electrical equipment and isolate power before working on the gearbox or associated equipment, in order to prevent the machinery being started.

7) Installation, Maintenance and Storage
   (a) In the event that equipment is to be held in storage, for a period exceeding 6 months, prior to installation or commissioning, we must be consulted regarding special preservation requirements. Unless otherwise agreed, equipment must be stored in a building protected from extremes of temperature and humidity to prevent deterioration.

   The rotating components (gears and shafts) must be turned a few revolutions once a month (to prevent bearings brinelling).
   (b) External gearbox components may be supplied with preservative materials applied, in the form of a "waxed" tape overwrap or wax film preservative. Gloves should be worn when removing these materials. The former can be removed manually, the latter using white spirit as a solvent.

   Preservatives applied to the internal parts of the gear units do not require removal prior to operation.
   (c) Installation must be performed in accordance with the manufacturer's instructions and be undertaken by suitably qualified personnel.
   (d) Before working on a gearbox or associated equipment, ensure that the load has been removed from the system to eliminate the possibility of any movement of the machinery and isolate power supply. Where necessary, provide mechanical means to ensure the machinery cannot move or rotate. Ensure removal of such devices after work is complete.
   (e) Ensure the proper maintenance of gearboxes in operation. Use only the correct tools and our approved spare parts for repair and maintenance. Consult the Maintenance Manual before dismantling or performing maintenance work.

8) Hot Surfaces and Lubricants
   (a) During operation, gear units may become sufficiently hot to cause skin burns. Care must be taken to avoid accidental contact.
   (b) After extended running the lubricant in gear units and lubrication systems may reach temperatures sufficient to cause burns. Allow equipment to cool before servicing or performing adjustments.

9) Selection and Design
   (a) Where gear units provide a backstop facility, ensure that back-up systems are provided if failure of the backstop device would endanger personnel or result in damage.
   (b) The driving and driven equipment must be correctly selected to ensure that the complete machinery installation will perform satisfactorily, avoiding system critical speeds, system torsional vibration, etc.
   (c) The equipment must not be operated in an environment or at speeds, powers, torques or with external loads beyond those for which it was designed.
   (d) As improvements in design are being made continually the contents of this catalog are not to be regarded as binding in detail, and drawings and capacities are subject to alterations without notice.

The above guidance is based on the current state of knowledge and our best assessment of the potential hazards in the operation of the gear units.

Any further information or clarification required may be obtained by contacting our Application Engineers.

Contact Textron Power Transmission

AUSTRALIA

David Brown Gear Industries Ltd
13-19 Franklin Avenue
Bulli, NSW 2516
Australia
Tel: +61 2 4283 0300
Fax: +61 2 4283 0333

AUSTRIA

Benzler Antriebst Ges mbH
Tel: +43 7 229 618 91
Fax: +43 7 229 618 84

BELGIUM

SA David Brown Sadi Benzlers NV
Tel: +32-13661085
Fax: +32-13662337

CHINA

Textron Power Transmission China
Room 601 Lippo Plaza
No. 222 Huai Hai Zhong Rd
Shanghai 200021
China
Tel: +86 21 53966 555
Fax: +86 21 53966 913

DENMARK

Benzler Transmission A/S
Tel: +45 36 34 03 00
Fax: +45 36 77 02 42

FINLAND

Oy Benzler AB
Tel: +358 9 8870 630
Fax: +358 9 8870 631

FRANCE

Benzlers & David Brown Transmissions
Tel: +33 (0)4 72 79 48 33
Fax: +33 (0)4 72 79 48 39

GERMANY

Benzler Germany
Tel: 0800 350 40 00
Fax: 0800 350 40 01

ITALY

Benzler Ferri SpA
Via F.Ili Rosselli 16
IT 42019 Scandiano (RE)
Italy
Tel: +39 05 22 763314
Fax: +39 05 22 981758

NETHERLANDS

Northern European Service Centre & HQ Benzlers Netherlands
Postbox 3303
NL 5902 Venlo RH
Netherlands
Tel: +31 773 245 900
Fax: +31 773 245 901

NORWAY

David Brown Hydraulics Norway A/S
PO Box 73 Leirdal
Stromsveien 372
NO- 1008 Oslo, Norway
Tel: +47 22 90 94 30
Fax: +47 22 90 94 11

PHILIPPINES

David Brown John Welsh Custom Build P/L
No 5 Guada Sanchez Street
BF Resort Village
Talon Dos, Las Pinas City 1740
Philippines
Tel: +63 2 874 1194
Fax: +63 2 874 1216

SOUTH AFRICA

David Brown Gear Industries Ltd
PO Box 540, Benoni 1500
South Africa
Tel: +27 11 748 0000
Fax: +27 11 421 2963

SWEDEN

AB Benzlers
PO Box 922
SE-251 09 Helsingborg
Sweden
Tel: +46 42 18 6820
Fax: +46 42 21 8803

THAILAND

David Brown (Thailand) Ltd
700/43 Moo 6
Amatanakorn Industrial Estate
Khong Tam Ru
Muang, Chonburi 20000
Thailand
Tel: +66 38 459 044
Fax: +66 38 743 484

UNITED KINGDOM

David Brown Engineering Ltd
Park Road
Lockwood, Huddersfield
West Yorkshire, HD4 5DD
Tel: +44 (0) 1484 465 610
Fax: +44 (0) 1484 465 586

USA

Cone Drive Textron
240 East 12th Street
Traverse City
MI 49684
USA
Tel: +1 231 946 8410
Fax: +1 231 933 8600

AGRICULTURE

AUTOMOTIVE

CEMENT

CHEMICAL

CONSTRUCTION

DEFENCE

ENERGY

FOOD & BEVERAGE

FORESTRY

MARINE

METALS

MINING

PULP & PAPER

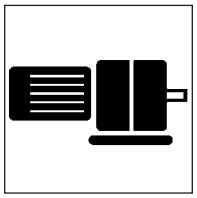
QUARRYING

RUBBER & PLASTICS

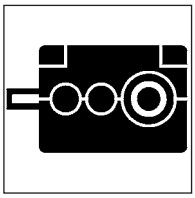
TEXTILES

TRANSPORTATION

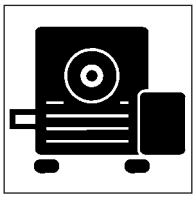
WATER



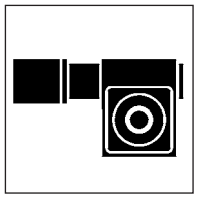
Geared motors



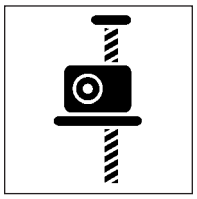
Industrial reducers



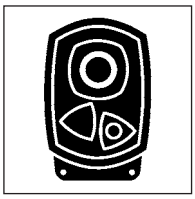
Worm



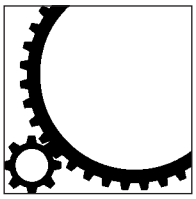
Precision products



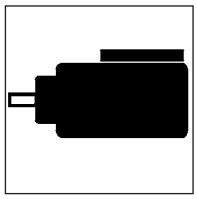
Screwjacks



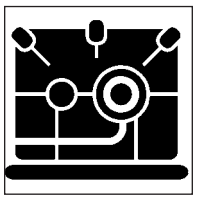
Shaftmount



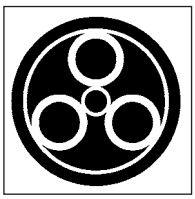
Horizontal mill drives



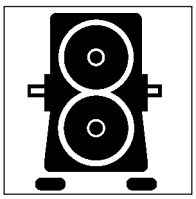
Vertical mill drives



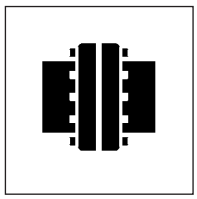
High speed



Planetary units

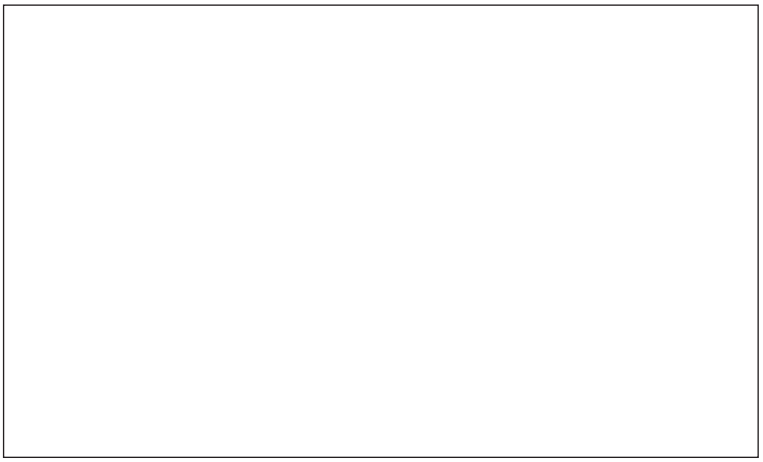


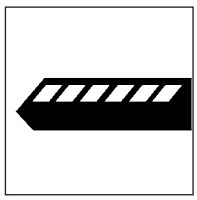
Specialist drives



Couplings

Defence Systems





Rail