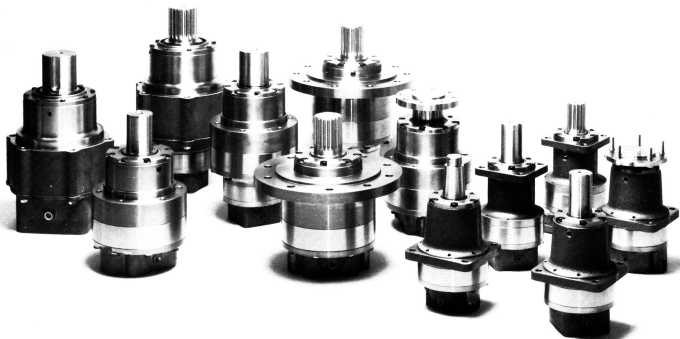


Catalog of HECO Planetary Speed Reducers for Hydraulic Motors



HECO INC.

The Power Performers

West Sacramento, CA 95691

(916) 372-5411

Fax: (916) 373-0952

SINGLE REDUCTION

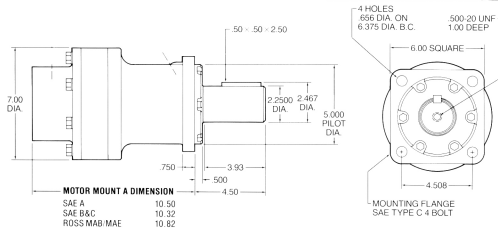
27,500 LB/IN MAXIMUM CONTINUOUS TORQUE OUTPUT

21,000 lbs Maximum Radial Shaft Load (See Page 8)

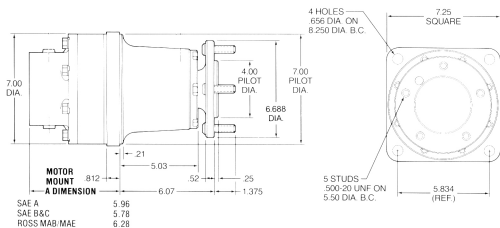
5.2 to 1 Reduction Ratio

0 to 350 RPM Output Speed

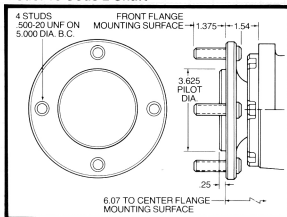
16FF- Front Flange with Code 1 Shaft



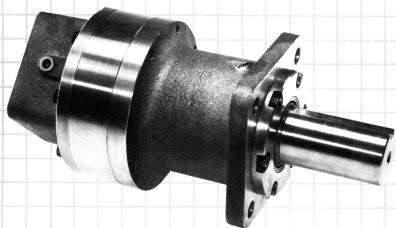
16CF- Center Flange with Code 5 Shaft



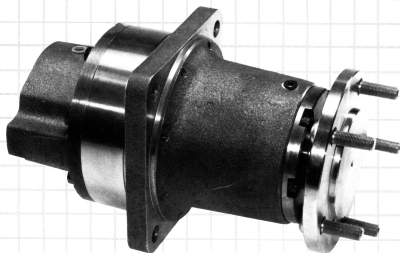
Model 16 Code 2 Shaft



OUTPUT SHAFT OPTIONS

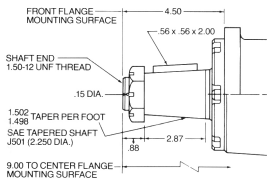


16FF-Front Flange

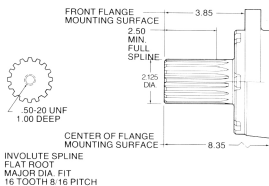


16CF-Center Flange

Model 16 Code 3 Shaft



Model 16 Code 4 Shaft



HÉCO MODEL 20

SINGLE REDUCTION

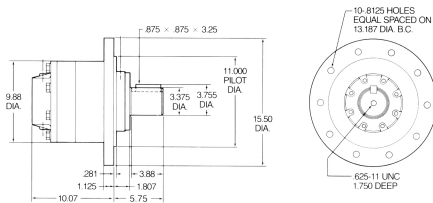
60,000 LB/IN MAXIMUM CONTINUOUS TORQUE OUTPUT

25,000 lbs Maximum Radial Shaft Load (See Page 8)

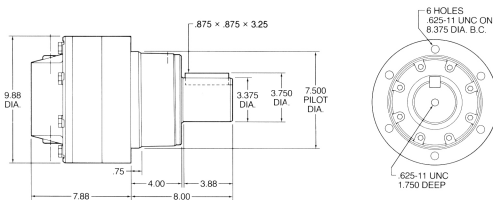
4.8 to 1 and 6.0 to Reduction Ratio

0 to 300 RPM Output Speed

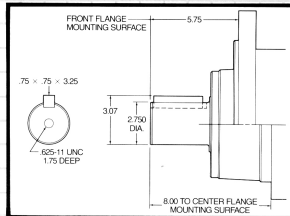
**20FF-
Front Flange
with Code 11 Shaft**



**20CF-
Center Flange
with Code 11 Shaft**



Model 20 & 20D Code 1 Shaft



OUTPUT SHAFT OPTIONS

DOUBLE REDUCTION

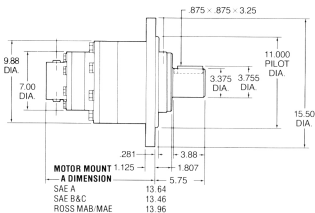
60,000 LB/IN MAXIMUM CONTINUOUS TORQUE OUTPUT

25,000 lbs Maximum Radial Shaft Load (See Page 8)

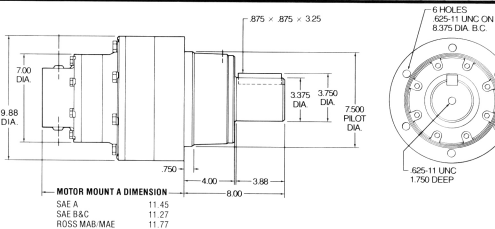
24.96 to 1 and 31.2 to 1 Reduction Ratio

0 to 100 RPM Output Speed

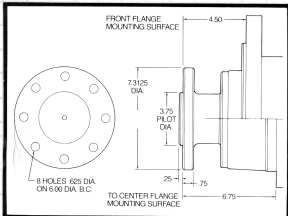
20DFF- Front Flange with Code 11 Shaft



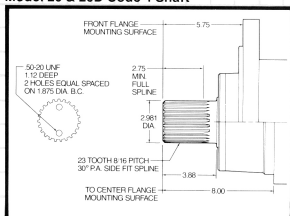
20DCF- Center Flange with Code 11 Shaft



Model 20 & 20D Code 2 Shaft



Model 20 & 20D Code 4 Shaft



HÉCO MODEL 50

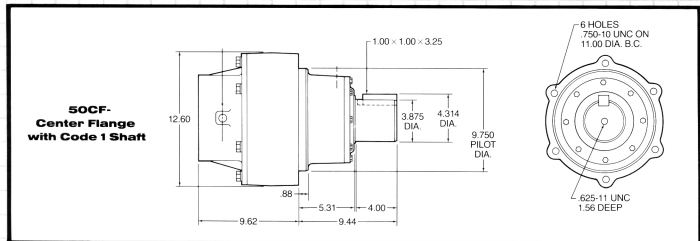
SINGLE REDUCTION

140,000 LB/IN MAXIMUM CONTINUOUS TORQUE OUTPUT

40,000 lbs Maximum Radial Shaft Load (See Page 9)

6.0 to 1 Reduction Ratio

0 to 300 RPM Output Speed



HÉCO MODEL 50 D

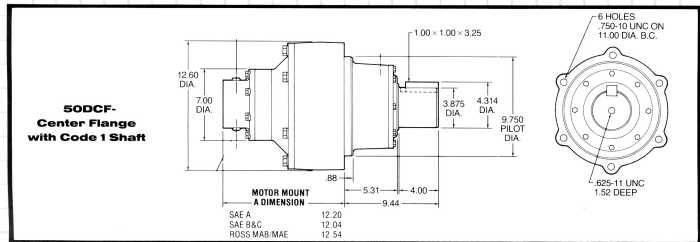
DOUBLE REDUCTION

125,000 LB/IN MAXIMUM CONTINUOUS TORQUE OUTPUT

40,000 lbs Maximum Radial Shaft Load (See Page 9)

31.2 to 1 Reduction Ratio

0 to 100 RPM Output Speed



HÉCO MODEL 52 D

DOUBLE REDUCTION

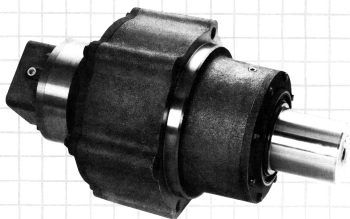
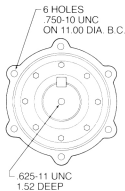
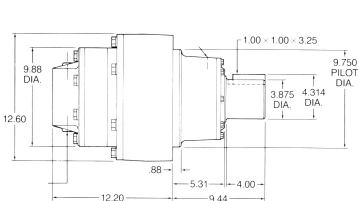
140,000 LB/IN MAXIMUM CONTINUOUS TORQUE OUTPUT

40,000 lbs Maximum Radial Shaft Load (See Page 9)

28.8 to 1 and 36.0 to 1 Reduction Ratio

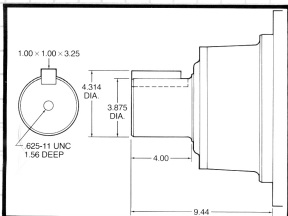
0 to 100 RPM Output Speed

**52DCF-
Center Flange
with Code 1 Shaft**

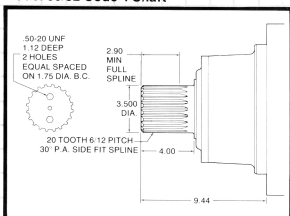


50DCF-Center Flange

Model 50/52 Code 1 Shaft



Model 50/52 Code 4 Shaft

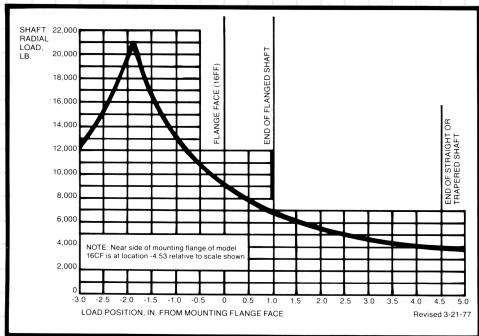


**OUTPUT
SHAFT
OPTIONS**

ALLOWABLE SHAFT RADIAL LOAD vs LOAD POSITION

10,000,000 REVOLUTION B_{10} LIFE

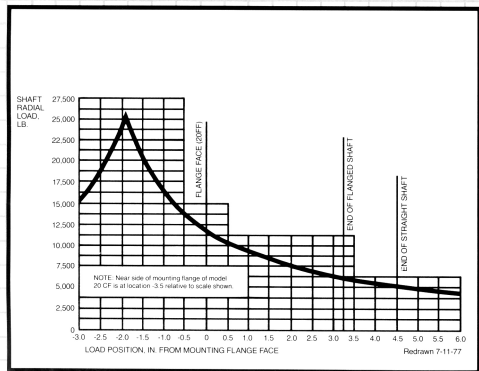
HÉCO MODEL 16



For other values of life desired multiply allowable load read from curve as follows:

NO. OF REV.	LOAD MULTIPLIER
1.0×10^6	1.995
2.5×10^6	1.516
5.0×10^6	1.231
7.5×10^6	1.090
1.0×10^7	1.000
2.5×10^7	.760
5.0×10^7	.617
7.5×10^7	.546
1.0×10^8	.501

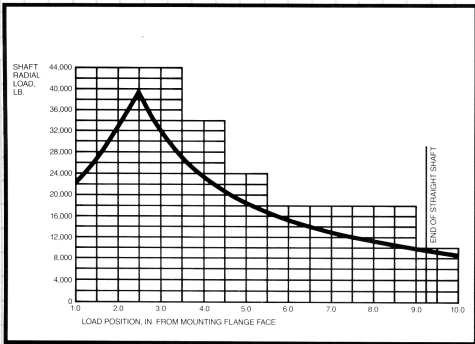
HÉCO MODEL 20



For other values of life desired multiply allowable load read from curve as follows:

NO. OF REV.	LOAD MULTIPLIER
1.0×10^6	1.995
2.5×10^6	1.516
5.0×10^6	1.231
7.5×10^6	1.090
1.0×10^7	1.000
2.5×10^7	.760
5.0×10^7	.617
7.5×10^7	.546
1.0×10^8	.501

HÉCO MODEL 50/52



For other values of life desired multiply allowable load read from curve as follows:

NO. OF REV.	LOAD MULTIPLIER
1.0×10^6	1.995
2.5×10^6	1.516
5.0×10^6	1.231
7.5×10^6	1.090
1.0×10^7	1.000
2.5×10^7	.760
5.0×10^7	.617
7.5×10^7	.546
1.0×10^8	.501

HÉCO APPLICATION INFORMATION

The maximum torque listed for each model is a continuous torque based on 2000 hour B10 life at output speeds less than the published maximum. It can be expected that applications requiring a combination of high output torque and high output RPM will result in shortened reducer life. Consult HÉCO with your duty cycle information and HÉCO will supply reducer life calculations for your specific application.

LUBRICATION INSTRUCTIONS

HÉCO planetary speed reducers may be lubricated as a self-contained unit, or as an integral part of the hydraulic system.

In applications where the speed reducer is lubricated as a self-contained unit it is recommended that the unit be half filled with a EP 90 petroleum based gear oil. Vertical units require the unit to be completely filled. The oil should be changed after the first 50 hours of operation and every 1000 hours thereafter or immediately should the oil exceed the maximum operating temperature.

In applications where the speed reducer is lubricated by oil flow from the hydraulic motor, it is suggested a separate case drain line be connected directly from the reducer to the oil reservoir. For maximum cooling and lubrication the case drain should be connected to the drain port at the opposite end of the reducer from the hydraulic motor. This type of lubrication requires the use of a petroleum based hydraulic oil or an approved alternate. Reducer case pressure must not exceed 17 PSI. Case pressure exceeding 17 PSI and/or high side load applications consult factory.

Consult HÉCO for additional information.

APPROXIMATE OIL VOLUME REQUIRED FOR HORIZONTAL OPERATION:

Model 16-20 oz.	Model 50-100 oz.
Model 20-50 oz.	Model 50D-85 oz.
Model 20D-50 oz.	Model 52D-85 oz.

MAXIMUM OIL TEMPERATURE: 160 continuous
200 intermittent

HÉCO PLANETARY SPEED REDUCERS:

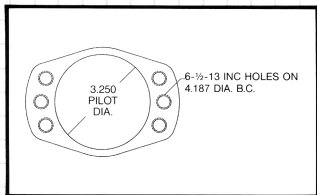
Compact size, low weight, high efficiency.

HÉCO builds PLANETARY speed reducers to last — and live up to their performance ratings. Every HÉCO reducer uses heavy-duty TIMKEN® bearings and output shafts designed for maximum output torques and application where heavy side loading is required.

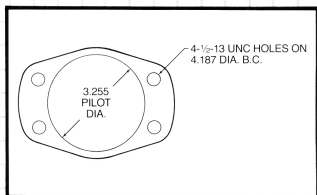
The lightweight, compact design of HÉCO PLANETARY speed reducers is of particular advantage in applications with space and weight limitations, and HÉCO's high efficiency PLANETARY design is ideal for virtually all heavy duty applications, including wheel drives, conveyor drives, swing drives, and winch drives.

HÉCO PLANETARY speed reducers are available in both single and double reduction models, and may be specified with a variety of shafts. The standard models and options shown in this catalog are adaptable to the great majority of gear reduction applications, but HÉCO also offers custom design and manufacturing services for special OEM applications.

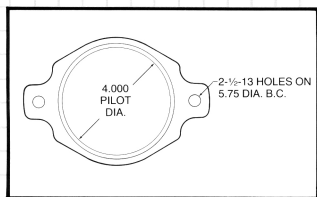
HÉCO HYDRAULIC MOTOR MOUNTING DATA



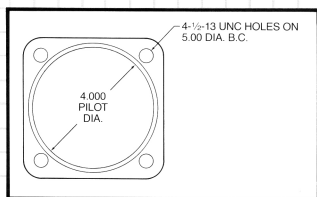
2&4 BOLT SAE A — ORDER CODE 4



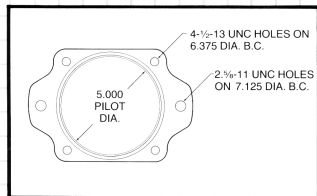
4 BOLT ROSS MAB & MAE — ORDER CODE 2



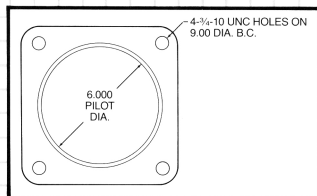
2 BOLT SAE B — ORDER CODE 5



4 BOLT SAE B — ORDER CODE 0



2&4 BOLT SAE C — ORDER CODE 6



4 BOLT SAE D — ORDER CODE 7

HÉCO: Quality Manufacturing and Engineering for the Fluid-Power Industry

The company was established to produce quality gear reduction units with a superior PLANETARY design — units that live up to their ratings in long, tough service. HÉCO PLANETARY gear reducers adapt easily to most popular hydraulic motors. For OEM application, or as replacement units, HÉCO PLANETARY gear reducers mean power you can depend on. Call on us when you need to gear down.

Custom Applications

HÉCO PLANETARY speed reducers adapt to most hydraulic motors and applications, but if you have a custom application requiring a special shaft or mounting adaptor, HÉCO engineers will work with you. HÉCO also welcomes custom OEM engineering work. Consult your local distributor for assistance.

HECO OPTIONS CHART AND ORDER CODE

OPTIONS	MODELS						ORDER CODE
	16	20	50	20D	50D	52D	
REDUCER MOUNTING FLANGES							
Front Flange	•	•		•			FF
Center Flange	•	•	•	•	•	•	CF
OUTPUT SHAFTS							
2.250" Straight Keyed	•						1
2.750" Straight Keyed		•		•			1
3.375" Straight Keyed		•		•			11
3.875" Straight Keyed			•		•	•	1
Flanged 4 stud	•						2
Flanged 5 stud	•						5
Flanged 8 hole		•		•			2
2.250" Tapered	•						3
2.125" 16 tooth 8:16 DP Spline	•						4
23 tooth 8:16 Spline		•		•			4
20 tooth 6:12 Spline			•		•	•	4
HYDRAULIC MOTOR MOUNT							
SAE A, 2 & 4 bolt	•			•	•		4
SAE B, 2 bolt	•			•	•		5
SAE B, 4 bolt	•			•	•		0
SAE C, 2 & 4 bolt	•	•	•	•	•	•	6
SAE D, 4 bolt			•				7
Ross MAB & MAE 4 bolt A mount	•	•		•	•	•	2

Note: All dimensions shown herein are in inches
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OPTIONS	MODELS						ORDER CODE
	16	20	50	20D	50D	52D	
RATIOS							
5.2	•						5
4.8		•					4
6.0		•	•				6
24.96				•			25
28.8						•	29
31.2				•	•		31
36.0						•	36
INPUT SHAFT ADAPTORS (SUN GEAR)							
7/8 13 tooth 16:32 DP	•			•	•		B
1" — SAE 6B	•			•	•		M
1" — 15 tooth 16:32 DP				•	•	•	C
1 1/4" — 14 tooth 12:24 DP	•	•	•	•	•	•	I
1 1/2" — 17 tooth 12:24 DP				•			L
1 3/4" — 13 tooth 8:16 DP			•				K
CharLynn 2000 Bearingless	•			•	•		E
CharLynn 4000 Bearingless	•	•		•	•		F
CharLynn 6000 Bearingless	•	•	•			•	G
CharLynn 10000 Bearingless			•				J
7/8" Straight Keyed	•			•	•		0
1" Straight Keyed	•			•	•		D
1 1/8" Straight Keyed	•			•	•		P
1 1/4" Straight Keyed	•			•	•		H

HOW TO ORDER:

- Select Model size — 16, 20, 20D, 50, 50D or 52D.
- Specify mounting flange required — center flange or front flange.
- Specify output shaft, using Order Code number.
Example: 2.250" diameter straight keyed shaft for the Model 16 is Order Code 1.
- Indicate motor mount desired, and list its Order Code number.
- Specify desired reduction ratio and indicate Order Code number.
- Specify motor input shaft and list its Order Code letter.

Example: The Order Code for a Model 16 Front Flange gear reducer with a 2.250" Straight Keyed shaft, SAE B, 4-bolt mount, 5.2 to 1 reduction ratio, and CharLynn 2000 Bearingless motor input shaft adaptor would be:

HECO MODEL NUMBER — ORDER CODE

SPEED REDUCER

16	FF	1	0	5
Model	Reducer Mounting Flange	Output Shaft	Hydraulic Motor Mount	Ratio

SUN GEAR KIT (INPUT SHAFT ADAPTER)

16	E
Model	Input Shaft Adaptor