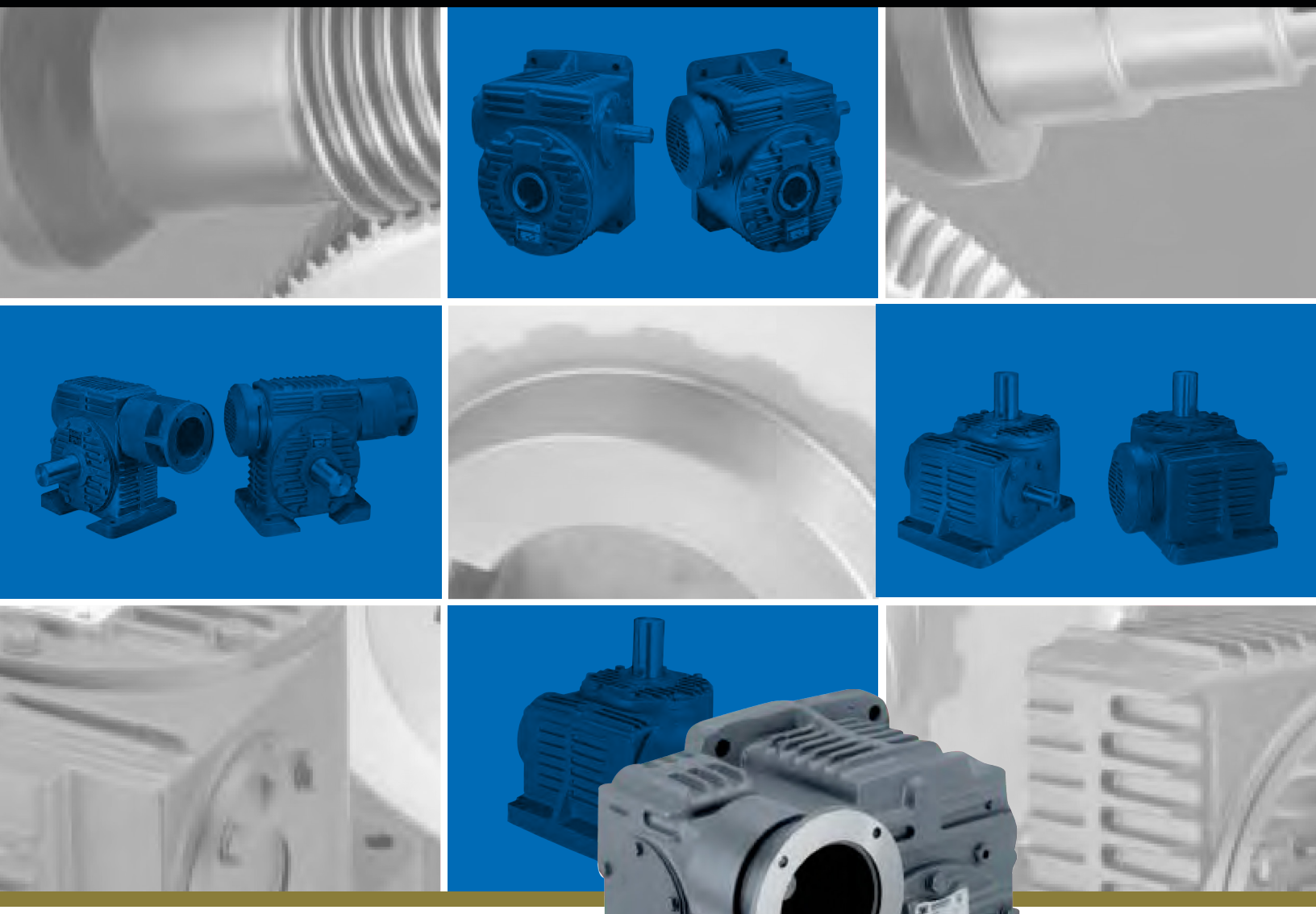
WINSMITH



D-90 Type DE
Double Enveloping
Worm Gear Speed Reducers

www.winsmith.com

D-90® TYPE DE®

WINSMITH®'S NEW DOUBLE ENVELOPING WORM GEAR REDUCERS

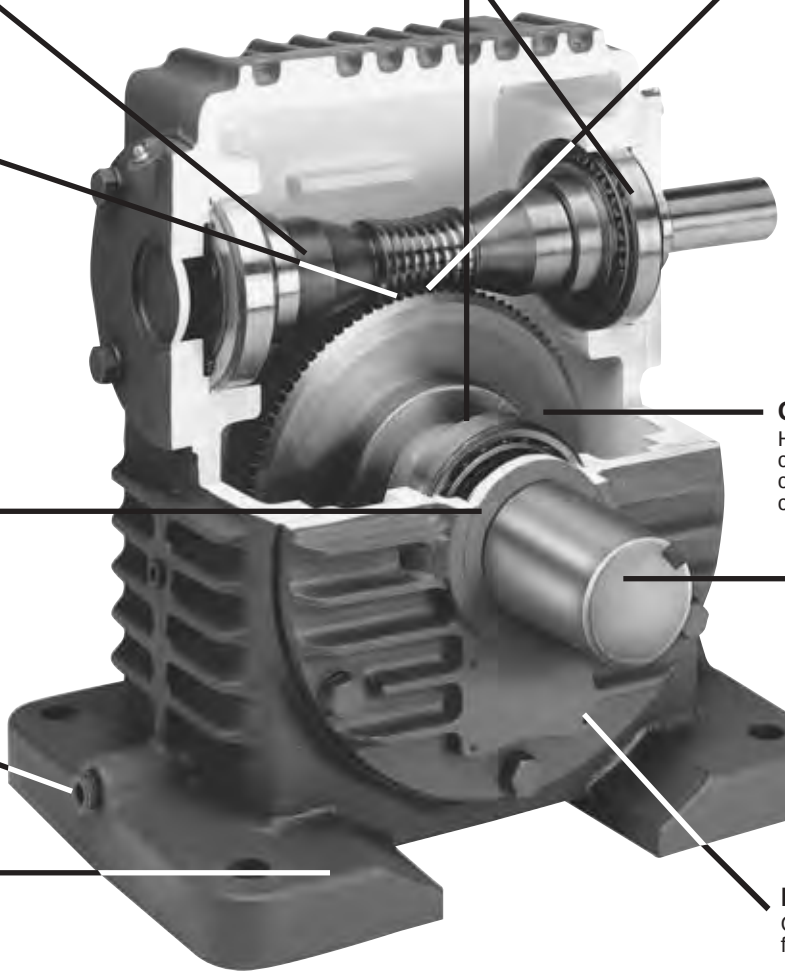
HIGH POWER—HIGH EFFICIENCY—COMPACT DESIGN

WORM SHAFT
Heat-treated alloy steel worm.

BEARINGS
Tapered roller bearings on both input (worm) shafts and output shafts provide maximum thrust and overhung load capacity and assure long service life.

LUBRICATION FLOW
Increased flow of lubricant in the mesh creates more efficient operation than cylindrical worm meshes.

DUAL CONTACT MESH
Two separate contact paths at the mesh reduces contact pressure, increases tooth contact and power density.



GEARS
High grade centrifugally cast or chill cast bronze.

OIL SEALS
High quality seals in contact with precision ground shafts assure maximum seal life and leakproof protection.

OUTPUT SHAFT
Heat treated alloy steel.

PLUGS
Fill, level and drain plugs conveniently located.

HOUSING
Rugged, close grain cast iron. Mounting feet are integral with the housing for strength and rigidity.

RIBBED EXTERIOR
Quicker heat dissipation for power dense design.

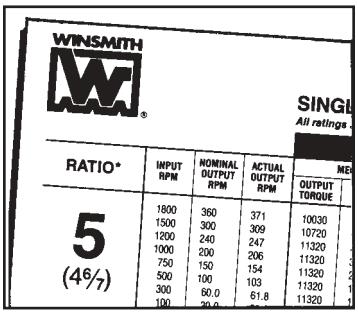
LUBRICATION

All units factory filled with synthetic hydrocarbon lubricant to the proper level…ready for service on delivery.

Every unit quality certified and test run prior to packaging and shipping.

TABLE OF CONTENTS

EASY SELECTION

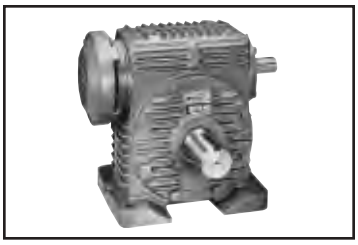

WINSMITH

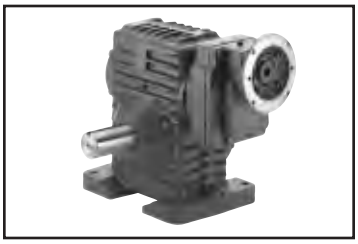
SINGL
All ratings

RATIO*	INPUT RPM	NOMINAL OUTPUT RPM	ACTUAL OUTPUT RPM	OUTPUT TORQUE
5 (46/7)	1800	360	371	10030
	1500	300	309	10720
	1200	240	247	11320
	1000	200	206	11320
	750	150	154	11320
	500	100	103	11320
	300	60.0	61.8	11320
	100			11320

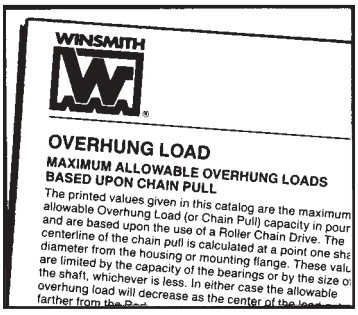
DIMENSIONS, PARTS LIST, SHAFT ARRANGEMENT

NEW!
941 MDTX MODEL
See page 76 for complete product specifications.



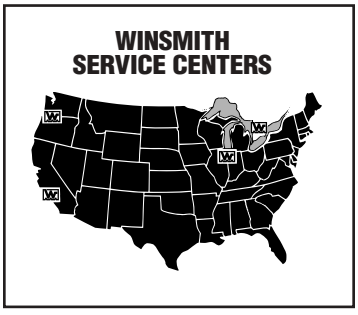


ENGINEERING DATA


WINSMITH

OVERHUNG LOAD
MAXIMUM ALLOWABLE OVERHUNG LOADS BASED UPON CHAIN PULL
The printed values given in this catalog are the maximum allowable Overhung Load (or Chain Pull) capacity in pour and are based upon the use of a Roller Chain Drive. The centerline of the chain pull is calculated at a point one sha diameter from the housing or mounting flange. These valu are limited by the capacity of the bearings or by the size o the shaft, whichever is less. In either case the allowable overhung load will decrease as the center of the load

DISTRICT SALES OFFICES AND SERVICE CENTERS



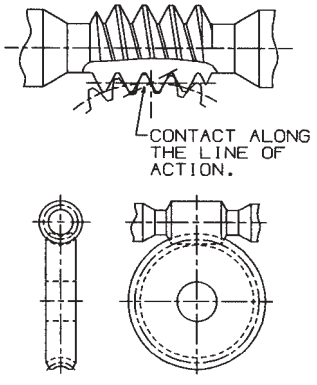
SELECTION ISSUES WINSMITH® HAS THE RIGHT CHOICE: SINGLE OR DOUBLE ENVELOPING WORM GEAR PRODUCTS

Single enveloping worm gear products depend on the mesh of one to two gear teeth to transfer and multiply torque. This type of mesh concentrates the work being done to a relatively small contact area. The worm is made as a cylindrical component with the outer diameter the same through the length of the threaded section. The teeth on the gear are contoured to envelop the worm thread, thus the term single enveloping worm gear.

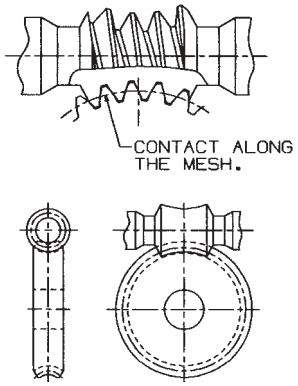
Double enveloping worm gear products depend on the mesh of several gear teeth, up to ⅛ of the gear circumference, to transfer and multiply torque (ie. 60:1 gear set with a 60 tooth gear or .125 x 60 = 7.5 teeth in mesh). This is made possible by contouring the worm threaded section to the gear. This contouring provides the second enveloping condition, thus the term double enveloping worm gear.

The additional teeth in contact in a double enveloping gear set, two to four times more than in a single enveloping gear set, increases the total contact area in the mesh by a similar amount. In addition, lubrication between the worm and gear is improved due to a more favorable direction of contact lines in the mesh relative to worm rotation. This results in ratings for double enveloping gear sets that are two to four times the ratings for single enveloping gearsets of similar size.

The wider distribution of load along with the improved lubrication characteristics in the double enveloping gear mesh create an efficient, power dense product.



C-LINE & D-90® TYPE SE®
Cylindrical worm and enveloping gear create single enveloping product.



D-90® TYPE DE®
Contoured worm and enveloping gear create double enveloping product.

SINGLE ENVELOPING VS DOUBLE ENVELOPING STANDARD PRODUCT SELECTION CRITERIA

SELECTION ISSUE	SINGLE ENVELOPING		DOUBLE ENVELOPING D-90® DE®	REMARKS
	C-LINE	D-90® SE®		
Ratio Range Single & Double Reduction	4-3600:1	4-10,000:1	5-10,000:1	D-90® DE® triple reduction available upon request
Power Density	Good	Fair	Very Good	Better at high ratio
Max Torque Capacity	Medium	Low	High	DE up to new levels
Efficiency	Fair	Good	Very Good	Best at low ratios
Catalog Input Speed	1800 RPM	3000 RPM	1800 RPM	Motion control products go up to 4000 RPM
Backlash	20-25 arc minutes	25-30 arc minutes	11-17 arc minutes	Motion control products go down to 2 arc minutes
Output Shaft Overhung Load Capacity	Fair	Good	Very Good	As it relates to center distance
Price per in.-lbs. of Output Torque	Fair	Good	Very Good	DE best buy at any ratio
Inertia	Fair	Good	Very Good	Power dense DE low in inertia
Motorized Quill Input Single Reduction Double Reduction	 Yes Yes	 Yes Yes	 No Yes	DE requires 2 input bearings to insure proper mesh
Motorized Coupling Input Single Reduction Double Reduction	 Yes Yes	 Yes Yes	 Yes Yes	Many adapted to servo motors

WHY WINSMITH® DOUBLE ENVELOPING

WINSMITH has a long history of product development leadership in the enclosed gear product industry. Double enveloping worm gear technology represents the leading edge in gear product development. The technology has been around for awhile, but has never been easily available to the Power Transmission market place. WINSMITH has combined years of “can do” product development expertise with the latest in manufacturing technology to develop this high performance product line.

DEVELOPMENT OF A UNIQUE TECHNOLOGY

EFFICIENCY—The power of the WINSMITH double enveloping worm gear products is more than an increased number of teeth in mesh. WINSMITH double enveloping worm gear products also include a dual contact pattern on the gear teeth to reduce contact pressure. This reduced pressure along with the wide spread of the load through multiple teeth create a very efficient method to multiply torque.

HIGH TORQUE—Center distances from 4" to 8" offer a range of torque well beyond most competitive worm gear products. This additional capacity is now packaged in a compact speed reducer.

VERSATILITY—The WINSMITH double enveloping worm product was developed to allow the highest number of models from the smallest number of parts. Each housing serves as the building block for more than one model.

FLEXIBILITY—The extensive product development done at WINSMITH allows for creative use of the technology to solve problems. WINSMITH’s tradition of bringing engineered solutions to the marketplace is continued through the double enveloping worm gear product.


GAINESVILLE, GA

QUALITY AND SERVICE

These are assured through WINSMITH’s commitment to maintaining the most modern manufacturing facilities in the industry. The manufacture of WINSMITH’s broader, more versatile D-90® TYPE SE® speed reducer is accomplished in our modern facility in Gainesville, GA. Larger worm gear products and helical products and our new D-90 TYPE DE are manufactured in the Springville, NY plant, which has been expanded several times in recent years to increase capacity and also to accommodate the latest in computer controlled machine tools and machining centers. Separating the small high volume products from the larger worm gear and helical gear units has resulted in increased productivity and efficiency at both operations.

- **HIGHER LOAD CAPACITY**—Double enveloping worm gear sets have more teeth in contact at any given time than single enveloping gear sets of the same ratio. This increased tooth contact allows increased load capacity and reduced gear teeth contact stress.
- **GEAR MESH**—The D-90® TYPE DE® gearing includes a dual contact pattern that decreases contact pressure. This feature was designed into our product after extensive analysis to insure a superior product.
- **LOW TRANSMISSION ERROR**—Very accurate gear tooth formation and spacing create a smooth and quiet operating product. Gear components are manufactured on equipment designed to make only precision double enveloping parts.
- **VERY RIGID INPUT**—The combination of large diameter alloy steel worms and two bearing mounting in the housing create a very rigid package. This insures the proper mesh is achieved for superior performance. The lack of bending or moving in the high speed also improves backlash performance over other standard worm gear products.
- **WIDE RANGE OF RATIOS AVAILABLE**—Ratios from 5:1 to 100:1 in a single reduction and 100:1 to 10,000:1 in a double reduction. Also, special triple reduction ratios can be created as needed.
- **LOW BACKLASH**—D-90 TYPE DE gears and worms need to mesh very accurately to operate properly. Multiple meshes meeting at the same time need to be accurately produced to properly share the load and perform. The result is a backlash that sets the standard in the marketplace.
- **QUALITY THROUGHOUT**—WINSMITH builds quality products. D-90 TYPE DE products demand high quality to insure excellent performance. Only a gear company with WINSMITH’s quality tradition could be successful in making such a technically challenging product.
- **MORE TORQUE PER POUND**—WINSMITH D-90 TYPE DE, double enveloping worm gear reducers provide high ratings and large load capacities. Pound for pound, you get more torque than with any other types of gear reducers. Only with WINSMITH TYPE DE, double enveloping reducers can you be sure you’re getting the best gear reducer value.

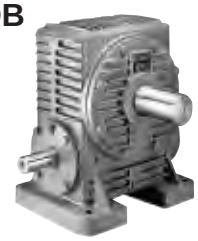

SPRINGVILLE, NY

INDEX OF REDUCERS SIZES AND MODELS

D-90® TYPE DE®

WINSMITH®

DB



FDB

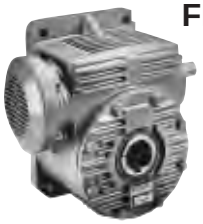
See Pages 52-53

CDB

CFDB

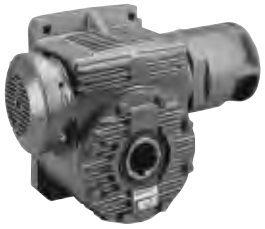
DSF

FDSF



See Pages 58-59

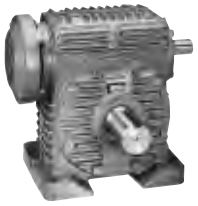
CDSF



CFDSF

DT

FDT



See Pages 54-55

CDT

CFDT

DSR

FDSR

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CDSR

CFDSR

DV

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CDV

CFDV

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CDL

CFDL

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MDBD

DSFD **CDSFD**

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MDSFD

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DSRD **CDSRD**

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MDSRD

DVD **CDVD**

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MDVD

DLD **CDLD**

See Pages 74 - 75

MDLD

HOW TO SELECT

WINSMITH® worm gear speed reducers can be selected in one of two ways:

1. When the INPUT HP and ratio or relative shaft speeds are known, select the unit based on the input HP capacity.
2. When the OUTPUT TORQUE and ratio or relative shaft speeds are known, select the unit based on the unit torque capacity.

The following selection procedure and two examples illustrate both conditions.

SELECTION PROCEDURE

1. Select the proper SERVICE FACTOR from the table on Page 80 corresponding to the load classification, duration of service, type of prime mover, and frequency of starting and stopping.
2. Determine the RATIO or OUTPUT RPM required.

$$\text{Ratio} = \frac{\text{INPUT RPM}}{\text{OUTPUT RPM}}$$

3. Calculate the DESIGN HP or DESIGN TORQUE by multiplying the required input HP or required output torque by the service factor determined in Step One.
4. Determine the proper UNIT SIZE by referring to the rating charts on Pages 8-51. For the proper ratio and input RPM, select the minimum unit size where either the rated mechanical input HP or output torque is equal to or exceeds the design HP or torque from Step 3.
5. For applications involving continuous operation of at least one hour, refer to the thermal HP or torque capacity for the same selection and verify that the operating load is no greater than the unit thermal capacity. If it is not, consider fan-cooling (single reduction), external cooling (heat exchanger) or a larger reducer.
6. Select the reducer model that best suits the application specifications as illustrated on Pages 4-5 and check to see if the size determined in steps 4 and 5 is available in this model.
7. Check OVERHUNG LOADS on all shafts and/or THRUST LOAD on the output shaft. Refer to the ratings on Pages 8-51 and explanation in Engineering Section on Page 88.
8. Check dimensions, shaft arrangements, and available frame sizes for motorized units from the information on specific model dimension pages.
9. Refer to Page 7 for instructions on “HOW TO ORDER.”

EXAMPLE A
(Ouput Torque Given)

A pure liquid agitator (uniform load) operates 24 hours per day at approximately 40 RPM and a torque load of 14,000 inch pounds. The reducer is to be driven by a 1160 RPM electric motor.

1. Service Factor (from Page 87)—1.25
2. Ratio = $\frac{1160}{40}$ = 29:1
3. Design Torque = 14,000 x 1.25 service factor = 17,500 inch pounds.
4. Unit Selection (from Pages 8-51).

A size 951 fan-cooled model is the smallest unit with a mechanical output torque rating that is equal to or exceeds the design torque of 17,500 inch pounds and a thermal output torque rating that is equal to or exceeds the operating torque of 14,000 inch pounds at 1160 RPM input.

EXAMPLE B
(Input HP Given)

A customer requires a reducer to direct drive the head shaft of his uniformly loaded belt conveyor at a speed of approximately 30 RPM. The conveyor operates 24 hours per day and is driven by a 10 HP motor at 1750 RPM.

1. Service Factor (from Page 87)—1.25
2. Ratio = $\frac{1750}{30}$ = 58.3:1
3. Design HP= 10 x 1.25 service factor = 12.5 HP.
4. Unit Selection (from Pages 8-51).

A size 961 fan-cooled model is the smallest unit with a mechanical input HP rating that is equal to or exceeds the design HP of 12.5 and a thermal input HP rating that is equal to or exceeds the operating HP of 10 at 1750 RPM input.

REDUCER SIZE **951**

HORSEPOWER AND TORQUE RATINGS

SINGLE REDUCTION SERIES

CENTER DISTANCE 4.921 inches.
All ratings stated are for a 1.0 service factor. See page 87 for further information.

RATIO[1]	HORSEPOWER AND TORQUE RATINGS											
	INPUT RPM	NOMINAL OUTPUT RPM	ACTUAL OUTPUT RPM	MECHANICAL[2]			THERMAL[3]			FAN-COOLED—THERMAL[3]		
				OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.
30 (30)	1750	58.30	58.30	19759	21.31	86	6496	7.40	81	11738	12.90	84
	1450	48.30	48.30	20712	18.62	85	8600	7.98	83	12790	11.66	84
	1160	38.70	38.70	21633	15.72	84	10924	8.09	83	14043	10.31	84
	870	29.00	29.00	22554	12.54	83	13540	7.61	82	15480	8.67	82
	600	20.00	20.00	23412	9.23	81	17505	6.94	80	18120	7.18	80
	300	10.00	10.00	24365	5.08	76	24365	5.08	76	24365	5.08	76
	100	3.30	3.30	25000	1.90	70	25000	1.90	70	25000	1.90	70

REDUCER SIZE **961**

HORSEPOWER AND TORQUE RATINGS

SINGLE REDUCTION SERIES

CENTER DISTANCE 5.906 inches.
All ratings stated are for a 1.0 service factor. See page 87 for further information.

RATIO[1]	HORSEPOWER AND TORQUE RATINGS											
	INPUT RPM	NOMINAL OUTPUT RPM	ACTUAL OUTPUT RPM	MECHANICAL[2]			THERMAL[3]			FAN-COOLED—THERMAL[3]		
				OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.
60 (60)	1750	29.20	29.20	25166	14.85	78	10836	6.83	73	19172	11.49	77
	1450	24.20	24.20	26045	12.84	78	14280	7.29	75	21282	10.59	77
	1160	19.30	19.30	26895	10.75	77	18117	7.37	75	23762	9.55	76
	870	14.50	14.50	27744	8.55	75	22505	6.99	74	26674	8.23	75
	600	10.00	10.00	28535	6.31	72	28535	6.31	72	28535	6.31	72
	300	5.00	5.00	29414	3.51	66	29414	3.51	66	29414	3.51	66
	100	1.70	1.70	30000	1.34	59	30000	1.34	59	30000	1.34	59

EXAMPLE **Catalog Description** D-90 Series, 3.937" center distance, fan cooled, worm on top, single reduction, double extended slow speed shaft, 182TC frame, motorized input, 30:1 ratio

Catalog Codes 941, CFDT, LR, 182TC, 30:1

End Unit Part Number 941DDTS23000EK

9 41 D DT S 2 3 00 O EK

SERIES

CODE	DESC	EUPN
9	D-90 SERIES	9

CENTER DISTANCE

CODE	DESC	EUPN
41	3.937"	41
51	4.921"	51
61	5.908"	61
71	6.890"	71
81	7.874"	81
90	9.843"	90

INPUT STYLE

CODE	DESC	EUPN
MF	C-Flange w/Quill motor adapter & fan	A
C	C-Flange w/Coupling motor adapter	C
CF	C-Flange w/Coupling motor adapter & fan	D
F	Fan cooled	F
M	C-Flange w/Quill motor adapter	M
(blank)	Non-Motorized	X

BASIC MODEL

CODE	DESC	EUPN
	D-90 SERIES	
DB	Worm on bottom	DB
DT	Worm on top	DT
DV	Vertical output shaft	DV
DL	Drop bearing output	DL
DSF	Flange mount hollow output	SF
DSR	Torque arm hollow output	SR
DSB	Foot mt.—wos bottom—hollow output	SB
DST	Foot mt.—wos top—hollow output	ST

REDUCTION STAGES

CODE	DESC	EUPN
S	Single	S
D	Double	D
X	Helical primary	X

MOTOR FRAME SIZE

CODE/DESC	EUPN
56C	1
143-145TC	2
182-184TC	3
213-215TC	4
254-256TC	5
284-286TC	A
324-326TC	B
364-365TC	C
Non-motorized	X

SHAFT ARRANGEMENT

Horizontal Units

CODE	DESC	EUPN
LR	Solid out—double ext	2
R	Solid out—right ext	3
L	Solid out—left ext	4

***Vertical Units**

CODE	DESC	EUPN
RU	S.S. right—S.S. up	2
RD	S.S. right—S.S. down	3
LU	S.S. left—S.S. up	4
LD	S.S. left—S.S. down	5
RUD	S.S. right—S.S. up & down	6
LUD	S.S. left—S.S. up & down	7

Hollow Output

CODE	DESC	EUPN
DR	Driven machine right	3
DL	Driven machine left	4
DLR	Symmetric hollow shaft	5

Double & Triple Reduction

2-9 & A-V check with the factory

*Viewing Input (Motor end) of high speed shaft.

OUTPUT STYLE

CODE	EUPN
Solid Output Shaft	00

Hollow Output Shaft

CODE	DESC	EUPN
1-1/2	1.50" Bore	24
1-3/4	1.75" Bore	28
(#—increase EUPN by one for each 1/16" increase in bore size)		
6-3/16	6.1875"	99

RATIO

CODE/DESC	EUPN
5:1	A8
10:1	B7
15:1	C1
20:1	DN
25:1	D4
30:1	EK
40:1	FA
50:1	FT
60:1	GC
80:1	HC
100:1	HO
150:1	J9
200:1	LC
300:1	MM
500:1	N4
750:1	P5
1000:1	QO
1500:1	R6
2000:1	S1
3000:1	TV
4000:1	U8
5000:1	UE
6000:1	UM
8000:1	3M
10000:1	U5
and others	

REDUCER SIZE
941

HORSEPOWER AND TORQUE RATINGS

SINGLE REDUCTION SERIES

Center Distance: 3.937 inches.

All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

RATIO[1]	HORSEPOWER AND TORQUE RATINGS (IN. LBS.)											
	INPUT RPM	OUTPUT RPM	MECHANICAL[2]			THERMAL[3]			FAN-COOLED—THERMAL[3]			
			OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.	
5* (5)	1750	350	6883	40.07	95	3050	17.97	94	5202	30.38	95	
	1450	290	7559	36.51	95	3934	19.13	94	5749	27.84	95	
	1160	232	8212	31.83	95	4895	19.05	94	6362	24.70	95	
	870	174	8865	25.93	94	6007	17.62	94	7089	20.76	94	
	600	120	9474	19.29	94	7667	15.63	93	8330	16.97	93	
	300	60	10149	10.55	92	10149	10.55	92	10149	10.55	92	
	100	20	10600	3.80	89	10600	3.80	89	10600	3.80	89	
8 (8)	1750	219	8208	30.20	94	4009	14.95	93	6838	25.23	94	
	1450	181	8498	25.96	94	5147	15.83	93	7522	23.01	94	
	1160	145	8777	21.54	94	6390	15.73	93	8305	20.39	94	
	870	109	9057	16.80	93	7852	14.58	93	9057	16.80	93	
	600	75	9318	12.05	92	9318	12.05	92	9318	12.05	92	
	300	38	9607	6.35	90	9607	6.35	90	9607	6.35	90	
	100	13	9800	2.24	87	9800	2.24	87	9800	2.24	87	
10 (10)	1750	175	9303	27.65	93	4217	12.74	92	7194	21.47	93	
	1450	145	9921	24.49	93	5412	13.48	92	7910	19.58	93	
	1160	116	10518	20.87	93	6720	13.40	92	8733	17.36	93	
	870	87	11115	16.68	92	8261	12.44	92	9750	14.65	92	
	600	60	11671	12.23	91	10634	11.16	91	11553	12.11	91	
	300	30	12288	6.61	89	12288	6.61	89	12288	6.61	89	
	100	10	12700	2.37	85	12700	2.37	85	12700	2.37	85	
15 (15)	1750	117	10636	21.79	90	4024	8.48	88	6836	14.20	90	
	1450	97	11029	18.81	90	5168	8.96	88	7552	12.97	89	
	1160	77	11410	15.69	89	6416	8.91	88	8339	11.52	89	
	870	58	11790	12.32	88	7881	8.28	88	9301	9.75	88	
	600	40	12144	8.93	86	10119	7.45	86	10994	8.09	86	
	300	20	12538	4.79	83	12538	4.79	83	12538	4.79	83	
	100	6.7	12800	1.74	78	12800	1.74	78	12800	1.74	78	
20 (20)	1750	88	11165	17.63	88	4169	6.82	85	7111	11.36	87	
	1450	73	11557	15.21	87	5352	7.19	85	7822	10.38	87	
	1160	58	11936	12.69	87	6645	7.15	85	8636	9.23	86	
	870	44	12314	9.98	85	8165	6.67	85	9636	7.84	85	
	600	30	12667	7.26	83	10495	6.03	83	11402	6.54	83	
	300	15	13059	3.93	79	13059	3.93	79	13059	3.93	79	
	100	5.0	13320	1.44	74	13320	1.44	74	13320	1.44	74	
25 (25)	1750	70	10964	13.97	87	5049	6.64	85	8612	11.06	87	
	1450	58	11349	12.05	87	6475	6.99	85	9463	10.09	86	
	1160	46	11721	10.04	86	8047	6.96	85	10458	8.98	86	
	870	35	12093	7.90	85	9926	6.51	84	11715	7.66	84	
	600	24	12439	5.74	83	12439	5.74	83	12439	5.74	83	
	300	12	12824	3.10	79	12824	3.10	79	12824	3.10	79	
	100	4.0	13080	1.12	74	13080	1.12	74	13080	1.12	74	

1. Numbers shown in ( ) are exact ratios.
2. Mechanical ratings apply to both non-fan cooled and fan cooled models.
3. Thermal input HP must not be exceeded except during startup or momentary peak load conditions.

*Available in solid shaft only.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

SINGLE REDUCTION SERIES

REDUCER SIZE **941**

OVERHUNG LOAD CAPACITIES[4] (LBS.)								THRUST CAPACITIES (LBS.)			RATIO
INPUT SHAFT	OUTPUT SHAFT							OUTPUT SHAFT			
ALL MODELS[5]	DB[5]	DT[5]	DV[5] SHAFT UP	DV[5] SHAFT DOWN	DSF[6] BASE SIDE	DSF[6] COVER SIDE	DL[5]	DB, DT, DV[7]	DSF[7]	DL AWAY FROM BASE	
1600	3045	3045	3045	3008	2685	2685	4597	2739	6000	2726	**5** (5)
1600	3209	3209	3209	3170	2836	2836	4877	2849	6000	2834	
1600	3462	3462	3462	3419	3029	3029	5267	3063	6000	3047	
1600	3859	3859	3859	3812	3297	3297	5843	3441	6000	3424	
1600	4431	4431	4431	4377	3701	3701	5910	4023	6000	4005	
1600	5170	5170	5170	5170	4688	4688	5910	5401	6000	5000	
1600	5170	5170	5170	5170	6639	5100	5910	6000	6000	5000	
1600	3395	3395	3395	3354	2944	2944	5093	3199	6000	3265	**8** (8)
1600	3702	3702	3702	3656	3156	3156	5510	3527	6000	3595	
1600	4083	4083	4083	4033	3414	3414	5910	3942	6000	4013	
1600	4600	4600	4600	4544	3814	3814	5910	4511	6000	4584	
1600	5170	5170	5170	5170	4384	4384	5910	5301	6000	5000	
1600	5170	5170	5170	5170	5544	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	7995	5100	5910	6000	6000	5000	
1600	3555	3555	3555	3512	3064	3064	5363	3462	6000	3436	**10** (10)
1600	3841	3841	3841	3794	3261	3261	5783	3748	6000	3720	
1600	4208	4208	4208	4156	3547	3547	5910	4126	6000	4098	
1600	4718	4718	4718	4660	3964	3964	5910	4668	6000	4638	
1600	5170	5170	5170	5170	4544	4544	5910	5506	6000	5000	
1600	5170	5170	5170	5170	5803	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8429	5100	5910	6000	6000	5000	
1065	3929	3929	3929	3881	3386	3386	5910	4161	6000	4112	**15** (15)
1319	4283	4283	4283	4230	3678	3678	5910	4555	6000	4505	
1600	4725	4725	4725	4667	4040	4040	5910	5050	6000	4998	
1600	5170	5170	5170	5170	4528	4528	5910	5801	6000	5000	
1600	5170	5170	5170	5170	5195	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	6785	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8474	5100	5910	6000	6000	5000	
859	4285	4285	4285	4232	3693	3693	5910	4685	6000	4631	**20** (20)
1120	4670	4670	4670	4613	4010	4010	5910	5120	6000	5000	
1497	5170	5170	5170	5147	4402	4402	5910	5735	6000	5000	
1600	5170	5170	5170	5170	4930	4930	5910	6000	6000	5000	
1600	5170	5170	5170	5170	5707	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	7491	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8474	5100	5910	6000	6000	5000	
1518	4701	4701	4701	4644	3996	3996	5910	5168	6000	5000	**25** (25)
1600	5170	5170	5170	5111	4335	4335	5910	5707	6000	5000	
1600	5170	5170	5170	5170	4752	4752	5910	6000	6000	5000	
1600	5170	5170	5170	5170	5318	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	6222	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8133	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8474	5100	5910	6000	6000	5000	

4. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon direction of chain pull and type of foundation bolts. See page 88 for further information.
5. Overhung load given at one shaft diameter from housing or mounting base (DV).
6. Overhung load given at 2.938 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
7. Values shown are applicable for either direction of thrust (into or away from unit).

REDUCER SIZE
941

HORSEPOWER AND TORQUE RATINGS

SINGLE REDUCTION SERIES

Center Distance: 3.937 inches.

All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

RATIO[1]	HORSEPOWER AND TORQUE RATINGS (IN. LBS.)										
	INPUT RPM	OUTPUT RPM	MECHANICAL[2]			THERMAL[3]			FAN-COOLED—THERMAL[3]		
			OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.
30 (30)	1750	58	10994	11.99	85	4829	5.50	82	8238	9.12	84
	1450	48	11327	10.35	84	6194	5.78	82	9053	8.32	83
	1160	39	11697	8.65	83	7694	5.75	82	9999	7.42	83
	870	29	12067	6.83	81	9479	5.39	81	11187	6.34	81
	600	20	12412	4.98	79	12256	4.92	79	12412	4.98	79
	300	10	12795	2.72	75	12795	2.72	75	12795	2.72	75
	100	3.3	13050	1.00	69	13050	1.00	69	13050	1.00	69
40 (40)	1750	44	10791	9.28	81	4987	4.49	78	8507	7.40	80
	1450	36	11156	8.01	80	6396	4.71	78	9348	6.76	80
	1160	29	11509	6.70	79	7947	4.69	78	10329	6.04	79
	870	22	11862	5.31	77	9799	4.41	77	11564	5.18	77
	600	15	12191	3.90	74	12191	3.90	74	12191	3.90	74
	300	7.5	12556	2.14	70	12556	2.14	70	12556	2.14	70
	100	2.5	12800	.80	63	12800	.80	63	12800	.80	63
50 (50)	1750	35	10310	7.44	77	5056	3.84	74	8624	6.28	76
	1450	29	10672	6.43	76	6484	4.02	74	9476	5.74	76
	1160	23	11022	5.40	75	8057	4.00	74	10471	5.14	75
	870	17	11371	4.30	73	9937	3.78	73	11371	4.30	73
	600	12	11697	3.17	70	11697	3.17	70	11697	3.17	70
	300	6.0	12059	1.77	65	12059	1.77	65	12059	1.77	65
	100	2.0	12300	.67	58	12300	.67	58	12300	.67	58
60 (60)	1750	29	9833	6.18	74	5150	3.42	70	8784	5.56	73
	1450	24	10178	5.35	73	6604	3.56	71	9652	5.08	73
	1160	19	10511	4.49	72	8208	3.55	71	10511	4.49	72
	870	15	10845	3.59	70	10129	3.36	69	10845	3.59	70
	600	10	11155	2.66	67	11155	2.66	67	11155	2.66	67
	300	5.0	11500	1.49	61	11500	1.49	61	11500	1.49	61
	100	1.7	11730	.57	54	11730	.57	54	11730	.57	54
80 (80)	1750	22	8801	4.52	68	5309	2.87	64	8801	4.52	68
	1450	18	9110	3.91	67	6809	2.99	65	9110	3.91	67
	1160	15	9409	3.29	66	8466	2.98	65	9409	3.29	66
	870	11	9707	2.64	63	9707	2.64	63	9707	2.64	63
	600	7.5	9985	1.97	60	9985	1.97	60	9985	1.97	60
	300	3.8	10294	1.12	55	10294	1.12	55	10294	1.12	55
	100	1.3	10500	.43	48	10500	.43	48	10500	.43	48
100 (100)	1750	18	8037	3.58	62	5392	2.53	59	8037	3.58	62
	1450	15	8319	3.10	62	6916	2.62	60	8319	3.10	62
	1160	12	8592	2.61	61	8592	2.61	60	8592	2.61	61
	870	8.7	8865	2.11	58	8865	2.11	58	8865	2.11	58
	600	6.0	9119	1.58	55	9119	1.58	55	9119	1.58	55
	300	3.0	9402	.91	49	9402	.91	49	9402	.91	49
	100	1.0	9590	.36	43	9590	.36	43	9590	.36	43

1. Numbers shown in ( ) are exact ratios.
2. Mechanical ratings apply to both non-fan cooled and fan cooled models.
3. Thermal input HP must not be exceeded except during startup or momentary peak load conditions.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

SINGLE REDUCTION SERIES

REDUCER SIZE **941**

OVERHUNG LOAD CAPACITIES[4] (LBS.)								THRUST CAPACITIES (LBS.)			RATIO
INPUT SHAFT	OUTPUT SHAFT							OUTPUT SHAFT			
ALL MODELS[5]	DB[5]	DT[5]	DV[5] SHAFT UP	DV[5] SHAFT DOWN	DSF[6] BASE SIDE	DSF[6] COVER SIDE	DL[5]	DB, DT, DV[7]	DSF[7]	DL AWAY FROM BASE	
1417	5032	5032	5032	4971	4232	4232	5910	5649	6000	5000	**30** (30)
1600	5170	5170	5170	5170	4588	4588	5910	6000	6000	5000	
1600	5170	5170	5170	5170	5027	5027	5910	6000	6000	5000	
1600	5170	5170	5170	5170	5684	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	6641	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8474	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8474	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	4630	4630	5910	6000	6000	5000	**40** (40)
1600	5170	5170	5170	5170	5016	5016	5910	6000	6000	5000	
1600	5170	5170	5170	5170	5557	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	6310	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	7358	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8474	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8474	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	4977	4977	5910	6000	6000	5000	**50** (50)
1600	5170	5170	5170	5170	5449	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	6039	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	6847	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	7970	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8474	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8474	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	5334	5100	5910	6000	6000	5000	**60** (60)
1600	5170	5170	5170	5170	5835	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	6461	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	7317	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8474	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8474	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8474	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	5946	5100	5910	6000	6000	5000	**80** (80)
1600	5170	5170	5170	5170	6497	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	7184	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8121	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8474	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8474	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8474	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	6447	5100	5910	6000	6000	5000	**100** (100)
1600	5170	5170	5170	5170	7040	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	7778	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8474	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8474	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8474	5100	5910	6000	6000	5000	
1600	5170	5170	5170	5170	8474	5100	5910	6000	6000	5000	

4. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon direction of chain pull and type of foundation bolts. See page 88 for further information.
5. Overhung load given at one shaft diameter from housing or mounting base (DV).
6. Overhung load given at 2.938 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
7. Values shown are applicable for either direction of thrust (into or away from unit).

REDUCER SIZE
941

HORSEPOWER AND TORQUE RATINGS

DOUBLE REDUCTION SERIES
(D) Double Reduction Worm Gear
(H) Double Reduction Helical/Worm
All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

CENTER DISTANCE (1) 2.625/3.937 (D) CENTER DISTANCE (1) 3.200/3.937 (H)			HORSEPOWER AND TORQUE RATINGS (IN. LBS.)					
					MECHANICAL		THERMAL[3]	
OVERALL RATIO[2]	PRIMARY RATIO[2]	SECONDARY RATIO[2]	INPUT RPM	OUTPUT RPM	HP	TORQUE	HP	TORQUE
25 (H) (25.3)	5 (5.06)	5 (5)	1750	69.13	11.33	9217	—	—
			1160	45.82	7.74	9378	—	—
			600	23.70	4.16	9546	—	—
			100	3.95	0.75	9861	—	—
30 (H) (29.6)	6 (5.93)	5 (5)	1750	59.03	9.94	9423	—	—
			1160	39.13	6.78	9573	—	—
			600	20.24	3.64	9736	—	—
			100	3.37	0.65	9977	—	—
40 (H) (40.5)	5 (5.06)	8 (8)	1750	43.21	7.48	9563	—	—
			1160	28.64	5.08	9675	—	—
			600	14.81	2.72	9782	—	—
			100	2.47	0.47	9800	—	—
50 (H) (50.6)	5 (5.06)	10 (10)	1750	34.56	7.75	12194	—	—
			1160	22.91	5.32	12434	—	—
			600	11.85	2.87	12662	—	—
			100	1.98	0.51	12700	—	—
60 (H) (59.3)	6 (5.93)	10 (10)	1750	29.52	6.71	12298	—	—
			1160	19.56	4.60	12503	—	—
			600	10.12	2.47	12698	—	—
			100	1.69	0.44	12700	—	—
75 (H) (75.9)	5 (5.06)	15 (15)	1750	23.04	5.62	12478	—	—
			1160	15.27	3.86	12631	—	—
			600	7.90	2.10	12776	—	—
			100	1.32	0.38	12800	—	—
90 (H) (88.9)	6 (5.93)	15 (15)	1750	19.68	4.87	12544	—	—
			1160	13.04	3.34	12675	—	—
			600	6.75	1.81	12798	—	—
			100	1.12	0.33	12800	—	—
100 (D) (100)	5 (5)	20 (20)	1750	17.50	4.77	12994	—	—
			1160	11.60	3.32	13148	—	—
			600	6.00	1.84	13294	—	—
			100	1.00	0.35	13320	—	—
100 (H) (101.3)	5 (5.06)	20 (20)	1750	17.28	4.59	12999	—	—
			1160	11.46	3.17	13151	—	—
			600	5.93	1.73	13296	—	—
			100	0.99	0.32	13320	—	—

1. Center Distance = Primary/Secondary.
2. Numbers shown in ( ) are actual ratios. Worm ratios are exact, helical ratios are rounded and are not exact.
3. Ratings provided only if thermally limited. Thermal HP must not be exceeded except during startup or momentary peak conditions.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

DOUBLE REDUCTION SERIES

(D) Double Reduction Worm Gear

(H) Double Reduction Helical/Worm

REDUCER SIZE **941**

OVERHUNG LOAD CAPACITIES[4] (LBS.)							THRUST CAPACITIES (LBS.)				RATIO
INPUT SHAFT	OUTPUT SHAFT						OUTPUT SHAFT			INPUT RPM	
ALL MODELS[5]	DBD[5] DTD	DVD[5] SHAFT UP	DVD[5] SHAFT DOWN	DSFD[6] BASE SIDE	DSFD[6] COVER SIDE	DLD[5]	DBD, DTD, DVD[7]	DSFD[7]	DLD AWAY FROM BASE		
220	5170	5170	5170	4445	4445	5910	6000	6000	5000	1750	**25 (H)** (25.3)
318	5170	5170	5170	5043	5043	5910	6000	6000	5000	1160	
500	5170	5170	5170	5478	5100	5910	6000	6000	5000	600	
500	5170	5170	5170	6234	5100	5910	6000	6000	5000	100	
192	5170	5170	5170	4724	4724	5910	6000	6000	5000	1750	**30 (H)** (29.6)
393	5170	5170	5170	5314	5100	5910	6000	6000	5000	1160	
500	5170	5170	5170	5837	5100	5910	6000	6000	5000	600	
500	5170	5170	5170	6639	5100	5910	6000	6000	5000	100	
500	5170	5170	5170	5274	5100	5910	6000	6000	5000	1750	**40 (H)** (40.5)
500	5170	5170	5170	6027	5100	5910	6000	6000	5000	1160	
500	5170	5170	5170	6643	5100	5910	6000	6000	5000	600	
500	5170	5170	5170	7524	5100	5910	6000	6000	5000	100	
500	5170	5170	5170	5465	5100	5910	6000	6000	5000	1750	**50 (H)** (50.6)
500	5170	5170	5170	6337	5100	5910	6000	6000	5000	1160	
500	5170	5170	5170	6991	5100	5910	6000	6000	5000	600	
500	5170	5170	5170	7928	5100	5910	6000	6000	5000	100	
500	5170	5170	5170	5857	5100	5910	6000	6000	5000	1750	**60 (H)** (59.3)
500	5170	5170	5170	6748	5100	5910	6000	6000	5000	1160	
500	5170	5170	5170	7437	5100	5910	6000	6000	5000	600	
500	5170	5170	5170	8429	5100	5910	6000	6000	5000	100	
500	5170	5170	5170	6398	5100	5910	6000	6000	5000	1750	**75 (H)** (75.9)
500	5170	5170	5170	7396	5100	5910	6000	6000	5000	1160	
500	5170	5170	5170	8141	5100	5910	6000	6000	5000	600	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	
500	5170	5170	5170	6847	5100	5910	6000	6000	5000	1750	**90 (H)** (88.9)
500	5170	5170	5170	7865	5100	5910	6000	6000	5000	1160	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	
500	5170	5170	5170	7068	5100	5910	6000	6000	5000	1750	**100 (D)** (100)
500	5170	5170	5170	8158	5100	5910	6000	6000	5000	1160	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	1750	**100 (H)** (101.3)
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	1160	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	

4. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon direction of chain pull and type of foundation bolts. See page 88 for further information.
5. Overhung load given at one shaft diameter from housing or mounting base (DV).
6. Overhung load given at 2.938 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
7. Values shown are applicable for either direction of thrust (into or away from unit).

REDUCER SIZE
941

HORSEPOWER AND TORQUE RATINGS

DOUBLE REDUCTION SERIES
(D) Double Reduction Worm Gear
(H) Double Reduction Helical/Worm
All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

CENTER DISTANCE (1) 2.625/3.937 (D) CENTER DISTANCE (1) 3.200/3.937 (H)			HORSEPOWER AND TORQUE RATINGS (IN. LBS.)					
					MECHANICAL		THERMAL[3]	
OVERALL RATIO[2]	PRIMARY RATIO[2]	SECONDARY RATIO[2]	INPUT RPM	OUTPUT RPM	HP	TORQUE	HP	TORQUE
120 (H) (118.6)	6 (5.93)	20 (20)	1750	14.76	3.99	13065	—	—
			1160	9.78	2.75	13195	—	—
			600	5.06	1.50	13318	—	—
			100	0.84	0.28	13320	—	—
150 (D) (150)	5 (5)	30 (30)	1750	11.67	3.32	12731	—	—
			1160	7.73	2.31	12882	—	—
			600	4.00	1.29	13024	—	—
			100	0.67	0.25	13050	—	—
150 (H) (151.9)	5 (5.06)	30 (30)	1750	11.52	3.13	12736	—	—
			1160	7.64	2.16	12885	—	—
			600	3.95	1.18	13026	—	—
			100	0.66	0.22	13050	—	—
180 (H) (177.9)	6 (5.93)	30 (30)	1750	9.84	2.71	12801	—	—
			1160	6.52	1.87	12928	—	—
			600	3.37	1.02	13048	—	—
			100	0.56	0.19	13050	—	—
200 (D) (200)	5 (5)	40 (40)	1750	8.75	2.62	12496	—	—
			1160	5.80	1.84	12639	—	—
			600	3.00	1.03	12776	—	—
			100	0.50	0.20	12800	—	—
200 (H) (202.5)	5 (5.06)	40 (40)	1750	8.64	2.50	12501	—	—
			1160	5.73	1.74	12643	—	—
			600	2.96	0.96	12777	—	—
			100	0.49	0.18	12800	—	—
250 (H) (253.2)	5 (5.06)	50 (50)	1750	6.91	2.06	12004	—	—
			1160	4.58	1.44	12144	—	—
			600	2.37	0.80	12278	—	—
			100	0.40	0.15	12300	—	—
300 (D) (300)	10 (10)	30 (30)	1750	5.83	1.83	12954	—	—
			1160	3.87	1.27	13030	—	—
			600	2.00	0.69	13050	—	—
			100	0.33	0.13	13050	—	—
300 (H) (296.5)	6 (5.93)	50 (50)	1750	5.90	1.79	12065	—	—
			1160	3.91	1.25	12185	—	—
			600	2.02	0.70	12299	—	—
			100	0.34	0.13	12300	—	—

1. Center Distance = Primary/Secondary.
2. Numbers shown in ( ) are actual ratios. Worm ratios are exact, helical ratios are rounded and are not exact.
3. Ratings provided only if thermally limited. Thermal HP must not be exceeded except during startup or momentary peak conditions.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

DOUBLE REDUCTION SERIES
(D) Double Reduction Worm Gear
(H) Double Reduction Helical/Worm

REDUCER SIZE **941**

OVERHUNG LOAD CAPACITIES[4] (LBS.)							THRUST CAPACITIES (LBS.)				RATIO
INPUT SHAFT	OUTPUT SHAFT						OUTPUT SHAFT			INPUT RPM	
ALL MODELS[5]	DBD[5] DTD	DVD[5] SHAFT UP	DVD[5] SHAFT DOWN	DSFD[6] BASE SIDE	DSFD[6] COVER SIDE	DLD[5]	DBD, DTD, DVD[7]	DSFD[7]	DLD AWAY FROM BASE		
500	5170	5170	5170	8474	4445	5910	6000	6000	5000	1750	**120 (H)** (118.6)
500	5170	5170	5170	8474	5043	5910	6000	6000	5000	1160	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	
500	5170	5170	5170	8184	5100	5910	6000	6000	5000	1750	**150 (D)** (150)
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	1160	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	1750	**150 (H)** (151.9)
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	1160	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	1750	**180 (H)** (177.9)
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	1160	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	1750	**200 (D)** (200)
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	1160	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	1750	**200 (H)** (202.5)
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	1160	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	1750	**250 (H)** (253.2)
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	1160	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	
250	5170	5170	5170	8474	5100	5910	6000	6000	5000	1750	**300 (D)** (300)
250	5170	5170	5170	8474	5100	5910	6000	6000	5000	1160	
250	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
250	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	1750	**300 (H)** (296.5)
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	1160	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	

4. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon direction of chain pull and type of foundation bolts. See page 88 for further information.
5. Overhung load given at one shaft diameter from housing or mounting base (DV).
6. Overhung load given at 2.938 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
7. Values shown are applicable for either direction of thrust (into or away from unit).

REDUCER SIZE
941

HORSEPOWER AND TORQUE RATINGS

DOUBLE REDUCTION SERIES
(D) Double Reduction Worm Gear
(H) Double Reduction Helical/Worm
All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

CENTER DISTANCE (1) 2.625/3.937 (D) CENTER DISTANCE (1) 3.200/3.937 (H)			HORSEPOWER AND TORQUE RATINGS (IN. LBS.)					
					MECHANICAL		THERMAL[3]	
OVERALL RATIO[2]	PRIMARY RATIO[2]	SECONDARY RATIO[2]	INPUT RPM	OUTPUT RPM	HP	TORQUE	HP	TORQUE
360 (H) (355.7)	6 (5.93)	60 (60)	1750	4.92	1.52	11506	—	—
			1160	3.26	1.06	11620	—	—
			600	1.69	0.59	11729	—	—
			100	0.28	0.12	11730	—	—
500 (D) (500)	25 (25)	20 (20)	1750	3.50	1.21	13320	—	—
			1160	2.32	0.83	13320	—	—
			600	1.20	0.45	13320	—	—
			100	0.20	0.09	13320	—	—
750 (D) (750)	25 (25)	30 (30)	1750	2.33	0.86	13050	—	—
			1160	1.55	0.59	13050	—	—
			600	0.80	0.32	13050	—	—
			100	0.13	0.06	13050	—	—
1000 (D) (1000)	25 (25)	40 (40)	1750	1.75	0.70	12800	—	—
			1160	1.16	0.48	12800	—	—
			600	0.60	0.26	12800	—	—
			100	0.10	0.05	12800	—	—
1500 (D) (1500)	50 (50)	30 (30)	1750	1.17	0.52	13050	—	—
			1160	0.77	0.35	13050	—	—
			600	0.40	0.20	13050	—	—
			100	0.07	0.04	13050	—	—
2000 (D) (2000)	50 (50)	40 (40)	1750	0.88	0.43	12800	—	—
			1160	0.58	0.29	12800	—	—
			600	0.30	0.16	12800	—	—
			100	0.05	0.03	12800	—	—
3000 (D) (3000)	60 (60)	50 (50)	1750	0.58	0.33	12300	—	—
			1160	0.39	0.23	12300	—	—
			600	0.20	0.12	12300	—	—
			100	0.03	0.02	12300	—	—
4000 (D) (4000)	80 (80)	50 (50)	1750	0.44	0.28	12300	—	—
			1160	0.29	0.19	12300	—	—
			600	0.15	0.10	12300	—	—
			100	0.03	0.02	12300	—	—
5000 (D) (5000)	100 (100)	50 (50)	1750	0.35	0.24	12300	—	—
			1160	0.23	0.17	12300	—	—
			600	0.12	0.09	12300	—	—
			100	0.02	0.02	12300	—	—

1. Center Distance = Primary/Secondary.
2. Numbers shown in ( ) are actual ratios. Worm ratios are exact, helical ratios are rounded and are not exact.
3. Ratings provided only if thermally limited. Thermal HP must not be exceeded except during startup or momentary peak conditions.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

DOUBLE REDUCTION SERIES
(D) Double Reduction Worm Gear
(H) Double Reduction Helical/Worm

REDUCER SIZE
941

OVERHUNG LOAD CAPACITIES[4] (LBS.)							THRUST CAPACITIES (LBS.)				
INPUT SHAFT	OUTPUT SHAFT						OUTPUT SHAFT			INPUT RPM	RATIO
ALL MODELS[5]	DBD[5] DTD	DVD[5] SHAFT UP	DVD[5] SHAFT DOWN	DSFD[6] BASE SIDE	DSFD[6] COVER SIDE	DLD[5]	DBD, DTD, DVD[7]	DSFD[7]	DLD AWAY FROM BASE		
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	1750	360 (H) (355.7)
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	1160	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
500	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	
275	5170	5170	5170	8474	5100	5910	6000	6000	5000	1750	500 (D) (500)
275	5170	5170	5170	8474	5100	5910	6000	6000	5000	1160	
275	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
275	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	
275	5170	5170	5170	8474	5100	5910	6000	6000	5000	1750	750 (D) (750)
275	5170	5170	5170	8474	5100	5910	6000	6000	5000	1160	
275	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
275	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	
275	5170	5170	5170	8474	5100	5910	6000	6000	5000	1750	1000 (D) (1000)
275	5170	5170	5170	8474	5100	5910	6000	6000	5000	1160	
275	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
275	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	
285	5170	5170	5170	8474	5100	5910	6000	6000	5000	1750	1500 (D) (1500)
285	5170	5170	5170	8474	5100	5910	6000	6000	5000	1160	
285	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
285	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	
285	5170	5170	5170	8474	5100	5910	6000	6000	5000	1750	2000 (D) (2000)
285	5170	5170	5170	8474	5100	5910	6000	6000	5000	1160	
285	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
285	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	1750	3000 (D) (3000)
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	1160	
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	1750	4000 (D) (4000)
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	1160	
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	1750	5000 (D) (5000)
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	1160	
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	

4. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon direction of chain pull and type of foundation bolts. See page 88 for further information.
5. Overhung load given at one shaft diameter from housing or mounting base (DV).
6. Overhung load given at 2.938 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
7. Values shown are applicable for either direction of thrust (into or away from unit).

REDUCER SIZE
941

HORSEPOWER AND TORQUE RATINGS

DOUBLE REDUCTION SERIES
(D) Double Reduction Worm Gear
(H) Double Reduction Helical/Worm
All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

CENTER DISTANCE (1) 2.625/3.937 (D) CENTER DISTANCE (1) 3.200/3.937 (H)			HORSEPOWER AND TORQUE RATINGS (IN. LBS.)					
					MECHANICAL		THERMAL[3]	
OVERALL RATIO[2]	PRIMARY RATIO[2]	SECONDARY RATIO[2]	INPUT RPM	OUTPUT RPM	HP	TORQUE	HP	TORQUE
6000 (D)[4] (6000)	100 (100)	60 (60)	1750	0.29	0.22	11730	—	—
			1160	0.19	0.15	11730	—	—
			600	0.10	0.08	11730	—	—
			100	0.02	0.01	11730	—	—
8000 (D)[4] (8000)	100 (100)	80 (80)	1750	0.22	0.18	10500	—	—
			1160	0.15	0.12	10500	—	—
			600	0.08	0.06	10500	—	—
			100	0.01	0.01	10500	—	—
10000 (D)[4] (10000)	100 (100)	100 (100)	1750	0.18	0.16	9590	—	—
			1160	0.12	0.11	9590	—	—
			600	0.06	0.06	9590	—	—
			100	0.01	0.01	9590	—	—

1. Center Distance = Primary/Secondary.
2. Numbers shown in ( ) are actual ratios. Worm ratios are exact, helical ratios are rounded and are not exact.
3. Ratings provided only if thermally limited. Thermal HP must not be exceeded except during startup or momentary peak conditions.
4. Triple reduction models with higher torque capacities are available, check with factory.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

DOUBLE REDUCTION SERIES
(D) Double Reduction Worm Gear
(H) Double Reduction Helical/Worm

REDUCER SIZE **941**

OVERHUNG LOAD CAPACITIES[5] (LBS.)							THRUST CAPACITIES (LBS.)				RATIO
INPUT SHAFT	OUTPUT SHAFT						OUTPUT SHAFT			INPUT RPM	
ALL MODELS[5]	DBD[6] DTD	DVD[6] SHAFT UP	DVD[6] SHAFT DOWN	DSFD[7] BASE SIDE	DSFD[7] COVER SIDE	DLD[6]	DBD, DTD, DVD[8]	DSFD[8]	DLD AWAY FROM BASE		
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	1750	6000 (D)[4] (6000)
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	1160	
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	1750	8000 (D)[4] (8000)
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	1160	
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	1750	10000 (D)[4] (10000)
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	1160	
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	600	
270	5170	5170	5170	8474	5100	5910	6000	6000	5000	100	

5. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon direction of chain pull and type of foundation bolts. See page 88 for further information.
6. Overhung load given at one shaft diameter from housing or mounting base (DV).
7. Overhung load given at 2.938 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
8. Values shown are applicable for either direction of thrust (into or away from unit).

REDUCER SIZE
951

HORSEPOWER AND TORQUE RATINGS

SINGLE REDUCTION SERIES

Center Distance: 4.921 inches.

All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

RATIO[1]	HORSEPOWER AND TORQUE RATINGS (IN. LBS.)											
	INPUT RPM	OUTPUT RPM	MECHANICAL[2]			THERMAL[3]			FAN-COOLED—THERMAL[3]			
			OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.	
5 (5)	1750	350	12165	70.59	96	3987	23.52	94	7204	42.04	95	
	1450	290	13753	66.18	96	5339	25.95	95	7940	38.39	95	
	1160	232	15288	59.01	95	6838	26.55	95	8790	34.05	95	
	870	174	16824	48.97	95	8496	24.84	94	9713	28.37	95	
	600	120	18253	36.97	94	10902	22.14	94	11285	22.91	94	
	300	60	19841	20.50	92	16868	17.44	92	16868	17.44	92	
	100	20	20900	7.46	89	20900	7.46	89	20900	7.46	89	
8 (8)	1750	219	13100	48.31	94	4300	16.25	92	7719	28.70	93	
	1450	181	14900	45.58	94	5814	18.04	93	8707	26.81	93	
	1160	145	16640	40.87	94	7478	18.53	93	9822	24.24	93	
	870	109	18380	34.11	93	9307	17.38	92	11038	20.57	93	
	600	75	20000	25.90	92	11989	15.59	92	13047	16.95	92	
	300	38	21800	14.50	90	18750	12.48	89	18750	12.48	89	
	100	13	23000	5.33	86	23000	5.33	86	23000	5.33	86	
10 (10)	1750	175	16721	49.59	94	5205	15.84	91	9406	28.15	93	
	1450	145	18226	44.89	93	6921	17.31	92	10292	25.53	93	
	1160	116	19681	38.95	93	8813	17.60	92	11329	22.55	92	
	870	87	21136	31.65	92	10917	16.45	92	12482	18.78	92	
	600	60	22491	23.54	91	14040	14.75	91	14534	15.26	91	
	300	30	23996	12.92	88	22050	11.88	88	22050	11.88	88	
	100	10	25000	4.71	84	25000	4.71	84	25000	4.71	84	
15 (15)	1750	117	18982	38.66	91	5188	10.99	87	9347	19.38	90	
	1450	97	20076	34.02	91	6901	11.97	88	10262	17.59	90	
	1160	77	21134	28.85	90	8789	12.17	89	11298	15.56	89	
	870	58	22192	23.01	89	10889	11.40	88	12449	13.01	88	
	600	40	23176	16.90	87	14000	10.27	87	14492	10.62	87	
	300	20	24271	9.22	84	21962	8.35	83	21962	8.35	83	
	100	6.7	25000	3.39	78	25000	3.39	78	25000	3.39	78	
20 (20)	1750	88	20108	31.48	89	5414	8.90	85	9782	15.61	87	
	1450	73	20998	27.39	88	7194	9.66	86	10698	14.16	87	
	1160	58	21857	23.01	87	9156	9.81	86	11770	12.53	87	
	870	44	22717	18.23	86	11342	9.21	85	12967	10.50	85	
	600	30	23518	13.33	84	14592	8.33	83	15105	8.62	83	
	300	15	24407	7.28	80	22957	6.85	80	22957	6.85	80	
	100	5.0	25000	2.69	74	25000	2.69	74	25000	2.69	74	
25 (25)	1750	70	19798	24.95	88	6163	8.17	84	11062	14.20	87	
	1450	58	20744	21.77	88	8268	8.93	85	12383	13.17	87	
	1160	46	21658	18.34	87	10585	9.11	86	13901	11.88	86	
	870	35	22572	14.57	86	13174	8.60	85	15624	10.15	85	
	600	24	23424	10.68	84	17102	7.83	83	18611	8.51	83	
	300	12	24369	5.82	80	24369	5.82	80	24369	5.82	80	
	100	4.0	25000	2.14	74	25000	2.14	74	25000	2.14	74	

1. Numbers shown in ( ) are exact ratios.
2. Mechanical ratings apply to both non-fan cooled and fan cooled models.
3. Thermal input HP must not be exceeded except during startup or momentary peak load conditions.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

SINGLE REDUCTION SERIES

REDUCER SIZE **951**

OVERHUNG LOAD CAPACITIES[4] (LBS.)								THRUST CAPACITIES (LBS.)			RATIO
INPUT SHAFT	OUTPUT SHAFT							OUTPUT SHAFT			
ALL MODELS[5]	DB[5]	DT[5]	DV[5] SHAFT UP	DV[5] SHAFT DOWN	DSF[6] BASE SIDE	DSF[6] COVER SIDE	DL[5]	DB, DT, DV[7]	DSF[7]	DL AWAY FROM BASE	
700	2934	2934	2934	2801	3430	3430	4485	1822	3434	3438	**5** (5)
800	3027	3027	3027	2891	3579	3579	4303	1769	3489	3487	
900	3181	3181	3181	3037	3787	3787	4285	1778	3624	3617	
1000	3516	3516	3516	3357	4096	4096	4727	1961	3883	3929	
1300	4052	4052	4052	3869	4526	4526	5708	2348	4304	4573	
2000	5276	5276	5276	5038	5784	5784	8385	3379	5768	6125	
2000	7035	7035	7035	6208	8245	7400	9500	6034	7500	7500	
700	3385	3385	3385	3232	3904	3904	6514	2602	4374	4345	**8** (8)
800	3560	3560	3560	3399	4081	4081	6697	2668	4502	4492	
900	3820	3820	3820	3647	4322	4322	7056	2819	4715	4799	
1050	4225	4225	4225	4034	4691	4691	7781	3109	5088	5300	
1300	4845	4845	4845	4626	5349	5349	9072	3613	5841	6091	
2000	6451	6451	6451	6160	6781	6781	9500	5065	7500	7500	
2000	7035	7035	7035	6208	9855	7400	9500	6800	7500	7500	
700	3351	3351	3351	3199	3891	3891	6204	2485	4281	4265	**10** (10)
800	3586	3586	3586	3424	4111	4111	6579	2639	4492	4555	
900	3909	3909	3909	3733	4391	4391	7187	2882	4783	4965	
1100	4386	4386	4386	4188	4902	4902	8182	3271	5369	5579	
1400	5087	5087	5087	4857	5632	5632	9500	3880	6239	6493	
2000	6947	6947	6947	6208	7177	7177	9500	5614	7500	7500	
2000	7035	7035	7035	6208	10600	7400	9500	6800	7500	7500	
700	3732	3732	3732	3563	4216	4216	7439	3154	4979	5100	**15** (15)
800	4055	4055	4055	3872	4567	4567	8029	3441	5403	5539	
900	4474	4474	4474	4272	5011	5011	8760	3821	5949	6106	
1200	5064	5064	5064	4835	5624	5624	9500	4365	6710	6901	
1600	6067	6067	6067	5793	6476	6476	9500	5319	7500	7500	
2000	7035	7035	7035	6208	8457	7400	9500	6800	7500	7500	
2000	7035	7035	7035	6208	11600	7400	9500	6800	7500	7500	
700	4095	4095	4095	3910	4603	4603	8028	3655	5616	5743	**20** (20)
800	4472	4472	4472	4270	5001	5001	8677	4009	6117	6263	
900	4952	4952	4952	4729	5500	5500	9475	4464	6747	6920	
1200	5742	5742	5742	5483	6181	6181	9500	5222	7500	7500	
1600	6861	6861	6861	6208	7112	7112	9500	6303	7500	7500	
2000	7035	7035	7035	6208	9439	7400	9500	6800	7500	7500	
2000	7035	7035	7035	6208	11600	7400	9500	6800	7500	7500	
700	4584	4584	4584	4377	5037	5037	8607	4137	6183	6365	**25** (25)
900	4988	4988	4988	4763	5461	5461	9295	4517	6716	6919	
1000	5595	5595	5595	5343	5991	5991	9500	5097	7386	7500	
1400	6441	6441	6441	6150	6713	6713	9500	5909	7500	7500	
1800	7035	7035	7035	6208	7811	7400	9500	6800	7500	7500	
2000	7035	7035	7035	6208	10303	7400	9500	6800	7500	7500	
2000	7035	7035	7035	6208	11600	7400	9500	6800	7500	7500	

4. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon location and direction of chain pull and type of foundation bolts. See page 88 for further information.
5. Overhung load given at one shaft diameter from housing or mounting base (DV).
6. Overhung load given at 3.438 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
7. Values shown are applicable for either direction of thrust (into or away from unit).

REDUCER SIZE
951

HORSEPOWER AND TORQUE RATINGS

SINGLE REDUCTION SERIES

Center Distance: 4.921 inches.

All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

RATIO[1]	HORSEPOWER AND TORQUE RATINGS (IN. LBS.)										
	INPUT RPM	OUTPUT RPM	MECHANICAL[2]			THERMAL[3]			FAN-COOLED—THERMAL[3]		
			OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.
30 (30)	1750	58	19759	21.31	86	6496	7.40	81	11738	12.90	84
	1450	48	20712	18.62	85	8600	7.98	83	12790	11.66	84
	1160	39	21633	15.72	84	10924	8.09	83	14043	10.31	84
	870	29	22554	12.54	83	13540	7.61	82	15480	8.67	82
	600	20	23412	9.23	81	17505	6.94	80	18120	7.18	80
	300	10	24365	5.08	76	24365	5.08	76	24365	5.08	76
	100	3.3	25000	1.90	70	25000	1.90	70	25000	1.90	70
40 (40)	1750	44	19512	16.49	82	6622	5.98	77	11965	10.34	80
	1450	36	20182	14.25	82	8764	6.42	78	13034	9.35	80
	1160	29	20831	11.92	80	11132	6.51	79	14310	8.28	80
	870	22	21479	9.44	79	13800	6.15	78	15777	7.00	78
	600	15	22082	6.93	76	17852	5.63	75	18479	5.83	76
	300	7.5	22753	3.83	71	22753	3.83	71	22753	3.83	71
	100	2.5	23200	1.44	64	23200	1.44	64	23200	1.44	64
50 (50)	1750	35	18577	13.09	79	6787	5.15	73	12263	8.84	77
	1450	29	19217	11.32	78	8980	5.52	75	13354	8.00	77
	1160	23	19837	9.49	77	11404	5.58	75	14660	7.09	76
	870	17	20456	7.55	75	14142	5.29	74	16168	6.01	74
	600	12	21032	5.57	72	18310	4.87	72	18953	5.04	72
	300	6.0	21673	3.11	66	21673	3.11	66	21673	3.11	66
	100	2.0	22100	1.18	59	22100	1.18	59	22100	1.18	59
60 (60)	1750	29	17864	10.93	76	6899	4.58	70	12466	7.80	74
	1450	24	18489	9.46	75	9127	4.88	72	13572	7.06	74
	1160	19	19093	7.95	74	11590	4.94	72	14899	6.27	73
	870	15	19697	6.35	71	14376	4.69	71	16436	5.33	71
	600	10	20259	4.71	68	18624	4.34	68	19279	4.49	68
	300	5.0	20884	2.65	63	20884	2.65	63	20884	2.65	63
	100	1.7	21300	1.02	55	21300	1.02	55	21300	1.02	55
80 (80)	1750	22	16294	8.08	70	7092	3.85	64	12814	6.48	69
	1450	18	16859	7.00	69	9378	4.08	66	13947	5.86	68
	1160	15	17405	5.89	68	11910	4.12	66	15310	5.22	68
	870	11	17951	4.73	66	14779	3.93	65	16897	4.47	65
	600	7.5	18459	3.54	62	18459	3.54	62	18459	3.54	62
	300	3.8	19024	2.01	56	19024	2.01	56	19024	2.01	56
	100	1.3	19400	0.79	49	19400	0.79	49	19400	0.79	49
100 (100)	1750	18	15088	6.45	65	7214	3.39	59	13035	5.65	64
	1450	15	15618	5.59	64	9539	3.58	61	14185	5.12	64
	1160	12	16129	4.71	63	12114	3.61	62	15572	4.56	63
	870	8.7	16641	3.81	60	15036	3.46	60	16641	3.81	60
	600	6.0	17118	2.86	57	17118	2.86	57	17118	2.86	57
	300	3.0	17647	1.65	51	17647	1.65	51	17647	1.65	51
	100	1.0	18000	0.66	44	18000	0.66	44	18000	0.66	44

1. Numbers shown in ( ) are exact ratios.
2. Mechanical ratings apply to both non-fan cooled and fan cooled models.
3. Thermal input HP must not be exceeded except during startup or momentary peak load conditions.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

SINGLE REDUCTION SERIES

REDUCER SIZE **951**

OVERHUNG LOAD CAPACITIES[4] (LBS.)								THRUST CAPACITIES (LBS.)			RATIO
INPUT SHAFT	OUTPUT SHAFT							OUTPUT SHAFT			
ALL MODELS[5]	DB[5]	DT[5]	DV[5] SHAFT UP	DV[5] SHAFT DOWN	DSF[6] BASE SIDE	DSF[6] COVER SIDE	DL[5]	DB, DT, DV[7]	DSF[7]	DL AWAY FROM BASE	
700	4891	4891	4891	4670	5349	5349	9049	4562	6703	6893	**30** (30)
900	5393	5393	5393	5150	5797	5797	9500	5045	7271	7500	
1000	6034	6034	6034	5762	6355	6355	9500	5665	7500	7500	
1400	6932	6932	6932	6208	7124	7124	9500	6535	7500	7500	
1800	7035	7035	7035	6208	8361	7400	9500	6800	7500	7500	
2000	7035	7035	7035	6208	10999	7400	9500	6800	7500	7500	
2000	7035	7035	7035	6208	11600	7400	9500	6800	7500	7500	
700	5549	5549	5549	5298	5882	5882	9500	5333	7500	7500	**40** (40)
1000	6128	6128	6128	5851	6386	6386	9500	5901	7500	7500	
1100	6860	6860	6860	6208	7019	7019	9500	6620	7500	7500	
1500	7035	7035	7035	6208	8001	7400	9500	6800	7500	7500	
1800	7035	7035	7035	6208	9373	7400	9500	6800	7500	7500	
2000	7035	7035	7035	6208	11600	7400	9500	6800	7500	7500	
2000	7035	7035	7035	6208	11600	7400	9500	6800	7500	7500	
800	6158	6158	6158	5879	6362	6362	9500	6010	7500	7500	**50** (50)
1100	6785	6785	6785	6208	6910	6910	9500	6629	7500	7500	
1200	7035	7035	7035	6208	7679	7400	9500	6800	7500	7500	
1600	7035	7035	7035	6208	8735	7400	9500	6800	7500	7500	
1800	7035	7035	7035	6208	10207	7400	9500	6800	7500	7500	
2000	7035	7035	7035	6208	11600	7400	9500	6800	7500	7500	
2000	7035	7035	7035	6208	11600	7400	9500	6800	7500	7500	
800	6671	6671	6671	6208	6771	6771	9500	6568	7500	7500	**60** (60)
1100	7035	7035	7035	6208	7423	7400	9500	6800	7500	7500	
1300	7035	7035	7035	6208	8239	7400	9500	6800	7500	7500	
1600	7035	7035	7035	6208	9358	7400	9500	6800	7500	7500	
1900	7035	7035	7035	6208	10917	7400	9500	6800	7500	7500	
2000	7035	7035	7035	6208	11600	7400	9500	6800	7500	7500	
2000	7035	7035	7035	6208	11600	7400	9500	6800	7500	7500	
1000	7035	7035	7035	6208	7589	7400	9500	6800	7500	7500	**80** (80)
1300	7035	7035	7035	6208	8308	7400	9500	6800	7500	7500	
1700	7035	7035	7035	6208	9205	7400	9500	6800	7500	7500	
2000	7035	7035	7035	6208	10433	7400	9500	6800	7500	7500	
2000	7035	7035	7035	6208	11600	7400	9500	6800	7500	7500	
2000	7035	7035	7035	6208	11600	7400	9500	6800	7500	7500	
2000	7035	7035	7035	6208	11600	7400	9500	6800	7500	7500	
1600	7035	7035	7035	6208	8262	7400	9500	6800	7500	7500	**100** (100)
1900	7035	7035	7035	6208	9035	7400	9500	6800	7500	7500	
2000	7035	7035	7035	6208	10000	7400	9500	6800	7500	7500	
2000	7035	7035	7035	6208	11317	7400	9500	6800	7500	7500	
2000	7035	7035	7035	6208	11600	7400	9500	6800	7500	7500	
2000	7035	7035	7035	6208	11600	7400	9500	6800	7500	7500	
2000	7035	7035	7035	6208	11600	7400	9500	6800	7500	7500	

4. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon location and direction of chain pull and type of foundation bolts. See page 88 for further information.
5. Overhung load given at one shaft diameter from housing or mounting base (DV).
6. Overhung load given at 3.438 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
7. Values shown are applicable for either direction of thrust (into or away from unit).

REDUCER SIZE
951

HORSEPOWER AND TORQUE RATINGS

DOUBLE REDUCTION SERIES

Primary Center Distance: 2.625 inches, single enveloping.
Secondary Center Distance: 4.921 inches, double enveloping.
All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

OVERALL RATIO[1]	HORSEPOWER AND TORQUE RATINGS (IN. LBS.)							
	PRIMARY RATIO[1]	SECOND-ARY RATIO[1]	INPUT RPM	OUTPUT RPM	MECHANICAL		THERMAL[2]	
					HP	TORQUE	HP	TORQUE
150 (150)	5 (5)	30 (30)	1750	11.67	5.63	22145	—	—
			1160	7.73	4.31	24581	—	—
			600	4.00	2.42	24936	—	—
			100	0.67	0.47	25000	—	—
200 (200)	5 (5)	40 (40)	1750	8.75	4.63	22641	—	—
			1160	5.80	3.26	22905	—	—
			600	3.00	1.84	23155	—	—
			100	0.50	0.37	23200	—	—
300 (300)	10 (10)	30 (30)	1750	5.83	3.40	24762	—	—
			1160	3.87	2.36	24949	—	—
			600	2.00	1.30	25000	—	—
			100	0.33	0.25	25000	—	—
500 (500)	10 (10)	50 (50)	1750	3.50	2.12	21940	—	—
			1160	2.32	1.49	22066	—	—
			600	1.20	0.83	22100	—	—
			100	0.20	0.17	22100	—	—
750 (750)	25 (25)	30 (30)	1750	2.33	1.59	25000	—	—
			1160	1.55	1.10	25000	—	—
			600	0.80	0.60	25000	—	—
			100	0.13	0.12	25000	—	—
1000 (1000)	25 (25)	40 (40)	1750	1.75	1.23	23200	—	—
			1160	1.16	0.85	23200	—	—
			600	0.60	0.47	23200	—	—
			100	0.10	0.09	23200	—	—
1500 (1500)	50 (50)	30 (30)	1750	1.17	0.92	24797	—	—
			1160	0.77	0.64	25000	—	—
			600	0.40	0.36	25000	—	—
			100	0.07	0.07	25000	—	—
2000 (2000)	50 (50)	40 (40)	1750	0.88	0.73	23200	—	—
			1160	0.58	0.51	23200	—	—
			600	0.30	0.29	23200	—	—
			100	0.05	0.06	23200	—	—

1. Numbers shown in ( ) are exact ratios.
2. Ratings provided only if thermally limited. Actual input HP must not exceed the thermal input HP capacity on a continuous basis.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

DOUBLE REDUCTION SERIES

REDUCER SIZE **951**

OVERHUNG LOAD CAPACITIES[3] (LBS.)							THRUST CAPACITIES (LBS.)				RATIO
INPUT SHAFT	OUTPUT SHAFT						OUTPUT SHAFT			INPUT RPM	
ALL MODELS[4]	DBD[4] DTD	DVD[4] SHAFT UP	DVD[4] SHAFT DOWN	DSFD[5] BASE SIDE	DSFD[5] COVER SIDE	DLD[4]	DBD, DTD, DVD[6]	DSFD[6]	DLD AWAY FROM BASE		
500	7035	7035	6208	10373	7400	9500	6800	7500	7500	1750	**150** (150)
500	7035	7035	6208	11600	7400	9500	6800	7500	7500	1160	
500	7035	7035	6208	11600	7400	9500	6800	7500	7500	600	
500	7035	7035	6208	11600	7400	9500	6800	7500	7500	100	
500	7035	7035	6208	11587	7400	9500	6800	7500	7500	1750	**200** (200)
500	7035	7035	6208	11600	7400	9500	6800	7500	7500	1160	
500	7035	7035	6208	11600	7400	9500	6800	7500	7500	600	
500	7035	7035	6208	11600	7400	9500	6800	7500	7500	100	
250	7035	7035	6208	11600	7400	9500	6800	7500	7500	1750	**300** (300)
250	7035	7035	6208	11600	7400	9500	6800	7500	7500	1160	
250	7035	7035	6208	11600	7400	9500	6800	7500	7500	600	
250	7035	7035	6208	11600	7400	9500	6800	7500	7500	100	
250	7035	7035	6208	11600	7400	9500	6800	7500	7500	1750	**500** (500)
250	7035	7035	6208	11600	7400	9500	6800	7500	7500	1160	
250	7035	7035	6208	11600	7400	9500	6800	7500	7500	600	
250	7035	7035	6208	11600	7400	9500	6800	7500	7500	100	
275	7035	7035	6208	11600	7400	9500	6800	7500	7500	1750	**750** (750)
275	7035	7035	6208	11600	7400	9500	6800	7500	7500	1160	
275	7035	7035	6208	11600	7400	9500	6800	7500	7500	600	
275	7035	7035	6208	11600	7400	9500	6800	7500	7500	100	
275	7035	7035	6208	11600	7400	9500	6800	7500	7500	1750	**1000** (1000)
275	7035	7035	6208	11600	7400	9500	6800	7500	7500	1160	
275	7035	7035	6208	11600	7400	9500	6800	7500	7500	600	
275	7035	7035	6208	11600	7400	9500	6800	7500	7500	100	
285	7035	7035	6208	11600	7400	9500	6800	7500	7500	1750	**1500** (1500)
285	7035	7035	6208	11600	7400	9500	6800	7500	7500	1160	
285	7035	7035	6208	11600	7400	9500	6800	7500	7500	600	
285	7035	7035	6208	11600	7400	9500	6800	7500	7500	100	
285	7035	7035	6208	11600	7400	9500	6800	7500	7500	1750	**2000** (2000)
285	7035	7035	6208	11600	7400	9500	6800	7500	7500	1160	
285	7035	7035	6208	11600	7400	9500	6800	7500	7500	600	
285	7035	7035	6208	11600	7400	9500	6800	7500	7500	100	

3. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon location and direction of chain pull and type of foundation bolts. See page 88 for further information.
4. Overhung load given at one shaft diameter from housing or mounting base (DV).
5. Overhung load given at 3.438 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
6. Values shown are applicable for either direction of thrust (into or away from unit).

REDUCER SIZE
951

HORSEPOWER AND TORQUE RATINGS

DOUBLE REDUCTION SERIES

Primary Center Distance: 2.625 inches, single enveloping.
Secondary Center Distance: 4.921 inches, double enveloping.
All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

OVERALL RATIO[1]	HORSEPOWER AND TORQUE RATINGS (IN. LBS.)							
	PRIMARY RATIO[1]	SECOND-ARY RATIO[1]	INPUT RPM	OUTPUT RPM	MECHANICAL		THERMAL[2]	
					HP	TORQUE	HP	TORQUE
3000[3] (3000)	60 (60)	50 (50)	1750	0.58	0.54	22100	—	—
			1160	0.39	0.37	22100	—	—
			600	0.20	0.21	22100	—	—
			100	0.03	0.04	22100	—	—
4000[3] (4000)	80 (80)	50 (50)	1750	0.44	0.44	22100	—	—
			1160	0.29	0.31	22100	—	—
			600	0.15	0.17	22100	—	—
			100	0.02	0.03	22100	—	—
5000[3] (5000)	100 (100)	50 (50)	1750	0.35	0.35	19677	—	—
			1160	0.23	0.27	21812	—	—
			600	0.12	0.15	22100	—	—
			100	0.02	0.03	22100	—	—
6000[3] (6000)	100 (100)	60 (60)	1750	0.29	0.35	21300	—	—
			1160	0.19	0.24	21300	—	—
			600	0.10	0.13	21300	—	—
			100	0.02	0.03	21300	—	—
8000[3] (8000)	100 (100)	80 (80)	1750	0.22	0.29	19400	—	—
			1160	0.15	0.20	19400	—	—
			600	0.08	0.11	19400	—	—
			100	0.01	0.02	19400	—	—
10000[3] (10000)	100 (100)	100 (100)	1750	0.18	0.25	18000	—	—
			1160	0.12	0.17	18000	—	—
			600	0.06	0.09	18000	—	—
			100	0.01	0.02	18000	—	—

1. Numbers shown in ( ) are exact ratios.
2. Ratings provided only if thermally limited. Actual input HP must not exceed the thermal input HP capacity on a continuous basis.
3. Triple reduction models with higher torque capacities are available, check with factory.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

DOUBLE REDUCTION SERIES

REDUCER SIZE **951**

OVERHUNG LOAD CAPACITIES[4] (LBS.)							THRUST CAPACITIES (LBS.)				
INPUT SHAFT	OUTPUT SHAFT						OUTPUT SHAFT			INPUT RPM	RATIO
ALL MODELS[5]	DBD[5] DTD	DVD[5] SHAFT UP	DVD[5] SHAFT DOWN	DSFD[6] BASE SIDE	DSFD[6] COVER SIDE	DLD[5]	DBD, DTD, DVD[7]	DSFD[7]	DLD AWAY FROM BASE		
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	1750	3000[3] (3000)
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	1160	
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	600	
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	100	
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	1750	4000[3] (4000)
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	1160	
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	600	
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	100	
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	1750	5000[3] (5000)
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	1160	
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	600	
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	100	
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	1750	6000[3] (6000)
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	1160	
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	600	
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	100	
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	1750	8000[3] (8000)
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	1160	
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	600	
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	100	
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	1750	10000[3] (10000)
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	1160	
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	600	
270	7035	7035	6208	11600	7400	9500	6800	7500	7500	100	

4. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon location and direction of chain pull and type of foundation bolts. See page 88 for further information.
5. Overhung load given at one shaft diameter from housing or mounting base (DV).
6. Overhung load given at 3.438 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
7. Values shown are applicable for either direction of thrust (into or away from unit).

REDUCER SIZE
961

HORSEPOWER AND TORQUE RATINGS

SINGLE REDUCTION SERIES

Center Distance: 5.906 inches.

All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

RATIO[1]	HORSEPOWER AND TORQUE RATINGS (IN. LBS.)											
	INPUT RPM	OUTPUT RPM	MECHANICAL[2]			THERMAL[3]			FAN-COOLED—THERMAL[3]			
			OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.	
5 (5)	1750	350	17447	100.90	96	5657	33.23	95	10009	58.21	96	
	1450	290	20129	96.51	96	7593	36.75	95	11316	54.50	96	
	1160	232	22722	87.34	96	9772	37.79	95	12817	49.44	95	
	870	174	25315	73.33	95	12223	35.56	95	14487	42.09	95	
	600	120	27729	55.84	95	15726	31.76	94	17110	34.53	94	
	300	60	30412	31.21	93	24174	24.83	93	24174	24.83	93	
	100	20	32220	11.41	90	32200	11.41	90	32200	11.41	90	
8 (8)	1750	219	18591	68.24	95	6626	24.81	93	11722	43.31	94	
	1450	181	21538	65.56	95	8848	27.26	93	13186	40.35	94	
	1160	145	24387	59.56	94	11333	27.89	93	14864	36.45	94	
	870	109	27236	50.22	94	14124	26.18	93	16740	30.98	93	
	600	75	29888	38.42	93	18155	23.42	92	19753	25.46	92	
	300	38	32835	21.64	90	28074	18.52	90	28074	18.52	90	
	100	13	34800	8.00	86	34800	8.00	86	34800	8.00	86	
10 (10)	1750	175	23404	69.16	94	7212	21.84	92	12760	38.05	93	
	1450	145	26131	64.09	94	9604	23.91	92	14313	35.36	93	
	1160	116	28766	56.67	93	12272	24.40	93	16096	31.88	93	
	870	87	31402	46.77	93	15269	22.89	92	18098	27.08	92	
	600	60	33856	35.21	92	19628	20.50	91	21356	22.29	91	
	300	30	36582	19.57	89	30482	16.32	89	30482	16.32	89	
	100	10	38400	7.19	85	38400	7.19	85	38400	7.19	85	
15 (15)	1750	117	26904	54.05	92	8107	16.82	89	14343	29.17	91	
	1450	97	29031	48.47	92	10757	18.31	90	16031	27.02	91	
	1160	77	31086	41.76	91	13705	18.63	90	17976	24.31	91	
	870	58	33142	33.75	90	17025	17.48	90	20179	20.67	90	
	600	40	35056	25.03	89	21904	15.72	89	23832	17.08	89	
	300	20	37182	13.76	86	34253	12.68	86	34253	12.68	86	
	100	6.7	38600	5.06	81	38600	5.06	81	38600	5.06	81	
20 (20)	1750	88	27964	43.08	90	8405	13.48	87	14870	23.27	89	
	1450	73	29971	38.41	90	11142	14.63	87	16605	21.53	89	
	1160	58	31910	32.95	89	14185	14.87	88	18606	19.38	88	
	870	44	33850	26.58	88	17616	13.97	87	20879	16.51	87	
	600	30	35656	19.71	86	22674	12.61	86	24670	13.70	86	
	300	15	37662	10.88	82	35537	10.27	82	35537	10.27	82	
	100	5.0	39000	4.04	77	39000	4.04	77	39000	4.04	77	
25 (25)	1750	70	27964	35.24	88	8612	11.38	84	15236	19.54	87	
	1450	58	29971	31.44	88	11409	12.31	85	17002	18.08	87	
	1160	46	31910	27.01	87	14518	12.50	85	19042	16.28	86	
	870	35	33850	21.84	86	18026	11.77	85	21365	13.89	85	
	600	24	35656	16.26	84	23210	10.65	83	25253	11.57	83	
	300	12	37662	9.04	79	36436	8.75	79	36436	8.75	79	
	100	4.0	39000	3.04	73	39000	3.40	73	39000	3.40	77	

1. Numbers shown in ( ) are exact ratios.
2. Mechanical ratings apply to both non-fan cooled and fan cooled models.
3. Thermal input HP must not be exceeded except during startup or momentary peak load conditions.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

SINGLE REDUCTION SERIES

REDUCER SIZE **961**

OVERHUNG LOAD CAPACITIES[4] (LBS.)								THRUST CAPACITIES (LBS.)			RATIO
INPUT SHAFT	OUTPUT SHAFT							OUTPUT SHAFT			
ALL MODELS[5]	DB[5]	DT[5]	DV[5] SHAFT UP	DV[5] SHAFT DOWN	DSF[6] BASE SIDE	DSF[6] COVER SIDE	DL[5]	DB, DT, DV[7]	DSF[7]	DL AWAY FROM BASE	
1131	3415	3415	3415	3286	2719	2719	7727	2921	1996	2904	**5** (5)
1043	3485	3485	3485	3353	2747	2747	8150	2812	1836	2810	
1004	3625	3625	3625	3488	2836	2836	8681	2793	1752	2802	
1042	3898	3898	3898	3750	3021	3021	9405	2928	1775	2944	
1214	4476	4476	4476	4307	3348	3348	10612	3440	1972	3451	
1827	5841	5841	5841	5620	4360	4360	11500	4860	2931	4841	
2300	8940	8940	8940	8531	6551	6551	11500	7500	5309	8000	
1249	3780	3780	3780	3637	3208	3208	8552	3765	2973	3921	**8** (8)
1172	3876	3876	3876	3729	3268	3268	9027	3745	2908	3926	
1144	4125	4125	4125	3969	3394	3394	9701	3915	2923	4119	
1193	4537	4537	4537	4365	3625	3625	10716	4275	3056	4504	
1376	5190	5190	5190	4994	4118	4118	11500	4931	3502	5183	
2002	6830	6830	6830	6571	5373	5373	11500	6745	4810	7026	
2300	9300	9300	9300	8500	8144	8144	11500	7500	7922	8000	
1059	3955	3955	3955	3805	3096	3096	8777	3947	2806	3810	**10** (10)
1019	4181	4181	4181	4023	3199	3199	9371	4118	2822	3977	
1027	4512	4512	4512	4341	3369	3369	10169	4416	2919	4267	
1114	5023	5023	5023	4832	3695	3695	11264	4927	3195	4759	
1335	5796	5796	5796	5577	4292	4292	11500	5756	3791	5555	
2016	7797	7797	7797	7502	5662	5662	11500	7500	5264	7743	
2300	9300	9300	9300	8500	8761	8761	11500	7500	8786	8000	
1024	4575	4575	4575	4402	3362	3362	9688	4906	3318	4566	**15** (15)
1045	4923	4923	4923	4736	3558	3558	10431	5273	3494	4907	
1113	5386	5386	5386	5182	3900	3900	11356	5779	3843	5379	
1262	6051	6051	6051	5822	4403	4403	11500	6526	4376	6076	
1543	7103	7103	7103	6834	5140	5140	11500	7500	5183	7208	
2297	9300	9300	9300	8500	6870	6870	11500	7500	7137	8000	
2300	9300	9300	9300	8500	10520	9500	11500	7500	10000	8000	
1058	4951	4951	4951	4764	3700	3700	10474	5555	3907	5302	**20** (20)
1094	5343	5343	5343	5140	3994	3994	11286	5995	4219	5721	
1178	5856	5856	5856	5634	4388	4388	11500	6581	4647	6279	
1343	6630	6630	6630	6379	4954	4954	11500	7479	5273	7133	
1642	7882	7882	7882	7584	5770	5770	11500	7500	6190	8000	
2300	9300	9300	9300	8500	7817	7817	11500	7500	8543	8000	
2300	9300	9300	9300	8500	10600	9500	11500	7500	10000	8000	
1098	5343	5343	5343	5141	4072	4072	11151	6167	4482	5948	**25** (25)
1137	5764	5764	5764	5546	4395	4395	11500	6653	4837	6416	
1224	6327	6327	6327	6088	4822	4822	11500	7309	5314	7627	
1393	7254	7254	7254	6979	5432	5432	11500	7500	6001	8000	
1695	8595	8595	8595	8269	6337	6337	11500	7500	7033	8000	
2300	9300	9300	9300	8500	8617	8617	11500	7500	9674	8000	
2300	9300	9300	9300	8500	10600	9500	11500	7500	10000	8000	

4. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon direction of chain pull and type of foundation bolts. See page 88 for further information.
5. Overhung load given at one shaft diameter from housing or mounting base (DV).
6. Overhung load given at 3.000 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
7. Values shown are applicable for either direction of thrust (into or away from unit).

REDUCER SIZE
961

HORSEPOWER AND TORQUE RATINGS

SINGLE REDUCTION SERIES

Center Distance: 5.906 inches.

All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

RATIO[1]	HORSEPOWER AND TORQUE RATINGS (IN. LBS.)											
	INPUT RPM	OUTPUT RPM	MECHANICAL[2]			THERMAL[3]			FAN-COOLED—THERMAL[3]			
			OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.	
30 (30)	1750	58	27732	29.36	87	9967	11.04	84	17634	18.94	86	
	1450	48	29962	26.40	87	13155	11.90	85	19605	17.46	86	
	1160	39	32119	22.83	86	16700	12.06	85	21904	15.69	86	
	870	29	34275	18.58	85	20731	11.35	84	24571	13.40	84	
	600	20	36282	13.90	83	26785	10.31	82	29142	11.20	83	
	300	10	38513	7.76	79	38513	7.76	79	38513	7.76	79	
	100	3.3	40000	2.91	73	40000	2.91	73	40000	2.91	73	
40 (40)	1750	44	27178	22.39	84	10358	9.00	80	18325	15.34	83	
	1450	36	29328	20.12	84	13660	9.67	81	20357	14.14	83	
	1160	29	31405	17.42	83	17335	9.79	81	22736	12.72	82	
	870	22	33483	14.21	81	21524	9.24	80	25511	10.90	81	
	600	15	35418	10.68	79	27842	8.44	79	30292	9.17	79	
	300	7.5	37567	6.02	74	37567	6.02	74	37567	6.02	74	
	100	2.5	39000	2.29	68	39000	2.29	68	39000	2.29	68	
50 (50)	1750	35	26187	17.90	81	10599	7.70	76	18752	13.04	80	
	1450	29	27789	15.84	81	13972	8.24	78	20823	12.01	80	
	1160	23	29338	13.54	80	17729	8.34	78	23253	10.82	79	
	870	17	30887	10.95	78	22017	7.89	77	26096	9.30	78	
	600	12	32329	8.19	75	28501	7.24	75	31009	7.86	75	
	300	6.0	33932	4.61	70	33932	4.61	70	33932	4.61	70	
	100	2.0	35000	1.76	63	35000	1.76	63	35000	1.76	63	
60 (60)	1750	29	25166	14.85	78	10836	6.83	73	19172	11.49	77	
	1450	24	26045	12.84	78	14280	7.29	75	21282	10.59	77	
	1160	19	26895	10.75	77	18117	7.37	75	23762	9.55	76	
	870	15	27744	8.55	75	22505	6.99	74	26674	8.23	75	
	600	10	28535	6.31	72	28535	6.31	72	28535	6.31	72	
	300	5.0	29414	3.51	66	29414	3.51	66	29414	3.51	66	
	100	1.7	30000	1.34	59	30000	1.34	59	30000	1.34	59	
80 (80)	1750	22	23135	10.98	73	11124	5.68	68	19680	9.45	72	
	1450	18	23947	9.50	73	14653	6.03	70	21838	8.71	72	
	1160	15	24732	7.97	71	18588	6.09	70	24380	7.87	71	
	870	11	25516	6.38	69	23098	5.80	69	25516	6.38	69	
	600	7.5	26247	4.74	66	26247	4.74	66	26247	4.74	66	
	300	3.8	27059	2.68	60	27059	2.68	60	27059	2.68	60	
	100	1.3	27600	1.04	53	27600	1.04	53	27600	1.04	53	
100 (100)	1750	18	22129	8.96	69	11333	4.96	63	20050	8.19	68	
	1450	15	22906	7.76	68	14925	5.25	65	22243	7.55	68	
	1160	12	23656	6.52	67	18932	5.30	66	23656	6.52	67	
	870	8.7	24407	5.24	64	23532	5.06	64	24407	5.24	64	
	600	6.0	25106	3.92	61	25106	3.92	61	25106	3.92	61	
	300	3.0	25882	2.24	55	25882	2.24	55	25882	2.24	55	
	100	1.0	26400	0.88	48	26400	0.88	48	26400	0.88	48	

1. Numbers shown in ( ) are exact ratios.
2. Mechanical ratings apply to both non-fan cooled and fan cooled models.
3. Thermal input HP must not be exceeded except during startup or momentary peak load conditions.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

SINGLE REDUCTION SERIES

REDUCER SIZE **961**

OVERHUNG LOAD CAPACITIES[4] (LBS.)								THRUST CAPACITIES (LBS.)			RATIO
INPUT SHAFT	OUTPUT SHAFT							OUTPUT SHAFT			
ALL MODELS[5]	DB[5]	DT[5]	DV[5] SHAFT UP	DV[5] SHAFT DOWN	DSF[6] BASE SIDE	DSF[6] COVER SIDE	DL[5]	DB, DT, DV[7]	DSF[7]	DL AWAY FROM BASE	
1135	5683	5683	5683	5467	4445	4445	11500	6588	4935	6470	**30** (30)
1164	6113	6113	6113	5881	4780	4780	11500	7082	5301	6955	
1240	6777	6777	6777	6521	5224	5224	11500	7500	5796	7716	
1393	7739	7739	7739	7446	5859	5859	11500	7500	6511	8000	
1672	9133	9133	9133	8500	6894	6894	11500	7500	7696	8000	
2300	9300	9300	9300	8500	9301	9301	11500	7500	10000	8000	
2300	9300	9300	9300	8500	10600	9500	11500	7500	10000	8000	
1215	6265	6265	6265	6027	4999	4999	11500	7426	5719	7408	**40** (40)
1253	6832	6832	6832	6573	5379	5379	11500	7500	6151	8000	
1337	7574	7574	7574	7287	5876	5876	11500	7500	6719	8000	
1498	8630	8630	8630	8303	6657	6657	11500	7500	7618	8000	
1786	9300	9300	9300	8500	7866	7866	11500	7500	9021	8000	
2300	9300	9300	9300	8500	10516	9500	11500	7500	10000	8000	
2300	9300	9300	9300	8500	10600	9500	11500	7500	10000	8000	
1297	6872	6872	6872	6611	5478	5478	11500	7500	6371	8000	**50** (50)
1367	7524	7524	7524	7239	5926	5926	11500	7500	6893	8000	
1482	8360	8360	8360	8043	6541	6541	11500	7500	7611	8000	
1675	9300	9300	9300	8500	7478	7478	11500	7500	8707	8000	
1992	9300	9300	9300	8500	8815	8815	11500	7500	10000	8000	
2300	9300	9300	9300	8500	10600	9500	11500	7500	10000	8000	
2300	9300	9300	9300	8500	10600	9500	11500	7500	10000	8000	
1375	7338	7338	7338	7060	5895	5895	11500	7500	6919	8000	**60** (60)
1486	8073	8073	8073	7768	6442	6442	11500	7500	7565	8000	
1640	8999	8999	8999	8500	7197	7197	11500	7500	8457	8000	
1873	9300	9300	9300	8500	8239	8239	11500	7500	9685	8000	
2226	9300	9300	9300	8500	9701	9500	11500	7500	10000	8000	
2300	9300	9300	9300	8500	10600	9500	11500	7500	10000	8000	
2300	9300	9300	9300	8500	10600	9500	11500	7500	10000	8000	
1509	8314	8314	8314	7999	6669	6669	11500	7500	7905	8000	**80** (80)
1624	9126	9126	9126	8500	7332	7332	11500	7500	8692	8000	
1783	9300	9300	9300	8500	8166	8166	11500	7500	9681	8000	
2019	9300	9300	9300	8500	9313	9313	11500	7500	10000	8000	
2300	9300	9300	9300	8500	10600	9500	11500	7500	10000	8000	
2300	9300	9300	9300	8500	10600	9500	11500	7500	10000	8000	
2300	9300	9300	9300	8500	10600	9500	11500	7500	10000	8000	
1577	9077	9077	9077	8500	7310	7310	11500	7500	8704	8000	**100** (100)
1695	9300	9300	9300	8500	8025	8025	11500	7500	9554	8000	
1865	9300	9300	9300	8500	8923	8923	11500	7500	10000	8000	
2095	9300	9300	9300	8500	10156	9500	11500	7500	10000	8000	
2300	9300	9300	9300	8500	10600	9500	11500	7500	10000	8000	
2300	9300	9300	9300	8500	10600	9500	11500	7500	10000	8000	
2300	9300	9300	9300	8500	10600	9500	11500	7500	10000	8000	

4. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon direction of chain pull and type of foundation bolts. See page 88 for further information.
5. Overhung load given at one shaft diameter from housing or mounting base (DV).
6. Overhung load given at 3.000 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
7. Values shown are applicable for either direction of thrust (into or away from unit).

REDUCER SIZE
961

HORSEPOWER AND TORQUE RATINGS

DOUBLE REDUCTION SERIES

Primary Center Distance: 3.000 inches, single enveloping.
Secondary Center Distance: 5.906 inches, double enveloping.
All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

OVERALL RATIO[1]	HORSEPOWER AND TORQUE RATINGS (IN. LBS.)							
	PRIMARY RATIO[1]	SECOND-ARY RATIO[1]	INPUT RPM	OUTPUT RPM	MECHANICAL		THERMAL[2]	
					HP	TORQUE	HP	TORQUE
150 (150)	5 (5)	30 (30)	1750	11.67	8.31	33957	—	—
			1160	7.73	6.57	39019	—	—
			600	4.00	3.70	39851	—	—
			100	0.67	0.72	40000	—	—
200 (200)	5 (5)	40 (40)	1750	8.75	7.23	37209	—	—
			1160	5.80	5.12	38054	—	—
			600	3.00	2.91	38857	—	—
			100	0.50	0.57	39000	—	—
300 (300)	10 (10)	30 (30)	1750	5.83	5.17	39442	—	—
			1160	3.87	3.61	39881	—	—
			600	2.00	1.99	40000	—	—
			100	0.33	0.39	40000	—	—
500 (500)	20 (20)	25 (25)	1750	3.50	3.06	35333	—	—
			1160	2.32	2.33	39000	—	—
			600	1.20	1.29	39000	—	—
			100	0.20	0.25	39000	—	—
750 (750)	25 (25)	30 (30)	1750	2.33	2.39	40000	—	—
			1160	1.55	1.65	40000	—	—
			600	0.80	0.91	40000	—	—
			100	0.13	0.18	40000	—	—
1000 (1000)	25 (25)	40 (40)	1750	1.75	1.90	39000	—	—
			1160	1.16	1.32	39000	—	—
			600	0.60	0.73	39000	—	—
			100	0.10	0.14	39000	—	—
1500 (1500)	50 (50)	30 (30)	1750	1.17	1.35	38919	—	—
			1160	0.77	0.96	40000	—	—
			600	0.40	0.54	40000	—	—
			100	0.07	0.11	40000	—	—

1. Numbers shown in ( ) are exact ratios.
2. Ratings provided only if thermally limited. Thermal input HP must not be exceeded except during startup or momentary peak load conditions.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

DOUBLE REDUCTION SERIES

REDUCER SIZE **961**

OVERHUNG LOAD CAPACITIES[3] (LBS.)							THRUST CAPACITIES (LBS.)				RATIO
INPUT SHAFT	OUTPUT SHAFT						OUTPUT SHAFT			INPUT RPM	
ALL MODELS[4]	DBD[4] DTD	DVD[4] SHAFT UP	DVD[4] SHAFT DOWN	DSFD[5] BASE SIDE	DSFD[5] COVER SIDE	DLD[4]	DBD, DTD, DVD[6]	DSFD[6]	DLD AWAY FROM BASE		
560	9300	9300	8500	8723	8723	11500	7500	9813	7500	1750	**150** (150)
560	9300	9300	8500	10218	9500	11500	7500	10000	7500	1160	
560	9300	9300	8500	10600	9500	11500	7500	10000	7500	600	
560	9300	9300	8500	10600	9500	11500	7500	10000	7500	100	
560	9300	9300	8500	9880	9500	11500	7500	10000	7500	1750	**200** (200)
560	9300	9300	8500	10600	9500	11500	7500	10000	7500	1160	
560	9300	9300	8500	10600	9500	11500	7500	10000	7500	600	
560	9300	9300	8500	10600	9500	11500	7500	10000	7500	100	
400	9300	9300	8500	10600	9500	11500	7500	10000	7500	1750	**300** (300)
400	9300	9300	8500	10600	9500	11500	7500	10000	7500	1160	
400	9300	9300	8500	10600	9500	11500	7500	10000	7500	600	
400	9300	9300	8500	10600	9500	11500	7500	10000	7500	100	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1750	**500** (500)
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1160	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	600	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	100	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1750	**750** (750)
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1160	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	600	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	100	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1750	**1000** (1000)
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1160	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	600	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	100	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1750	**1500** (1500)
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1160	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	600	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	100	

3. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon location and direction of chain pull and type of foundation bolts. See page 88 for further information.
4. Overhung load given at one shaft diameter from housing or mounting base (DV).
5. Overhung load given at 3.000 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
6. Values shown are applicable for either direction of thrust (into or away from unit).

REDUCER SIZE
961

HORSEPOWER AND TORQUE RATINGS

DOUBLE REDUCTION SERIES

Primary Center Distance: 3.000 inches, single enveloping.
Secondary Center Distance: 5.906 inches, double enveloping.
All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

OVERALL RATIO[1]	HORSEPOWER AND TORQUE RATINGS (IN. LBS.)							
	PRIMARY RATIO[1]	SECOND-ARY RATIO[1]	INPUT RPM	OUTPUT RPM	MECHANICAL		THERMAL[2]	
					HP	TORQUE	HP	TORQUE
2000 (2000)	50 (50)	40 (40)	1750	0.88	1.11	39000	—	—
			1160	0.58	0.77	39000	—	—
			600	0.30	0.44	39000	—	—
			100	0.05	0.09	39000	—	—
3000[3] (3000)	60 (60)	50 (50)	1750	0.58	0.77	35000	—	—
			1160	0.39	0.53	35000	—	—
			600	0.20	0.30	35000	—	—
			100	0.03	0.06	35000	—	—
4000[3] (4000)	80 (80)	50 (50)	1750	0.44	0.63	35000	—	—
			1160	0.29	0.44	35000	—	—
			600	0.15	0.25	35000	—	—
			100	0.02	0.05	35000	—	—
5000[3] (5000)	100 (100)	50 (50)	1750	0.35	0.50	32332	—	—
			1160	0.23	0.38	35000	—	—
			600	0.12	0.22	35000	—	—
			100	0.02	0.04	35000	—	—
6000[3] (6000)	100 (100)	60 (60)	1750	0.29	0.43	30000	—	—
			1160	0.19	0.30	30000	—	—
			600	0.10	0.17	30000	—	—
			100	0.02	0.03	30000	—	—
8000[3] (8000)	100 (100)	80 (80)	1750	0.22	0.35	27600	—	—
			1160	0.15	0.25	27600	—	—
			600	0.08	0.14	27600	—	—
			100	0.01	0.03	27600	—	—
10000[3] (10000)	100 (100)	100 (100)	1750	0.18	0.31	26400	—	—
			1160	0.12	0.22	26400	—	—
			600	0.06	0.12	26400	—	—
			100	0.01	0.02	26400	—	—

1. Numbers shown in ( ) are exact ratios.
2. Ratings provided only if thermally limited. Thermal input HP must not be exceeded except during startup or momentary peak load conditions.
3. Triple reduction models with higher torque capacities are available, check with factory.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

DOUBLE REDUCTION SERIES

REDUCER SIZE **961**

OVERHUNG LOAD CAPACITIES[4] (LBS.)							THRUST CAPACITIES (LBS.)				
INPUT SHAFT	OUTPUT SHAFT						OUTPUT SHAFT			INPUT RPM	RATIO
ALL MODELS[5]	DBD[5] DTD	DVD[5] SHAFT UP	DVD[5] SHAFT DOWN	DSFD[6] BASE SIDE	DSFD[6] COVER SIDE	DLD[5]	DBD, DTD, DVD[7]	DSFD[7]	DLD AWAY FROM BASE		
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1750	**2000** (2000)
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1160	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	600	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	100	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1750	**3000**[3] (3000)
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1160	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	600	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	100	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1750	**4000**[3] (4000)
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1160	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	600	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	100	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1750	**5000**[3] (5000)
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1160	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	600	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	100	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1750	**6000**[3] (6000)
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1160	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	600	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	100	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1750	**8000**[3] (8000)
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1160	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	600	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	100	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1750	**10000**[3] (10000)
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	1160	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	600	
500	9300	9300	8500	10600	9500	11500	7500	10000	7500	100	

4. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon location and direction of chain pull and type of foundation bolts. See page 88 for further information.
5. Overhung load given at one shaft diameter from housing or mounting base (DV).
6. Overhung load given at 3.000 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
7. Values shown are applicable for either direction of thrust (into or away from unit).

REDUCER SIZE
971

HORSEPOWER AND TORQUE RATINGS

SINGLE REDUCTION SERIES

Center Distance: 6.890 inches.

All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

RATIO[1]	HORSEPOWER AND TORQUE RATINGS (IN. LBS.)											
	INPUT RPM	OUTPUT RPM	MECHANICAL[2]			THERMAL[3]			FAN-COOLED—THERMAL[3]			
			OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.	
5 (5)	1750	350	25336	146.2	96	8571	50.17	95	15151	87.85	96	
	1450	290	29929	143.1	96	11597	55.93	95	17262	82.87	96	
	1160	232	34370	131.7	96	15034	57.91	95	19695	75.69	96	
	870	174	38810	112.0	96	18878	54.69	95	22364	64.71	95	
	600	120	42944	86.08	95	24324	48.88	95	26460	53.15	95	
	300	60	47538	48.50	93	37166	37.95	93	37166	37.95	93	
	100	20	50600	17.81	90	50600	17.81	90	50600	17.81	90	
8 (8)	1750	219	28706	104.6	95	11035	40.87	94	19506	71.42	95	
	1450	181	32941	99.49	95	14786	45.09	94	22009	66.73	95	
	1160	145	37035	89.69	95	18990	46.26	94	24879	60.43	95	
	870	109	41129	75.13	95	23659	43.39	94	28027	51.33	94	
	600	75	44941	57.14	94	30381	38.72	93	33049	42.10	93	
	300	38	49176	31.95	92	46821	30.43	92	46821	30.43	92	
	100	13	52000	11.71	88	52000	11.71	88	52000	11.71	88	
10 (10)	1750	175	34715	102.0	95	11289	33.91	93	19955	59.12	94	
	1450	145	38403	93.67	94	15121	37.36	93	22507	55.22	94	
	1160	116	41968	82.16	94	19413	38.30	93	25433	50.00	94	
	870	87	45534	67.33	93	24180	35.95	93	28643	42.50	93	
	600	60	48853	50.39	92	31048	32.13	92	33774	34.92	92	
	300	30	52541	27.81	90	47871	25.35	90	47871	25.35	90	
	100	10	55000	10.17	86	55000	10.17	86	55000	10.17	86	
15 (15)	1750	117	37774	75.00	93	14073	28.62	91	24877	49.76	93	
	1450	97	41815	68.91	93	18700	31.25	92	27835	46.13	93	
	1160	77	45721	60.52	93	23849	31.83	92	31244	41.53	92	
	870	58	49628	49.70	92	29579	29.79	91	35040	35.21	92	
	600	40	53265	37.29	91	38016	26.70	90	41354	29.01	91	
	300	20	57306	20.67	88	57306	20.67	88	57306	20.67	88	
	100	6.7	60000	7.59	84	60000	7.59	84	60000	7.59	84	
20 (20)	1750	88	37803	57.55	91	14129	22.18	88	24976	38.39	90	
	1450	73	42021	53.11	91	18779	24.17	89	27952	35.59	90	
	1160	58	46098	46.86	91	23952	24.61	90	31380	32.07	90	
	870	44	50175	38.68	90	29710	23.07	89	35195	27.26	89	
	600	30	53971	29.20	88	38181	20.74	88	41533	22.54	88	
	300	15	58188	16.36	85	58188	16.36	85	58188	16.36	85	
	100	5.0	61000	6.10	79	61000	6.10	79	61000	6.10	79	
25 (25)	1750	70	38706	47.73	90	15741	20.05	87	27825	34.62	89	
	1450	58	42941	43.97	90	20852	21.76	88	31039	32.00	89	
	1160	46	47035	38.76	89	26534	22.10	88	34762	28.79	89	
	870	35	51129	32.00	88	32888	20.73	88	38959	24.48	88	
	600	24	54941	24.17	87	42348	18.69	86	46067	20.31	86	
	300	12	59176	13.56	83	59176	13.56	83	59176	13.56	83	
	100	4.0	62000	5.06	78	62000	5.06	78	62000	5.06	78	

1. Numbers shown in ( ) are exact ratios.
2. Mechanical ratings apply to both non-fan cooled and fan cooled models.
3. Thermal input HP must not be exceeded except during startup or momentary peak load conditions.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

SINGLE REDUCTION SERIES

REDUCER SIZE **971**

OVERHUNG LOAD CAPACITIES[4] (LBS.)								THRUST CAPACITIES (LBS.)			RATIO
INPUT SHAFT	OUTPUT SHAFT							OUTPUT SHAFT			
ALL MODELS[5]	DB[5]	DT[5]	DV[5] SHAFT UP	DV[5] SHAFT DOWN	DSF[6] BASE SIDE	DSF[6] COVER SIDE	DL[5]	DB, DT, DV[7]	DSF[7]	DL AWAY FROM BASE	
1582	4594	4594	4594	4497	4537	4537	8399	2762	6389	5825	**5** (5)
1427	4636	4636	4636	4538	4624	4624	7649	2493	6285	5748	
1338	4774	4774	4774	4673	4797	4797	7189	2323	6333	5808	
1349	5061	5061	5061	4953	5109	5109	7133	2289	6612	6075	
1539	5745	5745	5745	5624	5624	5624	8241	2649	7243	6781	
2303	7490	7490	7490	7331	7001	7001	12178	3962	9285	9054	
2500	11437	11437	11437	11195	9996	9996	17500	7446	13000	10000	
1707	5187	5187	5187	5077	5106	5106	10918	3634	7649	6967	**8** (8)
1638	5339	5339	5339	5226	5289	5289	10978	3573	7799	7117	
1632	5655	5655	5655	5535	5564	5564	11126	3673	8107	7382	
1727	6238	6238	6238	6105	5991	5991	12197	4024	8667	8127	
1994	7148	7148	7148	6996	6671	6671	14210	4695	9662	9331	
2500	9319	9319	9319	9122	8550	8550	17500	6530	12660	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
1393	5149	5149	5149	5040	5147	5147	11112	3699	7833	7137	**10** (10)
1368	5437	5437	5437	5322	5396	5396	11542	3838	8152	7409	
1405	5891	5891	5891	5766	5739	5739	12449	4138	8632	8019	
1543	6578	6578	6578	6438	6240	6240	13999	4656	9375	8952	
1850	7605	7605	7605	7444	7136	7136	16253	5502	10791	10000	
2500	10143	10143	10143	9928	9186	9186	17500	7761	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
1544	5914	5914	5914	5788	5705	5705	12375	4611	8953	8286	**15** (15)
1533	6291	6291	6291	6157	5988	5988	13287	4853	9348	8807	
1583	6817	6817	6817	6672	6392	6392	14431	5239	9947	9537	
1735	7600	7600	7600	7439	7116	7116	15993	5865	11088	10000	
2055	8802	8802	8802	8615	8172	8172	17500	6894	12793	10000	
2500	11932	11932	11932	11679	10487	10487	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
1585	6628	6628	6628	6487	6232	6232	13429	5656	10156	9592	**20** (20)
1570	7051	7051	7051	6901	6599	6599	14418	5977	10723	10000	
1616	7634	7634	7634	7472	7148	7148	15656	6452	11602	10000	
1764	8493	8493	8493	8313	7944	7944	17342	7185	12894	10000	
2081	10011	10011	10011	9799	9095	9095	17500	8500	13000	10000	
2500	12500	12500	12500	11900	11830	11830	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
1683	7174	7174	7174	7022	6676	6676	14278	6265	10988	10000	**25** (25)
1682	7646	7646	7646	7484	7128	7128	15335	6644	11709	10000	
1743	8286	8286	8286	8110	7727	7727	16655	7183	12682	10000	
1905	9357	9357	9357	9158	8586	8586	17500	8131	13000	10000	
2236	11017	11017	11017	10784	9820	9820	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	

4. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon direction of chain pull and type of foundation bolts. See page 88 for further information.
5. Overhung load given at one shaft diameter from housing or mounting base (DV).
6. Overhung load given at 4.438 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
7. Values shown are applicable for either direction of thrust (into or away from unit).

REDUCER SIZE
971

HORSEPOWER AND TORQUE RATINGS

SINGLE REDUCTION SERIES

Center Distance: 6.890 inches.

All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

RATIO[1]	HORSEPOWER AND TORQUE RATINGS (IN. LBS.)											
	INPUT RPM	OUTPUT RPM	MECHANICAL[2]			THERMAL[3]			FAN-COOLED—THERMAL[3]			
			OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.	
30 (30)	1750	58	40259	42.05	89	16167	17.53	85	28578	30.16	88	
	1450	48	44212	38.37	88	21403	18.98	86	31858	27.87	88	
	1160	39	48033	33.58	88	27223	19.27	87	35665	25.07	87	
	870	29	51854	27.59	87	33741	18.09	86	39970	21.36	86	
	600	20	55412	20.78	85	43473	16.36	84	47290	17.77	84	
	300	10	59365	11.66	81	59365	11.66	81	59365	11.66	81	
	100	3.3	62000	4.37	75	62000	4.37	75	62000	4.37	75	
40 (40)	1750	44	39326	32.18	85	15407	13.26	81	27234	22.62	84	
	1450	36	43085	29.33	85	20426	14.32	82	30404	20.93	84	
	1160	29	46719	25.67	84	26006	14.53	82	34070	18.87	83	
	870	22	50352	21.16	82	32236	13.69	81	38187	16.14	82	
	600	15	53735	16.03	80	41483	12.44	79	45125	13.51	80	
	300	7.5	57494	9.12	75	57494	9.12	75	57494	9.12	75	
	100	2.5	60000	3.50	68	60000	3.50	68	60000	3.50	68	
50 (50)	1750	35	38791	26.23	82	16000	11.45	79	28283	19.42	81	
	1450	29	41738	23.50	82	21191	12.32	79	31542	17.95	81	
	1160	23	44587	20.30	81	26961	12.49	79	35321	16.19	80	
	870	17	47436	16.57	79	33415	11.79	78	39584	13.89	79	
	600	12	50088	12.48	76	43037	10.76	76	46816	11.68	76	
	300	6.0	53035	7.09	71	53035	7.09	71	53035	7.09	71	
	100	2.0	55000	2.73	64	55000	2.73	64	55000	2.73	64	
60 (60)	1750	29	37285	21.74	79	16316	10.12	76	28841	17.06	78	
	1450	24	39597	19.24	79	21597	10.85	76	32148	15.76	78	
	1160	19	41832	16.46	78	27470	10.99	76	35988	14.23	78	
	870	15	44066	13.34	76	34046	10.40	75	40331	12.24	76	
	600	10	46147	10.01	73	43870	9.53	73	46147	10.01	73	
	300	5.0	48459	5.68	68	48459	5.68	68	48459	5.68	68	
	100	1.7	50000	2.20	60	50000	2.20	60	50000	2.20	60	
80 (80)	1750	22	36265	16.89	75	16745	8.38	71	29600	13.99	74	
	1450	18	37853	14.72	74	22152	8.94	71	32973	12.92	73	
	1160	15	39388	12.43	73	28164	9.05	71	36897	11.68	73	
	870	11	40924	10.00	71	34908	8.59	70	40924	10.00	71	
	600	7.5	42353	7.47	67	42353	7.47	67	42353	7.47	67	
	300	3.8	43941	4.25	62	43941	4.25	62	43941	4.25	62	
	100	1.3	45000	1.67	54	45000	1.67	54	45000	1.67	54	
100 (100)	1750	18	35206	13.94	70	17019	7.29	66	30085	12.06	69	
	1450	15	36441	12.06	70	22506	7.75	66	33500	11.15	69	
	1160	12	37635	10.13	68	28608	7.83	66	37479	10.09	68	
	870	8.7	38829	8.13	66	35460	7.46	66	38829	8.13	66	
	600	6.0	39941	6.08	63	39941	6.08	63	39941	6.08	63	
	300	3.0	41176	3.48	56	41176	3.48	56	41176	3.48	56	
	100	1.0	42000	1.38	48	42000	1.38	48	42000	1.38	48	

1. Numbers shown in ( ) are exact ratios.
2. Mechanical ratings apply to both non-fan cooled and fan cooled models.
3. Thermal input HP must not be exceeded except during startup or momentary peak load conditions.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

SINGLE REDUCTION SERIES

REDUCER SIZE **971**

OVERHUNG LOAD CAPACITIES[4] (LBS.)								THRUST CAPACITIES (LBS.)			RATIO
INPUT SHAFT	OUTPUT SHAFT							OUTPUT SHAFT			
ALL MODELS[5]	DB[5]	DT[5]	DV[5] SHAFT UP	DV[5] SHAFT DOWN	DSF[6] BASE SIDE	DSF[6] COVER SIDE	DL[5]	DB, DT, DV[7]	DSF[7]	DL AWAY FROM BASE	
1652	7568	7568	7568	7408	7043	7043	14967	6756	11713	10000	**30** (30)
1670	8097	8097	8097	7925	7544	7544	16092	7208	12533	10000	
1748	8864	8864	8864	8676	8198	8198	17490	7889	13000	10000	
1928	10085	10085	10085	9871	9125	9125	17500	8500	13000	10000	
2275	11875	11875	11875	11623	10470	10470	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
1655	8392	8392	8392	8214	7787	7787	16206	7806	13000	10000	**40** (40)
1678	9096	9096	9096	8903	8352	8352	17434	8454	13000	10000	
1762	10047	10047	10047	9834	9081	9081	17500	8500	13000	10000	
1948	11415	11415	11415	11173	10103	10103	17500	8500	13000	10000	
2301	12500	12500	12500	11900	11795	11795	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
1733	9204	9204	9204	9009	8397	8397	17272	8500	13000	10000	**50** (50)
1800	10042	10042	10042	9829	9045	9045	17500	8500	13000	10000	
1926	11126	11126	11126	10890	9866	9866	17500	8500	13000	10000	
2154	12500	12500	12500	11900	11125	11125	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
1830	9971	9971	9971	9760	8959	8959	17500	8500	13000	10000	**60** (60)
1930	10907	10907	10907	10675	9674	9674	17500	8500	13000	10000	
2087	12101	12101	12101	11844	10619	10619	17500	8500	13000	10000	
2346	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
1911	11166	11166	11166	10929	9818	9818	17500	8500	13000	10000	**80** (80)
2045	12243	12243	12243	11900	10721	10721	17500	8500	13000	10000	
2237	12500	12500	12500	11900	11894	11894	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
1978	12170	12170	12170	11900	10644	10644	17500	8500	13000	10000	**100** (100)
2130	12500	12500	12500	11900	11663	11663	17500	8500	13000	10000	
2338	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	
2500	12500	12500	12500	11900	12000	12000	17500	8500	13000	10000	

4. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon direction of chain pull and type of foundation bolts. See page 88 for further information.
5. Overhung load given at one shaft diameter from housing or mounting base (DV).
6. Overhung load given at 4.438 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
7. Values shown are applicable for either direction of thrust (into or away from unit).

REDUCER SIZE
971

HORSEPOWER AND TORQUE RATINGS

DOUBLE REDUCTION SERIES

Primary Center Distance: 3.500 inches, single enveloping.
Secondary Center Distance: 6.890 inches, double enveloping.
All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

OVERALL RATIO[1]	HORSEPOWER AND TORQUE RATINGS (IN. LBS.)							
	PRIMARY RATIO[1]	SECOND-ARY RATIO[1]	INPUT RPM	OUTPUT RPM	MECHANICAL		THERMAL[2]	
					HP	TORQUE	HP	TORQUE
150 (150)	5 (5)	30 (30)	1750	11.70	11.67	49049	—	—
			1160	7.73	9.82	60261	—	—
			600	4.00	5.53	61736	—	—
			100	0.67	1.07	62000	—	—
200 (200)	5 (5)	40 (40)	1750	8.75	10.87	56868	—	—
			1160	5.80	7.74	58346	—	—
			600	3.00	4.42	59749	—	—
			100	0.50	0.88	60000	—	—
300 (300)	10 (10)	30 (30)	1750	5.83	7.45	58588	—	—
			1160	3.87	5.40	61789	—	—
			600	2.00	2.98	62000	—	—
			100	0.33	0.58	62000	—	—
500 (500)	20 (20)	25 (25)	1750	3.50	4.24	52556	—	—
			1160	2.32	3.43	62000	—	—
			600	1.20	1.89	62000	—	—
			100	0.20	0.37	62000	—	—
750 (750)	25 (25)	30 (30)	1750	2.33	3.51	61053	—	—
			1160	1.55	2.46	62000	—	—
			600	0.80	1.36	62000	—	—
			100	0.13	0.27	62000	—	—
1000 (1000)	25 (25)	40 (40)	1750	1.75	2.89	60000	—	—
			1160	1.16	2.01	60000	—	—
			600	0.60	1.12	60000	—	—
			100	0.10	0.23	60000	—	—
1500 (1500)	50 (50)	30 (30)	1750	1.17	1.88	56783	—	—
			1160	0.77	1.42	62000	—	—
			600	0.40	0.80	62000	—	—
			100	0.07	0.16	62000	—	—

1. Numbers shown in ( ) are exact ratios.
2. Ratings provided only if thermally limited. Thermal input HP must not be exceeded except during startup or momentary peak load conditions.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

DOUBLE REDUCTION SERIES

REDUCER SIZE **971**

OVERHUNG LOAD CAPACITIES[3] (LBS.)							THRUST CAPACITIES (LBS.)				OVERALL RATIO
INPUT SHAFT	OUTPUT SHAFT						OUTPUT SHAFT			INPUT RPM	
ALL MODELS[4]	DBD[4] DTD	DVD[4] SHAFT UP	DVD[4] SHAFT DOWN	DSFD[5] BASE SIDE	DSFD[5] COVER SIDE	DLD[4]	DBD, DTD, DVD[6]	DSFD[6]	DLD AWAY FROM BASE		
560	12500	12500	12500	12000	12000	17500	8500	13000	10000	1750	**150** (150)
560	12500	12500	12500	12000	12000	17500	8500	13000	10000	1160	
560	12500	12500	12500	12000	12000	17500	8500	13000	10000	600	
560	12500	12500	12500	12000	12000	17500	8500	13000	10000	100	
560	12500	12500	12500	12000	12000	17500	8500	13000	10000	1750	**200** (200)
560	12500	12500	12500	12000	12000	17500	8500	13000	10000	1160	
560	12500	12500	12500	12000	12000	17500	8500	13000	10000	600	
560	12500	12500	12500	12000	12000	17500	8500	13000	10000	100	
400	12500	12500	12500	12000	12000	17500	8500	13000	10000	1750	**300** (300)
400	12500	12500	12500	12000	12000	17500	8500	13000	10000	1160	
400	12500	12500	12500	12000	12000	17500	8500	13000	10000	600	
400	12500	12500	12500	12000	12000	17500	8500	13000	10000	100	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1750	**500** (500)
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1160	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	600	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	100	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1750	**750** (750)
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1160	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	600	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	100	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1750	**1000** (1000)
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1160	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	600	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	100	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1750	**1500** (1500)
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1160	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	600	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	100	

3. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon direction of chain pull and type of foundation bolts. See page 88 for further information.
4. Overhung load given at one shaft diameter from housing or mounting base (DV).
5. Overhung load given at 4.438 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
6. Values shown are applicable for either direction of thrust (into or away from unit).

REDUCER SIZE
971

HORSEPOWER AND TORQUE RATINGS

DOUBLE REDUCTION SERIES

Primary Center Distance: 3.500 inches, single enveloping.
Secondary Center Distance: 6.890 inches, double enveloping.
All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

OVERALL RATIO[1]	HORSEPOWER AND TORQUE RATINGS (IN. LBS.)							
	PRIMARY RATIO[1]	SECOND-ARY RATIO[1]	INPUT RPM	OUTPUT RPM	MECHANICAL		THERMAL[2]	
					HP	TORQUE	HP	TORQUE
2000 (2000)	50 (50)	40 (40)	1750	0.88	1.68	60000	—	—
			1160	0.58	1.18	60000	—	—
			600	0.30	0.67	60000	—	—
			100	0.05	0.14	60000	—	—
3000[3] (3000)	60 (60)	50 (50)	1750	0.58	1.17	55000	—	—
			1160	0.39	0.82	55000	—	—
			600	0.20	0.47	55000	—	—
			100	0.03	0.09	55000	—	—
4000[3] (4000)	80 (80)	50 (50)	1750	0.43	0.95	55000	—	—
			1160	0.28	0.66	55000	—	—
			600	0.15	0.38	55000	—	—
			100	0.02	0.08	55000	—	—
5000[3] (5000)	100 (100)	50 (50)	1750	0.35	0.70	46603	—	—
			1160	0.23	0.57	54614	—	—
			600	0.12	0.33	55000	—	—
			100	0.02	0.07	55000	—	—
6000[3] (6000)	100 (100)	60 (60)	1750	0.29	0.67	50000	—	—
			1160	0.20	0.48	50000	—	—
			600	0.10	0.27	50000	—	—
			100	0.02	0.05	50000	—	—
8000[3] (8000)	100 (100)	80 (80)	1750	0.22	0.53	45000	—	—
			1160	0.15	0.38	45000	—	—
			600	0.08	0.22	45000	—	—
			100	0.01	0.04	45000	—	—
10000[3] (10000)	100 (100)	100 (100)	1750	0.18	0.46	42000	—	—
			1160	0.12	0.33	42000	—	—
			600	0.06	0.18	42000	—	—
			100	0.01	0.04	42000	—	—

1. Numbers shown in ( ) are exact ratios.
2. Ratings provided only if thermally limited. Thermal input HP must not be exceeded except during startup or momentary peak load conditions.
3. Triple reduction models with higher torque capacities are available, check with factory.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

DOUBLE REDUCTION SERIES

REDUCER SIZE **971**

OVERHUNG LOAD CAPACITIES[4] (LBS.)							THRUST CAPACITIES (LBS.)				OVERALL RATIO
INPUT SHAFT	OUTPUT SHAFT						OUTPUT SHAFT			INPUT RPM	
ALL MODELS[5]	DBD[5] DTD	DVD[5] SHAFT UP	DVD[5] SHAFT DOWN	DSFD[6] BASE SIDE	DSFD[6] COVER SIDE	DLD[5]	DBD, DTD, DVD[7]	DSFD[7]	DLD AWAY FROM BASE		
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1750	**2000** (2000)
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1160	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	600	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	100	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1750	**3000**[3] (3000)
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1160	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	600	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	100	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1750	**4000**[3] (4000)
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1160	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	600	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	100	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1750	**5000**[3] (5000)
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1160	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	600	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	100	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1750	**6000**[3] (6000)
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1160	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	600	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	100	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1750	**8000**[3] (8000)
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1160	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	600	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	100	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1750	**10000**[3] (10000)
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	1160	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	600	
500	12500	12500	12500	12000	12000	17500	8500	13000	10000	100	

4. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon direction of chain pull and type of foundation bolts. See page 88 for further information.
5. Overhung load given at one shaft diameter from housing or mounting base (DV).
6. Overhung load given at 4.438 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
7. Values shown are applicable for either direction of thrust (into or away from unit).

REDUCER SIZE
981

HORSEPOWER AND TORQUE RATINGS

SINGLE REDUCTION SERIES

Center Distance: 7.874 inches.

All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

RATIO[1]	HORSEPOWER AND TORQUE RATINGS (IN. LBS.)										
	INPUT RPM	OUTPUT RPM	MECHANICAL[2]			THERMAL[3]			FAN-COOLED—THERMAL[3]		
			OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.
5 (5)	1750	350	34429	198.5	96	9715	57.07	95	17926	104.1	96
	1450	290	41806	199.7	96	13788	66.57	95	20908	100.4	96
	1160	232	48936	187.2	96	18388	70.81	96	24291	93.30	96
	870	174	56067	161.5	96	23502	68.01	95	27948	80.77	96
	600	120	62706	125.4	95	30685	61.55	95	33422	67.00	95
	300	60	70082	71.27	94	47148	48.01	94	47148	48.01	94
	100	20	75000	26.31	91	75000	26.31	91	75000	26.31	91
8 (8)	1750	219	39779	144.7	95	12655	47.05	93	23352	85.57	95
	1450	181	47456	143.0	95	17769	54.22	94	26945	81.67	95
	1160	145	54876	132.6	95	23437	57.04	95	30961	75.12	95
	870	109	62297	113.4	95	29646	54.28	94	35253	64.44	94
	600	75	69206	87.67	94	38460	48.89	94	41890	53.22	94
	300	38	76882	49.73	92	59405	38.47	92	59405	38.47	92
	100	13	82000	18.39	88	82000	18.39	88	82000	18.39	88
10 (10)	1750	175	50253	147.1	95	13712	41.20	92	25302	74.77	94
	1450	145	56571	137.3	95	19193	47.28	93	29105	71.14	94
	1160	116	62678	122.0	95	25240	49.58	93	33343	65.25	94
	870	87	68785	101.0	94	31846	47.08	93	37870	55.88	94
	600	60	74471	76.22	93	41271	42.41	93	44953	46.16	93
	300	30	80788	42.35	91	63924	33.55	91	63924	33.55	91
	100	10	85000	15.52	87	85000	15.52	87	85000	15.52	87
15 (15)	1750	117	53844	106.9	93	15357	31.55	90	28337	56.97	92
	1450	97	59509	98.05	93	21404	35.95	91	32458	53.97	92
	1160	77	64985	85.99	93	28037	37.53	92	37038	49.33	92
	870	58	70461	70.52	92	35268	35.58	91	41939	42.20	92
	600	40	75559	52.87	91	45670	32.11	90	49744	34.94	90
	300	20	81224	29.32	88	71090	25.68	88	71090	25.68	88
	100	6.7	85000	10.81	83	85000	10.81	83	85000	10.81	83
20 (20)	1750	88	54515	82.99	91	15394	24.50	87	28405	43.95	90
	1450	73	60603	76.58	91	21460	27.81	89	32543	41.62	90
	1160	58	66488	67.55	91	28116	29.00	89	37142	38.06	90
	870	44	72374	55.75	90	35372	27.54	89	42062	32.64	89
	600	30	77853	42.10	88	45805	24.93	88	49891	27.12	88
	300	15	83941	23.62	85	71280	20.09	85	71280	20.09	85
	100	5.0	88000	8.86	79	88000	8.86	79	88000	8.86	79
25 (25)	1750	70	57076	69.81	91	19039	24.27	87	35132	43.54	90
	1450	58	62335	63.29	91	26327	27.35	89	39923	40.92	90
	1160	46	67419	55.05	90	34261	28.35	89	45260	37.21	90
	870	35	72502	44.92	89	42930	26.83	88	51050	31.79	89
	600	24	77235	33.60	88	55669	24.32	87	60634	26.46	87
	300	12	82494	18.65	84	82494	18.65	84	82494	18.65	84
	100	4.0	86000	6.91	79	86000	6.91	79	86000	6.91	79

1. Numbers shown in ( ) are exact ratios.
2. Mechanical ratings apply to both non-fan cooled and fan cooled models.
3. Thermal input HP must not be exceeded except during startup or momentary peak load conditions.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

SINGLE REDUCTION SERIES

REDUCER SIZE **981**

OVERHUNG LOAD CAPACITIES[4] (LBS.)								THRUST CAPACITIES (LBS.)			RATIO
INPUT SHAFT	OUTPUT SHAFT							OUTPUT SHAFT			
ALL MODELS[5]	DB[5]	DT[5]	DV[5] SHAFT UP	DV[5] SHAFT DOWN	DSF[6] BASE SIDE	DSF[6] COVER SIDE	DL[5]	DB, DT, DV[7]	DSF[7]	DL AWAY FROM BASE	
1810	5981	5981	5981	5824	4600	4600	10035	4882	7458	6105	**5** (5)
1762	5977	5977	5977	5820	4585	4585	10467	4475	7125	5771	
1786	6096	6096	6096	5935	4665	4665	11049	4216	6981	5601	
1928	6404	6404	6404	6236	4891	4891	11887	4161	7109	5663	
2269	7129	7129	7129	6942	5337	5337	13139	4587	7668	6154	
2800	9263	9263	9263	9019	6679	6679	16418	6508	9875	8448	
2800	14050	14050	14050	13680	9755	9755	21000	9500	15000	10000	
1873	6683	6683	6683	6507	5178	5178	11039	5981	8875	7302	**8** (8)
1671	6770	6770	6770	6592	5241	5241	11561	5776	8780	7174	
1546	6985	6985	6985	6801	5405	5405	12246	5720	8882	7217	
1539	7612	7612	7612	7411	5728	5728	13360	6118	9282	7657	
1740	8657	8657	8657	8429	6326	6326	15115	6994	10213	8735	
2610	11164	11164	11164	10870	8172	8172	18858	9435	13484	10000	
2800	16000	16000	16000	15100	12112	12112	21000	9500	15000	10000	
1451	6525	6525	6525	6353	5099	5099	11259	5749	8730	7093	**10** (10)
1351	6746	6746	6746	6569	5276	5276	11879	5793	8930	7221	
1324	7253	7253	7253	7062	5554	5554	12751	6161	9326	7601	
1415	8053	8053	8053	7841	5999	5999	14120	6848	10032	8443	
1709	9285	9285	9285	9040	6864	6864	16046	8022	11548	9830	
2682	12287	12287	12287	11964	8934	8934	20207	9500	15000	10000	
2800	16000	16000	16000	15100	13393	13393	21000	9500	15000	10000	
1520	7436	7436	7436	7240	5786	5786	12365	7231	10442	8572	**15** (15)
1483	7916	7916	7916	7708	6063	6063	13265	7648	10897	9089	
1517	8584	8584	8584	8357	6467	6467	14407	8275	11598	9841	
1670	9575	9575	9575	9323	7210	7210	15980	9257	12942	10000	
2022	11038	11038	11038	10747	8305	8305	18165	9500	14959	10000	
2800	14901	14901	14901	14509	10724	10724	21000	9500	15000	10000	
2800	16000	16000	16000	15100	16132	16132	21000	9500	15000	10000	
1529	8281	8281	8281	8063	6356	6356	13439	8565	11840	9992	**20** (20)
1475	8807	8807	8807	8575	6716	6716	14412	9069	12485	10000	
1484	9534	9534	9534	9283	7271	7271	15643	9500	13503	10000	
1632	10610	10610	10610	10330	8086	8086	17338	9500	15000	10000	
1970	12397	12397	12397	12070	9277	9277	19811	9500	15000	10000	
2800	16000	16000	16000	15100	12138	12138	21000	9500	15000	10000	
2800	16000	16000	16000	15100	16500	16500	21000	9500	15000	10000	
1749	8945	8945	8945	8709	6776	6776	14308	9256	12625	10000	**25** (25)
1767	9585	9585	9585	9332	7262	7262	15382	9500	13518	10000	
1856	10434	10434	10434	10159	7903	7903	16728	9500	14709	10000	
2063	11717	11717	11717	11408	8818	8818	18564	9500	15000	10000	
2465	13832	13832	13832	13467	10128	10128	21000	9500	15000	10000	
2800	16000	16000	16000	15100	13410	13410	21000	9500	15000	10000	
2800	16000	16000	16000	15100	16500	16500	21000	9500	15000	10000	

4. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon direction of chain pull and type of foundation bolts. See page 88 for further information.
5. Overhung load given at one shaft diameter from housing or mounting base (DV).
6. Overhung load given at 4.438 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
7. Values shown are applicable for either direction of thrust (into or away from unit).

REDUCER SIZE
981

HORSEPOWER AND TORQUE RATINGS

SINGLE REDUCTION SERIES

Center Distance: 7.874 inches.

All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

RATIO[1]	HORSEPOWER AND TORQUE RATINGS (IN. LBS.)											
	INPUT RPM	OUTPUT RPM	MECHANICAL[2]			THERMAL[3]			FAN-COOLED—THERMAL[3]			
			OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.	OUTPUT TORQUE	INPUT HP	EFF.	
30 (30)	1750	58	56300	58.36	89	19425	21.10	85	35844	37.69	88	
	1450	48	61700	53.10	89	26845	23.71	87	40708	35.40	88	
	1160	39	66920	46.35	89	34920	24.55	87	46132	32.19	88	
	870	29	72140	37.98	87	43750	23.25	87	52025	27.55	87	
	600	20	77000	28.53	86	56750	21.13	85	61812	22.98	85	
	300	10	82400	15.96	82	82400	15.96	82	82400	15.96	82	
	100	3.3	86000	5.97	76	86000	5.97	76	86000	5.97	76	
40 (40)	1750	44	55397	44.82	86	18664	16.08	81	34439	28.42	84	
	1450	36	60779	40.86	86	25832	17.98	83	39172	26.71	84	
	1160	29	65982	35.76	85	33640	18.60	83	44440	24.33	84	
	870	22	71185	29.45	83	42165	17.67	82	50140	20.91	83	
	600	15	76029	22.29	81	54653	16.13	81	59528	17.53	81	
	300	7.5	81412	12.65	77	81412	12.65	77	81412	12.65	77	
	100	2.5	85000	4.84	70	85000	4.84	70	85000	4.84	70	
50 (50)	1750	35	54659	36.51	83	19227	13.80	77	35479	24.22	81	
	1450	29	59812	33.21	83	26586	15.36	80	40315	22.73	82	
	1160	23	64793	29.04	82	34597	15.86	80	45704	20.71	81	
	870	17	69774	23.95	80	43350	15.09	79	51550	17.84	80	
	600	12	74412	18.18	78	56215	13.83	77	61229	15.03	78	
	300	6.0	79565	10.39	73	79565	10.39	73	79565	10.39	73	
	100	2.0	83000	4.03	65	83000	4.03	65	83000	4.03	65	
60 (60)	1750	29	54085	31.03	81	19685	12.23	75	36323	21.32	79	
	1450	24	58797	28.05	80	27198	13.55	77	41244	20.00	79	
	1160	19	63352	24.43	80	35374	13.97	78	46731	18.22	79	
	870	15	67906	20.11	78	44316	13.32	77	52698	15.73	77	
	600	10	72147	15.27	75	57492	12.25	75	62620	13.30	75	
	300	5.0	76859	8.77	70	76859	8.77	70	76859	8.77	70	
	100	1.7	80000	3.42	62	80000	3.42	62	80000	3.42	62	
80 (80)	1750	22	52044	23.47	77	21810	10.69	71	40244	18.48	76	
	1450	18	55309	20.75	77	30046	11.76	73	45562	17.29	76	
	1160	15	58465	17.76	76	39003	12.10	74	51525	15.74	75	
	870	11	61621	14.43	74	48852	11.55	73	58092	13.63	74	
	600	7.5	64559	10.85	71	63542	10.68	71	64559	10.85	71	
	300	3.8	67824	6.19	65	67824	6.19	65	67824	6.19	65	
	100	1.3	70000	2.41	58	70000	2.41	58	70000	2.41	58	
100 (100)	1750	18	50441	19.19	73	22386	9.34	67	41307	15.98	72	
	1450	15	53088	16.82	73	30820	10.21	69	46736	14.93	72	
	1160	12	55647	14.29	72	39995	10.48	70	52835	13.61	72	
	870	8.7	58206	11.57	69	50100	10.04	69	58206	11.57	69	
	600	6.0	60588	8.70	66	60588	8.70	66	60588	8.70	66	
	300	3.0	63235	4.98	61	63235	4.98	61	63235	4.98	61	
	100	1.0	65000	1.96	53	65000	1.96	53	65000	1.96	53	

1. Numbers shown in ( ) are exact ratios.
2. Mechanical ratings apply to both non-fan cooled and fan cooled models.
3. Thermal input HP must not be exceeded except during startup or momentary peak load conditions.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

SINGLE REDUCTION SERIES

REDUCER SIZE **981**

OVERHUNG LOAD CAPACITIES[4] (LBS.)								THRUST CAPACITIES (LBS.)			RATIO
INPUT SHAFT	OUTPUT SHAFT							OUTPUT SHAFT			
ALL MODELS[5]	DB[5]	DT[5]	DV[5] SHAFT UP	DV[5] SHAFT DOWN	DSF[6] BASE SIDE	DSF[6] COVER SIDE	DL[5]	DB, DT, DV[7]	DSF[7]	DL AWAY FROM BASE	
1829	9606	9606	9606	9353	7303	7303	15105	9500	13781	10000	**30** (30)
1845	10287	10287	10287	10016	7823	7823	16235	9500	14751	10000	
1933	11187	11187	11187	10893	8505	8505	17649	9500	15000	10000	
2139	12704	12704	12704	12369	9474	9474	19736	9500	15000	10000	
2540	14951	14951	14951	14558	10886	10886	21000	9500	15000	10000	
2800	16000	16000	16000	15100	14476	14476	21000	9500	15000	10000	
2800	16000	16000	16000	15100	16500	16500	21000	9500	15000	10000	
1832	10630	10630	10630	10350	8124	8124	16391	9500	15000	10000	**40** (40)
1847	11417	11417	11417	11116	8707	8707	17619	9500	15000	10000	
1932	12605	12605	12605	12273	9464	9464	19307	9500	15000	10000	
2136	14314	14314	14314	13937	10530	10530	21000	9500	15000	10000	
2536	16000	16000	16000	15100	12305	12305	21000	9500	15000	10000	
2800	16000	16000	16000	15100	16253	16253	21000	9500	15000	10000	
2800	16000	16000	16000	15100	16500	16500	21000	9500	15000	10000	
1914	11544	11544	11544	11240	8783	8783	17460	9500	15000	10000	**50** (50)
1943	12542	12542	12542	12211	9424	9424	18928	9500	15000	10000	
2042	13848	13848	13848	13484	10248	10248	20851	9500	15000	10000	
2260	15713	15713	15713	15100	11536	11536	21000	9500	15000	10000	
2673	16000	16000	16000	15100	13493	13493	21000	9500	15000	10000	
2800	16000	16000	16000	15100	16500	16500	21000	9500	15000	10000	
2800	16000	16000	16000	15100	16500	16500	21000	9500	15000	10000	
1975	12423	12423	12423	12095	9337	9337	18513	9500	15000	10000	**60** (60)
2025	13518	13518	13518	13162	10035	10035	20144	9500	15000	10000	
2145	14939	14939	14939	14545	10979	10979	21000	9500	15000	10000	
2385	16000	16000	16000	15100	12446	12446	21000	9500	15000	10000	
2800	16000	16000	16000	15100	14542	14542	21000	9500	15000	10000	
2800	16000	16000	16000	15100	16500	16500	21000	9500	15000	10000	
2800	16000	16000	16000	15100	16500	16500	21000	9500	15000	10000	
2189	13987	13987	13987	13618	10303	10303	20431	9500	15000	10000	**80** (80)
2306	15284	15284	15284	14882	11220	11220	21000	9500	15000	10000	
2491	16000	16000	16000	15100	12425	12425	21000	9500	15000	10000	
2796	16000	16000	16000	15100	14095	14095	21000	9500	15000	10000	
2800	16000	16000	16000	15100	16446	16446	21000	9500	15000	10000	
2800	16000	16000	16000	15100	16500	16500	21000	9500	15000	10000	
2800	16000	16000	16000	15100	16500	16500	21000	9500	15000	10000	
2283	15250	15250	15250	14849	11195	11195	21000	9500	15000	10000	**100** (100)
2425	16000	16000	16000	15100	12242	12242	21000	9500	15000	10000	
2635	16000	16000	16000	15100	13560	13560	21000	9500	15000	10000	
2800	16000	16000	16000	15100	15377	15377	21000	9500	15000	10000	
2800	16000	16000	16000	15100	16500	16500	21000	9500	15000	10000	
2800	16000	16000	16000	15100	16500	16500	21000	9500	15000	10000	
2800	16000	16000	16000	15100	16500	16500	21000	9500	15000	10000	

4. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon direction of chain pull and type of foundation bolts. See page 88 for further information.
5. Overhung load given at one shaft diameter from housing or mounting base (DV).
6. Overhung load given at 4.438 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
7. Values shown are applicable for either direction of thrust (into or away from unit).

REDUCER SIZE
981

HORSEPOWER AND TORQUE RATINGS

DOUBLE REDUCTION SERIES

Primary Center Distance: 4.250 inches single enveloping.
Secondary Center Distance: 7.874 inches double enveloping.
All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

RATIO[1]	HORSEPOWER AND TORQUE RATINGS (IN. LBS.)							
	PRIMARY RATIO[1]	SECOND-ARY RATIO[1]	INPUT RPM	OUTPUT RPM	MECHANICAL		THERMAL[2]	
					HP	TORQUE	HP	TORQUE
150 (150)	5 (5)	30 (30)	1750	11.70	17.97	77667	—	—
			1160	7.73	13.24	83624	—	—
			600	4.00	7.41	85640	—	—
			100	0.67	1.42	86000	—	—
200 (200)	5 (5)	40 (40)	1750	8.75	14.90	80515	—	—
			1160	5.80	10.57	82632	—	—
			600	3.00	6.00	84641	—	—
			100	0.50	1.18	85000	—	—
300 (300)	10 (10)	30 (30)	1750	5.83	10.48	84650	—	—
			1160	3.87	7.29	85712	—	—
			600	2.00	4.01	86000	—	—
			100	0.33	0.77	86000	—	—
500 (500)	20 (20)	25 (25)	1750	3.50	6.54	84058	—	—
			1160	2.32	4.60	86000	—	—
			600	1.20	2.52	86000	—	—
			100	0.20	0.49	86000	—	—
750 (750)	25 (25)	30 (30)	1750	2.33	4.83	86000	—	—
			1160	1.55	3.34	86000	—	—
			600	0.80	1.84	86000	—	—
			100	0.13	0.37	86000	—	—
1000 (1000)	25 (25)	40 (40)	1750	1.75	3.96	85000	—	—
			1160	1.16	2.75	85000	—	—
			600	0.60	1.54	85000	—	—
			100	0.10	0.31	85000	—	—
1500 (1500)	50 (50)	30 (30)	1750	1.17	2.71	86000	—	—
			1160	0.77	1.88	86000	—	—
			600	0.40	1.05	86000	—	—
			100	0.07	0.21	86000	—	—

1. Numbers shown in ( ) are exact ratios.
2. Ratings provided only if thermally limited. Thermal input HP must not be exceeded except during startup or momentary peak load conditions.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

DOUBLE REDUCTION SERIES

REDUCER SIZE **981**

OVERHUNG LOAD CAPACITIES[3](LBS.)							THRUST CAPACITIES (LBS.)				
INPUT SHAFT	OUTPUT SHAFT						OUTPUT SHAFT			INPUT RPM	RATIO
ALL MODELS[4]	DBD[4] DTD	DVD[4] SHAFT UP	DVD[4] SHAFT DOWN	DSFD[5] BASE SIDE	DSFD[5] COVER SIDE	DLD[4]	DBD, DTD, DVD[6]	DSFD[6]	DLD AWAY FROM BASE		
1000	16000	16000	15100	13614	13614	21000	9500	15000	10000	1750	**150** (150)
1000	16000	16000	15100	15841	15841	21000	9500	15000	10000	1160	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	600	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	100	
1000	16000	16000	15100	15307	15307	21000	9500	15000	10000	1750	**200** (200)
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1160	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	600	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	100	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1750	**300** (300)
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1160	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	600	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	100	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1750	**500** (500)
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1160	
879	16000	16000	15100	16500	16500	21000	9500	15000	10000	600	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	100	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1750	**750** (750)
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1160	
697	16000	16000	15100	16500	16500	21000	9500	15000	10000	600	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	100	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1750	**1000** (1000)
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1160	
697	16000	16000	15100	16500	16500	21000	9500	15000	10000	600	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	100	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1750	**1500** (1500)
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1160	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	600	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	100	

3. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon location and direction of chain pull and type of foundation bolts. See page 88 for further information.
4. Overhung load given at one shaft diameter from housing or mounting base (DV).
5. Overhung load given at 4.438 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
6. Values shown are applicable for either direction of thrust (into or away from unit).

REDUCER SIZE
981

HORSEPOWER AND TORQUE RATINGS

DOUBLE REDUCTION SERIES

Primary Center Distance: 4.250 inches single enveloping.
Secondary Center Distance: 7.874 inches double enveloping.
All ratings stated are for a 1.0 service factor. See page 87 for further information.

WINSMITH®

RATIO[1]	HORSEPOWER AND TORQUE RATINGS (IN. LBS.)							
	PRIMARY RATIO[1]	SECOND-ARY RATIO[1]	INPUT RPM	OUTPUT RPM	MECHANICAL		THERMAL[2]	
					HP	TORQUE	HP	TORQUE
2000 (2000)	50 (50)	40 (40)	1750	0.88	2.25	85000	—	—
			1160	0.58	1.57	85000	—	—
			600	0.30	0.89	85000	—	—
			100	0.05	0.18	85000	—	—
3000 (3000)	60 (60)	50 (50)	1750	0.58	1.65	83000	—	—
			1160	0.39	1.15	83000	—	—
			600	0.20	0.66	83000	—	—
			100	0.03	0.13	83000	—	—
4000 (4000)	80 (80)	50 (50)	1750	0.43	1.33	83000	—	—
			1160	0.28	0.93	83000	—	—
			600	0.15	0.53	83000	—	—
			100	0.02	0.11	83000	—	—
5000[3] (5000)	100 (100)	50 (50)	1750	0.35	1.02	74644	—	—
			1160	0.23	0.80	83000	—	—
			600	0.12	0.46	83000	—	—
			100	0.02	0.09	83000	—	—
6000[3] (6000)	100 (100)	60 (60)	1750	0.29	0.98	80000	—	—
			1160	0.20	0.70	80000	—	—
			600	0.10	0.40	80000	—	—
			100	0.02	0.08	80000	—	—
8000[3] (8000)	100 (100)	80 (80)	1750	0.22	0.72	70000	—	—
			1160	0.15	0.51	70000	—	—
			600	0.08	0.29	70000	—	—
			100	0.01	0.06	70000	—	—
10000[3] (10000)	100 (100)	100 (100)	1750	0.18	0.60	65000	—	—
			1160	0.12	0.43	65000	—	—
			600	0.06	0.24	65000	—	—
			100	0.01	0.05	65000	—	—

1. Numbers shown in ( ) are exact ratios.
2. Ratings provided only if thermally limited. Thermal input HP must not be exceeded except during startup or momentary peak load conditions.
3. Triple reduction models with higher torque capacities are available, check with factory.

SHAFT OVERHUNG AND THRUST LOAD CAPACITIES

DOUBLE REDUCTION SERIES

REDUCER SIZE **981**

OVERHUNG LOAD CAPACITIES[4] (LBS.)							THRUST CAPACITIES (LBS.)				RATIO
INPUT SHAFT	OUTPUT SHAFT						OUTPUT SHAFT			INPUT RPM	
ALL MODELS[5]	DBD[5] DTD	DVD[5] SHAFT UP	DVD[5] SHAFT DOWN	DSFD[6] BASE SIDE	DSFD[6] COVER SIDE	DLD[5]	DBD, DTD, DVD[7]	DSFD[7]	DLD AWAY FROM BASE		
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1750	**2000** (2000)
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1160	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	600	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	100	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1750	**3000** (3000)
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1160	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	600	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	100	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1750	**4000** (4000)
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1160	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	600	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	100	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1750	**5000**[3] (5000)
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1160	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	600	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	100	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1750	**6000**[3] (6000)
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1160	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	600	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	100	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1750	**8000**[3] (8000)
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1160	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	600	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	100	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1750	**10000**[3] (10000)
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	1160	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	600	
1000	16000	16000	15100	16500	16500	21000	9500	15000	10000	100	

4. (Shaded area) Chart values are based on bearing capacity or shaft strength only. Allowable overhung loads may be less depending upon location and direction of chain pull and type of foundation bolts. See page 88 for further information.
5. Overhung load given at one shaft diameter from housing or mounting base (DV).
6. Overhung load given at 4.438 inches from the end face of the slow speed shaft. Maximum values are based on the largest bore. Use of smaller diameter may limit OHL due to shaft strength.
7. Values shown are applicable for either direction of thrust (into or away from unit).

DB/FDB

D-90® TYPE DE®

WINSMITH®

GENERAL INFORMATION

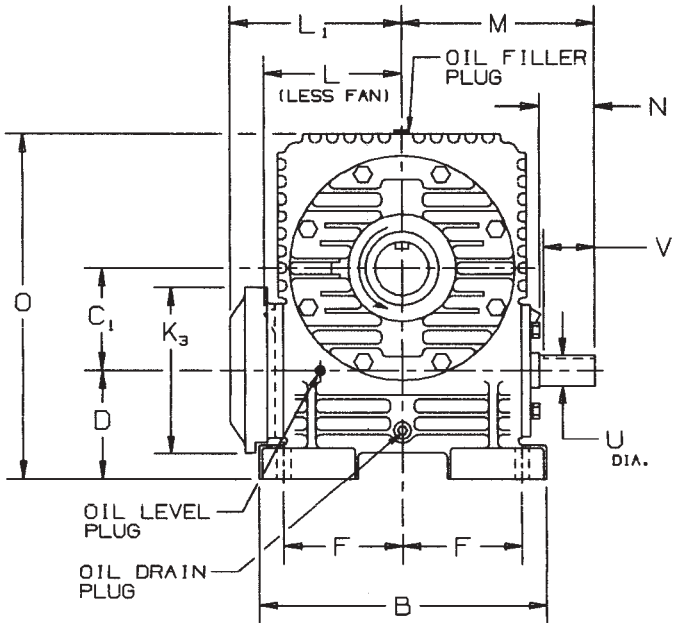
MODEL†	941	951	961	971	981
DB SHIPPING WEIGHT	179	285	440	660	860
FDB SHIPPING WEIGHT	183	290	445	666	868
CDB SHIPPING WEIGHT††	206	320	476	696	898
CFDB SHIPPING WEIGHT††	210	325	481	702	906
APPROX. OIL CAPACITY (QUARTS)	2.1	2.5	3.5	8	10

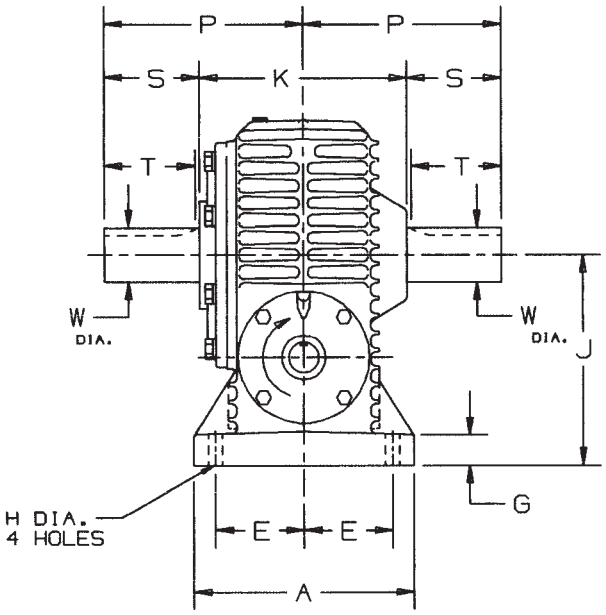
GEAR RATIO RANGE 5:1 THRU 100:1
DOUBLE REDUCTION VERSION . . . . . PAGE 64

†Weights are approximate and include shipping container.
††Add 20 pounds if adapter ring is furnished with motor adapter.

MODEL DB

MODEL FDB



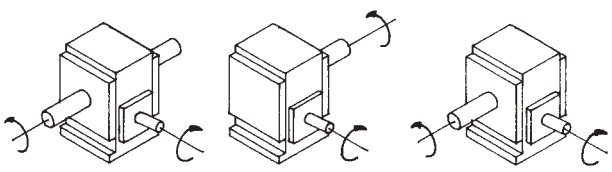


SIZE	A	B	C_1	D	E	F	G	H	J	K	K_3 DIA.	L°	L_1	M	O	P	HIGH SPEED SHAFT				SLOW SPEED SHAFT			
																	U*	N	V	KEYWAY	W*	S	T	KEYWAY
941	10.00	12.76	3.937	5.75	4.13	5.25	1.38	.69	9.69	9.74	7.88	5.78	7.81	9.00	15.69	9.25	1.500	3.22	3.25	3/8 x 3/16	2.250	4.38	4.19	1/2 x 1/4
951	11.25	15.29	4.921	5.75	4.50	6.38	1.50	.81	10.67	10.00	7.88	6.77	8.56	9.73	17.56	9.38	1.500	3.00	3.06	3/8 x 3/16	2.500	4.38	4.13	5/8 x 5/16
961	12.75	16.58	5.906	6.25	5.13	6.88	1.69	.94	12.16	12.00	9.63	8.47	10.69	11.10	19.91	11.50	1.750	3.17	3.12	3/8 x 3/16	3.125	5.50	5.25	3/4 x 3/8
971	15.25	19.40	6.890	7.88	6.25	8.13	2.00	1.06	14.77	13.38	10.75	9.39	12.22	13.25	23.88	13.50	1.750	4.25	4.25	3/8 x 3/16	3.500	6.81	6.56	7/8 x 7/16
981	16.75	22.19	7.874	8.50	6.75	9.25	2.13	1.19	16.37	15.13	11.50	10.45	12.69	15.50	26.50	15.50	2.000	5.60	5.47	1/2 x 1/4	3.875	7.94	7.69	1 x 1/2

*Shaft diameter tolerance +.000, -.001. °Distance to high speed cap on units without a fan. (DB)

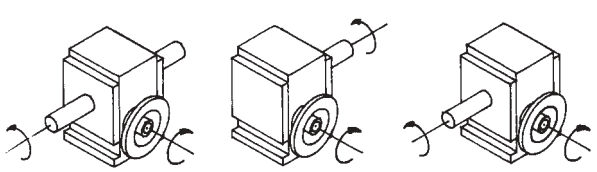
SHAFT ARRANGEMENTS AND RELATIVE SHAFT ROTATIONS

DB/FDB Models



ASSEMBLY LR OPTIONAL | ASSEMBLY R STANDARD | ASSEMBLY L STANDARD

CDB/CFDB Models



ASSEMBLY LR OPTIONAL | ASSEMBLY R STANDARD | ASSEMBLY L STANDARD

The input shaft may be driven in either direction.

MODEL CDB

MODEL CFDB

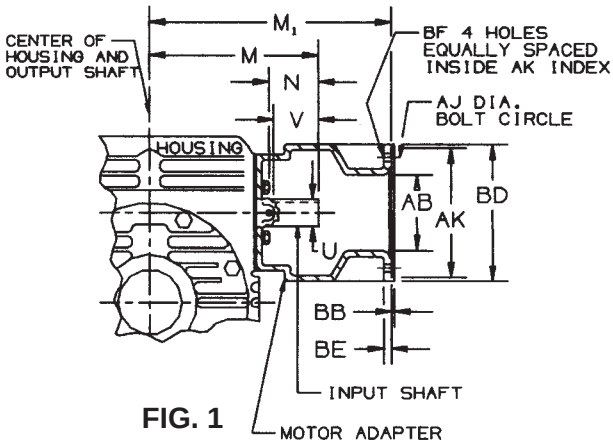


FIG. 1

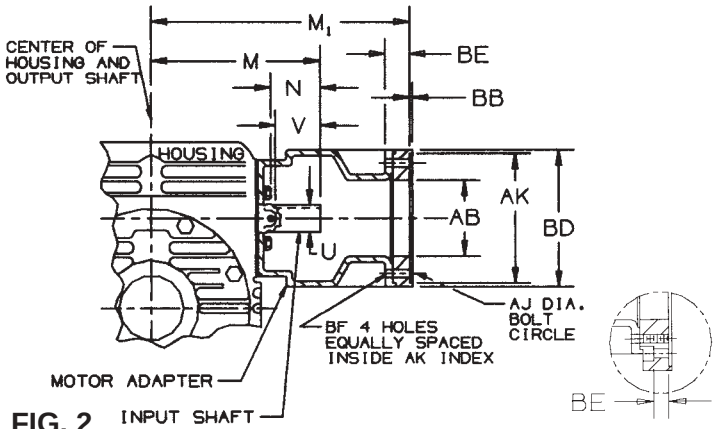


FIG. 2

FIG. 3

UNIT SIZE / SINGLE REDUCTION	N.E.M.A. FRAME SIZE	OBSOLETE N.E.M.A. FRAME SIZE	AB	AJ	AK	BB	BD	BE	BF	U	N	V	M	M_1	KEYWAY	CONFIGURATION
941	182TC - 184TC	213C - 215C	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.63	3.25	9.00	13.00	3⁄8 x 3⁄16	FIGURE 1
	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.63	3.25	9.00	13.00	3⁄8 x 3⁄16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	1.44	.53	1.500	2.63	3.25	9.00	13.94	3⁄8 x 3⁄16	FIGURE 2*
951	182TC - 184TC	213C - 215C	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.93	3.06	9.73	13.75	3⁄8 x 3⁄16	FIGURE 1
	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.93	3.06	9.73	13.75	3⁄8 x 3⁄16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	1.44	.53	1.500	2.93	3.06	9.73	14.69	3⁄8 x 3⁄16	FIGURE 2*
	284TC - 286TC	284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.81	.53	1.500	2.93	3.06	9.73	15.44	3⁄8 x 3⁄16	FIGURE 3*
961	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.05	3.12	11.10	15.88	3⁄8 x 3⁄16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.05	3.12	11.10	15.88	3⁄8 x 3⁄16	FIGURE 1
	284TC - 286TC	284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.25	.53	1.750	3.05	3.12	11.10	17.00	3⁄8 x 3⁄16	FIGURE 3*
971	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.77	3.63	12.63	16.88	3⁄8 x 3⁄16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.27	3.13	12.13	16.88	3⁄8 x 3⁄16	FIGURE 1
		284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.81	.53	1.750	3.77	3.63	12.63	18.56	3⁄8 x 3⁄16	FIGURE 3*
	284TC - 286TC		5.00	9.00	10.5005 / 10.5025	.19	11.00	.25	.53	1.750	3.77	3.63	12.63	18.00	3⁄8 x 3⁄16	FIGURE 3*
981	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	2.000	3.66	3.47	13.50	17.88	½ x ¼	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	2.000	3.29	3.09	13.13	17.88	½ x ¼	FIGURE 1
		284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.50	.53	2.000	3.29	3.09	13.13	19.00	½ x ¼	FIGURE 3*
	284TC - 286TC		5.00	9.00	10.5005 / 10.5025	.19	11.00	.50	.53	2.000	3.66	3.47	13.50	19.00	½ x ¼	FIGURE 3*

*Adapter ring furnished with motor adapter.

L-SERIES LOVEJOY COUPLING SELECTION VS. FRAME SIZE (Coupling not provided with unit.)							
UNIT SIZE	FRAME						
	182TC - 184TC	213C - 215C	213TC - 215TC	254UC - 256UC	254TC - 256TC	284UC - 286UC	284TC - 286TC
941	L-110	L-110	L-110	L-110	L-150	—	—
951	L-110	L-110	L-110	L-110	L-150	L-150	L-190
961	L-150	L-150	L-150	L-150	L-150	L-190	L-190
971	—	L-150	L-150	L-150	L-150	L-190	L-190
981	—	L-190	L-190	L-190	L-190	L-190	L-190

If coupling selection differs from chart, input and/or motor shaft may need alteration.

GENERAL INFORMATION

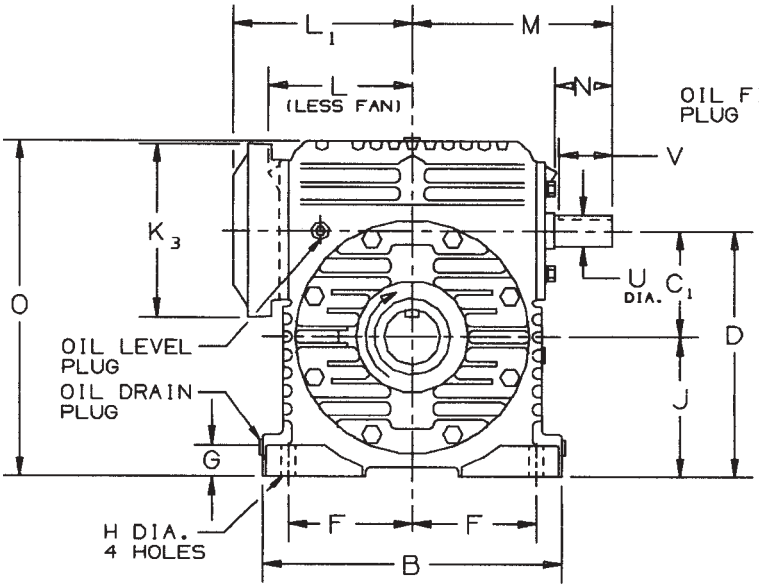
MODEL†	941	951	961	971	981
DT SHIPPING WEIGHT	185	280	425	640	845
FDT SHIPPING WEIGHT	189	285	430	646	853
CDT SHIPPING WEIGHT††	212	315	461	676	883
CFDT SHIPPING WEIGHT††	216	320	466	682	891
APPROX. OIL CAPACITY (QUARTS)	5.6	6.5	11	19	23

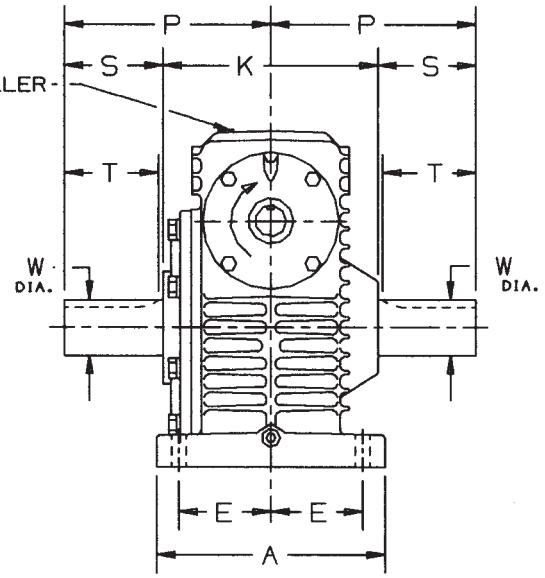
GEAR RATIO RANGE 5:1 THRU 100:1
DOUBLE REDUCTION VERSION . . . . . PAGE 66

†Weights are approximate and include shipping container.
††Add 20 pounds if adapter ring is furnished with motor adapter.

MODEL DT

MODEL FDT



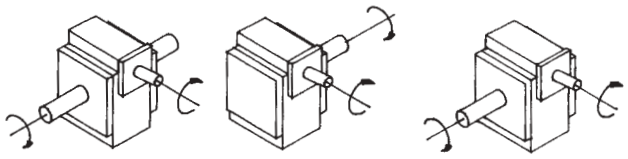


SIZE	A	B	C_1	D	E	F	G	H	J	K	K_3 DIA.	L°	L_1	M	O	P	HIGH SPEED SHAFT U*	N	V	KEYWAY	SLOW SPEED SHAFT W*	S	T	KEYWAY
941	10.00	12.76	3.937	9.94	4.13	5.25	1.38	.69	6.00	9.74	7.88	5.78	7.81	9.00	14.75	9.25	1.500	3.22	3.25	3/8 x 3/16	2.250	4.38	4.19	1/2 x 1/4
951	11.25	15.28	4.921	11.80	4.50	6.38	1.50	.81	6.88	10.00	7.88	6.77	8.56	9.73	16.55	9.38	1.500	3.00	3.06	3/8 x 3/16	2.500	4.38	4.13	5/8 x 5/16
961	12.75	16.58	5.906	13.66	5.13	6.88	1.69	.94	7.75	12.00	9.63	8.47	10.69	11.10	18.66	11.50	1.750	3.17	3.12	3/8 x 3/16	3.125	5.50	5.25	3/4 x 3/8
971	15.25	19.40	6.890	15.89	6.25	8.13	2.00	1.06	9.00	13.38	10.75	9.39	12.22	13.25	23.02	13.50	1.750	4.25	4.25	3/8 x 3/16	3.500	6.81	6.56	7/8 x 7/16
981	16.75	22.19	7.874	17.87	6.75	9.25	2.13	1.19	10.00	15.13	11.50	10.45	12.69	15.50	25.63	15.50	2.000	5.60	5.47	1/2 x 1/4	3.875	7.94	7.69	1 x 1/2
990△	19.75	28.76	9.843	21.94	8.38	12.63	2.25	1.06	12.00	18.52	N/A	14.38	N/A	19.25	30.88	15.72	2.375	6.00	5.75	5/8 x 5/16	4.250	6.46	6.22	1 x 1/2

*Shaft diameter tolerance +.000, -.001. °Distance to high speed cap on units without a fan. (DT) △Check with factory for availability, fan-cooled not available.

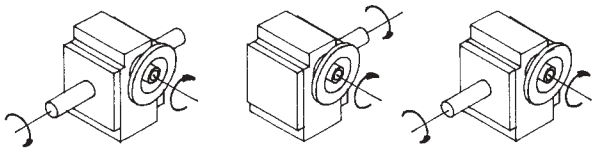
SHAFT ARRANGEMENTS AND RELATIVE SHAFT ROTATIONS

DT/FDT Models



ASSEMBLY LR OPTIONAL | ASSEMBLY R STANDARD | ASSEMBLY L STANDARD

CDT/CFDT Models



ASSEMBLY LR OPTIONAL | ASSEMBLY R STANDARD | ASSEMBLY L STANDARD

The input shaft may be driven in either direction.

MODEL CDT

MODEL CFDT

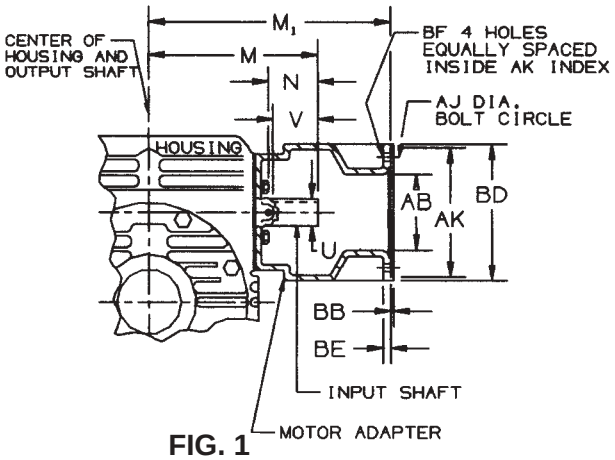


FIG. 1

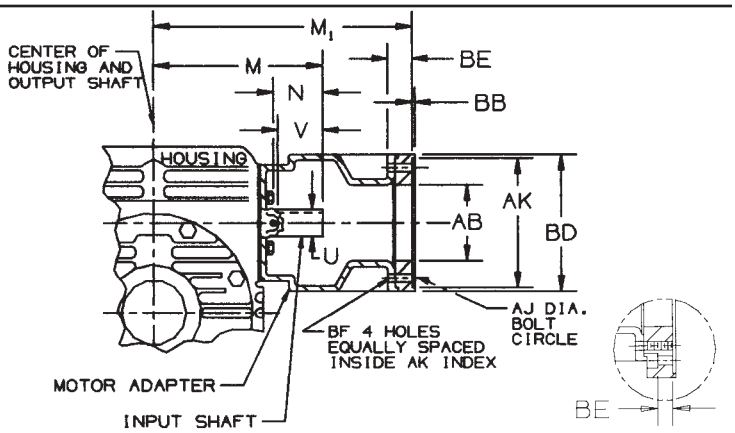


FIG. 2

FIG. 3

UNIT SIZE / SINGLE REDUCTION	N.E.M.A. FRAME SIZE	OBSOLETE N.E.M.A. FRAME SIZE	AB	AJ	AK	BB	BD	BE	BF	U	N	V	M	M_1	KEYWAY	CONFIGURATION
941	182TC - 184TC	213C - 215C	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.63	3.25	9.00	13.00	3⁄8 x 3⁄16	FIGURE 1
	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.63	3.25	9.00	13.00	3⁄8 x 3⁄16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	1.44	.53	1.500	2.63	3.25	9.00	13.94	3⁄8 x 3⁄16	FIGURE 2*
951	182TC - 184TC	213C - 215C	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.93	3.06	9.73	13.75	3⁄8 x 3⁄16	FIGURE 1
	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.93	3.06	9.73	13.75	3⁄8 x 3⁄16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	1.44	.53	1.500	2.93	3.06	9.73	14.69	3⁄8 x 3⁄16	FIGURE 2*
	284TC - 286TC	284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.81	.53	1.500	2.93	3.06	9.73	15.44	3⁄8 x 3⁄16	FIGURE 3*
961	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.05	3.12	11.10	15.88	3⁄8 x 3⁄16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.05	3.12	11.10	15.88	3⁄8 x 3⁄16	FIGURE 1
	284TC - 286TC	284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.25	.53	1.750	3.05	3.12	11.10	17.00	3⁄8 x 3⁄16	FIGURE 3*
971	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.77	3.63	12.63	16.88	3⁄8 x 3⁄16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.27	3.13	12.13	16.88	3⁄8 x 3⁄16	FIGURE 1
		284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.81	.53	1.750	3.77	3.63	12.63	18.56	3⁄8 x 3⁄16	FIGURE 3*
	284TC - 286TC		5.00	9.00	10.5005 / 10.5025	.19	11.00	.25	.53	1.750	3.77	3.63	12.63	18.00	3⁄8 x 3⁄16	FIGURE 3*
981	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	2.000	3.66	3.47	13.50	17.88	½ x ¼	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	2.000	3.29	3.09	13.13	17.88	½ x ¼	FIGURE 1
		284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.50	.53	2.000	3.29	3.09	13.13	19.00	½ x ¼	FIGURE 3*
	284TC - 286TC		5.00	9.00	10.5005 / 10.5025	.19	11.00	.50	.53	2.000	3.66	3.47	13.50	19.00	½ x ¼	FIGURE 3*

*Adapter ring furnished with motor adapter.

L-SERIES LOVEJOY COUPLING SELECTION VS. FRAME SIZE (Coupling not provided with unit.)							
UNIT SIZE	FRAME						
	182TC - 184TC	213C - 215C	213TC - 215TC	254UC - 256UC	254TC - 256TC	284UC - 286UC	284TC - 286TC
941	L-110	L-110	L-110	L-110	L-150	—	—
951	L-110	L-110	L-110	L-110	L-150	L-150	L-190
961	L-150	L-150	L-150	L-150	L-150	L-190	L-190
971	—	L-150	L-150	L-150	L-150	L-190	L-190
981	—	L-190	L-190	L-190	L-190	L-190	L-190

If coupling selection differs from chart, input and/or motor shaft may need alteration.

GENERAL INFORMATION

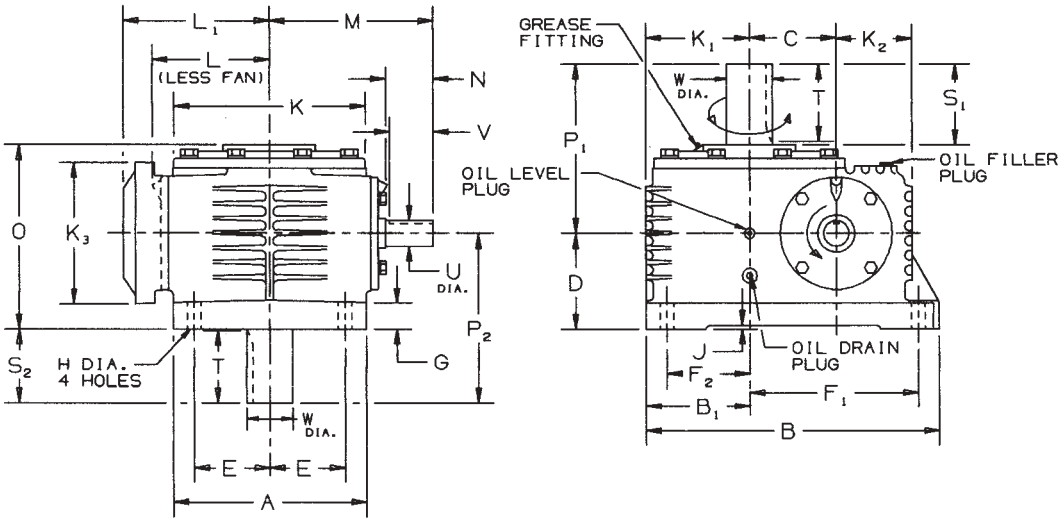
MODEL†	941	951	961	971	981
DV SHIPPING WEIGHT	161	250	500	625	780
FDV SHIPPING WEIGHT	165	255	505	631	788
CDV SHIPPING WEIGHT††	188	285	536	661	826
CFDV SHIPPING WEIGHT††	192	290	541	667	834
APPROX. OIL CAPACITY (QUARTS)	2.5	4.5	8	11	13.5

GEAR RATIO RANGE 5:1 THRU 100:1
DOUBLE REDUCTION VERSION . . . . . PAGE 68

†Weights are approximate and include shipping container.
††Add 20 pounds if adapter ring is furnished with motor adapter.

MODEL DV

MODEL FDV



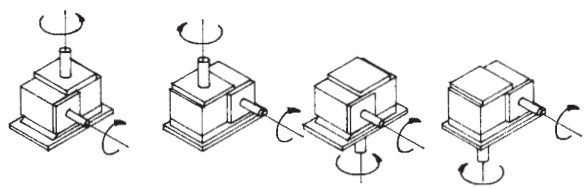
SIZE	A	B	B_1	C	D	E	F_1	F_2	G	H	J	K	K_1	K_2	K_3 DIA.	L°	L_1	M	O	P_1	P_2
941	10.00	15.06	6.06	3.937	5.00	4.25	8.19	4.94	1.38	.69	.25	8.88	4.94	4.81	7.88	5.78	7.81	9.00	9.87	9.25	9.25
951	11.00	17.27	6.58	4.921	5.50	4.38	9.44	5.31	1.50	.81	.25	10.88	6.00	4.88	7.88	6.77	8.56	9.73	10.50	9.38	9.38
961	13.13	19.98	7.06	5.906	6.50	5.13	11.50	5.63	1.69	.94	.25	13.00	7.06	5.18	9.63	8.47	10.69	11.10	12.50	11.50	11.50
971	15.38	23.31	8.45	6.890	7.00	6.31	13.25	6.88	2.00	1.06	.25	15.25	8.31	7.13	10.75	9.39	12.22	13.25	13.69	13.50	13.50
981	17.13	25.54	9.19	7.874	8.00	6.88	14.44	7.31	2.13	1.19	.25	17.00	9.19	7.75	11.50	10.45	12.69	15.50	15.56	15.50	15.50

SIZE	HIGH SPEED SHAFT				SLOW SPEED SHAFT				
	U*	N	V	KEYWAY	W*	S_1	S_2	T	KEYWAY
941	1.500	3.22	3.25	3/8 x 3/16	2.250	4.38	4.25	4.19	1/2 x 1/4
951	1.500	3.00	3.06	3/8 x 3/16	2.500	4.38	3.88	4.13	5/8 x 5/16
961	1.750	3.17	3.12	3/8 x 3/16	3.125	5.50	5.00	5.25	3/4 x 3/8
971	1.750	4.25	4.25	3/8 x 3/16	3.500	6.81	6.50	6.56	7/8 x 7/16
981	2.000	5.60	5.47	1/2 x 1/4	3.875	7.94	7.50	7.69	1 x 1/2

*Shaft diameter tolerance +.000, -.001.
°Distance to high speed cap on units without a fan. (DV)

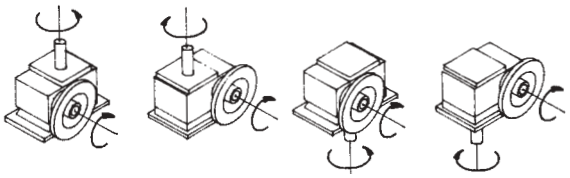
SHAFT ARRANGEMENTS AND RELATIVE SHAFT ROTATIONS

DV/FDV Models



ASSEMBLY RU STANDARD | ASSEMBLY LU STANDARD | ASSEMBLY RD STANDARD | ASSEMBLY LD STANDARD

CDV/CFDV Models



ASSEMBLY RU STANDARD | ASSEMBLY LU STANDARD | ASSEMBLY RD STANDARD | ASSEMBLY LD STANDARD

The input shaft may be driven in either direction.

MODEL CDV

MODEL CFDV

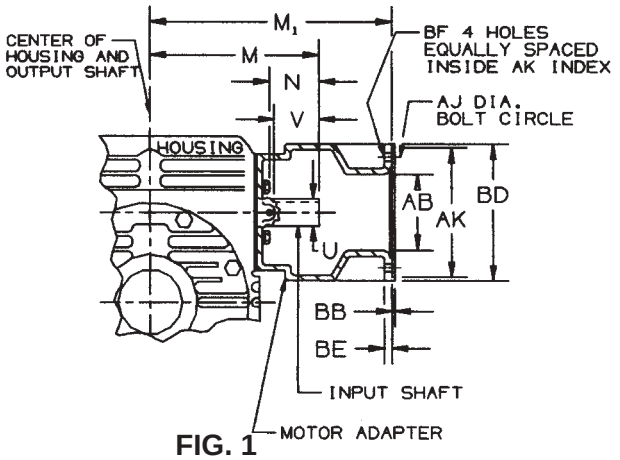


FIG. 1

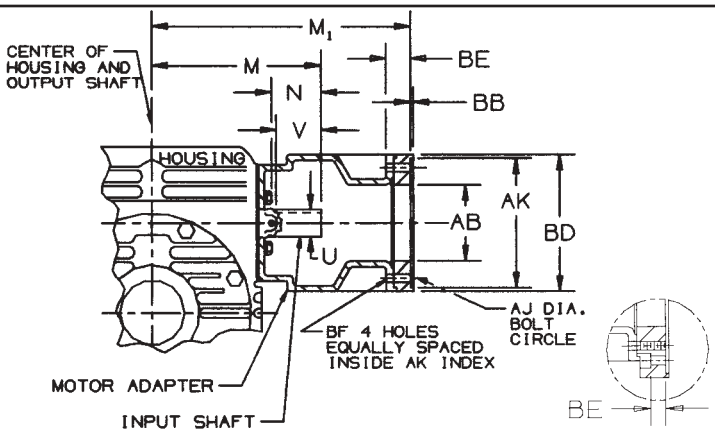


FIG. 2

FIG. 3

UNIT SIZE / SINGLE REDUCTION	N.E.M.A. FRAME SIZE	OBSOLETE N.E.M.A. FRAME SIZE	AB	AJ	AK	BB	BD	BE	BF	U	N	V	M	M_1	KEYWAY	CONFIGURATION
941	182TC - 184TC	213C - 215C	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.63	3.25	9.00	13.00	3⁄8 x 3⁄16	FIGURE 1
	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.63	3.25	9.00	13.00	3⁄8 x 3⁄16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	1.44	.53	1.500	2.63	3.25	9.00	13.94	3⁄8 x 3⁄16	FIGURE 2*
951	182TC - 184TC	213C - 215C	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.93	3.06	9.73	13.75	3⁄8 x 3⁄16	FIGURE 1
	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.93	3.06	9.73	13.75	3⁄8 x 3⁄16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	1.44	.53	1.500	2.93	3.06	9.73	14.69	3⁄8 x 3⁄16	FIGURE 2*
	284TC - 286TC	284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.81	.53	1.500	2.93	3.06	9.73	15.44	3⁄8 x 3⁄16	FIGURE 3*
961	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.05	3.12	11.10	15.88	3⁄8 x 3⁄16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.05	3.12	11.10	15.88	3⁄8 x 3⁄16	FIGURE 1
	284TC - 286TC	284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.25	.53	1.750	3.05	3.12	11.10	17.00	3⁄8 x 3⁄16	FIGURE 3*
971	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.77	3.63	12.63	16.88	3⁄8 x 3⁄16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.27	3.13	12.13	16.88	3⁄8 x 3⁄16	FIGURE 1
		284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.81	.53	1.750	3.77	3.63	12.63	18.56	3⁄8 x 3⁄16	FIGURE 3*
	284TC - 286TC		5.00	9.00	10.5005 / 10.5025	.19	11.00	.25	.53	1.750	3.77	3.63	12.63	18.00	3⁄8 x 3⁄16	FIGURE 3*
981	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	2.000	3.66	3.47	13.50	17.88	½ x ¼	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	2.000	3.29	3.09	13.13	17.88	½ x ¼	FIGURE 1
		284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.50	.53	2.000	3.29	3.09	13.13	19.00	½ x ¼	FIGURE 3*
	284TC - 286TC		5.00	9.00	10.5005 / 10.5025	.19	11.00	.50	.53	2.000	3.66	3.47	13.50	19.00	½ x ¼	FIGURE 3*

*Adapter ring furnished with motor adapter.

L-SERIES LOVEJOY COUPLING SELECTION VS. FRAME SIZE (Coupling not provided with unit.)							
UNIT SIZE	FRAME						
	182TC - 184TC	213C - 215C	213TC - 215TC	254UC - 256UC	254TC - 256TC	284UC - 286UC	284TC - 286TC
941	L-110	L-110	L-110	L-110	L-150	—	—
951	L-110	L-110	L-110	L-110	L-150	L-150	L-190
961	L-150	L-150	L-150	L-150	L-150	L-190	L-190
971	—	L-150	L-150	L-150	L-150	L-190	L-190
981	—	L-190	L-190	L-190	L-190	L-190	L-190

If coupling selection differs from chart, input and/or motor shaft may need alteration.

DSF/FDSF

D-90® TYPE DE®

WINSMITH®

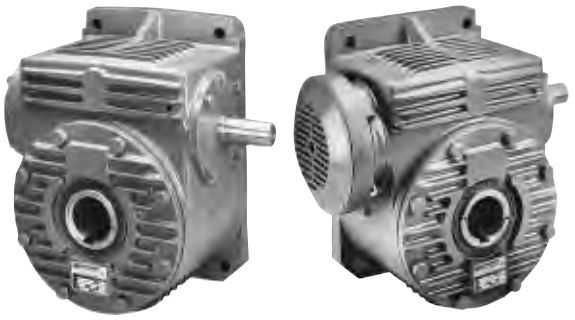
GENERAL INFORMATION

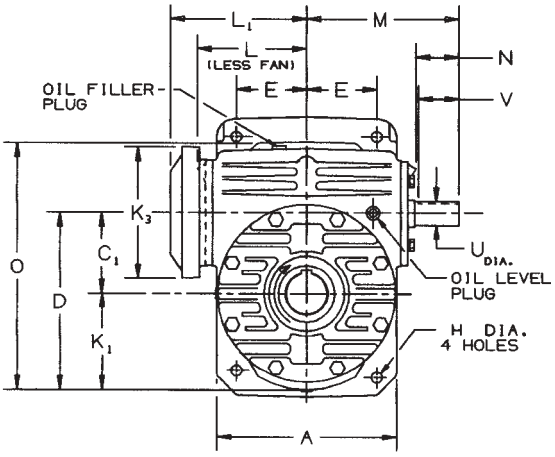
MODEL†	941	951	961	971	981
DSF SHIPPING WEIGHT	171	255	350	560	750
FDSF SHIPPING WEIGHT	175	260	355	566	758
CFDSF SHIPPING WEIGHT††	202	290	386	596	788
CDSF SHIPPING WEIGHT††	198	295	391	602	796
APPROX. OIL CAPACITY (QUARTS)	5.3	4	7.5	12	15

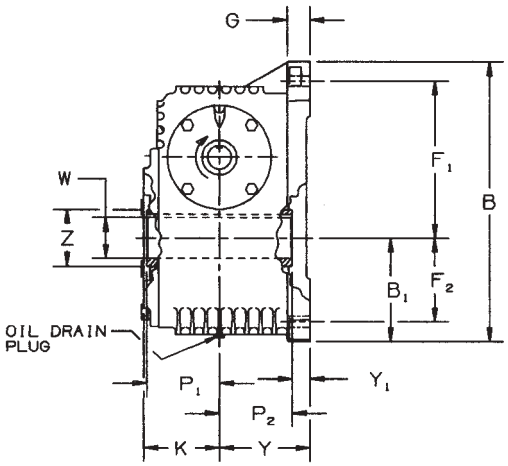
GEAR RATIO RANGE 5:1 THRU 100:1
DOUBLE REDUCTION VERSION . . . . . PAGE 70

†Weights are approximate and include shipping container.
††Add 20 pounds if adapter ring is furnished with motor adapter.

MODEL DSF **MODEL FDSF**







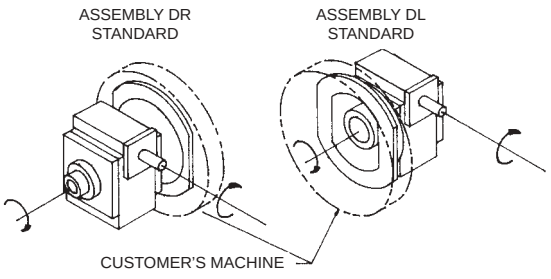
SIZE	A	B	B_1	C_1	D	E	F_1	F_2	G	H	K	K_1	K_3 DIA.	L°	L_1	M	O	P_1	P_2	Y	Y_1	Z
941	10.00	15.06	6.06	3.937	8.88	4.25	8.19	4.94	1.38	.69	4.44	4.94	7.88	5.78	7.81	9.00	13.69	4.25	4.25	5.00	.75	4.13
951	11.00	17.27	6.58	4.921	10.92	4.38	9.44	5.31	1.50	.81	4.81	6.00	7.88	6.77	8.56	9.73	15.80	5.06	5.06	5.50	.44	4.88
961	13.13	19.98	7.06	5.906	12.97	5.13	11.50	5.63	1.69	.94	5.70	7.06	9.63	8.47	10.69	11.10	18.15	5.31	5.31	6.50	1.19	5.75
971	15.38	23.31	8.45	6.890	15.20	6.31	13.25	6.88	2.00	1.06	6.56	8.31	10.75	9.39	12.22	13.25	22.33	6.69	6.69	7.00	.31	6.75
981	17.13	25.54	9.19	7.874	17.06	6.88	14.44	7.31	2.13	1.19	6.88	9.19	11.50	10.45	12.69	15.50	24.82	6.30	6.30	8.00	1.70	6.75

SIZE	HIGH SPEED SHAFT				SLOW SPEED SHAFT BORES□			
	U•	N	V	KEYWAY	W△	KEYWAY	W△	KEYWAY
941	1.500	3.22	3.25	3/8 x 3/16	2 7/16	5/8 x 5/16	2 15/16	5/8 x 5/16
951	1.500	3.00	3.06	3/8 x 3/16	2 5/8	5/8 x 5/16	3 7/16	7/8 x 7/16
961	1.750	3.17	3.12	3/8 x 3/16	3	3/4 x 3/8	3 15/16	1 x 3/8
971	1.750	4.25	4.25	3/8 x 3/16	3 1/4	3/4 x 3/8	4 7/16	1 x 1/2
981	2.000	5.60	5.47	1/2 x 1/4	3 3/4	7/8 x 7/16	4 7/16	1 x 1/2

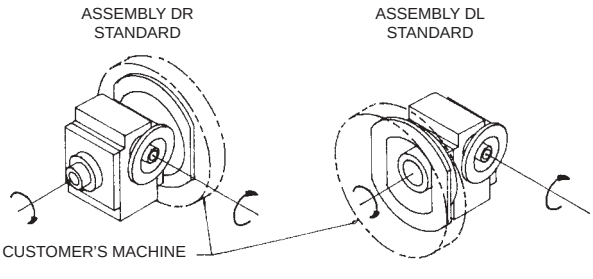
• Shaft diameter tolerance +.000, -.001.
△Bore tolerance +.000, +.002.
° Distance to high speed cap on units without a fan. (DSF)
□ **Check with factory for other bore sizes.**

SHAFT ARRANGEMENTS AND RELATIVE SHAFT ROTATIONS

DSF/FDSF Models



CDSF/CFDSF Models



The input shaft may be driven in either direction.

WINSMITH®

D-90® TYPE DE® CDSF/CFDSF

MODEL CDSF

MODEL CFDSF

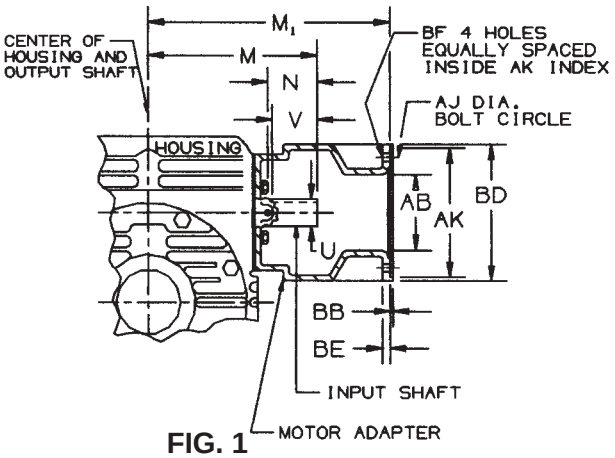


FIG. 1

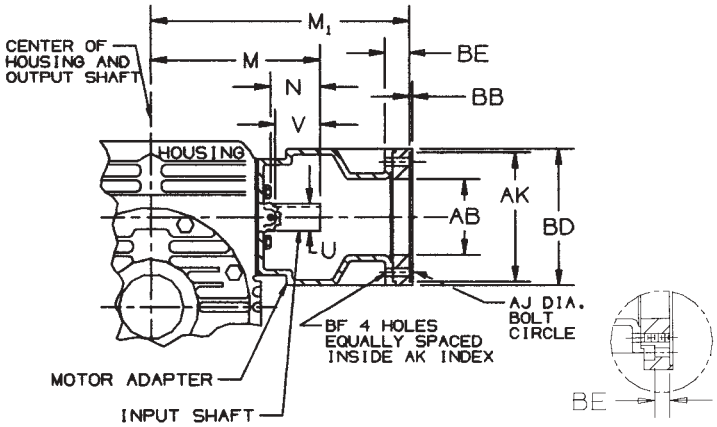


FIG. 2

FIG. 3

UNIT SIZE / SINGLE REDUCTION	N.E.M.A. FRAME SIZE	OBSOLETE N.E.M.A. FRAME SIZE	AB	AJ	AK	BB	BD	BE	BF	U	N	V	M	M_1	KEYWAY	CONFIGURATION
941	182TC - 184TC	213C - 215C	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.63	3.25	9.00	13.00	3⁄8 x 3⁄16	FIGURE 1
	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.63	3.25	9.00	13.00	3⁄8 x 3⁄16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	1.44	.53	1.500	2.63	3.25	9.00	13.94	3⁄8 x 3⁄16	FIGURE 2*
951	182TC - 184TC	213C - 215C	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.93	3.06	9.73	13.75	3⁄8 x 3⁄16	FIGURE 1
	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.93	3.06	9.73	13.75	3⁄8 x 3⁄16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	1.44	.53	1.500	2.93	3.06	9.73	14.69	3⁄8 x 3⁄16	FIGURE 2*
	284TC - 286TC	284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.81	.53	1.500	2.93	3.06	9.73	15.44	3⁄8 x 3⁄16	FIGURE 3*
961	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.05	3.12	11.10	15.88	3⁄8 x 3⁄16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.05	3.12	11.10	15.88	3⁄8 x 3⁄16	FIGURE 1
	284TC - 286TC	284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.25	.53	1.750	3.05	3.12	11.10	17.00	3⁄8 x 3⁄16	FIGURE 3*
971	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.77	3.63	12.63	16.88	3⁄8 x 3⁄16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.27	3.13	12.13	16.88	3⁄8 x 3⁄16	FIGURE 1
		284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.81	.53	1.750	3.77	3.63	12.63	18.56	3⁄8 x 3⁄16	FIGURE 3*
	284TC - 286TC		5.00	9.00	10.5005 / 10.5025	.19	11.00	.25	.53	1.750	3.77	3.63	12.63	18.00	3⁄8 x 3⁄16	FIGURE 3*
981	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	2.000	3.66	3.47	13.50	17.88	½ x ¼	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	2.000	3.29	3.09	13.13	17.88	½ x ¼	FIGURE 1
		284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.50	.53	2.000	3.29	3.09	13.13	19.00	½ x ¼	FIGURE 3*
	284TC - 286TC		5.00	9.00	10.5005 / 10.5025	.19	11.00	.50	.53	2.000	3.66	3.47	13.50	19.00	½ x ¼	FIGURE 3*

*Adapter ring furnished with motor adapter.

L-SERIES LOVEJOY COUPLING SELECTION VS. FRAME SIZE (Coupling not provided with unit.)							
UNIT SIZE	FRAME						
	182TC - 184TC	213C - 215C	213TC - 215TC	254UC - 256UC	254TC - 256TC	284UC - 286UC	284TC - 286TC
941	L-110	L-110	L-110	L-110	L-150	—	—
951	L-110	L-110	L-110	L-110	L-150	L-150	L-190
961	L-150	L-150	L-150	L-150	L-150	L-190	L-190
971	—	L-150	L-150	L-150	L-150	L-190	L-190
981	—	L-190	L-190	L-190	L-190	L-190	L-190

If coupling selection differs from chart, input and/or motor shaft may need alteration.

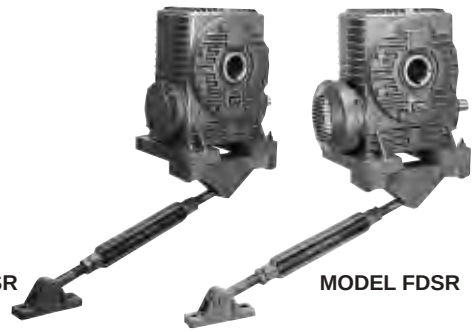
DSR/FDSR D-90® TYPE DE®

GENERAL INFORMATION

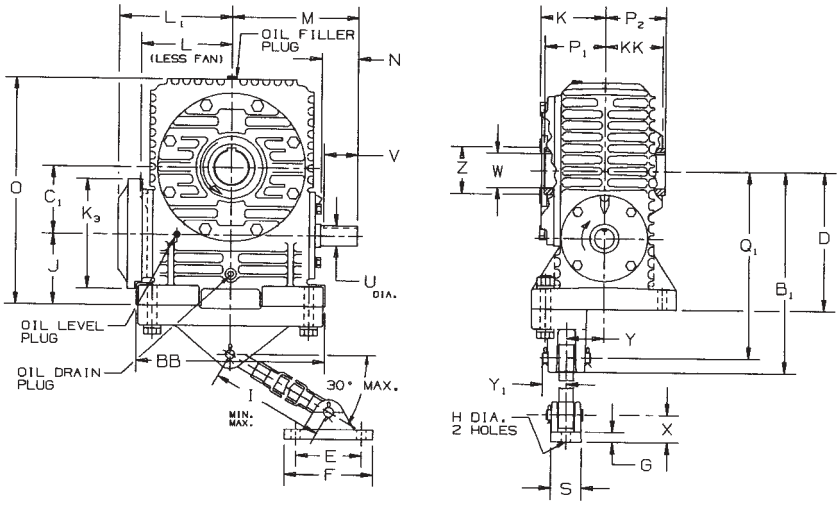
MODEL†	941	951	961	971	981
DSR SHIPPING WEIGHT	207	320	440	700	900
FDSR SHIPPING WEIGHT	211	325	445	706	908
CFDSR SHIPPING WEIGHT††	238	355	476	736	938
CDSR SHIPPING WEIGHT††	234	360	481	742	946
APPROX. OIL CAPACITY (QUARTS)	2.1	2.5	3.5	8	10

GEAR RATIO RANGE 5:1 THRU 100:1
DOUBLE REDUCTION VERSION . . . . . PAGE 72

†Weights are approximate and include shipping container.
††Add 20 pounds if adapter ring is furnished with motor adapter.



MODEL DSR MODEL FDSR



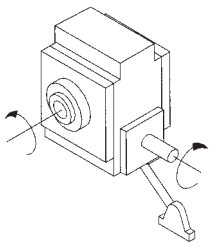
SIZE	BB	B_1	C_1	D	E	F	G	H	I_{MAX}	I_{MIN}	J	K	K_3 DIA.	KK	L°	L_1	M	O	P_1	P_2	Q_1	S	X	Y	Y_1	Z
941	12.76	13.94	3.937	9.69	3.50	4.75	.56	.53	29.00	21.00	5.75	4.44	7.88	4.00	5.78	7.81	9.00	15.69	4.25	4.25	12.94	2.13	1.63	2.25	1.44	4.13
951	15.29	15.43	4.921	10.67	5.00	6.75	.75	.81	31.00	22.00	5.75	4.81	7.88	4.81	6.77	8.56	9.73	17.56	5.06	5.06	14.30	2.06	1.94	2.88	1.94	4.88
961	16.58	17.66	5.906	12.16	5.75	7.75	.88	.94	37.50	26.50	6.25	5.70	9.63	5.06	8.47	10.69	11.10	19.91	5.31	5.31	16.41	2.69	2.38	3.25	2.19	5.75
971	19.40	21.27	6.890	14.77	5.75	7.75	.88	.94	37.50	26.50	7.88	6.56	10.75	6.44	9.39	12.22	13.25	23.88	6.69	6.69	20.02	2.69	2.38	3.88	2.44	6.75
981	22.19	24.25	7.874	16.37	5.75	7.75	.88	.94	37.50	26.50	8.50	6.88	11.50	6.13	10.45	12.69	15.50	26.50	6.30	6.30	23.00	2.69	2.38	4.25	2.63	6.75

SIZE	HIGH SPEED SHAFT				SLOW SPEED SHAFT BORES□			
	U•	N	V	KEYWAY	W△	KEYWAY	W△	KEYWAY
941	1.500	3.22	3.25	3/8 x 3/16	2 7/16	5/8 x 5/16	2 15/16	5/8 x 5/16
951	1.500	3.00	3.06	3/8 x 3/16	2 5/8	5/8 x 5/16	3 7/16	7/8 x 7/16
961	1.750	3.17	3.12	3/8 x 3/16	3	3/4 x 3/8	3 15/16	1 x 3/8
971	1.750	4.25	4.25	3/8 x 3/16	3 1/4	3/4 x 3/8	4 7/16	1 x 1/2
981	2.000	5.60	5.47	1/2 x 1/4	3 3/4	7/8 x 7/16	4 7/16	1 x 1/2

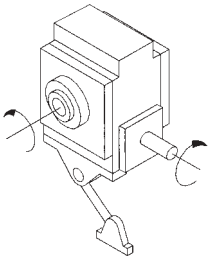
• Shaft diameter tolerance +.000, -.001.
△Bore tolerance +.000, +.002.
° Distance to high speed cap on units without a fan. (DSF)
□ **Check with factory for other bore sizes.**

SHAFT ARRANGEMENTS AND RELATIVE SHAFT ROTATIONS

DSR/FDSR Models

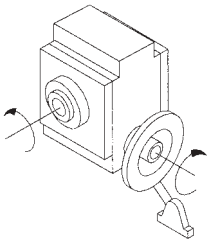


ASSEMBLY DR
STANDARD



ASSEMBLY DL
STANDARD

CDSR/CFDSR Models



ASSEMBLY DR
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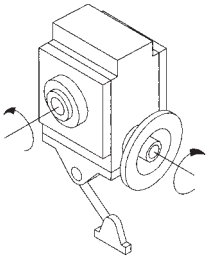


ASSEMBLY DL
STANDARD

The input shaft may be driven in either direction.

WINSMITH® D-90® TYPE DE® CDSR/CFDSR

MODEL CDSR

MODEL CFDSR

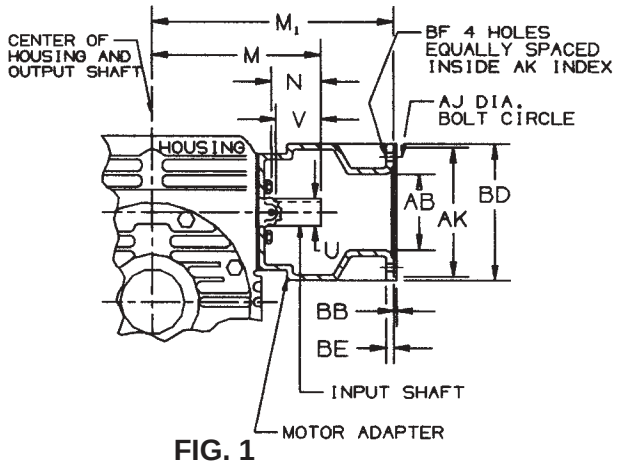


FIG. 1

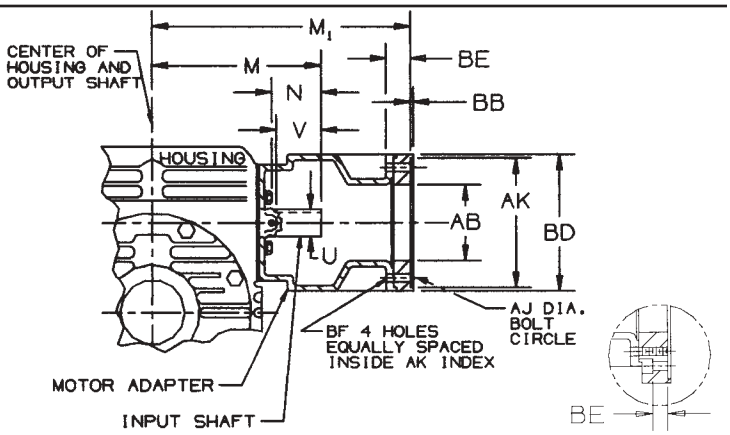


FIG. 2

FIG. 3

UNIT SIZE / SINGLE REDUCTION	N.E.M.A. FRAME SIZE	OBSOLETE N.E.M.A. FRAME SIZE	AB	AJ	AK	BB	BD	BE	BF	U	N	V	M	M_1	KEYWAY	CONFIGURATION
941	182TC - 184TC	213C - 215C	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.63	3.25	9.00	13.00	3⁄8 x 3⁄16	FIGURE 1
	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.63	3.25	9.00	13.00	3⁄8 x 3⁄16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	1.44	.53	1.500	2.63	3.25	9.00	13.94	3⁄8 x 3⁄16	FIGURE 2*
951	182TC - 184TC	213C - 215C	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.93	3.06	9.73	13.75	3⁄8 x 3⁄16	FIGURE 1
	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.93	3.06	9.73	13.75	3⁄8 x 3⁄16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	1.44	.53	1.500	2.93	3.06	9.73	14.69	3⁄8 x 3⁄16	FIGURE 2*
	284TC - 286TC	284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.81	.53	1.500	2.93	3.06	9.73	15.44	3⁄8 x 3⁄16	FIGURE 3*
961	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.05	3.12	11.10	15.88	3⁄8 x 3⁄16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.05	3.12	11.10	15.88	3⁄8 x 3⁄16	FIGURE 1
	284TC - 286TC	284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.25	.53	1.750	3.05	3.12	11.10	17.00	3⁄8 x 3⁄16	FIGURE 3*
971	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.77	3.63	12.63	16.88	3⁄8 x 3⁄16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.27	3.13	12.13	16.88	3⁄8 x 3⁄16	FIGURE 1
		284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.81	.53	1.750	3.77	3.63	12.63	18.56	3⁄8 x 3⁄16	FIGURE 3*
	284TC - 286TC		5.00	9.00	10.5005 / 10.5025	.19	11.00	.25	.53	1.750	3.77	3.63	12.63	18.00	3⁄8 x 3⁄16	FIGURE 3*
981	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	2.000	3.66	3.47	13.50	17.88	½ x ¼	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	2.000	3.29	3.09	13.13	17.88	½ x ¼	FIGURE 1
		284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.50	.53	2.000	3.29	3.09	13.13	19.00	½ x ¼	FIGURE 3*
	284TC - 286TC		5.00	9.00	10.5005 / 10.5025	.19	11.00	.50	.53	2.000	3.66	3.47	13.50	19.00	½ x ¼	FIGURE 3*

*Adapter ring furnished with motor adapter.

L-SERIES LOVEJOY COUPLING SELECTION VS. FRAME SIZE (Coupling not provided with unit.)							
UNIT SIZE	FRAME						
	182TC - 184TC	213C - 215C	213TC - 215TC	254UC - 256UC	254TC - 256TC	284UC - 286UC	284TC - 286TC
941	L-110	L-110	L-110	L-110	L-150	—	—
951	L-110	L-110	L-110	L-110	L-150	L-150	L-190
961	L-150	L-150	L-150	L-150	L-150	L-190	L-190
971	—	L-150	L-150	L-150	L-150	L-190	L-190
981	—	L-190	L-190	L-190	L-190	L-190	L-190

If coupling selection differs from chart, input and/or motor shaft may need alteration.

DL/FDL

D-90® TYPE DE®

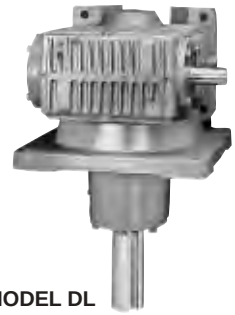
WINSMITH®

GENERAL INFORMATION

MODEL†	951	961
DL SHIPPING WEIGHT	470	650
FDL SHIPPING WEIGHT	475	655
CFDL SHIPPING WEIGHT††	505	686
CDL SHIPPING WEIGHT††	510	691
APPROX. OIL CAPACITY (QUARTS)	8	14

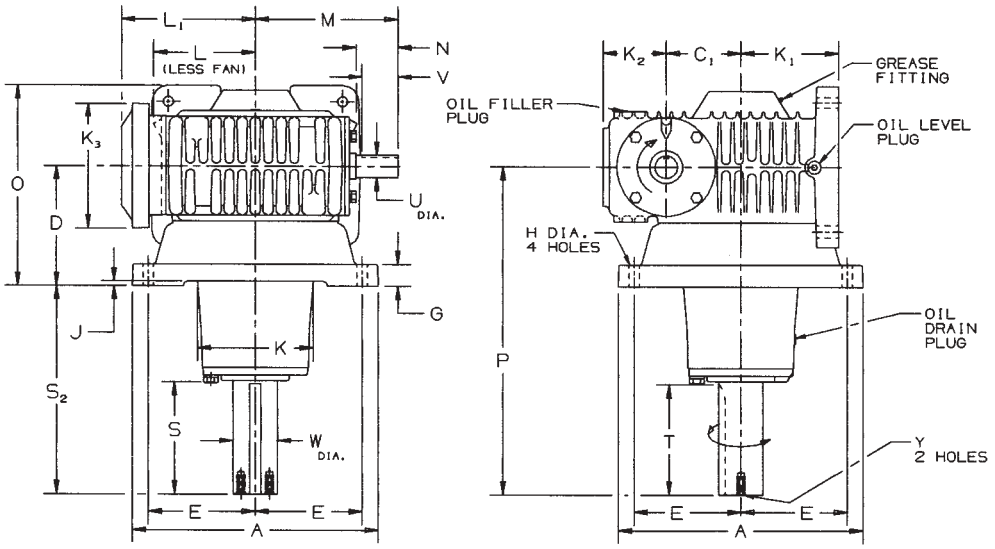
GEAR RATIO RANGE 5:1 THRU 100:1
DOUBLE REDUCTION VERSION . . . . . PAGE 74

†Weights are approximate and include shipping container.
††Add 20 pounds if adapter ring is furnished with motor adapter.



MODEL DL

MODEL FDL



SIZE△	A	C_1	D	E	G	H	J	K	K_1	K_2	K_3 DIA.	L°	L_1	M	O	P	Y DIMENSIONS		
																	TAP	DEPTH	BOLT CIRCLE
951	17.50	4.921	8.00	7.63	1.50	.81	.25	8.11	6.88	4.75	7.88	6.77	8.56	9.73	13.63	23.50	⅜ - 16	1.00	2.00
961	19.38	5.906	9.50	8.44	1.75	.94	.38	9.06	7.75	5.00	9.63	8.47	10.69	11.10	15.88	26.00	⅝ - 11	1.50	2.25

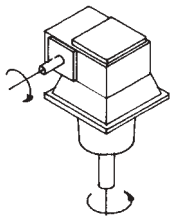
SIZE	HIGH SPEED SHAFT				SLOW SPEED SHAFT				
	U*	N	V	KEYWAY	W*	S	S_2	T	KEYWAY
951	1.500	3.00	3.06	⅜ x 3/16	2.938	7.81	15.50	7.56	¾ x ⅜
961	1.750	3.17	3.12	⅜ x 3/16	3.500	8.80	16.50	8.75	⅞ x 7/16

△For information on sizes 941, 971 and 981, contact the factory.

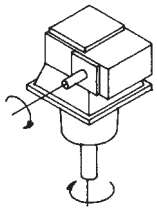
*Shaft diameter tolerance +.000, -.001.
° Distance to high speed cap on units without a fan. (DL)

SHAFT ARRANGEMENTS AND RELATIVE SHAFT ROTATIONS

DL/FDL Models

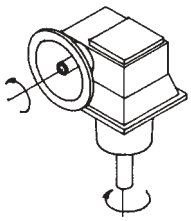


ASSEMBLY RD
STANDARD

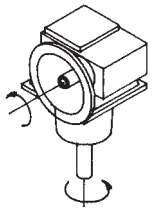


ASSEMBLY LD
STANDARD

CDL/CFDL Models



ASSEMBLY RD
STANDARD

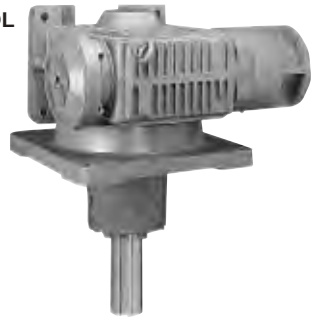


ASSEMBLY LD
STANDARD

The input shaft may be driven in either direction.

MODEL CDL

MODEL CFDL



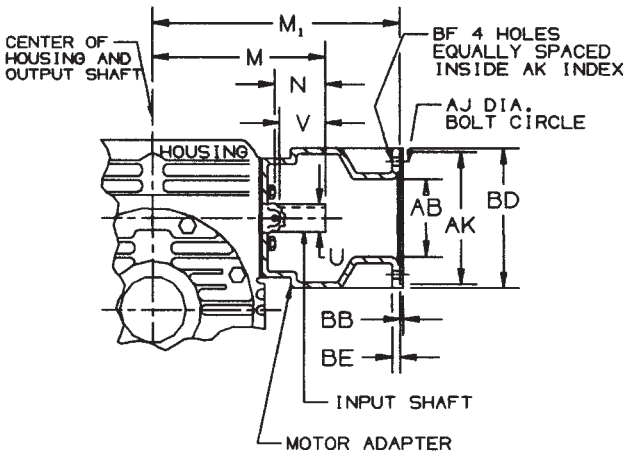


FIG. 1

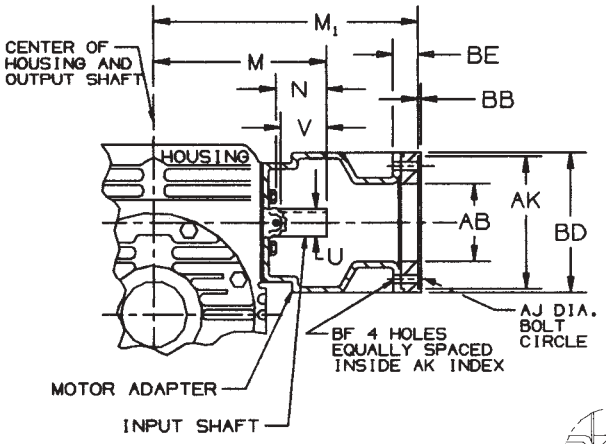


FIG. 2

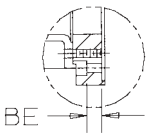


FIG. 3

UNIT SIZE SINGLE REDUCTION	N.E.M.A. FRAME SIZE	OBSOLETE N.E.M.A. FRAME SIZE	AB	AJ	AK	BB	BD	BE	BF	U	N	V	M	M_1	KEYWAY	CONFIGURATION
951	182TC - 184TC	213C - 215C	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.93	3.06	9.73	13.75	3/8 x 3/16	FIGURE 1
	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.500	2.93	3.06	9.73	13.75	3/8 x 3/16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	1.44	.53	1.500	2.93	3.06	9.73	14.69	3/8 x 3/16	FIGURE 2*
	284TC - 286TC	284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.81	.53	1.500	2.93	3.06	9.73	15.44	3/8 x 3/16	FIGURE 3*
961	213TC - 215TC		5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.05	3.12	11.10	15.88	3/8 x 3/16	FIGURE 1
	254TC - 256TC	254UC - 256UC	5.00	7.25	8.5005 / 8.5025	.19	9.00	.50	.53	1.750	3.05	3.12	11.10	15.88	3/8 x 3/16	FIGURE 1
	284TC - 286TC	284UC - 286UC	5.00	9.00	10.5005 / 10.5025	.19	11.00	.25	.53	1.750	3.05	3.12	11.10	17.00	3/8 x 3/16	FIGURE 3*

*Adapter ring furnished with motor adapter.

L-SERIES LOVEJOY COUPLING SELECTION VS. FRAME SIZE (Coupling not provided with unit.)							
UNIT SIZE	FRAME						
	182TC - 184TC	213C - 215C	213TC - 215TC	254UC - 256UC	254TC - 256TC	284UC - 286UC	284TC - 286TC
951	L-110	L-110	L-110	L-110	L-150	L-150	L-190
961	L-150	L-150	L-150	L-150	L-150	L-190	L-190

If coupling selection differs from chart, input and/or motor shaft may need alteration.

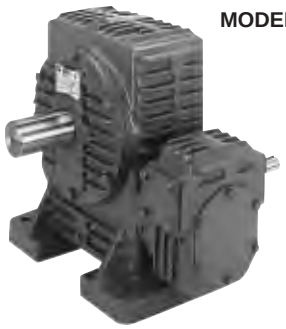
GENERAL INFORMATION

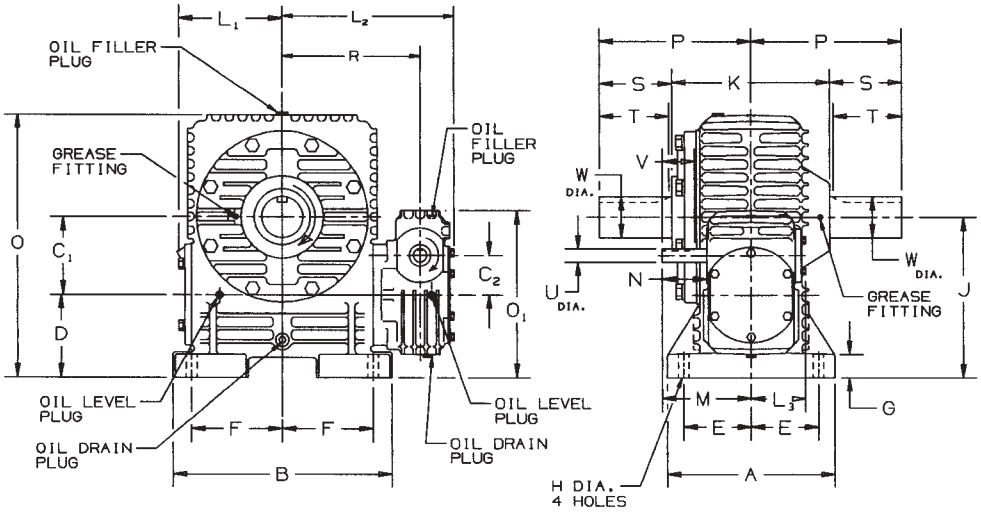
MODEL†	941	951	961	971	981
DBD SHIPPING WEIGHT	217	323	490	740	990
CDBD SHIPPING WEIGHT††	226	327	494	750	995
MDBD SHIPPING WEIGHT††	221	332	500	744	1000
APPROX. OIL CAPACITY (QUARTS)	2.7	3.5	4.5	9	12

GEAR RATIO RANGE 100:1 THRU 10,000:1
SINGLE REDUCTION VERSION . . . . . PAGE 52

†Weights are approximate and include shipping container.
††Weights given for 56C-145TC, for larger frames add 5 pounds.

MODEL DBD



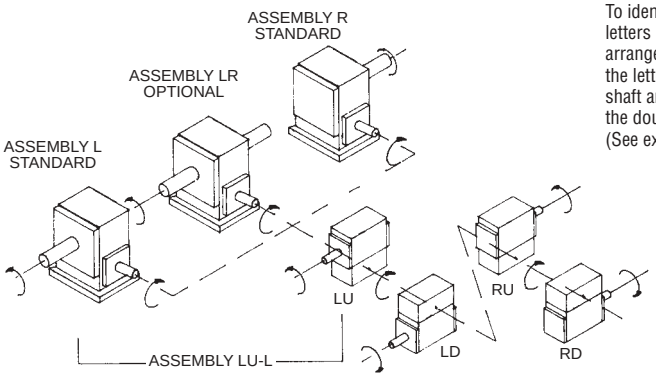


SIZE	A	B	C_1	C_2	D	E	F	G	H	J	K	L_1	L_2	L_3	M	O	O_1	P	R
941	10.00	12.76	3.937	2.625	5.75	4.13	5.25	1.38	.69	9.69	9.74	5.78	10.90	4.50	6.50	15.69	11.31	9.25	8.44
951	11.25	15.29	4.921	2.625	5.75	4.50	6.38	1.50	.81	10.67	10.00	6.77	11.59	4.50	6.50	17.56	11.31	9.38	9.13
961	12.75	16.58	5.906	3.000	6.25	5.13	6.88	1.69	.94	12.16	12.00	8.47	13.26	4.63	7.00	19.91	12.63	11.50	10.44
971	15.25	19.40	6.890	3.500	7.88	6.25	8.13	2.00	1.06	14.77	13.38	9.39	15.45	5.06†	7.38	23.88	14.92	13.50	12.63
981	16.75	22.19	7.874	4.250	8.50	6.75	9.25	2.13	1.19	16.37	15.13	10.45	17.54	5.88††	8.19	26.50	15.63	15.50	14.63

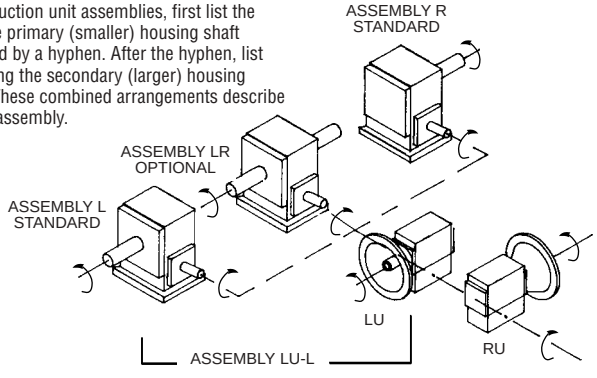
SIZE	HIGH SPEED SHAFT				SLOW SPEED SHAFT			
	U*	N	V	KEYWAY	W*	S	T	KEYWAY
941	1.000	2.75	2.38	.25 x .13	2.250	4.38	4.19	.50 x .25
951	1.000	2.75	2.38	.25 x .13	2.500	4.38	4.13	.63 x .31
961	1.000	3.06	2.38	.25 x .13	3.125	5.50	5.25	.75 x .38
971	1.000	2.31	2.50	.25 x .13	3.500	6.81	6.56	.88 x .44
981	1.250	2.31	2.50	.25 x .13	3.875	7.94	7.69	1.00 x .50

†L_3 dimension equals 5.46 on MDBD models.
††L_3 dimension equals 6.28 on MDBD models.
*Shaft diameter tolerance +.000, -.001.

SHAFT ARRANGEMENTS AND RELATIVE SHAFT ROTATIONS



NOTE:
To identify double reduction unit assemblies, first list the letters designating the primary (smaller) housing shaft arrangements followed by a hyphen. After the hyphen, list the letter(s) designating the secondary (larger) housing shaft arrangements. These combined arrangements describe the double reduction assembly.
(See examples below)

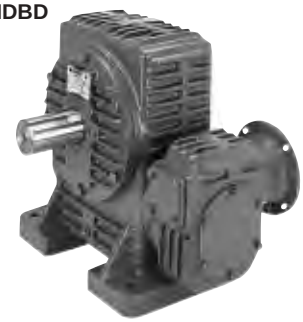


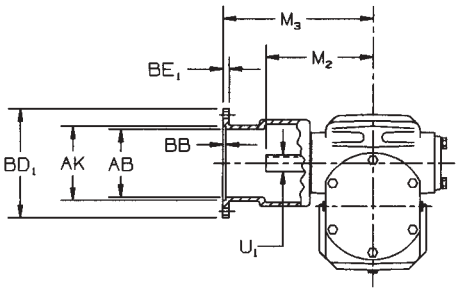
The input shaft may be driven in either direction.

CDBD/MDBD

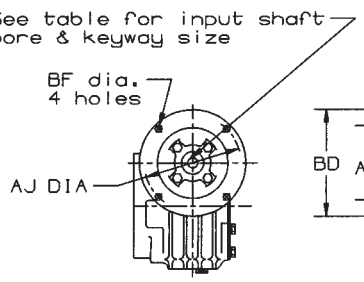
MODEL CDBD

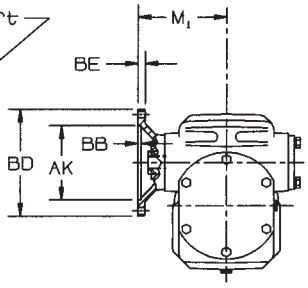
MODEL MDBD



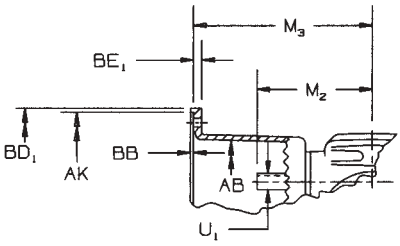


56C-145TC

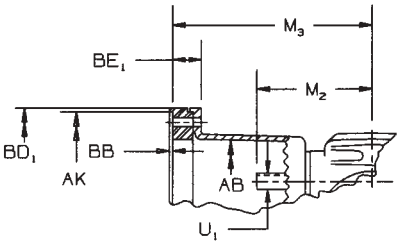




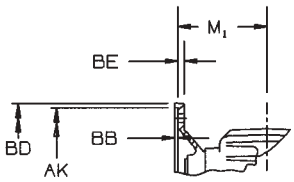
56C-145TC



182TC-184TC



213TC-215TC**



182TC-184TC
213TC-215TC

SIZE	FRAME SIZE RANGE	QUILL STYLE MOTOR ADAPTER			COUPLING STYLE MOTOR ADAPTER									M_2	U_1*	KEYWAY
		M_1 56C 145TC	M_1 182TC 184TC	M_1 213TC 215TC	56C-145TC			182TC-184TC			213TC-215TC**					
					AB	M_3	BE_1	AB	M_3	BE_1	AB	M_3	BE_1			
941	56C-184TC	5.38	5.38	NA	4.13	9.13	.38	4.25	10.19	.50	NA			6.50	1.000	.25 x .13
951	56C-184TC	5.38	5.38	NA	4.13	9.13	.38	4.25	10.19	.50	NA			6.50	1.000	.25 x .13
961	56C-184TC	5.56	5.56	NA	4.13	9.75	.38	4.75	10.88	.50	NA			7.00	1.000	.25 x .13
971	56C-184TC	5.81	5.81	NA	4.13	10.00	.38	4.75	11.13	.50	NA			7.38	1.000	.25 x .13
981	56C-215TC	6.63	6.63	6.63	4.13	10.81	.38	4.75	11.94	.50	4.75	12.88	1.44	8.19	1.250	.25 x .13

*Shaft diameter tolerance +.000, -.001.
**Adapter ring furnished with motor adapter.

L-SERIES LOVEJOY COUPLING SELECTION VS. FRAME SIZE (Coupling not provided with unit.)				
UNIT SIZE	FRAME			
	56C	143TC-145TC	182TC-184TC	213TC-215TC
941	L-090	L-095	L-100	—
951	L-090	L-095	L-100	—
961	L-090	L-095	L-100	—
971	L-090	L-095	L-100	—
981	L-100	L-100	L-100	L-150

If coupling selection differs from chart, input and/or motor shaft may need alteration.

FRAME NO.	56C	143TC 145TC	182TC 184TC	213TC 215TC
AJ	5.88	5.88	7.25	7.25
AK	4.50	4.50	8.50	8.50
BB	.19	.19	.19	.19
BD	6.50	6.50	9.00	9.00
BD_1	6.63	6.63	9.00	9.00
BE	.31	.31	.38	.38
BF	.406	.406	.531	.531
KEYWAY	.19 x .09		.25 x .13	.31 x .16
Bore $^{+.001}_{-.000}$	.6255	.8755	1.1255	1.3755

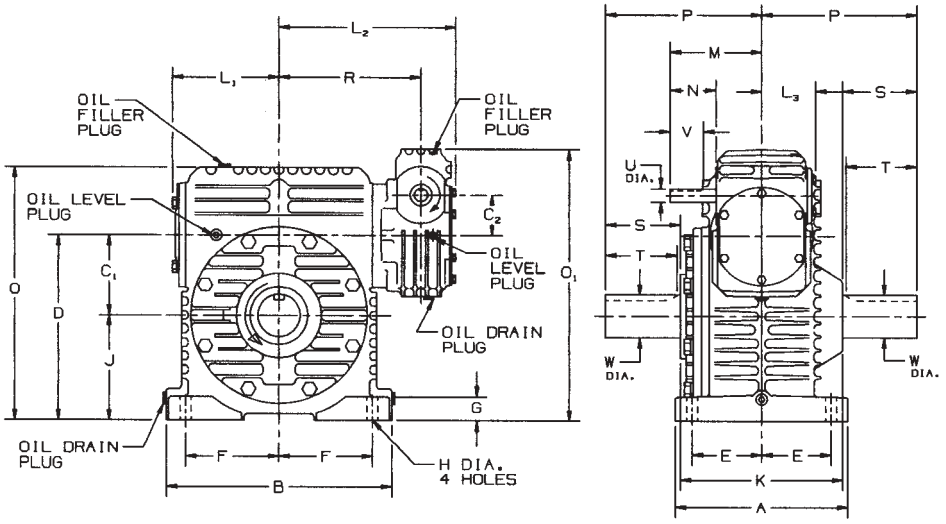
GENERAL INFORMATION

MODEL†	941	951	961	971	981
DTD SHIPPING WEIGHT	223	318	475	720	975
CDTD SHIPPING WEIGHT††	232	322	479	730	980
MDTD SHIPPING WEIGHT††	227	327	485	724	985
APPROX. OIL CAPACITY (QUARTS)	6.2	7.5	12	20	25

GEAR RATIO RANGE 100:1 THRU 10,000:1
SINGLE REDUCTION VERSION . . . . . PAGE 54

†Weights are approximate and include shipping container.
††Weights given for 56C-145TC, for larger frames add 5 pounds.

MODEL DTD



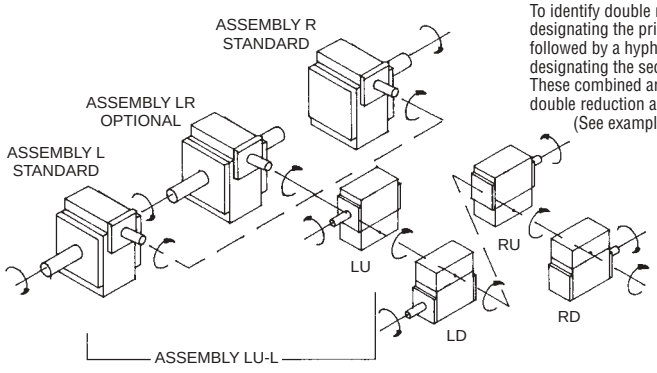
SIZE	A	B	C_1	C_2	D	E	F	G	H	J	K	L_1	L_2	L_3	M	O	O_1	P	R
941	10.00	12.76	3.937	2.625	9.94	4.13	5.25	1.38	.69	6.00	9.74	5.78	10.90	4.50	6.50	14.75	15.50	9.25	8.44
951	11.25	15.28	4.921	2.625	11.80	4.50	6.38	1.50	.81	6.88	10.00	6.77	11.59	4.50	6.50	16.55	17.36	9.38	9.13
961	12.75	16.58	5.906	3.000	13.66	5.13	6.88	1.69	.94	7.75	12.00	8.47	13.26	4.63	7.00	18.66	20.04	11.50	10.44
971	15.25	19.40	6.890	3.500	15.89	6.25	8.13	2.00	1.06	9.00	13.38	9.39	15.45	5.06†	7.38	23.02	22.93	13.50	12.63
981	16.75	22.19	7.874	4.250	17.87	6.75	9.25	2.13	1.19	10.00	15.13	10.45	17.54	5.88††	8.19	25.63	25.00	15.50	14.63

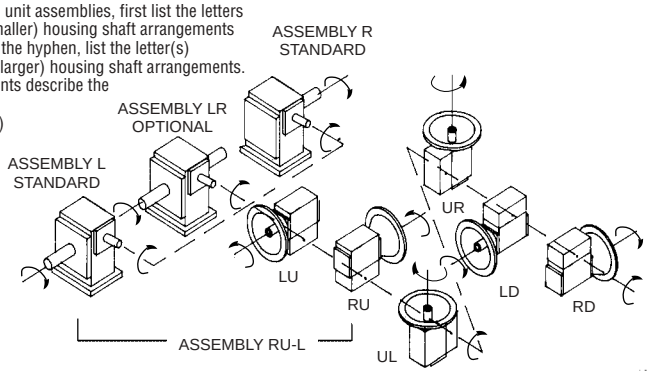
SIZE	HIGH SPEED SHAFT				SLOW SPEED SHAFT			
	U*	N	V	KEYWAY	W*	S	T	KEYWAY
941	1.000	2.75	2.38	.25 x .13	2.250	4.38	4.19	.50 x .25
951	1.000	2.75	2.38	.25 x .13	2.500	4.38	4.13	.63 x .31
961	1.000	3.06	2.38	.25 x .13	3.125	5.50	5.25	.75 x .38
971	1.000	2.31	2.50	.25 x .13	3.500	6.81	6.56	.88 x .44
981	1.250	2.31	2.50	.25 x .13	3.875	7.94	7.69	1.00 x .50

†L_3 dimension equals 5.46 on MDTD models.
††L_3 dimension equals 6.28 on MDTD models.
*Shaft diameter tolerance +.000, -.001.

SHAFT ARRANGEMENTS AND RELATIVE SHAFT ROTATIONS

NOTE:
To identify double reduction unit assemblies, first list the letters designating the primary (smaller) housing shaft arrangements followed by a hyphen. After the hyphen, list the letter(s) designating the secondary (larger) housing shaft arrangements. These combined arrangements describe the double reduction assembly.
(See examples below)





The input shaft may be driven in either direction.

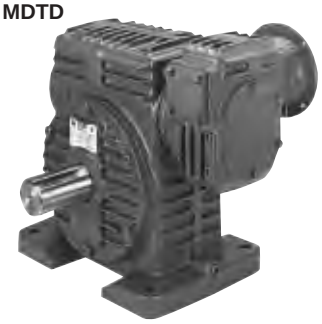
WINSMITH®

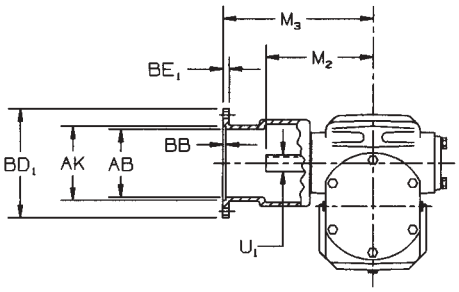
D-90® TYPE DE®

CDTD/MDTD

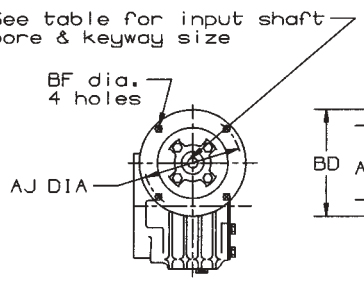
MODEL CDTD

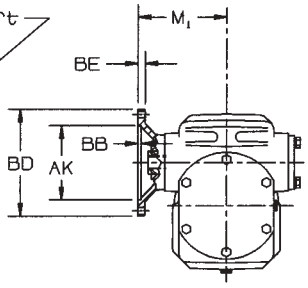
MODEL MDTD



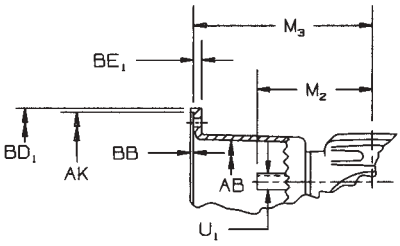


56C-145TC

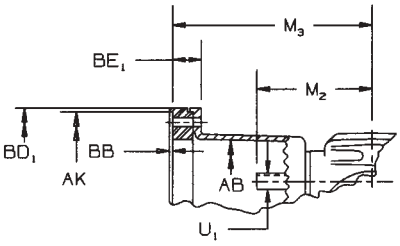




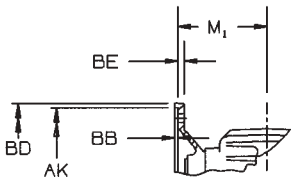
56C-145TC



182TC-184TC



213TC-215TC**



182TC-184TC
213TC-215TC

SIZE	FRAME SIZE RANGE	QUILL STYLE MOTOR ADAPTER			COUPLING STYLE MOTOR ADAPTER									M_2	U_1*	KEYWAY
		M_1 56C 145TC	M_1 182TC 184TC	M_1 213TC 215TC	56C-145TC			182TC-184TC			213TC-215TC**					
					AB	M_3	BE_1	AB	M_3	BE_1	AB	M_3	BE_1			
941	56C-184TC	5.38	5.38	NA	4.13	9.13	.38	4.25	10.19	.50	NA			6.50	1.000	.25 x .13
951	56C-184TC	5.38	5.38	NA	4.13	9.13	.38	4.25	10.19	.50	NA			6.50	1.000	.25 x .13
961	56C-184TC	5.56	5.56	NA	4.13	9.75	.38	4.75	10.88	.50	NA			7.00	1.000	.25 x .13
971	56C-184TC	5.81	5.81	NA	4.13	10.00	.38	4.75	11.13	.50	NA			7.38	1.000	.25 x .13
981	56C-215TC	6.63	6.63	6.63	4.13	10.81	.38	4.75	11.94	.50	4.75	12.88	1.44	8.19	1.250	.25 x .13

*Shaft diameter tolerance +.000, -.001.
**Adapter ring furnished with motor adapter.

L-SERIES LOVEJOY COUPLING SELECTION VS. FRAME SIZE (Coupling not provided with unit.)				
UNIT SIZE	FRAME			
	56C	143TC-145TC	182TC-184TC	213TC-215TC
941	L-090	L-095	L-100	—
951	L-090	L-095	L-100	—
961	L-090	L-095	L-100	—
971	L-090	L-095	L-100	—
981	L-100	L-100	L-100	L-150

If coupling selection differs from chart, input and/or motor shaft may need alteration.

FRAME NO.	56C	143TC 145TC	182TC 184TC	213TC 215TC
AJ	5.88	5.88	7.25	7.25
AK	4.50	4.50	8.50	8.50
BB	.19	.19	.19	.19
BD	6.50	6.50	9.00	9.00
BD_1	6.63	6.63	9.00	9.00
BE	.31	.31	.38	.38
BF	.406	.406	.531	.531
KEYWAY	.19 x .09		.25 x .13	.31 x .16
Bore $^{+.001}_{-.000}$	.6255	.8755	1.1255	1.3755

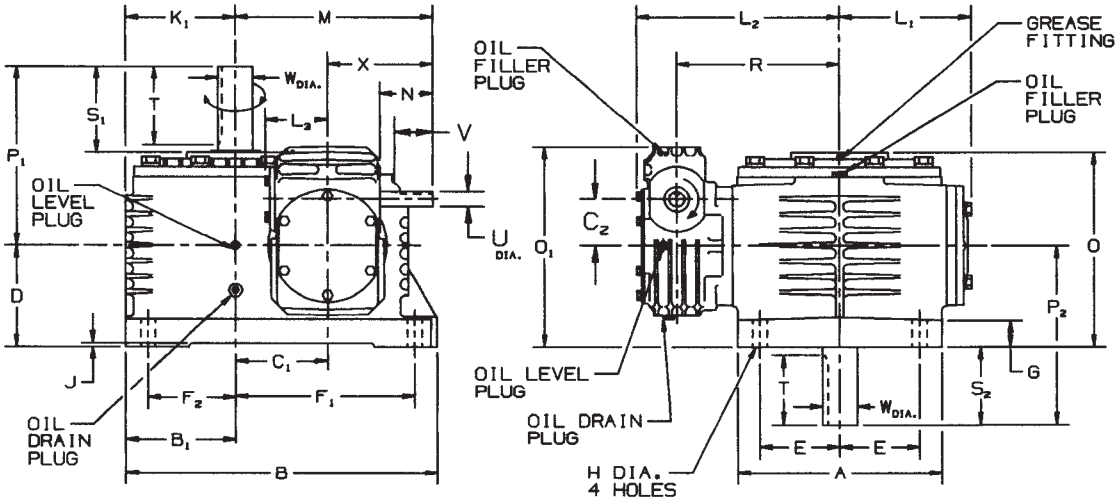
GENERAL INFORMATION

MODEL†	941	951	961	971	981
DVD SHIPPING WEIGHT	199	288	550	705	910
MDVD SHIPPING WEIGHT††	203	292	554	709	915
CDVD SHIPPING WEIGHT††	208	297	560	715	920
APPROX. OIL CAPACITY (QUARTS)	3.1	5.5	9	12	15.5

GEAR RATIO RANGE 100:1 THRU 10,000:1
SINGLE REDUCTION VERSION . . . . . PAGE 56

†Weights are approximate and include shipping container.
††Weight given for 56C-145TC, for larger frames add 5 pounds.

MODEL DVD

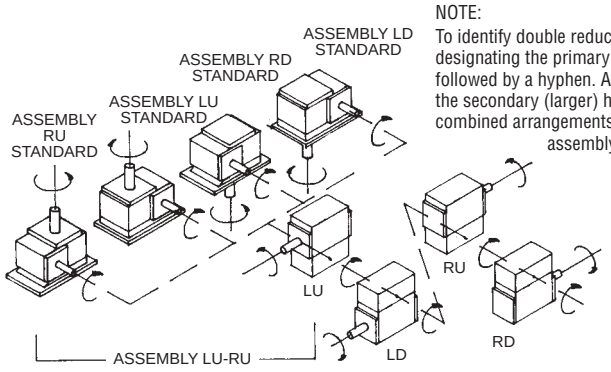


SIZE	A	B	B_1	C_1	C_2	D	E	F_1	F_2	G	H	J	K_1	L_1	L_2	L_3	M	O	O_1	P_1	P_2	R	X
941	10.00	15.06	6.06	3.937	2.625	5.00	4.25	8.19	4.94	1.38	.69	.25	4.94	5.78	10.90	4.50	10.44	9.87	10.56	9.25	9.25	8.44	6.50
951	11.00	17.27	6.58	4.921	2.625	5.50	4.38	9.44	5.31	1.50	.81	.25	6.00	6.77	11.59	4.50	11.42	10.50	11.06	9.38	9.38	9.13	6.50
961	13.13	19.98	7.06	5.906	3.000	6.50	5.13	11.50	5.63	1.69	.94	.25	7.06	8.47	13.26	4.63	12.91	12.50	12.88	11.50	11.50	10.44	7.00
971	15.38	23.31	8.45	6.890	3.500	7.00	6.31	13.25	6.88	2.00	1.06	.25	8.31	9.39	15.45	5.06†	14.27	13.69	14.04	13.50	13.50	12.63	7.38
981	17.13	25.54	9.19	7.874	4.250	8.00	6.88	14.44	7.31	2.13	1.19	.25	9.19	10.45	17.54	5.88††	16.06	15.56	15.13	15.50	15.50	14.63	8.19

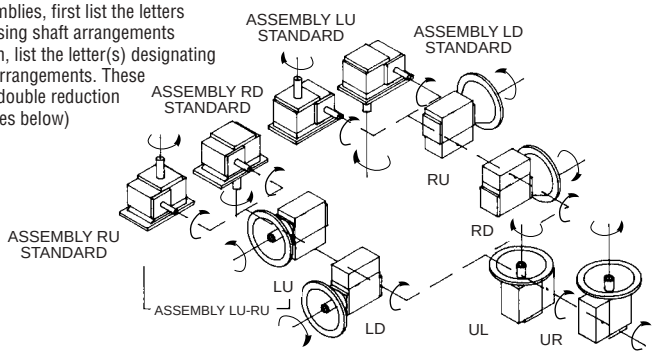
SIZE	HIGH SPEED SHAFT				SLOW SPEED SHAFT				
	U*	N	V	KEYWAY	W*	S_1	S_2	T	KEYWAY
941	1.000	2.75	2.38	.25 x .13	2.250	4.38	4.25	4.19	.50 x .25
951	1.000	2.75	2.38	.25 x .13	2.500	4.38	3.88	4.13	.63 x .31
961	1.000	3.06	2.38	.25 x .13	3.125	5.50	5.00	5.25	.75 x .38
971	1.000	2.31	2.50	.25 x .13	3.500	6.81	6.50	6.56	.88 x .44
981	1.250	2.31	2.50	.25 x .13	3.875	7.94	7.50	7.69	1.00 x .50

†L_3 dimension equals 5.46 on MDVD models.
††L_3 dimension equals 6.28 on MDVD models.
*Shaft diameter tolerance +.000, -.001.

SHAFT ARRANGEMENTS AND RELATIVE SHAFT ROTATIONS



NOTE:
To identify double reduction unit assemblies, first list the letters designating the primary (smaller) housing shaft arrangements followed by a hyphen. After the hyphen, list the letter(s) designating the secondary (larger) housing shaft arrangements. These combined arrangements describe the double reduction assembly. (See examples below)



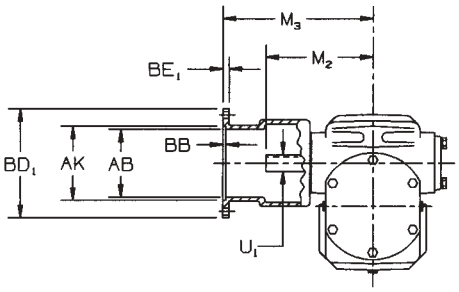
The input shaft may be driven in either direction.

WINSMITH®

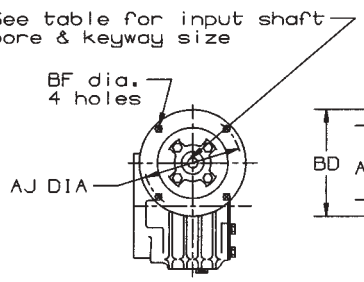
D-90® TYPE DE® CDVD/MDVD

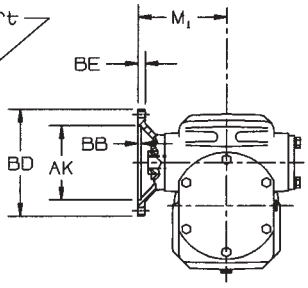
MODEL CDVD

MODEL MDVD

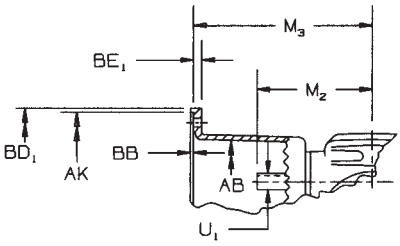


56C-145TC

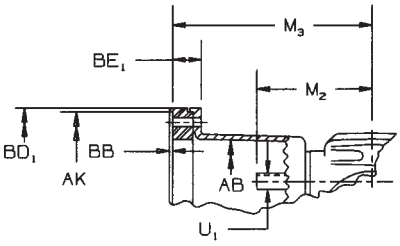




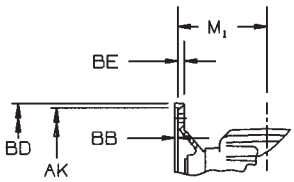
56C-145TC



182TC-184TC



213TC-215TC**



182TC-184TC
213TC-215TC

SIZE	FRAME SIZE RANGE	QUILL STYLE MOTOR ADAPTER			COUPLING STYLE MOTOR ADAPTER									M_2	U_1*	KEYWAY
		M_1 56C 145TC	M_1 182TC 184TC	M_1 213TC 215TC	56C-145TC			182TC-184TC			213TC-215TC**					
					AB	M_3	BE_1	AB	M_3	BE_1	AB	M_3	BE_1			
941	56C-184TC	5.38	5.38	NA	4.13	9.13	.38	4.25	10.19	.50	NA			6.50	1.000	.25 x .13
951	56C-184TC	5.38	5.38	NA	4.13	9.13	.38	4.25	10.19	.50	NA			6.50	1.000	.25 x .13
961	56C-184TC	5.56	5.56	NA	4.13	9.75	.38	4.75	10.88	.50	NA			7.00	1.000	.25 x .13
971	56C-184TC	5.81	5.81	NA	4.13	10.00	.38	4.75	11.13	.50	NA			7.38	1.000	.25 x .13
981	56C-215TC	6.63	6.63	6.63	4.13	10.81	.38	4.75	11.94	.50	4.75	12.88	1.44	8.19	1.250	.25 x .13

*Shaft diameter tolerance +.000, -.001.
**Adapter ring furnished with motor adapter.

L-SERIES LOVEJOY COUPLING SELECTION VS. FRAME SIZE (Coupling not provided with unit.)				
UNIT SIZE	FRAME			
	56C	143TC-145TC	182TC-184TC	213TC-215TC
941	L-090	L-095	L-100	—
951	L-090	L-095	L-100	—
961	L-090	L-095	L-100	—
971	L-090	L-095	L-100	—
981	L-100	L-100	L-100	L-150

If coupling selection differs from chart, input and/or motor shaft may need alteration.

FRAME NO.	56C	143TC 145TC	182TC 184TC	213TC 215TC
AJ	5.88	5.88	7.25	7.25
AK	4.50	4.50	8.50	8.50
BB	.19	.19	.19	.19
BD	6.50	6.50	9.00	9.00
BD_1	6.63	6.63	9.00	9.00
BE	.31	.31	.38	.38
BF	.406	.406	.531	.531
KEYWAY	.19 x .09		.25 x .13	.31 x .16
Bore $^{+.001}_{-.000}$	.6255	.8755	1.1255	1.3755

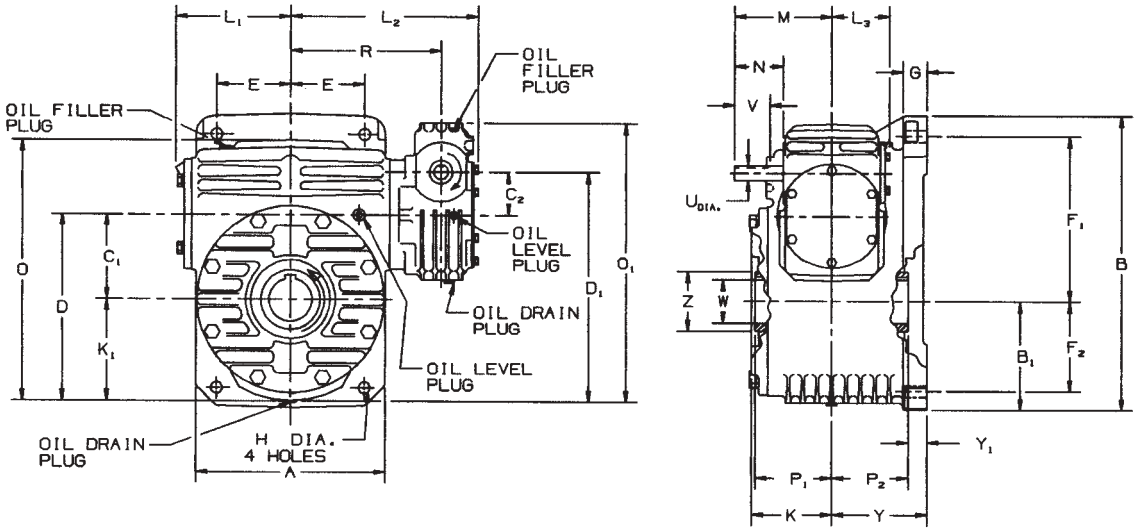
GENERAL INFORMATION

MODEL†	941	951	961	971	981
DSFD SHIPPING WEIGHT	209	293	400	640	880
MDSFD SHIPPING WEIGHT††	213	297	404	644	885
CDSFD SHIPPING WEIGHT††	218	302	410	650	890
APPROX. OIL CAPACITY (QUARTS)	5.9	5	8.5	13	17

GEAR RATIO RANGE 100:1 THRU 10,000:1
SINGLE REDUCTION VERSION . . . . . PAGE 58

†Weights are approximate and include shipping container.
††Weight given for 56C-145TC, for larger frames add 5 pounds.

MODEL DSFD

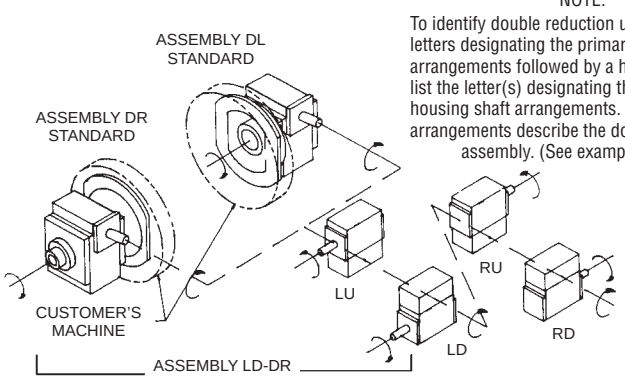


SIZE	A	B	B_1	C_1	C_2	D	D_1	E	F_1	F_2	G	H	K_1	K	L_1	L_2	L_3	M	O
941	10.00	15.06	6.06	3.937	2.625	8.88	11.50	4.25	8.19	4.94	1.38	.69	4.94	4.44	5.78	10.90	4.50	6.50	13.69
951	11.00	17.27	6.58	4.921	2.625	10.92	13.55	4.38	9.44	5.31	1.50	.81	6.00	4.81	6.77	11.59	4.50	6.50	15.80
961	13.13	19.98	7.06	5.906	3.000	12.97	15.97	5.13	11.50	5.63	1.69	.94	7.06	5.70	8.47	13.26	4.63	7.00	18.15
971	15.38	23.31	8.45	6.890	3.500	15.20	18.70	6.31	13.25	6.88	2.00	1.06	8.31	6.56	9.39	15.45	5.06†	7.38	22.33
981	17.13	25.54	9.19	7.874	4.250	17.06	21.31	6.88	14.44	7.31	2.13	1.19	9.19	6.88	10.45	17.54	5.88††	8.19	24.82

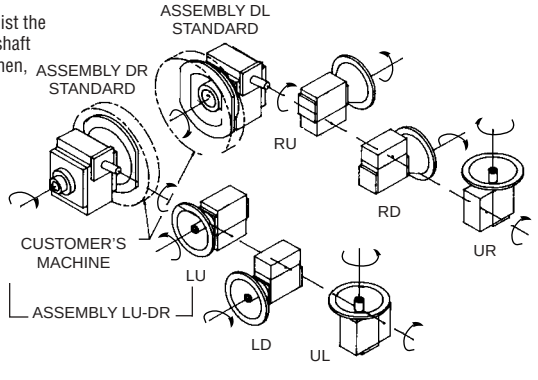
SIZE	O_1	P_1	P_2	R	Y	Y_1	Z	HIGH SPEED SHAFT				SLOW SPEED SHAFT BORES□			
								U*	N	V	KEYWAY	W△	KEYWAY	W△	KEYWAY
941	14.44	4.25	4.25	8.44	5.00	.75	4.13	1.000	2.75	2.38	.25 x .13	$2\frac{7}{16}$	$\frac{5}{8}$ x $\frac{5}{16}$	$2\frac{15}{16}$	$\frac{5}{8}$ x $\frac{5}{16}$
951	16.49	5.06	5.06	9.13	5.50	.44	4.88	1.000	2.75	2.38	.25 x .13	$2\frac{5}{8}$	$\frac{5}{8}$ x $\frac{5}{16}$	$3\frac{7}{16}$	$\frac{7}{8}$ x $\frac{7}{16}$
961	19.35	5.31	5.31	10.44	6.50	1.19	5.75	1.000	3.06	2.38	.25 x .13	3	$\frac{3}{4}$ x $\frac{3}{8}$	$3\frac{15}{16}$	1 x $\frac{3}{8}$
971	22.24	6.69	6.69	12.63	7.00	.31	6.75	1.000	2.31	2.50	.25 x .13	$3\frac{1}{4}$	$\frac{3}{4}$ x $\frac{3}{8}$	$4\frac{7}{16}$	1 x $\frac{1}{2}$
981	24.19	6.30	6.30	14.63	8.00	1.70	6.75	1.250	2.31	2.50	25 x .13	$3\frac{3}{4}$	$\frac{7}{8}$ x $\frac{7}{16}$	$4\frac{7}{16}$	1 x $\frac{1}{2}$

†L_3 dimension equals 5.46 on MDSFD models.
††L_3 dimension equals 6.28 on MDSFD models.
*Shaft diameter tolerance +.000, -.001.
△Bore tolerance +.000, +.002.
□Check with factory for other bore sizes.

SHAFT ARRANGEMENTS AND RELATIVE SHAFT ROTATIONS



NOTE:
To identify double reduction unit assemblies, first list the letters designating the primary (smaller) housing shaft arrangements followed by a hyphen. After the hyphen, list the letter(s) designating the secondary (larger) housing shaft arrangements. These combined arrangements describe the double reduction assembly. (See examples below)

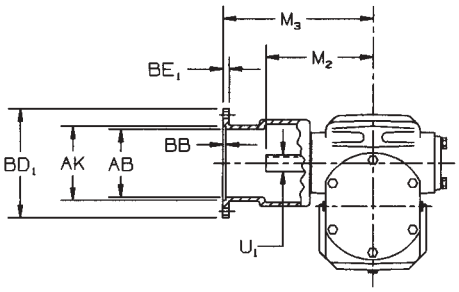


The input shaft may be driven in either direction.

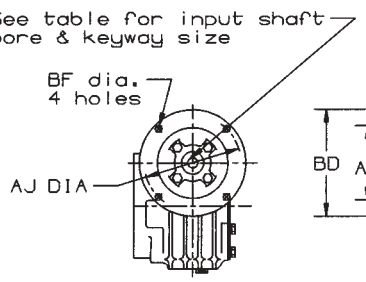
WINSMITH® D-90® TYPE DE® CDSFD/MDSFD

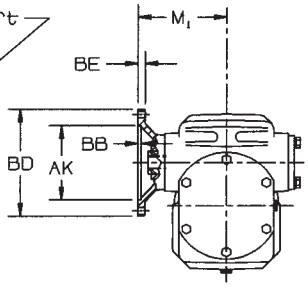
MODEL CDSFD

MODEL MDSFD

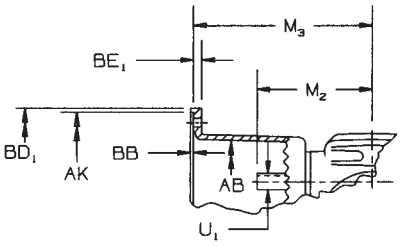


56C-145TC

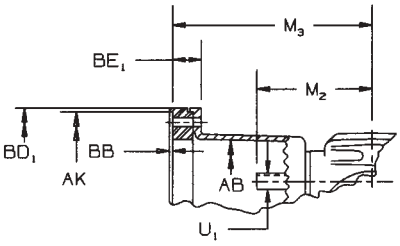




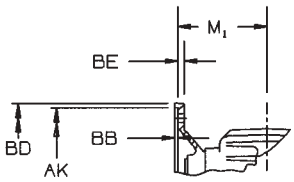
56C-145TC



182TC-184TC



213TC-215TC**



182TC-184TC
213TC-215TC

SIZE	FRAME SIZE RANGE	QUILL STYLE MOTOR ADAPTER			COUPLING STYLE MOTOR ADAPTER									M_2	U_1*	KEYWAY
		M_1 56C 145TC	M_1 182TC 184TC	M_1 213TC 215TC	56C-145TC			182TC-184TC			213TC-215TC**					
					AB	M_3	BE_1	AB	M_3	BE_1	AB	M_3	BE_1			
941	56C-184TC	5.38	5.38	NA	4.13	9.13	.38	4.25	10.19	.50	NA			6.50	1.000	.25 x .13
951	56C-184TC	5.38	5.38	NA	4.13	9.13	.38	4.25	10.19	.50	NA			6.50	1.000	.25 x .13
961	56C-184TC	5.56	5.56	NA	4.13	9.75	.38	4.75	10.88	.50	NA			7.00	1.000	.25 x .13
971	56C-184TC	5.81	5.81	NA	4.13	10.00	.38	4.75	11.13	.50	NA			7.38	1.000	.25 x .13
981	56C-215TC	6.63	6.63	6.63	4.13	10.81	.38	4.75	11.94	.50	4.75	12.88	1.44	8.19	1.250	.25 x .13

*Shaft diameter tolerance +.000, -.001.
**Adapter ring furnished with motor adapter.

L-SERIES LOVEJOY COUPLING SELECTION VS. FRAME SIZE (Coupling not provided with unit.)				
UNIT SIZE	FRAME			
	56C	143TC-145TC	182TC-184TC	213TC-215TC
941	L-090	L-095	L-100	—
951	L-090	L-095	L-100	—
961	L-090	L-095	L-100	—
971	L-090	L-095	L-100	—
981	L-100	L-100	L-100	L-150

If coupling selection differs from chart, input and/or motor shaft may need alteration.

FRAME NO.	56C	143TC 145TC	182TC 184TC	213TC 215TC
AJ	5.88	5.88	7.25	7.25
AK	4.50	4.50	8.50	8.50
BB	.19	.19	.19	.19
BD	6.50	6.50	9.00	9.00
BD_1	6.63	6.63	9.00	9.00
BE	.31	.31	.38	.38
BF	.406	.406	.531	.531
KEYWAY	.19 x .09		.25 x .13	.31 x .16
Bore $^{+.001}_{-.000}$	.6255	.8755	1.1255	1.3755

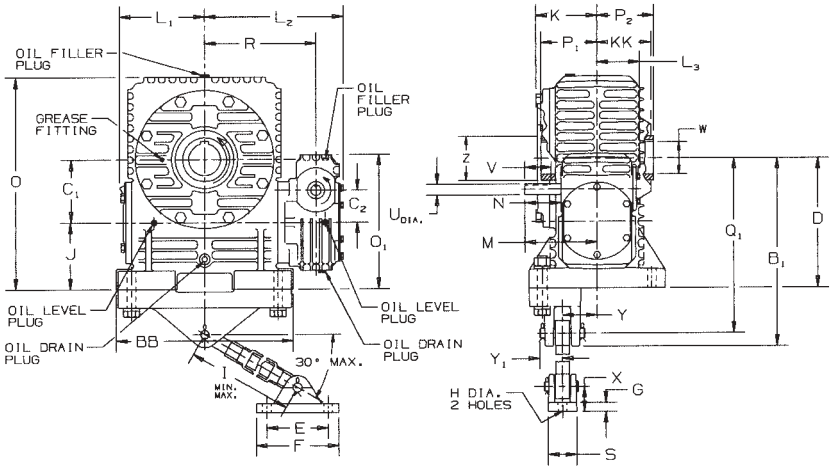
GENERAL INFORMATION

MODEL†	941	951	961	971	981
DSRD SHIPPING WEIGHT	245	358	490	780	1030
MDSRD SHIPPING WEIGHT††	249	362	494	784	1035
CDSRD SHIPPING WEIGHT††	254	367	500	790	1040
APPROX. OIL CAPACITY (QUARTS)	2.7	3.5	4.5	9	12

GEAR RATIO RANGE 100:1 THRU 10,000:1
SINGLE REDUCTION VERSION . . . . . PAGE 60

†Weights are approximate and include shipping container.
††Weight given for 56C-145TC, for larger frames add 5 pounds.

MODEL DSRD

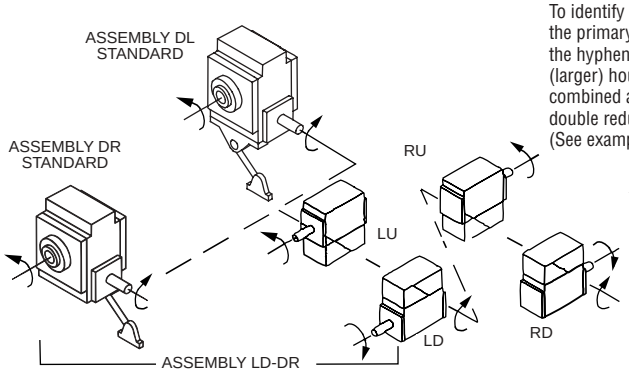


SIZE	BB	B_1	C_1	C_2	D	E	F	G	H	I_{MAX}	I_{MIN}	J	K	KK	L_1	L_2	L_3	M	O
941	12.76	13.94	3.937	2.625	9.69	3.50	4.75	.56	.53	29.00	21.00	5.75	4.44	4.00	5.78	10.90	4.50	6.50	15.69
951	15.29	15.43	4.921	2.625	10.67	5.00	6.75	.75	.81	31.00	22.00	5.75	4.81	4.81	6.77	11.59	4.50	6.50	17.56
961	16.58	17.66	5.906	3.000	12.16	5.75	7.75	.88	.94	37.50	26.50	6.25	5.70	5.06	8.47	13.26	4.63	7.00	19.91
971	19.40	21.27	6.890	3.500	14.77	5.75	7.75	.88	.94	37.50	26.50	7.88	6.56	6.44	9.39	15.45	5.06†	7.38	23.88
981	22.19	24.25	7.874	4.250	16.37	5.75	7.75	.88	.94	37.50	26.50	8.50	6.88	6.13	10.45	17.54	5.88††	8.19	26.50

SIZE	O_1	P_1	P_2	Q_1	R	S	X	Y	Y_1	Z	HIGH SPEED SHAFT				SLOW SPEED SHAFT BORES□			
											U*	N	V	KEYWAY	W△	KEYWAY	W△	KEYWAY
941	11.31	4.25	4.25	12.94	8.44	2.13	1.63	2.25	1.44	4.13	1.000	2.75	2.38	.25 x .13	$2\frac{7}{16}$	$\frac{5}{8}$ x $\frac{5}{16}$	$2\frac{15}{16}$	$\frac{5}{8}$ x $\frac{5}{16}$
951	11.31	5.06	5.06	14.30	9.14	2.06	1.94	2.88	1.94	4.88	1.000	2.75	2.38	.25 x .13	$2\frac{5}{8}$	$\frac{5}{8}$ x $\frac{5}{16}$	$3\frac{7}{16}$	$\frac{7}{8}$ x $\frac{7}{16}$
961	12.63	5.31	5.31	16.41	10.44	2.69	2.38	3.25	2.19	5.75	1.000	3.06	2.38	.25 x .13	3	$\frac{3}{4}$ x $\frac{3}{8}$	$3\frac{15}{16}$	1 x $\frac{3}{8}$
971	14.92	6.69	6.69	20.02	12.63	2.69	2.38	3.88	2.44	6.75	1.000	2.31	2.50	.25 x .13	$3\frac{1}{4}$	$\frac{3}{4}$ x $\frac{3}{8}$	$4\frac{7}{16}$	1 x $\frac{1}{2}$
981	15.63	6.30	6.30	23.00	14.63	2.69	2.38	4.25	2.63	6.75	1.250	2.31	2.50	.25 x .13	$3\frac{3}{4}$	$\frac{7}{8}$ x $\frac{7}{16}$	$4\frac{7}{16}$	1 x $\frac{1}{2}$

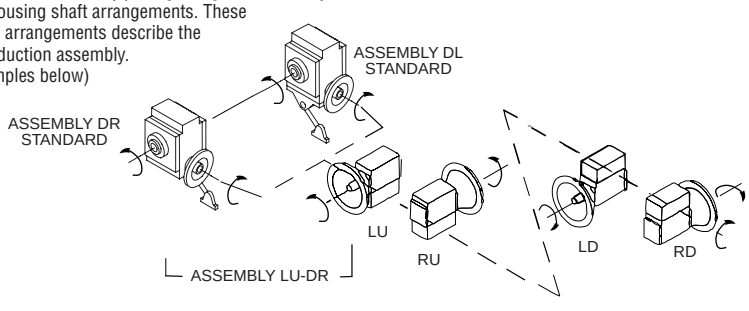
*Shaft diameter tolerance +.000, -.001. △Bore tolerance +.000,+.002. □Check with factory for other bore sizes. †L_3 dimension=5.46 on MDSRD models. ††L_3 dimension=6.28 on MDSRD models.

SHAFT ARRANGEMENTS AND RELATIVE SHAFT ROTATIONS



NOTE:

To identify double reduction unit assemblies, first list the letters designating the primary (smaller) housing shaft arrangements followed by a hyphen. After the hyphen, list the letter(s) designating the secondary (larger) housing shaft arrangements. These combined arrangements describe the double reduction assembly. (See examples below)

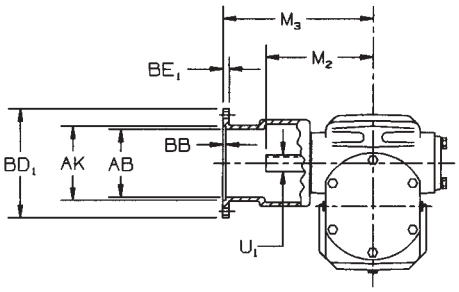


The input shaft may be driven in either direction.

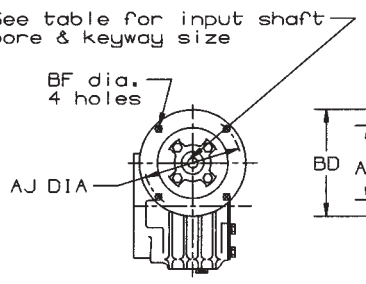
WINSMITH® D-90® TYPE DE® CDSRD/MDSRD

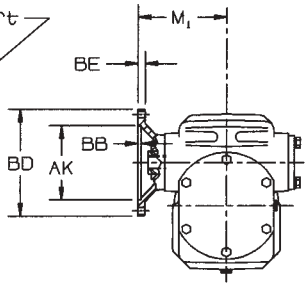
MODEL CDSRD

MODEL MDSRD

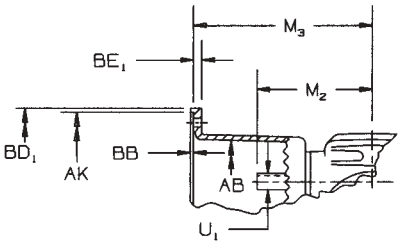


56C-145TC

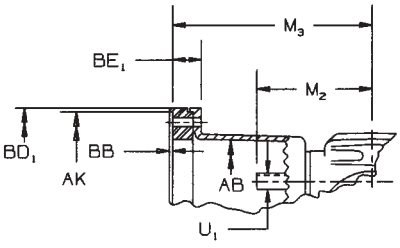




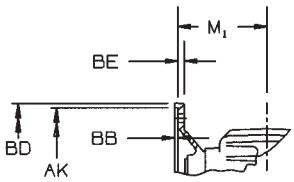
56C-145TC



182TC-184TC



213TC-215TC**



182TC-184TC
213TC-215TC

SIZE	FRAME SIZE RANGE	QUILL STYLE MOTOR ADAPTER			COUPLING STYLE MOTOR ADAPTER									M_2	U_1*	KEYWAY
		M_1 56C 145TC	M_1 182TC 184TC	M_1 213TC 215TC	56C-145TC			182TC-184TC			213TC-215TC**					
					AB	M_3	BE_1	AB	M_3	BE_1	AB	M_3	BE_1			
941	56C-184TC	5.38	5.38	NA	4.13	9.13	.38	4.25	10.19	.50	NA			6.50	1.000	.25 x .13
951	56C-184TC	5.38	5.38	NA	4.13	9.13	.38	4.25	10.19	.50	NA			6.50	1.000	.25 x .13
961	56C-184TC	5.56	5.56	NA	4.13	9.75	.38	4.75	10.88	.50	NA			7.00	1.000	.25 x .13
971	56C-184TC	5.81	5.81	NA	4.13	10.00	.38	4.75	11.13	.50	NA			7.38	1.000	.25 x .13
981	56C-215TC	6.63	6.63	6.63	4.13	10.81	.38	4.75	11.94	.50	4.75	12.88	1.44	8.19	1.250	.25 x .13

*Shaft diameter tolerance +.000, -.001.
**Adapter ring furnished with motor adapter.

L-SERIES LOVEJOY COUPLING SELECTION VS. FRAME SIZE (Coupling not provided with unit.)				
UNIT SIZE	FRAME			
	56C	143TC-145TC	182TC-184TC	213TC-215TC
941	L-090	L-095	L-100	—
951	L-090	L-095	L-100	—
961	L-090	L-095	L-100	—
971	L-090	L-095	L-100	—
981	L-100	L-100	L-100	L-150

If coupling selection differs from chart, input and/or motor shaft may need alteration.

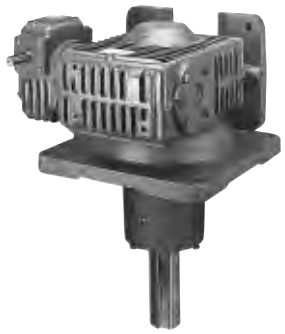
FRAME NO.	56C	143TC 145TC	182TC 184TC	213TC 215TC
AJ	5.88	5.88	7.25	7.25
AK	4.50	4.50	8.50	8.50
BB	.19	.19	.19	.19
BD	6.50	6.50	9.00	9.00
BD_1	6.63	6.63	9.00	9.00
BE	.31	.31	.38	.38
BF	.406	.406	.531	.531
KEYWAY	.19 x .09		.25 x .13	.31 x .16
Bore $^{+.001}_{-.000}$	.6255	.8755	1.1255	1.3755

GENERAL INFORMATION

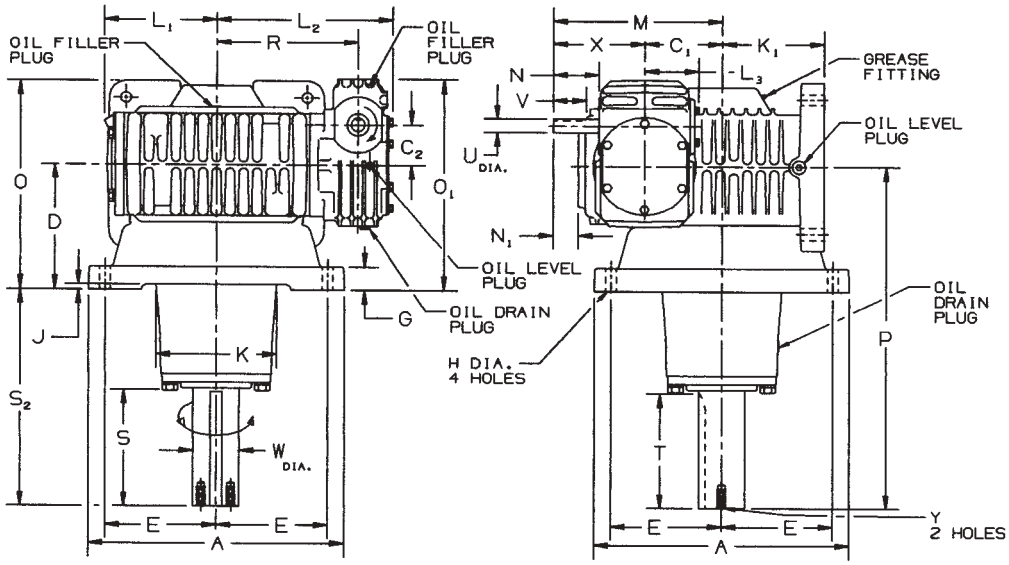
MODEL†	951	961
DLD SHIPPING WEIGHT	508	700
MDLD SHIPPING WEIGHT††	512	704
CDLD SHIPPING WEIGHT††	517	710
APPROX. OIL CAPACITY (QUARTS)	9	15

GEAR RATIO RANGE 100:1 THRU 10,000:1
SINGLE REDUCTION VERSION . . . . . PAGE 62

†Weights are approximate and include shipping container.
††Weight given for 56C-145TC, for larger frames add 5 pounds.



MODEL DLD



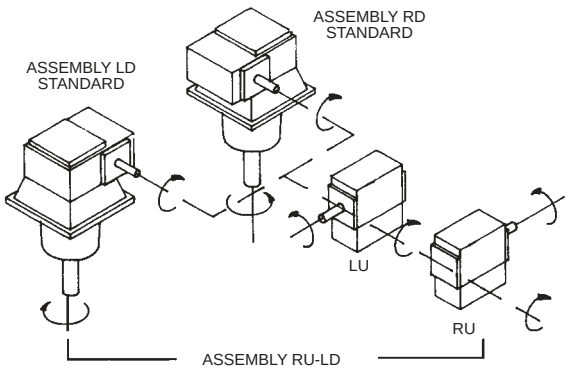
SIZE△	A	C_1	C_2	D	E	G	H	J	K	K_1	L_1	L_2	L_3	M	O	O_1	P	R	X
951	17.50	4.921	2.625	8.00	7.63	1.50	.81	.25	8.11	6.88	6.77	11.59	4.50	11.42	13.63	13.56	23.50	9.13	6.50
961	19.38	5.906	3.000	9.50	8.44	1.75	.94	.38	9.06	7.75	8.47	13.26	4.63	12.91	15.88	15.88	26.00	10.44	7.00

△For information on sizes 941, 971 and 981, contact factory.

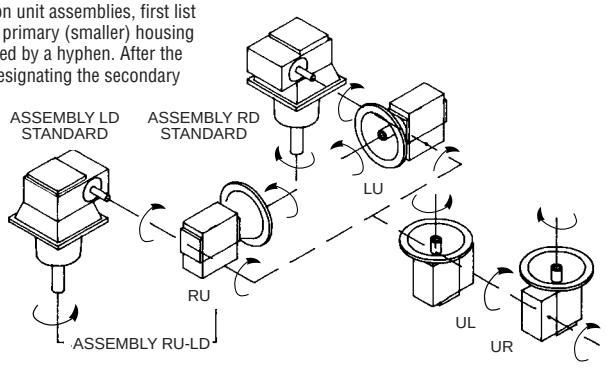
SIZE	HIGH SPEED SHAFT				SLOW SPEED SHAFT					Y DIMENSIONS		
	U*	N	V	KEYWAY	W*	S	S_2	T	KEYWAY	TAP	DEPTH	BOLT CIRCLE
951	1.000	2.75	2.38	.25 x .13	2.938	7.81	15.50	7.56	¾ x ⅜	⅜ - 16	1.00	2.00
961	1.000	3.06	2.38	.25 x .13	3.500	8.80	16.50	8.75	⅞ x 7/16	⅝ - 11	1.50	2.25

*Shaft diameter tolerance +.000, -.001.

SHAFT ARRANGEMENTS AND RELATIVE SHAFT ROTATIONS



NOTE:
To identify double reduction unit assemblies, first list the letters designating the primary (smaller) housing shaft arrangements followed by a hyphen. After the hyphen, list the letter(s) designating the secondary (larger) housing shaft arrangements. These combined arrangements describe the double reduction assembly. (See examples below)

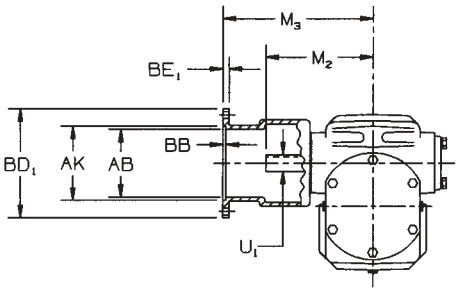


The input shaft may be driven in either direction.

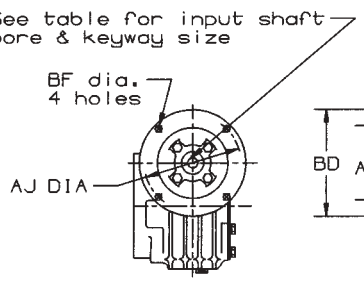
D-90® TYPE DE® CDLD/MDLD

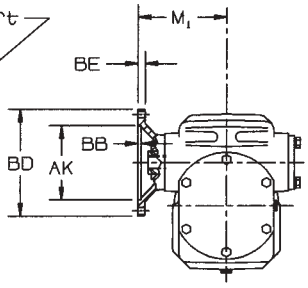
MODEL CDLD

MODEL MDLD

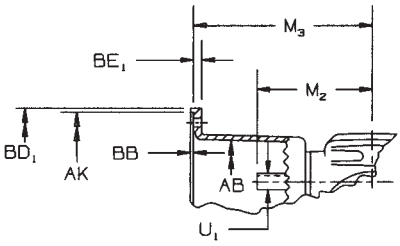


56C-145TC

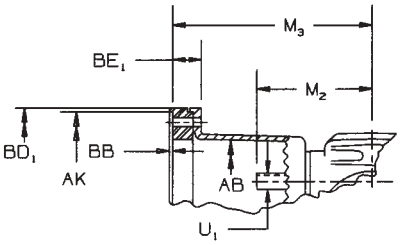




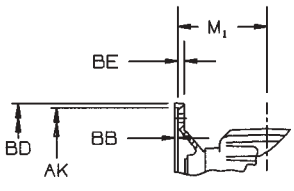
56C-145TC



182TC-184TC



213TC-215TC**



182TC-184TC
213TC-215TC

SIZE	FRAME SIZE RANGE	QUILL STYLE MOTOR ADAPTER			COUPLING STYLE MOTOR ADAPTER											
					56C-145TC			182TC-184TC			213TC-215TC**					
		M_1 56C 145TC	M_1 182TC 184TC	M_1 213TC 215TC	AB	M_3	BE_1	AB	M_3	BE_1	AB	M_3	BE_1	M_2	U_1*	KEYWAY
951	56C-184TC	5.38	5.38	NA	4.13	9.13	.38	4.25	10.19	.50	NA			6.50	1.000	.25 x .13
961	56C-184TC	5.56	5.56	NA	4.13	9.75	.38	4.75	10.88	.50	NA			7.00	1.000	.25 x .13

*Shaft diameter tolerance +.000, -.001.
**Adapter ring furnished with motor adapter.

L-SERIES LOVEJOY COUPLING SELECTION VS. FRAME SIZE (Coupling not provided with unit.)				
UNIT SIZE	FRAME			
	56C	143TC-145TC	182TC-184TC	213TC-215TC
951	L-090	L-095	L-100	—
961	L-090	L-095	L-100	—

If coupling selection differs from chart, input and/or motor shaft may need alteration.

FRAME NO.	56C	143TC 145TC	182TC 184TC	213TC 215TC
AJ	5.88	5.88	7.25	7.25
AK	4.50	4.50	8.50	8.50
BB	.19	.19	.19	.19
BD	6.50	6.50	9.00	9.00
BD_1	6.63	6.63	9.00	9.00
BE	.31	.31	.38	.38
BF	.406	.406	.531	.531
KEYWAY	.19 x .09		.25 x .13	.31 x .16
Bore $^{+.001}_{-.000}$	.6255	.8755	1.1255	1.3755

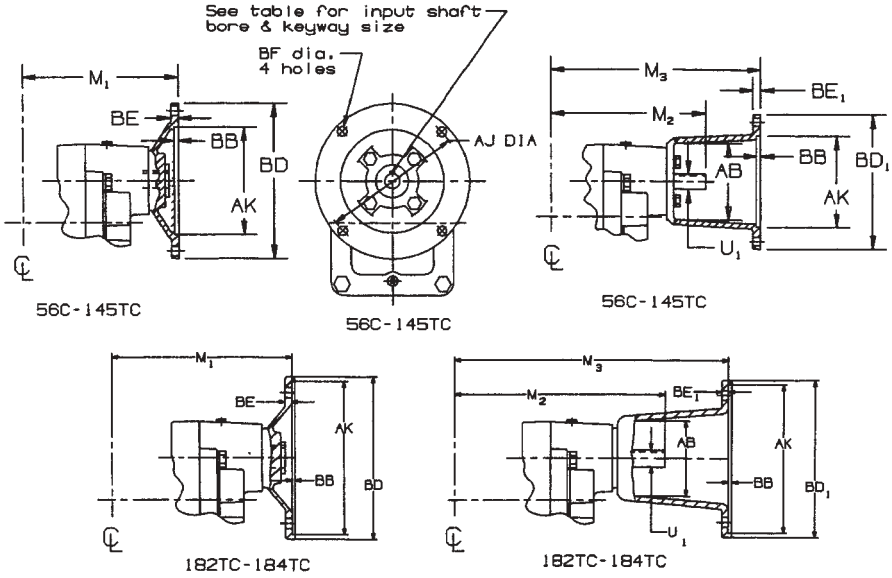
HELICAL/WORM GEAR REDUCERS
HELICAL PRIMARY STAGE DIMENSIONS
MOTORIZED & NON-MOTORIZED

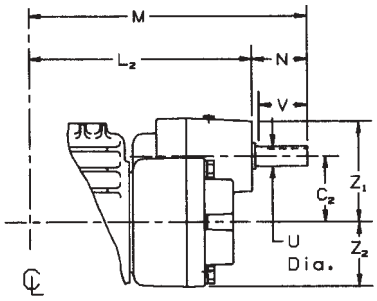
D-90® TYPE DE®

WINSMITH®

MODEL MDTX

MODEL DTX





SIZE	HOLLOW INPUT MOTOR ADAPTER	
	M* 56C 145TC	M_1 182TC 184TC
941	12.00	12.00
951		
961		
971		
981		

COUPLING STYLE MOTOR ADAPTER								
56C-145TC			182TC-184TC			M_2	U_1**	KEYWAY
AB	M_3	BE_1	AB	M_3	BE_1			
4.13	15.75	.38	4.25	16.81	.50	13.13	1.000	.25 x .13

*Tapped motor removal holes to aid separation of motor.

FRAME NO.	56C	143TC 145TC	182TC 184TC
AJ	5.88	5.88	7.25
AK	4.50	4.50	8.50
BB	.19	.19	.19
BD	6.50	6.50	9.00
BD_1	6.63	6.63	9.00
BE	.31	.31	.38
BF	.406	.406	.531
KEYWAY	.19 x .09		.25 x .13
Bore $^{+.001}_{-.000}$	.6255	.8755	1.1255

L-SERIES LOVEJOY COUPLING SELECTION VS. FRAME SIZE (Coupling not provided with unit.)				
UNIT SIZE	FRAME			
	56C	143TC-145TC	182TC-184TC	213TC-215TC
941	L-090	L-095	L-100	—
951				
961				
971				
981				

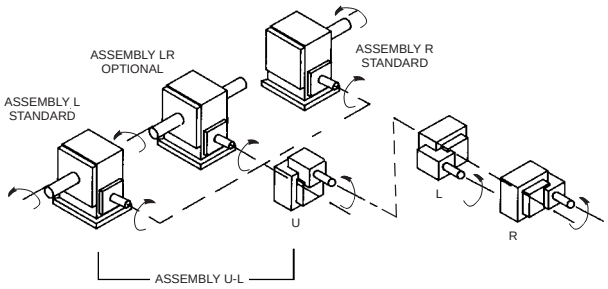
If coupling selection differs from chart, input and/or motor shaft may need alteration.

SPEED REDUCER DIMENSIONS (IN INCHES)

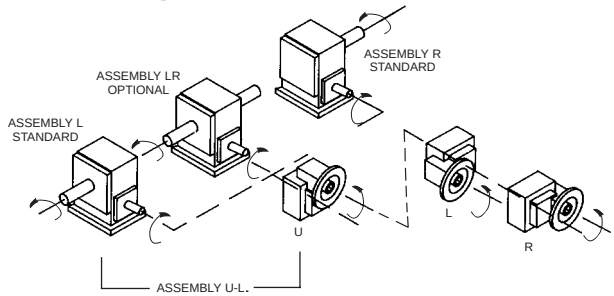
SIZE	C_L	L_2	M	Z_1	Z_2	HIGH SPEED SHAFT			
						U**	N	V	KEYWAY
941	3.200	10.38	13.13	5.02	3.38	1.000	2.75	2.38	.25 x .13
951									
961									
971									
981									

**Shaft diameter tolerances +.000, -.001.
For construction purposes send for Certified Dimension Sheets.

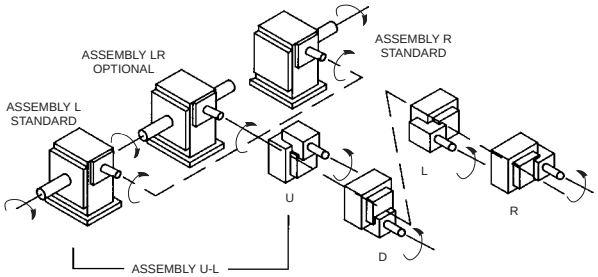
DBX



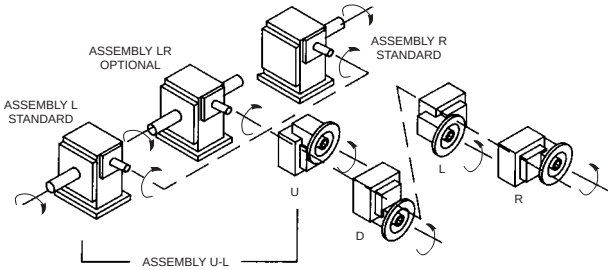
MDBX-CDBX



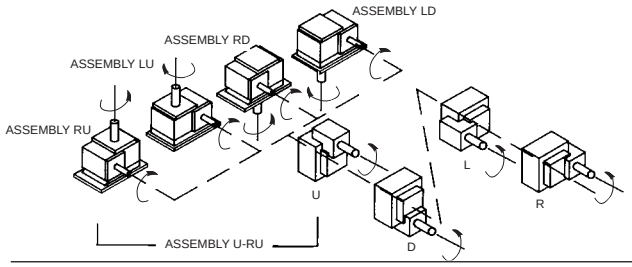
DTX



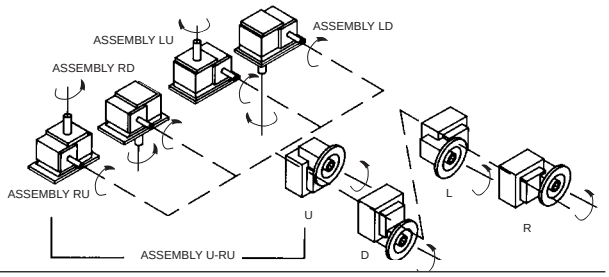
MDTX-CDTX



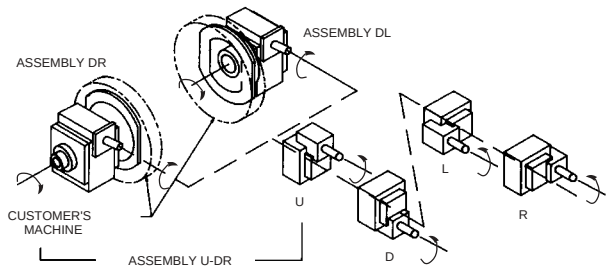
DVX



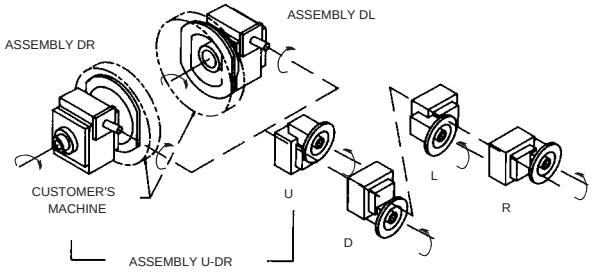
MDVX-CDVX



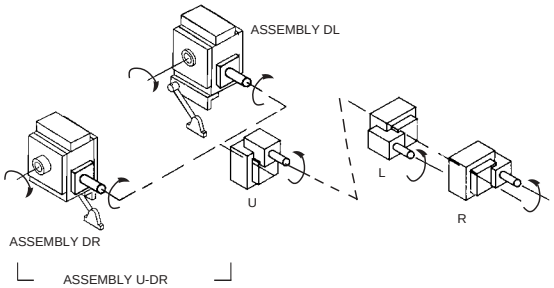
DSFX



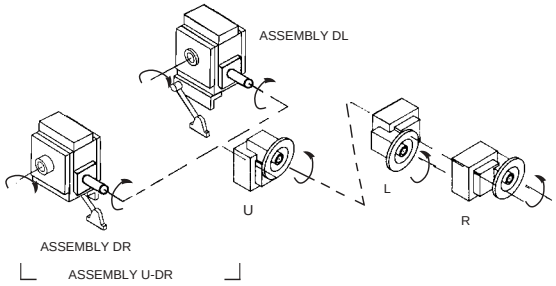
MDSFX-CDSFX



DSRX



MDSRX-CDSRX



STANDARD SINGLE EXTENDED DOUBLE ENVELOPING WORMS

D-90® TYPE DE®

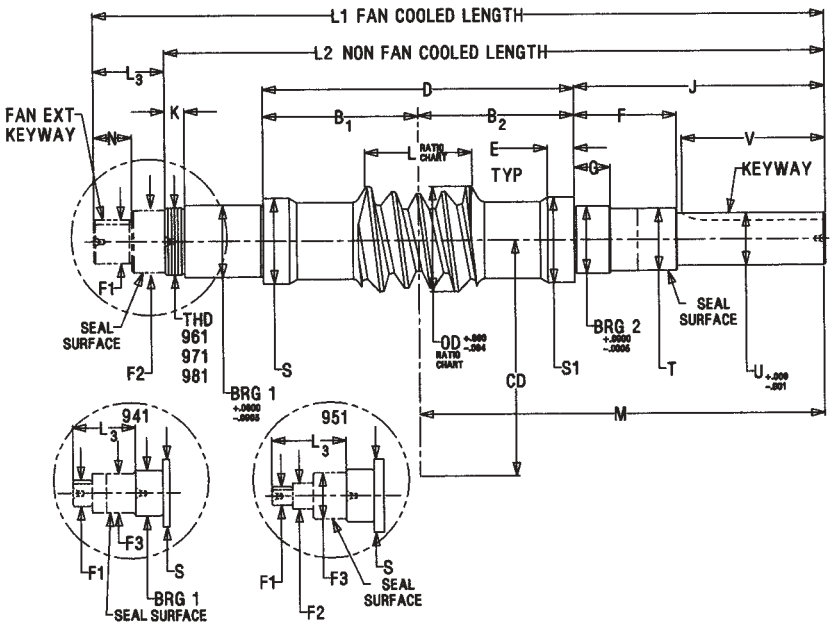
WINSMITH®

Dashed line indicates fan extension.

Double extended available upon request.

Worms and gears sold as matched set only.

The mechanical rating can be found in the unit rating section of this catalog.



SIZE	B_1	B_2	BRG1	BRG2	CD	D	E	F	F1	F2	F3	G
941	3.2352	NA	1.7515	1.7515	3.937	6.465	.25	2.179	1.000	NA	1.500	1.05
951	4.2007	NA	2.0007	2.0007	4.921	8.403	.38	2.321	.7091	.986	1.772	1.05
961	4.634	NA	2.2507	1.9697	5.906	9.902	.50	2.604	1.102	1.772	NA	1.48
971	NA	5.318	2.3634	2.3634	6.890	10.303	.75	3.539	1.299	2.165	NA	1.18
981	NA	5.925	2.7507	2.5603	7.874	11.850	1.00	3.914	1.674	2.362	NA	1.38

SIZE	J	K	L1	L2	L3	M	N	S	S1	T	U	V	KEYWAY	FAN EXT KEYWAY
941	5.768	NA	15.69	13.28	2.41	9.00	.75	2.561	2.561	NA	1.500	3.25	3/8 x 3/16	1/4 x 1/8
951	5.524	NA	17.82	14.98	2.84	9.73	.79	2.800	2.800	1.772	1.500	3.06	3/8 x 3/16	5MM x 3MM
961	5.834	.64	21.22	18.85	2.37	11.10	.98	2.652	2.502	1.969	1.750	3.12	3/8 x 3/16	7MM x 4MM
971	7.932	.75	24.98	21.94	3.04	13.25	1.15	3.250	3.250	2.165	1.750	4.25	3/8 x 3/16	7MM x 4MM
981	9.575	.75	27.90	25.17	2.73	15.50	1.38	3.250	3.250	2.362	2.000	5.47	1/2 x 1/4	10MM x 4MM

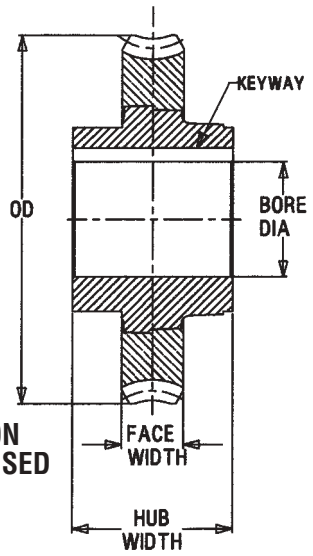
RATIO CHART

SIZE 941			SIZE 951			SIZE 961			SIZE 971			SIZE 981		
RATIO	WORM		RATIO	WORM		RATIO	WORM		RATIO	WORM		RATIO	WORM	
	OD	L		OD	L		OD	L		OD	L		OD	L
5	2.877	1.322	5	3.870	1.992	5	4.422	2.010	5	5.257	3.076	5	5.992	2.882
8	2.326	1.420	8	3.700	2.266	8	4.286	2.680	8	4.494	3.162	8	5.371	4.014
10	2.254	1.532	10	3.319	2.294	10	4.022	2.686	10	4.640	3.340	10	5.137	4.014
15	2.673	1.888	15	3.571	2.392	15	3.839	2.852	15	3.808	3.358	15	4.743	4.032
20	2.518	1.814	20	3.366	2.430	20	3.679	2.880	20	3.935	3.340	20	4.879	4.012
25	2.021	1.834	25	2.734	2.438	25	3.561	2.902	25	3.462	3.372	25	3.918	4.048
30	2.090	2.192	30	2.658	2.658	30	3.386	3.120	30	3.311	3.394	30	3.778	4.074
40	2.233	2.140	40	2.846	2.422	40	3.207	3.252	40	3.787	3.524	40	4.162	4.012
50	2.155	2.058	50	2.776	2.598	50	3.056	3.178	50	3.558	3.564	50	3.887	4.046
60	2.065	2.034	60	2.657	2.516	60	2.906	3.102	60	3.460	3.682	60	3.807	4.172
70	1.986	2.048	70	2.569	2.490	70	2.834	3.116	70	3.373	3.700	70	3.377	4.192
80	1.918	1.956	80	2.495	2.440	80	2.769	3.126	80	3.286	3.614	80	3.363	4.204
100	1.850	1.966	100	2.454	2.552	100	2.647	3.044	100	3.185	3.630	100	3.203	4.232

Check with factory for other dimensions.
Dimensions could be changed by WINSMITH without notice.

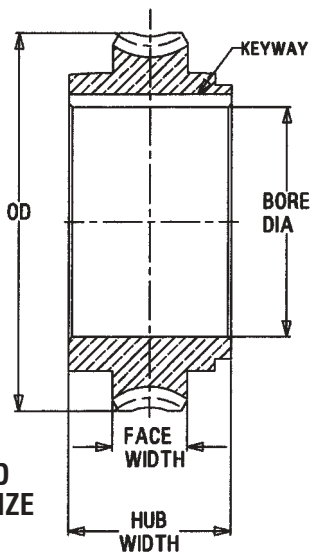
STANDARD AND OPTIONAL GEARS FOR DOUBLE ENVELOPING GEAR SETS

SOLID SHAFT GEAR



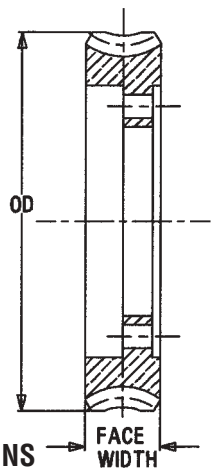
CAST IRON INSERT USED

HOLLOW SHAFT GEAR



SOLID BRONZE

OPTIONAL FLANGE GEAR



MADE TO CUSTOMER SPECIFICATIONS

CONSULT FACTORY

DIMENSION CHART SOLID SHAFT GEAR

SIZE	CD	BORE DIA	KEYWAY	HUB WIDTH	FACE WIDTH
941	3.937	2.2492 / 2.2506	1/2 x 1/4	2.502 / 2.498	1.230
951	4.921	2.6242 / 2.6256	3/4 x 3/8	3.152 / 3.148	1.450
961	5.906	3.1871 / 3.1844	3/4 x 3/8	4.333 / 4.329	1.731
971	6.890	3.6606 / 3.6622	1 x 1/2	5.120 / 5.119	2.060
981	7.874	3.9996 / 4.0009	1 x 1/2	6.302 / 6.298	2.305

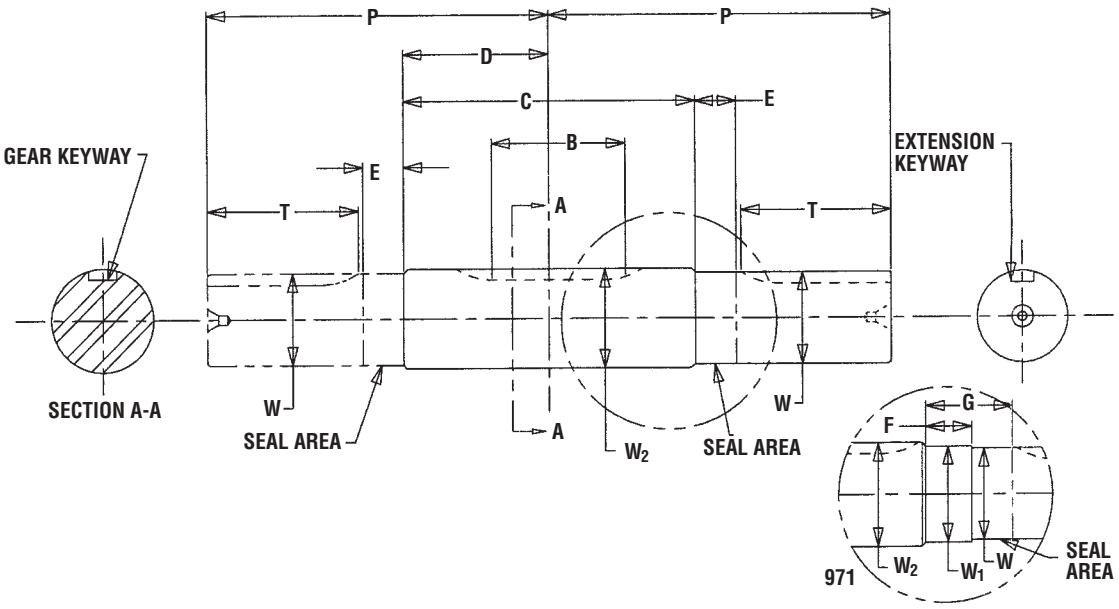
HOLLOW SHAFT AND FLANGE GEAR

SIZE	CD	BORE DIA	KEYWAY	HUB WIDTH	FACE WIDTH
941	3.937	4.2496 / 4.2509	1/2 x 1/4	3.002 / 2.998	1.230
951	4.921	4.9990 / 5.0006	5/8 x 5/16	4.127 / 4.123	1.450
961	5.906	5.7490 / 5.7506	3/4 x 3/8	3.627 / 3.623	1.731
971	6.890	6.9990 / 7.0006	1 x 1/2	5.002 / 4.998	2.060
981	7.874	6.9990 / 7.0000	1 x 1/2	5.574 / 5.570	2.305

GEAR OD (ALL 3 STYLES)

SIZE	RATIO												
	5	8	10	15	20	25	30	40	50	60	70	80	100
941	5.684	6.404	6.404	6.189	6.189	6.609	6.609	6.609	6.609	6.609	6.609	6.609	6.609
951	6.944	7.324	7.544	7.544	7.544	8.204	8.204	8.204	8.204	8.204	8.204	8.204	8.204
961	8.364	8.744	9.004	9.404	9.404	9.404	10.044	10.044	10.044	10.044	10.044	10.044	10.044
971	9.804	10.664	10.664	11.504	11.504	11.764	11.764	11.764	11.764	11.764	11.764	11.764	11.764
981	11.104	12.184	12.404	12.684	12.684	13.504	13.504	13.504	13.504	13.504	13.724	13.724	13.724

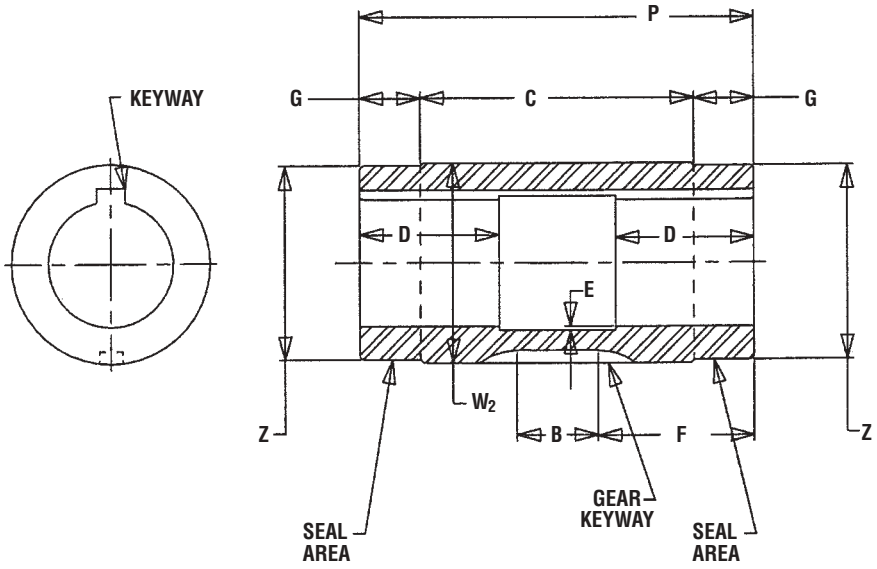
Check with factory for other dimensions.
Dimensions could be changed by WINSMITH without notice.



SOLID SLOW SPEED SHAFTS

SIZE	CENTER DISTANCE	EXTENSION KEYWAY	GEAR KEYWAY	B FULL DEPTH	C	D	E	F	G	P	T	W -.001	W_1	W_2 -.0005
941	3.937	1/2 x 1/4	1/2 x 1/4	2.50	8.00	4.00	1.00	NA	NA	9.25	4.19	2.250	NA	2.2515
951	4.921	5/8 x 5/16	3/4 x 3/8	3.15	8.00	4.00	1.13	NA	NA	9.38	4.13	2.500	NA	2.6265
961	5.906	3/4 x 3/8	3/4 x 3/8	4.33	9.55	4.80	1.38	NA	NA	11.50	5.25	3.125	NA	3.190*
971△	6.890	7/8 x 7/16	1 x 1/2	5.13	7.62	3.81	1.38	1.63	3.01	13.50	6.56	3.500	3.545	3.6635*
981	7.874	1 x 1/2	1 x 1/2	6.19	12.56	6.31	1.44	NA	NA	15.50	7.69	3.875	NA	4.0025

Material—Steel
△See alternate view.
*Use these shafts with solid shaft gears.
*Check with factory for other dimensions.
*Dimensions could be changed by WINSMITH without notice.
*Tolerance W_2 size 961 is 3.190/3.189.
*Tolerance W_2 size 971 is 3.6635/3.6628.

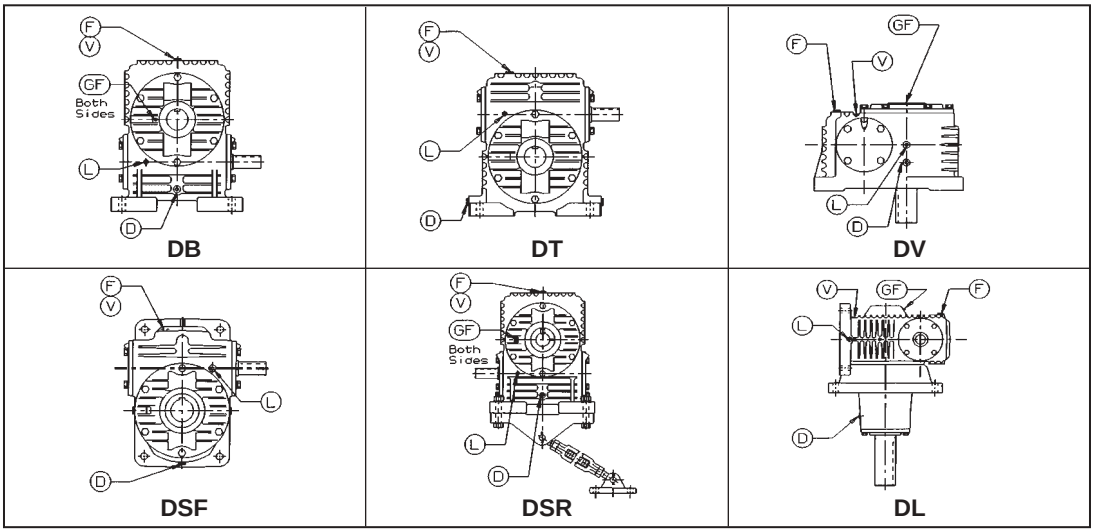


HOLLOW SLOW SPEED SHAFTS

SIZE	CENTER DISTANCE	GEAR KEYWAY	B FULL DEPTH	C	D	E	F	G	P	W_2 -.001	Z -.002
941	3.937	1/2 x 1/4	1.750	5.88	3.00	.03	3.38	1.31	8.50	4.2525	4.125
951	4.921	5/8 x 5/16	4.125	7.13	3.25	.03	3.00	1.50	10.13	5.0025	4.875
961	5.906	3/4 x 3/8	3.62	7.08	3.25	.03	3.50	1.77	10.62	5.7525	5.748
971	6.890	1 x 1/2	5.000	10.38	4.50	.03	4.19	1.50	13.38	7.0025	6.750
981	7.874	1 x 1/2	5.572	9.38	4.50	.03	3.51	1.61	12.60	7.0025	6.750

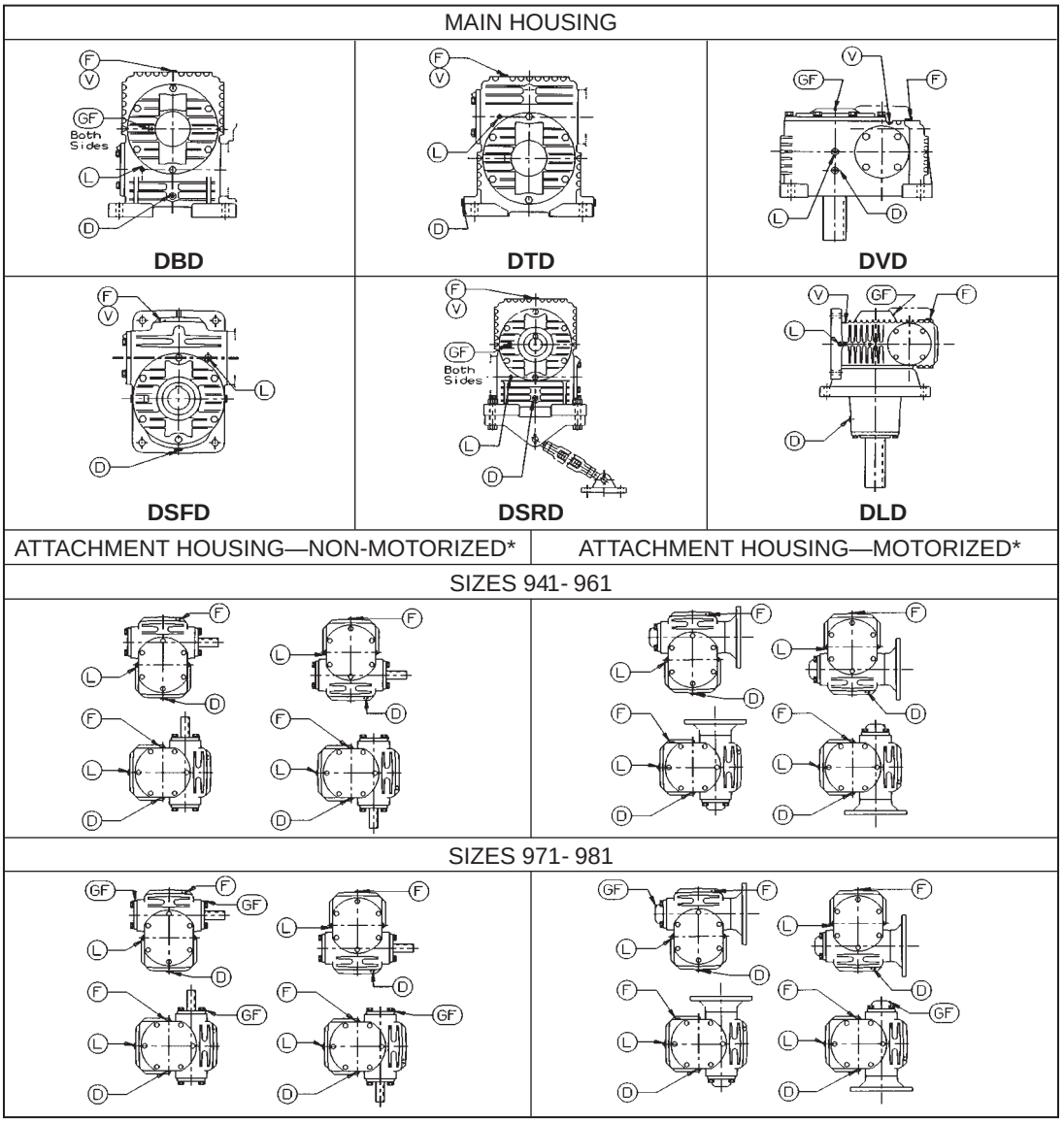
SIZE	BORE*	KEYWAY
941	2.9375	5/8 x 5/16
951	3.4375	7/8 x 7/16
961	3.9375	1 x 3/8
971	4.4375	1 x 1/2
981	4.4375	1 x 1/2

Material—Steel
*Maximum available bore dia. Check with factory for smaller bore sizes. Bore tolerance +.000 +.002.
*Use these shafts with hollow shaft gears.
*Check with factory for other dimensions.
*Dimensions could be changed by WINSMITH without notice.



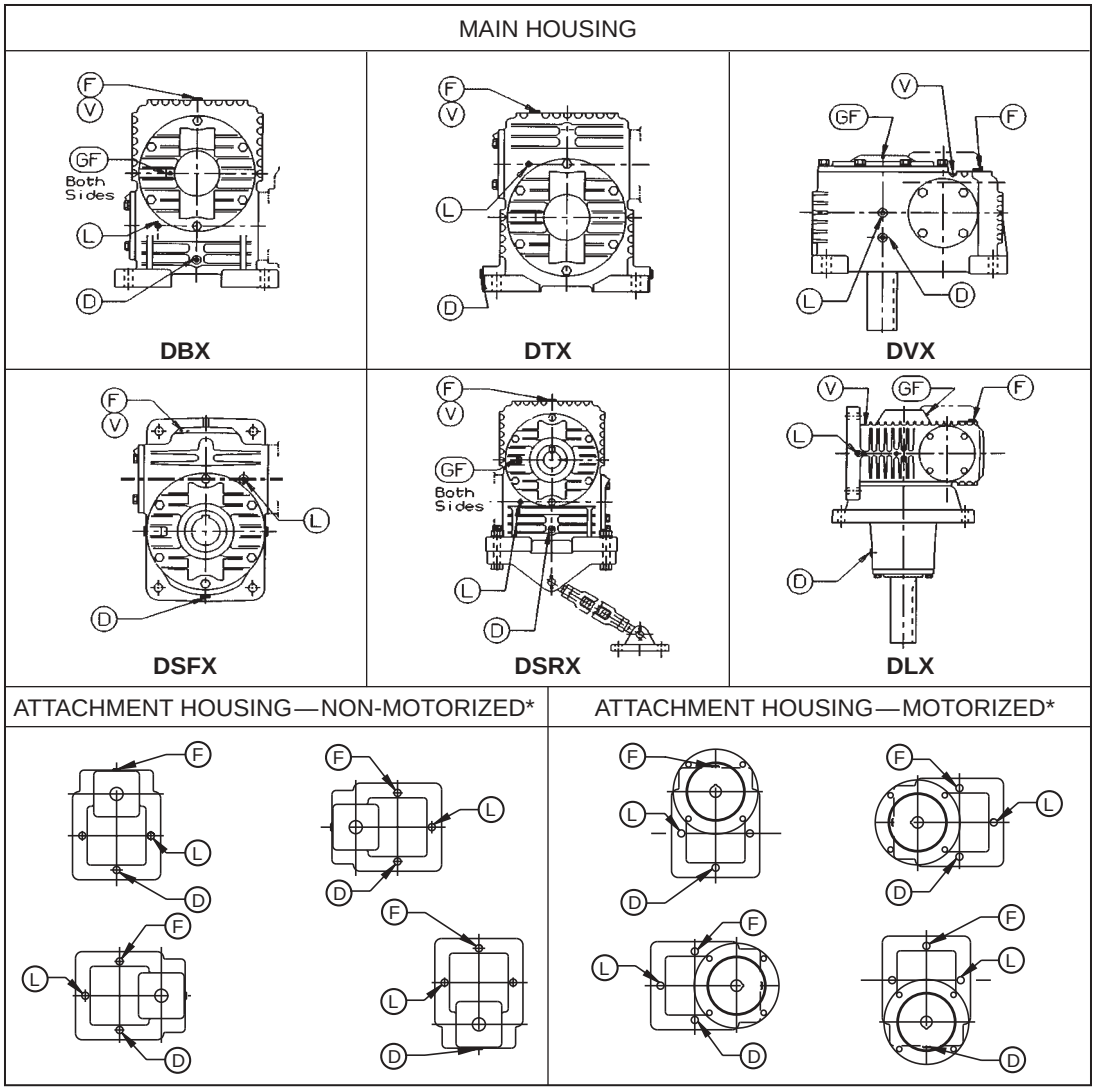
F Filler
V Vent
L Level
D Drain
GF Grease Fitting

Figure 1. Single Reduction Models



*Contact the factory when input speeds are less than 1160 RPM.

Figure 2. Double Reduction Models



F Filler
V Vent
L Level
D Drain
GF Grease Fitting

*Contact the factory when input speeds are less than 1160 RPM.

Figure 3. Helical/Worm Gear Double Reduction Models

NOTES

HORSEPOWER AND TORQUE

One (1) Horsepower (HP)—33,000 foot pounds of work done in one (1) minute. Note that three (3) factors are involved:

Distance	**—Feet**
Force—(Push or Pull)	**—Pounds**
Time	**—Minutes**

Putting it another way, one (1) HP is equivalent to raising 33,000 pounds, one foot in one minute. Any amount of horsepower can be determined by the following formula:

$$\text{HP} = \frac{\text{L (Load in pounds) x Feet per minute}}{33{,}000}$$

To determine the relationship between horsepower and torque let

HP = Horsepower
T = Torque, in foot-pounds
t = Torque, in inch-pounds
N = R.P.M. (Revolutions per minute)

Then, one (1) HP = A Torque Load (Twisting force) of 63,025 inch pounds, turning 1 revolution in 1 minute.

therefore,

$$\text{HP} = \frac{t \times N}{63{,}025} \text{ or } \frac{T \times N}{5250}; \; t = \frac{63{,}025 \times HP}{N} \text{ or } T = \frac{5250 \times HP}{N}$$

EFFICIENCY OF SPEED REDUCERS

The efficiency of a Worm Gear Speed Reducer is dependent on many factors including; input HP, input speed, lead angle of the worm, lubricant and operating temperature.

Efficiencies at rated conditions are listed in the catalog, and were calculated in the following manner:

$$\text{Efficiency} = \frac{\text{Horsepower Output}}{\text{Horsepower Input}}$$

In order to establish the efficiencies of reducers where only the output torque and input horsepower are given, the output torque is converted to output horsepower by the following formula:

$$\text{Horsepower Output} = \frac{\text{Output Torque x RPM Output}}{63{,}025}$$

To determine efficiency of the unit, the horsepower output is divided by horsepower input as previously shown.

SELF-LOCKING SPEED REDUCERS

WORM GEAR REDUCERS

A worm gear is said to be self-locking, or irreversible when the gear cannot drive the worm. This condition is obtained, if the lead angle of the worm is less than the friction angle, and as a consequence the efficiency for reversed driving is zero. The friction angle for static conditions will vary with such factors as surface finish and lubrication. Based upon the generally accepted value of static coefficient of friction equal to 0.15, the friction angle would be approximately 8°. However, the friction angle decreases rapidly with the start of motion, also, vibrations from nearby sources quite often upset the static condition of a locked set of gearing a sufficient amount to reduce the friction angle to a point where motion occurs. These unpredictable factors make it advisable to resort to a brake rather than to rely on the self-locking characteristics of the gearing. A worm gear set has the following SELF-Locking qualities “at rest” or “in motion”.

CASE 1—Self-locking of the worm and gear when the load is at rest may occur with the helix angle as great as 6°. However vibrations from an outside source, or the slightest start of the worm often upsets the static condition of a locked set of gearing a sufficient amount to start motion.

CASE 2—Self-locking of the worm and gear when the load is in motion downward requires that the load being lowered stops after the power is shut off. Worms with a helix angle of 2° or less may be required for this service.

OVERDRIVES

In the overdriving of a reducer, the slow speed shaft is the driver, and the high speed shaft is increased in speed. For this type of service there must not be the slightest tendency of the reducer to be self-locking. All applications regarding self-locking or overdrives should be referred to our engineering department for recommendations.

AGMA RECOMMENDS the following with regard to self-locking. “For complete assurance of irreversibility, it is advisable to resort to the use of a brake rather than to rely on self-locking characteristics of the gearing.”

BACKLASH

Backlash is defined as the rotational arc clearance between a pair of mounted gears. In any gearset, some amount of backlash (clearance) is necessary to prevent damage brought about by gear tooth interference. Lack of backlash may cause noise, overloading, overheating of gears and bearings and even seizing and failure.

Backlash is measured by restricting the rotation of one member, usually the pinion, and measuring the rotational movement of the other component at some reference radius. WINSMITH® has historically used three inches as a reference radius, but any convenient distance is applicable, remembering that greater distances will result in more accurate measurements. Backlash is usually stated in arc degrees (minutes/seconds). The resulting arc movement measurement can be converted to degrees using the following equation:

$$\text{Backlash (degrees)} = \frac{\text{Arc Movement (inches)} \times 57.296}{\text{Radius (inches)}}$$

The resulting decimal can be converted to minutes and seconds by multiplying by 60 (minutes/degree). The integer value is the arc minutes. The arc seconds are obtained by multiplying the decimal remainder again by 60.

Example:

.18 degrees x 60 = 10.8 minutes
.8 remainder x 60 = 48 seconds
so .18 degrees = 10 minutes and 48 seconds

When measuring the backlash in worm gear units, the arc movement of the slow speed shaft (gear) is measured while restricting the rotation of the input shaft (worm). It is not correct to measure the worm arc movement while restricting the gear rotation as this result will be much greater and is not indicative of tooth clearance (backlash). Axial clearances in the high speed worm bearings will add to the arc movement of the gear and “appear” to be backlash. This clearance is minimal and for most applications, is of no consequence. However, when close backlash is required, bearing endplay must be considered and reduced if necessary.

Tolerance variations in the related components will affect backlash. These include housing center distance variations, gear geometry tolerances and bearing runout. These and other issues must be considered when establishing a design specification for backlash. Closer tolerances in the housing and gear geometry along with higher precision bearings combine to provide closer backlash control, enabling tighter backlash when needed but at a greater cost. Therefore, the maximum allowable backlash for the application should be specified.

WINSMITH double enveloping reducers have a maximum standard backlash of between .010 and .015 inches on a 3 inch radius, depending on unit size and ratio.

RUN-IN

The running-in of double enveloping wormgearing immediately after start-up may not always be necessary, but doing so is certainly advantageous. No matter how well finished wormgearing surfaces may be, they do require some time to run-in to conform and obtain a work hardened surface on the bronze and achieve rated efficiency. The gearing has a better chance of providing maximum performance if the initial working can be done gradually.

Experience indicates that the initial friction is 10 to 15 percent higher than that which will be obtained after run-in is completed. The first few hours of operation at gradually increasing loads reduces the friction and the efficiency settles down to a steady value after about 10-100 hours of operation, depending on the size and speed of the gearing and the operating load. A reasonable run-in procedure is to apply one-half load for a few hours and then increase to the operating load in at least two stages.

An immediate application of full load concentrates high contact pressures on small areas which may cause some temporary damage to the surfaces and may cause high local surface temperatures. The temporary damage to the bronze gear surfaces will often “heal” after continued running at full or less than full load. The run-in of wormgearing at gradually increasing loads can prevent the occurance of such surface damage.

SERVICE FACTORS

All catalog ratings are based on 10 hours per day operation with uniform loading equating to a service factor of 1.0. When operating conditions differ, the following chart can be used to determine the appropriate service factor. For applications involving more than 10 starts per hour, refer to the service factor chart entitled, “Service Factors For Frequent Start and Stop Applications”.

SERVICE FACTORS				
Hours/Day	**Uniform**	**Moderate Shock**	**Heavy Shock**	**Extreme Shock**
½	.8	.8	.9	1.1
1	.8	.9	1.0	1.2
2	.9	1.0	1.2	1.3
10	1.0	1.2	1.3	1.5
24	1.2	1.3	1.5	1.75

SERVICE FACTORS FOR FREQUENT START AND STOP APPLICATIONS				
Hours/Day	**Uniform**	**Moderate Shock**	**Heavy Shock**	**Extreme Shock**
½	.9	.9	1.0	1.2
1	.9	1.0	1.2	1.3
2	1.0	1.2	1.3	1.5
10	1.2	1.3	1.5	1.75
24	1.3	1.5	1.75	2.0

Normal starting or occasional peak loads up to 300% of catalog ratings at 1800 RPM are permissible. The applied loads should not exceed two seconds duration and the number of applied loads should not exceed a total of 25,000 occurrences over the life of the unit. If any of these conditions are exceeded, consult the factory.

Reversing drives and those subjected to quickly repeated shock loads of unusual or unpredictable intensity; stalling loads and drives that are overrunning, or that “wind up” due to quick power stoppage and storage of energy are not covered by service factors above. A service factor of three may be applicable, however, each is a problem in itself and should be referred to the factory.

Service factors should be calculated using the prime mover horsepower as applied to the unit mechanical ratings. However, the unit thermal capacity must not be exceeded on a continuous basis. Refer to the rating charts for mechanical and thermal capacities.

LUBRICATION

The HP and torque ratings in this catalog have been established using a synthetic hydrocarbon lubricant which provides optimum performance in both torque transmission and efficiency. All units are shipped with the proper amount of synthetic lubricant for the stated mounting position. When adding or changing oil, the replacement lubricant should be of this type. Mixing mineral oil with the synthetic may have a serious detrimental effect on performance and could result in damage to the internal components. Refer to the DE Product Maintenance Bulletin for further information.

SYNTHETIC LUBRICANT RECOMMENDATIONS		
Ambient Temperature	-30°F to 15°F	16°F to 165°F
Max. Operating Temperature	185°F	200°F
Recommended Lubricant	Mobil SHC 629 or Equivalent	Mobil SHC 634* or Equivalent

*Furnished unless otherwise specified.

OVERHUNG LOAD

CATALOG OVERHUNG LOAD RATINGS

The OHL ratings given in this catalog denote the maximum allowable radial pull on the reducer shaft. They are specified for a particular location on the reducer shaft as defined in footnotes on the rating pages. When the center of the actual OHL changes from this location, the allowable OHL will also change as explained in the following paragraph titled LOCATION OF OVERHUNG LOADS.

Catalog OHL ratings are subject to the same service factors that apply to reducer power ratings and in addition are subject to OHL factors as explained in the next paragraph.

RELATION OF OVERHUNG LOAD TO TORQUE

With a chain drive the overhung load is equal to the torque divided by the radius of the sprocket. This is because there is practically no pull on the loose side of the chain.

If an overhung gear is used, the load is along the line of action and is greater than that computed from the torque and pitch radius. In this case AGMA recommends that the net overhung load derived from the torque and pitch radius of the gear be multiplied by the factor 1¼ to obtain the actual overhung load.

When an overhung "V" belt sheave is specified, there is a pull on the loose side of the belt. In this case the sum of the pull on the tight side and on the loose side is the overhung load. To allow for this loose side tension AGMA recommends that the net overhung load derived from the torque be multiplied by 1½.

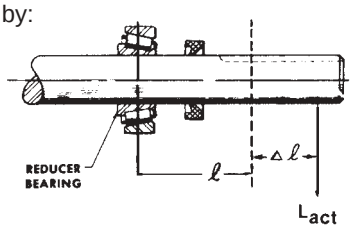
A flat belt pulley requires a tension on the loose side to keep it tight. AGMA therefore recommends that the net overhung load derived from the torque be multiplied by 2½.

Variable speed drives with a flat faced pulley on the Reducer and used with a "V" belt derive their variability by changing the tension in the belt. In this case it is well to use a factor over 2½, possible as much as 3½. These factors are expressed in Table I.

LOCATION OF OVERHUNG LOADS

In many cases, the center of the pulley, gear, or sprocket, which determines the location of the overhung load does not coincide with the position one shaft diameter from the housing or mounting flange. In this case, if the location of the overhung load is outside this position, then the allowable overhung load is determined by:

$$L_a = L_c \times \frac{\ell}{\ell + \triangle \ell}$$



Where

L_a = Allowable overhung load in pounds.
L_c = Catalog rating of overhung load in pounds.
ℓ = A factor given in Table II (This is the actual distance from the center of the bearing to a point one shaft diameter from the housing or mounting flange.
$\triangle \ell$ = Distance from location of the actual overhung load to a point one shaft diameter from the housing or mounting flange.

TYPE OF LOAD	Multiply the actual (calculated) OHL by
For Overhung Chain Sprocket	1
For Overhung Gear	1¼
For Overhung "V" Belt	1½
For Overhung Flat Belt	2½
For Overhung Variable Speed Drive	3½

TABLE I—OVERHUNG LOAD FACTORS

REDUCER SIZE	INPUT SHAFT	OUTPUT SHAFT			
	DB, DT, DV DSF, DSR, DL	DB, DT Top Ext. for: DV	Bottom Ext. for: DV	DSF, DSR	DL
941	3.551	4.133	4.258	5.768	4.500
951	3.290	4.428	4.928	6.215	5.415
961	3.303	5.540	6.040	5.337	6.297
971	4.256	5.985	6.297	8.003	6.742
981	4.900	6.701	7.139	8.142	7.315

TABLE II—VALUES OF "ℓ" FOR WINSMITH SPEED REDUCERS

EXAMPLE:

Assume that a 951 FDT Reducer with a reduction of 50 to 1, operating at 1750 RPM input, is subjected to a torque of 13,500 inch pounds on the slow speed shaft. This torque is transmitted through a double chain sprocket of 1.50" pitch 13 teeth. The centerline of the sprocket is 8.00 inches from the center of the Reducer and the chain pull is directed toward the base. The service is 24 hours per day, uniform loading.

DATA:

Service Factor **= 1.25**

Chain Overhung Load Factor **= 1** (from Table I)

Radius of 13 Tooth 1.50" Pitch Chain **= 6.268"/2 = 3.134"**

Catalog Overhung Load = L_c **= 6158**

℄ Reducer to a point one shaft diameter from the housing or mounting flange. **= 7.500**

$\triangle \ell$ = 8.0" - 7.5" **= 0.50"**

ℓ **= 4.428"** (from Table II)

$$\text{Design Overhung Load} = \frac{\text{TORQUE}}{\text{RADIUS}} \times \text{SERVICE FACTOR} \times \text{OHL FACTOR} = \frac{13{,}500}{3.134"} \times 1.25 \times 1.00 = 5384\#$$

$$\text{Allowable Overhung Load} = La = Lc \frac{\ell}{\ell + \triangle \ell} = 6158 \frac{4.428}{4.428" + 0.50} = 5533\#$$

Thus the use of a 13 tooth 1.50" pitch sprocket with the center of the sprocket 8.00" from the center of the Reducer is satisfactory.

The overhung load capacities shown on Pages 9-51 may be used when the chain pulls is similar to an arrangement shown in Figure 1 for the various models. These illustrations demonstrate the ideal chain pull conditions and should be used whenever possible.

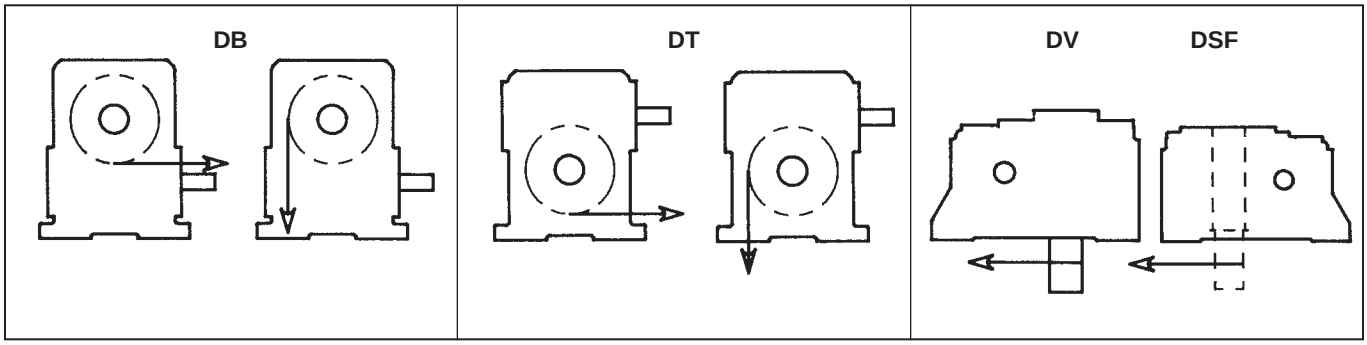


FIGURE 1

When the chain pull is similar to an arrangement shown in Figure 2 for the various models, the OHL capacity will depend on the grade of foundation bolt being used. Tables I and II provide the maximum allowable OHL for Grade 5 and Grade 8 fasteners and apply to the catalog OHL location as defined below.

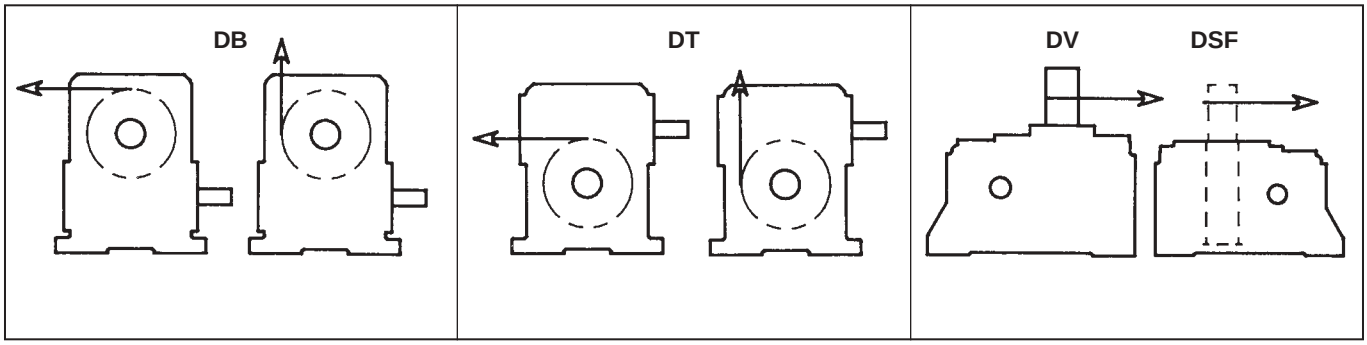


FIGURE 2

TABLE I
Maximum OHL For Load
Parallel To Base, pounds

Grade 5 Foundation Bolts:

	DB	DT	DV	DSF
941	2500	4000	3600	3200
951	4000	6000	4500	4500
961	4200	6400	5400	5800
971	5400	9000	8400	9000
981	7500	12400	11500	13000

Grade 8 Foundation Bolts:

	DB	DT	DV	DSF
941	4000	5170	5170	5100
951	6400	6900	6900	7400
961	7000	9300	9000	9500
971	10000	12500	12500	12000
981	13000	16200	16200	16500

TABLE II
Maximum OHL For Load
Directed Away From Base, pounds

Grade 5 Foundation Bolts:

	DB	DT
941	3800	3800
951	5400	5400
961	5800	5800
971	8500	8500
981	11000	11000

Grade 8 Foundation Bolts:

	DB	DT
941	5170	5170
951	6900	6900
961	9300	9300
971	12500	12500
981	16200	16200

GEARING INERTIA VALUES WK^2 (lb in^2)[1]

(RELATIVE TO INPUT SHAFT)

RATIO	941				951				961			
	DB, DT, DV	FDB, FDT, FDV	DSF, DSR	FDSF, FDSR	DB, DT, DV	FDB, FDT, FDV	DSF, DSR	FDSF, FDSR	DB, DT, DV	FDB, FDT, FDV	DSF, DSR	FDSF, FDSR
5	12.88	14.39	14.39	15.90	30.87	32.94	40.80	42.87	50.62	55.70	67.18	72.26
8	8.66	10.17	10.34	11.85	25.54	27.61	29.45	31.52	41.57	46.65	48.03	53.11
10	8.27	9.78	9.35	10.86	20.65	22.72	23.17	25.24	36.14	41.22	40.28	45.36
15	8.92	10.43	9.39	10.90	21.11	23.18	22.23	24.30	30.96	36.03	32.80	37.88
20	8.50	10.01	8.77	10.28	19.74	21.81	20.37	22.44	29.19	34.27	30.23	35.31
25	7.17	8.68	7.35	8.86	13.02	15.09	13.43	15.50	28.15	33.23	28.81	33.89
30	7.50	9.01	7.62	9.13	13.74	15.81	14.03	16.10	25.03	30.11	25.49	30.57
40	7.31	8.82	7.38	8.89	13.12	15.19	13.28	15.35	24.11	29.18	24.36	29.44
50	7.24	8.75	7.28	8.79	12.98	15.05	13.08	15.15	23.62	28.69	23.78	28.86
60	7.13	8.64	7.16	8.67	12.77	14.84	12.84	14.91	22.77	27.85	22.89	27.97
80	7.02	8.53	7.04	8.55	12.33	14.40	12.37	14.44	22.70	27.78	22.77	27.85
100	6.99	8.50	7.00	8.51	12.33	14.40	12.36	14.43	22.11	27.19	22.15	27.23

RATIO	971				981							
	DB, DT, DV	FDB, FDT, FDV	DSF, DSR	FDSF, FDSR	DB, DT, DV	FDB, FDT, FDV	DSF, DSR	FDSF, FDSR				
5	122.3	135.1	166.2	178.9	182.4	187.9	222.8	228.3				
8	85.34	98.09	102.5	115.2	118.0	123.5	133.8	139.3				
10	81.27	94.03	92.23	105.0	99.70	105.2	109.8	115.3				
15	61.53	74.29	66.41	79.17	79.37	84.84	83.86	89.36				
20	58.11	70.87	60.85	73.61	76.67	82.14	79.20	84.70				
25	52.67	65.43	54.43	67.19	57.19	62.66	58.81	64.31				
30	51.52	64.28	52.74	65.50	55.04	60.51	56.16	61.66				
40	52.25	65.01	52.93	65.69	55.78	61.25	56.41	61.91				
50	51.72	64.48	52.16	64.92	54.16	59.63	54.56	60.06				
60	51.35	64.11	51.65	64.41	56.42	61.89	56.70	62.20				
80	50.33	63.09	50.50	63.26	46.13	51.60	46.29	51.79				
100	49.98	62.74	50.09	62.85	45.36	50.83	45.46	50.96				

1. To convert to lb-in-sec^2, divide by 386.1.

NOTES

TERMS AND CONDITIONS

GENERAL TERMS AND CONDITIONS OF SALES

For construction purposes be sure to obtain certified dimension sheets or drawings. Although we take every precaution to include accurate data in our catalog, we cannot guarantee such accuracy. If performance guarantees are required, they should be obtained in writing from the home office. Full consideration will be given to such requests by the Winsmith Engineering Department when complete details are given of the proposed installation.

The recipient of this offer is herein called buyer and Peerless-Winsmith, Inc. is herein called seller. The term product shall include, without limitation, goods, services, work and data, expressly or impliedly delivered hereunder and any part thereof.

1. CONTROLLING TERMS

The parties agree that there are no understandings, agreements or representations, express or implied, not specified herein, respecting this offer or sale, and that this instrument contains the entire agreement between Seller and Buyer. No course of prior dealing and no usage of the trade shall be relevant to supplement or to explain terms used in this agreement. All sales are expressly limited to, and the rights and liabilities of the parties shall be governed exclusively by, the terms and conditions herein. In the event any purchase order or offer from Buyer states terms additional to or different from those set forth herein, this document shall be deemed a notice of objection to such additional or different terms and a rejection thereof. Any acknowledgement or shipment of product by Seller to Buyer subsequent to Seller's receipt of a purchase order or offer from Buyer shall not be deemed to be an acceptance by Seller of an offer to contract on the basis of any Buyer's terms and conditions. Issuance of a purchase order or acceptance by Buyer of products shall be conclusive evidence of Buyer's acceptance of terms and conditions set forth herein as the sole controlling terms and conditions of the contract between Seller and Buyer.

2. FORCE MAJEUR

This order is accepted subject to delays due to conditions or forces beyond Seller's control including, but not limited to strikes, work stoppages, break down, fires, accidents, contingencies of transportation, storage or delivery, civil disturbances, shortage of labor and acts of God.

3. CREDIT

Buyer agrees to comply with the credit terms and accept deliveries as indicated; upon violation or default by Buyer, or upon bankruptcy or insolvency of Buyer, or by reason of the insecurity of Seller as to the ultimate collectibility of the purchase price as determined by Seller in its sole and unfettered discretion, Seller may, without notice to Buyer, delay or postpone the delivery of the Products; and Seller, at its option, is authorized to change the terms of payment to payment in full in advance of shipment of the entire undelivered balance of said Products. In the event of default by Buyer in the payment of the purchase price or otherwise, Seller after demand, may sell any undelivered Products on hand for the account of Buyer and apply such proceeds as a credit against the contract purchase price, and Buyer agrees to pay balance then due to Seller on demand. Such balance shall bear interest at the highest legal contract rate from the date of demand. Buyer agrees to pay all expenses, including but not limited to, storage and shipment costs, court costs, attorney's fees and other expenses of litigation or preparation therefore, resulting from any default by Buyer in any of the terms thereof. Should Buyer default hereunder prior to the manufacture of all Products ordered hereunder, Buyer agrees to pay as liquidated damages the contract price for such unproduced or partially produced Products, less Seller's then unexpended standard costs for materials, direct labor and variable overhead with respect to the Products as in effect at the time of default. Certification of such standard costs by Seller's independent public accountants shall be conclusive on the parties hereto.

4. CHANGES

Orders arising hereunder may be amended by written Change Order signed by the parties, setting forth the particular changes to be made and the effect of such changes on the price and time of delivery. A charge will be made for changes in drawings and/or specifications after Buyer and Seller have previously agreed upon same. The total charge for such change will include order repossessing costs, additional material and labor costs. Seller will advise the total charge for such changes after receipt of written authorization or direction for such changes. In the event the changes are required as a result of an error on the part of the Seller, no charge will be made.

5. FAIR LABOR STANDARDS ACT

Seller hereby certifies that the Products covered by this order were produced in compliance with the Fair Labor Standards Act of 1938, as amended, and of regulations and orders issued thereunder.

6. TAXES

All applicable taxes of every kind or nature now or hereafter assessed which are or may become effective before this order is completed may be added to the invoice price.

7. BUYER'S REPRESENTATIONS AND INDEMNITY

Buyer represents and warrants that all trademarks, copyright materials, and patents submitted in connection with this order and that the use thereof in accordance with this order will not violate any federal, state or municipal law or regulation, and Buyer agrees to indemnify and hold harmless Seller, its agents, successors and assigns against any suits, loss, claim, demand, liabilities, costs and expenses (including attorneys' fees) arising out of any breach or alleged breach hereof.

8. TERMS

All Sales are made F.O.B. Seller's plant, unless otherwise specified on the face of the Seller's acknowledgement. Payment terms are net 30 days unless otherwise specified on the face of the Seller's acknowledgement. Delivery of all or any part of the Products to a carrier for shipment to Buyer or to a consignee designated by Buyer shall constitute delivery to Buyer and shall pass and vest title to and risk of loss of such goods to Buyer in the event of loss or damage to Products after delivery to a carrier. Seller will, upon request of Buyer, assist in filing claims against the carrier.

9. CANCELLATION-SUSPENSION

Orders for Products received by Seller are accepted subject to the understanding that orders may be cancelled by Seller because of Seller's inability to obtain all or part of the materials necessary to complete the order at prices in effect on the date hereof or by reason of other causes beyond its reasonable control. Cancellation or suspension of orders may be made only upon Sellers written approval. A charge will be made for cancellations and/or suspensions after Buyer and Seller have previously agreed upon same. Seller will advise the total charge for such cancellations and/or suspensions. Buyer agrees to pay such charges, including but not limited to, storage and shipment costs, costs of producing non-standard components, costs of purchasing non-returnable materials, cancellation costs imposed on the Seller by its suppliers, engineering costs and any other costs resulting from cancellation and/or suspension of orders by the Buyer. Certification of such costs by Seller's independent public accountants shall be conclusive on the parties hereto.

10. TOOLS, DIES AND MOLDS

Any and all equipment, including tools, jigs, dies, plates, molds, fixtures, materials, equipment, drawings, designs and other information, which Seller uses, constructs or acquires for Buyer for the purpose of filling this order shall be and remain Seller's property.

11. DELIVERY

Buyer agrees to accept delivery of all goods included in this order within the time specified on the face hereof. No extension of the delivery period shall relieve Buyer from the obligation to accept the goods included in this order. Partial shipment of goods will be made by Seller when ready and invoiced.

12. CLAIMS OR RETURNS

All claims must be made in writing and delivered to Seller within ten (10) days after receipt of the goods and must be accompanied by Seller's packing list and freight bill. Failure of Buyer to make such claims within ten (10) days will constitute a waiver by Buyer or such claims.

In the event of the receipt of notice of such claims, Seller agrees to forward definitive shipping instructions to Buyer or to send a representative of Seller to Buyer's facilities to review shipment and make any necessary adjustments. No return of the goods pursuant to this paragraph shall be made for any purpose without the prior written consent of Seller. Transportation charges on all goods returned after receipt of Seller's Authorization must be prepaid. Any goods returned by Buyer without Seller's consent shall be held for the account of Buyer.

13. CHARGES

Past due accounts are subject to late payment charges of 1½% per month or such lesser amounts are legally permissible.

14. SOLVENCY

Buyer, by these presents and the acceptance of the Products, represents and warrants that Buyer is solvent and able to pay for the Products in accordance with the terms of sale.

15. WARRANTIES

The Products manufactured by Seller are warranted by Seller as follows: (a) Seller has the right to sell the Products, (b) Buyer and its customers shall have the right to enjoy the Products free of claims of third persons against the Seller, and (c) the Products shall be free from manufacturing defects in material and workmanship under normal use and service for a period of twenty-four (24) months from date of shipment. This warranty does not apply to any Products which have been tampered with, improperly stored, exposed to heat or moisture or otherwise subject to misuse or abuse.

THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED INCLUDING, WITHOUT LIMITATION, WARRANTIES OR MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE.

Except as otherwise agreed in writing in each specific instance, the obligation of Seller is limited: (i) in the case of any material breach of the warranties set forth in subparagraphs (a) and (b) above, to the reimbursement of the price paid by Buyer or its customer for such Products: and (ii) in the case of any breach of the warranty set forth in subparagraph (c) above, to any of the following (at Seller's option): refund of the purchase price or repair or replacement of any such defective Product without charge other than for transportation.

SELLER SHALL NOT IN ANY EVENT BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES resulting from any use or failure of the Products, including, without limitation, liability for loss of time to, profits or products of, Buyer or the user for any labor or any other expense, damage or loss occasioned by any such defect.

Simultaneously with the delivery by Dealer to its customer of any Products purchased by Buyer from Seller, Buyer shall deliver therewith such printed warranties and disclaimers of warranties in respect to said merchandise as shall be furnished by Seller to Buyer or packed with said merchandise for that purpose. Buyer further agrees that the obligations of Seller to Buyer with respect to all Products purchased by Buyer from Seller shall be as hereinabove set forth. In no event shall Seller's obligation for breach of warranty exceed the purchase price of product.

16. ARBITRATION

Any controversy arising under, or in any way related to this order or the subject matter hereof shall be settled by arbitration by three disinterested arbitrators in the City and State of New York, and under the laws of said State, in accordance with rules of the American Arbitration Association then obtaining. All costs of such arbitration, and any proceedings directly or indirectly related thereto, including reasonable attorney's fees, shall be paid by the party against whom the arbitrators shall render their award or as otherwise directed by the arbitrators.

17. LAW

The contract shall be governed and construed under the State where the products are manufactured.

REV. 12/99

WINSMITH DISTRICT OFFICES

ALABAMA
See Georgia

CALIFORNIA
Los Angeles (Buena Park)
■ **Service Center**
562/404-0304
FAX 562/404-8060
San Francisco (Brentwood)
925/634-2818
FAX 925/634-4314

COLORADO
Lakewood
303/205-1922
FAX 303/205-1477

FLORIDA
Clermont
352/243-7517
FAX 352/243-3518

GEORGIA
Atlanta (Alpharetta)
770/772-7270
FAX 770/772-7277

ILLINOIS
Chicago (Downers Grove)
■ **Service Center**
630/629-3434
FAX 630/629-1010

INDIANA
See Cincinnati, OH

KANSAS
Kansas City
816/524-2010
FAX 816/524-2944

KENTUCKY
See Cincinnati, OH

MASSACHUSETTS
See Rhode Island

MICHIGAN
Detroit
734/878-9050
FAX 734/878-9051

MINNESOTA
Plymouth
763/559-1021
FAX 763/559-6552

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FAX 816/524-2944
St. Louis
314/576-1488
FAX 314/576-0433

NEW JERSEY
See Philadelphia, PA

NEW YORK
Springville (Factory)
Peerless-Winsmith
716/592-9310
FAX 716/592-9546

NEW YORK (cont.)
New York City
See Philadelphia, PA

NORTH CAROLINA
See Georgia

OHIO
Cleveland (Wickliffe)
440/585-2121
FAX 440/585-2122
Cincinnati
513/791-5009
FAX 513/791-4717

OKLAHOMA
See Texas

OREGON
Portland
■ **Service Center**
503/227-6638
FAX 503/227-5413

PENNSYLVANIA
Harrisburg/Philadelphia
Sales Office
315/684-3553
FAX 315/684-3562
Western PA
Sales Office
716/751-0134
FAX 716/751-4051

RHODE ISLAND
Warwick
401/732-4570
FAX 401/732-4583

SOUTH CAROLINA
See Georgia

TENNESSEE
See Georgia

TEXAS
Dallas/Houston
1-800/383-5918
FAX 877/867-5386

UTAH
See Colorado

VIRGINIA
Vinton
540/890-7756
FAX 540/890-7855

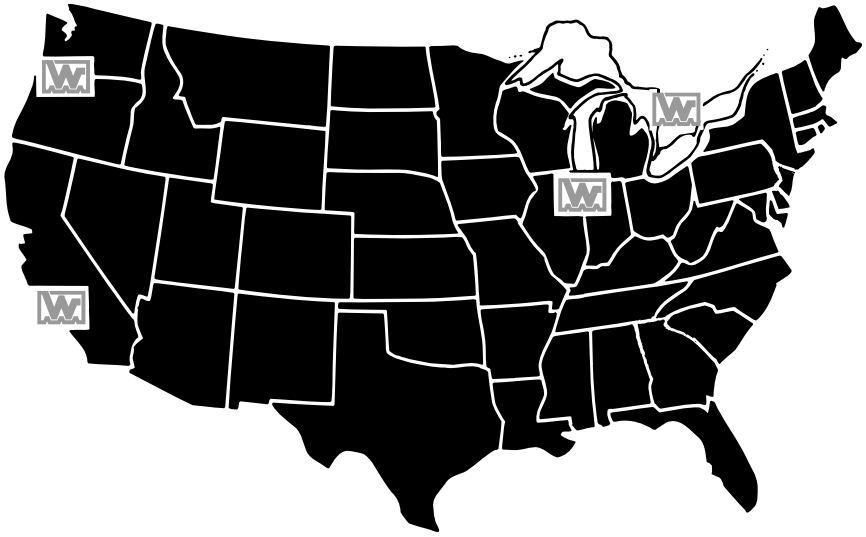
WISCONSIN
Cedarburg
414/375-4465
FAX 414/375-4175

BRITISH COLUMBIA
See Springville, NY

ONTARIO
Toronto (Mississauga)
■ **Service Center**
905/828-1222
FAX 905/828-1225

WINSMITH SERVICE CENTERS

WINSMITH®'s Regional Service Centers, shown on the map, can provide prompt solutions to your unique delivery requirements. Each Service Center is fully stocked with the necessary components and assemblies to provide a wide variety of finished units with the same high quality that you expect from WINSMITH's manufacturing plants.



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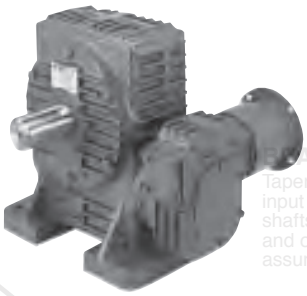


WORM SHAFT
Heat-treated alloy steel worm.

BEARINGS
Tapered roller bearings on both input (worm) shafts and output shafts provide maximum thrust and overhung load capacity and assure long service life.

LUBRICATION FLOW
Increased flow of lubricant in the mesh creates more efficient operation than cylindrical worm meshes.

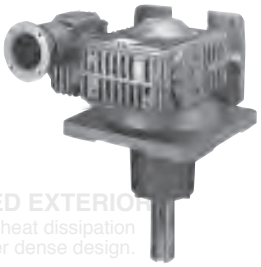
DUAL CONTACT MESH
Two separate contact paths at the mesh reduces contact pressure, increases tooth contact and power density.

GEARS
High grade centrifugally cast or chill cast bronze.

OIL SEALS
High quality seals in contact with precision ground shafts assure maximum seal life and leakproof protection.

OUTPUT SHAFT
Heat treated alloy steel.

PLUGS
Fill, level and drain plugs conveniently located.



HOUSING
Rugged, close grain cast [illegible]. Mounting feet are integral with the [illegible] for [illegible] and [illegible].

RIBBED EXTERIOR
Quicker heat dissipation for power dense design.

LUBRICATION
All units factory filled with synthetic [illegible] lubricant to the proper level [illegible] on delivery.

Every unit quality certified and test run prior to packaging and shipping.

DISTRIBUTED BY:

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