



# DOUBLE REDUCTION • HELICAL / WORM QUICK SELECTION GUIDE

## 1.00 SERVICE FACTOR • DOUBLE REDUCTION • HELICAL/WORM

Overall Ratio	Nominal Output RPM	INPUT HORSEPOWER @ 1750 RPM													
		1/8	1/6	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5	7-1/2	10	
10	175	813	813	813	813	813	815	815	818	824	826	830	842	852	
15	117	813	813	813	813	813	815	818	821	824	826	832	842	852	
20	88	813	813	813	813	815	818	821	824	824	830	832	842	852	
25	70	813	813	813	815	815	818	824	824	830	832	842	852	852	
30	58	813	813	813	813	815	821	821	824	826	832	842	852	852	
40	44	813	813	813	815	818	821	824	826	830	832	842	852	852	
45	39	813	813	813	815	818	821	824	830	830	832	N/A	N/A	N/A	
50	35	813	813	815	815	821	824	824	830	830	842	842	852	8600	
60	29	813	813	815	815	821	824	826	830	832	842	852	852	8600	
75	23.33	813	813	815	821	824	824	830	830	832	842	852	8600		
80	21.88	813	815	815	821	824	826	830	832	842	842	852	8600		
100	17.5	813	815	818	821	824	826	830	832	842	842	852			
125	14	815	815	821	824	824	830	830	842	842	852	8600			
150	11.67	815	815	821	824	826	830	832	842	842	852	8600			
200	8.75	815	821	824	824	830	832	842	842	852	852				
250	7	815	821	824	826	830	832	842	842	852	8600				
300	5.83	821	821	824	830	830	842	842	852	852	8600				
400	4.38	824	824	830	830	842	842	852	852	8600					
500	3.50	826	830	832	842	842	852	852	8600						
600	2.92	826	830	830	842	842	852	852	8600						

### How to Use

Based on required output RPM and input motor horsepower, read across chart for the appropriate 800 Series model. As a rule of thumb, use 1.00 service factor chart for applications having uniform loads with up to 10 hours service duration per day. Use 1.25 service factor chart for longer service or shock loading. These charts are to be considered as guides only. Typically double reduction reducers are selected based on application torque, not necessarily HP. Refer to page 149 or your LEESON CANADA representative with specific application information.

Series numbers correspond to center distances of secondary stage reducer, as shown in the chart below.

## 1.25 SERVICE FACTOR • DOUBLE REDUCTION • HELICAL/WORM

Overall Ratio	Nominal Output RPM	INPUT HORSEPOWER @ 1750 RPM													
		1/8	1/6	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5	7-1/2	10	
10	175	813	813	813	813	813	815	818	824	824	830	832	842	852	
15	117	813	813	813	813	813	815	818	821	824	824	830	842	852	
20	88	813	813	813	813	815	818	821	824	826	830	842	842	852	
25	70	813	813	813	815	818	824	824	826	830	832	842	852		
30	58	813	813	813	815	818	821	824	826	830	832	842	852	8600	
40	44	813	813	815	815	821	824	824	830	832	842	842	852		
45	39	813	815	815	815	821	824	826	830	832					
50	35	813	815	815	821	821	824	826	830	832	842	852	8600		
60	29	813	815	815	821	824	826	830	830	842	842	852	8600		
75	23.33	813	815	818	821	824	826	830	832	842	842	852			
80	21.88	813	815	821	821	824	826	830	832	842	842	852			
100	17.5	815	815	821	824	826	830	832	842	842	852	8600			
125	14	815	821	821	824	826	830	832	842	842	852				
150	11.67	815	821	824	824	830	832	832	842	852	852				
200	8.75	815	821	824	826	830	832	842	842	852	8600				
250	7	821	824	824	830	832	842	842	852	852					
300	5.83	821	824	826	830	832	842	842	852	852					
400	4.38	824	826	830	832	842	852	852	8600						
500	3.50	830	830	842	842	852	852	8600							
600	2.92	826	830	832	842	852	852								

### 800 SERIES REDUCER CENTER DISTANCES

Series	Center Distance (Inch)
813	1.33
815	1.54
818	1.75
821	2.06
824	2.38
826	2.62
830	3.00
832	3.25
842	4.25
852	5.25
8600	6.00

## DOUBLE REDUCTION HELICAL WORM • APPROXIMATE WEIGHTS\*\* (LBS.)

Reducer Style	Reducer Size											
	813	815	818	821	824	826	830	832	842	852	8600	
<b>Solid Output Shaft</b>												
DXMQ	37	42	44	50	71	84	105	108	184	285	382	
DXM	--	--	--	--	74	89	110	113	189	290	387	
DX	--	--	--	--	69	82	103	106	180	281	378	
DXTMQ	41	44	46	53	79	94	121	124	194	307	402	
DXTM	--	--	--	--	82	99	126	129	199	312	407	
DXT	--	--	--	--	77	92	119	122	190	303	398	

\*\* Weights include oil.

## REDUCER ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

Accessory	Reducer Size										
	813	815	818	821	824	826	830	832	842	852	8600
T/U	3	3	3	3	8	10	16	16	18	22	31
J	1	2	2	3	3	4	6	6	11	18	--
VL/VH	4	4	4	8	8	11	14	14	28	36	36
F (Cast Iron)	1	2	3	4	5	5	16	16	12	28	12
BF (Steel)	2	--	4	4	7	9	--	--	--	--	--
R	--	7	7	9	9	17	15	31	24	15	--

# DOUBLE REDUCTION • HELICAL / WORM EXACT RATIO COMBINATIONS



## DOUBLE REDUCTION • HELICAL/WORM • EXACT RATIO COMBINATIONS

Total Ratio	GEAR REDUCER SIZE																					
	813		815		818		821		824		826		830		832		842		852		8600	
	P TX1	S 813	P TX1	S 815	P TX1	S 818	P TX1	S 821	P TX2	S 824	P TX2	S 826	P TX2	S 830	P TX2	S 832	P TX3	S 842	P TX3	S 852	P TX3	S 8600
10	2.056	5	2.056	5	2.056	5	2.056	5	2.000	5	2.000	5.17	2.000	5	2.000	5.17	2.000	5.17	2.000	5.13	2.000	5
15	2.056	7.5	2.056	7.5	2.929	5	2.056	7.5	2.000	7.5	2.000	7.5	2.000	7.5	2.000	7.5	2.000	7.5	2.000	7.5	2.000	7.5
20	2.056	10	2.056	10	4.000	5	2.056	10	2.000	10	2.000	10	2.000	10	2.000	10	2.000	10	2.000	10	2.000	10
25	5.111	5	5.111	5	5.111	5	5.111	5	5.000	5	5.000	5.17	5.000	5	5.000	5.17	5.167	5.17	5.167	5.13	5.167	5
30	2.056	15	2.056	15	2.056	15	2.929	10	2.913	10	2.913	10	2.913	10	2.913	10	2.000	15	2.000	15	2.000	15
40	4.000	10	4.000	10	4.000	10	4.000	10	4.000	10	4.000	10	4.000	10	4.000	10	4.045	10	4.045	10	4.045	10
45	2.929	15	2.929	15	2.929	15	2.929	15	2.913	15	2.913	15	2.913	15	2.913	15	--	--	--	--	--	--
50	5.111	10	5.111	10	5.111	10	5.111	10	5.000	10	5.000	10	5.000	10	5.000	10	5.167	10	5.167	10	5.167	10
60	4.000	15	4.000	15	4.000	15	4.000	15	4.000	15	2.913	20	4.000	15	4.000	15	4.045	15	4.045	15	4.045	15
75	5.111	15	5.111	15	5.111	15	5.111	15	5.000	15	5.000	15	5.000	15	5.000	15	7.538	10	5.167	15	5.167	15
80	4.000	20	4.000	20	4.000	20	4.000	20	4.000	20	4.000	20	4.000	20	4.000	20	4.045	20	4.043	20	4.045	20
100	4.000	25	4.000	25	4.000	25	4.000	25	4.000	25	5.000	20	5.000	20	5.000	20	5.167	20	5.167	20	5.167	20
125	5.111	25	5.111	25	5.111	25	5.111	25	5.000	25	5.000	25	5.000	25	5.000	25	5.167	25	5.167	25	5.167	25
150	5.111	30	5.111	30	5.111	30	5.111	30	5.000	30	5.000	30	5.000	30	5.000	30	7.538	20	7.538	20	7.538	20
200	5.111	40	5.111	40	5.111	40	5.111	40	5.000	40	5.000	40	5.000	40	5.000	40	5.167	40	5.167	40	5.167	40
250	5.111	50	5.111	50	5.111	50	5.111	50	5.000	50	5.000	50	5.000	50	5.000	50	5.167	50	5.167	50	5.167	50
300	7.462	40	7.462	40	7.462	40	7.462	40	7.182	40	5.000	60	5.000	60	5.000	60	7.538	40	7.538	40	7.538	40
400	5.167	80	5.167	80	5.167	80	5.167	80	7.182	60	7.182	60	7.182	60	7.182	60	5.167	80	5.167	80	5.167	80
500	5.167	100	5.167	100	5.167	100	5.167	100	5.000	100	5.000	100	5.000	100	5.000	100	5.167	100	5.167	100	5.167	100
600	7.462	80	7.462	80	7.462	80	7.462	80	7.182	80	7.182	80	7.182	80	7.182	80	7.538	80	7.538	80	7.538	80

Note: Exact ratios are listed. P = Primary stage reducer ratio S = Secondary stage reducer ratio