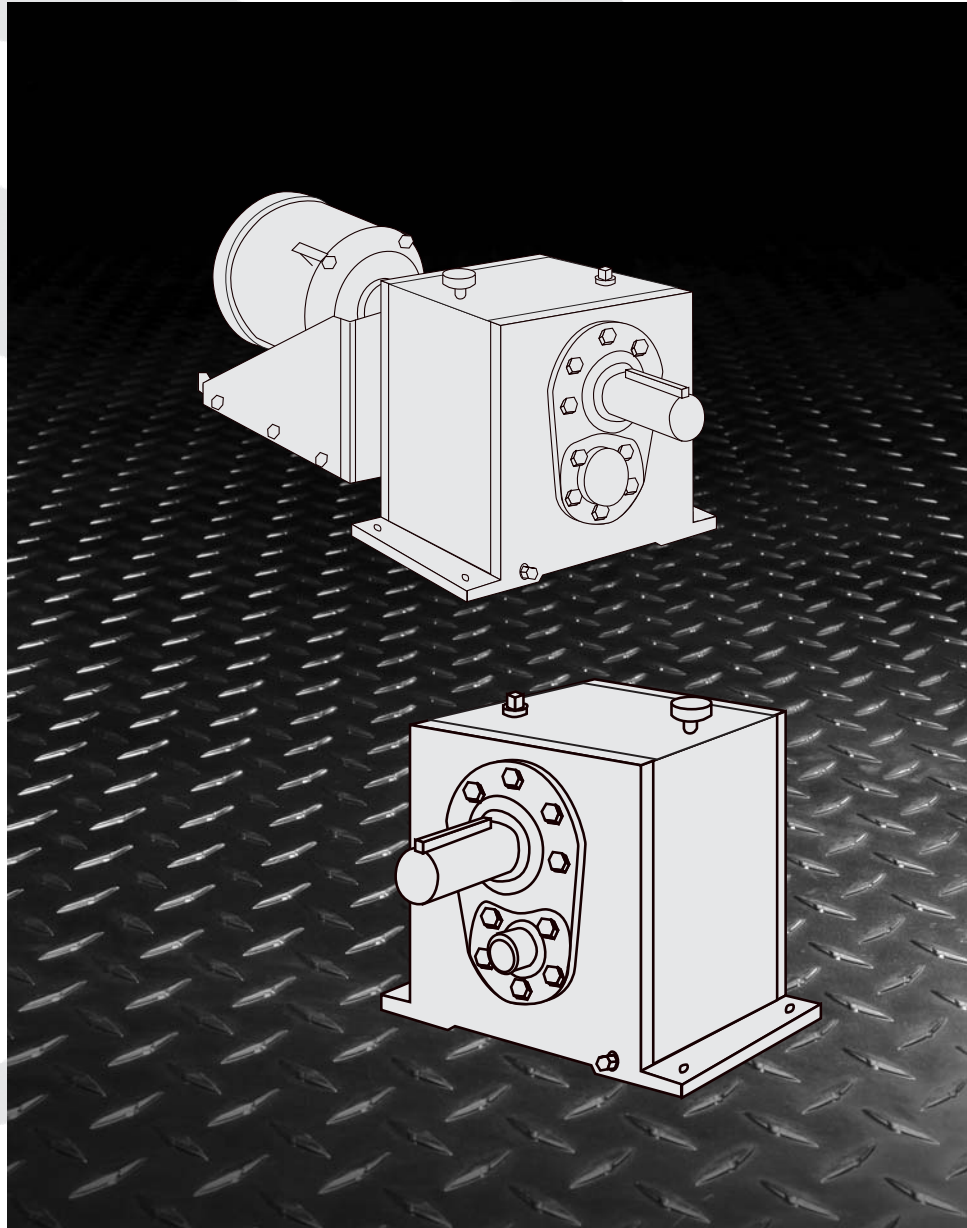


FALK™ ULTRAMAX® HSS LOAD LOCATION FACTORS & HSS OVERHUNG LOAD | SELECTION GUIDE



Selection Guide 311-112, August 1999

H.S.S. Load Location Factors (L_f) published below are for horizontal concentric shaft Types FC & FZ drives with and without fan and/or backstop. For L.S.S. Load Location Factors, refer to Selection Guide 311-110.

H.S.S. Overhung Load values listed on Pages 5 and 6 are for horizontal concentric shaft Type FC & FZ drives with input speeds of 1750 and 1430 rpm. For lower input speeds refer to Selection Guide 311-110.

HSS L_f Load Location Factors ★

Types FC2 & FZ2 — Without Fan or Backstop

Based on distance from center line of load to drive seal cage

Distance (Inches)	DRIVE SIZE										Distance (Inches)
	2040	2050	2060	2070	2080	2090	2100	2110	2120	2130	
0.50	0.87	0.85	0.78	0.77	0.79	0.79	0.78	0.78	0.77	0.77	0.50
0.75	0.91	0.88	0.82	0.80	0.82	0.82	0.80	0.81	0.79	0.79	0.75
1.00	0.94	0.92	0.86	0.84	0.85	0.84	0.83	0.83	0.81	0.81	1.00
1.25	0.98	0.95	0.90	0.88	0.88	0.86	0.85	0.85	0.83	0.83	1.25
1.50	1.04	0.98	0.94	0.91	0.91	0.89	0.88	0.87	0.86	0.85	1.50
1.75	1.12	1.04	0.98	0.95	0.94	0.92	0.90	0.89	0.88	0.87	1.75
2.00	1.21	1.12	1.03	0.98	0.97	0.95	0.93	0.91	0.90	0.89	2.00
2.25	1.29	1.20	1.10	1.03	1.00	0.97	0.95	0.94	0.92	0.91	2.25
2.50	1.37	1.27	1.16	1.09	1.05	1.00	0.97	0.96	0.94	0.92	2.50
2.75	1.45	1.35	1.22	1.14	1.10	1.05	1.00	0.98	0.96	0.94	2.75
3.00	...	1.43	1.29	1.20	1.15	1.10	1.04	1.00	0.98	0.96	3.00
3.25	...	1.51	1.35	1.26	1.20	1.15	1.09	1.04	1.00	0.98	3.25
3.50	...	...	1.42	1.32	1.26	1.19	1.14	1.08	1.04	1.00	3.50
3.75	...	...	1.48	1.37	1.31	1.24	1.18	1.13	1.08	1.04	3.75
4.00	...	...	...	1.43	1.36	1.29	1.23	1.17	1.12	1.08	4.00
4.25	...	...	...	1.49	1.41	1.34	1.28	1.21	1.16	1.11	4.25
4.50	...	...	...	...	1.46	1.39	1.32	1.25	1.20	1.15	4.50
5.00	...	...	...	...	...	1.48	1.41	1.34	1.29	1.23	5.00
5.50	...	...	...	...	...	...	1.51	1.42	1.37	1.30	5.50
6.00	...	...	...	...	...	...	...	1.51	1.45	1.38	6.00
6.50	...	...	...	...	...	...	...	...	1.53	1.46	6.50
7.00	...	...	...	...	...	...	...	...	...	1.53	7.00

★ Interpolate for intermediate values. For example, L_f is 1.01 for Size 2050 when distance is 1.626 inches.

Types FC2 & FZ2 — With Backstop & Without Fan

Based on distance from center line of load to backstop

Distance (Inches)	DRIVE SIZE						Distance (Inches)
	2100		2110		2120	2130	
	Ratios 5:1-14:1	Ratios 17:1-31:1	Ratios 5:1-21:1	Ratios 25:1-31:1	All Ratios	All Ratios	
0.50	0.86	0.89	0.86	0.90	0.85	0.85	0.50
0.75	0.88	0.91	0.88	0.92	0.87	0.86	0.75
1.00	0.89	0.93	0.89	0.93	0.88	0.87	1.00
1.25	0.91	0.94	0.90	0.95	0.89	0.89	1.25
1.50	0.92	0.96	0.92	0.96	0.91	0.90	1.50
1.75	0.94	0.98	0.93	0.98	0.92	0.91	1.75
2.00	0.96	0.99	0.94	0.99	0.93	0.92	2.00
2.25	0.97	1.01	0.96	1.01	0.95	0.94	2.25
2.50	0.98	1.04	0.97	1.02	0.96	0.95	2.50
2.75	1.00	1.06	0.99	1.05	0.97	0.96	2.75
3.00	1.02	1.08	1.00	1.07	0.99	0.97	3.00
3.25	1.04	1.11	1.02	1.09	1.00	0.99	3.25
3.50	1.06	1.13	1.04	1.12	1.02	1.00	3.50
3.75	1.08	1.16	1.06	1.14	1.04	1.02	3.75
4.00	1.11	1.18	1.08	1.16	1.06	1.04	4.00
4.25	1.13	1.20	1.10	1.19	1.08	1.06	4.25
4.50	1.15	1.23	1.12	1.21	1.10	1.08	4.50
5.00	1.19	1.28	1.16	1.26	1.14	1.11	5.00
5.50	1.23	1.32	1.18	1.31	1.18	1.15	5.50
6.00	...	1.37	1.24	1.35	1.22	1.19	6.00
6.50	...	1.42	...	1.40	1.26	1.23	6.50
7.00	...	...	...	1.45	...	1.27	7.00

★ Interpolate for intermediate values.

Types FC2 & FZ2 — With Fan

Based on distance from center line of load to fan

Distance (Inches)	DRIVE SIZE								Distance (Inches)
	2060	2070	2080	2090	2100	2110	2120	2130	
0.50	0.99	0.96	0.95	0.97	0.97	0.96	0.95	0.93	0.50
0.75	1.05	0.99	0.98	1.00	0.99	0.98	0.97	0.95	0.75
1.00	1.11	1.05	1.01	1.05	1.03	1.00	0.99	0.97	1.00
1.25	1.18	1.11	1.06	1.09	1.08	1.05	1.02	0.99	1.25
1.50	1.24	1.16	1.12	1.14	1.13	1.09	1.06	1.02	1.50
1.75	1.30	1.22	1.17	1.19	1.17	1.13	1.10	1.06	1.75
2.00	1.37	1.28	1.22	1.24	1.22	1.17	1.14	1.10	2.00
2.25	1.43	1.34	1.27	1.29	1.26	1.22	1.19	1.14	2.25
2.50	1.50	1.39	1.32	1.34	1.31	1.26	1.23	1.17	2.50
2.75	...	1.45	1.38	1.39	1.36	1.30	1.27	1.21	2.75
3.00	...	1.51	1.43	1.44	1.40	1.34	1.31	1.25	3.00
3.25	...	...	...	...	1.45	1.39	1.35	1.29	3.25
3.50	...	...	...	...	1.49	1.43	1.39	1.33	3.50
3.75	...	...	...	...	...	1.47	1.43	1.36	3.75
4.00	...	...	...	...	...	...	1.47	1.40	4.00
4.25	...	...	...	...	...	...	1.51	1.44	4.25
4.50	...	...	...	...	...	...	...	1.48	4.50

★ Interpolate for intermediate values.

HSS L_f Load Location Factors ★

Types FC3 & FZ3 — Without Fan or Backstop

Based on distance from center line of load to drive seal cage

Distance (Inches)	DRIVE SIZE										Distance (Inches)	
	2040	2050	2060	2070	2080	2090	2100	2110	2120	2130		
0.50	0.87	0.85	0.84	0.82	0.82	0.82	0.82	0.85	0.85	0.85	0.84	0.50
0.75	0.91	0.88	0.88	0.85	0.85	0.85	0.85	0.87	0.87	0.87	0.87	0.75
1.00	0.94	0.92	0.92	0.89	0.88	0.88	0.88	0.89	0.89	0.89	0.89	1.00
1.25	0.98	0.95	0.96	0.93	0.91	0.91	0.90	0.93	0.91	0.91	0.91	1.25
1.50	1.04	0.98	1.00	0.96	0.94	0.94	0.93	0.94	0.93	0.93	0.93	1.50
1.75	1.12	1.04	1.08	1.00	0.97	0.97	0.96	0.96	0.96	0.96	0.96	1.75
2.00	1.21	1.12	1.17	1.08	1.00	1.00	0.99	0.99	0.98	0.98	0.98	2.00
2.25	1.29	1.20	1.25	1.15	1.07	1.07	1.03	1.03	1.00	1.00	1.00	2.25
2.50	1.37	1.28	1.33	1.23	1.13	1.14	1.09	1.09	1.06	1.06	1.05	2.50
2.75	1.45	1.36	1.42	1.31	1.20	1.20	1.15	1.15	1.11	1.11	1.11	2.75
3.00	...	1.44	1.50	1.39	1.27	1.27	1.21	1.21	1.16	1.16	1.16	3.00
3.25	...	1.52	1.59	1.46	1.33	1.34	1.27	1.27	1.22	1.22	1.22	3.25
3.50	...	...	...	1.54	1.40	1.41	1.33	1.33	1.28	1.27	1.27	3.50
3.75	...	...	...	...	1.47	1.47	1.38	1.40	1.33	1.33	1.33	3.75
4.00	...	...	...	...	1.54	1.54	1.44	1.46	1.38	1.38	1.38	4.00
4.25	...	...	...	...	...	...	1.50	1.52	1.44	1.44	1.44	4.25
4.50	...	...	...	...	...	...	...	...	1.49	1.49	1.49	4.50

★ Interpolate for intermediate values.

Types FC3 & FZ3 — With Backstop & Without Fan

Based on distance from center line of load to backstop

Distance (Inches)	DRIVE SIZE				Distance (Inches)
	2100	2110	2120	2130	
0.50	0.89	0.90	0.90	0.90	0.50
0.75	0.91	0.92	0.92	0.92	0.75
1.00	0.92	0.93	0.93	0.93	1.00
1.25	0.94	0.95	0.95	0.95	1.25
1.50	0.96	0.96	0.96	0.96	1.50
1.75	0.97	0.98	0.98	0.98	1.75
2.00	0.99	0.99	0.99	0.99	2.00
2.25	1.01	1.01	1.01	1.01	2.25
2.50	1.04	1.04	1.04	1.04	2.50
2.75	1.06	1.06	1.06	1.06	2.75
3.00	1.09	1.09	1.08	1.08	3.00
3.25	1.11	1.11	1.11	1.11	3.25
3.50	1.14	1.14	1.14	1.14	3.50
3.75	1.16	1.16	1.16	1.16	3.75
4.00	1.19	1.19	1.18	1.18	4.00

★ Interpolate for intermediate values.

Types FC3 & FZ3 — With Fan

Based on distance from center line of load to fan

Distance (Inches)	DRIVE SIZE				Distance (Inches)
	2100	2110	2120	2130	
0.50	1.02	0.98	0.99	0.99	0.50
0.75	1.08	1.01	1.03	1.03	0.75
1.00	1.14	1.08	1.09	1.09	1.00
1.25	1.21	1.14	1.15	1.15	1.25
1.50	1.27	1.20	1.20	1.20	1.50
1.75	1.33	1.26	1.26	1.26	1.75
2.00	1.39	1.32	1.31	1.31	2.00
2.25	1.45	1.38	1.37	1.37	2.25
2.50	1.51	1.44	1.42	1.42	2.50
2.75	1.57	1.50	1.48	1.48	2.75
3.00	1.64	1.57	1.54	1.54	3.00
3.25	1.70	1.63	1.59	1.59	3.25
3.50	1.76	1.69	1.65	1.65	3.50

★ Interpolate for intermediate values.

HSS L_f Load Location Factors ★

Types FC4 & FZ4 — Without Fan or Backstop

Based on distance from center line of load to drive seal cage

Distance (Inches)	DRIVE SIZE								Distance (Inches)	
	2060	2070	2080	2090	2100	2110	2120	2130		
0.50	0.88	0.87	0.85	0.85	0.84	0.87	0.86	0.86	0.86	0.50
0.75	0.92	0.91	0.89	0.89	0.87	0.89	0.89	0.89	0.88	0.75
1.00	0.96	0.94	0.92	0.92	0.90	0.92	0.91	0.91	0.91	1.00
1.25	1.00	0.98	0.95	0.95	0.93	0.94	0.93	0.93	0.93	1.25
1.50	1.11	1.05	0.98	0.98	0.96	0.96	0.95	0.95	0.95	1.50
1.75	1.22	1.16	1.05	1.05	0.98	0.99	0.98	0.98	0.98	1.75
2.00	1.32	1.26	1.14	1.14	1.04	1.03	1.00	1.00	1.00	2.00
2.25	1.43	1.36	1.23	1.23	1.10	1.10	1.06	1.06	1.06	2.25
2.50	1.54	1.47	1.33	1.33	1.17	1.17	1.13	1.13	1.13	2.50
2.75	...	1.57	1.42	1.42	1.24	1.24	1.19	1.19	1.19	2.75
3.00	...	...	1.51	1.51	1.31	1.30	1.26	1.25	1.25	3.00
3.25	...	...	1.61	1.61	1.38	1.37	1.32	1.32	1.32	3.25
3.50	...	...	...	...	1.45	1.44	1.38	1.38	1.38	3.50
3.75	...	...	...	...	1.52	1.51	1.45	1.45	1.45	3.75

Types FC4 & FZ4 — With Backstop & Without Fan

Based on distance from center line of load to backstop

Distance (Inches)	DRIVE SIZE				Distance (Inches)
	2100	2110	2120	2130	
0.50	0.91	0.92	0.91	0.91	0.50
0.75	0.92	0.93	0.93	0.92	0.75
1.00	0.94	0.95	0.94	0.94	1.00
1.25	0.96	0.96	0.96	0.95	1.25
1.50	0.98	0.98	0.97	0.97	1.50
1.75	0.99	0.99	0.98	0.98	1.75
2.00	1.01	1.01	1.00	1.00	2.00
2.25	1.04	1.04	1.02	1.02	2.25
2.50	1.06	1.06	1.05	1.05	2.50
2.75	1.09	1.09	1.07	1.07	2.75
3.00	1.12	1.12	1.10	1.10	3.00
3.25	1.14	1.14	1.12	1.12	3.25
3.50	1.17	1.17	1.15	1.15	3.50
3.75	...	...	1.18	1.18	3.75
4.00	...	...	...	...	4.00

★ Interpolate for intermediate values.

HSS Overhung Load Ratings ★/ Pounds

(For Loads Applied One Shaft Diameter From Seal Cage ‡)

High Speed Shaft rpm	AGMA Ratios	Approx Low Speed Shaft rpm	DRIVE SIZE									
			With or Without Backstop						Without Backstop			
			2040	2050	2060	2070	2080	2090	2100	2110	2120	2130
Type FC2 - Double Reduction ★												
1750	5.06	350	80	0	40	0	0	170	0	950	430	830
	6.20	280	130	30	60	100	260	120	40	1160	150	1140
	7.59	230	180	110	170	360	310	50	110	1370	410	1260
	9.30	190	220	100	240	620	30	170	310	1450	420	1360
	11.39	155	210	180	290	800	750	790	630	1500	440	1230
	13.95	125	230	260	300	800	840	830	1020	1500	470	1750
	17.09	100	210	310	220	330	1050	940	1270	1500	560	1750
	20.93	84	200	390	150	420	1050	1060	1400	1500	840	1750
	25.63	68	100	360	270	540	1050	1250	1400	1500	1030	1750
	31.39	56	50	20	500	180	590	1050	1250	1400	1500	1370	1750
1430	5.06	280	90	0	70	0	0	390	100	1010	940	880
	6.20	230	140	40	100	220	280	340	340	1220	670	1210
	7.59	190	200	110	200	530	350	280	120	1440	940	1340
	9.30	155	220	130	280	750	110	450	620	1500	970	1450
	11.39	125	230	260	340	800	910	1040	1100	1500	1000	1750
	13.95	100	230	330	350	800	1050	1120	1400	1500	1040	1750
	17.09	84	220	390	280	500	1050	1220	1400	1500	1150	1750
	20.93	68	270	460	270	590	1050	1250	1400	1500	1500	1750
	25.63	56	160	440	410	720	1050	1250	1400	1500	1500	1750
	31.39	45	90	500	300	770	1050	1250	1400	1500	1500	1750
Type FC3 - Triple Reduction ★												
1750	38.44	45	270	300	150	370	580	470	150	450	780	10
	47.08	37	270	300	140	370	580	440	490	800	900	240
	57.66	30	270	300	160	270	580	470	240	800	900	920
	70.62	25	270	300	190	310	120	480	700	800	900	1000
	86.50	20	270	300	190	340	580	620	700	800	900	1000
	105.9	16.5	270	300	230	470	580	620	700	800	900	1000
	129.7	13.5	270	300	220	470	580	620	700	800	900	1000
	158.9	11.0	270	300	260	490	580	620	700	800	900	1000
	194.6	9.0	...	...	310	520	580	620	700	800	900	1000
	1430	38.44	37	270	300	190	410	580	530	340	690	900	160
47.08		30	270	300	180	420	580	490	670	800	900	610
57.66		25	270	300	200	270	580	510	440	800	900	1000
70.62		20	270	300	230	310	110	560	700	800	900	1000
86.50		16.5	270	300	190	340	580	620	700	800	900	1000
105.9		13.5	270	300	270	500	580	620	700	800	900	1000
129.7		11.0	270	300	260	500	580	620	700	800	900	1000
158.9		9.0	270	300	280	520	580	620	700	800	900	1000
194.6		7.5	...	...	330	530	580	620	700	800	900	1000
Type FC4 - Quadruple Reduction ★												
1750	238.40	7.5	...	...	150	170	230	140	330	590	460	290
	291.90	6.0	...	...	150	170	230	180	380	590	540	390
	357.50	5.0	...	...	150	170	230	210	410	590	600	460
	437.90	4.0	...	...	150	170	230	250	420	590	640	510
	536.30	3.2	...	...	150	170	230	360	500	590	650	580
	656.80	2.7	...	...	150	170	230	350	390	590	500	340
	804.50	2.2	...	...	150	170	230	290	520	590	650	590
	985.30	1.8	...	...	150	170	230	330	520	590	650	700
	1207.00	1.5	...	...	150	170	230	330	520	590	650	700
	1430	238.40	6.0	150	170	230	180	400	590	560	400
291.90		5.0	...	...	150	170	230	220	440	590	540	470
357.50		4.0	...	...	150	170	230	250	470	590	600	540
437.90		3.2	...	...	150	170	230	290	480	590	640	590
536.30		2.7	...	...	150	170	230	390	520	590	650	680
656.80		2.2	...	...	150	170	230	390	450	590	600	460
804.50		1.8	...	...	150	170	230	320	520	590	650	690
985.30		1.5	...	...	150	170	230	330	520	590	650	700
1207.00		1.2	...	...	150	170	230	330	520	590	650	700

★ Published ratings are based on a combination of the most unfavorable conditions of loading. For higher ratings and for loads applied at a distance greater than one shaft diameter from the seal cage, refer full application data to Falk.

‡ For drives with a fan, the OHL must be reduced by using the appropriate load location factor (Li), refer to Pages 2 and 3.

□ For high speed shaft overhung load for Type FC drives with backstops, see Page 6.

HSS Overhung Load Ratings ★/ Pounds

Sizes 2100 thru 2130 — Drive with Backstop

(For Loads Applied One Shaft Diameter From Backstop)

High Speed Shaft rpm	AGMA Ratios	Approx Low Speed Shaft rpm	DRIVE SIZE			
			2100	2110	2120	2130
Type FC2 - Double Reduction ★						
1750	5.06	350	500	130	◆	◆
	6.20	280	630	360	◆	◆
	7.59	230	630	540	◆	◆
	9.30	190	630	620	◆	◆
	11.39	155	630	420	◆	◆
	13.95	125	630	710	◆	◆
	17.09	100	630	710	190	◆
	20.93	84	630	240	660	610
	25.63	68	630	710	340	◆
	31.39	56	630	710	720	310
1430	5.06	280	530	140	◆	◆
	6.20	230	630	380	◆	◆
	7.59	190	630	570	◆	◆
	9.30	155	630	660	◆	◆
	11.39	125	630	710	◆	◆
	13.95	100	630	710	360	680
	17.09	84	630	710	720	740
	20.93	68	630	580	720	870
	25.63	56	630	710	720	190
	31.39	45	630	710	720	790
Type FC3 - Triple Reduction ★						
1750	38.44	45	280	300	400	450
	47.08	37	280	300	400	450
	57.66	30	280	300	400	450
	70.62	25	280	300	400	450
1430	38.44	37	280	300	400	450
	47.08	30	280	300	400	450
	57.66	25	280	300	400	450
	70.62	20	280	300	400	450
Type FC4 - Quadruple Reduction ★						
1750	194.60	9.0	170	230	260	◆
	238.40	7.5	190	◆	260	◆
	291.90	6.0	190	100	260	◆
	357.50	5.0	190	120	260	180
	437.90	4.0	190	230	260	260
	536.30	3.2	190	230	260	280
	656.80	2.7	190	230	260	280
	804.50	2.2	190	230	260	280
1430	194.60	7.5	170	230	260	90
	238.40	6.0	190	◆	260	◆
	291.90	5.0	190	100	260	210
	357.50	4.0	190	120	260	280
	437.90	3.2	190	230	260	280

★ In each High Speed Shaft rpm section, the last overhung load value applies to all higher ratios of that gear reduction. Published ratings are based on a combination of the most unfavorable conditions of loading. For higher ratings and for loads applied at a distance greater than one shaft diameter from the backstop, refer full application data to Falk.

◆ Consult Falk for Overhung Load.

THIS PAGE INTENTIONALLY LEFT BLANK

World Class Customer Service

For more than 100 years, the dedicated people of Rexnord have delivered excellence in quality and service to our customers around the globe. Rexnord is a trusted name when it comes to providing skillfully engineered products that improve productivity and efficiency for industrial applications worldwide. We are committed to exceeding customer expectations in every area of our business: product design, application engineering, operations, and customer service.

Because of our customer focus, we are able to thoroughly understand the needs of your business and have the resources available to work closely with you to reduce maintenance costs, eliminate redundant inventories and prevent equipment down time.

Rexnord represents the most comprehensive portfolio of power transmission and conveying components in the world with the brands you know and trust.

Rexnord, Renew, and Steelflex are registered trademarks of Rexnord Industries, LLC. Falk is a trademark of Rexnord. All rights reserved.

WORLDWIDE CUSTOMER SERVICE

AUSTRALIA

Rexnord Australia Pty. Ltd.
Picton, New South Wales
Phone: 61-2-4677-3811
Fax: 61-2-4677-3812

BRAZIL

Rexnord Correntes Ltda.
Sao Leopoldo - RS
Phone: 55-51-579-8022
Fax: 55-51-579-8029

CANADA

Rexnord Canada Ltd.
Scarborough, Ontario
Phone: 1-416-297-6868
Fax: 1-416-297-6873

CHINA

Rexnord China
Shanghai, China
Phone: 86-21-62701942
Fax: 86-21-62701943

EUROPE

Rexnord NV/SA
Mechelen, Belgium
Phone: 32-15-443811
Fax: 32-15-443860
Rexnord Kette GmbH
Betzdorf, Germany
Phone: 49-2741-2840
Fax: 49-2741-284-385

LATIN AMERICA

Rexnord International, Inc.
Milwaukee, Wisconsin
Phone: 1-414-643-2366
Fax: 1-414-643-3222
E-mail: international2@rexnord.com

MEXICO

Rexnord S.A. de C.V.
Queretaro, Qro.
Phone: 52-442-218.5000
Fax: 52-.442-218-1090

SINGAPORE

Rexnord International, Inc.
Singapore City, Singapore
Phone: 65-6338-5622
Fax: 65-6338-5422

UNITED STATES

Customer Service
Phone: 1-866-REXNORD
(1-866-739-6673)
Fax: 1-614-675-1898
E-mail:
rexnordcs(state)@rexnord.com
Example:
rexnordcsohio@rexnord.com

ALL COUNTRIES NOT LISTED

Rexnord International
Milwaukee, Wisconsin
Phone: 1-414-643-2366
Fax: 1-414-643-3222
E-mail: international1@rexnord.com

