

Shaft Weights and Shaft Mechanical Friction

200.B.02 *(Effective June 1, 2006)*

Shaft Diameter (in.)	Wt. (lbs.) / Ft. *		Mechanical Friction (HP) / 100 Ft.							
	Enclosed Lineshaft	Open Lineshaft	3500	2900	1760	1460	1175	975	875	730
¾	1.50	1.3	0.60	0.51	0.31	0.26	0.20	0.17	0.15	0.13
1	2.60	2.3	1.10	0.87	0.53	0.44	0.35	0.29	0.26	0.22
1 ³ / ₁₆	3.80	3.3	1.40	1.20	0.72	0.60	0.47	0.40	0.36	0.27
1½	6.00	5.3	2.20	1.90	1.10	0.96	0.74	0.63	0.56	0.47
1 ¹¹ / ₁₆	7.60	6.3	2.70	2.30	1.40	1.20	0.91	0.78	0.70	0.59
1 ¹⁵ / ₁₆	10.00	8.8	3.90	3.10	1.80	1.60	1.20	1.00	0.90	0.76
2 ³ / ₁₆	12.80	11.2			2.30	1.90	1.50	1.30	1.10	0.95
2 ⁷ / ₁₆	15.78	13.9			2.90	2.40	1.90	1.60	1.40	1.20
2 ¹¹ / ₁₆	19.30	17.0			3.40	2.90	2.20	1.90	1.70	1.40
2 ¹⁵ / ₁₆	23.00	20.2				3.20	2.60	2.20	2.00	1.70
3 ³ / ₁₆	27.10	23.8					3.20	2.70	2.40	2.00
3 ⁷ / ₁₆	31.60	27.8					3.50	3.00	2.70	2.40
3 ¹¹ / ₁₆	36.30	31.9					4.10	3.40	3.00	2.70
4	42.70	37.6					4.80	4.10	3.60	3.10
4¼	48.20	42.4					5.15	4.60	4.10	3.40

* Oil lube shaft does not displace liquid above the pumping water level and therefore has a greater net weight.

Allowable Bearing Spacing (feet)

200.B.03 *(Effective June 1, 2006)*

OPEN LINESHAFT CONSTRUCTION

Shaft Size (in.)	Threaded / Flanged Column Rubber Bearings								
	RPM (60 Hz)					RPM (50 Hz)			
	3600	1800	1200	900	720	3000	1500	1000	750
1.00-1.50	5	10	10	10	10	5	10	10	10
1.68-2.19	5	10	10	10	10	5	10	10	10
2.44-2.69		10	10	10	10		10	10	10
2.94-3.19		10	10	10	10		10	10	10
3.44-3.68		10	10	10	10		10	10	10

ENCLOSED LINESHAFT CONSTRUCTION

Shaft Size (in.)	Non-Rubber Bearings								
	RPM (60 Hz)					RPM (50 Hz)			
	3600	1800	1200	900	720	3000	1500	1000	750
1.00	2.5 (5)	3.3 (5)	3.3 (5)	5	5	2.5 (5)	3.3 (5)	5	5
1.19	2.5 (5)	3.3 (5)	5	5	5	3.3 (5)	3.3 (5)	5	5
1.50-2.19	3.3 (5)	5	5	5	5	3.3 (5)	5	5	5
2.44-2.69		5	5	5	5		5	5	5
2.94-3.19		5	5	5	10		5	5	10
3.44-3.68		5	5	10	10		5	5	10

OPEN LINESHAFT CONSTRUCTION

Shaft Size (in.)	Flanged Column Non-Rubber Bearings								
	RPM (60 Hz)					RPM (50 Hz)			
	3600	1800	1200	900	720	3000	1500	1000	750
1.00	2.5	3.3	3.3	5	5	2.5 (5)	3.3 (5)	5	5
1.19	2.5	3.3	5	5	5	3.3 (5)	3.3 (5)	5	5
1.50-2.19	3.3	5	5	5	5	3.3 (5)	5	5	5
2.44-2.69		5	5	5	5		5	5	5
2.94-3.19		5	5	5	10		5	5	10
3.44-3.68		5	5	10	10		5	5	10

Note:

- For inverter duty motors and variable frequency drives, consult factory.
- Contact factory when specifications require calculations or values of critical speed.
- Lengths shown in () should be used for 50 feet or greater settings.

Open Lineshaft Construction:

- (a) Column Section Lengths are equal to applicable spacing shown in the tables.

Enclosed Lineshaft Construction:

- (a) Column Section Lengths are 10 feet for all bearing spacing shown in the table.
 (b) Tube Section Lengths are equal to applicable bearing spacing shown in the table.
 (c) Shaft Section Lengths are 10 feet for all bearing spacing shown in the table.

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