

### 5.2.1 Permissible loads

Permissible loads are in accordance with NEMA MG-1 (Table 14-1A), as shown in table 5.

Shaft loading for AC induction horizontal motors with ball bearings Maximum radial overhung load, in pounds, at center of N-W dimension				
Frame sizes	2 poles	4 poles	6 poles	8 poles
143T	106	154	179	192
145T	109	154	176	196
182T	180	227	260	287
184T	180	227	260	289
213T	230	300	350	380
215T	230	300	350	380
254T	470	593	703	774
256T	470	589	705	776
284T	570	735	838	929
286T	570	735	838	929
324T	660	860	990	1100
326T	660	850	980	1090
364T	820	1080	1240	1390
365T	820	1080	1240	1370
404T	-	1270	1450	1600
405T	-	1290	1480	1630
444T	-	1560	1760	1970
445T	-	1520	1760	1970
447T	-	1450	1660	1880
449T	-	1490	1660	1880

Table 5 - Permissible loads for NEMA motors

- 1 - All belt loads are considered to act in vertically downward direction.
- 2 - Overhung loads include belt tension and weight of sheave.
- 3 - For load at end of the shaft subtract 15%.
- 4 - Radial overhung load limitis based on bearing L-10 life of 26,280 hours.
- 5 - Overhung load limitis do not include any effect of unbalanced magnetic pull.

### Axial loads

Maximum permissible axial thrust - 60 Hz - 26,280 hours - in pounds							
Frame	Poles	Horizontal		Vertical with shaft upwards		Vertical with shaft downwards	
		Pushing	Pulling	Pushing	Pulling	Pushing	Pulling
143/5T	2	60	70	60	80	60	70
	4	80	100	70	110	80	90
	6	110	130	100	140	110	120
	8	130	150	120	160	130	140
182/4T	2	90	130	70	150	90	120
	4	120	180	100	210	120	160
	6	160	230	140	270	170	210
	8	190	280	170	310	200	260
213/5T	2	120	230	90	270	130	210
	4	160	310	130	360	170	280
	6	200	380	170	430	210	360
	8	240	440	190	520	250	400
254/6T	2	460	300	420	360	530	260
	4	540	380	480	470	640	330
	6	650	490	600	600	750	430
	8	720	560	650	670	830	490
284/6T	2	610	400	540	510	710	340
	4	730	530	650	650	850	450
	6	850	650	760	810	1010	560
	8	990	790	910	920	1120	710
324/6T	2	650	420	540	600	820	310
	4	800	570	690	760	990	460
	6	960	730	830	940	1170	610
	8	1090	870	970	1070	1300	740
364/5T	2	790	610	620	870	1050	440
	4	1000	820	810	1110	1280	630
	6	1190	1010	980	1350	1530	800
	8	1370	1210	1170	1530	1690	1000
404/5T	2	750	570	550	900	1070	380
	4	1070	890	810	1300	1480	640
	6	1280	1110	1000	1550	1730	830
	8	1440	1260	1150	1750	1930	970
444/5T 445/7T	2	720	550	440	1000	1170	260
	4	1210	1030	830	1660	1840	650
	6	1570	1390	1210	1960	2110	1030
	8	1710	1530	1280	2200	2380	1110
447/9T L447/9T	2	710	540	Under request	1300	1480	Under request
	4	1550	1370	850	2430	2590	670
	6	1870	1690	1210	2740	2920	1030
	8	2160	2000	1480	3030	3210	1330
504/5T	2	640	470	Under request	1080	1260	Under request
	4	1070	890	520	1730	1910	340
	6	1260	1090	660	2090	2270	490
	8	1480	1300	810	2340	2520	640
586/7T 588/9T	2	570	390	Under request	1300	Under request	Under request
	4	1150	980	Under request	2430	Under request	Under request
	6	1330	1170	Under request	2880	Under request	Under request
	8	1480	1300	Under request	3350	Under request	Under request

Table 6 - Maximum permissible axial thrusts for ball bearings

### Lubrication intervals

Frame	Lubrication intervals (hours)		
	RPM	Bearing	60 Hz
254/6T	3600	6309	20,000
	1800		25,000
	1200		
	900		
284/6T	3600	6311	14,000
	1800		25,000
	1200		
	900		
324/6T	3600	6312	12,000
	1800		25,000
	1200		
	900		
364/5T	3600	6314	4000
	1800		12,000
	1200		
	900		
404/5T	3600	6314	4000
	1800	6316	10,000
	1200		
	900		
444/5T 445/7T	3600	6314	4000
	1800	6319	8000
	1200		
	900		
447/9T L447/9T	3600	6314	4000
	1800	6322	6000
	1200		
	900		
504/5T	3600	6314	4000
	1800	6319	8000
	1200		
	900		
586/7T 588/9T	3600	6314	4000
	1800	6322	6000
	1200		
	900		

Table 7 - Lubrication intervals for ball bearings

Note: the amount of grease is indicated on the nameplate

Frame	Lubrication intervals (hours)		
	RPM	Bearing	60 Hz
254/6T	3600	NU309	12,000
	1800		25,000
	1200		
	900		
284/6T	3600	NU311	8000
	1800		25,000
	1200		
	900		
324/6T	3600	NU312	6000
	1800		21,000
	1200		
	900		
364/5T	1800	NU314	9000
	1200		13,000
	900		
	900		
404/5T	1800	NU316	7000
	1200		12,000
	900		
	900		
444/5T 445/7T	1800	NU319	5000
	1200		9000
	900		
	900		
447/9T L447/9T	1800	NU322	4000
	1200		7000
	900		
	900		
504/5T	1800	NU319	5000
	1200		9000
	900		
	900		
586/7T 588/9T	1800	NU322	4000
	1200		7000
	900		
	900		

Table 8 - Lubrication intervals for roller bearings

Note: the amount of grease is indicated on the nameplate