

# BEARING CAPACITIES



## 2000 Series Roller Bearings

### TABLE OF RADIAL LOAD CAPACITIES BASED ON 30,000 HOURS MINIMUM LENGTH OF OPERATION

Standard Shaft Sizes Inches	*SHAFT SPEED-REVOLUTIONS PER MINUTE												
	50	100	200	300	400	500	750	1000	1250	1500	1750	2000	2500
	ALLOWABLE RADIAL LOADS IN POUNDS												
1-7/16-1-1/2	5400	4130	3960	3422	2844	2377	2322	2182	2195	1977	1876	1783	1766
1-11/16-1-3/4	5444	4322	3900	3677	2950	2803	2322	2190	2195	2077	1922	1743	1588
1-15/16-2	5766	4677	4233	3980	3233	2956	2523	2381	2276	2130	2043	1720	1870
2-3/16	7120	5122	5320	5233	5144	4978	3021	2922	2765	3040	2234	2387	2344
2-7/16-2-1/2	10433	7240	7344	6132	5677	5098	4324	4122	3972	3677	3560	3323	3245
2-11/16-3	10888	7688	7863	7098	6670	5442	4654	4453	4234	3866	3786	3637	
3-7/16-3-1/2	17213	12340	12887	10978	9878	8589	7376	6004	6122	6055			
3-15/16-4	21338	17455	15743	14300	13444	10823	9144	7987	8342				
4-7/16-4-1/2	26998	22678	21340	19878	16480	13523	10566	11204	11001				
4-15/16-5	33877	31222	26890	25667	23356	19473	14888	15877					

## LIFE FACTORS

Hours	Factor	Hours	Factor
3,000	2.00	30,000	1.00
5,000	1.71	40,000	.92
10,000	1.39	75,000	.76
20,000	1.13	100,000	.70

## SERVICE FACTORS

APPLICATION	MODIFYING FACTOR
Smooth Even Loads	1.00
Heavy Machinery up to 1000RPM	.92
Light Shock Loads	.75
Heavy Shock Loads Applications above 1000RPM	.60

## EXAMPLE

To check two bearings on a shaft having a load equidistant between them subject to slight shock:

Desired Life - 20,000 Hours  
 Speed- 300 RPM  
 Shaft Size- 2-7/16"  
 Radial Load on Each Bearing- 3500 Lbs  
 Life Factor- 1.13  
 Service Factor -.75  
 Bearing Rating from table- 6132

Permissible Load =  $6132 \times 1.13 \times .75$   
 = **5197 lbs**

Thus, the standard 2-7/16" 2000 Series Bearing having a permissible load capacity of 5197 lbs. is satisfactory for a 3500 lb imposed load

\* Note: Capacities for intermediate speeds can be ascertained through interpolation