



ELIMINATOR PLANETARY (EP)



OVERVIEW:

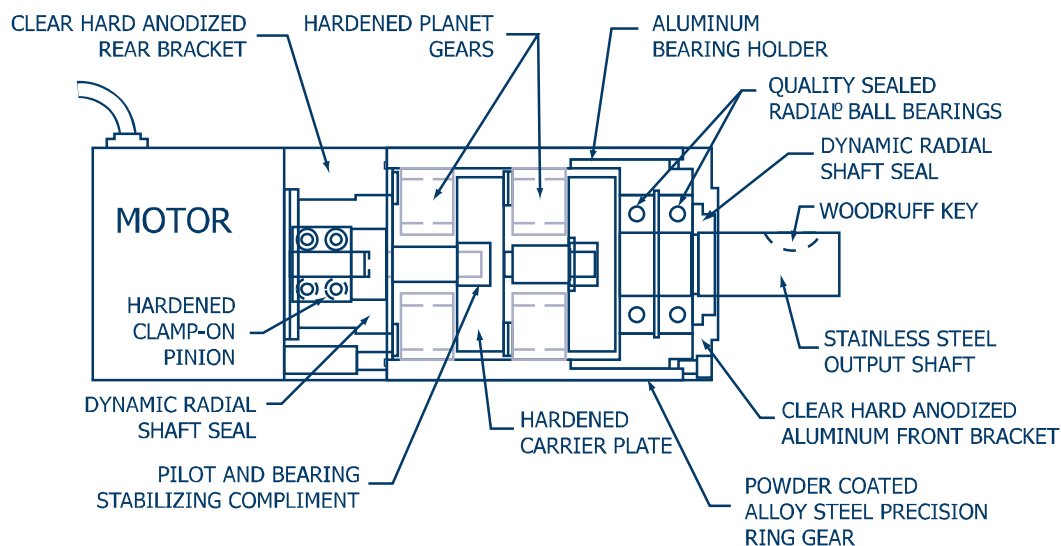
- The Eliminator Planetary (EP) line of gearheads is our economical high end line designed for strenuous applications.
- Made in sizes 17, 23 & 34 with standard ratios from 3:1 to 100:1. We are capable of producing ratios up to 10,000:1.

ELIMINATOR PLANETARY



FEATURES:

- Dynamic radial shaft seal at the input and output.
- Enclosure rating = IP65.
- Operating temperature range = -20°F to 250°F.
- Aluminum hard anodized rear and front brackets with surface hardnesses of 60 rockwell.
- Alloy steel powder coated ring gear.
- Quality sealed radial ball bearings.
- Stainless steel output shaft.
- Hardened precision gearing throughout.
- Precision clamp on pinion with four clamping screws to eliminate slippage.



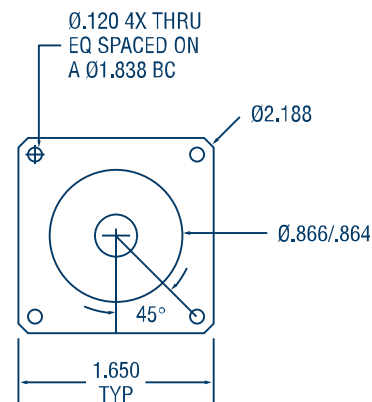
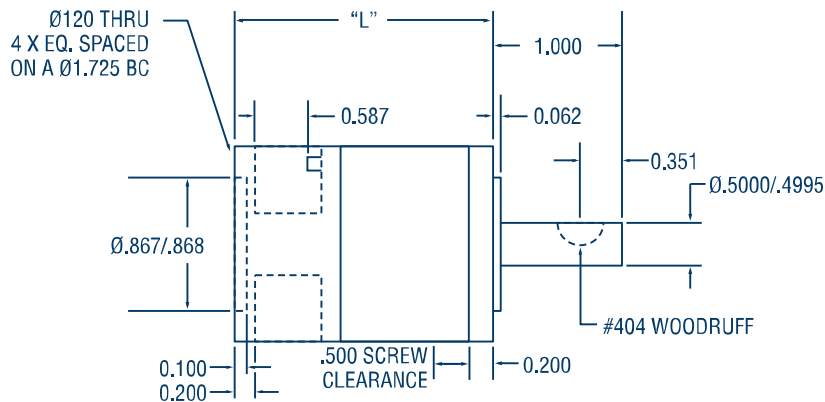


SIZE 17 ELIMINATOR PLANETARY

DIMENSION "L"

Single Stage (3:1 to 10:1) = 2.869 ± .015

Double Stage (16:1 to 100:1) = 3.738 ± .015



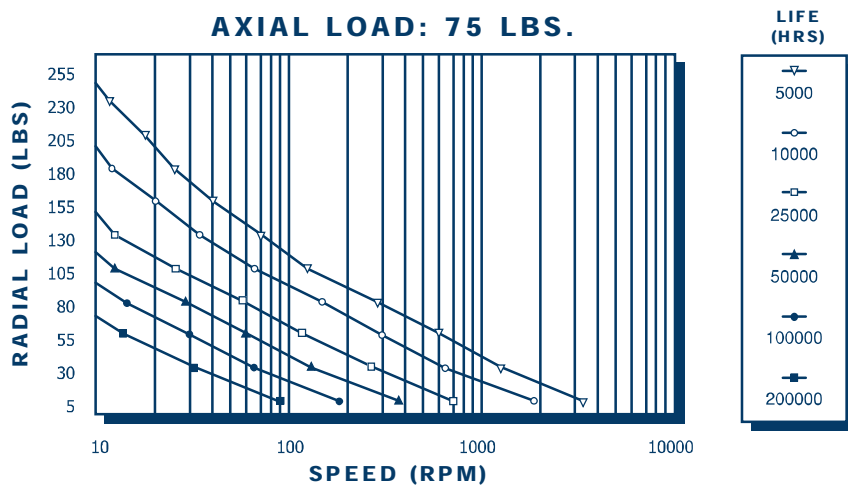
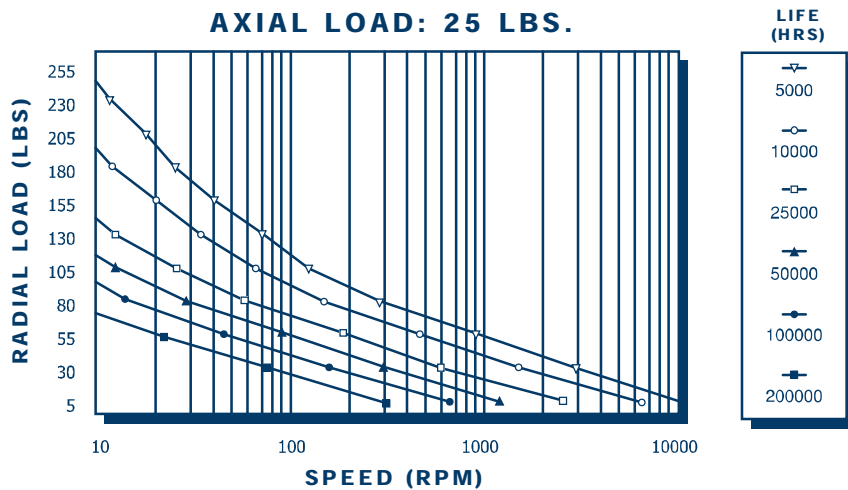
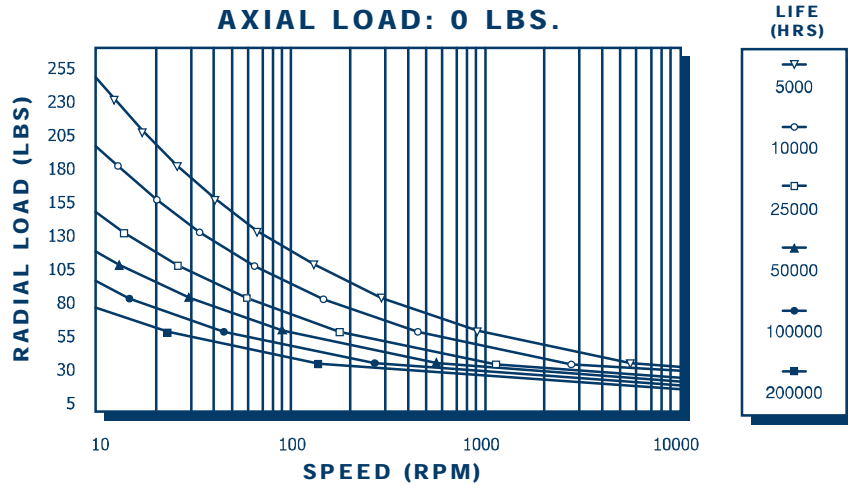
Part #	Ratio	Continuous output torque at 1500 rpm input (in-lbs)	Continuous output torque at 3500 rpm input (in-lbs)	Continuous output torque at 5000 rpm input (in-lbs)	Gearhead inertia at input (lb-in-sec ²)	
SINGLE STAGE	17EP003	3:1	197	140	115	3.25 x 10 ⁻⁵
	17EP004	4:1	177	136	116	1.60 x 10 ⁻⁵
	17EP005	5.5:1	157	129	113	1.10 x 10 ⁻⁵
	17EP007	7:1	143	122	110	9.56 x 10 ⁻⁶
	17EP010	10:1	113	101	93	8.36 x 10 ⁻⁶
DOUBLE STAGE	17EP016	16:1	211	194	182	1.59 x 10 ⁻⁵
	17EP022	22:1	216	201	193	1.10 x 10 ⁻⁶
	17EP028	28:1	218	207	199	9.54 x 10 ⁻⁶
	17EP040	40:1	220	212	207	8.35 x 10 ⁻⁶
	17EP049	49:1	158	154	152	9.44 x 10 ⁻⁶
	17EP055	55:1	183	177	175	8.31 x 10 ⁻⁶
	17EP070	70:1	160	156	154	8.30 x 10 ⁻⁶
	17EP100	100:1	122	120	119	8.29 x 10 ⁻⁶

GENERAL SPECIFICATIONS

Construction Type	Ratio	Backlash: Standard (arc-minutes)	Backlash: Low Backlash (arc-minutes)	Efficiency	Weight (lbs)	Maximum Tested Input rpm
Single Stage	3:1 to 10:1	6	3	90%	1.14	5000
Double Stage	16:1 to 100:1	10	7	85%	1.62	5000

PEAK TORQUE: 15% above continuous rating. **NOTE:** Repeated peak torque loading may cause failure.

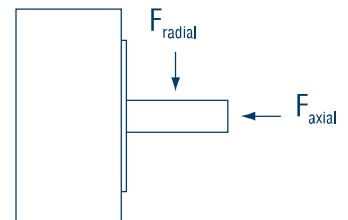
SIZE 17 EP BEARING LIFE VS. SHAFT LOAD



SPEED (RPM) refers to the gearheads output shaft speed.

LIFE (HRS) = (# of lifetime revolutions) ÷ (60 x rpm)

F_{RADIAL} is calculated at 1/2 the shaft length.



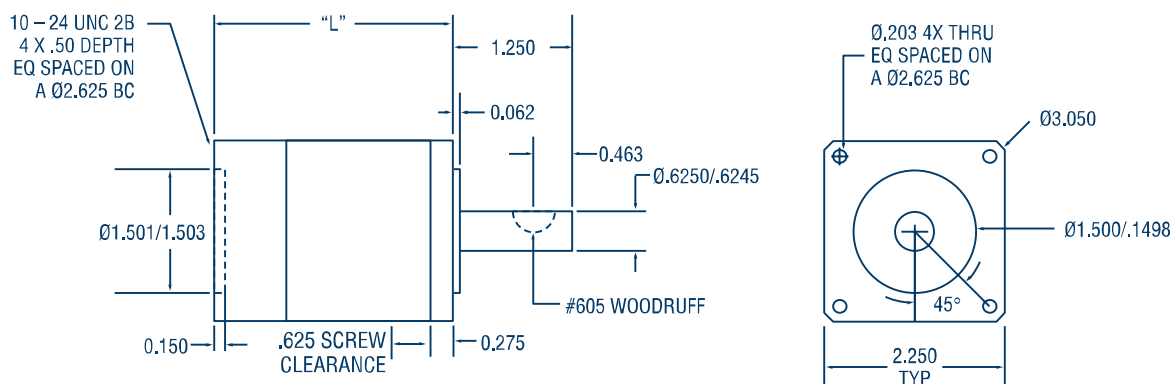


SIZE 23 ELIMINATOR PLANETARY

DIMENSION "L"

Single Stage (3:1 to 10:1) = 3.146 ± .015

Double Stage (16:1 to 100:1) = 4.249 ± .015



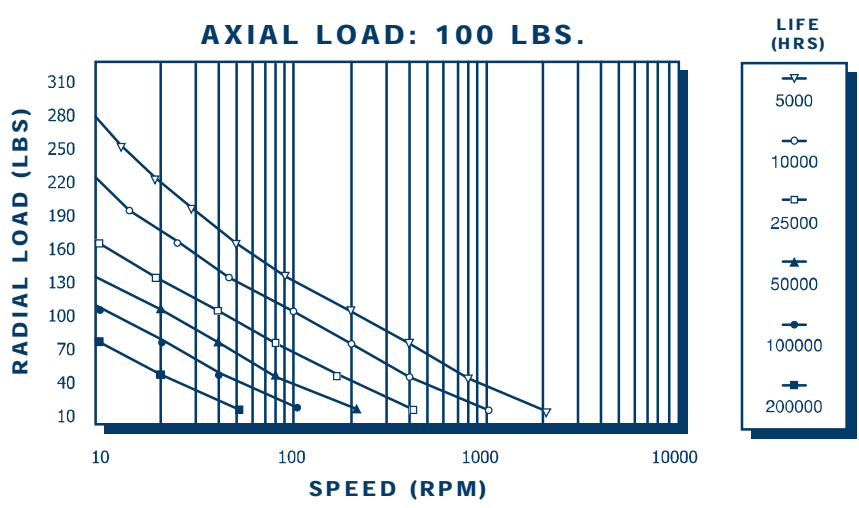
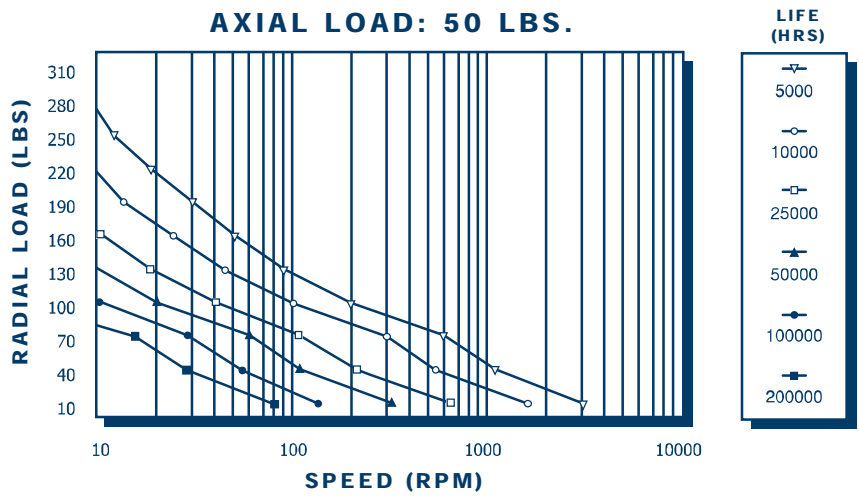
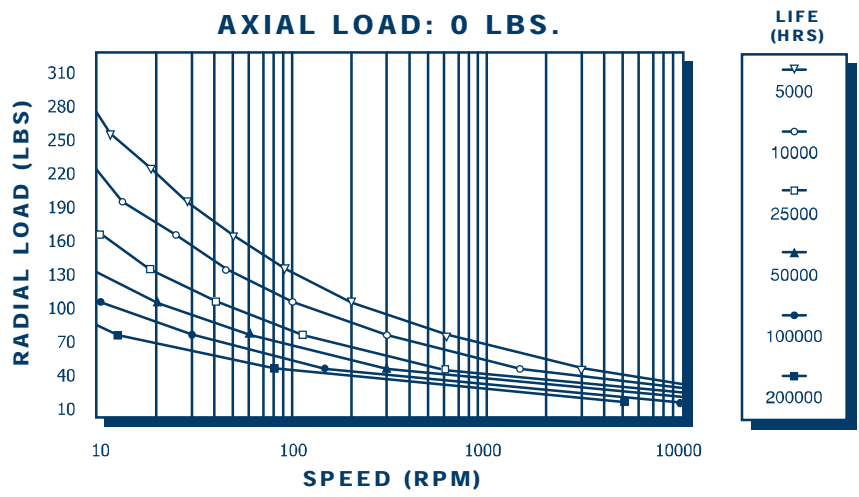
Part #	Ratio	Continuous output torque at 1500 rpm input (in-lbs)	Continuous output torque at 3500 rpm input (in-lbs)	Continuous output torque at 5000 rpm input (in-lbs)	Gearhead inertia at input (lb-in-sec ²)	
SINGLE STAGE	23EP003	3:1	442	292	232	1.22 x 10 ⁻⁴
	23EP004	4:1	410	294	242	5.24 x 10 ⁻⁵
	23EP005	5.5:1	373	288	247	2.65 x 10 ⁻⁵
	23EP007	7:1	344	279	245	1.93 x 10 ⁻⁵
	23EP010	10:1	277	238	215	1.35 x 10 ⁻⁵
DOUBLE STAGE	23EP016	16:1	521	463	427	5.32 x 10 ⁻⁵
	23EP022	22:1	536	490	460	2.70 x 10 ⁻⁵
	23EP028	28:1	545	506	481	1.96 x 10 ⁻⁵
	23EP040	40:1	553	525	506	1.36 x 10 ⁻⁵
	23EP049	49:1	400	385	375	1.90 x 10 ⁻⁵
	23EP055	55:1	460	443	432	1.34 x 10 ⁻⁵
	23EP070	70:1	404	393	385	1.33 x 10 ⁻⁵
	23EP100	100:1	308	303	298	1.33 x 10 ⁻⁵

GENERAL SPECIFICATIONS

Construction Type	Ratio	Backlash: Standard (arc-minutes)	Backlash: Low Backlash (arc-minutes)	Efficiency	Weight (lbs)	Maximum Tested Input rpm
Single Stage	3:1 to 10:1	6	3	90%	2.29	5000
Double Stage	16:1 to 100:1	10	7	85%	3.42	5000

PEAK TORQUE: 15% above continuous rating. **NOTE:** Repeated peak torque loading may cause failure.

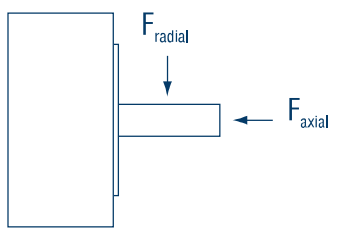
SIZE 23 EP BEARING LIFE VS. SHAFT LOAD



SPEED (RPM) refers to the gearheads output shaft speed.

LIFE (HRS) = (# of lifetime revolutions) ÷ (60 x rpm)

F_{RADIAL} is calculated at 1/2 the shaft length.



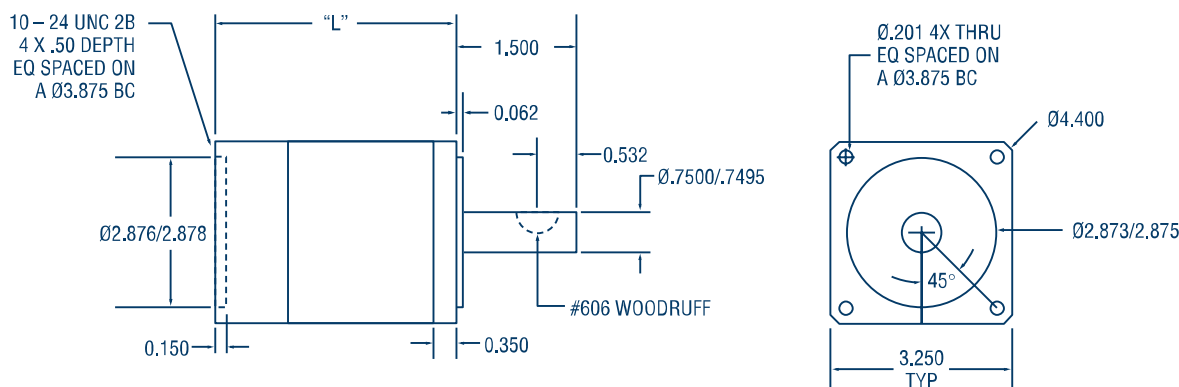


SIZE 34 ELIMINATOR PLANETARY

DIMENSION "L"

Single Stage (3:1 to 10:1) = 4.063 ± .015

Double Stage (16:1 to 100:1) = 5.431 ± .015



Part #	Ratio	Continuous output torque at 1500 rpm input (in-lbs)	Continuous output torque at 3500 rpm input (in-lbs)	Continuous output torque at 5000 rpm input (in-lbs)	Gearhead inertia at input (lb-in-sec ²)	
SINGLE STAGE	34EP003	3:1	1010	615	475	6.77 x 10 ⁻⁴
	34EP004	4:1	972	643	513	2.77 x 10 ⁻⁴
	34EP005	5.5:1	913	657	543	1.51 x 10 ⁻⁴
	34EP007	7:1	859	653	554	1.11 x 10 ⁻⁴
	34EP010	10:1	707	575	505	7.90 x 10 ⁻⁵
DOUBLE STAGE	34EP016	16:1	1350	1145	1027	2.86 x 10 ⁻⁴
	34EP022	22:1	1401	1234	1133	1.55 x 10 ⁻⁴
	34EP028	28:1	1432	1293	1203	1.11 x 10 ⁻⁴
	34EP040	40:1	1469	1362	1293	8.04 x 10 ⁻⁵
	34EP049	49:1	1067	1010	971	1.11 x 10 ⁻⁴
	34EP055	55:1	1228	1165	1123	7.94 x 10 ⁻⁵
	34EP070	70:1	1081	1040	1010	7.90 x 10 ⁻⁵
	34EP100	100:1	827	805	790	7.87 x 10 ⁻⁵

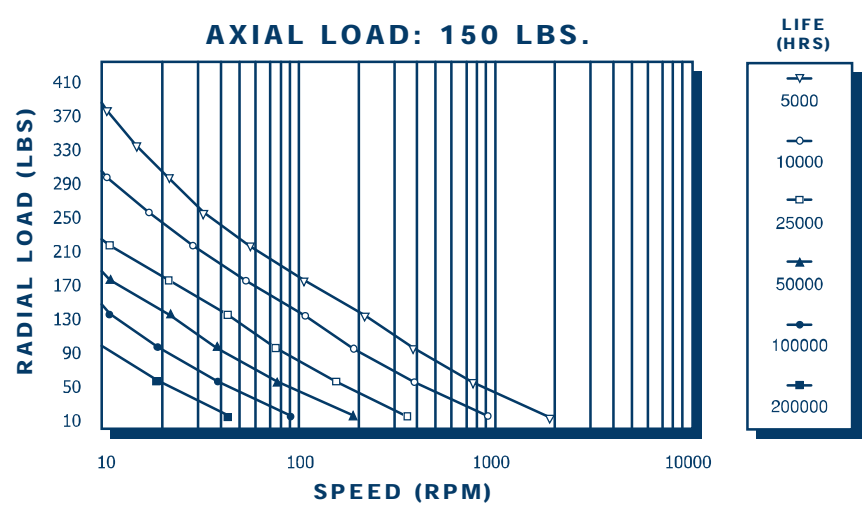
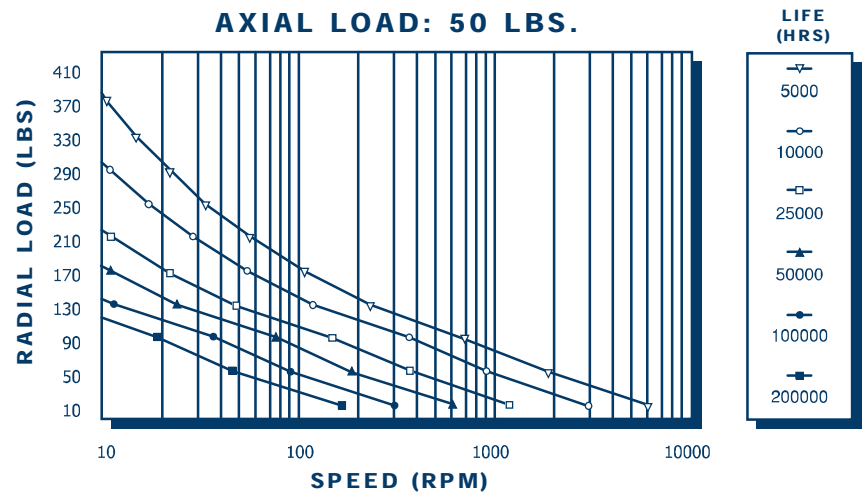
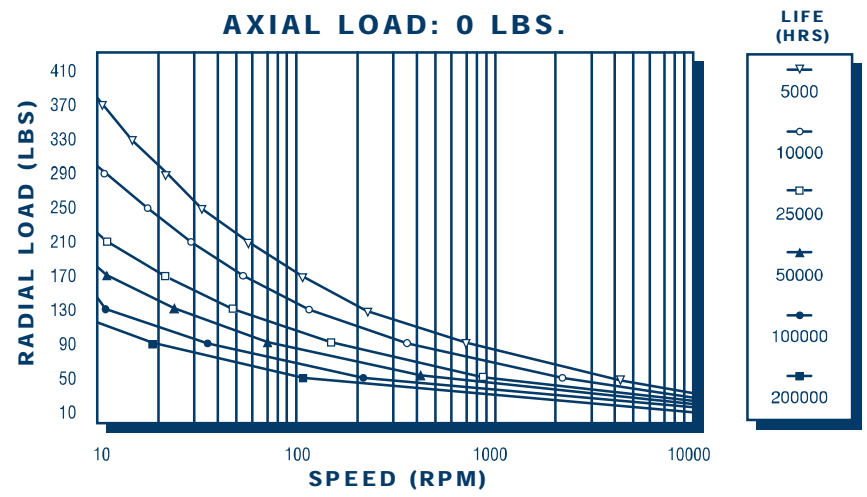
GENERAL SPECIFICATIONS

Construction Type	Ratio	Backlash: Standard (arc-minutes)	Backlash: Low Backlash (arc-minutes)	Efficiency	Weight (lbs)	Maximum Tested Input rpm
Single Stage	3:1 to 10:1	6	3	90%	5.67	5000
Double Stage	16:1 to 100:1	10	7	85%	8.41	5000

PEAK TORQUE: 15% above continuous rating.

NOTE: Repeated peak torque loading may cause failure.

SIZE 34 EP BEARING LIFE VS. SHAFT LOAD



SPEED (RPM) refers to the gearheads output shaft speed.

LIFE (HRS) = (# of lifetime revolutions) ÷ (60 x rpm)

F_{RADIAL} is calculated at 1/2 the shaft length.

