

TEM Motors and Protectors Technical Summary

Motors

Series	Housing Diameter		Shaft Diameter		Maximum Horsepower		Maximum Temperature	
	mm	inches	mm	inches	(50 Hz)	(60 Hz)	°F	°C
456	116	4.56	30	1.18	200	240	248	120
540	138	5.43	35	1.38	500	600	248	120

Note: Special high temperature Motor Windings also available
Lockplates add 2.5mm to Motor OD

Protectors

Series	Housing Diameter		Maximum Thrust Load (Pounds)		Maximum Horsepower		Maximum Temperature	
	mm	inches	Basic	High Load	(50 Hz)	(60 Hz)	°F	°C
400 - STD	98	3.86	2200	3700	210	252	320	160
400 - SBG	98	3.86	2200	3700	125	150	248	120
400 - DBG	98	3.86	2200	3700	210	252	248	120
540 - STD	130	5.12	3300	6300	530	636	320	160
540 - SBG	130	5.12	3300	6300	125	150	248	120
540 - DBG	130	5.12	3300	6300	530	636	248	120

Horsepower required to turn protector :
 @ 50Hz = 1.2 Hp
 @ 60Hz = 1.5 Hp

Note: HSN or AFLAS Elastomer bags available for High Temperature or Corrosive conditions
 Maximum Thrust Loads decrease above maximum temperature
 Confirm with COSCO engineering for special applications

TEM PROTECTOR SPECIFICATIONS

400 SERIES

MODEL QYH98

Type	Length		Weight	
	Meters	Feet	Kilograms	Pounds
400 - STD LABYRINTH	1.6	5.3	52	115
400 - SBG SINGLE BAG	1.6	5.3	52	115
400 - DBG DOUBLE BAG	3.3	10.8	103	227

Also available with high load shafts (HLS)

400 - STD available with high load thrust bearing (HLB)

Upgraded elastomer bags available for high temperature or corrosive conditions

500 SERIES

MODEL QYH130

Type	Length		Weight	
	Meters	Feet	Kilograms	Pounds
540 - STD LABYRINTH	1.8	5.9	86	190
540 - SBG SINGLE BAG	1.2	4	80	176
540 - DBG DOUBLE BAG	1.9	6.2	116	256

Also available with high load shafts (HLS)

540 - STD available with high load thrust bearing (HLB)

Upgraded elastomer bags available for high temperature or corrosive conditions

Protectors - Thrust Bearing Limitations @ 50 Hz

					Max No. of Floater Stages @ SG=1 50 Hz Thrust Bearing Type											
					325S BASIC		375S BASIC		400S BASIC		400S HI-LOAD		540S BASIC		540S HILOAD	
Pump	Shaft	Shaft	Shut Off	Thrust	200	250	200	250	200	250	200	250	200	250	200	250
Type	Dia.(in)	Area(in)	Head/STG	/ 100 STG	Deg.F	Deg.F	Deg.F	Deg.F	Deg.F	Deg.F	Deg.F	Deg.F	Deg.F	Deg.F	Deg.F	Deg.F

338 SERIES

TA 550	0.625	0.306	15.5	206	396	339	443	380								
TA 900	0.625	0.306	15.0	200	408	350	456	391								
TA 1200	0.625	0.306	14.5	193	422	362	473	405								
TA 1500	0.687	0.371	12.2	197	414	355	463	397								

387/400 SERIES

TD 280	0.500	0.196	15.0	140			713	611	831	713	1997	1391	1484	1427	4351	3210
TD 450	0.625	0.306	18.5	244			371	318	477	409	1164	798	851	819	2497	1842
TD 610	0.625	0.306	23.0	306			298	255	380	326	915	637	679	653	1993	1470
TD 700	0.625	0.306	20.0	266			343	294	437	375	1052	733	781	751	2293	1691
TD 1000	0.687	0.371	20.0	323			283	243	360	309	866	603	643	618	1886	1391
TD 1300	0.687	0.371	19.8	318			286	245	367	315	881	613	654	629	1919	1416
TD 1750	0.687	0.371	21.0	340			270	231	343	294	823	573	612	588	1794	1323
TD 2000	0.687	0.371	20.2	323			280	240	360	309	866	603	643	618	1886	1391
TD 3000	0.875	0.601	20.6	539			170	145	216	186	520	362	386	371	1133	836
TD 4000	0.875	0.601	18.6	484			188	161	240	206	578	403	429	413	1259	929

540 SERIES

TG 1600	0.875	0.601	37.5	977					119	102	286	199	212	204	624	460
TG 2000	0.875	0.601	35.5	922					126	109	304	212	226	217	662	488
TG 2500	0.875	0.601	36.9	976					119	102	287	200	213	205	625	461
TG 3100	0.875	0.601	37.3	970					120	103	289	201	214	206	629	464
TG 4000	1.000	0.785	37.0	1267					92	79	221	154	164	158	481	355
TG 5200	1.000	0.785	32.0	1085					107	92	258	180	192	184	562	415
TG 5600	1.000	0.785	31.1	1062					110	94	264	184	196	188	574	424
TG 7000	1.000	0.785	33.0	1121					104	89	250	174	186	178	544	401
TG10000	1.187	1.107	30.1	1444					81	69	194	135	144	138	422	312

Protectors - Thrust Bearing Limitations @ 60 Hz

					Max No.of Floater Stages @ SG=1 60 Hz Thrust Bearing Type											
					325S Basic		375S Basic		400S Basic		400S Hi-Load		540S Basic		540S Hi-Load	
Pump Type	Shaft Dia.(in)	Shaft Area (in)	Shut Off Head/Stg /100 STG	Thrust /100 STG	200 Deg.F	250 Deg.F	200 Deg.F	250 Deg.F	200 Deg.F	250 Deg.F	200 Deg.F	250 Deg.F	200 Deg.F	250 Deg.F	200 Deg.F	250 Deg.F

338 SERIES

TA 550	0.625	0.306	22.3	297	329	282	369	316								
TA 900	0.625	0.306	21.6	287	341	292	381	327								
TA 1200	0.625	0.306	20.9	278	352	302	394	338								
TA 1500	0.687	0.371	17.6	523	187	160	209	179								

387/400 SERIES

TD 280	0.500	0.196	23.8	202			539	463	693	594	1663	1158	1238	1188	3119	2673
TD 450	0.625	0.306	26.5	352			311	267	398	341	955	665	710	682	1790	1534
TD 610	0.625	0.306	33.1	440			249	213	318	272	763	531	568	545	1431	1227
TD 700	0.625	0.306	28.8	383			286	245	365	313	877	610	652	626	1644	1409
TD 1000	0.687	0.371	29.0	466			234	201	300	258	721	502	536	515	1352	1159
TD 1300	0.687	0.371	28.5	458			239	205	306	262	734	511	546	524	1376	1179
TD 1750	0.687	0.371	30.5	490			223	191	286	245	686	478	510	490	1286	1102
TD 2000	0.687	0.371	29.0	466			234	201	300	258	721	502	536	515	1352	1159
TD 3000	0.875	0.601	29.8	776			141	121	180	155	433	302	322	309	812	696
TD 4000	0.875	0.601	26.8	698			157	134	201	172	481	335	358	344	903	774

540 SERIES

TG 1600	0.875	0.601	54.0	1406					99	85	238	166	177	170	448	384
TG 2000	0.875	0.601	51.0	1328					105	90	253	176	188	181	474	407
TG 2500	0.875	0.601	54.0	1406					100	85	239	166	178	171	448	384
TG 3100	0.875	0.601	53.7	1398					100	86	240	167	179	172	451	386
TG 4000	1.000	0.785	53.7	1826					77	66	184	128	137	131	345	296
TG 5200	1.000	0.785	46.0	1564					90	77	215	150	160	153	403	345
TG 5600	1.000	0.785	45.0	1530					92	78	220	153	163	157	412	353
TG 7000	1.000	0.785	47.5	1615					87	74	208	145	155	149	390	334
TG10000	1.187	1.107	43.4	2081					67	58	161	112	120	115	303	259

Protectors - Thrust Bearing Limitations

Data from the following example is taken from the Limitations Sheet

Maximum pump stack up due.

$$\text{To Thrust Bearing Limitations} = \frac{\text{Thrust Bearing Load (lbs Thrust)}}{\text{Thrust per 100 stages} \times \text{specific gravity}}$$

Example: What is the maximum stack-up of floater impellers for a TG-4000 pump using a basic 540 series thrust bearing on a 50 Hz supply? The pumped fluid specific gravity is 0.9, the bottom hole temperature is 250 Deg. F.

From the Bearing Thrust Load Data:

The maximum thrust load for the BASIC 540 THRUST BEARING @ 50Hz, 250 Deg.F = **2000 LBS**

From the Thrust Bearing Limitations Table @ 50 Hz:

The thrust per 100 stages is 1,267 at shut-off head for fluid with a specific gravity of 1.00
 The thrust per 100 stages for fluid with a specific gravity of 0.9 is : **1,267 x 0.9 = 1140 LBS**

The maximum stack-up therefore: $\frac{2000 \text{ lbs} \times 100 \text{ stages}}{1140 \text{ lbs}} = 175 \text{ stages}$

NOTE: Pump shaft and housing limitations must also be checked, as they may have lower limitations than the thrust bearing.

Protector Motor Load at maximum thrust (Horse Power)

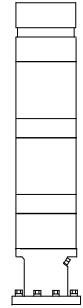
Motor Series	Thrust Bearing	Horse Power (HP)	
		50Hz	60 Hz
400	Basic	0.420	0.600
	Hi-Load	0.625	0.900
540	Basic	0.760	1.100
	Hi-Load	1.220	1.750

375 Series Motor Specifications

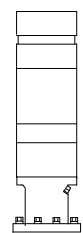
4.500" OD Casing Minimum
3.750" OD Motor Housing

Hertz	Horse Power	Volts	Amps	Construction	Length	Weight
					Meters (Feet)	Kgs (Pounds)
50	6.3	342	14	Single	2.2 m	94 kg
60	7.5	410	14	Single	7.0 ft	208 lbs
50	6.3	342	14	Upper Tandem	2.0 m	94 kg
60	7.5	410	14	Upper Tandem	6.4 ft	208 lbs
50	8.8	325	20.5	Single	2.7 m	122 kg
60	10.5	390	20.5	Single	8.9 ft	270 lbs
50	8.8	325	20.5	Upper Tandem	2.5 m	122 kg
60	10.5	390	20.5	Upper Tandem	8.3 ft	270 lbs
50	12.5	262	35.5	Single	3.6 m	164 kg
60	15	315	35.5	Single	11.7 ft	361 lbs
50	12.5	262	35.5	Upper Tandem	3.4 m	164 kg
60	15	315	35.5	Upper Tandem	11.1 ft	361 lbs
50	12.5	262	35.5	Center Tandem	3.4 m	164 kg
60	15	315	35.5	Center Tandem	11.1 ft	361 lbs
50	12.5	262	35.5	Lower Tandem	3.4 m	164 kg
60	15	315	35.5	Lower Tandem	11.1 ft	361 lbs
50	12.5	333	28	Single	3.6 m	164 kg
60	15	400	28	Single	11.7 ft	361 lbs
50	12.5	333	28	Upper Tandem	3.4 m	164 kg
60	15	400	28	Upper Tandem	11.1 ft	361 lbs
50	12.5	333	28	Center Tandem	3.4 m	164 kg
60	15	400	28	Center Tandem	11.1 ft	361 lbs
50	12.5	333	28	Lower Tandem	3.4 m	164 Kg
60	15	400	28	Lower Tandem	11.1 ft	361 kg
50	16.3	323	38	Single	4.4 m	207 Kg
60	19.5	387	38	Single	14.5 ft	456 lbs
50	16.3	323	38	Upper Tandem	4.2 m	207 Kg
60	19.5	387	38	Upper Tandem	13.9 ft	456 lbs
50	16.3	323	38	Center Tandem	4.2 m	207 kg
60	19.5	387	38	Center Tandem	13.9 ft	456 lbs
50	16.3	323	38	Lower Tandem	4.2 m	207 kg
60	19.5	387	38	Lower Tandem	13.9 ft	456 lbs

Modular Protector



Labyrinth Protector



Upper Tandem Motor



Motor Base



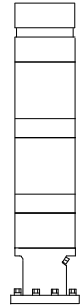
Motors are available as Single or Upper, Center and Lower Tandem. Please specify which type when ordering.

375 Series Motor Specifications

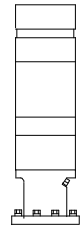
4.500" OD Casing Minimum
3.750" OD Motor Housing

Hertz	Horse Power	Volts	Amps	Construction	Length	Weight
					Meters	Kgs
					(Feet)	(Pounds)
50	16.3	525	23	Single	4.2 m	207 kg
60	19.5	630	23	Single	14.5 ft	456 lbs
50	16.3	525	23	Upper Tandem	4.2 m	207 lbs
60	19.5	630	23	Upper Tandem	13.9 ft	456 lbs
50	16.3	525	23	Center Tandem	4.2 m	207 kg
60	19.5	630	23	Center Tandem	13.9 ft	456 lbs
50	16.3	525	23	Lower Tandem	4.2 m	207 kg
60	19.5	630	23	Lower Tandem	13.9 ft	456 lbs
50	18.8	275	51.5	Single	5.0 m	233 kg
60	22.5	330	51.5	Single	16.4 ft	514 lbs
50	18.8	275	51.5	Upper Tandem	4.8 m	233 kg
60	22.5	330	51.5	Upper Tandem	15.8 ft	514 lbs
50	18.8	275	51.5	Center Tandem	4.8 m	233 kg
60	22.5	330	51.5	Center Tandem	15.8 ft	514 lbs
50	18.8	275	51.5	Lower Tandem	4.8 m	233 kg
60	22.5	330	51.5	Lower Tandem	15.8 ft	514 lbs
50	18.8	367	38.5	Single	5.0 m	233 kg
60	22.5	440	38.5	Single	16.4 ft	514 lbs
50	18.8	367	38.5	Upper Tandem	4.8 m	233 kg
60	22.5	440	38.5	Upper Tandem	15.8 ft	514 lbs
50	18.8	367	38.5	Center Tandem	4.8 m	233 kg
60	22.5	440	38.5	Center Tandem	15.8 ft	514 lbs
50	18.8	367	38.5	Lower Tandem	4.8 m	233 kg
60	22.5	440	38.5	Lower Tandem	15.8 ft	514 lbs
50	18.8	608	23	Single	5.0 m	233 kg
60	22.5	730	23	Single	16.4 ft	514 lbs
50	18.8	608	23	Upper Tandem	4.8 m	233 kg
60	22.5	730	23	Upper Tandem	15.8 ft	514 lbs
50	18.8	608	23	Center Tandem	4.8 m	233 kg
60	22.5	730	23	Center Tandem	15.8 ft	514 lbs
50	18.8	608	23	Lower Tandem	4.8 m	233 kg
60	22.5	730	23	Lower Tandem	15.8 ft	514 lbs

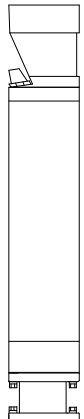
Modular Protector



Labyrinth Protector



Upper Tandem Motor



Motor Base



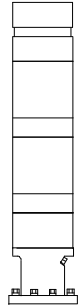
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Please specify which type when ordering.*

375 Series Motor Specifications

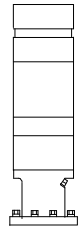
4.500" OD Casing Minimum
3.750" OD Motor Housing

Hertz	Horse Power	Volts	Amps	Construction	Length	Weight
					Meters	Kgs
					(Feet)	(Pounds)
50	21.3	275	51	Single	5.6 m	300 kg
60	25.5	370	51	Single	18.3 ft	660 lbs
50	21.3	275	51	Upper Tandem	5.4 m	300 kg
60	25.5	370	51	Upper Tandem	17.7 ft	660 lbs
50	21.3	275	51	Center Tandem	5.4 m	300 kg
60	25.5	370	51	Center Tandem	17.7 ft	660 lbs
50	21.3	275	51	Lower Tandem	5.4 m	300 kg
60	25.5	370	51	Lower Tandem	17.7 ft	660 lbs
50	21.3	417	37	Single	5.6 m	300 kg
60	25.5	500	37	Single	18.3 ft	660 lbs
50	21.3	417	37	Upper Tandem	5.4 m	300 kg
60	25.5	500	37	Upper Tandem	17.7 ft	660 lbs
50	21.3	417	37	Center Tandem	5.4 m	300 kg
60	25.5	500	37	Center Tandem	17.7 ft	660 lbs
50	21.3	417	37	Lower Tandem	5.4 m	300 kg
60	25.5	500	37	Lower Tandem	17.7 ft	660 lbs
50	21.3	525	30	Single	5.6 m	300 kg
60	25.5	630	30	Single	18.3 ft	660 lbs
50	21.3	525	30	Upper Tandem	5.4 m	300 kg
60	25.5	630	30	Upper Tandem	17.7 ft	660 lbs
50	21.3	525	30	Center Tandem	5.4 m	300 kg
60	25.5	630	30	Center Tandem	17.7 ft	660 lbs
50	21.3	525	30	Lower Tandem	5.4 m	300 kg
60	25.5	630	30	Lower Tandem	17.7 ft	660 lbs

Modular Protector



Labyrinth Protector



Upper Tandem Motor



Motor Base



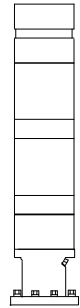
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456 Series Motor Specifications

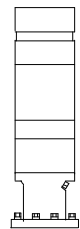
5.500" OD Casing Minimum
4.560" OD Motor Housing

Hertz	Horse Power	Volts	Amps	Construction	Length	Weight
					Meters (Feet)	Kg (Pounds)
50	8.5	363	15	Single	1.6 m	109 kg
60	10.0	435	15	Single	5.1 ft	240 lbs
50	12.5	363	23	Single	1.9 m	131 kg
60	15.0	435	23	Single	6.3 ft	288 lbs
50	12.5	546	16	Single	1.9 m	131 kg
60	15.0	655	16	Single	6.3 ft	288 lbs
50	16.5	375	28.5	Single	2.3 m	156 kg
60	20.0	450	28.5	Single	7.5 ft	345 lbs
50	16.5	625	17	Single	2.3 m	156 kg
60	20.0	750	17	Single	7.5 ft	345 lbs
50	21.0	342	39	Single	2.7 m	182 kg
60	25.0	410	39	Single	8.7 ft	402 lbs
50	21.0	575	22	Single	2.7 m	182 kg
60	25.0	690	22	Single	8.7 ft	402 lbs
50	25.0	355	44.5	Single	3.0 m	210 kg
60	30.0	425	44.5	Single	9.9 ft	462 lbs
50	25.0	625	22.5	Single	3.0 m	210 kg
60	30.0	750	22.5	Single	9.9 ft	462 lbs
50	25.0	1050	15	Single	3.0 m	210 kg
60	30.0	1260	15	Single	9.9 ft	462 lbs
50	29.5	321	57	Single	3.4 m	236 kg
60	35.0	385	57	Single	11.1 ft	520 lbs
50	29.5	563	33	Single	3.4 m	236 kg
60	35.0	675	33	Single	11.1 ft	520 lbs
50	29.5	654	28	Single	3.4 m	236 kg
60	35.0	785	28	Single	11.1 ft	520 lbs
50	33.5	359	59	Single	3.7 m	262 kg
60	40.0	430	59	Single	12.3 ft	577 lbs
50	33.5	642	33	Single	3.7 m	262 kg
60	40.0	770	33	Single	12.7 ft	577 lbs
50	33.5	733	38	Single	3.7 m	262 kg
60	40.0	880	38	Single	12.7 ft	577 lbs

Modular Protector



Labyrinth Protector



Upper Tandem Motor



Motor Base



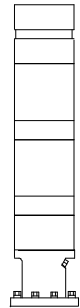
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456 Series Motor Specifications

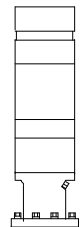
5.500" OD Casing Minimum
4.560" OD Motor Housing

Hertz	Horse Power	Volts	Amps	Construction	Length	Weight
					Meters (Feet)	Kg (Pounds)
50	33.5	1117	19	Single	3.7 m	262 kg
60	40.0	1340	19	Single	12.3 ft	577 lbs
50	41.5	562	47	Single	4.5 m	315 kg
60	50.0	675	47	Single	14.7 ft	694 lbs
50	41.5	679	39	Single	4.5 m	315 kg
60	50.0	815	39	Single	14.7 ft	694 lbs
50	41.5	796	33	Single	4.5 m	315 kg
60	50.0	955	33	Single	14.7 ft	694 lbs
50	41.5	1158	23	Single	4.5 m	315 kg
60	50.0	1390	23	Single	14.7 ft	694 lbs
50	50.0	533	59	Single	5.3 m	318 kg
60	60.0	640	59	Single	17.5 ft	700 lbs
50	50.0	621	52	Single	5.3 m	318 kg
60	60.0	745	52	Single	17.5 ft	700 lbs
50	50.0	675	47	Single	5.3 m	318 kg
60	60.0	810	47	Single	17.5 ft	700 lbs
50	50.0	808	39	Single	5.3 m	318 kg
60	60.0	970	39	Single	17.5 ft	700 lbs
50	50.0	1108	29	Single	5.3 m	318 kg
60	60.0	1330	29	Single	17.5 ft	700 lbs
50	58.5	450	82.5	Single	5.9 m	401 kg
60	70.0	540	82.5	Single	19.4 ft	885 lbs
50	58.5	625	60	Single	5.9 m	401 kg
60	70.0	750	60	Single	19.4 ft	885 lbs
50	58.5	788	47	Single	5.9 m	401 kg
60	70.0	945	47	Single	19.4 ft	885 lbs
50	58.5	945	39	Single	5.9 m	401 kg
60	70.0	1135	39	Single	19.4 ft	885 lbs
50	66.5	529	80	Single	6.6 m	451 kg
60	80.0	635	80	Single	21.8 ft	995 lbs
50	66.5	717	60	Single	6.6 m	451 kg
60	80.0	860	60	Single	21.8 ft	995 lbs
50	66.5	904	46	Single	6.6 m	451 kg
60	80.0	1085	46	Single	21.5 ft	995 lbs

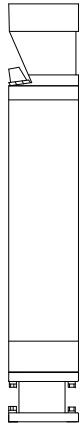
Modular Protector



Labyrinth Protector



Upper Tandem Motor



Motor Base



*Motors are available as a Single or Upper, Center and Lower Tandem.
Please specify which type when ordering.*

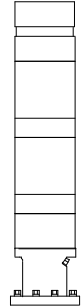
456 SERIES MOTOR SPECIFICATIONS

5.500" OD Casing Minimum

4.560" OD Motor Housing

Hertz	Horse Power	Volts	Amps	Construction	Length	Weight
					Meters (Feet)	Kg (Pounds)
50	66.5	1091	39	Single	6.6 m	451 kg
60	80	1310	39	Single	21.8 ft	995 kg
50	75	800	59	Single	7.4 m	506 kg
60	90	960	59	Single	24.2 ft	1115 lbs
50	75	945	50	Single	7.4 m	506 kg
60	90	1135	50	Single	24.2 ft	1115 lbs
50	75	1017	46	Single	7.4 m	506 kg
60	90	1220	46	Single	24.2 ft	1115 lbs
50	75	1216	39	Single	7.4 m	506 kg
60	90	1460	39	Single	24.2 ft	1115 lbs
50	75	1635	29	Single	7.4 m	506 kg
60	90	1960	29	Single	24.2 ft	1115 lbs
50	83.5	767	70	Single	8.1 m	560 kg
60	100	920	70	Single	26.6 ft	1235 lbs
50	83.5	895	59	Single	8.1 m	560 kg
60	100	1075	59	Single	26.6 ft	1235 lbs
50	83.5	1129	46	Single	8.1 m	560 kg
60	100	1355	46	Single	26.6 ft	1235 lbs
50	83.5	1837	28.5	Single	8.1 m	560 kg
60	100	2205	28.5	Single	26.6 ft	1235 lbs
50	91.5	991	60	Single	8.8 m	624 kg
60	110	1190	60	Single	29.0 ft	1375 lbs
50	91.5	1983	30	Single	8.8 m	624 kg
60	110	2380	30	Single	29.0 ft	1375 lbs
50	100	787	81	Single	9.6 m	680 kg
60	120	945	81	Single	31.4 ft	1500 lbs
50	100	937	70	Single	9.6 m	680 kg
60	120	1125	70	Single	31.4 ft	1500 lbs
50	100	1079	59	Single	9.6 m	680 kg
60	120	1295	59	Single	31.4 ft	1500 lbs
50	100	1870	35	Single	9.6 m	680 kg
60	120	2245	35	Single	31.4 ft	1500 lbs

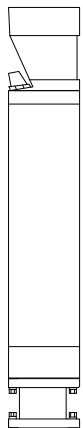
Modular Protector



Labyrinth Protector



Upper Tandem Motor



Motor Base



Bolt-on Universal Motor Base

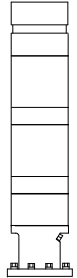
Model	Diameter		Length		Weight	
	mm	inches	meters	feet	kgs	lbs
456 SERIES	116	4.57	0.3	1	10	23

540 Series Motor Specifications

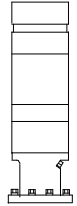
6.625" OD Casing Minimum
5.430" OD Motor Housing

Hertz	Horse Power	Volts	Amps	Construction	Length	Weight
					Meters (Feet)	Kg (Pounds)
50	16.5	367	29	Single	1.8 m	136 kg
60	20.0	440	29	Single	6.0 ft	300 lbs
50	16.5	629	17	Single	1.8 m	136 kg
60	20.0	755	17	Single	6.0 ft	300 lbs
50	25.0	362	45	Single	2.2 m	177 kg
60	30.0	435	45	Single	7.3 ft	390 lbs
50	25.0	591	28	Single	2.2 m	177 kg
60	30.0	710	28	Single	7.3 ft	390 lbs
50	25.0	1013	16	Single	2.2 m	177 kg
60	30.0	1215	16	Single	7.3 ft	390 lbs
50	33.5	362	60	Single	2.7 m	219 kg
60	40.0	435	60	Single	8.7 ft	483 lbs
50	33.5	550	40	Single	2.7 m	219 kg
60	40.0	660	40	Single	8.7 ft	483 lbs
50	33.5	608	36	Single	2.7 m	219 kg
60	40.0	730	36	Single	8.7 ft	483 lbs
50	33.5	733	30	Single	2.7 m	219 kg
60	40.0	880	30	Single	8.7 ft	483 lbs
50	33.5	1104	20	Single	2.7 m	219 kg
60	40.0	1325	20	Single	8.7 ft	483 lbs
50	41.5	375	72	Single	3.1 m	261 kg
60	50.0	450	72	Single	10.1 ft	575 lbs
50	41.5	604	45	Single	3.1 m	261 kg
60	50.0	725	45	Single	10.1 ft	575 lbs
50	41.5	754	34	Single	3.1 m	261 kg
60	50.0	905	34	Single	10.1 ft	575 lbs
50	41.5	1146	22	Single	3.1 m	261 kg
60	50.0	1375	22	Single	10.1 ft	575 lbs

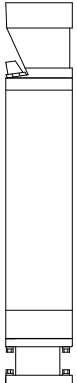
Modular Protector



Labyrinth Protector



Upper Tandem Motor



Motor Base



Motors are available as a Single or Upper, Center and Lower Tandem. Please specify which type when ordering.

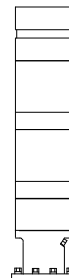
540 Series Motor Specifications

6.625" OD Casing Minimum

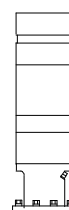
5.430" OD Motor Housing

Hertz	Horse Power	Volts	Amps	Construction	Length	Weight
					Meters (Feet)	Kg (Pounds)
50	50.0	354	91	Single	3.5 m	308 kg
60	60.0	425	91	Single	11.5 ft	678 lbs
50	50.0	537	60	Single	3.5 m	308 kg
60	60.0	645	60	Single	11.5 ft	678 lbs
50	50.0	725	45	Single	3.5 m	308 kg
60	60.0	870	45	Single	11.5 ft	678 lbs
50	50.0	808	40	Single	3.5 m	308 kg
60	60.0	970	40	Single	11.5 ft	678 lbs
50	50.0	1100	30	Single	3.5 m	308 kg
60	60.0	1320	30	Single	11.5 ft	678 lbs
50	58.5	533	59	Single	3.9 m	349 kg
60	70.0	640	59	Single	12.8 ft	770 lbs
50	58.5	621	52	Single	3.9 m	349 kg
60	70.0	745	52	Single	12.8 ft	770 lbs
50	66.5	675	47	Single	4.3 m	391 kg
60	80.0	810	47	Single	14.2 ft	862 lbs
50	66.5	808	39	Single	4.3 m	391 kg
60	80.0	970	39	Single	14.2 ft	862 lbs
50	83.5	1108	29	Single	5.2 m	475 kg
60	100.0	1330	29	Single	16.9 ft	1047 lbs
50	83.5	450	82.5	Single	5.2 m	475 kg
60	100.0	540	82.5	Single	16.9 ft	1047 lbs
50	83.5	625	60	Single	5.2 m	475 kg
60	100.0	750	60	Single	16.9 ft	1047 lbs
50	83.5	788	47	Single	5.2 m	475 kg
60	100.0	945	47	Single	16.9 ft	1047 lbs
50	83.5	945	39	Single	5.2 m	475 kg
60	100.0	1135	39	Single	16.9 ft	1047 lbs
50	100.0	712	88	Single	6.0 m	559 kg
60	120.0	855	88	Single	19.7 ft	1232 lbs
50	100.0	858	73	Single	6.0 m	559 kg
60	120.0	1030	73	Single	19.7 ft	1232 lbs
50	100.0	1079	59	Single	6.0 m	559 kg
60	120.0	1295	59	Single	19.7 ft	1232 lbs
50	100.0	1803	33	Single	6.0 m	559 kg
60	120.0	2165	33	Single	19.7 ft	1232 lbs

Modular Protector



Labyrinth Protector



Upper Tandem Motor



Motor Base



Motors are available as a Single or Upper, Center and Lower Tandem. Please specify which type when ordering.

540 Series Motor Specifications

6.625" OD Casing Minimum

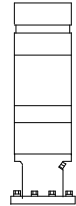
5.430" OD Motor Housing

Hertz	Horse Power	Volts	Amps	Construction	Length	Weight
					Meters (Feet)	Kg (Pounds)
50	108	770	88	Single	6.4 m	601 kg
60	130	925	88	Single	21.0 ft	1326 lbs
50	108	937	67	Single	6.4 m	601 kg
60	130	1125	67	Single	21.0 ft	1326 lbs
50	125	895	87	Single	7.3 m	687 kg
60	150	1075	87	Single	23.8 ft	1514 lbs
50	125	1755	44	Single	7.3 m	687 kg
60	150	2105	44	Single	23.8 ft	1514 lbs
50	133	687	122	Single	7.7 m	735 kg
60	160	825	122	Single	25.2 ft	1620 lbs
50	133	929	88.5	Single	7.7 m	735 kg
60	160	1115	88.5	Single	25.2 ft	1620 lbs
50	133	1820	46	Single	7.7 m	735 kg
60	160	2185	46	Single	25.2 ft	1620 lbs
50	150	787	120	Single	8.5 m	831 kg
60	180	945	120	Single	27.9 ft	1833 lbs
50	150	1062	89	Single	8.5 m	831 kg
60	180	1275	89	Single	27.9 ft	1833 lbs
50	150	1620	59	Single	8.5 m	831 kg
60	180	1945	59	Single	27.9 ft	1833 lbs
50	167	916	115	Single	9.3 m	915 kg
60	200	1100	115	Single	30.6 ft	2018 lbs
50	167	1783	54	Single	9.3 m	915 kg
60	200	2140	54	Single	30.6 ft	2018 lbs
50	187	945	127	Single	9.3 m	915 kg
60	225	1135	127	Single	30.6 ft	2018 lbs
50	187	1225	47	Single	9.3 m	915 kg
60	225	1470	47	Single	30.6 ft	2018 lbs
50	187	1862	64	Single	9.3 m	915 kg
60	225	2235	64	Single	30.6 ft	2018 lbs

Modular Protector



Labyrinth Protector



Upper Tandem Motor



Motor Base



Bolt-on Universal Motor Base

Model	Diameter		Length		Weight	
	mm	inches	Meters	Feet	Kgs	Lbs
540 Series	138	5.43	0.3	1	15	33