

Disc Valve Hydraulic Motors
Series 4000

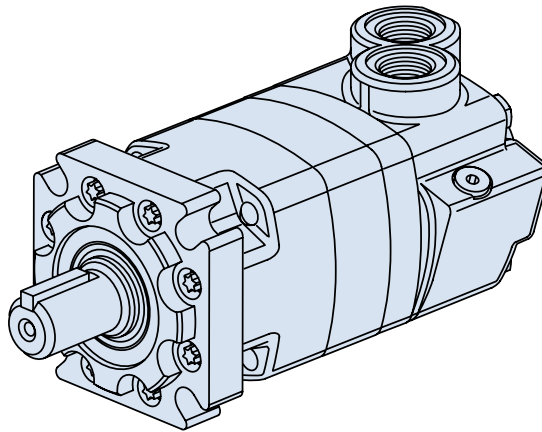
10.2014



inspired hydraulics.

4000 Series

4000 Series Highlights



Features

- 10 displacements, a variety of mounting flanges and output shafts
- Reliable, proven design
- High efficiency
- Environmental protection options

Benefits

- Flexibility in designing this motor into a system
- Options that fit well into tough applications

Applications

- Mowing
- Snow Removal
- Sprayer
- Trencher
- Wood Products

Description

The 4000 Series offers up to 8600 in-lb of torque and 25 gpm (continuous ratings). This is the corner stone of the Char-Lynn line.

4000 Series Motors

Geroler Element	10 Displacements
Flow l/min [GPM]	95 [25] Continuous** 150 [40] Intermittent*
Speed RPM	722 Cont.** 868 Inter.*
Pressure bar [PSI]	200 [3000] Cont.** 300 [4500] Inter.*
Torque Nm [lb-in]	970 [8600] Cont.** 1180 [10450] Inter.*

** Continuous—(Cont.) Continuous rating, motor may be run continuously at these ratings
 * Intermittent—(Inter.) Intermittent operation, 10% of every minute.



Mowing



Snow Removal



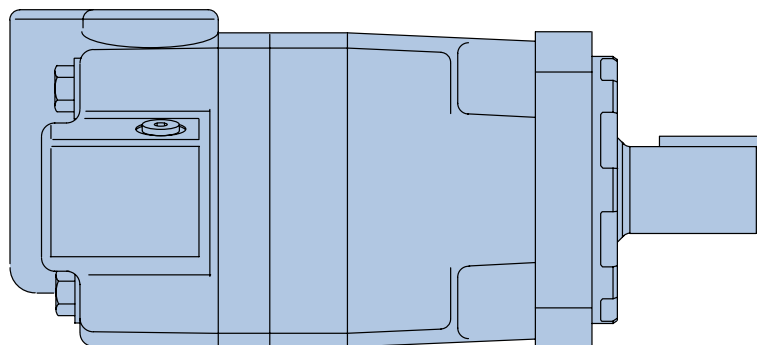
Sprayer



Trencher



4000 Series Specifications



4000 SERIES MOTORS

Displ. cm ³ /r [in ³ /r]		110 [6.7]	130 [7.9]	160 [9.9]	205 [12.5]	245 [15.0]	280 [17.1]	310 [19.0]	395 [24.0]	495 [30.0]	625 [38.0]
Max. Speed (RPM)	Continuous	697	722	582	459	383	336	303	239	191	151
	Intermittent	868	862	693	546	532	488	422	376	305	241
@ Flow											
Flow l/min [GPM]	Continuous	75 [20]	95 [25]	95 [25]	95 [25]	95 [25]	95 [25]	95 [25]	95 [25]	95 [25]	95 [25]
	Intermittent	95 [25]	115 [30]	115 [30]	115 [30]	130 [35]	130 [35]	130 [35]	150 [40]	150 [40]	150 [40]
Torque* Nm [lb-in]	Continuous	320 [2850]	375 [3330]	485 [4290]	600 [5300]	705 [6240]	753 [6666]	850 [7530]	930 [8240]	945 [8375]	970 [8605]
	Intermittent	470 [4160]	560 [4940]	705 [6240]	800 [7100]	845 [7470]	957 [8471]	1065 [9420]	1185 [10470]	1170 [10350]	1180 [10450]
Pressure Δ bar [Δ PSI]	Continuous	205 [3000]	205 [3000]	205 [3000]	205 [3000]	205 [3000]	205 [3000]	205 [3000]	190 [2750]	140 [2000]	115 [1700]
	Intermittent	310 [4500]	310 [4500]	310 [4500]	260 [3750]	310 [4500]	260 [3750]	260 [3750]	240 [3500]	170 [2500]	140 [2000]
	Peak	310 [4500]	310 [4500]	310 [4500]	310 [4500]	310 [4500]	310 [4500]	310 [4500]	295 [4250]	230 [3300]	180 [2600]
Weight kg [lb]	Standard or Wheel Mount	17.9 [39.5]	18.1 [40.0]	18.1 [40.0]	18.4 [40.5]	18.6 [41.0]	19.1 [42.0]	19.5 [43.0]	20.4 [45.0]	21.8 [48.0]	23.1 [51.0]
	Bearingless	14.1 [31.0]	14.3 [31.5]	14.1 [31.0]	14.5 [32.0]	14.7 [32.5]	15.2 [33.5]	15.6 [34.5]	16.6 [36.5]	17.9 [39.5]	19.3 [42.5]

Maximum Case Pressure: See case pressure seal limitation graph.

*See shaft torque ratings for limitations.

Note:

To assure best motor life, run motor for approximately one hour at 30% of rated pressure before application to full load. Be sure motor is filled with fluid prior to any load applications.

Maximum Inlet Pressure:

310 bar [4500 PSI]
Do not exceed Δ pressure rating (see chart above).

Maximum Return Pressure:

310 bar [4500 PSI] with case drain line installed.
Do not exceed Δ pressure rating (see chart above).

Δ bar [Δ PSI] :

The true pressure difference between inlet port and outlet port

Continuous Rating:

Motor may be run continuously at these ratings

Intermittent Operation:

10% of every minute

Peak Operation:

1% of every minute

Recommended Fluids:

Premium quality, anti-wear type hydraulic oil with a viscosity of not less than 70 SUS at operating temperature.

Recommended Maximum System Operating Temp.:

82° C [180° F]

Recommended Filtration:

per ISO Cleanliness Code, 4406: 20/18/13







4000 Series

Performance Data

Motors run with high efficiency in all areas designated with a number for torque and speed. For best motor life select a motor to run with a torque and speed range shown in the light shaded area.

Performance data is typical at 120 SUS. Actual data may vary slightly from unit to unit in production.

	Continuous		Peak
	Intermittent		No Operation

205 cm³/r [12.5 in³/r] Δ Pressure Bar [PSI]

	[250] 15	[500] 35	[1000] 70	[1500] 105	[2000] 140	[2500] 170	[3000] 205	[3500] 240	[4000] 275	[4500] 310
[.5]	[400] 45 8	[810] 90 5	[1500] 170 1							
1.9										
[1]	[410] 45 17	[830] 95 17	[1590] 180 16	[2220] 250 15	[2860] 325 14	[3860] 435 12	[4560] 515 11	[5390] 610 9	[5510] 625 3	
3.8										
[2]	[420] 45 36	[850] 95 35	[1680] 190 34	[2410] 270 32	[3140] 355 29	[4060] 460 27	[4800] 540 25	[5420] 610 22	[6000] 680 16	[6210] 700 8
7.5										
[4]	[430] 50 73	[870] 100 73	[1770] 200 71	[2590] 295 70	[3410] 385 68	[4260] 480 61	[5040] 570 57	[5730] 645 45	[6340] 715 35	[6740] 760 23
15										
[6]	[430] 50 107	[880] 100 106	[1800] 205 105	[2620] 295 103	[3530] 400 101	[4370] 495 98	[5170] 585 90	[5900] 665 81	[6590] 745 74	[7100] 800 65
23										
[8]	[410] 45 144	[870] 100 143	[1820] 205 142	[2660] 300 138	[3560] 400 136	[4410] 500 132	[5240] 590 125	[6020] 680 116	[6770] 765 109	
30										
[10]	[390] 45 182	[860] 95 180	[1820] 205 179	[2700] 305 174	[3580] 405 170	[4460] 505 166	[5300] 600 160	[6110] 690 152	[6890] 780 143	
38										
[12]	[350] 40 217	[850] 95 216	[1810] 205 215	[2690] 305 211	[3570] 405 202	[4440] 500 200	[5300] 585 194	[6120] 690 185		
45										
[14]	[330] 35 256	[840] 95 254	[1790] 200 252	[2670] 300 248	[3560] 400 243	[4430] 500 237	[5290] 600 229	[6120] 690 219		
53										
[16]	[290] 35 291	[820] 95 290	[1770] 200 289	[2650] 300 284	[3540] 400 280	[4410] 500 272	[5280] 595 264	[6120] 690 253		
61										
[18]	[270] 30 329	[810] 90 327	[1750] 200 325	[2640] 300 321	[3520] 400 316	[4400] 500 308	[5270] 595 298	[6120] 690 287		
68										
[20]	[230] 25 366	[800] 90 364	[1730] 195 362	[2620] 295 358	[3510] 395 353	[4380] 495 345	[5270] 595 334	[6120] 690 321		
76										
[22]	[190] 20 402	[780] 90 400	[1690] 190 398	[2600] 295 394	[3500] 395 389	[4370] 495 380	[5260] 595 368			
83										
[25]	[150] 15 459	[750] 85 456	[1640] 185 453	[2560] 290 448	[3480] 395 442	[4360] 495 434	[5240] 590 421			
95										
[30]	[710] 80 546	[1540] 175 542	[2510] 285 537	[3350] 380 529	[4190] 475 520	[5030] 570 504				
114										

160 cm³/r [9.9 in³/r] Δ Pressure Bar [PSI]

	[250] 15	[500] 35	[1000] 70	[1500] 105	[2000] 140	[2500] 170	[3000] 205	[3500] 240	[4000] 275	[4500] 310
[.5]	[300] 35 8	[680] 75 7	[1320] 150 5	[2050] 230 3	[2750] 310 1					
1.9										
[1]	[320] 35 23	[700] 80 22	[1350] 155 20	[2070] 235 19	[2780] 315 18	[3300] 375 16	[3940] 445 15	[4410] 500 8	[4950] 560 2	
3.8										
[2]	[330] 35 46	[700] 80 45	[1360] 155 41	[2080] 235 40	[2790] 315 37	[3340] 375 32	[3970] 445 29	[4530] 510 27	[5090] 575 25	[5590] 630 13
7.5										
[4]	[320] 35 93	[710] 80 92	[1400] 160 90	[2100] 240 88	[2820] 320 84	[3420] 395 76	[4020] 455 73	[4620] 520 62	[5220] 590 51	[5730] 645 35
15										
[6]	[300] 35 137	[710] 80 135	[1420] 160 134	[2140] 240 131	[2850] 320 126	[3510] 395 120	[4180] 470 114	[4760] 540 90	[5340] 605 75	[5870] 665 57
23										
[8]	[280] 30 184	[720] 80 182	[1450] 165 180	[2180] 245 176	[2900] 330 171	[3560] 400 163	[4230] 480 154	[4850] 550 138	[5470] 620 122	[6010] 680 100
30										
[10]	[260] 30 232	[720] 80 229	[1480] 165 226	[2220] 250 221	[2950] 335 216	[3610] 410 206	[4290] 485 194	[4920] 555 182	[5560] 630 169	[6160] 695 142
38										
[12]	[240] 25 277	[700] 80 274	[1450] 165 272	[2190] 245 266	[2920] 330 260	[3590] 405 250	[4280] 485 238	[4920] 555 224	[5570] 630 209	[6180] 700 182
45										
[14]	[220] 25 321	[680] 75 319	[1420] 160 318	[2160] 245 311	[2890] 325 304	[3570] 405 294	[4270] 480 282	[4920] 555 266	[5580] 630 249	[6200] 700 222
53										
[16]	[200] 25 366	[670] 75 364	[1400] 160 362	[2130] 240 356	[2860] 325 348	[3550] 400 338	[4260] 480 326	[4920] 555 308	[5590] 630 289	[6220] 705 262
61										
[18]	[180] 20 410	[650] 75 409	[1360] 155 407	[2100] 235 401	[2830] 320 392	[3530] 400 382	[4250] 475 370	[4910] 555 350	[5600] 635 329	[6240] 705 302
68										
[20]	[150] 15 460	[630] 70 458	[1340] 150 456	[2070] 235 448	[2800] 315 440	[3510] 395 429	[4240] 475 417	[4910] 555 396	[5610] 635 373	
76										
[22]	[120] 15 509	[620] 70 506	[1330] 150 502	[2060] 230 494	[2790] 315 484	[3500] 395 473	[4220] 475 461	[4910] 555 438	[5600] 635 413	
83										
[25]	[70] 10 582	[600] 70 578	[1320] 150 573	[2050] 230 563	[2780] 315 552	[3480] 395 540	[4210] 475 526	[4900] 555 501	[5590] 630 474	
95										
[30]	[560] 65 693	[1280] 145 687	[1990] 225 675	[2700] 305 661	[3430] 390 647	[3970] 450 630	[4640] 525 600			
114										

[1990] } Torque [lb-in]
225 } Nm
675 } Speed RPM

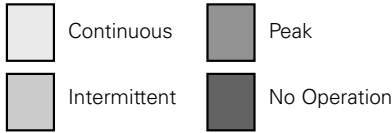


4000 Series

Performance Data

Motors run with high efficiency in all areas designated with a number for torque and speed. For best motor life select a motor to run with a torque and speed range shown in the light shaded area.

Performance data is typical at 120 SUS. Actual data may vary slightly from unit to unit in production.



245 cm³/r [15.0 in³/r]
 Δ Pressure Bar [PSI]

	[250]	[500]	[750]	[1000]	[1250]	[1500]	[1750]	[2000]	[2250]	[2500]	[2750]	[3000]	[3250]	[3500]	[3750]	
	15	35	50	70	85	105	120	140	155	170	190	205	225	240	260	
[.5]	[460]	[980]														
1,9	50	110														
[1]	[480]	[990]	[1490]	[1990]	[2480]	[2970]	[3400]	[3830]	[4250]	[4680]	[5020]					
3,8	55	114	14	14	13	12	12	11	11	10	4					
[2]	[500]	[1000]	[1520]	[2040]	[2540]	[3050]	[3420]	[3930]	[4440]	[4900]	[5320]	[5740]	[6160]	[6640]	[7150]	
7,5	30	30	29	29	28	27	26	24	23	22	20	18	16	14	11	
[4]	[510]	[1030]	[1560]	[2080]	[2600]	[3130]	[3630]	[4130]	[4630]	[5120]	[5570]	[6030]	[6480]	[6970]	[7340]	
15	61	115	60	60	59	59	58	56	55	53	49	47	44	42	39	36
[6]	[510]	[1040]	[1570]	[2100]	[2620]	[3160]	[3660]	[4200]	[4710]	[5220]	[5690]	[6150]	[6620]	[7050]	[7430]	
23	60	120	90	89	88	88	86	83	80	75	72	70	67	63	59	
[8]	[500]	[1020]	[1560]	[2110]	[2630]	[3150]	[3680]	[4210]	[4740]	[5250]	[5720]	[6200]	[6670]	[7090]	[7470]	
30	121	121	120	119	118	117	115	113	111	106	103	99	96	91	87	
[10]	[470]	[1000]	[1540]	[2100]	[2620]	[3150]	[3690]	[4230]	[4770]	[5290]	[5760]	[6240]	[6710]	[7140]		
38	152	151	150	148	148	147	145	143	141	137	133	129	125	120		
[12]	[450]	[980]	[1530]	[2080]	[2610]	[3140]	[3680]	[4220]	[4760]	[5280]	[5750]	[6230]	[6700]			
45	50	110	175	235	295	355	415	475	530	590	645	700	755	805		
[14]	[420]	[960]	[1520]	[2060]	[2600]	[3130]	[3670]	[4200]	[4740]	[5260]	[5740]					
53	45	110	170	235	295	355	415	475	535	595	650	705	755	810		
[16]	[400]	[950]	[1500]	[2040]	[2580]	[3120]	[3660]	[4190]	[4730]	[5250]	[5730]	[6210]				
61	45	105	170	230	290	350	415	475	535	595	650	705	755	810		
[18]	[380]	[930]	[1480]	[2020]	[2560]	[3110]	[3650]	[4180]	[4710]	[5230]	[5720]	[6200]				
68	45	105	165	230	290	350	415	470	530	590	645	700	755	810		
[20]	[350]	[910]	[1460]	[2000]	[2550]	[3100]	[3640]	[4170]	[4700]	[5220]	[5710]					
76	40	105	165	225	290	350	410	470	530	590	645	700	755	810		
[22]	[310]	[870]	[1420]	[1970]	[2500]	[3050]	[3590]	[4140]	[4680]	[5200]	[5680]					
83	35	100	160	225	280	345	405	465	530	590	640	700	755	810		
[25]	[260]	[820]	[1380]	[1930]	[2460]	[2980]	[3540]	[4090]	[4640]	[5180]						
95	30	95	155	220	290	330	326	323	319	313	306					
[30]	[680]	[1250]	[1860]	[2390]	[2900]	[3430]	[3960]	[4460]	[4950]							
114	75	140	210	270	330	390	445	505	560	615	670	725	780	835		
[35]			[1100]	[1740]	[2270]	[2790]	[3340]	[3910]	[4400]							
132			532	531	528	525	519	515	509							

280 cm³/r [17.1 in³/r]
 Δ Pressure Bar [PSI]

	[250]	[500]	[750]	[1000]	[1250]	[1500]	[1750]	[2000]	[2250]	[2500]	[2750]	[3000]	[3250]	[3500]	[3750]	
	15	35	50	70	85	105	120	140	155	170	190	205	225	240	260	
[.5]	[533]	[1074]														
1,9	60	121														
[1]	[553]	[1136]	[1714]	[2287]	[2841]	[3394]	[3868]	[4389]	[4895]	[6080]	[5870]	[368]	[6811]	[7239]	[7654]	
3,8	62	128	194	258	321	384	437	496	553	685	663	720	770	818	865	
[2]	[568]	[1146]	[1740]	[2328]	[2902]	[3461]	[3955]	[4524]	[5022]	[5630]	[6146]	[6666]	[7191]	[7749]	[8323]	
7,5	64	130	197	263	328	391	447	511	570	694	674	753	813	876	940	
[4]	[579]	[1167]	[1771]	[2374]	[2962]	[3557]	[4139]	[4712]	[5285]	[5848]	[6395]	[6946]	[7502]	[8020]	[8471]	
15	66	133	201	271	338	407	474	542	607	737	717	800	859	915	957	
[6]	[583]	[1177]	[1781]	[2395]	[2987]	[3601]	[4193]	[4793]	[5376]	[5959]	[6521]	[7082]	[7607]	[8097]		
23	79	159	238	317	396	475	554	633	712	861	839	933	992	1051	1110	
[8]	[573]	[1167]	[1780]	[2404]	[3007]	[3610]	[4218]	[4812]	[5411]	[5994]	[6556]	[7022]	[7518]			
30	105	133	201	272	340	408	477	544	611	741	719	793	849	905	957	
[10]	[547]	[1146]	[1765]	[2395]	[2997]	[3629]	[4238]	[4837]	[5422]	[6035]	[6601]	[7022]	[7518]			
38	134	133	133	131	131	130	129	127	126	122	119	115	111			
[12]	[60]	[127]	[197]	[266]	[336]	[406]	[476]	[546]	[615]	[682]	[744]	[806]	[868]	[930]	[992]	
45	161	160	186	188	157	157	156	154	152	148	144	141				
[14]	[497]	[1106]	[1730]	[2344]	[2972]	[3585]	[4213]	[4816]	[5430]	[6028]	[6511]	[6940]				
53	56	125	195	265	336	405	476	544	614	736	716	784				
[16]	[472]	[1096]	[1715]	[2324]	[2947]	[3565]	[4203]	[4811]	[5420]	[5919]	[6436]					
61	53	124	194	263	333	403	475	544	612	727	707	775				
[18]	[437]	[1075]	[1690]	[2299]	[2917]	[3541]	[4188]	[4801]	[5400]	[5919]	[6362]					
68	39	121	191	260	330	400	473	542	610	719	719	787				
[20]	[402]	[1055]	[1669]	[2274]	[2898]	[3521]	[4178]	[4791]	[5394]	[5851]						
76	45	119	189	257	327	397	472	541	609	719	719	787				
[22]	[366]	[1005]	[1629]	[2257]	[2856]	[3480]	[4136]	[4756]	[5205]							
83	41	114	184	255	323	393	467	537	605	715	715	783				
[25]	[301]	[940]	[1588]	[2231]	[2825]	[3419]	[4086]	[4710]	[5205]							
95	34	106	179	252	319	386	462	532	605	715	715	783				
[30]		[845]	[1480]	[2151]	[2759]	[3328]	[3984]	[4573]	[5021]							
114	45	119	189	257	327	397	472	541	609	719	719	787				
[35]			[1348]	[2057]	[2623]	[3183]	[3883]	[4354]								
132			152	232	296	360	430	492								

[3340] } Torque [lb-in]
 375 } Nm
 519 } Speed RPM

Änderungen und Druckfehler vorbehalten · 10.2014 · EN · EATON_Motoren 4000 Series



4000 Series

Performance Data

Motors run with high efficiency in all areas designated with a number for torque and speed. For best motor life select a motor to run with a torque and speed range shown in the light shaded area.

Performance data is typical at 120 SUS. Actual data may vary slightly from unit to unit in production.

	Continuous		Peak
	Intermittent		No Operation

310 cm³/r [19.0 in³/r] Δ Pressure Bar [PSI]

	[250] 15	[500] 35	[750] 50	[1000] 70	[1250] 85	[1500] 105	[1750] 120	[2000] 140	[2250] 155	[2500] 170	[2750] 190	[3000] 205	[3250] 225	[3500] 240	[3750] 260
[.5]	[600] 70	[1150] 130													
1.9	4	2													
[1]	[620] 70	[1270] 145	[1920] 215	[2560] 290	[3170] 360	[3780] 425	[4290] 485	[4900] 555	[5490] 620	[6080] 685	[6670] 755	[7270] 820	[7880] 890	[8490] 960	[9080] 1025
3.8	11	11	11	10	10	10	9	9	9	9	8	7	7	6	5
[2]	[630] 70	[1280] 145	[1940] 220	[2590] 295	[3230] 370	[3830] 435	[4450] 505	[5070] 575	[5680] 640	[6300] 710	[6910] 780	[7530] 850	[8160] 920	[8790] 995	[9420] 1065
7.5	23	23	22	22	21	21	20	20	19	18	18	17	17	16	15
[4]	[640] 70	[1290] 145	[1960] 220	[2640] 300	[3290] 375	[3940] 450	[4600] 520	[5240] 590	[5880] 665	[6510] 735	[7150] 810	[7790] 880	[8450] 955	[9100] 1030	
15	47	47	46	46	45	45	44	44	43	42	42	41	41	40	
[6]	[650] 75	[1300] 145	[1970] 225	[2660] 300	[3320] 375	[4000] 450	[4680] 530	[5330] 600	[5980] 675	[6630] 750	[7280] 825	[7940] 895			
23	71	71	70	70	69	69	68	67	66	64	64	63			
[8]	[640] 70	[1300] 145	[1980] 225	[2670] 300	[3350] 380	[4030] 455	[4710] 530	[5380] 610	[6020] 680	[6670] 755	[7320] 825				
30	96	96	95	95	94	94	93	92	91	89	88				
[10]	[620] 70	[1280] 145	[1970] 225	[2660] 300	[3340] 375	[4070] 480	[4740] 535	[5390] 610	[6050] 685	[6710] 760	[7370] 835				
38	121	120	120	119	119	118	117	116	115	112	109				
[12]	[600] 70	[1260] 140	[1940] 220	[2630] 295	[3340] 375	[4040] 455	[4730] 535	[5390] 610	[6060] 685	[6720] 760					
45	145	144	144	143	142	142	141	140	139	135					
[14]	[570] 65	[1240] 140	[1920] 215	[2600] 295	[3310] 375	[4000] 450	[4710] 530	[5380] 610	[6060] 685	[6730] 750					
53	169	169	168	168	167	167	165	164	163	159					
[16]	[540] 60	[1230] 140	[1900] 215	[2580] 290	[3280] 370	[3970] 450	[4700] 530	[5380] 610	[6050] 685						
61	193	193	192	192	190	189	188	187	185						
[18]	[490] 55	[1210] 135	[1880] 210	[2550] 290	[3240] 365	[3930] 445	[4680] 530	[5370] 605	[6040] 680						
68	217	217	216	216	214	213	211	209	207						
[20]	[450] 50	[1190] 135	[1860] 210	[2520] 285	[3210] 365	[3900] 440	[4670] 530	[5360] 605	[6030] 680						
76	242	242	242	241	240	238	236	234	232						
[22]	[420] 45	[1130] 130	[1820] 205	[2500] 285	[3180] 360	[3870] 440	[4640] 525	[5320] 600							
83	267	266	266	265	264	262	260	258							
[25]	[340] 40	[1050] 120	[1780] 200	[2510] 285	[3160] 355	[3820] 430	[4590] 520	[5280] 595							
95	303	303	302	301	300	299	296	293							
[30]	[1010] 115	[1700] 190	[2420] 275	[3100] 350	[3720] 420	[4500] 510	[5140] 580								
114	363	362	360	359	358	354	351								
[35]	[1580] 180	[2360] 265	[2950] 335	[3540] 400	[4390] 495										
132	422	420	419	418	413										

395 cm³/r [24.0 in³/r] Δ Pressure Bar [PSI]

	[250] 15	[500] 35	[750] 50	[1000] 70	[1250] 85	[1500] 105	[1750] 120	[2000] 140	[2250] 155	[2500] 170	[2750] 190	[3000] 205	[3250] 225	[3500] 240
[.5]	[700] 80	[1340] 150												
1.9	4	2												
[1]	[750] 85	[1430] 160	[2110] 240	[2770] 315	[3460] 390	[4170] 470	[4890] 550	[5610] 635	[6310] 715	[7010] 790	[7700] 870			
3.8	9	9	8	8	8	7	7	7	7	5	4	2		
[2]	[800] 90	[1500] 170	[2290] 260	[3030] 340	[3850] 435	[4620] 520	[5310] 600	[6000] 680	[6750] 765	[7490] 845	[8240] 930	[8990] 1015	[9730] 1100	[10470] 1185
7.5	18	18	17	16	16	15	15	14	13	13	12	11	10	8
[4]	[860] 95	[1630] 185	[2470] 280	[3310] 375	[4120] 465	[4900] 555	[5640] 635	[6390] 720	[7190] 810	[7890] 890	[8780] 990			
15	38	38	37	36	36	35	35	34	34	33	32			
[6]	[860] 95	[1690] 190	[2540] 285	[3410] 385	[4180] 470	[4980] 565	[5780] 655	[6580] 745	[7400] 835	[8220] 930				
23	57	57	56	55	54	53	52	50	49	47				
[8]	[840] 95	[1680] 190	[2550] 290	[3400] 395	[4260] 480	[5090] 575	[5870] 665	[6650] 750	[7480] 845					
30	76	76	75	74	73	72	70	68	66					
[10]	[800] 90	[1680] 190	[2550] 290	[3400] 385	[4260] 480	[5100] 575	[5920] 670	[6730] 760	[7560] 855					
38	95	95	94	93	92	91	89	86	84					
[12]	[760] 85	[1660] 190	[2520] 285	[3380] 380	[4270] 480	[5110] 575	[5900] 665	[6690] 755						
45	114	114	113	112	111	110	108	105						
[14]	[740] 85	[1640] 185	[2490] 280	[3370] 380	[4260] 480	[5100] 575	[5880] 665	[6650] 750						
53	133	133	132	131	130	129	127	124						
[16]	[710] 80	[1620] 185	[2460] 280	[3350] 380	[4240] 480	[5080] 575	[5840] 660							
61	153	153	152	151	149	147	145							
[18]	[680] 75	[1600] 180	[2430] 275	[3340] 375	[4220] 475	[5060] 570	[5810] 655							
68	172	172	171	170	168	166	164							
[20]	[610] 70	[1580] 180	[2400] 270	[3320] 375	[4210] 475	[5040] 570	[5780] 655							
76	192	191	190	189	187	185	183							
[22]	[570] 65	[1490] 170	[2340] 265	[3220] 365	[4160] 470	[5010] 565	[5740] 650							
83	211	210	209	208	206	204	201							
[25]	[490] 55	[1350] 155	[2250] 255	[3080] 350	[4070] 460	[4960] 560	[5700] 645							
95	239	238	237	236	235	233	230							
[30]	[1080] 120	[1650] 185	[2270] 255	[3020] 340	[3850] 435									
114	285	284	282	281	279									
[35]	[1520] 170	[2120] 240	[2870] 325	[3760] 425										
132	331	330	328	325										
[40]	[2050] 230	[2790] 315	[3620] 410											
151	376	374	371											

[4390] Torque [lb-in]
495 Nm
413 Speed RPM



4000 Series

Performance Data

Motors run with high efficiency in all areas designated with a number for torque and speed. For best motor life select a motor to run with a torque and speed range shown in the light shaded area.

Performance data is typical at 120 SUS. Actual data may vary slightly from unit to unit in production.

	Continuous		Peak
	Intermittent		No Operation

625 cm³/r [38.0 in³/r]
Δ Pressure Bar [PSI]

	[250] 15	[500] 35	[750] 50	[1000] 70	[1250] 85	[1500] 105	[1600] 100	[1700] 115	[1800] 125	[2000] 140
[.5]	[1000] 115 2									
[1]	[1080] 120 5	[2340] 265 5	[3600] 405 5	[4850] 550 4	[6100] 690 4	[7350] 830 3	[7820] 885 3	[8290] 935 2	[8760] 990 2	
[2]	[1085] 125 14	[2380] 270 14	[3675] 415 14	[5010] 565 13	[6350] 715 12	[7625] 860 11	[8115] 915 10	[8605] 970 9	[9095] 1030 8	[10075] 1140 7
[4]	[1090] 125 23	[2420] 275 23	[3750] 425 23	[5175] 585 22	[6600] 745 21	[7900] 895 19	[8410] 950 18	[9000] 1015 17	[9590] 1085 16	[10450] 1180 14
[6]	[1095] 125 35	[2460] 280 35	[3825] 430 35	[5220] 590 34	[6620] 750 33	[7950] 900 31	[8430] 950 30	[8910] 1005 29	[9490] 1070 28	
[8]	[1100] 125 48	[2500] 280 48	[3900] 440 47	[5270] 595 46	[6640] 750 45	[7990] 905 43	[8460] 955 43	[8925] 1010 42		
[10]	[1130] 130 60	[2550] 290 60	[3975] 450 59	[5320] 600 58	[6670] 755 57	[8045] 910 54	[8595] 970 53	[9150] 1035 52		
[12]	[1160] 130 72	[2600] 295 72	[4050] 460 71	[5375] 605 70	[6700] 755 69	[8100] 915 69	[8660] 980 65			
[14]	[1105] 125 84	[2535] 285 84	[3965] 450 83	[5325] 600 82	[6685] 755 81	[8065] 910 77	[8620] 975 76			
[16]	[1050] 120 96	[2465] 280 95	[3880] 440 95	[5275] 595 94	[6670] 755 93	[8035] 910 89	[8580] 970 88			
[18]	[990] 110 108	[2405] 270 107	[3825] 430 107	[5240] 590 105	[6655] 750 104	[8045] 910 100				
[20]	[930] 105 121	[2350] 265 120	[3770] 425 120	[5205] 590 118	[6640] 750 116					
[25]	[750] 85 151	[2175] 245 150	[3600] 405 149	[5000] 565 147	[6400] 725 146					
[30]	[550] 60 181	[1975] 225 180	[3400] 385 179	[4800] 530 177	[6200] 700 176					
[35]			[3125] 365 210	[4545] 515 208						
[40]			[2850] 320 241	[4295] 485 239						

495 cm³/r [30.0 in³/r]
Δ Pressure Bar [PSI]

	[250] 15	[500] 35	[750] 50	[1000] 70	[1250] 85	[1500] 105	[1750] 120	[2000] 140	[2250] 155	[2500] 170
[.5]	[800] 90 3	[1750] 200 1								
[1]	[880] 100 7	[1875] 210 6	[2875] 325 6	[3825] 430 5	[4775] 540 4	[5720] 645 3	[6670] 755 2	[7600] 860 1		
[2]	[905] 100 18	[1940] 220 17	[2975] 335 17	[3990] 450 16	[5010] 565 15	[6010] 680 12	[7010] 790 11	[8000] 905 10	[8980] 1015 8	
[4]	[935] 105 30	[2005] 225 29	[3075] 345 28	[4160] 470 27	[5245] 595 26	[6300] 710 23	[7355] 830 21	[8375] 945 19	[9400] 1060 17	[10350] 1170 14
[6]	[920] 105 45	[2010] 225 44	[3100] 350 43	[4185] 475 42	[5265] 595 40	[6345] 715 37	[7420] 845 35	[8445] 955 32	[9465] 1070 30	
[8]	[905] 100 61	[2015] 230 60	[3125] 365 59	[4205] 475 57	[5290] 600 55	[6385] 720 52	[7485] 845 49	[8510] 960 46		
[10]	[880] 100 76	[1995] 225 75	[3095] 350 74	[4205] 475 72	[5295] 600 70	[6390] 720 66	[7480] 845 63	[8525] 960 59		
[12]	[860] 95 91	[1975] 220 90	[3095] 350 89	[4200] 475 87	[5305] 600 85	[6390] 720 81	[7475] 845 77			
[14]	[830] 95 106	[1945] 220 105	[3055] 345 104	[4165] 470 102	[5275] 595 100	[6360] 715 96	[7445] 840 92			
[16]	[805] 90 122	[1910] 215 120	[3020] 340 119	[4130] 465 117	[5245] 595 115	[6330] 715 111	[7420] 840 107			
[18]	[740] 85 137	[1860] 210 136	[2980] 335 134	[4105] 465 132	[5235] 590 130	[6305] 715 125	[7380] 835 121			
[20]	[680] 75 153	[1810] 205 152	[2940] 330 150	[4085] 460 147	[5225] 590 145	[6285] 710 140				
[25]	[570] 65 95	[1665] 190 189	[2800] 315 187	[4005] 455 184	[5215] 590 182	[6135] 695 177				
[30]		[1520] 170 228	[2645] 300 226	[3765] 425 223	[4885] 550 220	[5985] 675 215				
[35]			[2400] 270 395	[3510] 395 263						
[40]			[2155] 245 305	[3260] 370 303						

[2850] } Torque [lb-in]
320 } Nm
241 } Speed RPM



4000 Series

Dimensions

Standard Mount

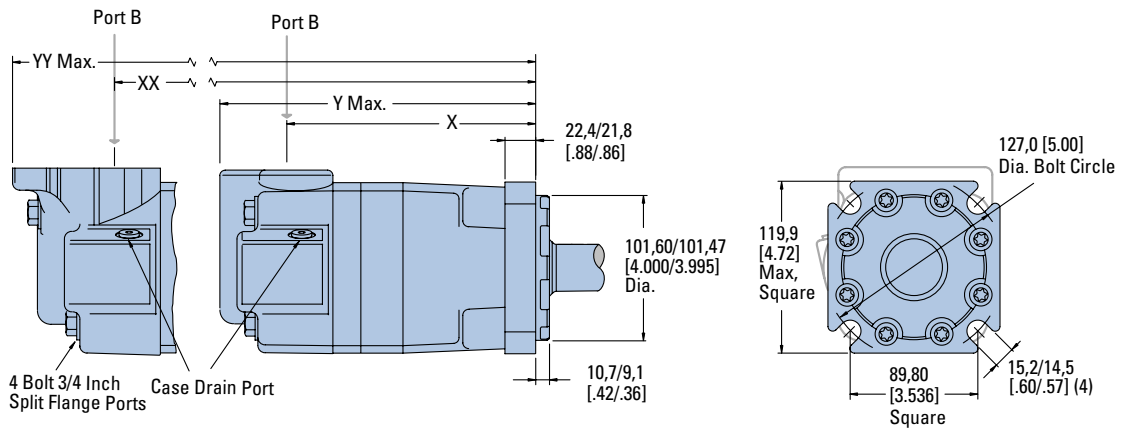
Ports

- 1 1/16 -12 UN-2B SAE O-ring Staggered Ports (2)
- 7/16 -20 UNF-2B SAE O-ring Case Drain Port (1) or
- 4 Bolt 3/4 inch Split Flange Ports (2)
- 7/16 -20 UNF-2B SAE O-ring Case Drain Port (1) or
- G 3/4 (BSP) Staggered Ports (2)
- G 1/4 (BSP) Case Drain Port (1)

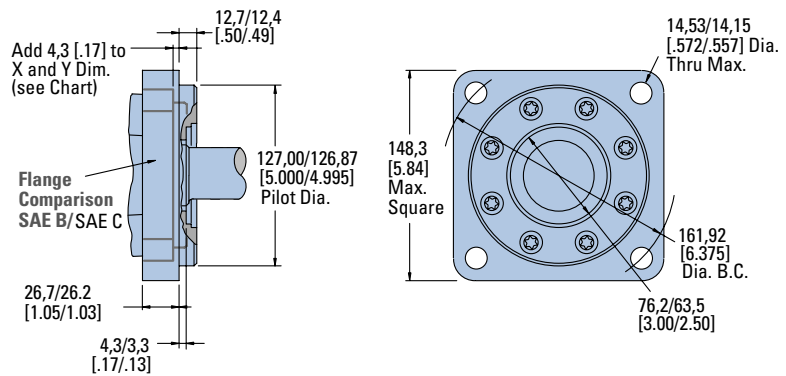
Standard Rotation Viewed from Shaft End

- Port A Pressurized — CW
- Port B Pressurized — CCW

Standard Mount



SAE C Flange



STANDARD MOUNT MOTOR DIMENSIONS

Displacement cm ³ /r [in ³ /r]	X mm [inch]	Y mm [inch]	XX mm [inch]	YY mm [inch]
110 [6.7]	158,3 [6.23]	214,4 [8.44]	167,3 [6.59]	246,3 [9.70]
130 [7.9]	162,3 [6.39]	218,4 [8.60]	171,3 [6.75]	250,4 [9.86]
160 [9.9]	168,7 [6.64]	224,7 [8.85]	177,7 [7.00]	256,7 [10.11]
205 [12.5]	177,2 [6.98]	233,2 [9.18]	186,2 [7.33]	265,2 [10.44]
245 [15.0]	168,7 [6.64]	224,7 [8.85]	177,7 [7.00]	256,7 [10.11]
310 [19.0]	177,2 [6.98]	233,2 [9.18]	186,2 [7.33]	265,2 [10.44]
395 [24.0]	187,9 [7.40]	243,9 [9.60]	196,9 [7.75]	275,9 [10.86]
495 [30.0]	200,7 [7.90]	256,8 [10.11]	209,7 [8.26]	288,8 [11.37]
625 [38.0]	217,8 [8.58]	273,9 [10.78]	226,7 [8.93]	305,9 [12.04]



4000 Series

Dimensions

Wheel Mount

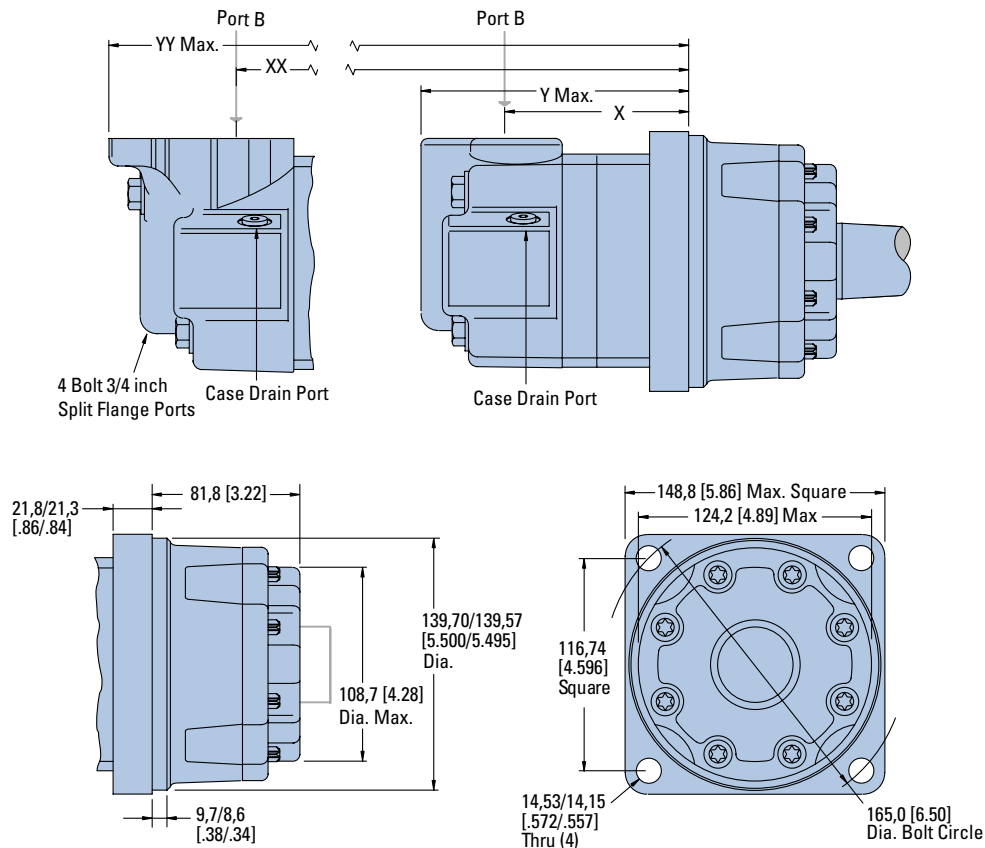
Wheel Mount

Ports

- 1 1/16 -12 UN-2B SAE O-ring Staggered Ports (2)
- 7/16 -20 UNF-2B SAE O-ring Case Drain Port (1) or
- 4 Bolt 3/4 inch Split Flange Ports (2)
- 7/16 -20 UNF-2B SAE O-ring Case Drain Port (1) or
- G 3/4 (BSP) Staggered Ports (2)
- G 1/4 (BSP) Case Drain Port (1)

Standard Rotation Viewed from Shaft End

- Port A Pressurized — CW
- Port B Pressurized — CCW



WHEEL MOUNT MOTOR DIMENSIONS

Displacement cm ³ /r [in ³ /r]	X mm [inch]	Y mm [inch]	XX mm [inch]	YY mm [inch]
110 [6.7]	87,5 [3.45]	143,3 [5.64]	96,4 [3.80]	175,3 [6.90]
130 [7.9]	91,6 [3.61]	147,3 [5.80]	100,5 [3.96]	179,3 [7.06]
160 [9.9]	97,8 [3.85]	153,7 [6.05]	106,8 [4.21]	185,7 [7.31]
205 [12.5]	106,4 [4.19]	162,3 [6.39]	115,4 [4.55]	194,3 [7.65]
245 [15.0]	97,8 [3.85]	153,7 [6.05]	106,8 [4.21]	185,7 [7.31]
310 [19.0]	106,4 [4.19]	162,3 [6.39]	115,4 [4.55]	194,3 [7.65]
395 [24.0]	117,1 [4.61]	173,0 [6.81]	126,1 [4.97]	205,0 [8.07]
495 [30.0]	129,9 [5.12]	185,7 [7.31]	138,8 [5.47]	217,7 [8.57]
625 [38.0]	146,9 [5.79]	202,9 [7.99]	156,0 [6.14]	235,0 [9.25]



4000 Series

Dimensions

Bearingless

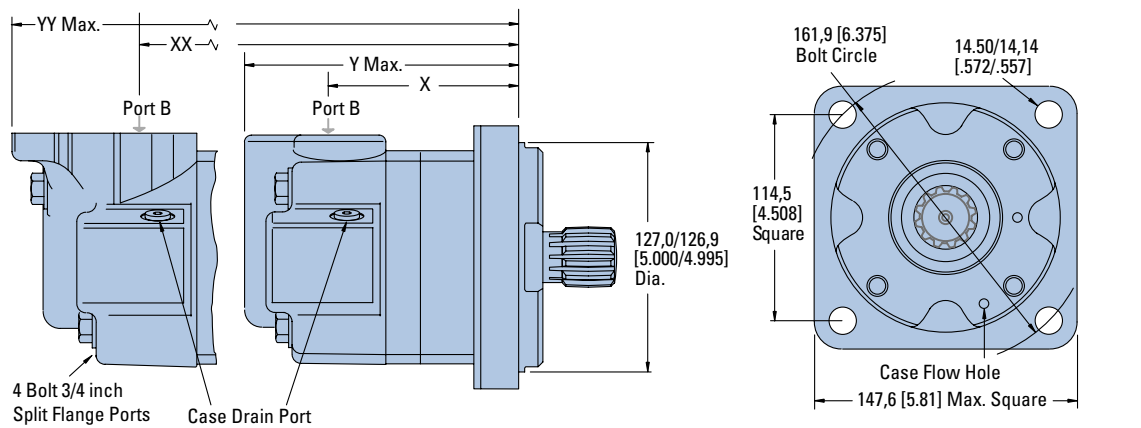
Bearingless

Ports

1 1/16 -12 UN-2B SAE O-ring Staggered Ports (2)
 7/16 -20 UNF-2B SAE O-ring Case Drain Port (1) or
 4 Bolt 3/4 inch Split Flange Ports (2)
 7/16 -20 UNF-2B SAE O-ring Case Drain Port (1) or
 G 3/4 (BSP) Staggered Ports (2)
 G 1/4 (BSP) Case Drain Port (1)

Standard Rotation Viewed from Shaft End

Port A Pressurized — CW
 Port B Pressurized — CCW



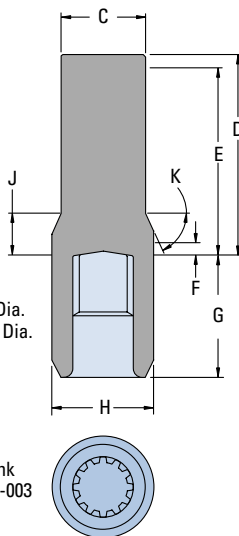
For 4000 Series Bearingless Motor application information contact your Eaton representative (mating coupling blanks available from Eaton Hydraulics).

Note:

After machining blank, part must be hardened per Eaton specification.

- C 47,2 [1.86] Dia.
- D 112,5 [4.43] Max.
- E 107,4 [4.23] Full Form Dia.
- F 7,4 [.29] Min. Full Form Dia.
- G 68,8 [2.71] Max.
- H 56,9 [2.24] Dia.
- J 18,29 [.720]
- K 38°

Mating Coupling Blank
 Eaton Part No. 12745-003



BEARINGLESS MOTOR DIMENSIONS

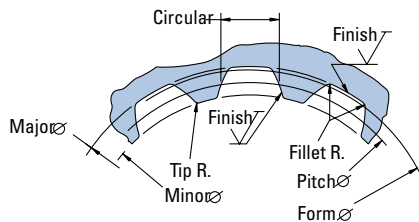
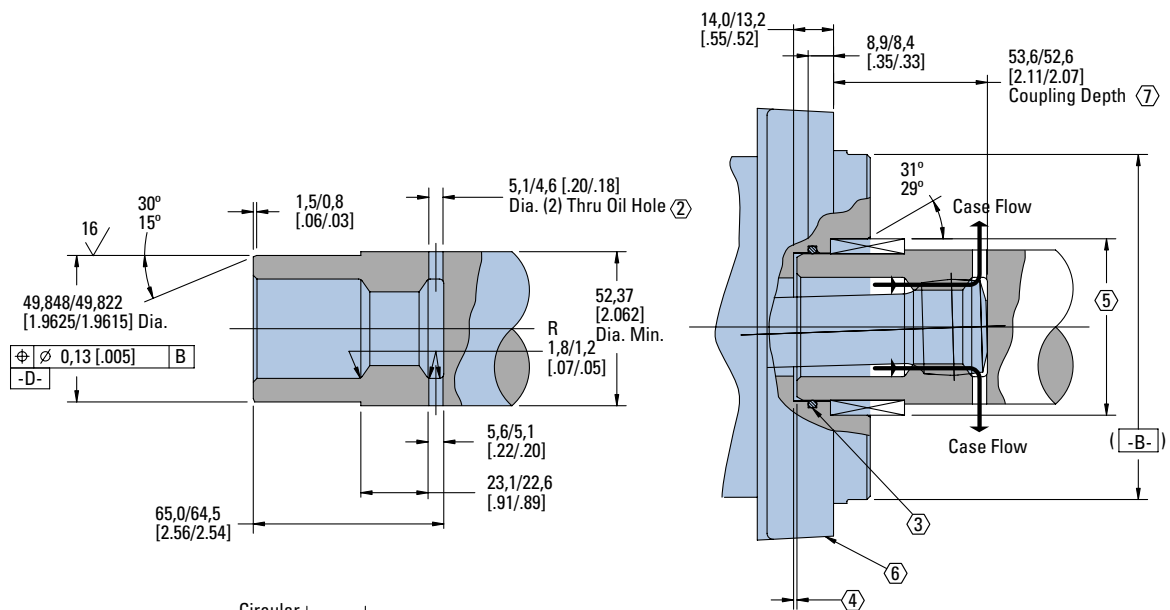
Displacement cm ³ /r [in ³ /r]	X mm [inch]	Y mm [inch]	XX mm [inch]	YY mm [inch]
110 [6.7]	91,0 [3.58]	146,8 [5.78]	100,1 [3.94]	178,8 [7.04]
130 [7.9]	95,0 [3.74]	150,8 [5.94]	104,1 [4.10]	182,9 [7.20]
160 [9.9]	101,4 [4.00]	157,1 [6.19]	110,5 [4.35]	189,2 [7.45]
205 [12.5]	109,9 [4.33]	165,7 [6.52]	118,9 [4.68]	197,6 [7.78]
245 [15.0]	101,4 [4.00]	157,1 [6.19]	110,5 [4.35]	189,2 [7.45]
310 [19.0]	109,9 [4.33]	165,7 [6.52]	118,9 [4.68]	197,6 [7.78]
395 [24.0]	120,6 [4.75]	176,3 [6.94]	129,5 [5.10]	208,3 [8.20]
495 [30.0]	133,5 [5.26]	189,2 [7.45]	142,5 [5.61]	221,2 [8.71]
625 [38.0]	150,5 [5.93]	206,3 [8.12]	159,5 [6.28]	238,3 [9.38]



4000 Series Installation Information

Bearingless

- ① Internal spline in mating part to be as follows: Material to be ASTM A304, 8620H. Carbonize to a hardness of 60-64 HRC with case depth (to 50HRC) of 0,076 - 1,27 [.030 - .050] (dimensions apply after heat treat).
- ② Mating part to have critical dimensions as shown. Oil holes must be provided and open for proper oil circulation.
- ③ Seal to be furnished with motor for proper oil circulation thru splines.
- ④ Some means of maintaining clearance between shaft and mounting flange must be provided.
- ⑤ Counterbore designed to adapt to a standard sleeve bearing 50,010 - 50,040 [1.9689 - 1.9700] ID by 60,050 - 60,080 [2.3642 - 2.3653] (Oilite bronze sleeve bearing).
- ⑥ Similar to SAE "C" Four Bolt Flange.
- ⑦ 52,8 [2.08] Max. dimension to be maintained when assembling shipping and installing unit to insure valve drive engagement with valve (this is required on displacement code number 24 only).



Spline Pitch.....	10/20
Pressure Angle.....	30°
Number of teeth.....	12
Class of Fit.....	Ref. 5
Type of Fit.....	Side
Pitch Diameter.....	Ref. 30,480000 [1.2000000] $\begin{matrix} \nearrow & 0,20 & [0,008] & & D \end{matrix}$
Base Diameter.....	Ref. 26,396455 [1.0392305]
Major Diameter.....	33,43 [1.316] Max. 33,23 [1.308] Min.
Min. Minor Diameter.....	28,40 - 28,58 [1.118 - 1.125]
Form Diameter, Min.....	32,59 [1.283]
Fillet Radius.....	0,63 - 0,76 [.025 - .030]
Tip Radius.....	0,26 - 0,51 [.010 - .020]
Finish.....	1,6 (63)
Involute Profile Variation.....	+0,000 - 0,025 [+0.0000 - .0010]
Total Index Variation.....	0,038 [.0015]
Lead Variation.....	0,013 [.0005]
Circular Space Width:	
Maximum Actual.....	5,045 [1.986]
Minimum Effective.....	4,995 [1.951]
Maximum Effective.....	Ref. 5,009 [1.972]
Minimum Actual.....	Ref. 4,986 [1.963]
Dimension Between Two Pins.....	Ref. 22,783 - 22,929 [.8970 - .9027]
Pin Diameter.....	5,334 [.2100] Pins to Have 3,73 [.147]
	Wide Flat for Root Clearance

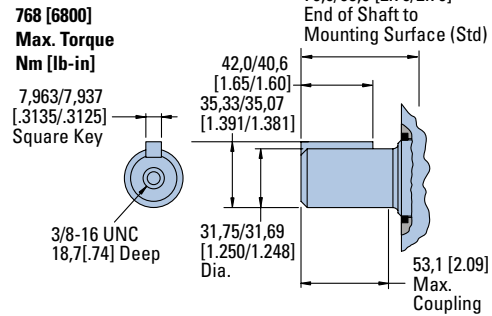


4000 Series

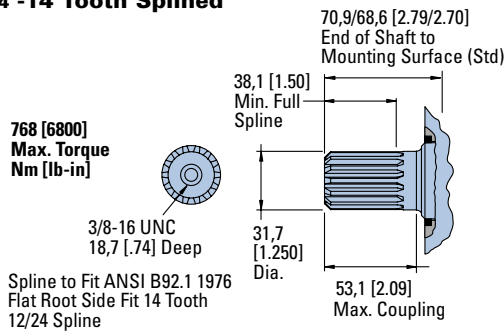
Dimensions

Shafts

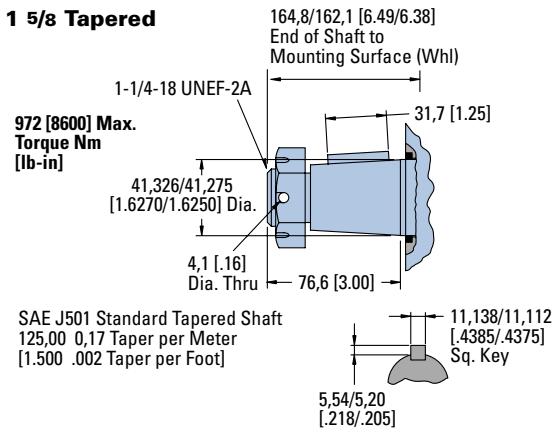
1 1/4 Inch Straight



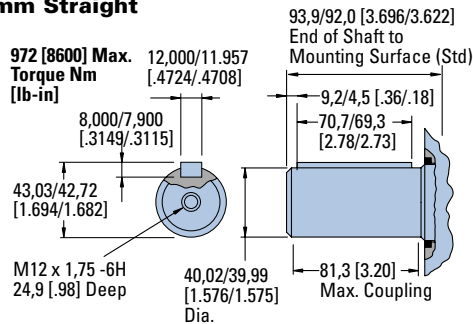
1 1/4 -14 Tooth Splined



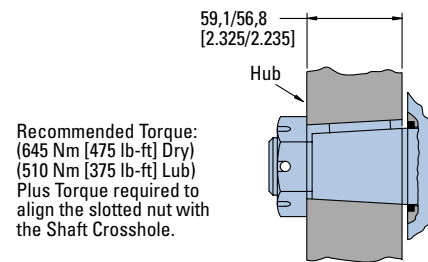
1 5/8 Tapered



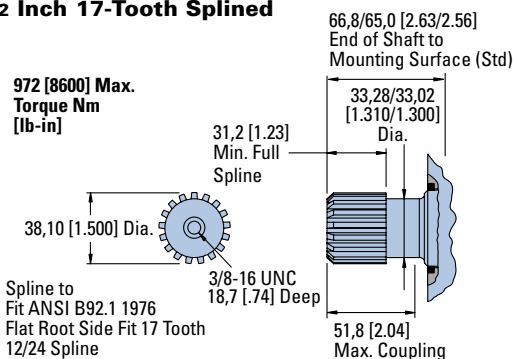
40 mm Straight



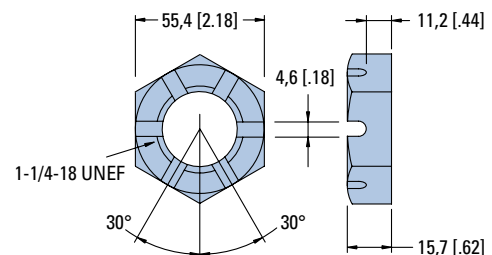
Tapered Shaft Hub Data



1 1/2 Inch 17-Tooth Splined



Slotted Hexagon Nut





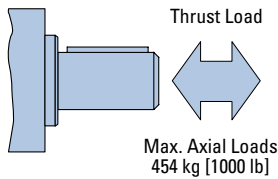
4000 Series

Shaft Side Load Capacity

These curves indicate the radial load capacity on the motor shaft(s) at various locations with an allowable external thrust load of 454 kg [1000 lb].

Note:

Case pressure will increase the allowable inward thrust load and decrease the allowable outward thrust load. Case pressure will push outward on the shaft at 94 kg/7 Bar [208 lb/100 PSI].



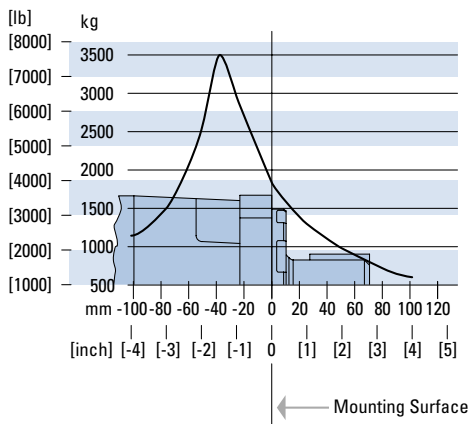
Each curve is based on B 10 bearing life (2000 hours of 12,000,000 shaft revolutions at 100 RPM) at rated output torque.

To determine radial load at speeds other than 100 RPM, multiply the load values given on the bearing curve by the factors in the chart below.

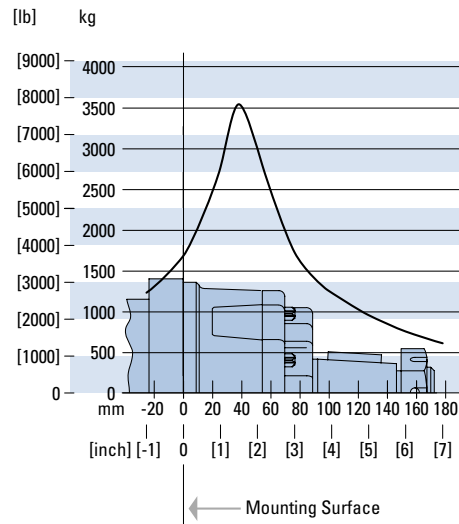
RPM	Multiplication Factor
50	1.23
100	1.00
200	0.81
300	0.72
400	0.66
500	0.62
600	0.58
700	0.56
800	0.54

For 3,000,000 shaft revolutions or 500 hours—Increase these shaft loads 52%.

Standard Motor
Straight and Splined Shafts



Wheel Motor Tapered Shaft





4000 Series

Case Pressure and Case Port

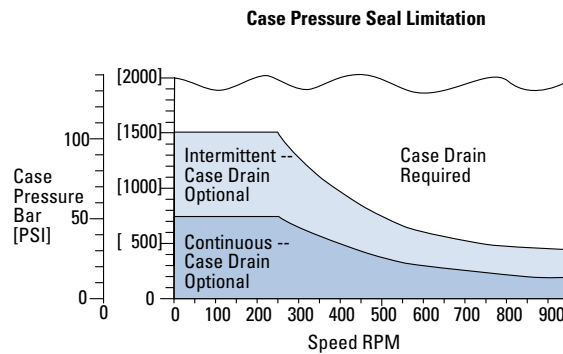
Char-Lynn 4000 Series motors are durable and have long life as long as the recommended case pressure is not exceeded. Allowable case pressure is highest at low shaft speeds. Consequently, motor life will be shortened if case pressure exceeds these ratings (acceptability may vary with application). Determine if an external case drain is required from the case pressure seal limitation chart.

Case Porting Advantage

Contamination Control — flushing the motor case.

Cooler Motor — exiting oil draws motor heat away.

Extend Motor Seal Life — maintain low case pressure with a preset restriction in the case drain line.



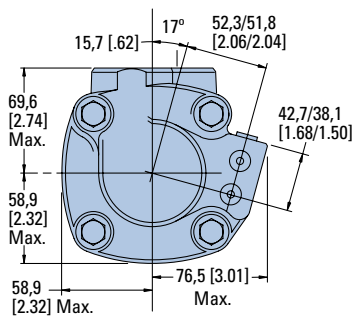
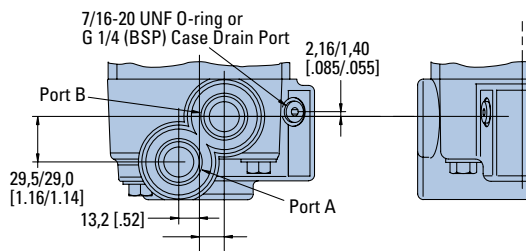


4000 Series

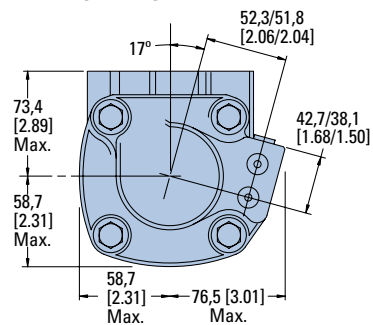
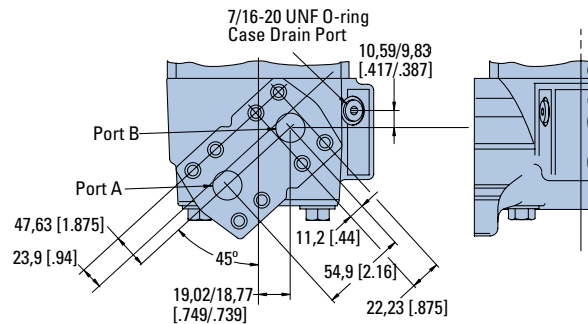
Dimensions

Ports

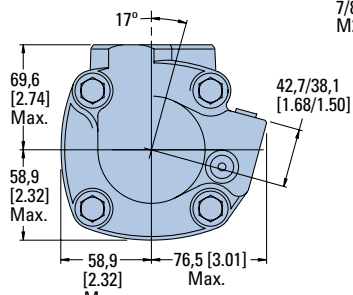
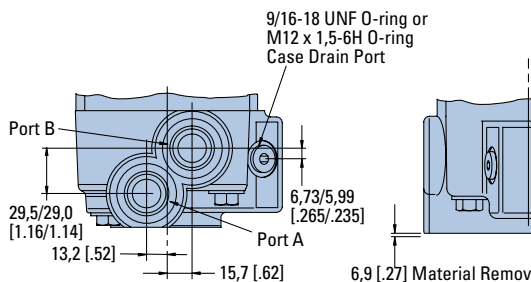
1-1/16-12 O-ring Ports (2) or G 3/4 (BSP) Ports (2)



4 Bolt 3/4 Inch Split Flange Ports to Fit SAE J518 c (2)



7/8-14 O-ring Ports (2) or M22 x 1,5-6H Ports (2)



6,9 [0,27] Material Removed from this Housing for 7/8-14 O-ring Ports and M22 x 1,5-6H Ports



4000 Series Product Numbers

Note:

For 4000 Series Motors with a configuration **Not Shown** in the charts below: Use model code number system on the next page to specify product in detail.

Use digit prefix —109-, 110-, or 111- plus four digit number from charts for complete product number— Example 111-1057.

Orders will not be accepted without three digit prefix.

MOUNTING	SHAFT	PORT SIZEDISPL. cm ³ /r [in ³ /r] / PRODUCT NUMBER										
		110 [6.7]	130 [7.9]	160 [9.9]	205 [12.5]	245 [15.0]	280* [17.1]	310 [19.0]	395 [24.0]	495 [30.0]	625 [38.0]	
Standard SAE B-Mount	1 1/4 Inch Straight	1 1/16 O-ring	109-1100	-1101	-1102	-1103	-1104	-1094	-1105	-1106	-1212	-1215
		3/4 inch Split Flange	109-1001	-1054	-1002	-1003	-1055	—	-1056	-1057	—	—
	1 5/8 Inch Tapered	1 1/16 O-ring	109-1107	-1108	-1109	-1110	-1111	—	-1112	-1113	-1479	-1455
		3/4 inch Split Flange	109-1006	-1058	-1007	-1008	-1059	—	-1402	-1061	—	—
	1 1/4 Inch 14 T Splined	1 1/16 O-ring	109-1114	-1115	-1116	-1117	-1118	—	-1119	-1120	—	—
		3/4 inch Split Flange	109-1011	-1062	-1012	-1013	-1063	—	-1064	-1065	—	—
Standard SAE C-Mount	40 mm Straight	G 3/4 (BSP)	109-1184	-1185	-1227	-1224	-1225	—	-1189	-1190	—	—
	1 1/4 Inch 17 T Splined	G 3/4 (BSP)	109-1191	-1192	-1193	-1194	-1195	—	-1196	-1197	—	—
Wheel Motor	1 1/4 Inch Straight	1 1/16 O-ring	110-1074	-1075	-1076	-1077	-1078	—	-1079	-1080	—	-1122
		3/4 inch Split Flange	110-1001	-1040	-1002	-1003	-1041	—	-1042	-1043	—	—
	40 mm Straight	G 3/4 (BSP)	110-1108	-1109	-1110	-1111	-1112	—	-1113	-1125	—	—
		1 1/16 O-ring	110-1081	-1082	-1083	-1084	-1085	—	-1086	-1087	1116	-1117
	1 5/8 Inch Tapered	3/4 inch Split Flange	110-1006	-1044	-1007	-1008	-1045	—	-1046	-1047	—	—
		1 1/16 O-ring	110-1088	-1089	-1090	-1091	-1092	—	-1093	-1094	—	—
1 1/4 Inch 14 T Splined	3/4 inch Split Flange	110-1011	-1048	-1012	-1013	-1049	—	-1050	-1051	—	—	
	1 1/16 O-ring	111-1033	-1034	-1035	-1036	-1037	—	-1038	-1039	-1062	-1063	
Bearingless	3/4 inch Split Flange	G 3/4 (BSP)	111-1044	-1015	-1045	-1046	-1016	—	-1017	-1018	—	—
		111-1052	-1053	-1054	-1055	-1056	—	-1057	-1058	—	—	

* New Release

111-1057



4000 Series

Model Code

The following 30-digit coding system has been developed to identify all of the configuration options for the 4000 Series motor. Use this model code to specify a motor with the desired features. All 30 digits of the code must be present when ordering. You may want to photocopy the matrix below to ensure that each number is entered in the correct box.

M	0	4	***	**	**	**	**	**	*	**	*	*	**	**	**	**	**	*											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

1 Product
M - Motor

2, **3** Series
04 - 4000 Series

4, **5**, **6** Displacement
cm³/r [in³/r]
067 - 109.8 cm³/r [6.70 in³/r]
080 - 130.3 cm³/r [7.95 in³/r]
099 - 162.2 cm³/r [9.90 in³/r]
125 - 205.5 cm³/r [12.54 in³/r]
150 - 246.3 cm³/r [15.03 in³/r]
171 - 280.1 cm³/r [17.09 in³/r]
190 - 311.8 cm³/r [19.03 in³/r]
225 - 369.0 cm³/r [22.52 in³/r]
240 - 393.9 cm³/r [24.04 in³/r]
301 - 492.6 cm³/r [30.06 in³/r]
342 - 560.2 cm³/r [34.18 in³/r]
381 - 623.9 cm³/r [38.07 in³/r]

7, **8** Mounting Type
AA - Bearingless, 4 Bolt:
127.00 [5.000] Pilot Dia.
14.27 [.562] Dia. Holes on
161.92 [6.375] Dia. Bolt
Circle
AB - Standard, 4 Bolt:
101.60 [4.000] Pilot Dia. 14.7
[.58] Slots on 127.00 [5.000]
Dia. Bolt Circle. (SAE B)
AC - Wheel, 4 Bolt: 139.70
[5.500] Pilot Dia. 14.27
[.562] Dia. Holes on 165.10
[6.500] Dia. Bolt Circle.
AD - Wheel, 4 Bolt: 127.00
[5.000] Pilot Dia. .500-13
UNC-2B Threaded Holes
on 147.62 [5.812] Dia. Bolt
circle.
AF - Standard, 4 Bolt:
127.00 [5.000] Pilot Dia.
14.27 [.562] Dia. Holes on
161.92 [6.375] Dia. Bolt
Circle. (SAE C)
AH - Standard: ISO Flange
125 B4hw (ISO 3019/2)
124.97 [4.920] Pilot Dia.
14.27 [.562] Dia. Holes on
160.00 [6.299] Dia. Bolt
Circle

AP - Wheel, 4 Bolt: 160.0
[6.30] Pilot Dia. with 5.8 [.23]
Pilot Length and 18.00 [.709]
Dia Holes on 200.00 [7.874]
Bolt Circle (ISO Compatible)

9, **10** Output Shaft
00 - None (Bearingless)
01 - 31.75 [1.250] Dia.
Straight With .375-16UNC-
2B Thread, 53.1 [2.09] Max
Coupling Length, 7.938
[.3125] Sq x 41.27 [1.625]
Straight Key
02 - 41.28 [1.625] Dia.
Tapered with 11.112 [.4375]
Sq x 31.75 [1.250] Straight
Key, 1.250-18UNEF-2A
Thread with Slotted Hex
Nut

03 - 31.75 [1.250] Dia. Flat
Root Side Fit, 14 Tooth,
12/24 DP 30° Involute
Spline, 38.1 [1.50] Minimum
Full Spline Length with
.375-16UNC-2B Thread
10 - 38.10 [1.500] Dia. Flat
Root Side Fit, 17 Tooth,
12/24 DP 30°. Involute
Spline, 31.2 [1.23] Minimum
Full Spline Length, with
.375-16 UNC-2B Thread in
End

11 - 40.00 [1.575] Dia.
Straight with M12 x 1.75-
6H Thread, 7.955 [.3132] x
11.979 [.4716] Wide X 69.98
[2.755] Straight Key

21 - 40.00 [1.575] Dia.
10:1 Tapered Shaft per ISO
R775 with .750-16 UNF-2B
Threaded in End, 12W x 8H
70L [.472W x .313H x 2.76L]
Key

22 - None (Bearingless)
European Spline
25 - 42.00 [1.654] Dia. 10:1
Tapered Shaft per ISO R775
with .750-16 UNF-2B Thread
in End, 12W x 8H X 63L
[.472W X .313H X 2.48L]
Key

11, **12** Ports
AA - .875-14 UNF-2B SAE
O-Ring Ports - Staggered
Ports
AB - 1.0625-12 UN-2B SAE
O-Ring Ports - Staggered
Ports

AC - G 3/4 Ports -
Staggered Ports
AD - 19.05 [.750] 4 Bolt
Split Flange Staggered Ports
Standard Pressure Series
(Code 61)

AE - M22 X 1.5-6H O-Ring
Port - Staggered Ports
AG - 12.70 [.500] Dia.
Manifold Ports

AJ - Dash 12 Stc Type II+
(Snap to Connect) Ports -
Staggered Ports

13, **14** Case Flow Options
00 - None

01 - .5625-18 UNF-2B SAE
O-Ring Port with Shuttle
02 - .4375-20 UNF-2B SAE
O-ring Port with Check
Valve

03 - G 1/4 BSP Straight
Thread with Check Valve
06 - .4375-20 UNF-2B SAE
O-ring Port with Reverse
Flow Shuttle

10 - Dash 6 Stc Type II +
(Snap to Connect) Port

15 Low Pressure Relief
0 - None
A - Set at 4.5 Bar
[65 lbf/in²]
B - Set at 15.2 Bar
[220 lbf/in²]

16, **17** Pressure/Flow
Option
00 - None

18 Geroler Option
0 - Standard

19 Seal Option
0 - Standard
1 - Viton
4 - Seal Guard

20, **21** Accessories
00 - None
AC - M 12 Threaded
Connector, Long Body
Digital Speed and Direction
Pickup (Two 36 Pulse
Signals in Quadrature per
Revolution Pin 1=Power
Supply, Pin 2=Output Signal
1, Pin 3=Common, Pin
4=Output Signal 2)

AD - M 12 Threaded
Connector, Digital Speed
And Direction Pickup (One
72 Pulse per Rev Speed
Signal and One Directional
Signal (Pin 1=Power,
Pin 2=Direction, Pin
2=Common, Pin 4=Speed)

22, **23** Special Features
(Hardware)
00 - None
17 - Low Noise Valve Plate

24, **25** Special Features
(Assembly)
00 - None

26, **27** Paint/Packaging
00 - No Paint, Individual
Box

AA - Painted Low Gloss
Black, Individual Box
AB - Epoxy Coated (Frost
Gray), Individual Box

28, **29** Customer
Identification
00 - None

30 Design Code
F - Sixth

Feature in **bold** are preferred and
allow for shorter lead time.



Order Numbers

FT Article Number	Eaton Code	Type
1248741	109-1002	CHAR-LYNN MOTOR SERIE 4000
1248742	109-1052	CHAR-LYNN MOTOR SERIE 4000
1318872	109-1053	CHAR-LYNN MOTOR SERIE 4000
1248743	109-1055	CHAR-LYNN MOTOR SERIE 4000
1248745	109-1065	CHAR-LYNN MOTOR SERIE 4000
1270317	109-1100	CHAR-LYNN MOTOR SERIE 4000
1248746	109-1102	CHAR-LYNN MOTOR SERIE 4000
1416687	109-1103	CHAR-LYNN MOTOR SERIE 4000
1318735	109-1104	CHAR-LYNN MOTOR SERIE 4000
1248748	109-1105	CHAR-LYNN MOTOR SERIE 4000
1314579	109-1112	CHAR-LYNN MOTOR SERIE 4000
1258968	109-1113	CHAR-LYNN MOTOR SERIE 4000
1431701	109-1114	CHAR-LYNN MOTOR SERIE 4000
1248750	109-1116	CHAR-LYNN MOTOR SERIE 4000
1248751	109-1117	CHAR-LYNN MOTOR SERIE 4000
1335990	109-1118	CHAR-LYNN MOTOR SERIE 4000
1248752	109-1119	CHAR-LYNN MOTOR SERIE 4000
1248753	109-1120	CHAR-LYNN MOTOR SERIE 4000
1431712	109-1158	CHAR-LYNN MOTOR SERIE 4000
1248754	109-1173	CHAR-LYNN MOTOR SERIE 4000
1248755	109-1184	CHAR-LYNN MOTOR SERIE 4000
1248756	109-1185	CHAR-LYNN MOTOR SERIE 4000
1248759	109-1189	CHAR-LYNN MOTOR SERIE 4000
1248760	109-1190	CHAR-LYNN MOTOR SERIE 4000
1429062	109-1190 (LOW LEAKAGE)	CHAR-LYNN MOTOR SERIE 4000
1434019	109-1190-VITON	CHAR-LYNN MOTOR SERIE 4000
1248761	109-1191	CHAR-LYNN MOTOR SERIE 4000
1248762	109-1192	CHAR-LYNN MOTOR SERIE 4000
1248763	109-1193	CHAR-LYNN MOTOR SERIE 4000
1248764	109-1194	CHAR-LYNN MOTOR SERIE 4000
1330104	109-1195	CHAR-LYNN MOTOR SERIE 4000
1248765	109-1196	CHAR-LYNN MOTOR SERIE 4000
1420258	109-1216	CHAR-LYNN MOTOR SERIE 4000
1248766	109-1224	CHAR-LYNN MOTOR SERIE 4000
1248767	109-1225	CHAR-LYNN MOTOR SERIE 4000
1248768	109-1227	CHAR-LYNN MOTOR SERIE 4000
1248769	109-1231	CHAR-LYNN MOTOR SERIE 4000
1248770	109-1234	CHAR-LYNN MOTOR SERIE 4000
1248771	109-1235	CHAR-LYNN MOTOR SERIE 4000
1248772	109-1236	CHAR-LYNN MOTOR SERIE 4000
1431859	109-1243	CHAR-LYNN MOTOR SERIE 4000
1248773	109-1245	CHAR-LYNN MOTOR SERIE 4000
1248774	109-1246	CHAR-LYNN MOTOR SERIE 4000
1420386	109-1246-K	CHAR-LYNN MOTOR SERIE 4000
1248775	109-1247	CHAR-LYNN MOTOR SERIE 4000
1248776	109-1248	CHAR-LYNN MOTOR SERIE 4000
1248777	109-1249	CHAR-LYNN MOTOR SERIE 4000
1248778	109-1250	CHAR-LYNN MOTOR SERIE 4000
1426575	109-1257	CHAR-LYNN MOTOR SERIE 4000
1426735	109-1258	CHAR-LYNN MOTOR SERIE 4000
1425687	109-1259	CHAR-LYNN MOTOR SERIE 4000
1248779	109-1261	CHAR-LYNN MOTOR SERIE 4000


Order Numbers

FT Article Number	Eaton Code	Type
1435460	109-1265	CHAR-LYNN MOTOR SERIE 4000
1248780	109-1267	CHAR-LYNN MOTOR SERIE 4000
1248781	109-1291	CHAR-LYNN MOTOR SERIE 4000
1248782	109-1306	CHAR-LYNN MOTOR SERIE 4000
1248783	109-1309	CHAR-LYNN MOTOR SERIE 4000
1248784	109-1336	CHAR-LYNN MOTOR SERIE 4000
1248785	109-1361	CHAR-LYNN MOTOR SERIE 4000
1248786	109-1362	CHAR-LYNN MOTOR SERIE 4000
1417393	109-1383	CHAR-LYNN MOTOR SERIE 4000
1425685	109-1432	CHAR-LYNN MOTOR SERIE 4000
1424233	109-1450	CHAR-LYNN MOTOR SERIE 4000
1431150	109-1460	CHAR-LYNN MOTOR SERIE 4000
1417427	109-1473	CHAR-LYNN MOTOR SERIE 4000
1431151	109-1478	CHAR-LYNN MOTOR SERIE 4000
1420822	109-1497	CHAR-LYNN MOTOR SERIE 4000
1420824	109-1498	CHAR-LYNN MOTOR SERIE 4000
1432309	109-1499	CHAR-LYNN MOTOR SERIE 4000
1431210	109-1542	CHAR-LYNN MOTOR SERIE 4000
1425228	109-1550	CHAR-LYNN MOTOR SERIE 4000
1427499	109-1575	CHAR-LYNN MOTOR SERIE 4000
1431149	109-1582	CHAR-LYNN MOTOR SERIE 4000
1431152	109-1616	CHAR-LYNN MOTOR SERIE 4000
1435746	109-1659	CHAR-LYNN MOTOR SERIE 4000
1248799	110-1006	CHAR-LYNN MOTOR SERIE 4000
1248800	110-1073	CHAR-LYNN MOTOR SERIE 4000
1258311	110-1081	CHAR-LYNN MOTOR SERIE 4000
1254203	110-1082	CHAR-LYNN MOTOR SERIE 4000
1416719	110-1084	CHAR-LYNN MOTOR SERIE 4000
1248802	110-1085	CHAR-LYNN MOTOR SERIE 4000
1253663	110-1086	CHAR-LYNN MOTOR SERIE 4000
1427621	110-1109	CHAR-LYNN MOTOR SERIE 4000
1417240	110-1110	CHAR-LYNN MOTOR SERIE 4000
1417603	110-1111	CHAR-LYNN MOTOR SERIE 4000
1248806	110-1112	CHAR-LYNN MOTOR SERIE 4000
1427294	110-1113	CHAR-LYNN MOTOR SERIE 4000
1332261	110-1129	CHAR-LYNN MOTOR SERIE 4000
1428092	110-1135	CHAR-LYNN MOTOR SERIE 4000
1407794	111-1052	CHAR-LYNN MOTOR SERIE 4000
1430916	111-1053	CHAR-LYNN MOTOR SERIE 4000
1407799	111-1054	CHAR-LYNN MOTOR SERIE 4000
1428653	111-1055	CHAR-LYNN MOTOR SERIE 4000
1428654	111-1056	CHAR-LYNN MOTOR SERIE 4000
1434071	111-1079	CHAR-LYNN MOTOR SERIE 4000
1428652	111-1086	CHAR-LYNN MOTOR SERIE 4000