10,000 Series

Highlights

Description:

This is the biggest disc valve motor of our line with up to 170 lpm [45 gpm] and 2700 Nm [23,910 in-lbs] in-lb of torque in continuous mode, this motor is powerful and yet provides exceptional efficiency and side-load capability.



Features:

- High torque and flow
- Speed sensing capability
- Low pressure loss even in higher flows

Benefits:

- High power density for demanding mobile and industrial applications
- Large front bearing pack

Applications:

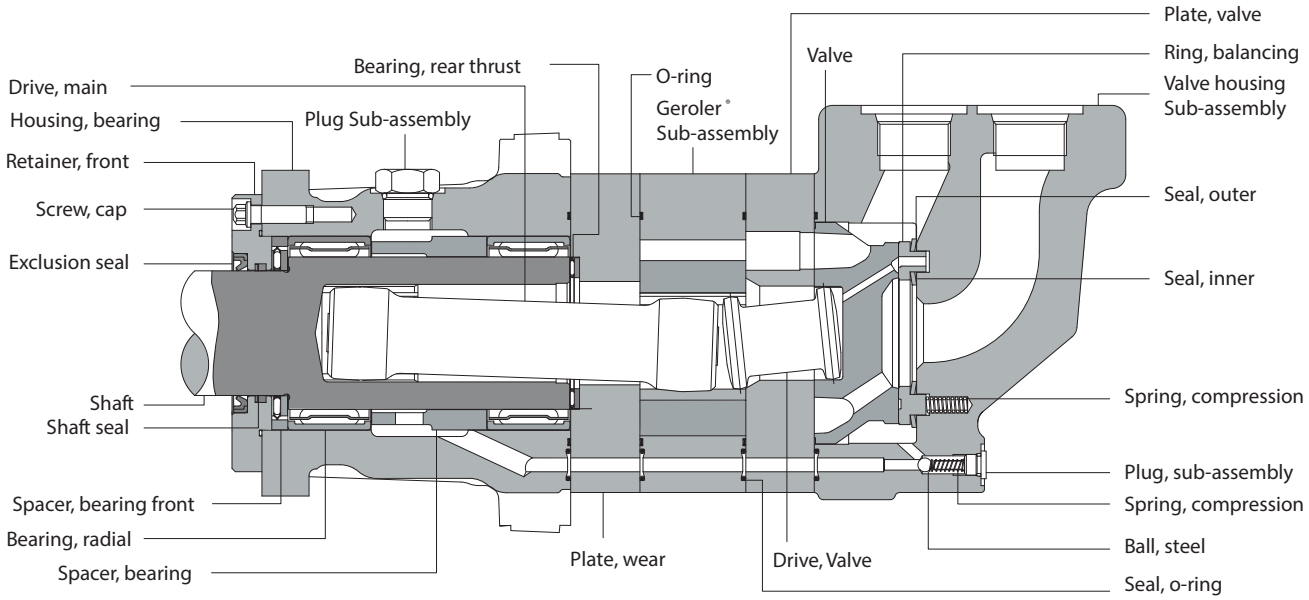
- Boring
- Industrial
- Metal forming
- Port equipment
- Saw mill

Specifications

Geroler element	4 Displacements
Flow l/min [GPM]	170 [45] Continuous**
	265 [70] Intermittent*
Speed RPM	501 Cont.**
	784 Inter.*
Pressure bar [PSI]	205 [3000] Cont.**
	275 [4000] Inter.*
Torque Nm [lb-in]	2700 [23910] Cont.**
	3440 [30460] Inter.*

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

C-6



10,000 series motors

Displ. cm³/r [in³/rev]		**345 [21.0]**	**480 [29.3]**	**665 [40.6]**	**940 [57.4]**
Max speed (RPM) @ Flow	Continuous	501	354	254	179
	Intermittent	784	552	396	279
Flow l/min [GPM]	Continuous	170 [45]	170 [45]	170 [45]	170 [45]
	Intermittent	265 [70]	265 [70]	265 [70]	265 [70]
Torque* Nm [lb - in]	Continuous	1040 [9220]	1475 [13050]	2085 [18450]	2700 [23910]
	Intermittent	1390 [12310]	1965 [17410]	2610 [23080]	3440 [30460]
Pressure Δ bar [Δ PSI]	Continuous	205 [3000]	205 [3000]	205 [3000]	190 [2750]
	Intermittent	275 [4000]	275 [4000]	260 [3750]	240 [3500]
	Peak	275 [4000]	275 [4000]	275 [4000]	260 [3750]
Weight kg [lb]	Standard or wheel mount	43.5 [96.0]	45.4 [100.0]	46.3 [100.0]	47.2 [104.0]
	Bearingless	31.3 [69.0]	33.1 [73.0]	33.1 [73.0]	34.9 [77.0]

*See shaft torque ratings for limitations..

Note: To assure best motor life, run motor in low speed high torque mode at approximately 30% of continuous pressure and 50% of continuous flow for 30 minutes in each direction before application of full load. Ensure that motor is filled with fluid prior to operation.

Maximum inlet pressure:
275 bar [4000 PSI]

Do not exceed Δ pressure rating (see chart above).

Maximum return pressure:
275 bar [4000 PSI] with case drain line installed.

Do not exceed Δ pressure rating (see chart above).

Maximum case pressure:
20 bar [300 PSI]

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 13 cSt [70 SUS] at operating temperature.

Recommended system operating temp.:
-34°C to 82°C
[-30°F to 180°F]

Recommended filtration:
Per ISO Cleanliness code, 4406: 20/18/13

Thermal shock warning:
Do not operate the motor with fluid that is 70F or more above the motor temperature.

Minimum delta pressure warning:
Motors must not run with equal inlet and outlet pressure 50 PSID minimum delta pressure between motor ports is required at all times (expect when switching direction of rotation)

10,000 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 25 cSt [120 SUS]. Actual data may vary slightly from unit to unit in production.

Continuous

Peak

Intermittent

No operation

Δ Pressure bar [PSI]
345 cm ³/r [21.0 in ³/r]

Flow LPM [GPM]

	[250] 17	[500] 34	[1000] 69	[1500] 103	[2000] 138	[2500] 172	[3000] 207	[3500] 241	[4000] 276
[1]	[600]	[1310]							
	70	150							
4	3	1							
[2]	[740]	[1510]	[3050]	[4600]	[6140]	[7680]			
	85	170	345	520	695	870			
8	21	19	15	11	8	4			
[4]	[730]	[1500]	[3040]	[4590]	[6140]	[7680]	[9220]	[10770]	[12310]
	80	170	345	520	695	870	1040	1215	1390
15	43	41	37	33	30	26	22	18	14
[8]	[720]	[1490]	[3030]	[4580]	[6120]	[7670]	[9210]	[10750]	[12300]
	80	170	340	515	690	865	1040	1215	1390
30	87	86	82	78	74	70	66	62	58
[12]	[700]	[1470]	[3020]	[4560]	[6100]	[7650]	[9190]	[10740]	[12280]
	80	165	340	515	690	865	1040	1215	1385
45	131	130	127	123	118	114	110	106	102
[16]	[680]	[1450]	[3000]	[4540]	[6080]	[7630]	[9170]	[10720]	[12260]
	75	165	340	515	685	860	1035	1210	1385
61	176	175	172	167	163	158	154	149	145
[20]	[660]	[1430]	[2970]	[4520]	[6060]	[7600]	[9150]	[10690]	[12230]
	75	160	335	510	685	860	1035	1210	1380
76	221	220	217	212	207	202	198	193	189
[24]	[630]	[1400]	[2950]	[4490]	[6030]	[7580]	[9120]	[10660]	[12210]
	70	160	335	505	680	855	1030	1205	1380
91	266	265	261	256	252	246	242	237	232
[28]	[600]	[1370]	[2920]	[4460]	[6000]	[7550]	[9090]	[10640]	[12180]
	70	155	330	505	680	855	1025	1200	1375
106	310	309	306	301	296	291	286	280	275
[32]	[570]	[1340]	[2890]	[4430]	[5970]	[7520]	[9060]	[10610]	[12150]
	65	150	325	500	675	850	1025	1200	1375
121	356	355	351	346	340	335	329	324	319
[36]	[540]	[1310]	[2850]	[4400]	[5940]	[7480]	[9030]	[10570]	[12120]
	60	150	320	495	670	845	1020	1195	1370
136	400	399	396	390	384	379	373	368	362
[40]	[500]	[1270]	[2820]	[4360]	[5910]	[7450]	[8990]	[10540]	
	55	145	320	495	670	840	1015	1190	
151	445	444	441	435	429	423	417	412	
[45]	[460]	[1220]	[2760]	[4300]	[5840]	[7380]	[8910]	[10450]	
	50	140	310	485	660	835	1005	1180	
170	501	500	498	492	486	480	473	467	
[60]		[1080]	[2620]	[4160]	[5710]	[7250]	[8800]		
		120	295	470	645	820	995		
227		668	665	658	651	644	637		
[70]		[960]	[2510]	[4050]	[5590]	[7140]	[8680]		
		110	285	460	630	805	980		
265		784	777	769	761	754	746		

[2510] Torque [lb-in]
285 Nm
777 Speed RPM

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 25 cSt [120 SUS]. Actual data may vary slightly from unit to unit in production.

Continuous

Peak

Intermittent

No operation

Δ Pressure bar [PSI]
480 cm ³/r [29.3 in ³/r]

Flow LPM [GPM]

	[250] 17	[500] 34	[1000] 69	[1500] 103	[2000] 138	[2500] 172	[3000] 207	[3500] 241	[4000] 276
[1] 4	[760] 85 6	[1540] 175 5	[3120] 355 4	[4640] 525 2					
[2] 8	[1040] 120 15	[2140] 240 13	[4320] 490 11	[6500] 735 8	[8690] 980 5	[10870] 1230 2			
[4] 15	[1040] 120 31	[2130] 240 29	[4310] 485 27	[6490] 735 24	[8680] 980 21	[10860] 1225 18	[13050] 1475 16	[15230] 1720 13	[17410] 1965 10
[8] 30	[1020] 115 62	[2110] 240 61	[4290] 485 58	[6480] 730 55	[8660] 980 53	[10840] 1225 50	[13030] 1470 47	[15210] 1720 44	[17390] 1965 42
[12] 45	[990] 110 94	[2080] 235 93	[4270] 480 90	[6450] 730 87	[8630] 975 84	[10820] 1220 81	[13000] 1470 78	[15180] 1715 75	[17370] 1965 73
[16] 61	[960] 110 125	[2060] 235 124	[4240] 480 122	[6420] 725 119	[8600] 970 116	[10790] 1220 113	[12970] 1465 110	[15150] 1710 107	[17340] 1960 104
[20] 76	[930] 105 157	[2020] 230 156	[4200] 475 154	[6390] 720 150	[8570] 970 147	[10750] 1215 144	[12940] 1460 141	[15120] 1710 138	[17300] 1955 135
[24] 91	[890] 100 189	[1980] 225 188	[4170] 470 185	[6350] 715 182	[8530] 965 179	[10720] 1210 175	[12900] 1460 172	[15080] 1705 169	
[28] 106	[850] 95 221	[1940] 220 220	[4130] 465 217	[6310] 715 214	[8490] 960 210	[10680] 1205 207	[12860] 1455 203	[15040] 1700 200	
[32] 121	[810] 90 252	[1900] 215 251	[4080] 460 249	[6270] 710 245	[8450] 955 242	[10630] 1200 238	[12820] 1450 235	[15000] 1695 231	
[36] 136	[760] 85 282	[1850] 210 281	[4040] 455 280	[6220] 705 277	[8400] 950 273	[10590] 1195 270	[12770] 1445 266		
[40] 151	[710] 80 318	[1800] 205 316	[3990] 450 312	[6170] 695 308	[8350] 945 305	[10540] 1190 301	[12720] 1435 297		
[45] 170	[647] 75 354	[1740] 195 353	[3920] 445 351	[6110] 690 348	[8290] 935 344	[10470] 1185 340	[12660] 1430 336		
[60] 227	[430] 50 474	[1520] 170 473	[3710] 420 471	[5890] 665 467	[8070] 910 462	[10260] 1160 458	[12440] 1405 454		
[70] 265		[1360] 155 552	[3540] 400 550	[5730] 645 546	[7910] 895 541	[10100] 1140 536	[12280] 1385 532		

10,000 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 25 cSt [120 SUS]. Actual data may vary slightly from unit to unit in production.

Continuous

Peak

Intermittent

No operation

Δ Pressure bar [PSI]
665 cm ³/r [40.6 in ³/r]

Flow LPM [GPM]

	[250] 17	[500] 34	[750] 52	[1000] 69	[1250] 86	[1500] 103	[1750] 121	[2000] 138	[2250] 155	[2500] 172	[2750] 190	[3000] 207	[3250] 224	[3500] 241	[3750] 259
[1] 4	[1470] 165 4	[3010] 340 3	[4550] 515 3	[6100] 690 2	[7630] 860 1										
[2] 8	[1480] 165 10	[3020] 340 9	[4560] 515 8	[6110] 690 7	[7650] 865 7	[9200] 1040 6	[10740] 1215 5	[12280] 1385 4	[13830] 1565 3	[15370] 1735 2	[16910] 1910 1				
[4] 15	[1470] 165 22	[3010] 340 21	[4550] 515 20	[6100] 690 19	[7640] 865 18	[9190] 1040 17	[10730] 1210 16	[12270] 1385 15	[13820] 1560 14	[15360] 1735 13	[16900] 1910 12	[18450] 2085 11	[19990] 2260 10	[21540] 2435 9	[23080] 2610 8
[8] 30	[1440] 165 44	[2980] 335 43	[4530] 510 42	[6070] 685 41	[7610] 860 40	[9160] 1035 39	[10700] 1210 38	[12250] 1385 37	[13790] 1560 36	[15330] 1730 35	[16880] 1905 34	[18420] 2080 33	[19960] 2255 32	[21510] 2430 32	[23050] 2605 31
[12] 45	[1400] 160 67	[2950] 335 66	[4490] 505 65	[6040] 680 64	[7580] 855 63	[9120] 1030 62	[10670] 1205 61	[12210] 1380 60	[13750] 1555 59	[15300] 1730 58	[16840] 1905 57	[18380] 2075 56	[19930] 2250 55	[21470] 2425 54	[23020] 2600 53
[16] 61	[1360] 155 89	[2910] 330 88	[4450] 505 87	[5990] 675 86	[7540] 850 85	[9080] 1025 84	[10620] 1200 83	[12170] 1375 82	[13710] 1550 81	[15260] 1725 80	[16800] 1900 79	[18340] 2070 78	[19890] 2245 77	[21400] 2420 76	
[20] 76	[1310] 150 112	[2860] 375 111	[4400] 495 110	[5940] 670 109	[7490] 845 108	[9030] 1020 107	[10580] 1195 106	[12120] 1370 104	[13660] 1545 103	[15210] 1720 102	[16750] 1890 101	[18300] 2070 100	[19840] 2240 99		
[24] 91	[1260] 140 135	[2800] 315 134	[4350] 490 132	[5890] 665 131	[7440] 840 130	[8980] 1015 129	[10520] 1190 128	[12070] 1365 127	[13610] 1540 126	[15150] 1710 124	[16700] 1885 123	[18240] 2060 122			
[28] 106	[1200] 135 157	[2750] 310 156	[4290] 485 155	[5840] 660 154	[7380] 835 153	[8920] 1010 151	[10470] 1185 150	[12010] 1355 149	[13550] 1530 148	[15100] 1705 147	[16640] 1880 146				
[32] 121	[1140] 130 180	[2690] 305 179	[4230] 480 177	[5770] 650 176	[7320] 825 175	[8860] 1000 174	[10400] 1175 173	[11950] 1350 172	[13490] 1525 170	[15040] 1700 169	[16580] 1875 168				
[36] 136	[1080] 120 202	[2620] 295 201	[4160] 470 200	[5710] 645 199	[7250] 820 198	[8800] 995 196	[10340] 1170 195	[11880] 1340 194	[13430] 1515 193	[14970] 1690 191	[16510] 1865 190				
[40] 151	[1010] 115 225	[2550] 290 224	[4100] 465 222	[5640] 635 221	[7180] 810 220	[8730] 985 219	[10270] 1160 217	[11810] 1335 216	[13360] 1510 215	[14900] 1685 214	[16440] 1855 212				
[45] 170	[920] 105 254	[2460] 280 252	[4000] 450 251	[5550] 625 249	[7090] 800 248	[8630] 975 247	[10180] 1150 245	[11720] 1325 244	[13260] 1500 243	[14810] 1675 242					
[60] 227	[610] 70 338	[2150] 245 336	[3700] 420 335	[5240] 590 334	[6780] 765 332	[8330] 940 331	[9870] 1115 329	[11420] 1290 328	[12960] 1465 327						
[70] 265	[380] 45 396	[1930] 220 393	[3470] 390 391	[5010] 565 390	[6560] 740 388	[8100] 915 387	[9640] 1090 385	[11190] 1265 384							

[3470] Torque [lb-in]
390 Nm
391 Speed RPM

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 25 cSt [120 SUS]. Actual data may vary slightly from unit to unit in production.

Continuous

Peak

Intermittent

No operation

Δ Pressure bar [PSI]

940 cm ³/r [57.4 in ³/r]

Flow LPM [GPM]

	[250] 17	[500] 34	[750] 52	[1000] 69	[1250] 86	[1500] 103	[1750] 121	[2000] 138	[2250] 155	[2500] 172	[2750] 190	[3000] 207	[3250] 224	[3500] 241
[1] 4	[2080] 235 3	[4260] 480 2	[6440] 730 1											
[2] 8	[2090] 235 7	[4270] 480 6	[6450] 730 5	[8640] 975 5	[10820] 1220 4	[13000] 1470 3	[15190] 1715 2	[17370] 1965 1						
[4] 15	[2080] 235 15	[4260] 480 14	[6440] 730 13	[8620] 975 13	[10810] 1220 12	[12990] 1470 11	[15170] 1715 10	[17360] 1960 9	[19540] 2210 8	[21720] 2455 7	[23910] 2700 7	[26090] 2950 6	[28270] 3195 5	[30460] 3440 4
[8] 30	[2040] 230 31	[4220] 475 30	[6400] 725 29	[8590] 970 28	[10770] 1215 28	[12950] 1465 27	[15140] 1710 26	[17320] 1955 25	[19500] 2205 24	[21690] 2450 23	[23870] 2695 22			
[12] 45	[1990] 225 47	[4170] 470 46	[6350] 715 45	[8540] 965 44	[10720] 1210 43	[12900] 1460 43	[15090] 1705 42	[17270] 1950 41	[19450] 2200 40	[21640] 2445 39				
[16] 61	[1930] 220 63	[4110] 465 62	[6290] 710 61	[8480] 960 60	[10660] 1205 59	[12840] 1450 58	[15030] 1700 58	[17210] 1945 57	[19390] 2190 56					
[20] 76	[1860] 210 79	[4040] 455 78	[6220] 705 77	[8410] 950 76	[10590] 1195 75	[12770] 1445 74	[14960] 1690 73	[17140] 1935 72	[19320] 2185 72					
[24] 91	[1780] 200 95	[3970] 450 94	[6150] 695 93	[8330] 940 92	[10520] 1190 91	[12700] 1435 90	[14880] 1680 89	[17080] 1930 88						
[28] 106	[1700] 190 111	[3890] 440 110	[6070] 685 109	[8250] 930 108	[10440] 1180 107	[12620] 1425 106	[14800] 1675 105	[16990] 1920 104						
[32] 121	[1620] 185 127	[3800] 430 126	[5980] 675 125	[8160] 920 124	[10350] 1170 123	[12530] 1415 122	[14720] 1665 121							
[36] 136	[1520] 170 143	[3710] 420 142	[5890] 665 141	[8070] 910 140	[10260] 1160 139	[12440] 1405 138	[14620] 1650 137							
[40] 151	[1420] 160 159	[3610] 410 158	[5790] 655 157	[7970] 900 156	[10160] 1150 155	[12340] 1395 154	[14520] 1640 153							
[45] 170	[1290] 145 179	[3480] 395 178	[5660] 640 177	[7840] 885 176	[10020] 1130 174	[12210] 1380 174	[14400] 1625 173							
[60] 227	[860] 95 239	[3040] 345 238	[5230] 590 236	[7410] 835 235	[9600] 1085 234	[11780] 1330 233								
[70] 265	[540] 60 279	[2720] 305 278	[4910] 555 276	[7090] 800 275	[9270] 1045 274	[11460] 1295 273								

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10,000 Series

Dimensions

Ports

1 5/16 -12 UN-2B SAE O-ring staggered ports (2)
9/16 -18 UNF-2B SAE O-ring case drain port (1)

4 Bolt 11/4 inch split flange ports (2)
9/16 -18 UNF-2B SAE O-ring case drain port (1)

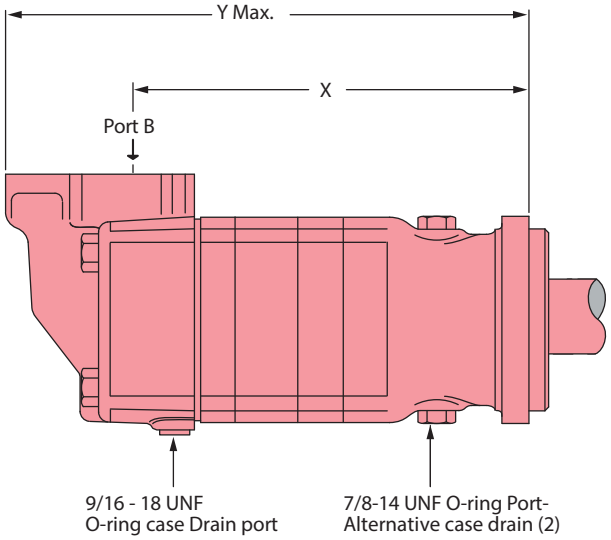
Standard rotation viewed from shaft end

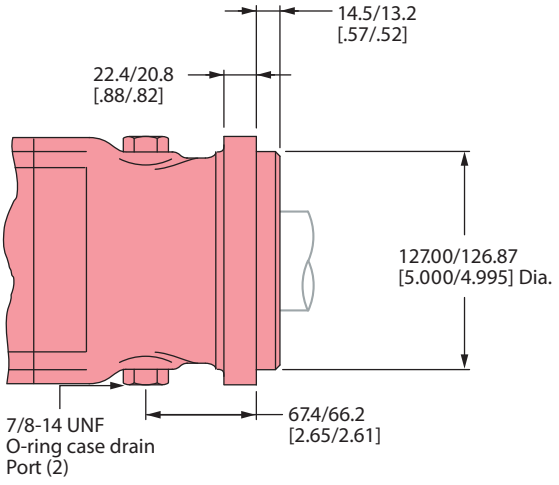
Port A pressurized — CW
Port B pressurized — CCW

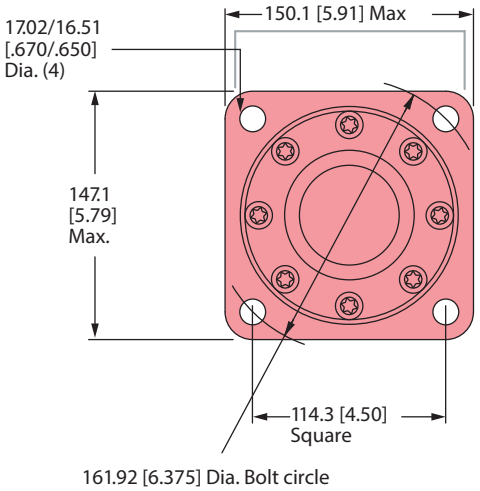
Standard mount motor dimensions

Displacement cm³/r [in³/r]	X mm [inch]	Y mm [inch]
345 [21.0]	282.4 [11.12]	380.9 [15]
480 [29.2]	295.1 [11.62]	393.6 [15.50]
585 [35.6]	304.9 [11.99]	403.3 [15.88]
665 [40.6]	295.1 [11.62]	393.6 [15.50]
940 [57.4]	313.4 [12.34]	412.1 [16.22]

Standard mount







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Ports

1 5/16 -12 UN-2B SAE O-ring staggered ports (2)
9/16 -18 UNF-2B SAE O-ring case drain port (1)

4 Bolt 11/4 inch split flange ports (2)
9/16 -18 UNF-2B SAE O-ring case drain port (1)

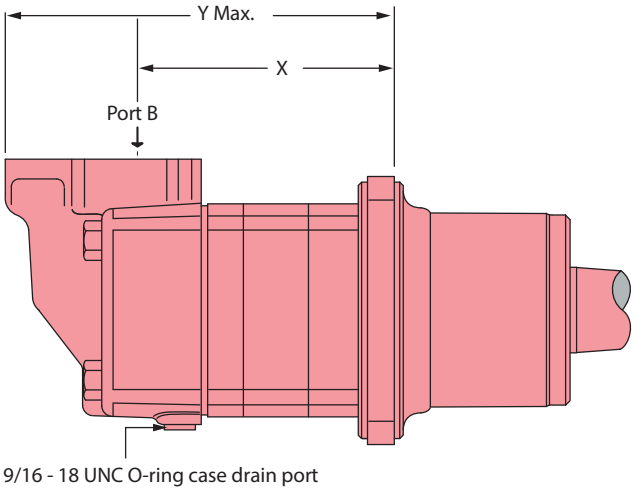
Standard rotation viewed from shaft end

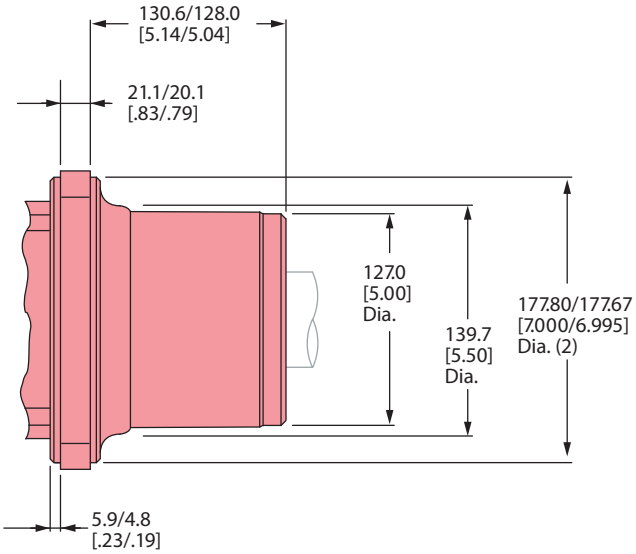
Port A pressurized — CW
Port B pressurized — CCW

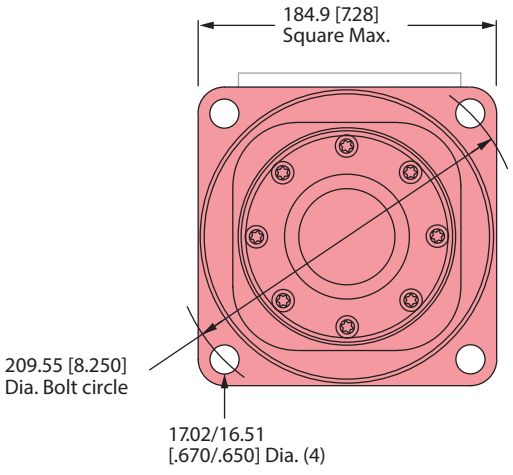
Wheel mount motor dimensions

Displacement cm³/r [in³/r]	X mm [inch]	Y mm [inch]
345 [21.0]	166.9 [6.57]	265.9 [10.47]
480 [29.2]	179.6 [7.07]	278.6 [10.97]
585 [35.6]	179.3 [7.06]	288.4 [35.6]
665 [40.6]	179.6 [7.07]	278.6 [10.97]
940 [57.4]	197.8 [7.79]	297.2 [11.70]

Wheel mount







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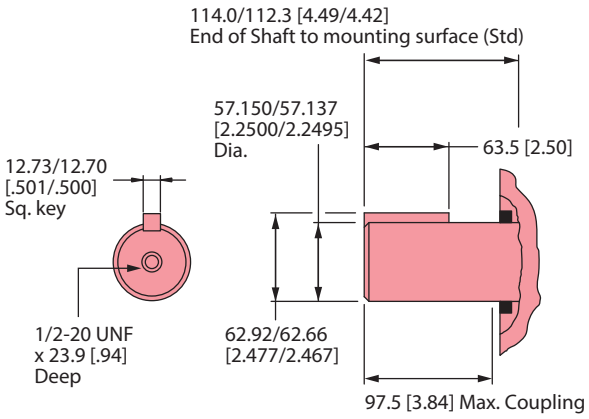
10,000 Series

Dimensions

Shafts

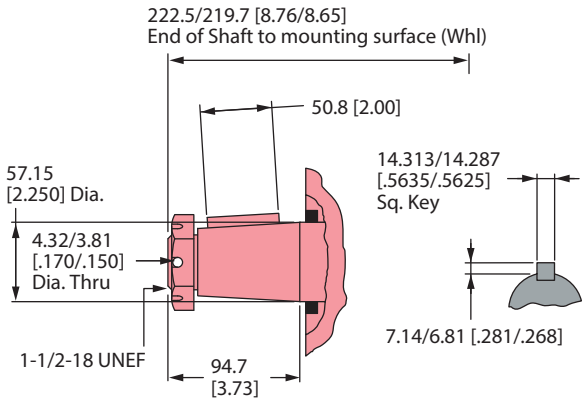
Code: 01 2 1/4 Inch straight

2712 [24000] Max. Torque Nm [lb-in]



Code: 02 2 1/4 Inch tapered

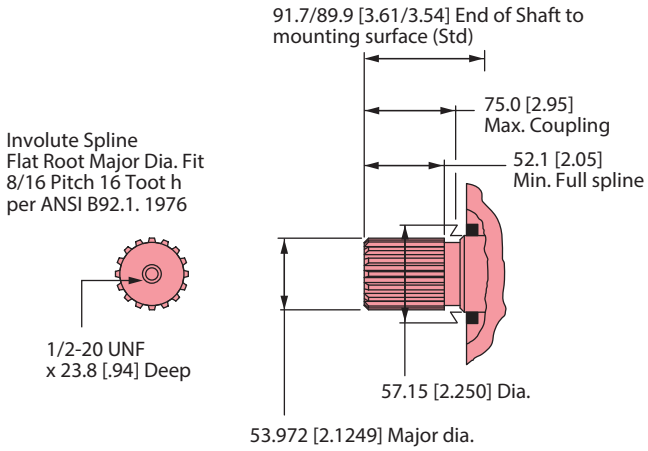
2712 [24000] Max. Torque Nm [lb-in]



SAE J501 Standard tapered shaft 125.00 0.17 Taper per Meter
[1.500±.002 Taper per Foot]

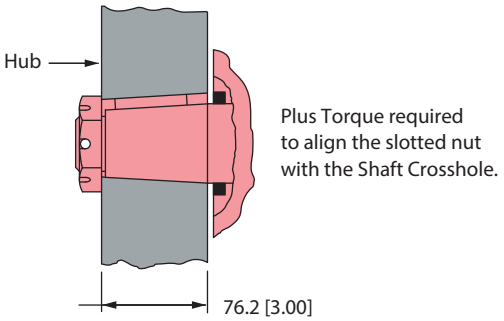
Code: 03 2 1/8 Inch 16 Tooth splined

2712 [24000] Max. Torque Nm [lb-in]

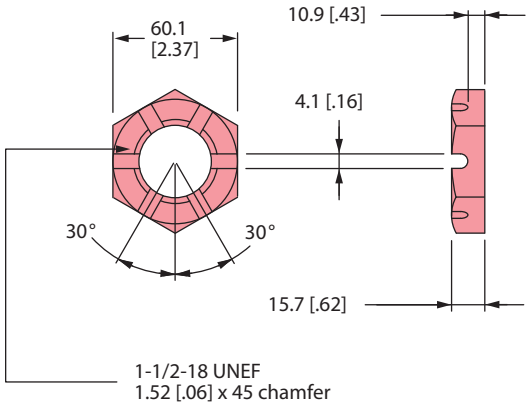


Tapered shaft hub data

Recommended torque:
(1150 Nm [850 lb-ft] Dry)
(880 Nm [650 lb-ft] Lub)



Slotted hexagon nut



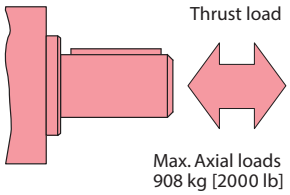
C-6

These curves indicate the radial load capacity on the motor shaft at various locations with an external thrust load of 454 kg [1000 lb]. The maximum allowable thrust load is 908 kg [2000 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 200 kg/7 Bar [441 lb/100 PSI].

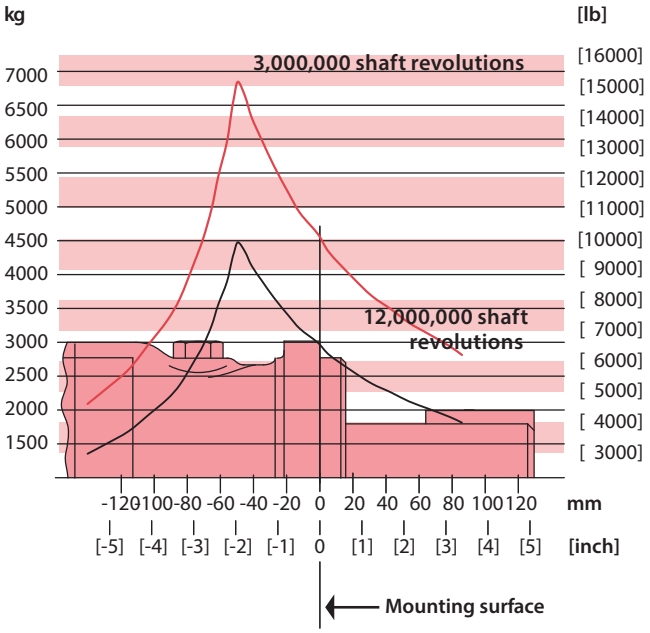
Each curve is based on B 10 bearing life (2000 hours of 12,000,000 shaft revolutions at 100 RPM) at rated output torque.

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.

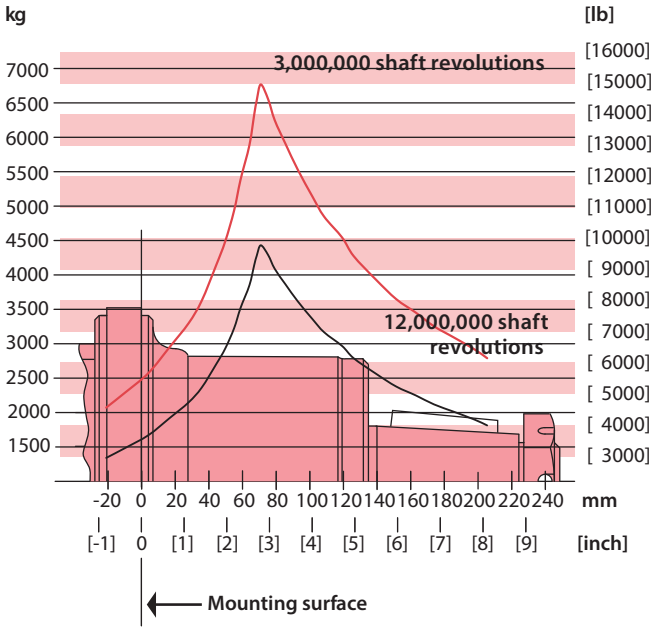


RPM	Multiplication factor
50	1.23
100	1.00
200	0.81
300	0.72
400	0.66
500	0.62
600	0.58
700	0.56
800	0.54

Standard motor
straight and splined shaft



Wheel motor
tapered shaft



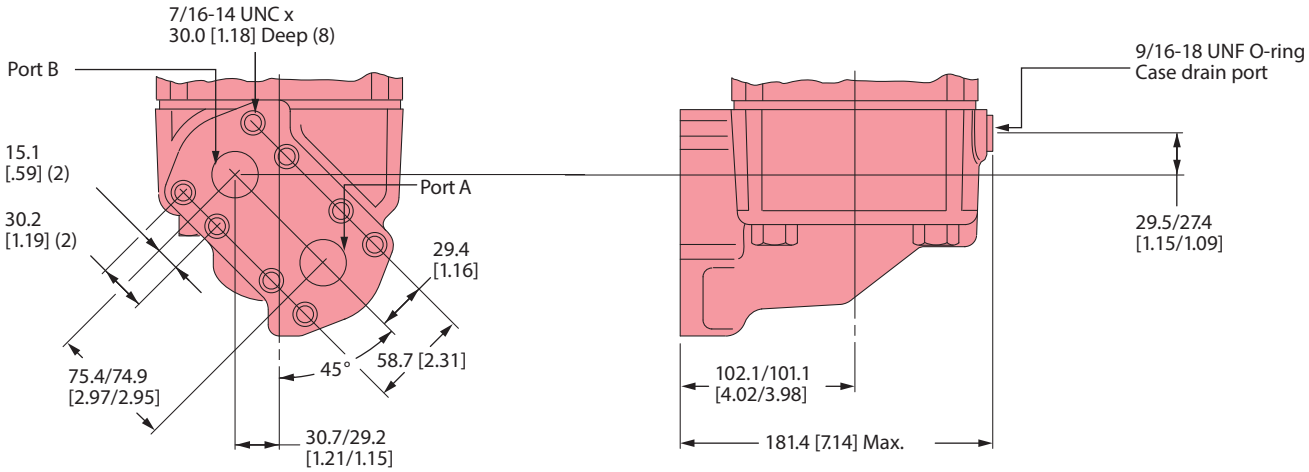
C-6

10,000 Series

Dimensions

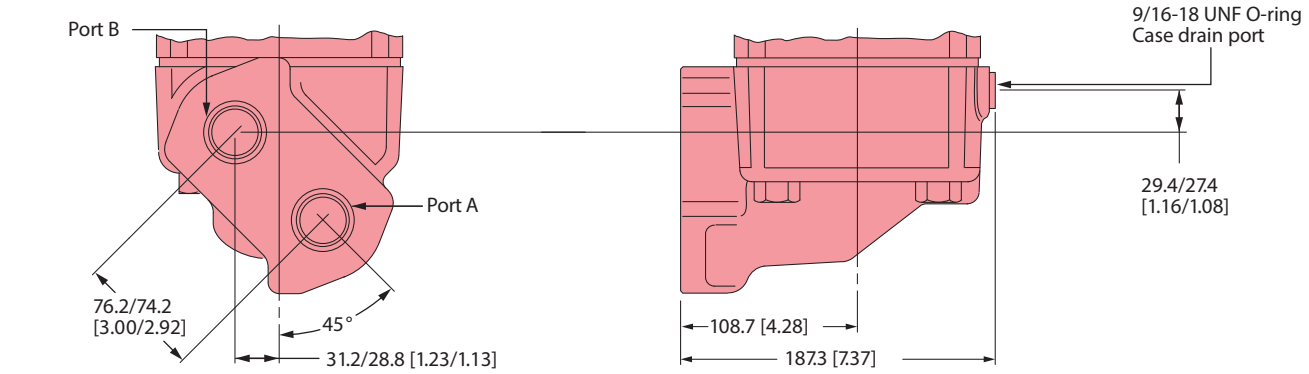
Ports

Code: AB 1 1/4 inch split flange ports (2)

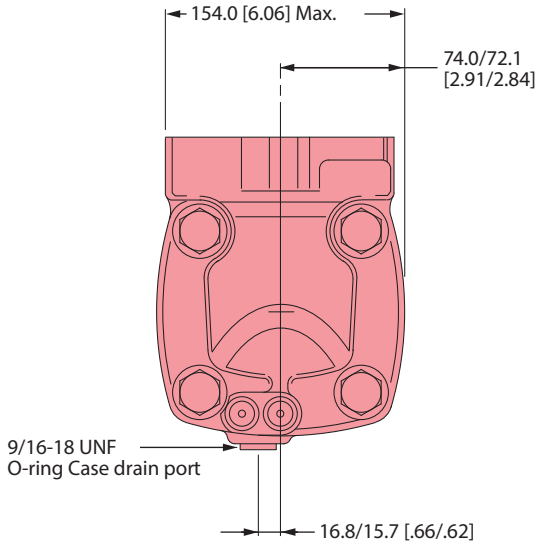


C-6

Code: AA 1 5/16-12 O-ring ports (2)



End View common dimensions



Note: For 10,000 Series motors with a configuration not shown in the chart below: Use model code number system on the next page to specify product in detail.

Use digit prefix — 119- or 120- plus four digit number from charts for complete product number— Example 120-1014

Orders will not be accepted without three digit prefix.

Mounting	Shaft	Port size	Displ. cm ^{3}/r [in ^{3}/r] / product number			
			345 [21.0]	**480 [29.3]**	**665 [40.6]**	**940 [57.4]**
Standard SAE C-Mount	2 1/4 Inch Straight	1 5/16 O-ring	119-1028	-1029	-1030	-1031
		1 1/4 inch Split flange	119-1040	-1041	-1042	-1043
	2 1/8 Inch 16 T Splined	1 5/16 O-ring	119-1032	-1033	-1034	-1035
		1 1/4 inch Split flange	119-1044	-1045	-1045	-1047
	2 1/4 Inch Tapered	1 5/16 O-ring	119-1036	-1037	-1038	-1039
		1 1/4 inch Split flange	119-1048	-1049	-1050	-1051
Wheel motor	2 1/4 Inch straight	1 5/16 O-ring	–	-1006	-1007	-1008
		1 1/4 inch Split flange	–	–	–	-1020
	2 1/8 Inch 16 T Splined	1 5/16 O-ring	–	–	-1011	-1012
		1 1/4 inch Split flange	–	–	–	–
	2 1/4 Inch Tapered	1 5/16 O-ring	120-1013	-1014	-1015	-1016
		1 1/4 inch Split flange	–	-1029	-1027	-1028

10,000 Series

Model code

The following 30-digit coding system has been developed to identify all of the configuration options for the 10,000 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.

M	10	***	**	**	**	01	0	00	0	*	00	00	**	**	00	C
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

10 10,000 Series

4 5 6 Displacement cm ³/r [in ³/r]

210 343.8 [20.98]

293 479.5 [29.26]

406 665.3 [40.60]

574 940.8 [57.41]

7 8 Mounting description

AA Standard, 4 Bolt: 127,0 [5.00] Pilot Dia. 16,76 [.660] Dia. Holes on 161,92 [6.375] Dia. Bolt circle

AB Wheel, 4 Bolt: 16,76 [.660] Dia. Holes on 209,55 [8.250] Dia. Bolt circle

9 10 Output shaft description

01 57,15 [2.250] Dia. Straight with .500-20 UNF-2B thread in end, 12.7 [.50] square x 63,5 [2.50] straight end

02 57,15 [2.250] Dia. .125:1 tapered shaft per SAE J512 with 1.500-18 UNEF-2A threaded shaft end and slotted hex nut, 14,288 [.5625] square x 50,8 [2.00] straight key

03 53,98 [2.125] Dia. flat root, major dia. Fit, 16 tooth, 8/16 DP, 30 degree involute spline with .500-20 UNF-20 thread in End. 52,07 [2.050] minimum full spline length

11 12 Ports

AA 1.3125 -12 UNF-2B O-Ring staggered ports

AB 31,75 [1.250] Dia. 4 Bolt split flange staggered ports with .4375-15 UNC-2B Tapped mounting holes

13 14 Case flow options

01 .5625-18 UNF-2B Case Drain SAE O-Ring Port

15 Low pressure relief

0 None

16 17 Pressure/flow option

00 None

18 Geroler option

0 Standard

19 Seal option

0 Standard

4 Seal guard

20 21 Accessories

00 None

22 23 Special features (hardware)

00 None

24 25 Special features (assembly)

00 None

AA Reverse rotation

26 27 Paint/packaging

00 None

AA Low gloss black primer

28 29 Customer identification

00 None

30 Design code

C Third