



State of the art motors benefiting from 45 years of experience and innovating constantly to fit your demands.



Powering Business Worldwide

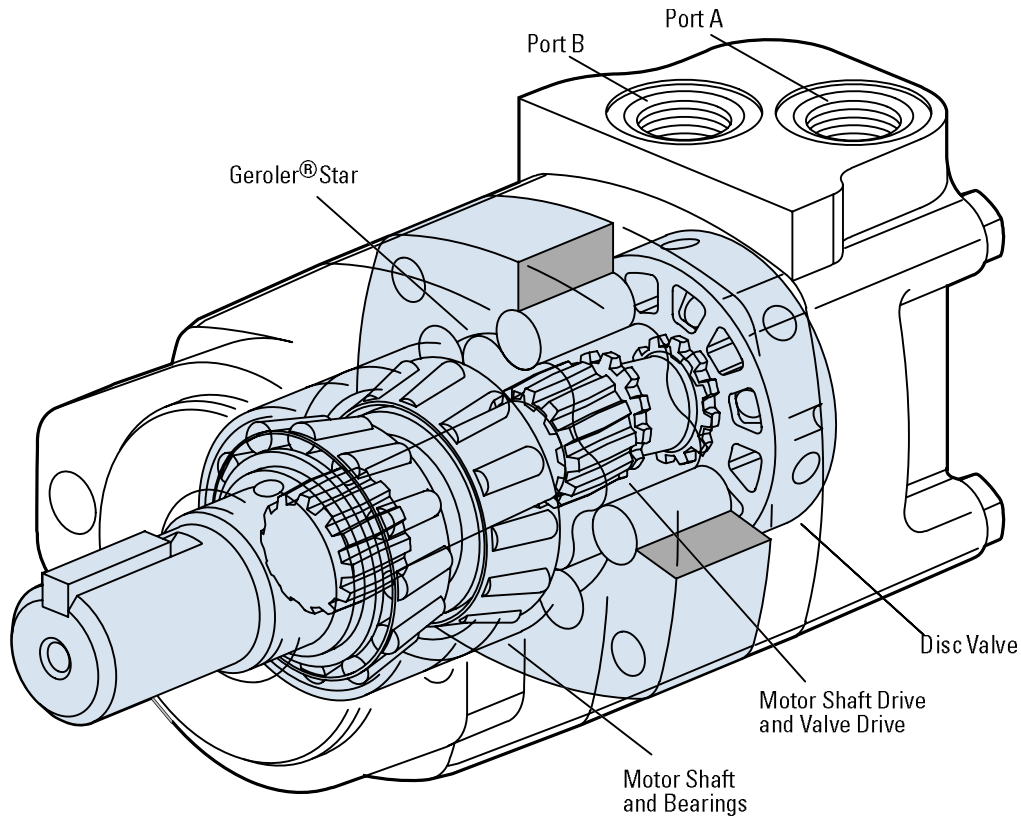
Disc Valve Hydraulic Motors

Highlights

Product Description

In the late 1950's the original low speed, high torque hydraulic motor was developed from a pump Geroter element consisting of an internal gear ring and a mating gear or star. While attaching the internal gear ring to the housing as a non moving part, oil was ported to pressurize and turn the internal star in an orbit around a center point. This slow turning star coupled with a splined drive to the output shaft became the Char-Lynn Orbit® motor.

A few years after this original Char-Lynn Orbit motor was introduced another original motor concept went into production. This motor had rolls incorporated into the internal gear ring, this element was identified by the name Geroler and is a registered trade name of Eaton Hydraulics. From these early years the Geroler motor has seen many design changes to make these Geroler motors the best the industry has to offer. Examine the simplicity of these Geroler disc valve motors shown below. Also examine all the following pages for high value Char-Lynn disc valve motors from Eaton Hydraulics.



Features, Benefits, and Applications

Features

Char-Lynn Hydraulic motors provide design flexibility. All disc valve motors are available with various configurations consisting of:

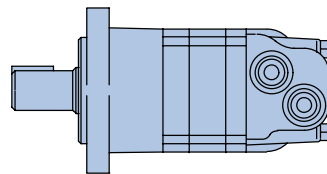
- Displacement (Geroler size)
- Output Shaft
- No Shaft and Bearing Assembly (Bearingless Motor)
- Port Configuration
- Mounting Flange
- Other Special Features

Benefits

- Lowest pressure drop motor in the industry
- Widest range of options
- The most experienced manufacturer of LSHT motors

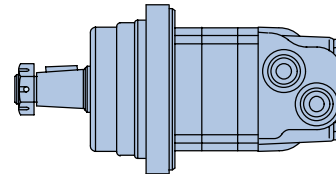
Applications

- Swing motor
- Brush Cutters & mowers
- Harvesting equipment
- Directional boring
- Turf equipment
- Skid Steer loaders
- Fairway mowers
- Harvesters
- Mowing
- Snow removal
- Sprayers
- Trencher
- Wood products
- Grinders and mixers
- Forestry equipment
- Irrigation reels



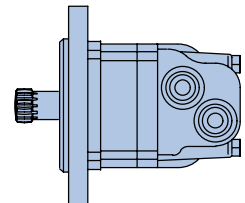
Standard Motor

The standard motor mounting flange is located as close to the output shaft as possible. This type of mounting supports the motor close to the shaft load. This mounting flange is also compatible with many standard gear boxes.



Wheel Motor

The wheel motor mounting flange is located near the center of the motor which permits part or all of the motor to be located inside the wheel or roller hub. In traction drive applications, loads can be positioned over the motor bearings for best bearing life. This wheel motor mounting flange provides design flexibility in many applications.



Bearingless Motor

The bearingless motor has the same drive components as the standard and wheel motors (with the exception that the motor is assembled without the output shaft, bearings and bearing housing). The bearingless motor is especially suited for applications such as gear boxes, winch drives, reel and roll drives. Bearingless motor applications must be designed with a bearing supported internal spline to mate with the bearingless motor drive. Product designs using these hydraulic motors provide considerable cost savings.

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10,000 Series

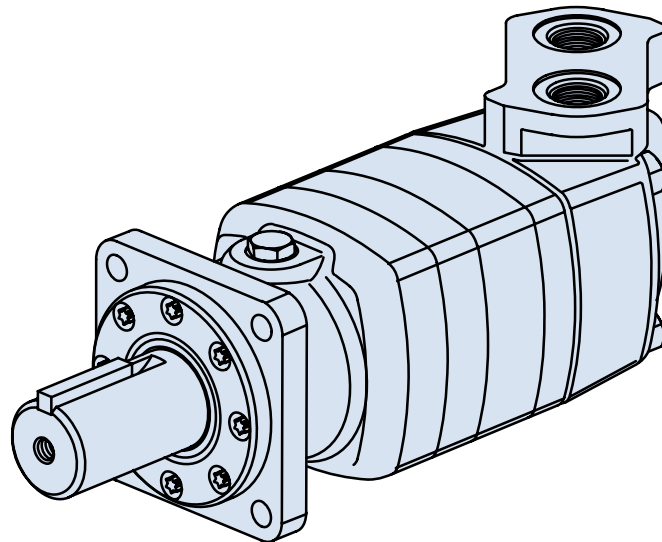
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10,000 Series

Highlights



Features

- High torque and flow
- Many options like 2 speed and speed sensors make this motor “smart”
- Low pressure loss even in higher flows

Benefits

- High power density for demanding mobile and industrial applications
- Many options to draw from

Applications

- Boring
- Industrial
- Metal Forming
- Port Equipment
- Saw Mill

Description

This is the biggest disc valve motor of our line with up to 45 GPM and 24,000 in-lb of torque in continuous mode, this motor is powerful and yet provides good efficiency.

Specifications

Geroler Element	4 Displacements
Flow l/min [GPM]	170 [45] Continuous**
	265 [70] Intermittent*
Speed RPM	501 Cont.**
	784 Inter.*
Pressure bar [PSI]	200 [3000] Cont.**
	270 [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.



Boring



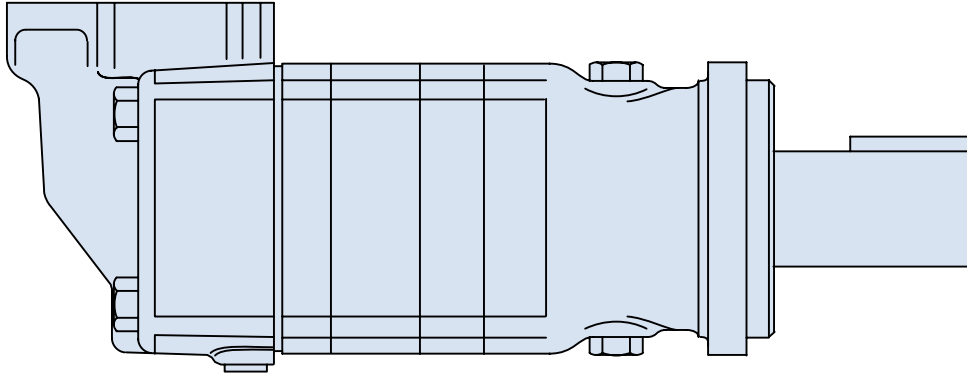
Metal Forming



Port Equipment

10,000 Series

Specifications



10,000 SERIES MOTORS

Displ. cm ³ /r [in ³ /r]		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 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:

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 70 SUS at operating temperature.

Recommended Maximum System Operating Temp.:

82° C [180° F]

Recommended Filtration:

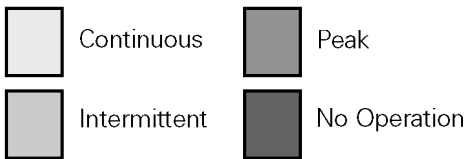
per ISO Cleanliness Code, 4406: 20/18/13

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 120 SUS. Actual data may vary slightly from unit to unit in production.

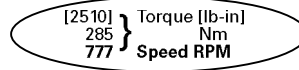


480 cm³/r [29.3 in³/r] Δ Pressure Bar [PSI]

	[250] 15	[500] 35	[1000] 70	[1500] 105	[2000] 140	[2500] 170	[3000] 205	[3500] 240	[4000] 275
[1] 3,8	[760] 85 6	[1540] 175 5	[3120] 355 4	[4640] 525 2					
[2] 7,5	[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] 1440 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] 645 550	[5730] 895 546	[7910] 1140 541	[10100] 1385 536	[12280] 1385 532		

345 cm³/r [21.0 in³/r] Δ Pressure Bar [PSI]

	[250] 15	[500] 35	[1000] 70	[1500] 105	[2000] 140	[2500] 170	[3000] 205	[3500] 240	[4000] 275
[1] 3,8	[600] 70 3	[1310] 150 1							
[2] 7,5	[740] 85 21	[1510] 170 19	[3050] 345 15	[4600] 520 11	[6140] 695 8	[7680] 865 4			
[4] 15	[730] 80 43	[1500] 170 41	[3040] 345 37	[4590] 520 33	[6140] 695 30	[7680] 870 26	[9220] 1040 22	[10770] 1215 18	[12310] 1390 14
[8] 30	[720] 80 87	[1490] 170 86	[3030] 340 82	[4580] 515 78	[6120] 690 74	[7670] 865 70	[9210] 1040 66	[10750] 1215 62	[12300] 1390 58
[12] 45	[700] 80 131	[1470] 165 130	[3020] 340 127	[4560] 515 123	[6100] 690 118	[7650] 865 114	[9190] 1040 110	[10740] 1215 106	[12280] 1385 102
[16] 61	[680] 75 176	[1450] 165 175	[3000] 340 172	[4540] 515 167	[6080] 685 163	[7630] 860 158	[9170] 1035 154	[10720] 1210 149	[12260] 1385 145
[20] 76	[660] 75 221	[1430] 160 220	[2970] 335 217	[4520] 510 212	[6060] 685 207	[7600] 860 202	[9150] 1035 198	[10690] 1210 193	[12230] 1380 189
[24] 91	[630] 70 266	[1400] 160 265	[2950] 335 261	[4490] 505 256	[6030] 680 252	[7580] 855 246	[9120] 1030 242	[10660] 1205 237	[12210] 1380 232
[28] 106	[600] 70 310	[1370] 155 309	[2920] 330 306	[4460] 505 301	[6000] 680 296	[7550] 855 291	[9090] 1025 286	[10640] 1200 280	[12180] 1375 275
[32] 121	[570] 65 356	[1340] 150 355	[2890] 325 351	[4430] 500 346	[5970] 675 340	[7520] 850 335	[9060] 1025 329	[10610] 1200 324	[12150] 1370 319
[36] 136	[540] 60 400	[1310] 150 399	[2850] 320 396	[4400] 495 390	[5940] 670 384	[7480] 845 379	[9030] 1020 373	[10570] 1195 368	[12120] 1370 362
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[60] 227		[1080] 130 668	[2620] 295 665	[4160] 470 658	[5710] 645 651	[7250] 820 644	[8800] 995 637		
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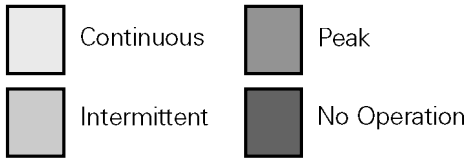


10,000 Series

Performance Data

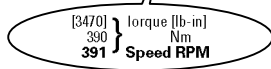
Motors run with high efficiency in all areas designated with a number for torque and speed. For best motor life select a motor to run with a torque and speed range shown in the light shaded area.

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



665 cm³/r [40.6 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
[1] 3.8	[1470] 165	[3010] 340	[4550] 515	[6100] 690	[7630] 860										
[2] 7.5	[1480] 165	[3020] 340	[4560] 515	[6110] 690	[7650] 865	[9200] 1040	[10740] 1215	[12280] 1385	[13830] 1565	[15370] 1735	[16910] 1910				
[4] 15	[1470] 165	[3010] 340	[4550] 515	[6100] 690	[7640] 865	[9190] 1035	[10730] 1210	[12270] 1385	[13820] 1560	[15360] 1735	[16900] 1910	[18450] 2085	[19990] 2260	[21540] 2435	[23080] 2610
[8] 30	[1440] 165	[2980] 335	[4530] 510	[6070] 685	[7610] 860	[9160] 1035	[10700] 1210	[12250] 1385	[13790] 1560	[15330] 1735	[16880] 1910	[18420] 2085	[19960] 2260	[21510] 2435	[23050] 2605
[12] 45	[1400] 160	[2950] 335	[4490] 505	[6040] 680	[7580] 855	[9120] 1030	[10670] 1205	[12210] 1380	[13750] 1555	[15300] 1730	[16840] 1905	[18380] 2075	[19930] 2255	[21470] 2425	[23020] 2600
[16] 61	[1360] 155	[2910] 330	[4450] 505	[5990] 675	[7540] 850	[9080] 1025	[10620] 1200	[12170] 1375	[13710] 1550	[15260] 1725	[16800] 1900	[18340] 2070	[19890] 2245	[21430] 2420	
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[28] 106	[1200] 135	[2750] 310	[4290] 485	[5840] 660	[7380] 835	[8920] 1010	[10470] 1185	[12010] 1365	[13550] 1530	[15100] 1705	[16640] 1880				
[32] 121	[1140] 130	[2690] 305	[4230] 480	[5770] 650	[7320] 825	[8860] 1000	[10400] 1175	[11950] 1350	[13490] 1525	[15040] 1700	[16580] 1875				
[36] 136	[1080] 120	[2620] 295	[4160] 470	[5710] 645	[7250] 820	[8800] 995	[10340] 1170	[11880] 1340	[13430] 1515	[14970] 1690	[16510] 1865				
[40] 151	[1010] 115	[2550] 290	[4100] 465	[5640] 635	[7180] 810	[8730] 985	[10270] 1160	[11810] 1335	[13360] 1510	[14900] 1675	[16440] 1855				
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[70] 265	[380] 45	[1930] 220	[3470] 390	[5010] 565	[6560] 740	[8100] 915	[9640] 1090	[11190] 1265							



940 cm³/r [57.4 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
[1] 3.8	[2080] 235	[4260] 480	[6440] 730											
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[4] 15	[2080] 235	[4260] 480	[6440] 730	[8620] 975	[10810] 1220	[12990] 1470	[15170] 1715	[17360] 1960	[19540] 2210	[21720] 2455	[23910] 2700	[26090] 2950	[28270] 3195	[30460] 3440
[8] 30	[2040] 230	[4220] 475	[6400] 725	[8590] 970	[10770] 1215	[12950] 1465	[15140] 1710	[17320] 1955	[19500] 2200	[21690] 2450	[23870] 2695			
[12] 45	[1990] 225	[4170] 470	[6350] 715	[8540] 965	[10720] 1210	[12900] 1460	[15090] 1705	[17270] 1950	[19450] 2200	[21640] 2445	[23820] 2690			
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[24] 91	[1780] 200	[3970] 450	[6150] 695	[8330] 940	[10520] 1190	[12700] 1435	[14880] 1680	[17070] 1930						
[28] 106	[1700] 190	[3890] 440	[6070] 685	[8250] 930	[10440] 1180	[12620] 1425	[14800] 1675	[16990] 1920						
[32] 121	[1620] 185	[3800] 430	[5980] 675	[8160] 920	[10350] 1170	[12530] 1415	[14720] 1665							
[36] 136	[1520] 170	[3710] 420	[5890] 665	[8070] 910	[10260] 1160	[12440] 1405	[14620] 1650							
[40] 151	[1420] 160	[3610] 410	[5790] 655	[7970] 900	[10160] 1150	[12340] 1395	[14520] 1640							
[45] 170	[1290] 145	[3480] 395	[5660] 640	[7840] 885	[10020] 1130	[12210] 1380	[14400] 1625							
[60] 227	[860] 95	[3040] 345	[5230] 590	[7410] 835	[9600] 1085	[11780] 1330								
[70] 265	[540] 60	[2720] 305	[4910] 555	[7090] 800	[9270] 1045	[11460] 1295								

10,000 Series

Dimensions

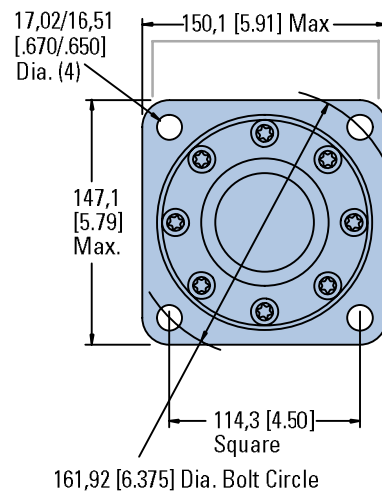
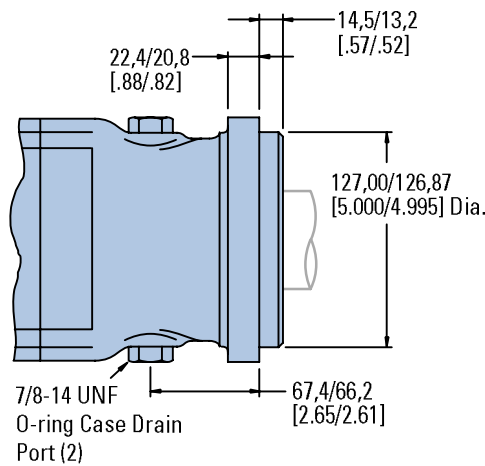
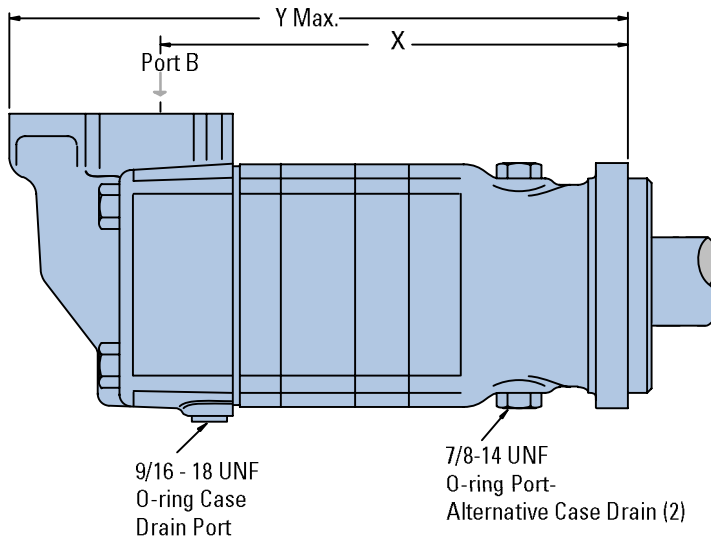
Ports

- 1 5/16 -12 UN-2B SAE O-ring Staggered Ports (2)
- 9/16 -18 UNF-2B SAE O-ring Case Drain Port (1) or
- 4 Bolt 1 1/4 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



STANDARD MOUNT MOTOR DIMENSIONS

Displacement cm ³ /r [in ³ /r]	X mm [inch]	Y mm [inch]
345 [21.0]	282,4 [11.12]	380,7 [14.99]
480 [29.2]	295,1 [11.62]	393,4 [15.49]
665 [40.6]	295,1 [11.62]	393,4 [15.49]
940 [57.4]	313,4 [12.34]	411,7 [16.21]

10,000 Series

Dimensions

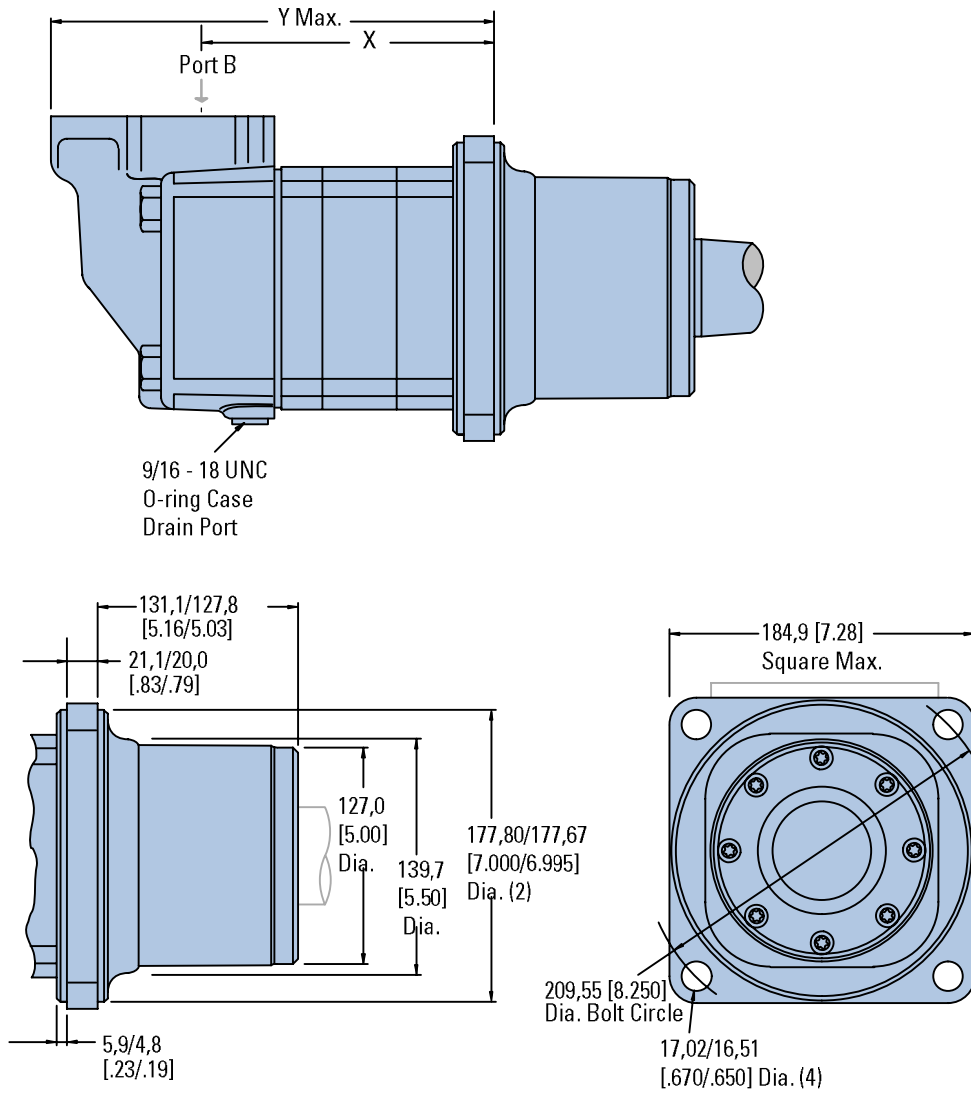
Ports

- 1 5/16 -12 UN-2B SAE O-ring Staggered Ports (2)
- 9/16 -18 UNF-2B SAE O-ring Case Drain Port (1) or
- 4 Bolt 1 1/4 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



WHEEL MOUNT MOTOR DIMENSIONS

Displacement cm ³ /r [in ³ /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]
665 [40.6]	179,6 [7.07]	278,6 [10.97]
940 [57.4]	197,8 [7.79]	297,2 [11.70]

10,000 Series

Dimensions

Bearingless

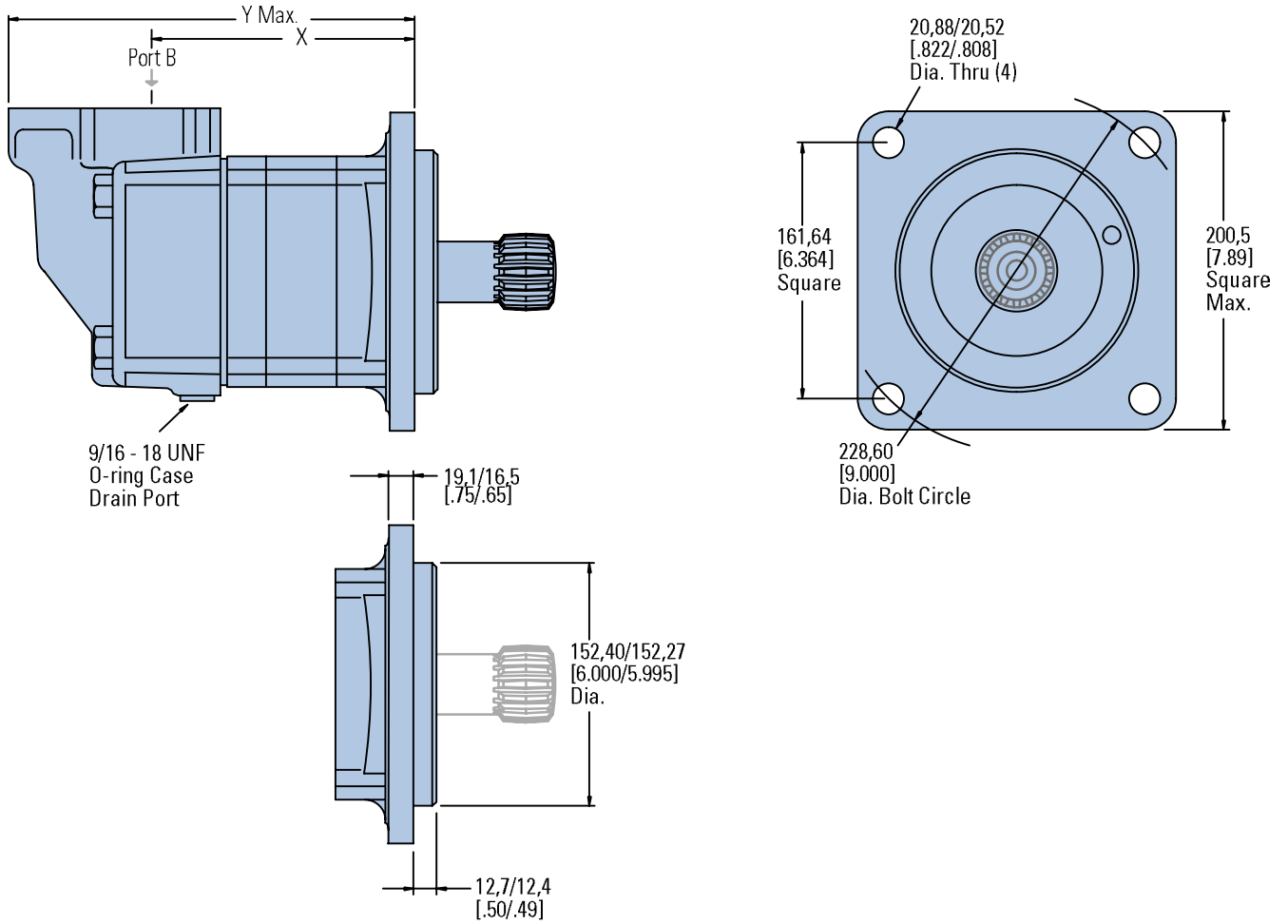
Ports

- 1 5/16 -12 UN-2B SAE O-ring Staggered Ports (2)
- 9/16 -18 UNF-2B SAE O-ring Case Drain Port (1) or
- 4 Bolt 1 1/4 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

Bearingless



BEARINGLESS MOTOR DIMENSIONS

Displacement cm ³ /r [in ³ /r]	X mm [inch]	Y mm [inch]
345 [21.0]	158,0 [6.22]	256,3 [10.09]
480 [29.2]	170,7 [6.72]	269,0 [10.59]
665 [40.6]	170,7 [6.72]	269,0 [10.59]
940 [57.4]	189,0 [7.44]	287,5 [11.32]

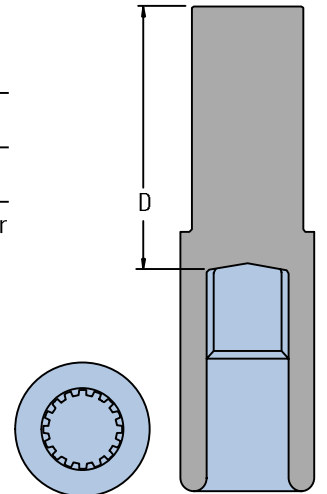
Mating Coupling Blank

Dimension D mm [inch]	Eaton Part No.
13280-001	133,6/128,5 [5.26/5.06]
13280-002	156,0/150,9 [6.14/5.94]

For 10,000 bearingless motor application information, contact your Eaton representative (mating coupling blanks available from Eaton Hydraulics).

Note:

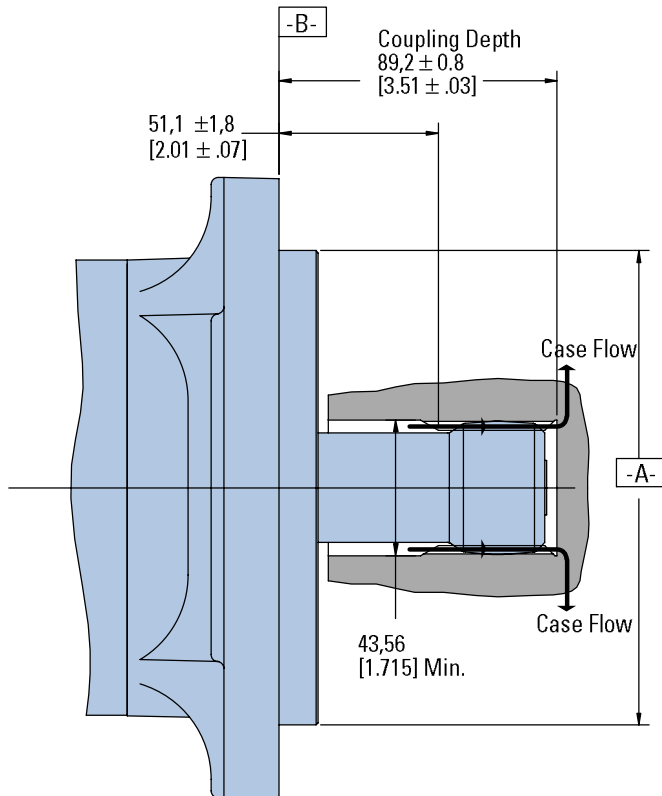
After machining blank, part must be hardened per Eaton specification.



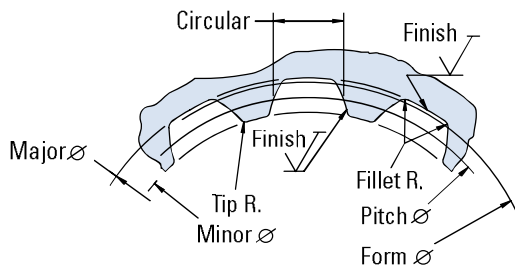
10,000 Series

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 - 1,02 [.030 - .040] (dimensions apply after heat treat).



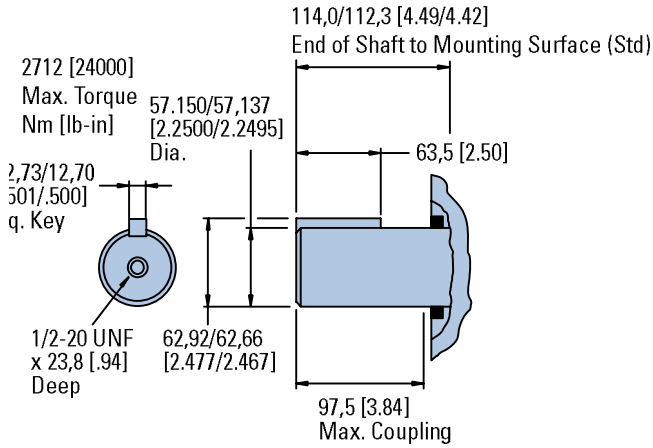
Spline Pitch	10/20
Pressure Angle	30°
Number of teeth	16
Class of Fit	Ref. 5
Type of Fit	Side
Pitch Diameter	Ref. 40,640000 [1.6000000] $\text{\textcircled{0,25}}$ [.010] D
Base Diameter	Ref. 35,195272 [1.3856406]
Major Diameter	43,56 [1.715] Max. 43,18 [1.700] Min.
Min. Minor Diameter	36,83 - 37,08 [1.450 - 1.460]
Form Diameter, Min.	42,47 [1.672]
Fillet Radius	0,64 - 0,76 [.025 - .030]
Tip Radius	0,25 - 0,51 [.010 - .020]
Finish	1,6 (63)
Involute Profile Variation	+0,000 -0,028 [+0.0000 - 0.011]
Total Index Variation	0,041 [0.016]
Lead Variation	0,013 [0.005]
Circular Space Width:	
Maximum Actual	4,105 [1.616]
Minimum Effective	3,995 [1.573]
Maximum Effective	Ref. 4,056 [1.597]
Minimum Actual	Ref. 4,018 [1.582]
Dimension Between Two Pins	Ref. 26,929 - 27,084 [1.0602 - 1.0663]
Pin Diameter	Ref. 34,272 - 34,450 [1.3493 - 1.3563]
	<i>Wide Flat for Root Clearance</i>

10,000 Series

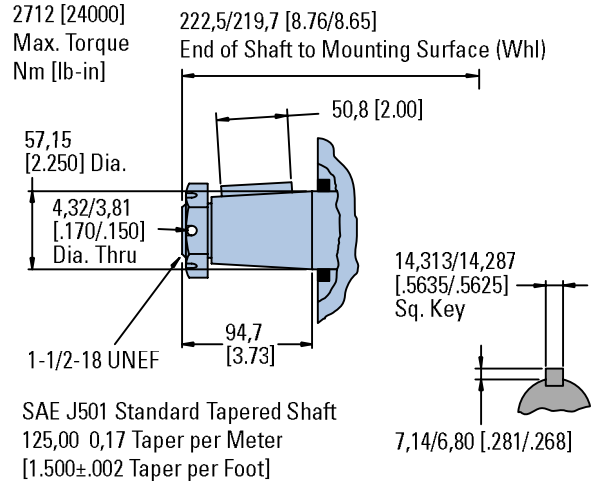
Dimensions

Shafts

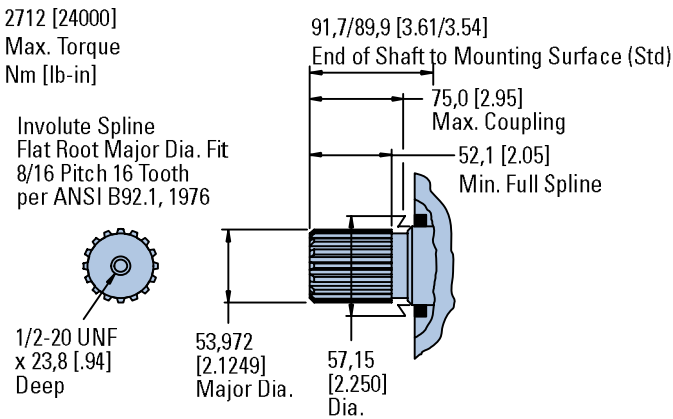
2 1/4 Inch Straight



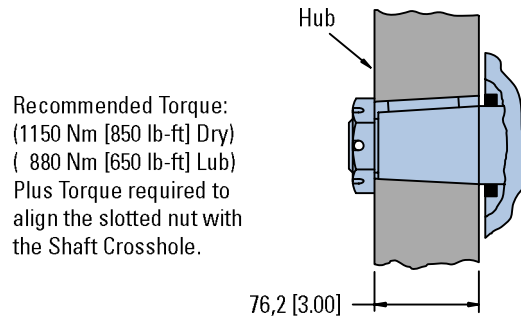
2 1/4 Inch Tapered



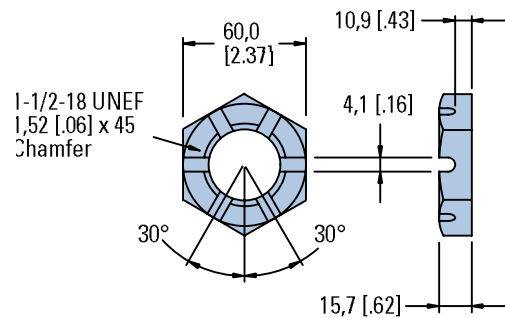
2 1/8 Inch 16 Tooth Splined



Tapered Shaft Hub Data



Slotted Hexagon Nut



10,000 Series

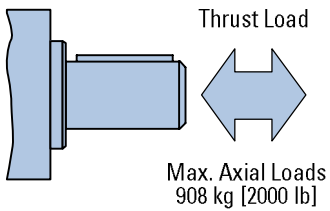
Side Shaft Load Capacity

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

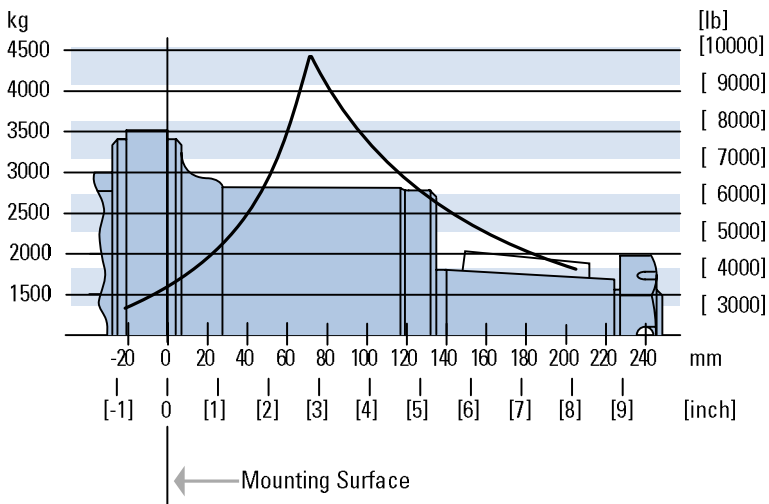
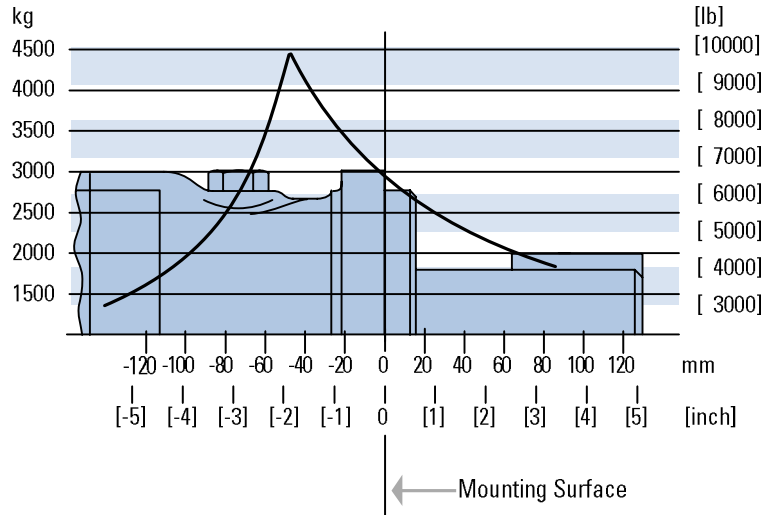


B 10 bearing life (2000 hours of 12,000,000 shaft revolutions at 100 RPM) at rated output torque.

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

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

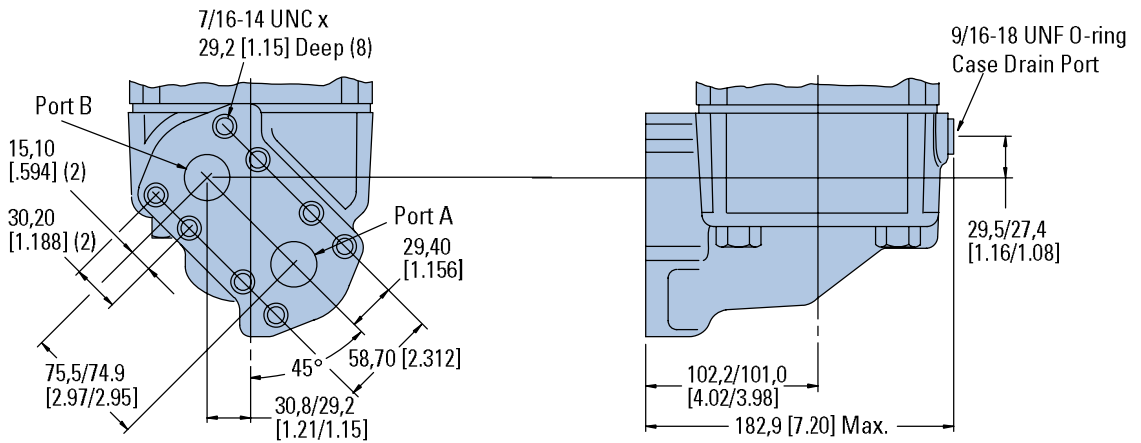


10,000 Series

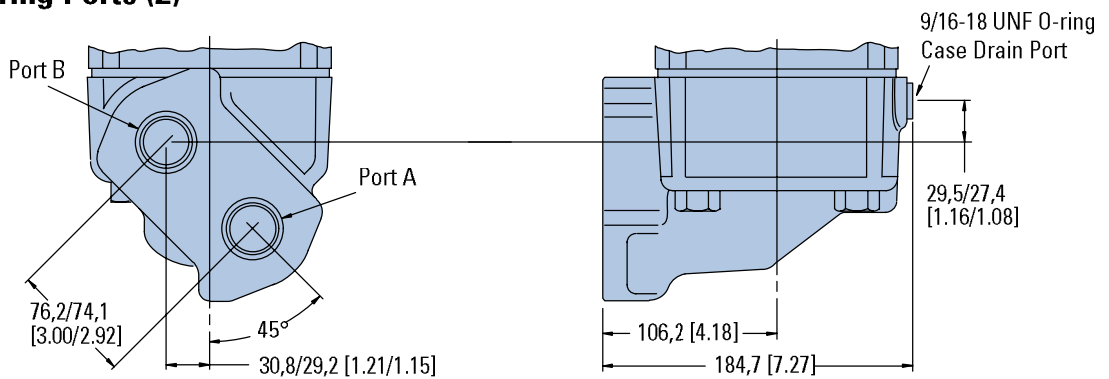
Dimensions

Ports

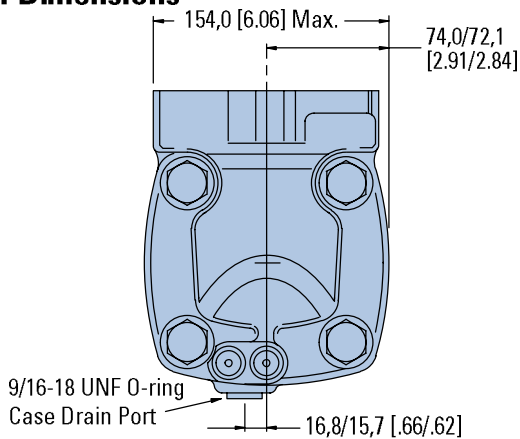
1 1/4 Inch Split Flange Ports (2)



1 5/16 -12 O-ring Ports (2)



End View Common Dimensions



10,000 Series

Product Numbers

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-, 120-, or 121 - plus four digit number from charts for complete product number— Example 121-1014.

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	-1046	-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	120-1005	-1006	-1007	-1008
		1 1/4 inch Split Flange	120-1017	-1018	-1019	-1020
	2 1/8 Inch 16 T Splined	1 5/16 O-ring	120-1009	-1010	-1011	-1012
		1 1/4 inch Split Flange	120-1021	-1022	-1023	-1024
	2 1/4 Inch Tapered	1 5/16 O-ring	120-1013	-1014	-1015	-1016
		1 1/4 inch Split Flange	120-1025	-1026	-1027	-1028
Bearingless		1 5/16 O-ring	121-1007	-1008	-1009	-1010
		1 1/4 inch Split Flange	121-1011	-1012	-1013	-1014

121-1014

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. You may want to photocopy the matrix below to ensure that each number is entered in the correct box.

M	10	***	**	**	**	**	*	00	*	*	**	00	**	**	00	*													
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

cm³/r [in³/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

AC – Bearingless, 4 Bolt:
152,4 [6.00] Pilot Dia. 20,70
[.815] Holes on 228,60 [9.00]
Dia. Bolt Circle

9, 10 Output Shaft Description

00 – None (Bearingless)

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 UN 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

1 – Free Running

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 – Painted Low Gloss
Black

28, 29 Customer Identification

00 – None

30 Design Code

C – Third (Standard and
Wheel Mounts)

D – Fourth (Bearingless
Mount)

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