

Danfoss Char-Lynn 2000 Series orbital motor 104-1003-006

Manufacturer: Danfoss

Manufacturer part number / published order designation: 104-1003-006

Published model: M02080AC01AA0100010000000AAAAF

About this compilation

Prepared by Hydmaster from selected manufacturer documentation. Original technical pages follow without cropped drawings, rewritten data or altered units. This cover and index are Hydmaster editorial material, not a manufacturer-issued exact-execution datasheet.

Coverage: selected pages relevant to the identified size and configuration. Other options or neighbouring models retained on an original page apply only where explicitly identified.

Execution notes and conditions

Manufacturer card proves the complete factory PN and full type code. Ordering diagrams only decode that existing execution.

Typical performance envelopes are conditioned on 25 cSt and joint pressure/flow/duty limits; family maxima are not promoted to unconstrained full-execution ratings.

Applicable source components are AC flange, shaft 01, AA staggered ports and standard single-speed 2000 motor; no sensor/brake/two-speed/relief extras assigned.

Source-page index

Source page numbers below are physical pages of each complete original PDF. The original printed page labels and technical content remain unchanged. Compiled page numbers count this cover/index.

Source A: Danfoss Char Lynn Orbital Motors Technical Information

Original pages	Compiled pages	Relevant content
110-112	2-4	2000 Series construction and operating principle for standard single-speed Geroler disc-valve motors.; Exact size-family specification row with distinct continuous/intermittent/peak limits and shaft/case limitations; not a new full SKU-specific test rating.; Duty definitions, break-in, fluid/viscosity/temperature/filtration, thermal shock and minimum differential requirements.
115	5	Actual motor size 130 typical torque/speed/pressure/flow envelope at 25 cSt; retain duty-region legend.
122	6	Standard-mount general body-length size row and rotation definition. Illustrated AF/AD port arrangements are not assigned; actual AA staggered ports are documented separately on physical page 134.
129-130	7-8	Actual AC SAE A two-bolt flange tolerances and mounting pattern; neighbouring flange choices not assigned.; Actual output shaft code 01 dimensional view, end-thread/key/spline and torque-capacity limits.
132-134	9-11	Tapered-bearing shaft side-load/life curves and load-position conditions.; Standard shaft-seal case-pressure speed limits and required/optional drain conditions.; Actual AA7/8-14 UNF-2B staggered main ports and 7/16-20 UNF-2B case-drain geometry.
137-139	12-14	Published base article-number table where listed; fullPN design suffix006 identity comes from exactcurrent factorycard, not manufactured from this table.; Decode already published M02 displacement/AC flange/shaft01 execution; no option-code generation.; Decode already published AA ports/defaultseal/check-valve/noaccessory configuration; optional features not included.

Description:

The popular 2000 Series provides torque up to 850 Nm. [7,500 lb-in]. This proven design is reliable and durable. Danfoss has added options that make the motor more flexible to use in a wide variety of applications. The expanded displacement range using patented "Drive in Drive" technology is the latest innovation in the 2000 series of motors.



Features:

- Three zone design for longer life and true bi-directionality
- Bearings that meet the highest standards of the industry
- Options to optimize performance in every application
- Integrated cross-over relief valve option

Benefits:

- Easy to design in a system
- Proven reliability and performance in tough applications
- Compact design that maximizes power density

Applications:

- Skid steer attachments
- Swing motor
- Brush cutters & mowers
- Harvesting equipment
- Directional Boring any place pressure relief protection is optimal for system or motor performance and life
- Turf equipment

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2000 Series

Geroler element	13 Displacements
Flow l/min [GPM]	75 [20] Continuous** 115 [30] Intermittent*
Speed RPM	1215 Cont.** 1215 Inter.*
Pressure bar [PSI]	205 [3000] Cont.** 310 [4500] Inter.*
Torque Nm [lb-in]	845 [7470] Cont.** 930 [8225] Inter.*

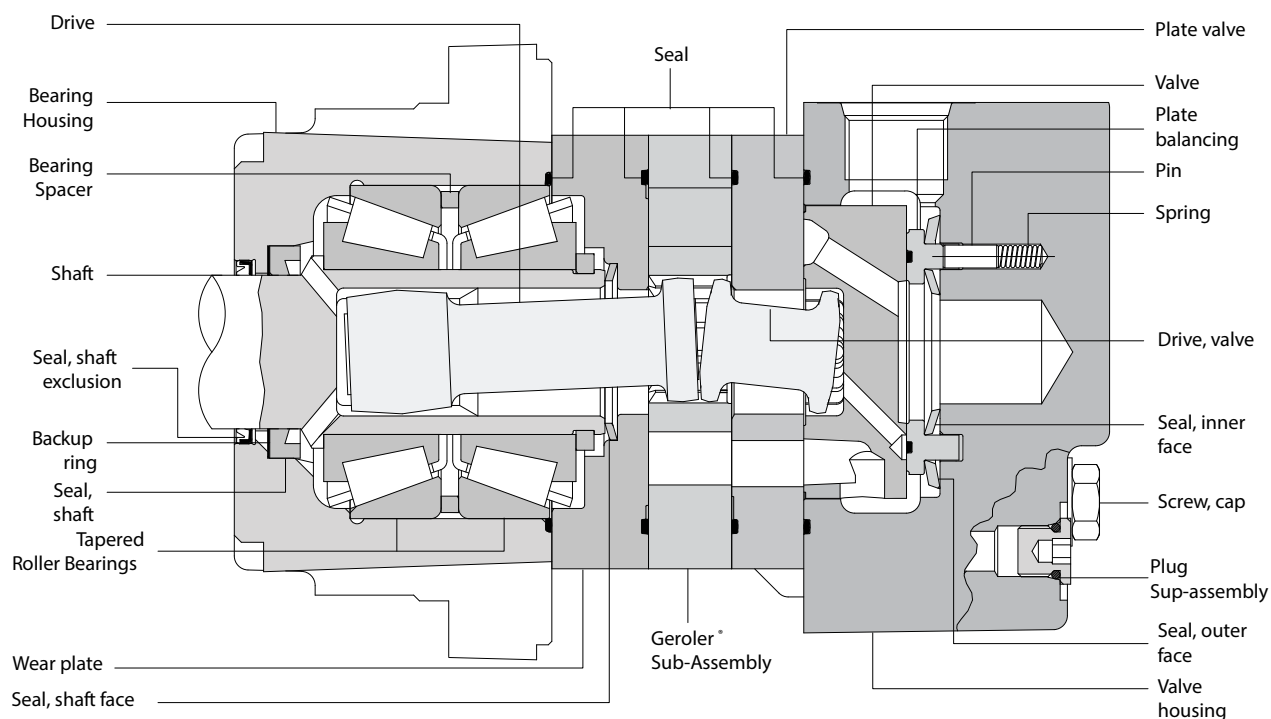
** Continuous— (Cont.) Continuous rating, motor may be run continuously at these ratings.

* Intermittent— (Inter.) Intermittent operation, 10% of every minute.

2000 Series

Specifications

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Specification data — 2000 series motors

Displ. cm ³ /r [in ³ /r]	34	41	66	80	90	100	130	160	195	245	305	395	490
	[2.1]	[2.5]	[4.0]	[4.9]	[5.5]	[6.2]	[8.0]	[9.6]	[11.9]	[14.9]	[18.7]	[24.0]	[29.8]
Max. Speed (RPM) @ Flow	Continuous	1215	1104	1075	908	836	742	576	477	385	308	246	153
	Intermittent	1215	1216	1214	908	1042	924	720	713	577	462	365	230
Flow l/min [GPM]	Continuous	42	45	72	75	75	75	75	75	75	75	75	75
		[11]	[12]	[19]	[20]	[20]	[20]	[20]	[20]	[20]	[20]	[20]	[20]
	Intermittent	42	53	87	75	95	95	95	115	115	115	115	115
		[11]	[14]	[23]	[20]	[25]	[25]	[25]	[30]	[30]	[30]	[30]	[30]
Torque* Nm [lb - in]	Continuous	98	112	186	235	265	295	385	455	540	660	765	845
		[864]	[988]	[1643]	[2065]	[2326]	[2630]	[3420]	[4040]	[4780]	[5850]	[6750]	[7470]
	Intermittent	142	169	276	345	390	445	560	570	665	820	885	930
		[1261]	[1497]	[2446]	[3035]	[3458]	[3950]	[4970]	[5040]	[5890]	[7250]	[7820]	[8225]
Pressure Δ bar [Δ PSI]	Continuous	205	205	205	205	205	205	205	205	205	205	155	120
		[3000]	[3000]	[3000]	[3000]	[3000]	[3000]	[3000]	[3000]	[3000]	[3000]	[2250]	[1750]
	Intermittent	310	310	310	310	310	310	310	260	260	260	240	190
		[4500]	[4500]	[4500]	[4500]	[4500]	[4500]	[4500]	[3750]	[3750]	[3750]	[3500]	[2750]
	Peak	310	310	310	310	310	310	310	310	310	310	310	170
		[4500]	[4500]	[4500]	[4500]	[4500]	[4500]	[4500]	[4500]	[4500]	[4500]	[4500]	[2500]
Weight kg [lb]	Standard or Wheel mount	8.8	8.8	8.8	9.3	9.3	9.5	9.8	10.0	10.4	11.3	11.3	12.2
		[19.4]	[19.4]	[19.4]	[20.5]	[20.5]	[21.0]	[21.5]	[22.0]	[23.0]	[25.0]	[25.0]	[27.0]
	Bearingless	6.8	6.8	6.8	7.3	7.3	7.5	7.7	7.9	8.4	9.3	9.3	10.2
		[15.0]	[15.0]	[15.0]	[16.0]	[16.0]	[16.5]	[17.0]	[17.5]	[18.5]	[20.5]	[20.5]	[22.5]

Maximum case pressure: See case pressure seal limitation graph. *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:

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 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 (except when switching direction of rotation)

2000 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.



Δ Pressure bar [PSI]
100 cm³/r [6.2 in³/r]

[250]	[500]	[1000]	[1500]	[2000]	[2500]	[3000]	[3500]	[4000]	[4500]
17	34	69	103	138	172	207	241	276	310

Δ Pressure bar [PSI]
130 cm³/r [8.0 in³/r]

[250]	[500]	[1000]	[1500]	[2000]	[2500]	[3000]	[3500]	[4000]	[4500]
17	34	69	103	138	172	207	241	276	310

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Flow LPM [GPM]	Δ Pressure bar [PSI]									
	[250]	[500]	[1000]	[1500]	[2000]	[2500]	[3000]	[3500]	[4000]	[4500]
[0.25]	[140]	[260]								
0.95	15	30								
	4	2								
[0.5]	[150]	[300]	[620]	[940]						
1.9	15	35	70	105						
	13	9	5	2						
[1]	[170]	[390]	[830]	[1210]	[1570]	[1870]	[2130]			
4	20	45	95	135	175	210	240			
	35	34	31	28	23	15	6			
[2]	[170]	[390]	[830]	[1220]	[1590]	[1920]	[2220]	[2520]	[2810]	[3120]
8	20	45	95	140	180	215	250	285	315	355
	73	71	68	63	59	51	38	24	14	4
[4]	[170]	[380]	[820]	[1240]	[1640]	[2010]	[2380]	[2750]	[3120]	[3490]
15	20	45	90	140	185	225	270	310	355	395
	148	145	141	136	131	121	104	94	80	69
[6]	[160]	[380]	[820]	[1260]	[1670]	[2080]	[2480]	[2880]	[3280]	[3680]
23	20	45	90	140	190	235	280	325	370	415
	222	219	215	209	202	192	172	163	149	134
[8]	[150]	[370]	[810]	[1260]	[1700]	[2130]	[2560]	[2990]	[3420]	[3840]
30	15	40	90	140	190	240	290	340	385	435
	297	294	288	281	273	261	243	231	216	200
[10]	[140]	[368]	[810]	[1270]	[1720]	[2160]	[2610]	[3020]	[3440]	[3850]
38	15	40	90	145	195	245	295	340	390	435
	371	367	362	354	344	330	316	300	283	266
[12]	[120]	[350]	[800]	[1270]	[1730]	[2180]	[2630]	[3070]	[3510]	[3950]
45	15	40	90	145	195	245	295	345	395	445
	445	442	436	427	415	399	389	369	350	332
[14]	[110]	[330]	[800]	[1260]	[1740]	[2180]	[2630]	[3070]	[3500]	[3940]
53	10	35	90	140	195	245	295	345	395	445
	519	516	509	500	486	469	463	437	417	378
[16]	[90]	[320]	[780]	[1260]	[1720]	[2160]	[2610]	[3060]	[3500]	[3940]
61	10	35	90	140	195	245	295	345	395	445
	594	591	583	573	558	540	537	506	485	463
[18]	[70]	[300]	[770]	[1240]	[1700]	[2140]	[2580]	[3020]	[3460]	[3900]
68	10	35	85	140	190	240	290	340	390	440
	668	665	657	646	630	611	609	574	552	529
[20]	[60]	[280]	[730]	[1180]	[1630]	[2090]	[2550]	[2980]	[3440]	[3830]
76	5	30	80	135	185	235	290	335	390	435
	742	739	731	715	703	684	662	643	619	595
[22]	[40]	[260]	[720]	[1180]	[1620]	[2070]	[2500]	[2930]	[3360]	
83	5	30	80	135	185	235	280	330	380	
	816	813	805	794	777	758	749	712	687	
[24]	[20]	[230]	[690]	[1140]	[1540]	[2020]	[2460]	[2900]	[3340]	
91	1	23	80	130	175	230	280	330	375	
	890	887	879	868	852	834	814	782	754	
[25]		[220]	[670]	[1120]	[1560]	[1990]	[2450]	[2890]		
95		25	75	125	175	225	275	325		
		924	916	905	890	873	846	817		

Flow LPM [GPM]	Δ Pressure bar [PSI]									
	[250]	[500]	[1000]	[1500]	[2000]	[2500]	[3000]	[3500]	[4000]	[4500]
[0.25]	[170]									
0.95	20									
	3									
[0.5]	[190]	[410]	[870]							
1.9	20	45	100							
	12	8	2							
[1]	[230]	[510]	[1070]	[1580]	[2050]	[2520]	[2920]	[3310]		
4	25	60	120	180	230	285	309	375		
	28	27	23	19	16	13	9	3		
[2]	[230]	[510]	[1080]	[1600]	[2090]	[2580]	[2930]	[3320]	[3640]	[3990]
8	25	60	120	180	235	290	330	375	410	450
	56	56	53	47	42	39	36	28	21	13
[4]	[220]	[500]	[1080]	[1620]	[2150]	[2660]	[3100]	[3540]	[3980]	[4420]
15	25	55	120	185	245	300	350	400	450	500
	114	113	111	104	97	95	92	85	77	70
[6]	[220]	[490]	[1080]	[1640]	[2190]	[2740]	[3260]	[3770]	[4280]	[4800]
23	25	55	120	185	245	310	370	425	485	540
	172	171	169	161	153	149	146	132	118	104
[8]	[200]	[480]	[1080]	[1650]	[2220]	[2780]	[3310]	[3840]	[4360]	[4890]
30	25	55	120	185	250	315	375	435	495	550
	230	224	222	219	210	204	201	192	184	175
[10]	[180]	[470]	[1070]	[1650]	[2230]	[2800]	[3420]	[3940]	[4450]	[4970]
38	20	55	120	185	250	315	385	445	505	560
	287	286	282	276	269	261	255	243	231	219
[12]	[160]	[460]	[1060]	[1640]	[2230]	[2800]	[3350]	[3910]	[4440]	[4960]
45	20	50	120	185	250	315	380	440	500	560
	345	344	338	333	327	317	307	295	284	272
[14]	[150]	[440]	[1030]	[1620]	[2220]	[2800]	[3350]	[3910]	[4440]	
53	15	50	115	185	250	340	380	440	500	
	403	402	395	391	385	373	360	348	336	
[16]	[130]	[420]	[1010]	[1600]	[2200]	[2780]	[3330]	[3890]	[4440]	
61	15	45	115	180	250	315	375	440	500	
	461	460	452	447	443	430	411	397	384	
[18]	[110]	[400]	[990]	[1580]	[2160]	[2750]	[3300]	[3860]	[4410]	
68	10	45	110	180	245	310	375	435	500	
	518	517	509	504	500	484	471	456	440	
[20]	[90]	[380]	[960]	[1550]	[2130]	[2710]	[3280]	[3840]		
76	10	45	110	175	240	305	370	435		
	576	575	568	560	551	539	524	508		
[22]	[60]	[350]	[940]	[1520]	[2100]	[2680]	[3250]	[3820]		
83	5	40	105	170	235	305	365	430		
	634	633	624	619	604	597	579	560		
[24]	[40]	[325]	[920]	[1490]	[2070]	[2650]	[3220]	[3780]		
91	5	35	105	170	235	300	365	425		
	692	691	682	676	665	651	633	616		
[25]	[20]	[310]	[900]	[1480]	[2050]	[2630]	[3200]	[3700]		
95	1	35	100	165	230	295	360	420		
	720	719	712	705	692	679	682	656		

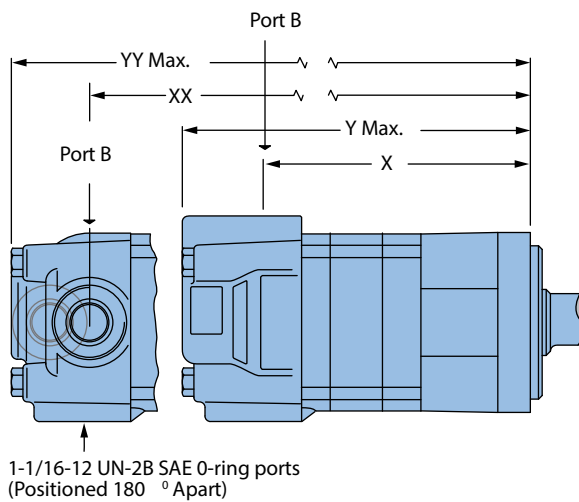
[1560]
175
890 } Torque [lb-in]
Nm
Speed RPM

Standard mount

Ports

7/8 -14 UNF-2B SAE O-ring staggered ports (2)
 7/16 -20 UNF-2B SAE O-ring case drain port (1)
 1 1/16 -12 UN-2B SAE O-ring ports (positioned 180° apart) (2)
 7/16 -20 UNF-2B SAE O-ring case drain port (1)
 7/8 -14 UNF-2B SAE O-ring end ports (2)
 7/16 -20 UNF-2B SAE O-ring case drain port (1) or
 G 1/2 (BSP) staggered ports (2)
 G 1/4 (BSP) case drain port (1)

Standard mount

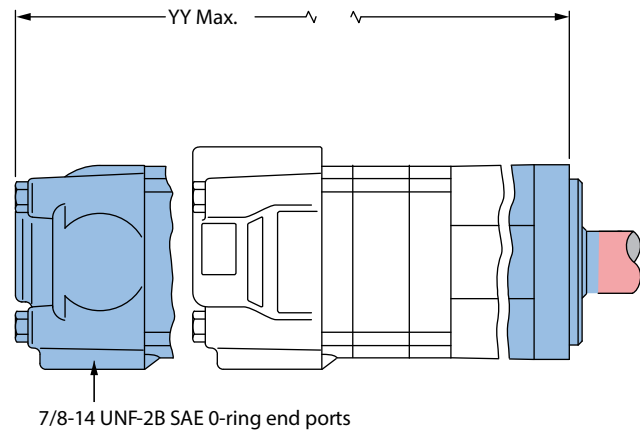


Manifold mount

7/16 -20 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

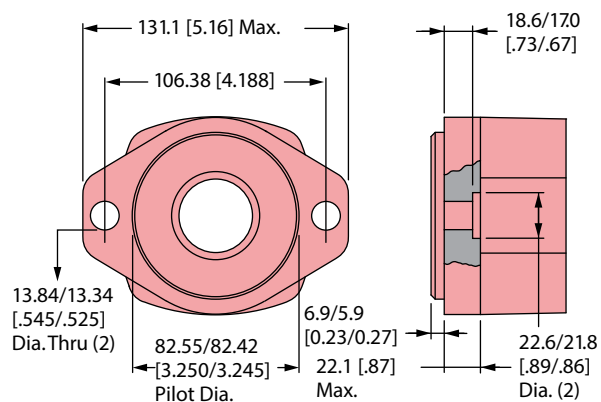
Displacement cm ³ /r [in ³ /r]	X mm [inch]	Y mm [inch]	XX mm [inch]	YY mm [inch]
34 [2.1]	126.7 [4.99]	1740 [6.85]	1290 [5.08]	175.3 [6.90]
41 [2.5]	128.0 [5.04]	175.3 [6.90]	130.5 [5.14]	176.8 [6.96]
66 [4.0]	133.9 [5.27]	181.1 [7.13]	136.1 [5.36]	182.4 [7.18]
80 [4.9]	136.9 [5.39]	184.2 [7.25]	139.2 [5.48]	185.4 [7.30]
100 [6.2]	141.5 [5.57]	189.0 [7.44]	143.8 [5.66]	190.3 [7.49]
130 [8.0]	147.9 [5.83]	195.4 [7.69]	150.2 [5.92]	196.6 [7.74]
160 [9.6]	147.9 [5.83]	195.4 [7.69]	150.2 [5.92]	196.6 [7.74]
195 [11.9]	154.7 [6.09]	202.2 [7.96]	157.0 [6.18]	203.2 [8.00]
245 [14.9]	163.7 [6.45]	211.1 [8.31]	166.0 [6.54]	212.4 [8.36]
305 [18.7]	175.1 [6.90]	222.3 [8.75]	177.4 [6.99]	223.5 [8.80]
395 [24.0]	191.0 [7.52]	238.6 [9.39]	193.3 [7.61]	239.8 [9.44]
490 [29.8]	208.4 [8.21]	255.8 [10.07]	210.7 [8.30]	257.0 [10.12]

2000 Series

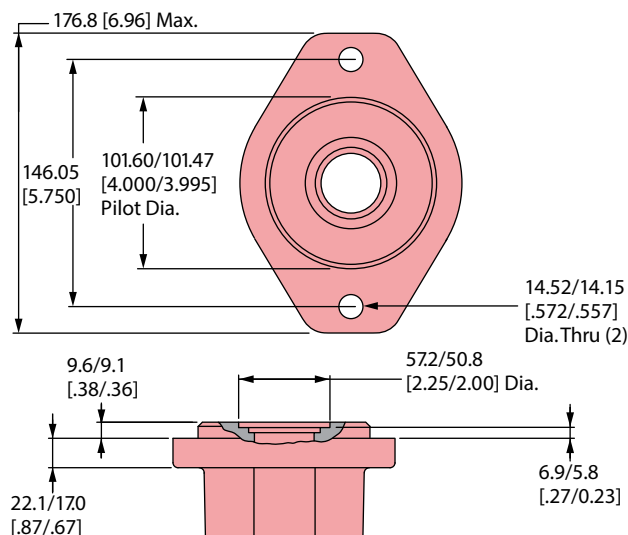
Dimensions

Mounting options

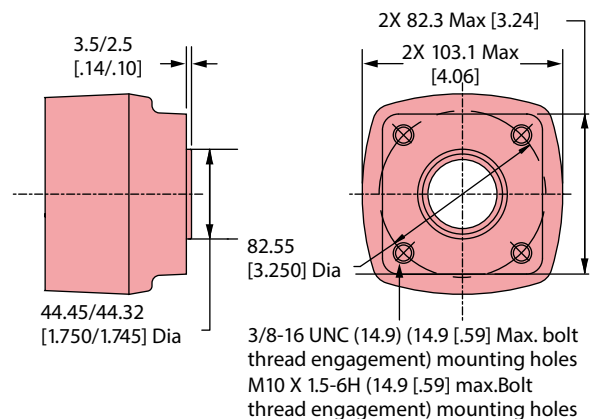
Code:AC SAE A - Two bolt (Standard motor)



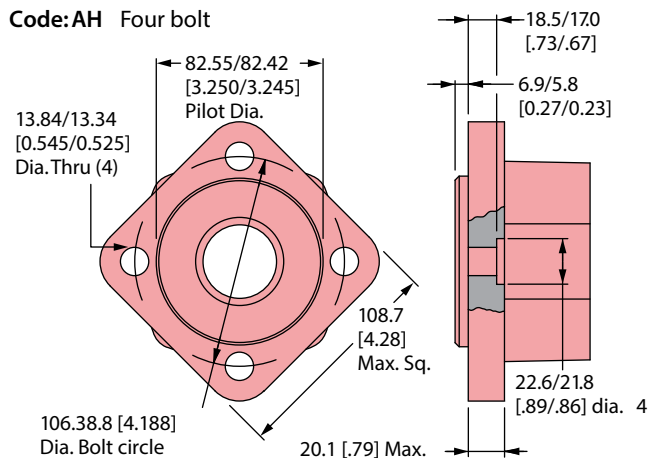
Code:AF SAE B - Two bolt



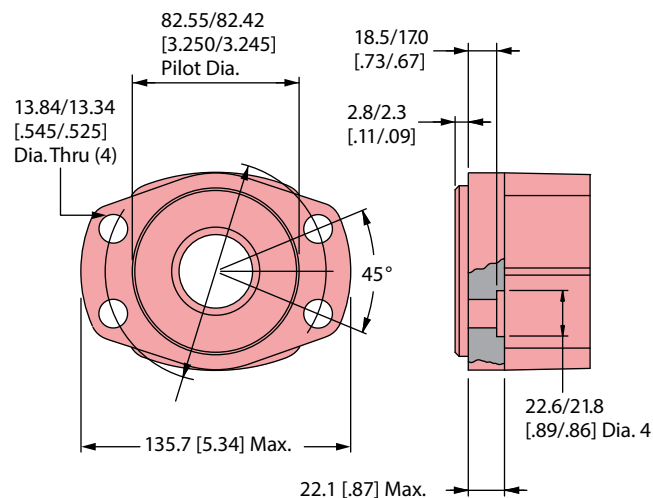
Code:BY Four bolt (Standard motor)



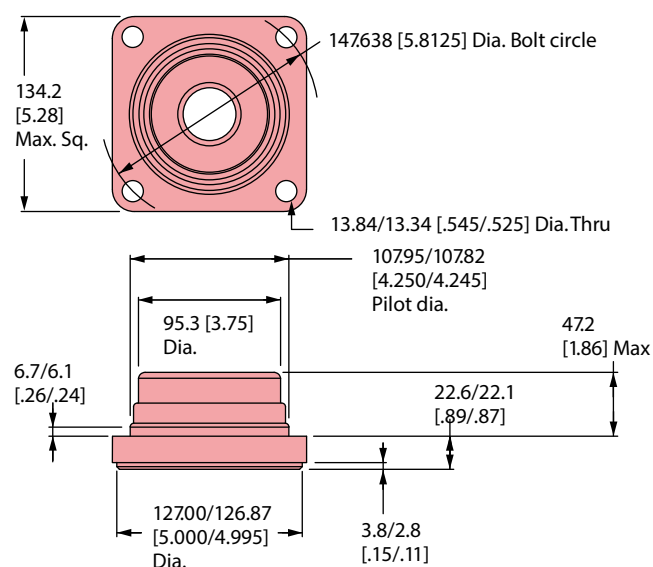
Code:AH Four bolt



Code:AJ Four bolt magneto



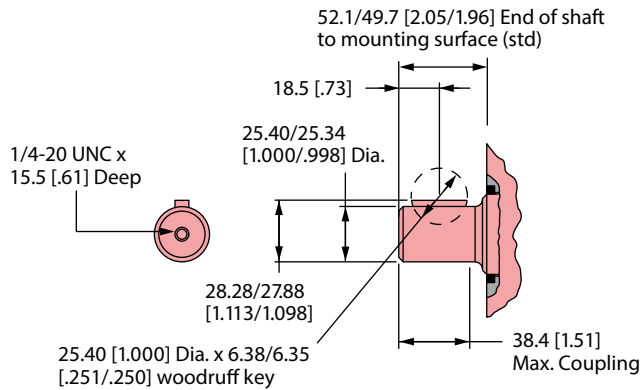
Code:AB Four bolt (Wheel motor)



Shafts

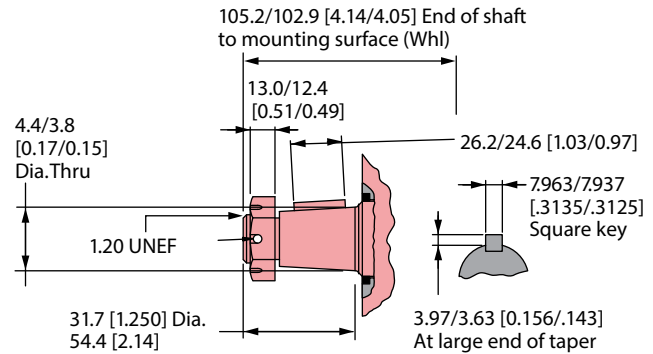
Code: 01 1 Inch straight

395 [3500] Max.Torque Nm [lb-in]

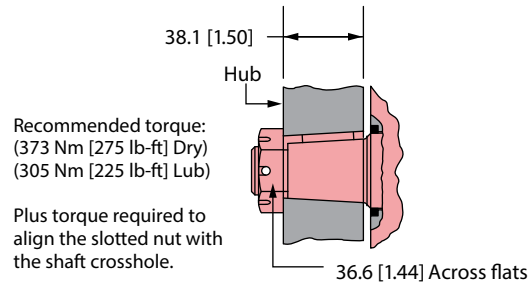


Code: 03 1 1/4 Inch tapered

768 [6800] Max.Torque Nm [lb-in]

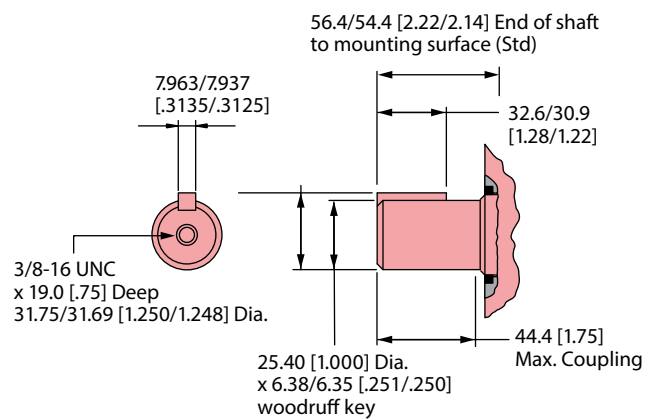


SAE J501 Standard tapered shaft 125.00±0.17Taper per meter [1.500±.002Taper per foot]



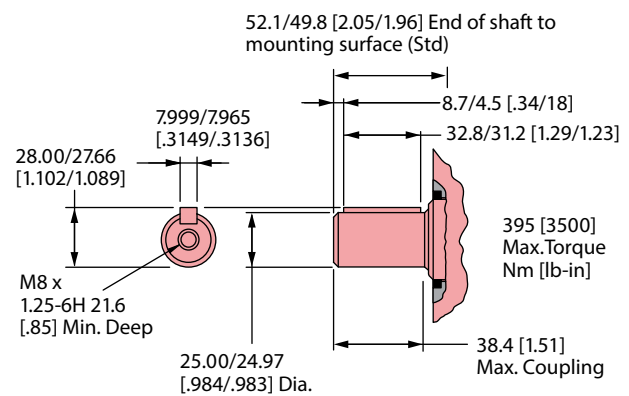
Code: 02 1 1/4 Inch straight

768 [6800] Max.Torque Nm [lb-in]



Code: 19 25 mm straight

395 [3500] Max.Torque Nm [lb-in]



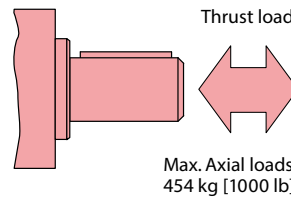
C-1

These curves indicate the radial load capacity on the motor shaft 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 61 kg/7 Bar [135 lb/100 PSI].

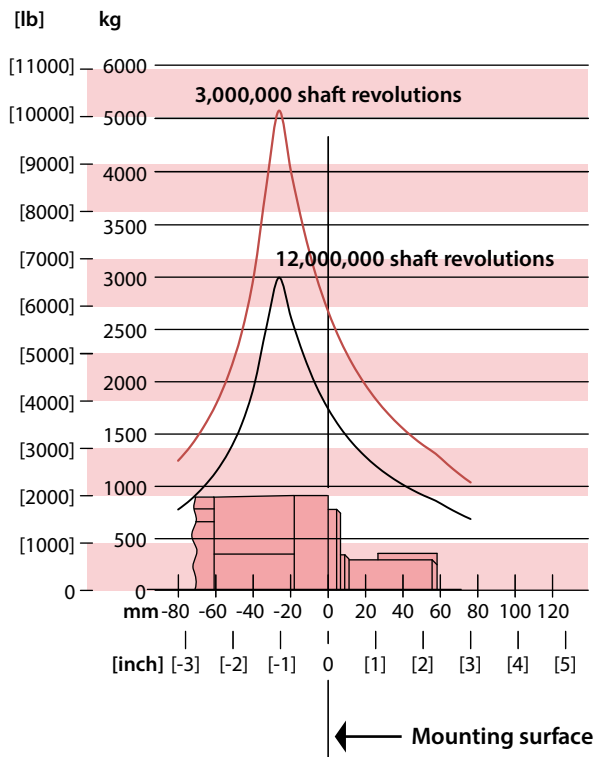
Each curve is based on B 10 bearing life (2000 Hours of 12,000,000 shaft revolutions at 100 RPM) at rated output torque.

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.

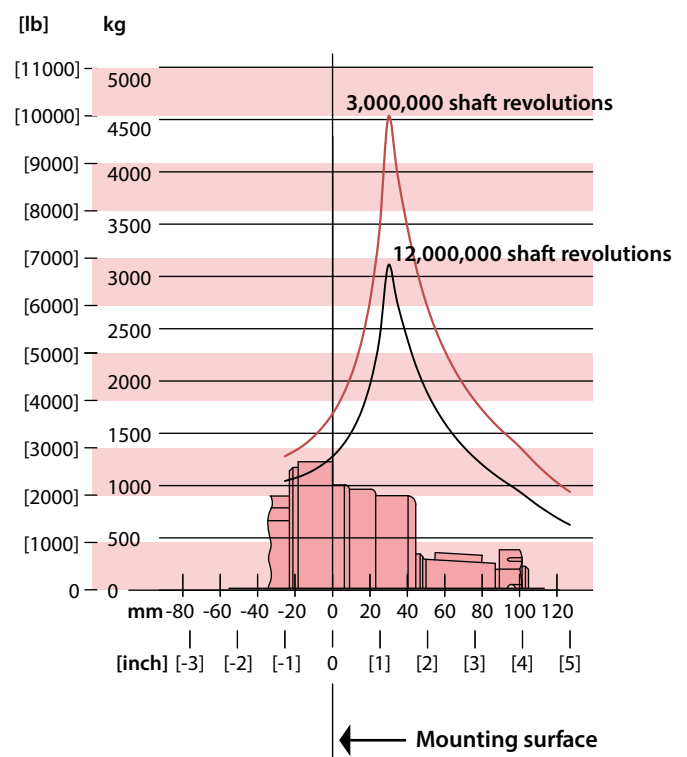


RPM	Multiplication factor
50	1.23
100	1.00
200	0.81
300	0.72
400	0.66
500	0.62
600	0.58
700	0.56
800	0.54

Standard motor straight and splined shafts



Wheel motor Tapered shaft



2000 Series

Case pressure and case porting

Char-Lynn 2000 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 advantages:

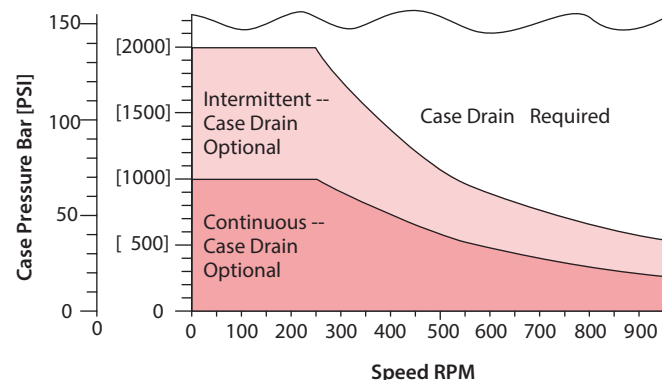
Contamination control — flushing the motor case.

Cooler motor — exiting oil draws motor heat away.

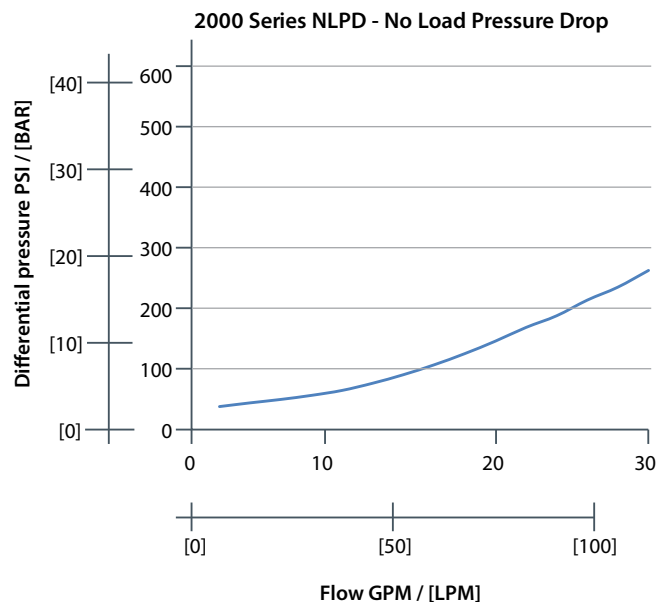
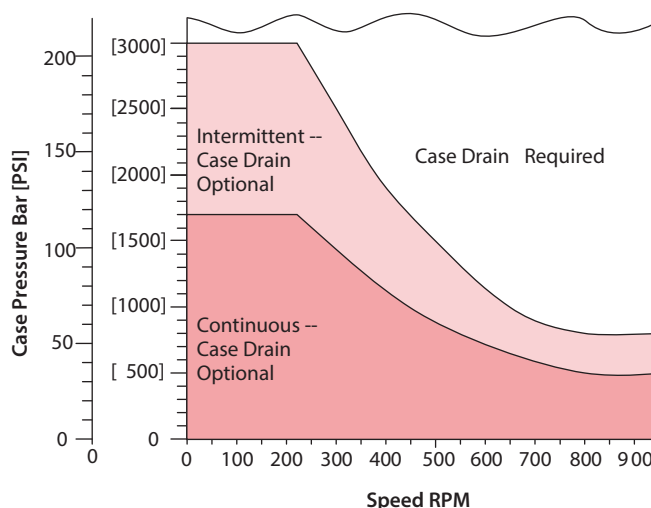
Extend motor seal life — maintain low case pressure with a preset restriction in the case drain line.

Case pressure seal limitation

Standard shaft seal



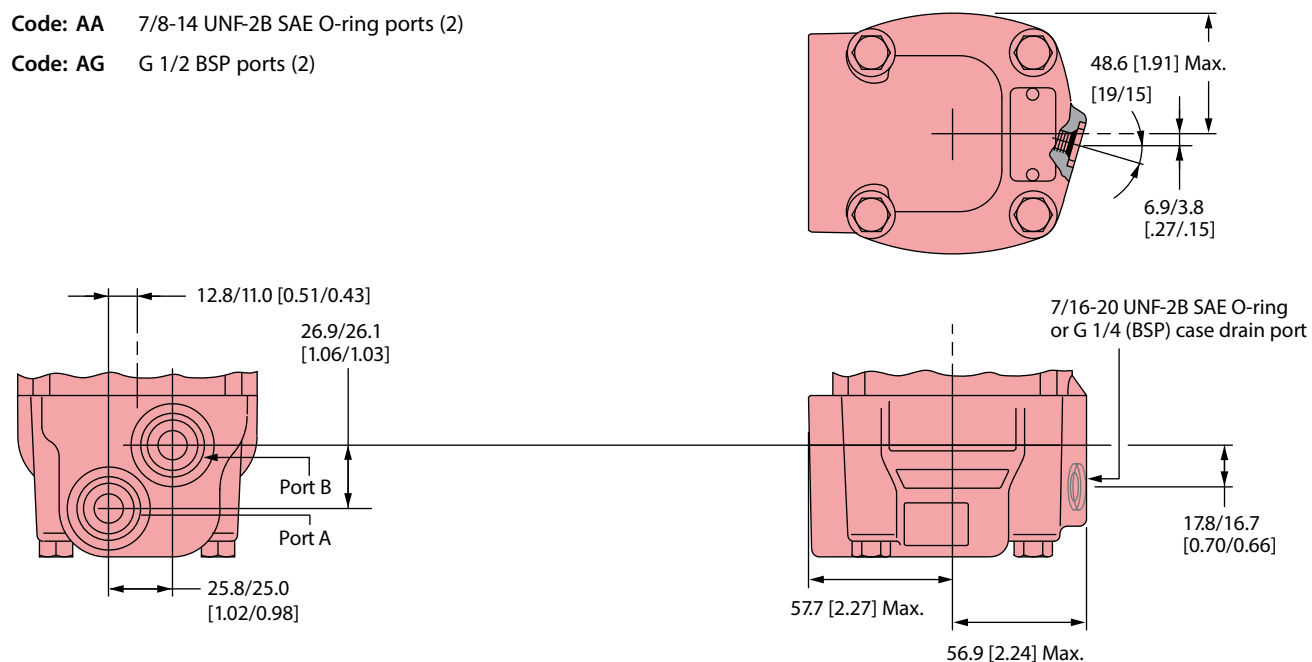
High pressure shaft seal



Ports

Code: AA 7/8-14 UNF-2B SAE O-ring ports (2)

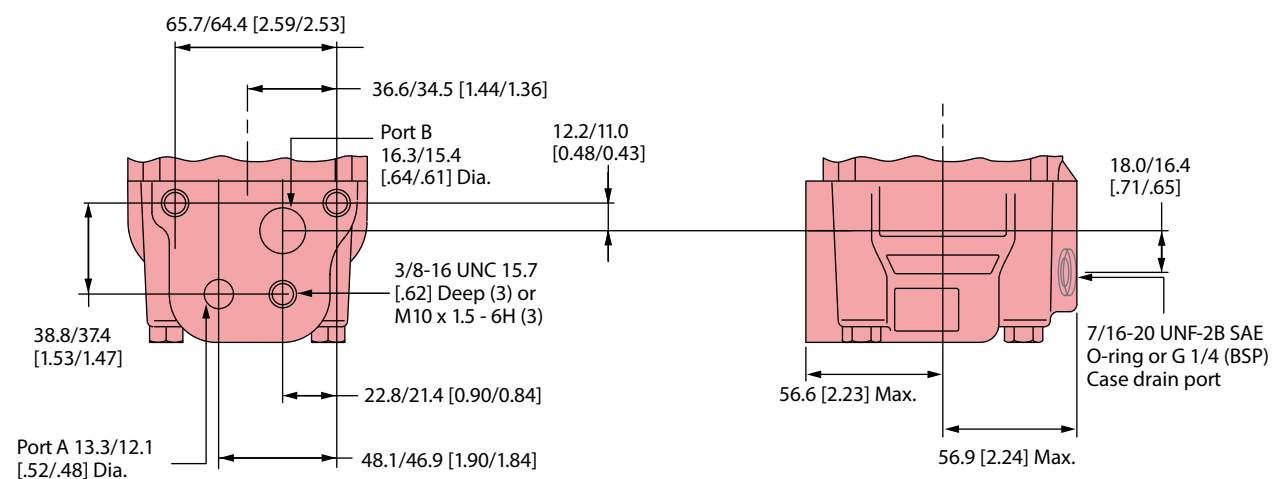
Code: AG G 1/2 BSP ports (2)



C-1

Code: AB 3/8-16 UNC threaded holes

Code: AE M10x1.5 -6H threaded holes



2000 Series

Product numbers

Note: For 2000 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 — 104-, 105-, or 106- plus four digit number from charts for complete product number— Example 106-1043.

Orders will not be accepted without three digit prefix.

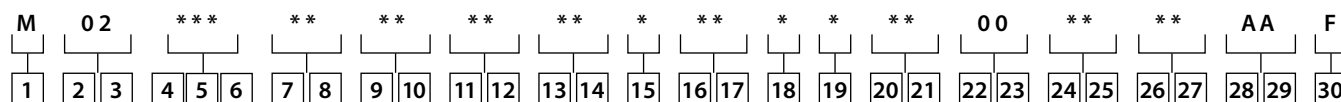
C-1

Mounting	Shaft	Port size	Displ. cm ³ / r [in ³ /r] / product number											
			41	80	90	100	130	160	195	245	305	395	490	
			[2.5]	[4.9]	[5.5]	[6.2]	[8.0]	[9.6]	[11.9]	[14.9]	[18.7]	[24.0]	[29.8]	
2 Bolt sae A flange	1 Inch straight	7/8 -14 O-ring staggered	104-4708	-1001	—	-1002	-1003	-1004	-1005	-1006	-1007	-1143	—	
		1 1/16 -12 O-ring 180° apart	104-----	-1037	—	-1038	-1039	-1040	-1041	-1042	-1043	-1044	—	
	1 ¼ Inch straight	7/8 -14 O-ring staggered	104-4774	-1022	—	-1023	-1024	-1025	-1026	-1027	-1028	-1228	-1420	
		1 1/16 -12 O-ring 180° apart	104-----	-1061	—	-1062	-1063	-1064	-1065	-1066	-1067	-1068	-1421	
	1 ¼ Inch - 14 T splined	7/8 -14 O-ring staggered	104-4764	-1029	—	-1030	-1031	-1032	-1033	-1034	-1035	-1229	-1422	
		1 1/16 -12 O-ring 180° apart	104-----	-1087	—	-1088	-1089	-1090	-1091	-1092	-1093	-1094	-1423	
2 Bolt SAE B flange	1 ¼ Inch straight	7/8-14 O-ring staggered	104-----	-1200	—	1201	-1202	-1203	-1204	-1205	-1206	-1207	—	
	1 ¼ Inch involute SAE C splined	7/8 -14 O-ring staggered	104-----	-1208	—	-1209	-1210	-1211	-1212	-1213	-1214	-1215	—	
	1 Inch SAE 6B splined	7/8 -14 O-ring staggered	104-----	-1193	—	-1194	-1195	-1196	-1197	-1198	-1199	—	—	
	7/8 Inch SAE B splined	7/8 -14 O-ring staggered	104-----	-1216	—	-1217	-1218	-1219	-1220	—	—	—	—	
Standard with 4 bolt flange	32 mm Straight	G 1/2 (BSP))	104-4672	-1384	—	-1385	-1386	-1387	-1388	-1389	-1390	-1391	—	
	1 ¼ Inch 14 T splined	G 1/2 (BSP)	104-----	-1376	—	-1377	-1378	-1379	-1380	-1381	-1382	-1383	—	
Wheel motor	1 ¼ Inch straight	7/8 -14 O-ring staggered	105-----	—	—	—	—	—	—	—	—	—	-1148	
		1 1/16 -12 O-ring 180° Apart	105-----	—	—	—	—	—	—	—	—	—	-1149	
	32 mm straight	G 1/2 (BSP)	105-----	-1134	—	-1135	-1136	-1137	-1138	-1139	-1140	-1141	—	
	1 ¼ Inch tapered	7/8 -14 O-ring staggered	105-----	-1001	—	-1002	-1003	-1004	-1005	-1006	-1007	-1060	-1152	
		1 1/16 -12 O-ring 180° apart	105-----	-1071	—	-1072	-1073	-1074	-1075	-1076	-1077	-1078	—	
	1 ¼ Inch 14 T splined	7/8 -14 O-ring staggered	105-----	-1029	—	-1030	-1031	-1032	-1033	-1034	-1035	-1096	—	
1 1/16 -12 O-ring 180° apart		105-----	-1079	—	—	—	-1082	-1083	-1084	-1085	-1086	—		
Bearingless	7/8 -14 O-ring staggered		106-----	-1008	—	-1009	-1010	-1011	-1012	-1013	-1014	-1015	-1047	
	G 1/2 (BSP)		106-----	-1038	—	-1039	-1040	-1041	-1042	-1043	-1044	-1045	—	

↑
106-1044

Mounting	Shaft	Port size	Displ. cm ³ / r [in ³ /r] / product number										
			41	80	90	100	130	160	195	245	305	395	490
			[2.5]	[4.9]	[5.5]	[6.2]	[8.0]	[9.6]	[11.9]	[14.9]	[18.7]	[24.0]	[29.8]
2 Bolt SAE A flange	1 Inch straight	7/8 -14 O-ring Staggered	04----	-1528	—	-1529	-1530	-1531	-1532	-1533	-1534	-1519	-1535
	1 1/4 Inch straight	7/8 -14 O-ring	104----	-3615	—	-1536	-1537	-1568	-1539	-1452	-1479	-1509	-1489

The following 30-digit coding system has been developed to identify all of the configuration options for the 2000 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.



1	Product	9 10	Output shaft
M	2000 Series motor	00	None (Bearingless)
2 3	Product series	01	25.40 [1.000] Dia. Straight shaft with 1/4-20UNC-2B Thread in End, 6.35 [.250] wide x 25.40 [1.000] Dia. Woodruff key
02	2000 Series Motor	02	31.75 [1.250] Dia. Straight shaft with .375-16UNC-2B Thread in end, 7.938 [.3125] Sq x 31.75 [1.250] straight key
4 5 6	Displacement	03	31.75 [1.250] Dia. 0.125:1 tapered shaft per SAE J501 with /1.000-20 UNEF-2A Threaded shaft end and slotted hex nut, 7.938 [.3125] Sq x 25.40 [1.0] straight key
021	34.0 cm ³ /r [in ³ /r]	04	31.75 [1.250] Dia. Flat root side fit, 14 tooth, 12/24 DP 30° involute spline w/ .375-16UNC-2B Thread in end, 33.0 [1.30] Min. Full spline length
025	40.8 cm ³ /r [in ³ /r]	05	25.40 [1.000] Dia. 6B spline per SAE J499 with .250-20UNC-2B thread in end, 22.76 [.896] Min. Full spline length
040	66.5 cm ³ /r [in ³ /r]	07	22.22 [.875] Dia. Flat root side fit, 13 tooth, 16/32 DP 30° SAE B Involute Spline, 15.2 [.60] Min. Full Spline Length
049	80.6 cm ³ /r [4.92 in ³ /r]	16	32.00 [1.260] Dia. Straight Shaft with M8 x 1.25-6H Thread in End, 9.982 [.3930] W x 7.995 [.3132] H x 45.00 [1.772] L Key
055	90.6 cm ³ /r [5.53 in ³ /r]	17	31.75 [1.250] Dia. Straight shaft with 3/8 -16 UNC-2B Thread in end, 7.938 [.3125] Sq x 31.75 [1.250] straight key, corrosion resistant (seal area to shaft end)
062	101.6 cm ³ /r [6.20 in ³ /r]	19	25.00 [.984] Dia. Straight shaft with M8 x 1.25-6h thread in end, 7.982 [.3142] W x 6.954 [.2738] H x 31.82 [1.254] L key
080	130.6 cm ³ /r [7.97 in ³ /r]	41	35.00 [1.378] Dia. 10:1 Tapered shaft per ISO R775 with M20 x 1.5-6g threaded shaft end and slotted hex nut, 6.00 [.236] Sq. X 20.00 [.787] Key
096	158.1 cm ³ /r [9.65 in ³ /r]	42	35.00 [1.378] Dia. Straight shaft with M8 x 1.25-6h thread in end, 9.982 [.3930] W x 7.995 [.3132] H x 45.00 [1.772] L key
119	194.8 cm ³ /r [11.89 in ³ /r]		
149	244.3 cm ³ /r [14.91 in ³ /r]		
187	306.6 cm ³ /r [18.71 in ³ /r]		
240	393.8 cm ³ /r [24.03 in ³ /r]		
298	489.0 cm ³ /r [29.84 in ³ /r]		
7 8	Mounting type		
AB	Wheel, 4 Bolt: 108.0 [4.25] Pilot Dia. 13.59 [.535] Dia. Holes on 147.6 [5.81] Dia. Bolt circle. 127.0 [5.00] Dia. Rear mount pilot		
AC	Standard, 2 Bolt: 82.6 [3.25] Pilot Dia. 13.59 [.535] Dia. Holes on 106.4 [4.19] Dia. Bolt circle. SAE A		
AD	Bearingless (w/ leakage slots), 4 Bolt: 101.6 [4.00] Pilot Dia. 13.59 [.535] Dia. Holes on 127.0 [5.00] Dia. Bolt circle		
AF	Standard, 2 Bolt: 101.6 [4.00] Pilot dia. 14.35 [.565] Dia. Holes on 146.0 [5.75] Dia. Bolt circle. SAE B		
AH	Standard, 4 Bolt: 82.6 [3.25] Pilot Dia. 13.59 [.535] Dia. Holes on 106.4 [4.19] Dia. Bolt circle		
AJ	Standard (Magnet), 4 Bolt: 82.6 [3.25] Pilot Dia. 13.59 [.535] Dia. Holes on 106.4 [4.19] Dia. Bolt Circle. 2.79 [.110] Pilot Length		
AL	Wheel (European), 4 Bolt: 125 [4.92] Pilot Dia. 13.79 [.543] Dia. Holes on 159.99 [6.299] Dia. Bolt Circle		
AP	Wheel, 4 Bolt: 108.0 [4.25] Pilot Dia. 13.59 [.535] Dia. Holes on 147.6 [5.81] Dia. Bolt Circle. 127.0 [5.00] Dia. Rear mount pilot. Spigot reduced to 88.9 [3.50] Dia. by 25.4 [1.00] Depth.		
AZ	Bearingless (w/ leakage slots), 4 Bolt: 100.0 [3.94] Pilot Dia. 11.0 [.43] Dia. Holes on 125.0 [4.92] Dia bolt circle (european)		

2000 Series

Model code

M	02		***			**		**		**		**		*	**		*	*	**		00		**		**		AA		F
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

11 12

Ports

- AA** .875-14 UNF-2B SAE O-ring Ports - Staggered Ports
- AB** 12.70 [.500] and 15.88 [.625] Dia. Manifold ports with 3 x .375-16 UNC-2B port block mounting holes
- AC** .875-14 UNF-2B SAE O-ring ports - ports oriented 180° to each other
- AE** 12.70 [.500] and 15.88 [.625] Dia. Manifold ports with 3 x M10 x 1.5-6H Port block mounting holes
- AF** 1.0625-12 UN-2B SAE O-ring ports - ports oriented 180° to each other
- AG** G-1/2 BSP straight THD ports - staggered ports
- AN** G-1/2 BSP Straight THD Ports - end ported
- AS** G-1/2 Bsp Straight THD ports - staggered port with 2 x M10 x 1.5-6H port block mounting holes - european

13 14

Case flow options

(Shuttles available with port code AA only)

- 01** .4375-20 UNF-2B SAE O-Ring Port
- 02** G 1/4 BSP Straight THD Port
- 13** Reverse flow shuttle valve w/ .4375-20 UNF-2B SAE O-Ring port, .062 Dia. Shuttle flow orifice

15

Low pressure relief

- 0** None
- A** Set at 4.5 bar [65 lbf/in²]
- B** Set at 15.2 bar [220 lbf/in²]
- C** Set at 20.7 bar [300 lbf/in²]
- E** Set at 11.03 bar [160 lbf/in²]

16 17

Pressure/flow option

- 0** None
- Integral cross-over relief valve:
- 30** Set at 103.4 bar [1500 lbf/in²]
- 31** Set at 120.6 bar [1750 lbf/in²]
- 32** Set at 137.9 bar [2000 lbf/in²]
- 33** Set at 155.1 bar [2250 lbf/in²]
- 34** Set at 172.4 bar [2500 lbf/in²]
- 35** Set at 189.6 bar [2750 lbf/in²]
- 36** Set at 206.8 bar [3000 lbf/in²]
- 37** Set at 234.4 bar [3400 lbf/in²]

18

Geroler option

- 1** Standard
- 2** Free running
- 6** Reduced side clearance, no warranty for galling

19

Seal option

- 0** Standard
- 1** Viton
- 2** Viton shaft seal
- 3** High pressure shaft seal
- 4** Seal guard
- 5** Extreme duty seal guard
- 6** High pressure shaft seal, seal guard

20 21

Accessories

- 00** None
- AA** Digital speed pickup (30 pulse), 127 [5.0] lead wire with weather pack shroud connector (A=Power, B=Signal, C=Common)
- AD** Digital speed pickup (30 pulse), M12 connector (A=Power, B=Common, C=Signal)
- AG** M12 connector (60 pulse per rev speed signal and one directional signal, (Pin 1=Power, Pin 2= Direction, Pin 3=Common, Pin 4=Speed)

22 23

Special features (hardware)

- 00** None

24 25

Special features (assembly)

- 00** None
- AA** Flange rotated 90 degrees
- AB** Reverse rotation
- AE** Flange rotated 45 degrees

26 27

Paint/packageing

- AA** No paint, indiv. Box
- AB** Low gloss black primer, indiv. Box
- AT** Epoxy coated black, individual box
- BJ** Nickel plated motor (excluding shaft), individual box

28 29

Customer ID

- AA** None

30

Design code

- F** Sixth

C-1