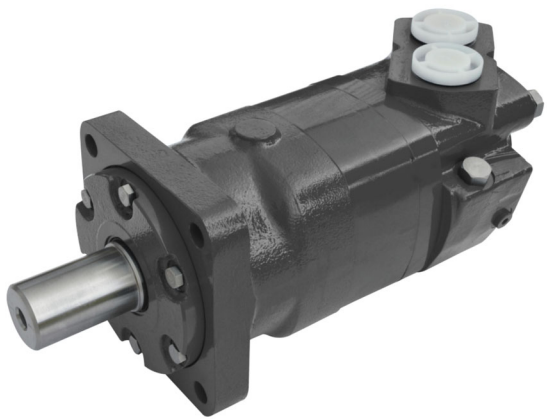


Description:

With torque up to 1685 Nm [15,000 in-lbs] and 150 lpm [40 gpm] continuous, this motor is packed with power operates very smoothly.

**Features:**

- 9 displacements available
- Presents a multitude of options that make this motor very “smart” and flexible to apply

Benefits:

- Very tough motor for demanding applications
- Can be used in a multitude of industries
- Very easy/flexible to integrate in a system

Applications:

- Mobile equipment
- Snow removal, mowing
- Sprayer, trencher
- Wood products

Specifications

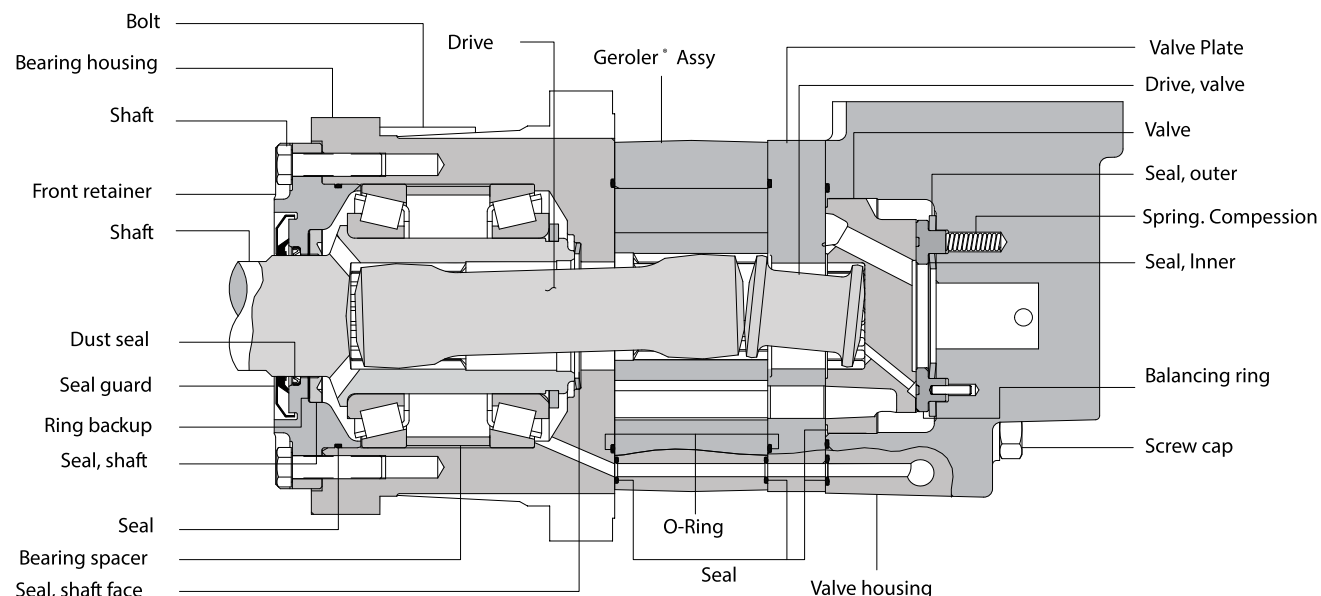
Geroler element	9 Displacements
Flow l/min [GPM]	150 [40] Continuous**
	225 [60] Intermittent*
Speed RPM	775 Cont.**
	866 Inter.*
Pressure bar [PSI]	200 [3000] Cont.**
	300 [4500] Inter.*
Torque Nm [lb-in]	1685 [14920] Cont.**
	1875 [16580] Inter.*

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

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

6000 Series

Specifications



6000 series motors

Displ. cm ³ /r [in ³ /rev]	195 [11.9]	245 [15.0]	310 [19.0]	390 [23.9]	490 [30.0]	625 [38.0]	735 [45.0]	805 [49.0]	985 [60.0]
Max speed (RPM) @ Flow	Continuous	775	615	485	387	307	241	203	187
	Intermittent	866	834	698	570	454	353	303	280
Flow l/min [GPM]	Continuous	150 [40]	150 [40]	150 [40]	150 [40]	150 [40]	150 [40]	150 [40]	150 [40]
	Intermittent	170 [45]	210 [55]	225 [60]	225 [60]	225 [60]	225 [60]	225 [60]	225 [60]
Torque* Nm [lb - in]	Continuous	575 [5100]	735 [6510]	930 [8230]	1155 [10230]	1445 [12800]	1480 [13100]	1378 [12192]	1582 [14004]
	Intermittent	860 [7620]	1100 [9740]	1355 [11990]	1635 [14490]	1885 [16670]	1898 [16800]	1699 [15040]	1850 [16377]
Pressure Δ bar [Δ PSI]	Continuous	205 [3000]	205 [3000]	205 [3000]	205 [3000]	205 [3000]	170 [2500]	140 [2000]	140 [2000]
	Intermittent	310 [4500]	310 [4500]	310 [4500]	310 [4500]	275 [4000]	221 [3200]	170 [2500]	170 [2500]
	Peak	310 [4500]	310 [4500]	310 [4500]	310 [4500]	310 [4500]	240 [3500]	205 [3000]	170 [2500]
Weight kg [lb]	Standard or Wheel mount	24.9 [55.0]	25.2 [55.5]	25.6 [56.5]	26.3 [58.0]	27.0 [59.5]	27.9 [61.5]	28.6 [63.0]	29 [64.0]
	Bearingless	20.2 [44.5]	20.4 [45.0]	20.9 [46.0]	21.5 [47.5]	22.2 [49.0]	23.1 [51.0]	23.8 [52.5]	24.3 [53.5]

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 bars (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 (expect when switching direction of rotation)

Performance data

 Continuous

Peak

 Intermittent

No operation

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

Flow LPM [GPM]

[5790] } Torque [lb-in]
655 } Nm
702 } Speed RPM

6000 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]
245 cm³/r [15.0 in³/r]

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

Flow LPM [GPM]	[0.5]	[430]	[860]	[1890]							
	2	50	95	215							
		7	4	1							
	[2]	[440]	[900]	[1940]	[2990]	[3960]	[4920]	[5425]	[5930]		
	8	50	100	220	340	445	555	615	670		
		30	29	26	24	21	17	11	6		
	[4]	[460]	[940]	[2000]	[3060]	[4080]	[5090]	[5680]	[6630]	[7570]	[8520]
	15	50	105	225	345	460	575	640	750	855	965
		61	60	56	54	48	42	39	30	12	6
	[8]	[470]	[960]	[2060]	[3150]	[4210]	[5260]	[6180]	[7100]	[8020]	[9020]
	30	55	110	235	355	475	595	700	800	905	1020
		122	120	116	113	104	95	81	67	53	37
	[14]	[480]	[970]	[2080]	[3180]	[4270]	[5360]	[6390]	[7420]	[8450]	[9510]
	53	55	110	235	360	480	605	720	840	955	1075
		183	182	178	174	165	157	141	125	109	92
	[16]	[450]	[960]	[2070]	[3180]	[4290]	[5420]	[6480]	[7490]	[8480]	[9540]
	61	50	110	235	360	485	610	730	845	960	1080
		245	244	240	236	228	221	202	184	165	145
	[20]	[420]	[940]	[2050]	[3160]	[4290]	[5440]	[6510]	[7580]	[8660]	[9740]
	76	45	105	230	355	485	615	735	855	980	1100
		307	306	301	297	287	277	257	238	218	197
	[24]	[380]	[920]	[2020]	[3120]	[4260]	[5400]	[6490]	[7590]	[8680]	
	91	45	105	230	355	480	610	735	860	980	
		368	365	361	358	348	338	316	294	271	
	[28]	[330]	[870]	[1980]	[3100]	[4240]	[5380]	[6480]	[7580]	[8670]	
	106	35	100	225	350	480	610	730	855	980	
		430	426	421	416	404	376	358	340	322	
	[32]	[290]	[800]	[1920]	[3050]	[4170]	[5290]	[6410]	[7520]	[8640]	
	121	35	90	215	345	470	600	725	850	975	
		491	489	481	475	461	448	423	398	373	
	[36]	[250]	[730]	[1850]	[2980]	[4060]	[5150]	[6300]	[7440]		
	136	30	80	210	335	460	580	710	840		
		556	549	543	537	524	509	482	456		
	[40]	[200]	[690]	[1790]	[2940]	[4010]	[5130]	[6190]	[7100]		
	151	25	80	200	330	455	580	700	800		
		615	612	606	599	585	570	540	510		
	[45]		[570]	[1760]	[2860]	[3960]	[5070]	[6080]	[6690]		
	170		65	200	325	445	575	685	755		
			688	682	674	658	641	608	574		
	[50]			[1720]	[2800]	[3890]	[4920]	[5940]			
	189			195	315	440	555	670			
				758	749	731	712	676			
	[55]			[1670]	[2740]	[3820]	[4890]	[5880]			
	208			190	310	430	550	665			
				834	824	804	783	744			

Performance data

Peak

 No operation

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

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6000 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]
390 cm³/r [23.9 in³/r]

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

Flow LPM [GPM]	[1]	[760]	[1570]	[3230]							
		85	175	365							
	4	4	2	1							
	[2]	[780]	[1610]	[3270]	[4910]	[6440]	[7760]	[9080]	[10590]		
		90	180	370	555	730	875	1025	1195		
	8	19	18	17	16	14	12	9	4		
	[4]	[800]	[1640]	[3300]	[4970]	[6570]	[8160]	[9570]	[11270]	[12880]	[14490]
		90	185	375	560	740	920	1080	1275	1455	1635
	15	38	38	37	35	33	29	22	14	5	1
	[8]	[810]	[1650]	[3370]	[5080]	[6740]	[8430]	[10050]	[11620]	[12880]	[14480]
		90	185	380	575	760	950	1135	1315	1455	1635
	30	77	76	74	72	68	65	55	45	33	21
	[14]	[800]	[1620]	[3390]	[5130]	[6810]	[8520]	[10190]	[11860]	[13640]	
		90	185	385	580	770	965	1150	1340	1540	
	53	115	115	112	109	105	100	91	81	79	
	[16]	[750]	[1600]	[3380]	[5120]	[6820]	[8560]	[10230]	[11920]		
		85	180	380	580	770	965	1155	1345		
	61	154	154	151	147	143	132	126	116		
	[20]	[680]	[1580]	[3360]	[5120]	[6840]	[8590]	[10280]	[11980]		
		75	180	380	580	775	970	1160	1355		
	76	193	193	189	187	182	175	162	152		
	[24]	[620]	[1520]	[3280]	[5060]	[6780]	[8530]	[10240]			
		70	170	370	570	765	965	1155			
	91	232	230	229	225	220	212	204			
	[28]	[570]	[1460]	[3210]	[5000]	[6730]	[8480]	[10200]			
		65	165	365	565	760	960	1150			
	106	270	268	266	261	256	248	236			
	[32]	[530]	[1420]	[3140]	[4930]	[6640]	[8380]	[10120]			
		60	160	355	555	750	945	1145			
	121	309	306	304	299	292	282	269			
	[36]	[450]	[1370]	[3010]	[4840]	[6500]	[8250]	[10000]			
		50	155	340	545	735	930	1130			
	136	348	346	340	336	329	317	301			
	[40]	[380]	[1320]	[2880]	[4740]	[6460]	[8120]				
		45	150	325	535	730	915				
	151	387	386	380	375	368	359				
	[50]		[1140]	[2650]	[4540]	[6440]	[8050]				
			130	300	515	730	910				
	189		482	475	469	460	449				
	[60]			[2460]	[4430]	[6360]	[7860]				
				280	500	720	890				
	227			570	562	552	538				

6000 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]
625 cm³/r [38.0 in³/r]

[250]	[500]	[1000]	[1500]	[2000]	[2500]	[3000]	[3200]
17	34	69	103	138	172	207	221

Flow LPM [GPM]	[1]	[1060]	[2205]	[4515]	[6690]				
		120	250	510	755				
	4	5	5	4	2				
	[2]	[1090]	[2300]	[4720]	[7025]	[9360]			
		125	260	535	795	1060			
	8	12	12	12	10	6			
	[4]	[1145]	[2450]	[5052]	[7520]	[10090]	[12700]		
		130	275	570	850	1140	1434		
	15	24	24	24	21	16	13		
	[8]	[1195]	[2600]	[5350]	[8195]	[11220]	[13100]	[15800]	[16800]
		135	295	605	925	1270	1480	1785	1898
	30	45	45	44	42	37	35	32	30
	[14]	[1200]	[2600]	[5390]	[8145]	[10570]	[13000]	[15700]	
		135	295	610	920	1195	1469	1774	
	53	72	72	71	68	64	60	56	
	[16]	[1120]	[2530]	[5340]	[8105]	[10530]	[13000]		
		125	285	605	915	1190	1469		
	61	94	94	92	89	85	83		
	[20]	[1050]	[2465]	[5285]	[8080]	[11725]			
		120	280	595	915	1325			
	76	120	119	117	115	110			
	[24]	[950]	[2365]	[5180]	[7990]	[11705]			
		105	265	585	905	1320			
	91	144	143	140	138	132			
	[28]	[855]	[2255]	[5080]	[7915]	[11640]			
		95	255	575	895	1315			
	106	169	168	165	162	156			
	[32]	[730]	[2140]	[4960]	[7775]	[11505]			
		80	240	560	880	1300			
	121	193	192	188	185	179			
	[36]	[555]	[1965]	[4780]	[7585]				
		65	220	540	855				
	136	217	216	213	210				
	[40]	[380]	[1790]	[4600]	[7395]				
		45	200	520	835				
	151	241	240	238	236				
	[50]			[4180]	[6985]				
				470	790				
	189			296	290				
	[60]			[3800]	[6600]				
				430	745				
	227			353	345				

Performance data

Continuous

■ Intermittent

Peak

 No operation

[250]	[500]	[750]	[1000]	[1250]	[1500]	[1750]	[2000]	[2250]	[2500]
17	34	52	69	86	103	121	138	155	172

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[6604] } Torque [lb-in]
746 } Nm
301 } Speed RPM

6000 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]
805 cm³/r [49.0 in³/r]

[250]	[500]	[750]	[1000]	[1250]	[1500]	[1750]	[2000]	[2250]	[2500]
17	34	52	69	86	103	121	138	155	172

Flow LPM [GPM]	[1]	[1455]	[3100]	[4680]	[6031]	[7799]					
	4	164	350	529	681	881					
		4	4	2	2	1					
	[2]	[1483]	[3173]	[5121]	[6432]	[8510]	[9633]	[11319]	[12127]		
	8	168	359	579	727	961	1088	1279	1370		
		9	9	9	8	7	6	5	5		
	[4]	[1547]	[3331]	[5292]	[7000]	[8714]	[10075]	[11352]	[12965]	[14564]	[16377]
	15	175	376	598	790	984	1138	1283	1465	1645	1850
		19	19	18	17	16	15	14	12	11	10
	[8]	[1599]	[3473]	[5415]	[7170]	[8934]	[10629]	[12300]	[14004]	[15441]	
	30	181	392	612	810	1009	1201	1390	1582	1745	
		35	35	34	33	32	31	29	29	28	
	[14]	[1599]	[3469]	[5415]	[7093]	[9024]	[10658]	[12283]	[13726]		
	53	181	392	612	801	1020	1204	1388	1551		
		56	56	55	53	53	52	50	50		
	[16]	[1543]	[3395]	[5357]	[7032]	[8983]	[10640]	[12010]			
	61	174	384	605	794	1015	1202	1357			
		73	73	72	70	69	68	67			
	[20]	[1457]	[3312]	[5292]	[6968]	[8943]	[10583]	[12146]			
	76	165	374	598	787	1010	1196	1372			
		93	92	91	89	88	87	86			
	[24]	[1352]	[3183]	[5088]	[6811]	[8812]	[10411]				
	91	153	360	575	769	996	1176				
		112	112	111	110	108	106				
	[28]	[1213]	[3055]	[5047]	[6713]	[8681]	[10411]				
	106	137	345	570	758	981	1176				
		131	131	131	129	128	127				
	[32]	[1075]	[2907]	[4884]	[6546]	[8395]	[10060]				
	121	121	328	552	740	949	1137				
		150	149	149	146	145	144				
	[36]	[823]	[2692]	[4663]	[6320]	[8118]					
	136	93	304	527	714	917					
		168	168	168	167	165					
	[40]	[592]	[2477]	[4426]	[6085]	[7832]					
	151	67	280	500	688	885					
		187	186	186	185	184					
	[50]		[2730]	[4214]	[5849]	[7603]					
	189		308	476	661	859					
			234	233	231	230					
	[60]			[3806]	[5459]	[7407]					
	227			430	617	837					
				280	277	275					

6000 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]
985 cm³/r [60.0 in³/r]

[250]	[500]	[750]	[1000]	[1250]	[1500]	[1750]	[2000]
17	34	52	69	86	103	121	138

Flow LPM [GPM]	[1]	[1890]	[4110]	[5730]	[7640]	[9550]			
	4	215	465	645	865	1080			
		3	3	2	2	1			
	[2]	[1910]	[4140]	[6270]	[8300]	[10420]	[12500]	[13860]	[14920]
	8	215	470	710	940	1175	1410	1565	1685
		8	8	7	7	6	5	4	3
	[4]	[1980]	[4290]	[6480]	[8540]	[10670]	[12800]	[13900]	[15850]
	15	225	485	730	965	1205	1445	1570	1790
		15	15	15	14	14	13	13	12
	[8]	[2030]	[4400]	[6630]	[8790]	[10940]	[13090]	[14500]	[16580]
	30	230	495	750	995	1235	1480	1640	1875
		30	30	30	29	28	27	26	25
	[14]	[2020]	[4390]	[6630]	[8860]	[11050]	[13240]	[15040]	
	53	230	495	750	1000	1250	1495	1700	
		45	45	45	44	43	42	41	
	[16]	[2010]	[4320]	[6560]	[8790]	[11000]	[13260]		
	61	225	490	740	995	1245	1500		
		61	61	61	60	59	58		
	[20]	[1910]	[4220]	[6480]	[8720]	[10950]	[13160]		
	76	215	475	730	985	1235	1485		
		77	77	76	76	75	74		
	[24]	[1810]	[4060]	[6230]	[8500]	[10790]	[12990]		
	91	205	460	705	960	1220	1470		
		92	92	92	91	90	89		
	[28]	[1620]	[3920]	[6180]	[8420]	[10630]	[12820]		
	106	185	445	700	950	1200	1450		
		107	107	107	106	105	103		
	[32]	[1480]	[3740]	[5980]	[8200]	[10280]			
	121	165	425	675	925	1160			
		123	123	122	121	120			
	[36]	[1140]	[3490]	[5710]	[7930]	[9940]			
	136	130	395	645	895	1125			
		138	138	138	137	135			
	[40]	[850]	[3240]	[5420]	[7640]	[9590]			
	151	95	365	610	865	1085			
		153	153	152	151	150			
	[50]		[2960]	[5160]	[7350]	[9310]			
	189		325	585	830	1050			
			191	190	189	188			
	[60]			[4660]	[7160]	[9070]			
	227			525	810	1025			
				230	229	226			

[7160]
810 } Torque [lb-in]
229 } Nm
Speed RPM

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6000 Series

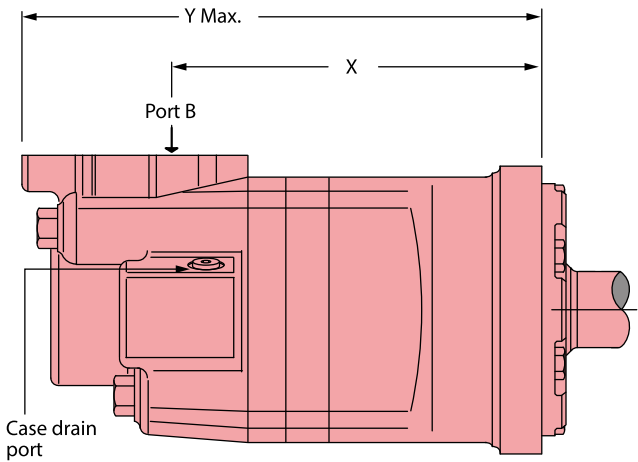
Dimensions

Standard mount

Ports

- 1 5/16 -12 UN-2B SAE O-ring staggered ports (2)
- 7/16 -20 UNF-2B SAE O-ring case drain port (1)
- 4 Bolt 3/4 inch Split flange ports (2)
- 7/16 -20 UNF-2B SAE O-ring case drain port (1)
- G 1 (BSP) Staggered ports (2)
- G 1/4 (BSP) Case drain port (1)
- 1 5/16 UN-2B SAE O-ring staggered ports (2) with shuttle
- 9/16 -20 UNF-2B SAE O-ring case drain port (1)

Standard mount



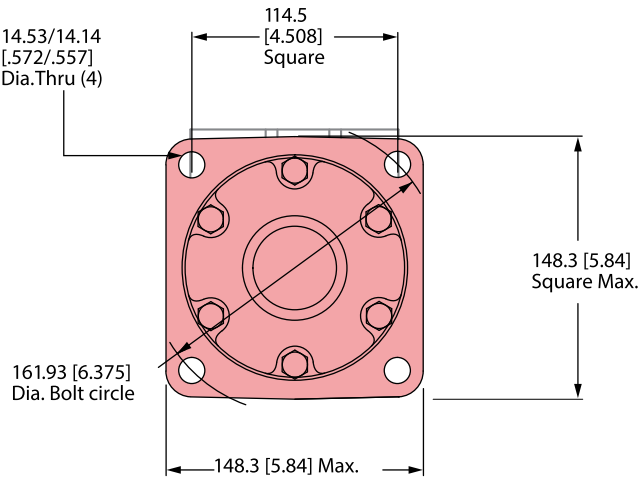
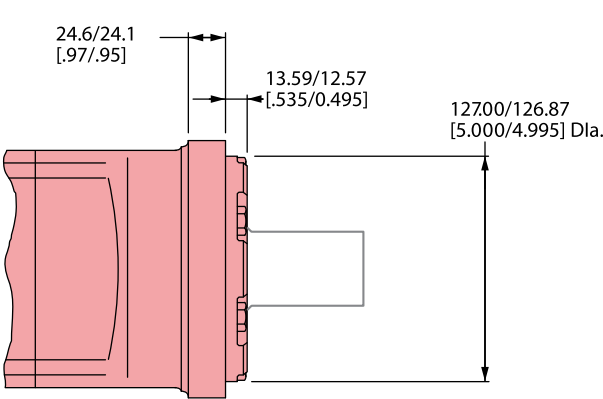
Standard rotation viewed from shaft end

- Port A pressurized — CW
- Port B pressurized — CCW

Standard motor mount dimensions

Displacement cm ³ /r [in ³ /r]	X mm [inch]	Y mm [inch]
195 [11.9]	187.7 [7.39]	270.4 [10.65]
245 [15.0]	193.3 [7.61]	276.0 [10.87]
310 [19.0]	200.7 [7.9]	283.3 [11.15]
390 [23.9]	209.3 [8.24]	292.1 [11.50]
490 [30.0]	220.5 [8.68]	303.2 [11.94]
625 [38.0]	235.0 [9.25]	317.9 [12.52]
735 [45.0]	247.5 [9.74]	330.5 [13.01]
805 [49]	254.89 [10.035]	337.8 [13.30]
985 [60.0]	274.9 [10.82]	357.6 [14.08]

Standard SAE CC Flange



Wheel mount

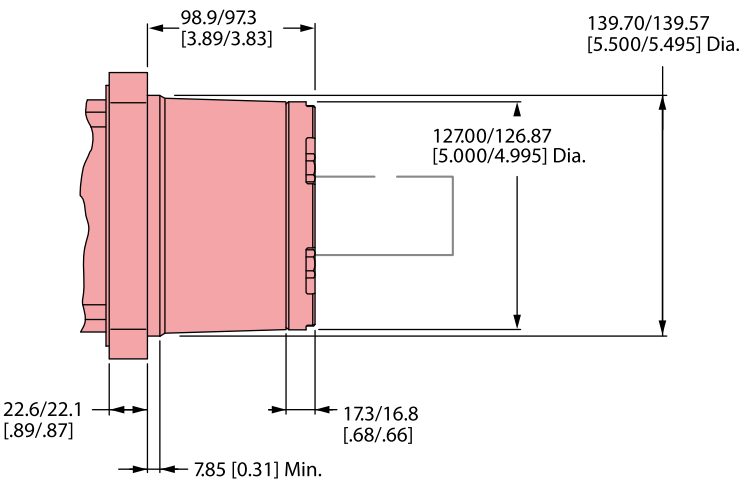
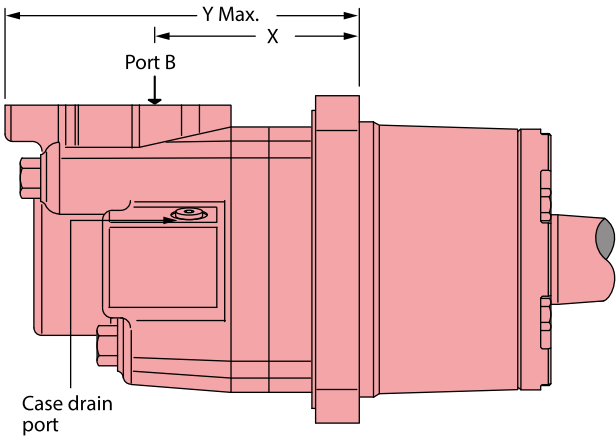
Ports

- 1 5/16 -12 UN-2B SAE O-ring staggered ports (2)
- 7/16 -20 UNF-2B SAE O-ring case drain port (1)
- 4 Bolt 3/4 inch split flange ports (2)
- 7/16 -20 UNF-2B SAE O-ring Case drain port (1)
- G 1 (BSP) Staggered ports (2)
- G 1/4 (BSP) Case drain port (1)
- 1 5/16 UN-2B SAE O-ring staggered ports (2) with shuttle
- 9/16 -20 UNF-2B SAE O-ring case drain port (1)

Standard rotation viewed from shaft end

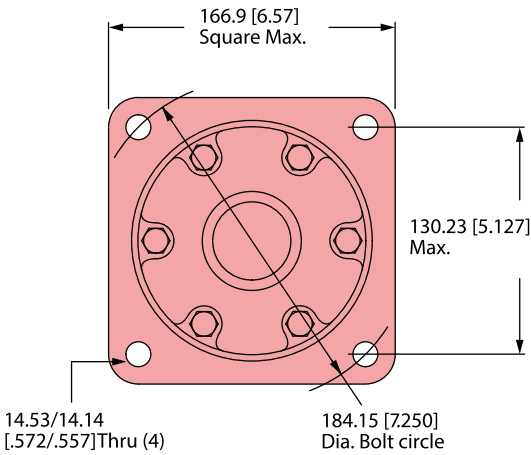
- Port A pressurized — CW
- Port B pressurized — CCW

Wheel mount



Wheel mount motor dimensions

Displacement cm ³ /r [in ³ /r]	X mm [inch]	Y mm [inch]
195 [11.9]	102.6 [4.04]	185.6 [7.31]
245 [15.0]	108.2 [4.26]	191.3 [7.53]
310 [19.0]	115.6 [4.55]	198.5 [7.82]
390 [23.9]	124.5 [4.90]	207.3 [8.16]
490 [30.0]	135.4 [5.33]	218.4 [8.60]
625 [38.0]	150.1 [5.91]	233.1 [9.18]
735 [45]	162.8 [6.41]	245.7 [9.67]
805 [49]	169.9 [6.9]	253 [9.96]
985 [60.0]	189.7 [7.47]	272.8 [10.74]



6000 Series

Dimensions

Global mount (ISO)

Ports

- 1 5/16 -12 UN-2B SAE O-ring staggered ports (2)
- 7/16 -20 UNF-2B SAE O-ring case drain port (1)
- 4 Bolt 3/4 inch Split flange ports (2)
- 7/16 -20 UNF-2B SAE O-ring case drain port (1)
- G 1 (BSP) Staggered ports (2)
- G 1/4 (BSP) Case drain port (1)
- 1 5/16 UN-2B SAE O-ring staggered ports (2) with shuttle
- 9/16 -20 UNF-2B SAE O-ring case drain port (1)

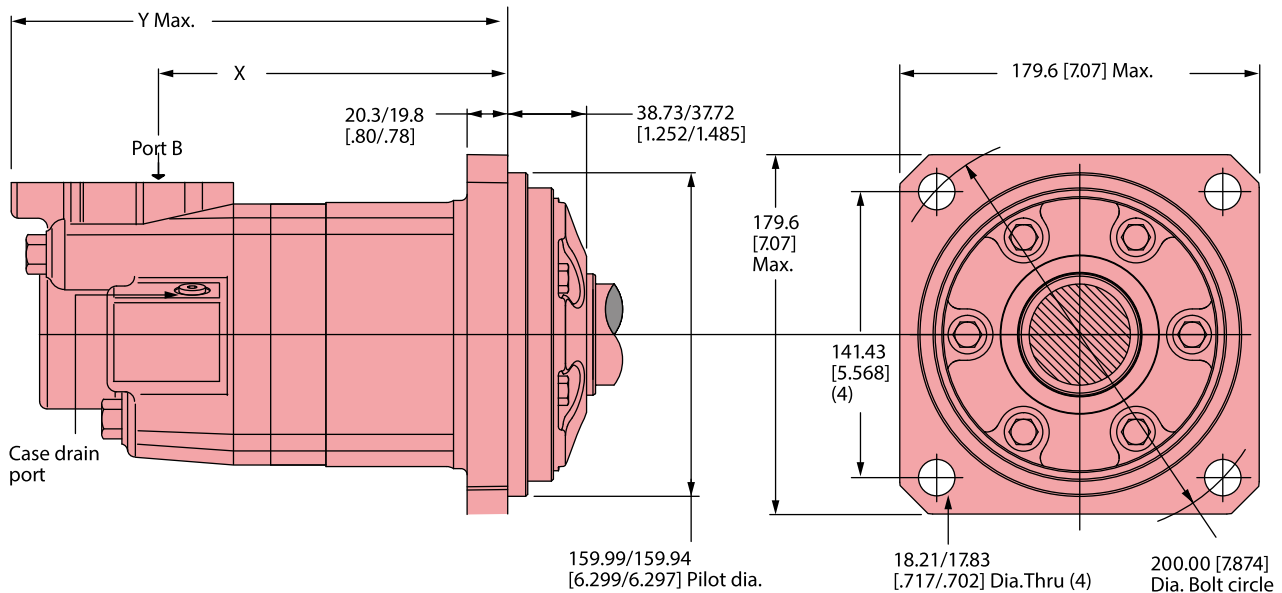
Global mount motor dimensions

Displacement cm ³ /r [in ³ /r]	X mm [inch]	Y mm [inch]
310 [19.0]	182.4 [7.18]	264.9 [10.43]
390 [24.0]	191.0 [7.52]	273.6 [10.77]
490 [30.0]	202.2 [7.96]	284.7 [11.21]
625 [38.0]	216.9 [8.54]	299.5 [11.79]
800 [45.0]	229.4 [9.03]	312.2 [12.29]
800 [49.0]	236.7 [9.32]	319.3 [12.57]
985 [60.0]	256.5 [10.10]	339.1 [13.35]

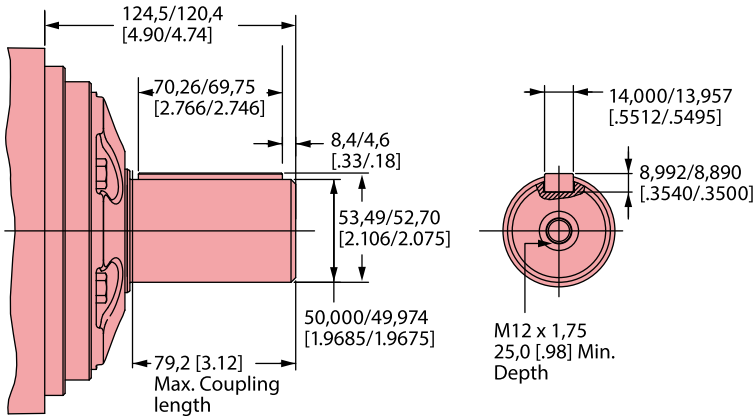
Standard rotation viewed from shaft end

- Port A pressurized — CW
- Port B pressurized — CCW

Global mount (ISO)



50 mm Dia. Straight shaft



Bearingless

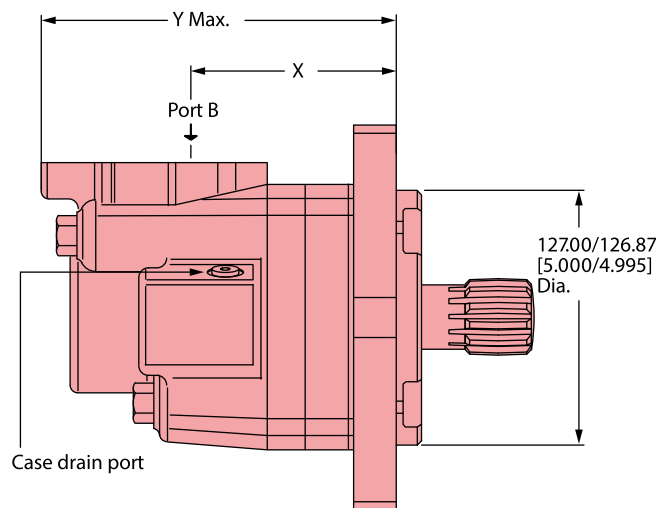
Ports

- 1 5/16 -12 UN-2B SAE O-ring staggered ports (2)
- 7/16 -20 UNF-2B SAE O-ring case drain port (1)
- 4 Bolt 3/4 inch split flange ports (2)
- 7/16 -20 UNF-2B SAE O-ring case drain port (1)
- G 1 (BSP) staggered ports (2)
- G 1/4 (BSP) case drain port (1)
- 1 5/16 UN-2B SAE O-ring staggered ports (2) with shuttle
- 9/16 -20 UNF-2B SAE O-ring case drain port (1)

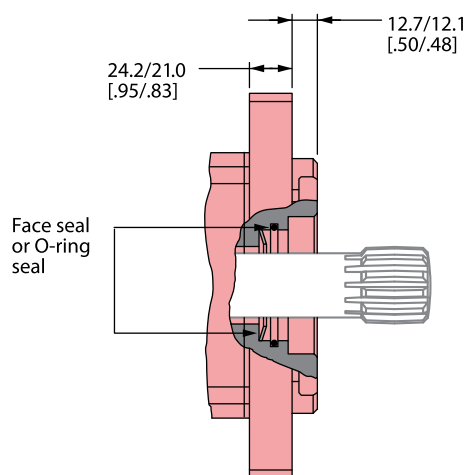
Standard rotation viewed from drive end

- Port A pressurized — CW
- Port B pressurized — CCW

Bearingless

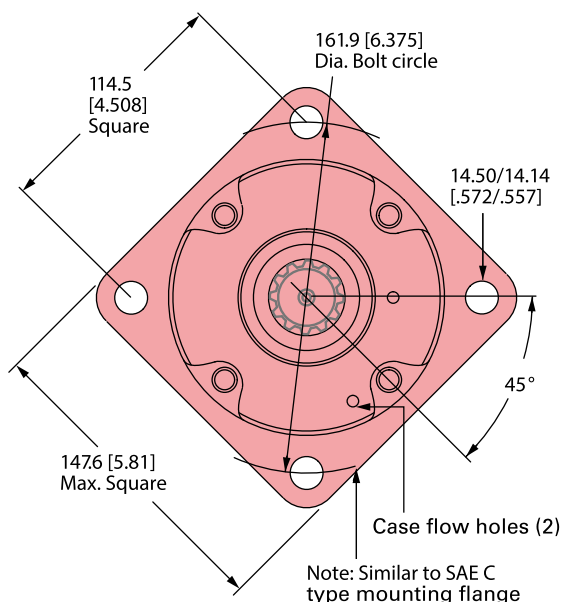


For 6000 bearingless motor application information, contact your Danfoss representative (mating coupling blanks available from Danfoss).



Bearingless motor dimensions

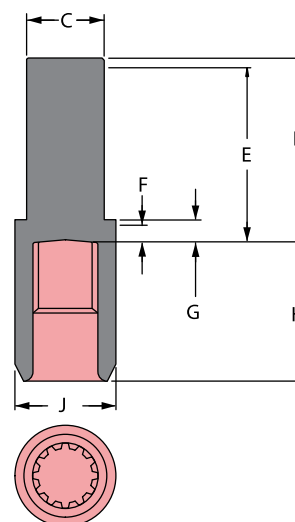
Displacement cm ³ /r [in ³ /r]	X mm [inch]	Y mm [inch]
195 [11.9]	105.4 [4.15]	188.0 [7.40]
245 [15.0]	111.0 [4.37]	193.5 [7.62]
310 [19.0]	118.4 [4.66]	200.7 [7.90]
390 [23.9]	127.3 [5.01]	209.6 [8.25]
490 [30.0]	138.2 [5.44]	220.7 [8.69]
625 [38.0]	152.9 [6.02]	235.5 [9.27]
735 [45]	166.1 [6.54]	248.2 [9.77]
805 [49]	172.85 [6.805]	255.3 [10.05]
985 [60.0]	192.8 [7.59]	275.1 [10.83]



Bearingless blank dimensions

- C 47.2 [1.86] Dia.
- D 112.5 [4.39] Max.
- E 106.4 [4.19] Full form dia.
- F 6.9 [0.27] Min. Full form dia.
- G 10.2 [0.40] Max.
- H 86.1 [3.39] Max.
- J 66.5 [2.62] Dia.

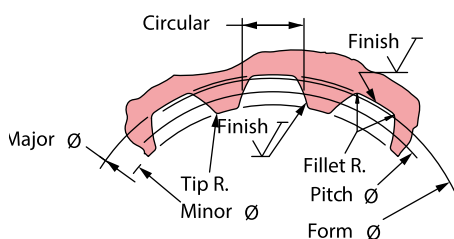
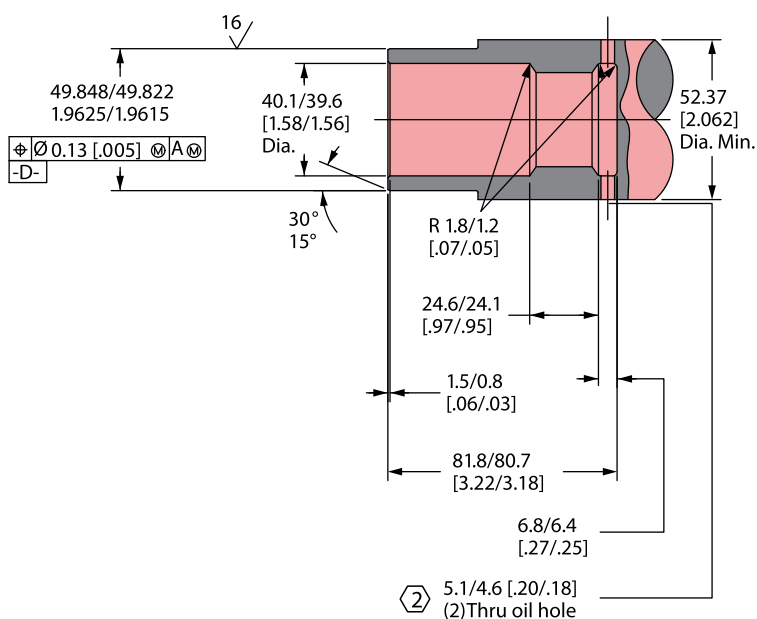
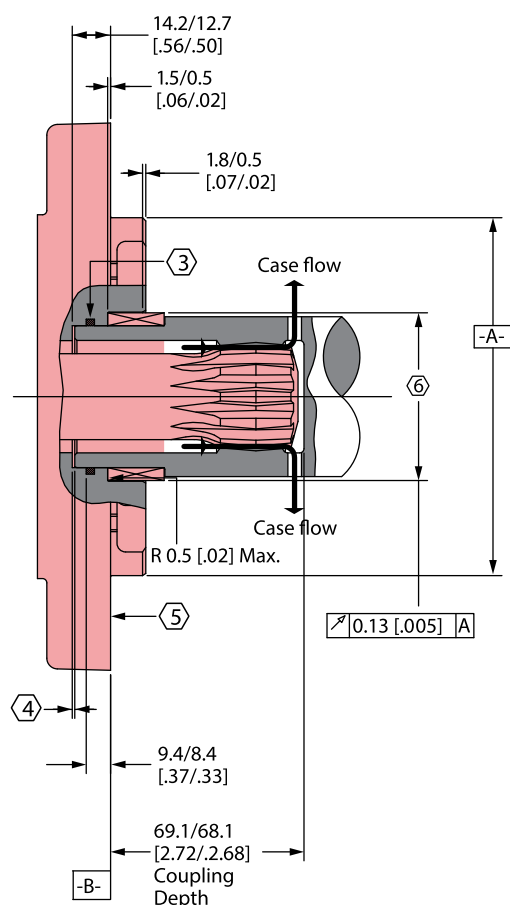
Mating coupling blank Danfoss Part no. 12778-002



6000 Series

Installation information

Bearingless



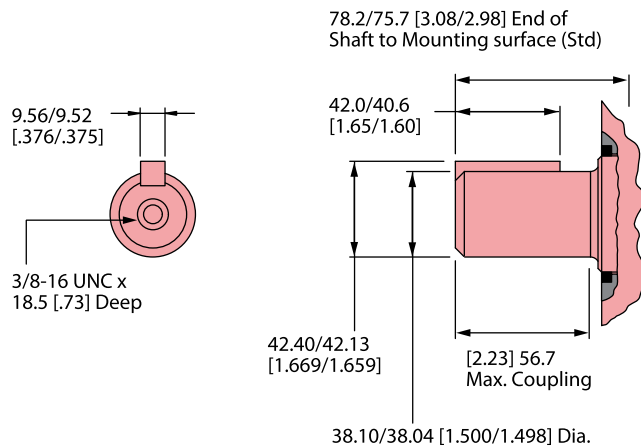
1. Internal spline in mating part to be as follows: Material to be ASTM A304, 8620H. Carbonize to a hardness of 60-64 HRc with case depth (to 50HRc) of 0.076 - 1.02 [.030 - .040] (dimensions apply after heat treat).
2. Mating part to have critical dimensions as shown. Oil holes must be provided and open 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. Similar to SAE "C" Four Bolt Flange.
6. Counterbore designed to adapt to a standard sleeve bearing 50.010 - 50.038 [1.9689 - 1.9700] ID by 60.051 - 60.079 [2.3642 - 2.3653] O.D. (Oilite bronze sleeve bearing).

Spline pitch	8.5/17
Pressure angle	30°
Number of teeth	12
Class of fit	Ref. 5
Type of fit	Side
Pitch diameter	Ref. 35.858823 [1.4117647]
Base diameter	Ref. 31.054652 [1.222624] 0.21 [.008] D
Major diameter	39.17 [1.542] Max. 38.97 [1.534] Min.
Min. Minor diameter	33.30 - 33.48 [1.311 - 1.318]
Form diameter, Min	38.33 [1.509]
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 -0.025 [+0.0000 -0.0010]
Total index variation	0.038 [.0015]
Lead variation	0.038 [.0015]
Circular space width:	
Maximum actual	5.898 [.2322]
Minimum effective	5.804 [.2285]
Maximum effective	Ref. 5.857 [.2306]
Minimum actual	Ref. 5.834 [.2297]
Dimension between two pins	Ref. 26.929 - 27.084 [1.0602 - 1.0663]
Pin diameter	6.223 [.2450] Pins to Have 4.0 [.160]
Wide flat for root clearance	

Shafts splined

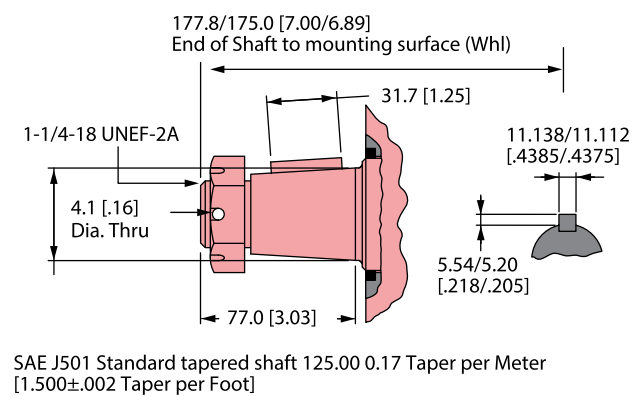
Code: 01 1 1/2 Inch Straight

1328 [11750] Max. Torque Nm [lb-in]



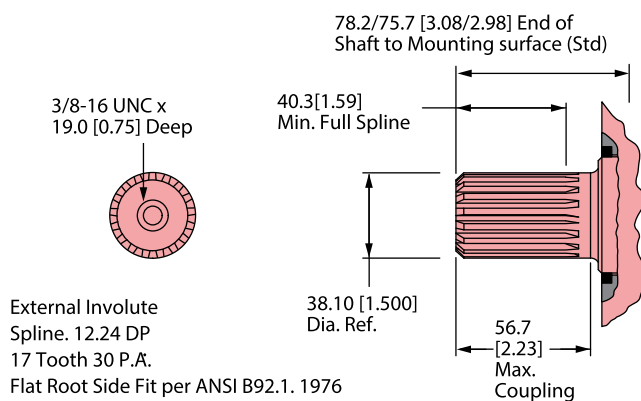
Code: 02 1 3/4 Inch tapered

2107 [18650] Max. Torque Nm [lb-in]

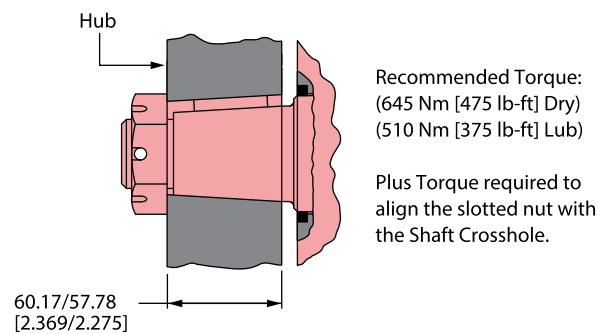


Code: 03 1 1/2 Inch 17 Tooth splined

1328 [11750] Max. Torque Nm [lb-in]

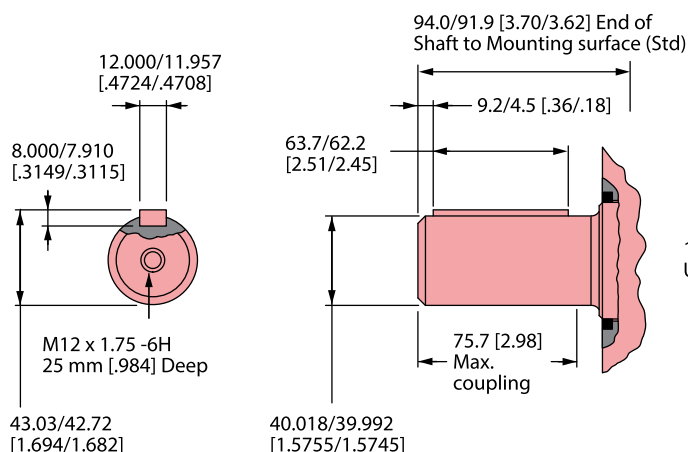


Tapered shaft hub data

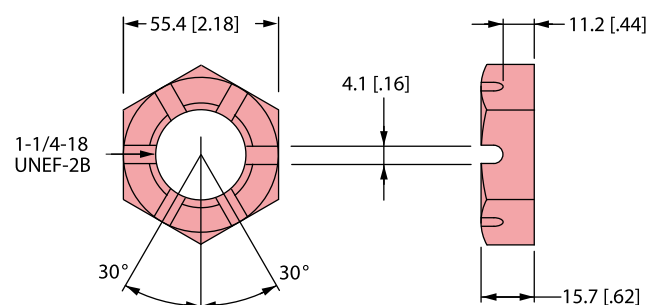


Code: 04 40 mm Straight

1328 [11750] Max. Torque Nm [lb-in]



Slotted hexagon nut



6000 Series

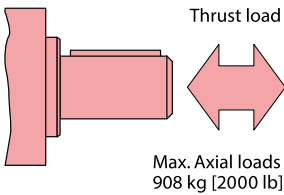
Shaft side load capacity

These curves indicate the radial load capacity on the motor shaft(s) 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 109 kg/7 Bar [241 lb/100 PSI].

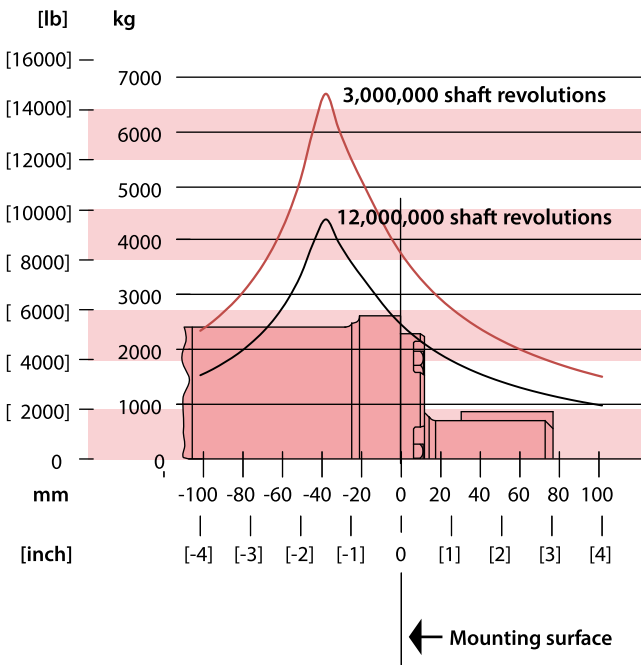
Each curve is based on B10 bearing life (2000 hours of 12,000,000 shaft revolutions at 100 RPM) at rated output torque.

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.

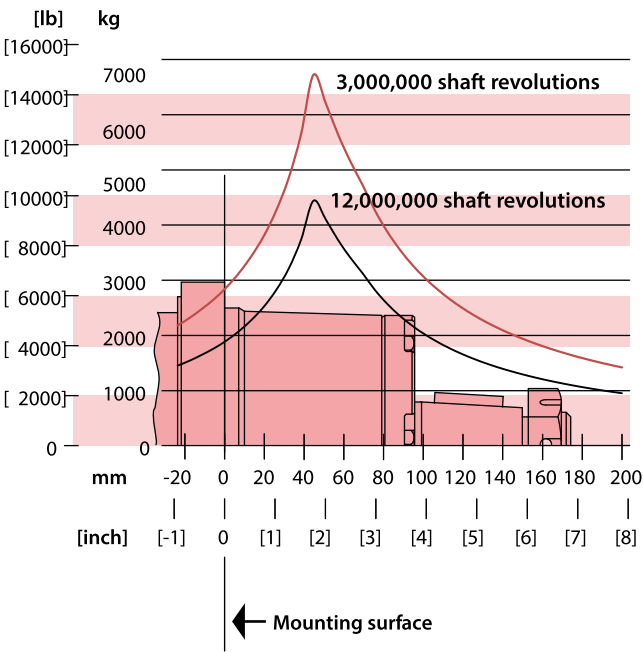


RPM	Multiplication factor
50	1.23
100	1.00
200	0.81
300	0.72
400	0.66
500	0.62
600	0.58
700	0.56
800	0.54

Standard motor straight and splined shafts



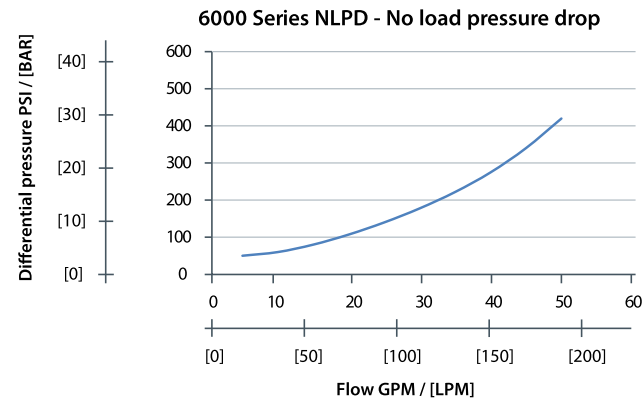
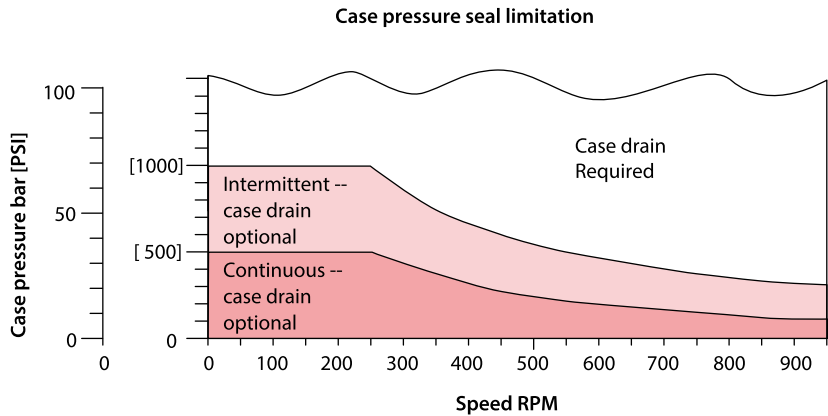
Wheel motor tapered shaft



Char-Lynn 6000 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.



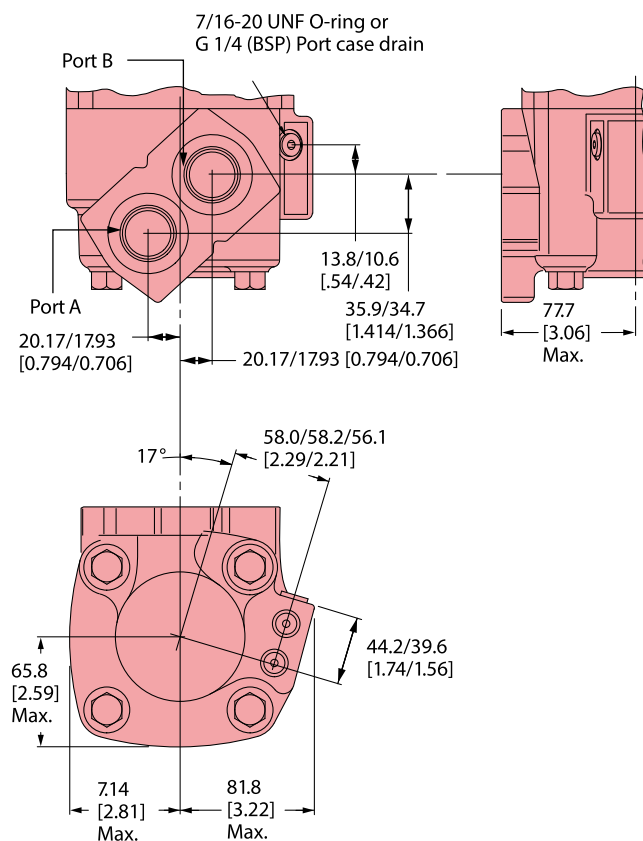
6000 Series

Dimensions

Ports

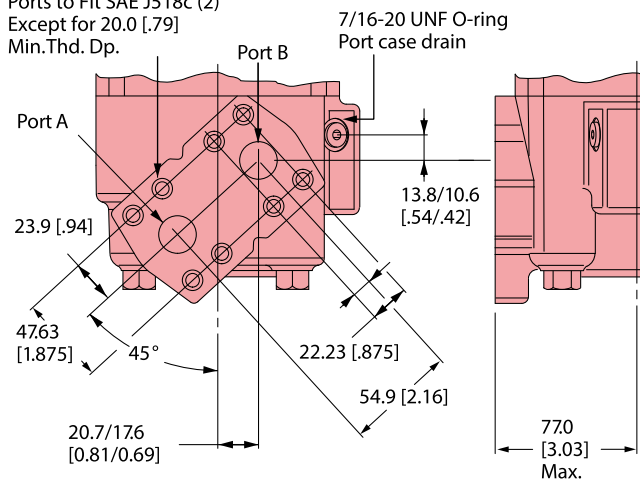
Code: AA 1-5/16-12 O-ring ports

Code: AC G 1 (BSP) ports

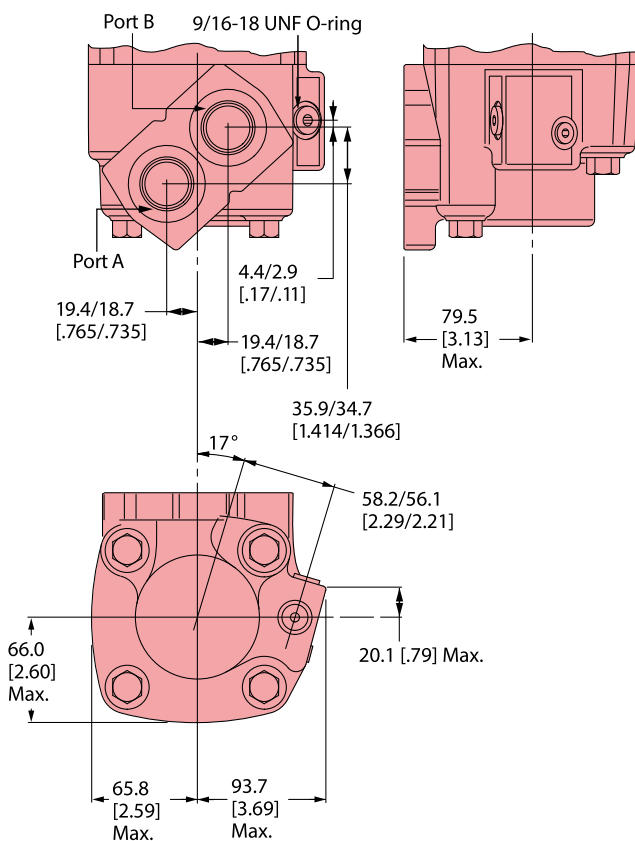


Code: AB 4 Bolt 3/4 Inch split flange

Ports to Fit SAE J518c (2)
Except for 20.0 [.79]
Min.Thd. Dp.



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



6000 Series

Product numbers

Note: For 6000 Series Motors with a configuration Not Shown in the charts above: Use model code number system on the next page to specify product in detail.

Use digit prefix — 112-, 113-, or 114 - plus four digit number from charts for complete product number— Example 114-1047.

Orders will not be accepted without three digit prefix.

Mounting	Shaft	Port size	Displ. cm ³ /r [in ³ /r] / product number	195 [11.9]	245 [15.0]	310 [19.0]	390 [23.9]	490 [30.0]	625 [38.0]	735* [45.0]	805* [49.0]	985 [60.0]
Standard	1 1/2 inch Straight	1 5/16 O-ring	112-1064	-1065	-1066	-1067	-1068	-1107	-1145	—	—	-1069
	40 mm Straight	G 1 (BSP)	112-1094	-1095	-1096	-1097	-1098	—	—	—	—	-1099
	1 1/2 Inch	1 5/16 O-ring	112-1058	-1059	-1060	-1061	-1062	-1109	-1163	—	—	-1063
	17 T Splined	G 1 (BSP)	112-1088	-1089	-1090	-1091	-1092	—	—	—	—	-1093
Wheel motor	40 mm Straight	G 1 (BSP)	113-1082	-1083	-1084	-1085	-1086	-1100	—	—	—	-1087
	1-3/4 Inch Tapered	1 5/16 O-ring	113-1070	-1071	-1072	-1073	-1074	-1093	—	—	—	-1075
Bearingless		1 5/16 O-ring	114-1031	-1032	-1033	-1034	-1035	-1055	—	—	—	-1036
		G 1 (BSP)	114-1043	-1044	-1045	-1046	-1047	—	—	—	—	-1048

*New release

114-1047

Mounting type - Standard (Code AH), 4 Bolt:

- 160.0 [6.30] Pilot Dia.
- 18.01 [.709] Dia. Mounting holes
- 200.0 [7.87] Dia. Bolt circle

Use digit prefix — 112- plus four digit number from charts for complete product number— Example 112-1215.

Orders will not be accepted without three digit prefix.

C-5

Output shaft - straight (code 12)

Ports - G1 (BSP) staggered G 1/4 case drain Code: (AC & 03)

Paint - Low gloss black (code AA)

Mounting	Shaft	Port size	Displ. cm ³ /r [in ³ /r] / product number	310 [19.0]	390 [23.9]	490 [30.0]	625 [38.0]	735 [45.0]	805 [49.0]	985 [60.0]
Standard	50 mm Straight	G 1 (BSP)	112-1217	-1218	-1215	-1216	-1247	-1219	-1220	

112-1215

6000 Series

Model code

The following 30-digit coding system has been developed to identify all of the configuration options for the 6000 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	06		***			**		**		**		**		*	00		*	*	00		00		**		**		00		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

1	Product
M	Motor

2	3	Series
06		6000 Series

4	5	6	Displacement cm³/r [in³/r]
120			195.8 [11.95]
150			246.5 [15.04]
190			312.0 [19.04]
239			391.7 [23.90]
300			491.4 [29.99]
381			624.2 [38.09]
450			737.4 [45.00]
490			803.4 [49.03]
600			982.7 [59.97]

7	8	Mounting type
AA		Bearingless, 4 Bolt: 127,0 [5.00] Pilot Dia. and 14,35 [.565] Dia. Holes 162,0 [6.38] Dia. Bolt circle
AB		Standard, 4 bolt (SAE CC): 127,0 [5.00] pilot Dia. and 14,35 [.565] Dia. Holes on 162,0 [6.38] Dia. B.C.
AC		Wheel, 4 Bolt 139,7 [5.50] Pilot Dia. and 14,35 [.565] Dia. Holes on 184,2 [7.25] Dia. Bolt circle
AH		Standard, 4 Bolt: 160.0 [6.30] pilot Dia. 18,01 [.709] Dia. Holes on 200.0 [7.87] Dia. Bolt circle.
AL		Wheel, 4 Bolt: 160.0 [6.30] Pilot Dia. with 5.8 [.23] pilot length and 18.00 [.709] Dia. Holes on 200.0 [7.874] Bolt circle (ISO compatible)

9	10	Output shaft description
00		None (Bearingless)
01		38,10 [1.50] Dia. Straight shaft with .375-16 UNC-2B Thread in End, 9,52 [.375] Sq x 41,28 [1.625] straight key
02		44,45 [1.75] Dia. .125:1 tapered shaft per SAE J501 with 1.25-18 UNEF-2A threaded shaft end, 11,11 [.4375] Sq. x 31,8 [1.25] straight key
03		38,10 [1.50] Dia. Flat root side fit, 17 tooth, 12/24 DP 30 DEG. Involute spline with .375-16 UNC-2B thread in end 40.4 [1.59] minimum full spline length
04		40,00 [1.575] Dia. Straight shaft with M12 x 1.75-6H thread in end, 12W x 8H x 63L [.472W x .313H x 2.480L] Key
12		49,99 [1.968] Dia. Straight shaft with M12 x 1.75-6H thread in End, 14W x 9H x 70L [.550W x .354H x 2.756L] Key

11	12	Ports description
AA		1.3125-12 UNF-2B SAE O-Ring ports--staggered ports
AB		SAE 19.05 [.750] Dia. 4-Bolt split flange - staggered ports
AC		G 1 Staggered Ports
AG		.750-16 UNF-2B SAE O-ring ports - staggered

13	14	Case flow
00		None
02		.4375-20 UNF-2B SAE O-Ring port with check valve
03		G 1/4 BSP straight thread port with check valve
06		.5625-18 UNF-2B SAE O-Ring port with shuttle valve

15	Low pressure relief
0	None
A	Set at 4.5 [65 lbf/in ²]
B	Set at 15.2 [220 lbf/in ²]

16	17	Pressure/flow option
00		None

18	Geroler option
0	Standard
2	Tight fitting

19	Seal option
0	Standard
1	Viton
2	Viton Shaft Seal
3	Seal Guard
5	Heavy Duty Seal Guard
6	Extreme Duty Seal Guard

20	21	Accessories
00		None

22	23	Special features (hardware)
00		None

24	25	Special features (assembly)
00		None
AA		Reverse rotation

6000 Series

Model code

M	06		***			**		**		**		**		*	00		*	*	00		00		**		**		00		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

26	27	Paint/Packaging
	00	No Paint, Individual box
	AA	Low gloss black primer
	AD	No Paint, Bulk box option
	AE	Low gloss black primer, Bulk box option
	AK	Epoxy coated black
28	29	Customer ID
	00	None
30		Design code
	F	Sixth