Description

The T Series features the latest innovations in Geroler technology. These innovations include optimized Geroler geometry with lower drive running angle for improved life and improved low speed performance. In addition, the improved housing and smaller diameter end cap results in increased envelope rigidity which improves efficiency under high pressure loads. All of these innovations come together to make the T Series motor the highest performing motor in its class.



Specifications

Geroler element	11 Displacements
Flow l/min [GPM]	61[16] Continuous***
	75 [20] Intermittent**
Speed	Up to 1021 RPM
Pressure bar [PSI]	177[2565] Cont.***
	202[2930] Inter.**
Torque Nm [lb-in]	441 [3905] Cont.***
	486 [4300] Inter.**

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

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

Features:

- Constant clearance Geroler geometry
- Optimized drive system with reduced running angle
- Three-pressure zone design (ability to reduce case pressure)
- Variety of displacements, shafts and mounts
- Special options to meet customer needs

Benefits:

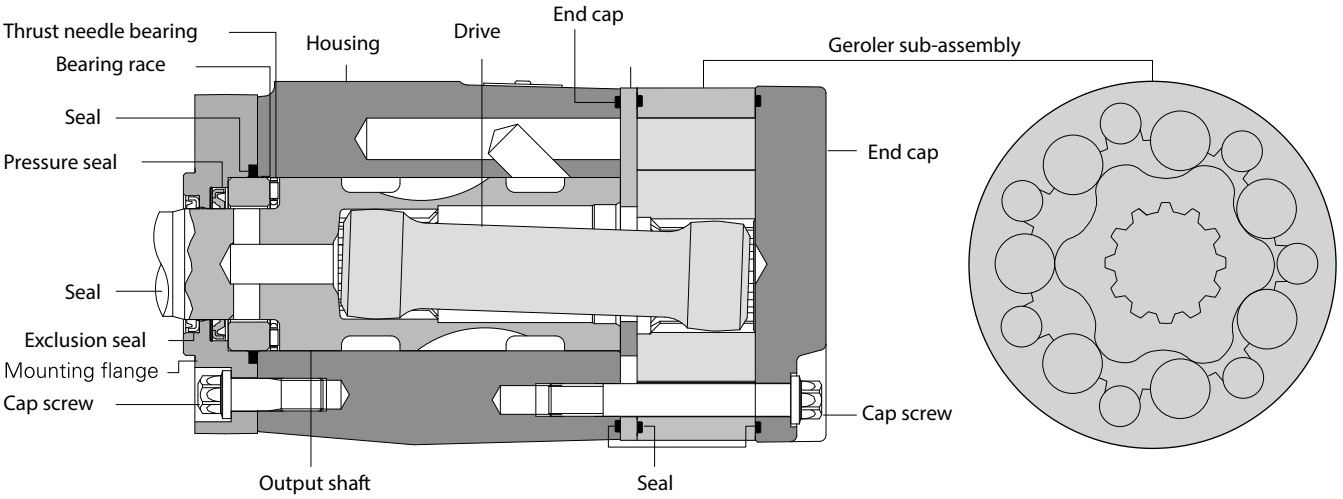
- High efficiency
- Smooth low-speed operation
- Extended motor life (especially at low speed conditions)
- Design flexibility
- Ability to optimize designs for your application needs
- Extends leak-free performance

Applications:

- Agricultural augers, harvesters, seeders
- Car wash brushes
- Food processing
- Railroad maintenance equipment
- Machine tools
- Conveyors
- Industrial sweepers and floor polishers
- Saw mills
- Turf equipment
- Concrete and asphalt equipment
- Skid steer attachments

T Series (158-)

Specifications



B-4

Specification data — T Motors

Displ. cm ³/r [in ³/r]		36 [2.2]	49 [3.0]	66 [4.0]	80 [4.9]	102 [6.2]	131 [8.0]	157 [9.6]	195 [11.9]	244 [14.9]	306 [18.7]	370 [22.6]
Max. speed (RPM) @continuous flow		1021	906	898	740	586	454	379	306	244	195	162
Flow LPM [GPM]	Continuous	38 [10]	45 [12]	61 [16]	61 [16]	61 [16]	61 [16]	61 [16]	61 [16]	61 [16]	61 [16]	61 [16]
	Intermittent	38 [10]	57 [15]	76 [20]	76 [20]	76 [20]	76 [20]	76 [20]	76 [20]	76 [20]	76 [20]	76 [20]
Torque Nm [lb-in]	Continuous	87 [766]	119 [1055]	157 [1389]	198 [1749]	248 [2192]	315 [2785]	349 [3091]	359 [3178]	410 [3633]	441 [3905]	431 [3811]
	Intermittent	99 [872]	135 [1197]	178 [1578]	225 [1992]	280 [2478]	353 [3123]	410 [3631]	445 [3936]	485 [4290]	483 [4275]	486 [4300]
Pressure Δ bar [ΔPSI]	Continuous	177 [2565]	177 [2565]	177 [2565]	177 [2565]	177 [2565]	177 [2565]	167 [2415]	138 [2000]	127 [1850]	110 [1600]	90 [1300]
	Intermittent	202 [2930]	202 [2930]	202 [2930]	202 [2930]	202 [2930]	202 [2930]	202 [2930]	177 [2565]	155 [2250]	124 [1800]	103 [1500]
Weight kg [lbs]		5.2 [11.5]	5.3 [11.7]	5.5 [12.1]	5.6 [12.3]	5.7 [12.6]	5.9 [13.0]	6.1 [13.4]	6.4 [14.1]	6.8 [15.0]	7.2 [15.9]	7.7 [17.0]

Maximum case pressure: See case pressure seal limitation graph.

*See shaft torque ratings for limitations.

A simultaneous maximum torque and maximum speed NOT recommended.

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:
202 Bar [2900 PSI] without regard to Bar [ΔPSI] and/ or back pressure ratings or combination thereof. 6B splined or Tapered shafts are recommended whenever operation above 282 NM [2500 lb-in] of torque, especially for those applications subject to frequent reversals.

Δ Pressure:
The true Δ bar [Δ PSI] between inlet port and outlet port

Continuous rating:
Motor may be run continuously at these ratings

Intermittent operation:
10% 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, level 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)

Motors run with high efficiency in all areas designated with a number for torque and speed, however for best motor life select a motor to run with a torque and speed range printed 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

Intermittent

Δ Pressure bar [PSI]
36 cm ³/r [2.2 in ³/r]

Flow LPM [GPM]	[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1800]	[2000]	[2200]	[2250]	[2565] Max. Continuous	[2750] Max. Intermittent	[2930]
	14	28	41	55	69	83	97	110	124	138	152	155	177	190	202
[2]	[50]	[110]	[172]	[233]	[291]	[348]	[401]	[455]	[501]	[546]	[590]	[596]	[630]	[635]	[673]
	6	12	19	26	33	39	45	51	57	62	67	67	71	72	76
8	209	203	197	191	189	181	167	164	153	139	122	116	87	64	49
[4]	[50]	[109]	[172]	[233]	[296]	[355]	[414]	[475]	[534]	[584]	[646]	[659]	[741]	[786]	[836]
	6	12	19	26	33	40	47	54	60	66	73	74	89	283	94
15	415	411	398	388	384	381	368	357	354	323	304	302	289	89	259
[6]	[43]	[108]	[171]	[233]	[298]	[361]	[420]	[479]	[538]	[595]	[657]	[672]	[766]	[824]	[872]
	5	12	19	26	34	41	47	54	61	67	74	76	87	93	99
23	617	613	602	595	585	570	563	558	534	520	504	496	456	425	409
[8]	[39]	[101]	[164]	[226]	[292]	[354]	[415]	[475]	[538]	[592]	[656]	[670]	[764]	[819]	[870]
	4	11	19	26	33	40	47	54	61	67	74	76	86	92	98
30	821	815	803	797	784	774	758	747	732	707	688	680	638	607	585
[10]	[30]	[93]	[155]	[214]	[278]	[342]	[406]	[473]	[532]	[590]	[650]	[668]	[756]	[805]	[861]
	3	11	18	24	31	39	46	53	60	67	73	75	85	91	97
38	1021	1014	1002	999	981	965	953	937	921	903	880	873	830	799	778

Max. Continuous

Max. Intermittent

[93] 11 1014 } Torque [lb-in] Nm Speed RPM

Δ Pressure bar [PSI]
49 cm ³/r [3.0 in ³/r]

Flow LPM [GPM]	[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1800]	[2000]	[2200]	[2250]	2565 Max. Continuous	[2750] Max. Intermittent	2930
	14	28	41	55	69	83	97	110	124	138	152	155	177	190	202
[2]	[73]	[161]	[245]	[327]	[408]	[486]	[563]	[641]	[710]	[786]	[849]	[866]	968	[1023]	1079
	8	18	28	37	46	55	64	72	80	89	96	98	109	116	122
8	152	152	148	147	142	141	134	124	115	109	95	92	72	58	44
[4]	[72]	[160]	[246]	[329]	[416]	[500]	[584]	[668]	[746]	[825]	[901]	[922]	1048	[1123]	1188
	8	18	28	37	47	56	66	75	84	93	102	104	118	127	134
15	303	298	294	290	276	273	265	261	245	243	235	228	187	152	149
[6]	[58]	[148]	[234]	[326]	[413]	[500]	[583]	[663]	[746]	[827]	[909]	[928]	1055	[1131]	1197
	7	17	26	37	47	56	66	75	84	93	103	105	119	128	135
23	461	450	445	438	434	421	419	410	407	389	376	373	356	344	332
[8]	[44]	[127]	[216]	[306]	[392]	[480]	[566]	[652]	[734]	[815]	[897]	[917]	1048	[1125]	1195
	5	14	24	35	44	54	64	74	83	92	101	104	118	127	135
30	607	603	600	590	583	576	564	554	545	536	522	520	508	503	488
[10]	[39]	[128]	[213]	[302]	[391]	[477]	[562]	[647]	[731]	[815]	[897]	[917]	1041	[1121]	1191
	4	14	24	34	44	54	63	73	83	92	101	104	118	127	135
38	755	750	745	738	732	719	713	702	696	682	663	661	646	638	621
[12]	[33]	[119]	[203]	[291]	[378]	[464]	[551]	[635]	[719]	[802]	[883]	[900]	1028	[1061]	1163
	4	13	23	33	43	52	62	72	81	91	100	102	116	120	131
45	906	902	895	883	875	862	859	844	835	819	806	804	792	788	775
[15]	[26]	[86]	[172]	[256]	[342]	[430]	[505]	[591]	[674]	[745]	[830]	[851]	980		
	3	10	19	29	39	49	57	67	76	84	94	96	111		
57	1132	1124	1113	1115	1106	1106	1098	1093	1079	1070	1058	1056	1039		

Max. Continuous

Max. Intermittent

T Series (158-, 185-)

Performance data

Motors run with high efficiency in all areas designated with a number for torque and speed, however for best motor life select a motor to run with a torque and speed range printed 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 Intermittent

B-4

Δ Pressure bar [PSI]
66 cm ³/r [4.0 in ³/r]

Flow LPM [GPM]	[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1800]	[2000]	[2200]	[2250]	[2565] Max. Continuous	[2750] Max. Intermittent	[2930]
	14	28	41	55	69	83	97	110	124	138	152	155	177	190	202
[2]	[78]	[191]	[303]	[414]	[522]	[625]	[706]	[804]	[898]	[991]	[1081]	[1103]	[1237]	[1318]	[1384]
	9	22	34	47	59	71	80	91	101	112	122	125	140	149	156
8	114	111	110	107	105	101	96	92	87	81	73	72	58	48	41
[4]	[97]	[209]	[325]	[441]	[548]	[657]	[766]	[873]	[972]	[1077]	[1181]	[1205]	[1354]	[1437]	[1524]
	11	24	37	50	62	74	87	99	110	122	133	136	153	162	172
15	229	229	217	216	212	205	194	190	186	183	181	178	172	170	166
[6]	[79]	[192]	[309]	[426]	[534]	[649]	[760]	[874]	[984]	[1090]	[1190]	[1218]	[1389]	[1488]	[1578]
	9	22	35	48	60	73	86	99	111	123	134	138	157	168	178
23	344	343	335	334	321	320	319	315	291	288	279	276	270	270	255
[8]	[75]	[191]	[304]	[419]	[532]	[645]	[759]	[871]	[982]	[1092]	[1197]	[1222]	[1379]	[1458]	[1557]
	8	22	34	47	60	73	86	98	111	123	135	138	156	165	176
30	456	451	447	442	431	426	419	415	412	401	391	386	361	339	334
[10]	[49]	[163]	[283]	[398]	[509]	[623]	[742]	[856]	[971]	[1080]	[1186]	[1209]	[1371]	[1425]	[1528]
	6	18	32	45	58	70	84	97	110	122	134	137	155	161	173
38	569	565	560	552	547	541	532	525	512	504	498	496	482	475	464
[12]	[24]	[156]	[270]	[385]	[502]	[614]	[729]	[845]	[963]	[1067]	[1182]	[1209]	[1373]	[1472]	[1570]
	3	18	31	43	57	69	82	95	109	121	134	137	155	166	177
45	681	678	671	665	658	651	641	635	623	612	604	601	582	571	559
[14]	[19]	[143]	[261]	[370]	[485]	[602]	[718]	[837]	[948]	[1064]	[1175]	[1199]	[1359]	[1436]	[1542]
	2	16	29	42	55	68	81	95	107	120	133	135	154	162	174
53	793	788	787	778	771	762	753	746	733	723	715	711	690	677	665
[15]	[13]	[120]	[236]	[352]	[471]	[590]	[707]	[823]	[939]	[1052]	[1165]	[1192]	[1351]	[1462]	[1567]
	1	14	27	40	53	67	80	93	106	119	132	135	153	165	177
57	849	844	839	832	826	819	806	800	786	779	770	766	742	725	714
[16]		[122]	[234]	[347]	[464]	[579]	[695]	[812]	[927]	[1041]	[1152]	[1179]	[1346]	[1451]	[1551]
		14	26	39	52	65	79	92	105	118	130	133	152	164	175
Max. Continuous 61		898	894	888	880	870	863	855	842	831	820	815	793	774	757
[18]		[107]	[215]	[326]	[442]	[555]	[669]	[786]	[900]	[1016]	[1123]	[1152]	[1327]		
		12	24	37	50	63	76	89	102	115	127	130	150		
68		1006	1003	998	988	976	975	965	952	940	924	919	896		
[20]		[76]	[182]	[290]	[408]	[520]	[623]	[737]	[845]	[960]	[1075]	[1104]	[1304]		
		9	21	33	46	59	70	83	95	108	121	125	147		
Max. Intermittent 76		1115	1115	1109	1103	1088	1086	1075	1064	1052	1035	1030	1003		

Motors run with high efficiency in all areas designated with a number for torque and speed, however for best motor life select a motor to run with a torque and speed range printed 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

Intermittent

Δ Pressure bar [PSI]
80 cm ³/r [4.9 in ³/r]

Flow LPM [GPM]

	[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1800]	[2000]	[2200]	[2250]	[2565] **Max. Continuous**	[2750] **Max. Intermittent**	[2930]
	14	28	41	55	69	83	97	110	124	138	152	155	177	190	202
[2]	[123]	[265]	[405]	[544]	[680]	[804]	[934]	[1052]	[1181]	[1079]	[937]	[895]			
	14	30	46	61	77	91	106	119	133	122	106	101			
8	93	90	86	83	80	75	70	63	57	43	24	20			
[4]	[120]	[264]	[406]	[551]	[689]	[828]	[965]	[1101]	[1237]	[1369]	[1505]	[1537]	[1740]	[1857]	[1973]
	14	30	46	62	78	94	109	124	140	155	170	174	197	210	223
15	187	185	183	179	175	171	166	162	156	150	142	140	129	121	113
[6]	[113]	[255]	[398]	[542]	[682]	[823]	[963]	[1101]	[1239]	[1373]	[1508]	[1541]	[1749]	[1868]	[1986]
	13	29	45	61	77	93	109	124	140	155	170	174	198	211	224
23	279	275	271	267	265	258	253	248	240	232	223	221	207	198	188
[8]	[99]	[243]	[386]	[528]	[669]	[812]	[954]	[1094]	[1233]	[1368]	[1503]	[1537]	[1749]	[1872]	[1992]
	11	27	44	60	76	92	108	124	139	155	170	174	198	212	225
30	372	367	364	359	354	351	343	338	333	324	315	313	299	289	280
[10]	[84]	[228]	[371]	[514]	[655]	[798]	[941]	[1080]	[1219]	[1357]	[1496]	[1530]	[1745]	[1870]	[1992]
	9	26	42	58	74	90	106	122	138	153	169	173	197	211	225
38	463	460	456	450	446	441	435	428	420	412	403	399	381	368	358
[12]	[63]	[209]	[354]	[498]	[638]	[782]	[926]	[1067]	[1208]	[1346]	[1484]	[1520]	[1737]	[1864]	[1987]
	7	24	40	56	72	88	105	121	136	152	168	172	196	211	225
45	557	552	547	543	537	530	523	515	509	500	489	487	476	470	459
[14]	[55]	[185]	[331]	[476]	[620]	[762]	[904]	[1046]	[1188]	[1327]	[1467]	[1502]	[1718]	[1842]	[1969]
	6	21	37	54	70	86	102	118	134	150	166	170	194	208	222
53	649	646	642	635	630	622	616	609	599	592	581	578	561	550	539
[15]	[51]	[176]	[316]	[463]	[609]	[748]	[891]	[1037]	[1177]	[1316]	[1457]	[1491]	[1715]	[1844]	[1960]
	6	20	36	52	69	85	101	117	133	149	165	168	194	208	221
57	694	691	687	680	673	668	660	650	642	634	622	619	606	598	591
[16]	[38]	[171]	[315]	[462]	[609]	[748]	[884]	[1029]	[1172]	[1317]	[1447]	[1487]	[1701]	[1822]	[1948]
	4	19	36	52	69	85	100	116	132	149	163	168	192	206	220
Max. Continuous 61	740	735	731	721	717	707	699	697	681	672	668	665	657	650	643
[20]		[160]	[305]	[455]	[578]	[737]	[857]	[968]	[1144]	[1277]	[1412]	[1446]	[1668]		
		18	34	51	65	83	97	109	129	144	160	163	188		
Max. Intermittent 76		916	910	893	893	875	866	877	843	833	839	836	821		

[176] Torque [lb-in]
20 Nm
691 Speed RPM

T Series (158-, 185-)

Performance data

Motors run with high efficiency in all areas designated with a number for torque and speed, however for best motor life select a motor to run with a torque and speed range printed 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 Intermittent

Δ Pressure bar [PSI]
102 cm ³/r [6.2 in ³/r]

Flow LPM [GPM]	[200] 14	[400] 28	[600] 41	[800] 55	[1000] 69	[1200] 83	[1400] 97	[1600] 110	[1800] 124	[2000] 138	[2200] 152	[2250] 155	[2565] 177	Max. Continuous [2750] 190	Max. Intermittent [2930] 202
[2]	[161]	[341]	[519]	[697]	[871]	[1030]	[1193]	[1349]	[1511]	[1496]	[1441]	[1421]			
	18	39	59	79	98	116	135	152	171	169	163	161			
8	73	71	68	66	63	60	56	51	46	36	23	20			
[4]	[157]	[340]	[520]	[702]	[879]	[1056]	[1229]	[1401]	[1567]	[1727]	[1889]	[1925]	[2151]	[2271]	[2412]
	18	38	59	79	99	119	139	158	177	195	213	217	243	257	273
15	149	146	144	141	138	135	131	128	124	118	111	109	99	92	86
[6]	[147]	[329]	[510]	[692]	[871]	[1050]	[1227]	[1401]	[1571]	[1731]	[1895]	[1936]	[2192]	[2339]	[2478]
	17	37	58	78	98	119	139	158	178	196	214	219	248	264	280
23	221	217	214	211	208	204	199	195	190	184	176	174	162	154	147
[8]	[132]	[315]	[497]	[675]	[857]	[1038]	[1216]	[1392]	[1564]	[1725]	[1891]	[1932]	[2184]	[2326]	[2470]
	15	36	56	76	97	117	137	157	177	195	214	218	247	263	279
30	294	290	287	284	280	277	271	267	262	255	247	245	231	220	213
[10]	[109]	[293]	[477]	[657]	[839]	[1018]	[1198]	[1374]	[1542]	[1711]	[1878]	[1918]	[2178]	[2326]	[2470]
	12	33	54	74	95	115	135	155	174	193	212	217	246	263	279
38	367	363	360	355	351	347	343	337	332	325	318	315	299	287	277
[12]	[84]	[271]	[457]	[638]	[818]	[999]	[1179]	[1354]	[1527]	[1697]	[1858]	[1901]	[2168]	[2323]	[2465]
	9	31	52	72	92	113	133	153	173	192	210	215	245	262	279
45	440	436	432	429	424	419	414	409	402	395	386	384	372	364	355
[14]	[59]	[242]	[428]	[611]	[794]	[974]	[1151]	[1328]	[1502]	[1674]	[1841]	[1883]	[2148]	[2301]	[2447]
	7	27	48	69	90	110	130	150	170	189	208	213	243	260	276
53	513	510	506	501	497	492	487	482	475	469	458	456	440	428	420
[15]	[39]	[227]	[411]	[595]	[780]	[957]	[1136]	[1314]	[1486]	[1658]	[1828]	[1869]	[2137]	[2285]	[2435]
	4	26	46	67	88	108	128	148	168	187	207	211	241	258	275
57	550	545	542	537	532	528	522	516	510	502	492	490	474	463	454
[16]	[22]	[213]	[395]	[581]	[767]	[943]	[1119]	[1301]	[1471]	[1642]	[1825]	[1861]	[2124]	[2271]	[2425]
	2	24	45	66	87	107	126	147	166	186	206	210	240	257	274
Max. Continuous 61	586	581	576	574	567	563	556	549	544	535	526	524	508	497	486
[20]		[154]	[328]	[515]	[710]	[874]	[1060]	[1243]	[1405]	[1579]	[1763]	[1803]	[2071]		
		17	37	58	80	99	120	140	159	178	199	204	234		
Max. Intermittent 76		724	718	720	709	707	696	684	683	670	659	660	640		

Motors run with high efficiency in all areas designated with a number for torque and speed, however for best motor life select a motor to run with a torque and speed range printed 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

Intermittent

Δ Pressure bar [PSI]
131 cm ³/r [8.0 in ³/r]

Flow LPM [GPM]

	[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1800]	[2000]	[2500]	[2565]	[2930]
	14	28	41	55	69	83	97	110	124	138	172	177	202
[2]	[219]	[450]	[682]	[915]	[1144]	[1348]	[1561]	[1771]	[1979]	[2159]			
	25	51	77	103	129	152	176	200	224	244			
8	57	55	53	51	49	47	43	40	36	30			
[4]	[212]	[449]	[681]	[917]	[1148]	[1376]	[1600]	[1822]	[2025]	[2221]	[2629]	[2704]	[3043]
	24	51	77	104	130	155	181	206	229	251	297	306	344
15	115	113	110	109	107	105	102	99	96	91	75	74	62
[6]	[197]	[435]	[669]	[903]	[1139]	[1370]	[1600]	[1818]	[2032]	[2226]	[2718]	[2785]	[3123]
	22	49	76	102	129	155	181	205	230	252	307	315	353
23	171	168	166	163	160	157	154	150	147	142	125	124	112
[8]	[181]	[417]	[657]	[886]	[1122]	[1359]	[1589]	[1812]	[2022]	[2215]	[2699]	[2768]	[3101]
	20	47	74	100	127	154	180	205	228	250	305	313	350
30	227	225	222	219	217	213	209	206	202	196	175	174	159
[10]	[144]	[389]	[631]	[859]	[1098]	[1330]	[1562]	[1783]	[1993]	[2198]	[2687]	[2755]	[3094]
	16	44	71	97	124	150	176	201	225	248	304	311	350
38	284	281	278	275	271	267	265	261	258	252	231	230	217
[12]	[114]	[361]	[605]	[838]	[1075]	[1307]	[1532]	[1755]	[1965]	[2177]	[2671]	[2737]	[3079]
	13	41	68	95	121	148	173	198	222	246	302	309	348
45	341	338	334	332	328	325	321	318	312	307	285	284	269
[14]	[82]	[327]	[569]	[803]	[1042]	[1273]	[1498]	[1722]	[1935]	[2147]	[2655]	[2721]	[3073]
	9	37	64	91	118	144	169	195	219	243	300	307	347
53	397	394	391	387	384	361	378	374	370	365	339	338	329
[15]	[66]	[302]	[550]	[785]	[1025]	[1254]	[1480]	[1704]	[1915]	[2119]	[2648]	[2709]	[3066]
	7	34	62	89	116	142	167	193	216	239	299	306	346
57	426	423	422	415	412	409	405	402	398	392	367	365	351
[16]	[41]	[281]	[529]	[767]	[1004]	[1238]	[1468]	[1685]	[1904]	[2106]	[2621]	[2678]	[3041]
	5	32	60	87	113	140	166	190	215	238	296	303	344
61	454	451	448	443	440	436	433	429	425	418	401	396	374
Max. Continuous [20]		[177]	[429]	[678]	[908]	[1143]	[1375]	[1596]	[1811]	[2017]			
		20	48	77	103	129	155	180	205	228			
Max. Intermittent 76		565	560	556	553	549	546	541	536	527			

[302] Torque [lb-in]
34 Nm
23 Speed RPM

T Series (158-, 185-)

Performance data

Motors run with high efficiency in all areas designated with a number for torque and speed, however for best motor life select a motor to run with a torque and speed range printed 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 Intermittent

B-4

Δ Pressure bar [PSI]
157 cm ³/r [9.6 in ³/r]

Flow LPM [GPM]	[200] 14	[400] 28	[600] 41	[800] 55	[1000] 69	[1200] 83	[1400] 97	[1600] 110	[1800] 124	[2000] 138	[2415] 167	**Max. Continuous** [2500] 172	**Max. Intermittent** [2930] 202
[2]	[264]	[541]	[819]	[1092]	[1357]	[1605]	[1847]	[2084]	[2311]	[1858]			
8	30 / 47	61 / 45	93 / 44	123 / 42	153 / 40	181 / 37	209 / 34	235 / 30	261 / 25	210 / 16			
[4]	[259]	[541]	[822]	[1101]	[1373]	[1638]	[1890]	[2145]	[2383]	[2613]	[3005]	[3063]	[3466]
15	29 / 96	61 / 95	93 / 92	124 / 91	155 / 90	185 / 88	214 / 85	242 / 82	269 / 78	295 / 73	340 / 63	346 / 60	392 / 47
[6]	[241]	[526]	[808]	[1090]	[1368]	[1638]	[1900]	[2150]	[2399]	[2628]	[3086]	[3169]	[3612]
23	27 / 142	59 / 140	91 / 138	123 / 136	155 / 134	185 / 132	215 / 129	243 / 125	271 / 121	297 / 114	349 / 102	358 / 99	408 / 84
[8]	[219]	[506]	[789]	[1068]	[1348]	[1625]	[1885]	[2140]	[2388]	[2619]	[3091]	[3178]	[3631]
30	25 / 189	57 / 187	89 / 185	121 / 183	152 / 181	184 / 178	213 / 175	242 / 172	270 / 166	296 / 159	349 / 144	359 / 140	410 / 122
[10]	[180]	[472]	[759]	[1037]	[1319]	[1590]	[1853]	[2111]	[2355]	[2594]	[3076]	[3170]	[3631]
38	20 / 237	53 / 234	86 / 232	117 / 230	149 / 227	180 / 224	209 / 222	239 / 218	266 / 211	293 / 203	348 / 188	358 / 183	410 / 163
[12]	[141]	[436]	[728]	[1010]	[1292]	[1561]	[1821]	[2079]	[2331]	[2573]	[3063]	[3162]	[3630]
45	16 / 284	49 / 282	82 / 279	114 / 277	146 / 274	176 / 272	206 / 269	235 / 265	263 / 257	291 / 248	346 / 230	357 / 225	410 / 202
[14]	[101]	[397]	[687]	[969]	[1252]	[1519]	[1778]	[2040]	[2295]	[2539]	[3043]	[3147]	[3629]
53	11 / 332	45 / 329	78 / 326	109 / 323	141 / 321	172 / 319	201 / 316	230 / 311	259 / 305	287 / 296	344 / 279	356 / 274	410 / 253
[15]	[81]	[367]	[665]	[944]	[1231]	[1497]	[1755]	[2018]	[2273]	[2512]	[3028]	[3136]	[3620]
57	9 / 355	41 / 353	75 / 350	107 / 347	139 / 344	169 / 342	198 / 339	228 / 334	257 / 327	284 / 318	342 / 304	354 / 300	409 / 280
[16]	[51]	[344]	[639]	[924]	[1209]	[1480]	[1743]	[2005]	[2261]	[2505]	[3009]	[3119]	[3594]
Max. Continuous 61	6 / 379	39 / 377	72 / 373	104 / 370	137 / 368	167 / 365	197 / 362	227 / 357	255 / 350	283 / 343	340 / 329	352 / 325	406 / 305
[20]		[221]	[519]	[814]	[1095]	[1368]	[1631]	[1891]	[2149]	[2396]	[2895]		
Max. Intermittent 76		25 / 472	59 / 467	92 / 464	124 / 462	155 / 459	184 / 455	214 / 450	243 / 443	271 / 433	327 / 417		

Motors run with high efficiency in all areas designated with a number for torque and speed, however for best motor life select a motor to run with a torque and speed range printed 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

Intermittent

Δ Pressure bar [PSI]
195 cm ^{3}/r [11.9 in ^{3}/r]

Flow LPM [GPM]

	[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1750]	[1800]	[2000]	Max. Continuous [2500]	Max. Intermittent [2565]
	14	28	41	55	69	83	97	110	121	124	138	172	177
[2]	[330]	[671]	[1016]	[1345]	[1654]	[1969]	[2242]	[2507]	[2689]	[2748]	[2973]		
	37	76	115	152	187	222	253	283	304	310	336		
8	38	36	34	33	31	28	25	20	16	14	8		
[4]	[328]	[675]	[1026]	[1366]	[1692]	[2010]	[2289]	[2586]	[2799]	[2867]	[3144]	[3797]	[3867]
	37	76	116	154	191	227	259	292	316	324	355	429	437
15	77	77	75	73	73	71	68	65	62	61	55	40	38
[6]	[306]	[658]	[1011]	[1360]	[1698]	[2021]	[2324]	[2604]	[2829]	[2901]	[3178]	[3831]	[3905]
	35	74	114	154	192	228	263	294	320	328	359	433	441
23	115	113	111	110	109	107	104	100	97	95	87	68	66
[8]	[272]	[634]	[980]	[1331]	[1675]	[2003]	[2300]	[2592]	[2815]	[2888]	[3174]	[3864]	[3936]
	31	72	111	150	189	226	260	293	318	326	359	437	445
30	153	151	150	148	146	144	142	139	134	132	123	99	98
[10]	[238]	[596]	[945]	[1296]	[1637]	[1960]	[2255]	[2565]	[2786]	[2857]	[3140]	[3816]	[3894]
	27	67	107	146	185	221	255	290	315	323	355	431	440
38	192	189	188	186	184	183	181	176	168	166	156	133	130
[12]	[181]	[545]	[908]	[1260]	[1607]	[1924]	[2223]	[2529]	[2759]	[2836]	[3121]	[3807]	[3883]
	20	62	103	142	182	217	251	286	312	320	353	430	439
45	230	228	226	224	222	221	219	213	207	204	192	160	159
[14]	[154]	[500]	[860]	[1211]	[1556]	[1869]	[2175]	[2483]	[2713]	[2792]	[3080]	[3778]	[3860]
	17	56	97	137	176	211	246	281	307	315	348	427	436
53	268	266	264	261	259	259	256	251	244	242	229	199	196
[15]	[140]	[465]	[832]	[1179]	[1525]	[1835]	[2144]	[2459]	[2693]	[2768]	[3061]	[3764]	[3852]
	16	53	94	133	172	207	242	278	304	313	346	425	435
57	287	285	283	281	279	278	275	269	262	260	247	220	216
[16]	[105]	[438]	[800]	[1155]	[1505]	[1824]	[2128]	[2440]	[2678]	[2754]	[3056]	[3755]	[3843]
	12	49	90	130	170	206	240	276	303	311	345	424	434
61	306	305	302	300	298	297	294	289	281	279	267	241	236
[20]		[291]	[653]	[1013]	[1366]	[1689]	[1987]	[2298]	[2540]	[2622]	[2928]		
		33	74	114	154	191	225	260	287	296	331		
76		382	378	375	373	372	368	363	356	353	342		

Max. Continuous

Max. Intermittent

[465] Torque [lb-in]
53 Nm
285 Speed RPM

T Series (158-, 185-)

Performance data

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

Continuous

Intermittent

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

Δ Pressure bar [PSI]
244 cm ³/r [14.9 in ³/r]

Flow LPM [GPM]	[200] 14	[400] 28	[600] 41	[800] 55	[1000] 69	[1200] 83	[1400] 97	[1600] 110	[1650] 114	[1800] 124	[1850] 128	Max. Continuous [2250] 155 Max. Intermittent
[2]	[406] 46	[833] 94	[1260] 142	[1655] 187	[2038] 230	[2403] 272	[2707] 306	[2597] 293	[2552] 288	[2373] 268	[2299] 260	
8	30	29	27	26	24	22	17	12	11	7	6	
[4]	[404] 46	[843] 95	[1277] 144	[1695] 192	[2083] 235	[2468] 279	[2820] 319	[3177] 359	[3261] 368	[3509] 396	[3589] 406	[4194] 474
15	62	62	60	59	59	57	55	50	49	46	44	35
[6]	[382] 43	[823] 93	[1261] 142	[1687] 191	[2088] 236	[2477] 280	[2843] 321	[3196] 361	[3285] 371	[3547] 401	[3633] 410	[4290] 485
23	92	91	90	89	88	86	82	78	76	72	71	60
[8]	[341] 39	[787] 89	[1220] 138	[1651] 187	[2059] 233	[2454] 277	[2820] 319	[3177] 359	[3265] 369	[3530] 399	[3615] 408	[4285] 484
30	123	122	121	120	119	116	113	108	106	101	99	85
[10]	[297] 34	[744] 84	[1177] 133	[1611] 182	[2017] 228	[2412] 273	[2774] 313	[3151] 356	[3241] 366	[3504] 396	[3593] 406	[4269] 482
38	154	152	151	150	148	146	143	136	134	127	125	107
[12]	[225] 25	[687] 78	[1132] 128	[1553] 175	[1967] 222	[2360] 267	[2734] 309	[3105] 351	[3194] 361	[3466] 392	[3554] 402	[4237] 479
45	184	183	181	180	179	177	173	166	163	156	153	134
[14]	[154] 17	[628] 71	[1072] 121	[1498] 169	[1910] 216	[2298] 260	[2674] 302	[3052] 345	[3148] 356	[3419] 386	[3510] 397	[4226] 477
53	214	213	212	211	209	207	202	195	193	185	182	161
[15]	[119] 13	[586] 66	[1035] 117	[1458] 165	[1872] 212	[2261] 255	[2637] 298	[3022] 341	[3116] 352	[3389] 383	[3488] 394	[4220] 477
57	229	228	227	226	224	222	217	209	207	200	197	174
[16]	[78] 9	[547] 62	[993] 112	[1415] 160	[1829] 207	[2218] 251	[2589] 293	[2956] 334	[3037] 343	[3299] 373	[3393] 383	[4170] 471
Max. Continuous 61	244	243	242	241	239	237	231	223	221	213	209	189
[20]		[372] 42	[816] 92	[1251] 141	[1663] 188	[2067] 234	[2448] 277	[2832] 320	[2928] 331	[3214] 363	[3312] 374	
Max. Intermittent 76		305	303	301	300	297	292	284	281	273	270	

Motors run with high efficiency in all areas designated with a number for torque and speed, however for best motor life select a motor to run with a torque and speed range printed 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

Intermittent

Δ Pressure bar [PSI]
306 cm³/r [18.7 in³/r]

Flow LPM [GPM]

	[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1500]	[1600]	[1800]
	14	28	41	55	69	83	97	103	110	124
[2]	[499]	[1035]	[1560]	[2034]	[2501]	[2912]	[3239]	[2859]	[2400]	
	56	117	176	230	283	329	366	323	271	
8	24	23	22	21	19	16	11	8	5	
[4]	[497]	[1052]	[1590]	[2101]	[2561]	[3023]	[3464]	[3680]	[3886]	[4221]
	56	119	180	237	289	342	391	416	439	477
15	49	49	48	48	47	47	44	41	38	30
[6]	[480]	[1031]	[1578]	[2096]	[2564]	[3023]	[3464]	[3689]	[3905]	[4275]
	54	116	178	237	290	342	391	417	441	483
23	74	74	72	72	71	69	64	62	60	51
[8]	[427]	[975]	[1520]	[2051]	[2525]	[2998]	[3448]	[3667]	[3881]	[4264]
	48	110	172	232	285	339	390	414	438	482
30	99	98	97	97	96	94	89	86	83	73
[10]	[370]	[930]	[1467]	[2001]	[2477]	[2955]	[3406]	[3631]	[3852]	[4264]
	42	105	166	226	280	334	385	410	435	482
38	123	122	121	120	120	117	112	108	104	92
[12]	[281]	[871]	[1410]	[1908]	[2400]	[2887]	[3352]	[3573]	[3790]	[4189]
	32	98	159	216	271	326	379	404	428	473
45	147	146	145	145	145	142	136	131	127	112
[14]	[192]	[791]	[1338]	[1851]	[2338]	[2816]	[3281]	[3511]	[3743]	[4135]
	22	89	151	209	264	318	371	397	423	467
53	171	171	170	170	169	165	159	154	150	133
[15]	[148]	[738]	[1288]	[1803]	[2287]	[2773]	[3243]	[3475]	[3705]	[4098]
	17	83	146	204	258	313	366	393	419	463
57	183	183	182	182	181	177	171	165	160	146
[16]	[97]	[692]	[1236]	[1742]	[2229]	[2714]	[3195]	[3410]	[3639]	[4064]
	11	78	140	197	252	307	361	385	411	459
61	195	195	194	194	193	189	182	177	171	157
[20]		[476]	[1020]	[1544]	[2010]	[2519]	[3010]	[3243]	[3495]	
		54	115	174	227	285	340	366	395	
76		243	242	242	241	238	231	226	209	

Max. Continuous

Max. Intermittent

[738] Torque [lb-in]
83 Nm
183 Speed RPM

T Series (158-, 185-)

Performance data

Motors run with high efficiency in all areas designated with a number for torque and speed, however for best motor life select a motor to run with a torque and speed range printed 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 Intermittent

B-4

Δ Pressure bar [PSI]
370 cm³/r [22.6 in³/r]

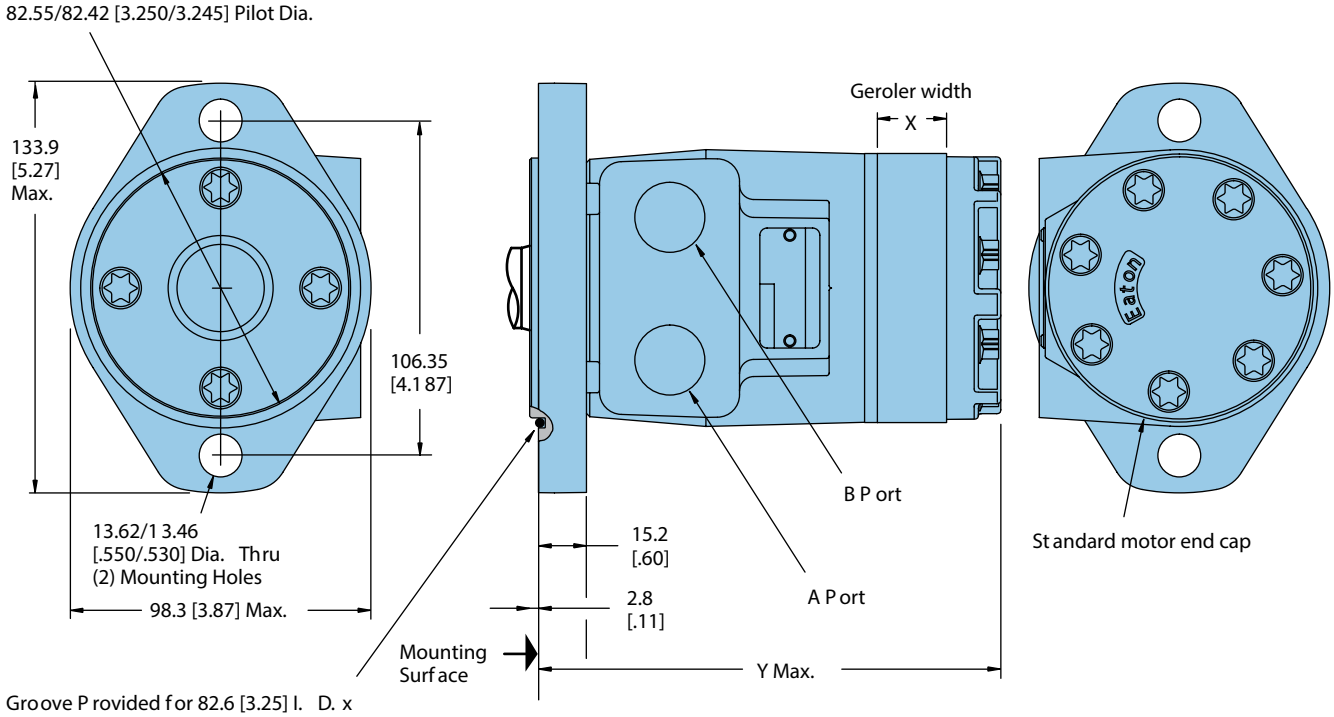
Flow LPM [GPM]	200	400	600	800	1000	1200	1300 Max. Continuous	1500 Max. Intermittent
	14	28	41	55	69	83	90	103
[2]	[590]	[1237]	[1858]	[2406]	[2953]	[3388]	[3586]	
	67	140	210	272	334	383	405	
8	20	19	18	17	15	12	11	
[4]	[588]	[1263]	[1906]	[2506]	[3029]	[3557]	[3811]	[4252]
	66	143	215	283	342	402	431	480
15	41	41	40	40	39	38	37	36
[6]	[580]	[1245]	[1899]	[2506]	[3029]	[3544]	[3788]	[4300]
	66	141	215	283	342	400	428	486
23	61	60	60	59	58	57	56	54
[8]	[514]	[1164]	[1824]	[2452]	[2975]	[3518]	[3783]	[4284]
	58	132	206	277	336	397	427	484
30	82	81	80	79	78	77	77	75
[10]	[444]	[1119]	[1759]	[2391]	[2928]	[3479]	[3750]	[4275]
	50	126	199	270	331	393	424	483
38	102	102	101	101	100	97	96	93
[12]	[337]	[1062]	[1690]	[2256]	[2813]	[3393]	[3685]	[4273]
	38	120	191	255	318	383	416	483
45	122	121	120	119	119	118	116	112
[14]	[231]	[958]	[1608]	[2201]	[2748]	[3319]	[3610]	[4198]
	26	108	182	249	310	375	408	474
53	142	141	140	139	138	137	134	129
[15]	[178]	[896]	[1543]	[2147]	[2683]	[3272]	[3572]	[4187]
	20	101	174	243	303	370	404	473
57	152	152	151	150	149	147	146	140
[16]	[118]	[843]	[1481]	[2065]	[2609]	[3194]	[3495]	[4131]
	13	95	167	233	295	361	395	467
Max. Continuous 61	162	162	161	160	159	157	155	150
[20]		[587]	[1228]	[1833]	[2331]	[2948]	[3273]	
		66	139	207	263	333	370	
Max. Intermittent 76		202	201	201	200	198	196	

Standard rotation viewed from shaft end

Port A pressurized — CW

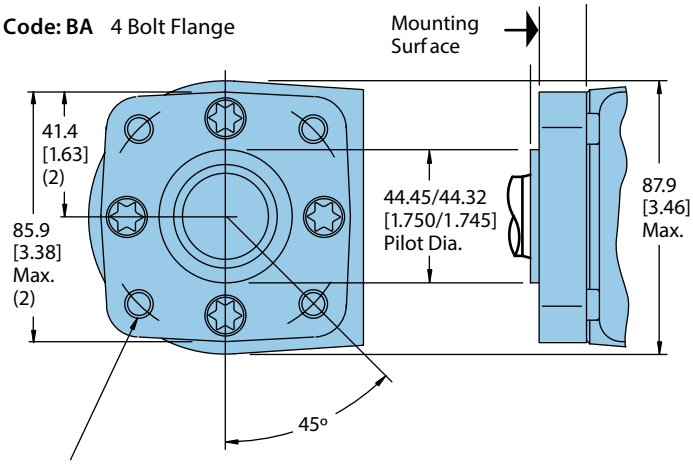
Port B pressurized — CCW

Code: AA 2 Bolt Flange



Groove P rovided f or 82.6 [3.25] I. D. x
2.62 [.1 03] Cross Section O-ring (Dash No. 1 52)

Code: BA 4 Bolt Flange



3/8-16 UNC (1 5.2 [.60] Max. B olt thread engagement)
Mounting holes (4) equally spaced on 82.6 [3.25] Dia.
Bolt circle or M1 0 x 1 .5 (1 5.2 [.60] Max. B olt
thread engagement) mounting holes (4) equally
spaced on 82.6 [3.25] Dia. B olt circl e

2 and 4 bolt flange port dimensions

Displacement	X	Y
cm³/r [in³/r]	mm [inch]	mm [inch]
36 [2.2]	6.6 [.26]	132.2 [5.21]
49 [3.0]	9.1 [.36]	134.6 [5.30]
66 [4.0]	12.2 [.48]	137.7 [5.42]
80 [4.9]	14.7 [.58]	140.3 [5.53]
102 [6.2]	18.5 [.73]	144.3 [5.68]
131 [8.0]	24.1 [.95]	149.6 [5.89]
157 [9.6]	29.0 [1.14]	154.5 [6.09]
195 [11.9]	35.6 [1.40]	161.3 [6.35]
244 [14.9]	44.7 [1.76]	170.3 [6.71]
306 [18.7]	56.1 [2.21]	181.6 [7.16]
370 [22.6]	72.1 [2.84]	197.9 [7.79]

T Series (158-)

Product numbers

Use digit prefix—158- plus four digit number from charts for complete product number-—Example: 158-1067.

Orders will not be accepted without the three-digit prefix.

Standard

Mounting	Shaft	Port size	Displ. cm³/r [in³/r] / product number										
			36 [2.2]	49 [3.0]	66 [4.0]	80 [4.9]	102 [6.2]	131 [8.0]	157 [9.6]	195 [11.9]	244 [14.9]	306 [18.7]	370 [22.6]
2 Bolt Flange	1 in. Straight w/Woodruff Key	7/8 -14 O-Ring	158- —	—	-1537	-1034	-1035	-1538	-1036	-1037	-1038	-1039	-1040
		1/2 NPTF	158- —	—	-1540	-1026	-1027	-1541	-1028	-1029	-1030	-1031	-1032
		Manifold*	158- —	—	-1543	-1042	-1043	-1544	-1044	-2045	-1046	-1047	-1048
	1 in. SAE 6B Splined	7/8 -14 O-Ring	158- —	—	-1552	-1082	-1083	-1553	-1084	-1085	-1086	-1087	-1088
		1/2 NPTF	158- —	—	-1555	-2074	-1075	—	-1076	-1077	-2078	-1079	-1080
		Manifold*	158- —	—	-1558	-1647	-1091	-1559	-1092	-1093	-1094	-1095	-3065
4 Bolt Flange	1 in. Straight w/Woodruff Key	7/8 -14 O-Ring	158- —	—	-1570	-1010	-1011	-1571	-1012	-1013	-1014	-1015	-1016
		1/2 NPTF	158- —	—	-1573	-1002	-1003	-1574	-1004	-1005	-1006	-1007	-1008
		Manifold*	158- —	—	-1576	-1018	-1019	-1577	-1020	-1021	-1022	-1023	-1024
	1 in. SAE 6B Splined	7/8 -14 O-Ring	158- —	—	-1579	-1058	-1059	-1580	-1060	-1061	-1062	-1063	-1064
		1/2 NPTF	158- —	—	-1582	-1050	-2051	-1583	-1052	-1053	—	-1055	-1056
		Manifold*	158- —	—	-1585	-1066	-2067	-1586	—	-1069	-3976	-1071	-1072

158-2067

T Series motors with corrosion protection

Mounting	Shaft	Port size	Displ. cm³/r [in³/r] / product number										
			36 [2.2]	49 [3.0]	66 [4.0]	80 [4.9]	102 [6.2]	131 [8.0]	157 [9.6]	195 [11.9]	244 [14.9]	306 [18.7]	370 [22.6]
2 Bolt Flange	1 in. Straight w/ Woodruff Key	7/8 -14 O-Ring	158-—	—	-4246	-3469	-4247	—	-3416	—	—	—	-3490
4 Bolt Flange		1/2 NPTF	158- —	—	—	—	—	—	—	—	—	—	-1621

T Series motors with low speed valving

Mounting	Shaft	Port size	Displ. cm³/r [in³/r] / product number										
			36 [2.2]	49 [3.0]	66 [4.0]	80 [4.9]	102 [6.2]	131 [8.0]	157 [9.6]	195 [11.9]	244 [14.9]	306 [18.7]	370 [22.6]
2 Bolt Flange	1 in. Straight w/ Woodruff Key	7/8 -14 O-Ring	158- —	—	—	-1427	-1428	—	—	-1430	-1431	-1432	-1433
		1/2 NPTF	158- —	—	—	-1419	-1420	—	—	-1422	-1423	-1424	—
		Manifold*	158- —	—	—	—	—	—	—	—	—	—	—
	1 in. SAE 6B Splined	7/8 -14 O-Ring	158- —	—	—	-1525	—	—	—	—	-1675	—	—
		1/2 NPTF	158- —	—	—	—	-1634	—	—	—	—	—	—
4 Bolt Flange	1 in. Straight w/ Woodruff Key	Manifold*	158- —	—	—	-1522	—	—	—	—	—	—	-1527
		7/8 -14 O-Ring	158- —	—	-1625	-1410	-1411	-1626	-1412	-1413	-1414	-1415	-3385
		1/2 NPTF	158- —	—	-1644	-1402	-1403	—	-1404	-1405	-1406	-1407	-1408

158-1403

*Manifold product numbers shown are for motors with four 5/16 -18 port face mounting threads. Manifold, manifold mounting O-Rings and bolts are NOT included.

For T Series Motors with a configuration Not Shown in the charts above: Use the model code system on page B-4-10 to specify the product in detail.

The following 25-digit coding system has been developed to identify all of the configuration options for the T motor. Use this model code to specify a motor with the desired features. All 25-digits of the code must be present when ordering.

M	T0	***	**	**	**	**	*	*	**	**	00	**	*	**	00	A
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

T0	T Series

4 5 6 Displacement cm ³/r [in ³/r]

022	35 [2.2]
030	49 [3.0]
040	65 [4.0]
049	80 [4.9]
062	102 [6.2]
080	131 [8.0]
096	158 [9.6]
119	195 [11.9]
149	244 [14.9]
187	306 [18.7]
226	370 [22.6]

7 8 Mounting type

AA	2 Bolt (standard) 82,6 [3.248] Dia. and 3,05 [.120] pilot, 13,59 [.535] Dia. Mounting holes 106,35 [4.187] Dia. B.C.
BA	4 Bolt (standard) 44,40 [1.748] Dia. x 3,05 [.120] pilot, .375-16 UNC-2B mounting holes 82,55 [3.250] Dia. B.C.
DD	2 Bolt (Std.) 101,60 [4.000] Dia. x 6.10 [.240] pilot, 14,35 [.565] Dia. Mounting holes 146,05 [5.750] Dia. B.C. (SAE B) (Ductile)
EA	4 Bolt magneto 82,50 [3.248] Dia. x 3,05 [.120] Pilot, 13,59 [.535] Dia. Mounting holes 106,35 [4.187] Dia. B.C.
FA	4 Bolt (standard) 44,40 [1.748] Dia. x 3,05 [.120] pilot, M10 x 1.5-6H mounting holes on 82,55 [3.250] Dia. B.C.
MA	2 Bolt (standard) 82.50 [3.248] Dia. x 8.13 [.320] Pilot, 13.59 [.535] Dia. Mounting holes on 106.35 [4.187] Dia. B.C.

9 10 Output shaft description

01	25,4 [1.00] Dia. Straight, woodruff key, .250-20 UNC-2B hole in shaft end
02	25,4 [1.00] Dia. SAE 6B Spline, .25-20 UNC-2B hole in shaft end
08	25,4 [1.00] Dia. Straight, 10,31 [.406] Dia. crosshole 15,7 [.62] from end, .250-20 UNC-2B hole in shaft end
16	22,22 [.875] Dia. SAE 13 tooth spline (SAE B)
18	25,4 [1.00] Dia. Tapered, Woodruff key and Nut, 34,92 [1.375] taper length
24	25.00 [.984] Dia. Straight, 8.0 [.315] key, MB x 1.25-6H hole in shaft end
39	25.00 [.984] Dia. Straight (k6), 8.00 [.315] Key, M8 x 1.25-6H hole in shaft end

11 12 Port type

AA	.875-14 UNF-2B SAE O-Ring ports
AB	.500-14 NPTF Dryseal pipe thread ports
AC	Manifold (.3125-18 UNC-2B mounting holes)
AD	Manifold ports (MB x 1.25-6H mounting holes)
AF	G 1/2 BSP straight thread ports

13 14 Case flow options

00	None specified
01	.4375-20 UNF-2B SAE O-ring port (end cap)
02	G 1/4 BSP straight thread port (end cap)
A	Internal check valves

15 Geroler options

0	None
A	Free running

16 Shaft options

0	None
N	Electroless nickel plated

T Series (158-)

Model code

The following 25-digit coding system has been developed to identify all of the configuration options for the T motor. Use this model code to specify a motor with the desired features. All 25-digits of the code must be present when ordering.

M	T0	***	**	**	**	**	*	*	**	**	00	**	*	**	00	A
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

17 18 Seal options

00	Standard seals
02	Seal guard
03	Viton seals
07	High pressure shaft seal
11	High pressure shaft seal & seal guard

19 20 Speed sensor options

00	None
AA	Digital speed pickup (15 pulse), M12 connector (A=Power, B=Common, C=Signal)
AB	Magnetic speed pickup (60 pulse by quadrature), M12 connector, (A=Power, B=Common, C=Signal)
AE	Digital speed pickup (15 pulse), 127 [5.0] lead wire with weather pack shroud connector (A=Power, B=Signal, C=Common)

21 22 Valve options

00	None

23 24 Special features (hardware)

00	None specified
AB	Low speed valving
JM	Low flow housing and low speed valving

25 Special assembly instructions

0	None
1	Reverse rotation
2	Flange rotation 90°

26 27 Paint/packaging options

00	No paint
AA	Low gloss black primer
AY	Nickel plated motor (excluding shaft)
AF	Environmental coated black

28 29 Danfoss assigned code when applicable

00	None

30 Design code

A	One

Description

The T Series Motor with Parking Brake utilizes brake pads that rotate at 6 times the speed of the output shaft, thereby giving the brake a 6-to-1 mechanical advantage. The T Series Motor with Parking Brake utilizes the same Geroler, and Spool Valve technologies as the standard Char-Lynn motors. Therefore, in addition to providing dependable load-holding capability, T Series Motor with Parking Brake provides the same smooth, reliable operation, with similar performance, as the T Series Motor.



Specifications

Geroler element	11 Displacements
Flow l/min [GPM]	61[16] Continuous
	75 [20] Intermittent
Speed	Up to 1021 RPM
Pressure bar [PSI]	177[2565] Cont.
	202[2930] Inter.
Torque Nm [lb-in]	441 [3905] Cont.
	486 [4300] Inter.

Features

- Integrated, compact, patented design
- Capability of combining 4 inventory items into a single assembly (motor, brake, counter-balance valve, brake release line)
- Rear-mounted integrated brake with 6:1 torque advantage
- Access port for manual brake release (for over-riding brake in the event of loss of release pressure.)

Benefits

- Cost-effective packaged system solution
- Simplifies ordering and inventory requirements
- Reduces assembly labor
- Design flexibility
- Wet brake is environmentally protected and provides long life

Applications

- Truck-mounted equipment (boom rotate and winch)
- Conveyors – positioners – indexers
- Marine cranes (boom rotate and winch)
- Fishing winches
- Recycling and refuse equipment
- Vehicle recovery winches
- Mining equipment
- Specialty utility vehicles/machines
- Forestry grapples
- Agricultural equipment
- Railroad equipment
- Airport support vehicles
- Lawn & turf equipment
- Anywhere load-holding is needed in a low-speed high-torque drive system

T Series with Parking Brake (185-)

Application Information

B-4

Principle of operation

The wet brake is a spring applied / pressure release design. Load holding is applied by a mechanical spring and released by hydraulic pressure. The spring force holds the brake on when hydraulic pressure is absent.

Release pressure

Release pressure is defined as the amount of pressure required to fully release the brake. The brake pressure cavity is common (shared) with the motor case. As a result, maximum release pressure is constrained by the motor case-pressure capability. The T Series Motor with Parking Brake incorporates a shaft seal capable up to 1500 psi (see page B-4-70). However, seal life is reduced at higher case pressure.

Residual pressure

Residual pressure is the pressure trapped in the system by restrictions or long return lines. Residual pressure in the motor case will lower the rated load holding torque of the brake. Therefore, special attention needs to be given when applying this product. Keep in mind that long return lines create higher pressure that will reduce brake holding torque. In applications with high system pressures, the use of a pressure reducing valve to limit case and release pressure is recommended.

Holding torque and motor output torque

Holding torque is based on grade holding requirements for a vehicle or other load holding requirements in the application. System pressure and motor displacement are the factors in determining motor output torque. Motor displacement, measured in cubic centimeters or cubic inches, is the volume of fluid required to make one revolution. Motor output torque is the rotary force and is usually measured in inch pounds, newton meters or foot pounds. Maximum motor torque depends on pressure and motor displacement. Both output shaft size and shaft type can also affect motor torque. The T Series Motor with Parking Brake load holding capacity is factory set to match any limiting factor in each specific motor configuration (e.g. displacement, output shaft, etc).

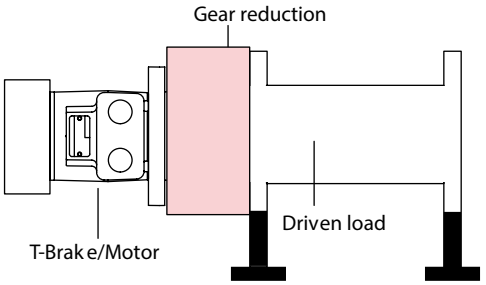
Note: Danfoss does not approve any products for customer applications. It is the sole responsibility of the customer to qualify and verify the correct operation of products in their systems.

Note: Special attention should be given to system back pressure. System back pressure directly affects brake release pressure and can cause the brake to release at undesired conditions.

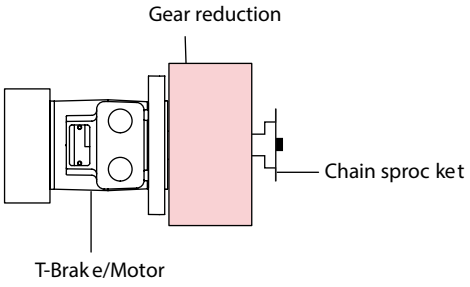
Note: The T Series with parking brake is not compatible with water based fluids.

Typical applications

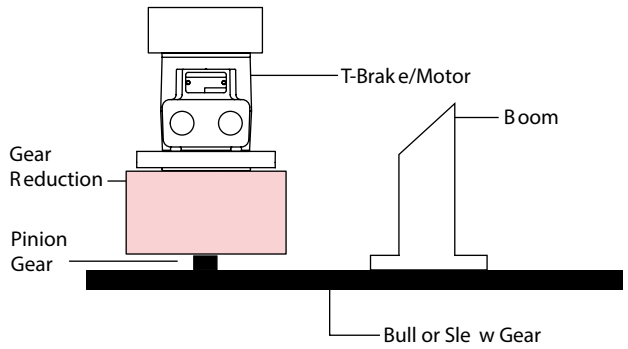
Winch

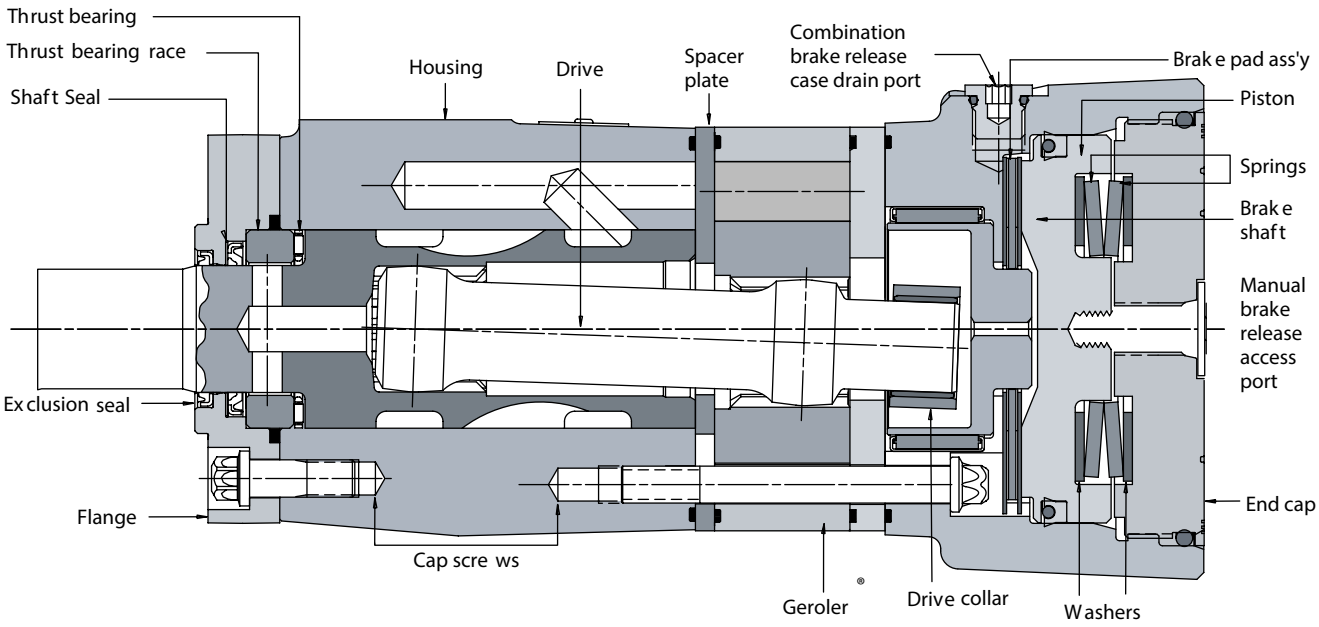


Machine drive



Swing boom





Specification Data — T Series with parking brake motors

Shaft

Displ. cm³/r [in³/r]		**36 [2.2]**	**49 [3.0]**	**66 [4.0]**	**80 [4.9]**	**102 [6.2]**	**131 [8.0]**	**157 [9.6]**	**195 [11.9]**	**244 [14.9]**	**306 [18.7]**	**370 [22.6]**
Max. Speed (RPM) @ continuous flow		1021	906	898	694	550	426	355	287	229	183	152
Flow LPM [GPM]	Continuous	38 [10]	45 [12]	61 [16]	61 [16]	61 [16]	61 [16]	61 [16]	61 [16]	61 [16]	61 [16]	61 [16]
	Intermittent	38 [10]	57 [15]	76 [20]	76 [20]	76 [20]	76 [20]	76 [20]	76 [20]	76 [20]	76 [20]	76 [20]
Torque Nm [lb-in]	Continuous	76 [672]	105 [928]	138 [1222]	174 [1541]	219 [1936]	251 [2226]	297 [2628]	359 [3178]	410 [3633]	441 [3905]	430 [3811]
	Intermittent **	93 [824]	118 [1131]	168 [1488]	212 [1872]	264 [2339]	307 [2718]	359 [3178]	437 [3864]	485 [4290]	483 [4275]	486 [4300]
Pressure Δ Bar [Δ PSI]	Continuous	177 [2565]	177 [2565]	177 [2565]	177 [2565]	177 [2565]	177 [2565]	167 [2415]	138 [2000]	127 [1850]	110 [1600]	90 [1300]
	Intermittent***	202 [2930]	202 [2930]	202 [2930]	202 [2930]	202 [2930]	202 [2930]	202 [2930]	177 [2565]	155 [2250]	124 [1800]	103 [1500]
Weight kg [lbs]		8.5 [18.7]	8.6 [19.0]	8.8 [19.4]	8.9 [19.6]	9.0 [19.8]	9.3 [20.5]	9.5 [20.9]	9.7 [21.4]	10.1 [22.3]	10.5 [23.1]	11.1 [24.5]

Maximum case pressure: See case pressure seal limitation graph. *See shaft torque ratings for limitations.

Note: See page B-4-51 for additional motor specification notes and definitions. The T Series with Parking Brake performance is similar to the standard T Series motor. High speed conditions may reduce performance on T Series with Parking Brake.

T Series brake holding torque settings:

Shaft code	**Output shaft description [in³/r]**	**2.2**	**3.0**	**4.0**	**4.9**	**6.2**	**8.0**	**9.6**	**11.9**	**14.9**	**18.7**	**22.6**
18	1 Tapered w/key and nut	2,000	2,000	2,000	3,500	3,500	3,500	5,000	5,000	5,000	5,000	5,000
02	1 SAE 6B Splined	2,000	2,000	2,000	3,500	3,500	3,500	5,000	5,000	5,000	5,000	5,000
24	25mm Straight w/key	2,000	2,000	2,000	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500
01	1 Straight w/key	2,000	2,000	2,000	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500
07	1 Straight w/.31 Dia. crosshole	2,000	2,000	2,000	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500
08	1 Straight w/.40 Dia. crosshole	2,000	2,000	2,000	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500
16	7/8 SAE B 13T Splined	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
17	7/8 SAE B Straight w/key	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000

Note: The factory setting values are used for each motor based on motor displacement and shaft type. Average Static torque may vary +/- 14% from rated values.

in-lbs Full capacity brake

in-lbs Limited capacity brake

T Series with Parking Brake (185-)

Dimensions

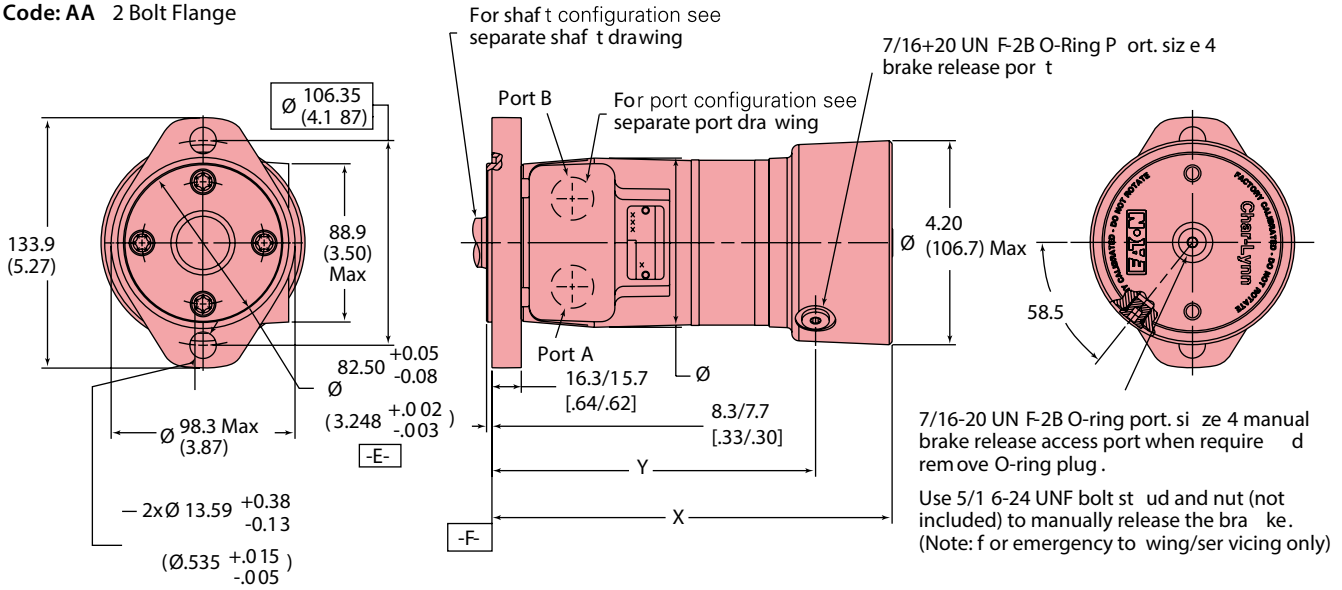
Standard rotation viewed from shaft end

Port A pressurized -- CW

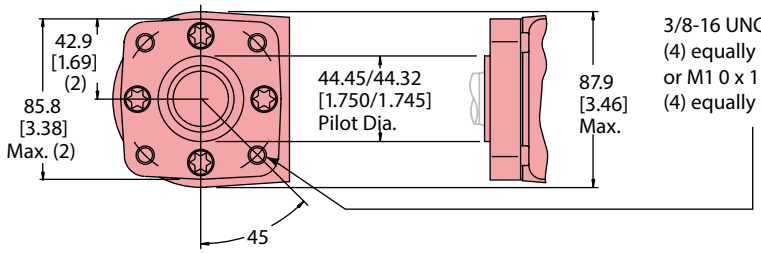
Port B pressurized -- CCW

Note: Mounting surface flatness requirement is 13 mm [.005 inch] Max.

Code: AA 2 Bolt Flange



Code: BA 4 Bolt Flange



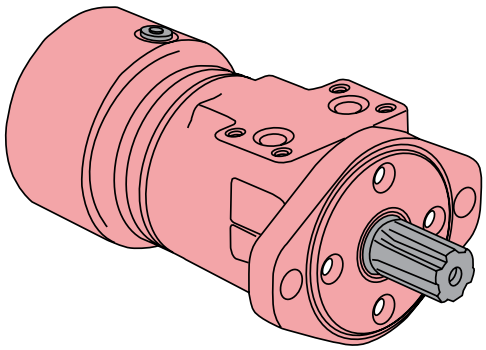
T-Series with parking brake dimensions

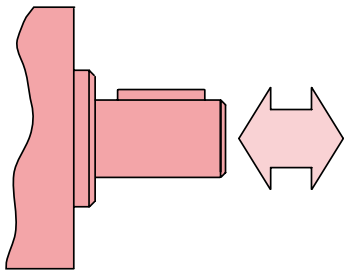
Displacement	X	Y
cm³/r [in³/r]	**mm [inch]**	**mm [inch]**
36 [2.2]	190.2 [7.49]	143.9±0.9 [5.66±0.3]
41 [2.5]	190.8 [7.51]	144.5±0.9 [5.69±0.3]
49 [3.0]	192.5 [7.58]	146.3±0.9 [5.76±0.3]
59 [3.6]	194.3 [7.65]	148.1±0.9 [5.83±0.3]
66 [4.0]	195.6 [7.70]	149.3±0.9 [5.88±0.3]
80 [4.9]	198.4 [7.81]	152.0±0.9 [5.98±0.3]
102 [6.2]	202.2 [7.96]	155.9±0.9 [6.14±0.3]
131 [8.0]	207.5 [8.17]	161.3±0.9 [6.35±0.3]
157 [9.6]	212.6 [8.37]	166.2±0.9 [6.54±0.3]
195 [11.9]	219.2 [8.63]	172.9±0.9 [6.81±0.3]
244 [14.9]	228.3 [8.99]	181.9±0.9 [7.16±0.3]
306 [18.7]	239.5 [9.43]	193.3±0.9 [7.61±0.3]
370 [22.6]	251.2 [9.89]	205.0±0.9 [8.07±0.3]

Brake release and motor case pressure

The T Series Motor with Parking Brake is durable and has long life as long as the recommended case pressure is not exceeded. Allowable case pressure is highest at low shaft speeds.

Motor life will be shortened if case pressure exceeds recommended ratings (acceptability may vary with application). Refer to the Case Pressure/ Shaft Seal chart below. This chart is based on case pressure and motor shaft speed. A minimum release pressure of 17 Bar [250 PSI] must be maintained to fully release the brake.



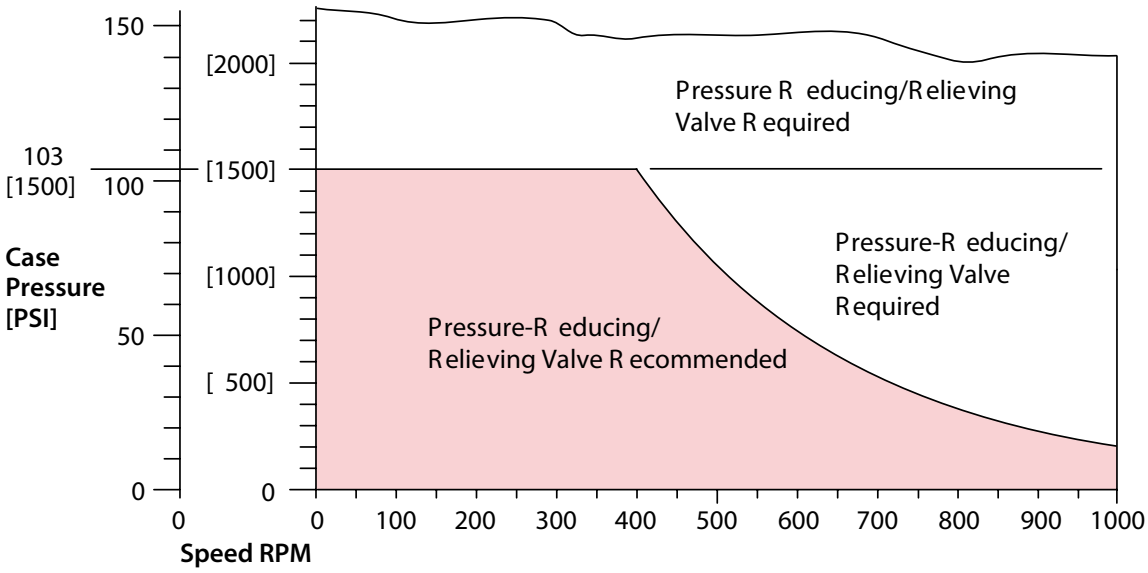


$P_C \approx .6\ DP + P_2$

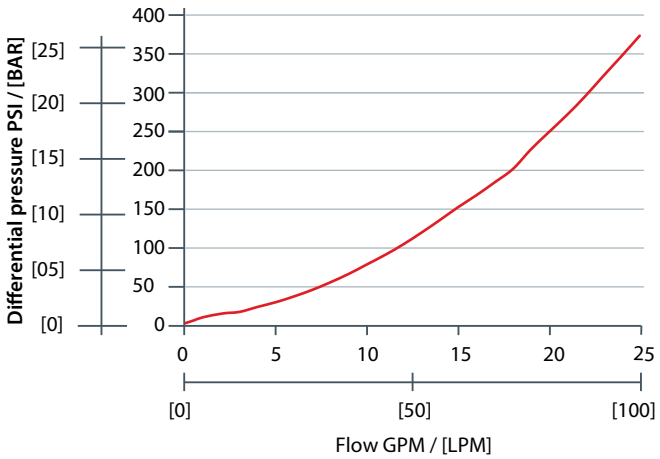
PC = Case P ressure
P_1 = Inlet Line P ressure
P_2 = B ack P ressure
$DP = P_1 - P_2$

Max. Axial loads 454 k g [1 000 lb]

Case pr essur e/shaf t seal



T Series with Parking Brake NLPD - no load pressure drop



T Series with Parking Brake (185-)

Product numbers

Use digit prefix — 185 plus four digit number from charts for complete product number — Example 185-2068.

Orders will not be accepted without three digit prefix.

Standard valving

Mounting	Shaft	Port size	Displ. cm³/r [in³/r] / product number									
			3.0	4.0	4.9	6.2	8.0	9.6	11.9	14.9	18.7	22.6
2 Bolt	1 Keyed	7/8-14 O-Ring	185-2000	—	2002	2003	2004	2005	2006	2007	2008	2009
		Manifold	185-2010	—	2012	—	2014	2015	2016	—	2018	2019
	6B Splined	7/8-14 O-Ring	185-2020	—	2022	2023	2024	2025	—	2027	2028	2029
		Manifold	185-2030	2031	2032	2033	—	2035	2036	2037	2038	2039
	13T Splined 16/32 pitch	7/8-14 O-Ring	185-2040	—	—	2043	2044	2045	—	2047	2048	—
		Manifold	185-2050	2051	—	—	2054	2055	2056	2057	2058	2059
4-Bolt	1 Keyed	7/8-14 O-Ring	—	—	2062	—	2064	2065	—	2067	—	2069
		Manifold	—	—	2072	2073	2074	—	—	2077	2078	—
	6B Splined	7/8-14 O-Ring	185-2080	2081	2082	—	2084	—	2086	—	2088	—
		Manifold	185-2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
	13T Splined 16/32 pitch	7/8-14 O-Ring	185-2100	2101	2102	2103	2104	2105	2106	2107	2108	2109
		Manifold	185-2110	2111	2112	2113	2114	2115	—	2117	2118	2119
2-Bolt SAE B	1 Keyed	7/8-14 O-Ring	—	2121	—	2123	—	2125	2126	2127	2128	—
		Manifold	185-2130	2131	2132	2133	2134	2135	2136	2137	2138	2139
	6B Splined	7/8-14 O-Ring	185-2140	2141	2142	2143	2144	—	2146	2147	2148	—
		Manifold	185-2150	2151	2152	2153	2154	2155	2156	2157	2158	2159
	13T Splined 16/32 pitch	7/8-14 O-Ring	185-2160	—	—	—	2164	2165	2166	2167	—	2169
		Manifold	—	2171	—	2173	2174	—	2176	2177	2178	2179

Low speed valving

Mounting	Shaft	Port size	Displ. cm³/r [in³/r] / product number									
			3.0	4.0	4.9	6.2	8.0	9.6	11.9	14.9	18.7	22.6
2 Bolt	1 Keyed	7/8-14 O-Ring	—	2181	2182	—	—	2185	2186	—	—	2189
		Manifold	185-2190	2191	2192	2193	2194	2195	2196	2197	—	2199
	6B Splined	7/8-14 O-Ring	185-2200	2201	2202	—	—	2205	—	—	—	—
		Manifold	185-2210	2211	2212	2213	—	2215	2216	2217	2218	2219
	13T Splined 16/32 pitch	7/8-14 O-Ring	185-2220	2221	2222	2223	2224	—	—	2227	2228	2229
		Manifold	185-2230	2231	2232	2233	—	2235	2236	2237	2238	2239
4-Bolt	1 Keyed	7/8-14 O-Ring	—	2241	2242	2243	—	2245	2246	—	2248	—
		Manifold	—	2251	2252	2253	2254	—	2256	2257	2258	2259
	6B Splined	7/8-14 O-Ring	185-2260	2261	2262	—	2264	2265	—	2267	2268	2269
		Manifold	185-2270	2271	2272	2273	2274	2275	2276	2277	2278	2279
	13T Splined 16/32 pitch	7/8-14 O-Ring	185-2280	2281	2282	—	2284	2285	2286	2287	2288	2289
		Manifold	185-2290	2291	2292	2293	2294	2295	2296	2297	2298	2299
2-Bolt SAE B	1 Keyed	7/8-14 O-Ring	185-2300	2301	2302	2303	2304	2305	2306	—	2308	2309
		Manifold	185-2310	2311	2312	2313	2314	2315	2316	2317	2318	2319
	6B Splined	7/8-14 O-Ring	185-2320	2321	2322	2323	2324	2325	2326	2327	2328	—
		Manifold	185-2330	2331	2332	2333	2334	2335	2336	2337	2338	2339
	13T Splined 16/32 pitch	7/8-14 O-Ring	185-2340	2341	2342	2343	2344	2345	2346	2347	2348	2349
		Manifold	185-2350	2351	2352	2353	2354	2355	2356	2357	2358	2359

185-2357

Motors with the low speed valving option enable very smooth low speed operation while maintaining high torque.

Designed to run continuously at up to 200 RPM at standard rated pressures and reduced flows, this option provides smooth operation at low speeds. Furthermore, they resist slippage and have more momentary load holding ability than the standard motors.

Motors with this valving are not intended for low pressure applications (A minimum of 300 psi delta must be maintained between A port pressure and case pressure).

Shaft side / radial load ratings are not affected by this valving. For a T Series motor with parking brake configuration not shown in the charts above use the model code system on page B-4-72 to specify the product in detail.

The following 25-digit coding system has been developed to identify all of the configuration options for the T Series Motor with Parking Brake. Use this model code to specify a motor with the desired features. All 25-digits of the code must be present when ordering.

M	TB	***	**	**	**	**	*	*	**	**	00	**	*	**	00	B
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

TB	T Series motor with parking brake

4 5 6 Displacement cm ³/r [in ³/r]

022	36 [2.2]
030	49 [3.0]
040	66 [4.0]
049	80 [4.9]
062	102 [6.2]
080	131 [8.0]
096	157 [9.6]
119	195 [11.9]
149	244 [14.9]
187	306 [18.7]
226	370 [22.6]

7 8 Mounting type

AA	2 Bolt (Standard) 82,5 [3.248] Dia. and 3,05 [.120] pilot, 13,59 [.535] Dia. Mounting Holes 106,35 [4.187] Dia. B.C.
BA	4 Bolt (Standard) 44,40 [1.748] Dia. x 3,05 [.120] pilot, .375-16 UNC-2B Mounting Holes 82,55 [3.250] Dia. B.C.
DA	2 Bolt (Std.) 101,60 [4.000] Dia. x 6.10 [.240] pilot, 14,35 [.565] Dia. Mounting Holes 146,05 [5.750] Dia. B.C. (SAE B)
EA	4 Bolt Magneto 82,50 [3.248] Dia. x 3,05 [.120] Pilot, 13,59 [.535] Dia. Mounting Holes 106,35 [4.187] Dia. B.C.
FA	4 Bolt (Standard) 44,40 [1.748] Dia. x 3,05 [.120] pilot, M10 x 1.5-6H Mounting Holes on 82,55 [3.250] Dia. B.C.

9 10 Output shaft description

01	25,4 [1.00] Dia. Straight, Woodruff Key, .250-20 UNC-2B Hole in Shaft End
02	25,4 [1.00] Dia. SAE 6B Spline, .25-20 UNC-2B Hole in Shaft End
16	SAE 13 Tooth Spline, 16/32 Pitch, 21,74 (.856) Dia. (SAE B)
18	25,4 [1.00] Dia. Tapered, Woodruff Key and Nut, 34,92 [1.375] Taper Length
24	25.00 [.984] Dia. Straight, 8.0 [.315] Key, MB x 1.25-6H Hole in Shaft End

11 12 Port type

AA	.875-14 UNF-2B SAE O-Ring Ports
AB	.500-14 NPTF Dryseal Pipe Thread Ports
AC	Manifold (.3125-18 UNC-2B Mounting Holes)
AD	Manifold Ports (MB x 1.25-6H Mounting Holes)

13 14 Case flow options

00	None specified
03	Manifold case drain

15 Geroler options

A	Standard
B	Free running

16 Shaft options

0	None
N	Electroless nickel plated

17 18 Seal options

00	Standard seals
03	Viton seals
07	High pressure shaft seal

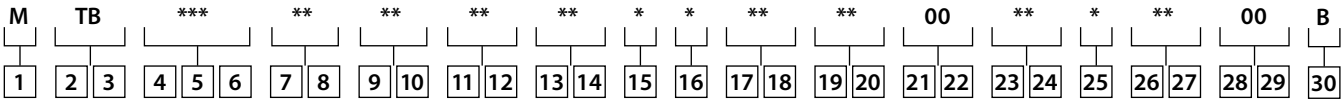
19 20 Speed sensor options

00	None
AA	Digital speed pickup (15 pulse), M12 connector (A=Power, B=Common, C=Signal)

T Series with Parking Brake (185-)

Model code

The following 25-digit coding system has been developed to identify all of the configuration options for the T Series Motor with Parking Brake. Use this model code to specify a motor with the desired features. All 25-digits of the code must be present when ordering.



21 22 Valve options

00	**None**

23 24 Special features (hardware)

00	None specified
AB	Low speed valving

25 Special assembly instructions

0	None
2	Flange rotation 90°

26 27 Paint/packaging options

00	No paint
AA	Low gloss black primer

28 29 Danfoss assigned code when applicable

00	None

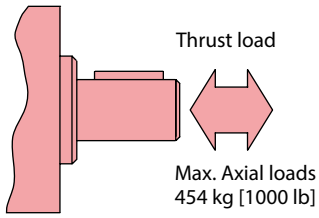
30 Design code

B	**Two**

Case Pressure and Case Drain — H, S, and T Series

Case pressure and case drain instead

Char-Lynn H Series, S Series and T 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 below — chart based on case pressure and shaft speed. If a case drain line is needed, connect drain line to assure that the motor will always remain full of fluid.



$PC \approx 6\,\Delta P + P_2$

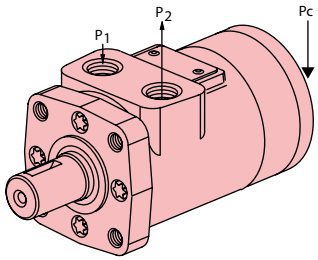
PC = Case Pressure

P_1 = Inlet Line Pressure

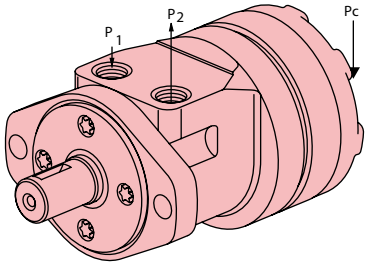
P_2 = Back Pressure

$\Delta P = P_1 - P_2$

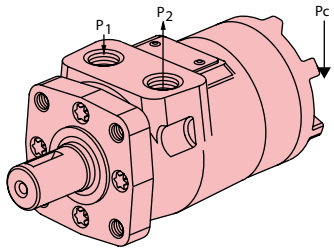
H Series

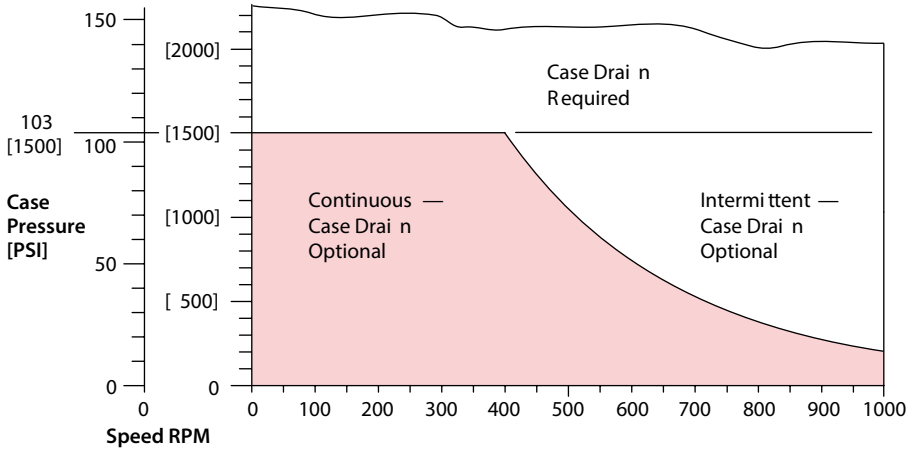


S Series

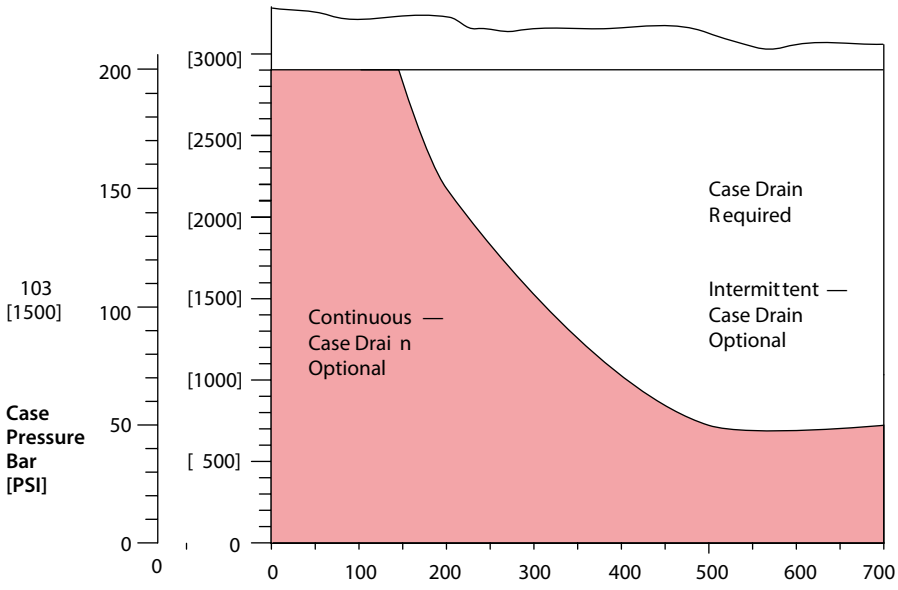


T Series





High pressure shaft seal



H, S and T Series (101-, 103-, 158-, 185-)

Side load capacity

B-4

The hydrodynamic bearing has infinite life when shaft load ratings are not exceeded. Hence, the shaft side load capacity is more than adequate to handle most externally applied loads (such as belts, chains, etc.), providing the motor to shaft size is applied within its torque rating. Allowable side load chart, shaft load location drawing and load curves (below) are based on the side / radial loads being applied to shaft at locations A, B, and C, to determine the shaft side load capacity at locations other than those shown use the formula (shown below). For more information about shaft side loads on Char-Lynn motors contact your Danfoss representative.

Note: When the speed sensor option is used, side load ratings are reduced 25%.

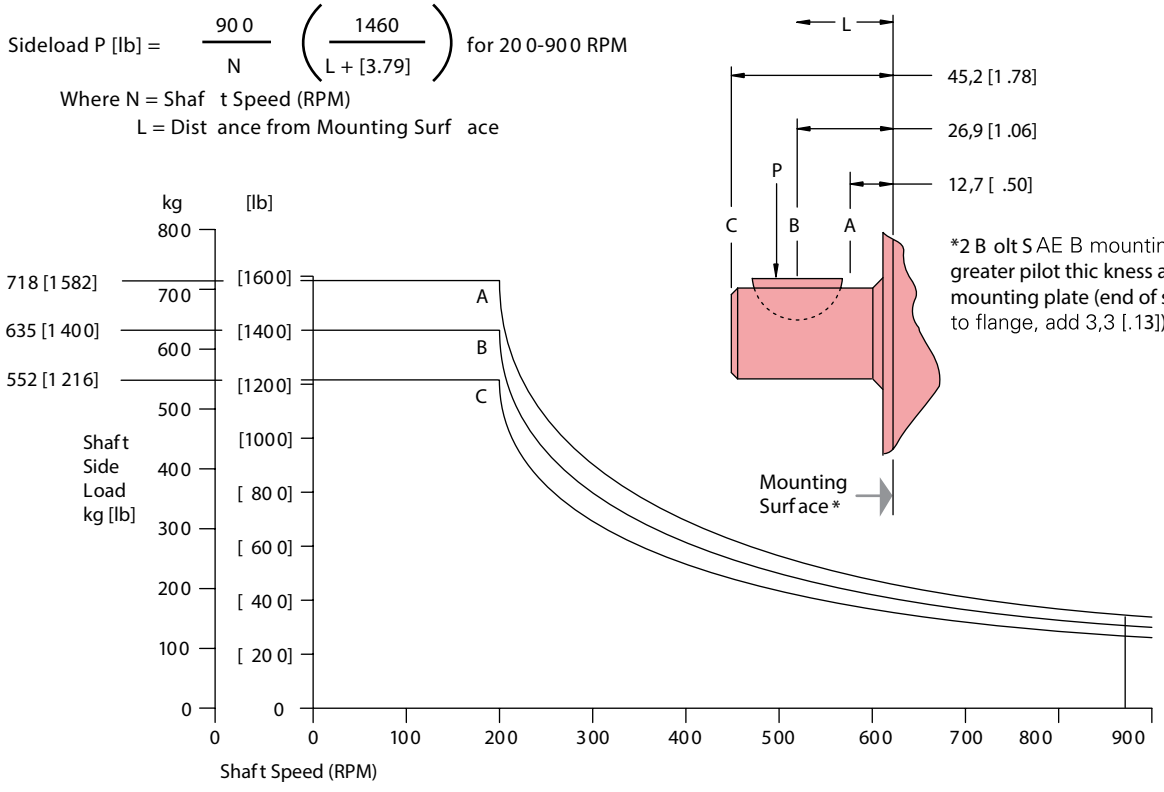
RPM Allowable shaft side load — Kg [lb]

	A	B	C
900	154 [339]	136 [300]	118 [261]
625	205 [452]	181 [400]	158 [348]
500	256 [565]	227 [500]	197 [435]
400	307 [678]	272 [600]	237 [522]
300	410 [904]	363 [800]	316 [696]
200	718 [1582]	635 [1400]	552 [1216]

$$\text{Sideload P kg} = \frac{900}{N}\left(\frac{16800}{L + 96{,}3}\right) \quad \text{for 200-900 RPM}$$

$$\text{Sideload P [lb]} = \frac{900}{N}\left(\frac{1460}{L + [3.79]}\right) \quad \text{for 200-900 RPM}$$

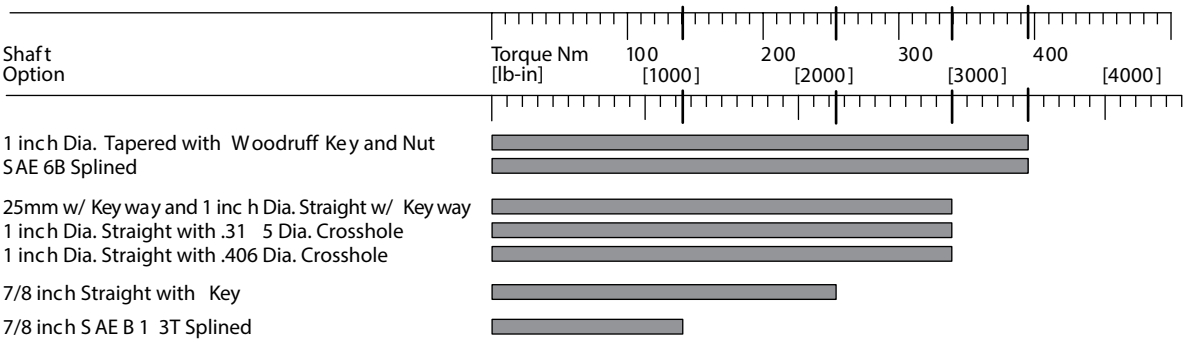
Where N = Shaft Speed (RPM)
L = Distance from Mounting Surface



*2 Bolt SAE B mounting flange has a greater pilot thickness and a thinner mounting plate (end of shaft to flange, add 3,3 [.13]).

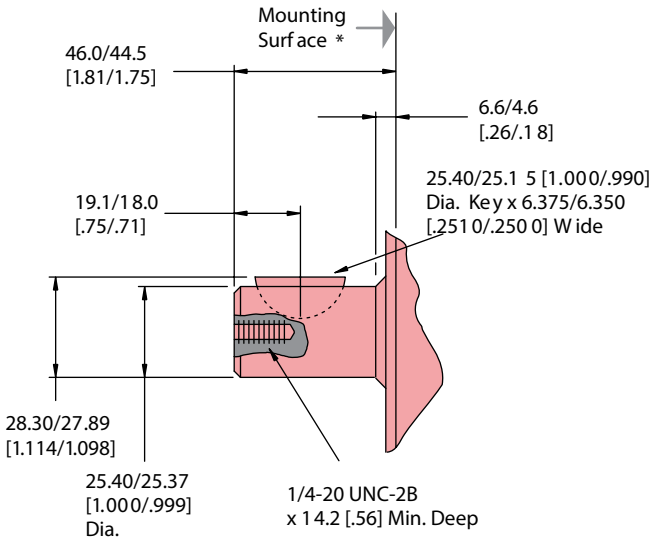
Shafts

Shaft size motor torque combination limit guide



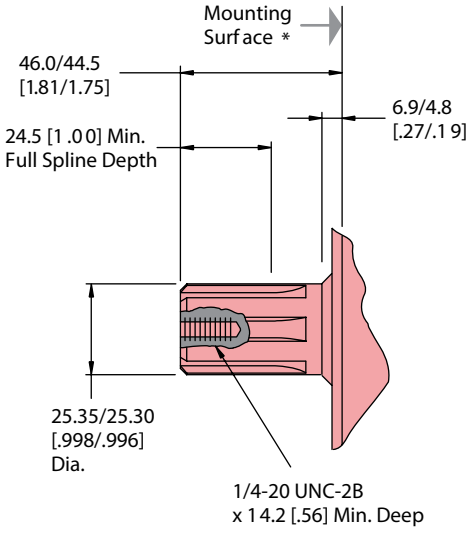
Code: 01

1 in. Dia. Straight with woodruff key



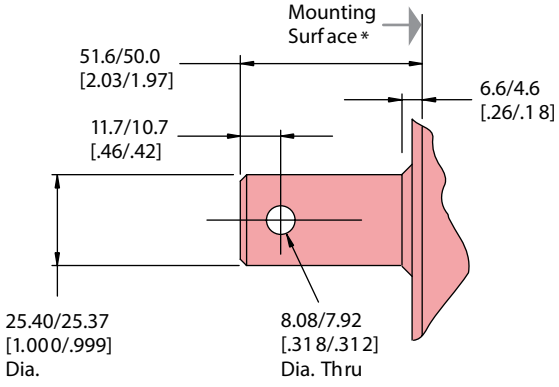
Code: 02

SAE 6B Splined shaft code: 02



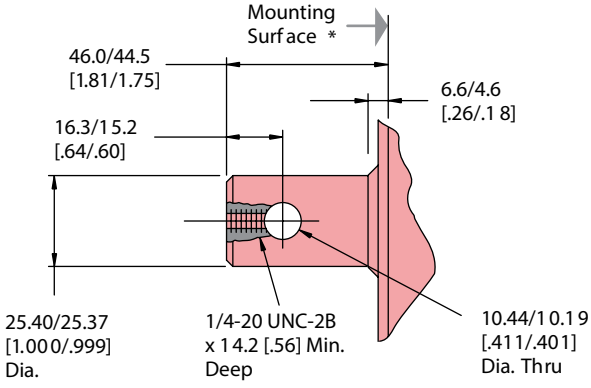
Code: 07

1 in. Dia. Straight Shaft with .315 Dia. Crosshole code: 07



Code: 08

1 in. Dia. Straight Shaft with .406 Dia. Crosshole code: 08



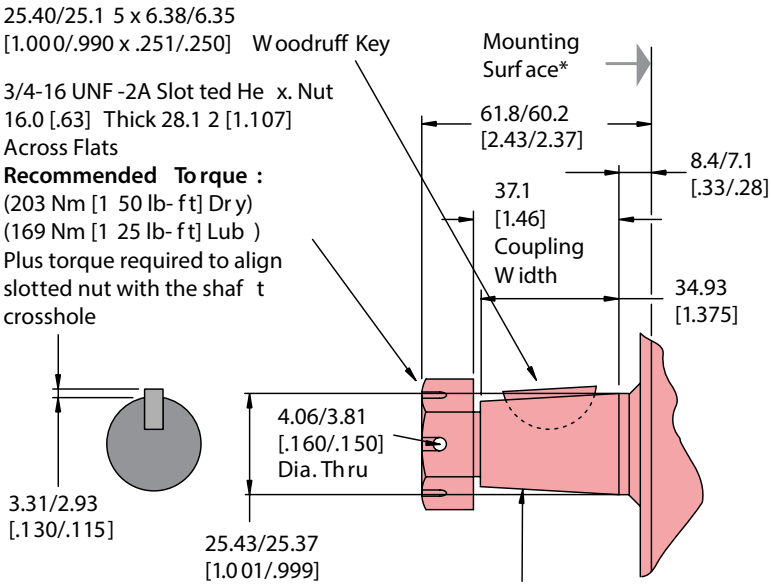
Dimensions

B-4

Shafts

Code: 18

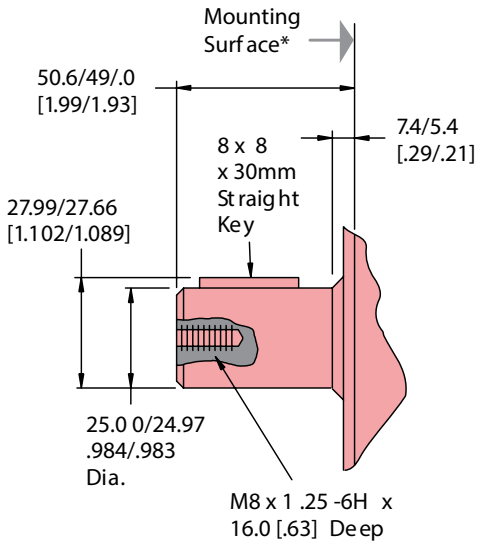
1 in. Dia. Tapered Shaft with Woodruff key and nut



125.00 0.17mm Taper Per Meter [1.50 0.002 inch Taper Per Foot
Tapered Shaft End Per SAE J501 Except as specified

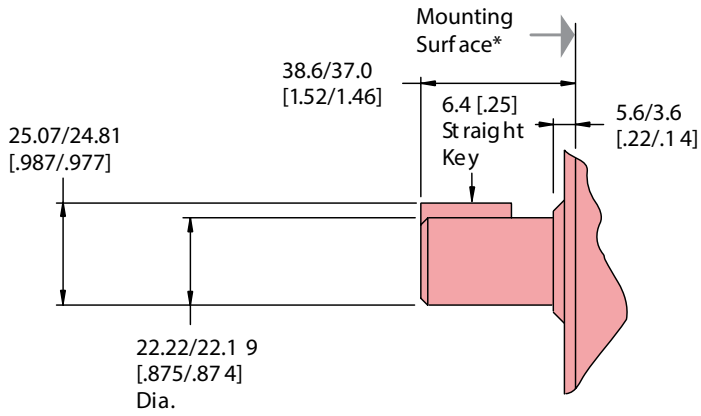
Code: 24

25mm Dia. Straight Shaft with 8mm Keyway



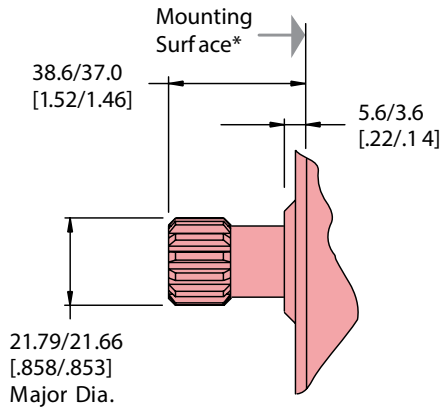
Code: 17

7/8 in. Dia. Straight shaft with key



Code: 16

7/8 in. Dia. SAE B Shaft 13 T Splined



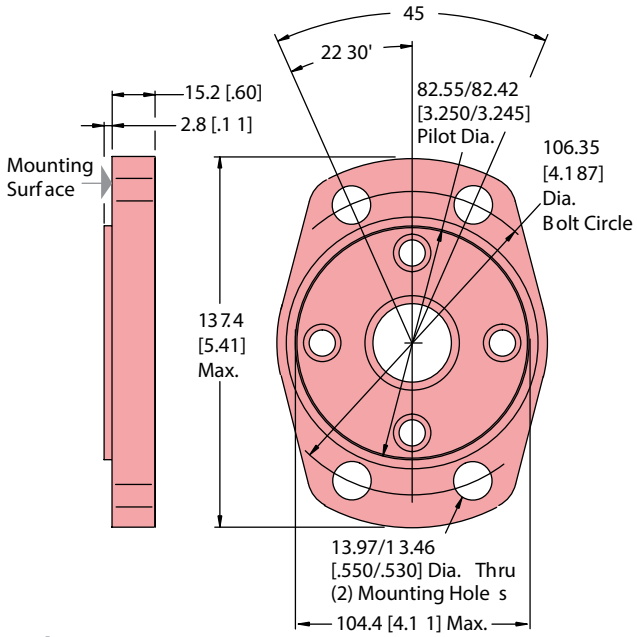
* 2 Bolt SAE B mounting flange has a greater pilot thickness and a thinner mounting plate (end of shaft to flange, add 3,3 [.13]).

Mounting options

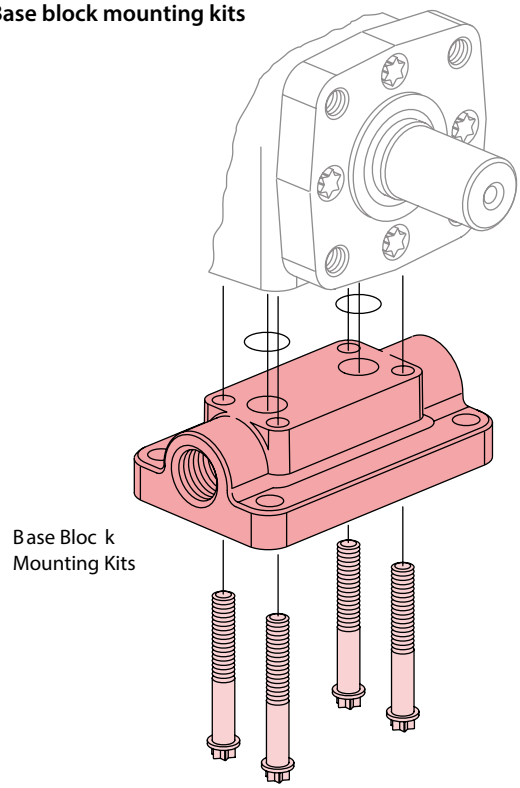
Note: Mounting surface flatness requirement is ,13 mm [.005 inch] Max.

Code: MA

4 Bolt Magnet o

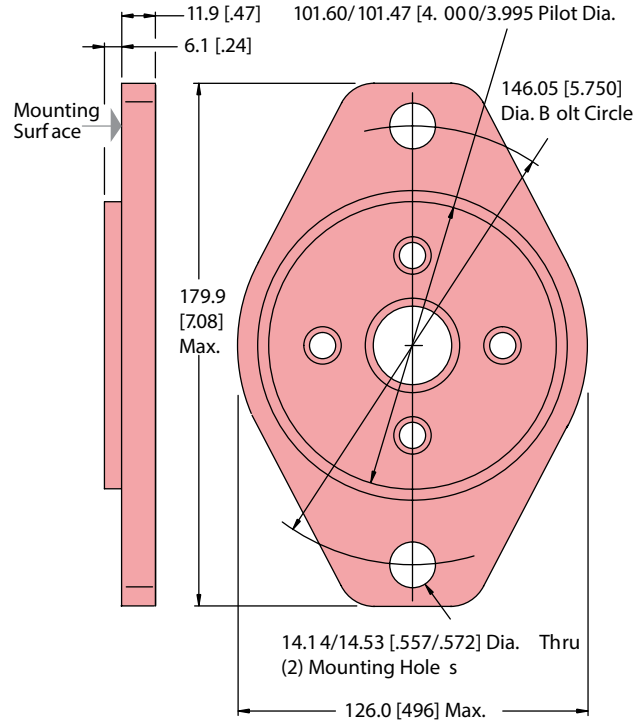


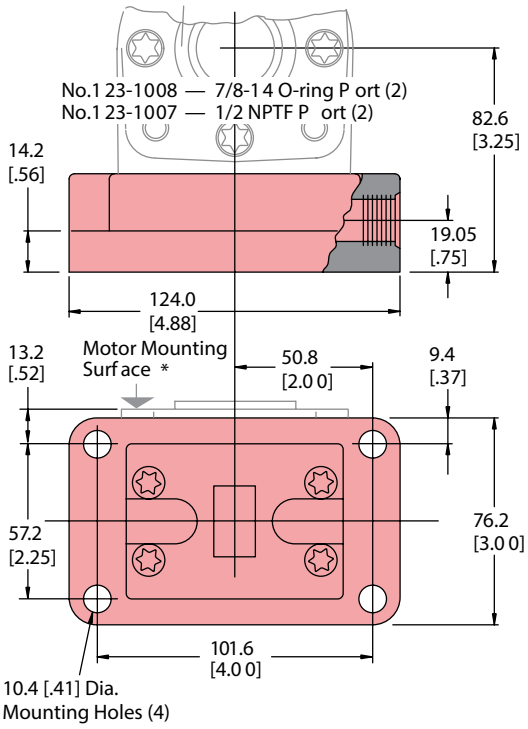
Base block mounting kits



Code: DD

2 Bolt SAE B





*2 Bolt SAE B mounting flange has a greater pilot thickness and a thinner mounting plate.

H, S and T Series (101-, 103-, 158-, 185-)

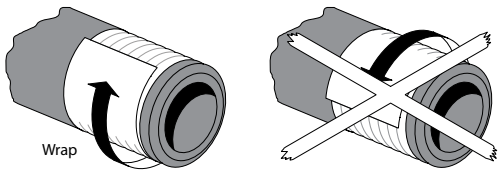
Dimensions

Use of Teflon tape sealant/ lubricant (with 1/2 14 NPTF port connectors only).

When using fittings with Teflon tape, be careful when taping and tightening. Over tightening or improperly taped fittings can cause damage to housing or leakage.

Use the following procedures:

- Wrap approx. 1 1/2 Turns of 13 mm [1/2 in.] wide Teflon tape around fitting threads — start tape 2 threads up from end of fitting.
- Tighten threads to a Maximum of 34 Nm [25 lb-ft]. — Do not tighten further —
- If fittings leak when tightened to maximum torque, either retape, reseal, or replace fittings.



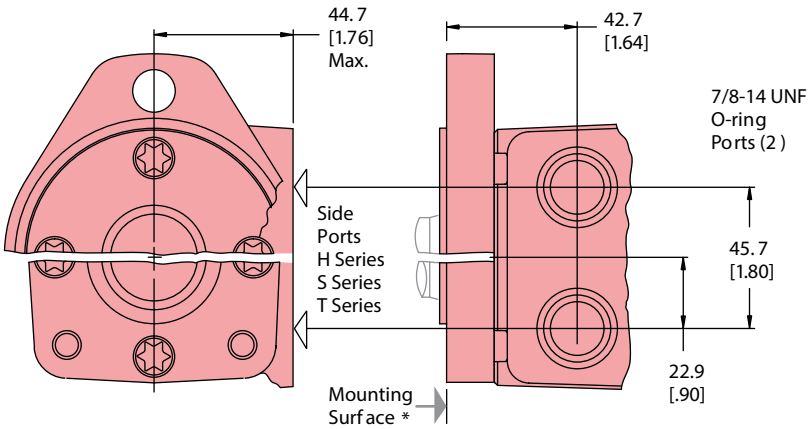
Ports

End Ports — H Series only

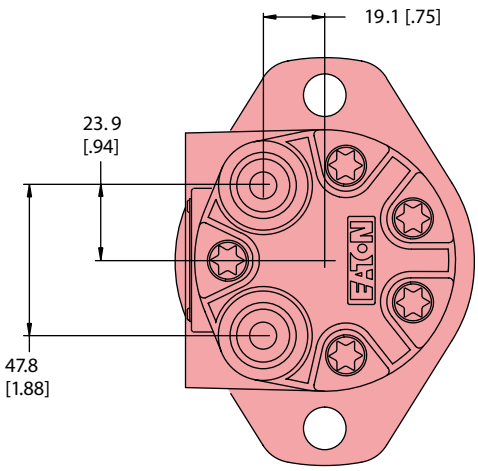
Code: EC G 1/2 (BSP) (2)
or
Code: EB 3/4-16 O-Ring (2)

Note: End ported motor pressure is derated. Reference page B-2-2 for ratings.

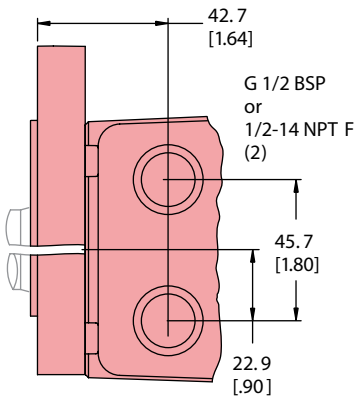
7/8-14 ports Code: AA



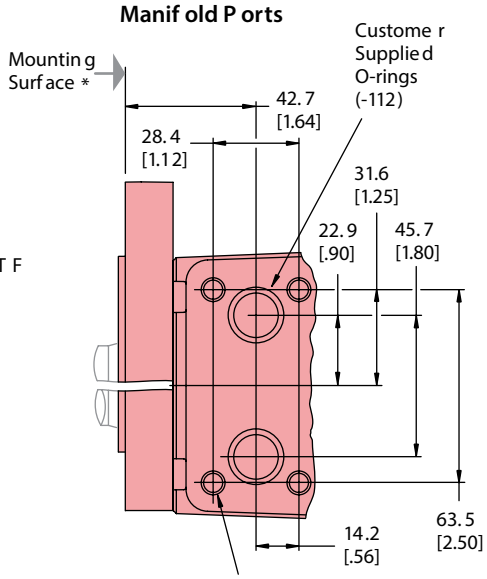
End Ports (H Series only)



G-1/2 or 1/2 NPTF ports

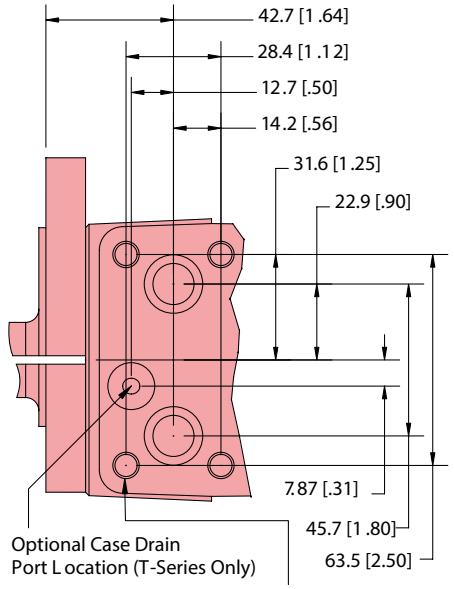


Manifold Ports



Code: AC 5/16-18 UNC (1 2.7 [.50] Max. Screw Thread Engagement) (4)
or
Code: AD M8 x 1 .25 (1 2.7 [.50] Max. Screw Thread Engagement) (4)

Manifold Ports w/manifold case port



5/16-18 UNC (1 2.7 [.50] Max. Screw Thread Engagement) (4)
or M8x1 .25 (1 2.7 [.50] Max. Screw Thread Engagement) (4)

Disc Valve Hydraulic Motors

Disc Valve: 2000, 4000 Compact, Delta, 4000, 6000, 10,000 Series

State of the art motors benefiting from 65 years of experience and innovation to fit your demands.



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 gerotor 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 Danfoss . 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 Danfoss.



Features:

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

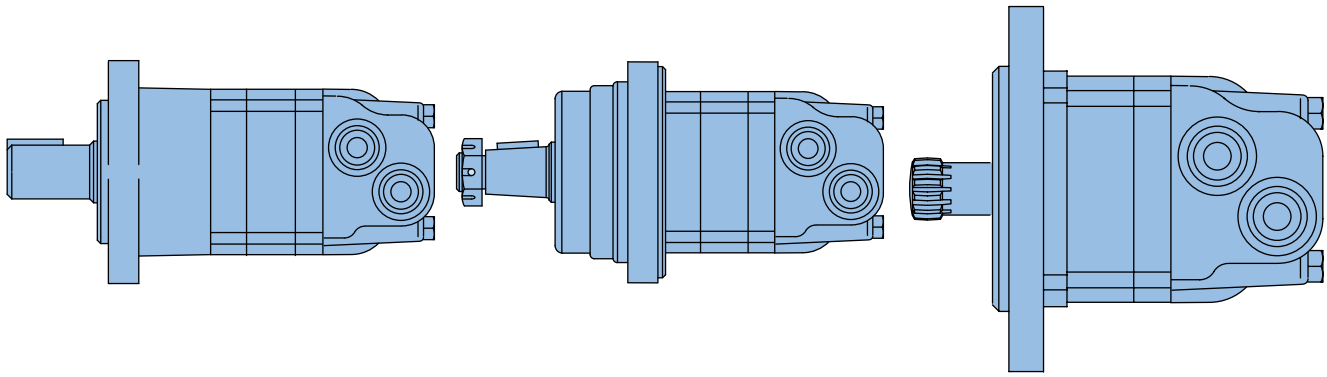
- Displacement (Geroler size)
- Output shaft
- No shaft and bearing assembly (bearingless motor)
- Port configuration
- Mounting flange
- Other special features

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.

Table of contents

Highlights 102
Features, Benefits, and Applications 103
Table of Contents 104

2000 Series

Highlights 105
Specifications 106
Performance data 108
Dimensions 117
Installation information 123
Dimensions 124
Shaft side load capacity 127
Case pressure and case porting 128
Dimensions 129
Product numbers 132
Model code 133

2000 Series Two-Speed

Description 135
Typical hydraulic circuit 136
Specifications 137
Dimensions 138
Product numbers 140
Model code 141

4000 Compact Series

Highlights 142
Specifications 143
Performance data 144
Dimensions 150
Installation information 153
Dimensions 154
Shaft side load capacity 158
Case pressure and case port 159
Dimensions 160
Model code 163

Delta Series

Highlights 165
Specifications 166
Performance data 167
Dimensions 180
Shaft side load capacity 183
Product numbers 184
Model code 185

Delta Series with Parking Brake

Highlights 186
Dimensions 187

4000 Series

Highlights 189
Specifications 190
Performance data 192
Dimensions 202
Installation information 205
Dimensions 206
Shaft side load capacity 207
Case pressure and case port 208
Dimensions 209
Product numbers 210
Model code 211

6000 Series

Highlights 213
Specifications 214
Performance data 215
Dimensions 224
Installation information 228
Dimensions 229
Shaft side load capacity 230
Case pressure and case port 231
Dimensions 232
Product numbers 233
Model code 234

10,000 Series

Highlights 236
Specifications 237
Performance data 238
Dimensions 242
Shaft side load capacity 245
Dimensions 246
Product numbers 247
Model code 248