

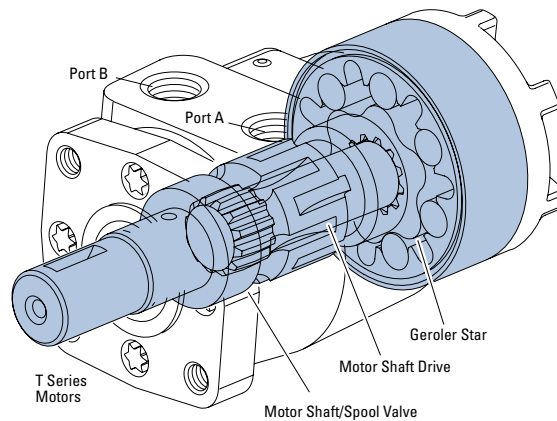
Spool Valve Hydraulic Motors
Series T

10.2014



inspired hydraulics.

T Series (158-) Highlights


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 mill works
- Turf equipment
- Concrete and asphalt equipment
- Skid steer attachments
- Many more

Description

The newest Geroler motor, 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 for T Series Motors

Geroler Element	11 Displacements
Flow l/min [GPM]	55 [15] Continuous*** 75 [20] Intermittent**
Speed	Up to 1021 RPM
Pressure bar [PSI]	155 [2250] Cont.*** 190 [2750] 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.



Crane (winch)



Paving



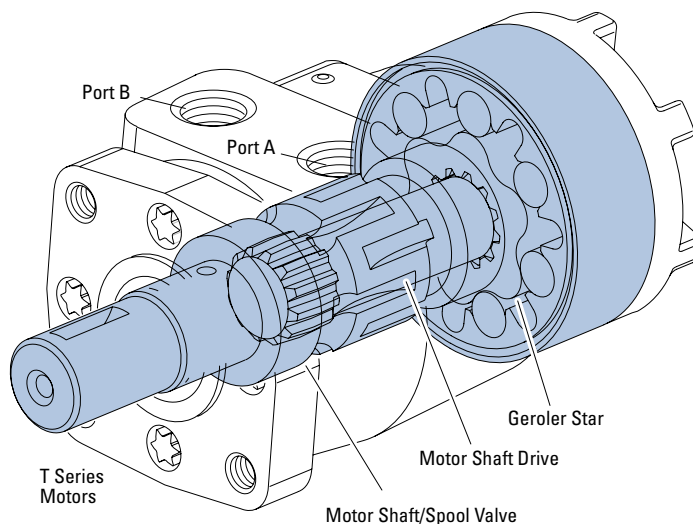
Harvester



Crane and winches



T Series (158-) Specifications



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	849	694	550	426	355	287	229	183	152
Flow LPM [GPM]	Continuous	38 [10]	45 [12]	57 [15]	57 [15]	57 [15]	57 [15]	57 [15]	57 [15]	57 [15]	57 [15]	57 [15]
	Intermittent	38 [10]	57 [15]	68 [18]	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*	155 [2250]	155 [2250]	155 [2250]	155 [2250]	155 [2250]	138 [2000]	138 [2000]	138 [2000]	127 [1850]	110 [1600]	90 [1300]
	Intermittent**	190 [2750]	190 [2750]	190 [2750]	190 [2750]	190 [2750]	172 [2500]	172 [2500]	172 [2500]	155 [2250]	124 [1800]	103 [1500]

A simultaneous maximum torque and maximum speed NOT recommended.

Note:

To assure best motor life, run motor for approximately one hour at 30% of rated pressure before application to full load. Be sure motor is filled with fluid prior to any load applications.

Maximum Inlet Pressure:

190 Bar [2750 PSI] without regard to Δ Bar [D PSI] 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 70 SUS at operating temperature.

Recommended Maximum System Operating Temp.:

82°C [180°F]

Recommended Filtration:

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



T Series (158-, 185-)

Performance Data

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

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

	Continuous
	Intermittent

36 cm³/r [2.2 in³/r]
 Δ Pressure Bar [PSI]
 Continuous

	[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1800]	[2000]	[2200]	[2250]	Max. Continuous	Max. Intermittent
	14	28	41	55	69	83	97	110	124	138	152	155		
[2]	[50]	[110]	[172]	[233]	[291]	[348]	[401]	[455]	[501]	[546]	[590]	[596]	[635]	[2750]
7,6	6	12	19	26	33	39	45	51	57	62	67	67	72	64
[4]	[50]	[109]	[172]	[233]	[296]	[355]	[414]	[475]	[534]	[584]	[646]	[659]	[786]	[89]
15,1	6	12	19	26	33	40	47	54	60	66	73	74	89	283
[6]	[43]	[108]	[171]	[233]	[298]	[361]	[420]	[479]	[538]	[595]	[657]	[672]	[824]	[93]
22,7	5	12	19	26	34	41	47	54	61	67	74	76	93	425
[8]	[39]	[101]	[164]	[226]	[292]	[354]	[415]	[475]	[538]	[592]	[656]	[670]	[819]	[92]
30,3	4	11	19	26	33	40	47	54	61	67	74	76	92	607
[10]	[30]	[93]	[155]	[214]	[278]	[342]	[406]	[473]	[532]	[590]	[650]	[668]	[805]	[91]
37,9	3	11	18	24	31	39	46	53	60	67	73	75	91	799
Max. continuous	1021	1014	1002	999	981	965	953	937	921	903	880	873		

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

49 cm³/r [3.0 in³/r]
 Δ Pressure Bar [PSI]
 Continuous

	[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1800]	[2000]	[2200]	[2250]	Max. Continuous	Max. Intermittent
	14	28	41	55	69	83	97	110	124	138	152	155		
[2]	[73]	[161]	[245]	[327]	[408]	[486]	[563]	[641]	[710]	[786]	[849]	[866]	[1023]	[116]
7,6	8	18	28	37	46	55	64	72	80	89	96	98	116	58
[4]	[72]	[160]	[246]	[329]	[416]	[500]	[584]	[668]	[746]	[825]	[901]	[922]	[1123]	[127]
15,1	8	18	28	37	47	56	66	75	84	93	102	104	127	152
[6]	[58]	[148]	[234]	[326]	[413]	[500]	[583]	[663]	[746]	[827]	[909]	[928]	[1131]	[128]
22,7	7	17	26	37	47	56	66	75	84	93	103	105	128	344
[8]	[44]	[127]	[216]	[306]	[392]	[480]	[566]	[652]	[734]	[815]	[897]	[917]	[1125]	[127]
30,3	5	14	24	35	44	54	64	74	83	92	101	104	127	503
[10]	[39]	[128]	[213]	[302]	[391]	[477]	[562]	[647]	[731]	[815]	[897]	[917]	[1121]	[127]
37,9	4	14	24	34	44	54	63	73	83	92	101	104	127	638
[12]	[33]	[119]	[203]	[291]	[378]	[464]	[551]	[635]	[719]	[802]	[883]	[900]	[1061]	[120]
45,4	4	13	23	33	43	52	62	72	81	91	100	102	120	788
Max. continuous	906	902	895	883	875	862	859	844	835	819	806	804		
Max. Intermittent	[15]	[26]	[86]	[172]	[256]	[342]	[430]	[505]	[591]	[674]	[745]	[830]	[851]	
56,8	3	10	19	29	39	49	57	67	76	84	94	96		
	1132	1124	1113	1115	1106	1106	1098	1093	1079	1070	1058	1056		



T Series (158-, 185-)

Performance Data

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

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

	Continuous
	Intermittent

		66 cm ³ /r [4.0 in ³ /r] Pressure Bar [PSI]														Max. Continuous	Max. Intermittent
		[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1800]	[2000]	[2200]	[2250]	[2250]	[2750]		
		14	28	41	55	69	83	97	110	124	138	152	155	190			
Flow LPM [GPM]	[2]	[78] 9	[191] 22	[303] 34	[414] 47	[522] 59	[625] 71	[706] 80	[804] 91	[898] 101	[991] 112	[1081] 122	[1103] 125	[1318] 149			
	7,6	114	111	110	107	105	101	96	92	87	81	73	72	48			
	[4]	[97] 11	[209] 24	[325] 37	[441] 50	[548] 62	[657] 74	[766] 87	[873] 99	[972] 110	[1077] 122	[1181] 133	[1205] 136	[1437] 162			
	15,1	229	229	217	216	212	205	194	190	186	183	181	178	170			
	[6]	[79] 9	[192] 22	[309] 35	[426] 48	[534] 60	[649] 73	[760] 86	[874] 99	[984] 111	[1090] 123	[1190] 134	[1218] 138	[1488] 168			
	22,7	344	343	335	334	321	320	319	315	291	288	279	276	270			
	[8]	[75] 8	[191] 22	[304] 34	[419] 47	[532] 60	[645] 73	[759] 86	[871] 98	[982] 111	[1092] 123	[1197] 135	[1222] 138	[1458] 165			
	30,3	456	451	447	442	431	426	419	415	412	401	391	386	339			
	[10]	[49] 6	[163] 18	[283] 32	[398] 45	[509] 58	[623] 70	[742] 84	[856] 97	[971] 110	[1080] 122	[1186] 134	[1209] 137	[1425] 161			
	37,9	569	565	560	552	547	541	532	525	512	504	498	496	475			
	[12]	[24] 3	[156] 18	[270] 31	[385] 43	[502] 57	[614] 69	[729] 82	[845] 95	[963] 109	[1067] 121	[1182] 134	[1209] 137	[1472] 166			
	45,4	681	678	671	665	658	651	641	635	623	612	604	601	571			
	[14]	[19] 2	[143] 16	[261] 29	[370] 42	[485] 55	[602] 68	[718] 81	[837] 95	[948] 107	[1064] 120	[1175] 133	[1199] 135	[1436] 162			
	53,0	793	788	787	778	771	762	753	746	733	723	715	711	677			
	Max. Continuous	[15]	[13] 1	[120] 14	[236] 27	[352] 40	[471] 53	[590] 67	[707] 80	[823] 93	[939] 106	[1052] 119	[1165] 132	[1192] 135	[1462] 165		
56,8	849	844	839	832	826	819	806	800	786	779	770	766	725				
Max. Intermittent	[18]		[107] 12	[215] 24	[326] 37	[442] 50	[555] 63	[669] 76	[786] 89	[900] 102	[1016] 115	[1123] 127	[1152] 130				
68,1		1006	1003	998	988	976	975	965	952	940	924	919					

		80 cm ³ /r [4.9 in ³ /r] Pressure Bar [PSI]														Max. Continuous	Max. Intermittent
		[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1800]	[2000]	[2200]	[2250]	[2250]	[2750]		
		14	28	41	55	69	83	97	110	124	138	152	155	190			
Flow LPM [GPM]	[2]	[123] 14	[265] 30	[405] 46	[544] 61	[680] 77	[804] 91	[934] 106	[1052] 119	[1181] 133	[1079] 122	[937] 106	[895] 101				
	7,6	93	90	86	83	80	75	70	63	57	43	24	20				
	[4]	[120] 14	[264] 30	[406] 46	[551] 62	[689] 78	[828] 94	[965] 109	[1101] 124	[1237] 140	[1369] 155	[1505] 170	[1537] 174	[1857] 210			
	15,1	187	185	183	179	175	171	166	162	156	150	142	140	121			
	[6]	[113] 13	[255] 29	[398] 45	[542] 61	[682] 77	[823] 93	[963] 109	[1101] 124	[1239] 140	[1373] 155	[1508] 170	[1541] 174	[1868] 211			
	22,7	279	275	271	267	265	258	253	248	240	232	223	221	198			
	[8]	[99] 11	[243] 27	[386] 44	[528] 60	[669] 76	[812] 92	[954] 108	[1094] 124	[1233] 139	[1368] 155	[1503] 170	[1537] 174	[1872] 212			
	30,3	372	367	364	359	354	351	343	338	333	324	315	313	289			
	[10]	[84] 9	[228] 26	[371] 42	[514] 58	[655] 74	[798] 90	[941] 106	[1080] 122	[1219] 138	[1357] 153	[1496] 169	[1530] 173	[1870] 211			
	37,9	463	460	456	450	446	441	435	428	420	412	403	399	368			
	[12]	[63] 7	[209] 24	[354] 40	[498] 56	[638] 72	[782] 88	[926] 105	[1067] 121	[1208] 136	[1346] 152	[1484] 168	[1520] 172	[1864] 211			
	45,4	557	552	547	543	537	530	523	515	509	500	489	487	470			
	[14]	[55] 6	[185] 21	[331] 37	[476] 54	[620] 70	[762] 86	[904] 102	[1046] 118	[1188] 134	[1327] 150	[1467] 166	[1502] 170	[1842] 208			
	53,0	649	646	642	635	630	622	616	609	599	592	581	578	550			
	Max. Continuous	[15]	[51] 6	[176] 20	[316] 36	[463] 52	[609] 69	[748] 85	[891] 101	[1037] 117	[1177] 133	[1316] 149	[1457] 165	[1491] 168	[1844] 208		
56,8	694	691	687	680	673	668	660	650	642	634	622	619	598				
Max. Intermittent	[20]		[160] 18	[305] 34	[455] 51	[578] 65	[737] 83	[857] 97	[968] 109	[1144] 129	[1277] 144	[1412] 160	[1446] 163				
75,7		916	910	893	893	875	875	866	877	843	833	839	836				

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



T Series (158-, 185-)

Performance Data

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

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

	Continuous
	Intermittent

		102 cm ³ /r [6.2 in ³ /r] Pressure Bar [PSI] Continuous											Max. Contin- uous	Max. Inter- mittent		
		[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1800]	[2000]	[2200]	[2250]	[2750]		
		14	28	41	55	69	83	97	110	124	138	152	155	190		
Flow LPM [GPM]	[2]	[161]	[341]	[519]	[697]	[871]	[1030]	[1193]	[1349]	[1511]	[1496]	[1441]	[1421]			
	7,6	18 73	39 71	59 68	79 66	98 63	116 60	135 56	152 51	171 46	169 36	163 23	161 20			
	[4]	[157]	[340]	[520]	[702]	[879]	[1056]	[1229]	[1401]	[1567]	[1727]	[1889]	[1925]	[2271]		
	15,1	18 149	38 146	59 144	79 141	99 138	119 135	139 131	158 128	177 124	195 118	213 111	217 109	257 92		
	[6]	[147]	[329]	[510]	[692]	[871]	[1050]	[1227]	[1401]	[1571]	[1731]	[1895]	[1936]	[2339]		
	22,7	17 221	37 217	58 214	78 211	98 208	119 204	139 199	158 195	178 190	196 184	214 176	219 174	264 154		
	[8]	[132]	[315]	[497]	[675]	[857]	[1038]	[1216]	[1392]	[1564]	[1725]	[1891]	[1932]	[2326]		
	30,3	15 294	36 290	56 287	76 284	97 280	117 277	137 271	157 267	177 262	195 255	214 247	218 245	263 220		
	[10]	[109]	[293]	[477]	[657]	[839]	[1018]	[1198]	[1374]	[1542]	[1711]	[1878]	[1918]	[2326]		
	37,9	12 367	33 363	54 360	74 355	95 351	115 347	135 343	155 337	174 332	193 325	212 318	217 315	263 287		
[12]	[84]	[271]	[457]	[638]	[818]	[999]	[1179]	[1354]	[1527]	[1697]	[1858]	[1901]	[2323]			
45,4	9 440	31 436	52 432	72 429	92 424	113 419	133 414	153 409	173 402	192 395	210 386	215 384	262 364			
[14]	[59]	[242]	[428]	[611]	[794]	[974]	[1151]	[1328]	[1502]	[1674]	[1841]	[1883]	[2301]			
53,0	7 513	27 510	48 506	69 501	90 497	110 492	130 487	150 482	170 475	189 469	208 458	213 456	260 428			
[15]	[39]	[227]	[411]	[595]	[780]	[957]	[1136]	[1314]	[1486]	[1658]	[1828]	[1869]	[2285]			
Max. Contin- uous	56,8	4 550	26 545	46 542	67 537	88 532	108 528	128 522	148 518	168 510	187 502	207 490	258 463			
Max. Inter- mittent	[20]		[154]	[328]	[515]	[710]	[874]	[1060]	[1243]	[1405]	[1579]	[1763]	[1803]			
	75,7		17 724	37 718	58 720	80 709	99 707	120 696	140 684	159 683	178 670	199 659	204 660			

		131 cm ³ /r [8.0 in ³ /r] Pressure Bar [PSI] Continuous											Max. Contin- uous	Max. Inter- mittent
		[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1800]	[2000]	[2500]		
		14	28	41	55	69	83	97	110	124	138	172		
Flow LPM [GPM]	[2]	[219]	[450]	[682]	[915]	[1144]	[1348]	[1561]	[1771]	[1979]	[2159]			
	7,6	25 57	51 55	77 53	103 51	129 49	152 47	176 43	200 40	224 36	244 30			
	[4]	[212]	[449]	[681]	[917]	[1148]	[1376]	[1600]	[1822]	[2025]	[2221]	[2629]		
	15,1	24 115	51 113	77 110	104 109	130 107	155 105	181 102	206 99	229 96	251 91	297 75		
	[6]	[197]	[435]	[669]	[903]	[1139]	[1370]	[1600]	[1818]	[2032]	[2226]	[2718]		
	22,7	22 171	49 168	76 166	102 163	129 160	155 157	181 154	205 150	230 147	252 142	307 125		
	[8]	[181]	[417]	[657]	[886]	[1122]	[1359]	[1589]	[1812]	[2022]	[2215]	[2699]		
	30,3	20 227	47 225	74 222	100 219	127 217	154 213	180 209	205 206	228 202	250 196	305 175		
	[10]	[144]	[389]	[631]	[859]	[1098]	[1330]	[1562]	[1783]	[1993]	[2198]	[2687]		
	37,9	16 284	44 281	71 278	97 275	124 271	150 267	176 265	201 261	225 258	248 252	304 231		
[12]	[114]	[361]	[605]	[838]	[1075]	[1307]	[1532]	[1755]	[1965]	[2177]	[2671]			
45,4	13 341	41 338	68 334	95 332	121 328	148 325	173 321	198 318	222 312	246 307	302 285			
[14]	[82]	[327]	[569]	[803]	[1042]	[1273]	[1498]	[1722]	[1935]	[2147]	[2655]			
53,0	9 397	37 394	64 391	91 387	118 384	144 361	169 378	195 374	219 370	243 365	300 339			
[15]	[66]	[302]	[550]	[785]	[1025]	[1254]	[1480]	[1704]	[1915]	[2119]	[2648]			
Max. Contin- uous	56,8	7 426	34 423	62 422	89 415	116 412	142 409	167 405	193 402	216 398	239 392	299 367		
Max. Inter- mittent	[20]		[177]	[429]	[678]	[908]	[1143]	[1375]	[1596]	[1811]	[2017]			
	75,7		20 565	48 560	77 556	103 553	129 549	155 546	180 541	205 536	228 527			

[302] } Torque [lb-in]
34 } Nm
423 } Speed RPM





T Series (158-, 185-)

Performance Data

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

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

 Continuous
 Intermittent

		157 cm ³ /r [9.6 in ³ /r] Δ Pressure Bar [PSI] Continuous										Max. Continuous	Max. Intermittent	
		[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1800]	[2000]	[2500]		
		14	28	41	55	69	83	97	110	124	138	172		
Flow LPM [GPM]	[2] 7,6	[264] 30 47	[541] 61 45	[819] 93 44	[1092] 123 42	[1357] 153 40	[1605] 181 37	[1847] 209 34	[2084] 235 30	[2311] 261 25	[1858] 210 16			
	[4] 15,1	[259] 29 96	[541] 61 95	[822] 93 92	[1101] 124 91	[1373] 155 90	[1638] 185 88	[1890] 214 85	[2145] 242 82	[2383] 269 78	[2613] 295 73	[3063] 346 60		
	[6] 22,7	[241] 27 142	[526] 59 140	[808] 91 138	[1090] 123 136	[1368] 155 134	[1638] 185 132	[1900] 215 129	[2150] 243 125	[2399] 271 121	[2628] 297 114	[3169] 358 99		
	[8] 30,3	[219] 25 189	[506] 57 187	[789] 89 185	[1068] 121 183	[1348] 152 181	[1625] 184 178	[1885] 213 175	[2140] 242 172	[2388] 270 176	[2619] 296 159	[3178] 359 149		
	[10] 37,9	[180] 20 237	[472] 53 234	[759] 86 232	[1037] 117 230	[1319] 149 227	[1590] 180 224	[1853] 209 222	[2111] 239 218	[2355] 266 211	[2594] 293 203	[3170] 358 183		
	[12] 45,4	[141] 16 284	[436] 49 282	[728] 82 279	[1010] 114 277	[1292] 146 274	[1561] 176 272	[1821] 206 269	[2079] 235 265	[2331] 263 257	[2573] 291 248	[3162] 357 225		
	[14] 53,0	[101] 11 332	[397] 45 329	[687] 78 326	[969] 109 323	[1252] 141 321	[1519] 172 319	[1778] 201 316	[2040] 230 311	[2295] 259 305	[2539] 287 296	[3147] 356 274		
	Max. Continuous 56,8	[81] 9 355	[367] 41 353	[665] 75 350	[944] 107 347	[1231] 139 344	[1497] 169 342	[1755] 198 339	[2018] 228 334	[2273] 257 327	[2512] 284 318	[3136] 354 300		
	Max. Intermittent 75,7	[20]	[221] 25 472	[519] 59 467	[814] 92 464	[1095] 124 462	[1368] 155 459	[1631] 184 455	[1891] 214 450	[2149] 243 443	[2396] 271 433			

		195 cm ³ /r [11.9 in ³ /r] Δ Pressure Bar [PSI] Continuous										Max. Continuous	Max. Intermittent		
		[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1750]	[1800]	[2000]	[2500]		
		14	28	41	55	69	83	97	110	121	125	138	172		
Flow LPM [GPM]	[2] 7,6	[330] 37 38	[671] 76 36	[1016] 115 34	[1345] 152 33	[1654] 187 31	[1969] 222 28	[2242] 253 25	[2507] 283 20	[2689] 304 16	[2748] 310 14	[2973] 336 8			
	[4] 15,1	[328] 37 77	[675] 76 77	[1026] 116 75	[1366] 154 73	[1692] 191 73	[2010] 227 71	[2289] 259 68	[2586] 292 65	[2799] 316 62	[2867] 324 61	[3144] 355 55	[3797] 429 40		
	[6] 22,7	[306] 35 115	[658] 74 113	[1011] 114 111	[1360] 154 110	[1698] 192 109	[2021] 228 107	[2324] 263 104	[2604] 294 100	[2829] 320 97	[2901] 328 95	[3178] 359 87	[3831] 433 68		
	[8] 30,3	[272] 31 153	[634] 72 151	[980] 111 150	[1331] 150 148	[1675] 189 146	[2003] 226 144	[2300] 260 142	[2592] 293 139	[2815] 318 134	[2888] 326 132	[3174] 359 123	[3864] 437 99		
	[10] 37,9	[238] 27 192	[596] 67 189	[945] 107 188	[1296] 146 186	[1637] 185 184	[1960] 221 183	[2255] 255 181	[2565] 290 176	[2786] 315 168	[2857] 323 166	[3140] 355 156	[3816] 431 133		
	[12] 45,4	[181] 20 230	[545] 62 228	[908] 103 226	[1260] 142 224	[1607] 182 222	[1924] 217 221	[2223] 251 219	[2529] 286 213	[2759] 312 207	[2836] 320 204	[3121] 353 192	[3807] 430 160		
	[14] 53,0	[154] 17 268	[500] 56 266	[860] 97 264	[1211] 137 261	[1556] 176 259	[1869] 211 259	[2175] 246 256	[2483] 281 251	[2713] 307 244	[2792] 315 242	[3080] 348 229	[3778] 427 199		
	Max. Continuous 56,8	[140] 16 287	[465] 53 285	[832] 94 283	[1179] 133 281	[1525] 172 279	[1835] 207 278	[2144] 242 275	[2459] 278 269	[2693] 304 262	[2768] 313 260	[3061] 346 247	[3764] 425 220		
	Max. Intermittent 75,7	[20]	[291] 33 382	[653] 74 378	[1013] 114 375	[1366] 154 373	[1689] 191 372	[1987] 225 368	[2298] 260 363	[2540] 287 356	[2622] 296 353	[2928] 331 342			

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



Änderungen und Druckfehler vorbehalten · 10.2014 · EN · EATON_Motoren T Series



T Series (158-, 185-)

Performance Data

Motors run with high efficiency in all areas designated with a number for torque and speed. For best motor life select a motor to run with a torque and speed range shown in the light shaded area. Performance data is typical at 120 SUS. Actual data may vary slightly from unit to unit in production.

 Continuous
 Intermittent

		244 cm³/r [14.9 in³/r] Pressure Bar [PSI]											Max. Continuous	Max. Intermittent	
		Continuous													
		[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1650]	[1800]	[1850]	[2250]		
		14	28	41	55	69	83	97	110	114	125	127	155		
Flow LPM [GPM]	[2]	[406]	[833]	[1260]	[1655]	[2038]	[2403]	[2707]	[2597]	[2552]	[2373]	[2299]			
	7.6	46	94	142	187	230	272	306	293	288	268	260			
	15.1	[4]	[404]	[843]	[1277]	[1695]	[2083]	[2468]	[2820]	[3177]	[3261]	[3509]	[3589]	[4194]	
		46	95	144	192	235	279	319	359	368	396	406	406	474	
	22.7	[6]	[382]	[823]	[1261]	[1687]	[2088]	[2477]	[2843]	[3196]	[3285]	[3547]	[3633]	[4290]	
		43	91	142	191	236	280	321	361	371	396	410	410	485	
	30.3	[8]	[341]	[787]	[1220]	[1651]	[2059]	[2454]	[2820]	[3177]	[3265]	[3530]	[3615]	[4285]	
		34	84	133	182	228	277	319	359	369	396	406	406	484	
	37.9	[10]	[297]	[744]	[1177]	[1611]	[2017]	[2412]	[2774]	[3151]	[3241]	[3504]	[3593]	[4269]	
		25	78	128	175	222	267	309	351	361	392	402	402	482	
45.4	[12]	[225]	[687]	[1132]	[1553]	[1967]	[2360]	[2734]	[3105]	[3194]	[3466]	[3554]	[4237]		
	25	78	128	175	222	267	309	351	361	392	402	402	479		
53.0	[14]	[154]	[628]	[1072]	[1498]	[1910]	[2298]	[2674]	[3052]	[3148]	[3419]	[3510]	[4226]		
	17	71	121	169	216	260	302	345	356	386	397	397	477		
Max. Continuous	[15]	[119]	[586]	[1035]	[1458]	[1872]	[2261]	[2637]	[3022]	[3116]	[3389]	[3488]	[4220]		
	13	66	117	165	212	255	298	341	352	383	394	394	477		
Max. Intermittent	[20]		[372]	[816]	[1251]	[1663]	[2067]	[2448]	[2832]	[2928]	[3214]	[3312]			
	42	92	141	188	234	277	320	331	363	374	374	474			

		306 cm³/r [18.7 in³/r] Pressure Bar [PSI]											Max. Continuous	Max. Intermittent	
		Continuous													
		[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1500]	[1600]	[1650]	[1800]	[1800]		
		14	28	41	55	69	83	97	103	110	124	124			
Flow LPM [GPM]	[2]	[499]	[1035]	[1560]	[2034]	[2501]	[2912]	[3239]	[2859]	[2400]					
	7.6	56	117	176	230	283	329	366	323	271					
	15.1	[4]	[497]	[1052]	[1590]	[2101]	[2561]	[3023]	[3464]	[3680]	[3886]			[4221]	
		56	119	180	237	289	342	391	416	439	439			477	
	22.7	[6]	[480]	[1031]	[1578]	[2096]	[2564]	[3023]	[3464]	[3689]	[3905]			[4275]	
		54	116	178	237	290	342	391	417	441	441			483	
	30.3	[8]	[427]	[975]	[1520]	[2051]	[2525]	[2998]	[3448]	[3667]	[3881]			[4264]	
		48	110	172	232	285	339	390	414	438	438			482	
	37.9	[10]	[370]	[930]	[1467]	[2001]	[2477]	[2955]	[3406]	[3631]	[3852]			[4264]	
		42	105	166	226	280	334	385	410	435	435			482	
45.4	[12]	[281]	[871]	[1410]	[1908]	[2400]	[2887]	[3352]	[3573]	[3790]			[4189]		
	32	98	159	216	271	326	379	404	428	428			473		
53.0	[14]	[192]	[791]	[1338]	[1851]	[2338]	[2816]	[3281]	[3511]	[3743]			[4135]		
	22	89	151	209	264	318	371	397	423	423			467		
Max. Continuous	[15]	[148]	[738]	[1288]	[1803]	[2287]	[2773]	[3243]	[3475]	[3705]			[4098]		
	17	83	146	204	258	313	366	393	419	419			463		
Max. Intermittent	[20]		[476]	[1020]	[1544]	[2010]	[2519]	[3010]	[3243]	[3495]					
	54	243	242	242	241	238	231	226	209	209					

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

		370 cm³/r [22.6 in³/r] Pressure Bar [PSI]											Max. Continuous	Max. Intermittent	
		Continuous													
		[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1500]	[1600]	[1650]	[1800]	[1800]		
		14	28	41	55	69	83	97	103	110	124	124			
Flow LPM [GPM]	[2]	[590]	[1237]	[1858]	[2406]	[2953]	[3388]	[3586]							
	7.6	67	140	210	272	334	383	405							
	15.1	[4]	[588]	[1263]	[1906]	[2506]	[3029]	[3557]	[3811]					[4252]	
		66	143	215	283	342	402	431	431					480	
	22.7	[6]	[580]	[1245]	[1899]	[2506]	[3029]	[3544]	[3788]					[4300]	
		66	141	215	283	342	400	428	428					486	
	30.3	[8]	[514]	[1164]	[1824]	[2452]	[2975]	[3518]	[3783]					[4284]	
		58	132	206	277	336	397	427	427					484	
	37.9	[10]	[444]	[1119]	[1759]	[2391]	[2928]	[3479]	[3750]					[4275]	
		50	126	199	270	331	393	424	424					483	
45.4	[12]	[337]	[1062]	[1690]	[2256]	[2813]	[3393]	[3685]					[4273]		
	38	120	191	255	318	383	416	416					483		
53.0	[14]	[231]	[958]	[1608]	[2201]	[2748]	[3319]	[3610]					[4198]		
	26	108	162	249	310	375	408	408					474		
Max. Continuous	[15]	[178]	[896]	[1543]	[2147]	[2683]	[3272]	[3572]					[4187]		
	20	101	174	243	303	370	404	404					473		
Max. Intermittent	[20]		[587]	[1228]	[1833]	[2331]	[2948]	[3273]							
	66	202	201	201	200	198	198	196							



T Series (158-)

Dimensions

(Refer to pages B-4-19 thru B-4-22 for shaft and port dimensions.)

Ports

7/8 -14 INF O-Ring Ports (2)
 1/2 -14 NPTF (2)
 G 1/2 BSP (2)
 Manifold Ports (5/16-18 mounting threads)

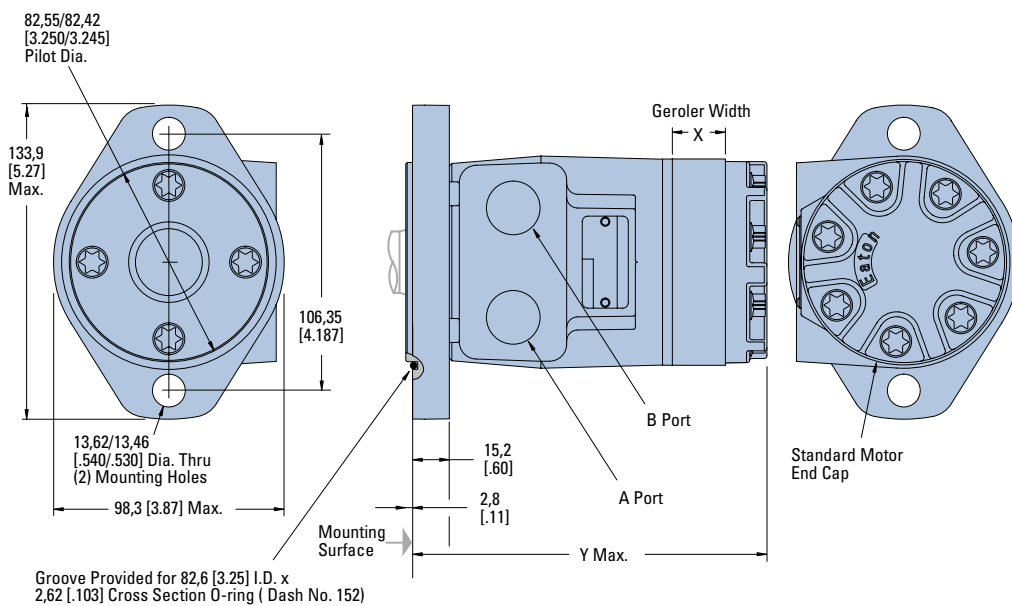
Note:

Mounting Surface Flatness Requirement is $\frac{\square}{\square}$, 13 mm [.005 inch] Max.

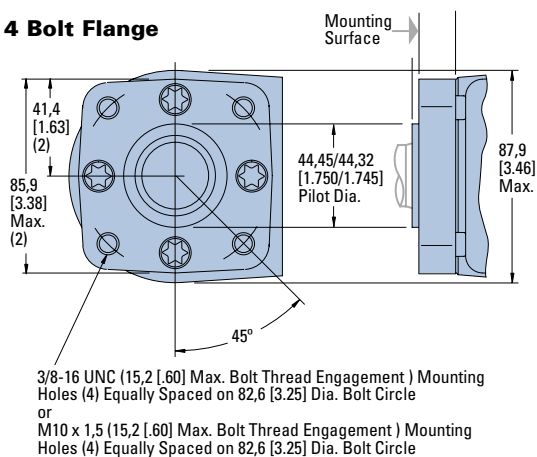
Standard Rotation Viewed from Shaft End

Port A Pressurized — CW
 Port B Pressurized — CCW

2 Bolt Flange



4 Bolt Flange



2 AND 4 BOLT FLANGE PORT DIMENSIONS

Displacement cm ³ /r [in ³ /r]	X mm [inch]	Y 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. cm ³ /r [in ³ /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	-1045	-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	-1074	-1075	-1556	-1076	-1077	-1078	-1079	-1080
		Manifold*	158	—	—	-1558	-1090	-1091	-1559	-1092	-1093	-1094	-1095	-1096
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	-1051	-1583	-1052	-1053	-1054	-1055	-1056
		Manifold*	158	—	—	-1585	-1066	-1067	-1586	-1068	-1069	-1070	-1071	-1072

158-1067

T Series Motors with Corrosion Protection

MOUNTING	SHAFT	PORT SIZE	DISPL. cm ³ /r [in ³ /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	—	—	1645	—	—	—	—	—	-1649	—	-1650
4 Bolt Flange		1/2 NPTF	158	—	—	—	—	—	—	—	—	-1620	—	-1621

158-1620

T Series Motors with Low Speed Valving

MOUNTING	SHAFT	PORT SIZE	DISPL. cm ³ /r [in ³ /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	-1425
		Manifold*	158	—	—	—	—	—	—	—	—	—	—	—
4 Bolt Flange	1 in. SAE 6B Splined	7/8 -14 O-Ring	158	—	—	-1525	—	—	—	—	—	-1675	—	—
		1/2 NPTF	158	—	—	—	-1634	—	—	—	—	—	—	—
		Manifold*	158	—	—	-1522	-2678	—	—	—	—	—	—	-1527
4 Bolt Flange	1 in. Straight w/Woodruff Key	7/8 -14 O-Ring	158	—	—	-1625	-1410	-1411	-1626	-1412	-1413	-1414	-1415	-1416
		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.

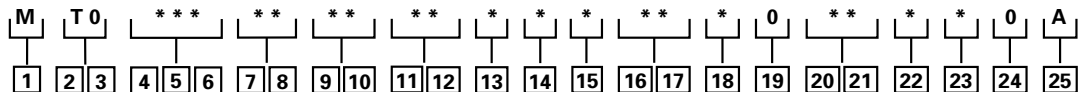
For T Series Motors with a configuration Not Shown in the charts above: Use the model code system on page B-4-10 to specify the product in detail.



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



1 Product

M – Motor

2, 3 Product Series

T0 – T Series

4, 5, 6 Displacement cm³/r [in³/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 [1.20] pilot, 13,59 [5.35] Dia. Mounting Holes 106,35 [4.187] Dia. B.C.

BA – 4 Bolt (Standard)
44,40 [1.748] Dia. x 3,05 [1.20] pilot, .375-16 UNC-2B Mounting Holes 82,55 [3.250] Dia. B.C.

CA – 2 Bolt (Standard)
82,50 [3.248] Dia. x 6,10 [2.40] pilot, 10,41 [4.10] Dia. Mounting Holes 106,35 [4.187] Dia. B.C. (SAE A)

DD – 2 Bolt (Std.) 101,60 [4.000] Dia. x 6.10 [2.40] pilot, 14,35 [5.665] 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 [1.20] Pilot, 13,59 [5.35] Dia. Mounting Holes 106,35 [4.187] Dia. B.C.

FA – 4 Bolt (Standard)
44,40 [1.748] Dia. x 3,05 [1.20] 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

07 – 25,4 [1.00] Dia. Straight, 8,03 [3.16] Dia. Crosshole 11,2 [4.4] from End, 5,6 [2.2] Extra Length

08 – 25,4 [1.00] Dia. Straight, 10,31 [4.06] Dia. Crosshole 15,7 [6.2] from End, .250-20 UNC-2B Hole in Shaft End

16 – 22,22 [8.75] Dia. SAE 13 Tooth Spline (SAE B)

17 – 22,22 [8.75] Straight Dia. 6,4 [2.5] x 19,0 [7.5] Square Key (SAE B)

18 – 25,4 [1.00] Dia. Tapered, Woodruff Key and Nut, 34,92 [1.375] Taper Length

24 – 25.00 [9.84] Dia. Straight, 8.0 [3.15] 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)

AF – G 1/2 BSP Straight Thread Ports

13 Case Flow Options

0 – None Specified

1 – .4375-20 UNF-2B SAE O-Ring Port (End Cap)

2 – G 1/4 BSP Straight Thread Port (End Cap)

A – Internal Check Valves

14 Geroler Options

0 – None

A – Free Running

15 Shaft Options

0 – None

N – Electroless Nickel Plated

16, 17 Seal Options

00 – Standard Seals

02 – Seal Guard

03 – Vitron Seals

04 – Vitron Shaft Seal

05 – Vented Two-Stage Seal

07 – High Pressure Shaft Seal

18 Speed Sensor Options

0 – None

A – 12 mm Digital Speed Pickup (15 Pulse) without Lead Wire

B – Magnetic Speed Pickup (60 Pulse by Quadrature), No Lead Wire with M12 Connector

(A=Power, B=Common, C=Signal)

19 Valve Options

A – None

20, 21 Special Features (Hardware)

00 – None Specified

AB – Low Speed Valving

SS – Stainless Steel Flange Bolts

22 Special Assembly Instructions

0 – None

A – Reverse Rotation

2 – Flange Rotation 90°

23 Paint/Packaging Options

0 – No Paint

A – Painted Low Gloss Black

D – Environmental Coated Gloss White

24 Customer ID/ Nameplate Options

A – None Specified

25 Design Code

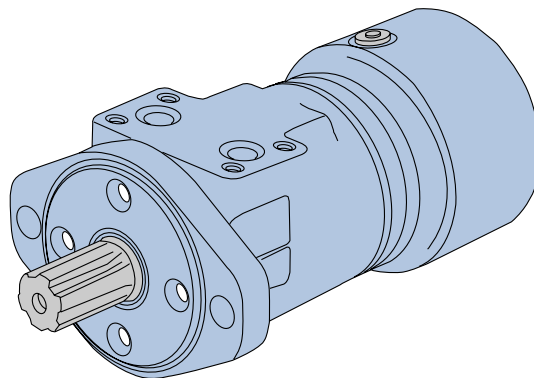
A – One (1)

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



T Series with Parking Brake (185-)

Highlights



Description

Eaton's latest offering in LSHT motor technology is the new T Series Motor with Parking Brake.

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]	55 [15] Continuous*** 75 [20] Intermittent**
Speed	Up to 1055 RPM
Pressure bar [PSI]	155 [2250] Cont.*** 190 [2750] 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

- 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



Crane and winches



Boom Lift (Swing)



Maintenance Equipment



T Series with Parking Brake (185-)

Application Information

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-4-15). 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:

Eaton Corporation 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:

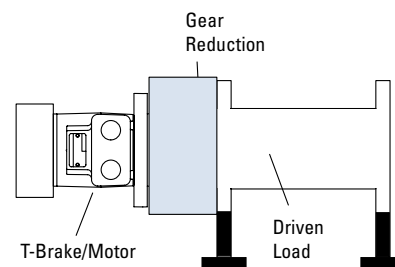
Special attention should be given to system back pressure. System back pressure directly affects brake release pressure and can cause the brake to release at undesired conditions.

Note:

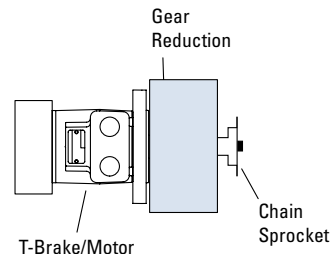
The T Series with parking brake is not compatible with water based fluids.

Typical Applications

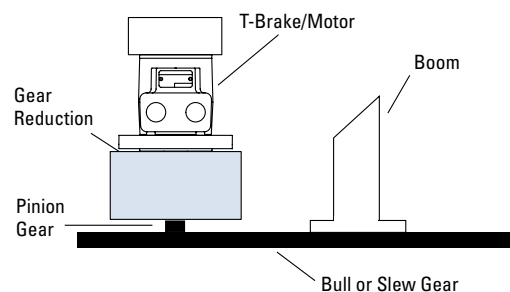
Winch



Machine Drive



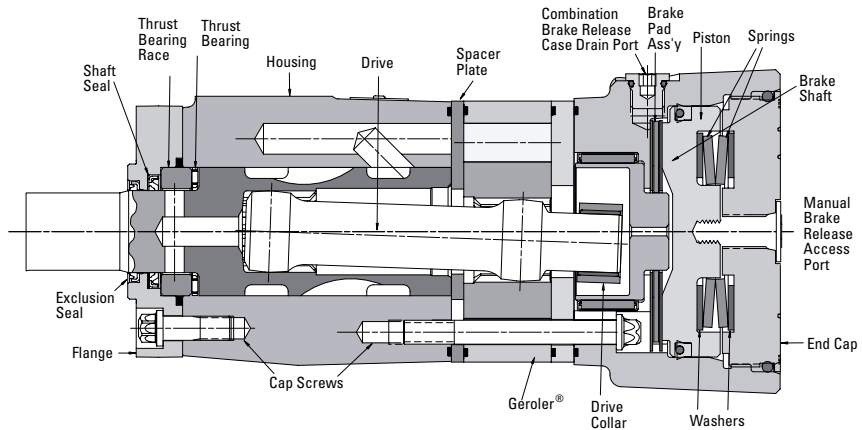
Swing Boom





T Series with Parking Brake (185-)

Specifications



SPECIFICATION DATA — T SERIES WITH PARKING BRAKE 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	849	694	550	426	355	287	229	183	152
Flow LPM [GPM]	38 [10]	45 [12]	57 [15]	57 [15]	57 [15]	57 [15]	57 [15]	57 [15]	57 [15]	57 [15]	57 [15]
Torque Nm [lb-in]	76 [672]	105 [928]	138 [1222]	174 [1541]	219 [1936]	251 [2226]	297 [2628]	359 [3178]	410 [3633]	441 [3905]	430 [3811]
Pressure Δ Bar [Δ PSI]	155 [2250]	155 [2250]	155 [2250]	155 [2250]	155 [2250]	138 [2000]	138 [2000]	138 [2000]	127 [1850]	110 [1600]	90 [1300]

Note:

See page B-4-2 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	[in ³ /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

in-lbs Full Capacity Brake

in-lbs Limited Capacity Brake

Note:

The factory setting values are used for each motor based on motor displacement and shaft type.



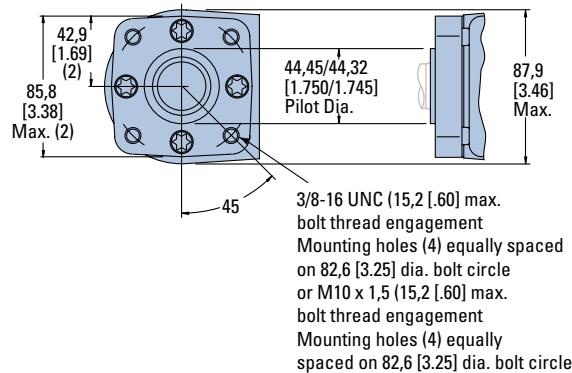
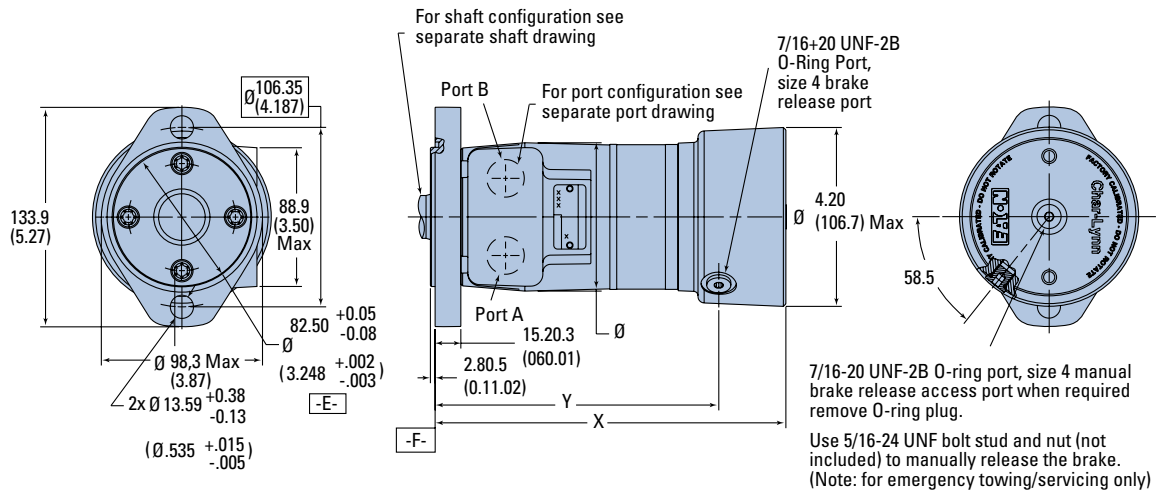
T Series with Parking Brake (185-)

Dimensions

(Refer to pages B-4-19 thru B-4-22 for shaft and port dimensions.)

Standard Rotation Viewed from Shaft End

Port A Pressurized — CW
Port B Pressurized — CCW



T-SERIES WITH PARKING BRAKE DIMENSIONS

Displacement cm ³ /r [in ³ /r]	X mm [inch]	Y mm [inch]
02	190.2 [7.49]	143.9±0.9 [5.66±0.3]
A2	190.8 [7.51]	144.5±0.9 [5.69±0.3]
03	192.5 [7.58]	146.3±0.9 [5.76±0.3]
A3	194.3 [7.65]	148.1±0.9 [5.83±0.3]
04	195.6 [7.70]	149.3±0.9 [5.88±0.3]
05	198.4 [7.81]	152.0±0.9 [5.98±0.3]
06	202.2 [7.96]	155.9±0.9 [6.14±0.3]
08	207.5 [8.17]	161.3±0.9 [6.35±0.3]
10	212.6 [8.37]	166.2±0.9 [6.54±0.3]
12	219.2 [8.63]	172.9±0.9 [6.81±0.3]
15	228.3 [8.99]	181.9±0.9 [7.16±0.3]
19	239.5 [9.43]	193.3±0.9 [7.61±0.3]
23	251.2 [9.89]	205.0±0.9 [8.07±0.3]

Note:

Standard Rotation

When facing shaft end of motor shaft to rotate clockwise when port "A" is pressurized, counterclockwise when port "B" is pressurized

Reverse Rotation

When facing shaft end of motor shaft will rotate clockwise when port "B" is pressurized, counterclockwise when port "A" is pressurized

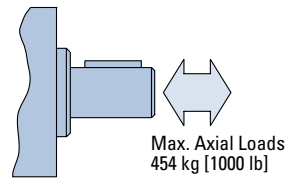


T Series with Parking Brake (185-)

Brake Release and Motor Case Pressure

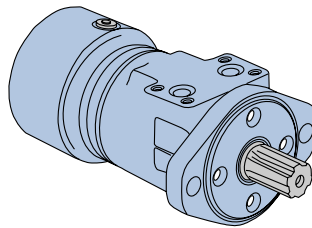
The T Series Motor with Parking Brake is durable and has long life as long as the recommended case pressure is not exceeded. Allowable case pressure is highest at low shaft speeds. Motor life will be shortened if case pressure exceeds recommended ratings (acceptability may vary with application).

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.

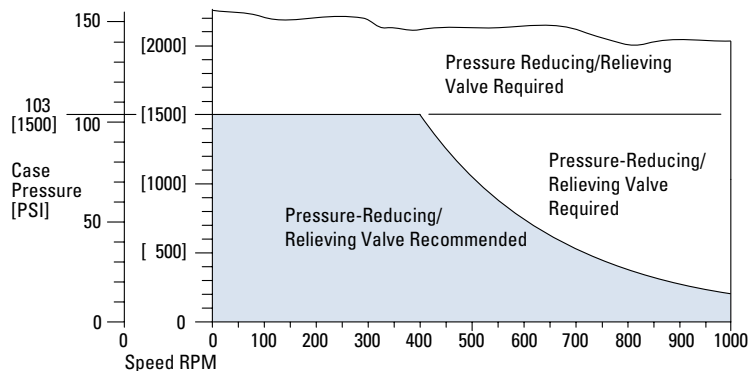


$$P_C \approx 6 DP + P_2$$

P_C = Case Pressure
 P_1 = Inlet Line Pressure
 P_2 = Back Pressure
 DP = $P_1 - P_2$



Case Pressure/Shaft Seal





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. cm ³ /r [in ³ /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 Manifold	185-2000 185-2010	2001 2011	2002 2012	2003 2013	2004 2014	2005 2015	2006 2016	2007 2017	2008 2018	2009 2019
		6B Splined Manifold	185-2020 185-2030	2021 2031	2022 2032	2023 2033	2024 2034	2025 2035	2026 2036	2027 2037	2028 2038	2029 2039
	13T Splined 16/32 pitch Manifold	185-2040 185-2050	2041 2051	2042 2052	2043 2053	2044 2054	2045 2055	2046 2056	2047 2057	2048 2058	2049 2059	
4-Bolt	1 Keyed	7/8-14 O-Ring Manifold	185-2060 185-2070	2061 2071	2062 2072	2063 2073	2064 2074	2065 2075	2066 2076	2067 2077	2068 2078	2069 2079
		6B Splined Manifold	185-2080 185-2090	2081 2091	2082 2092	2083 2093	2084 2094	2085 2095	2086 2096	2087 2097	2088 2098	2089 2099
	13T Splined 16/32 pitch Manifold	185-2100 185-2110	2101 2111	2102 2112	2103 2113	2104 2114	2105 2115	2106 2116	2107 2117	2108 2118	2109 2119	
2-Bolt SAE B	1 Keyed	7/8-14 O-Ring Manifold	185-2120 185-2130	2121 2131	2122 2132	2123 2133	2124 2134	2125 2135	2126 2136	2127 2137	2128 2138	2129 2139
		6B Splined Manifold	185-2140 185-2150	2141 2151	2142 2152	2143 2153	2144 2154	2145 2155	2146 2156	2147 2157	2148 2158	2149 2159
	13T Splined 16/32 pitch Manifold	185-2160 185-2170	2161 2171	2162 2172	2163 2173	2164 2174	2165 2175	2166 2176	2167 2177	2168 2178	2169 2179	

Low Speed Valving

MOUNTING	SHAFT	PORT SIZE	DISPL. cm ³ /r [in ³ /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 Manifold	185-2180 185-2190	2181 2191	2182 2192	2183 2193	2184 2194	2185 2195	2186 2196	2187 2197	2188 2198	2189 2199
		6B Splined Manifold	185-2200 185-2210	2201 2211	2202 2212	2203 2213	2204 2214	2205 2215	2206 2216	2207 2217	2208 2218	2209 2219
	13T Splined 16/32 pitch Manifold	185-2220 185-2230	2221 2231	2222 2232	2223 2233	2224 2234	2225 2235	2226 2236	2227 2237	2228 2238	2229 2239	
4-Bolt	1 Keyed	7/8-14 O-Ring Manifold	185-2240 185-2250	2241 2251	2242 2252	2243 2253	2244 2254	2245 2255	2246 2256	2247 2257	2248 2258	2249 2259
		6B Splined Manifold	185-2260 185-2270	2261 2271	2262 2272	2263 2273	2264 2274	2265 2275	2266 2276	2267 2277	2268 2278	2269 2279
	13T Splined 16/32 pitch Manifold	185-2280 185-2290	2281 2291	2282 2292	2283 2293	2284 2294	2285 2295	2286 2296	2287 2297	2288 2298	2289 2299	
2-Bolt SAE B	1 Keyed	7/8-14 O-Ring Manifold	185-2300 185-2310	2301 2311	2302 2312	2303 2313	2304 2314	2305 2315	2306 2316	2307 2317	2308 2318	2309 2319
		6B Splined Manifold	185-2320 185-2330	2321 2331	2322 2332	2323 2333	2324 2334	2325 2335	2326 2336	2327 2337	2328 2338	2329 2339
	13T Splined 16/32 pitch Manifold	185-2340 185-2350	2341 2351	2342 2352	2343 2353	2344 2354	2345 2355	2346 2356	2347 2357	2348 2358	2349 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 (41 Bar [600 PSI] Minimum).

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-4-17 to specify the product in detail.



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

M	T B	***	**	**	**	*	*	*	**	*	0	**	*	*	0	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

1 Product

M – Motor

2, 3 Series

T B – T Series Motor with Parking Brake

4, 5, 6 Displacement cm³/r [in³/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.

CA – 2 Bolt (Standard) 82,50 [3.248] Dia. x 6,10 [.240] pilot, 10,41 [.410] Dia. Mounting Holes 106,35 [4.187] Dia. B.C. (SAE A)

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 Case Flow Options

0 – None Specified

3 – Manifold Case Drain

14 Geroler Options

A – Standard

B – Free Running

15 Shaft Options

0 – None

N – Electroless Nickel Plated

16, 17 Seal Options

00 – Standard Seals

03 – Vitron Seals

05 – Vented Two-Stage Seal

07 – High Pressure Shaft Seal

18 Speed Sensor Options

0 – None

A – 12 mm Digital Speed Pickup (15 Pulse) without Lead Wire

(A=Power, B=Common, C=Signal)

19 Valve Options

A – None

20, 21 Special Features (Hardware)

00 – None Specified

AB – Low Speed Valving

22 Special Assembly Instructions

0 – None

2 – Flange Rotation 90°

23 Paint/Packaging Options

0 – No Paint

A – Painted Low Gloss Black

24 Customer ID/ Nameplate Options

0 – None Specified

25 Design Code

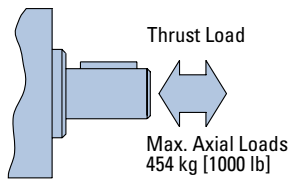
B – Two (2)



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

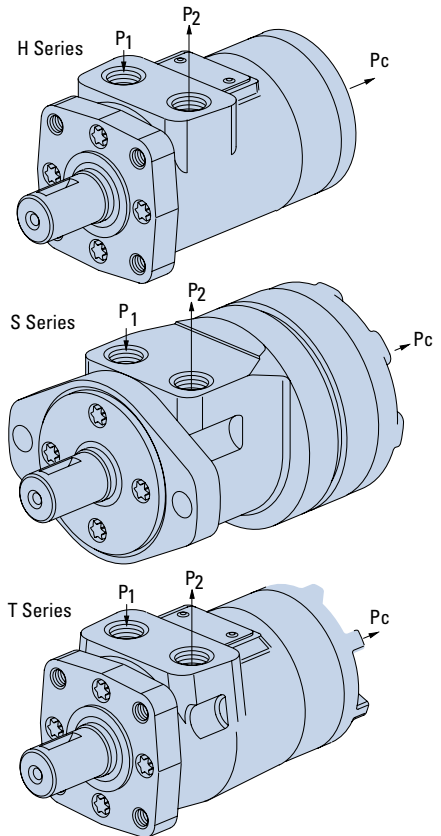
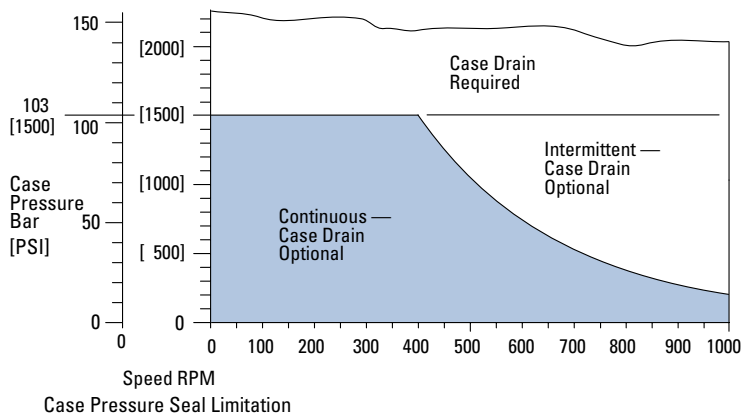
Char-Lynn H Series, S Series and T Series motors are durable and have long life as long as the recommended case pressure is not exceeded. Allowable case pressure is highest at low shaft speeds. Consequently, motor life will be shortened if case pressure exceeds these ratings (acceptability may vary with 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. A pressure restriction should be added to the case drain line, during which a motor case pressure of 3,5 Bar [50 PSI] is maintained.



$$P_C \approx 6 ? P + P_2$$

P_C = Case Pressure
 P_1 = Inlet Line Pressure
 P_2 = Back Pressure
 $? P$ = $P_1 - P_2$





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

Side Load Capacity

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 Eaton representative.

Note:

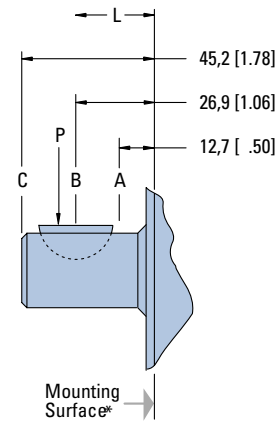
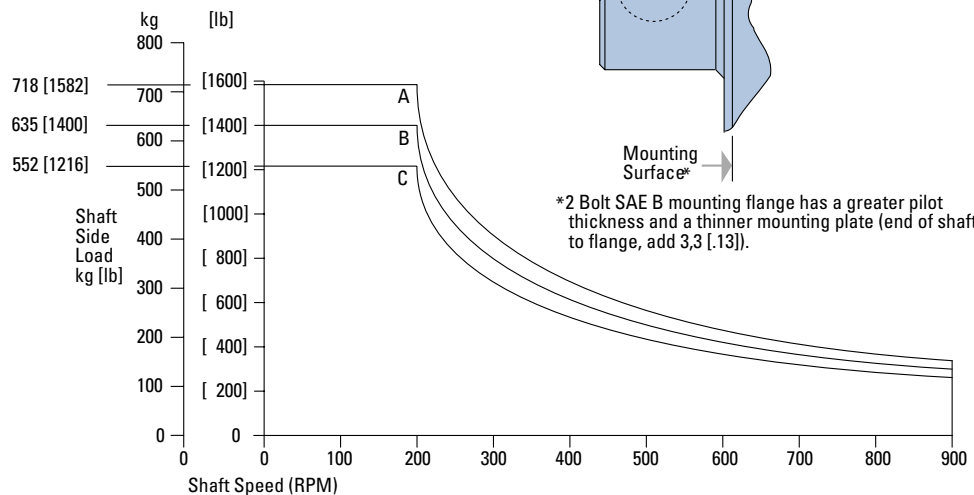
When the speed sensor option is used, side load ratings are reduced 25%.

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]

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

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

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]).

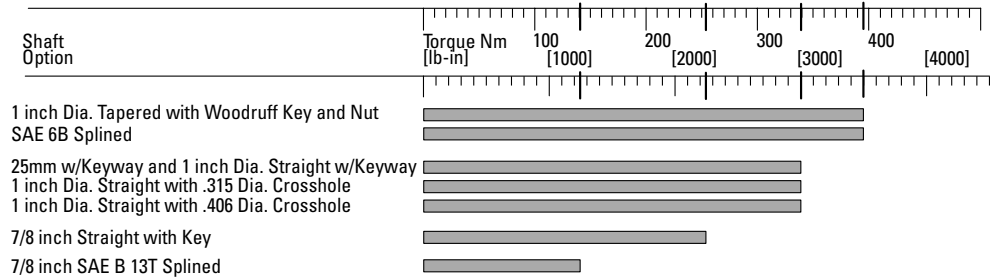


H, S and T Series (101, 103- 158, 185)

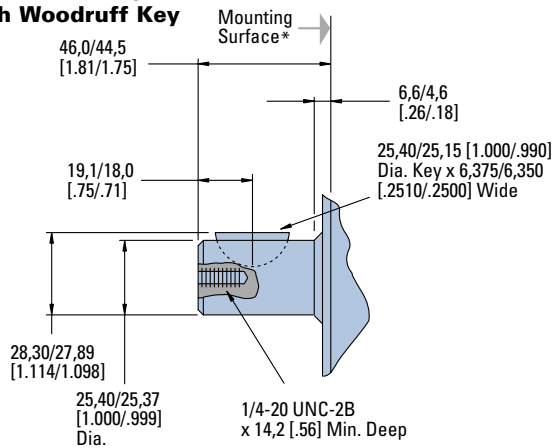
Dimensions

Shafts

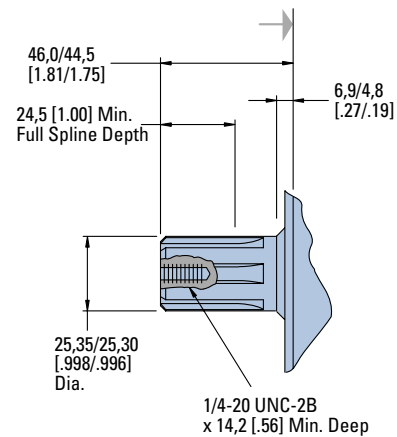
Shaft Size Motor Torque Combination Limit Guide



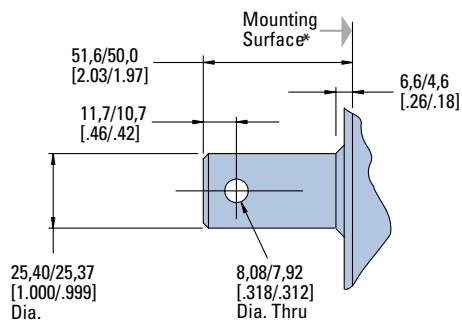
1 in. Dia. Straight with Woodruff Key



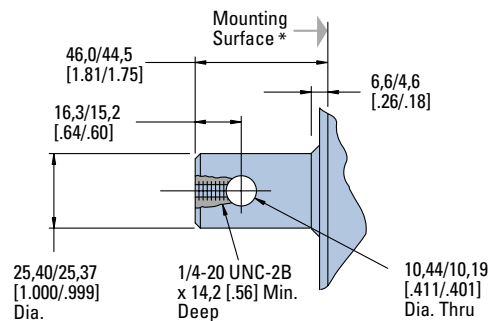
SAE 6B Splined Shaft



1 in. Dia. Straight Shaft with .315 Dia. Crosshole



1 in. Dia. Straight Shaft with .406 Dia. Crosshole



* 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]).

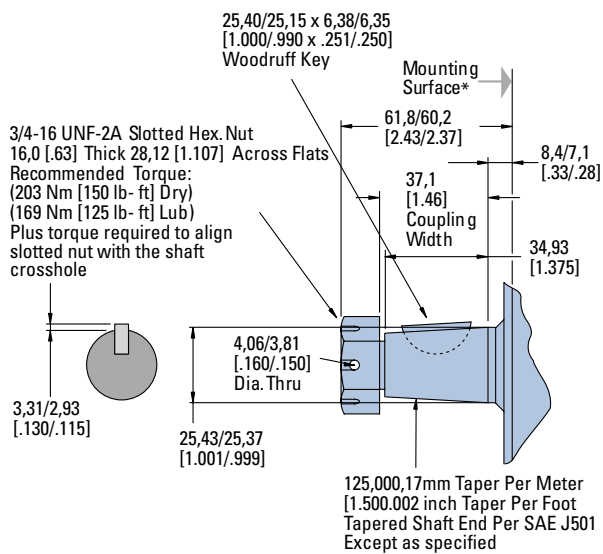


H, S and T Series (101-, 103- 158-, 185-)

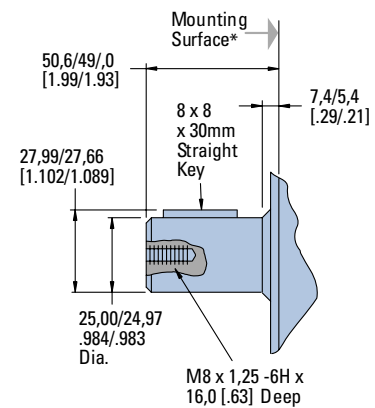
Dimensions

Shafts

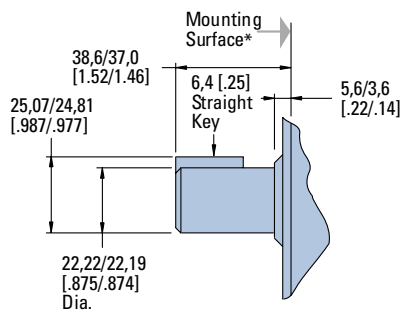
1 in. Dia. Tapered Shaft with Woodruff Key and Nut



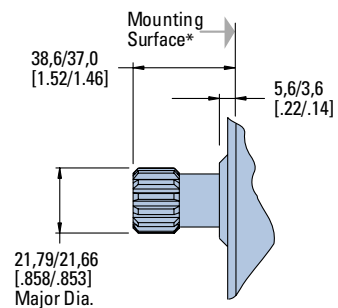
25mm Dia. Straight Shaft with 8mm Keyway



7/8 in. Dia. Straight Shaft with Key



7/8 in. Dia. SAE B Shaft 13 T Spline d



* 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]).

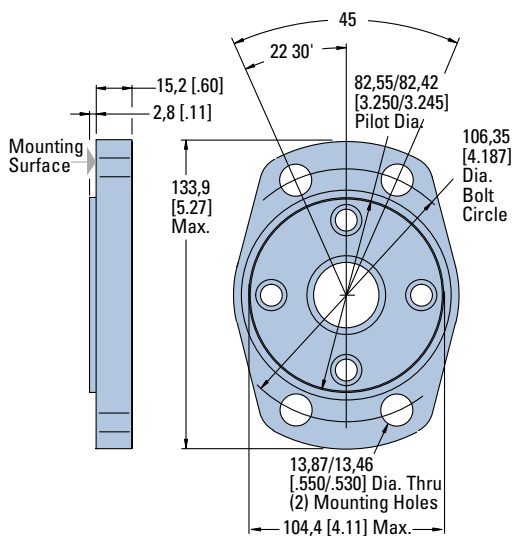


H, S and T Series (101-, 103- 158-, 185-) Mounting Options

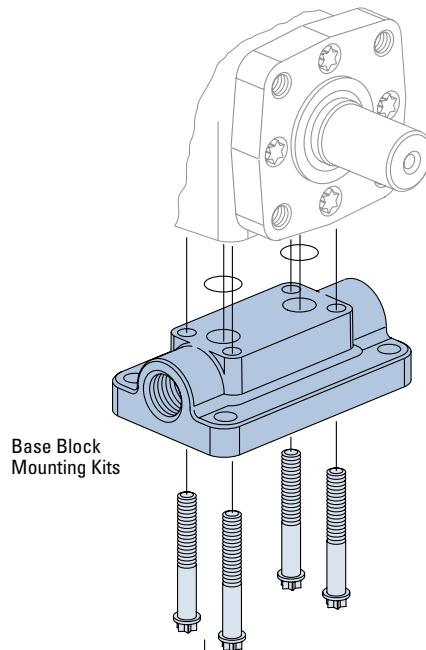
Note:

Mounting Surface Flatness Requirement is ∇ ,13mm [.005 inch] Max.

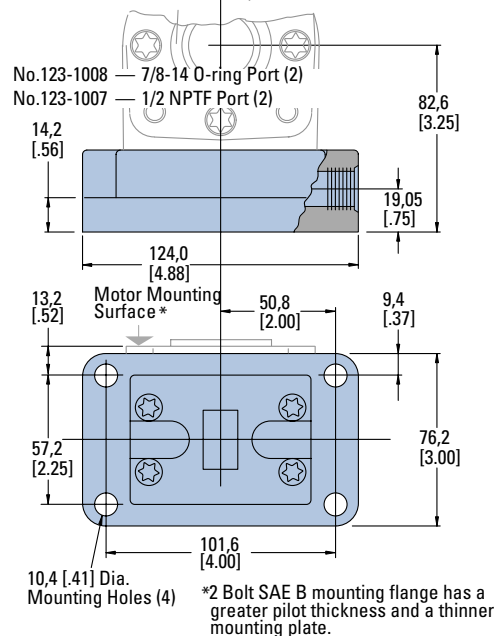
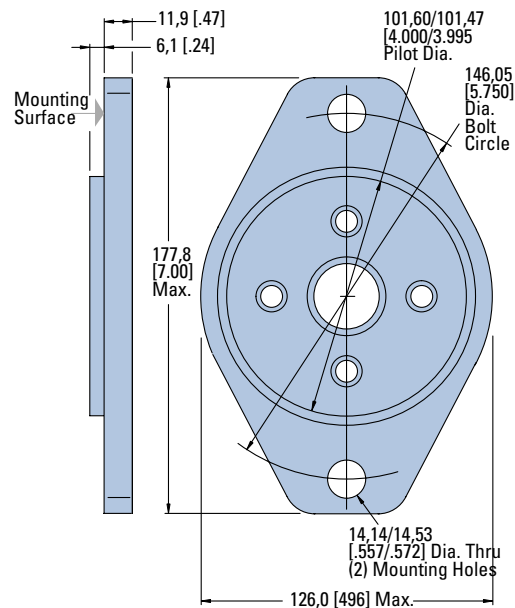
4 Bolt Magneto



Base Block Mounting Kits



2 Bolt SAE B





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

Dimensions

Ports

Ports

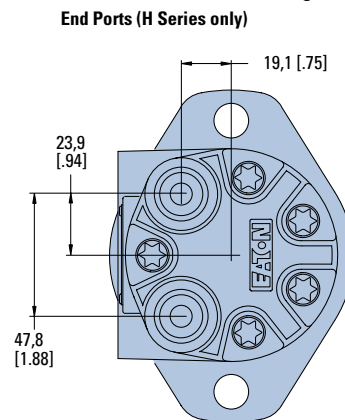
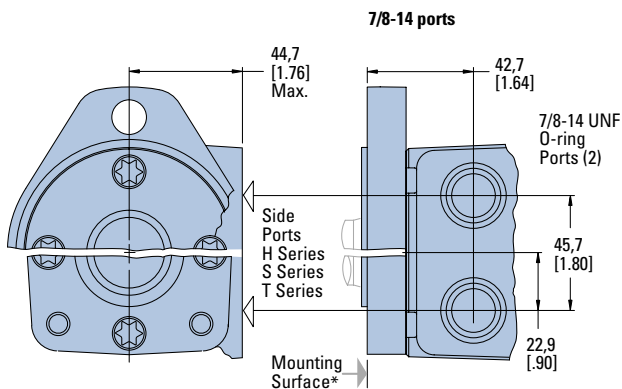
End Ports — H Series only
G 1/2 (BSP) (2)
or 3/4-16 O-Ring (2)

Standard Rotation Viewed from Drive End

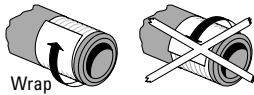
Port A Pressurized — CW
Port B Pressurized — CCW

Note:

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



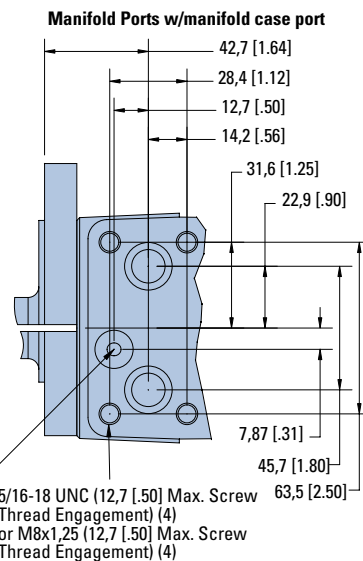
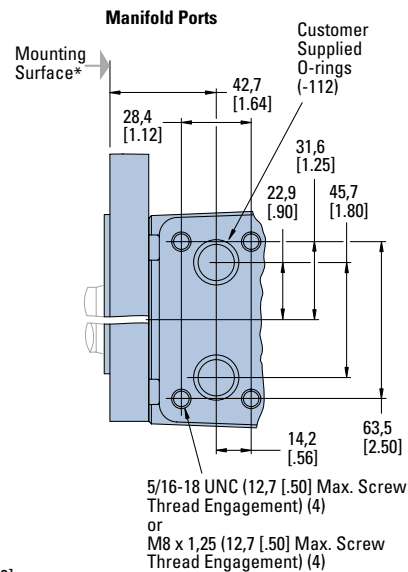
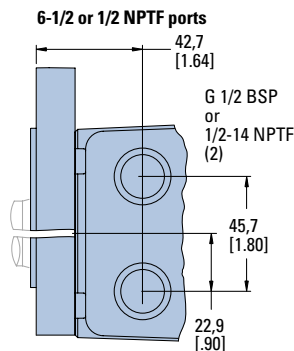
Use of Teflon Tape Sealant/Lubricant (with 1/2 14 NPTF Port Connectors only).



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.



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

Note:

End ported motor option is derated to 1400 continuous, 1700 psi intermittent.



Order Numbers

FT Article Number	Eaton Code	Type
1316875	158-3322	CHAR-LYNN MOTOR SERIE T
1425529	158-3329	CHAR-LYNN MOTOR SERIE T
1422210	158-3330	CHAR-LYNN MOTOR SERIE T
1425528	158-3331	CHAR-LYNN MOTOR SERIE T
1418549	158-3334	CHAR-LYNN MOTOR SERIE T
1423892	158-3336	CHAR-LYNN MOTOR SERIE T
1424817	158-3481	CHAR-LYNN MOTOR SERIE T
1418161	158-3496	CHAR-LYNN MOTOR SERIE T
1417049	158-3508	CHAR-LYNN MOTOR SERIE T
1419086	158-3548	CHAR-LYNN MOTOR SERIE T
1419085	158-3549	CHAR-LYNN MOTOR SERIE T
1418947	158-3565	CHAR-LYNN MOTOR SERIE T
1419581	158-3572	CHAR-LYNN MOTOR SERIE T
1421403	158-3587	CHAR-LYNN MOTOR SERIE T
1430943	158-3587	CHAR-LYNN MOTOR SERIE T
1431645	158-3628	CHAR-LYNN MOTOR SERIE T
1427138	158-3739	CHAR-LYNN MOTOR SERIE T
1426734	158-3749	CHAR-LYNN MOTOR SERIE T
1428280	158-3818	CHAR-LYNN MOTOR SERIE T
1428790	158-3839	CHAR-LYNN MOTOR SERIE T
1428791	158-3840	CHAR-LYNN MOTOR SERIE T
1428792	158-3841	CHAR-LYNN MOTOR SERIE T
1429767	158-3892	CHAR-LYNN MOTOR SERIE T
1430185	158-3906	CHAR-LYNN MOTOR SERIE T
1435319	158-4129	CHAR-LYNN MOTOR SERIE T
1423798	159-0036	CHAR-LYNN MOTOR SERIE T
1433746	185-3133	CHAR-LYNN-MOTOR SERIE T MIT BREMSE
1435445	185-3138	CHAR-LYNN-MOTOR SERIE T MIT BREMSE