

## Hydrostatic Pump Repair

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Spool Valve motors incorporate the proven orbit motor principle to provide high torque at low speeds.

# Spool Valve Motors

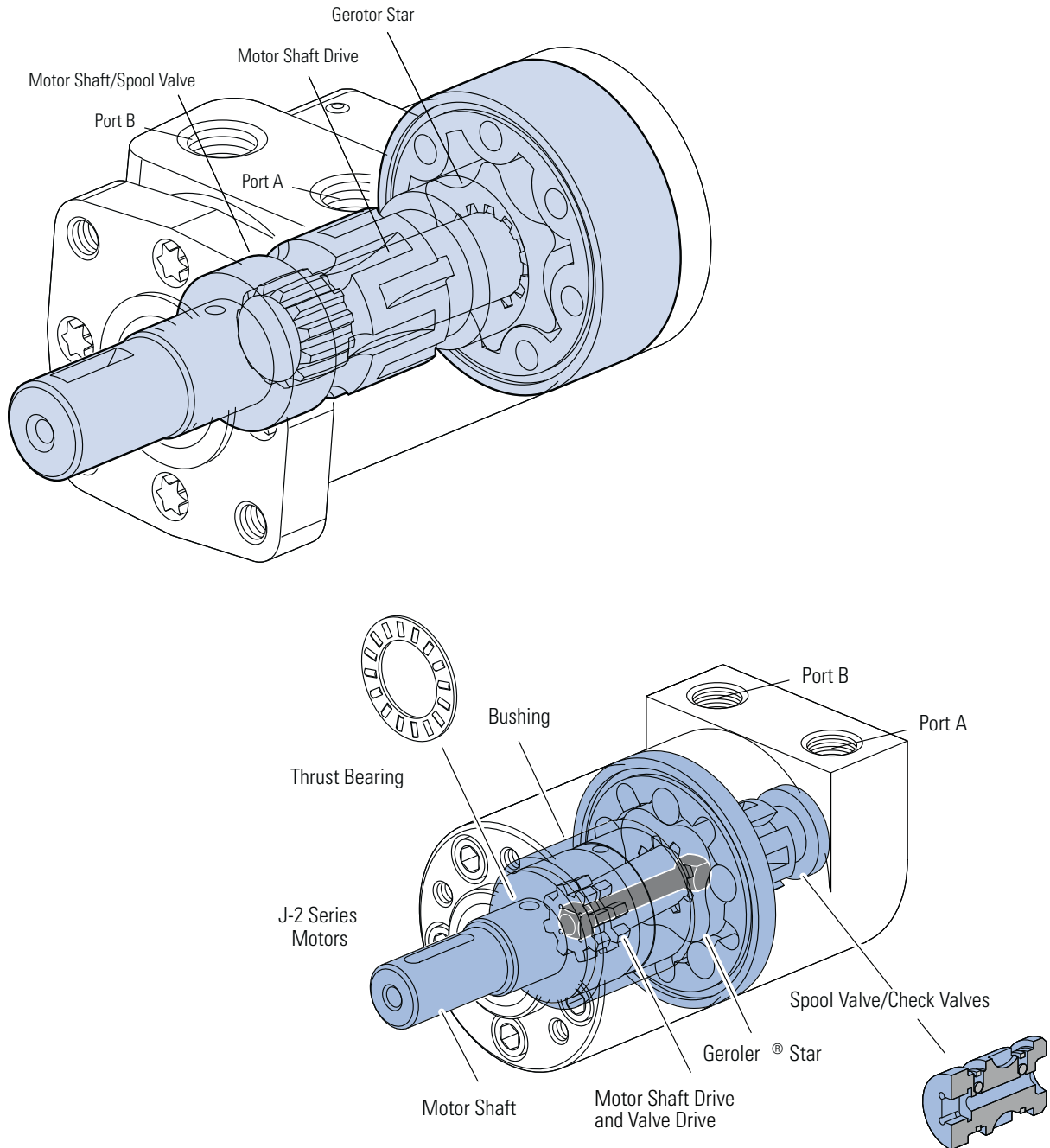
## Highlights

## Product Description

Char-Lynn spool valve motors distribute pressurized fluid into and out of the Orbit gear set (Gerotor or Geroler) via valve slots integrated into the output shaft. The spool valve motors incorporate both valving and hydrodynamic journal bearings into a common shaft design. The valve section (spool valve) can be optimized for low flow, low speed needs using a low speed spool option to enhance smooth running performance.

These motors incorporate the proven orbit motor principle to provide high torque at low speeds.

Motor shaft rotation can be instantly reversed by changing direction of input/output flow while generating equal torque in either direction. The displacements available provide a wide variety of speeds and torques from any spool valve motor series.



# Features, Benefits, and Applications

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## Features

- Proven Orbit Motor Principle
- Hydrodynamic Journal Bearings
- Constant Clearance Geroler
- Three-Zone Pressure Design
- Reduced drive running-angle
- High-pressure seals
- Modular design

## Benefits

- Compact, powerful package
- Infinite bearing life (at rated loads)
- High efficiency
- Increases shaft seal & bearing life
- Smooth operation, increases drive life
- Reduces leakage
- Design flexibility
- Economically tailored solutions

## Applications

- Harvesters
- Augers
- Spreaders
- Machine tools
- Conveyors
- Winches
- Turf care equipment
- Food processing
- Aerial Work Platforms
- Anywhere a compact drive with high output torque is needed

## Design Features

Spool valve technology is typically used where compact, economical solutions are most needed. Spool valve motors use a spool valve to precisely time and control flow through the orbit gear set (Gerotor or Geroler). Inlet flow is directed into and out of the orbit set via slots in the spool and passages through the motor housing. The result is a very cost-effective compact package suited to many application requirements. The three

primary components in the motor are the orbit star, drive and output shaft. H, S and T Series incorporate the spool valve and hydrodynamic bearings in the motor shaft. The W series is similar except a ball bearing is used for the front bearing for increased side-load capacity. Due to its compact size and high speed capability, the J Series is unique and utilizes a separate dedicated spool and spool valve drive. All motors utilize Eaton's

constant-clearance Geroler technology except the H Series, which continues to use the time-proven H motor gerotor set. These motors all use a three-zone pressure design consisting of three unique pressure areas: 1) inlet, 2) return, 3) case. This provides the capability to limit motor case pressure and allows the use of several case pressure options for extended shaft seal and thrust bearing life.

Below is a quick-guide to help select the proper motor for your application:

### MOTOR QUICK-GUIDE (BASED ON MAXIMUM CONTINUOUS RATINGS)

Series	Output Torque Nm [lb-in]	Pressure bar [psi]	Flow lpm [gpm]	Side Load kg [lbs]
J Series	62 [550]	140 [2030]	21 [5.5]	196 [430]
H Series	407 [3607]	124 [1800]	57 [15]	635 [1400]
S Series	430 [3800]	135 [2000]	55 [15]	635 [1400]
T Series	450 [4000]	155 [2250]	55 [15]	635 [1400]
W Series	410 [3625]	165 [2400]	68 [18]	845 [1900]

\* The above are provided as guidelines only. Actual ratings vary depending on final motor configuration

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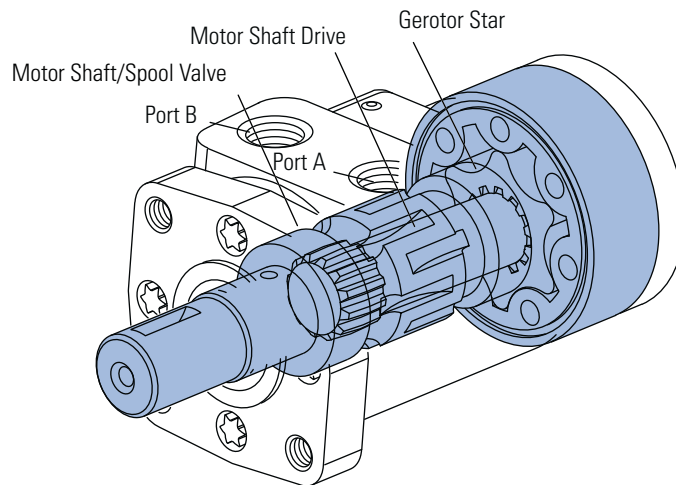
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# H Series (101-)

## Highlights



### Description

Designed for medium duty applications, these motors use industry-proven spool valve technology combined with state-of-the-art gerotors. In addition, a wide variety of mounting flanges, shafts, Ports and valving options provide design flexibility. Direction of shaft rotation and shaft speed can be controlled easily and smoothly throughout the speed range of the motor, and equipment can be driven direct, eliminating costly mechanical components.

### Specifications

Gerotor Element	13 Displacements
Flow l/min [GPM]	57 [15] Continuous***
	76 [20] Intermittent**
Speed	Up to 1100 RPM
Pressure bar [PSI]	125 [1800] Cont.***
	165 [2400] Inter.**
Torque Nm [lb-in]	407 [3604] Cont.***
	520 [4600] Inter.**

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

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

### Features:

- Time-tested Char-Lynn drive set
- Three moving components (gerotor-star, drive, and shaft)
- Optimized drive running angle
- Three-zone pressure design (inlet, return and case)
- Variety of displacements, shafts and mounts
- Special options to meet customer needs

### Benefits:

- High efficiency
- Powerful compact package
- Design flexibility
- Extended 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

B-2



Conveyer



Combine



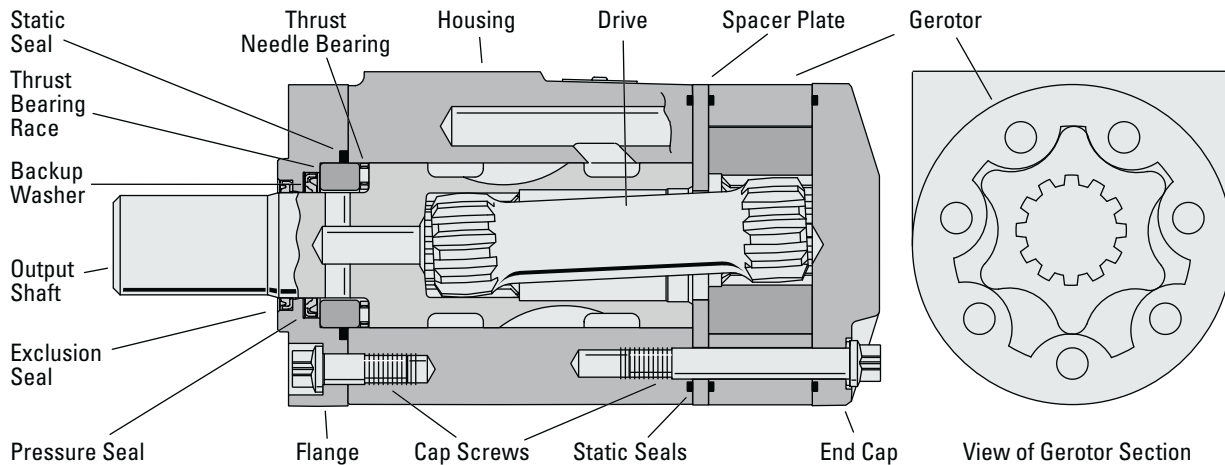
Sweeper



Salt and Sand Spreader

# H Series (101-)

## Specifications



### SPECIFICATION DATA – H MOTORS

Displ. cm <sup>3</sup> /r [in <sup>3</sup> /r]		36 [2.2]	46 [2.8]	59 [3.6]	74 [4.5]	97 [5.9]	120 [7.3]	146 [8.9]	159 [9.7]	185 [11.3]	231 [14.1]	293 [17.9]	370 [22.6]	739 [45.1]
Max. Speed (RPM) @ Continuous Flow		1021	969	953	760	585	469	385	353	304	243	192	152	74
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]	57 [15]	57 [15]
	Intermittent	38 [10]	53 [14]	64 [17]	68 [18]	68 [18]	76 [20]	76 [20]	76 [20]	76 [20]	76 [20]	76 [20]	76 [20]	76 [20]
Torque Nm [lb-in]	Continuous	56 [497]	73 [650]	91 [802]	118 [1044]	155 [1368]	192 [1699]	221 [1954]	233 [2059]	265 [2343]	302 [2669]	351 [3110]	407 [3604]	389 [3440]
	Intermittent	75 [668]	99 [876]	122 [1076]	158 [1401]	207 [1829]	257 [2278]	300 [2653]	319 [2824]	356 [3151]	415 [3671]	466 [4121]	484 [4283]	520 [4600]
Min. Starting Torque @ Int. Pressure	@ Cont. Pressure	46 [410]	59 [520]	76 [670]	95 [840]	124 [1100]	154 [1360]	176 [1560]	186 [1650]	211 [1870]	238 [2110]	282 [2500]	330 [2920]	316 [2800]
	@ Int. Pressure	63 [560]	81 [720]	104 [920]	130 [1150]	171 [1510]	2102 [1860]	46 [2180]	262 [2320]	293 [2590]	339 [3000]	388 [3430]	408 [3610]	434 [3840]
Pressure ΔBar [Δ PSI]	Continuous	124 [1800]	124 [1800]	124 [1800]	124 [1800]	124 [1800]	124 [1800]	117 [1700]	114 [1650]	110 [1600]	100 [1450]	93 [1350]	86 [1250]	41 [600]
	Intermittent	165 [2400]	165 [2400]	165 [2400]	165 [2400]	165 [2400]	165 [2400]	159 [2300]	155 [2250]	148 [2150]	138 [2000]	124 [1800]	103 [1500]	55 [800]
End Ported Units Only														
Δ Bar [Δ PSI]	Cont. Pressure	83 [1200]	83 [1200]	76 [1100]	76 [1100]	76 [1100]	69 [1000]	69 [1000]	69 [1000]	62 [900]	55 [800]	48 [700]	57 [825]	27 [396]
	Intermittent	117 [1700]	117 [1700]	110 [1600]	110 [1600]	110 [1600]	103 [1500]	103 [1500]	103 [1500]	91 [1400]	90 [1300]	83 [1200]	68 [990]	36 [528]
Weight kg [lb]		5,1 [11.2]	5,1 [11.2]	5,2 [11.5]	5,2 [11.5]	5,4 [11.8]	5,5 [12.1]	5,6 [12.4]	5,7 [12.5]	5,8 [12.8]	6,0 [13.3]	6,3 [14.0]	6,7 [14.7]	8,4 [18,6]

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.

#### Note:

Δ pressure is derated for end ported units.

#### Maximum Inlet Pressure:

172 Bar [2500 PSI] without regard to Δ Bar [Δ 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] difference between inlet port and outlet port

#### Continuous Rating:

Motor may be run continuously at these ratings

#### Intermittent Operation:

10% of every minute

#### Recommended Fluids:

Recommended Fluids — Premium quality, anti-wear type hydraulic oil. Minimum oil viscosity (at operating temperature) should be the highest of the following:

$$100 \text{ SUS or } \left[ \frac{300 \times \text{Bar}}{\text{RPM}} = \text{SUS} \right]$$

$$\frac{20 \times \text{PSI}}{\text{RPM}} = \text{SUS} \right]$$

#### 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

# H Series (101-)

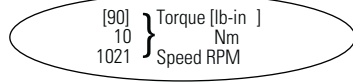
## Performance Data

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

 Continuous  
 Intermittent

		36 cm <sup>3</sup> /r [2.2 in <sup>3</sup> /r] Δ Pressure Bar [PSI] Continuous									Max. Continuous	Max. Intermittent
		[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1800]	[2400]	[165]
		14	28	41	55	69	83	97	110	124	[2400]	[165]
Flow LPM [GPM]	[2]	[49] 6 204	[103] 12 201	[162] 18 198	[189] 21 194	[270] 31 189	[325] 37 184	[379] 43 177	[432] 49 170	[489] 55 162	[650] 73 122	[165]
	[4]	[47] 5 408	[106] 12 407	[160] 18 402	[191] 22 399	[274] 31 394	[327] 37 387	[384] 43 381	[439] 50 373	[495] 56 365	[654] 74 323	[165]
	[6]	[44] 5 613	[102] 12 612	[158] 18 609	[188] 21 604	[272] 31 599	[328] 37 591	[383] 43 586	[440] 50 576	[496] 56 565	[661] 75 523	[165]
	[8]	[40] 5 817	[97] 11 817	[153] 17 814	[184] 21 807	[270] 31 799	[326] 37 793	[383] 43 785	[440] 50 776	[497] 56 762	[668] 75 721	[165]
	Max. Continuous	[10]	[36] 4 1021	[90] 10 1021	[148] 17 1015	[180] 20 1008	[265] 30 1001	[322] 36 991	[380] 43 981	[438] 49 969	[495] 56 959	[664] 75 920



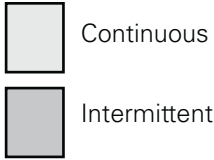
		46 cm <sup>3</sup> /r [2.8 in <sup>3</sup> /r] Δ Pressure Bar [PSI] Continuous									Max. Continuous	Max. Intermittent
		[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1800]	[2400]	[165]
		14	28	41	55	69	83	97	110	124	[2400]	[165]
Flow LPM [GPM]	[2]	[64] 7 161	[136] 15 158	[212] 24 156	[284] 32 153	[355] 40 148	[426] 48 145	[497] 56 139	[567] 64 133	[641] 72 127	[852] 96 95	[165]
	[4]	[61] 7 323	[139] 16 320	[209] 24 316	[286] 32 314	[359] 41 310	[429] 48 304	[503] 57 300	[576] 65 293	[649] 73 287	[857] 97 253	[165]
	[6]	[58] 7 486	[134] 15 481	[207] 23 479	[282] 32 475	[356] 40 471	[430] 49 464	[502] 57 461	[577] 65 453	[650] 73 444	[867] 98 410	[165]
	[8]	[52] 6 648	[128] 14 643	[200] 23 640	[276] 31 635	[354] 40 628	[428] 48 623	[502] 57 617	[577] 65 610	[651] 74 599	[876] 99 566	[165]
	[10]	[47] 5 808	[118] 13 803	[194] 22 798	[269] 30 793	[347] 39 787	[423] 48 779	[498] 56 771	[575] 65 761	[649] 73 753	[871] 98 722	[165]
Max. Continuous	[12]	[36] 4 969	[109] 12 964	[188] 21 960	[260] 29 952	[340] 38 946	[417] 47 938	[492] 56 931	[567] 64 922	[643] 73 914	[864] 98 877	[165]
Max. Intermittent	[14]	[25] 3 1127	[98] 11 1123	[175] 20 1115	[249] 28 1108	[327] 37 1100	[404] 46 1093	[484] 55 1086	[559] 63 1079	[634] 72 1068	[864] 98 877	[165]

# H Series (101-)

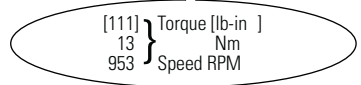
## Performance Data

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		59 cm <sup>3</sup> /r [3.6 in <sup>3</sup> /r]										
		Δ Pressure Bar [PSI]										
		Continuous										
		[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1800]	[1800]	
		14	28	41	55	69	83	97	110	124		
[2]		[79]	[169]	[260]	[305]	[437]	[526]	[616]	[704]	[796]	[1055]	
	7,6	9 127	19 125	29 123	34 121	49 117	59 114	70 109	80 103	90 96	119 65	
[4]		[76]	[168]	[257]	[307]	[441]	[529]	[620]	[710]	[800]	[1065]	
	15,1	9 254	19 254	29 251	35 249	50 246	60 241	70 236	80 230	90 224	120 193	
[6]		[73]	[161]	[252]	[303]	[439]	[529]	[618]	[709]	[802]	[1069]	
	22,7	8 381	18 381	28 380	34 377	50 373	60 368	70 364	80 358	91 349	121 319	
[8]		[64]	[151]	[243]	[294]	[428]	[519]	[609]	[701]	[794]	[1076]	
	30,3	7 508	17 508	27 508	33 504	48 500	59 496	69 491	79 484	90 476	122 446	
[10]		[57]	[141]	[234]	[283]	[419]	[512]	[602]	[693]	[786]	[1071]	
	37,9	6 635	16 635	26 634	32 630	47 626	58 621	68 614	78 608	89 601	121 571	
[12]		[45]	[131]	[227]	[274]	[409]	[505]	[593]	[684]	[778]	[1058]	
	45,4	5 762	15 762	26 762	31 757	46 753	57 747	67 741	77 734	88 728	120 694	
[14]		[33]	[118]	[213]	[266]	[396]	[492]	[583]	[676]	[770]	[1055]	
	53,0	4 889	13 889	24 887	30 882	45 877	56 872	66 866	76 860	87 851	119 813	
<b>Max. Continuous</b>		[29]	[111]	[205]	[260]	[389]	[486]	[576]	[670]	[765]	[1055]	
	56,8	3 953	13 953	23 951	29 945	44 940	55 935	65 929	76 921	86 913	119 872	
<b>Max. Intermittent</b>		[20]	[17]	[98]	[192]	[252]	[377]	[475]	[567]	[757]		
	75,7	2 1080	11 1080	22 1077	28 1071	43 1067	54 1062	64 1055	75 1049	86 1040		



		74 cm <sup>3</sup> /r [4.5 in <sup>3</sup> /r]										
		Δ Pressure Bar [PSI]										
		Continuous										
		[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1800]	[1800]	
		14	28	41	55	69	83	97	110	124		
[2]		[103]	[220]	[339]	[454]	[569]	[685]	[801]	[916]	[1036]	[1373]	
	7,6	12 101	25 99	38 98	51 96	64 93	77 90	91 86	103 81	117 76	155 51	
[4]		[99]	[219]	[335]	[457]	[574]	[689]	[808]	[925]	[1042]	[1386]	
	15,1	11 203	25 201	38 199	52 197	65 194	78 191	91 187	105 182	118 177	157 153	
[6]		[94]	[210]	[328]	[451]	[571]	[689]	[805]	[924]	[1044]	[1392]	
	22,7	11 305	24 303	37 301	51 298	65 296	78 292	91 288	104 283	118 276	157 252	
[8]		[86]	[196]	[319]	[438]	[558]	[676]	[793]	[913]	[1033]	[1401]	
	30,3	10 406	22 404	36 402	49 399	63 396	76 393	90 388	103 383	117 377	158 352	
[10]		[74]	[183]	[310]	[422]	[545]	[667]	[784]	[903]	[1024]	[1394]	
	37,9	8 507	21 505	35 502	48 499	62 496	75 492	89 486	102 482	116 476	158 452	
[12]		[58]	[171]	[295]	[408]	[533]	[657]	[773]	[891]	[1013]	[1377]	
	45,4	7 608	19 606	33 603	46 600	60 596	74 591	87 587	101 581	114 576	156 549	
[14]		[43]	[154]	[277]	[396]	[515]	[640]	[760]	[880]	[1002]	[1374]	
	53,0	5 709	17 706	31 702	45 698	58 694	72 691	86 686	99 681	113 674	155 643	
<b>Max. Continuous</b>		[36]	[145]	[268]	[387]	[506]	[632]	[750]	[873]	[996]	[1373]	
	56,8	4 760	16 757	30 753	44 749	57 744	71 740	85 735	99 729	113 723	155 690	
<b>Max. Intermittent</b>		[20]	[14]	[121]	[233]	[351]	[482]	[609]	[725]	[856]		
	75,7	2 904	14 902	26 898	40 895	54 891	69 887	82 882	97 877	111 869		

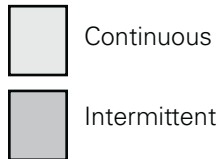


# H Series (101-)

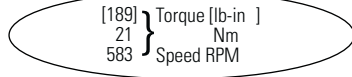
## Performance Data

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



		97 cm <sup>3</sup> /r [5.9 in <sup>3</sup> /r] Δ Pressure Bar [PSI] Continuous								Max. Continuous	Max. Intermittent
		[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1800]	[2400]
		14	28	41	55	69	83	97	110	124	165
Flow LPM [GPM]	[2] 7,6	[134] 15 78	[292] 33 76	[442] 50 75	[593] 67 73	[746] 84 71	[899] 102 68	[1054] 119 65	[1209] 137 61	[1365] 154 55	[1806] 204 33
	[4] 15,1	[131] 15 156	[281] 32 155	[436] 49 153	[596] 67 151	[750] 85 149	[903] 102 147	[1059] 120 143	[1212] 137 139	[1367] 154 134	[1828] 207 113
	[6] 22,7	[126] 14 234	[269] 30 233	[425] 48 231	[588] 66 230	[747] 84 228	[900] 102 224	[1054] 119 221	[1206] 136 217	[1368] 155 210	[1823] 206 189
	[8] 30,3	[110] 12 312	[246] 28 311	[408] 46 310	[566] 64 308	[718] 81 305	[873] 99 303	[1023] 116 300	[1177] 133 295	[1339] 151 291	[1829] 207 269
	[10] 37,9	[96] 11 390	[231] 26 389	[392] 44 387	[539] 61 385	[699] 79 383	[859] 97 380	[1005] 114 376	[1156] 131 373	[1318] 149 368	[1821] 206 346
	[12] 45,4	[77] 9 468	[218] 25 467	[378] 43 465	[522] 59 463	[681] 77 460	[844] 95 457	[990] 112 453	[1142] 129 449	[1301] 147 445	[1792] 202 421
	[14] 53,0	[60] 7 546	[197] 22 544	[358] 40 542	[513] 58 539	[662] 75 537	[828] 94 535	[973] 110 531	[1131] 128 526	[1293] 146 521	[1776] 201 499
	Max. Continuous 56,8	[52] 6 585	[189] 21 583	[346] 39 581	[495] 56 578	[651] 74 575	[819] 93 573	[963] 109 569	[1126] 127 564	[1286] 145 559	[1778] 201 536
	Max. Intermittent 75,7	[25] 3 701	[157] 18 700	[311] 35 697	[455] 51 694	[625] 71 691	[790] 89 688	[941] 106 684	[1110] 125 681	[1272] 144 674	





		120 cm <sup>3</sup> /r [7.3 in <sup>3</sup> /r] Δ Pressure Bar [PSI] Continuous								Max. Continuous	Max. Intermittent
		[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1800]	[2400]
		14	28	41	55	69	83	97	110	124	165
Flow LPM [GPM]	[2] 7,6	[162] 18 62	[357] 40 61	[544] 61 61	[736] 83 59	[927] 105 58	[1116] 126 55	[1305] 147 53	[1498] 169 49	[1687] 191 45	[2231] 252 26
	[4] 15,1	[160] 18 125	[348] 39 124	[539] 61 123	[736] 83 121	[930] 105 120	[1119] 126 119	[1316] 149 116	[1506] 170 114	[1698] 192 110	[2268] 256 90
	[6] 22,7	[155] 18 188	[338] 38 187	[530] 60 186	[729] 82 185	[923] 104 183	[1116] 126 180	[1310] 148 178	[1500] 169 175	[1699] 192 170	[2271] 257 152
	[8] 30,3	[139] 16 250	[319] 36 250	[515] 58 249	[710] 80 247	[901] 102 245	[1094] 124 243	[1283] 145 241	[1476] 167 237	[1673] 189 233	[2278] 257 216
	[10] 37,9	[121] 14 313	[303] 34 312	[497] 56 311	[686] 78 309	[883] 100 308	[1081] 122 306	[1267] 143 302	[1460] 165 300	[1655] 187 296	[2268] 256 278
	[12] 45,4	[102] 12 375	[288] 33 374	[480] 54 373	[664] 75 371	[862] 97 370	[1060] 120 367	[1246] 141 365	[1440] 163 361	[1640] 185 358	[2232] 252 338
	[14] 53,0	[78] 9 438	[263] 30 437	[458] 52 435	[652] 74 433	[841] 95 431	[1041] 118 430	[1228] 139 427	[1420] 160 423	[1616] 183 419	[2213] 250 401
	Max. Continuous 56,8	[67] 8 469	[253] 29 468	[446] 50 466	[632] 71 464	[828] 94 462	[1030] 116 460	[1214] 137 458	[1411] 159 454	[1608] 182 450	[2205] 249 430
	Max. Intermittent 75,7	[20] 2 626	[202] 23 624	[384] 43 621	[581] 66 618	[778] 88 617	[971] 110 614	[1169] 132 611	[1356] 153 609	[1559] 176 606	

# H Series (101-)

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

 Continuous  
 Intermittent

		146 cm <sup>3</sup> /r [8.9 in <sup>3</sup> /r] Δ Pressure Bar [PSI] Continuous									Max. Continuous	Max. Intermittent
		[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1700]		[2300]
		14	28	41	55	69	83	97	110	117		159
Flow LPM [GPM]	[2] 7,6	[198] 22 51	[435] 49 50	[664] 75 50	[897] 101 49	[1130] 128 47	[1361] 154 45	[1591] 180 43	[1827] 206 40	[1942] 219 39	[2611] 295 24	
	[4] 15,1	[196] 22 103	[424] 48 102	[657] 74 101	[898] 101 99	[1133] 128 99	[1365] 154 97	[1604] 181 95	[1836] 207 93	[1954] 221 92	[2648] 299 78	
	[6] 22,7	[189] 21 154	[412] 47 153	[646] 73 152	[889] 100 151	[1125] 127 150	[1361] 154 148	[1598] 181 146	[1829] 207 143	[1951] 220 141	[2653] 300 128	
	[8] 30,3	[169] 19 205	[389] 44 205	[628] 71 204	[866] 98 203	[1098] 124 201	[1333] 151 200	[1564] 177 197	[1799] 203 195	[1919] 217 193	[2649] 299 180	
	[10] 37,9	[148] 17 257	[369] 42 256	[605] 68 255	[836] 94 253	[1076] 122 252	[1318] 149 251	[1544] 174 248	[1780] 201 246	[1899] 215 244	[2789] 315 231	
	[12] 45,4	[125] 14 308	[351] 40 307	[586] 66 306	[810] 92 305	[1051] 119 303	[1293] 146 301	[1519] 172 299	[1756] 198 296	[1878] 212 295	[2606] 294 281	
	[14] 53,0	[95] 11 359	[321] 36 358	[558] 63 357	[795] 90 355	[1026] 116 354	[1290] 146 352	[1497] 169 350	[1731] 196 347	[1851] 209 346	[2580] 292 331	
	Max. Continuous 56,8	[82] 9 85	[308] 35 384	[544] 61 383	[771] 87 381	[1010] 114 379	[1256] 142 378	[1480] 167 375	[1720] 194 373	[1840] 208 371	[2569] 290 356	
	Max. Intermittent 75,7	[24] 3 513	[246] 28 512	[468] 53 509	[708] 80 507	[948] 107 506	[1184] 134 504	[1425] 161 501	[1653] 187 499	[1780] 201 498		

		159 cm <sup>3</sup> /r [9.7 in <sup>3</sup> /r] Δ Pressure Bar [PSI] Continuous									Max. Continuous	Max. Intermittent
		[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]	[1650]		[2250]
		14	28	41	55	69	83	97	110	134		155
Flow LPM [GPM]	[2] 7,6	[209] 24 47	[465] 53 46	[715] 81 46	[973] 110 45	[1228] 139 44	[1478] 167 42	[1724] 195 40	[1981] 224 38	[2046] 231 37	[2764] 312 23	
	[4] 15,1	[210] 24 94	[460] 52 94	[710] 80 93	[971] 110 91	[1229] 139 91	[1480] 167 90	[1745] 197 89	[1996] 226 87	[2059] 233 87	[2813] 318 76	
	[6] 22,7	[205] 23 141	[454] 51 141	[704] 80 140	[965] 109 139	[1216] 137 138	[1477] 167 136	[1738] 196 134	[1991] 225 132	[2055] 232 132	[2824] 319 119	
	[8] 30,3	[186] 21 188	[440] 50 188	[693] 78 187	[951] 107 186	[1205] 136 185	[1461] 165 183	[1716] 194 181	[1973] 223 179	[2038] 230 178	[2808] 317 166	
	[10] 37,9	[164] 19 235	[422] 48 234	[671] 76 234	[930] 105 232	[1189] 134 232	[1451] 164 230	[1702] 192 228	[1965] 219 226	[2032] 230 225	[2789] 315 213	
	[12] 45,4	[144] 16 282	[404] 46 281	[652] 74 281	[900] 102 279	[1163] 131 279	[1421] 161 277	[1674] 189 275	[1937] 219 273	[2004] 226 272	[2770] 313 260	
	[14] 53,0	[109] 12 330	[374] 42 329	[623] 70 328	[883] 100 327	[1140] 129 325	[1396] 158 323	[1653] 187 322	[1900] 215 319	[1963] 222 319	[2727] 308 306	
	Max. Continuous 56,8	[92] 10 353	[359] 41 352	[612] 69 351	[861] 97 350	[1123] 127 348	[1381] 156 347	[1633] 185 345	[1886] 213 343	[1950] 220 342	[2712] 306 330	
	Max. Intermittent 75,7	[26] 3 471	[268] 30 470	[510] 58 467	[772] 87 465	[1034] 117 464	[1290] 146 462	[1553] 175 460	[1802] 204 458	[1865] 211 458		



[359]  
41  
352 } Torque [lb-in]  
Nm  
Speed RPM

# H Series (101-)

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

 Continuous  
 Intermittent

		185 cm <sup>3</sup> /r [11.3 in <sup>3</sup> /r]									
		Δ Pressure Bar [PSI]									
		Continuous								Max. Continuous	Max. Intermittent
		[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1600]		
		14	28	41	55	69	83	97	110		[2150]
Flow LPM [GPM]	[2]	[257]	[554]	[847]	[1150]	[1447]	[1739]	[2035]	[2320]		[3103]
	7,6	29 40	63 40	96 39	130 38	163 37	196 36	230 33	262 29		351 12
	[4]	[254]	[546]	[845]	[1145]	[1448]	[1744]	[2049]	[2343]		[3147]
	15,1	29 81	62 81	95 80	129 79	164 78	197 77	232 76	265 74		356 63
	[6]	[246]	[540]	[834]	[1137]	[1434]	[1736]	[2036]	[2337]		[3151]
	22,7	28 121	61 121	94 120	128 120	162 119	196 117	230 115	264 112		356 100
	[8]	[224]	[520]	[820]	[1117]	[1414]	[1716]	[2014]	[2315]		[3133]
	30,3	25 162	59 162	93 161	126 160	160 159	194 157	228 155	262 152		354 140
	[10]	[202]	[499]	[793]	[1095]	[1394]	[1699]	[1997]	[2299]		[3112]
	37,9	23 202	56 202	90 201	124 201	158 200	192 198	226 196	260 193		352 181
[12]	[176]	[475]	[767]	[1063]	[1368]	[1664]	[1969]	[2268]		[3088]	
45,4	20 243	54 242	87 242	120 241	155 241	188 240	222 236	256 234		349 222	
[14]	[140]	[443]	[735]	[1035]	[1340]	[1637]	[1936]	[2227]		[3051]	
53,0	16 283	50 283	83 282	117 281	151 280	185 279	219 277	252 274		345 262	
Max. Continuous	[15]	[120]	[425]	[719]	[1014]	[1320]	[1618]	[1914]	[2205]		[3023]
	56,8	14 304	48 303	81 302	115 301	149 300	183 299	216 297	249 294		342 283
Max. Intermittent	[20]	[27]	[321]	[612]	[911]	[1211]	[1504]	[1795]			
	75,7	3 405	36 404	69 402	103 401	137 400	170 398	203 397			

		231 cm <sup>3</sup> /r [14.1 in <sup>3</sup> /r]									
		Δ Pressure Bar [PSI]									
		Continuous								Max. Continuous	Max. Intermittent
		[200]	[400]	[600]	[800]	[1000]	[1200]	[1400]	[1450]		[2000]
		14	28	41	55	69	83	97	100		138
Flow LPM [GPM]	[2]	[338]	[707]	[1074]	[1456]	[1827]	[2192]	[2572]	[2657]		
	7,6	38 32	80 32	121 31	165 30	206 30	248 28	291 26	300 25		
	[4]	[328]	[695]	[1076]	[1447]	[1827]	[2201]	[2577]	[2669]		[3671]
	15,1	37 65	79 65	122 64	163 63	206 62	249 62	291 60	302 60		415 50
	[6]	[317]	[687]	[1057]	[1434]	[1811]	[2186]	[2555]	[2650]		[3668]
	22,7	36 97	78 97	119 97	162 96	205 95	247 94	289 92	299 91		414 80
	[8]	[289]	[659]	[1038]	[1406]	[1777]	[2160]	[2531]	[2625]		[3644]
	30,3	33 130	74 130	117 130	159 129	201 128	244 127	286 124	297 124		412 112
	[10]	[265]	[631]	[1004]	[1381]	[1751]	[2131]	[2510]	[2602]		[3608]
	37,9	30 162	71 162	113 162	156 162	198 160	241 158	284 156	294 156		408 145
[12]	[230]	[599]	[968]	[1345]	[1722]	[2088]	[2480]	[2571]		[3571]	
45,4	26 195	68 195	109 194	152 194	195 193	236 192	280 189	290 189		403 178	
[14]	[191]	[563]	[927]	[1299]	[1686]	[2058]	[2428]	[2519]		[3532]	
53,0	22 227	64 227	105 227	147 226	190 226	233 224	274 222	285 221		399 212	
Max. Continuous	[15]	[167]	[538]	[904]	[1279]	[1661]	[2030]	[2404]	[2493]		[3488]
	56,8	19 243	61 243	102 243	145 242	188 242	229 240	272 238	282 238		394 229
Max. Intermittent	[20]	[29]	[411]	[785]	[1152]	[1520]	[1877]	[2222]	[2318]		
	75,7	3 324	46 324	89 323	130 322	172 322	212 320	251 319	262 318		

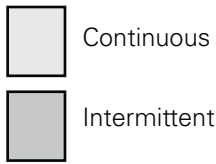
[538] } Torque [lb-in ]  
 61 } Nm  
 243 } Speed RPM

# H Series (101-)

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



		293 cm <sup>3</sup> /r [17.9 in <sup>3</sup> /r] Δ Pressure Bar [PSI] Continuous						Max. Continuous	Max. Intermittent
		[200]	[400]	[600]	[800]	[1000]	[1200]	[1350]	[1800]
		14	28	41	55	69	83	93	124
Flow LPM [GPM]	[2] 7,6	[427] 48 26	[893] 101 25	[1361] 154 25	[1829] 207 24	[2293] 259 22	[2672] 302 16	[2977] 336 13	
	[4] 15,1	[419] 47 51	[886] 100 51	[1362] 154 51	[1833] 207 50	[2305] 260 49	[2771] 313 47	[3110] 351 44	[4107] 464 22
	[6] 22,7	[402] 45 77	[872] 99 77	[1342] 152 76	[1819] 206 76	[2291] 259 74	[2757] 312 71	[3098] 350 68	[4121] 466 54
	[8] 30,3	[367] 41 102	[838] 95 102	[1316] 149 102	[1785] 202 101	[2252] 254 100	[2723] 308 98	[3070] 347 95	[4086] 462 84
	[10] 37,9	[332] 38 128	[803] 91 128	[1276] 144 128	[1749] 198 127	[2215] 250 126	[2684] 303 123	[3034] 343 120	[4061] 459 108
	[12] 45,4	[289] 33 153	[760] 86 153	[1230] 139 153	[1706] 193 153	[2177] 246 151	[2634] 298 149	[2989] 338 146	[4012] 453 135
	[14] 53,0	[241] 27 179	[712] 80 179	[1176] 133 179	[1650] 186 179	[2126] 240 177	[2592] 293 175	[2935] 332 172	[3963] 448 161
	Max. Continuous 56,8	[211] 24 192	[683] 77 192	[1149] 130 192	[1623] 183 191	[2096] 237 190	[2558] 289 188	[2905] 328 185	[3914] 442 174
	Max. Intermittent 75,7	[43] 5 256	[527] 60 256	[1001] 113 255	[1463] 165 255	[1919] 217 254	[2375] 268 252	[2720] 307 249	

		370 cm <sup>3</sup> /r [22.6 in <sup>3</sup> /r] Δ Pressure Bar [PSI] Continuous						Max. Continuous	Max. Intermittent			739 cm <sup>3</sup> /r [45.1 in <sup>3</sup> /r] Δ Pressure Bar [PSI] Continuous			Max. Continuous	Max. Intermittent
		[200]	[400]	[600]	[800]	[1000]	[1200]	[1250]	[1500]			[200]	[400]	[600]	[800]	
		14	28	41	55	69	83	86	103			14	28	41	55	
Flow LPM [GPM]	[2] 7,6	[537] 61 20	[1121] 127 20	[1715] 194 20	[2285] 258 19	[2862] 323 16						[2] 7,6	[1080] 122 10	[2250] 254 10	[3440] 389 10	[4570] 516 9
	[4] 15,1	[532] 60 40	[1123] 127 40	[1715] 194 40	[2308] 261 39	[2893] 327 38	[3467] 392 36	[3604] 407 35	[4274] 483 27			[4] 15,1	[1070] 121 20	[2250] 254 20	[3440] 389 19	[4600] 520 18
	[6] 22,7	[508] 57 61	[1100] 124 61	[1693] 191 61	[2294] 259 60	[2884] 326 58	[3458] 391 55	[3598] 407 53	[4283] 484 47			[6] 22,7	[1020] 115 30	[2200] 249 30	[3390] 383 29	[4590] 519 27
	[8] 30,3	[463] 52 81	[1060] 120 81	[1661] 188 81	[2255] 255 80	[2840] 321 79	[3414] 386 76	[3557] 402 74	[4254] 481 68			[8] 30,3	[ 945] 107 40	[2135] 241 40	[3330] 376 39	[4515] 510 37
	[10] 37,9	[414] 47 101	[1017] 115 101	[1613] 182 101	[2203] 249 101	[2788] 315 99	[3363] 380 96	[3506] 396 94	[4212] 476 88			[10] 37,9	[ 840] 95 50	[2050] 232 50	[3250] 367 48	[4430] 501 46
	[12] 45,4	[363] 41 121	[960] 108 121	[1553] 175 121	[2152] 243 121	[2737] 309 119	[3305] 373 116	[3446] 389 115	[4152] 469 109			[12] 45,4	[ 740] 84 60	[1945] 220 59	[3130] 354 58	[4320] 488 55
	[14] 53,0	[303] 34 142	[897] 101 142	[1484] 168 142	[2086] 236 142	[2667] 301 140	[3246] 367 137	[3386] 383 136	[4092] 462 130			[14] 53,0	[ 630] 71 69	[1820] 206 68	[3005] 340 68	[4195] 474 66
	Max. Continuous 56,8	[266] 30 152	[862] 97 152	[1452] 164 152	[2050] 232 152	[2630] 297 150	[3206] 362 148	[3347] 378 147	[4054] 458 140			Max. Continuous 56,8	[ 540] 61 74	[1735] 196 74	[2905] 328 73	[4130] 467 72
	Max. Intermittent 75,7	[20] 7 202	[61] 76 202	[1269] 143 202	[1847] 209 202	[2410] 272 202	[2987] 337 199	[3119] 352 198				Max. Intermittent 75,7	[ 143] 16 99	[1350] 153 98	[2565] 290 97	[3705] 419 96

[862] } Torque [lb-in]  
97 } Nm  
152 } Speed RPM

# H Series (101-)

## 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

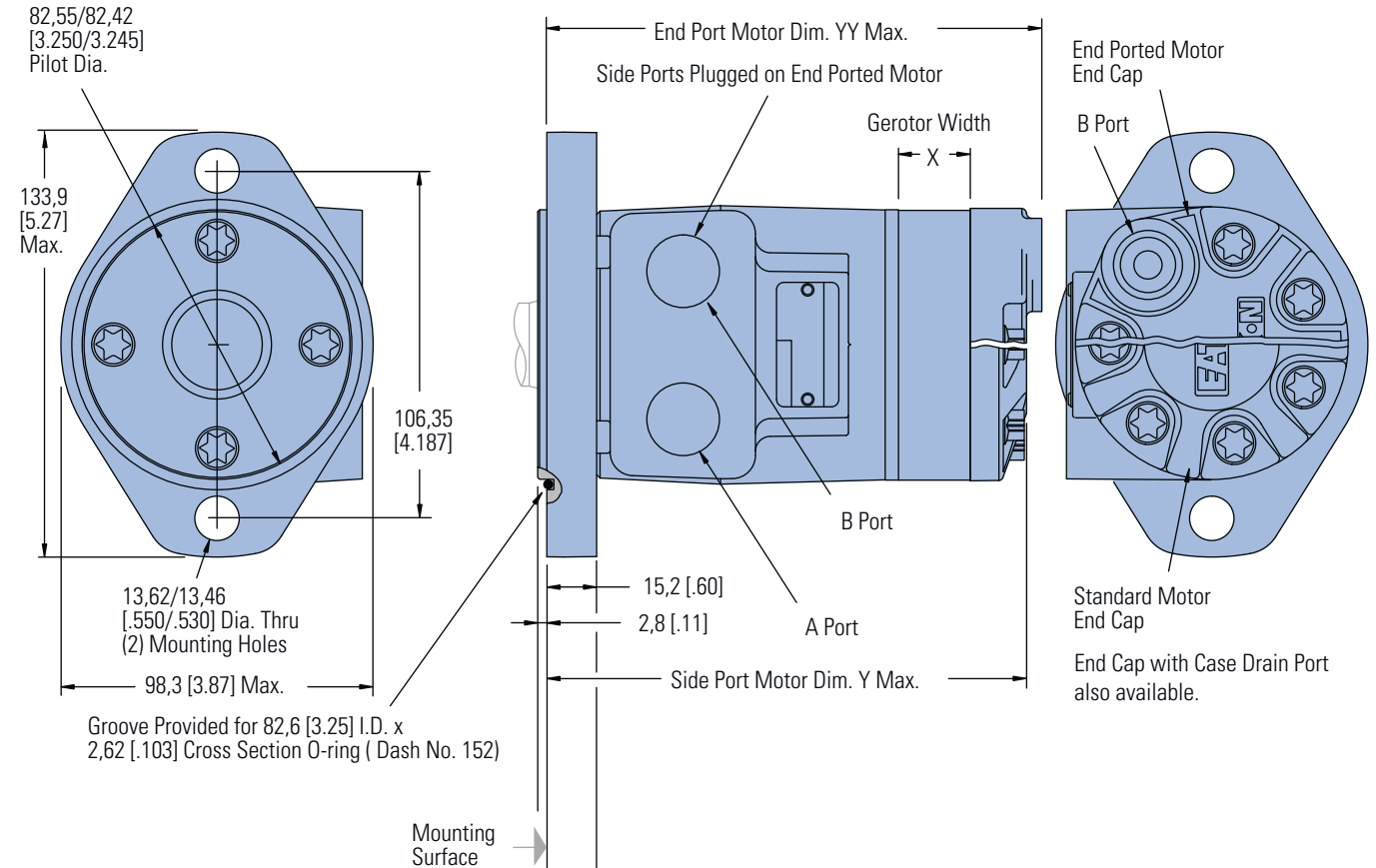
## Note:

Mounting surface flatness requirement is  $\square$ , 13 mm [.005 inch] Max.

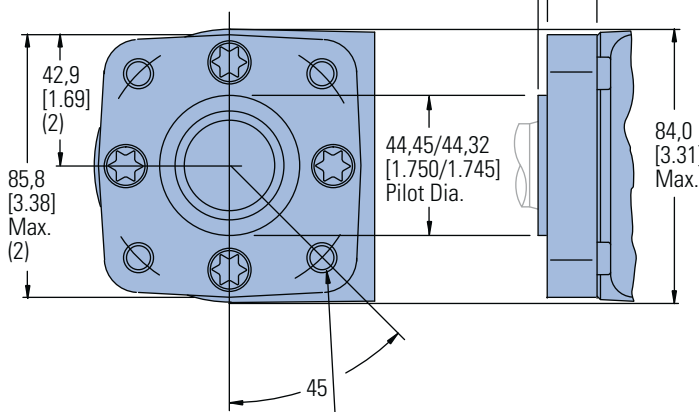
## Note:

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

## 2 Bolt Flange



## 4 Bolt Flange



3/8-16 UNC (15,2 [.60] Max. Bolt Thread Engagement ) Mounting Holes (4) Equally Spaced on 82,6 [3.25] Dia. Bolt Circle or  
 M10 x 1,5 (15,2 [.60] Max. Bolt Thread Engagement ) Mounting Holes (4) Equally Spaced on 82,6 [3.25] Dia. Bolt Circle

## 2 AND 4 BOLT FLANGE

Displacement cm <sup>3</sup> /r [in <sup>3</sup> /r]	X mm [inch]	Y mm [inch]	YY mm [inch]
36 [ 2.2]	6,4 [ .25]	132,1 [5.20]	138,5 [5.45]
46 [ 2.8]	6,4 [ .25]	132,1 [5.20]	138,5 [5.45]
59 [ 3.6]	10,2 [ .40]	135,9 [5.35]	142,3 [5.60]
74 [ 4.5]	10,2 [ .40]	135,9 [5.35]	142,3 [5.60]
97 [ 5.9]	13,2 [ .52]	139,0 [5.47]	145,3 [5.72]
120 [ 7.3]	16,5 [ .65]	142,3 [5.60]	148,6 [5.85]
146 [ 8.9]	20,1 [ .79]	145,8 [5.74]	152,2 [5.99]
159 [ 9.7]	21,9 [ .86]	147,6 [5.81]	154,0 [6.06]
185 [11.3]	25,4 [1.00]	151,2 [5.95]	157,5 [6.20]
231 [14.1]	31,8 [1.25]	157,5 [6.20]	
293 [17.9]	40,4 [1.59]	166,2 [6.54]	
370 [22.6]	50,8 [2.00]	176,6 [6.95]	
739 [45.1]	101,6 [4.00]	227,4 [8.95]	

# H Series (101-)

## Product Numbers

Use digit prefix —101- plus four digit number from charts for complete product number—Example 101-1001. Orders will not be accepted without three digit prefix.

### 2 Bolt Flange

SHAFT	PORT SIZE	DISPL. cm <sup>3</sup> /r [in <sup>3</sup> /r] / PRODUCT NUMBER													
		36 [ 2.2]	46 [ 2.8]	59 [ 3.6]	74 [ 4.5]	97 [ 5.9]	120 [ 7.3]	146 [ 8.9]	159 [ 9.7]	185 [11.3]	231 [14.1]	293 [17.9]	370 [22.6]	740 [45.0]	
.1 in. Straight w/Woodruff key	7/8-14 O-Ring	101-1700	-1033	-1701	-1034	-1035	-1702	-1703	-1036	-1037	-1038	-1039	-1040	—	
	1/2 NPTF	101-1704	-1025	-1705	-1026	-1027	-1706	-1707	-1028	-1029	-1030	-1031	-1032	—	
	Manifold*	101-1708	-1041	-1709	-1042	-1043	-1710	-1711	-1044	-1045	-1046	-1047	-1048	—	
1 in. SAE 6B Splined	7/8-14 O-Ring	101-1721	-1081	-1722	-1082	-1083	-1723	-1724	-1084	-1085	-1086	-1087	-1088	—	
	1/2 NPTF	101-1725	-1073	-1726	-1074	-1075	-1727	-1728	-1076	-1077	-1078	-1079	-1080	—	
	Manifold*	101-1729	-1089	-1730	-1090	-1091	-1731	-1732	-1092	-1093	-1094	-1095	-1096	—	
1 in. Straight w/.31 Dia. Crosshole	7/8-14 O-Ring	101-1796	-1797	-1798	-1799	-1800	-1801	-1802	-1803	—	—	—	—	—	
	1/2 NPTF	101-1804	-1805	-1806	-1807	-1808	-1870	-1809	-1810	—	—	—	—	—	
	Manifold*	101-1811	-1812	-1813	-1814	-1815	-1816	-1817	-1818	—	—	—	—	—	
1 in. Straight w/.40 Dia. Crosshole	7/8-14 O-Ring	101-1819	-1323	-1820	-1324	-1325	-1821	-1822	-1326	—	—	—	—	—	
	1/2 NPTF	101-1823	-1319	-1824	-1320	-1825	-1826	-1827	-1828	—	—	—	—	—	
	Manifold*	101-1829	-1463	-1830	-1831	-1832	-1833	-1834	-1871	—	—	—	—	—	

101-1834

### 4 Bolt Flange

SHAFT	PORT SIZE	DISPL. cm <sup>3</sup> /r [in <sup>3</sup> /r] / PRODUCT NUMBER													
		36 [ 2.2]	46 [ 2.8]	59 [ 3.6]	74 [ 4.5]	97 [ 5.9]	120 [ 7.3]	146 [ 8.9]	159 [ 9.7]	185 [11.3]	231 [14.1]	293 [17.9]	370 [22.6]	740 [45.0]	
1 in. Straight w/Woodruff key O-Ring	7/8-14 O-Ring	101-1749	-1009	-1750	-1010	-1011	-1751	-1752	-1012	-1013	-1014	-1015	-1016	—	
	1/2 NPTF	101-1753	-1001	-1754	-1002	-1003	-1755	-1756	-1004	-1005	-1006	-1007	-1008	—	
	Manifold*	101-1757	-1017	-1758	-1018	-1019	-1759	-1760	-1020	-1021	-1022	-1023	-1024	—	
1 in. SAE 6B Splined	7/8-14 O-Ring	101-1761	-1057	-1762	-1058	-1059	-1872	-1763	-1060	-1061	-1062	-1063	-1064	—	
	1/2 NPTF	101-1764	-1049	-1765	-1050	-1051	-1766	-1767	-1052	-1053	-1054	-1055	-1056	—	
	Manifold*	101-1768	-1065	-1769	-1066	-1067	-1770	-1771	-1068	-1069	-1070	-1071	-1072	—	
1 in. Straight w/.31 Dia. Crosshole	7/8-14 O-Ring	101-1835	-1836	-1837	-1838	-1839	-1840	-1841	-1842	—	—	—	—	—	
	1/2 NPTF	101-1843	-1497	-1844	-1449	-1352	-1845	-1846	-1847	—	—	—	—	—	
	Manifold*	101-1848	-1466	-1849	-1459	-1850	-1851	-1852	-1853	—	—	—	—	—	
1 in. Straight w/.40 Dia. Crosshole	7/8-14 O-Ring	101-1854	-1311	-1855	-1856	-1857	-1858	-1859	-1860	—	—	—	—	—	
	1/2 NPTF	101-1861	-1313	-1862	-1312	-1314	-1863	-1864	-1315	—	—	—	—	—	
	Manifold*	101-1865	-1305	-1866	-1306	-1307	-1867	-1868	-1869	—	—	—	—	—	

101-1868

### 4 Bolt Flange with Corrosion Protection

SHAFT	PORT SIZE	DISPL. cm <sup>3</sup> /r [in <sup>3</sup> /r] / PRODUCT NUMBER													
		36 [ 2.2]	46 [ 2.8]	59 [ 3.6]	74 [ 4.5]	97 [ 5.9]	120 [ 7.3]	146 [ 8.9]	159 [ 9.7]	185 [11.3]	231 [14.1]	293 [17.9]	370 [22.6]	740 [45.0]	
1 in. Straight w/Woodruff Key	1/2 NPTF	101-2032	-2014	-2093	-2027	-2013	-2094	-2095	-2015	-2028	-2029	-2030	-2031	—	
	Manifold*		-2067							-2068	-2069				

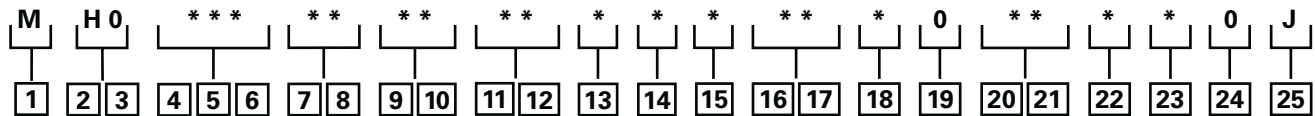
\*Manifold product numbers shown are for motors with four 5/16-18 port face mounting threads. Manifold, manifold mounting O-Rings and bolts are NOT included.

For H Series Motors with a configuration Not Shown in the charts above: Use the model code system on page B-2-11 to specify the product in detail.

# H Series (101-)

## Model Code

The following 25-digit coding system has been developed to identify all of the configuration options for the H 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.



B-2

### 1 Product

M - Motor

### 2, 3 Series

H0 - H Motor

### 4, 5, 6 Displacement cm<sup>3</sup>/r [in<sup>3</sup>/r]

022 - 36 [2.2]†

028 - 46 [2.8]

035 - 58 [3.5]†

045 - 74 [4.5]

059 - 96 [5.9]

073 - 120 [7.3]

089 - 146 [8.9]

097 - 159 [9.7]

113 - 185 [11.3]

141 - 231 [14.1]

179 - 294 [17.9]

226 - 370 [22.6]

451 - 739 [45.1]

†The H Series motors with displacement code "022" or "035" must also specify free running gerotor (option "AA" in position 11,12).

### 7, 8 Mounting Type

**AA - 2 Bolt (Standard)**  
82.50 [3.248] Dia. x 3.05 [.120] Pilot, 13.59 [.535] Dia. Mounting Holes on 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 on 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 on 106.35 [4.187] Dia. B.C. (SAE A)

DD - 2 Bolt (Standard)  
101.60 [4.000] Dia. x 6.10 [.240] Pilot, 14.35 [.565] Dia. Mounting Holes on 146.05 [5.750] Dia. B.C. (SAE B)

**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.

GA - 4 Bolt (Round) 82.50 [3.248] Dia. x 6.35 [.250] Pilot, 19.05 [.750] Dia. Mounting Holes on 109.48 [4.310] 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., w/o O-ring Groove

### 9, 10 Output Shaft

**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, .250-20 UNC-2B Hole in Shaft End**

07 - 25.4 [1.00] Dia. Straight, 8.03 [.316] Dia. Cross Hole 11.2 [.44] from End, 5.6 [.22] Extra Length

**08 - 25.4 [1.00] Dia. Straight, 10.31 [.406] Dia. Cross Hole 15.7 [.62] from End, .250-20 UNC-2B Hole in Shaft End**

**16 - 22.22 [.875] Dia. SAE 13 Tooth Spline (SAE B)**

17 - 22.22 [.875] Dia. Straight, 6.4 [.25] x 19.0 [.75] Square Key (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, 8.00 [.315] KEY, M8 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 Ports

**AA - .875-14 UNF-2B SAE O-Ring Ports**

**AB - .500-14 NPTF Dry Seal Pipe Thread Ports**

**AC - Manifold Ports (.3125-18 UNC-2B Mounting Holes)**

AD - Manifold Ports (M8 x 1.25-6H Mounting Holes)

**AF - G 1/2 BSP Straight Thread Ports**

EB†† - End Ports: .750-16 UNF-2B SAE O-Ring Ports

EC†† - End Ports: G 1/2 BSP Straight Thread Ports

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

### 13 Case Flow Options

0 - None

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

**2 - G 1/4 BSP Straight THD Port (End Cap)**

**A - Internal Check Valves**

### 14 Gerotor 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 - Viton Seals

**04 - Viton Shaft Seal**

05 - Vented Two-Stage Seal

**07 - High Pressure Shaft Seal**

### 18 Speed Sensor Options

0 - None

A - Digital Speed Pickup

(15 Pulse), No Lead Wire with M12 Connector (A=Power, B=Common, C=Signal)

B - Magnetic Speed Pickup (60 Pulse by Quadrature), No Lead Wire with M12 Connector (A=Power, B=Common, C=Signal)

### 19 Manifold Block Options

0 - None

\* - Contact your Eaton Sales Representative for available options.

### 20, 21 Special Features (Hardware)

**00 - None**

AB - Low Speed Valving

SS - Stainless Steel Flange Bolts

### 22 Special Features (Assembly)

0 - None

1 - Reverse Rotation

2 - Flange Rotated 90°

### 23 Paint/ Special Packaging

0 - No Paint

**A - Low Gloss Black Primer**

D - Environmental Coated Gloss White

F - Environmental Coated Black

### 24 Eaton Assigned Code when Applicable

0 - Assigned Code

### 25 Eaton Assigned Design Code

J - Nine (9)

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