



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



Powering Business Worldwide

Spool Valve Motors

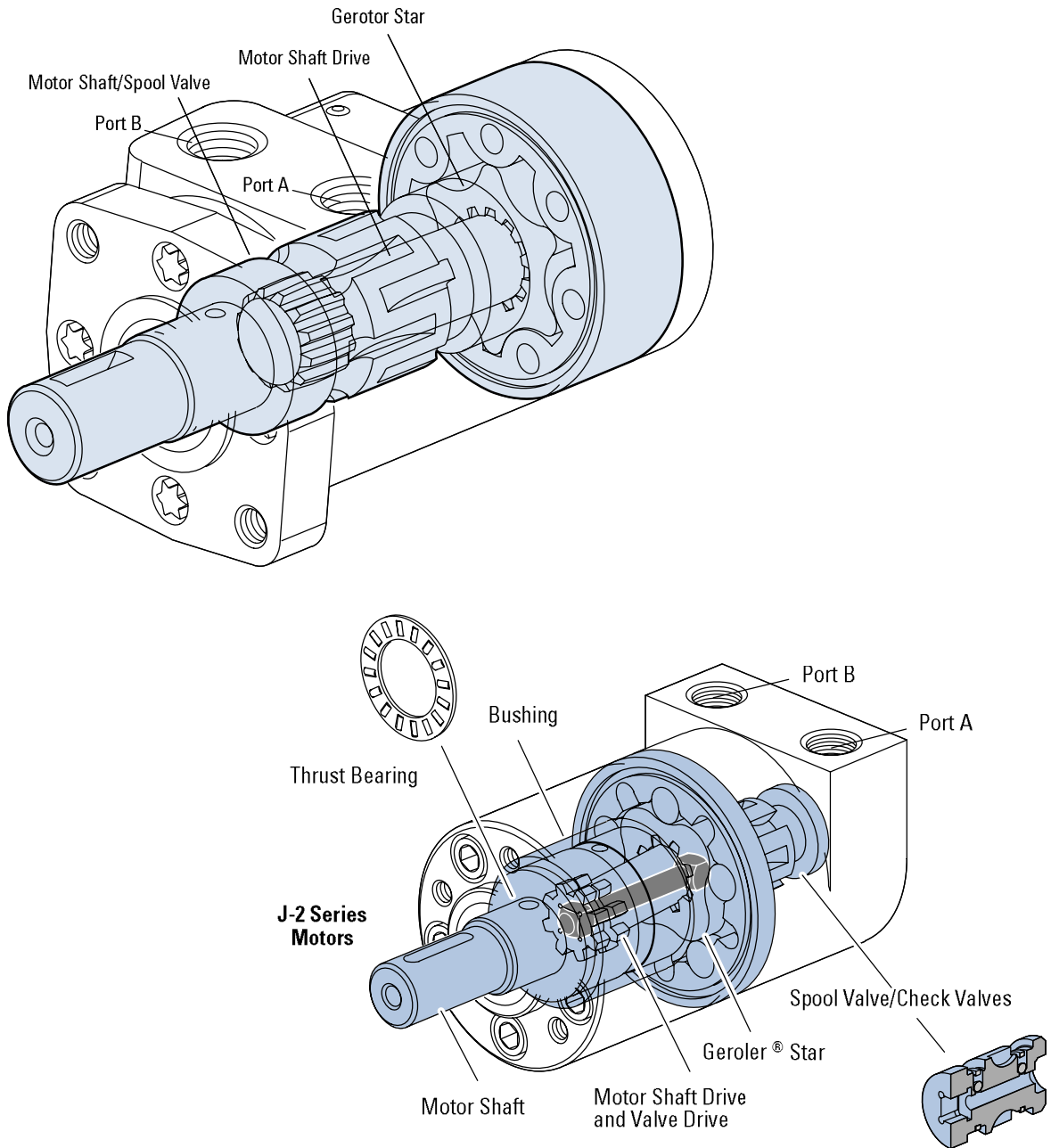
Highlights

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

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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W Series (162-)

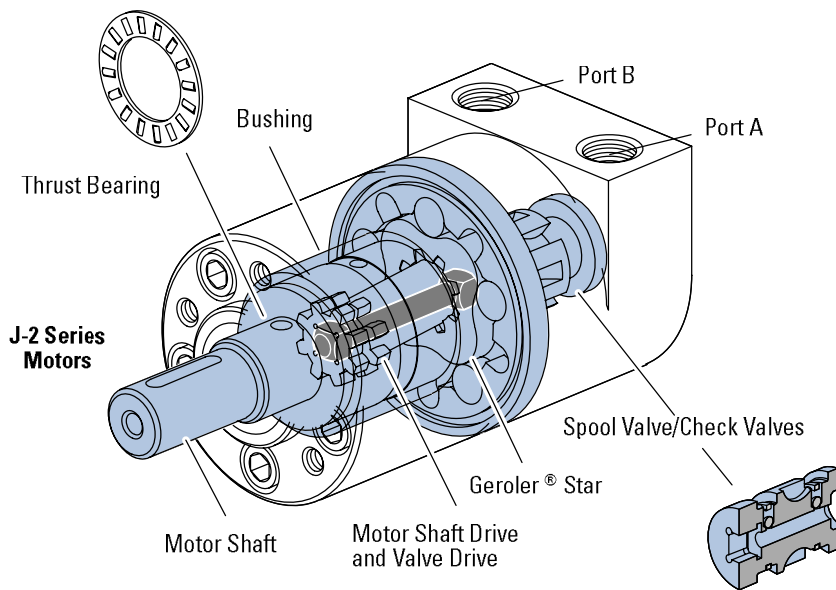
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J Series (129-)

Highlights



Features:

- Constant clearance Geroler set
- Integrated check valves
- Self-lubricating shaft bushing
- High-strength rigid components
- Increased valve seal lands
- High pressure seals
- Variety of displacements, shafts, mounts and special options

Benefits:

- High efficiency
- Extended leak-free performance
- Powerful compact package
- Design flexibility

Applications:

- Agricultural augers, harvesters, seeders
- Car wash tire spray wands and brushes
- Marine bow thrusters
- Food processing
- Railroad maintenance equipment
- Machine tools
- Conveyors
- Snow blower chute rotor
- Industrial sweepers and floor polishers
- Saw mill works
- Turf equipment reel drives
- Paint stripper
- Many more

Description

Char-Lynn J Series motors provide a lot of power from a very small package. Up to 5 kW [6 1/2 HP] of power. These motors are 61 mm [2.4 in] in diameter and 104 to 130 mm [4.1 to 5.1 in] in length.

The J Series motor shaft and seal allows high case pressure up to 76 bar [1100 PSI] return line pressure without case drain line. When a case drain line is used a 220 bar [3190 PSI] peak pressure is allowed in the return line.

Specifications

Geroler Element	5 Displacements
Flow l/min [GPM]	21 [5.5] Continuous***
	25 [6.5] Intermittent**
Speed	Up to 1992 RPM Cont.
	Up to 2458 RPM Inter.
Pressure bar [PSI]	140 [2030] Cont.***
	165 [2400] Inter.**
Torque Nm [lb-in]	62 [549] Cont.***
	84 [743] Inter.**

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

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



Plastic Injection



Metal Forming



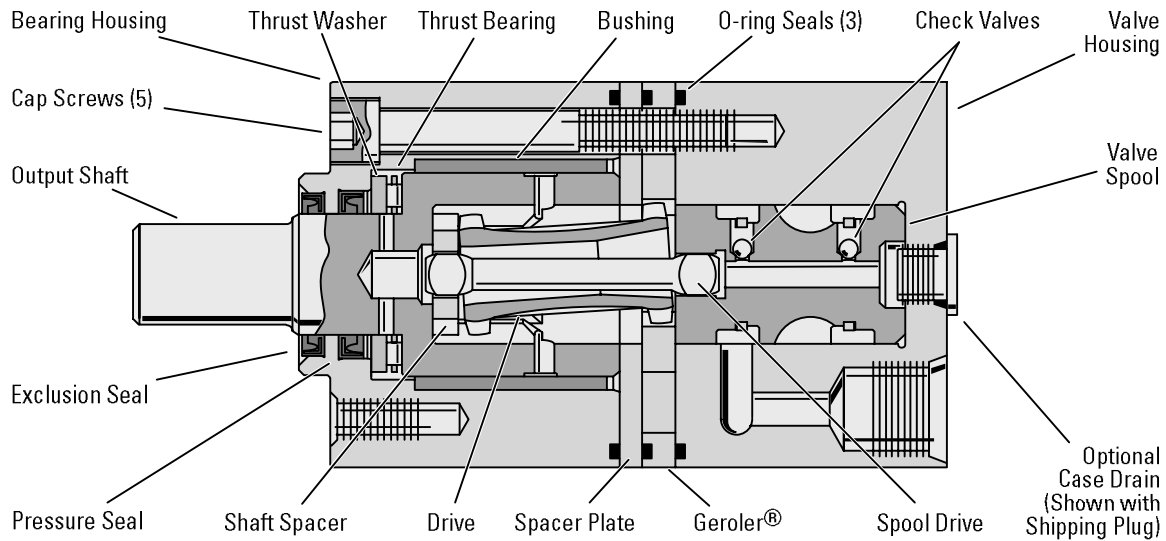
Food Processing



Ship-Boat Building

J Series (129-)

Specifications



SPECIFICATION DATA — J MOTORS

Displ. cm ³ /r [in ³ /r]		8,2 [.50]	12,9 [.79]	19,8 [1.21]	31,6 [1.93]	50,0 [3.00]
Max. Speed (RPM) @ Continuous Flow		1992	1575	1043	650	393
Flow l/min [GPM]	Continuous	17 [4.5]	21 [5.5]	21 [5.5]	21 [5.5]	21 [5.5]
	Intermittent	21 [5.5]	25 [6.5]	25 [6.5]	25 [6.5]	25 [6.5]
Torque Nm [lb-in]	Continuous	16 [141]	25 [225]	38 [333]	50 [446]	62 [549]
	Intermittent	19 [164]	30 [263]	46 [405]	62 [546]	84 [743]
	Peak	22 [193]	36 [321]	48 [425]	83 [733]	86 [765]
Pressure Δ bar [Δ PSI]	Continuous	140 [2030]	140 [2030]	140 [2030]	121 [1750]	97 [1400]
	Intermittent	165 [2400]	165 [2400]	165 [2400]	150 [2175]	140 [2030]
	Peak	220 [3190]	220 [3190]	220 [3190]	190 [2756]	150 [2175]
Weight kg [lbs]		2 [4.4]	2,1 [4.6]	2,2 [4.8]	2,3 [5.0]	2,4 [5.4]

* Maximum pressure at motor inlet port is 220 Bar [3190 PSI] without regard to Δ bar [Δ PSI] and/or back pressure ratings or combination thereof.

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.

Δ Pressure:

The true Δ bar [Δ PSI] difference between inlet port and outlet port.

See individual shafts for maximum torque recommendation. Splined shafts are recommended for those applications subject to frequent reversals.

Continuous Rating:

Motor may be run continuously at these ratings

Intermittent Operation:

10% of every minute

Peak Operation:

1% of every minute

Recommended Fluids:

Premium quality, anti-wear type hydraulic oil with a viscosity of not less than 70 SUS at operating temperature.

Recommended System Operating Temp.:

-34°C to 82°C
[-30°F to 180°F]

Recommended Filtration:

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

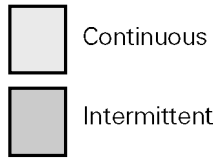
J Series (129-)

Performance Data

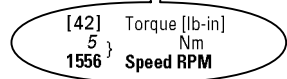
Motors run with high efficiency in all areas designated with a number for torque and speed. For best motor life select a motor to run with a torque and speed range shown in the light shaded area.

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

		8,2 cm ³ /r [.50 in ³ /r]												
		Δ Pressure Bar [PSI]											Max. Continuous	Max. Intermittent
		Continuous												
		[200]	[400]	[500]	[600]	[700]	[800]	[1000]	[1400]	[1500]	[2000]	[2030]		
		14	28	34	41	48	55	69	97	103	138	140		165
Flow LPM [GPM]	[1]	[11]	[25]	[33]	[40]	[47]	[55]	[69]	[96]	[102]	[130]	[132]	[146]	
	3,8	1 456	3 444	4 437	5 429	5 422	6 412	8 394	11 347	12 332	15 250	15 239	16 170	
	[2]	[9]	[24]	[31]	[38]	[46]	[53]	[68]	[97]	[105]	[139]	[141]	[163]	
	7,6	1 897	3 886	4 877	4 867	5 860	6 847	8 823	11 768	12 749	16 657	16 647	18 557	
	[3]	[6]	[20]	[28]	[35]	[44]	[51]	[65]	[94]	[102]	[137]	[139]	[164]	
11,4	1 1349	2 1331	3 1318	4 1309	5 1296	6 1285	7 1261	11 1198	11 1176	15 1070	15 1060	16 959		
[4.25]		[16]	[23]	[30]	[36]	[44]	[60]	[90]	[97]	[133]	[135]	[160]		
16,0		2 1902	3 1885	3 1873	4 1858	5 1846	7 1817	10 1750	11 1721	15 1599	15 1585	18 1475		
[4.5]		[16]	[23]	[29]	[36]	[43]	[59]	[89]	[96]	[131]	[134]	[160]		
Max. Continuous	17,0	2 1992	3 1979	3 1964	4 1947	5 1929	7 1900	10 1833	11 1808	15 1684	15 1673	18 1553		
[5.5]		[12]	[18]	[26]	[33]	[40]	[54]	[83]	[92]	[124]	[129]	[154]		
Max. Intermittent	20,8		1 2458	2 2437	3 2420	4 2405	5 2387	6 2353	9 2272	10 2255	15 2134	15 2115	17 1994	



		12,9 cm ³ /r [0.79 in ³ /r]													
		Δ Pressure Bar [PSI]											Max. Continuous	Max. Intermittent	
		Continuous													
		[200]	[400]	[500]	[600]	[700]	[800]	[1000]	[1400]	[1450]	[1500]	[2000]	[2030]		
		14	28	34	41	48	55	69	97	100	103	138	140		165
Flow LPM [GPM]	[1]	[19]	[43]	[54]	[65]	[76]	[88]	[109]	[154]	[159]	[164]	[214]	[217]	[250]	
	3,8	2 290	5 285	6 281	7 277	9 273	10 268	12 260	17 237	18 234	19 230	24 194	25 189	28 151	
	[2]	[16]	[39]	[51]	[63]	[74]	[86]	[109]	[155]	[160]	[165]	[221]	[225]	[263]	
	7,6	2 573	4 566	6 561	7 555	8 549	10 544	12 534	18 501	18 496	19 490	25 442	25 437	30 396	
	[3]	[11]	[35]	[47]	[58]	[70]	[82]	[105]	[152]	[157]	[163]	[219]	[223]	[263]	
11,4	1 859	4 849	5 843	7 838	8 832	9 825	12 810	17 777	18 771	18 763	25 708	25 701	30 652		
[4]	[6]	[30]	[41]	[53]	[64]	[76]	[99]	[146]	[152]	[157]	[214]	[217]	[260]		
15,1	1 1153	3 1140	5 1135	6 1129	7 1124	9 1117	11 1101	16 1060	17 1051	18 1044	24 982	25 975	29 924		
[5.5]		[19]	[30]	[42]	[54]	[65]	[89]	[136]	[142]	[148]	[205]	[209]	[251]		
Max. Continuous	20,8	2 1575	3 1566	5 1556	6 1547	7 1539	10 1521	15 1473	16 1466	17 1457	23 1396	24 1387	28 1330		
[6.5]		[11]	[23]	[35]	[46]	[56]	[81]	[130]	[135]	[140]	[198]	[202]	[243]		
Max. Intermittent	24,6		1 1859	3 1851	4 1842	5 1831	6 1820	9 1804	15 1755	15 1743	16 1734	22 1670	23 1663	27 1599	



J Series (129-)

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.

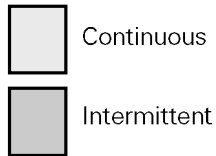
Performance data is typical at 120 SUS. Actual data may vary slightly from motor to motor in production.

19.8 cm³/r [1.21 in³/r]

Δ Pressure Bar [PSI]
Continuous

Max. Continuous
Max. Inter-mittent

		[200]	[400]	[500]	[600]	[700]	[800]	[1000]	[1400]	[1450]	[1500]	[2000]	[2030]	[2400]
		14	28	34	41	48	55	69	97	100	103	138	140	165
Flow LPM [GPM]	[1]	[32] 4	[67] 8	[85] 10	[102] 12	[119] 13	[136] 15	[170] 19	[236] 27	[244] 28	[253] 29	[321] 36	[325] 37	[374] 42
	3,8	189	187	186	185	183	182	179	172	170	169	141	138	114
	[2]	[30] 3	[65] 7	[83] 9	[101] 11	[119] 13	[136] 15	[172] 19	[223] 25	[248] 28	[257] 29	[328] 37	[333] 38	[388] 44
	7,6	379	375	373	370	368	366	361	351	349	347	312	309	285
Max. Continuous	[3]	[21] 2	[57] 6	[75] 8	[93] 11	[111] 13	[128] 14	[163] 18	[231] 26	[240] 27	[248] 28	[325] 37	[330] 37	[405] 46
	11,4	569	565	563	560	558	556	551	529	526	523	487	484	459
Max. Inter-mittent	[4]	[12] 1	[47] 5	[65] 7	[83] 9	[101] 11	[119] 13	[154] 17	[221] 25	[230] 26	[239] 27	[316] 36	[320] 36	[382] 43
	15,1	761	758	754	751	749	746	741	717	711	707	660	656	628
	[5.5]		[31] 4	[49] 6	[67] 8	[84] 9	[101] 11	[137] 15	[202] 23	[211] 24	[218] 25	[295] 33	[299] 34	[365] 41
	20,8		1043	1040	1035	1033	1028	1021	997	993	990	938	934	899
	[6.5]		[21] 2	[38] 4	[56] 6	[74] 8	[91] 10	[126] 14	[189] 21	[196] 22	[206] 23	[278] 31	[283] 32	[347] 39
	24,6		1226	1222	1219	1215	1211	1204	1179	1174	1169	1121	1117	1079



31.6 cm³/r [1.93 in³/r]

Δ Pressure Bar [PSI]
Continuous

Max. Continuous
Max. Inter-mittent

		[200]	[400]	[500]	[600]	[700]	[800]	[1000]	[1400]	[1450]	[1500]	[1750]	[2175]
		14	28	34	41	48	55	69	97	100	103	121	150
Flow LPM [GPM]	[1]	[51] 6	[106] 12	[133] 15	[160] 18	[187] 21	[213] 24	[265] 30	[362] 41	[372] 42	[383] 43	[439] 50	
	3,8	118	116	115	113	112	111	107	91	85	81	70	
Max. Continuous	[2]	[46] 5	[103] 12	[132] 15	[159] 18	[187] 21	[214] 24	[269] 30	[362] 41	[374] 42	[387] 44	[446] 50	[546] 62
	7,6	236	234	232	230	228	225	221	187	179	175	165	145
Max. Inter-mittent	[3]	[36] 4	[94] 11	[122] 14	[149] 17	[177] 20	[205] 23	[259] 29	[351] 40	[364] 41	[377] 43	[440] 50	[542] 61
	11,4	355	352	349	347	345	342	336	296	292	287	273	245
	[4]	[24] 3	[79] 9	[107] 12	[135] 15	[162] 18	[190] 21	[246] 28	[337] 38	[349] 39	[362] 41	[425] 48	[528] 60
	15,1	474	472	469	466	462	460	452	404	397	393	373	346
	[5.5]		[55] 6	[83] 9	[111] 13	[139] 16	[167] 19	[221] 25	[307] 35	[320] 36	[334] 38	[400] 45	[505] 57
	20,8		650	647	645	640	636	629	584	580	575	550	513
	[6.5]		[35] 4	[64] 7	[93] 11	[121] 14	[150] 17	[204] 23	[279] 32	[294] 33	[308] 35	[378] 43	[485] 55
	24,6		767	764	760	755	751	742	712	707	701	675	637

50.0 cm³/r [3.00 in³/r]

Δ Pressure Bar [PSI]
Continuous

Max. Continuous
Max. Inter-mittent

		[200]	[400]	[500]	[600]	[700]	[800]	[1000]	[1100]	[1200]	[1300]	[1400]	[2030]
		14	28	34	41	48	55	69	76	83	90	97	140
Flow LPM [GPM]	[1]	[82] 9	[167] 19	[211] 24									
	3,8	75	72	72									
Max. Continuous	[2]	[70] 8	[156] 18	[201] 23	[243] 28	[286] 32	[327] 37						
	7,6	149	147	145	144	143	142						
Max. Inter-mittent	[3]	[53] 6	[140] 16	[184] 21	[227] 26	[271] 31	[311] 35	[396] 45	[441] 50	[484] 55	[521] 59	[549] 62	
	11,4	221	220	218	217	215	213	209	205	201	200	191	
	[4]	[30] 3	[120] 14	[162] 18	[204] 23	[250] 28	[292] 33	[374] 42	[419] 47	[460] 52	[501] 57	[541] 61	[743] 84
	15,1	296	292	289	286	284	282	273	270	265	263	259	213
	[5.5]		[81] 9	[127] 14	[170] 19	[214] 24	[254] 29	[339] 38	[379] 43	[422] 48	[463] 52	[506] 57	[702] 79
	20,8		393	392	389	387	383	377	372	369	364	358	302
	[6.5]		[47] 5	[90] 10	[133] 15	[176] 20	[219] 25	[307] 35	[345] 39	[385] 43	[429] 48	[467] 53	[685] 77
	24,6		465	462	460	458	455	448	445	440	435	430	364

[81] } Torque [lb-in]
9 } Nm
393 } Speed RPM

J Series (129-)

Dimensions

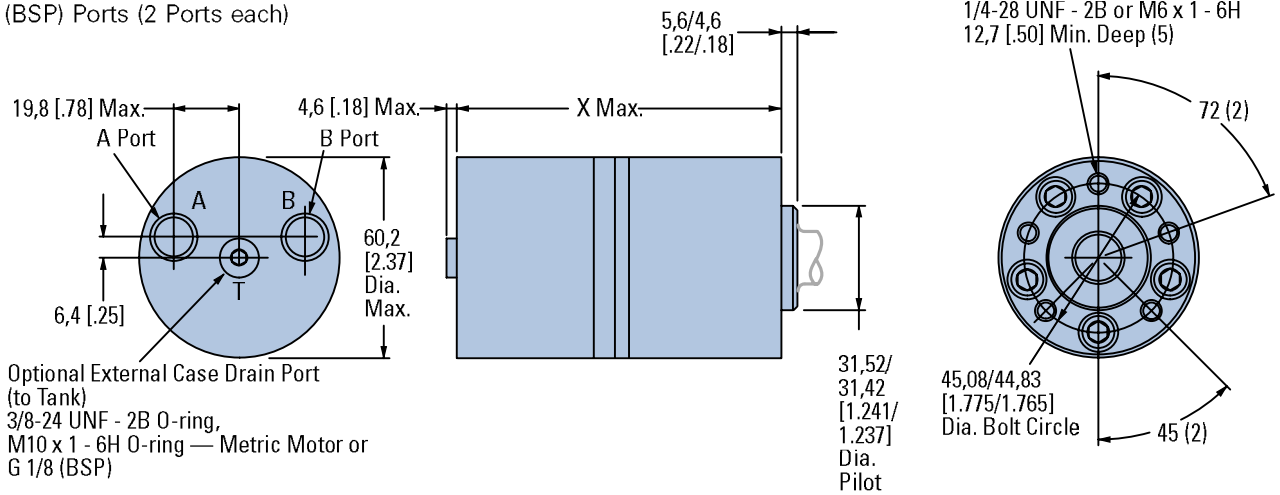
Standard Rotation Viewed from Shaft End

Port A Pressurized — CW

Port B Pressurized — CCW

9/16 Inch End Port

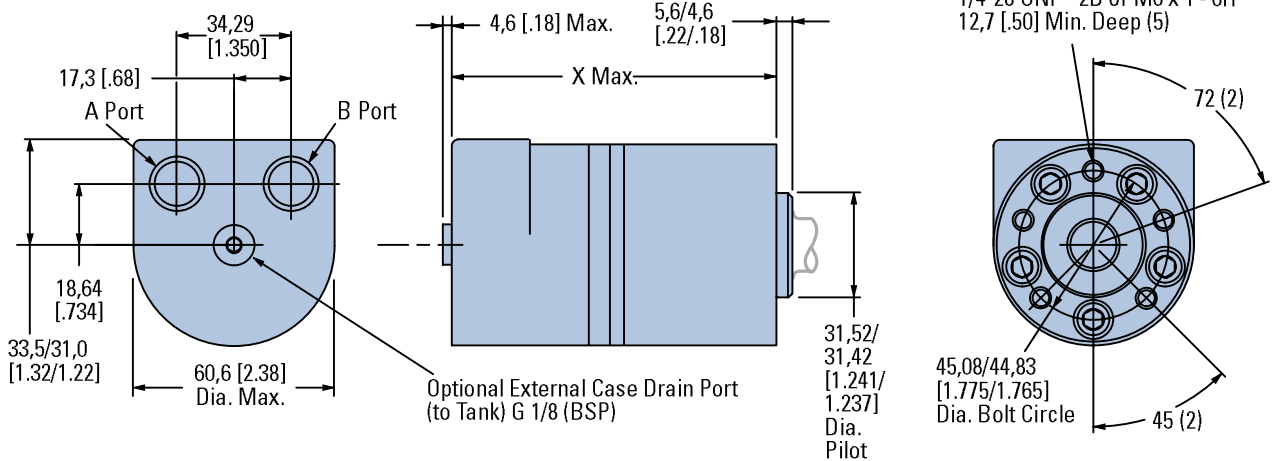
9/16-18 UNF - 2B O-Ring Ports, M14 x
1,5 - 6H O-Ring Ports — Metric Motor or
G 1/4 (BSP) Ports (2 Ports each)



END PORT DIMENSIONS

Displacement cm ³ /r [in ³ /r]	X mm [inch]
8,2 [.50]	103,9 [4.09]
12,9 [.79]	106,9 [4.21]
19,8 [1.21]	112,5 [4.38]
31,6 [1.93]	118,9 [4.68]
50,0 [3.00]	130,3 [5.13]

3/8 Inch End Port



END PORT DIMENSIONS

Displacement cm ³ /r [in ³ /r]	X mm [inch]
8,2 [.50]	103,9 [4.09]
12,9 [.79]	106,9 [4.21]
19,8 [1.21]	112,5 [4.38]
31,6 [1.93]	118,9 [4.68]
50,0 [3.00]	130,0 [5.12]
160,5 [6.32]	132,3 [5.21]

J Series (129-)

Dimensions

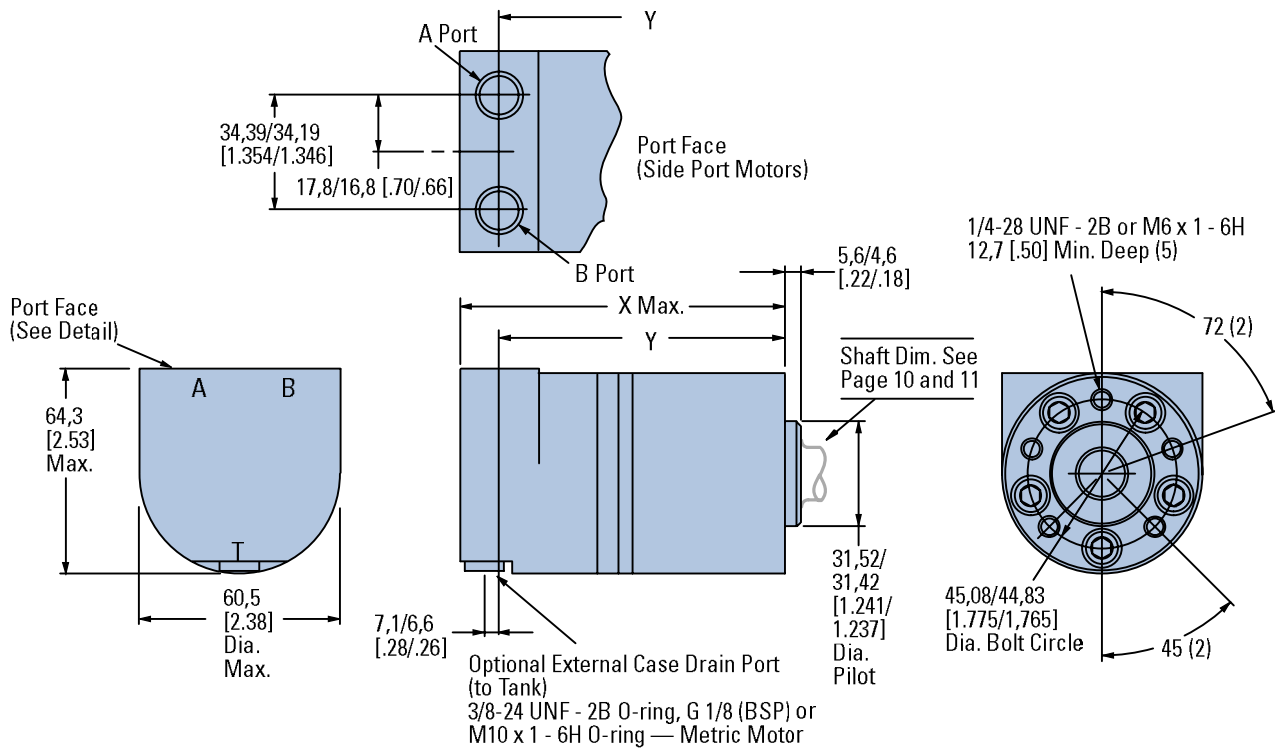
Ports

9/16 -18 UNF - 2B O-Ring Ports,
M14 x 1,5 -6H O-Ring Ports — Metric Motor,
G 3/8 or G 1/4 (BSP) Ports (2)

Standard Rotation Viewed from Shaft End

Port A Pressurized — CW
Port B Pressurized — CCW

Side Port



SIDE PORT MOTORS

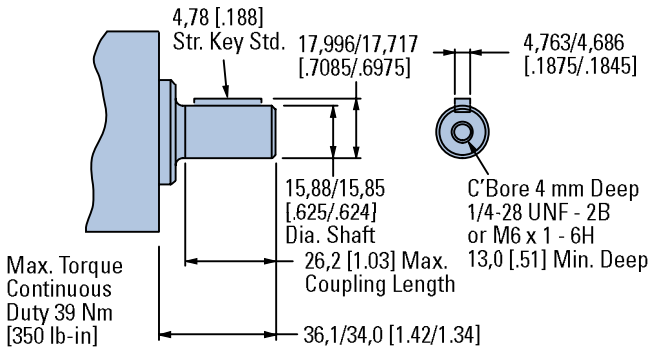
Displacement cm ³ /r [in ³ /r]	X mm [inch]	Y mm [inch]
8,2 [.50]	103,9 [4.09]	89,4/ 87,4 [3.52/3.44]
12,9 [.79]	106,9 [4.21]	92,5/ 90,4 [3.64/3.56]
19,8 [1.21]	112,5 [4.38]	96,8/ 94,7 [3.81/3.73]
31,6 [1.93]	118,9 [4.68]	104,4/102,4 [4.11/4.03]
50,0 [3.00]	130,0 [5.12]	115,7/113,9 [4.56/4.48]

J Series (129-)

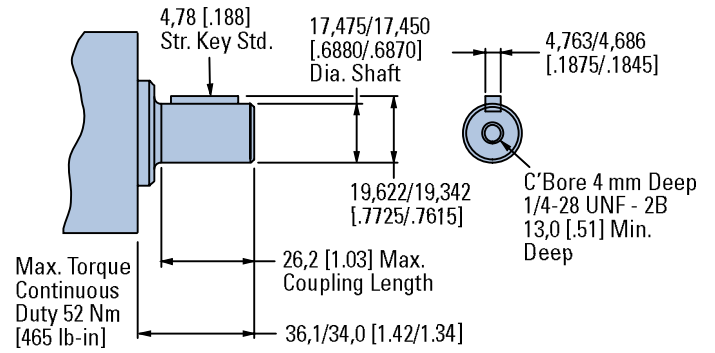
Dimensions

Shafts

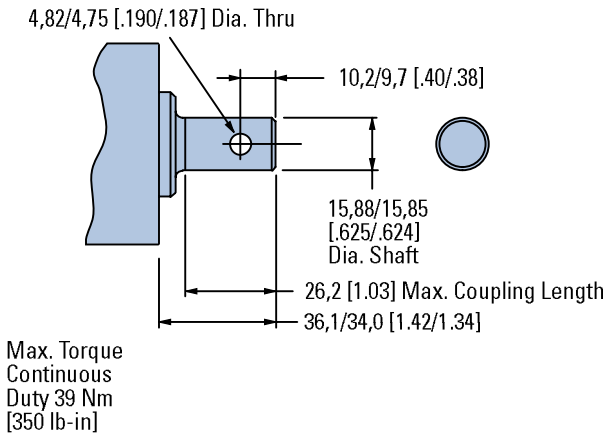
5/8 Inch Straight Keyed



11/16 Inch Straight Keyed



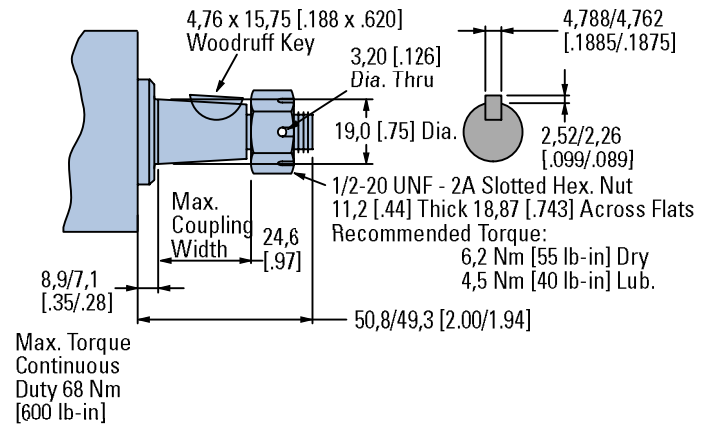
5/8 Inch Straight Keyed w/ Crosshole



3/4 Inch Tapered

(Tapered Shaft End Per SAE J744)

Except as Specified — 1.5 : 12 Ratio)

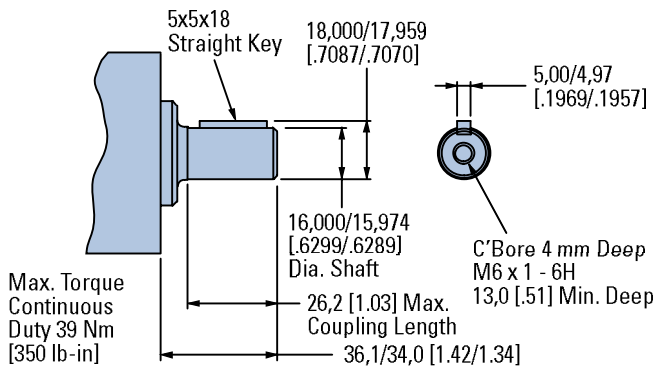


J Series (129-)

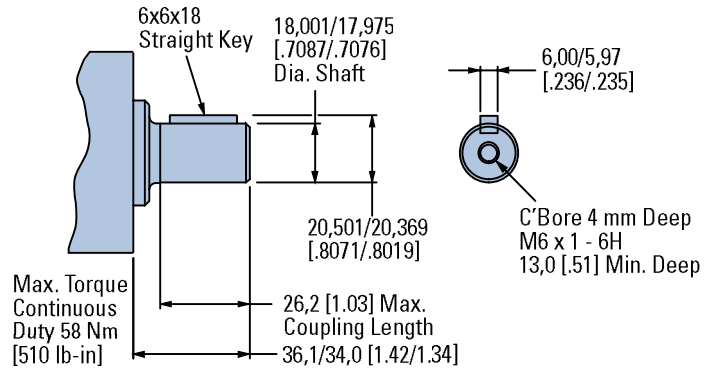
Dimensions

Shafts and Flange Kit

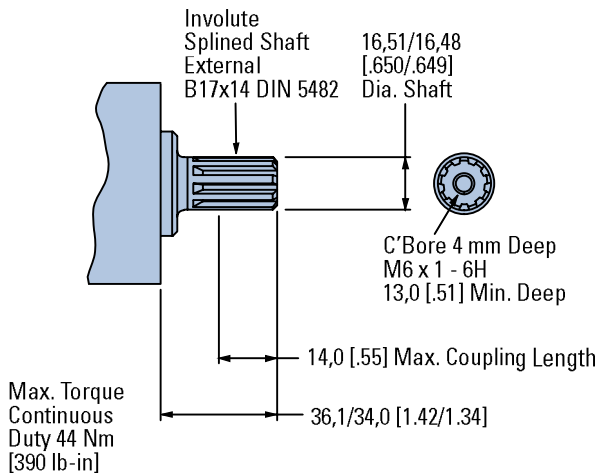
16 mm Straight Keyed



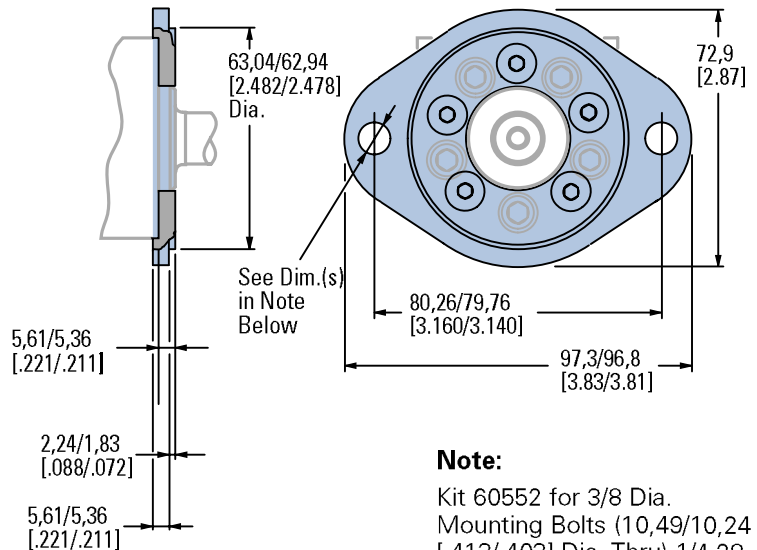
18 mm Straight Keyed



Involute 9T Splined — Metric



2 Bolt Flange Kits (2)



Note:

Kit 60552 for 3/8 Dia.
Mounting Bolts (10,49/10,24 [0.413/0.403] Dia. Thru) 1/4-28 UNF screws for attaching flange to motor (5)

Kit 60553 for M8 Dia.
Mounting Bolts (9,12/8,86 [0.359/0.349] Dia. Thru) M6 x 1 - 6H screws for attaching flange to motor (5)

J Series (129-)

Product Numbers

Use digit prefix —
129- plus four digit number
from charts for complete
product number—
Example 129-0479.

**Orders will not be
accepted without three
digit prefix.**

End Port

MOUNTING	SHAFT	PORT SIZE	DISPL. cm ³ /r [in ³ /r] / PRODUCT NUMBER				
			8,2 [.50]	12,9 [.79]	19,8 [1.21]	31,6 [1.93]	50,0 [3.00]
1/4-28 UNF 2B	5/8 inch Straight	9/16 -18 UNF 2B O-Ring (2)	129-0291	-0292	-0293	-0294	-0458
	11/16 inch Straight		129-0295	-0296	-0297	-0298	-0459
	Splined — Metric		129-0299	-0300	-0301	-0302	-0460
	3/4 inch Tapered		129-0480				
M6 x 1 - 6H	16 mm Straight	M14 x 1,5 - 6H O-Ring (2)	129-0303	-0304	-0305	-0306	-0461
	18 mm Straight		129-0307	-0308	-0309	-0310	-0462
	Splined — Metric		129-0311	-0312	-0313	-0314	-0463
	16 mm Straight	G 1/4 (BSP) (2)	129-0315	-0316	-0317	-0318	-0464
	18 mm Straight		129-0319	-0320	-0321	-0322	-0465
	Splined — Metric		129-0323	-0324	-0325	-0326	-0466
	16 mm Straight		129-0327	-0328	-0329	-0330	-0467
	18 mm Straight		129-0331	-0332	-0333	-0334	-0468
Splined — Metric	G 3/8 (BSP) (2)*	129-0335	-0336	-0337	-0338	-0469	

*Note: The Same Casting used for Side Ports is Required for G 3/8 (BSP) End Ports

129-0336

Side Port

MOUNTING	SHAFT	PORT SIZE	DISPL. cm ³ /r [in ³ /r] / PRODUCT NUMBER				
			8,2 [.50]	12,9 [.79]	19,8 [1.21]	31,6 [1.93]	50,0 [3.00]
1/4-28 UNF 2B	5/8 inch Straight	9/16 -18 UNF 2B O-Ring (2)	129-0339	-0340	-0341	-0342	-0470
	11/16 inch Straight		129-0343	-0344	-0345	-0346	-0471
	Splined — Metric		129-0347	-0348	-0349	-0350	-0472
	3/4 inch Tapered		129-0481				
M6 x 1 - 6H	16 mm Straight	M14 x 1,5 - 6H O-Ring (2)	129-0351	-0352	-0353	-0354	-0473
	18 mm Straight		129-0355	-0356	-0357	-0358	-0474
	Splined — Metric		129-0359	-0360	-0361	-0362	-0475
	16 mm Straight	G 1/4 (BSP) (2)	129-0363	-0364	-0365	-0366	-0476
	18 mm Straight		129-0367	-0368	-0369	-0370	-0477
	Splined — Metric		129-0371	-0372	-0373	-0374	-0403
	16 mm Straight		129-0375	-0376	-0377	-0378	-0478
	18 mm Straight		G 3/8 (BSP) (2)	129-0379	-0380	-0381	-0382

Two Bolt Mounting Flange Kit (for 3/8 inch Mounting Bolts) — Kit Number 60552 (includes 5 screws — 1/4-28 UNF-2B)

Two Bolt Mounting Flange Kit (for M8 Mounting Bolts) — Kit Number 60553 (includes 5 screws — M6 x 1-6H)

J Series (129-)

Shaft Side Load Capacity

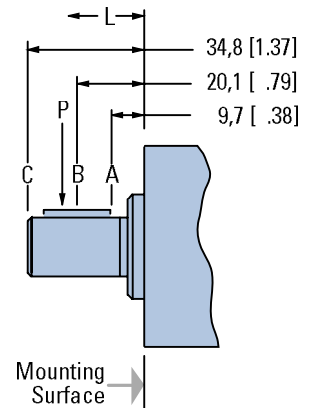
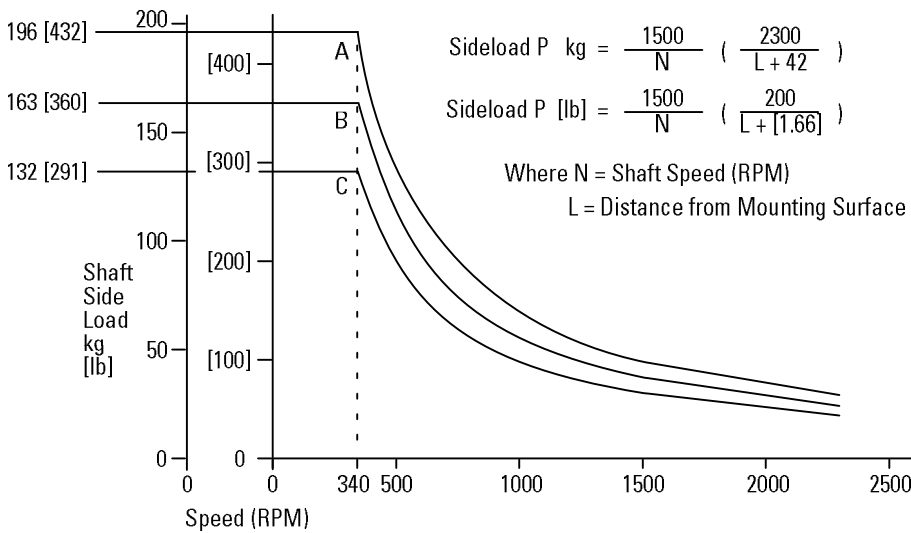
The hydrodynamic bearing has infinite life when shaft load ratings are not exceeded. Hence, the shaft side load capacity is more than adequate to handle most externally applied loads (such as belts, chains, etc.), providing the motor to shaft size is applied within its torque rating.

Allowable side load chart, shaft load location drawing (right) and load curves

(below) are based on the side or 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.

ALLOWABLE SIDE LOAD — KG [LB]

RPM	A	B	C
2300	29 [64]	24 [53]	20 [43]
1500	44 [98]	37 [82]	30 [66]
1250	54 [118]	44 [98]	36 [79]
1000	67 [147]	55 [122]	45 [99]
750	89 [196]	74 [163]	60 [132]
600	111 [245]	93 [204]	75 [165]
500	133 [294]	111 [245]	90 [198]
400	167 [368]	139 [306]	112 [248]
340	196 [432]	163 [360]	132 [291]



J Series (129-)

Case Pressure and Case Drain

The J Series now offers check valves in the motor as a standard feature. This addition reduces the case pressure in the motor to the return pressure of the system when the case drain is not used. For return pressures higher than the rated pressures (see chart) the external case drain can be connected. If the case drain line is needed, connect drain line to assure that the motor will always remain full of fluid.

Case Drain Advantage

In addition to providing lower case pressures for motors connected in series, there are advantages for adding an external case drain line to motors with normal case pressures as well. These advantages are:

Contamination Control — flushing the motor case.

Motor Cooler — exiting oil draws motor heat away.

Extend Motor Seal Life — maintain low case pressure with a preset restriction installed in the case drain line

Example:

A 14 Bar case pressure will cause a load of 40 kg, so the allowable thrust load will be 82 kg plus 40 = 120 kg pushing inward on shaft. Tension load is 82 kg under all case pressure conditions.

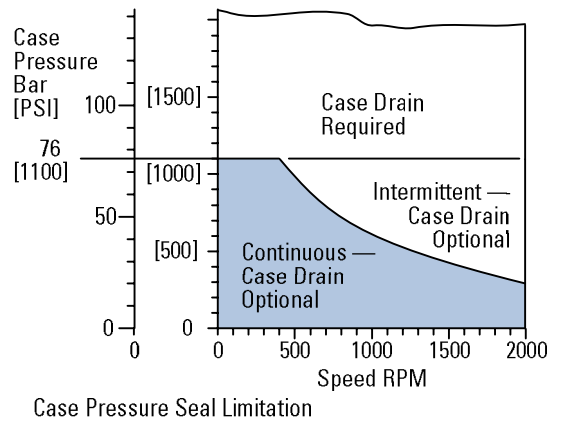
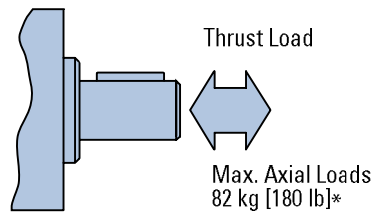
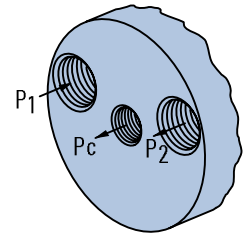
Example:

A 200 PSI case pressure will cause a load of 88 lbs, so the allowable thrust load will be 180 lbs plus 88 = 268 lbs pushing inward on shaft. Tension load is 180 lb under all case pressure conditions

Note:

J Series motors can be connected in parallel or in series.

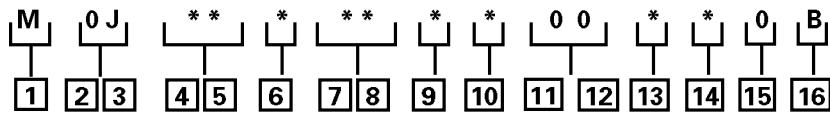
Case pressure will add to the allowable compressive thrust load. Case pressure will push outward on the shaft at 20 kg/7 Bar [44 lb/100 PSI].



J Series (129-)

Model Code

The following 16-digit coding system has been developed to identify all of the configuration options for the J motor. Use this model code to specify a motor with the desired features. All 16-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 Series

0J – J Series

4, 5 Displacement cm³/r [in³/r]

05 – 8,2 [.50]

08 – 12,9 [.79]

12 – 19,8 [1.21]

19 – 31,6 [1.93]

30 – 50,0 [3.00]

6 Mounting Type

A – 5 Bolt: Dia. 31,47 [1.239] x 5,1 [.20] Pilot 1/4-28 UNF 2B Mounting Holes on 45 [1.77] Dia. Bolt Circle

B – 5 Bolt: Dia. 31,47 [1.239] x 5,1 [.20] Pilot M6 x 1- 6H Mounting Holes on 45 [1.77] Dia. Bolt Circle

C – 2 Bolt: Dia. 62,99 [2.480] x 2,0 [.08] Pilot 10,36[.408] Mounting Holes on 80,0 [3.150] Dia. Bolt Circle

D – 2 Bolt: Dia. 62,99 [2.480] x 2,0 [.08] Pilot 9,0 [.354] Mounting Holes on 80,0 [3.150] Dia. Bolt Circle

7, 8 Output Shaft

01 – 5/8 inch Dia. Straight with 4,72 [.186] Square Key and 1/4-28 UNF - 2B Threaded Hole

02 – 16 mm Dia. Straight with 5,00 [.197] Square Key with M6 x 1 - 6H Threaded Hole

04 – 11/16 inch Dia. Straight with 4,72 [.186] Square Key and 1/4-28 UNF - 2B Threaded Hole

05 – 18 mm Dia. Straight with 5,92 [.233] Square Key with M6 x 1 - 6H Threaded Hole

06 – Involute Splined 9T— Metric 16,50 [.650] Dia. (B17 x 14 DIN 5482) M6 x 1 - 6H Threaded Hole

07 – 5/8 inch Dia. Straight with 4,75 [.187] Dia. Crosshole

08 – 3/4 inch Tapered with Woodruff Key and Nut

09 – 5/8 inch Dia. Straight with 4,72 [.186] Sq. Key with 1/4-28 UNF -2B Threaded Hole (Plated for Corrosion Protection)

14 – 16 mm Dia. Straight with 5,00 [.197] Sq. Key with M6 x 1- 6H Threaded Hole (Plated for Corrosion Protection)

9 Ports

A – 9/16 -18 UNF - 2B O-Ring End Ported

B – G 1/4 (BSP) End Ported

C – M14 x 1,5 - 6H O-Ring Port, End Ported

D – 9/16 -18 UNF - 2B O-Ring Side Ported

E – G 3/8 (BSP) Side Ported

F – G 1/4 (BSP) Side Ported

H – G 3/8 (BSP) End Ported

10 Case Flow Options

0 – No Case Drain

1 – 3/8 -24 UNF - 2B O-Ring

2 – G 1/8 (BSP)

3 – M10 x 1 - 6H O-Ring

11, 12 Special Features (Hardware)

00 – None

13 Special Features (Assembly)

0 – None

1 – Reverse Rotation

14 Paint/Special Packaging

0 – No Paint, Individual Box

A – Painted Low Gloss Black, Individual Box

B – No Paint, Bulk Box Option

15 Eaton Assigned Code when Applicable

0 – Assigned Code

16 Eaton Assigned Design Code

B – Assigned Design Code