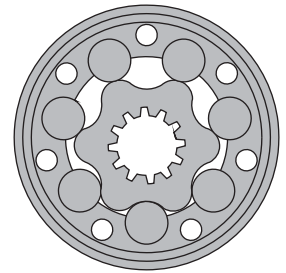


HYDRAULIC MOTOR-BRAKES B/HR



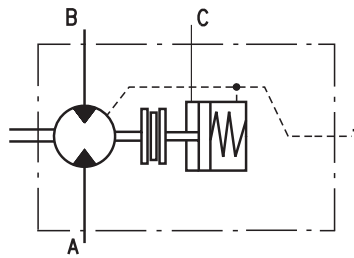
APPLICATION

- » Conveyors
- » Feeding mechanism of robots and manipulators
- » Metal working machines
- » Textile machines
- » Agricultural machines
- » Food industries
- » Wood working and sawmill machinery etc.



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OPTIONS

- » Model - Spool valve, roll-gerotor
- » Fully integrated friction disk brake;
- » Side ports
- » Shafts - straight, splined and tapered
- » Manifold ports.

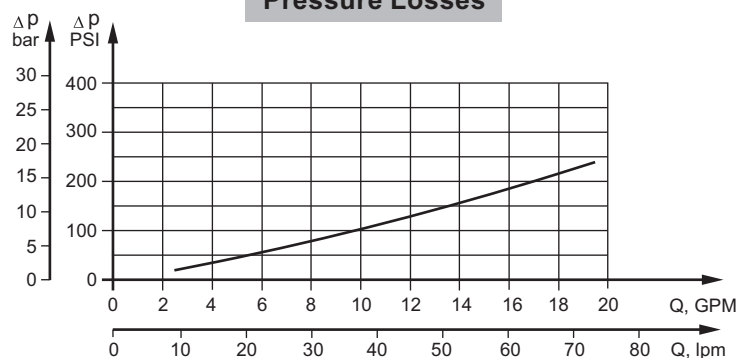
GENERAL

Displacement,	in ³ /rev [cm ³ /rev]	24.4 [397]
Max. Speed,	[RPM]	600
Max. Torque,	lb-in [daNm]	cont. 4250 [48] int. 4870 [55]
Max. Output,	HP [kW]	20.1 [15]
Max. Pressure Drop,	PSI [bar]	cont. 2030 [140] int. 2540 [175]
Max. Oil Flow,	GPM [lpm]	20 [75,7]
Min. Speed,	[RPM]	10
Pressure fluid		Mineral based- HLP(DIN 51524) or HM(ISO 6743/4)
Temperature range,	°F [°C]	-40÷284 [-40÷140]
Optimal Viscosity range, SUS [mm²/s]		98÷347 [20÷75]
Filtration		ISO code 20/16 (Min. recommended fluid filtration of 25 microns)

Oil flow in drain line

Pressure drop PSI [bar]	Viscosity SUS [mm ² /s]	Oil flow in drain line GPM [lpm]
1450 [100]	98 [20]	.660 [2,5]
	164 [35]	.476 [1,8]
2030 [140]	98 [20]	.925 [3,5]
	164 [35]	.740 [2,8]

Pressure Losses



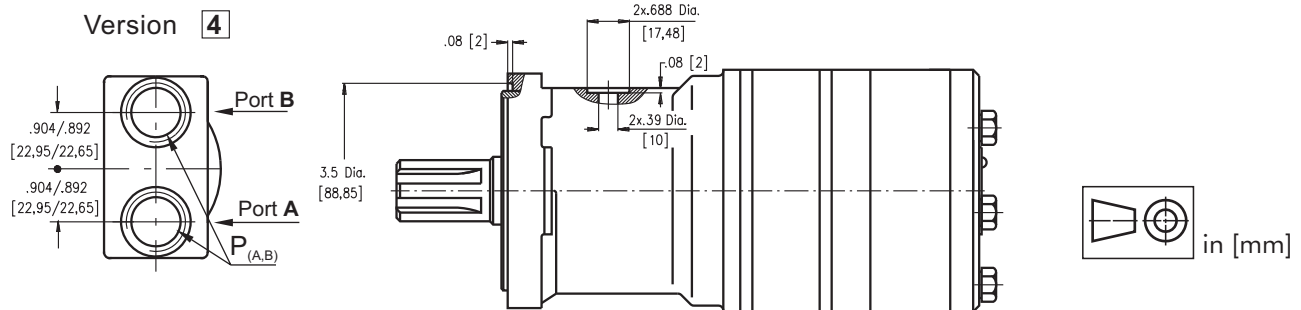
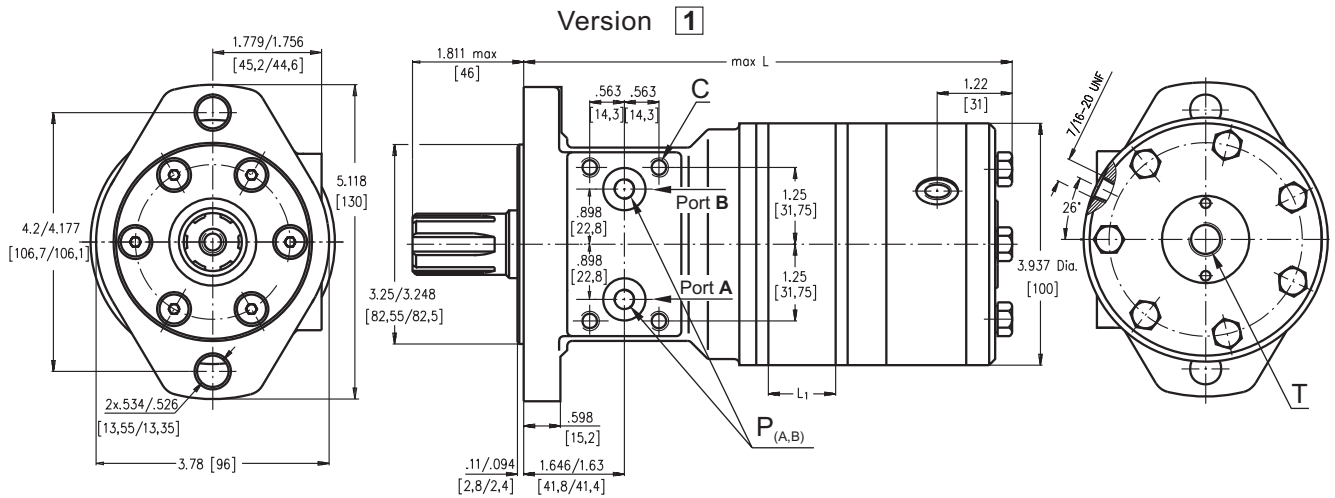
SPECIFICATION DATA

Type		B/HR 80	B/HR 100	B/HR 125	B/HR 160	B/HR 200	B/HR 250	B/HR 315	B/HR 400
Displacement, in³/rev [cm³/rev]		4.90 [80,3]	6.09 [99,8]	7.67 [125,7]	9.74 [159,6]	12.19 [199,8]	15.26 [250,1]	19.26 [315,7]	24.23 [397]
Max. Speed, [RPM]	Cont.	500	500	475	375	300	240	190	150
	Int.*	600	600	600	470	375	300	240	191
Max. Torque in-lb [daNm]	Cont.	1390 [15,7]	1750 [19,8]	2210 [25,0]	2830 [32,0]	3045 [34,4]	3540 [40,0]	3850 [43,5]	4250 [48,0]
	Int.*	1725 [19,5]	2125 [24,0]	2655 [30,0]	3450 [39,0]	3450 [39,0]	4160 [47,0]	4515 [51,0]	4870 [55,0]
Max. Output HP [kW]	Cont.	14 [10,5]	14 [10,5]	14 [10,5]	13.7 [10,2]	12.6 [9,4]	10.7 [8]	8.7 [6,5]	8.2 [6,1]
	Int.*	20.1 [15]	20.1 [15]	20.1 [15]	18.8 [14]	18.7 [14]	15.4 [11,5]	12.1 [9]	11 [8,2]
Max. Pressure Drop PSI [bar]	Cont.	2030 [140]	2030 [140]	2030 [140]	2030 [140]	1810 [125]	1595 [110]	1450 [100]	1305 [90]
	Int.*	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2250 [155]	2030 [140]	1810 [125]	1520 [105]
Max. Oil Flow GPM [lpm]	Cont.	10.6 [40]	13 [50]	16 [60,6]	16 [60,6]	16 [60,6]	16 [60,6]	16 [60,6]	16 [60,6]
	Int.*	13 [50]	16 [60,6]	20 [75,7]	20 [75,7]	20 [75,7]	20 [75,7]	20 [75,7]	20 [75,7]
Max. Inlet Pressure PSI [bar]	Cont.	2030 [140]	2030 [140]	2030 [140]	2030 [140]	2030 [140]	2030 [140]	2030 [140]	2030 [140]
	Int.*	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2540 [175]
Max. Return Pressure, PSI [bar]	Cont.	2030 [140]	2030 [140]	2030 [140]	2030 [140]	2030 [140]	2030 [140]	2030 [140]	2030 [140]
	Int.*	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2540 [175]
Max. Starting Pressure with Unloaded Shaft, PSI [bar]		145 [10]	145 [10]	130 [9]	102 [7]	73 [5]	58 [4]	44 [3]	44 [3]
Min. Starting Torque in-lb [daNm]	At max.press. drop Cont.	1060 [12]	1420 [16]	1770 [20]	2270 [25,6]	2620 [29,5]	2510 [28,3]	2840 [32]	3170 [35,8]
	At max.press. drop Int.*	1310 [14,8]	1780 [20,1]	1930 [21,8]	2860 [32,3]	3150 [35,6]	3400 [38,4]	4580 [51,7]	4040 [45,6]
Min. Speed***, [RPM]		10	10	10	10	10	10	10	10
Static Torque of Brake, lb-in [daNm]		4868 [55]							
Min. Brake Release Pressure****, PSI [bar]		190 [13]							
Max. Opening Pressure, PSI [bar]		2900 [200]							

- * Intermittent operation: the permissible values may occur for max. 10% of every minute.
- ** Peak load: the permissible values may occur for max. 1% of every minute.
- *** For speeds lower than given, consult factory or your regional manager.
- **** Motor-brakes must always have a drain line. The brake release pressure is the difference between the pressure in the brake release line and the pressure in the drain line.

1. Intermittent speed and intermittent pressure drop must not occur simultaneously.
2. Recommended filtration is per ISO cleanliness code 20/16. A nominal filtration of 25 micron or better.
3. Recommend using a premium quality, anti-wear type mineral based hydraulic oil HLP(DIN51524) or HM (ISO 6743/4). If using synthetic fluids consult the factory for alternative seal materials.
4. Recommended minimum oil viscosity 70 SUS [13 mm²/s] at 122°F [50°C].
5. Recommended maximum system operating temperature is 180°F [82°C].
6. To assure optimum motor life fill with fluid prior to loading and run at moderate load and speed for 10-15 minutes.

DIMENSIONS AND MOUNTING DATA



Type	Lmax, in [mm]	L ₁ , in [mm]
B/HR 80	8.47 [215,0]	.55 [14,0]
B/HR 100	8.58 [218,0]	.69 [17,4]
B/HR 125	8.76 [222,5]	.86 [21,8]
B/HR 160	9.00 [228,5]	1.09 [27,8]
B/HR 200	9.27 [235,5]	1.37 [34,8]
B/HR 250	9.61 [244,0]	1.71 [43,5]
B/HR 315	10.06 [255,5]	2.16 [54,8]
B/HR 400	10.63 [270,0]	2.73 [69,4]

Standard Rotation
Viewed from Shaft End
Port A Pressurized - **CW**
Port B Pressurized - **CCW**

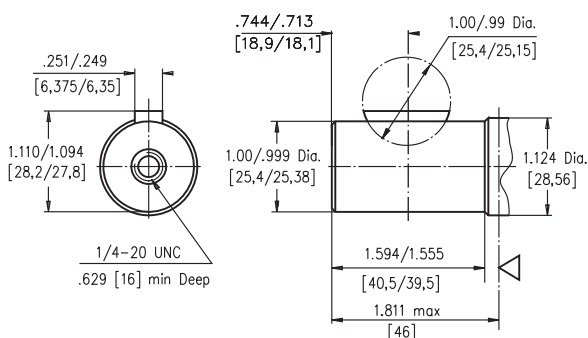
Reverse Rotation
Viewed from Shaft End
Port A Pressurized - **CCW**
Port B Pressurized - **CW**

	Versions	
	1	4
C	4x 5/16-18UNC	-
P_(A,B)	2x.39 Dia [2x10]	2x 7/8-14UNF
T	7/16 -20UNF	7/16 -20UNF

SHAFT EXTENSIONS

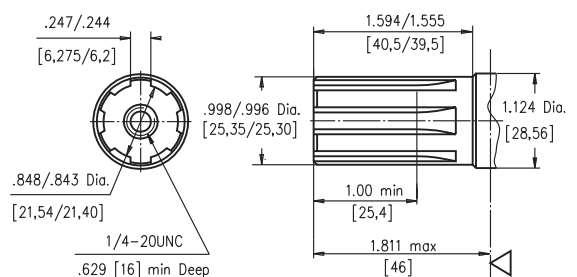
C

1" [25,4] straight, Woodruff key 1/4"x1" SAE J502
Max. Torque 3900 in-lb [44 daNm]



G

1" [25,4], SAE 6B Splined
Max. Torque 3900 in-lb [44 daNm]



PERMISSIBLE SHAFT LOADS

The permissible radial shaft load P_{rad} depends on the speed RPM and distance L from the point of load to the mounting flange.

$$\text{Radial Shaft Load } P_{rad} = \frac{650}{\text{RPM}} \times \frac{24800}{97+L}, \text{ daN}^*$$

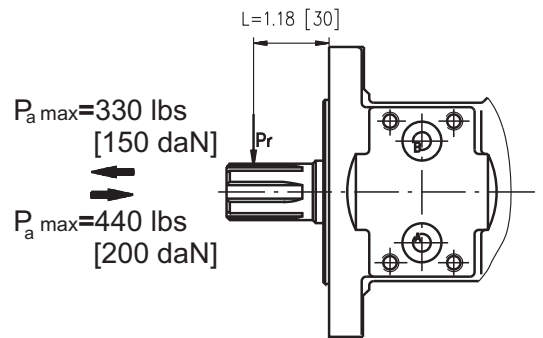
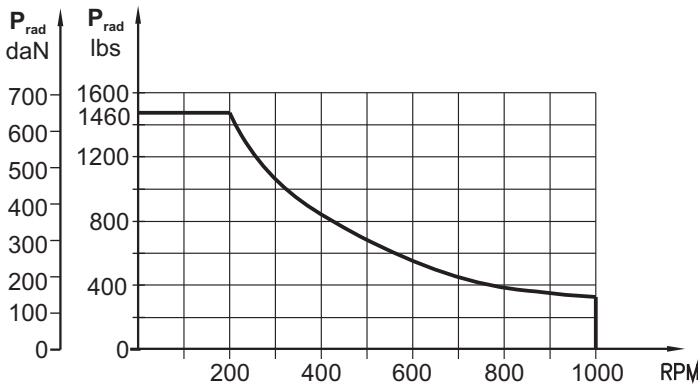
* L - in mm.

$$\text{Radial Shaft Load: } P_{rad} = \frac{1460}{\text{RPM}} \times \frac{976}{3.82+L}, \text{ lbs}^*$$

* L - in inch

1. RPM < 200: max Prad=1460 lbs [650 daN]

2. RPM ≥ 200: $L < 2.2$ in. [55 mm]



Warning: Drain line should always be used.

ORDER CODE

	1	2	3	4	5
B / H R					

Pos.1 - Displacement code*

80	- 4.90 [80,3] in ³ /rev [cm ³ /rev]
100	- 6.09 [99,8] in ³ /rev [cm ³ /rev]
125	- 7.67 [125,7] in ³ /rev [cm ³ /rev]
160	- 9.74 [159,6] in ³ /rev [cm ³ /rev]
200	- 12.19 [199,8] in ³ /rev [cm ³ /rev]
250	- 15.26 [250,1] in ³ /rev [cm ³ /rev]
315	- 19.26 [315,7] in ³ /rev [cm ³ /rev]
400	- 24.23 [397,0] in ³ /rev [cm ³ /rev]

Pos.2 - Shaft Extensions**

C	- 1" [25,4] straight, Woodruff key
G	- 1" [25,4] SAE 6B Splined

Pos.3 - Port Size/Type [standard manifold to each]

1	- side ports, Manifold [5/16-18 UNC Mounting Threads], 7/16-20 UNF
4	- side ports, 2x7/8-14 UNF, O-ring, 7/16-20 UNF

Pos. 4 - Special Features [See page 55]

Pos. 5 - Design Series

omit - Factory specified

Notes : * For the Performance Data please look at "M+S Hydraulic" Catalogue for MLHR motors.

** The permissible output torque for shafts must not be exceeded!

The hydraulic motors are mangano-phosphatized as standard.