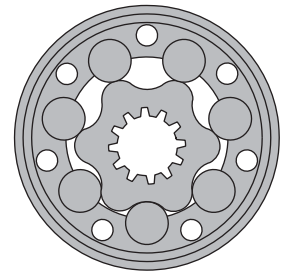


# HYDRAULIC MOTOR-BRAKES RWB

## APPLICATION

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



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## OPTIONS

- » Model - Spool valve, roll-gerotor
- » Drum brake
- » Shaft seal for high and low pressure
- » SAE, Metric and BSPP ports
- » Other special features

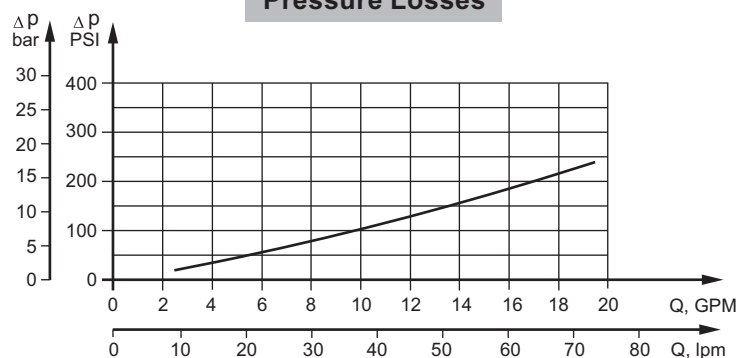
## GENERAL

<b>Max. Displacement,</b> in <sup>3</sup> /rev [cm <sup>3</sup> /rev]	24.4 [397]
<b>Max. Speed,</b> [RPM]	1029
<b>Max. Torque,</b> lb-in [daNm]	cont.: 5400 [61] int.: 6100 [69]
<b>Max. Output,</b> HP [kW]	20.1 [15]
<b>Max. Pressure Drop,</b> PSI [bar]	cont.: 2540 [175] int.: 2900 [200]
<b>Max. Oil Flow,</b> GPM [lpm]	23.8 [90]
<b>Min. Speed,</b> [RPM]	10
<b>Pressure fluid</b>	Mineral based- HLP(DIN 51524) or HM(ISO 6743/4)
<b>Temperature range,</b> °F [°C]	-40÷284 [-40÷140]
<b>Optimal Viscosity range, SUS [mm<sup>2</sup>/s]</b>	98÷347 [20÷75]
<b>Filtration</b>	ISO code 20/16 (Min. recommended fluid filtration of 25 microns)

### Oil flow in drain line

Pressure drop PSI [bar]	Viscosity SUS [mm <sup>2</sup> /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	RWB 50	RWB 80	RWB 100	RWB 125	RWB 160	RWB 200	RWB 250	RWB 315	RWB 400	
<b>Displacement, in<sup>3</sup>/rev</b> [cm <sup>3</sup> /rev]	3.14 [51,5]	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]	24.4 [397]	
<b>Max. Speed, [RPM]</b>	Cont.	775	750	600	475	375	300	300	240	190
	Int.*	1029	940	750	600	470	375	360	285	226
<b>Max. Torque lb-in [daNm]</b>	Cont.	900 [10]	1770 [20]	2125 [24]	2655 [30]	3450 [39]	4000 [45]	4780 [54]	4870 [55]	5400 [61]
	Int.*	1150 [13]	1947 [22]	2480 [28]	3010 [34]	3805 [43]	4425 [50]	5400 [61]	5580 [63]	6100 [69]
	Peak**	1505 [17]	2390 [27]	2832 [32]	3275 [37]	4070 [46]	4960 [56]	6280 [71]	7350 [83]	7700 [87]
<b>Max. Output HP [kW]</b>	Cont.	9.5 [7]	17 [12,5]	17.4 [13]	16.8 [12,5]	15.4 [11,5]	14.8 [11]	13.4 [10]	12 [9]	10.5 [7,8]
	Int.*	11.9 [8,5]	20.1 [15]	20.1 [15]	19.5 [14,5]	18.8 [14]	17.4 [13]	16.1 [12]	14.8 [11]	14.2 [10,6]
<b>Max. Pressure Drop PSI [bar]</b>	Cont.	2030 [140]	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2540 [175]	1960 [135]	1600 [110]
	Int.*	2540 [175]	2900 [200]	2900 [200]	2900 [200]	2900 [200]	2900 [200]	2900 [200]	2320 [160]	2030 [140]
	Peak**	3260 [225]	3260 [225]	3260 [225]	3260 [225]	3260 [225]	3260 [225]	3260 [225]	3045 [210]	2540 [175]
<b>Max. Oil Flow GPM [lpm]</b>	Cont.	11 [40]	15.9 [60]	15.9 [60]	15.9 [60]	15.9 [60]	15.9 [60]	19.8 [75]	19.8 [75]	19.8 [75]
	Int.*	13 [50]	19.8 [75]	19.8 [75]	19.8 [75]	19.8 [75]	19.8 [75]	23.8 [90]	23.8 [90]	23.8 [90]
<b>Max. Inlet Pressure PSI [bar]</b>	Cont.	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2540 [175]
	Int.*	2900 [200]	2900 [200]	2900 [200]	2900 [200]	2900 [200]	2900 [200]	2900 [200]	2900 [200]	2900 [200]
	Peak**	3260 [225]	3260 [225]	3260 [225]	3260 [225]	3260 [225]	3260 [225]	3260 [225]	3260 [225]	3260 [225]
<b>Max. Return Pressure with Drain Line PSI [bar]</b>	Cont.	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2540 [175]	2540 [175]
	Int.*	2900 [200]	2900 [200]	2900 [200]	2900 [200]	2900 [200]	2900 [200]	2900 [200]	2900 [200]	2900 [200]
	Peak**	3260 [225]	3260 [225]	3260 [225]	3260 [225]	3260 [225]	3260 [225]	3260 [225]	3260 [225]	3260 [225]
<b>Max. Starting Pressure with Unloaded Shaft, PSI [bar]</b>	145 [10]	145 [10]	145 [10]	130 [9]	102 [7]	73 [5]	73 [5]	73 [5]	73 [5]	
<b>Min. Starting Torque lb-in [daNm]</b>	At max.press.									
	drop Cont.	710 [8]	1330 [15]	1770 [20]	2215 [25]	2832 [32]	3630 [41]	4425 [50]	4425 [50]	4425 [50]
	At max.press. drop Int.*	885 [10]	1505 [17]	2035 [23]	2480 [28]	3275 [37]	4070 [46]	4870 [55]	5840 [66]	5400 [61]
<b>Min. Speed***, [RPM]</b>	10	10	10	9	7	5	6	5	5	

\* Intermittent operation: the permissible values may occur for max. 10% of every minute.

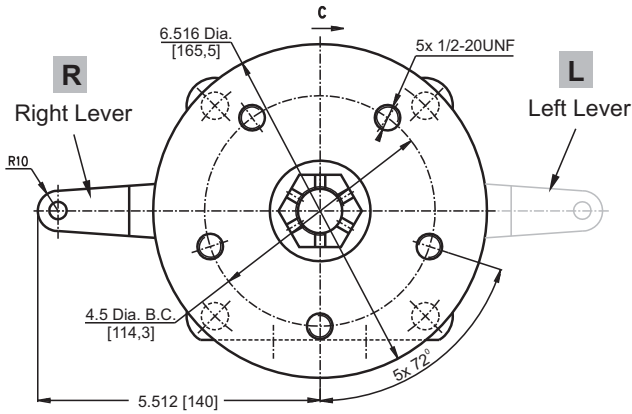
\*\* Peak load: the permissible values may occur for max. 1% of every minute.

\*\*\* For speeds lower than given, consult factory or your regional manager.

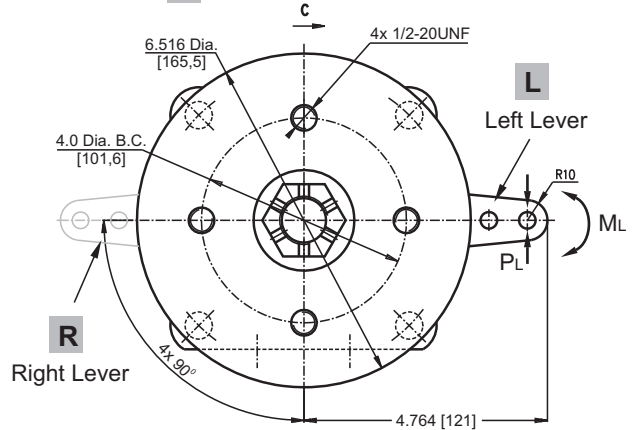
- Intermittent speed and intermittent pressure drop must not occur simultaneously.
- Recommended filtration is per ISO cleanliness code 20/16. A nominal filtration of 25 micron or better.
- Recommend using a premium quality, anti-wear type mineral based hydraulic oil HLP(DIN51524) or HM (ISO 6743/4).  
If using synthetic fluids consult the factory for alternative seal materials.
- Recommended minimum oil viscosity 70 SUS [13 mm<sup>2</sup>/s] at 122°F [50°C].
- Recommended maximum system operating temperature is 180°F [82°C].
- 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**

**B** 5 Bolt Brake Drum

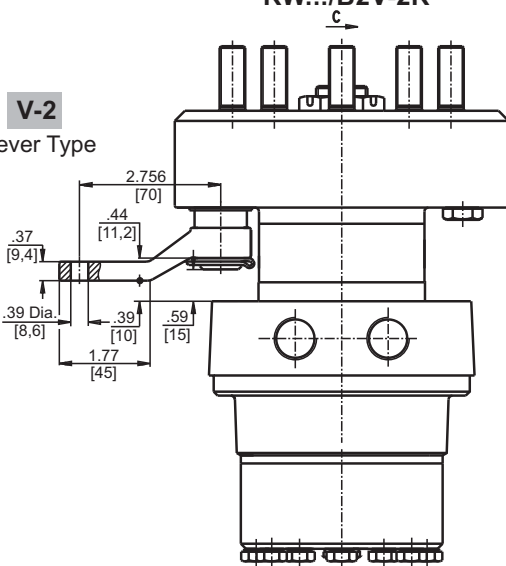


**A** 4 Bolt Brake Drum



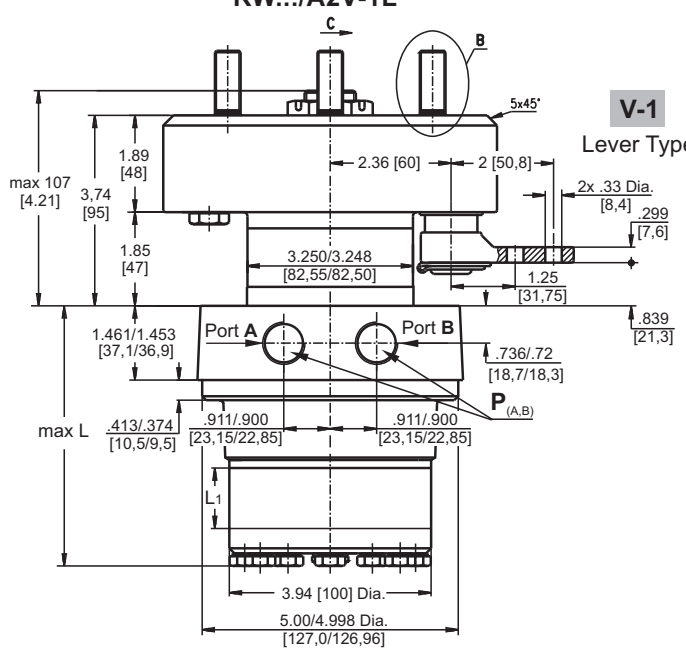
**RW.../B2V-2R**

**V-2**  
Lever Type

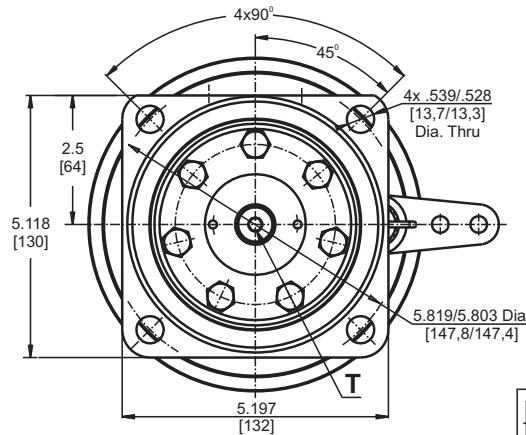
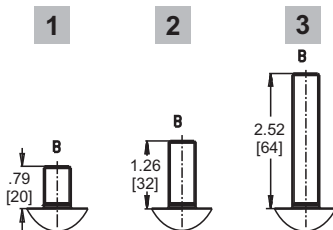


**RW.../A2V-1L**

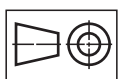
**V-1**  
Lever Type



**Wheel Bolts Type**



in [mm]



Type	Lmax, in [mm]	L1, in [mm]
RWB 50	4.25 [108,0]	.35 [9,0]
RWB 80	4.45 [113,0]	.55 [14,0]
RWB 100	4.59 [116,5]	.69 [17,4]
RWB 125	4.74 [120,5]	.86 [21,8]
RWB 160	4.98 [126,5]	1.09 [27,8]
RWB 200	5.26 [133,5]	1.37 [34,8]
RWB 250	5.61 [142,5]	1.71 [43,5]
RWB 315	6.04 [153,5]	2.16 [54,8]
RWB 400	6.63 [168,5]	2.73 [69,4]

**Standard Rotation**

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

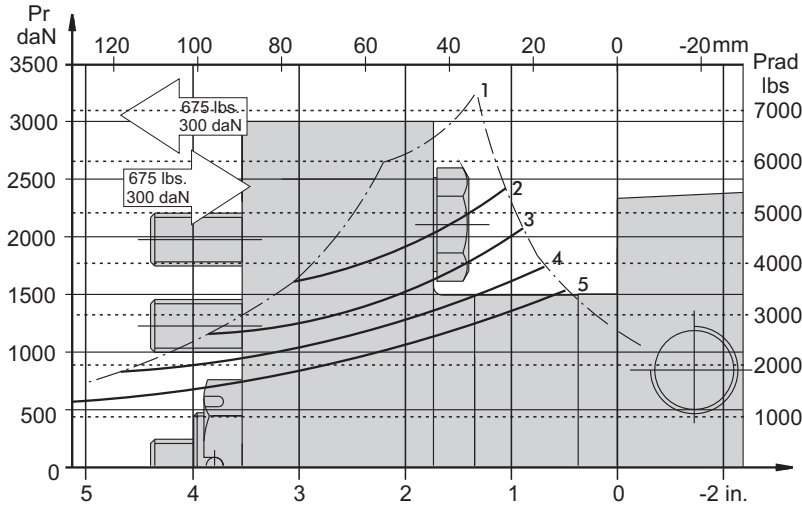
**Reverse Rotation**

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

	Versions		
	2	3	4
P(A,B)	2xG½	2xM22x1,5	2x7/8-14UNF O-ring
T	G¼	M14x1,5	7/16-20UNF O-ring

**PERMISSIBLE SHAFT LOADS RWB**

The curve applies to a B10 bearing life of 2000 hours when mineral-based hydraulic oil with sufficient content of anti-wear additives is used.

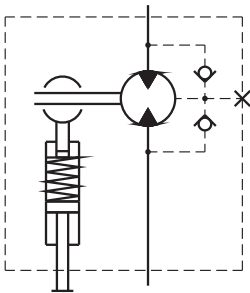


1. Permissible radial shaft load
2. Drawing by n= 50 RPM
3. Drawing by n=100 RPM
4. Drawing by n=200 RPM
5. Drawing by n=400 RPM

**MAX. PERMISSIBLE SHAFT SEAL PRESSURE**

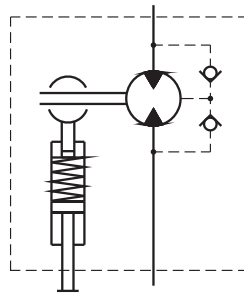
**RWB...; RWB...UK motors with drain connection:**

The shaft seal pressure equals the pressure in the drain line.



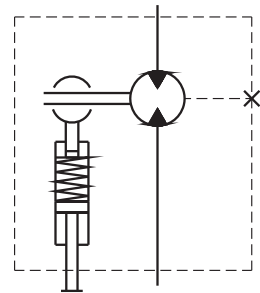
**RWB...1 motors without drain connection:**

The shaft seal pressure never exceeds the pressure in the return line.

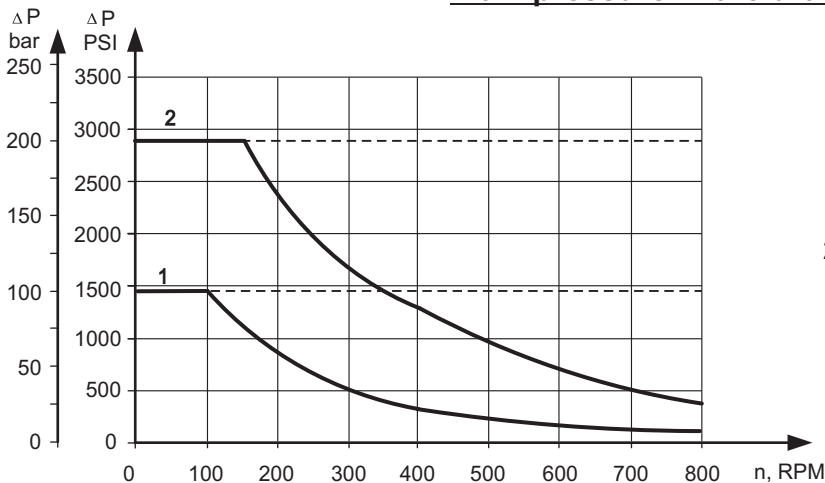


**RWB...U motors with high pressure seal and drain connection:**

The shaft seal pressure equals the pressure in the drain line.

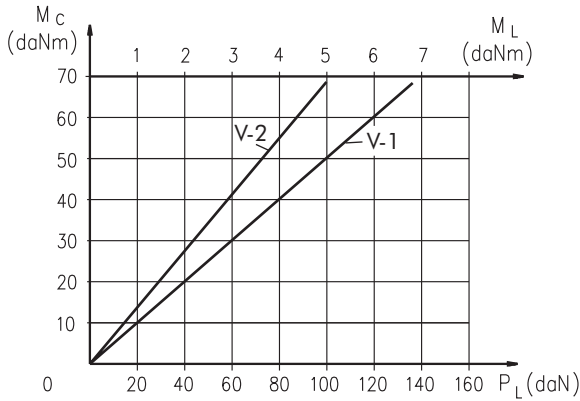


**Max. return pressure without drain line or max. pressure in the drain line**



- 1: Drawing for Standard Shaft Seal
  - 2: Drawing for High Pressure Seal ("U" Seal)
- - continuous operations  
- - - - - intermittent operations

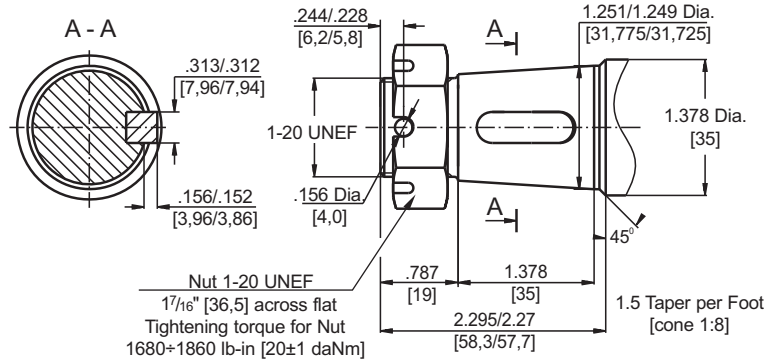
**BRAKE HOLDING TORQUE**



$P_L$  - Brake Lever Load  
 $M_C$  - Brake Torque  
 $M_L$  - Brake Lever Torque  
 $M_C$  max=68 daNm

**SHAFT**

1 1/4" [31,75], SAE J501 Tapered  
 Parallel key 5/16" x 5/16" x 1"  
 Max. Torque 6815 lb-in [77 daNm]



Requirement max. Torque  
 must not be exceeded.

**ORDER CODE**

1	2	3	4	5	6	7	8	9	10	10	12
RWB						/					

**Pos.1 - Displacement code**

- 50** - 3.14 in<sup>3</sup>/rev [51,5 cm<sup>3</sup>/rev]
- 80** - 4.90 in<sup>3</sup>/rev [80,3 cm<sup>3</sup>/rev]
- 100** - 6.09 in<sup>3</sup>/rev [99,8 cm<sup>3</sup>/rev]
- 125** - 7.67 in<sup>3</sup>/rev [125,7 cm<sup>3</sup>/rev]
- 160** - 9.74 in<sup>3</sup>/rev [159,6 cm<sup>3</sup>/rev]
- 200** - 12.19 in<sup>3</sup>/rev [199,8 cm<sup>3</sup>/rev]
- 250** - 15.26 in<sup>3</sup>/rev [250,1 cm<sup>3</sup>/rev]
- 315** - 19.26 in<sup>3</sup>/rev [315,7 cm<sup>3</sup>/rev]
- 400** - 24.40 in<sup>3</sup>/rev [397,0 cm<sup>3</sup>/rev]

**Pos.2 - Shaft Seal Version**

- omit - Standard shaft seal
- U** - High pressure shaft seal without check valves
- UK** - High pressure shaft seal with check valves

**Pos.3 - Drain Port**

- omit - with drain port
- 1** - without drain port

**Pos.4 - Port Size/Type [standard manifold to each]**

- 2** - side ports, 2xG 1/2, G1/4, BSP thread, ISO 228
- 3** - side ports, 2xM22x1,5, M14x1,5, metric thread
- 4** - side ports, 2x7/8-14 UNF, O-ring, 7/16-20 UNF

**Pos.5 - Special Features**

- omit - none
- LL** - Low Leakage
- LSV** - Low Speed Valve

**Pos. 6 - Rotation**

- omit - Standard Rotation
- R** - Reverse Rotation

**Pos. 7 - Drum type**

- A** - Drum brake with bolts 4x1/2-20 UNF on 4 Dia. [ø101,6]
- B** - Drum brake with bolts 5x1/2-20 UNF on 4.5 Dia. [ø114,3]

**Pos. 8 - Drum Bolt type**

- 1** - 1/2-20 UNF-2A L= .787 in [20 mm]
- 2** - 1/2-20 UNF-2A L=1.259 in [32 mm]
- 3** - 1/2-20 UNF-2A L=2.362 in [60 mm]

**Pos. 9 - Lever Type**

- V-1** - Vertical Brake Lever 2x.33 Dia. [ø8,4] - 2 in [50,8 mm]
- V-2** - Vertical Brake Lever .338 Dia. [ø8,6] - 2.76 in [70 mm]

**Pos.10 - Lever Position**

- R** - Right
- L** - Left

**Pos.11 - Option (Paint)\***

- omit - no Paint
- P** - Painted
- PC** - Corrosion Protected Paint

**Pos.12 - Design Series**

- omit - Factory specified

The hydraulic motor-brakes are manganese-phosphatized as standard.