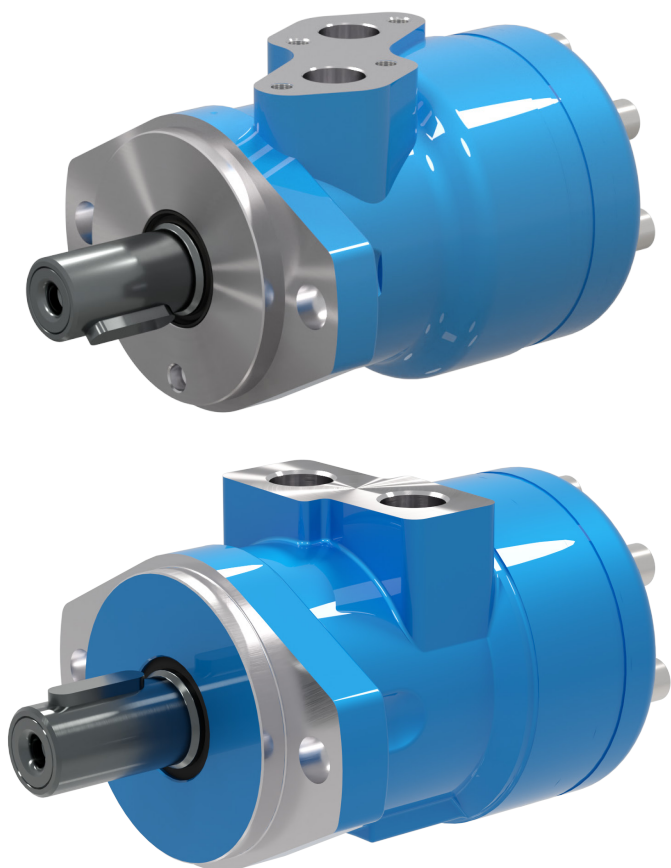




SAMHYDRAULIK™



BR Orbital Motors

Second series of roller motors
with increased performance



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Motor Features	E2
Motor Technical Specifications	E3
Performance Curves	E4
Pressure Data	E9
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Version Feature	E19

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The product images and drawings shown are for illustration purposes only and may not be an exact representation of the product.

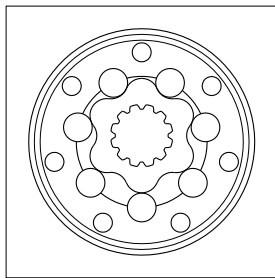
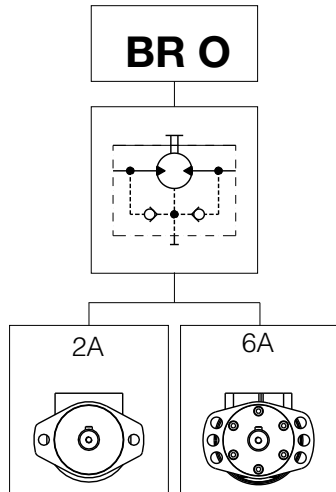
We reserve the right to change or modify our product specifications, configurations, or dimensions at any time without notice.

Each product configuration listed below is subject to availability; please contact Sales Dpt. for more commercial detailed info.

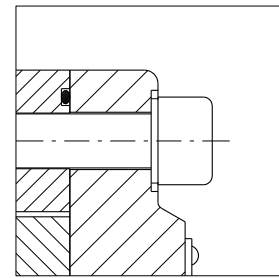
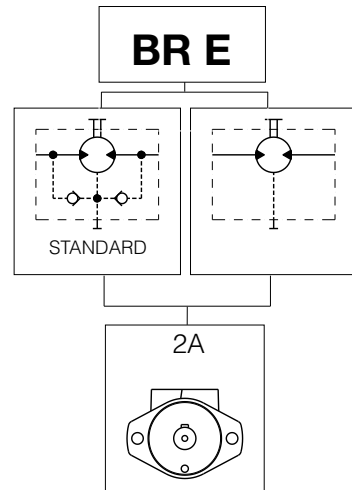
Click **i** button to return to main index

Click **DANA** button to return to section index

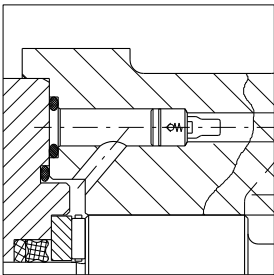




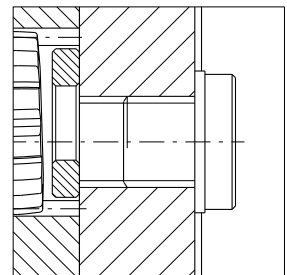
High-performance roller for improved efficiency and life.



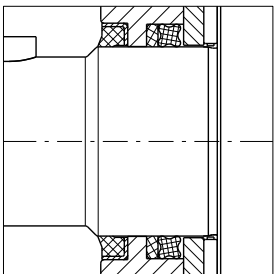
High resistance stainless steel screws capable of withstanding the stress induced by high pressure.



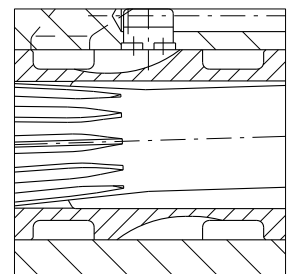
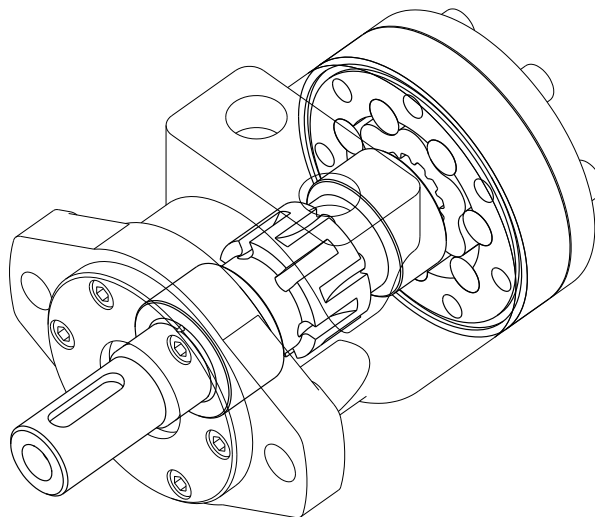
Built in check valves: to relieve case pressure to the low pressure side of the motor.



Case drain at rear (shown with plug).



Dust seal to protect the high pressure shaft seal from dust and debris.




Spool valve integral to the output shaft of new design features optimizing clearance geometry and so minimizing the oil slippage.

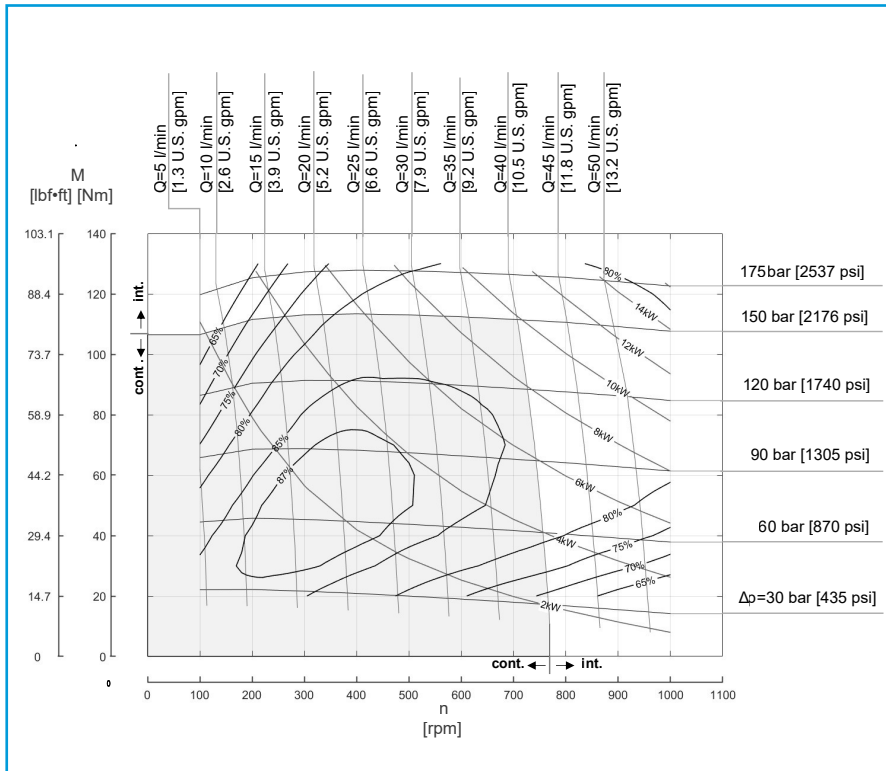
BR MOTOR TECHNICAL DATA

Motor	Displacement	Max. input pressure		Max. differential pressure		Max. torque ¹⁾		Max. flow		Max. speed		Max. power			
	cm ³ /rev [in ³ /rev]	Cont	Int	Cont	Int	Nm [lbf-ft]	Cont	Int	l/min [U.S. gpm]	Cont	Int	kW [hp]	Cont	Int	
BR050	51.6 [3.14]	Cont	200 [2900] Int 225 [3262]	Cont	150 [2175] Int 175 [2540]	Cont	100 [890] Int 120 [1060]	Cont	40 [11] Int 50 [13]	Cont	775 Int 970	Cont	7.0 [9.4] Int 8.8 [11.7]	Cont	Int
BR065	64.9 [3.95]	Cont	200 [2900] Int 225 [3262]	Cont	180 [2610] Int 200 [2900]	Cont	160 [1420] Int 175 [1550]	Cont	50 [13] Int 60 [16]	Cont	770 Int 925	Cont	11 [14.7] Int 11.8 [15.8]	Cont	Int
BR080	80.4 [4.9]	Cont	200 [2900] Int 225 [3262]	Cont	200 [2900] Int 225 [3262]	Cont	215 [1900] Int 235 [2080]	Cont	60 [16] Int 75 [20]	Cont	750 Int 940	Cont	14 [18.8] Int 15.8 [21.1]	Cont	Int
BR100	99.9 [6.1]	Cont	200 [2900] Int 225 [3262]	Cont	200 [2900] Int 225 [3262]	Cont	275 [2435] Int 300 [2655]	Cont	60 [16] Int 75 [20]	Cont	600 Int 750	Cont	14 [18.8] Int 17.5 [23.5]	Cont	Int
BR130	125.1 [7.66]	Cont	200 [2900] Int 225 [3262]	Cont	200 [2900] Int 225 [3262]	Cont	330 [2920] Int 360 [3185]	Cont	60 [16] Int 75 [20]	Cont	475 Int 600	Cont	14 [18.8] Int 17.5 [23.5]	Cont	Int
BR160	159.6 [9.76]	Cont	200 [2900] Int 225 [3262]	Cont	180 [2610] Int 215 [3118]	Cont	380 [3365] Int 435 [3580]	Cont	60 [16] Int 75 [20]	Cont	385 Int 480	Cont	12.6 [16.9] Int 15.8 [21.1]	Cont	Int
BR200	199.7 [12.2]	Cont	200 [2900] Int 225 [3262]	Cont	175 [2465] Int 200 [2900]	Cont	450 [3985] Int 540 [4780]	Cont	60 [16] Int 75 [20]	Cont	300 Int 380	Cont	13.4 [17.9] Int 14.4 [19.2]	Cont	Int
BR250	249.7 [15.2]	Cont	200 [2900] Int 225 [3262]	Cont	175 [2540] Int 200 [2900]	Cont	578 [5115] Int 630 [5575]	Cont	60 [16] Int 75 [20]	Cont	240 Int 300	Cont	13.8 [18.4] Int 14.2 [19]	Cont	Int
BR315	314.5 [19.1]	Cont	200 [2900] Int 225 [3262]	Cont	135 [1958] Int 175 [2540]	Cont	575 [5090] Int 736 [6515]	Cont	60 [16] Int 75 [20]	Cont	190 Int 240	Cont	9.6 [12.8] Int 11.5 [15.4]	Cont	Int
BR400	392.5 [23.9]	Cont	200 [2900] Int 225 [3262]	Cont	115 [1668] Int 150 [2175]	Cont	612 [5415] Int 750 [6640]	Cont	60 [16] Int 75 [20]	Cont	155 Int 195	Cont	8.6 [11.5] Int 10.8 [14.4]	Cont	Int

¹⁾ Intermittent operation: the permissible values may occur for max. 10% of every minute.

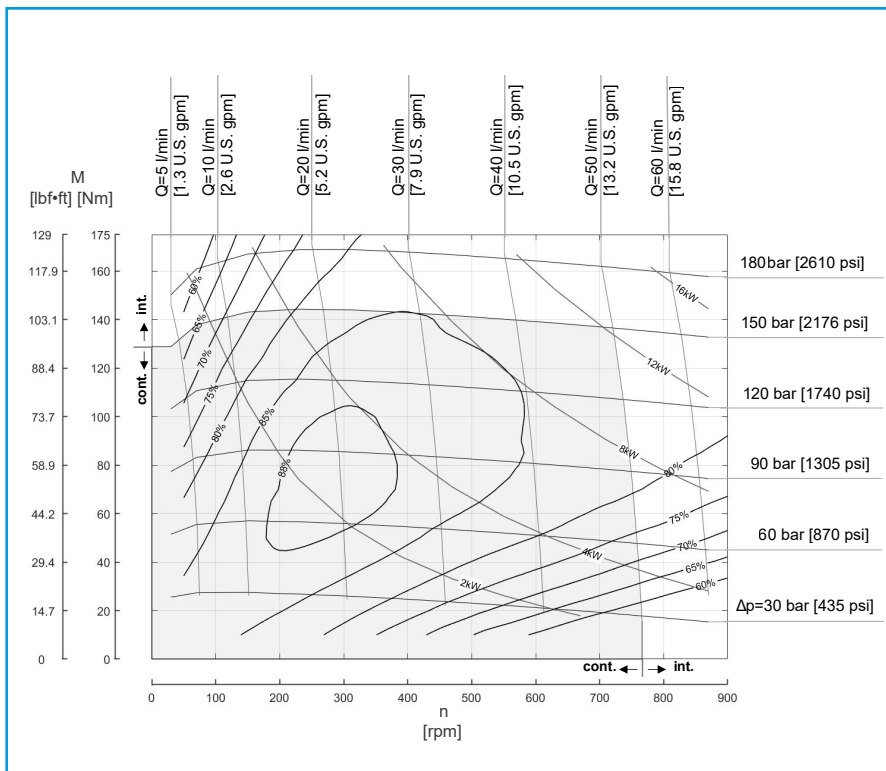
Maximum torque values for the different output shafts can be found in page 

BR50



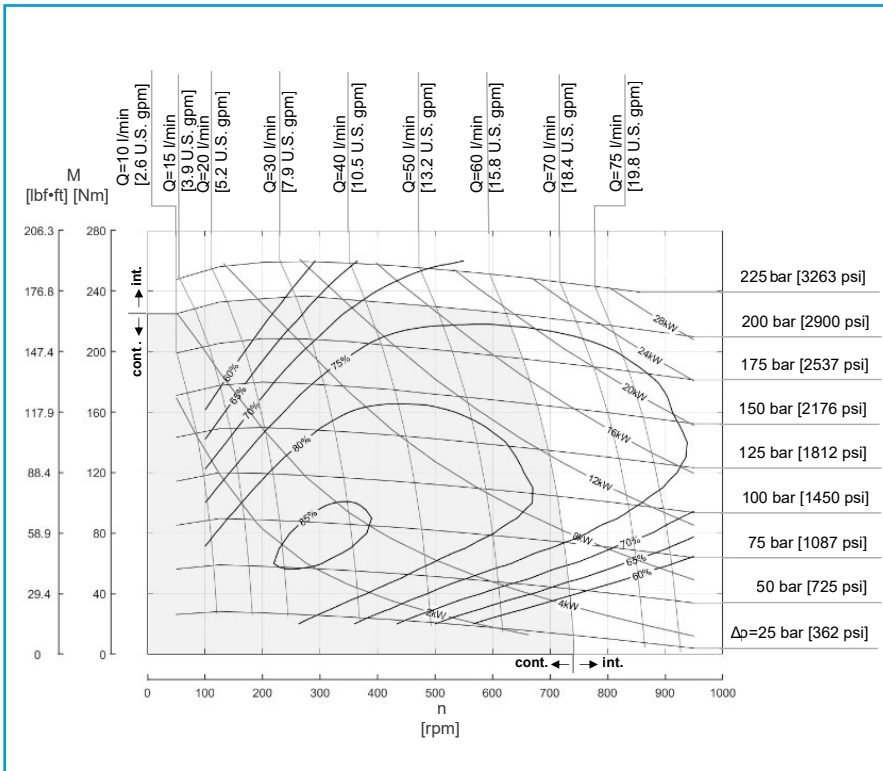
Exceeding continuous pressure values or exceeding flow values indicated, must not occur simultaneously.

BR65



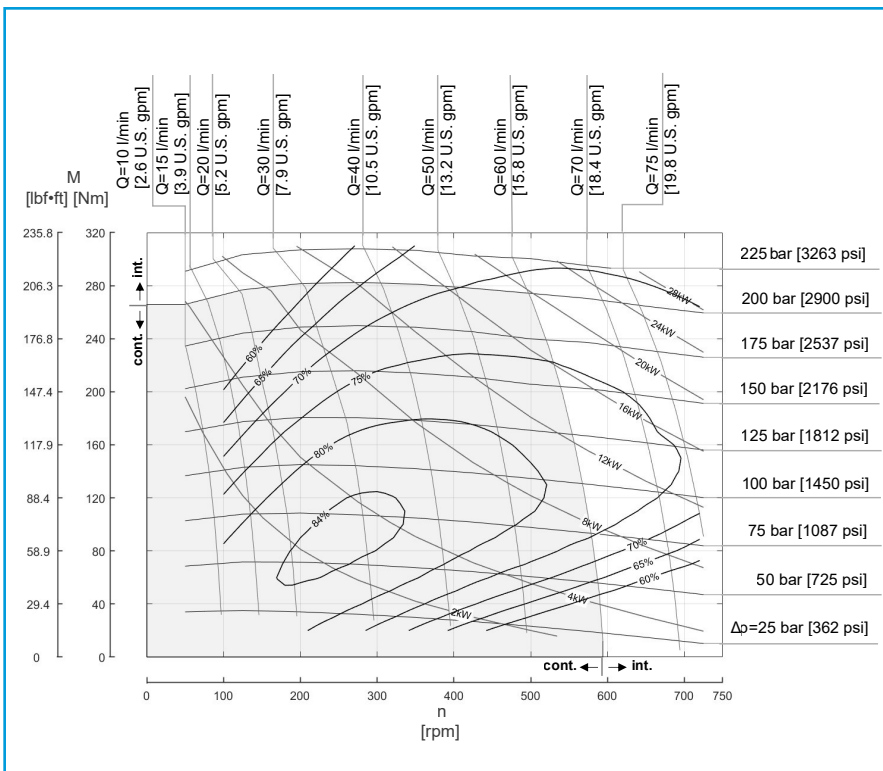
Exceeding continuous pressure values or exceeding flow values indicated, must not occur simultaneously.

BR80



Exceeding continuous pressure values or exceeding flow values indicated, must not occur simultaneously.

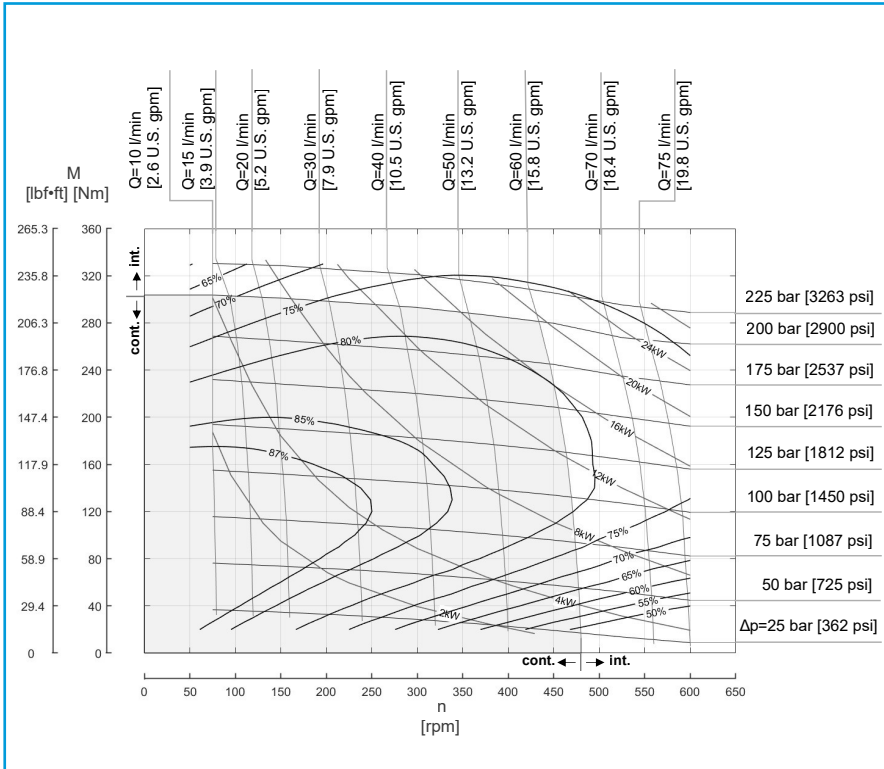
BR100



Exceeding continuous pressure values or exceeding flow values indicated, must not occur simultaneously.

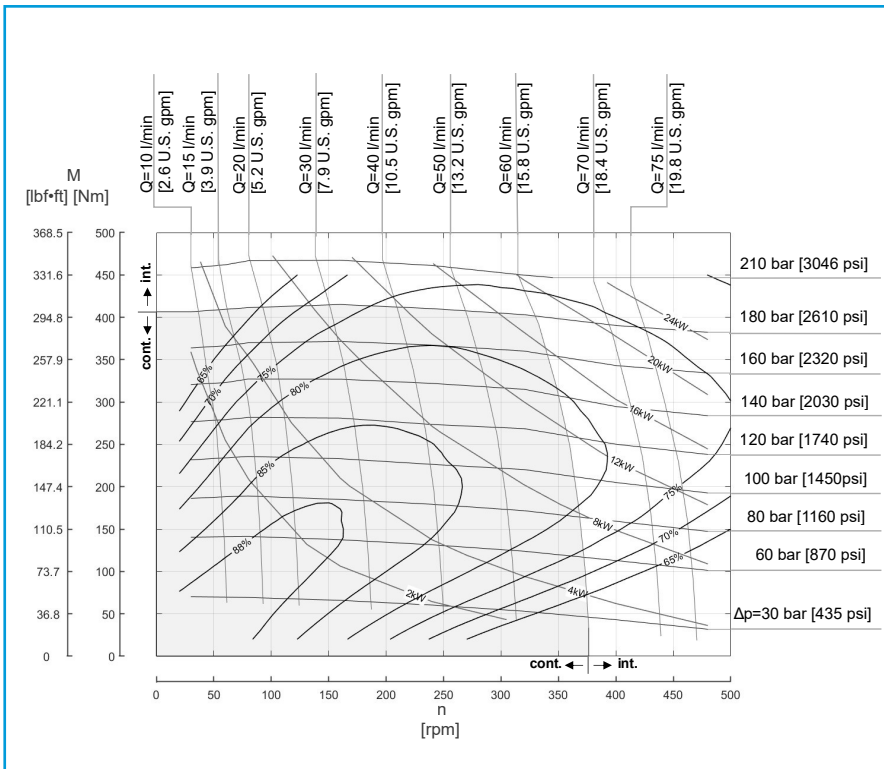


BR130



Exceeding continuous pressure values or exceeding flow values indicated, must not occur simultaneously.

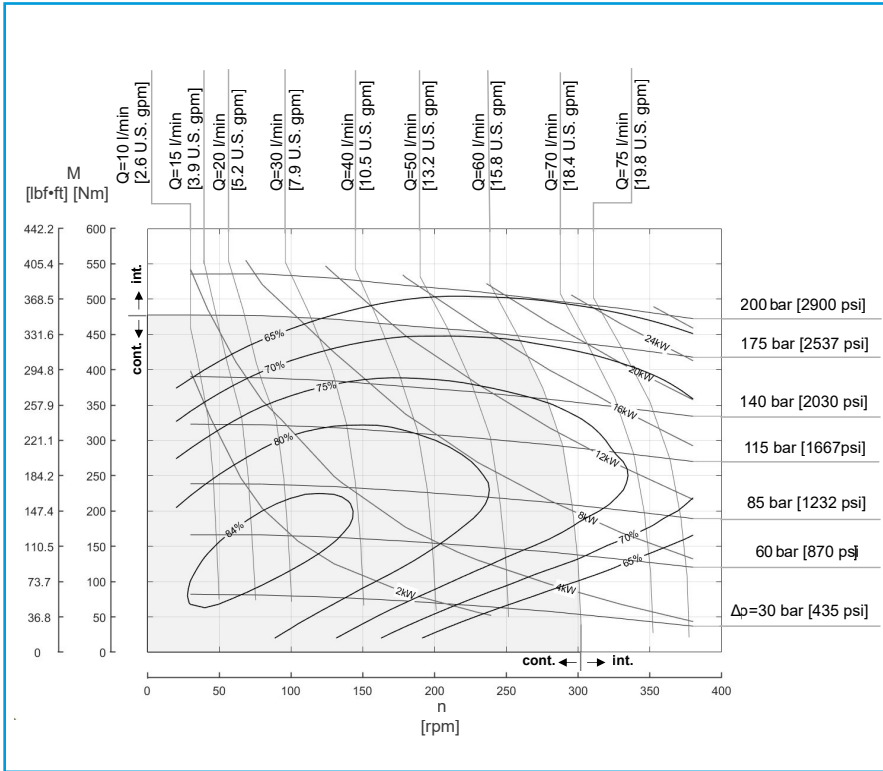
BR160



- * Constant maximum pressure for Ø25 shaft model.
- * Intermittent maximum pressure for Ø25 shaft model.

Exceeding continuous pressure values or exceeding flow values indicated, must not occur simultaneously.

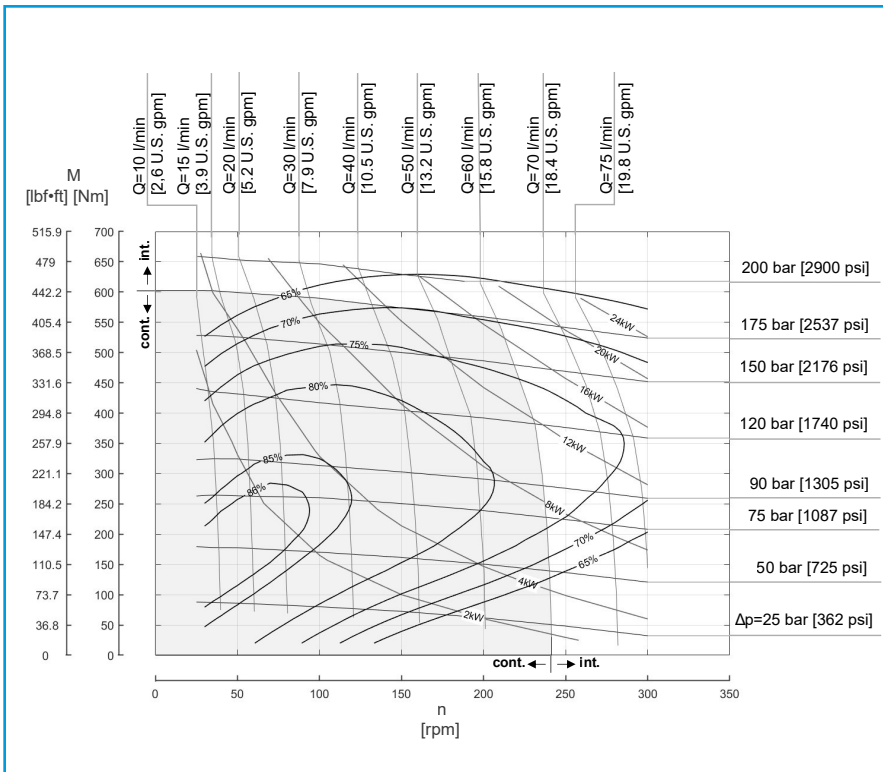
BR200



- * Constant maximum pressure for Ø25 shaft model.
- * Intermittent maximum pressure for Ø25 shaft model.

Exceeding continuous pressure values or exceeding flow values indicated, must not occur simultaneously.

BR250

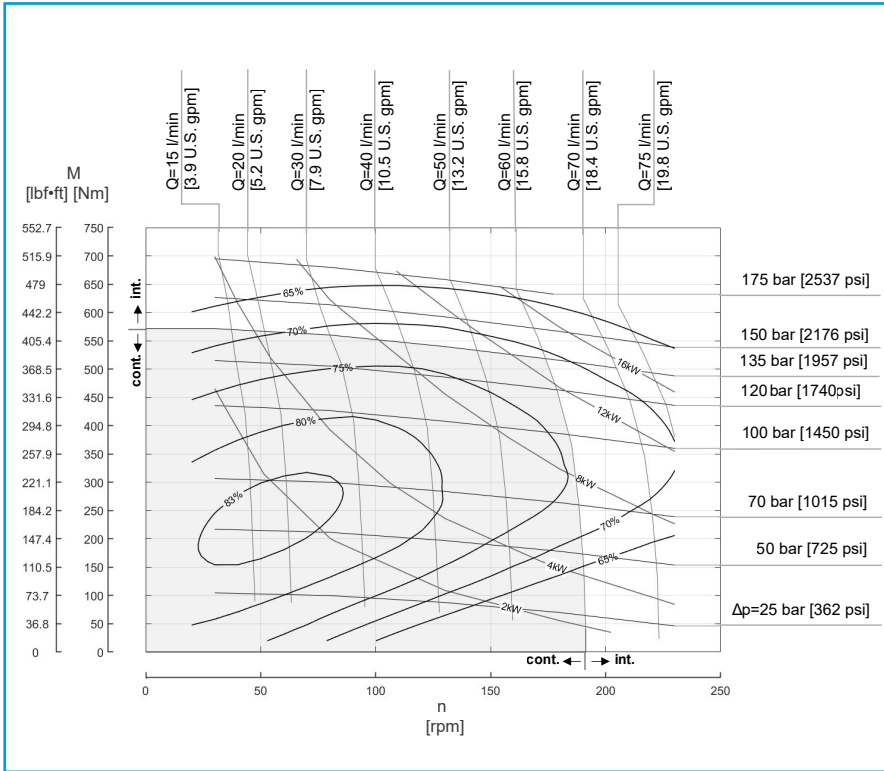


- * Constant maximum pressure for Ø25 shaft model.
- * Intermittent maximum pressure for Ø25 shaft model.

Exceeding continuous pressure values or exceeding flow values indicated, must not occur simultaneously.



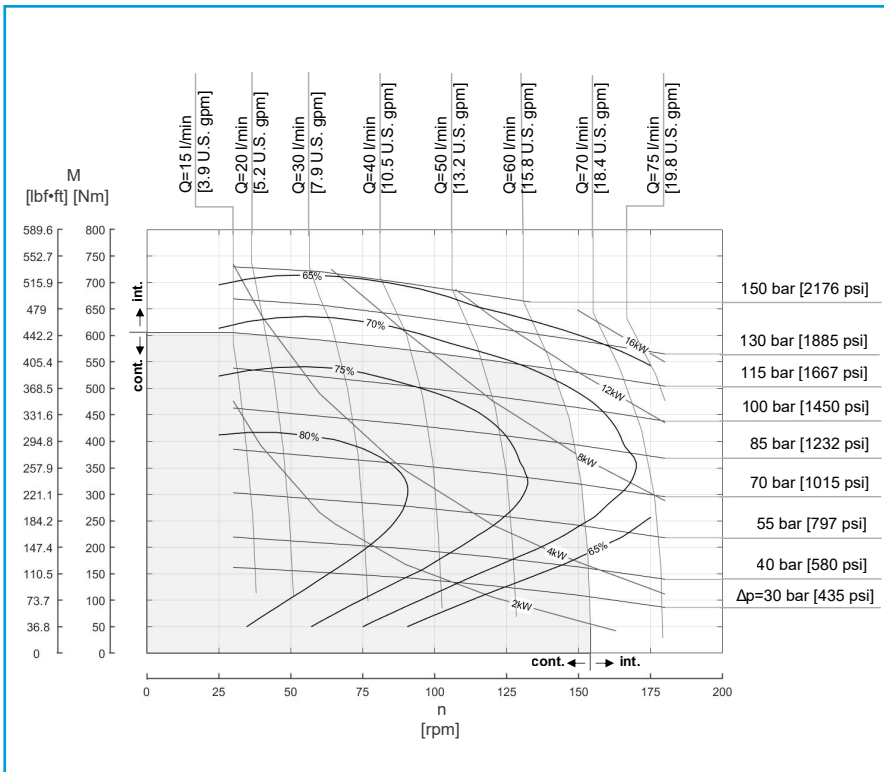
BR315



- * Constant maximum pressure for Ø25 shaft model.
- * Intermittent maximum pressure for Ø25 shaft model.

Exceeding continuous pressure values or exceeding flow values indicated, must not occur simultaneously.

BR400



- * Constant maximum pressure for Ø25 shaft model.
- * Intermittent maximum pressure for Ø25 shaft model.

Exceeding continuous pressure values or exceeding flow values indicated, must not occur simultaneously.

Motor	Displacement	Max back pressure with drain line		Max starting pressure in unloaded conditions	Min starting torque		Max flow		Min speed
	cm³/rev [in³/rev]	bar[psi]		bar[psi]	Nm[lbf-ft]		l/min [U.S. gpm]		[rpm]
BR 050	51.6 [3.14]	Cont Int ¹⁾	200 [2900] 225 [3262]	10 [145]	Cont Int ¹⁾	85 [750] 100 [890]	Cont Int ¹⁾	40 [11] 50 [13]	10
BR 065	64.9 [3.95]	Cont Int ¹⁾	200 [2900] 225 [3262]	10 [145]	Cont Int ¹⁾	135 [1195] 150 [1325]	Cont Int ¹⁾	50 [13] 60 [16]	10
BR 080	80.4 [4.9]	Cont Int ¹⁾	200 [2900] 225 [3262]	10 [145]	Cont Int ¹⁾	190 [1680] 215 [1900]	Cont Int ¹⁾	60 [16] 75 [20]	10
BR 100	99.9 [6.1]	Cont Int ¹⁾	200 [2900] 225 [3262]	10 [145]	Cont Int ¹⁾	230 [2035] 255 [2255]	Cont Int ¹⁾	60 [16] 75 [20]	10
BR 130	125.1 [7.66]	Cont Int ¹⁾	200 [2900] 225 [3262]	10 [145]	Cont Int ¹⁾	295 [2610] 335 [2965]	Cont Int ¹⁾	60 [16] 75 [20]	10
BR 160	159.6 [9.76]	Cont Int ¹⁾	200 [2900] 225 [3262]	10 [145]	Cont Int ¹⁾	310 [2745] 360 [3185]	Cont Int ¹⁾	60 [16] 75 [20]	10
BR 200	199.7 [12.2]	Cont Int ¹⁾	200 [2900] 225 [3262]	10 [145]	Cont Int ¹⁾	390 [3450] 450 [3985]	Cont Int ¹⁾	60 [16] 75 [20]	10
BR 250	249.7 [15.2]	Cont Int ¹⁾	200 [2900] 225 [3262]	7 [100]	Cont Int ¹⁾	490 [4335] 560 [4955]	Cont Int ¹⁾	60 [16] 75 [20]	10
BR 315	314.5 [19.1]	Cont Int ¹⁾	200 [2900] 225 [3262]	7 [100]	Cont Int ¹⁾	470 [4160] 610 [5400]	Cont Int ¹⁾	60 [16] 75 [20]	10
BR 400	392.5 [23.9]	Cont Int ¹⁾	200 [2900] 225 [3262]	5 [75]	Cont Int ¹⁾	510 [4515] 670 [5930]	Cont Int ¹⁾	60 [16] 75 [20]	10

¹⁾ Intermittent operation: the permissible values may occur for max. 10% of every minute.

Oil Viscosity 37 cSt.

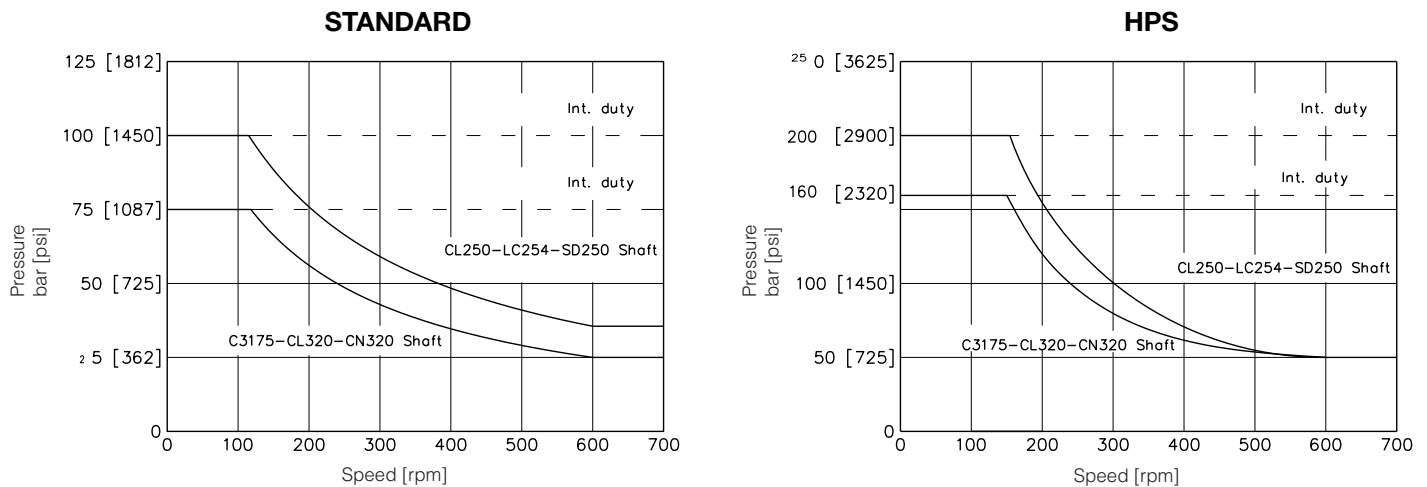
For applications at lower rpm or at high radial loads pls. consult Dana SamHydraulik.

Maximum torque values for the different output shafts can be found in page [E18](#)

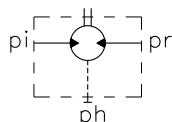
Max. Permissible Shaft Seal Pressure **BR**

Max. return pressure without drain line or max. pressure in the drain line. Motor are supplied in standard seal version (Standard chart) or in HPS seal version (HPS chart). For pressure and speeds not showed in the curve below, please contact Dana SamHydraulik.

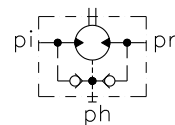
Note: Tachometer or Brake versions is not available with HPS seals.



ph = housing pressure
pi = inlet pressure
pr = outlet pressure



$$ph = \frac{pi + pr}{2} \text{ [bar]}$$



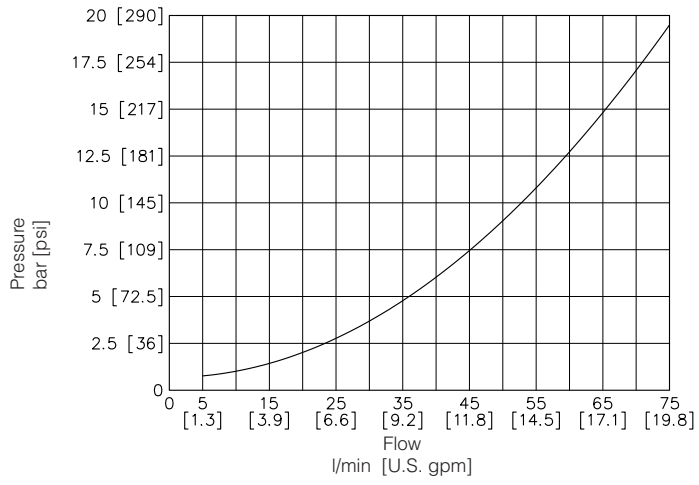
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Pressure Loss

BR



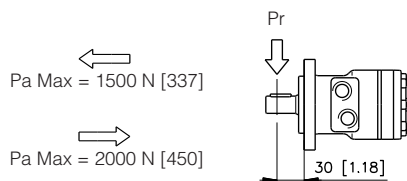
Curve according tests carried out with a relevant number of motors and using hydraulic oil with cinematic viscosity of 37 cSt at 45° C temperature.

Shaft Load **BR**

The permissible radial shaft load depends on

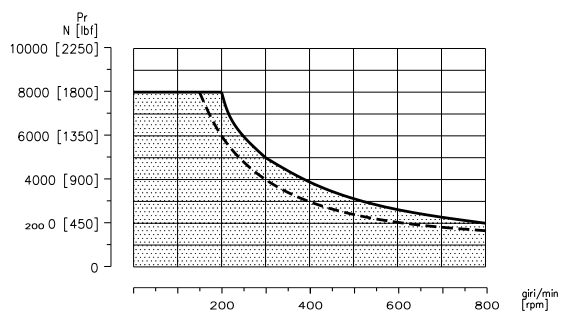
- Speed (n)
- Distance (L) from the point of load to the mounting flange
- Mounting flange version
- Shaft version

Radial load capacity (Pr) curve according to speed (n) and distance (L) from flange, valid for the 2-bolt flange type “2A” and 6-bolt flange type “6A”.



Shafts	2A Flange	6A Flange
CL250 LC254 SD250	$Pr = \frac{800}{n} \cdot \frac{250000}{95 + L} [N]$	$Pr = \frac{800}{n} \cdot \frac{250000}{95 + L} [N]$
C3175 CL320 CN320		$Pr = \frac{800}{n} \cdot \frac{187500}{95 + L} [N]$

This formula being valid for $n \geq 200$ rpm
For $n < 200$ rpm $Pr_{max} = 8000$ N [1800 lbf]



--- For shafts C3175-CL320-CN320
— For shafts CL250-LC254-SD250

The following alphanumeric digits system has been developed to identify all of the configuration options for the BR motors. Use the model code below to specify the desired features. All alphanumeric digits system of the code must be present when ordering.

We recommend to carefully read the catalogue before filling the ordering code.

1	2	3	4	5	6	7	8	9	10	11	12
Series	Displacement	Version	Mount flange	Shaft end	Main port	Seal	Valve	Valve feature	Option	Version feature	Painting
BR	130	O	2A	CL250	M08	N	M081	028	xx	QDR	xx

1	Series	
BR	Orbital motor	

2	Displacement	
050	50 cm ³ /giro [3.05 in ³ /rev]	
065	65 cm ³ /giro [3.965 in ³ /rev]	
080	80 cm ³ /giro [4.88 in ³ /rev]	
100	100 cm ³ /giro [6.1 in ³ /rev]	
130	130 cm ³ /giro [7.93 in ³ /rev]	
160	160 cm ³ /giro [9.76 in ³ /rev]	
200	200 cm ³ /giro [12.2 in ³ /rev]	
250	250 cm ³ /giro [15.25 in ³ /rev]	
315	315 cm ³ /giro [19.21 in ³ /rev]	
400	400 cm ³ /giro [24.4 in ³ /rev]	

3	Version	
O	O Version (standard)	
E	E Version	

4	Mounting Flange	Version	
		O	E
2A	Oval 2 bolts (standard BR)	●	●
6A	Oval 6 bolts (standard BS)	●	-

● Available
- Not Available

Click **DANA** button to return to section index

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5

Shaft end		Version		
		O Flange		E Flange
		2A	6A	2A
CL250	Ø25 mm [0.97 in] Parallel keyed (standard BR)	●	●	●
LC254	Ø25.4 mm [1 in] Parallel keyed (standard BS)	●	●	●
C3175	Ø31.75 mm [1.23 in] Parallel keyed	-	●	-
CN320	Tapered Shaft (special on request)	-	●	-
CL320	Ø32 mm [1.24 in] Parallel keyed	-	●	-
SD250	Splined Shaft (SAE 6B 1" 6T spline)	●	●	●
SE250	Splined Shaft (SAE 6B 1" 6T spline)	●	●	●

6

Main Port		Version	
		O	E
M08	1/2 G BSPP (40x8) Main Ports (standard BR)	●	-
R08	1/2 G BSPP (36x36) Main Ports	-	●

7

Seal	
N	NBR (standard)
V	FKM (Not available in HPS version)


8

Valve		Main port	
		M08	R08
xxxx	Not required (standard)	●	●
M081	VAF 08 - D pressure relief valve	●	-
M082	VAF 08 - D/AF pressure relief valve	●	-
M083	VAAF 31 anticavitation and Anti-Shock Valve	●	-
M084	AF shuttle-valve	●	-
M085	VCD 08 - S/AF overcentre Valve	●	-
M086	VCR1 08 - D/AF double-acting overcentre valve with shuttle valve	●	-
M087	VCR1 08 D/AF LDP double-acting overcentre valve with shuttle valve	●	-
R081⁽¹⁾	VAF E8 - D pressure relief valve	-	●
R082⁽¹⁾	VCD E8 - S/AF overcentre Valve	-	●
R083⁽¹⁾	1/2 G BSP VCR1 E8 - D/AF double-acting overcentre valve with shuttle valve P (36x36) Main Ports	-	●
R084⁽¹⁾	VCR1 E8 D/AF LDP double-acting overcentre valve with shuttle valve (36x36) Main Ports	-	●



¹⁾ Minimum quantity for order 20 pieces

- Available
- Not Available

Click  button to return to main index

Click **DANA** button to return to section index



9

Valve feature		Valve											
		xxxx	M081	M082	M083	M084	M085	M086	M087	R081	R082	R083	R084
000	Feature not necessary (standard)	●	-	-	-	●	-	-	-	-	-	-	-
028	Not Set 30÷70 bar [435 to 1015 psi]	-	●	●	-	-	-	-	-	-	-	-	-
017	Not Set 70÷200 bar [1015 to 2900 psi]	-	●	●	-	-	-	-	-	-	-	-	-
031	Not Set 50÷130 bar [725 to 1885 psi]	-	-	-	●	-	-	-	-	●	-	-	-
021	Not Set 100÷250 bar [1450 to 3625 psi]	-	-	-	●	-	-	-	-	-	-	-	-
020	Not Set 100÷200 bar [1450 to 2900 psi]	-	-	-	-	-	-	-	-	●	-	-	-
425	Pilot Ratio 4.25:1	-	-	-	-	-	-	●	●	-	-	●	●
800	Pilot Ratio 8:1	-	-	-	-	-	-	●	●	-	-	-	-
70D	Pilot Ratio 7:1 - Direction of rotation CW	-	-	-	-	-	●	-	-	-	-	-	-
35D	Pilot Ratio 3.5:1 - Direction of rotation CW	-	-	-	-	-	●	-	-	-	●	-	-
70S	Pilot Ratio 7:1 - Direction of rotation CCW	-	-	-	-	-	●	-	-	-	-	-	-
35S	Pilot Ratio 3.5:1 - Direction of rotation CCW	-	-	-	-	-	●	-	-	-	●	-	-

10

Option

xx	None
-----------	------

11

Version Feature

Version

Version Feature		Version	
		O	E
QDR	QUAD-RING version with Rear drain 1/4" G (BSPP) (standard BR)	●	●
HPS	High Pressure Seal (without Rear Drain)	●	●
TC1	TAC/U tachometer (with sensor arrangement)	●	●
TC4	TAC/M tachometer	●	-
TC5	TAC/M-E tachometer (with sensor arrangement)	●	-
SV0	Version without built-in check valves + Rear Drain - 1/4" G (BSPP)	-	●
SVH	Version without built-in check valves + High Pressure Seal (without Rear Drain)	-	●
SVA	Version without built-in check valves + High Pressure Seal + Rear Drain - 1/4" G (BSPP)	-	●
FP0	Brake	●	●
DPM	High Pressure Seal + Rear Drain - 1/4" G (BSPP)	●	●

12

Painting

xx	Not Painted (standard)
01	Black Painted RAL 9005
02	Blue Painted RAL 5015
05	Grey Painted RAL 7016
06	Grey Painted RAL 7015
22	Grey Painted RAL 7035
23	Grey Painted RAL 7036

● Available
- Not Available

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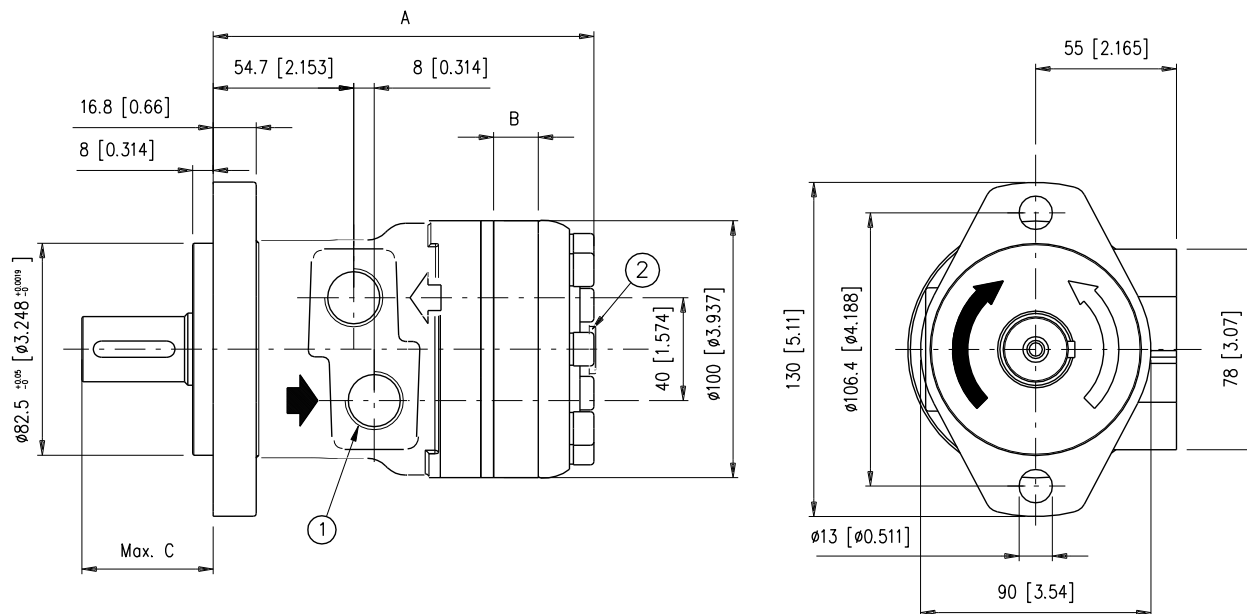
9

10

11

12

BR O 2A M08



- ① No. 2 1/2 G (BSPP) main ports thread depth 18 mm [0.70 in]
- ② 1/4 G (BSPP) drain motor thread depth 15 mm [0.59 in] Max. Not in HPS version.

For shafts dimensions see page [E18](#)

SHAFT	CL250	SD250
C mm [in]	54 [2.12]	54 [2.12]

	BR O 050	BR O 065	BR O 080	BR O 100	BR O 130	BR O 160	BR O 200	BR O 250	BR O 315	BR O 400
A mm [in]	139.5 [5.49]	141.8 [5.58]	144.5 [5.68]	147.7 [5.81]	152.1 [5.98]	158.2 [6.22]	165.3 [6.50]	173.9 [6.84]	185.1 [7.28]	198.4 [7.81]
B mm [in]	9 [0.354]	11.3 [0.444]	14 [0.551]	17.4 [0.68]	21.8 [0.85]	27.8 [1.09]	34.8 [1.37]	43.5 [1.71]	54.8 [2.15]	68.38 [2.69]
Weight kg [lb]	7.2 [15.8]	7.4 [16.3]	7.5 [16.5]	7.7 [16.9]	8 [17.6]	8.3 [18.2]	8.6 [18.9]	9.1 [20]	9.8 [21.5]	10.1 [22.2]

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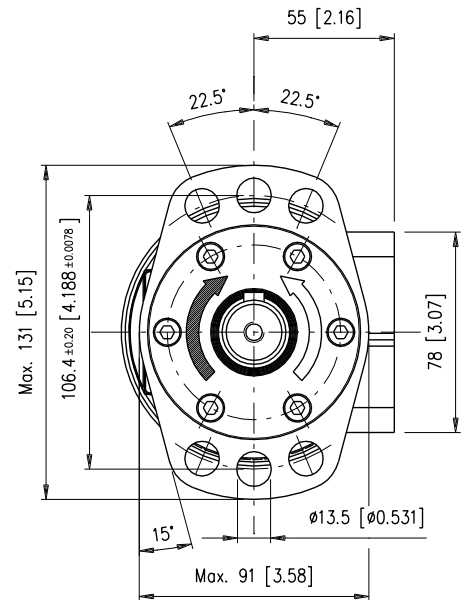
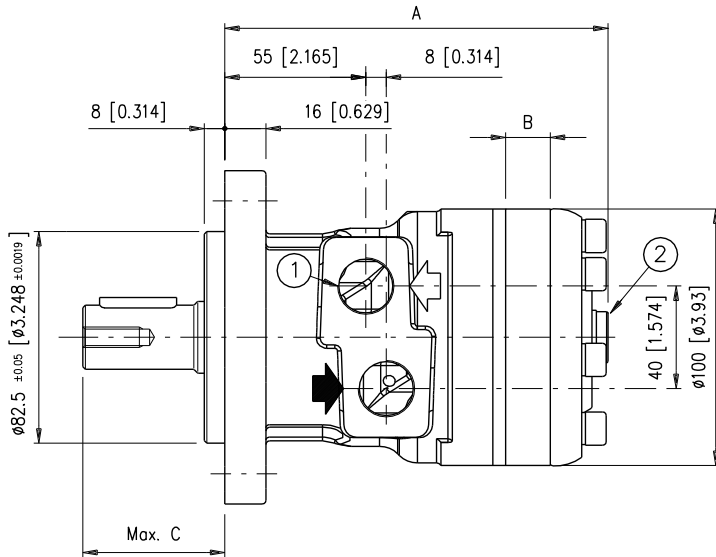
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BR O 6A M08



- ① No. 2 1/2 G (BSPP) main ports thread depth 18 mm [0.70 in]
 ② 1/4 G (BSPP) drain motor thread depth 15 mm [0.59 in]

For shafts dimensions see page [E18](#)

SHAFT	CL250	SD250	CL320	C3175	CN320
C mm [in]	55.3 [2.17]	55.3 [2.17]	68.3 [2.68]	59.1 [2.32]	68.5 [2.69]

	BR O 050	BR O 065	BR O 080	BR O 100	BR O 130	BR O 160	BR O 200	BR O 250	BR O 315	BR O 400
A mm [in]	139.5 [5.49]	141.8 [5.58]	144.5 [5.68]	147.7 [5.81]	152.1 [5.98]	158.2 [6.22]	165.3 [6.50]	173.9 [6.84]	185.1 [7.28]	198.4 [7.81]
B mm [in]	9 [0.354]	11.3 [0.444]	14 [0.551]	17.4 [0.68]	21.8 [0.85]	27.8 [1.09]	34.8 [1.37]	43.5 [1.71]	54.8 [2.15]	68.38 [2.69]
Weight kg [lb]	7.3 [16] ¹⁾ 7.4 [16.3]	7.5 [16.5] ¹⁾ 7.6 [16.7]	7.6 [16.7] ¹⁾ 7.7 [16.9]	7.8 [17.1] ¹⁾ 9 [19.8]	8.1 [17.8] ¹⁾ 8.3 [18.2]	8.4 [18.5] ¹⁾ 8.6 [18.9]	8.7 [19.1] ¹⁾ 9 [19.8]	9.2 [20.2] ¹⁾ 9.5 [20.9]	9.9 [21.8] ¹⁾ 10.2 [22.4]	10.2 [22.4] ¹⁾ 10.5 [23.1]

¹⁾ The values are referred to CL250 / LC254 / SD250 shaft

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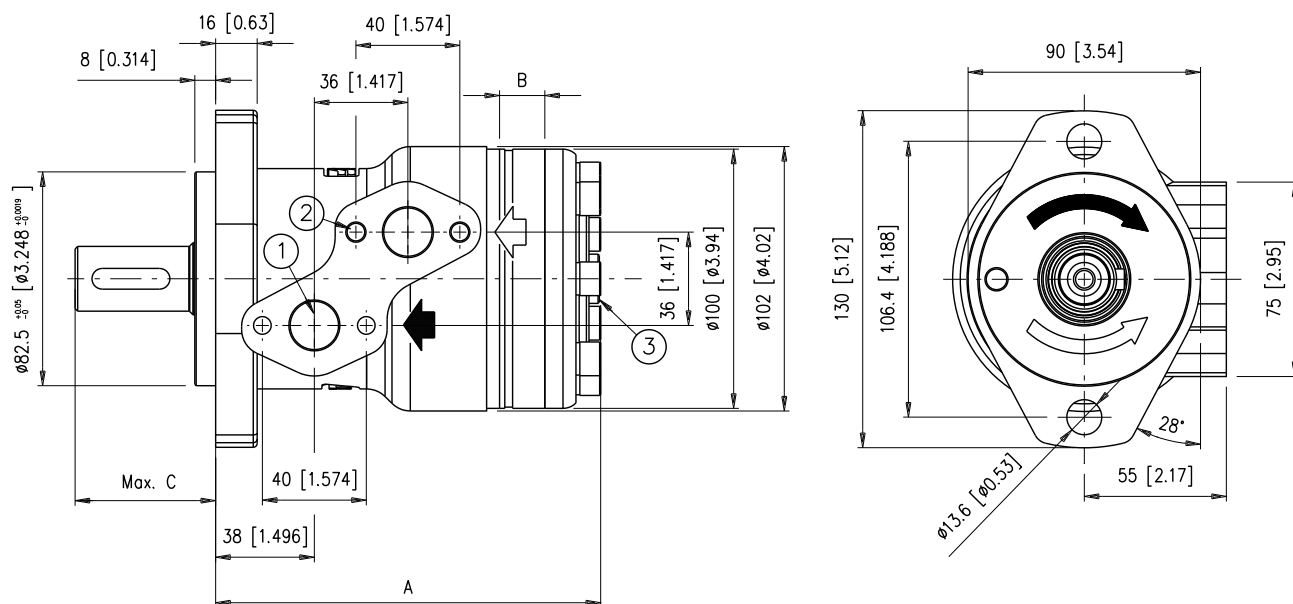
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BR E 2A R08



- ① No. 2 1/2 G (BSPP) main ports thread depth 18 mm [0.70 in]
- ② No. 4 M8 thread depth 15 mm [0.59 in]
- ③ 1/4 G (BSPP) drain motor thread depth 12 mm [0.472 in] (not in HPS version)

For shafts dimensions see page [E18](#)

SHAFT	CL250	SD250
C mm [in]	54 [2.12]	54 [2.12]

	BR E 050	BR E 065	BR E 080	BR E 100	BR E 130	BR E 160	BR E 200	BR E 250	BR E 315	BR E 400
A mm [in]	139.8 [5.50]	144.8 [5.70]	148.2 [5.83]	152.6 [6.01]	158.6 [6.24]	165.6 [6.52]	174.3 [6.86]	185.6 [7.31]	199.2 [7.84]	142.1 [5.59]
B mm [in]	9 [0.354]	11.3 [0.444]	14 [0.551]	17.4 [0.68]	21.8 [0.85]	27.8 [1.09]	34.8 [1.37]	43.5 [1.71]	54.8 [2.15]	68.38 [2.69]
Weight kg [lb]	7.2 [15.8]	7.4 [16.3]	7.5 [16.5]	7.7 [16.9]	8 [17.6]	8.3 [18.2]	8.6 [18.9]	9.1 [20]	9.8 [21.5]	10.1 [22.2]

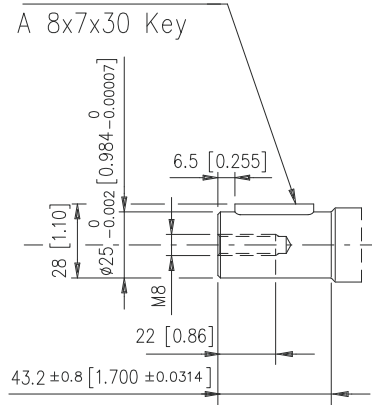
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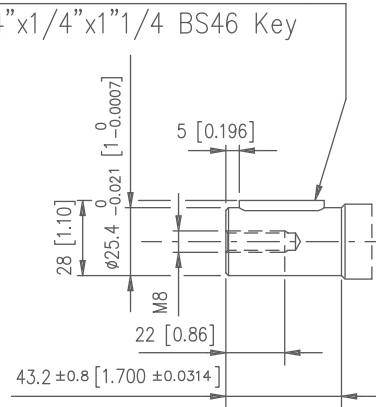


CL250 Cylindrical Shaft

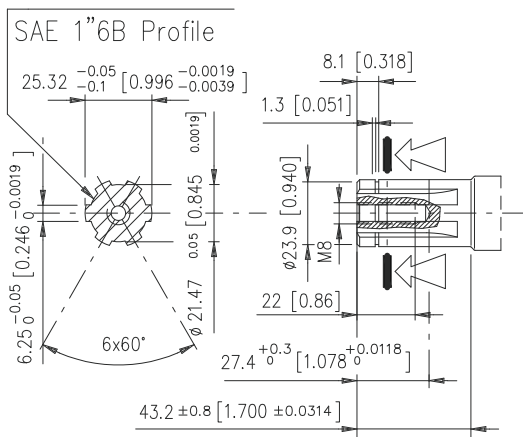
Max Torque Continuous 300 Nm [221.1 lbf-ft]

**LC254** Cylindrical Shaft

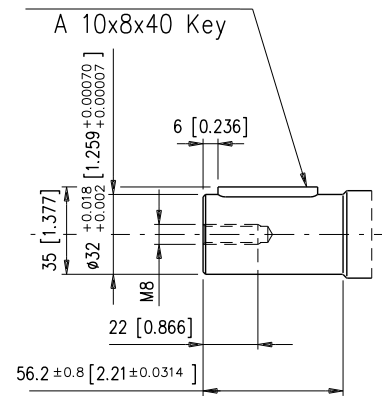
Max Torque Continuous 300 Nm [221.1 lbf-ft]

**SD250** Splined Shaft

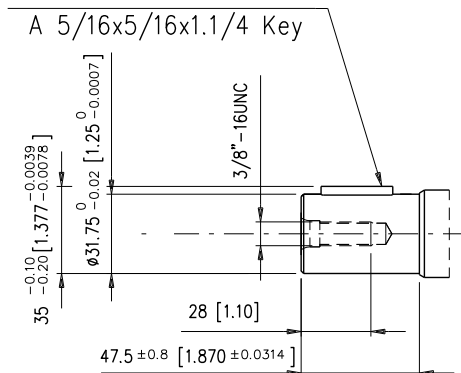
Max Torque Continuous 360 Nm [265.32 lbf-ft]

**CL320** Cylindrical Shaft

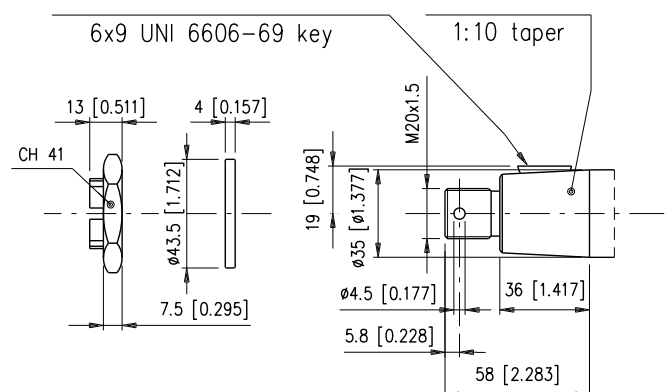
Max. Torque Continuous 768 Nm [566 lbf-ft]

**C3175** Cylindrical Shaft

Max. Torque Continuous 768 Nm [566 lbf-ft]

**CN320** Tapered Shaft

Max Torque Continuous 860 Nm [633.82 lbf-ft]

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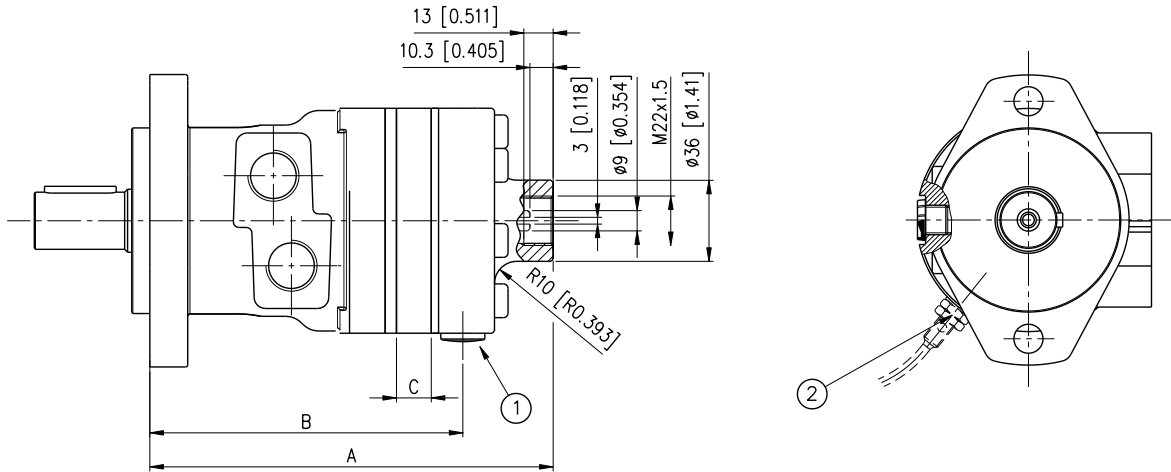
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TC1 TAC/U tachometer

- 1) 1/4 G (BSPP) drain motor thread depth 12mm [0.472 in]
- 2) Sensor connection M8x1

**WARNING:**

Tacho shaft has a 6 times higher revolution speed than the motor shaft and opposite direction of rotation.

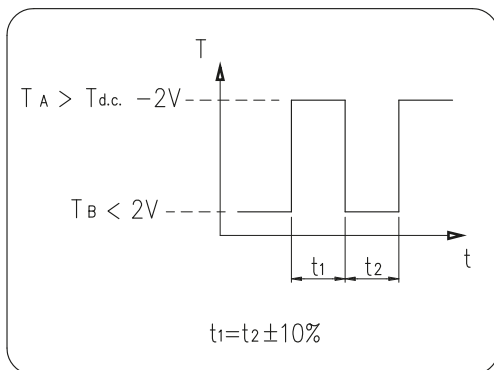
NOTE:

Axial or radial load on tacho shaft must be avoided. Max torque on tacho 1 Nm [0.737 lbf·ft].

The electronic sensor is not supplied: if required, please state it clearly on order form.

Max pressure admissible on the shaft seal with closed drain port 25 bar [362.5 psi].

	BR O 050	BR O 065	BR O 080	BR O 100	BR O 130	BR O 160	BR O 200	BR O 250	BR O 315	BR O 400
A mm [in]	172 [6.77]	174.3 [6.86]	177 [6.96]	180.4 [7.10]	184.8 [7.27]	190.8 [7.51]	197.8 [7.78]	206.5 [8.12]	217.8 [8.57]	231.3 [9.10]
B mm [in]	132 [5.19]	134.3 [5.28]	137 [5.39]	140.4 [5.52]	144.8 [5.70]	150.8 [5.93]	157.8 [6.21]	166.5 [6.55]	177.8 [7.00]	191.3 [7.53]
C mm [in]	9 [0.354]	11.3 [0.444]	14 [0.551]	17.4 [0.68]	21.8 [0.85]	27.8 [1.09]	34.8 [1.37]	43.5 [1.71]	54.8 [2.15]	68.38 [2.69]
Weight kg [lb]	7.7 [16.9]	7.9 [17.4]	8 [17.6]	8.2 [18]	8.5 [18.7]	8.8 [19.3]	9.1 [20]	9.6 [21.1]	10.3 [22.7]	10.6 [23.3]

Output signal electronic tacho

- Number of pulses per revolution = 90 Inductive principle
- Output current PNP
- Voltage 10-65 V d.c.
- Max load 300 mA
- Max frequency 10000 Hz
- Temperature range -25C +85C
- Enclosure IP 67

Available versions:

- Sensor with 2 metres three wires cable (cod.42400500000)
- Sensor with binder plug connection (cod.42400600000) + binder connecting
- Plug with 5 metres three wires cable (cod.42400800000)

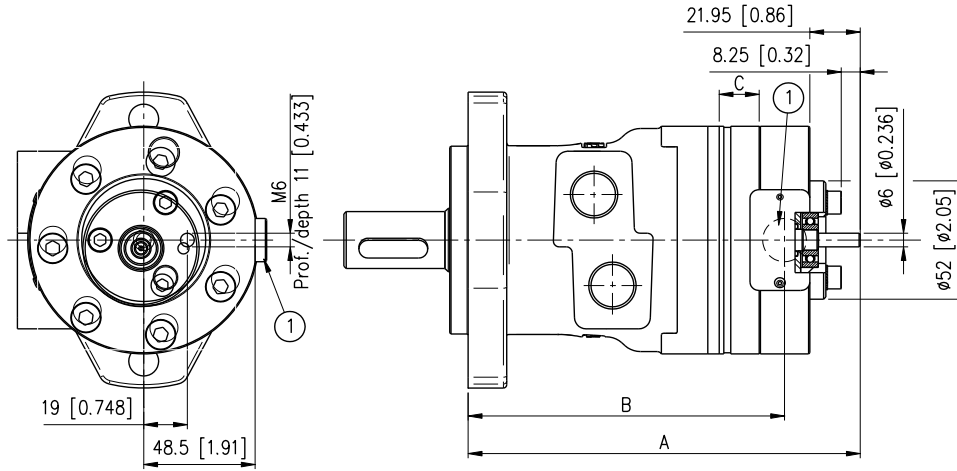
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TC4 TAC/M tachometer

1) 1/4 G (BSPP) drain motor thread depth 13 mm [0.511 in]

**WARNING:**

Tacho shaft has a 6 times higher revolution speed than the motor shaft and opposite direction of rotation.

NOTE:

Axial or radial load on tacho shaft must be avoided.

	BR O 050	BR O 065	BR O 080	BR O 100	BR O 130	BR O 160	BR O 200	BR O 250	BR O 315	BR O 400
A mm [in]	162.2 [6.38]	164.5 [6.48]	167.2 [6.58]	170.5 [6.71]	175 [6.89]	181 [7.12]	188 [7.40]	196.6 [7.74]	208 [8.19]	221.5 [8.72]
B mm [in]	129.3 [5.09]	131.6 [5.18]	134.3 [5.29]	137.7 [5.42]	142.1 [5.59]	148.1 [5.83]	155.1 [6.11]	163.8 [6.45]	175.1 [6.89]	188.7 [7.43]
C mm [in]	9 [0.354]	11.3 [0.444]	14 [0.551]	17.4 [0.68]	21.8 [0.85]	27.8 [1.09]	34.8 [1.37]	43.5 [1.71]	54.8 [2.15]	68.38 [2.69]
Weight kg [lb]	7.7 [16.9]	7.9 [17.4]	8 [17.6]	8.2 [18]	8.5 [18.7]	8.8 [19.3]	9.1 [20]	9.6 [21.1]	10.3 [22.7]	10.6 [23.3]

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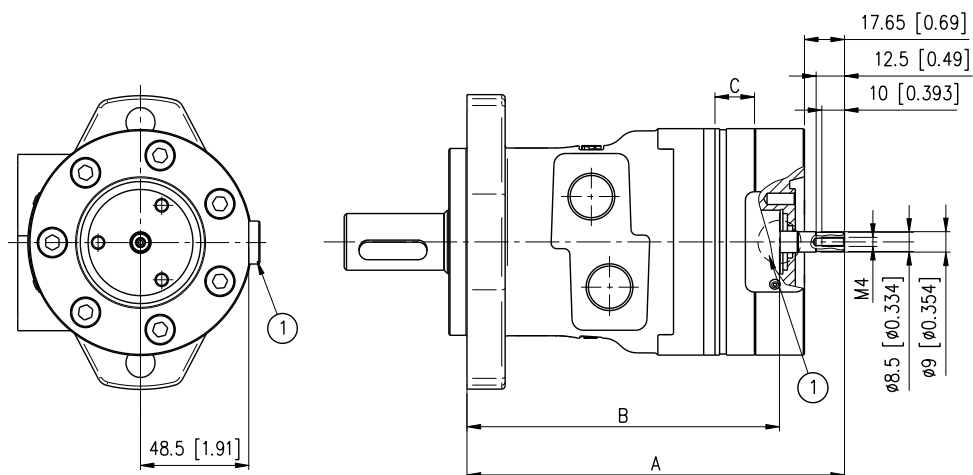
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TC5 TAC/M-E tachometer

1) 1/4 G (BSPP) drain motor thread depth 13 mm [0.511 in]

**WARNING:**

Tacho shaft has a 6 times higher revolution speed than the motor shaft and opposite direction of rotation.

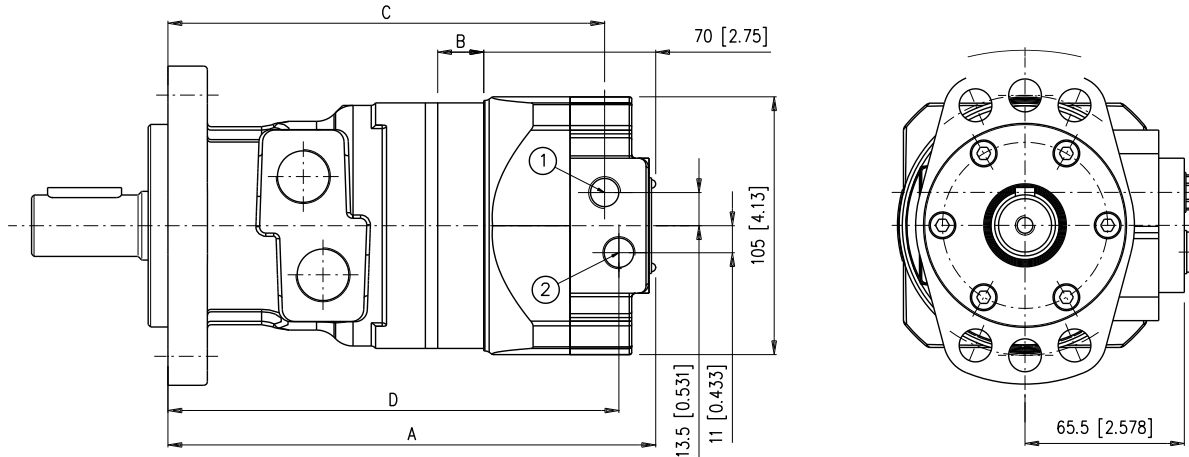
NOTE:

Axial or radial load on tacho shaft must be avoided.

	BR O 050	BR O 065	BR O 080	BR O 100	BR O 130	BR O 160	BR O 200	BR O 250	BR O 315	BR O 400	
A	mm [in]	157.9 [6.21]	160.2 [6.31]	162.9 [6.41]	166.2 [6.54]	170.7 [6.72]	176.7 [6.96]	183.7 [7.23]	192.3 [7.57]	203.7 [8.02]	217.2 [8.55]
B	mm [in]	129.3 [5.09]	131.6 [5.18]	134.3 [5.29]	137.7 [5.42]	142.1 [5.59]	148.1 [5.83]	155.1 [6.11]	163.8 [6.45]	175.1 [6.89]	188.7 [7.43]
C	mm [in]	9 [0.354]	11.3 [0.444]	14 [0.551]	17.4 [0.68]	21.8 [0.85]	27.8 [1.09]	34.8 [1.37]	43.5 [1.71]	54.8 [2.15]	68.38 [2.69]
Weight	kg [lb]	7.7 [16.9]	7.9 [17.4]	8 [17.6]	8.2 [18]	8.5 [18.7]	8.8 [19.3]	9.1 [20]	9.6 [21.1]	10.3 [22.7]	10.6 [23.3]

FP0 Brake

- 1) 1/4 G (BSPP) brake releasing thread depth 13 mm [0.511 in]
- 2) 1/4 G (BSPP) drain motor thread depth 13 mm [0.511 in]



	BR O 050	BR O 065	BR O 080	BR O 100	BR O 130	BR O 160	BR O 200	BR O 250	BR O 315	BR O 400
A mm [in]	187.9 [7.39]	190.2 [7.48]	192.9 [7.59]	196.3 [7.72]	200.7 [7.90]	206.7 [8.13]	213.7 [8.41]	222.4 [8.75]	233.7 [9.20]	247.2 [9.73]
B mm [in]	9 [0.354]	11.3 [0.444]	14 [0.551]	17.4 [0.68]	21.8 [0.85]	27.8 [1.09]	34.8 [1.37]	43.5 [1.71]	54.8 [2.15]	68.38 [2.69]
C mm [in]	169.9 [6.68]	172.2 [6.77]	174.9 [6.88]	178.3 [7.01]	182.7 [7.19]	188.7 [7.42]	195.7 [7.70]	204.4 [8.04]	215.7 [8.49]	229.2 [9.02]
D mm [in]	173 [6.81]	175.3 [6.90]	178 [7.00]	181.4 [7.14]	185.8 [7.31]	191.8 [7.55]	198.8 [7.82]	207.5 [8.16]	218.8 [8.61]	232.2 [9.14]
Weight kg [lb]	10.6 [23.4]	10.7 [23.6]	10.8 [23.8]	11 [24.3]	11.2 [24.7]	11.9 [26.2]	11.8 [26]	12.2 [26.9]	12.7 [28]	13.3 [29.3]

The brakes integrated in FP motors are holding brakes type (negative brake) and cannot be used for dynamic braking action.

Installation layout

The FP hydraulic motors must always have the drain port (on casing) directly connected with tank

If open circuit layout is needed, it is advisable to use a flow control valve on brake piston ports (in order to avoid dynamic braking), on overcentre valve and a open-centre directional valve.

Motor-brake features	
Minim release pressure	22 bar [319 psi]
Complete brake release pressure	25 bar [362.5 psi]
Max. brake pressure	160 bar [2320 psi]
Max. static torque	370 Nm [272.7 lbf-ft]
Max. motor speed	350 rpm