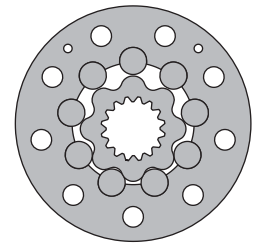


# HYDRAULIC MOTOR-BRAKE MTM/B



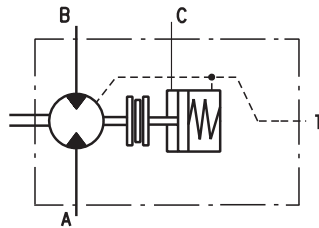
## APPLICATION

- » Skid Steer Loaders
- » Metal working machines
- » Trenchers
- » Augers
- » Agricultural machines
- » Road building machines
- » Special vehicles
- » Mine machines
- » Woodworking and sawmill machinery
- » Conveyors etc.



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## OPTIONS

- » Model - Disc valve, roll-gerotor;
- » Fully integrated friction disk brake;
- » Side ports;
- » Shafts - straight, splined and tapered;
- » BSPP ports
- » Other special features

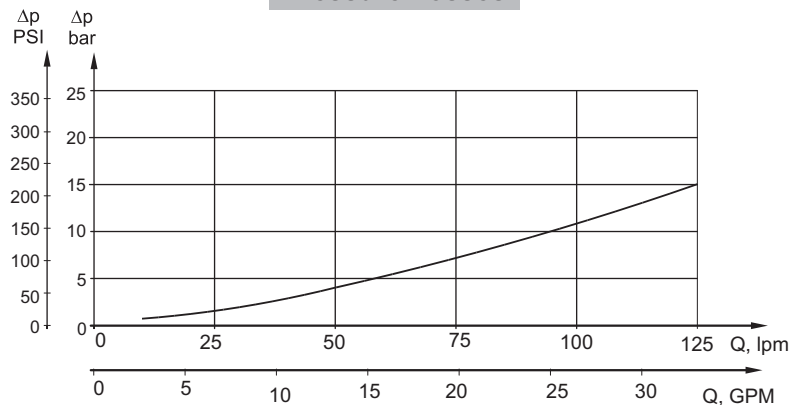
## GENERAL

<b>Max. Displacement,</b> cm <sup>3</sup> /rev [in <sup>3</sup> /rev]	724,3 [44.2]
<b>Max. Speed,</b> [RPM]	750
<b>Max. Torque,</b> daNm [in-lb]	cont.: 175 [15490] int.: 215 [16030]
<b>Max. Output,</b> kW [HP]	70 [94]
<b>Max. Pressure Drop,</b> bar [PSI]	cont.: 250 [3600] int.: 350 [5080]
<b>Max. Oil Flow,</b> lpm [GPM]	150 [40]
<b>Permissible Shaft Loads</b> daN [lbs]	P <sub>a</sub> =1000 [2250]
<b>Pressure fluid</b>	Mineral based- HLP(DIN 51524) or HM(ISO 6743/4)
<b>Temperature range,</b> °C [°F]	-40÷140 [-40÷284]
<b>Optimal Viscosity range,</b> mm <sup>2</sup> /s [SUS]	20÷75 [98÷347]
<b>Filtration</b>	ISO code 20/16 (Min. recommended fluid filtration of 25 microns)

### Oil flow in drain line

Pressure drop bar [PSI]	Viscosity mm <sup>2</sup> /s [SUS]	Oil flow in drain line lpm [GPM]
200 [2900]	20 [98]	2,5 [.660]
	35 [164]	1,5 [.400]
275 [3990]	20 [98]	4 [1.057]
	35 [164]	2,5 [.660]

### Pressure Losses



### SPECIFICATION DATA

Type	MTM/B 200	MTM/B 250	MTM/B 315	MTM/B 400	MTM/B 470	MTM/B 500	MTM/B 630	MTM/B 725	
<b>Displacement, cm<sup>3</sup>/rev [in<sup>3</sup>/rev]</b>	201,4 [12.29]	251,8 [15.36]	326,3 [19.9]	410,9 [25.06]	475 [28.97]	494,9 [30.17]	631,2 [38.5]	724 [44.2]	
<b>Max. Speed, [RPM]</b>	Cont.	625	500	380	305	260	250	196	170
	Int.*	750	600	460	365	315	300	235	215
<b>Max. Torque, daNm [lb-in]</b>	Cont.	72 [6375]	90 [7965]	116 [10265]	147 [13010]	171 [15135]	172 [15225]	175 [15490]	160 [14160]
	Int.*	102 [9030]	128 [11330]	163 [14425]	206 [18232]	215 [16030]	215 [16030]	215 [16030]	192 [17000]
	Peak**	115 [10180]	144 [12745]	186 [16460]	235 [20800]	240 [21240]	240 [21240]	255 [22570]	240 [21240]
<b>Max. Output, kW [HP]</b>	Cont.	41 [55]	41 [55]	41 [55]	41 [55]	41 [55]	37,5 [50]	29 [39]	26 [35]
	Int.*	65 [87]	70 [94]	70 [94]	70 [94]	55 [74]	51 [68]	45 [60]	40 [54]
<b>Max. Pressure Drop, bar [PSI]</b>	Cont.	250 [3600]	250 [3600]	250 [3600]	250 [3600]	250 [3600]	230 [3340]	185 [2680]	160 [2320]
	Int.*	350 [5080]	350 [5080]	350 [5080]	350 [5080]	315 [4570]	280 [4060]	225 [3260]	210 [3045]
	Peak**	400 [5800]	400 [5800]	400 [5800]	400 [5800]	350 [5080]	320 [4640]	270 [3985]	260 [3770]
<b>Max. Oil Flow, lpm [GPM]</b>	Cont.	125 [33]	125 [33]	125 [33]	125 [33]	125 [33]	125 [33]	125 [33]	125 [33]
	Int.*	150 [40]	150 [40]	150 [40]	150 [40]	150 [40]	150 [40]	150 [40]	150 [40]
<b>Max. Starting Pressure with Unloaded Shaft, bar [PSI]</b>	6 [87]	6 [87]	6 [87]	6 [87]	6 [87]	6 [87]	6 [87]	6 [87]	
<b>Min. Starting Torque, daNm [lb-in]</b>	60 [5310]	75 [6640]	97 [8585]	122 [10800]	142 [12570]	143 [12655]	144 [12745]	148 [13100]	
<b>Static Torque of Brake, daNm [lb-in]</b>	200 [17700]								
<b>Min. Brake Release Pressure***, bar [PSI]</b>	14 [203]								
<b>Full Opening Pressure, bar [PSI]</b>	40 [580]								
<b>Max. Pressure in Release Port C, bar [PSI]</b>	120 [1740]								
<b>Weight, kg [lb]</b>	37,5 [82.7]	37,9 [83.6]	39,1 [86.2]	41,3 [91.1]	44,1 [97.2]	46,0 [101.4]	49,1 [108.2]	52,0 [114.6]	

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

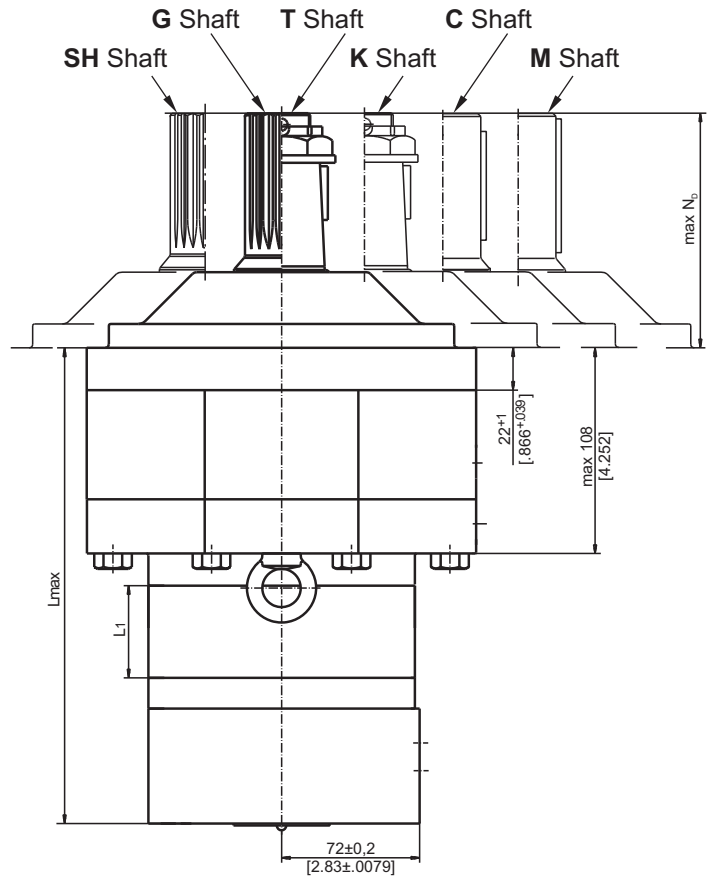
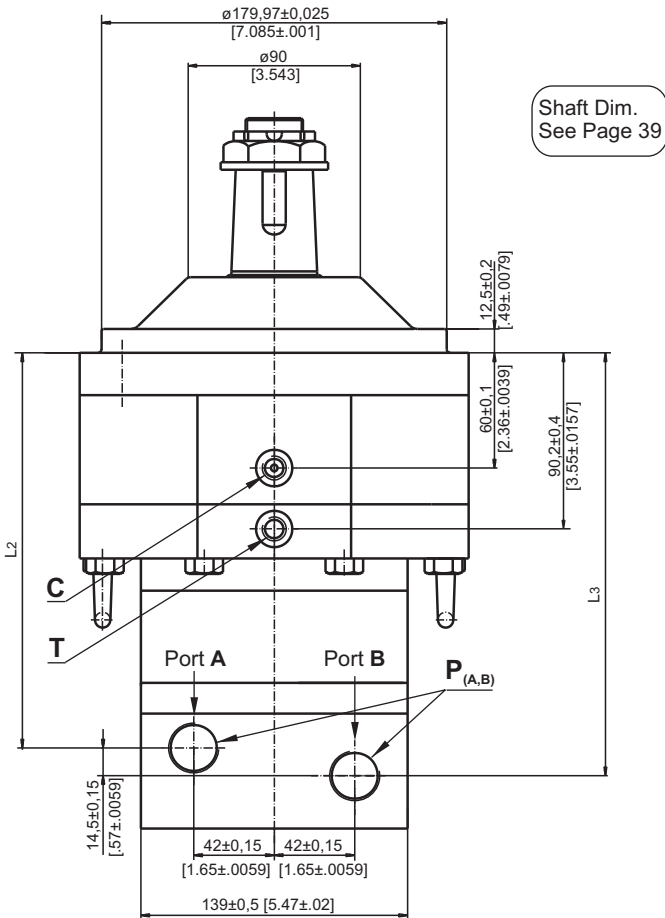
\*\* Peak load: the permissible values may occur for max. 1% of every minute.

\*\*\* 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 13 mm<sup>2</sup>/s [70 SUS] at 50°C [122°F].
5. Recommended maximum system operating temperature is 82°C [180°F].
6. To assure optimum motor life fill with fluid prior to loading and run at moderate load and speed for 10-15 minutes.

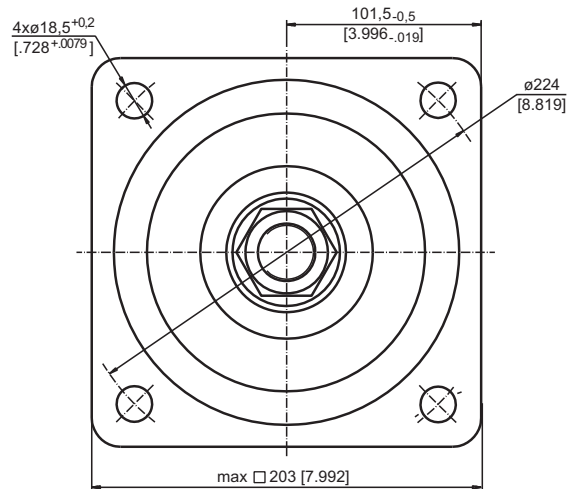
## DIMENSIONS AND MOUNTING DATA - MTM/B D

**D** - Bolt flange 4x $\phi$ 18.5 mm  
spigot diameter 7.086 in [ $\phi$ 180 mm]



**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**



Type	L, mm [in]	L2, mm [in]	L3, mm [in]	L1, mm [in]
MTM/B D 200	226 [8.90]	184 [7.24]	198,5 [7.86]	25 [.98]
MTM/B D 250	232,5 [9.15]	190 [7.48]	204,5 [8.05]	31,3 [1.23]
MTM/B D 315	241,5 [9.51]	199,5 [7.85]	214 [8.43]	40,5 [1.59]
MTM/B D 400	252 [9.92]	210 [8.27]	224,5 [8.84]	51 [2.01]
MTM/B D 470	260 [10.24]	218 [8.58]	232,5 [9.15]	59 [2.32]
MTM/B D 500	249 [9.80]	207 [8.15]	221,5 [8.72]	48 [1.89]
MTM/B D 630	262 [10.32]	220 [8.66]	234,5 [9.23]	61 [2.40]
MTM/B D 725	271 [10.67]	229 [9.02]	243,5 [9.59]	70 [2.76]

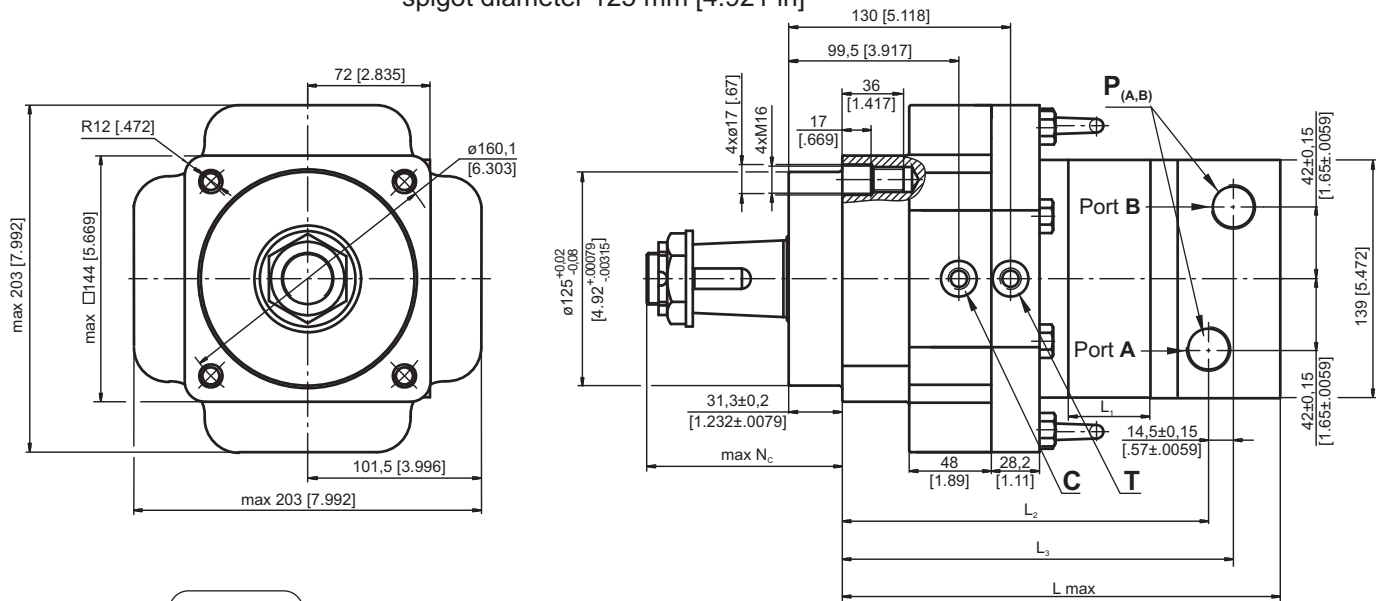
**Note:** For  $N_b$  see page 39

**C** : Brake release port  
**T** : Drainage tap

	Versions	
	2	4
<b>P</b> (A,B)	2xG $\frac{3}{4}$	2x1 $\frac{1}{16}$ -12UN
<b>T</b>	G $\frac{1}{4}$	$\frac{9}{16}$ -18UNF
<b>C</b>	G $\frac{1}{4}$	$\frac{7}{16}$ -20 UNF

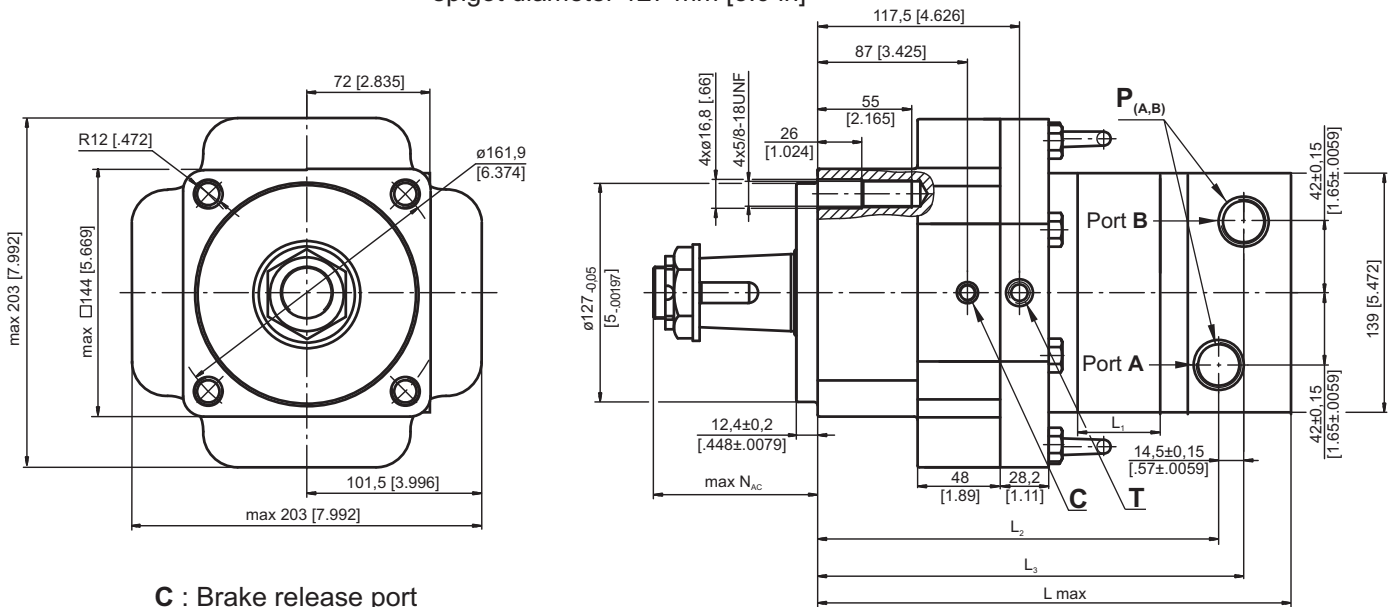
## DIMENSIONS AND MOUNTING DATA MTM/B C and MTM/B AC

**C** - Thread hole flange 4xM16  
spigot diameter 125 mm [4.921 in]



Shaft Dim.  
See Page 39

**AC** - Thread hole flange 4x5/8-18 UNF  
spigot diameter 127 mm [5.0 in]



**C** : Brake release port  
**T** : Drainage tap

**Note:** For  $N_C$  and  $N_{AC}$  see page 39

	Versions	
	2	4
<b>P</b> (A,B)	2xG $\frac{3}{4}$	2x1 $\frac{1}{16}$ -12UN
<b>T</b>	G $\frac{1}{4}$	$\frac{9}{16}$ -18UNF
<b>C</b>	G $\frac{1}{4}$	$\frac{7}{16}$ -20 UNF

**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**

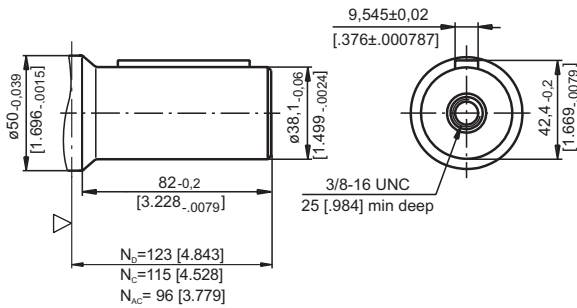


Type	L, mm [in]	L <sub>2</sub> , mm [in]	L <sub>3</sub> , mm [in]	Type	L, mm [in]	L <sub>2</sub> , mm [in]	L <sub>3</sub> , mm [in]	L <sub>1</sub> , mm [in]
MTM/B C 200	233 [9.17]	191 [7.92]	205,5 [8.09]	MTM/B AC 200	252 [9.92]	210 [8.27]	224,5 [8.84]	25 [.98]
MTM/B C 250	239,3 [9.42]	197,3 [7.77]	211,8 [8.34]	MTM/B AC 250	258,5 [10.18]	216,5 [8.25]	231 [9.09]	31,3 [1.23]
MTM/B C 315	248,5 [9.48]	206,5 [8.13]	221 [8.70]	MTM/B AC 315	267,5 [10.53]	225,5 [8.88]	240 [9.45]	40,5 [1.59]
MTM/B C 400	259 [10.19]	217 [8.54]	231,5 [9.11]	MTM/B AC 400	278 [10.94]	236 [9.29]	250,5 [9.186]	51 [2.01]
MTM/B C 470	267 [10.51]	225 [8.86]	239,5 [9.43]	MTM/B AC 470	286 [11.26]	244 [9.61]	258,5 [10.18]	59 [2.32]
MTM/B C 500	256 [10.08]	214 [8.43]	228,5 [8.99]	MTM/B AC 500	275 [10.83]	233 [9.17]	247,5 [9.74]	48 [1.89]
MTM/B C 630	269 [10.59]	227 [8.94]	241,5 [9.51]	MTM/B AC 630	288 [11.34]	246 [9.68]	260,5 [10.26]	61 [2.40]
MTM/B C 725	278 [10.94]	236 [9.29]	250,5 [9.86]	MTM/B AC 725	297 [11.69]	255 [10.04]	269,5 [10.61]	70 [2.76]

**SHAFT EXTENSIONS**

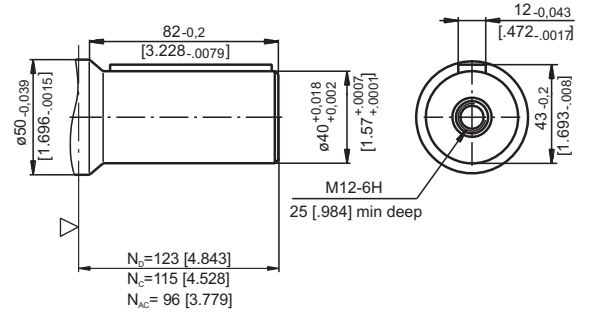
**C**

1½" [38,1] sraight, Parallel key ¾"x ¾"x 2¼" BS46  
Max. Torque 133 daNm [11770 lb-in]



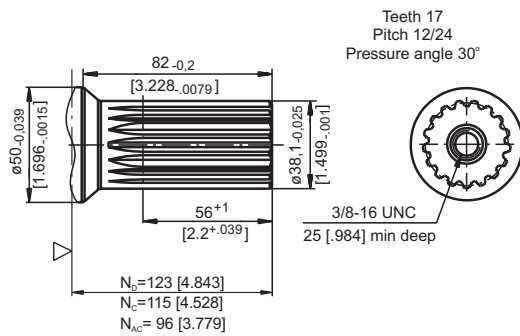
**M**

ø40 sraight, Parallel key A12x8x70  
Max. Torque 133 daNm [11770 lb-in]



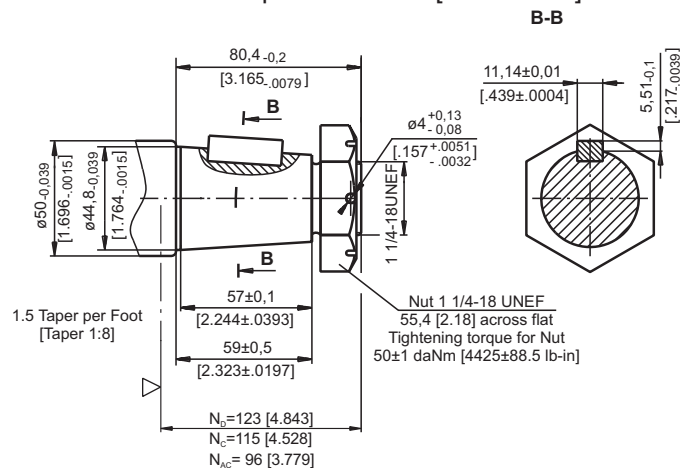
**G**

17T Splined, 1½" [38,1] ANS B92.1-1976  
Max. Torque 210 daNm [18580 lb-in]



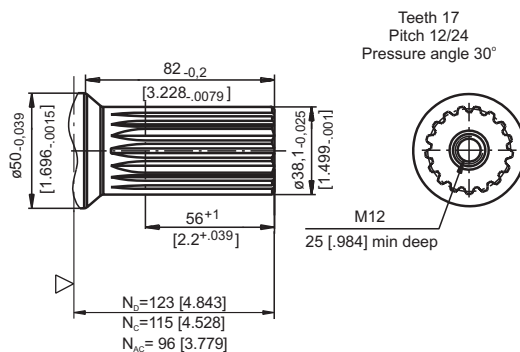
**T**

1¾" [44,5] SAE J501 Tapered 1:8  
Parallel key 7/16"x 1¼" BS46  
Max. Torque 210 daNm [18580 lb-in]



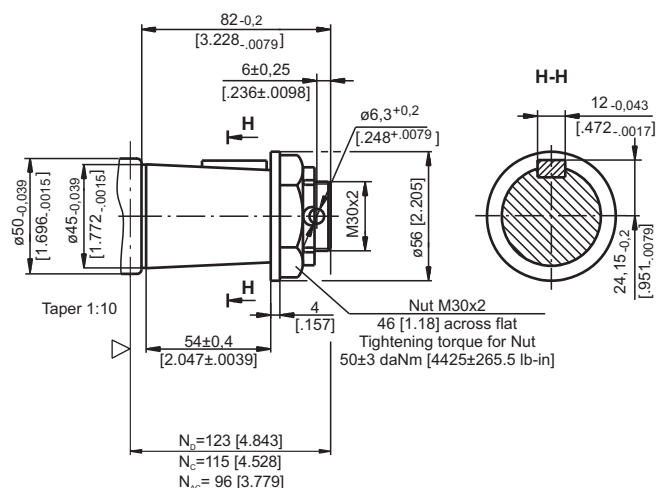
**SH**

17T Splined, 1½" [38,1] ANS B92.1-1976  
Max. Torque 210 daNm [18580 lb-in]



**K**

ø45 Tapered 1:10  
Parallel key 12x8x28 DIN 6885  
Max. Torque 210 daNm [18580 lb-in]

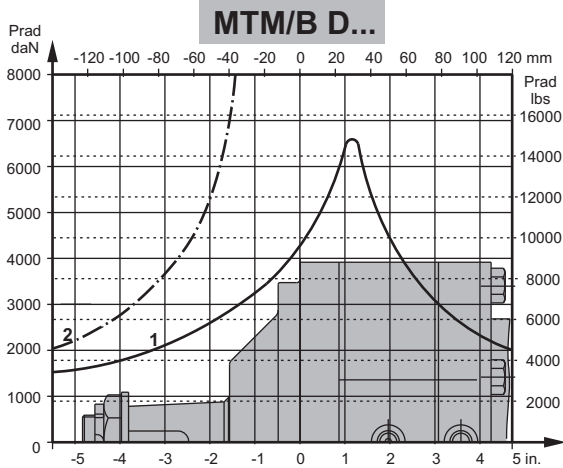


▽ - Motor Mounting Surface

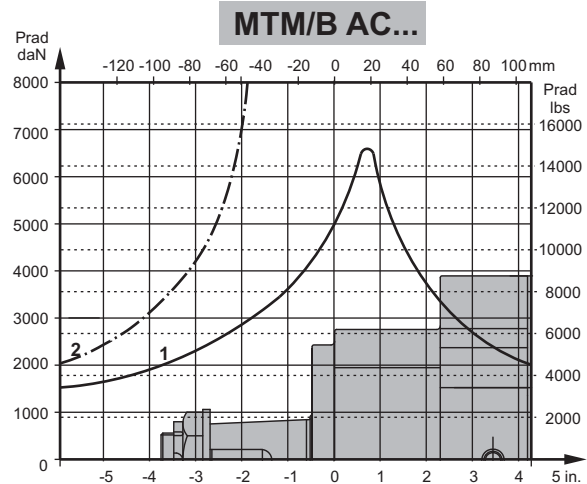
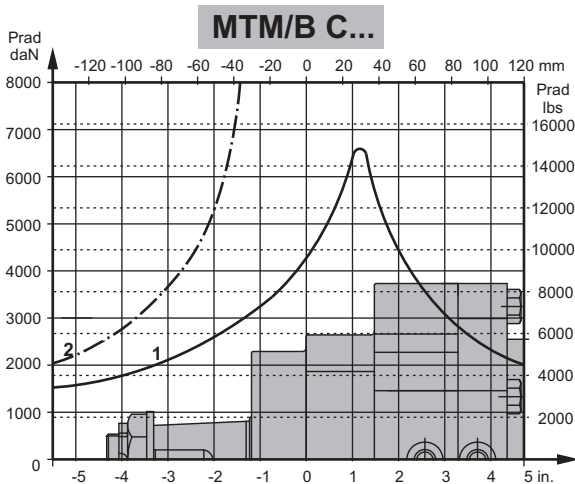
$N_D$  - for D flange  
 $N_C$  - for C flange  
 $N_{AC}$  - for AC flange

mm [in]

## PERMISSIBLE RADIAL SHAFT LOADS



- 1 - Bearing curve: The curve applies to a B10 bearing life of 2000 hours at 100 RPM.
- 2 - Shaft curve: The curve represents Max. permissible radial shaft load with safety factor 2:1.



### ORDER CODE

	1	2	3	4	5	6
<b>MTM/B</b>						

#### Pos.1 - Mounting Flange

- AC** - Flange 4x5/8-18UNC, spigot dia.  $\varnothing$ 127 mm [5 in]
- C** - Flange 4xM16, spigot dia.  $\varnothing$ 125 mm [4.92 in]
- D** - Flange 4x $\varnothing$ 18,5 [.73], spigot dia.  $\varnothing$ 180 mm [7.09 in]

#### Pos.2 - Displacement code

- 200** - 201,4 cm<sup>3</sup>/rev [12.29 in<sup>3</sup>/rev]
- 250** - 251,8 cm<sup>3</sup>/rev [15.36 in<sup>3</sup>/rev]
- 315** - 326,3 cm<sup>3</sup>/rev [19.90 in<sup>3</sup>/rev]
- 400** - 410,9 cm<sup>3</sup>/rev [25.06 in<sup>3</sup>/rev]
- 470** - 475,0 cm<sup>3</sup>/rev [28.97 in<sup>3</sup>/rev]
- 500** - 523,6 cm<sup>3</sup>/rev [31.95 in<sup>3</sup>/rev]
- 630** - 631,2 cm<sup>3</sup>/rev [38.52 in<sup>3</sup>/rev]
- 725** - 724,3 cm<sup>3</sup>/rev [44.20 in<sup>3</sup>/rev]

#### Pos.3 - Shaft Extensions\*

- C** - 1½" [38,1] straight, Parallel key 3/8x3/8x2 1/4"
- G** - 1½" [38,1] 17T Splined (3/8-16 UNC)
- M** - 40 mm straight, Parallel key 12x8x70
- T** - 1:8 Tapered, Parallel key 7/16x7/16x1 1/4"
- SH** - 1½" [38,1] 17T Splined (M12)
- K** - 1:10 Tapered, Parallel key 12x8x28

#### Pos.4 - Port Size/Type

- 2** - side ports, 2xG 3/4, G1/4, BSP thread, ISO 228
- 4** - side ports, 2x1<sup>1</sup>/<sub>16</sub>-12 UN, O-ring, <sup>9</sup>/<sub>16</sub>-18 UNF, 7/16-20UNF

#### Pos.5 - Special Features

- omit - Reinforced motor **HD**\*\* (always)
- For Other **Special Features** see page 68

#### Pos.6 - Design Series

- omit - Factory specified

#### Notes:

- \* The permissible output torque for shafts must not be exceeded!
- \*\* The drain line must always be opened!

The motor-brakes are manganese-phosphatized as standard.