

Part number:

# HYDRAULIC DISC BRAKES LB, LBS, LBV- Wet



## APPLICATION

- » Heavy Duty machinery
- » Wheel drives
- » Material handling
- » Mining
- » Agricultural machines
- » Conveyors
- » Door openers and swing drives etc.



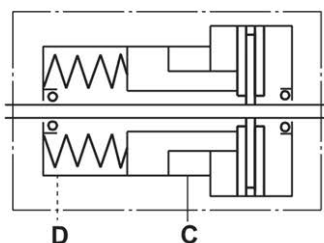
## GENERAL

<b>Fluid type</b>	Mineral based- HLP(DIN 51524) or HM(ISO 6743/4)
<b>Temperature range, °C [°F]</b>	-40÷140 [-40÷284]
<b>Viscosity range, mm<sup>2</sup>/s</b>	20÷75 [98÷347]
<b>Filtration</b>	ISO code 20/16 (nominal filtration of 25 microns)
<b>Maintenance</b>	Changed after the first 50-100 h, then after every 500-1500 h.

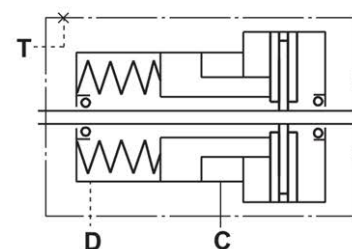
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### LB, LBS

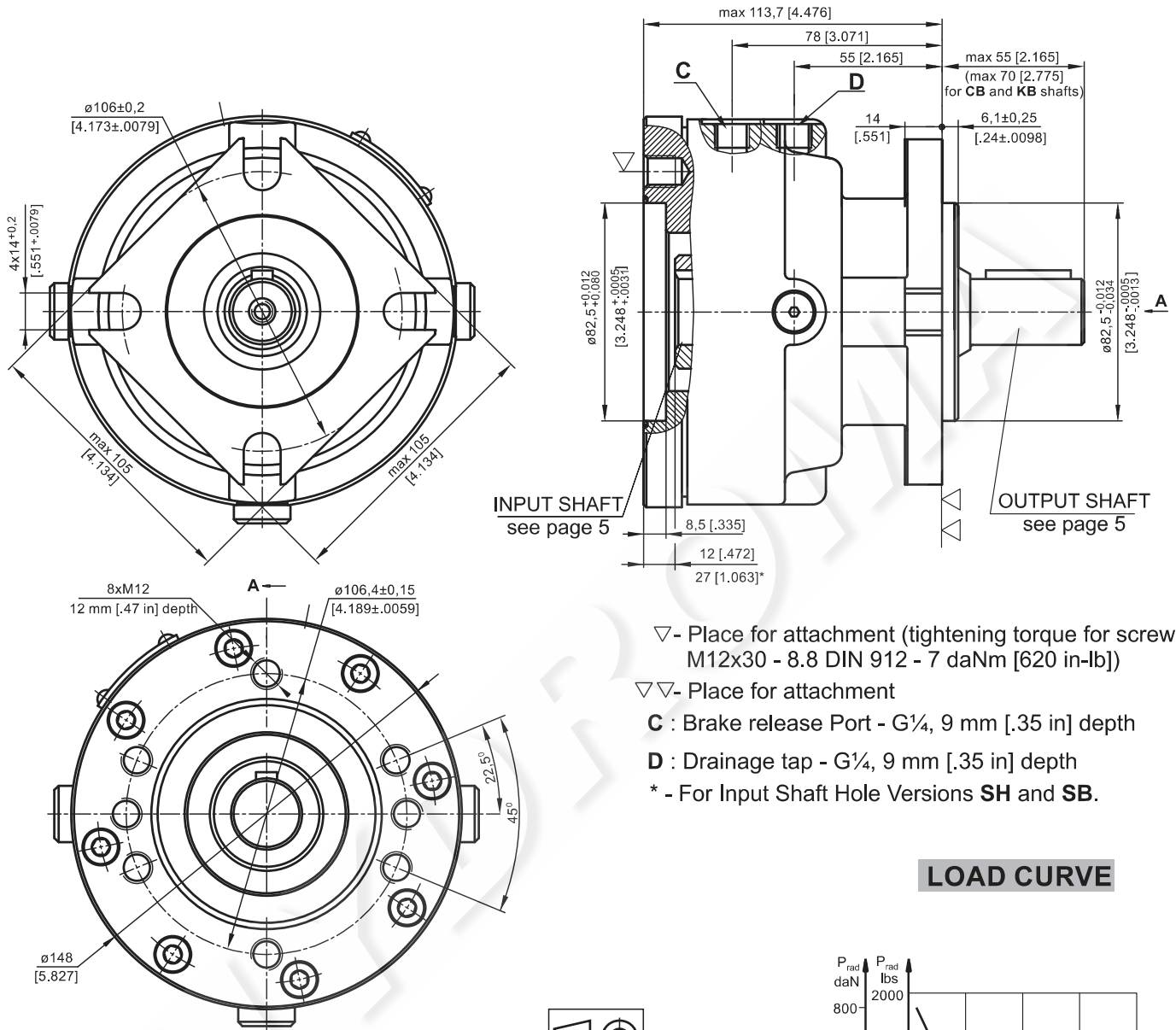


### LBV



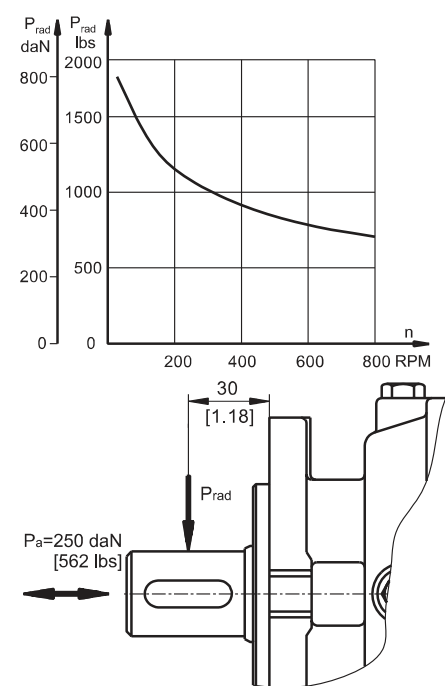
**HYDRAULIC DISC BRAKE FOR FLANGE ATTACHMENT TO MP, MR AND MS HYDRAULIC MOTORS**

**TYPE LB/288**



- ▽ - Place for attachment (tightening torque for screw M12x30 - 8.8 DIN 912 - 7 daNm [620 in-lb])
- ▽▽ - Place for attachment
- C : Brake release Port - G 1/4, 9 mm [.35 in] depth
- D : Drainage tap - G 1/4, 9 mm [.35 in] depth
- \* - For Input Shaft Hole Versions SH and SB.

**LOAD CURVE**



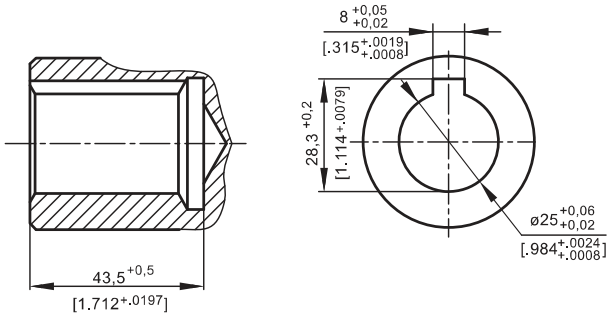
**SPECIFICATION DATA**

Description LB/288...	7	14	21	32	43	63
*Min. Static Torque, daNm [lb-in]	6-8 [531-708]	13-15 [1150-1327]	20-22 [1770-1947]	31-34 [2743-3009]	41-45 [3628-3982]	61-64 [5399-5665]
Opening Pressure, min bar [PSI]	4-8 [58-116]	9-16 [130-232]	12-13 [174-188]	18-20 [260-290]	24-26 [348-377]	38-39 [550-565]
max	300 [4350]					
Min. oil quantity for brake releasing, cm <sup>3</sup> [in <sup>3</sup> ]	7 - 8 [4.27 - .488]					
Oil volume cm <sup>3</sup> [in <sup>3</sup> ]	50 - 120 [3.5 - 7.35]					
Max. Pressure in drain space, bar [PSI]	0,5 [7.25]					
Weight, kg [lb]	9 [19.8]					

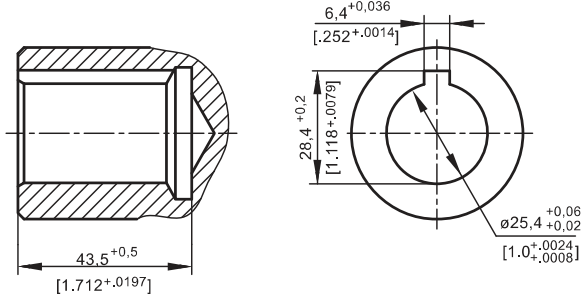
\*Static torque is obtained at working pressure - 0 bar [0 PSI].

**INPUT SHAFT HOLES**

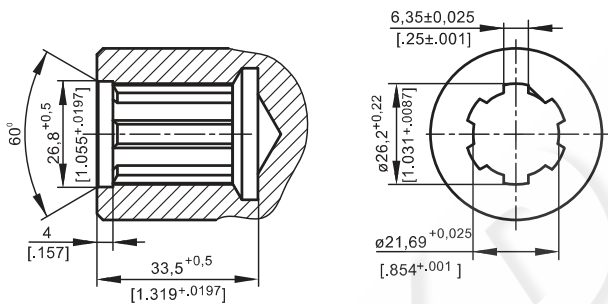
**C**



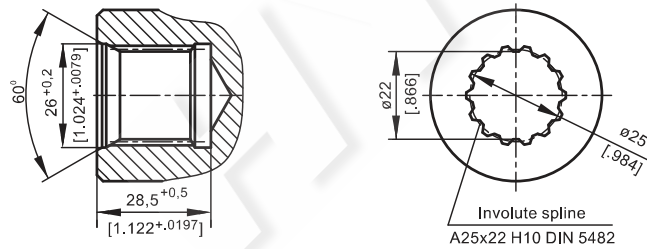
**CO**



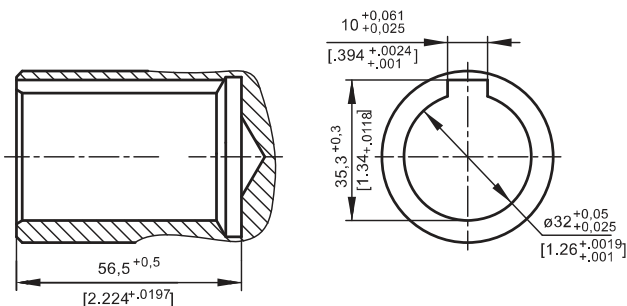
**SH**



**SB**

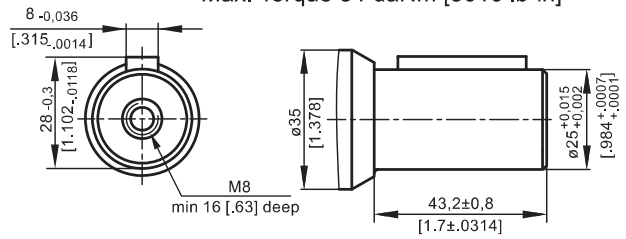


**CB**

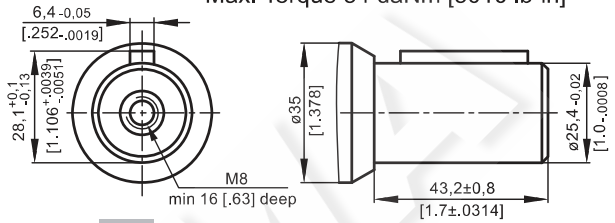


**OUTPUT SHAFT EXTENSIONS**

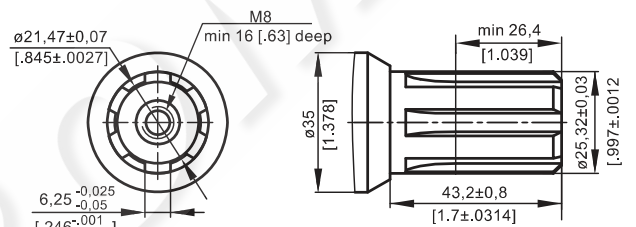
**C** -  $\varnothing 25$  straight, Parallel key A8x7x32 DIN 6885  
Max. Torque 34 daNm [3010 lb-in]



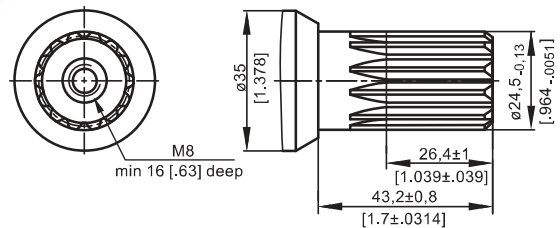
**CO** -  $\varnothing 1"$  straight, Parallel key  $\frac{1}{4} \times \frac{1}{4} \times \frac{1}{4}$ " BS46  
Max. Torque 34 daNm [3010 lb-in]



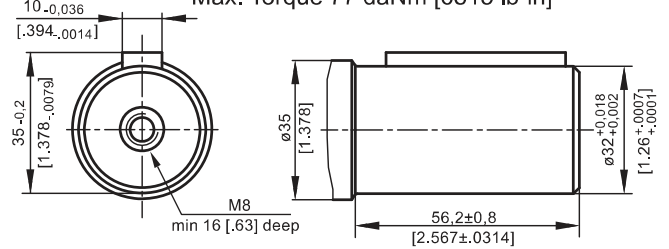
**SH** - splined, BS 2059 (SAE 6B)  
Max. Torque 40 daNm [3540 lb-in]



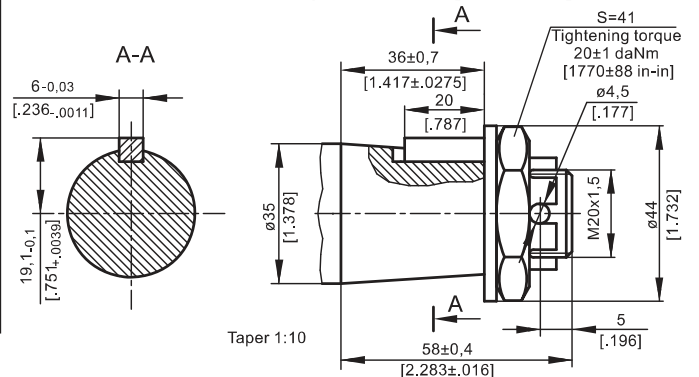
**SA** - splined, B25x22h9 DIN 5482  
Max. Torque 40 daNm [3540 lb-in]



**CB** -  $\varnothing 32$  straight, Parallel key A10x8x45 DIN 6885  
Max. Torque 77 daNm [6815 lb-in]

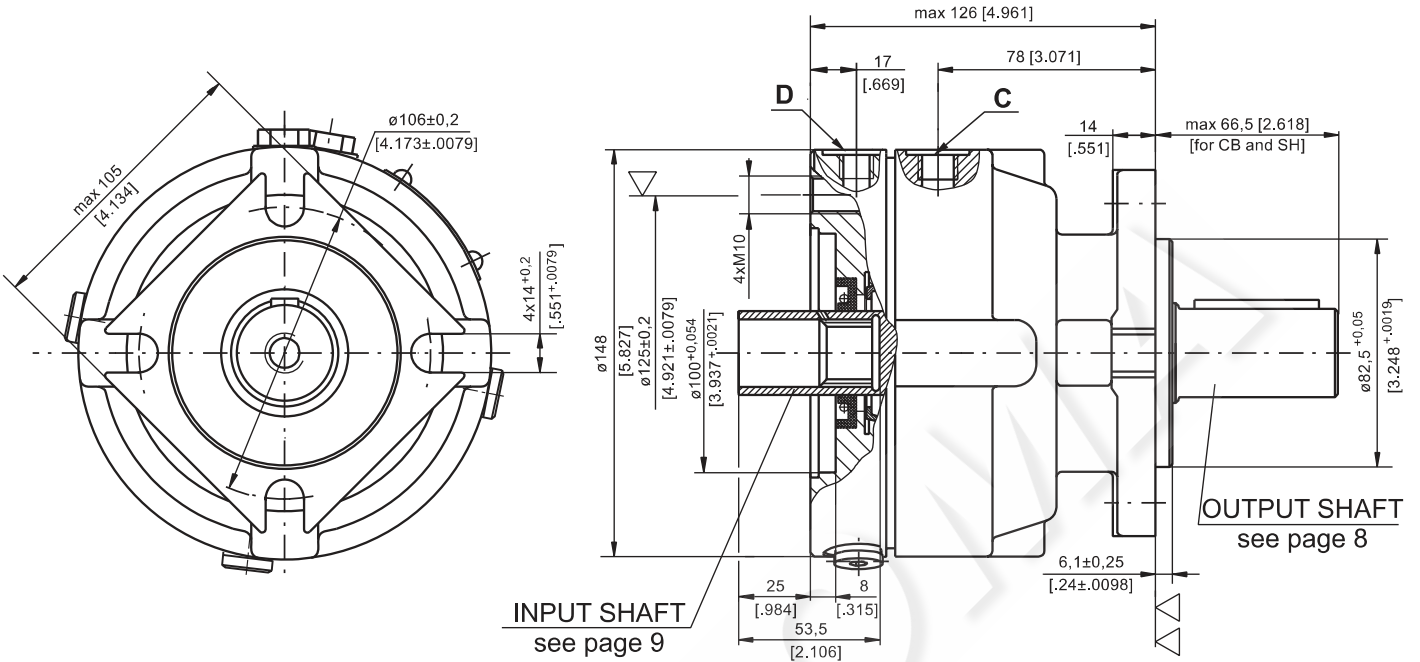


**KB** - tapered 1:10, Parallel key B6x6x20 DIN 6885  
Max. Torque 95 daNm [8400 lb-in]



**HYDRAULIC DISC BRAKE FOR FLANGE ATTACHMENT  
TO MSS AND MSV HYDRAULIC MOTORS**

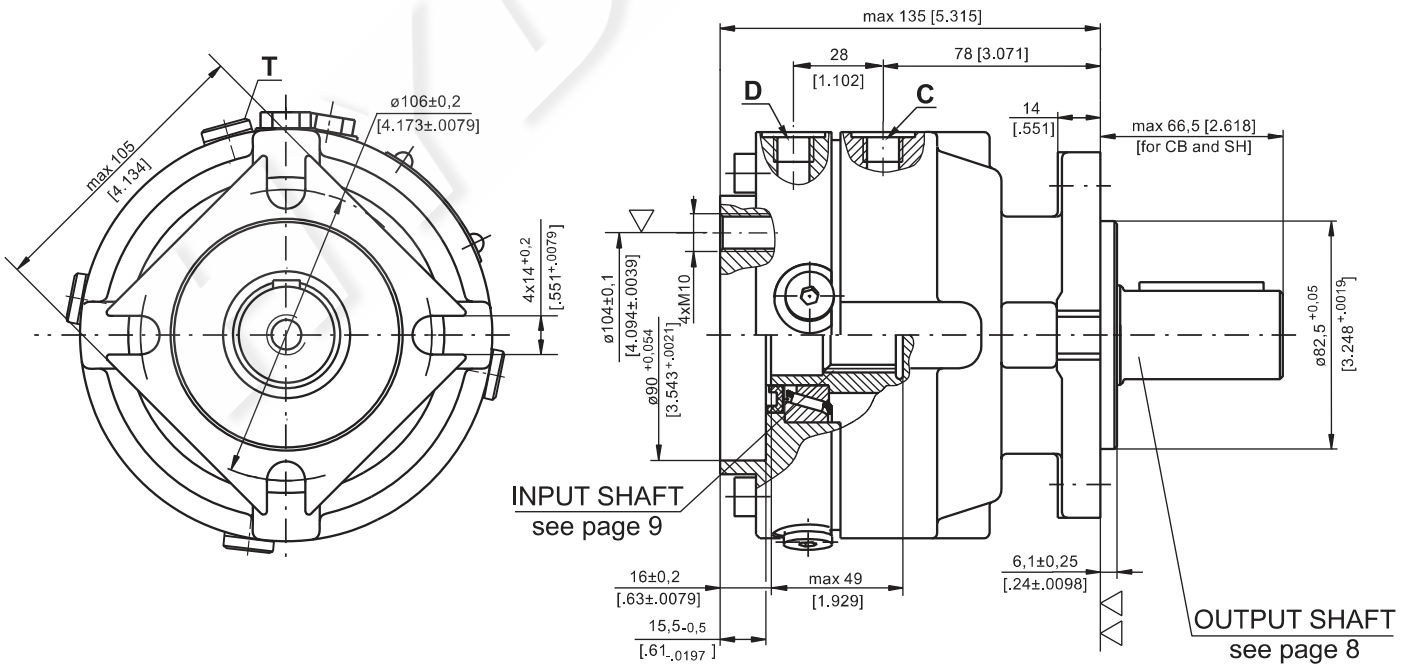
**TYPE LBS/289**



- ▽ - Place for attachment  
(tightening torque for screw M10x35 - 8.8 DIN 912 - 5 daNm [440 lb-in])
- ▽▽ - Place for attachment



**TYPE LBV/289**



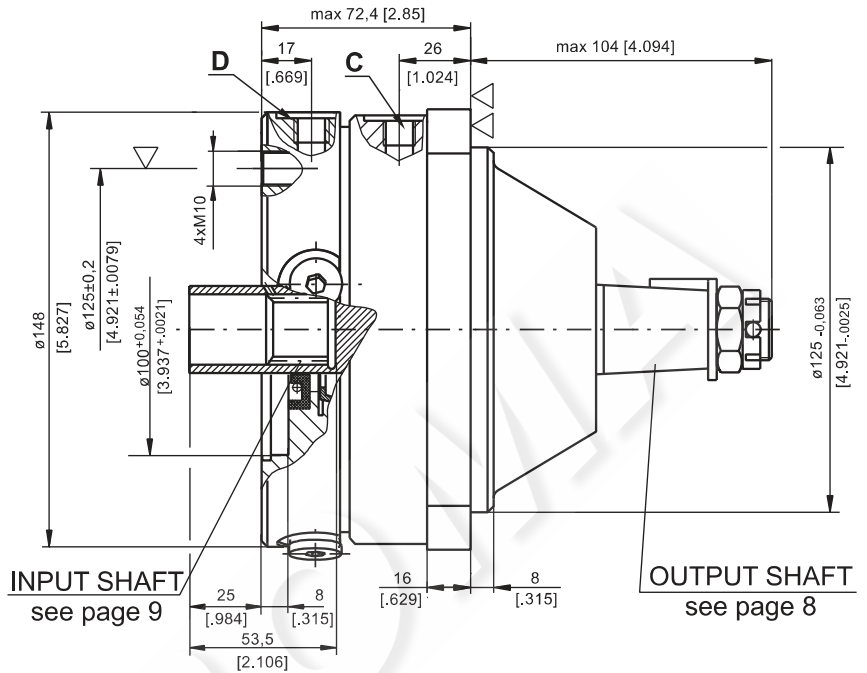
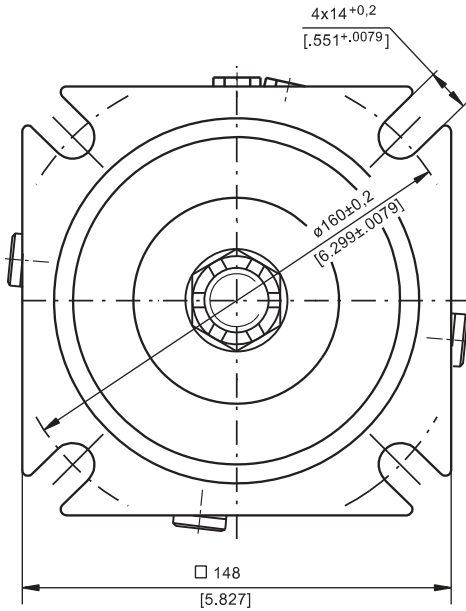
- ▽ - Place for attachment  
(tightening torque for screw M10 - 8.8 DIN 912 - 5 daNm [440 lb-in])
- ▽▽ - Place for attachment

**C** : Brake release Port - G<sup>1</sup>/<sub>4</sub>, 9 mm [0.35 in] depth

**D, T**: Drainage tap - G<sup>1</sup>/<sub>4</sub>, 9 mm [0.35 in] depth

**HYDRAULIC DISC BRAKE FOR FLANGE ATTACHMENT  
TO MSS AND MSV HYDRAULIC MOTORS**

**TYPE LBS/290**

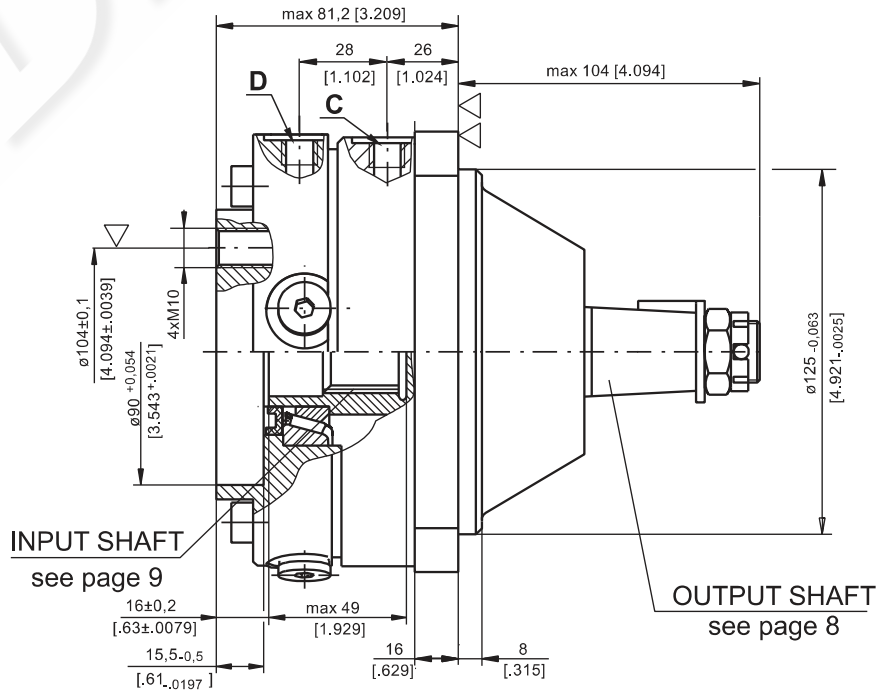
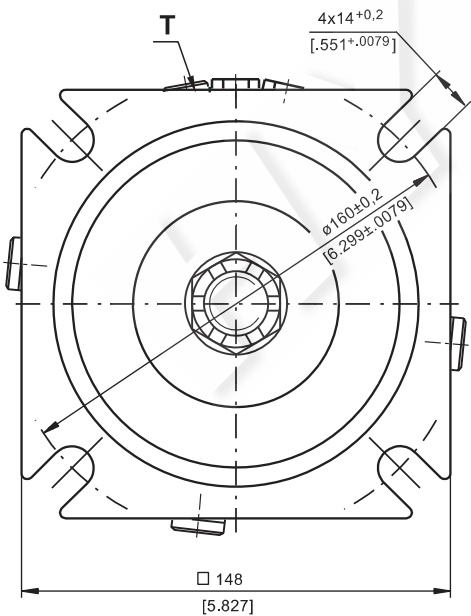


▽ - Place for attachment  
(tightening torque for screw M10x35 - 8.8 DIN 912 - 5 daNm [440 lb-in])

▽▽ - Place for attachment



**TYPE LBV/290**



▽ - Place for attachment  
(tightening torque for screw M10 - 8.8 DIN 912  
- 5 daNm [440 lb-in])

▽▽ - Place for attachment

**C** : Brake release Port - G $\frac{1}{4}$ , 9 mm [.35 in] depth

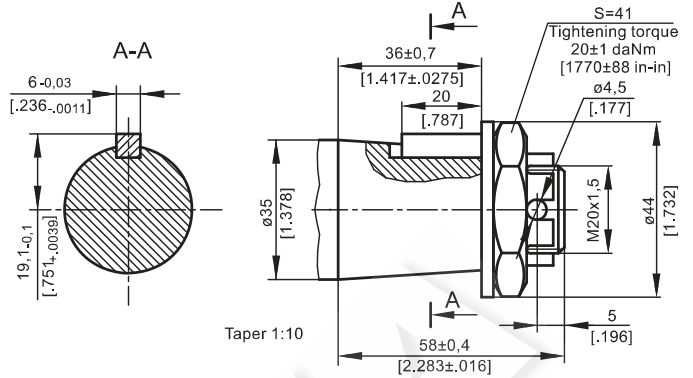
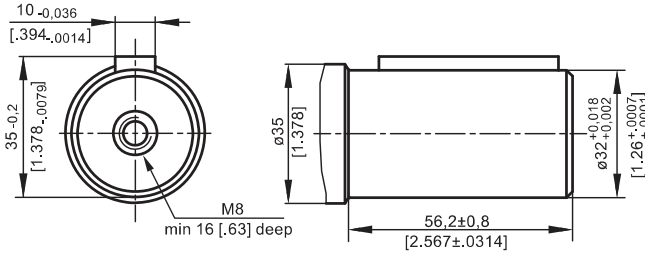
**D, T** : Drainage tap - G $\frac{1}{4}$ , 9 mm [.35 in] depth



**OUTPUT SHAFT EXTENSIONS**

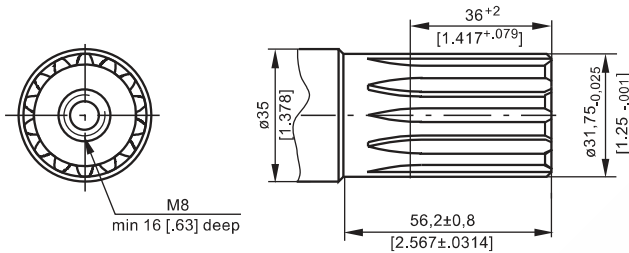
**CB** -  $\phi 32$  straight, Parallel key A10x8x45 DIN 6885  
Max. Torque 77 daNm [6815 lb-in]

**KB** - tapered 1:10, Parallel key B6x6x20 DIN 6885  
Max. Torque 95 daNm [8400 lb-in]



**SPECIFICATION DATA**

**SH** -  $\phi 1\frac{1}{4}$ " splined 14T, DP12/24 ANS B92.1-1970  
Max. Torque 95 daNm [8400 lb-in]



Description LBS/289(290) LBV/289(290)	21	32	43	63
*Min. Static Torque, daNm [lb-in]	20-22 [1770-1947]	31-34 [2743-3009]	41-45 [3628-3982]	61-64 [5399-5665]
Opening Pressure, bar [PSI]	min	12-13 [174-188]	18-20 [260-290]	24-26 [348-377]
	max	300 [4350]		
Min. oil quantity for brake releasing cm <sup>3</sup> [in <sup>3</sup> ]	7 - 8 [.427 - .488]			
Oil volume cm <sup>3</sup> [in <sup>3</sup> ]	50 - 120 [3.05 - 7.35]			
Max. Pressure in drain space bar [PSI]	5 [72]			
Weight kg [lb]	9 [19.8]			

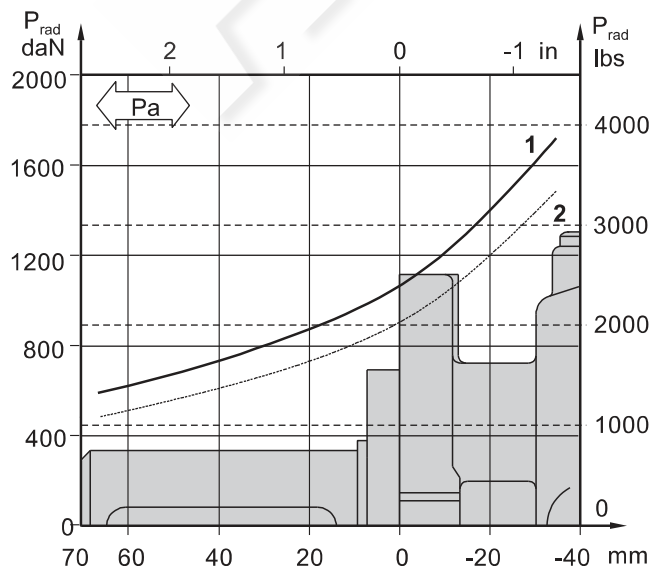
\*Static torque is obtained at working pressure - 0 bar [0 PSI].

**LOAD CURVE**

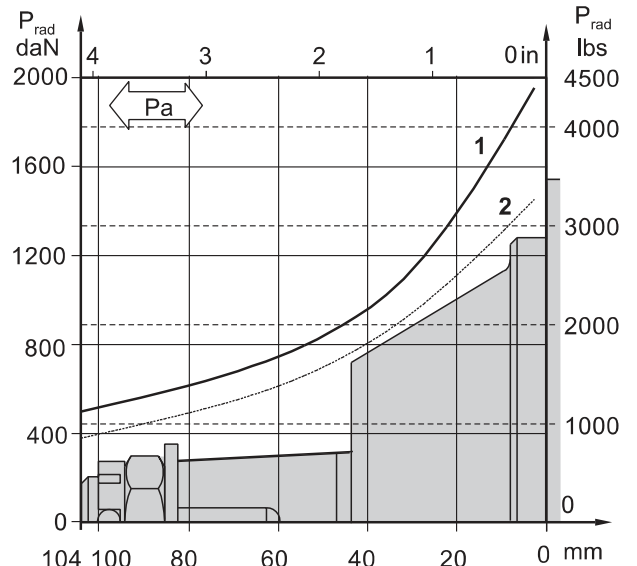
The curve applies to a B10 bearing life of 3000 hours at 200 RPM.

- 1: Pa < 350 daN [787 lbs]
- 2: Pa = 500 daN [1125 lbs]

**LBS(V)/289**



**LBS(V)/290**

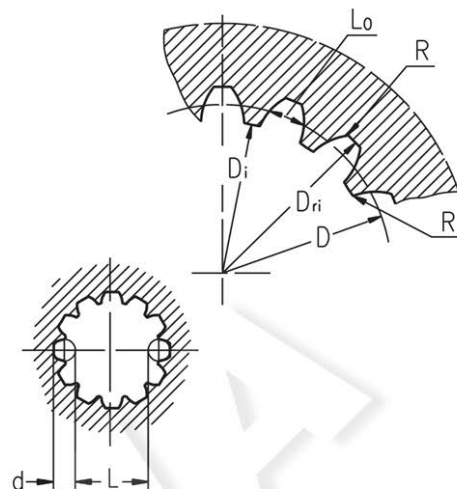


**INTERNAL SPLINE DATA FOR THE ATTACHED COMPONENT**

Standard ANS B92.1-1970, class 5

[m=2.1166]

Fillet Root Side Fit	LBS(V)/289 LBS(V)/290		LBS(V)/314 LBS(V)/315		
	mm	inch	mm	inch	
Number of Teeth	z	12	12	16	16
Diametral Pitch	DP	12/24	12/24	12/24	12/24
Pressure Angle		30°	30°	30°	30°
Pitch Dia.	D	25,4	1	33,8656	1.3333
Major Dia.	D <sub>ri</sub>	28,0 <sup>-0,1</sup>	1.1 ± 1.098	38,4 <sup>+0,4</sup>	1.5118±1.5275
Minor Dia.	D <sub>i</sub>	23,0 <sup>+0,033</sup>	.907 ± .905	32,15 <sup>+0,06</sup>	1.2657±1.2673
Space Width [Circular]	Lo	4,308±0,020	.1704 ± .1688	4,516±0,037	.1763±.1791
Fillet Radius	R	0,2	.008	0,5	.02
Max. Measurement between Pins	L	17,62 <sup>+0,15</sup>	.699 ± .694	26,9 <sup>+0,10</sup>	1.063±1.059
Pin Dia.	d	4,835±0,001	.19039±.19031	4,835±0,001	.19026±.19034
Corrected	x.m	+0,8	+0.031	+1,0	+0.039



**ORDER CODE - LB/288**

1	2	3	4	5
LB/288	-			

**Pos.1 - Input Shaft Hole**

**C, CO, SH, CB, SB**

**Pos.2 - Static Torque code** (See Specification data)

**7, 14, 21, 32, 43, 63**

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

**C** - ø25 straight, Parallel key A8x7x32 DIN 6885

**CO** - ø1" straight, Parallel key ¼"x¼"x1¼" BS46

**SH** - ø25,32 splined BS 2059 (SAE 6B)

**SA** - ø24,5 splined B25x22 DIN 5482

**CB** - ø32 straight, Parallel key A10x8x45 DIN 6885

**KB** - ø35 tapered 1:10, Parallel key B6x6x20 DIN6885

**Pos.4 - Option (Paint)\*\***

omit - no Paint

**P** - Painted

**PC** - Corrosion Protected Paint

**Pos.5 - Design Series**

omit - Factory specified

**ORDER CODE - LBS, LBV**

1	2	3	4	5	6
LB	/	-			

**Pos.1 - Type**

**S** - Disc Brake for short motor S- MSS

**V** - Disc Brake for very short motor V- MSV

**Pos.2 - Design code**

**289** - for MSS and MSV Motors

**290** - for MSS and MSV Motors (Wheel Mount)

**Pos.3 - Static Torque code** (See Specification data)

**21, 32, 43, 63**

**Pos.4 - Output Shaft Extensions\***

**CB** - ø32 straight, Parallel key A10x8x45 DIN 6885

**KB** - ø35 tapered 1:10, Parallel key B6x6x20 DIN6885

**SH** - ø1¼" splined 14T ANS B92.1-1970

**Pos.5 - Option (Paint)\*\***

omit - no Paint

**P** - Painted

**PC** - Corrosion Protected Paint

**Pos.6 - Design Series**

omit - Factory specified

**NOTES:**

\* The permissible output torque for shafts must not be exceeded! For Max. Torque values see data on page 5 and 8.

\*\* The color is by customer's request.

The Disc Brakes are mangano-phosphatized as standard.

**ATTENTION:**

1. Hydraulic brake is delivered without oil (it is lubricated only).

2. In all brakes, friction discs and separators should be lubricated. Space is filled with 50 ÷ 120 cm<sup>3</sup> [3.05÷7.32 in<sup>3</sup>] mineral oil HLP (DIN 51524) or HM (ISO 6743/4). For LB/288 fill oil after hydraulic motor assembly.