

# 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.



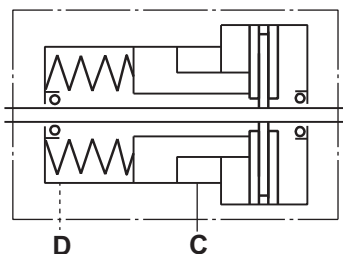
## GENERAL

<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.

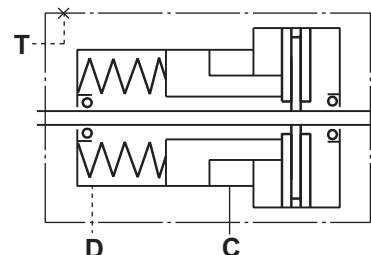
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### LB, LBS

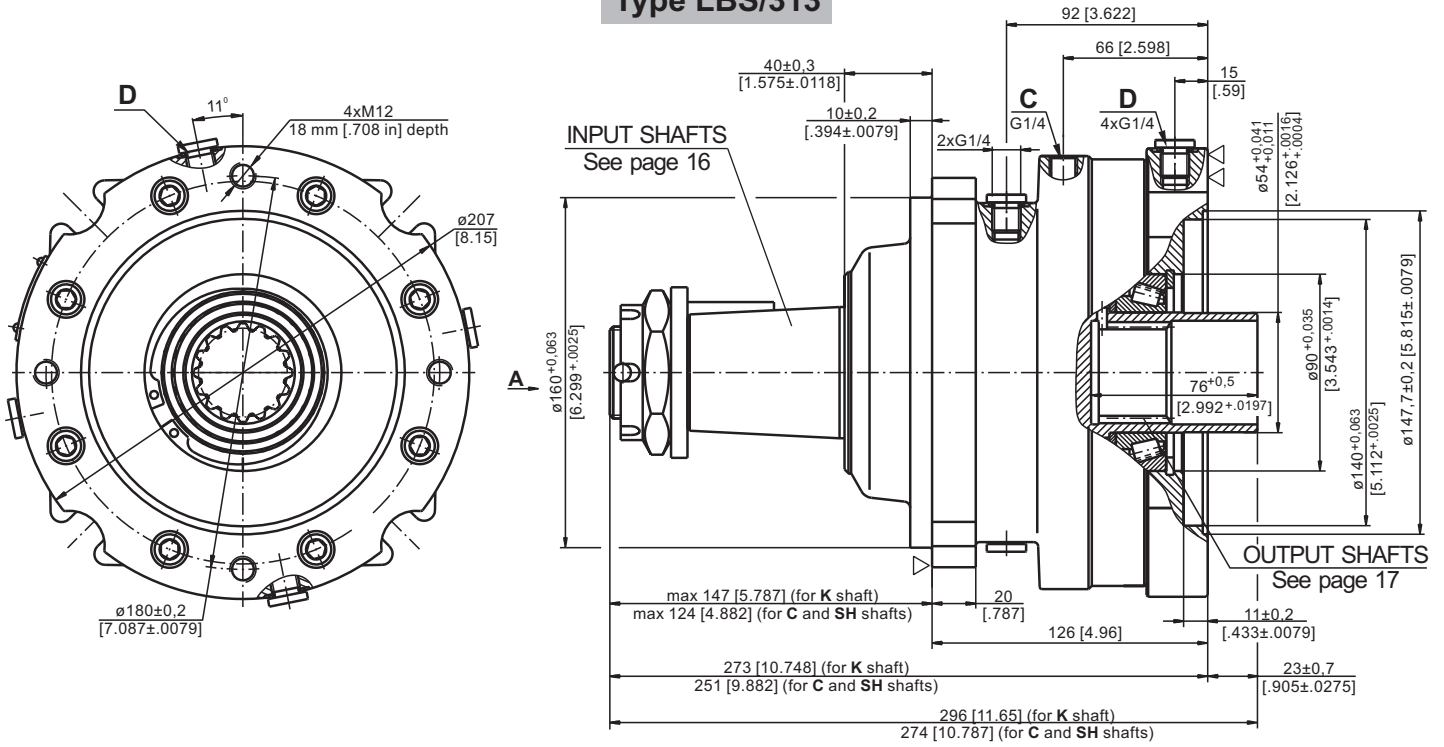


### LBV



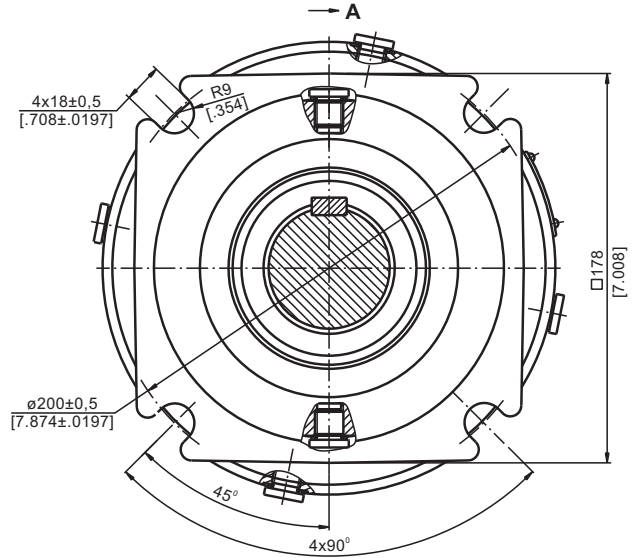
**HYDRAULIC DISC BRAKES  
FOR FLANGE ATTACHMENT TO MVS HYDRAULIC MOTORS**

**Type LBS/313**

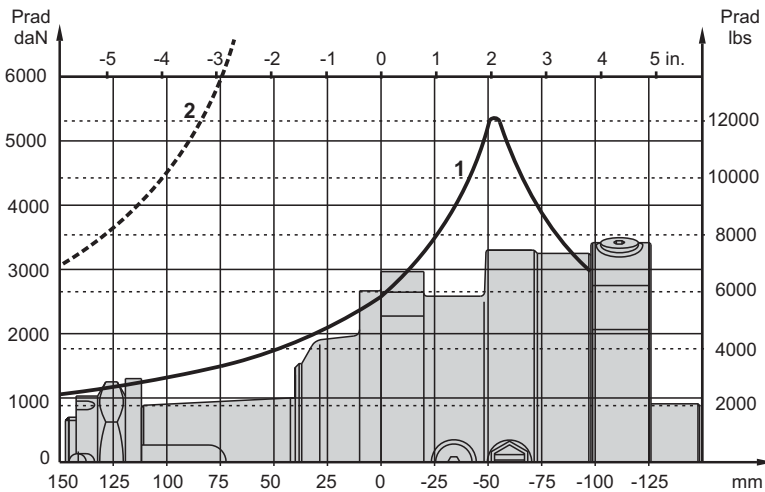


**C:** Brake release Port - G $\frac{1}{4}$ , 12 mm [.47 in] depth  
**D:** Drainage tap - G $\frac{1}{4}$ , 12 mm [.47 in] depth

▽ - Place for attachment  
 ▽ - Place for attachment  
 (tightening torque for screw M12x35 - 8.8 DIN 912,  
 7 daNm [620 lb-in])



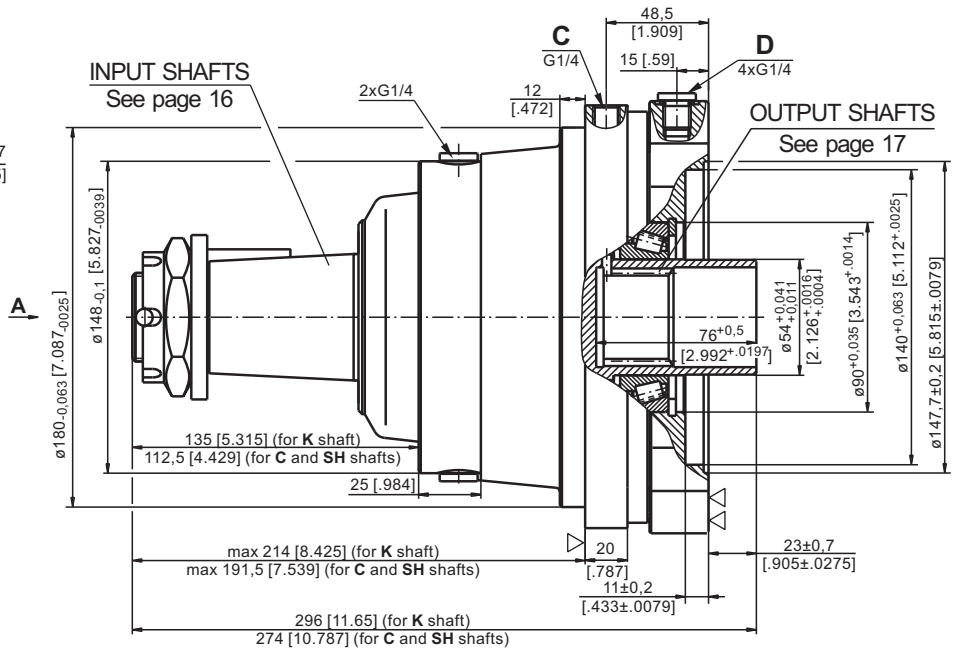
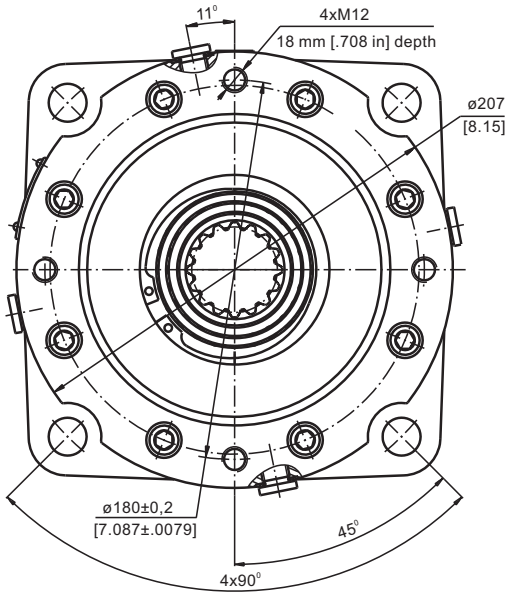
**PERMISSIBLE SHAFT LOADS**



**1 - Bearing curve:** The curve applies to a B10 bearing life of 3000 hours at 200 RPM.  
**2 - Shaft curve:** The curve represents Max. permissible radial shaft load with safety factor 3:1.

**HYDRAULIC DISC BRAKES  
FOR FLANGE ATTACHMENT TO MVS HYDRAULIC MOTORS**

**Type LBS/316**

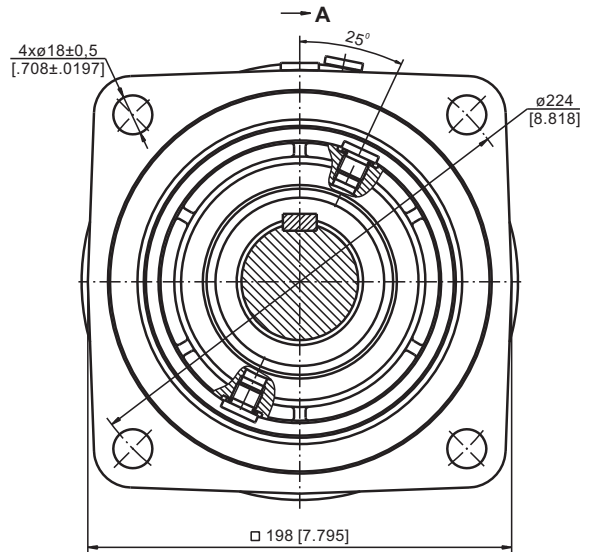


**C:** Brake release Port - G $\frac{1}{4}$ , 12 mm [0.47 in] depth

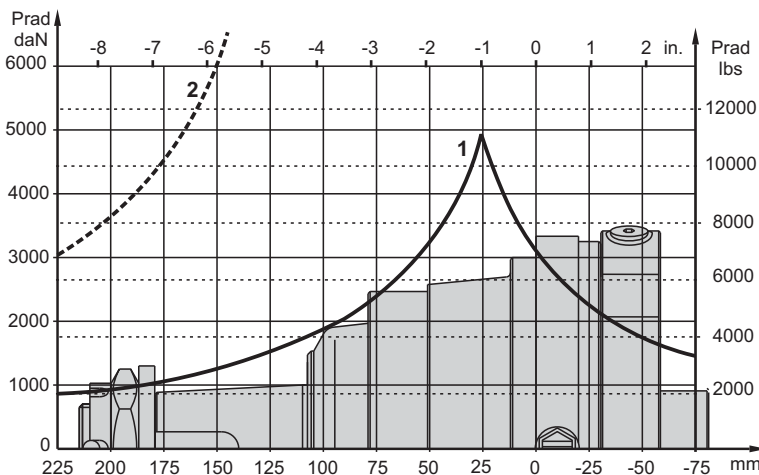
**D:** Drainage tap - G $\frac{1}{4}$ , 12 mm [0.47 in] depth

▽- Place for attachment

▽▽- Place for attachment  
(tightening torque for screw M12x35 - 8.8 DIN 912,  
7 daNm [620 lb-in])



**PERMISSIBLE SHAFT LOADS**



- 1 - Bearing curve:** The curve applies to a B10 bearing life of 3000 hours at 200 RPM.
- 2 - Shaft curve:** The curve represents Max. permissible radial shaft load with safety factor 3:1.

**SPECIFICATION DATA**

Description LBS/313,316	21	29	43	65	85	110	130
*Min. Static Torque, daNm [lb-in]	18-23 [1593-2036]	28-33 [2478-2921]	42-47 [3717-4160]	61-71 [5399-6285]	83-94 [7346-8320]	108-118 [9559-10444]	127-137 [11240-12125]
Opening Pressure min** bar [PSI]	4-5 [58-72]	6-7 [87-101]	9-10 [130-145]	13-15 [188-217]	18-20 [261-290]	23-25 [333-362]	27-29 [391-420]
	max 300 [4350]						
Min. oil quantity for brake releasing cm <sup>3</sup> [in <sup>3</sup> ]	8 ÷ 9 [.488 ÷ .549]						
Oil volume cm <sup>3</sup> [in <sup>3</sup> ]	250 [15.25]						
Max. Pressure in drain space bar [PSI]	5 [72]						
Weight for .../313 kg [lb]	25 [55.1]						
	.../316	26 [57.3]					

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

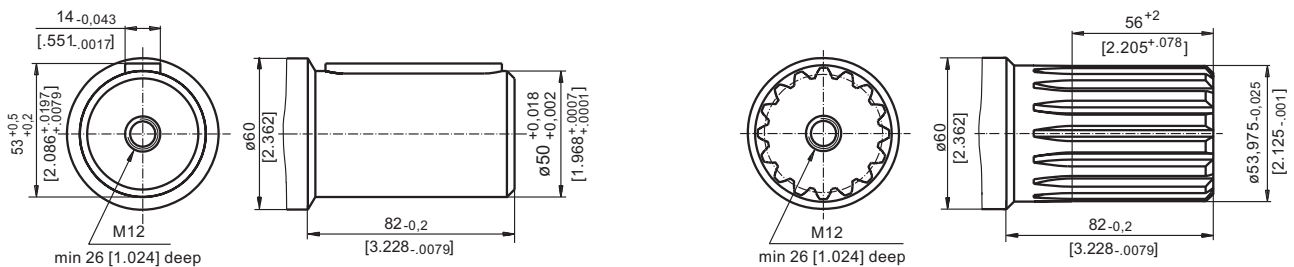
\*\*The indicated value is a difference between the inlet pressure for driving of the brake and the drain pressure.

Brakes must always have a drain line

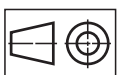
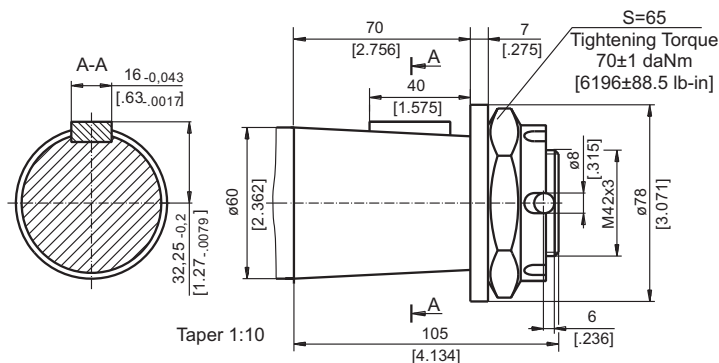
**SHAFT EXTENSIONS**

**C** - ø50 straight, Parallel key A14x9x70 DIN 6885

**SH** -ø21/8"splined, 16 DP 8/16 ANS B92.1-1976



**K** -tapered 1:10, Parallel key B16x10x32 DIN 6885

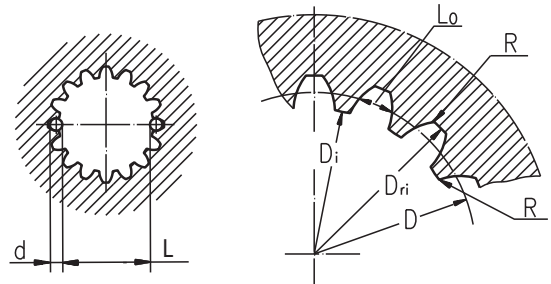


mm [in]

## INTERNAL SPLINE DATA FOR THE ATTACHED COMPONENT

Standard ANS B92.1-1970, class 5  
[ $m=2.54$ ; corrected  $x.m=+1,0$ ]

Fillet Root Side Fit		mm	inch
Number of Teeth	z	16	16
Diametral Pitch	DP	10/20	10/20
Pressure Angle		30°	30°
Pitch Dia.	D	40,640	1.6
Major Dia.	D <sub>ri</sub>	45,2 <sup>+0,4</sup>	1.796÷1.780
Minor Dia.	D <sub>i</sub>	38,5 <sup>+0,039</sup>	1.5175÷1.516
Space Width [Circular]	L <sub>o</sub>	5,18±0,037	.2055±.2025
Fillet Radius	R	0,4	.015
Max. Measurement between Pins	L	32,47 <sup>+0,15</sup>	1.284±1.278
Pin Dia.	d	5,6±0,001	.22051±.22043



Hardening Specification:  
HV=750±50 on the surface.  
HV=560 at 0,7±0,2 mm [.035±.019in] case depth  
Material: 20 MoCr4 EN 10084 or better.

## ORDER CODE

	1	2	3	4	5
LBS/		-			

## Pos.1 - Designe code

**313** - for MVS Motors

**316** - for MVS Motors (Wheel mount)

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

21, 29, 43, 65, 85, 110, 130

## Pos.3 - Output Shaft Extensions\*

**C** - ø50 straight, Parallel key A14x9x70 DIN6885

**SH** - ø2 1/8" splined, ANSI B92.1-1976

**K** - ø60 tapered 1:10, Parallel key B16x10x32 DIN6885

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

omit - no Paint

**P** - Painted

**PC** - Corrosion Protected Paint

## Pos.5 - Design Series

omit - Factory specified

## NOTES:

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

\*\* 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 150 ÷ 300 cm<sup>3</sup> [9.15 ÷ 18.3 in<sup>3</sup>] mineral oil HLP (DIN 51524) or HM (ISO 6743/4).