

# HYDRAULIC DISC BRAKES LB, LBS, LBV- Wet



## APPLICATION

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



## GENERAL

Fluid type	Mineral based- HLP(DIN 51524) or HM(ISO 6743/4)
Temperature range, °C	-30÷90
Viscosity range, mm <sup>2</sup> /s	20÷75
Filtration	ISO code 20/16 (nominal filtration of 25 micron)
Maintenance	Changed after the first 50-100 h, then after every 500-1500 h.

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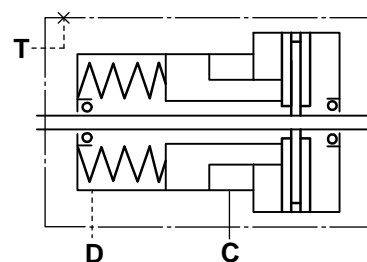
Hydraulic Disc Brake for MP, MR and MS Motors type LB/288 .....	4÷5
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### LB, LBS

### LBV

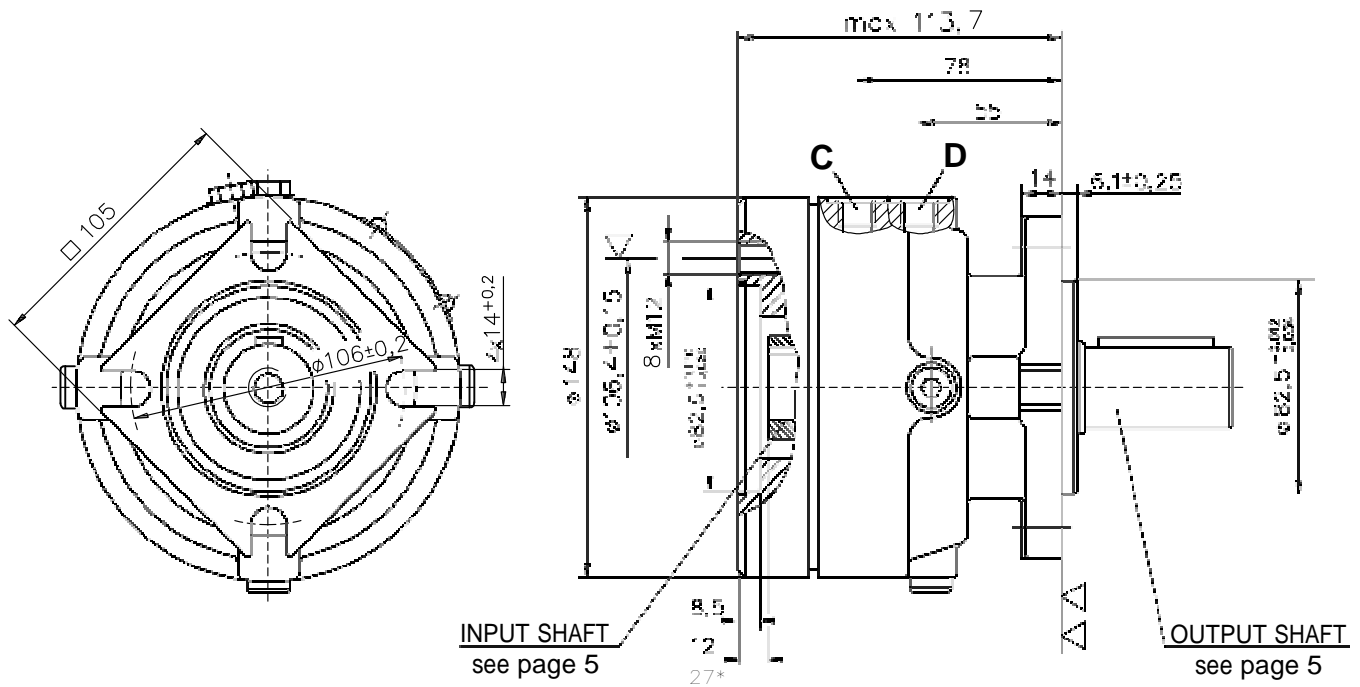
D

C



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

**TYPE LB/288**



C : Brake release Port - G $\frac{1}{4}$ , 9 mm depth

D : Drainage tap - G $\frac{1}{4}$ , 9 mm depth

▽ - Place for attachment  
(tightening torque for bolts M12x30 - 8.8 DIN 931 - 7 daNm)

▽▽ - Place for attachment

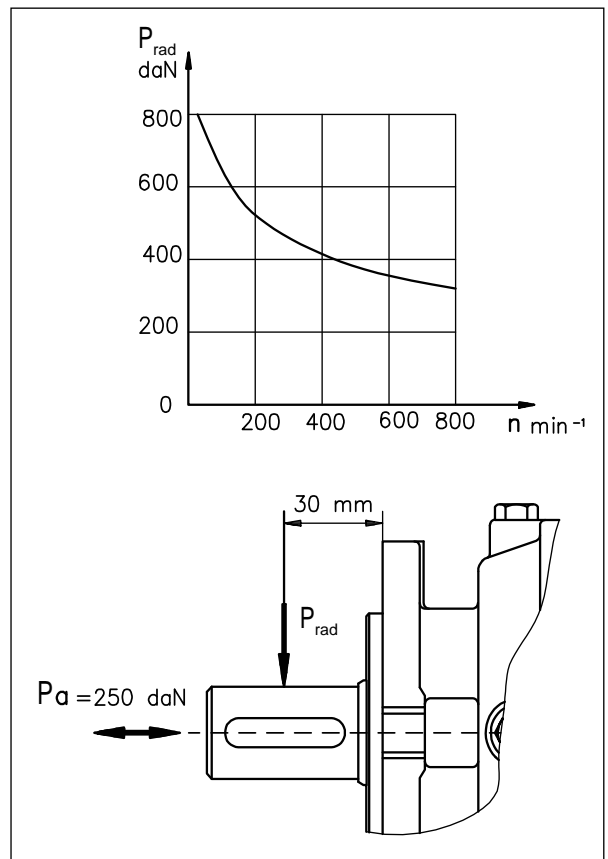
\* - For Input Shaft Hole Versions SH and SB.

**SPECIFICATION DATA**

Description LB/288...	7	14	21	32	43	63
*Static Torque [daNm]	6-8	13-15	20-22	31-34	41-45	61-64
Opening Pressure [bar]	min 4-8	9-16	17-23			
	max	300				
Min. oil quantity for brake releasing [cm <sup>3</sup> ]	7- 8					
Oil volume [cm <sup>3</sup> ]	50 - 120					
Max. Pressure in drain space [bar]	0,5					
Weight [kg]	9					

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

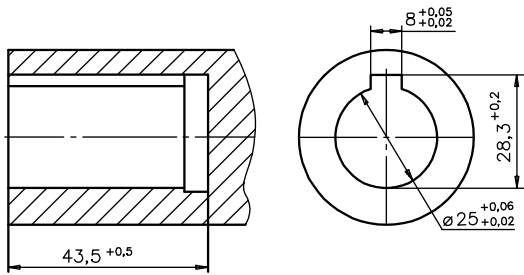
**LOAD CURVE**



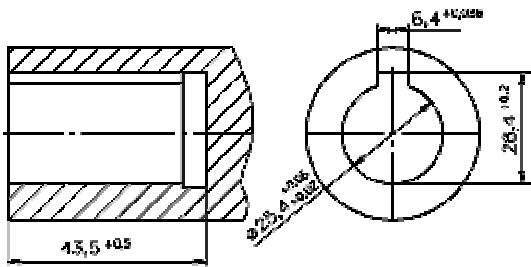
**INPUT SHAFT HOLES**

**OUTPUT SHAFT EXTENSIONS**

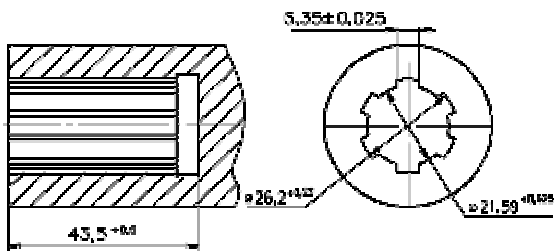
**C**



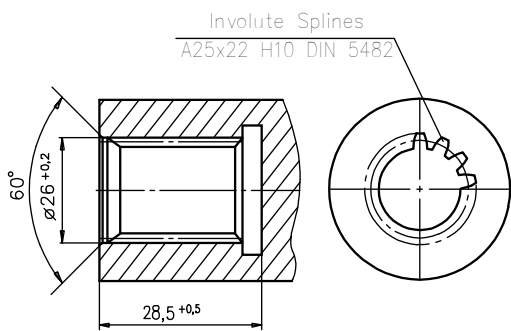
**CO**



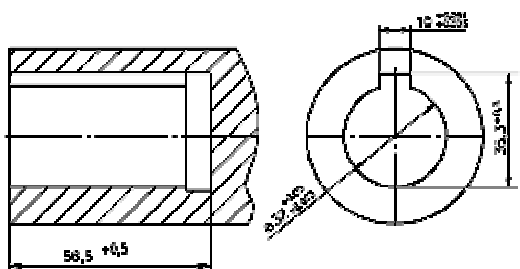
**SH**



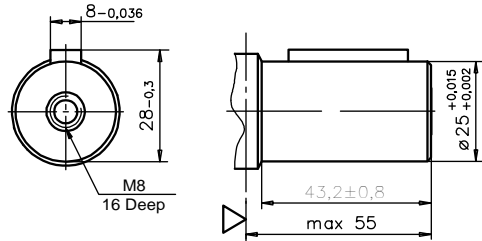
**SB**



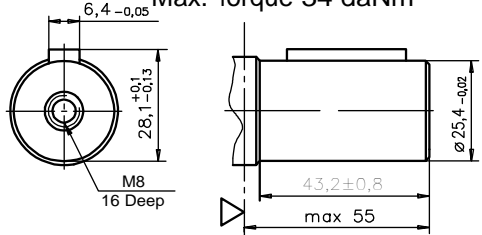
**CB**



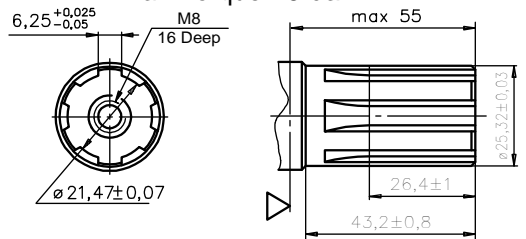
**C** -  $\varnothing 25$  straight, Parallel key A8x7x32 DIN 6885  
Max. Torque 34 daNm



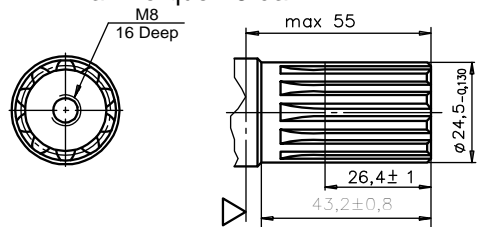
**CO** -  $\varnothing 1$ " straight Parallel key  $\frac{1}{4}$ "x $\frac{1}{4}$ "x $\frac{1}{4}$ " BS46  
Max. Torque 34 daNm



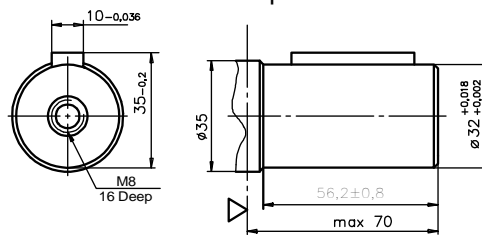
**SH** - splined BS 2059 (SAE 6B)  
Max. Torque 40 daNm



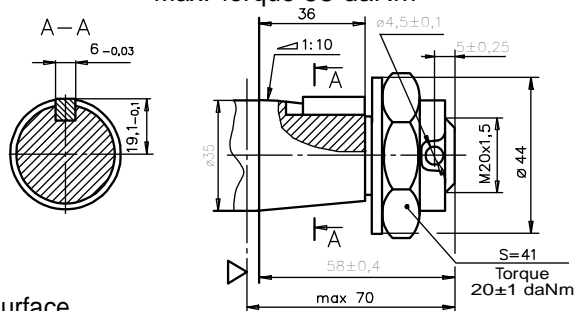
**SA** - splined B25x22 h9 DIN 5482  
Max. Torque 40 daNm



**CB** -  $\varnothing 32$  straight, Parallel key A10x8x45 DIN6885  
Max. Torque 77 daNm



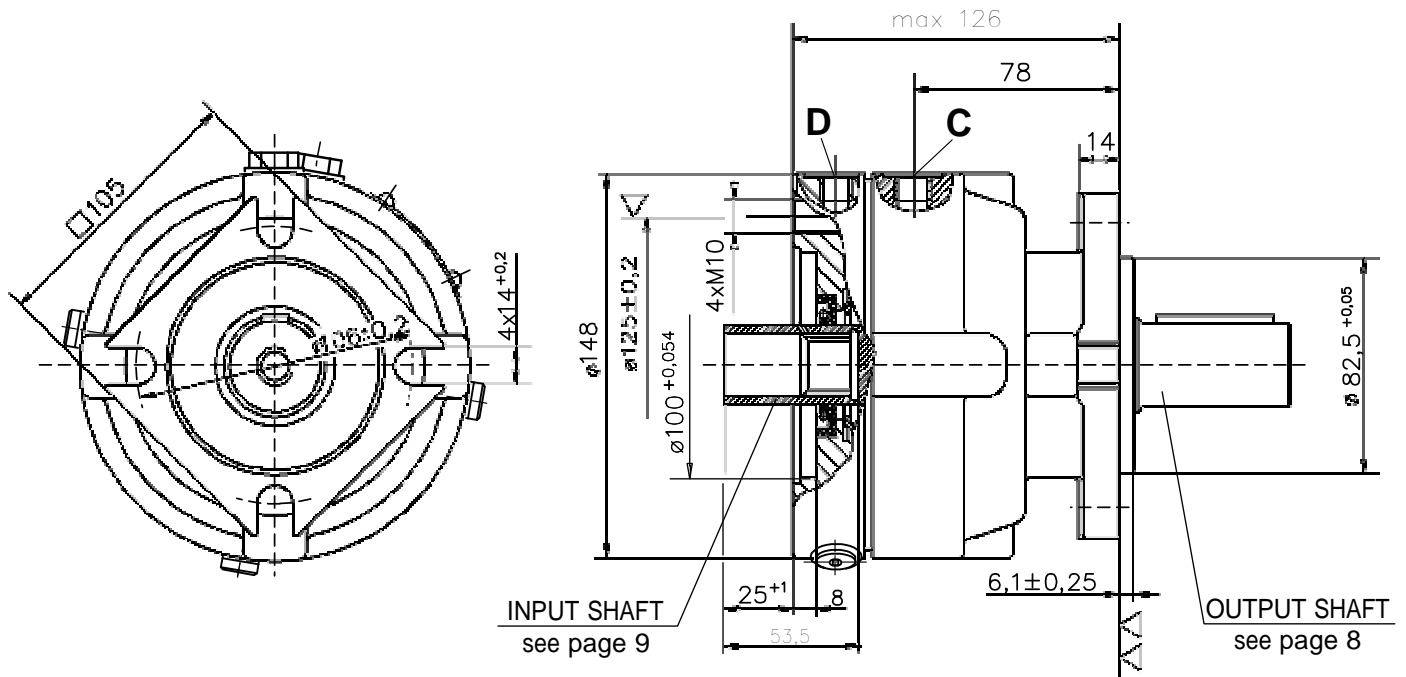
**KB** - tapered 1:10, Parallel key B6x6x20 DIN6885  
Max. Torque 95 daNm



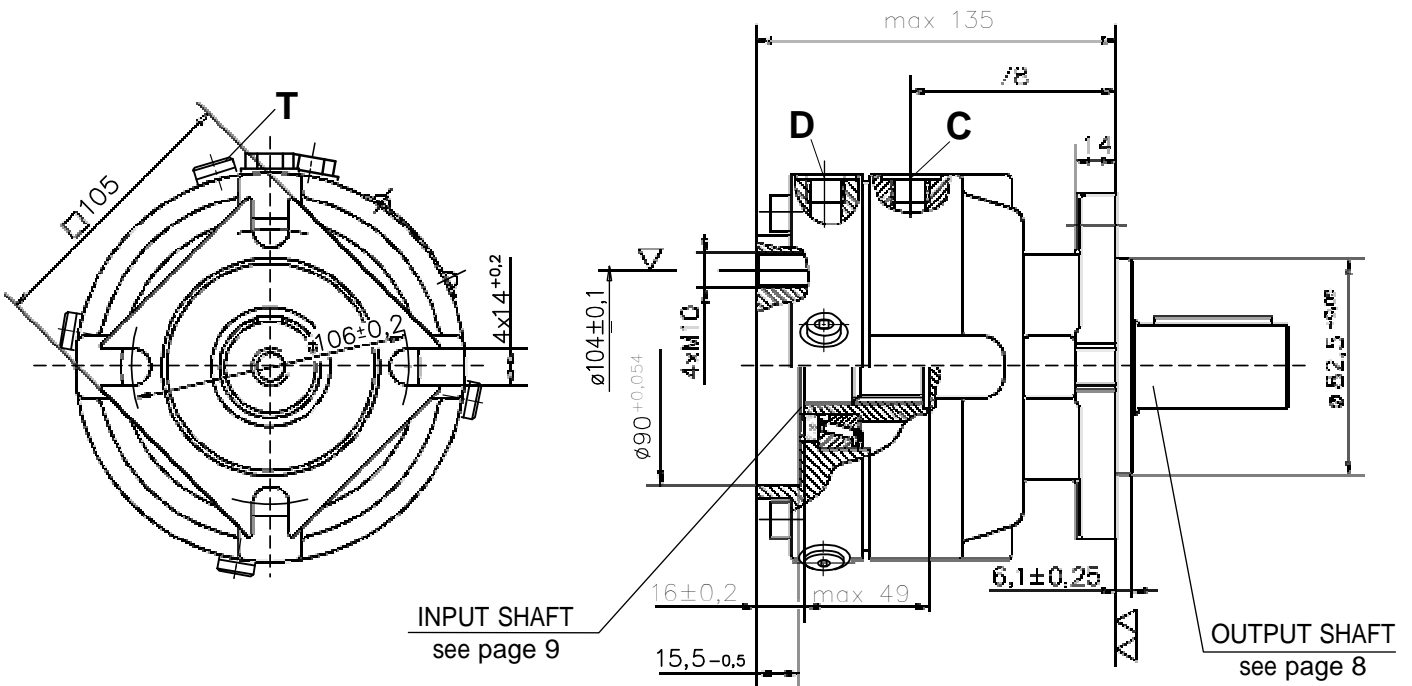
▽ - Disc Brake Mounting Surface

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

TYPE LBS/289



TYPE LBV/289

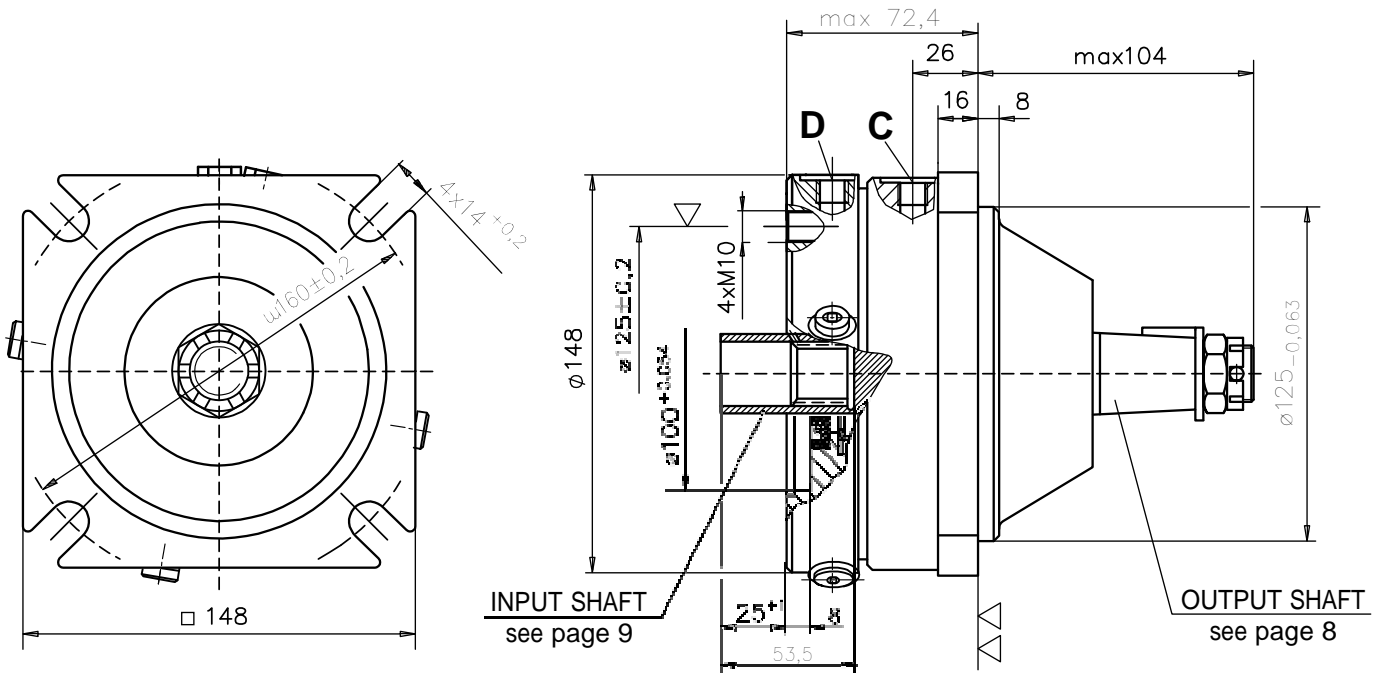


- ▽ - Place for attachment  
(tightening torque for bolts M10x35 - 8.8 DIN 912 - 5 daNm)
- ▽▽ - Place for attachment

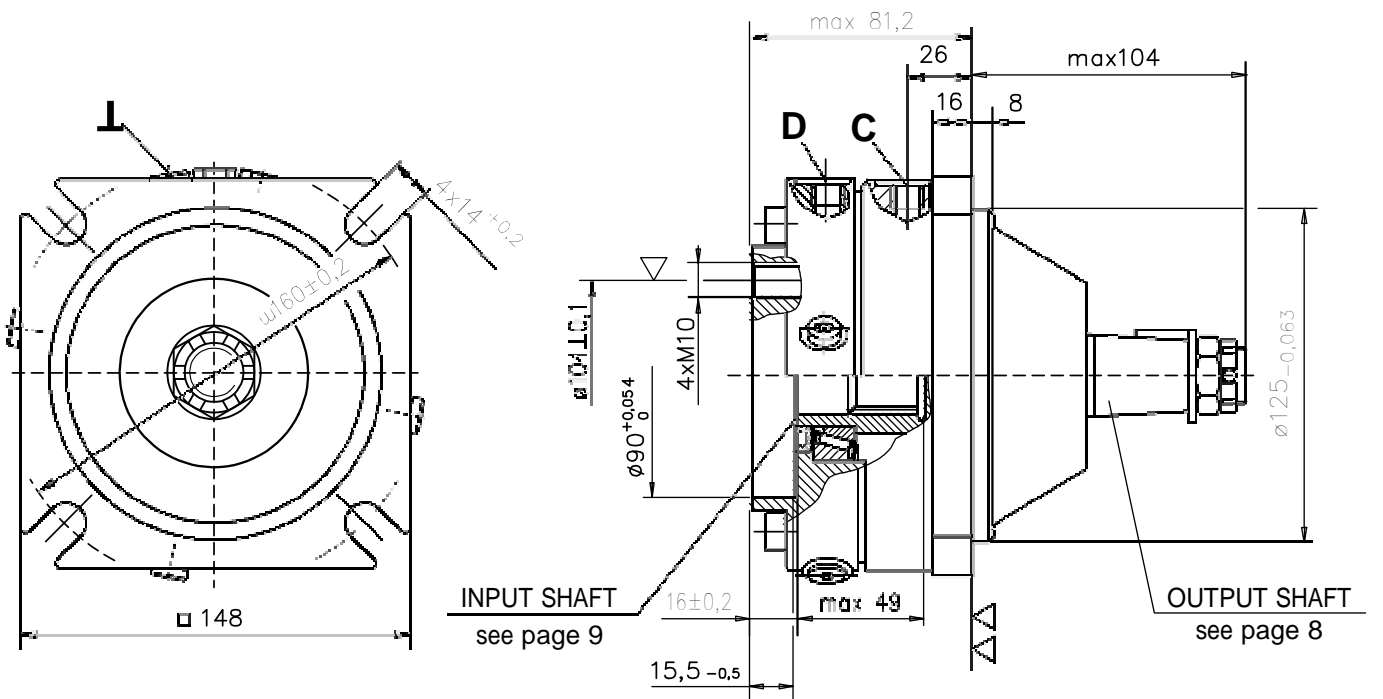
- C : Brake release Port - G $\frac{1}{4}$ , 9 mm depth
- D, T : Drainage tap - G $\frac{1}{4}$ , 9 mm depth

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

TYPE LBS/290



TYPE LBV/290



▽ - Place for attachment  
(tightening torque for bolts M10x35 - 8.8 DIN 912 - 5 daNm)

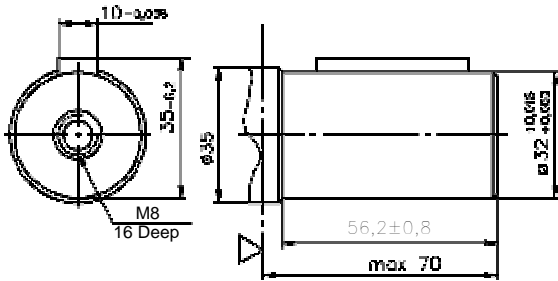
▽▽ - Place for attachment

C : Brake release Port - G $\frac{1}{4}$ , 9 mm depth

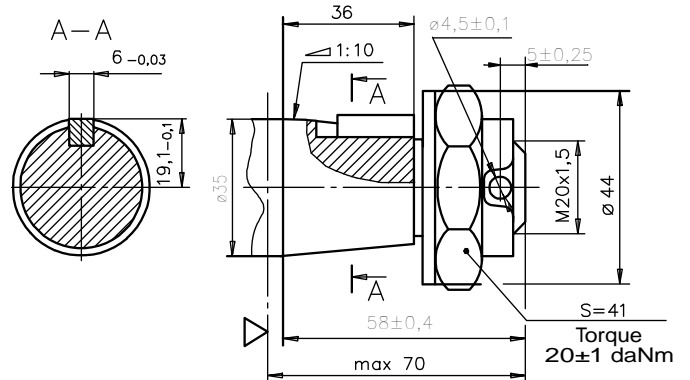
D, T : Drainage tap - G $\frac{1}{4}$ , 9 mm depth

OUTPUT SHAFT EXTENSIONS

**CB** -  $\varnothing 32$  straight, Parallel key A10x8x45 DIN6885  
Max. Torque 77 daNm



**KB** - tapered 1:10, Parallel key B6x6x20 DIN6885  
Max. Torque 95 daNm



SPECIFICATION DATA

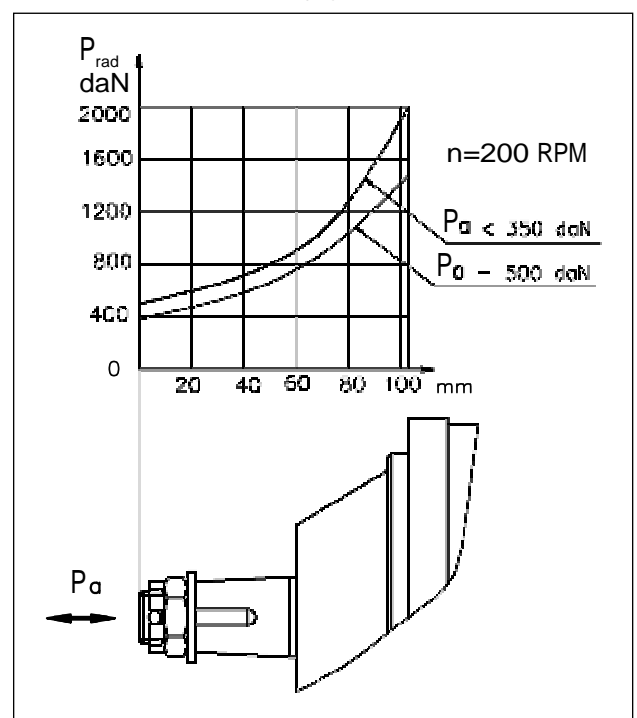
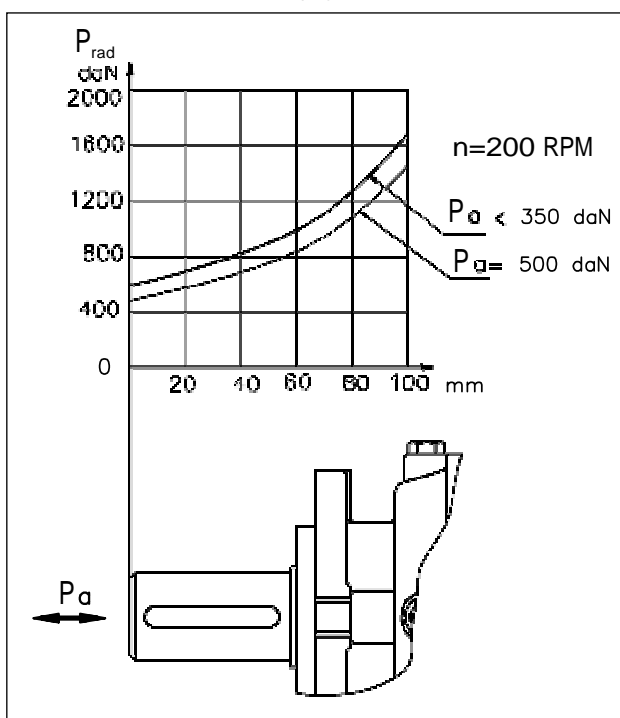
Description LBS/289(290) LBV/289(290)	21	32	43	63
*Static Torque [daNm]	20-22	31-34	41-45	61-64
Opening Pressure min [bar]	17-23			
max [bar]	300			
Min. oil quantity for brake releasing [cm <sup>3</sup> ]	7-8			
Oil volume [cm <sup>3</sup> ]	50 - 120			
Max. Pressure in drain space [bar]	5			
Weight .../289(290) [kg]	10(11)			

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

LOAD CURVE

LBS(V)/289

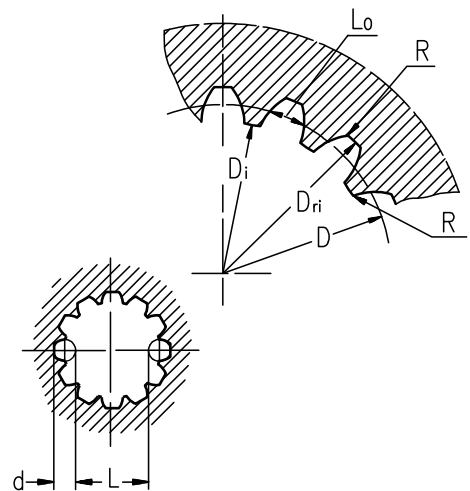
LBS(V)/290



## INTERNAL SPLINE DATA FOR THE ATTACHED COMPONENT

Standard ANSI B92.1-1976, class 5  
[ $m=2,1166$ ]

Fillet Root Side Fit		LBS(V)/289 LBS(V)/290	LBS(V)/314 LBS(V)/315
Number of Teeth	z	12	16
Diametral Pitch	DP	12/24	12/24
Pressure Angle		30°	30°
Pitch Dia.	D [mm]	25,4	33,8656
Major Dia.	D <sub>ri</sub> [mm]	28,0 <sub>-0,1</sub>	38,4 <sup>+0,4</sup>
Minor Dia.	D <sub>i</sub> [mm]	23,0 <sup>+0,033</sup>	32,15 <sup>+0,06</sup>
Space Width [Circular]	Lo [mm]	4,308±0,020	4,516±0,037
Fillet Radius	R [mm]	0,2	0,5
Max. Measurement between Pin	L [mm]	17,62 <sup>+0,15</sup>	26,9 <sup>+0,10</sup>
Pin Dia.	d [mm]	4,835±0,001	4,835±0,001
Corrected	x.m [mm]	+0,8	+1,0



## ORDER CODE - LB/288

1	2	3	4	5
LB/288	-			

## Pos.1 - Input Shaft Hole

C, CO, SH, CB, SB

CB - ø32 straight, Parallel key A10x8x45 DIN 6885

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

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

7, 14, 21, 32, 43, 63

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

omit - no Paint

## Pos.3 - Output Shaft Extensions\*

C	- ø25 straight, Parallel key A8x7x32 DIN 6885
CO	- ø1" straight, Parallel key 1/4"x1/4"x1 1/4" BS46
SH	- ø25,32 splined BS 2059 (SAE 6B)
SA	- ø24,5 splined B25x22 DIN 5482

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.4 - Output Shaft Extensions\*

CB	- ø32 straight, Parallel key A10x8x45 DIN 6885
KB	- ø35 tapered 1:10, Parallel key B6x6x20 DIN6885

## Pos.2 - Design code

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

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

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

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

21, 32, 43, 63

## Pos.6 - Design Series

omit - Factory specified

## NOTES:

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

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

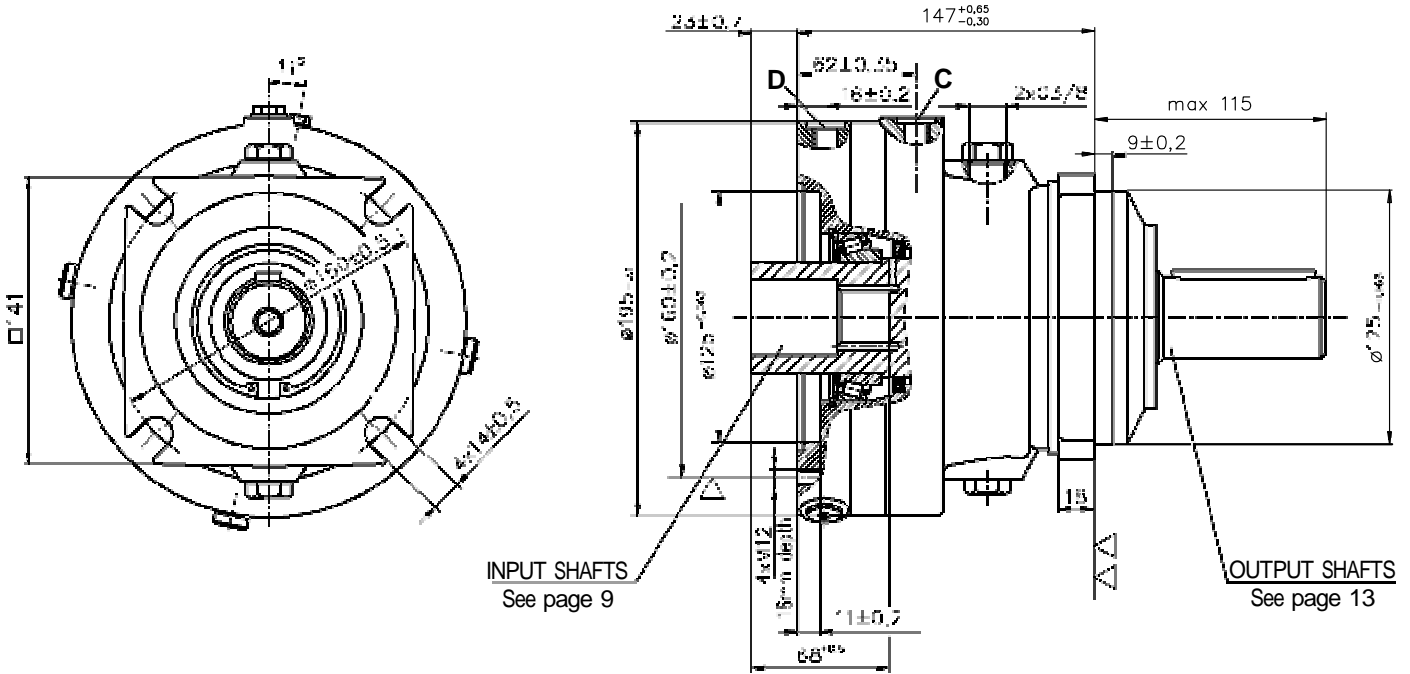
The Disc Brakes are mangano-phosphatized as standard.

## ATTENTION:

- Hydraulic brake is delivered without oil ( it is lubricated only).
- In all brakes, friction discs and separators should be lubricated. Space is filled with 50 ÷ 120 cm<sup>3</sup> mineral oil HLP (DIN 51524) or HM (ISO 6743/4). For LB/288 fill oil after hydraulic motor assembly.

HYDRAULIC DISC BRAKES  
FOR FLANGE ATTACHMENT TO MTS AND MTV HYDRAULIC MOTORS

TYPE LBS/314



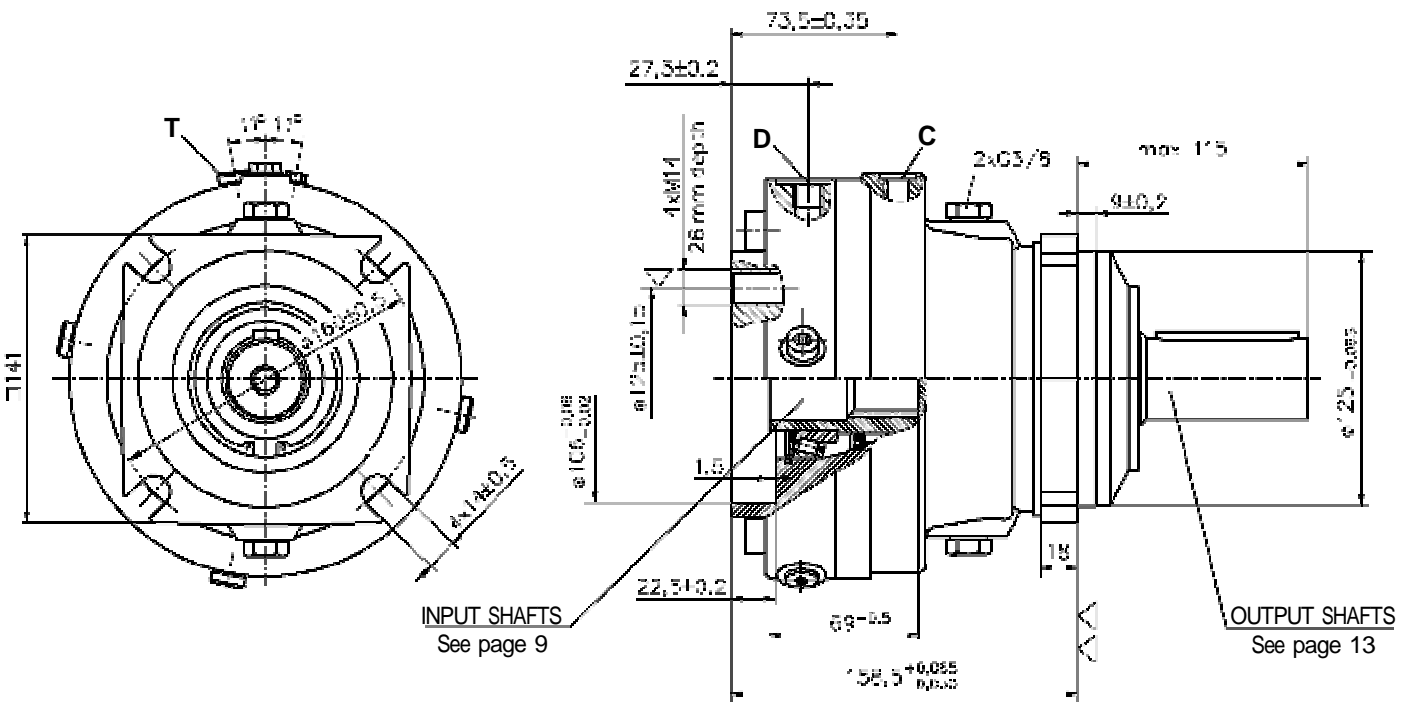
▽ - Place for attachment  
(tightening torque for bolt M12 - 8.8 - 8,5 daNm)

▽▽ - Place for attachment

C : Brake release Port - G¼, 9 mm depth

D : Drainage tap - G¼, 9 mm depth

TYPE LBV/314



▽ - Place for attachment  
(tightening torque for bolt M14 - 8.8 - 14 daNm)

▽▽ - Place for attachment

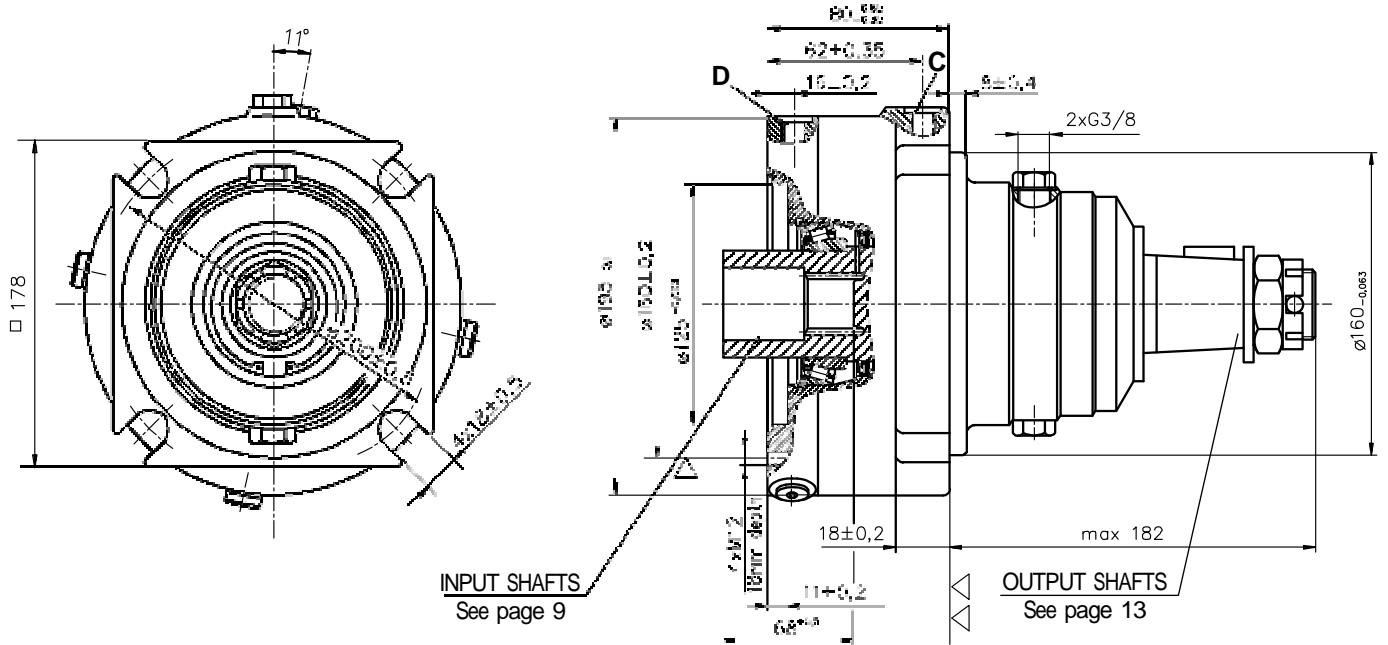
C : Brake release Port - G¼, 9 mm depth

D,T : Drainage tap - G¼, 9 mm depth



HYDRAULIC DISC BRAKES  
FOR FLANGE ATTACHMENT TO MTS AND MTV HYDRAULIC MOTORS

TYPE LBS/315



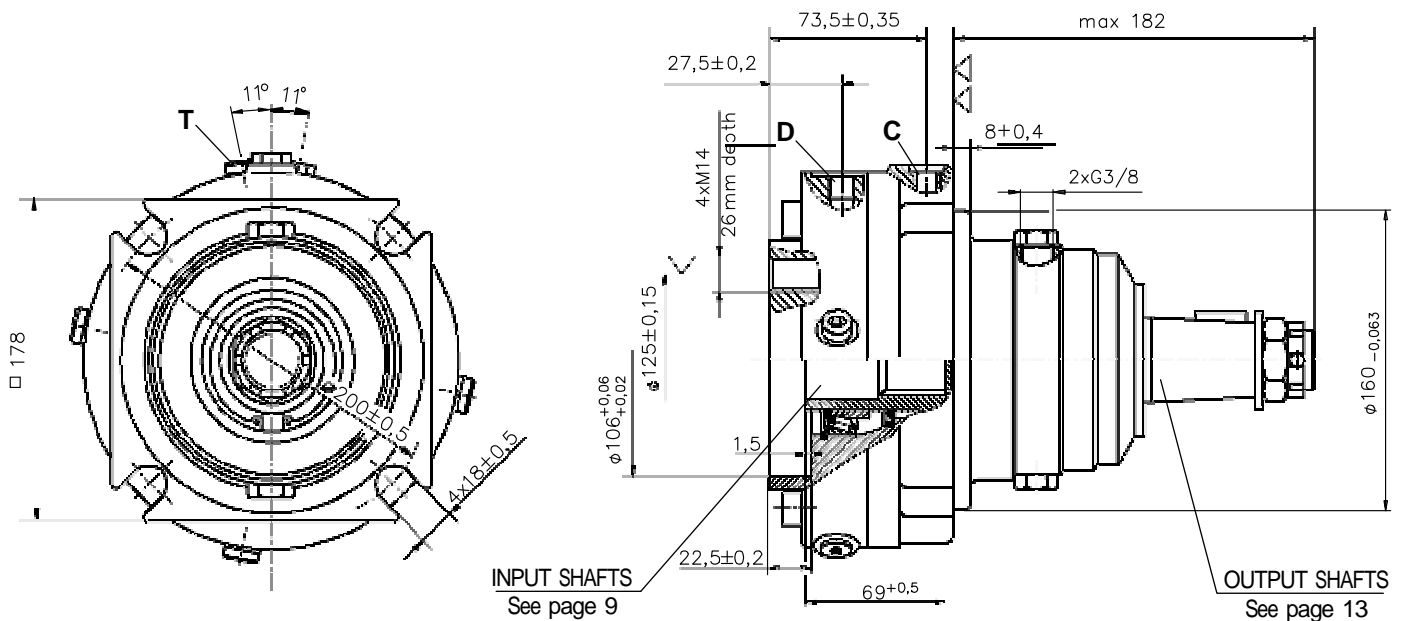
▽ - Place for attachment  
(tightening torque for bolt M12 - 8.8 - 8,5 da Nm)

C : Brake release Port - G $\frac{1}{4}$ , 9 mm depth

▽▽ - Place for attachment

D : Drainage tap - G $\frac{1}{4}$ , 9 mm depth

TYPE LBV/315



▽ - Place for attachment  
(tightening torque for bolt M14 - 8.8 - 14 da Nm)

C : Brake release Port - G $\frac{1}{4}$ , 9 mm depth

▽▽ - Place for attachment

D,T : Drainage tap - G $\frac{1}{4}$ , 9 mm depth

**HYDRAULIC DISC BRAKES  
FOR FLANGE ATTACHMENT TO MTS AND MTV HYDRAULIC MOTORS**

**SPECIFICATION DATA**

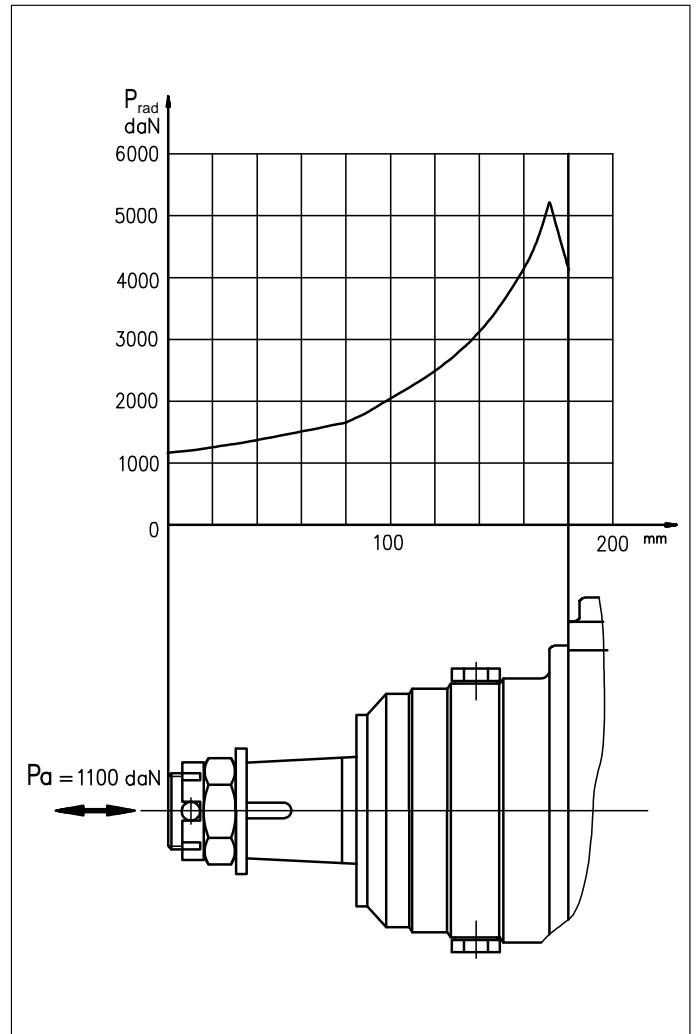
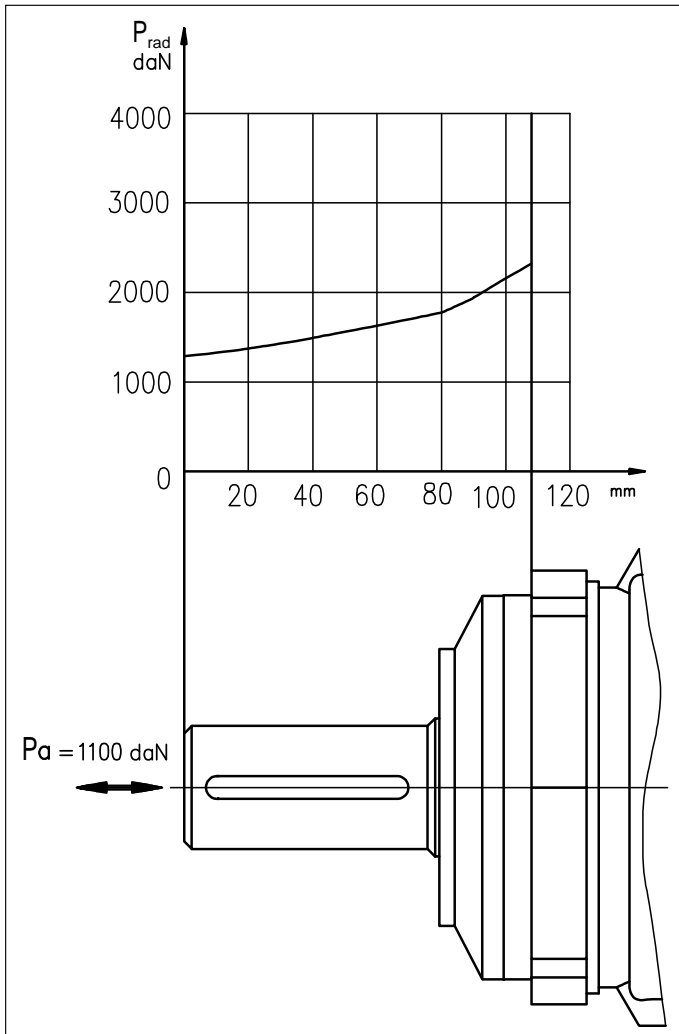
Description LBS/314(315) LBV/314(315)	21	29	43	65	85	110	130
*Static Torque [daNm]	18-23	28-33	42-46	61-70	83-92	108-118	126-136
Opening Pressure [bar]	min	4-5	6-7	9-10	13-15	18-20	23-25
	max	300					
Min. oil quantity for brake releasing [cm <sup>3</sup> ]	8- 9						
Oil volume [cm <sup>3</sup> ]	150 - 300						
Max. Pressure in drain space [bar]	5						
Weight .../314(315) [kg]	24(25)						

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

**LOAD CURVE**

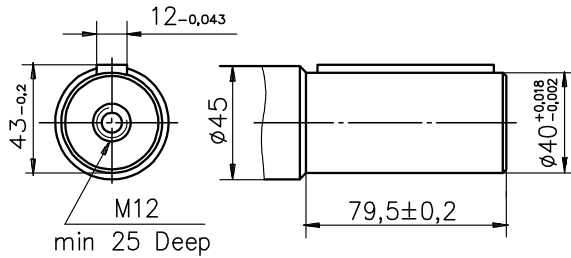
**LBS(V) ... /314**

**LBS(V) ... /315**

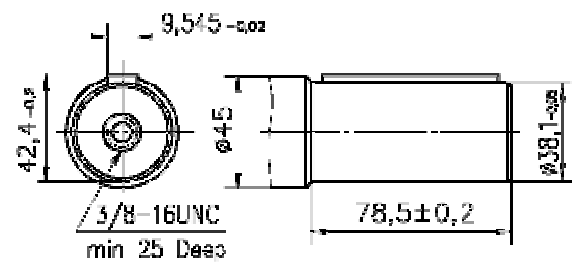


OUTPUT SHAFT EXTENSIONS

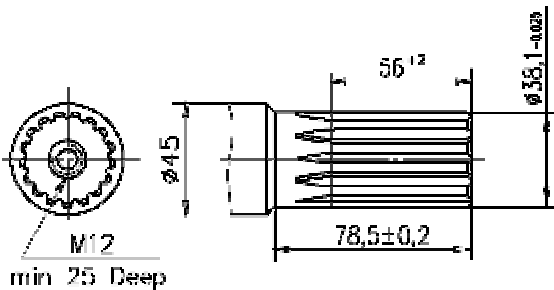
**C** -  $\varnothing 40$  straight, Parallel key A12x8x70 DIN 6885  
Max. Torque 132,8 daNm



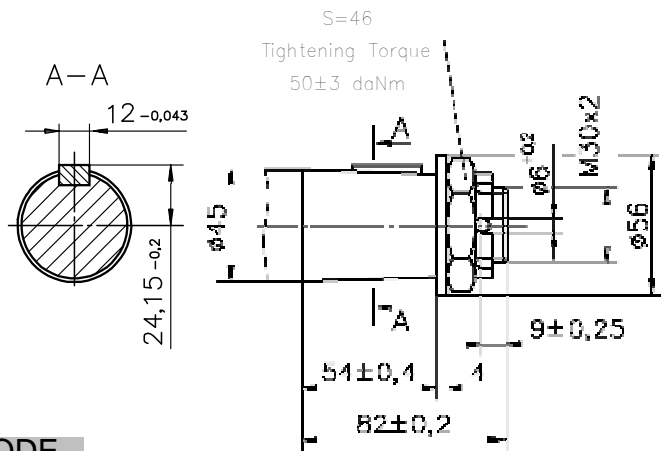
**CO** -  $\varnothing 1\frac{1}{2}$ " straight, Parallel key  $\frac{3}{8}$ "x  $\frac{3}{8}$ "x  $2\frac{1}{4}$ " BS46  
Max. Torque 132,8 daNm



**SH** -  $\varnothing 1\frac{1}{2}$ " splined 17T, DP12/24 ANSI B92.1-1976  
Max. Torque 132,8 daNm



**K** - tapered 1:10, Parallel key B12x8x28 DIN 6885  
Max. Torque 210,7 daNm



ORDER CODE

1	2	3	4	5	6
LB	/	-			

Pos.1 - Type

- S - Disc Brake for short motor S - MTS
- V - Disc Brake for very short motor V - MTV

Pos.2 - Designe code

- 314 - for MTS and MTV Motors
- 315 - for MTS and MTV Motors (Wheel Mount)

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

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

Pos. 4 - Output Shaft Extensions\*

- C -  $\varnothing 40$  straight, Parallel key A12x8x70 DIN 6885
- CO -  $\varnothing 1\frac{1}{2}$ " straight, Parallel key  $\frac{3}{8}$ "x  $\frac{3}{8}$ "x  $2\frac{1}{4}$ " BS46
- SH -  $\varnothing 1\frac{1}{2}$ " splined 17T, ANSI B92.1-1976
- K -  $\varnothing 45$  tapered 1:10, Parallel key B12x8x28 DIN6885

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 be not exceeded!

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

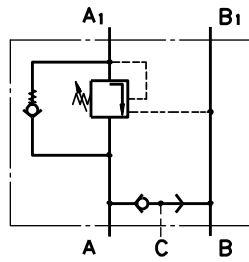
The Disc Brakes are mangano-phosphatized as standard.

ATTENTION:

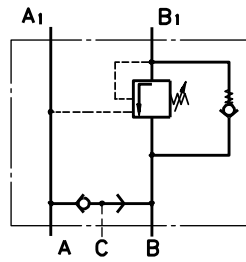
1. Hydraulic brake is delivered without oil ( it is lubricated only).
2. In all brakes, friction discs and separators should be lubricated. Space is filled with 150 ÷ 300 cm<sup>3</sup> mineral oil HLP (DIN 51524) or HM (ISO 6743/4).

# VALVES FOR HYDRAULIC MOTORS

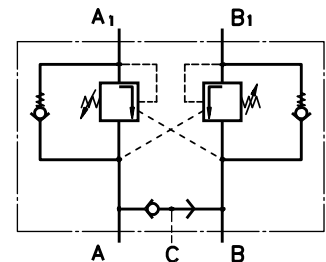
## OVERCENTER VALVES WITH BRAKE CONTROL



Single Overcenter Valves with Brake Control type KPBR ... EA



Single Overcenter Valves with Brake Control type KPBR ... EB



Dual Overcenter Valves with Brake Control type KPBR ... D

### CONTENTS

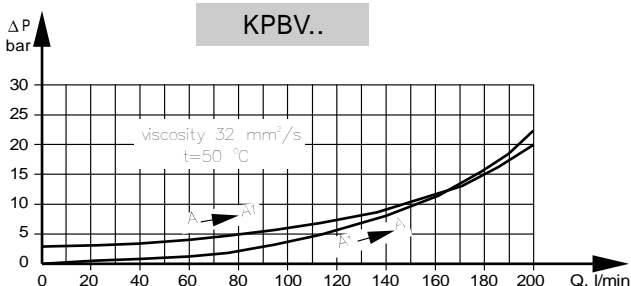
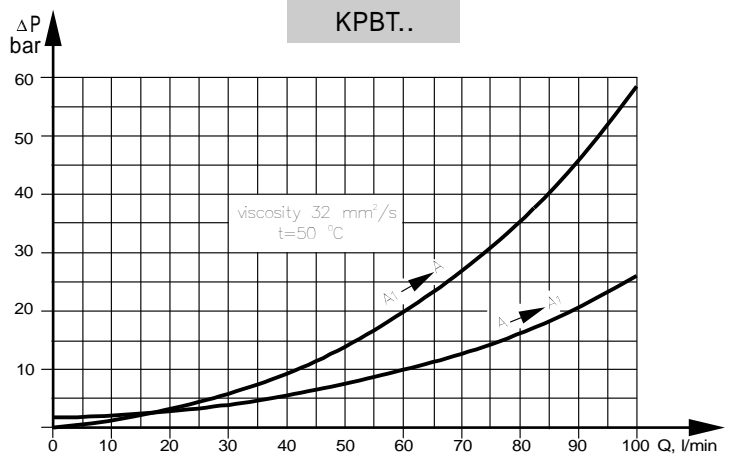
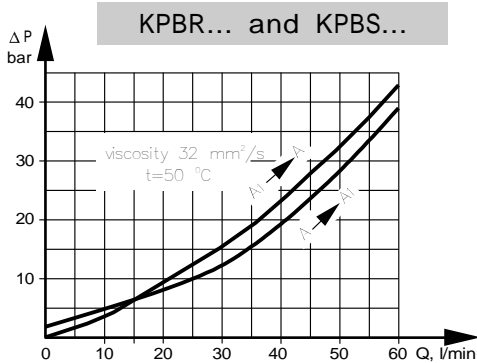
Valves for MP and MR type KPBR ... 15	Crossover Relief Valves ..... 21
Valves for MS type KPBS ..... 16	Valves for MP and MR type KR..R ... 22
Valves for MT type KPBT ..... 17	Valves for MS type KP..S ..... 23
Valves for MV type KPBV ..... 18	Valves for MT type KP..T ..... 24
Switch valves type KPWR and KPWS .... 19	Valves for MV type KP..V ..... 25
Switch valves type KPWT and KPWW ..... 20	Order Code ..... 27

### SPECIFICATION DATA

Parameters	Type							
	KPBR...E	KPBS...E	KPBR...D	KPBS...D	KPBT...E	KPBT...D	KPBV...E	KPBV...D
Flow Rate , l/min	60				100		200	
Rated Pressure* , bar	70÷250				70÷250		70÷250	
Pilot Ratio	4,25:1				4,25:1		4,25:1	
Weight , kg	3,300	3,340	3,350	3,390	5,400	5,800	9,200	9,750

\*Pressure Settings are at flow rate of 5 lpm and viscosity 32 mm<sup>2</sup>/s (50 °C).

### PRESSURE LOSSES



ООО «Кама-Флекс-Гидравлика» (8552) 44-33-58

<http://www.oookfg.narod.ru>

e-mail: kama-hydraulic@narod.ru