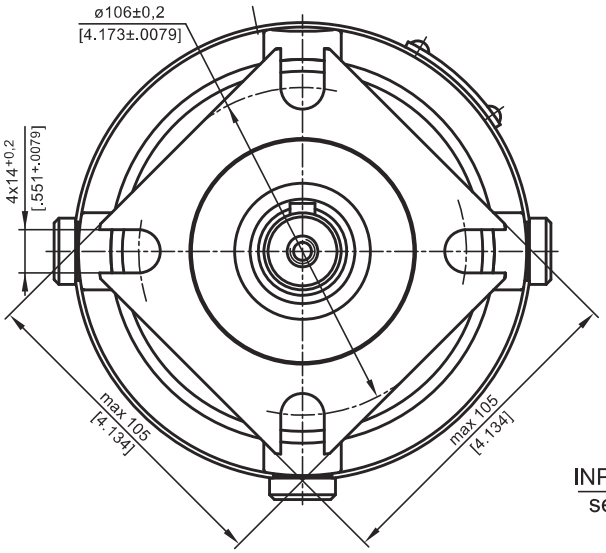
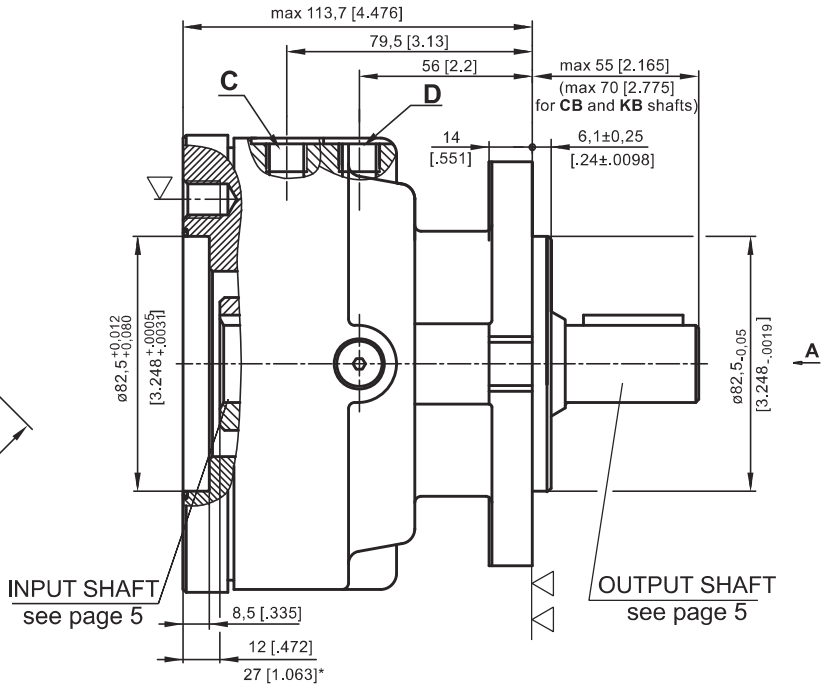
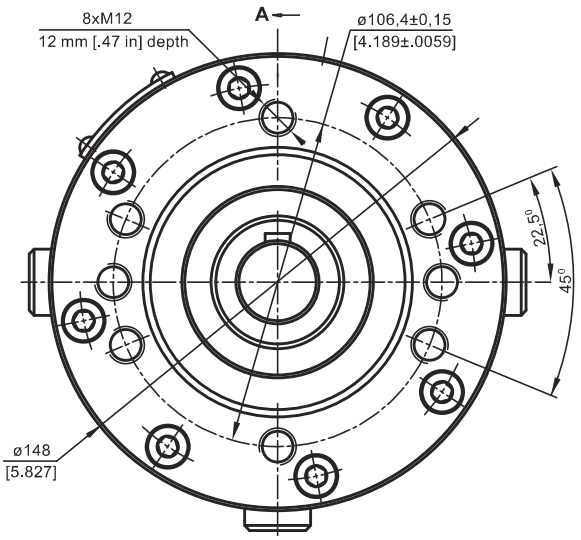
HYDRAULIC DISC BRAKE FOR FLANGE ATTACHMENT TO MP, MR AND MS HYDRAULIC MOTORS

TYPE LB/288







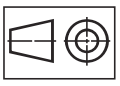
▽- Place for attachment (tightening torque for screw M12x30 - 8.8 DIN 912 - 7 daNm [620 lb-in])

▽▽- Place for attachment

C: Brake release Port - G¼, 9 mm [.35 in] depth

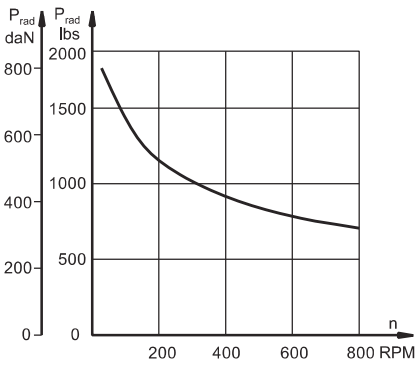
D: Drainage tap - G¼, 9 mm [.35 in] depth

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



mm [in]

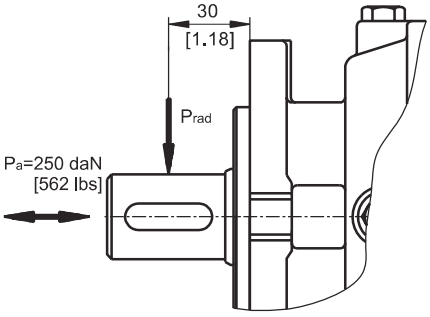
LOAD CURVE



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]	4-5 [58-73]	8-9 [116-130]	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^3 [in^3]	7 - 8 [.427 - .488]					
Oil volume cm^3 [in^3]	50 - 120 [3.5 - 7.35]					
Max. Pressure in drain space, bar [PSI]	0,5 [7.25]					
Weight, kg [lb]	9 [19.8]					

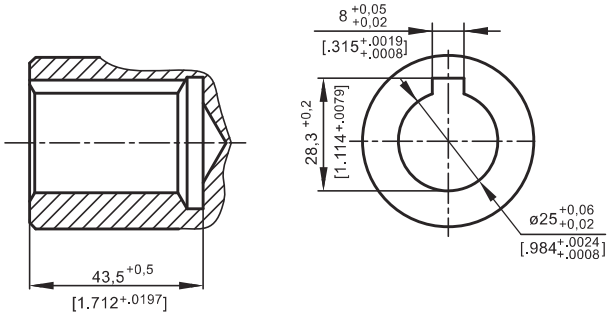
*Static torque is obtained at working pressure - 0 bar [0 PSI].



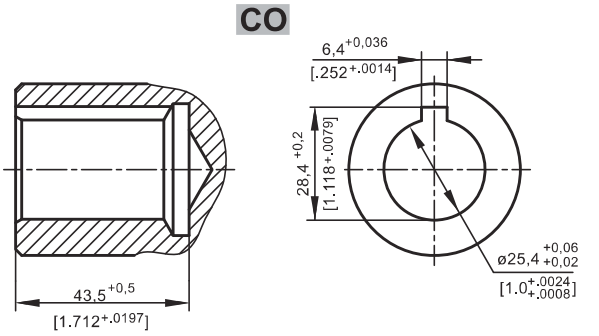
M+S HYDRAULIC

INPUT SHAFT HOLES

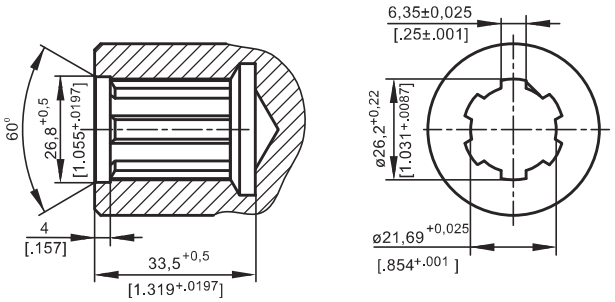
C



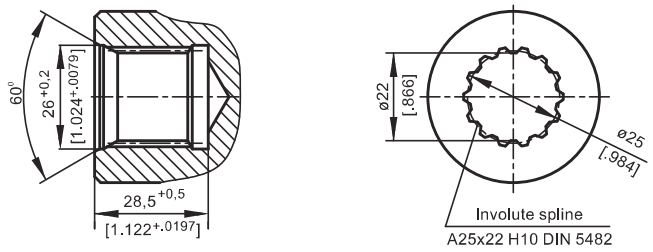
CO



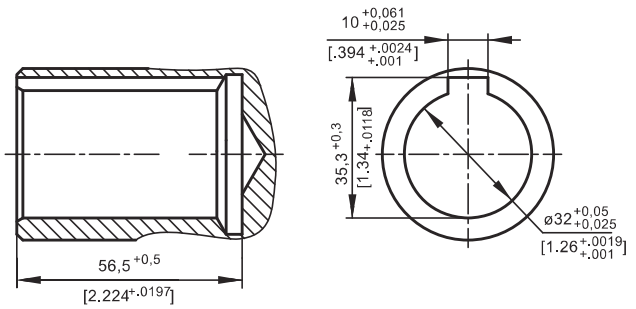
SH



SB



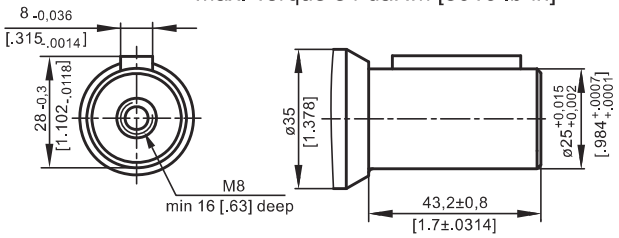
CB



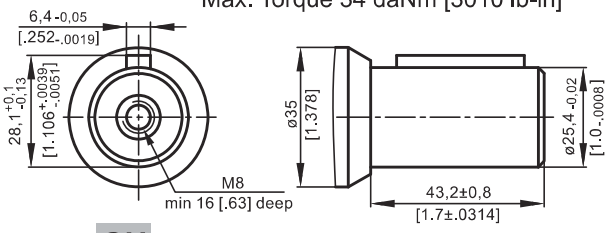
mm [in]

OUTPUT SHAFT EXTENSIONS

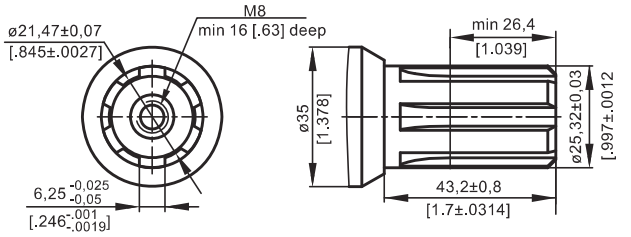
C - ø25 straight, Parallel key A8x7x32 DIN 6885
Max. Torque 34 daNm [3010 lb-in]



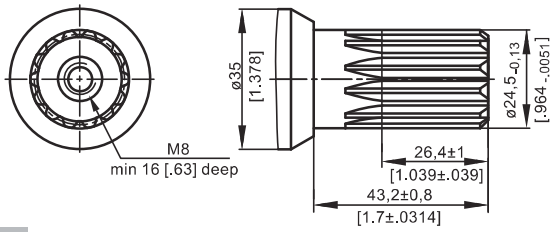
CO - ø1" straight, Parallel key ¼"x¼"x1¼" BS46
Max. Torque 34 daNm [3010 lb-in]



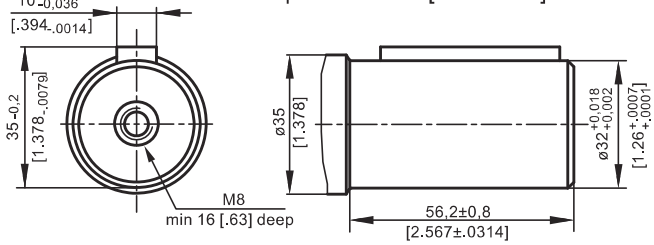
SH - splined, BS 2059 (SAE 6B)
Max. Torque 40 daNm [3540 lb-in]



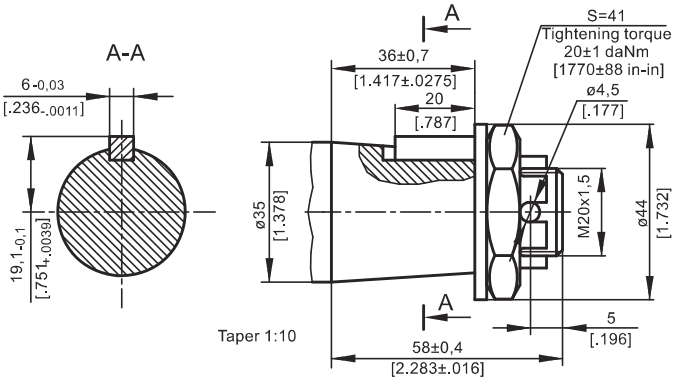
SA - splined, B25x22h9 DIN 5482
Max. Torque 40 daNm [3540 lb-in]



CB - ø32 straight, Parallel key A10x8x45 DIN 6885
Max. Torque 77 daNm [6815 lb-in]



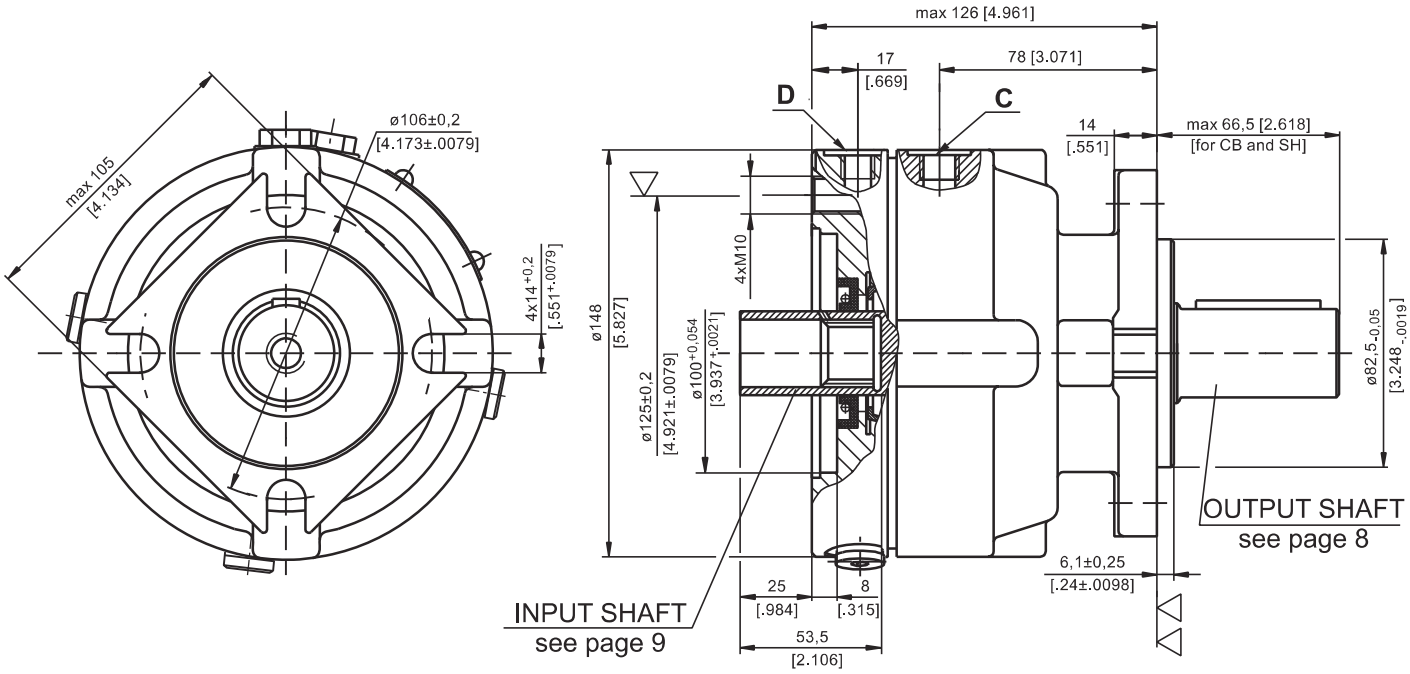
KB - tapered 1:10, Parallel key B6x6x20 DIN 6885
Max. Torque 95 daNm [8400 lb-in]



M+S HYDRAULIC

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

TYPE LBS/289



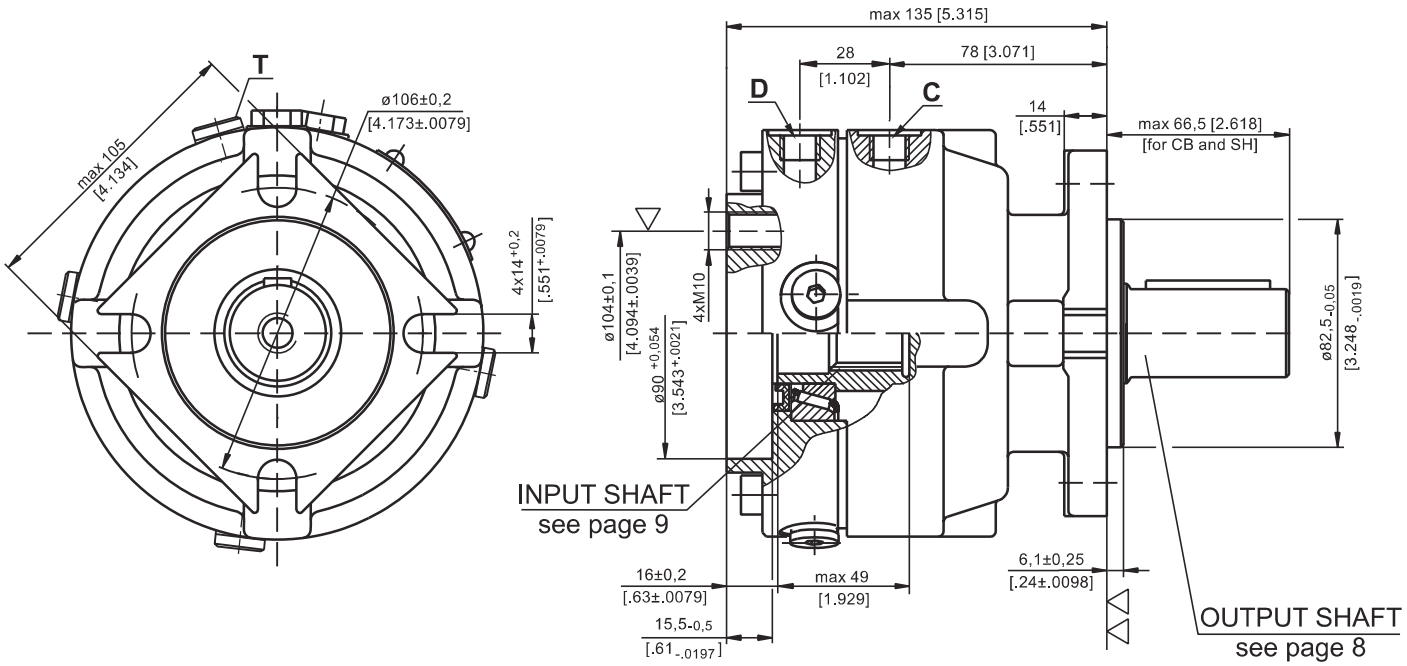
▽ - Place for attachment:
LBS - tightening torque for screw M10x35 - 8.8 DIN 912 - 5 daNm [440 lb-in]
LBV - tightening torque for screw M10xL - 12.9 DIN 931 - 6^{+1} daNm [530^{+90} lb-in]

▽▽ - Place for attachment

mm [in]

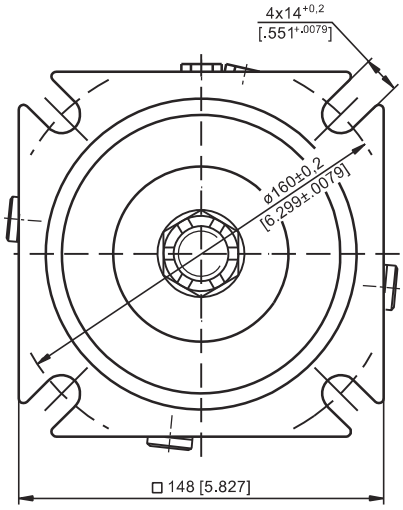
C: Brake release Port - G¼, 9 mm [.35 in] depth
D: Drain plug for the Brake - G¼, 9 mm [.35 in] depth
T: Drain plug for the Motor - G¼, 9 mm [.35 in] depth

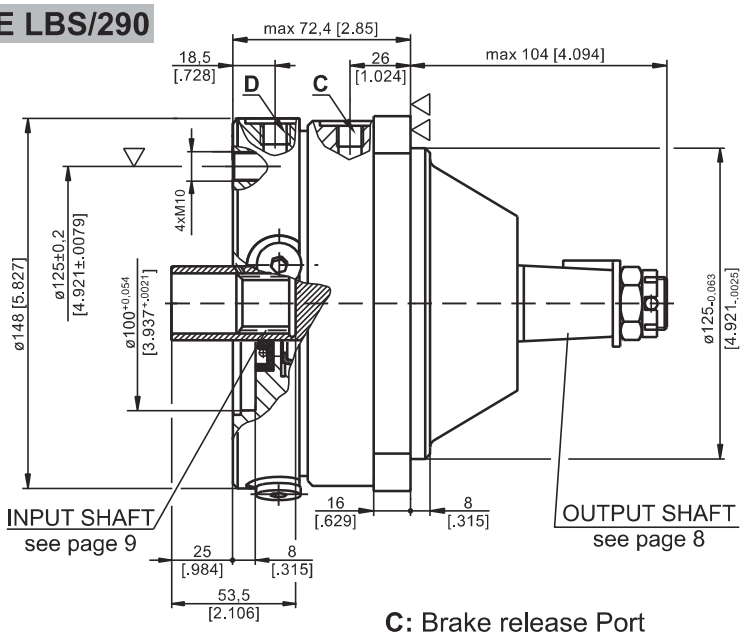
TYPE LBV/289



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

TYPE LBS/290





▽ - Place for attachment:
LBS - tightening torque for screw M10x35 - 8.8 DIN 912 - 5 daNm [440 lb-in]
LBV - tightening torque for screw M10xL - 12.9 DIN 931 - 6^{+1} daNm [530^{+90} lb-in]

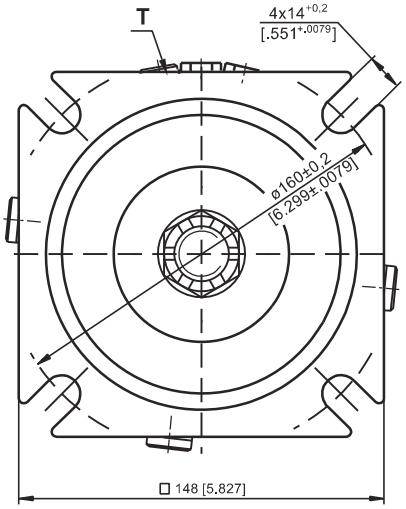
▽▽ - Place for attachment

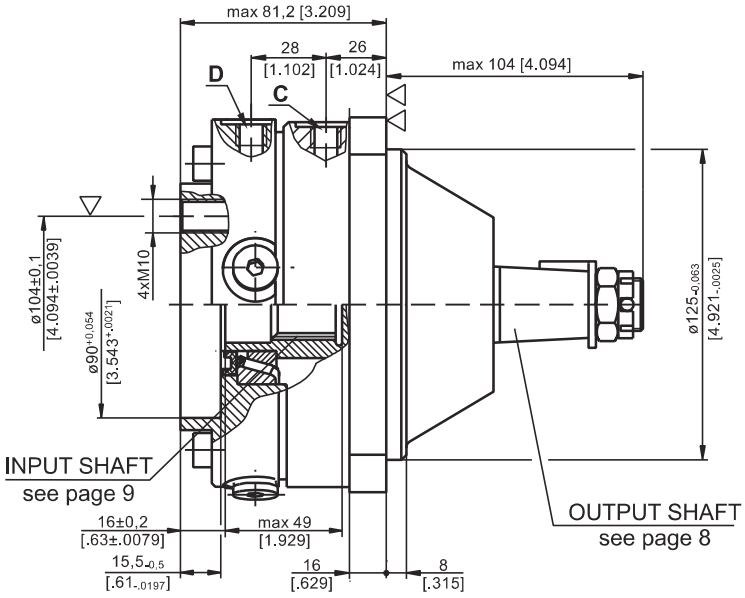
C: Brake release Port
- G¼, 9 mm [.35 in] depth

D: Drain plug for the Brake
- G¼, 9 mm [.35 in] depth

T: Drain plug for the Motor
- G¼, 9 mm [.35 in] depth

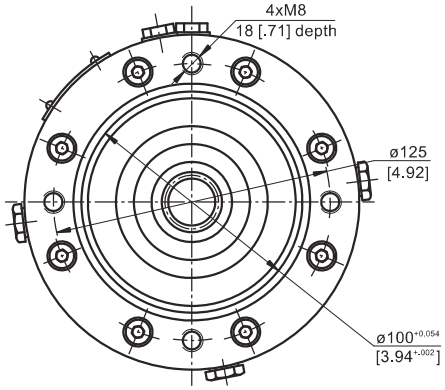
TYPE LBV/290



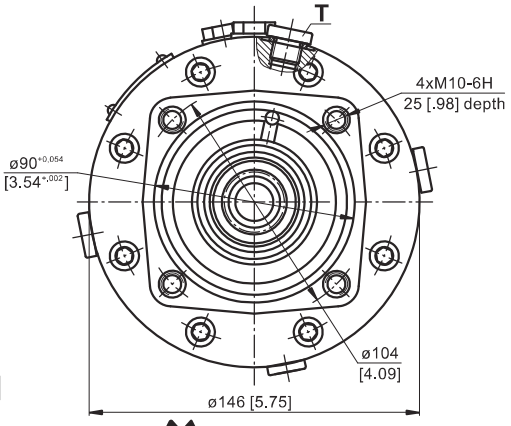


INPUT FACE
For Versions 289 and 290

TYPE LBS/289(290)



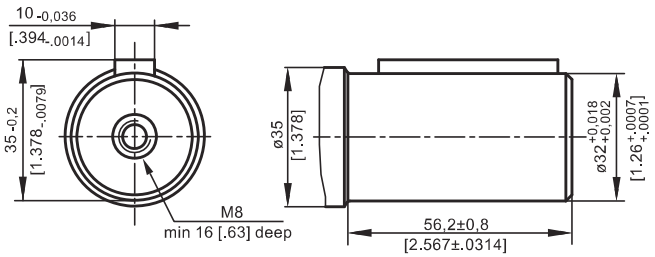
TYPE LBV/289(290)



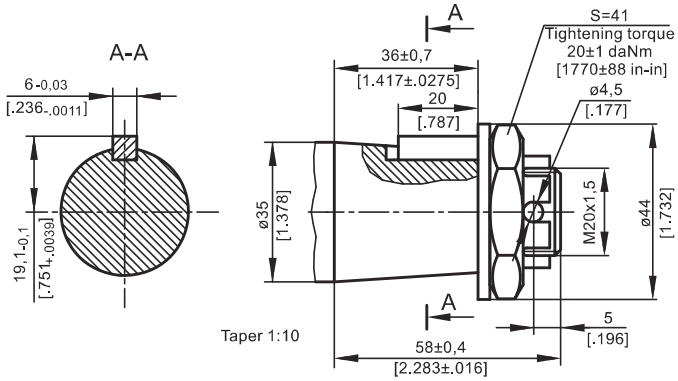
mm [in]

OUTPUT SHAFT EXTENSIONS

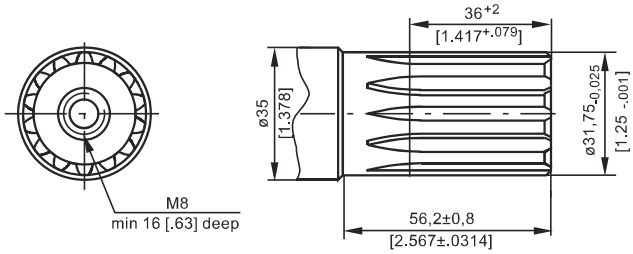
CB - ø32 straight, Parallel key A10x8x45 DIN 6885
Max. Torque 77 daNm [6815 lb-in]



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



SH - ø1¼" splined 14T, DP12/24 ANS B92.1-1970
Max. Torque 95 daNm [8400 lb-in]



mm [in]

SPECIFICATION DATA

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]	38-39 [550-565]
	max	300 [4350]			
Min. oil quantity for brake releasing	cm^3 [in^3]	7 - 8 [.427 - .488]			
Oil volume	cm^3 [in^3]	50 - 120 [3.05 - 7.35]			
Max. Pressure in drain space	bar [PSI]	5 [72]			
Weight	kg [lb]	9 [19.8]			

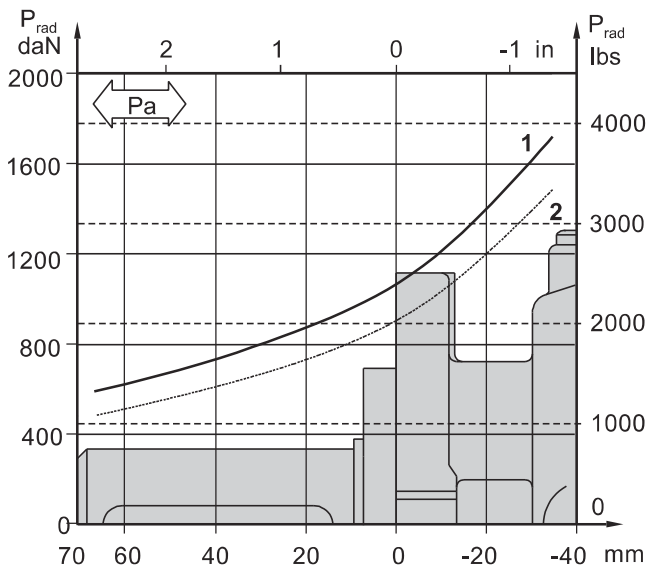
*Static torque is obtained at working pressure - 0 bar [0 PSI].

LOAD CURVE

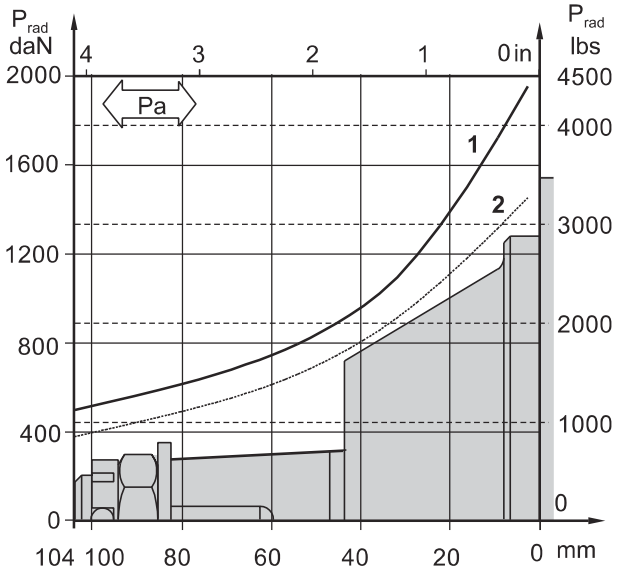
The curve applies to a B10 bearing life of 3000 hours at 200 RPM.

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

LBS(V)/289



LBS(V)/290

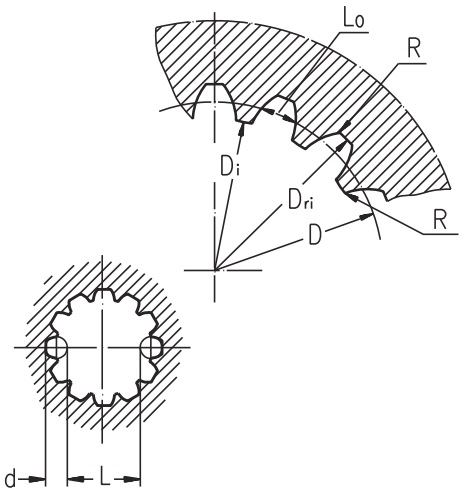


M+S HYDRAULIC

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.	Dri	$28{,}0_{-0{,}1}$	1.1 ÷ 1.098	$38{,}4^{+0{,}4}$	1.5118÷1.5275
Minor Dia.	Di	$23{,}0^{+0{,}033}$	.907 ÷ .905	$32{,}15^{+0{,}06}$	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	$17{,}62^{+0{,}15}$	.699 ÷ .694	$26{,}9^{+0{,}10}$	1.063÷1.059
Pin Dia.	d	4,835±0,001	.19039÷.19031	4,835±0,001	.19026÷.19034
Corrected	x.m	+0,8	+.031	+1,0	+.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. Hydraulic brake is filled through the drain port **D**. Space is filled with 50 ÷ 120 cm^3 [3.05÷7.32 in^3] mineral oil HLP (DIN 51524) or HM (ISO 6743/4). For LB/288 fill oil after hydraulic motor assembly.
3. In all brakes, friction discs and separators should be lubricated.