



HYDRAULIC BRAKES

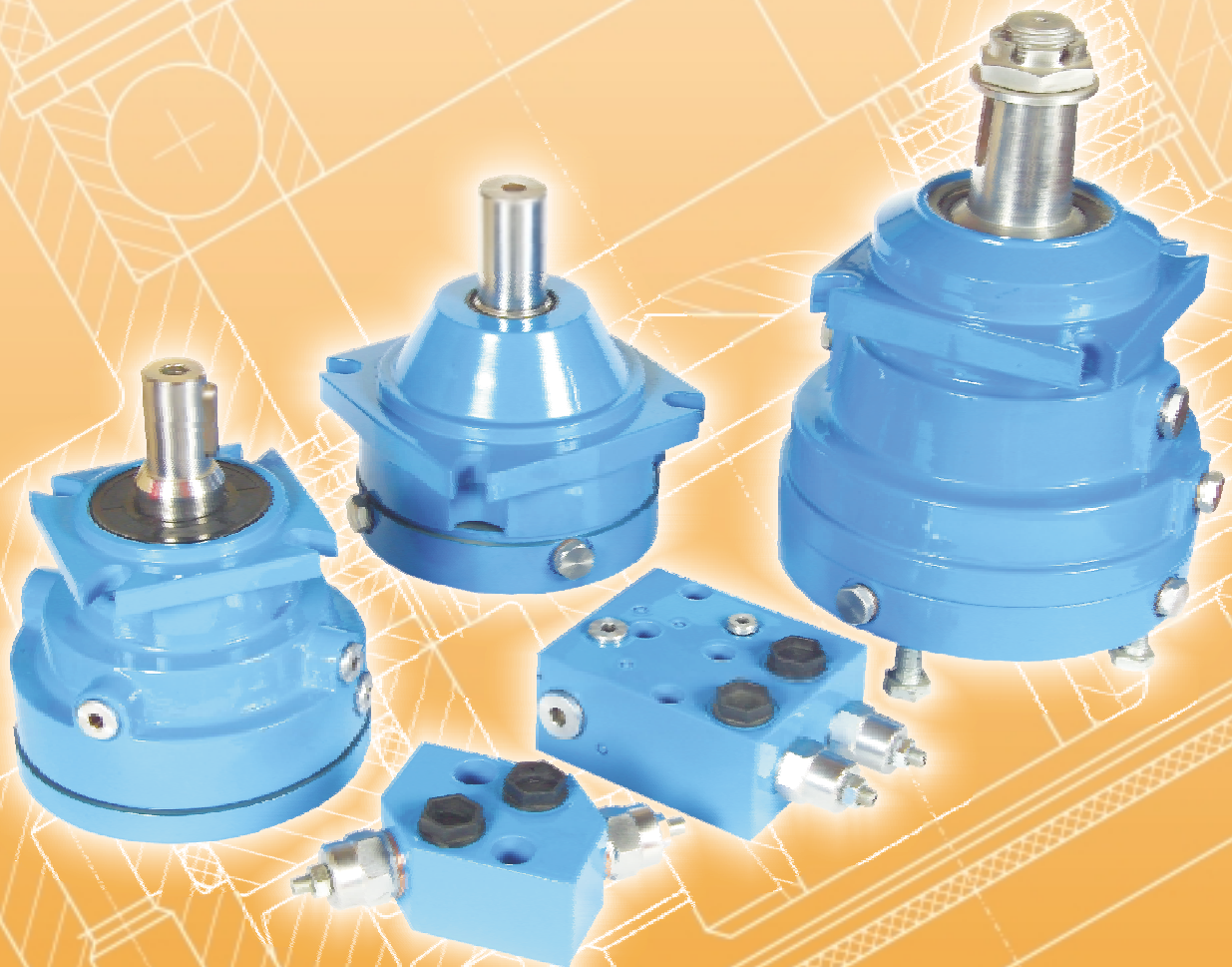
TYPE LB/288

LBS/...

LBV/...

& VALVE BLOCKS FOR MOTORS

TYPE KP...



ACCESSORIES

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HYDRAULIC DISC BRAKES LB, LBS, LBV- Wet



APPLICATION

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



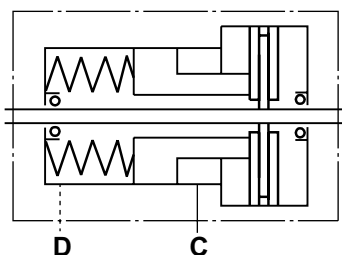
GENERAL

Fluid type	Mineral based- HLP(DIN 51524) or HM(ISO 6743/4)
Temperature range, °C	-30 ÷ 90
Viscosity range, mm ² /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.

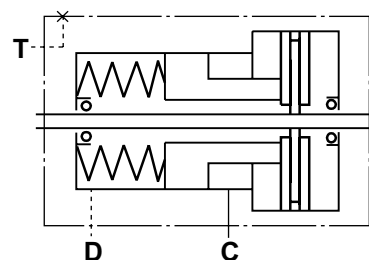
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LB, LBS

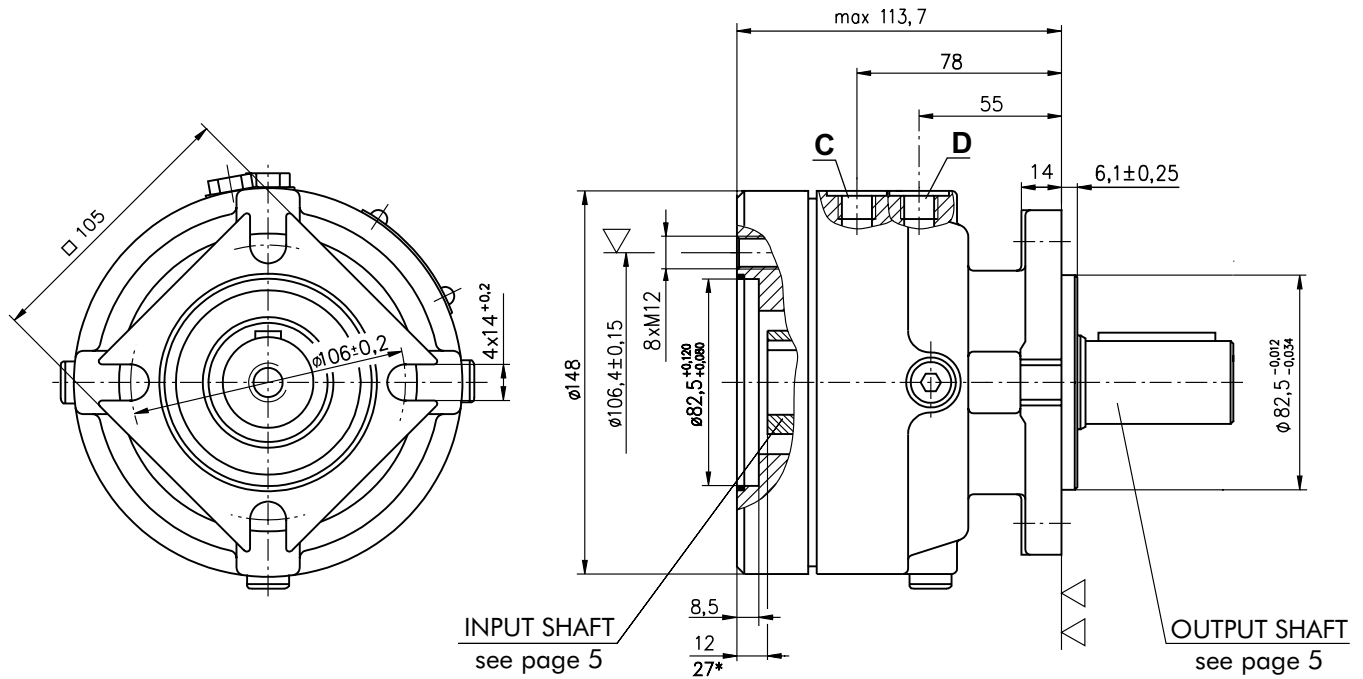


LBV



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

TYPE LB/288



C : Brake release Port - G¹/₄, 9 mm depth

D : Drainage tap - G¹/₄, 9 mm depth

▽ - Place for attachment
(tightening torque for screw M12x30 - 8.8 DIN 912 - 7 daNm)

▽▽ - Place for attachment

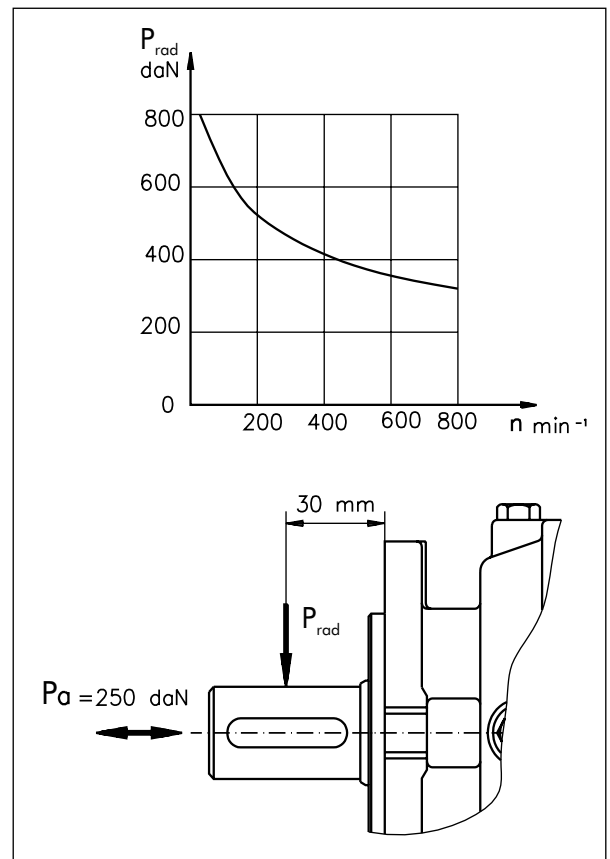
* - For Input Shaft Hole Versions **SH** and **SB**.

SPECIFICATION DATA

Description LB/288...	7	14	21	32	43	63
*Min. 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 ³]	7-8					
Oil volume [cm ³]	50 - 120					
Max. Pressure in drain space [bar]	0,5					
Weight [kg]	9					

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

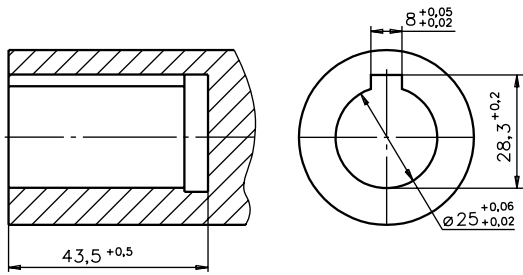
LOAD CURVE



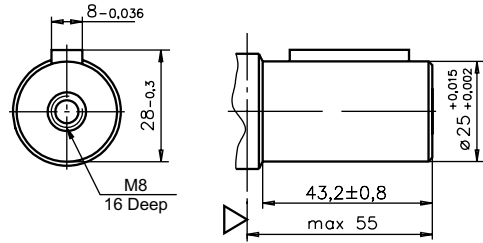
INPUT SHAFT HOLES

OUTPUT SHAFT EXTENSIONS

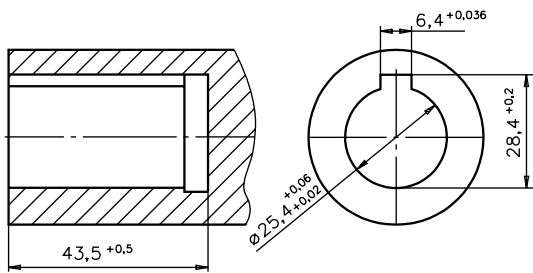
C



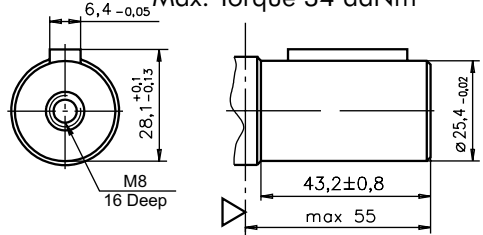
C - $\varnothing 25$ straight, Parallel key A8x7x32 DIN 6885
Max. Torque 34 daNm



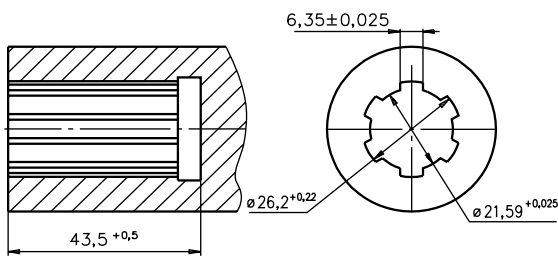
CO



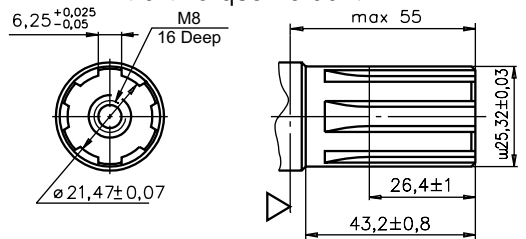
CO - $\varnothing 1$ " straight Parallel key $\frac{1}{4}$ "x $\frac{1}{4}$ "x $1\frac{1}{4}$ " BS46
Max. Torque 34 daNm



SH

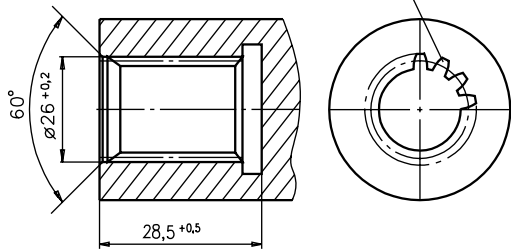


SH - splined BS 2059 (SAE 6B)
Max. Torque 40 daNm

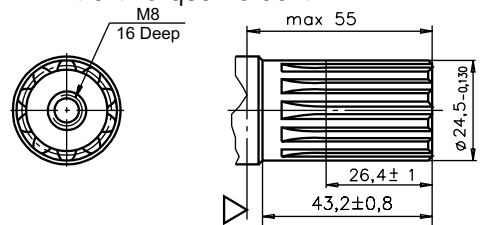


SB

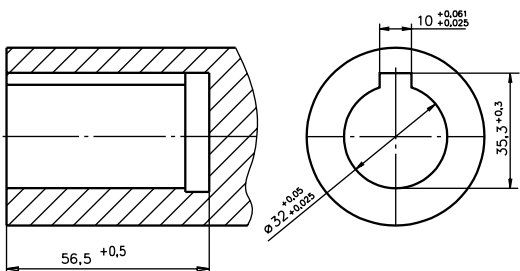
Involute Splines
A25x22 H10 DIN 5482



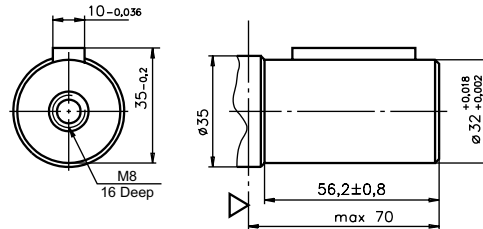
SA - splined B25x22 h9 DIN 5482
Max. Torque 40 daNm



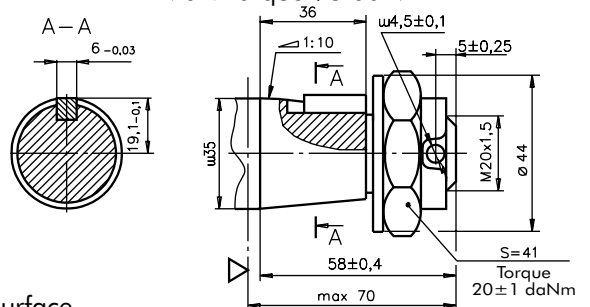
CB



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



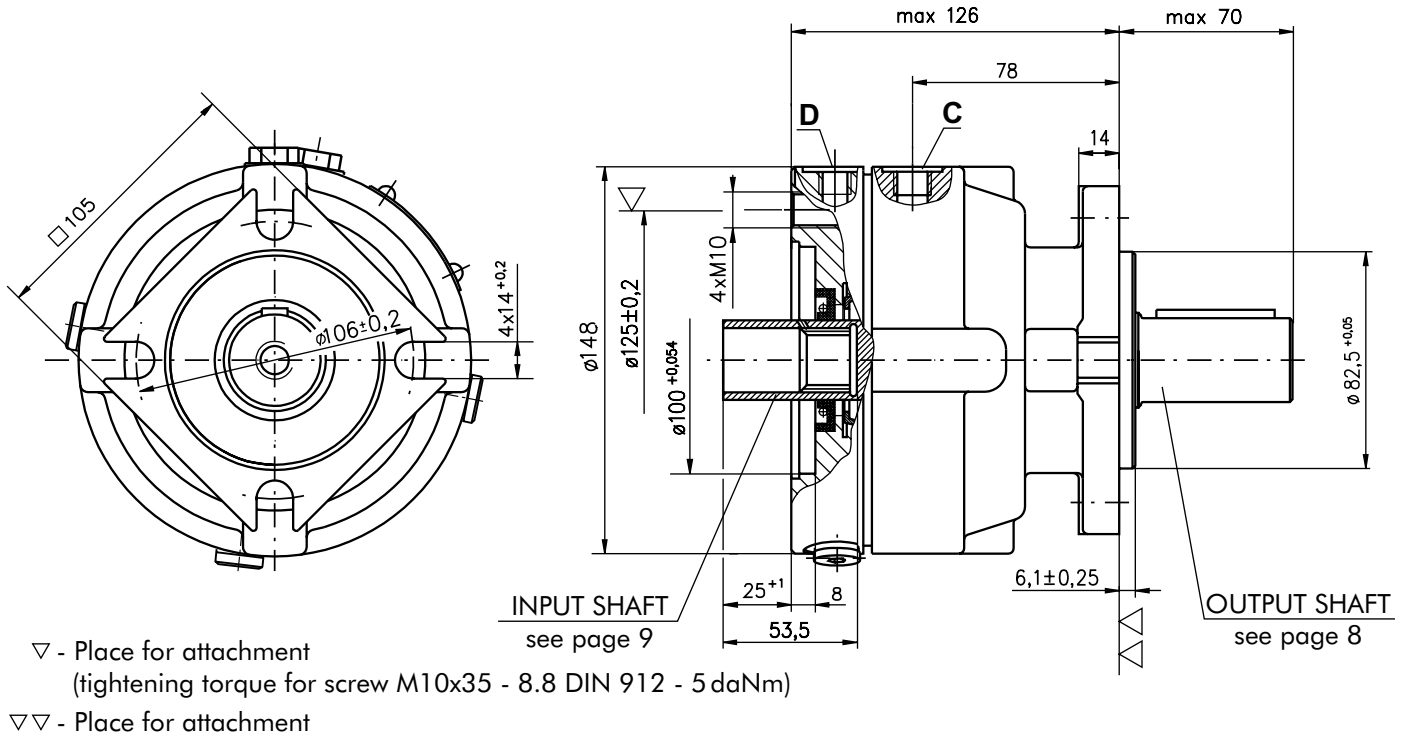
KB - tapered 1:10, Parallel key B6x6x20 DIN6885
Max. Torque 95 daNm



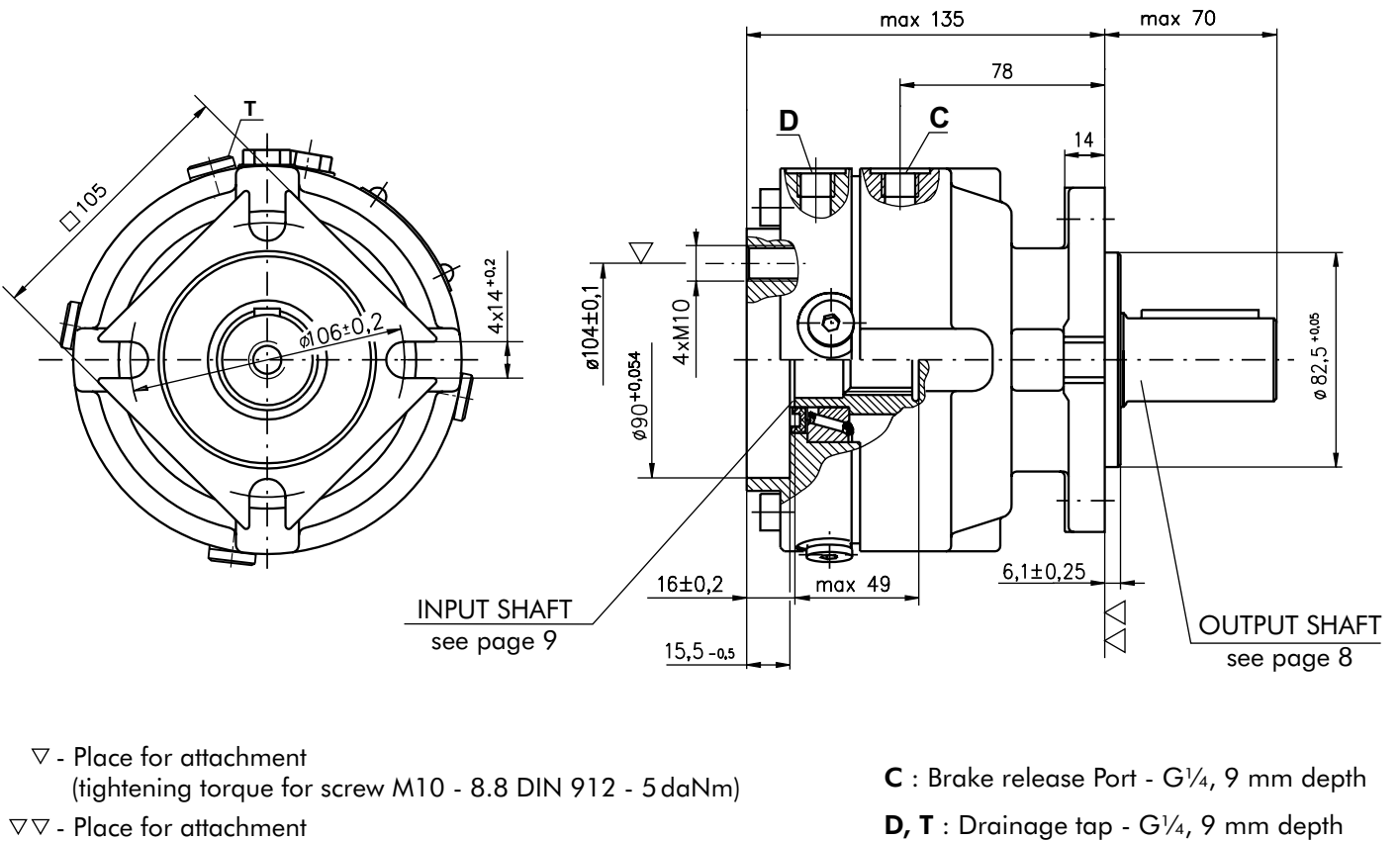
▽ - Disc Brake Mounting Surface

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

TYPE LBS/289

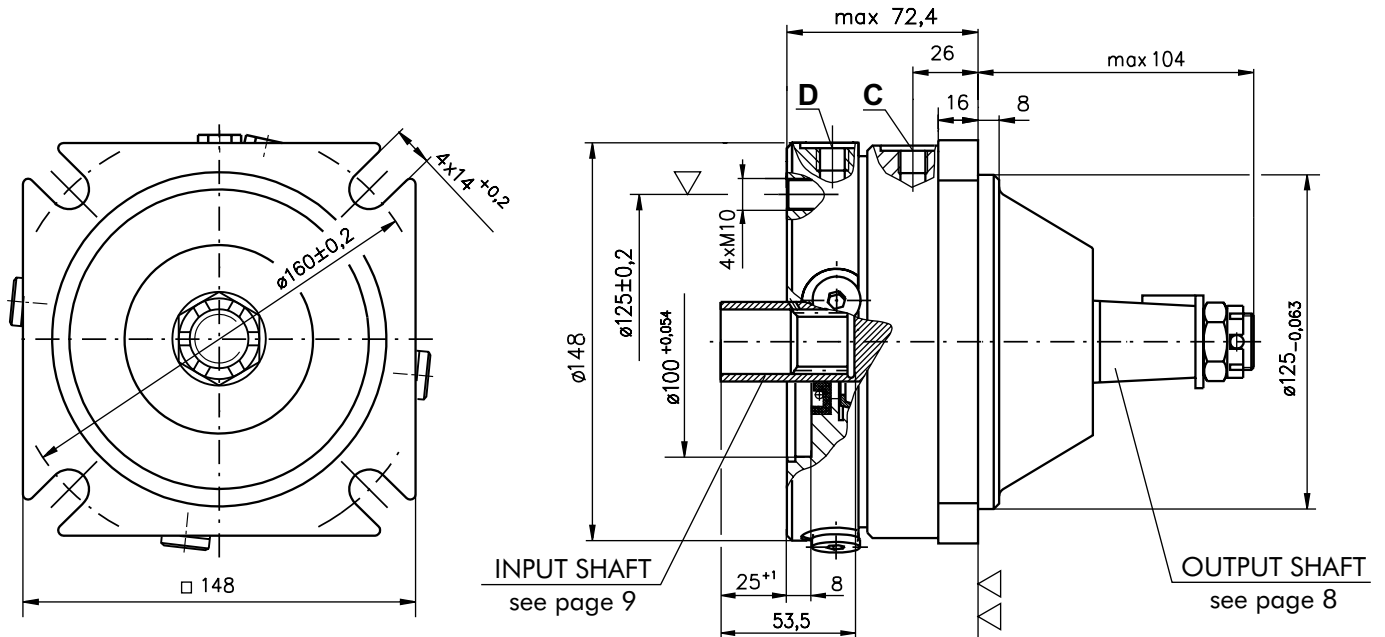


TYPE LBV/289



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

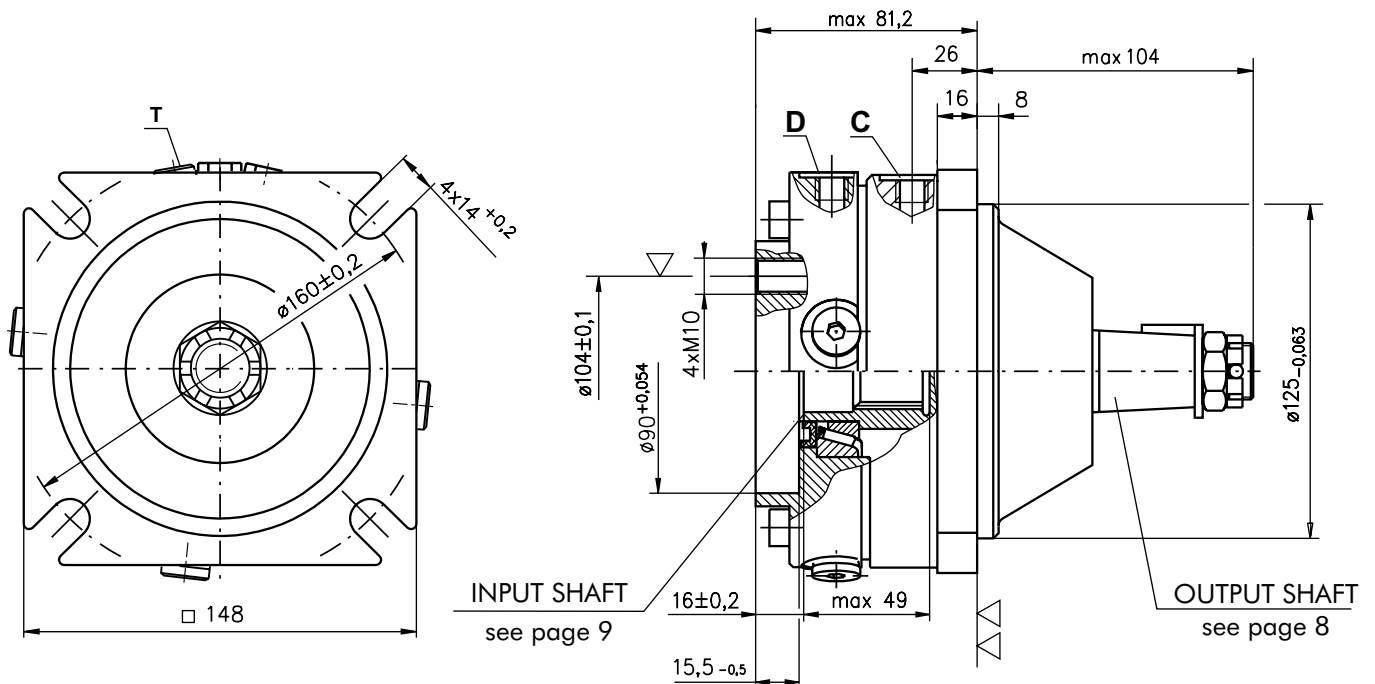
TYPE LBS/290



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

▽▽ - Place for attachment

TYPE LBV/290



▽ - Place for attachment
(tightening torque for screw M10 - 8.8 DIN 912 - 5 daNm)

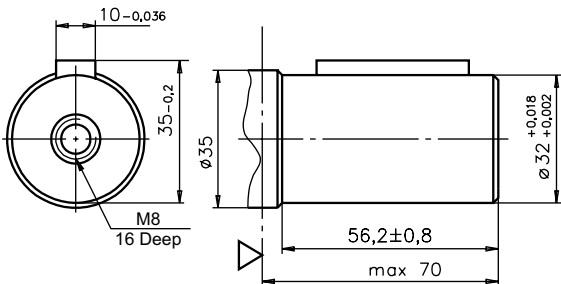
▽▽ - Place for attachment

C : Brake release Port - G¹/₄, 9 mm depth

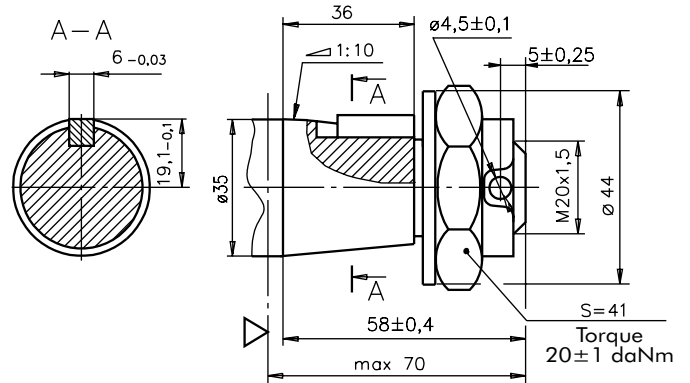
D, T : Drainage tap - G¹/₄, 9 mm depth

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



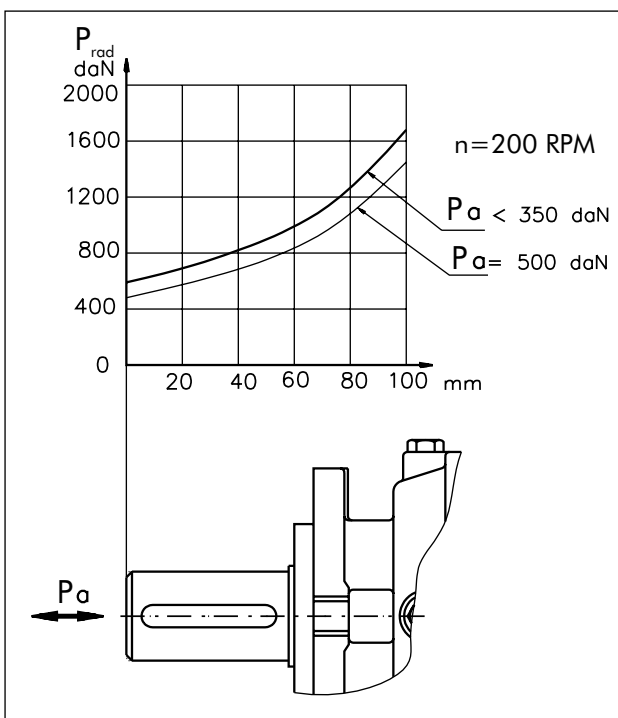
SPECIFICATION DATA

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

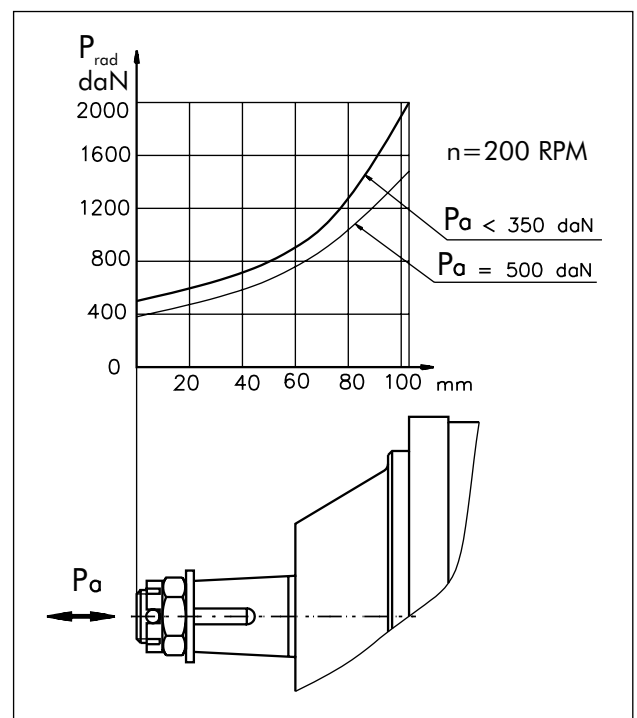
*Static torque is obtained at working pressure - 0 bar.

LOAD CURVE

LBS(V)/289



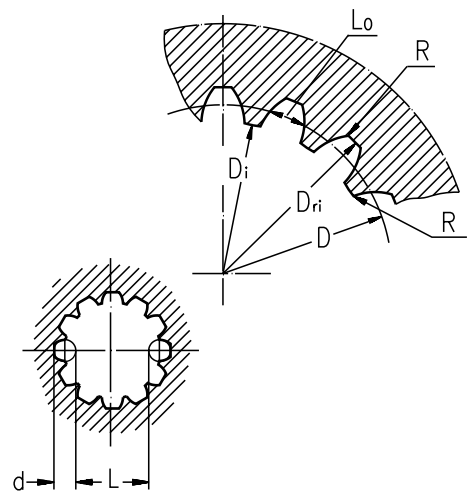
LBS(V)/290



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.	Dri [mm]	28,0 _{-0,1}	38,4 ^{+0,4}
Minor Dia.	Di [mm]	23,0 ^{+0,033}	32,15 ^{+0,06}
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 ^{+0,15}	26,9 ^{+0,10}
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
- P** - Painted
- PC** - Corrosion Protected 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

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.

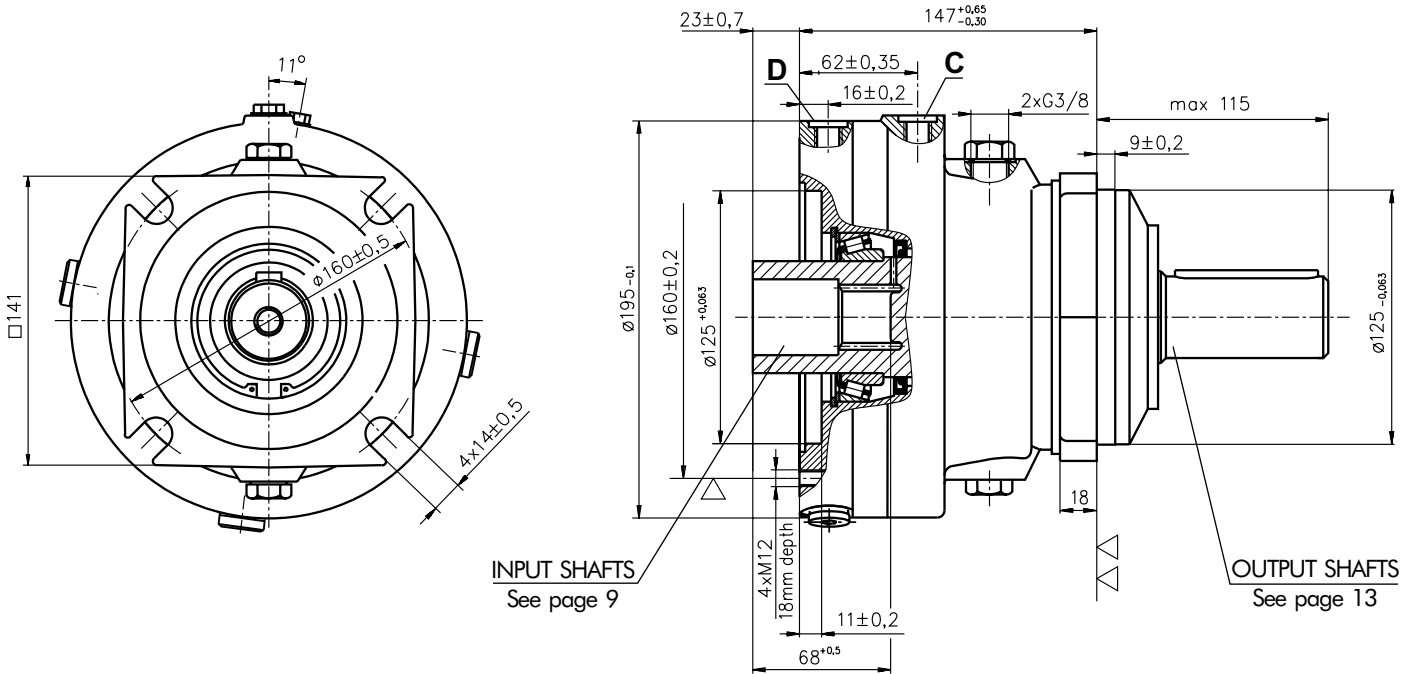
The Disc Brakes are mangano-phosphatized as standard.

ATTENTION:

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 cm³ 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



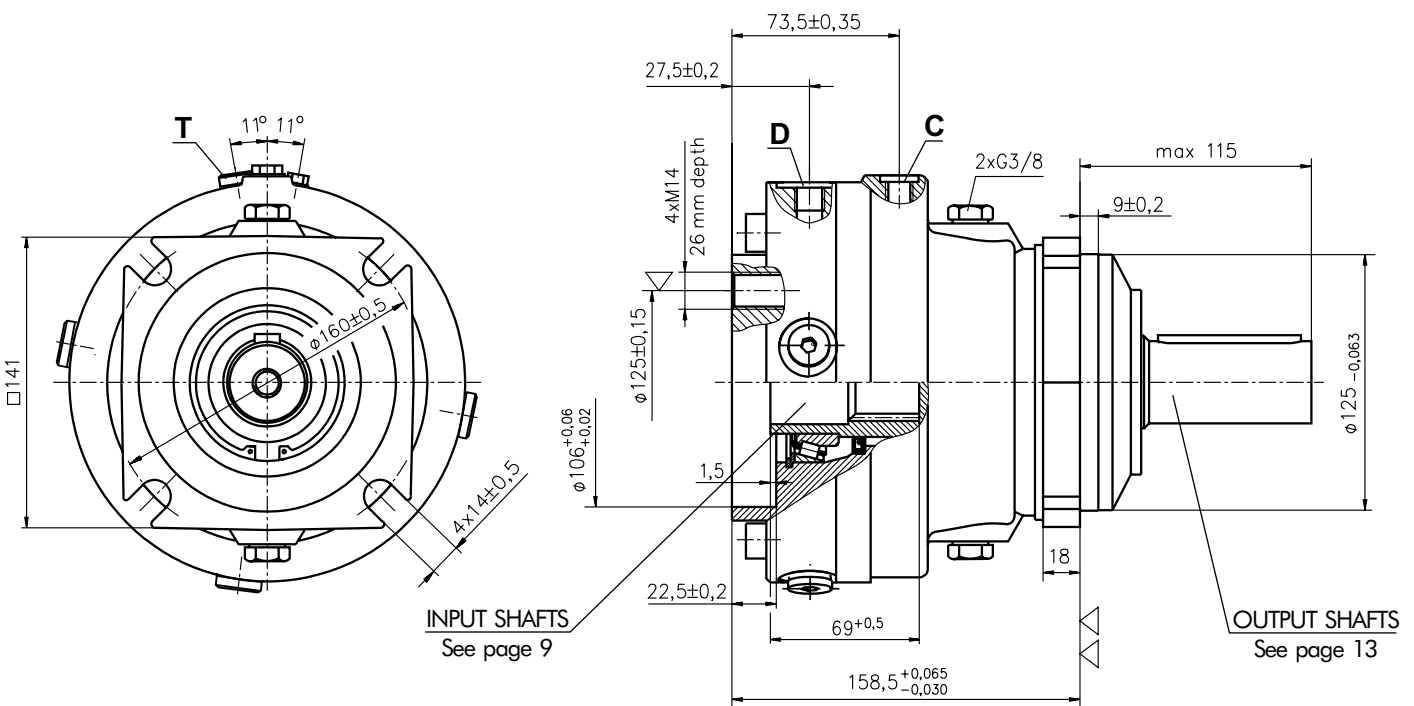
▽ - Place for attachment
(tightening torque for screw M12x30 - 8.8 DIN 912 - 7 daNm)

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/314



▽ - Place for attachment
(tightening torque for screw M14 - 8.8 DIN 912 - 11,5 daNm)

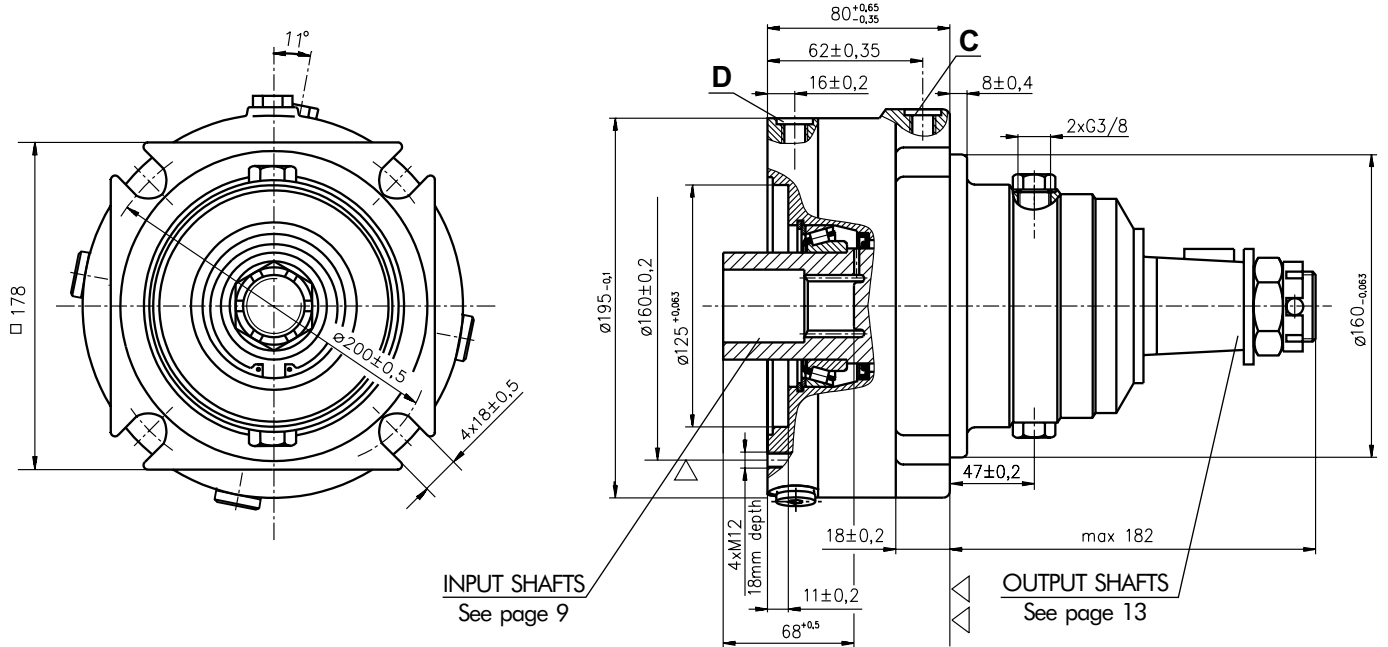
C : Brake release Port - G $\frac{1}{4}$, 9 mm depth

▽▽ - 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**

TYPE LBS/315



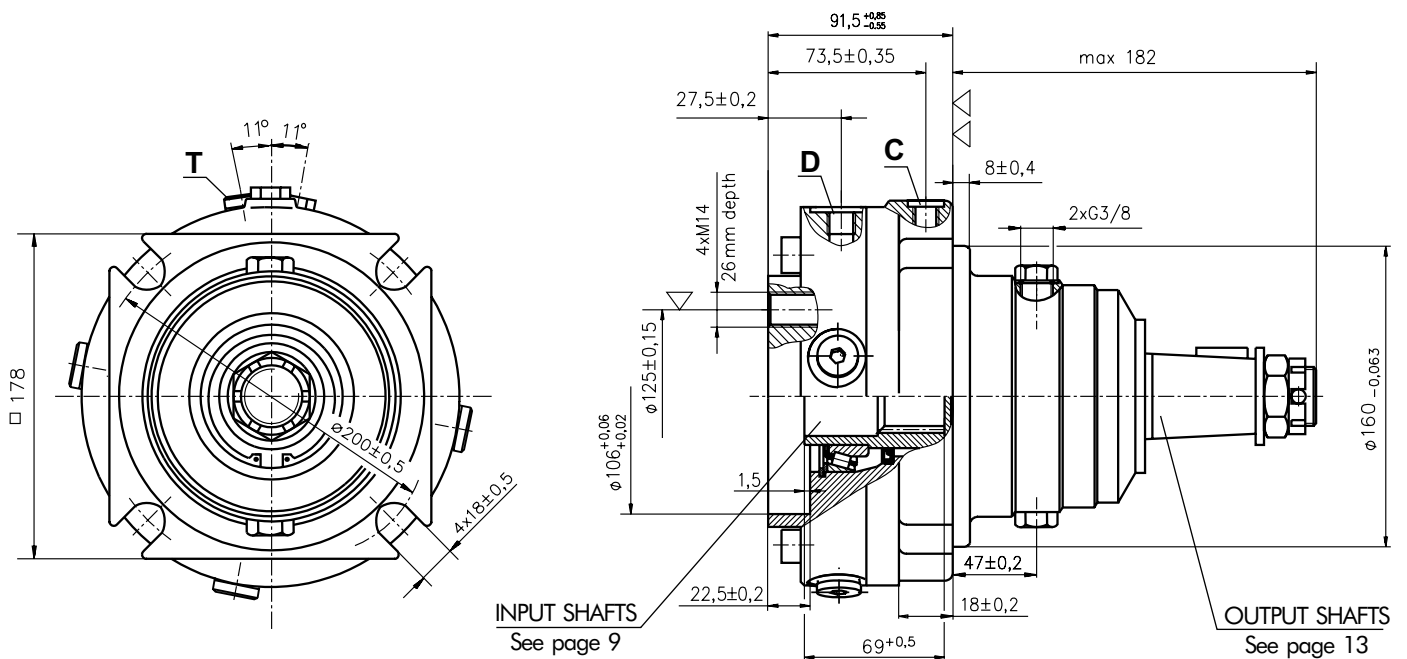
▽ - Place for attachment
(tightening torque for screw M12x30 - 8.8 DIN 912 - 7 daNm)

▽▽ - Place for attachment

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

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

TYPE LBV/315



▽ - Place for attachment
(tightening torque for screw M14 - 8.8 DIN 912 - 11,5 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 BRAKES
FOR FLANGE ATTACHMENT TO MTS AND MTV HYDRAULIC MOTORS**

SPECIFICATION DATA

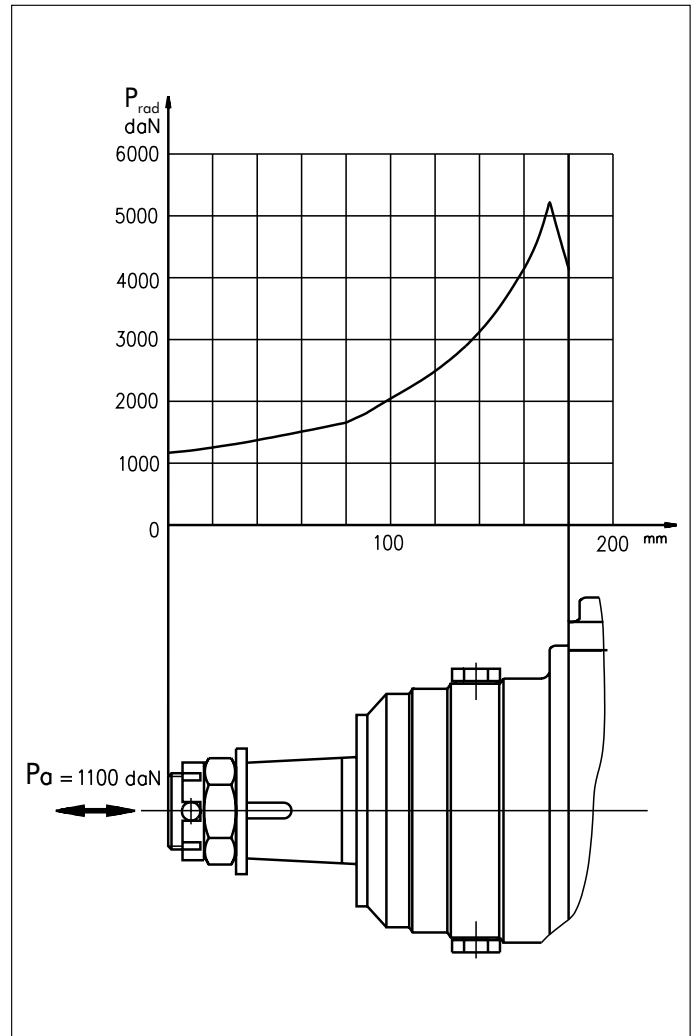
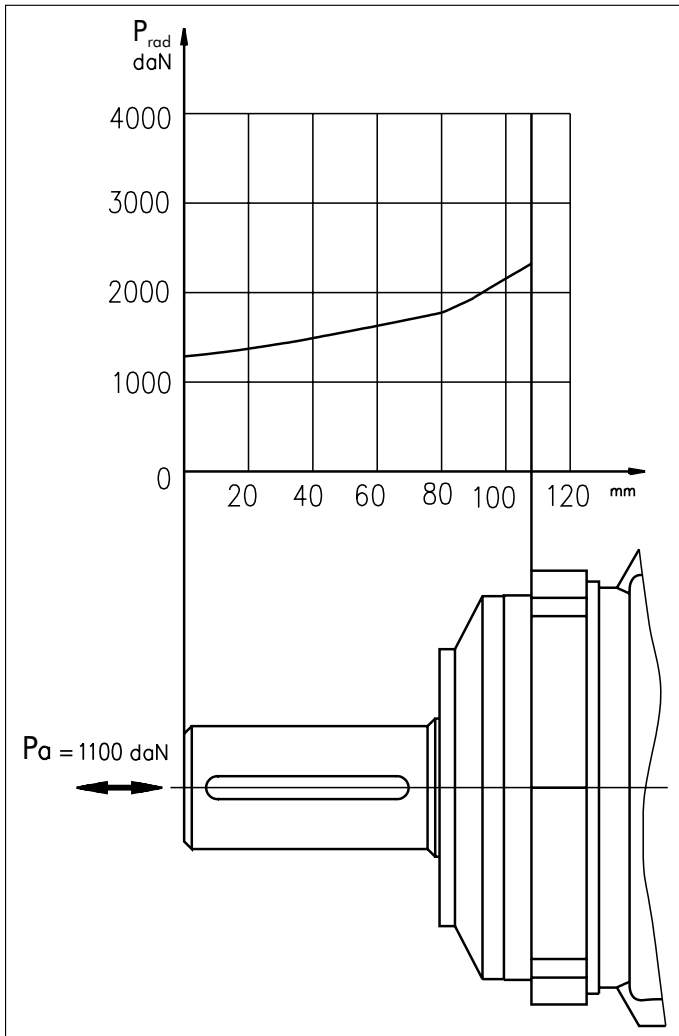
Description	LBS/314(315) LBV/314(315)	21	29	43	65	85	110	130
*Min. Static Torque [daNm]		18-23	28-33	42-46	61-70	83-92	108-118	126-136
Opening Pressure [bar]	min	4-5	6-7	9-10	13-15	18-20	23-25	27-29
	max	300						
Min. oil quantity for brake releasing [cm ³]		8- 9						
Oil volume [cm ³]		150 - 300						
Max. Pressure in drain space [bar]		5						
Weight .../314(315) [kg]		24(25)						

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

LOAD CURVE

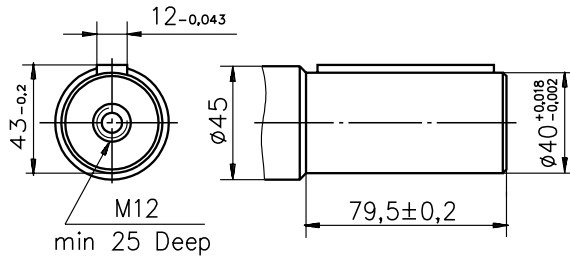
LBS(V) ... /314

LBS(V) ... /315

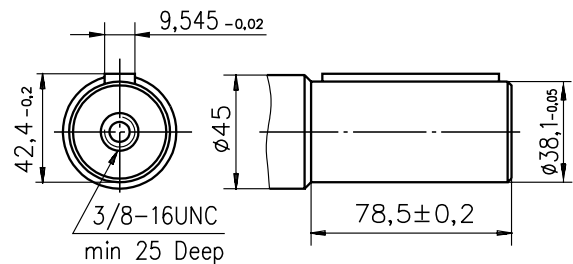


OUTPUT SHAFT EXTENSIONS

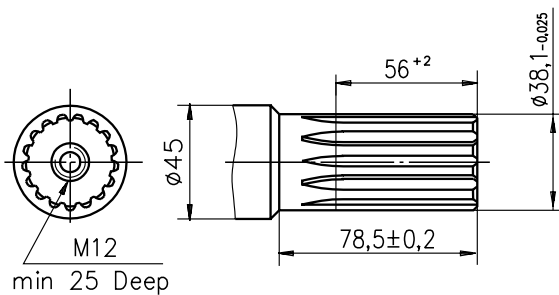
C - $\varnothing 40$ straight, Parallel key A12x8x70 DIN 6885
Max. Torque 132,8 daNm



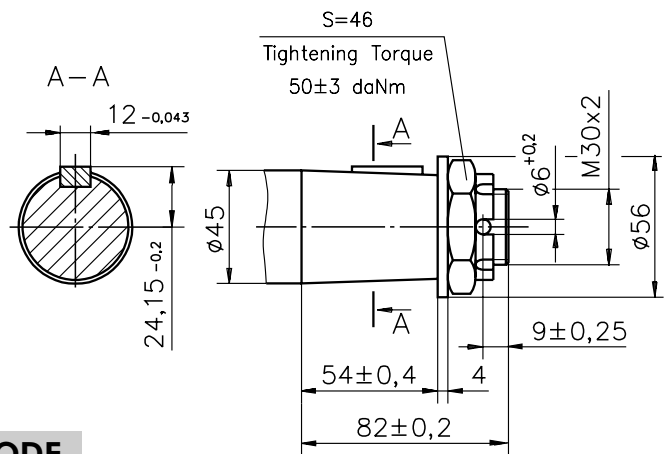
CO - $\varnothing 1\frac{1}{2}$ " straight, Parallel key $\frac{3}{8}$ "x $\frac{3}{8}$ "x $2\frac{1}{4}$ " BS46
Max. Torque 132,8 daNm



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 - Design 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.

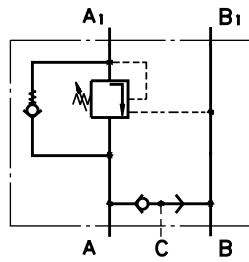
The Disc Brakes are mangano-phosphatized as standard.

ATTENTION:

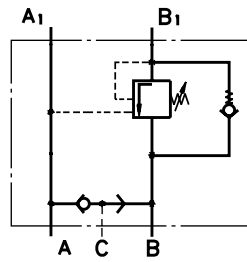
1. Hydraulic brake is delivered without oil (it is lubricated only).
2. In all brakes, friction discs and separators should be lubricated. Space is filled with 150 ÷ 300 cm³ mineral oil HLP (DIN 51524) or HM (ISO 6743/4).

VALVES FOR HYDRAULIC MOTORS

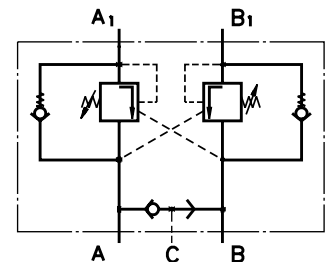
OVERCENTER VALVES WITH BRAKE CONTROL



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



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



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

CONTENTS

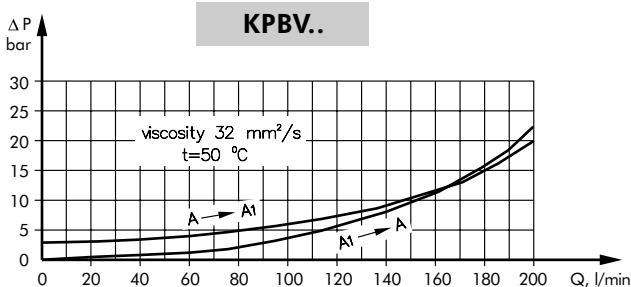
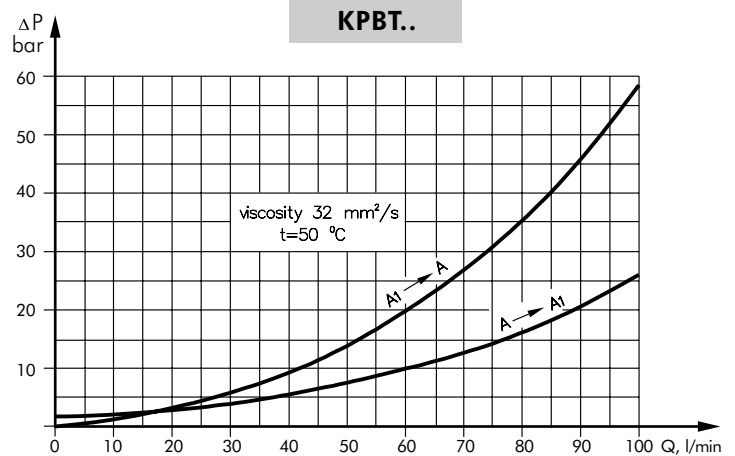
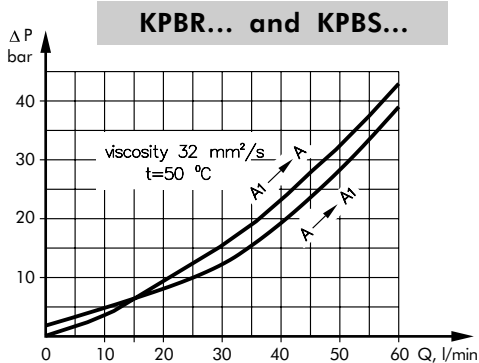
Valves for MP, MR and MH type KPBR ...	15	Crossover Relief Valves	21
Valves for MS type KPBS	16	Valves for MP, MR and MH type KP..R ...	22
Valves for MT type KPBT	17	Valves for MS type KP..S	22
Valves for MV type KPBV	18	Valves for MT type KP..T	23
Switch valves type KPWR and KPWS	19	Valves for MV type KP..V	24
Switch valves type KPWT and KPWW	20	Order Code	26

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

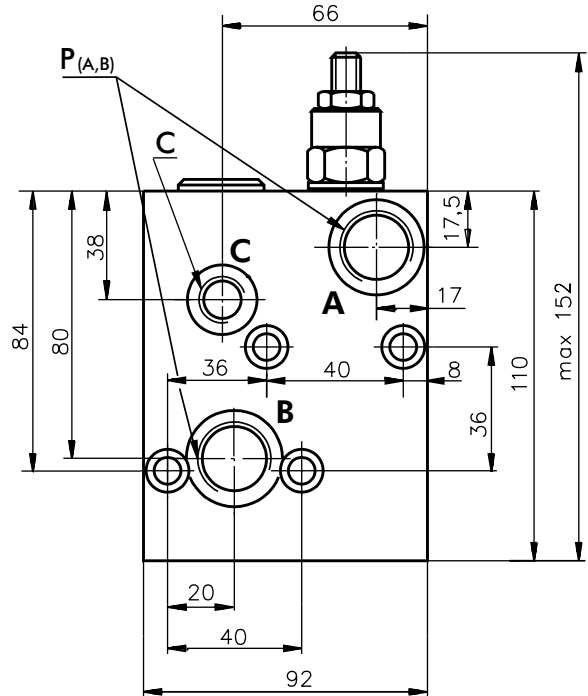
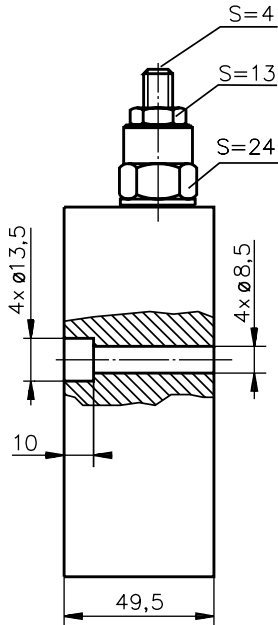
*Pressure Settings are at flow rate of 5 lpm and viscosity 32 mm²/s (50 °C).

PRESSURE LOSSES



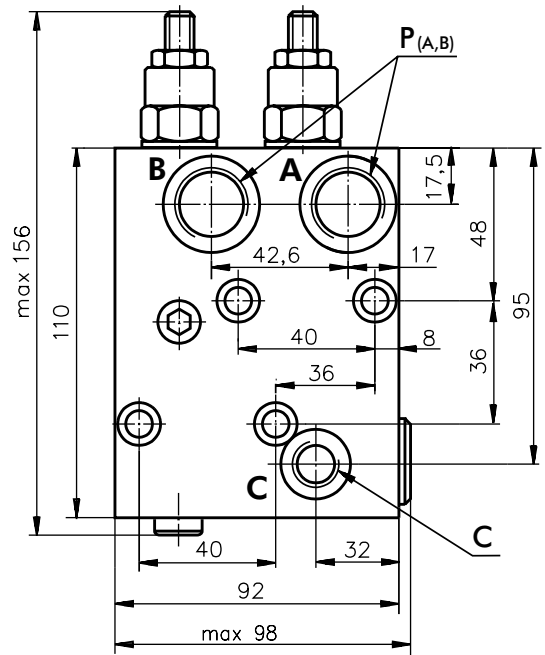
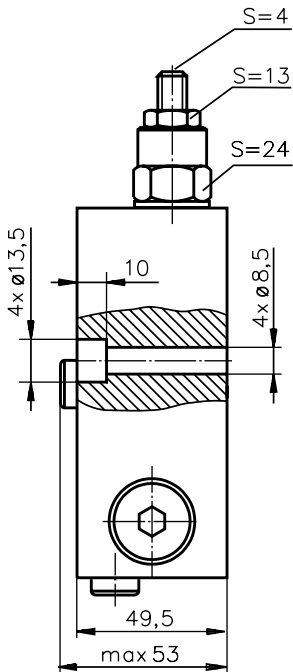
VALVES FOR MP, MR, MH HYDRAULIC MOTORS

SINGLE VALVE KPBR-250/1/E...



P_(A,B) : G1/2 (M22x1,5), 17 mm depth
C : G1/4 (M14x1,5), 14 mm depth

DUAL VALVE KPBR-250/1/D...

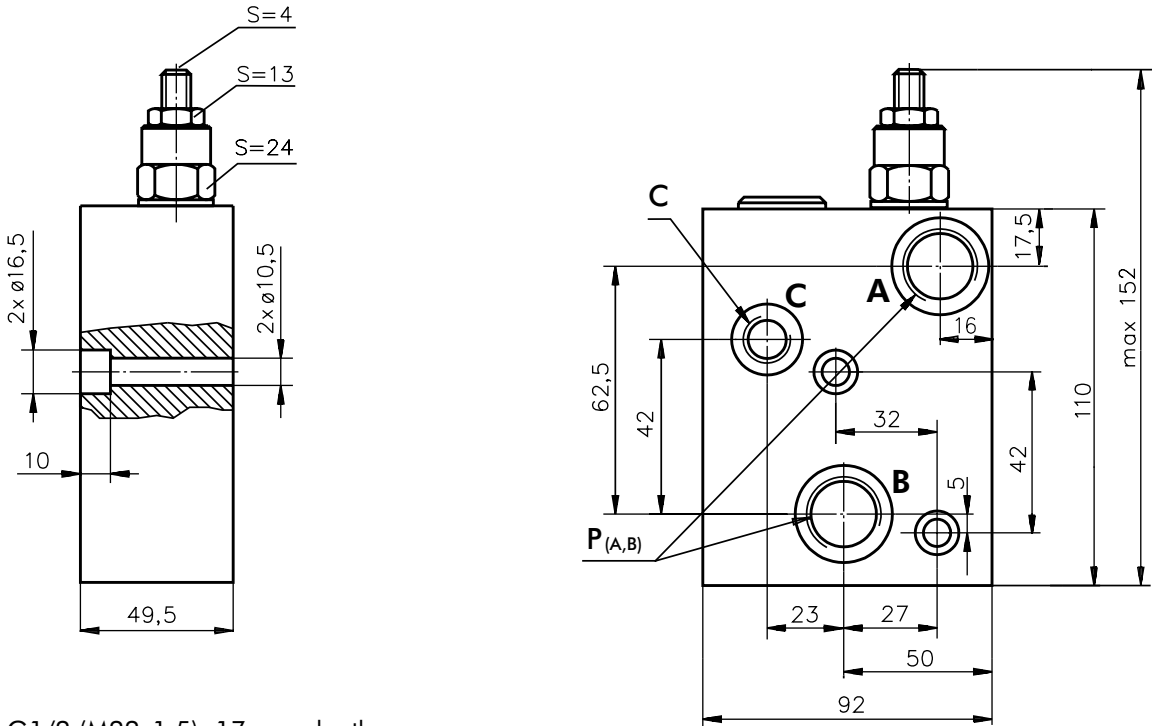


P_(A,B) : G1/2 (M22x1,5), 17 mm depth
C : G1/4 (M14x1,5), 14 mm depth

Note : KPBR Blocks are installed directly on MP, MR and MH Motors with four screws M8x50 - 8.8 DIN 912. Tightening torque 1,7^{+0,2} daNm.

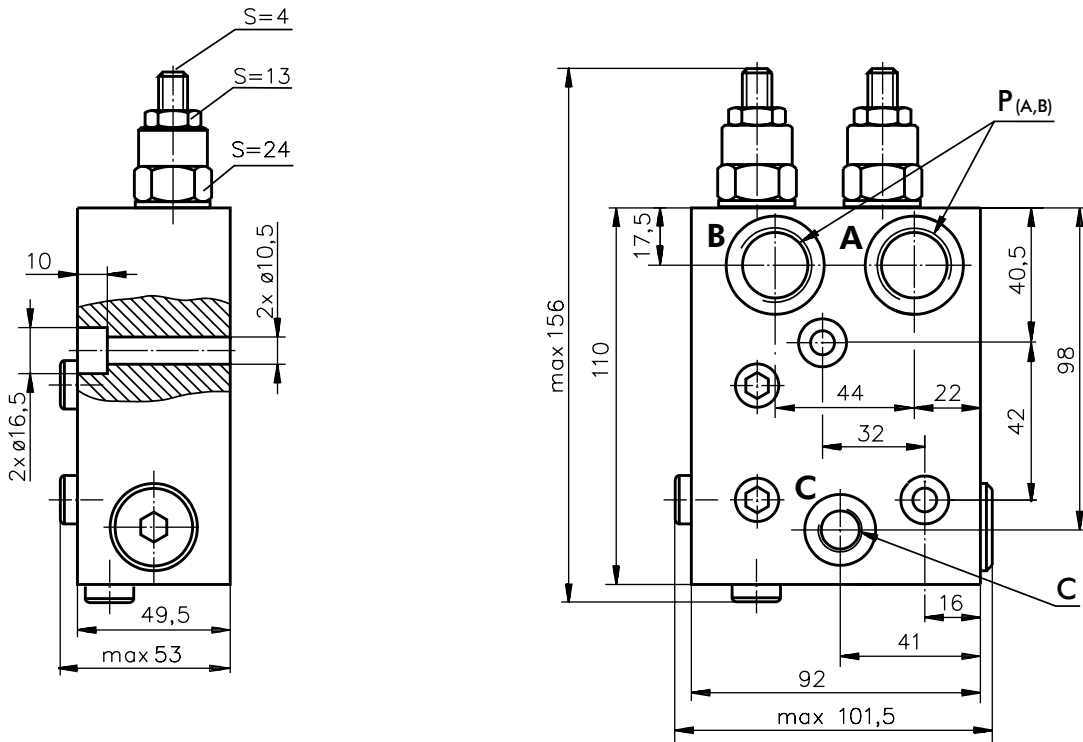
VALVES FOR MS HYDRAULIC MOTORS

SINGLE VALVE KPBS-250/1/E...



P_(A,B) : G1/2 (M22x1,5), 17 mm depth
C : G1/4 (M14x1,5), 14 mm depth

DUAL VALVE KPBS-250/1/D...

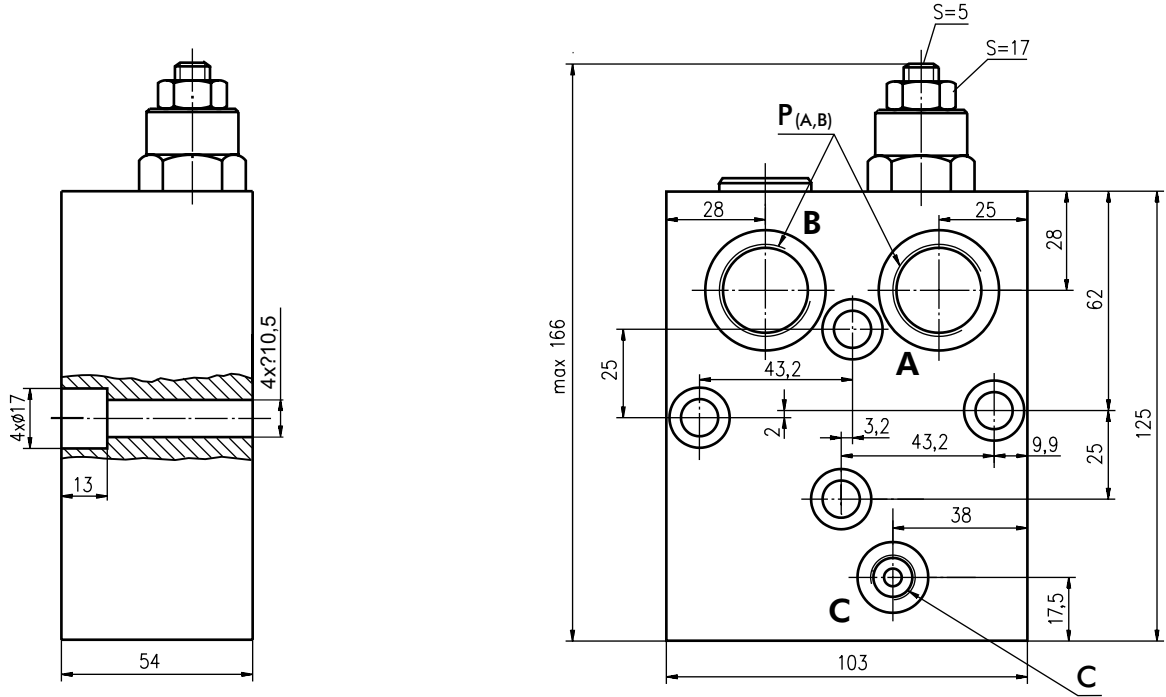


P_(A,B) : G1/2 (M22x1,5), 17 mm depth
C : G1/4 (M14x1,5), 14 mm depth

Note : KPBS Blocks are installed directly on MS Motors with two screws M10x50 - 8.8 DIN 912.
 Tightening torque $3,5^{+0,3}$ daNm.

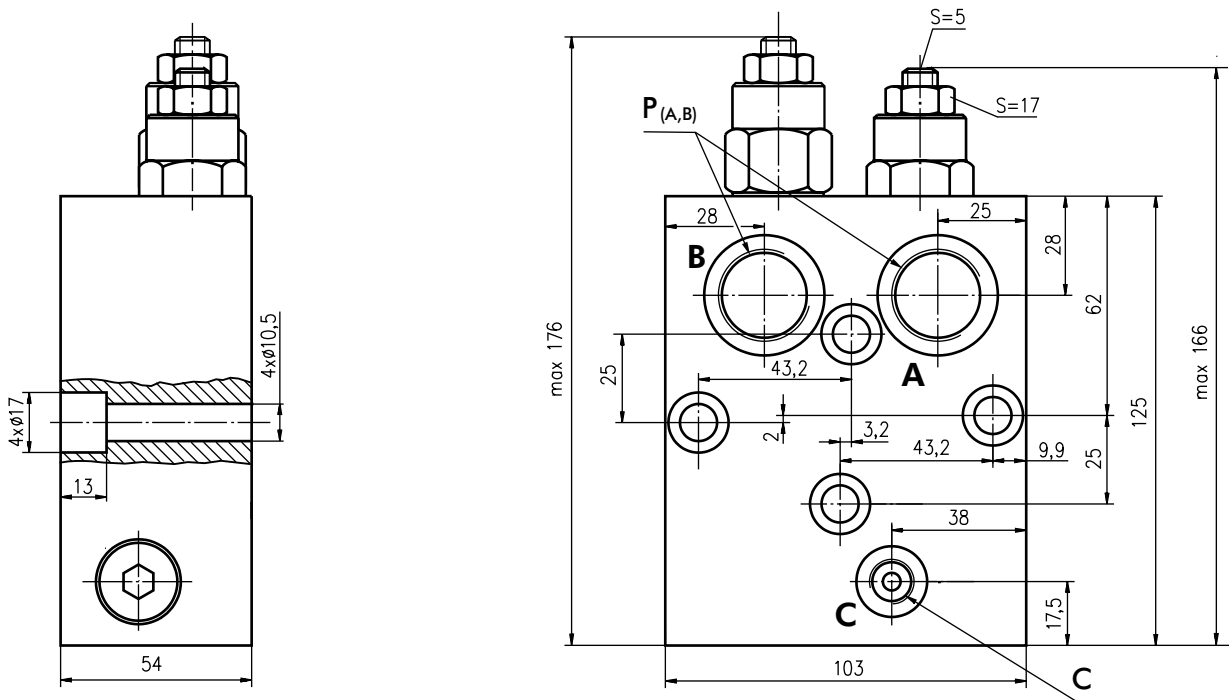
VALVES FOR MT HYDRAULIC MOTORS

SINGLE VALVE KPBT-250/1/E...



$P_{(A, B)}$: G3/4 (M27x2), 17 mm depth
C : G1/4 (M14x1,5), 14 mm depth

DUAL VALVE KPBT-250/1/D...

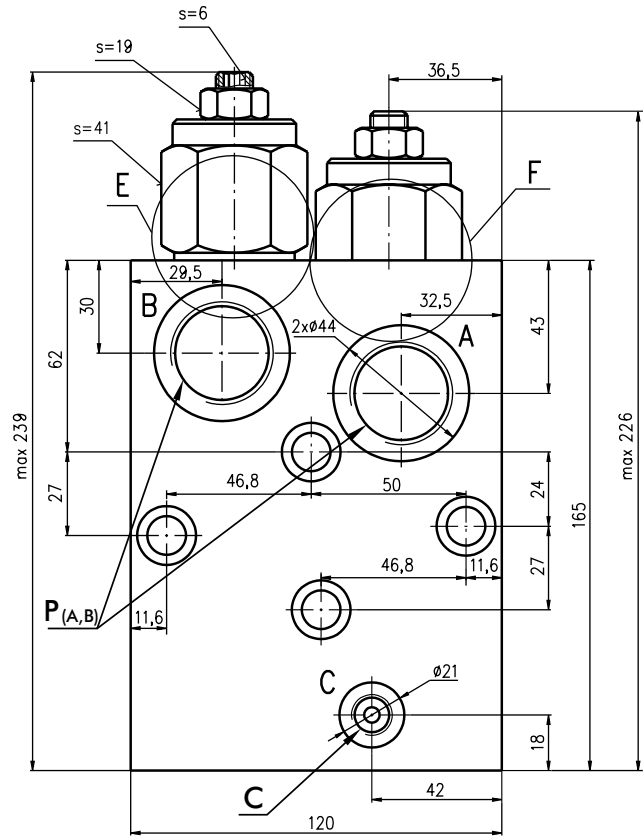
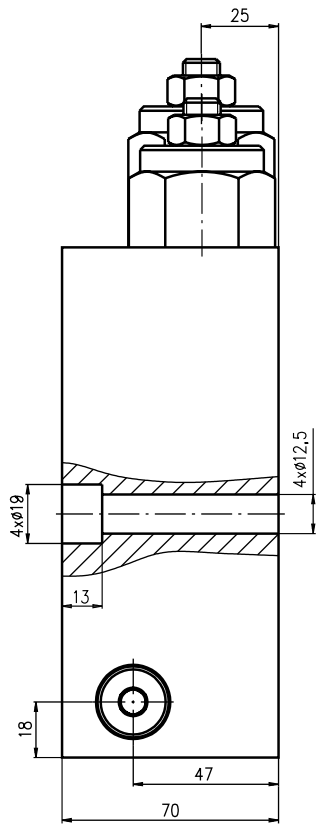


$P_{(A, B)}$: G3/4 (M27x2), 17 mm depth
C : G1/4 (M14x1,5), 14 mm depth

Note : KPBT Blocks are installed directly on MT Motors with four screws M10x50 - 8.8 DIN 912.
 Tightening torque $3,5^{+0,3}$ daNm.

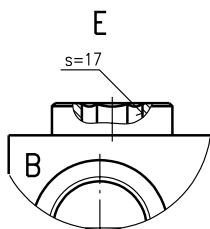
VALVES FOR MV HYDRAULIC MOTORS

DUAL VALVE KPBV-250/1/D...

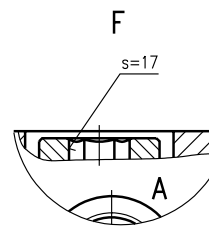


P_(A, B) : G1-A (M33x2), 20 mm depth
C : G1/4 (M14x1,5), 14 mm depth

SINGLE VALVE KPBV-250/1/AE...



SINGLE VALVE KPBV-250/1/BE...



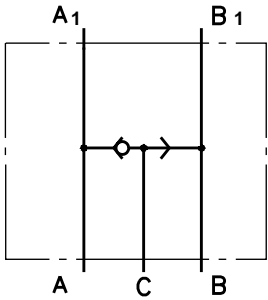
Note : KPBV Blocks are installed directly on MV Motors with four screws M12x70 - 8.8 DIN 912.
 Tightening torque $6,5^{+0,5}$ daNm.



SWITCH VALVE

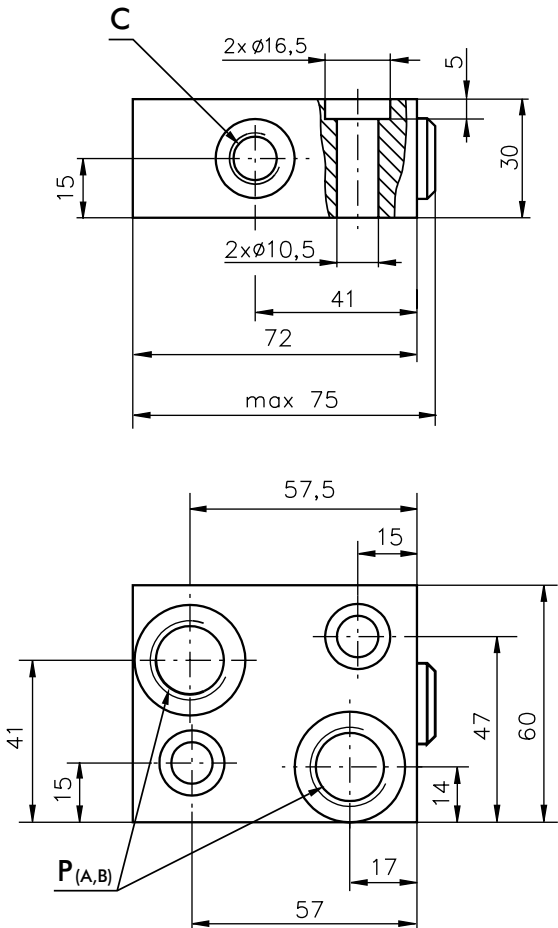
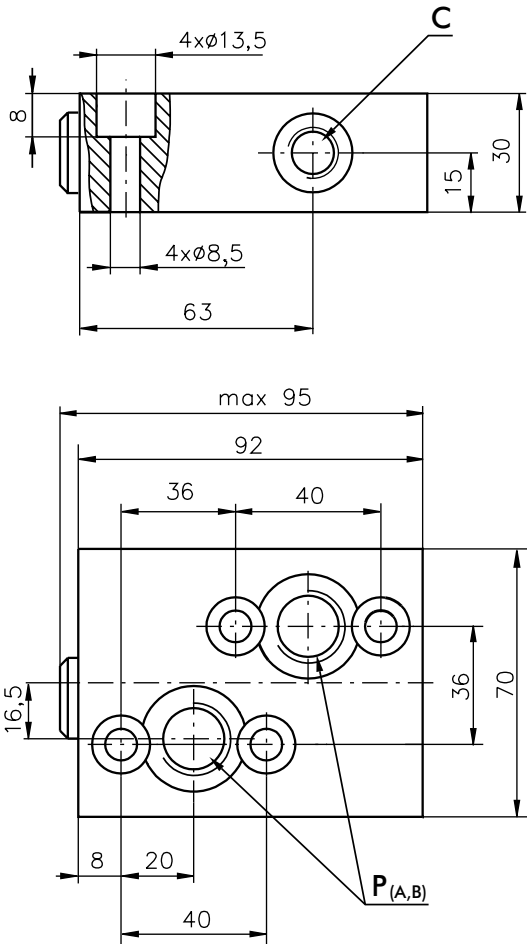
SPECIFICATION DATA

Parameters	Type	
	KPWR	KPWS
Flow Rate , l/min	60	
Rated Pressure , bar	250	
Weight , kg	0,850	0,670



**VALVE FOR MP, MR, MH HYDRAULIC MOTORS
KPWR**

**VALVE FOR MS HYDRAULIC MOTORS
KPWS**



P_(A, B) : G1/2 (M22x1,5), 17 mm depth
C : G1/4 (M14x1,5), 14 mm depth

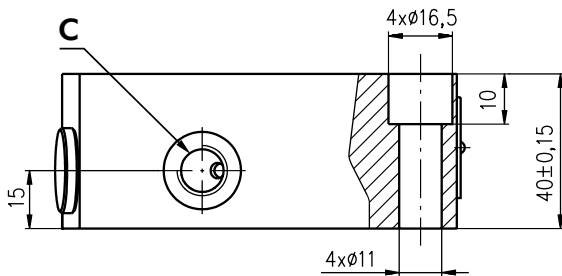
Note : KPWR Blocks are installed directly on MP, MR and MH Motors with four screws M8x35 - 8.8 DIN 912. Tightening torque 1,7^{+0,2} daNm.
 KPWS Blocks are installed directly on MS Motors with two screws M10x35 - 8.8 DIN 912. Tightening torque 3,5^{+0,3} daNm.

SWITCH VALVE (continued)

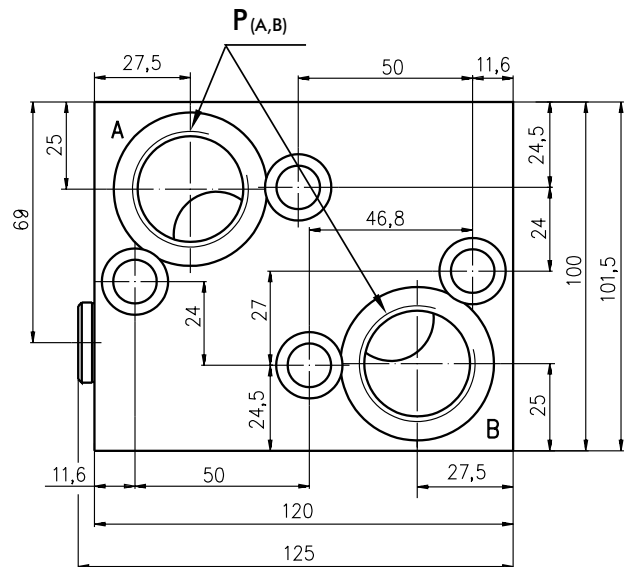
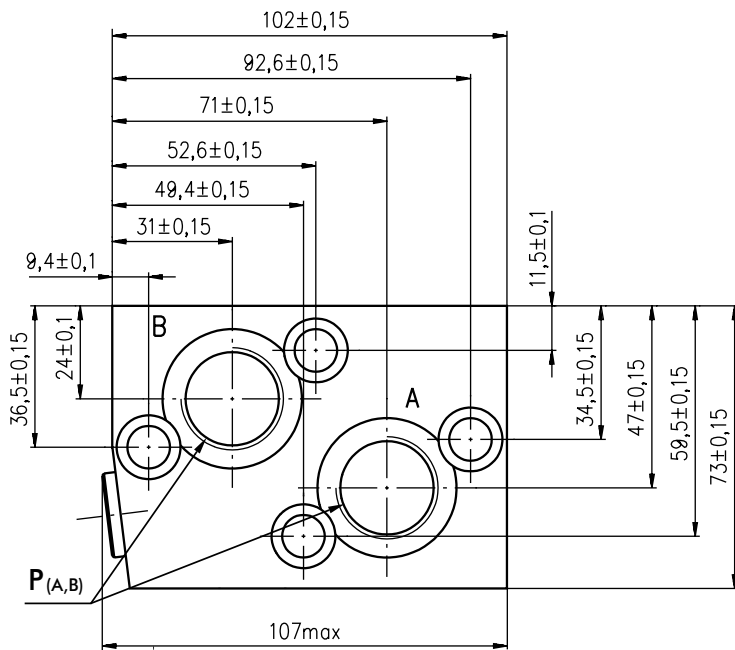
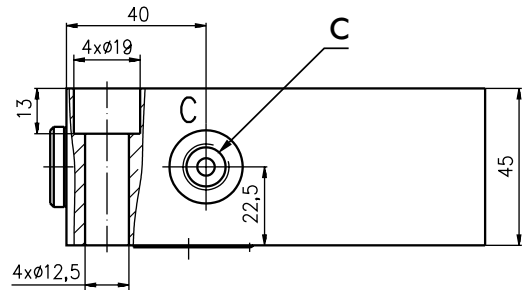
SPECIFICATION DATA

Parameters	Type	
	KPWT	KPWV
Flow Rate , l/min	100	200
Rated Pressure , bar	250	
Weight , kg	1,800	3,150

**VALVE FOR MT HYDRAULIC MOTORS
KPWT**



**VALVE FOR MV HYDRAULIC MOTORS
KPWV**

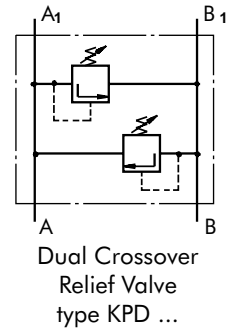
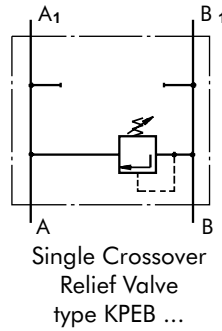
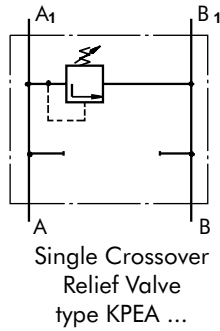


P_(A, B) : G3/4 (M27x2), 17 mm depth
C : G1/4 (M14x1,5), 14 mm depth

P_(A, B) : G1-A (M33x2), 20 mm depth
C : G1/4 (M14x1,5), 14 mm depth

Note : KPWT Blocks are installed directly on MT Motors with four screws M10x40 - 8.8 DIN 912.
Tightening torque $3,5^{+0,3}$ daNm.
KPWV Blocks are installed directly on MV Motors with four screws M12x45 - 8.8 DIN 912.
Tightening torque $6,5^{+0,5}$ daNm.

CROSSOVER RELIEF VALVES



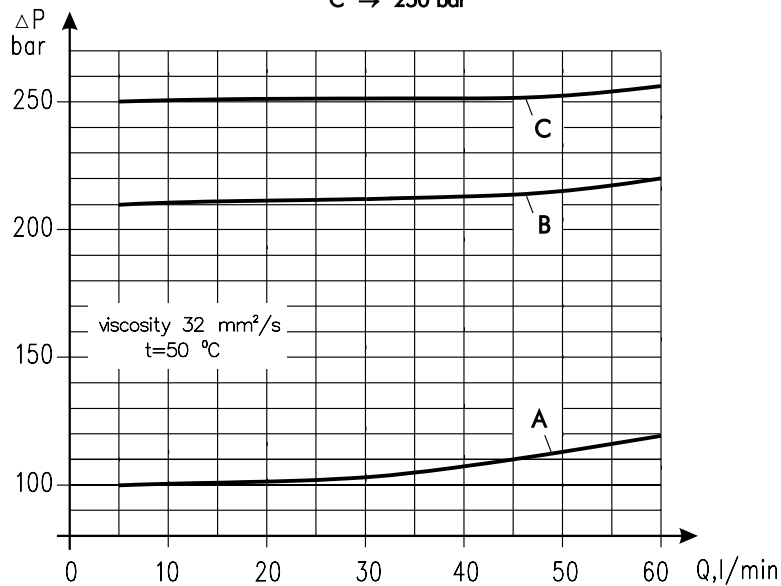
SPECIFICATION DATA

Parameters	Type			
	KPER	KPDR	KPES	KPDS
Flow Rate , l/min	60			
Rated Pressure*, bar	30 to 100; 50 to 210; 80 to 300			
Weight , kg	1,55		1,50	

*Pressure Settings are at flow rate of 5 l/min and viscosity 32 mm²/s (50 °C).

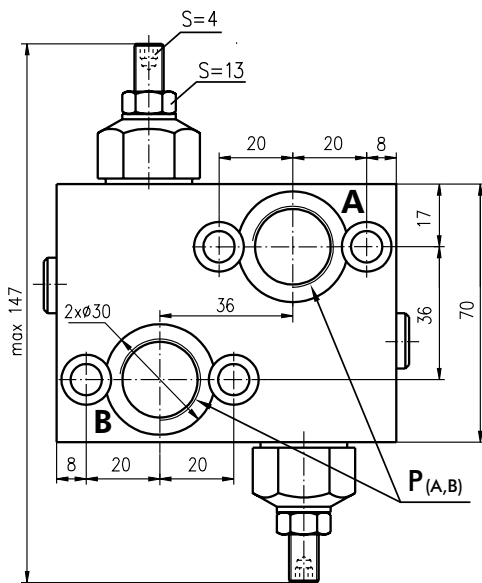
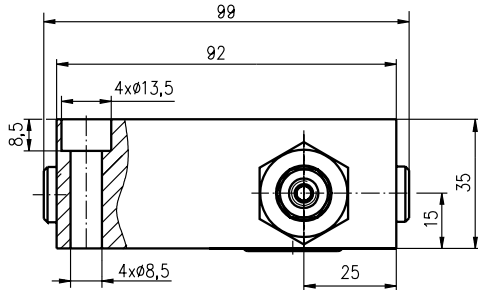
RATED PRESSURE

- A → 100 bar
- B → 210 bar
- C → 250 bar

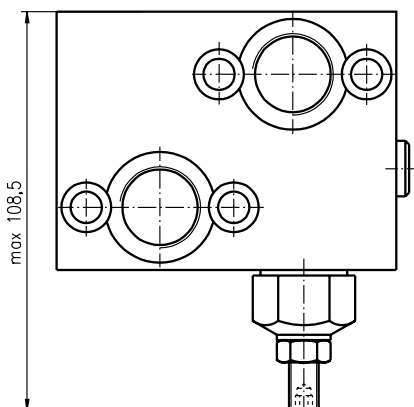


**VALVES FOR MP, MR, MH
HYDRAULIC MOTORS**

DUAL VALVE KPDR/...



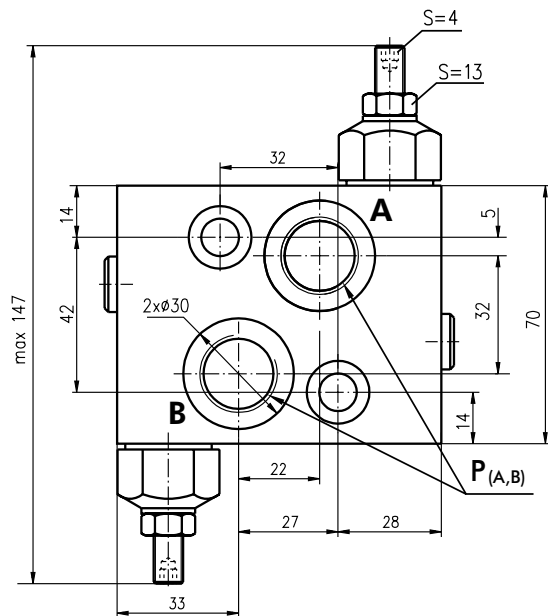
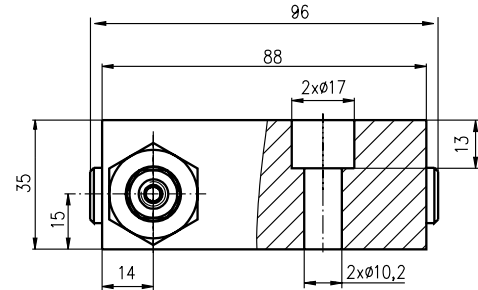
SINGLE VALVES KPER/...



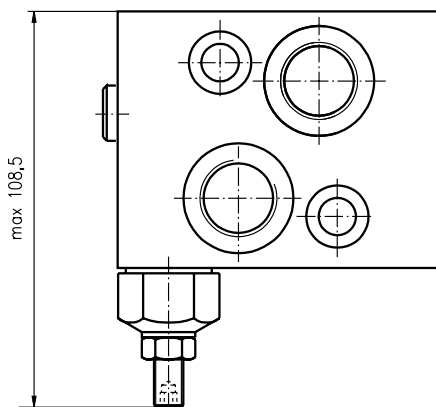
$P_{(A, B)}$: G1/2 (M22x1,5), 20 mm depth

**VALVES FOR MS
HYDRAULIC MOTORS**

DUAL VALVE KPDS/...



SINGLE VALVES KPES/...



$P_{(A, B)}$: G1/2 (M22x1,5), 20 mm depth

Note: -KPDR (KPER) Blocks are installed directly on MP , MR and MH Motors with four screws M8x35-8.8 DIN 912. Tightening torque $1,7^{+0,2}$ daNm.

-KPDS (KPES) Blocks are installed directly on MS Motors with two screws M10x35-8.8 DIN 912. Tightening torque $3,5^{+0,3}$ daNm.

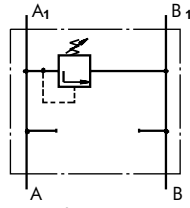
VALVE FOR MT HYDRAULIC MOTORS

SPECIFICATION DATA

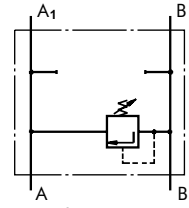


Parameters	Type	
	KPET	KPDT
Flow Rate , l/min	120	
Rated Pressure*, bar	80 to 210	
Weight , kg	5,10	5,54

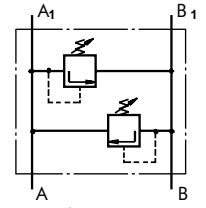
*Pressure Settings are at flow rate of 5 l/min and viscosity 32 mm²/s (50 °C).



Single Crossover Relief Valve type KPEAT ...

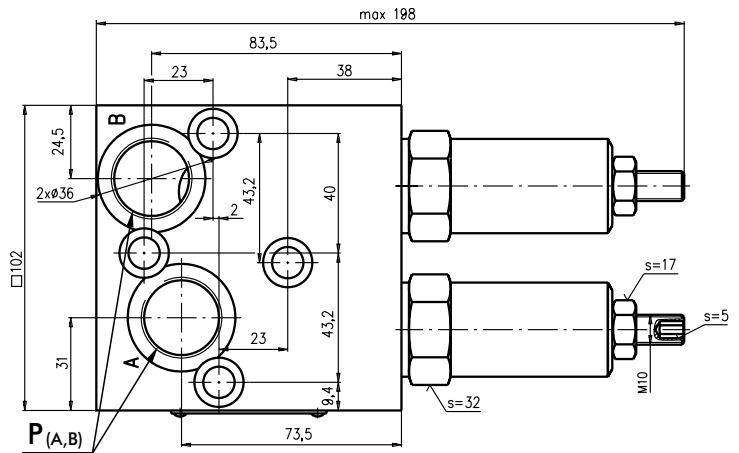
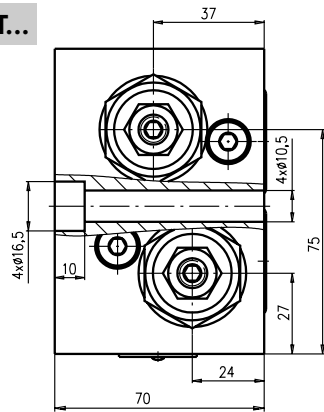


Single Crossover Relief Valve type KPEBT ...

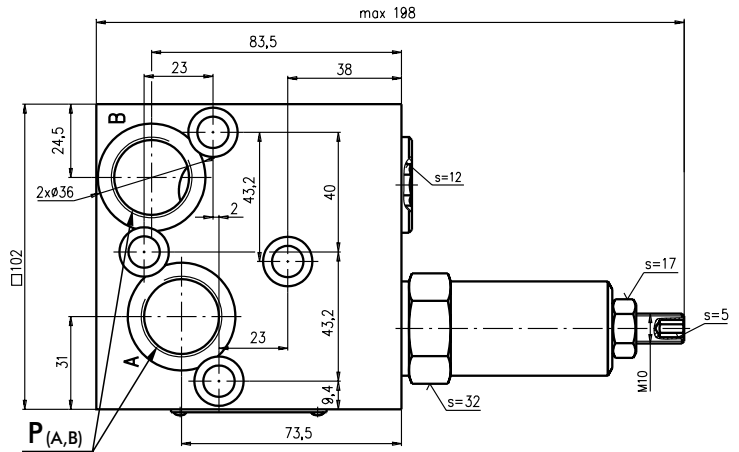
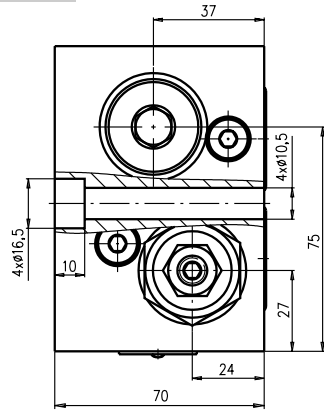


Dual Crossover Relief Valve type KPDT ...

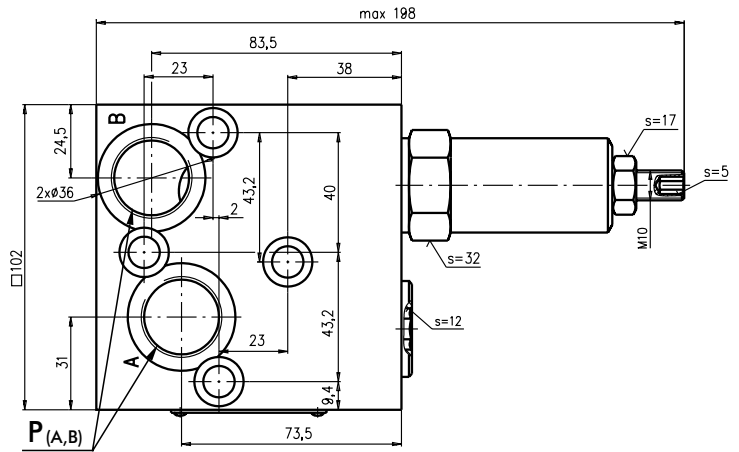
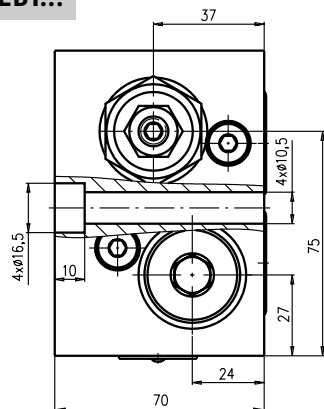
DUAL VALVE KPDT...



SINGLE VALVE KPEAT...



SINGLE VALVE KPEBT...



P (A, B): G3/4 (M27x2), 20 mm depth

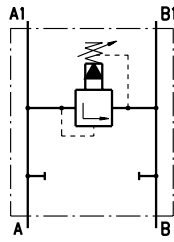
Note :KPDT (KPET) Blocks are installed directly on MT Motors with four screws M10x70 - 8.8 DIN 912. Tightening torque 3,5^{+0,5} daNm.

VALVE FOR MV HYDRAULIC MOTORS

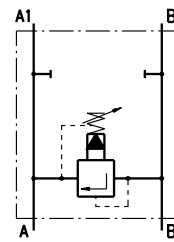
SPECIFICATION DATA

Parameters	Type		
	KPEAV	KPEBV	KPDV
Flow Rate , l/min	200		
Rated Pressure*, bar	10 to 100; 20 to 250		
Weight , kg	4,9	7,1	8,00

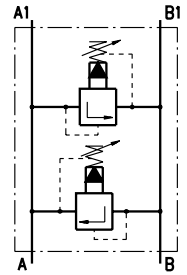
*Pressure Settings are at flow rate of 5 l/min and viscosity 32 mm²/s (50 °C).



Single Crossover Relief Valve type KPEAV ...

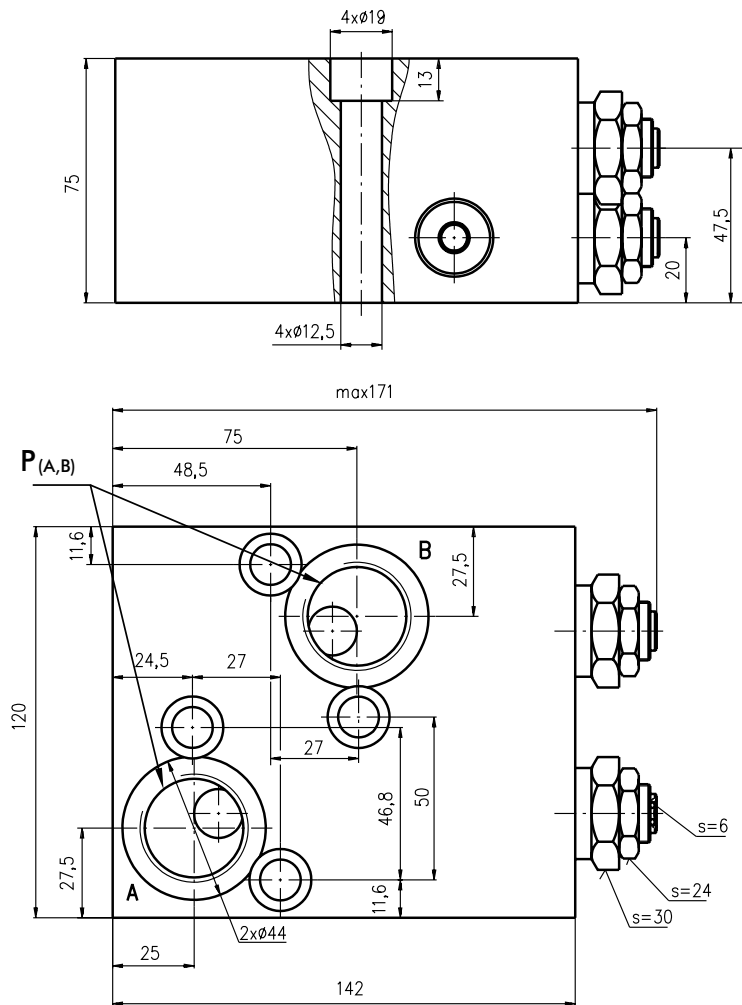


Single Crossover Relief Valve type KPEBV ...



Dual Crossover Relief Valve type KPDV ...

DUAL VALVE KPDV .../...

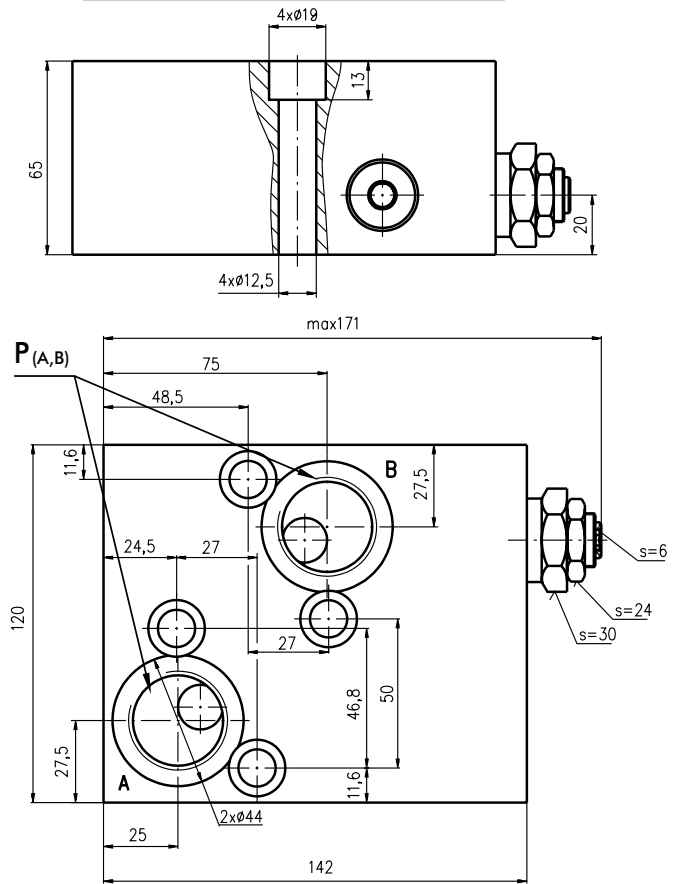
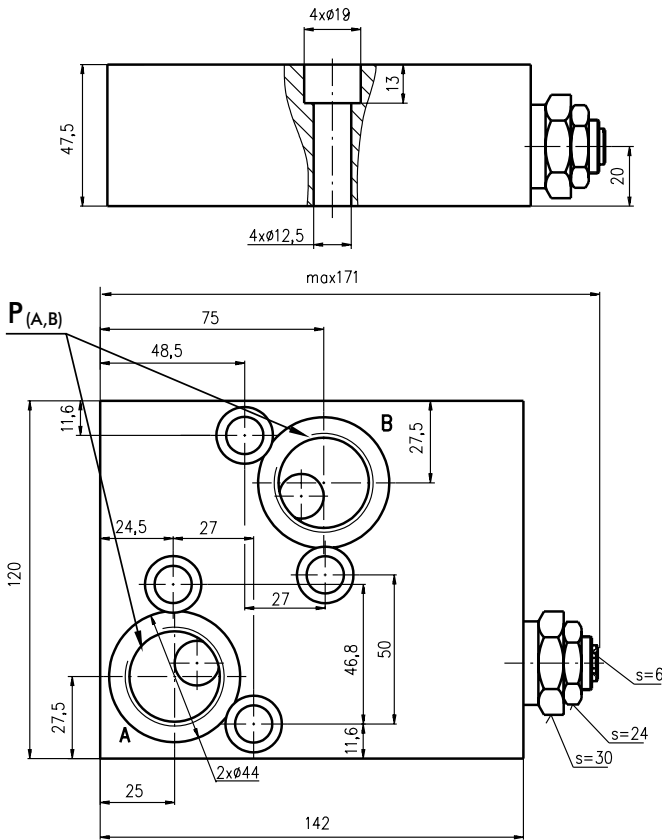


$P_{(A,B)}$: G1-A (M33x2), 20 mm depth

Note :KPDV Blocks are installed directly on MV Motors with four screws M12x75 - 8.8 DIN 912. Tightening torque 6,5^{+0,5} daNm.

SINGLE VALVE KPEAV .../...

SINGLE VALVE KPEBV .../...



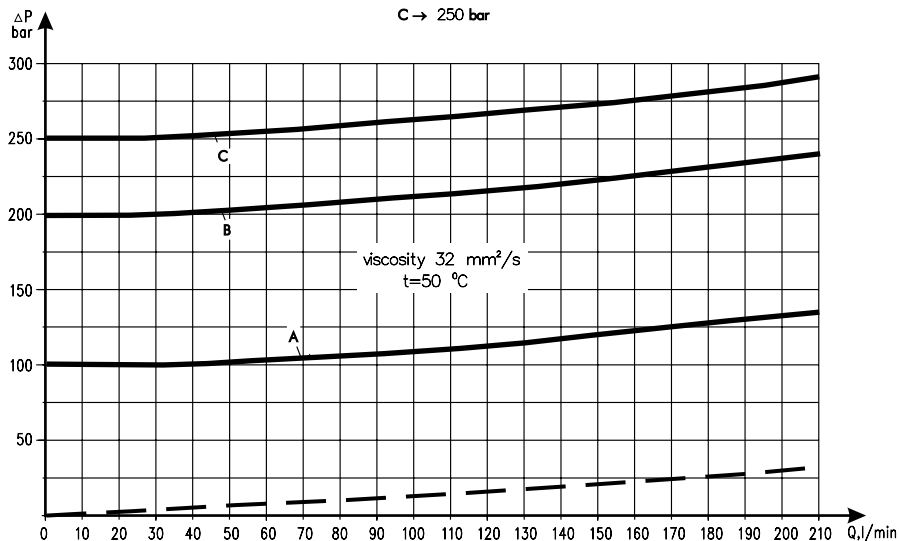
P_(A, B) : G1-A (M33x2), 20 mm depth

P_(A, B) : G1-A (M33x2), 20 mm depth

Note : KPEAV Blocks are installed directly on MV Motors with four screws M12x50 - 8.8 DIN 912.
KPEBV Blocks are installed directly on MV Motors with four screws M12x65 - 8.8 DIN 912.
Tightening torque 6,5^{+0,5} daNm.

Rated Pressure

- A → 100 bar
- B → 200 bar
- C → 250 bar



ORDER CODE - OVERCENTER VALVES WITH BRAKE CONTROL

	1	2	3	4	5	6	7
K P B		-	/	/			

Pos.1 - Housing Type

- R** - Valve block for MP, MR and MH Motors
- S** - Valve block for MS Motors
- T** - Valve block for MT Motors
- V** - Valve block for MV Motors

Pos.2 - Rated Pressure, bar

- 250** - 70÷250, Std Setting 250 bar@5 lpm

Pos.3 - Pilot Ratio

- 1** - 4,25 : 1

Pos.4 - Number of Valves

- D** - Two Valves - Dual
- E** - One Valve - Single (for **R** and **S** only)
- AE** - One Valve on line A - Single (for **T** and **V** only)
- BE** - One Valve on line B - Single (for **T** and **V** only)

Pos.5 - Ports

- omit - BSPP (ISO 228)
- M** - Metric (ISO 262)

Pos.6 - Option (Paint)*

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

Pos.7 - Design Series

- omit - Factory specified

NOTES:
* The color is by customer's request.

ORDER CODE - SWITCH VALVES

	1	2	3	4
K P W				

Pos.1 - Housing Type

- R** - Valve block for MP, MR and MH Motors
- S** - Valve block for MS Motors
- T** - Valve block for MT Motors
- V** - Valve block for MV Motors

Pos.2 - Ports

- omit - BSPP (ISO 228)
- M** - Metric (ISO 262)

Pos.3 - Option (Paint)*

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

Pos.4 - Design Series

- omit - Factory specified

NOTES: * The color is by customer's request.

ORDER CODE - CROSSOVER RELIEF VALVES

	1	2	3	4	5	6
K P			/			

Pos.1 - Number of Valves

- D** - Two Valves - Dual
- E** - One Valve - Single (for **R** and **S** only)
- EA** - One Valve on line A - Single (for **T** and **V** only)
- EB** - One Valve on line B - Single (for **T** and **V** only)

Pos.2 - Housing Type

- R** - Valve block for MP, MR and MH Motors
- S** - Valve block for MS Motors
- T** - Valve block for MT Motors
- V** - Valve block for MV Motors

Pos.3 - Max. pressure range, bar (see page 21 and 24)

- 100*** - 30÷100, Std Setting 100 bar@5 lpm
- 210*** - 50÷210, Std Setting 210 bar@5 lpm
- 300*** - 80÷300, Std Setting 250 bar@5 lpm
- 210**** - 80÷210, Std Setting 210 bar@5 lpm
- 100***** - 10÷100, Std Setting 100 bar@5 lpm
- 250***** - 20÷250, Std Setting 250 bar@5 lpm

Pos.4 - Ports

- omit - BSPP (ISO 228)
- M** - Metric (ISO 262)

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

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

Pos.6 - Design Series

- omit - Factory specified

NOTES:
* Useful for types **R** and **S** only .
** Useful for types **T** only .
*** Useful for types **V** only .
**** The color is by customer's request.
The Valve Blocks are mangano-phosphatized as standard.