

Caproni



PRESSURE VALVES

CONTENTS:	Page
Relief valves:	
RV06-2A... ..	1/19
RV08-2A... ..	2/19
RV22-2A... ..	3/19
KPZ10/... ..	4/19
KP-70/... ..	5/19
KP60/... ..	6/19
RM80-... ..	7/19
Relief valve-prefill type:	
KPP..10/... ..	8/19&9/19
Unloading relief valve:	
KPR-10/...P ..	10/19
Relief reducing valve:	
KRT10P/... ..	11/19
Pressure reducing valve:	
PRV10-3A... ..	12/19
“OVERCENTER” valve with internal pilot operation:	
OWC-...E/L... ..	13/19
Pressure sequence valves:	
PSV10-3A... ..	14/19
PSV10-3D... ..	15/19
PSV10-3H... ..	16/19
Piloted logic valve:	
PLV10-SA... ..	17/19
Two pump “Hi-Low” unloading valves:	
UVP-NG10 - flangeable CETOP5 (NG10) ..	18/19
UVP-... ..	19/19

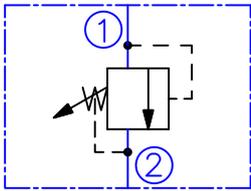
DESCRIPTION

A screw-in , cartridge-style , direct-acting , poppet-type , hydraulic relief valve intended for lower flow circuits requiring low internal leakage.

OPERATION

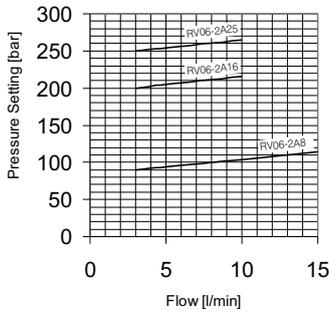
The RV06-2A blocks flow from 1 to 2 until sufficient pressure is present at 1 to force the spring-opposed poppet from its seat.

SYMBOL



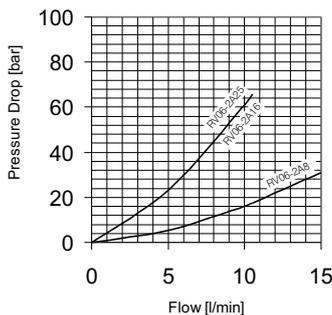
PERFORMANCE

Cartridge only
32cSt oil at 40°C

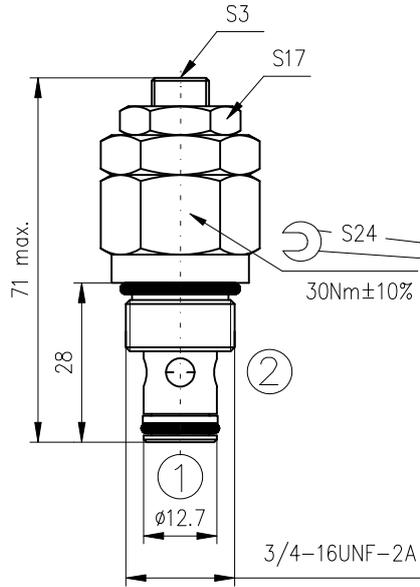


The Performance Chart illustrates flow handling capacity at max. setting for each spring range option. Pressure rise will vary with spring (range) and with setting within range due to flow forces.

32cSt oil at 40°C



DIMENSIONS



ORDERING CODE

RV06-2A

Relief valve

Pressure adjustment range:

- 0...90bar - 8
- 20...200bar - 16
- 30...250bar - 25

Seals:

- Buna N - N
- Viton V - V

TECHNICAL DATA

Operating pressure		250bar
Pressure adjustment range:	RV06-2A8...	0...90 bar
	RV06-2A16...	20...200 bar
	RV06-2A25...	30...250 bar
Rated flow - See Performance Chart		
Internal leakage:		0,25cc/min at 200bar
Working liquid-hydraulic oils with characteristics:		10...400 cSt 0,025 mm -20...+80°C
Cavity: See "Cavities and bodies" broshure		CC06-2

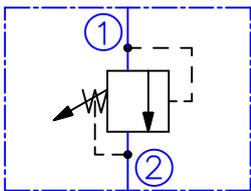
DESCRIPTION

A screw-in , cartridge-style , direct-acting , poppet-type , hydraulic relief valve intended for lower flow circuits requiring low internal leakage.

OPERATION

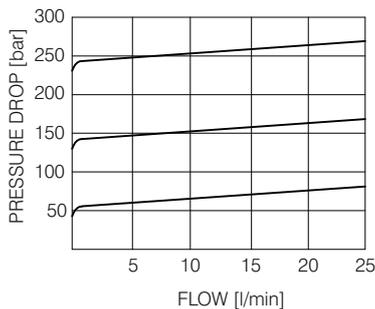
The RV08-2A blocks flow from 1 to 2 until sufficient pressure is present at 1 to force the spring-opposed poppet from its seat.

SYMBOL



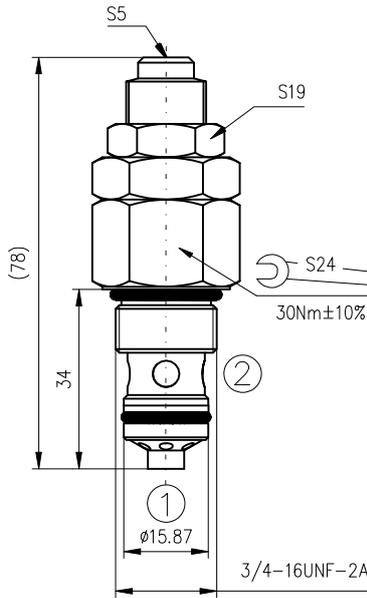
PERFORMANCE

Cartridge only
32cSt oil at 40°C



The Performance Chart illustrates flow handling capacity at max. setting for each spring range option. Pressure rise will vary with spring (range) and with setting within range due to flow forces.

DIMENSIONS



ORDERING CODE

RV08-2A

Relief valve

Pressure adjustment range:

10...80bar - 8

40...160bar - 16

80...250bar - 25

Seals:

Buna N - N

Viton V - V

TECHNICAL DATA

Operating pressure		250bar
Pressure adjustment range:	RV08-2A8...	10...80 bar
	RV08-2A16...	40...160 bar
	RV08-2A25...	80...250 bar
Rated flow - See Performance Chart		
Internal leakage:		0,25cc/minute at 200bar max. to 75% of nominal setting
Working liquid-hydraulic oils with characteristics:		
-viscosity		10...400 cSt
-degree of filtration		0,025 mm
-temperature		-20...+80°C
Cavity: See "Cavities and bodies" brochure		CC08-2

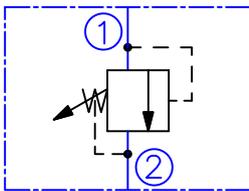
DESCRIPTION

A screw-in , cartridge-style , direct-acting , poppet-type , hydraulic relief valve intended for medium flow circuits requiring low internal leakage.

OPERATION

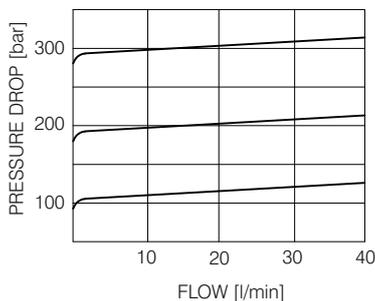
The RV22-2A blocks flow from 1 to 2 until sufficient pressure is present at 1 to force the spring-opposed poppet from its seat.

SYMBOL



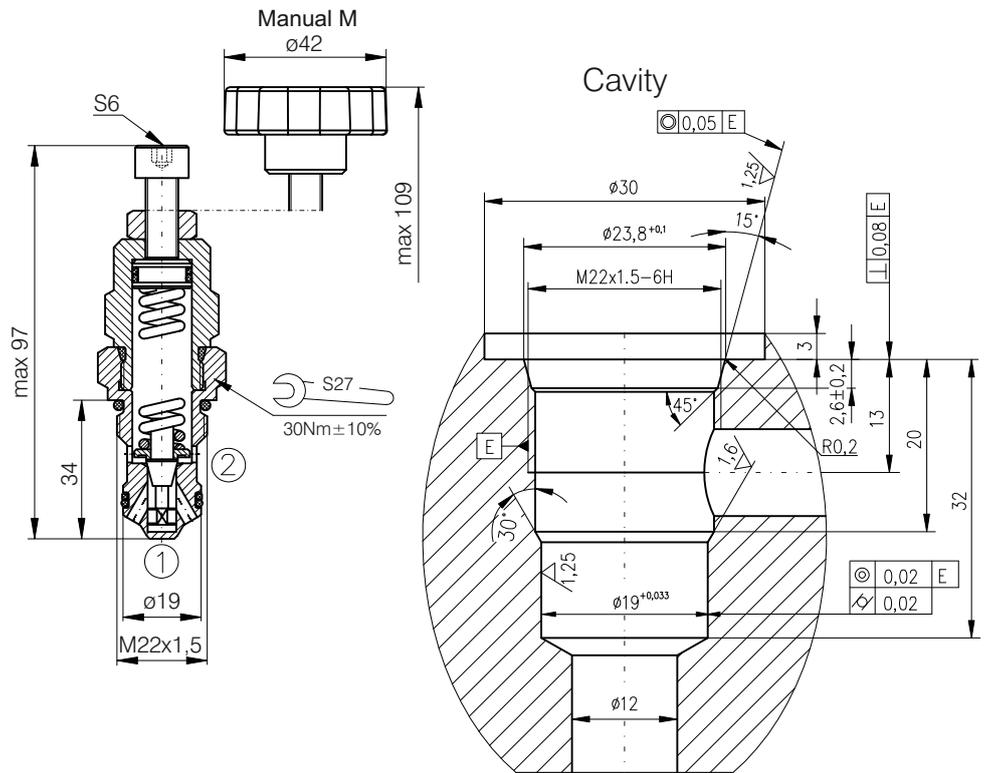
PERFORMANCE

Cartridge only
32cSt oil at 40°C



The Performance Chart illustrates flow handling capacity at max. setting for each spring range option. Pressure rise will vary with spring (range) and with setting within range due to flow forces.

DIMENSIONS



ORDERING CODE

RV22-2A

Relief valve

Pressure adjustment range:
8...100bar - 100
15...300bar - 300

Seals:

Buna - N
Viton - V

Adjustment:
omit - hexagon screw
M - manual

TECHNICAL DATA

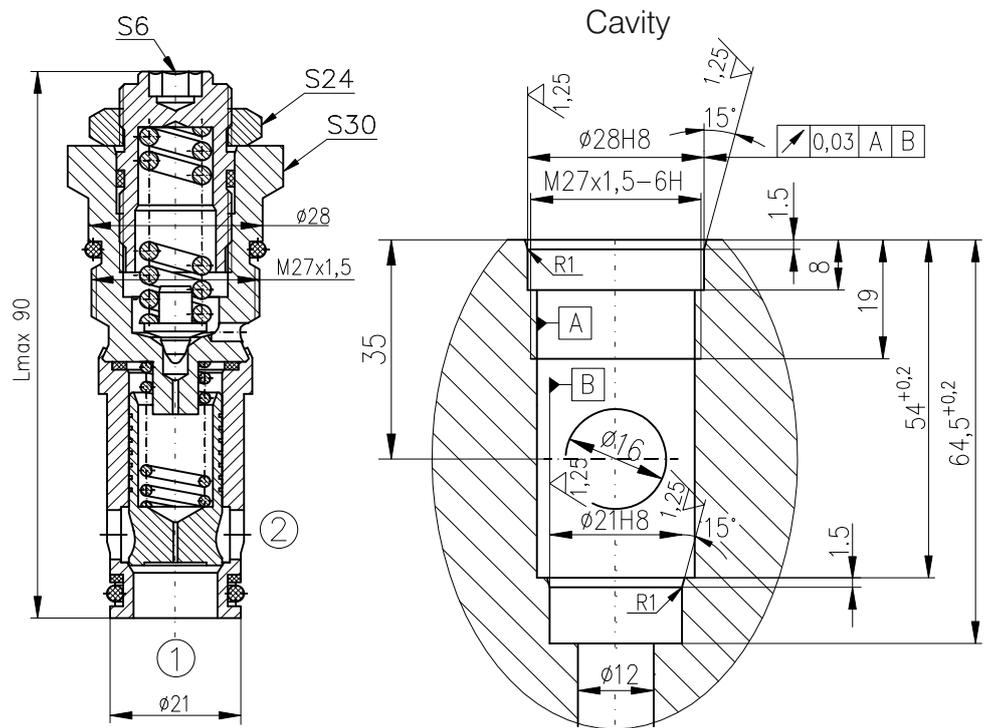
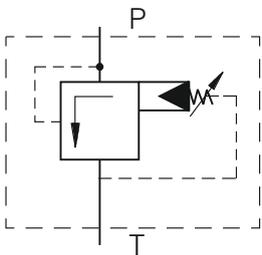
Max. operating pressure		315bar
Pressure adjustment range:	RV22-2A100...	8...100 bar
	RV22-2A300...	15...300 bar
Rated flow - See Performance Chart		
Working liquid-hydraulic oils with characteristics:		
-viscosity		10...400 cSt
-degree of filtration		0,025 mm
-temperature		-20...+80°C

DESCRIPTION

A screw-in , cartridge-style , pilot-acting , poppet-type , hydraulic relief valve intended for high flow circuits requiring low internal leakage.

OPERATION

The KPZ10/... blocks flow from 1 to 2 until sufficient pressure is present at 1 to force the spring-opposed poppet from its seat.

DIMENSIONS

SYMBOL

ORDERING CODE

KPZ10 / ...

Relief valve

Pressure adjustment range:

5...100bar - 10

15...200bar - 20

20...320bar - 32

TECHNICAL DATA

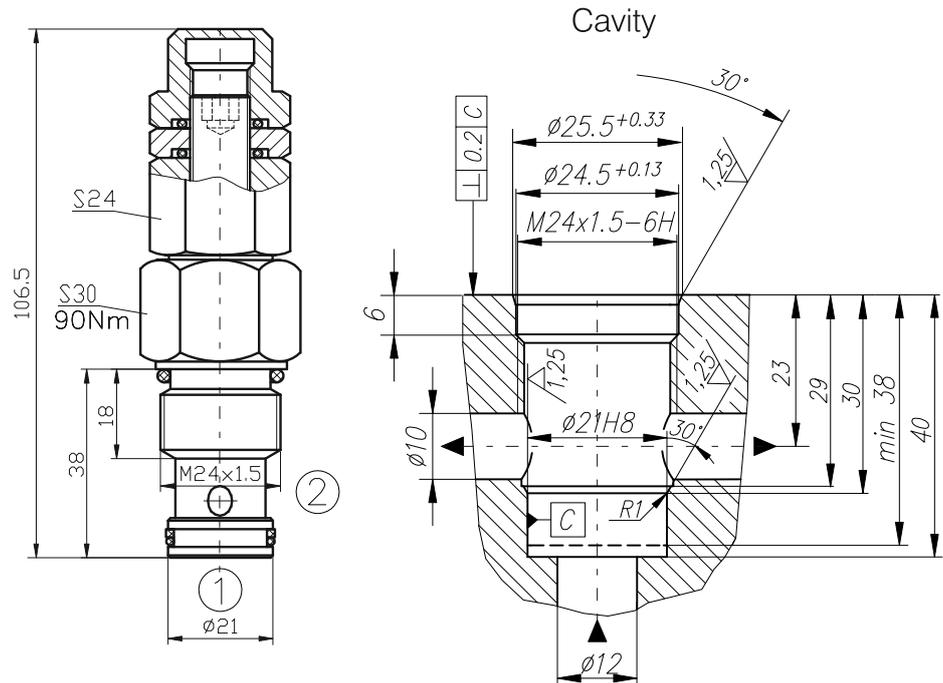
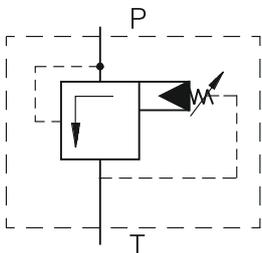
Operating pressure		320bar
Pressure adjustment range:	KPZ10/10	5...100 bar
	KPZ10/20	15...200 bar
	KPZ10/32	20...320 bar
Rated flow		160l/min
Working liquid-hydraulic oils with characteristics:		
-viscosity		10...400 cSt
-degree of filtration		0,025 mm
-temperature		-20...+80°C

DESCRIPTION

A screw-in , cartridge-style , pilot-acting , poppet-type , hydraulic relief valve intended for medium flow circuits requiring low internal leakage.

OPERATION

The KP-70/... blocks flow from 1 to 2 until sufficient pressure is present at 1 to force the spring-opposed poppet from its seat.

DIMENSIONS

SYMBOL

ORDERING CODE

KP-70 / ...

Relief valve

Pressure adjustment range:

15...200bar - 02

30...320bar - 01

TECHNICAL DATA

Operating pressure		320bar
Pressure adjustment range:	KP-70/01	30...320 bar
	KP-70/02	15...200 bar
Rated flow		70l/min
Working liquid-hydraulic oils with characteristics:		
-viscosity		10...400 cSt
-degree of filtration		0,025 mm
-temperature		-20...+80°C

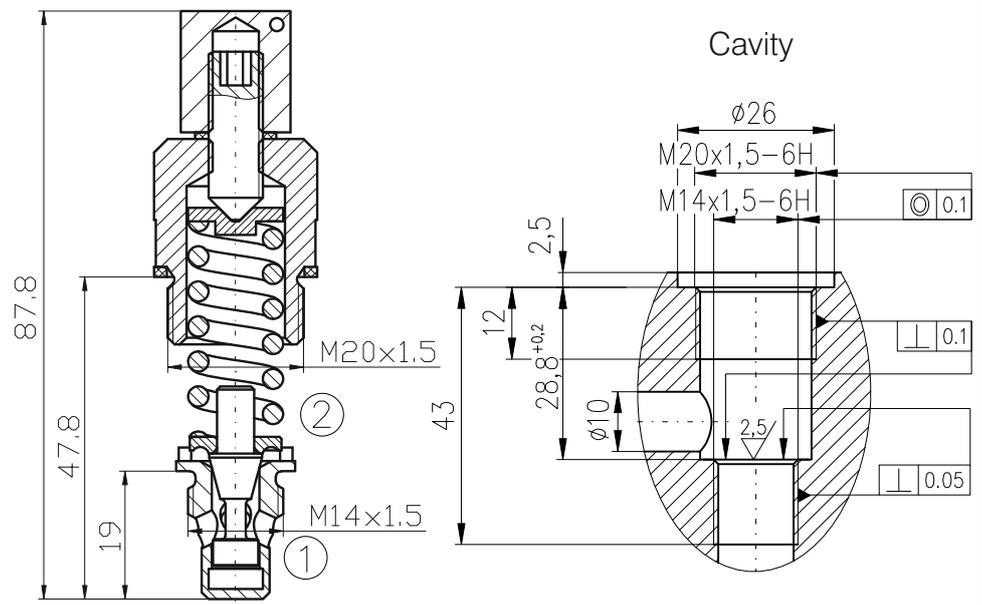
DESCRIPTION

A screw-in , cartridge-style , direct-acting , poppet-type , hydraulic relief valve intended for medium flow circuits requiring low internal leakage.

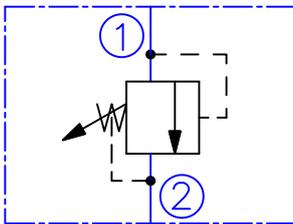
OPERATION

The KP60/... blocks flow from 1 to 2 until sufficient pressure is present at 1 to force the spring-opposed poppet from its seat.

DIMENSIONS



SYMBOL



ORDERING CODE

KP60 / ...

Relief valve

Pressure adjustment range:

- 96...200bar - 01
- 211...320bar - 02
- 30...100 - 03

TECHNICAL DATA

Operating pressure		320bar
Pressure adjustment range:	KP60/01	96...210 bar
	KP60/02	210...320 bar
	KP60/03	30...100 bar
Rated flow		60l/min
Working liquid-hydraulic oils with characteristics:		
-viscosity		10...400 cSt
-degree of filtration		0,025 mm
-temperature		-20...+80°C

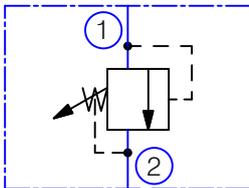
DESCRIPTION

A screw-in , cartridge-style , direct-acting , differential area operated-type , hydraulic relief valve intended for high flow circuits requiring low internal leakage.

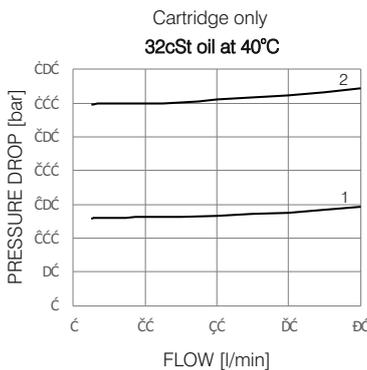
OPERATION

The RM80... blocks flow from 1 to 2 until sufficient pressure is present at 1 to force the spring-opposed poppet from its seat.

SYMBOL

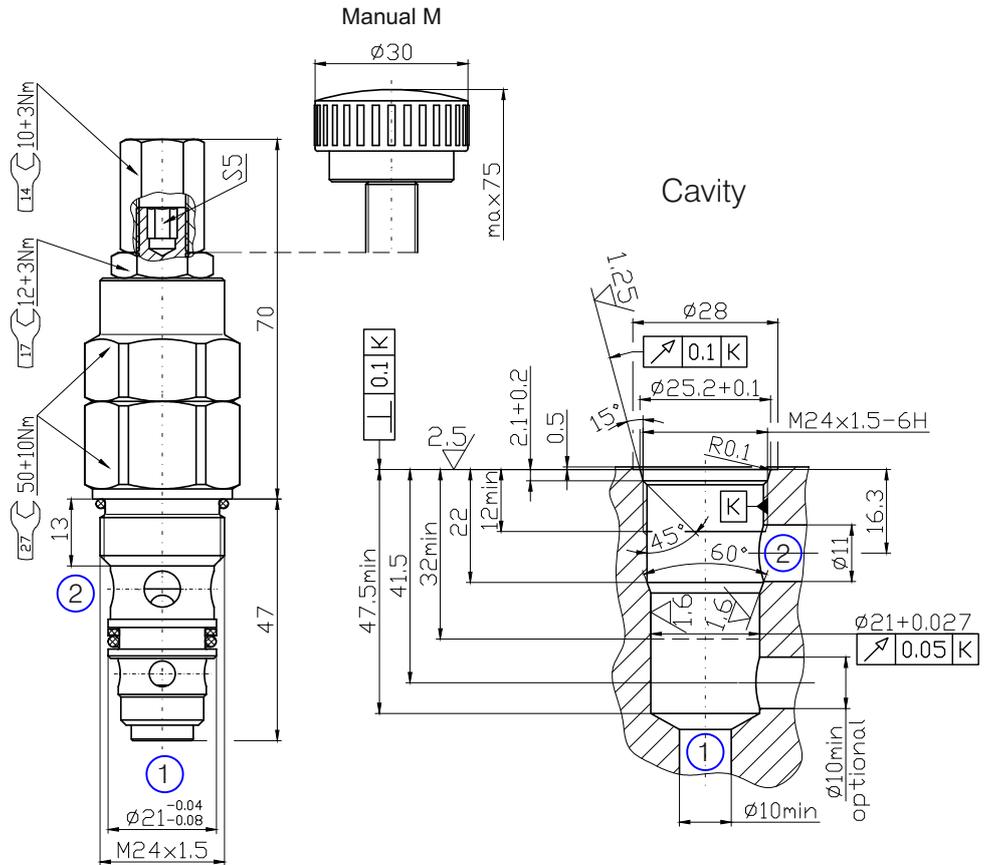


PERFORMANCE



The Performance Chart illustrates flow handling capacity at max. setting for each spring range option. Pressure rise will vary with spring (range) and with setting within range due to flow forces.

DIMENSIONS



ORDERING CODE

RM80 -

Relief valve

Pressure adjustment range:

10...130bar - 1

20...300bar - 2

Adjustment:

omit - hexagon screw

M - manual

TECHNICAL DATA

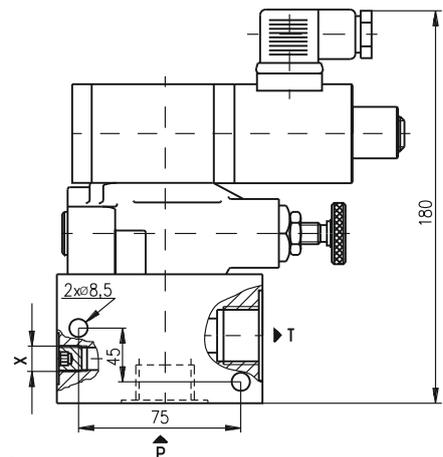
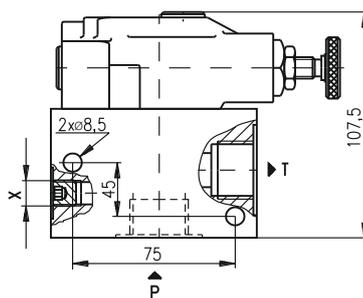
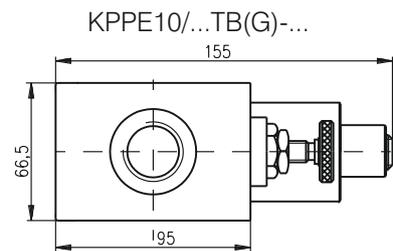
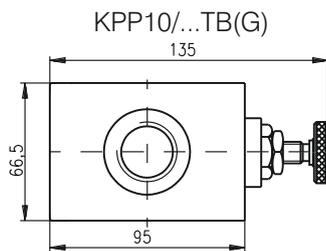
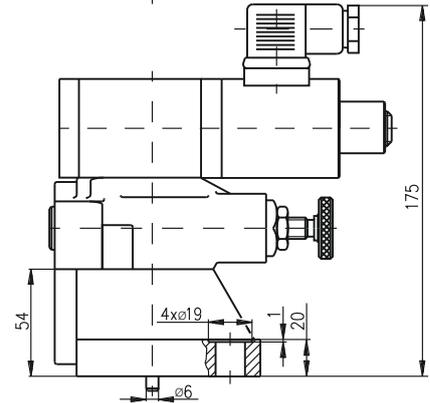
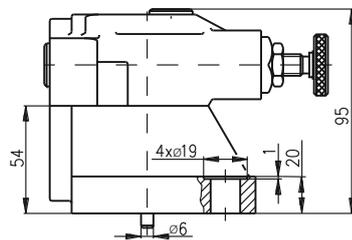
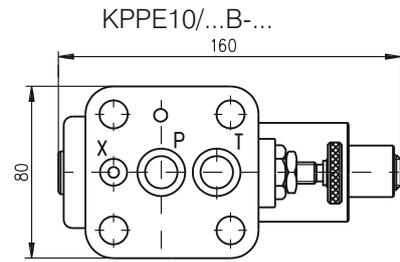
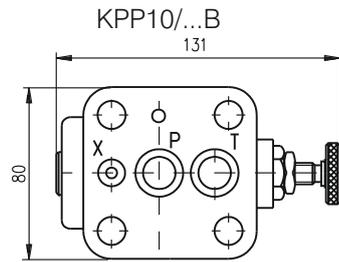
Pressure adjustment range:	RM80-1...	10... 130 bar
	RM80-2...	20...300 bar
Rated flow - See Performance Chart		80l/min
Working liquid-hydraulic oils with characteristics:		
-viscosity		10...400 cSt
-degree of filtration		0,025 mm
-temperature		-20... +80°C

DESCRIPTION

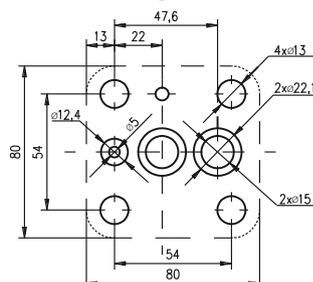
- ✓ Pressure relief valves-prefill type for plate mounting-KPP10/...B , KPPE10/...B-...
- ✓ Pressure relief valves-prefill type for pipe and plate mounting with pilot operation-KPP10/...B , KPP..10/...TB(G).
- ✓ Pressure relief valves-prefill type for pipe and plate mounting with pilot solenoid operation - KPPE10/...B-... , KPPE...10/...TB(G)-...
- ✓ The pressure relief valve protects the hydraulic drives of overloading or damaging by limiting or maintaining a constant pressure. There is a possibility for pressure range adjustment and they allow such an action even during work.

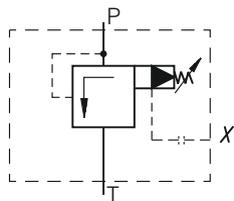
The unloading relief valve can be used when the system pressure is required to be automatically unloaded at reaching the adjusted pressure.

DIMENSIONS

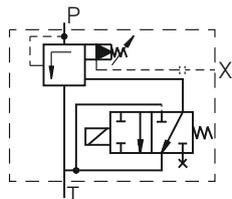


Mounting surface

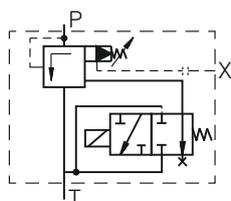


SYMBOL


KPP10/...B
KPP10/...TB



KPPE10/...B-NO
KPPE10/...TB-NO
(normally open)



KPPE10/...B-NZ
KPPE10/...TB-NZ
(normally closed)

ORDERING CODE

KPP ... 10 / ... - ...

Relief valve prefill type

Type of control:
pilot operated -omit
pilot solenoid operated -E

Nominal bore 10mm.

Rated pressure: up to 100 bar.-10
up to 200 bar.-20
up to 320 bar.-32

Modification: for plate mounting -B
for pipe mounting(metric threads M27x2
for P & T line and M12x1,5 for X line) -TB
for pipe mounting(GAS threads G3/4"
for P&T line and G1/4" for X line -TB(G)

Type of control valve:
solenoid valve normally open -NO
solenoid valve normally closed -NZ

Supply voltage: 12VDC -12
24VDC -24
110VAC -110
220VAC -220

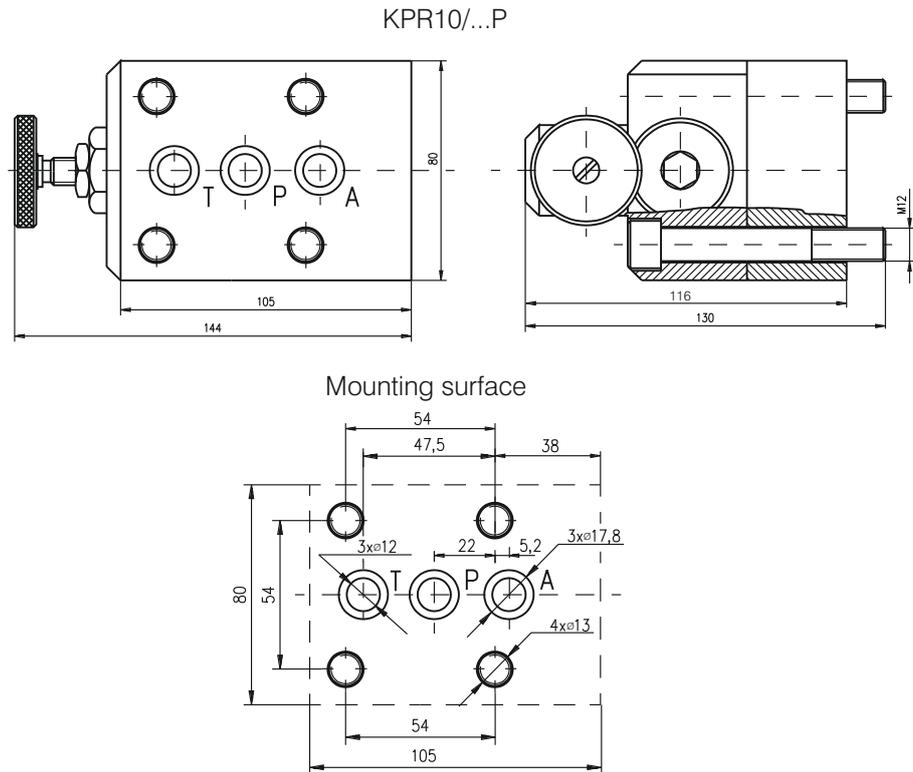
TECHNICAL DATA

Weight	KPP10/...B	2,890 kg
	KPPE10/...B-...	4,600 kg
	KPP10/...TB	4,490 kg
	KPPE10/...TB-...	6,200 kg
Max. pressure		320 bar
Rated flow ($\Delta p=2,5$ bar.)		160 l/min
Adjustment of pressure range:		
KPP10/10B , KPP10/10TB(G)		4...100 bar
KPP10/20B , KPP10/20TB(G)		10...200 bar
KPP10/32B , KPP10/32TB(G)		20...320 bar
KPPE10/10B-... , KPPE10/10TB(G)-...		4...100 bar
KPPE10/20B-... , KPPE10/20TB(G)-...		10...200 bar
KPPE10/32B-... , KPPE10/32TB(G)-...		20...320 bar
Working liquid-hydraulic oils with characteristics:		
-viscosity		10...400 cSt
-degree of filtration		0,025 mm
-temperature		-20...+80°C

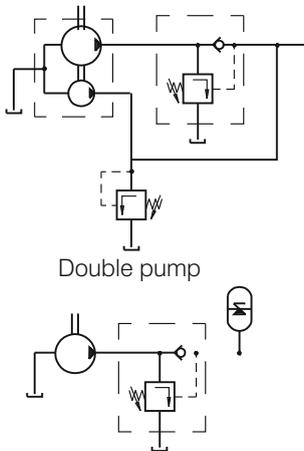
DESCRIPTION

- ✓ Unloading relief valves for plate mounting-KPR-10/...P
- ✓ Unloading relief valves are designed to switch on or switch off automatically the pump in the hydraulic system, depending on the pressure range at the pressure line (at the point after the check valve).

DIMENSIONS



APPLICATIONS



Single pump / accumulator system

ORDERING CODE

KPR - 10 / ... P

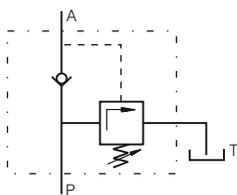
Unloading relief valve

Nominal bore 10mm.

Rated pressure: up to 63 bar.-**6,3**
 up to 160 bar.-**16**

Valve position - at line P

SYMBOL



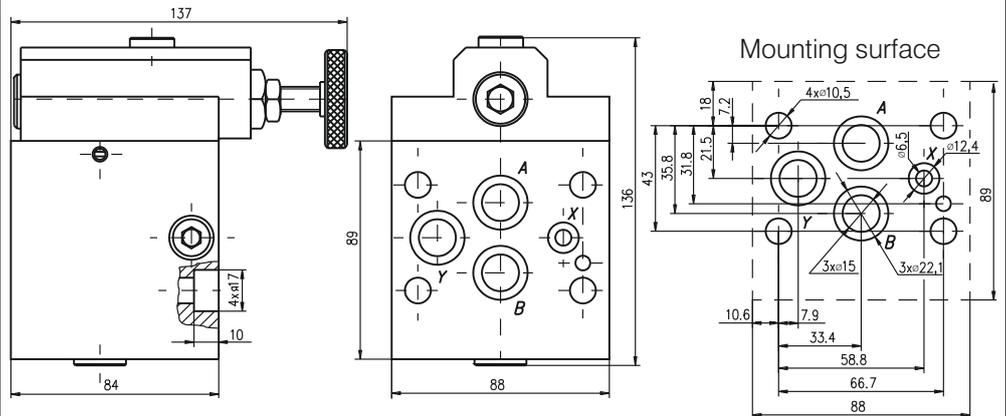
TECHNICAL DATA

Weight		5,440 kg
Max. unloading pressure	KPR-10/6,3P	63 bar
	KPR-10/16P	160 bar
Rated flow ($\Delta p=2,5$ bar.)		40 l/min
Working liquid-hydraulic oils with characteristics:		
-viscosity		10...400 cSt
-degree of filtration		0,025 mm
-temperature		-20...+80°C

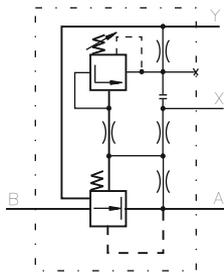
DESCRIPTION

- ✓ Pressure reducing valves for plate mounting- KRT10P/...
- ✓ The pressure reducing valves are used to limit the pressure in the separate sections of the hydraulic systems where constant pressure is achieved (at element outlet) lower than the inlet pressure and independent of its changing.

DIMENSIONS



SYMBOL



KRT10P/...

ORDERING CODE

KRT 10 P / ...

Pressure reducing valve

Nominal bore 10mm.

Plate mounting

Rated pressure: up to 100 bar.-10
 up to 200 bar.-20
 up to 320 bar.-32

TECHNICAL DATA

Weight	5,470 kg	
Max. Pressure	320 bar	
Rated flow ($\Delta p=2,5$ bar.)	60 l/min	
Adjustment of pressure reducing range:		
KRT10P/10	Pr(A>Y)	12...100
	Pr(B>A)	8...100
KRT10P/20	Pr(A>Y)	15...200
	Pr(B>A)	8...200
KRT10P/32	Pr(A>Y)	18...320
	Pr(B>A)	8...320
Working liquid-hydraulic oils with characteristics:		
-viscosity	10...400 cSt	
-degree of filtration	0,025 mm	
-temperature	-20...+80°C	

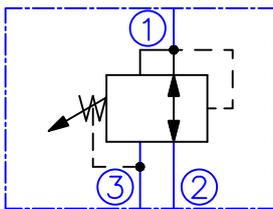
DESCRIPTION

A screw-in , cartridge-style , direct-acting , spool-type , hydraulic pressure reducing/relieving valve with internal pilot and internal spring chamber drain , design to act as a pressure-regulating device.

OPERATION

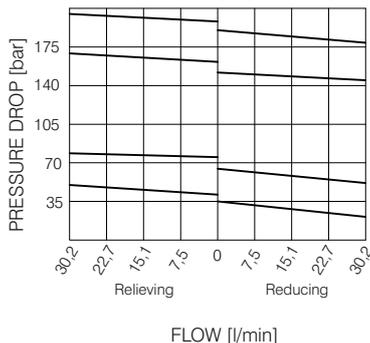
In its steady state , the PRV10-3A allows flow to pass bidirectionally from 2 to 1 , with the spring chamber constantly drained at 3.
On attainment of a pre-determined pressure at 1 , the cartridge shifts to restrict input flow at 2 , thereby regulating pressure at 1. In this mode , the valve will also relieve 1 to 3 at approximately 10 bar over the reducing setting.

SYMBOL

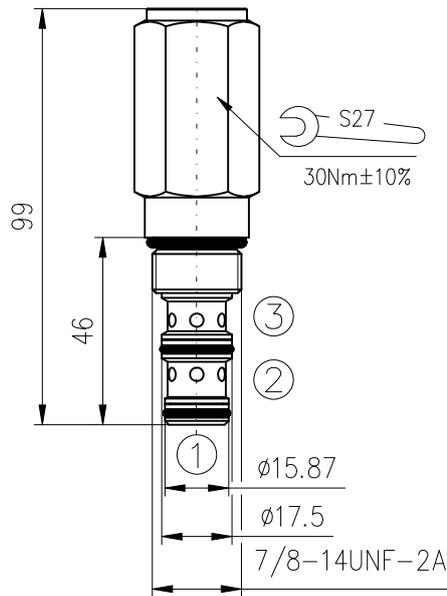


PERFORMANCE

Cartridge only
32cSt oil at 40°C



DIMENSIONS



ORDERING CODE

PRV10-3A

Pressure reducing valve

Pressure reducing range:

- 10...30bar - 1
- 15...60bar - 2
- 25...100bar - 3
- 40...140bar - 4

Seals:

- Buna N - N
- Viton V - V

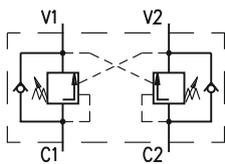
TECHNICAL DATA

Operating pressure		210bar
Pressure reducing range:	PRV10-3A1...	10...30 bar
	PRV10-3A2...	15...60 bar
	PRV10-3A3...	25...100 bar
	PRV10-3A4...	40...140 bar
Rated flow - See Performance Chart		
Internal leakage:		0,25cc/minute at 200bar max. to 75% of nominal setting
Working liquid-hydraulic oils with characteristics: -viscosity -degree of filtration -temperature		10...400 cSt 0,025 mm -20...+80°C
Cavity: See "Cavities and bodies" broshure		CC10-3

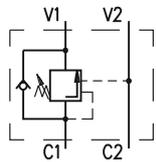
DESCRIPTION

✓ “OVERCENTER” valves with internal pilot operation for pipe mounting- OWC-...E/L...
 ✓ The “OVERCENTER” valves are designed to control moving loads and to prevent loads from running ahead of pump. They lock the load at any position without drift and protect of overloading and thermal expansion by open center control valves.

SYMBOL

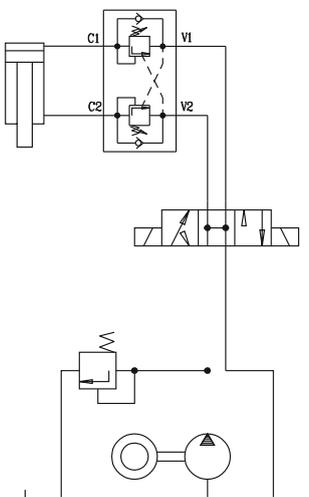


OWC-DE/L...

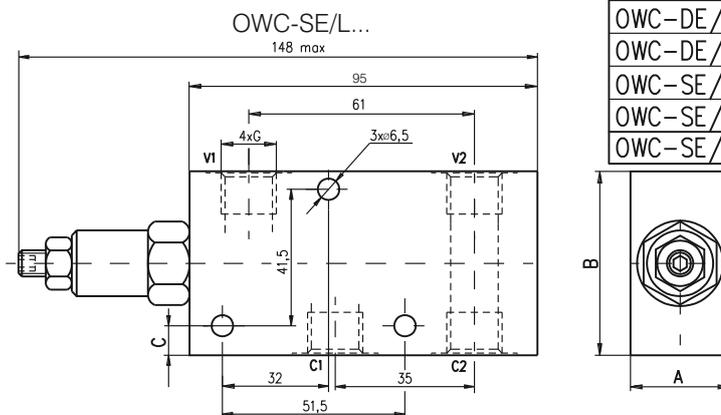
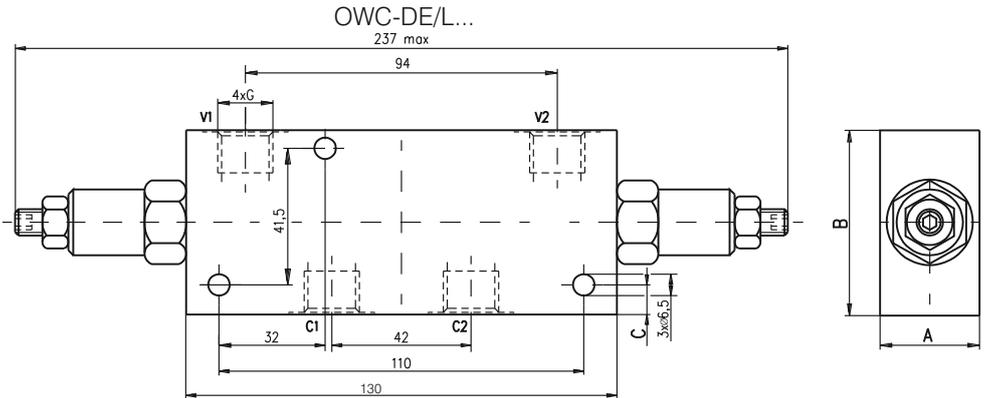


OWC-SE/L...

APPLICATIONS



DIMENSIONS



TYPE	G	A	B	C
OWC-DE/L38	G3/8"	30	56	9
OWC-DE/L12	G1/2"	38	65	13,5
OWC-SE/L38	G3/8"	30	56	9
OWC-SE/L12	G1/2"	38	65	13,5
OWC-SE/L14	G1/4"	30	56	9

ORDERING CODE



“OVERCENTER”

Number of valves: double - D
single - S

Modification

Connecting threads: G3/8 - 38
G1/2 - 12

TECHNICAL DATA

Pressure adjustment range		40...250 bar
Rated flow	for all types	35 l/min
Pressure ratio P_w/P_p (work/pilot)	for all types	4/1
Working liquid-hydraulic oils with characteristics:		
-viscosity		10...400 cSt
-degree of filtration		0,025 mm
-temperature		-20...+80°C

DESCRIPTION

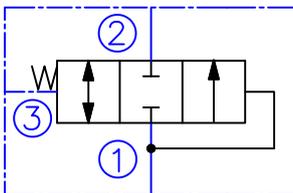
A screw-in , cartridge-style , direct-acting , spool-type , hydraulic sequence valve with internal pilot and spring chamber drain , design to direct flow to a secondary circuit once a pre-determined pressure level is attained in the primary circuit.

OPERATION

In its steady state , the PSV10-3D blocks flow passage from 1 to 2. When the pressure force in 1 exceeds the spring force the valve allows flow to pass from 1 to 2.

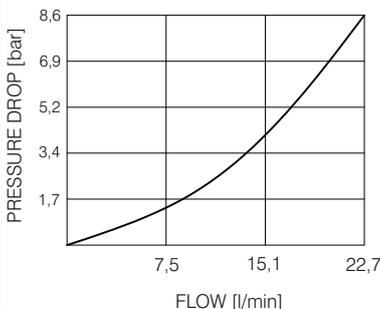
At pressure supply in 3 the PSV10-3D opens 2 to 1 flow path bidirectionally.

SYMBOL

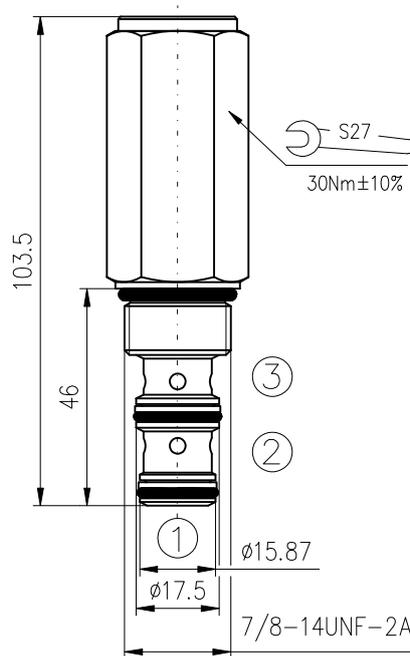


PERFORMANCE

Cartridge only
1 to 2 (fully open)
32cSt oil at 40°C



DIMENSIONS



ORDERING CODE

PSV10-3D ...

Pressure sequence valve

Seals: Buna N - N
Viton V - V

TECHNICAL DATA

Operating pressure	200bar
Pressure sequence range:	35...200 bar
Rated flow - See Performance Chart	
Internal leakage 1 to 2:	82cc/minute max. to 85% of nominal setting
Working liquid-hydraulic oils with characteristics: -viscosity -degree of filtration -temperature	10...400 cSt 0,025 mm -20...+80°C
Cavity: See "Cavities and bodies" brochure	CC10-3

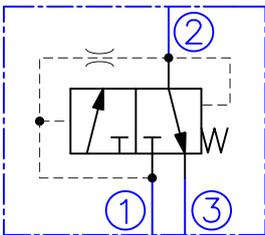
DESCRIPTION

A screw-in , cartridge-style , direct-acting , spool-type , hydraulic sequence valve with internal pilot and spring chamber drain , design to direct flow to a secondary circuit once a pre-determined pressure level is attained in the primary circuit.

OPERATION

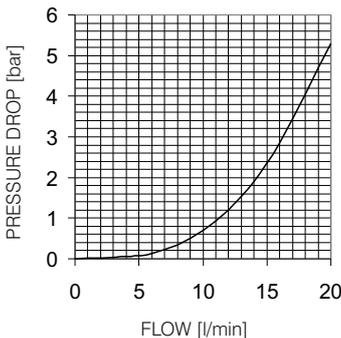
In its steady state , the PSV10-3H allows flow passage from 2 to 3. When the pressure force in 1 exceeds the spring force the spool shifts to open 1 to 2 flow path.

SYMBOL

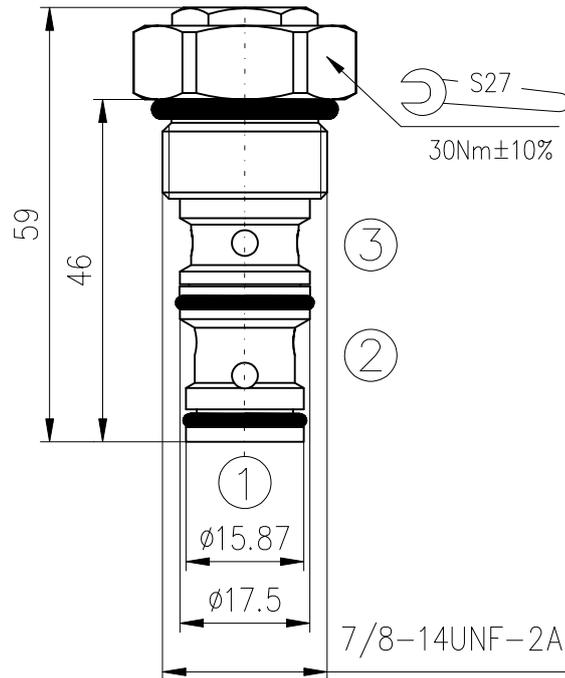


PERFORMANCE

Cartridge only
1 to 2 (fully open)
32cSt oil at 40°C



DIMENSIONS



ORDERING CODE

PSV10-3H | ...

Pressure sequence valve

Seals: Buna N - N
Viton V - V

TECHNICAL DATA

Operating pressure	200bar
Standard spring setting:	15 bar
Rated flow - See Performance Chart	
Internal leakage 1 to 2:	max. 82cc/minute
Working liquid-hydraulic oils with characteristics: -viscosity -degree of filtration -temperature	10...400 cSt 0,025 mm -20...+80°C
Cavity: See "Cavities and bodies" brochure	CC10-3

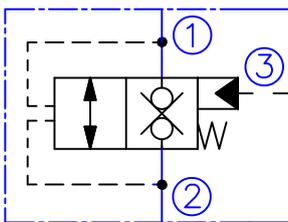
DESCRIPTION

A spool-type , screw-in , cartridge-style , hydraulic directional element , with multi function potential when used with other directional , pressure or flow control devices.

OPERATION

The PLV10-SA is a spring-based poppet valve which will block 1 to 2 or 2 to 1 until pressure at 1 or 2 exceeds the cumulative pressure at 3 and bias spring. with no pressure at 3 flow will be allowed from 1 to 2 or 2 to 1 once the bias spring force is overcome with pressure at 1 or 2. When the element is in closed state , the ratio of areas 1 and 2 is 1:1 , and the ratio of areas 1 or 2 to 3 is 1:2.

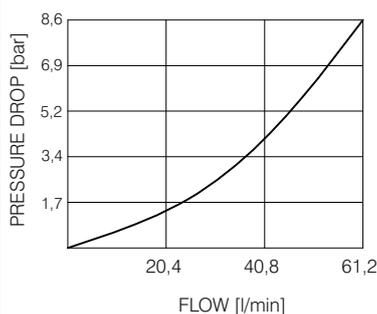
SYMBOL



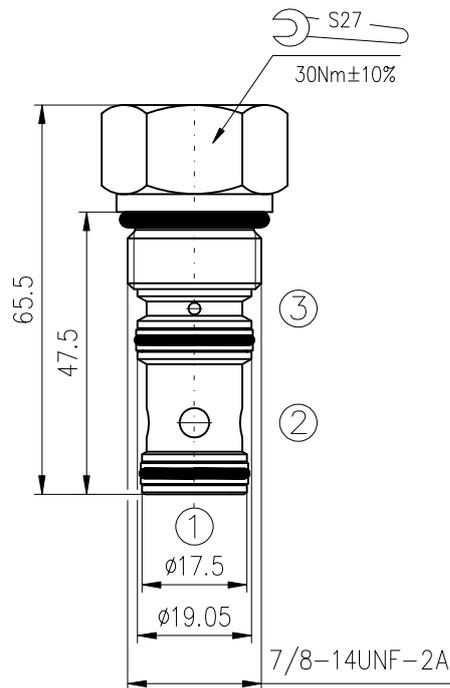
PERFORMANCE

Cartridge only

1 to 2 or 2 to 1 (fully open)
32cSt oil at 40°C



DIMENSIONS



ORDERING CODE

PLV10-SA ...

Pressure sequence valve

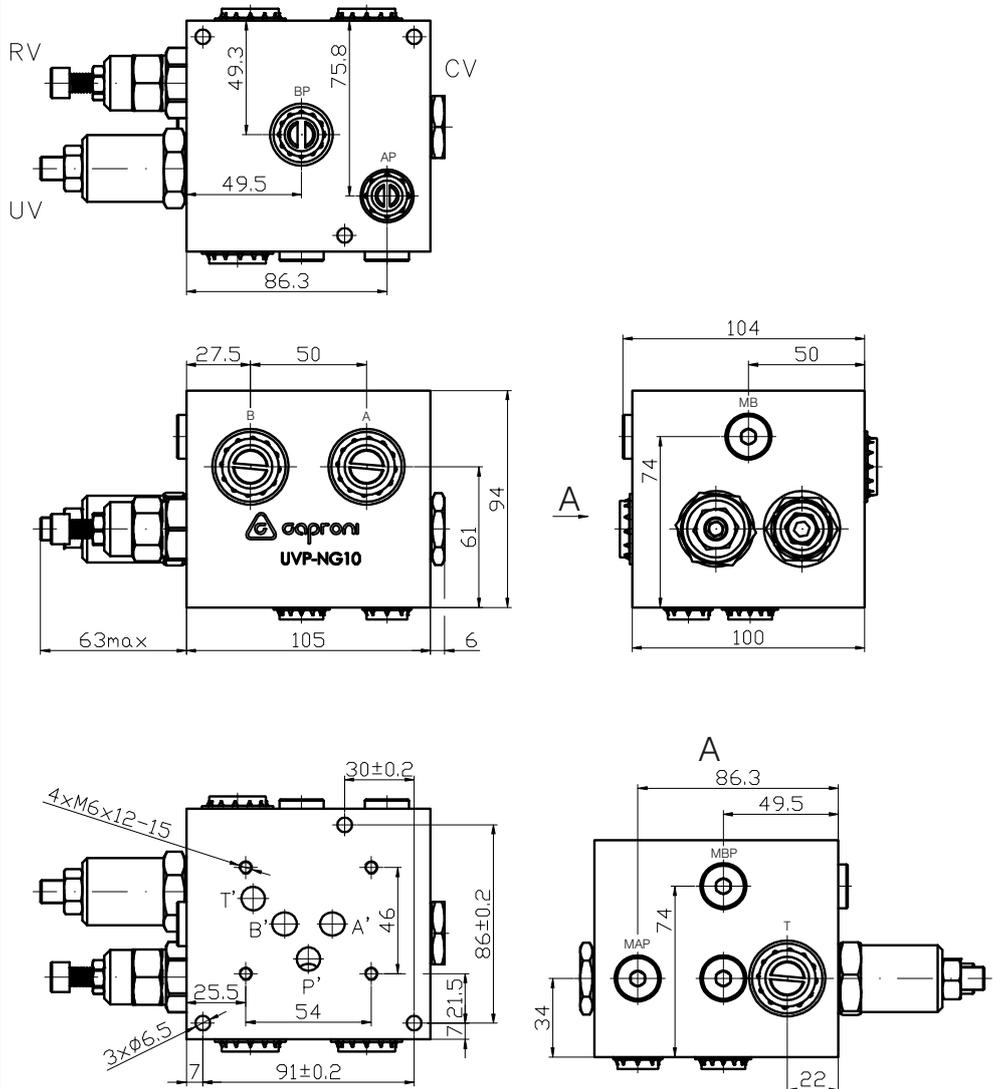
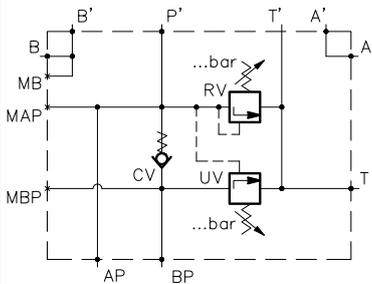
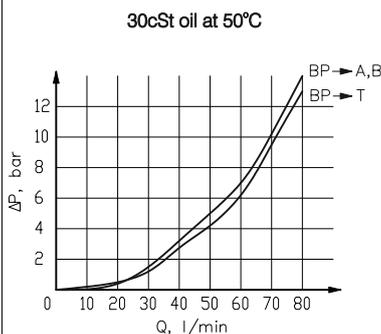
Seals: Buna N - N
Viton V - V

TECHNICAL DATA

Operating pressure	350bar
Rated flow - See Performance Chart	
Internal leakage:	0,2cc/minute max. at 240bar
Bias Spring Pressure	11bar
Working liquid-hydraulic oils with characteristics: -viscosity -degree of filtration -temperature	10...400 cSt 0,025 mm -20...+80°C
Cavity: See "Cavities and bodies" broshure	CC10-S3

DESCRIPTION

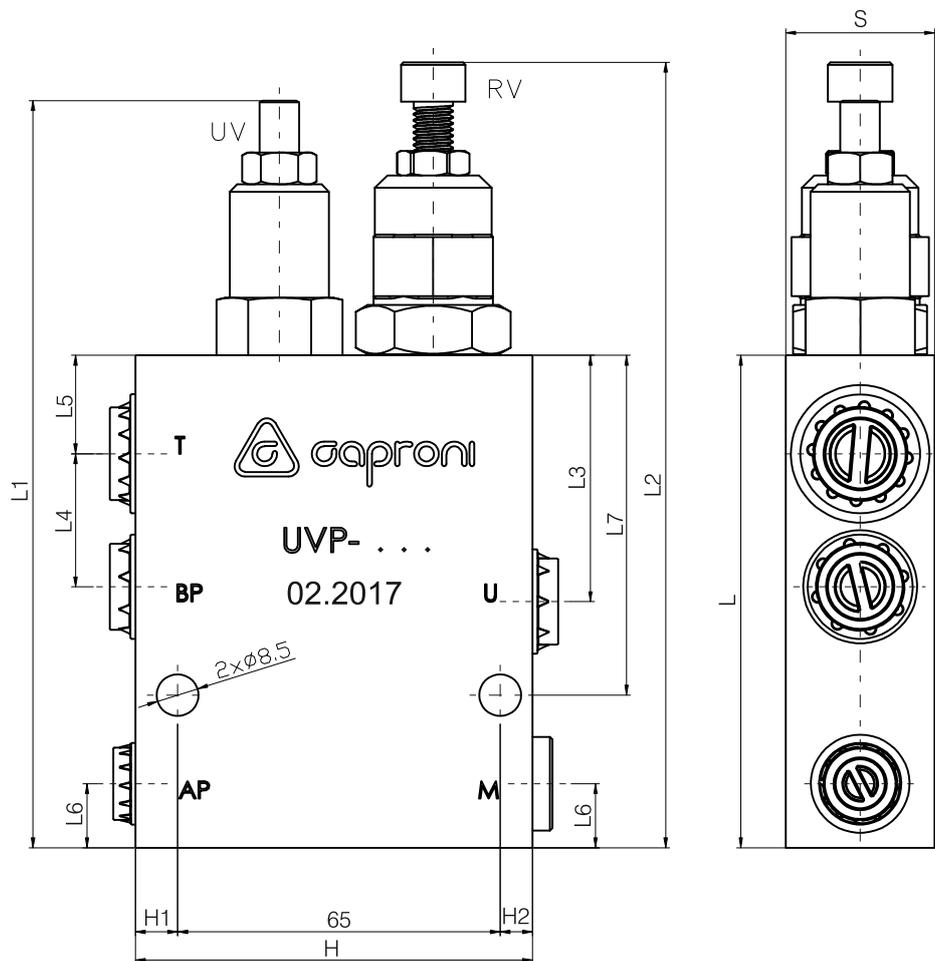
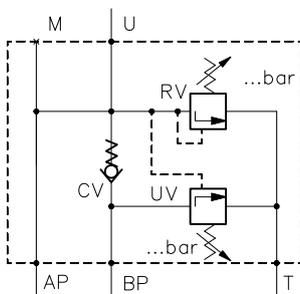
The valve is used in hydraulic systems with 2 parallel working pumps in order to unload the higher flow pump (BP) to the tank when the adjusted pressure of unloading valve is reached. Then the actuator works with the lower flow pump (AP) at higher pressure. The valve is designed for direct flange mounting of solenoid valve CETOP5 (NG10).

DIMENSIONS

SYMBOL

PERFORMANCE

TECHNICAL DATA

Pressure range:	BP	30...70 bar
	AP	30...300 bar
Max. flow:	AP	20 l/min
	BP	55 l/min
	T	70 l/min
	M...	G1/4"
Port threads:	AP	G3/8"
	BP	G1/2"
	T, A, B	G3/4"
	M...	G1/4"
Weight		7,4kg

DESCRIPTION

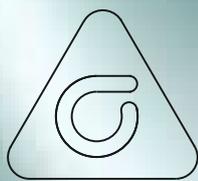
The valve is used in hydraulic systems with 2 parallel working pumps in order to unload the higher flow pump (BP) to the tank when the adjusted pressure of unloading valve is reached. Then the actuator works with the lower flow pump (AP) at higher pressure.

DIMENSIONS

SYMBOL


Type	Dimensions[mm]											
	L	L1	L2	L3	L4	L5	L6	L7	H	H1	H2	S
UVP-3/8	100	151	162	46,5	27	20	13	69	80	8,5	6,5	30
UVP-1/2	100	163	160	54	34	18	12	73	94	21	8	35

TECHNICAL DATA

Pressure range:	BP	30...80 bar
	AP	30...300 bar
Max. flow:	UVP-3/8 (UVP-1/2) AP	20l/min (30l/min)
	BP	30 l/min (50l/min)
Port threads:	UVP-3/8 (UVP-1/2) AP	G1/4" (G3/8")
	BP	G3/8" (G1/2")
	U	G3/8" (G1/2")
	T	G1/2" (G3/4")
	M	G1/4"
Weight	UVP-3/8 (UVP-1/2)	1,8kg(2,5kg)



caproni
BULGARIA JOINT-STOCK COMPANY

**BULGARIA , 6100 KAZANLAK , 45 STOLETOV STR.
TEL.:+359/431/62 229 , +359/431/6132 ,
FAX:+359/431/62 230 , +359/431/63 134
E-MAIL:CAPRONI@CAPRONI.BG , WEB:HTTP://WWW.CAPRONI.BG**