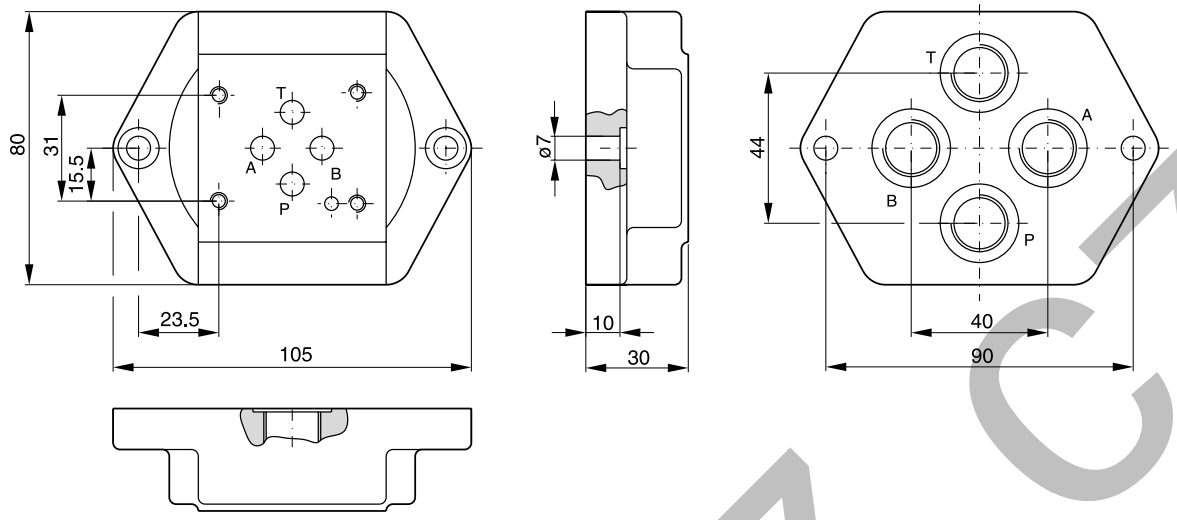
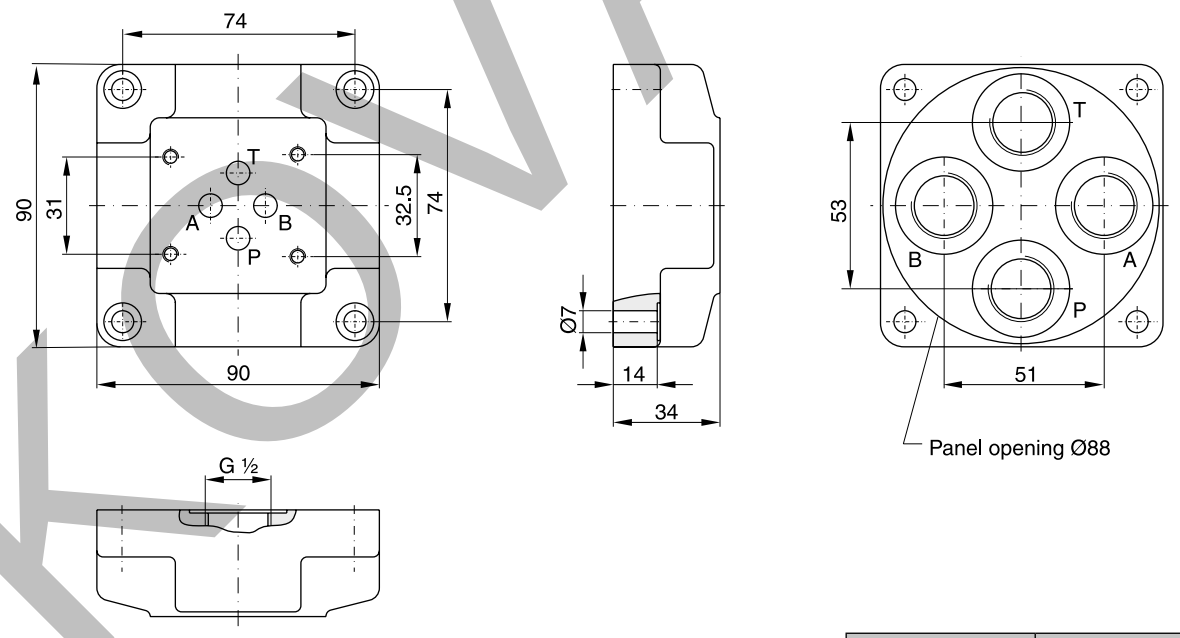
12

Valve size DIN NG06, CETOP 03, NFPA D03



Ordering code	
SPD 22 B 910	P, A, B and T = G ¼
SPD 23 B 910	P, A, B and T = G ⅜

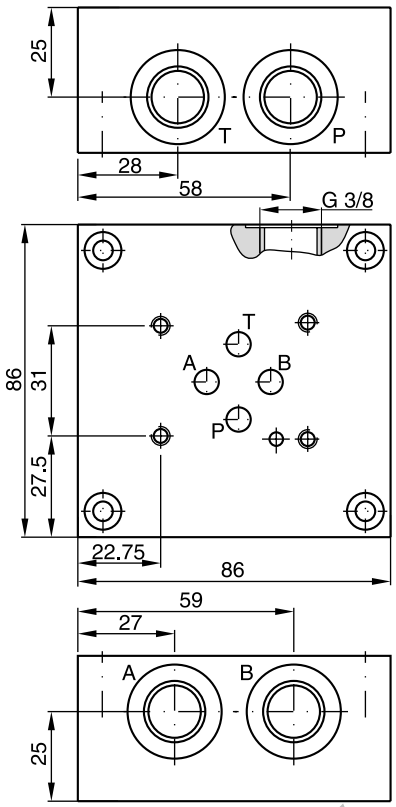
Valve size DIN NG06, CETOP 03, NFPA D03

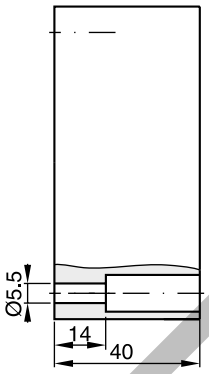


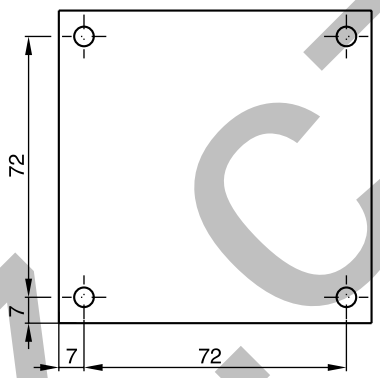
Ordering code	
SPD 24 B 910	P, A, B and T = G ½

Bold letters =
Short-term availability

Valve size DIN NG06, CETOP 03, NFPA D03

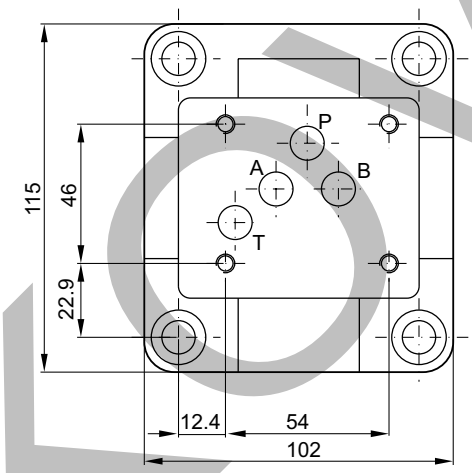


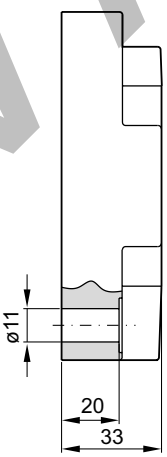


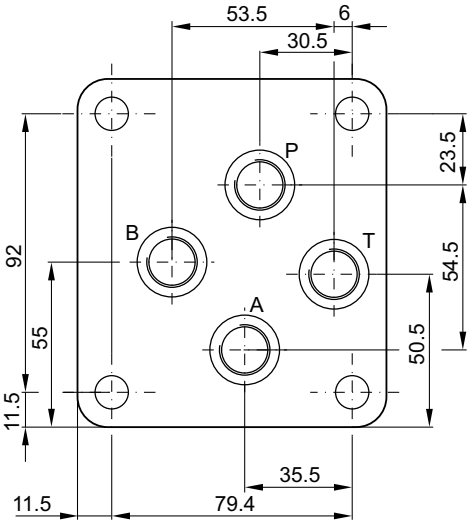


Ordering code	
SPD 23 BA 910	P, A, B and T = G ⅜

Valve size DIN NG10, CETOP 05, NFPA D05





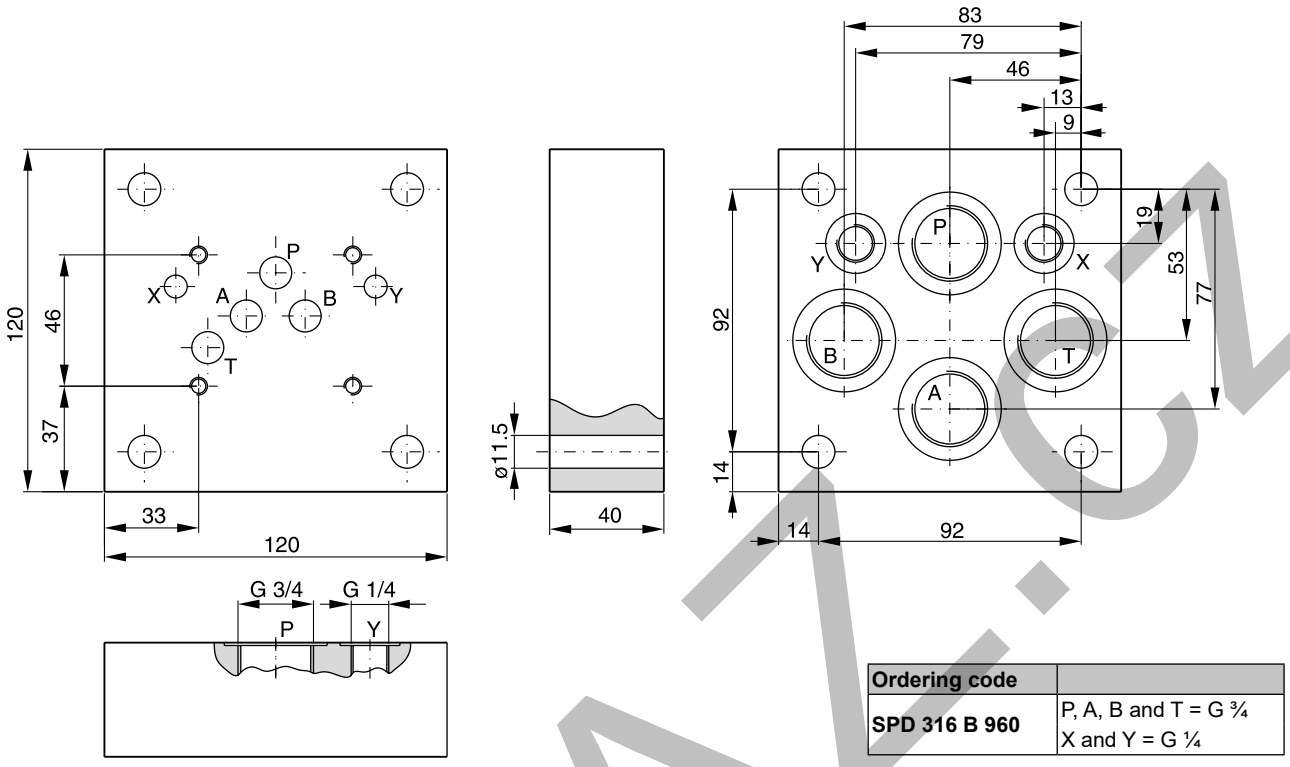


Ordering code	
SPD 34 B 920	P, A, B and T = G ½

Bold letters =
Short-term availability

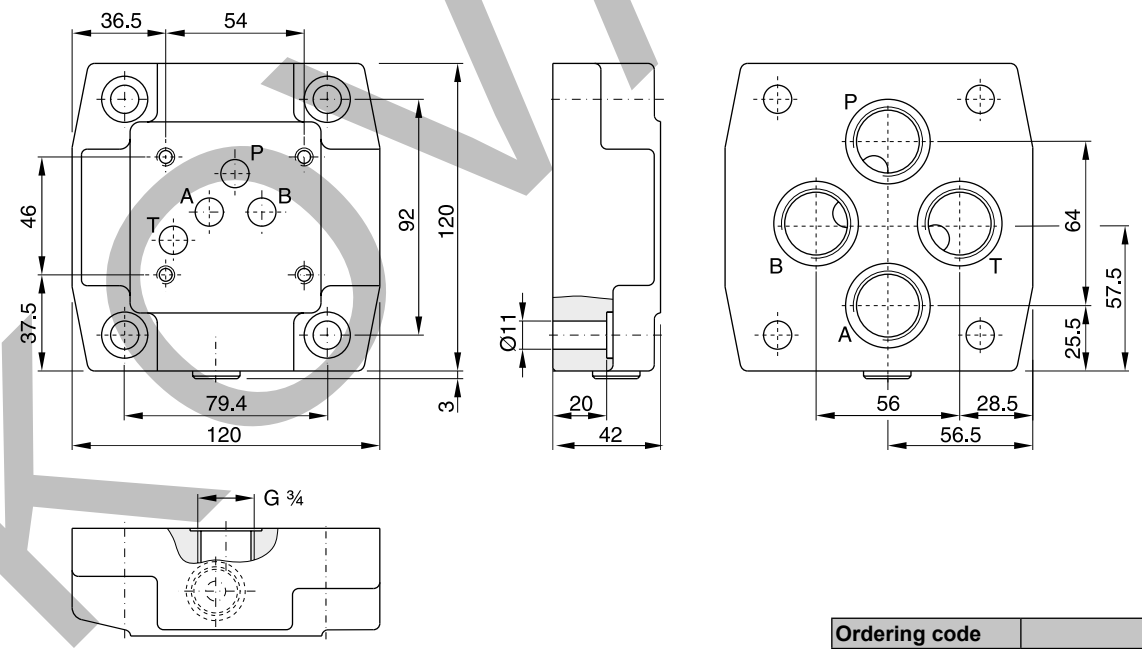
12

Valve size DIN NG10, CETOP 05, NFPA D05



Ordering code	
SPD 316 B 960	P, A, B and T = G ¾ X and Y = G ¼

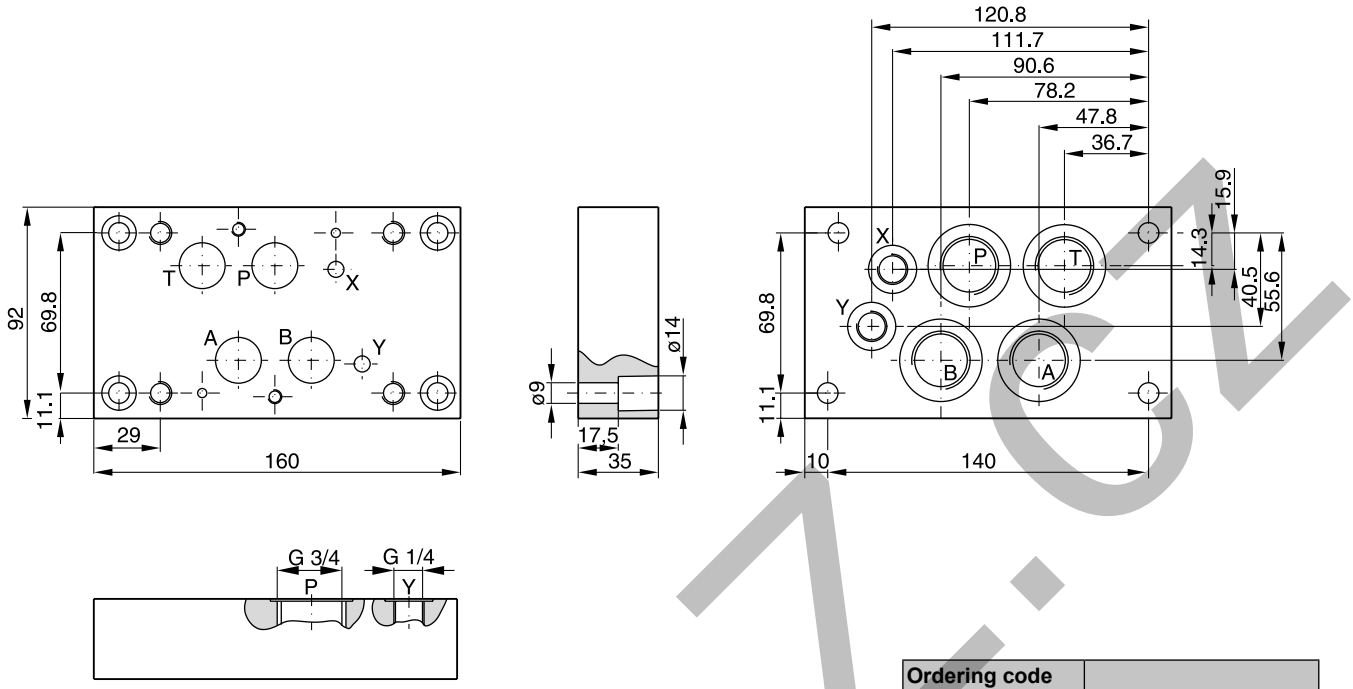
Valve size DIN NG10, CETOP 05, NFPA D05



Ordering code	
SPD 36 B 920	P, A, B and T = G ¾

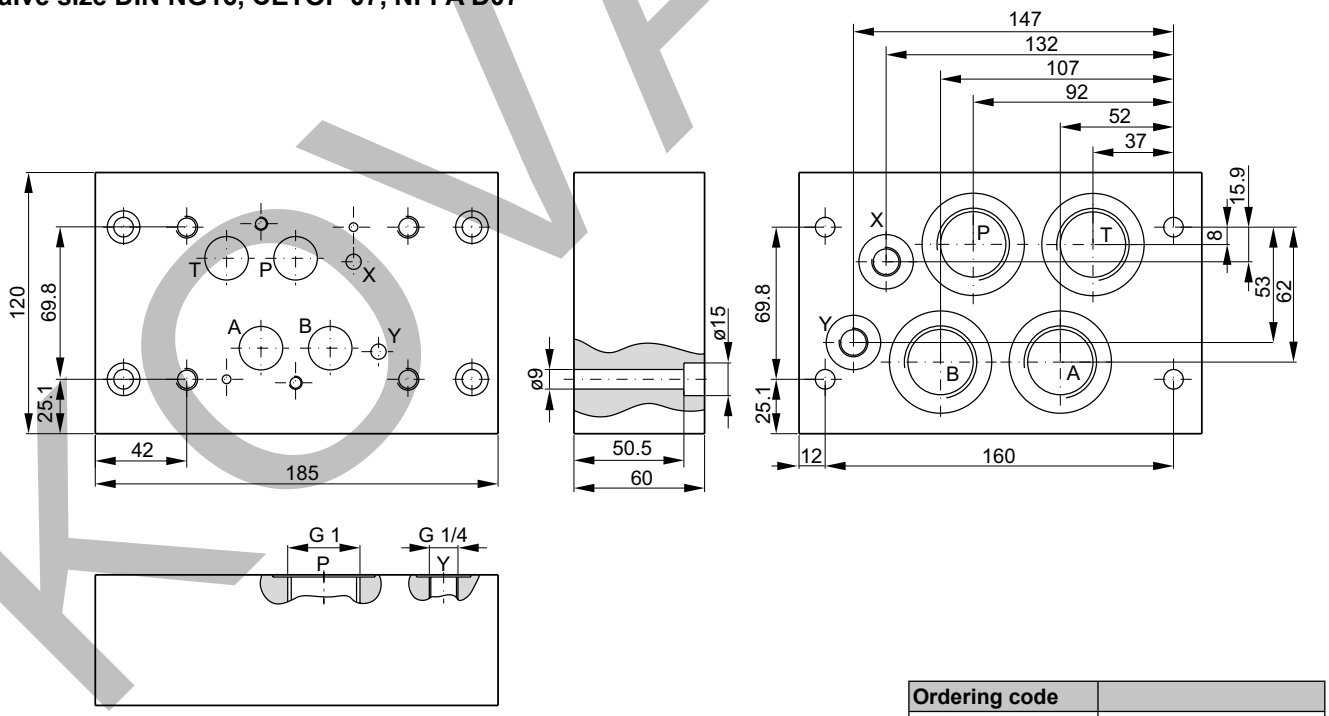
Bold letters =
Short-term availability

Valve size DIN NG16, CETOP 07, NFPA D07



Ordering code	
SPD 46 B 910	P, A, B and T = G ¾ X and Y = G ¼

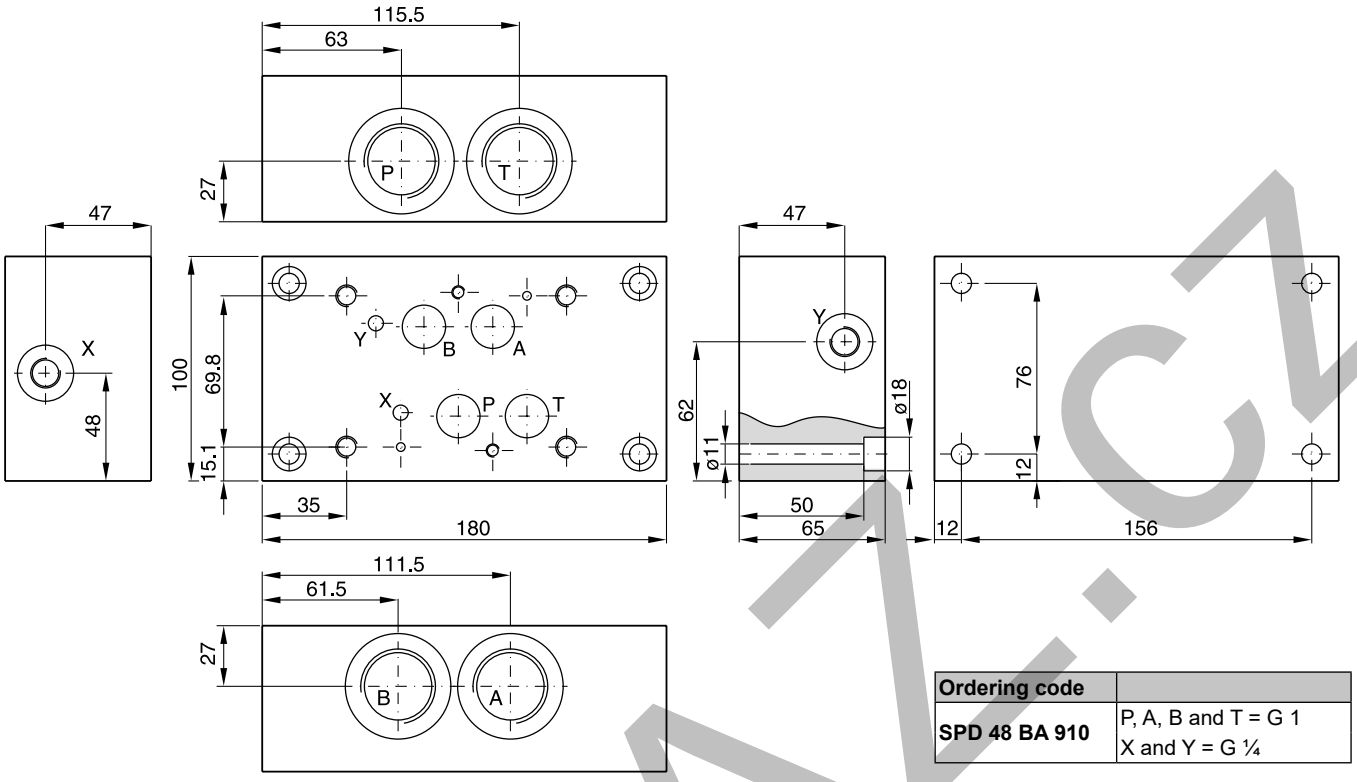
Valve size DIN NG16, CETOP 07, NFPA D07



Ordering code	
SPD 48 B 910	P, A, B and T = G 1 X and Y = G ¼

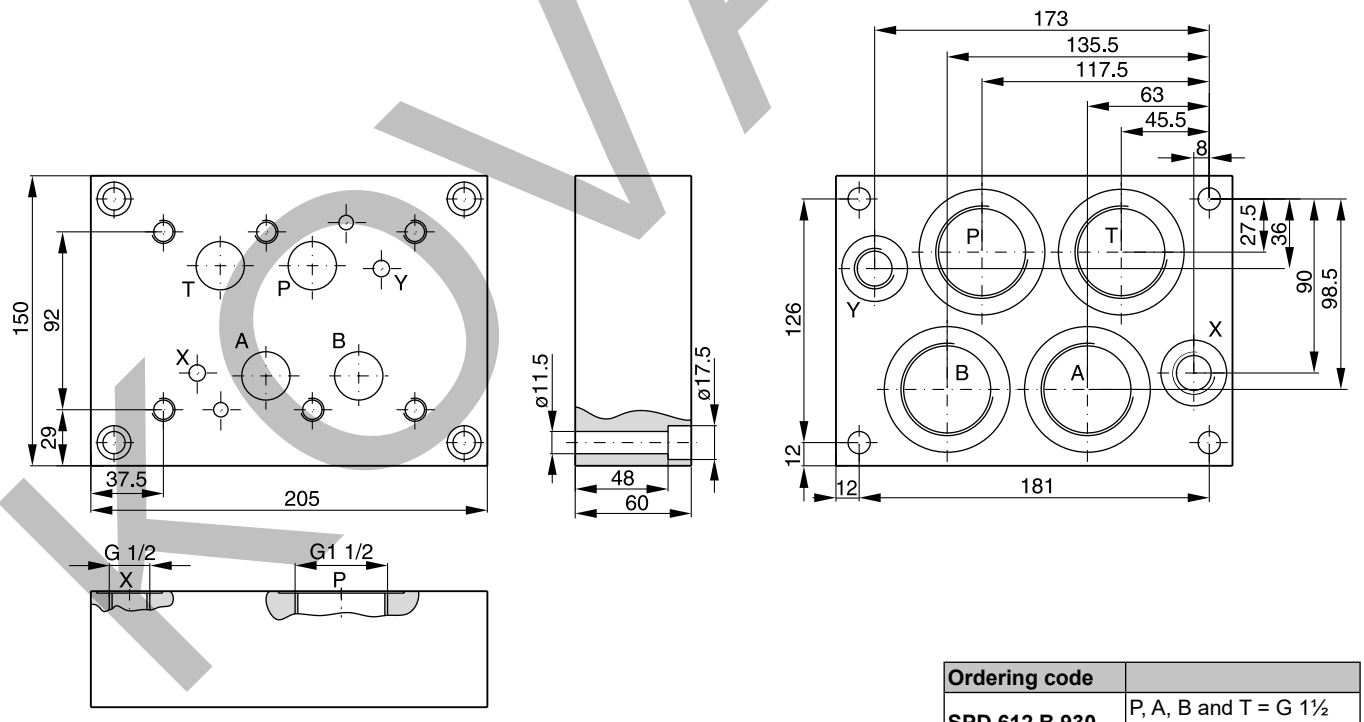
Bold letters =
Short-term availability

Valve size DIN NG16, CETOP 07, NFPA D07



Ordering code	
SPD 48 BA 910	P, A, B and T = G 1 X and Y = G ¼

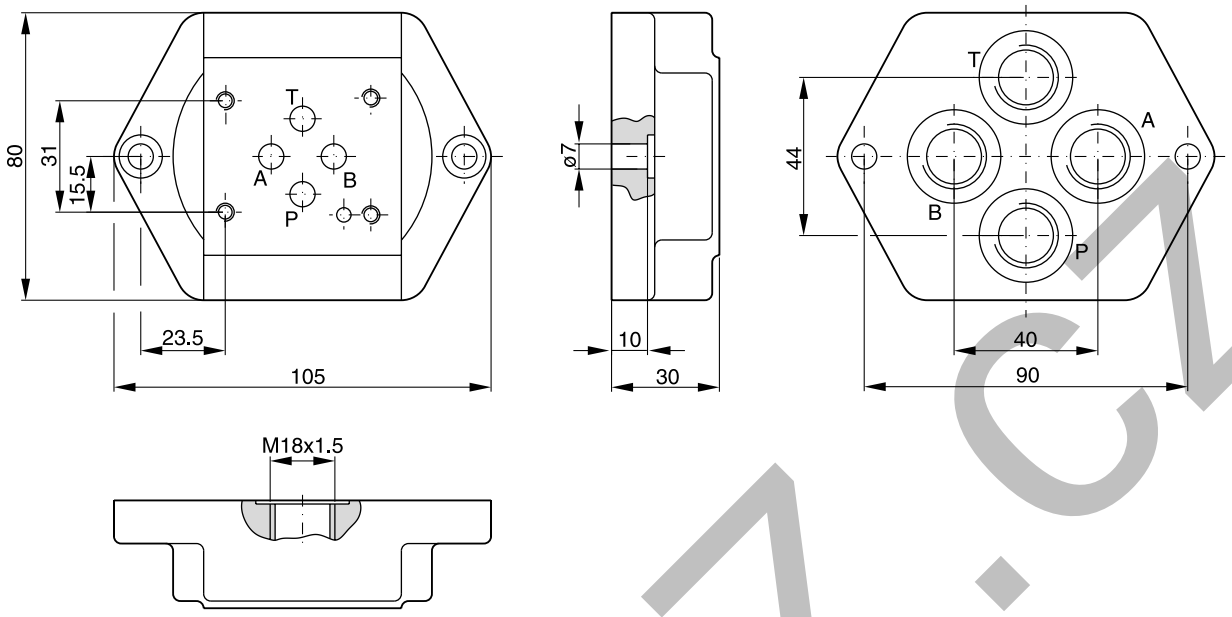
Valve size DIN NG25, CETOP 08, NFPA D08



Ordering code	
SPD 612 B 930	P, A, B and T = G 1½ X and Y = G ½

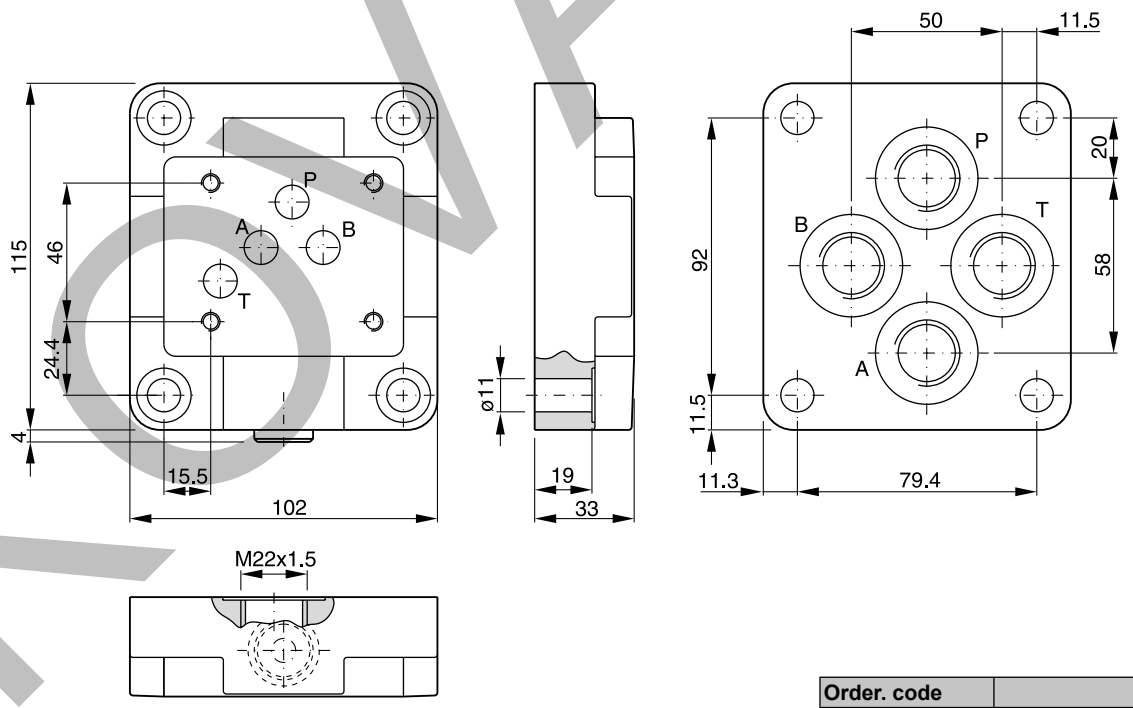
Bold letters =
Short-term availability

Valve size DIN NG06, CETOP 03, NFPA D03



Order. code	
A 064 M	P, A, B and T = M18x1.5 as per ISO 6149

Valve size DIN NG10, CETOP 05, NFPA D05

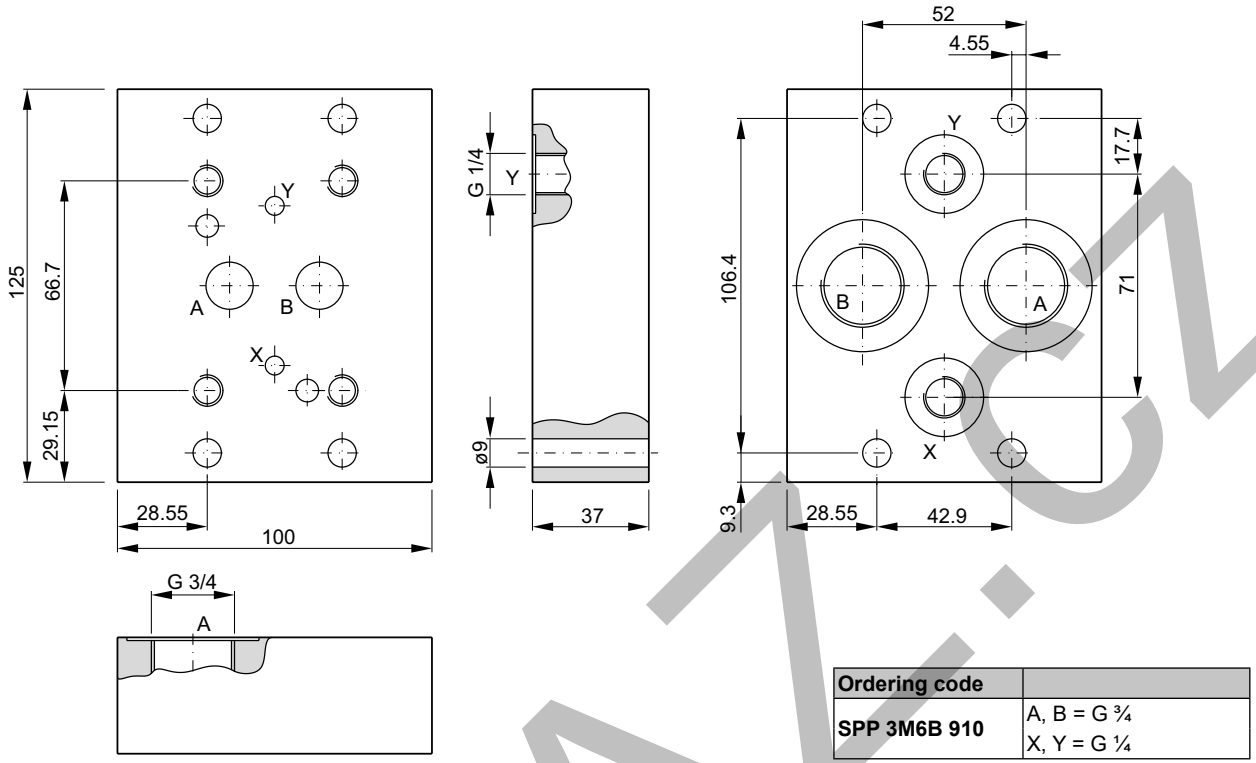


Order. code	
A 104 M	P, A, B and T = M22x1.5 as per ISO 6149

Bold letters =
Short-term availability

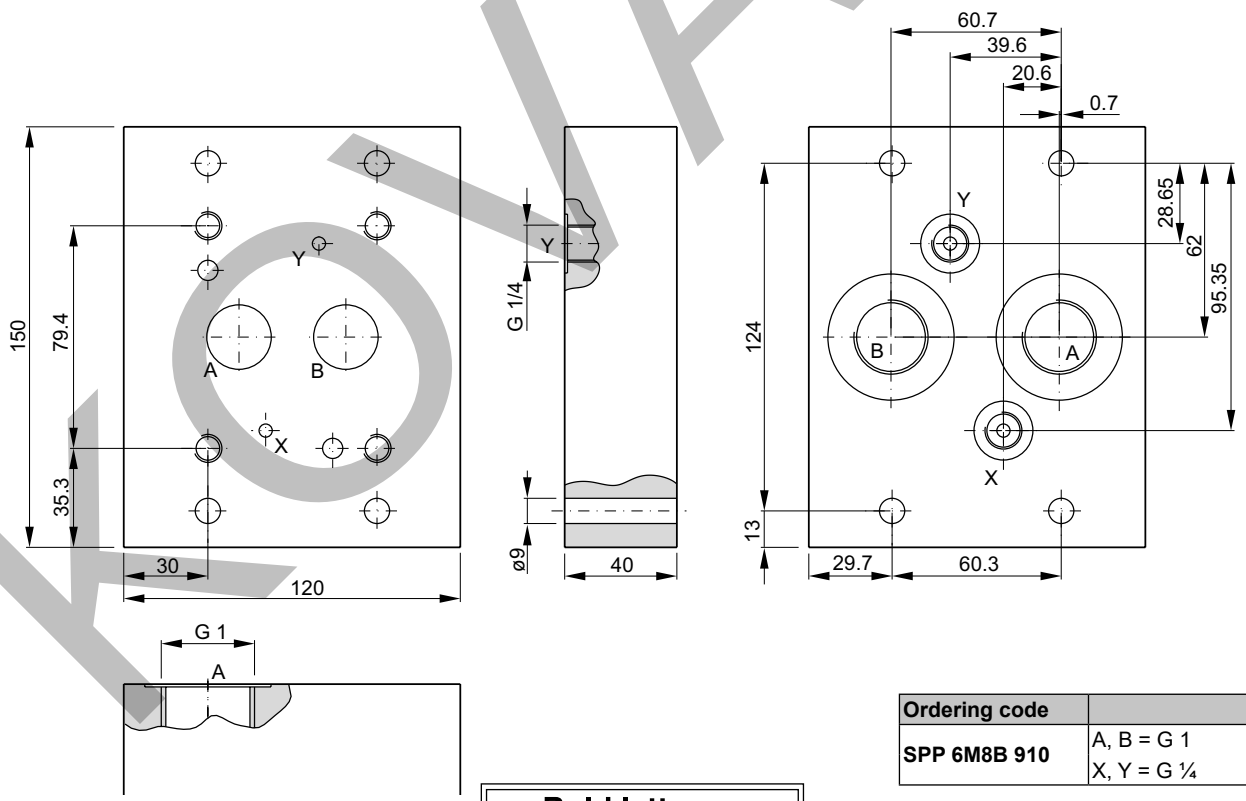
12

Valve size DIN NG10, ISO 6264-06-07-*-97, DIN 24340 form D / ISO 5781-06-07-0-00



Ordering code	
SPP 3M6B 910	A, B = G ¾ X, Y = G ¼

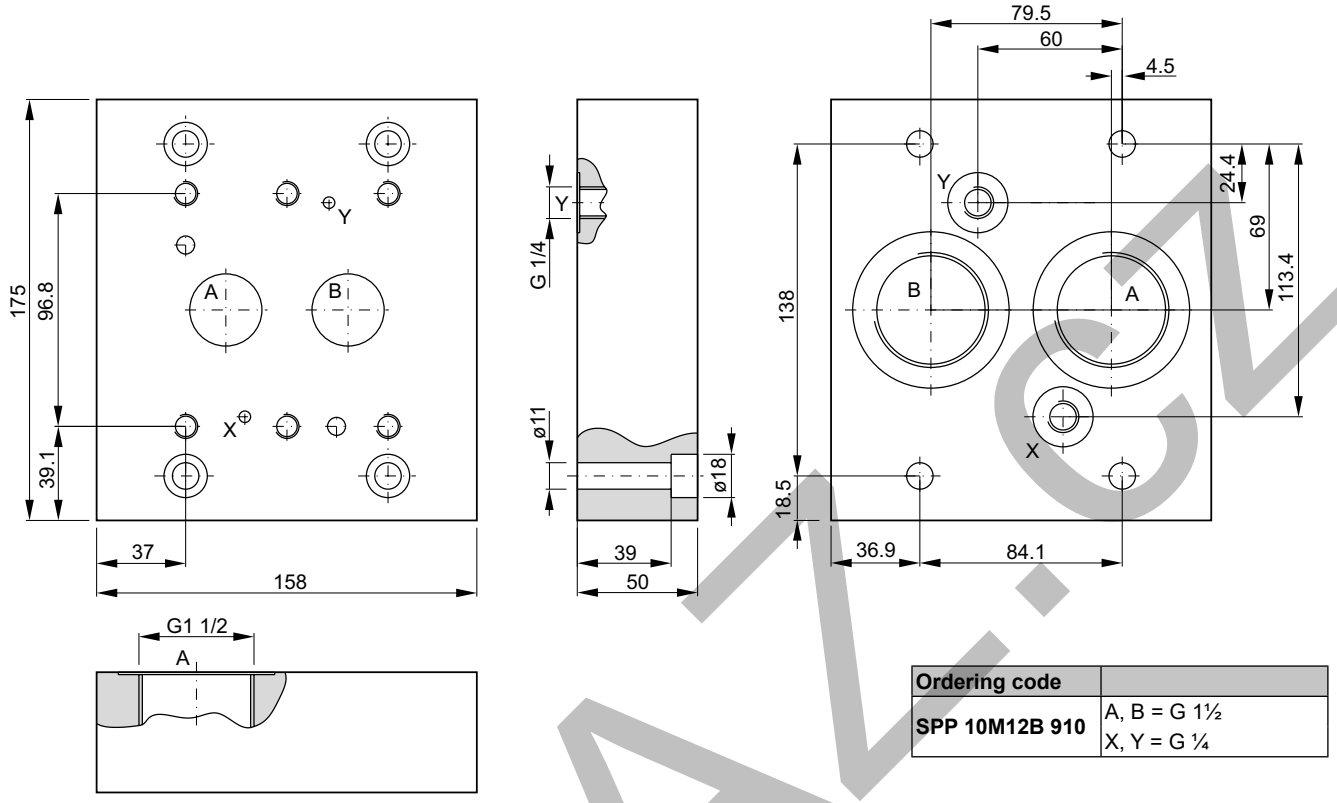
Valve size DIN NG25, ISO 6264-08-11-*-97, DIN 24340 form D / ISO 5781-08-10-0-00



Ordering code	
SPP 6M8B 910	A, B = G 1 X, Y = G ¼

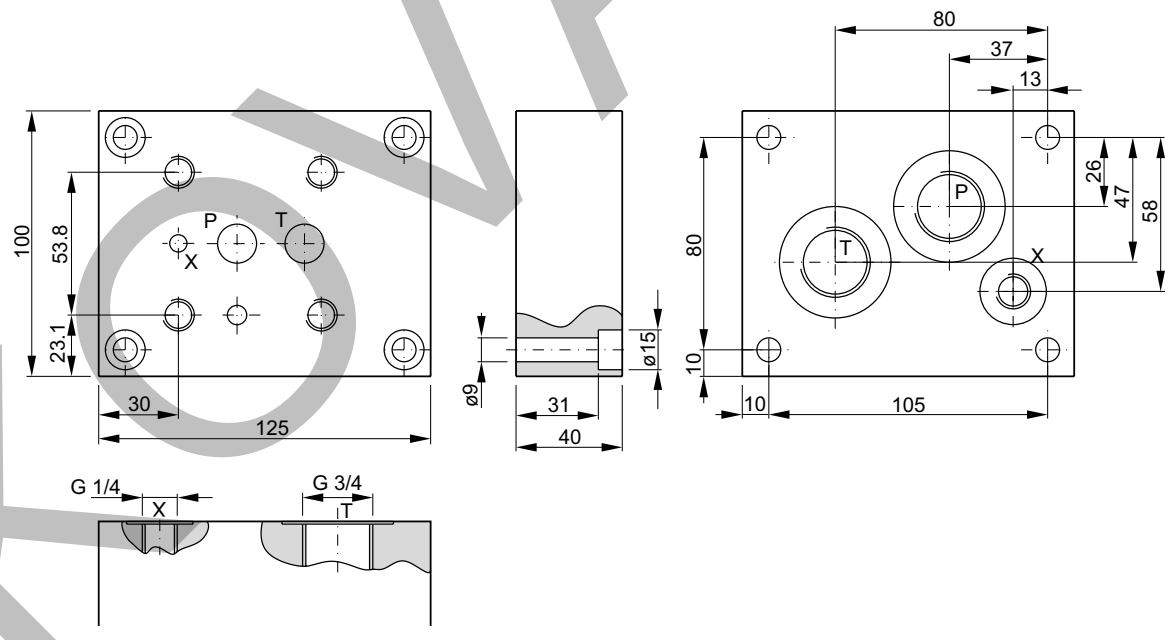
Bold letters =
Short-term availability

Valve size DIN NG32, ISO 6264-10-15-*-97, DIN 24340 form D / ISO 5781-10-13-0-00



Ordering code	
SPP 10M12B 910	A, B = G 1½ X, Y = G ¼

Valve size DIN NG10, ISO 6264-06-09-*-97, DIN 24340 form E

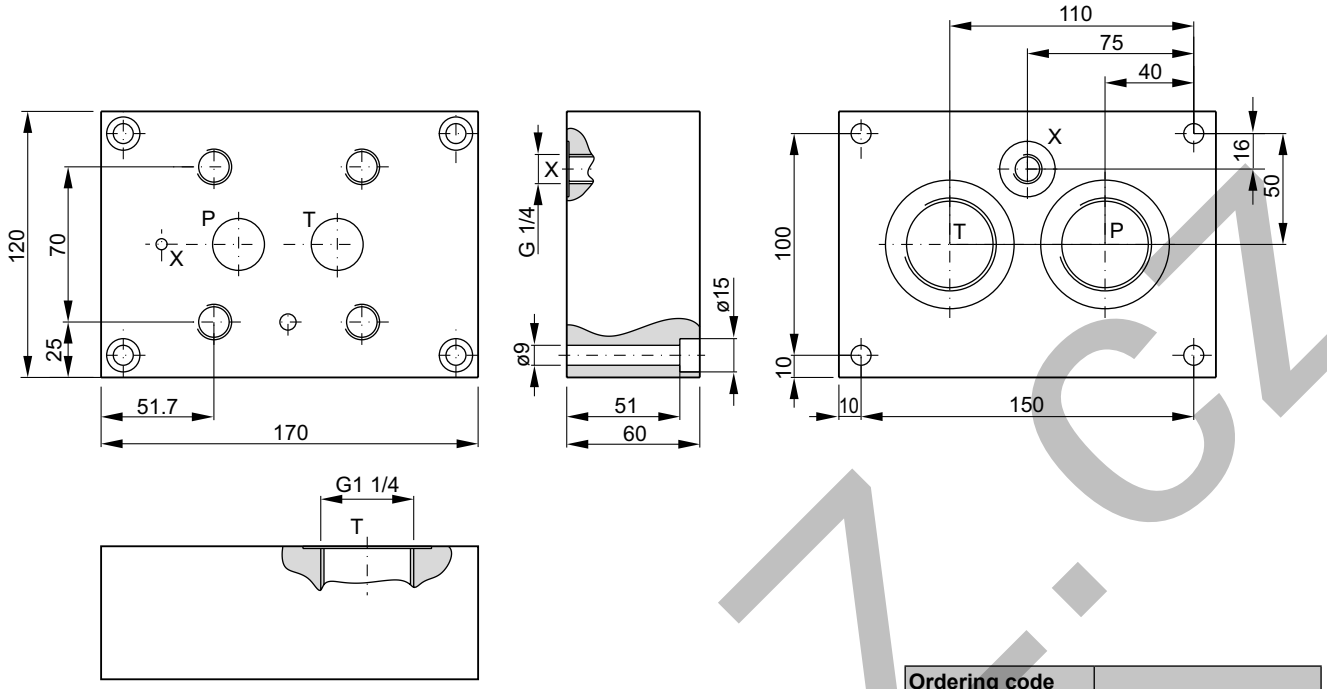


Ordering code	
SPP 3R6B 910	P, T = G ¾ X = G ¼

Bold letters =
Short-term availability

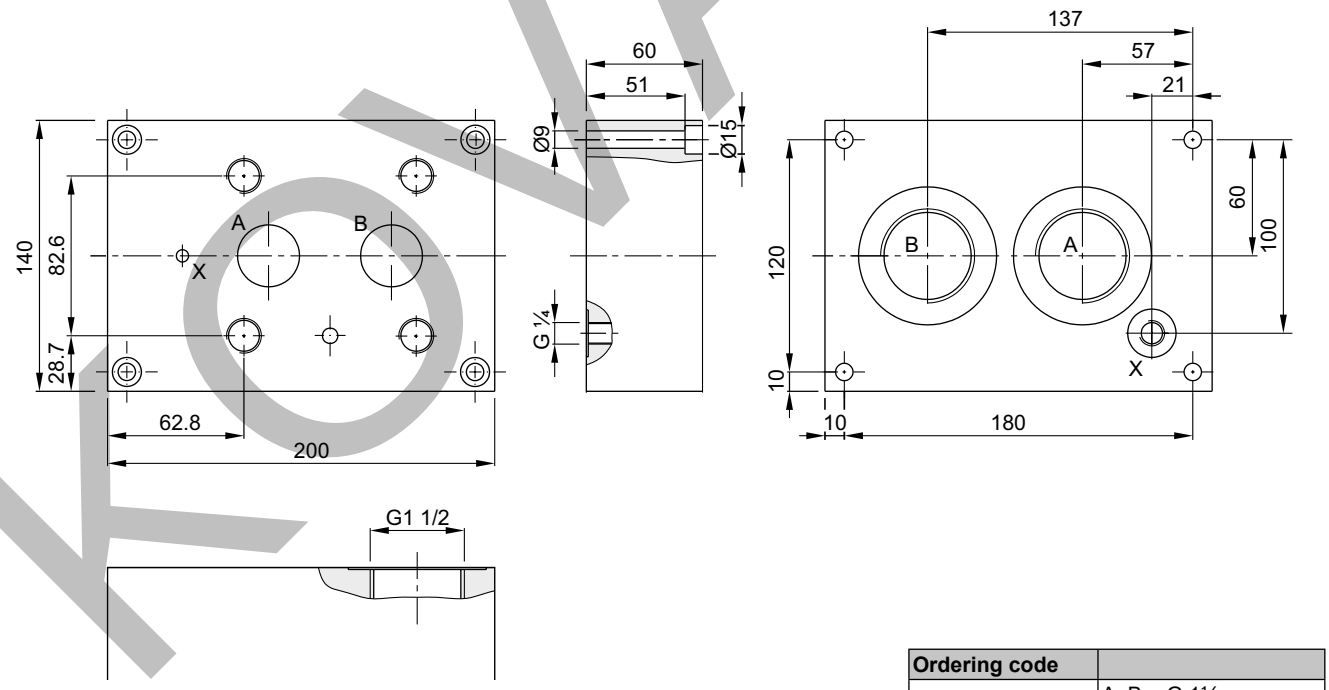
12

Valve size DIN NG25, ISO 6264-08-13-*-97, DIN 24340 form E



Ordering code	
SPP 6R10B 910	P, T = G 1¼ X = G ¼

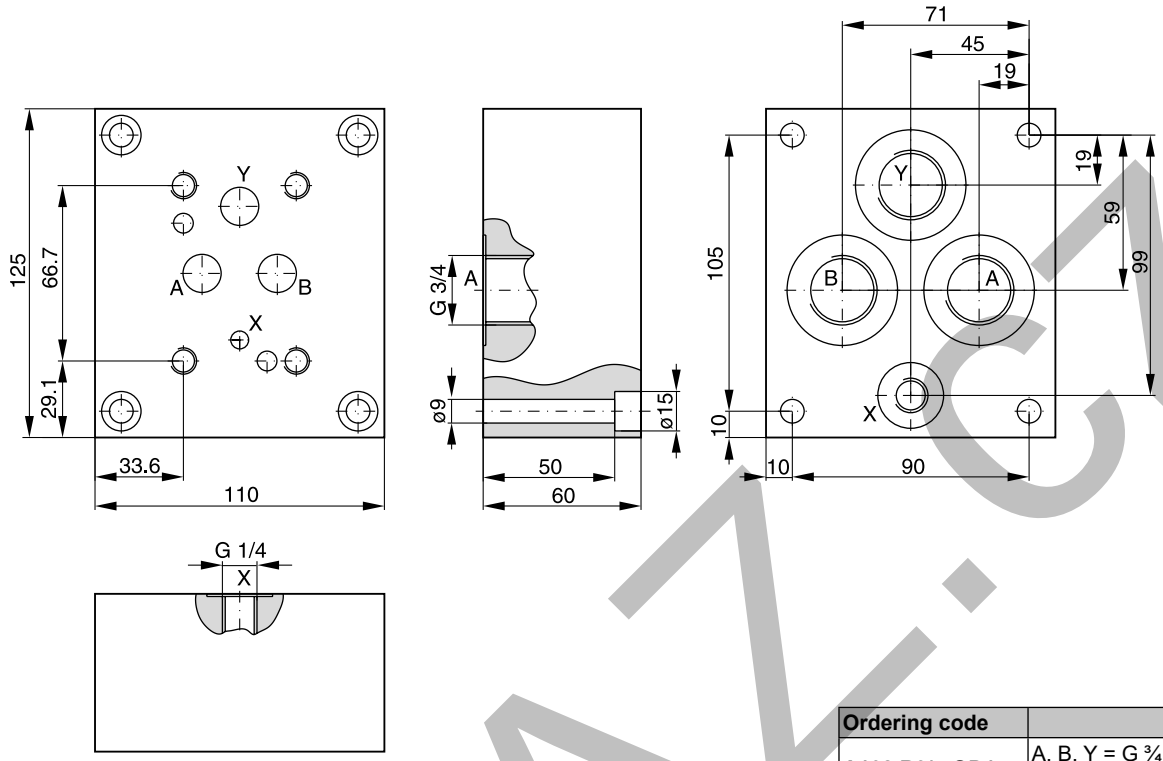
Valve size DIN NG32, ISO 6264-10-17-*-97, DIN 24340 form E



Ordering code	
SPP 10R12B 910	A, B = G 1½ X = G ¼

Bold letters =
Short-term availability

Valve size DIN NG10, for pressure valves VB and VM



Ordering code	
A102 R3/4-OD1	A, B, Y = G ¾ X = ¼

Bold letters =
Short-term availability

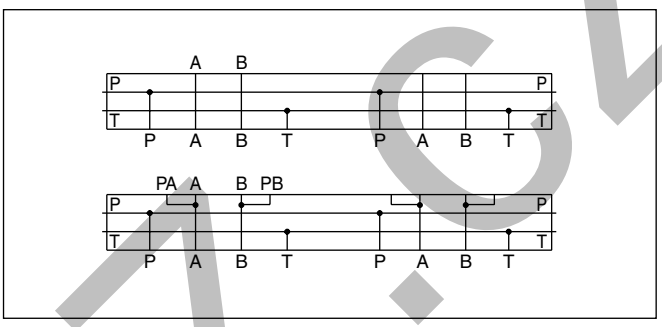
12

Multi-station manifolds are used to save space when connecting several directional control valves to a common pressure and return line.

Diverse switching arrangements are possible in combination with sandwich and directional control valves.

Features

- Very low pressure drop due to large drilling parameters.
- P- and T-ports on both faces.
- Also available with gauge ports G¼.



Ordering code

MSP	☐	☐	☐	B	☐	9	☐	☐
Multiple subplate, standard	Stations	Nominal size	Port size	BSPP Port thread	Port location	Metric fastening screws	Design series	Gauge port

Code	Stations
1	**1**
2	**2**
3	**3**
4	**4**
5	**5**
6[1]	**6**
7[1]	**7**
8[1]	**8**

Code	Size
D2	**NG06 / CETOP 03**
D3	**NG10 / CETOP 05**

Code	Gauge port
omit	**without**
C[2]	Port G¼

Code	Design series
10	**CETOP 03, NG06**
30	**CETOP 05, NG10**

Code	Port location
omit	**A + B rear**
A	**A + B side**

Code	Port size
3	**CETOP 03 A + B = G 3/8 P + T = G 1/2**
4	**CETOP 05 A + B = G 1/2 P = G 3/4 T = G1**

Bold letters =
Short-term availability

Technical data

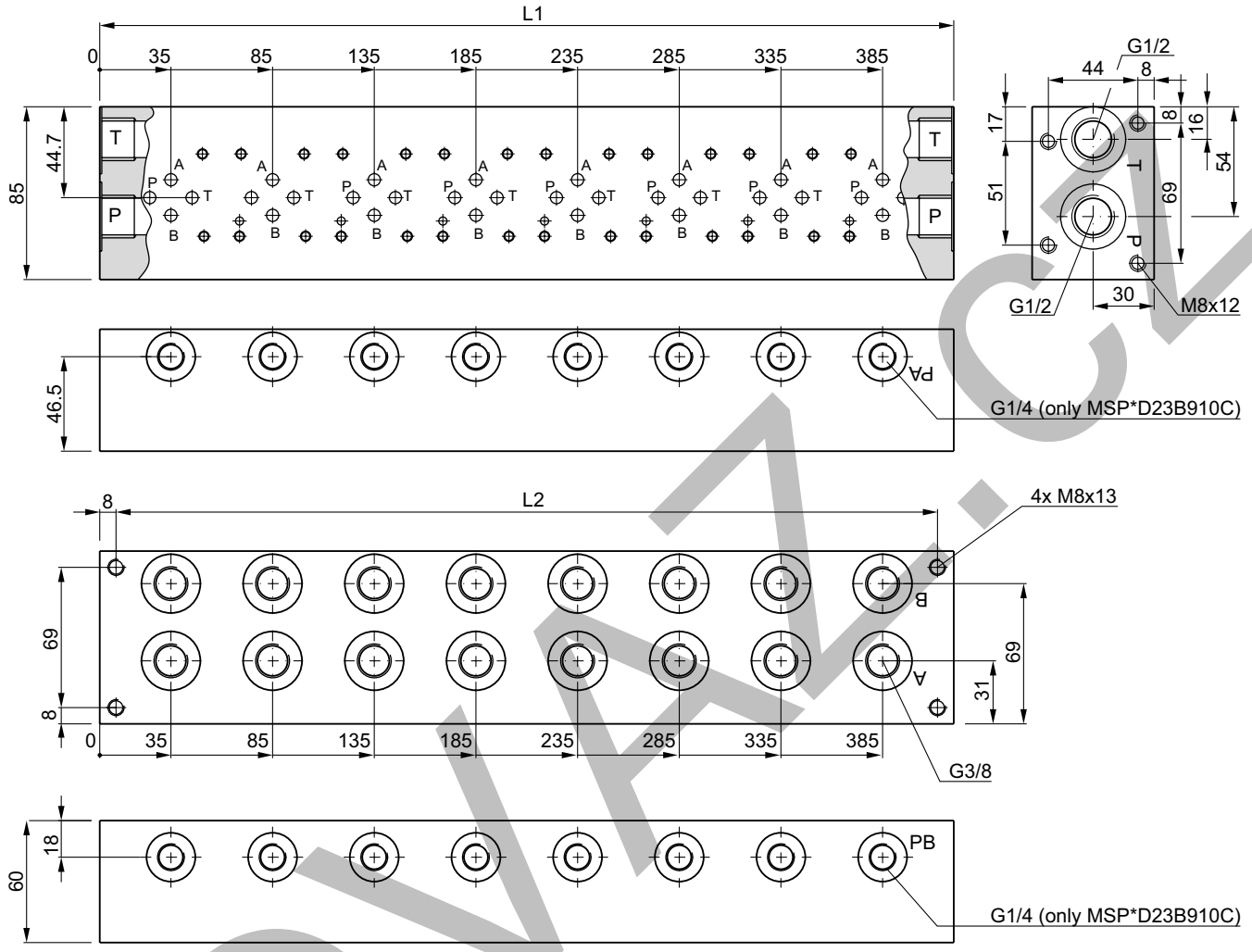
Interface		DIN 24340, Form A, CETOP, ISO 4401
Mounting position		unrestricted (valve axis preferably horizontal)
Working pressure	[bar]	max. 350
Surface protection		phosphated (no permanent corrosion protection)

[1] Not for NG10 with gauge ports

[2] Not for NG10 with 6, 7, or 8 stations

MSP*D23 B910*

Multi-station manifold NG06 with rear ports A+B (gauge ports only with code "C")

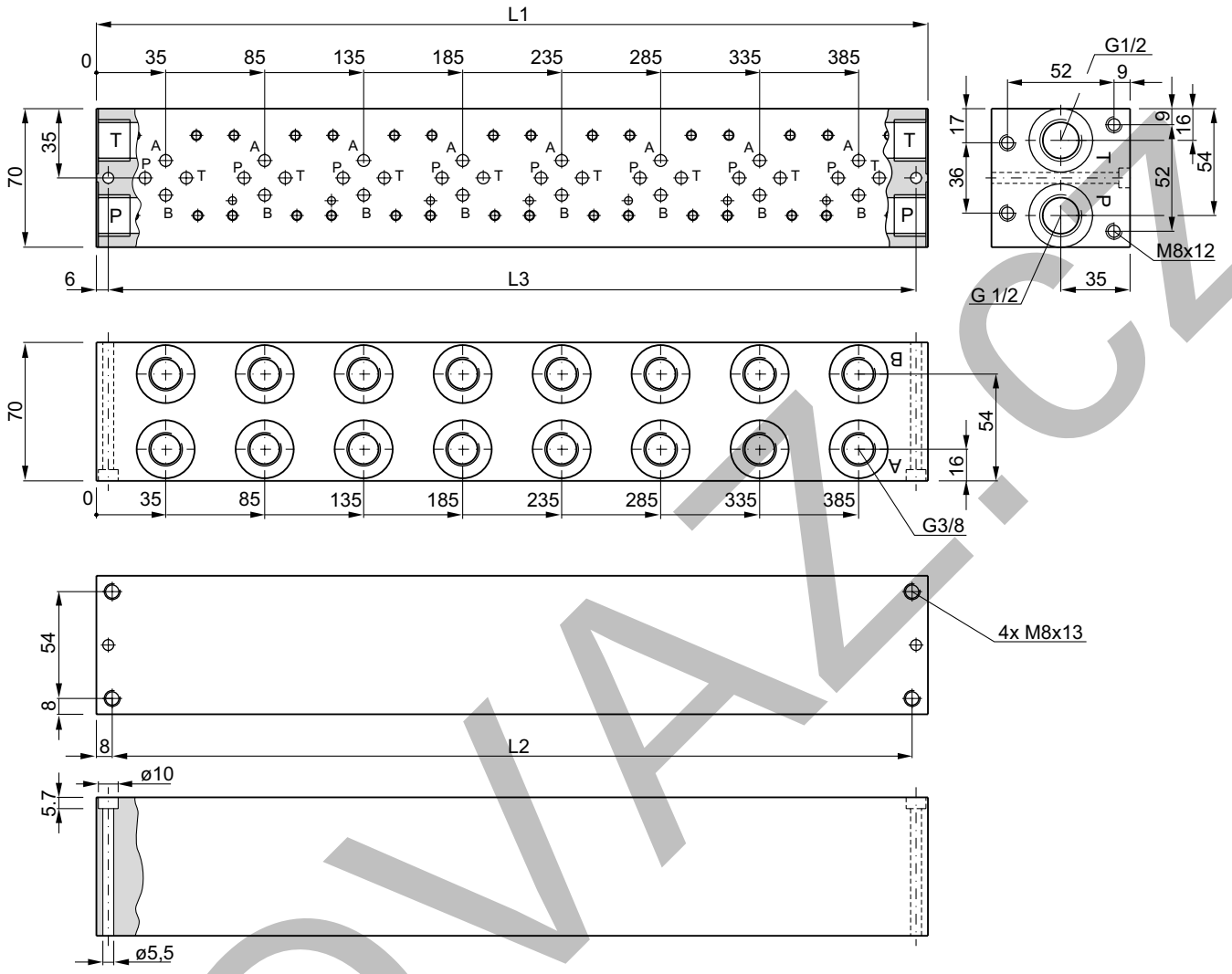


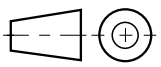
Code	Nominal size	Stations	L1 [mm]	L2 [mm]	Port		Gauge port	Weight [1] [kg]
					P, T	A, B		
MSP1 D23 B910*	NG06 CETOP 03	1	70	54	G½	G⅜	G¼ (only MSP*D23B910C)	2.1 (2.1)
MSP2 D23 B910*		2	120	104				3.7 (3.7)
MSP3 D23 B910*		3	170	154				5.4 (5.3)
MSP4 D23 B910*		4	220	204				6.9 (6.9)
MSP5 D23 B910*		5	270	254				8.6 (8.4)
MSP6 D23 B910*		6	320	304				10.3 (10.1)
MSP7 D23 B910*		7	370	354				11.9 (11.7)
MSP8 D23 B910*		8	420	404				13.5 (13.4)

[1] Values in ( ) for MSP*D23B910C

MSP UK.INDDM 25.08.22

MSP*D23 BA910
Multi-station manifold NG06 with side ports A+B

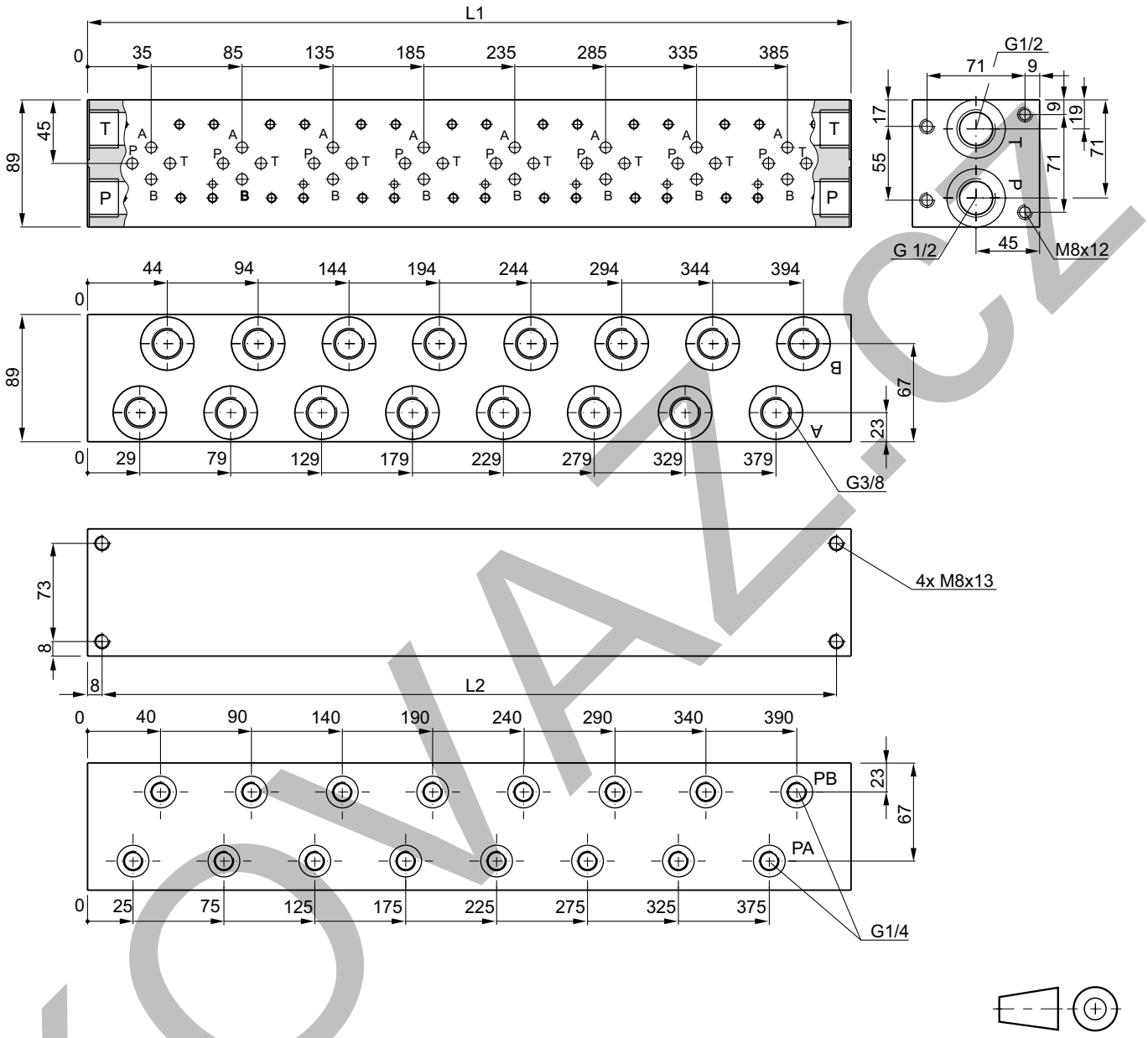




Code	Nominal size	Stations	L1 [mm]	L2 [mm]	L3 [mm]	Port		Gauge port	Weight [kg]
						P, T	A, B		
MSP1 D23 BA910	NG06 CETOP 03	1	70	54	58	G½	G⅜	—	2.0
MSP2 D23 BA910		2	120	104	108				3.5
MSP3 D23 BA910		3	170	154	158				5.0
MSP4 D23 BA910		4	220	204	208				6.6
MSP5 D23 BA910		5	270	254	258				8.1
MSP6 D23 BA910		6	320	304	308				9.6
MSP7 D23 BA910		7	370	354	358				11.2
MSP8 D23 BA910		8	420	404	408				12.7

MSP*D23 BA910C

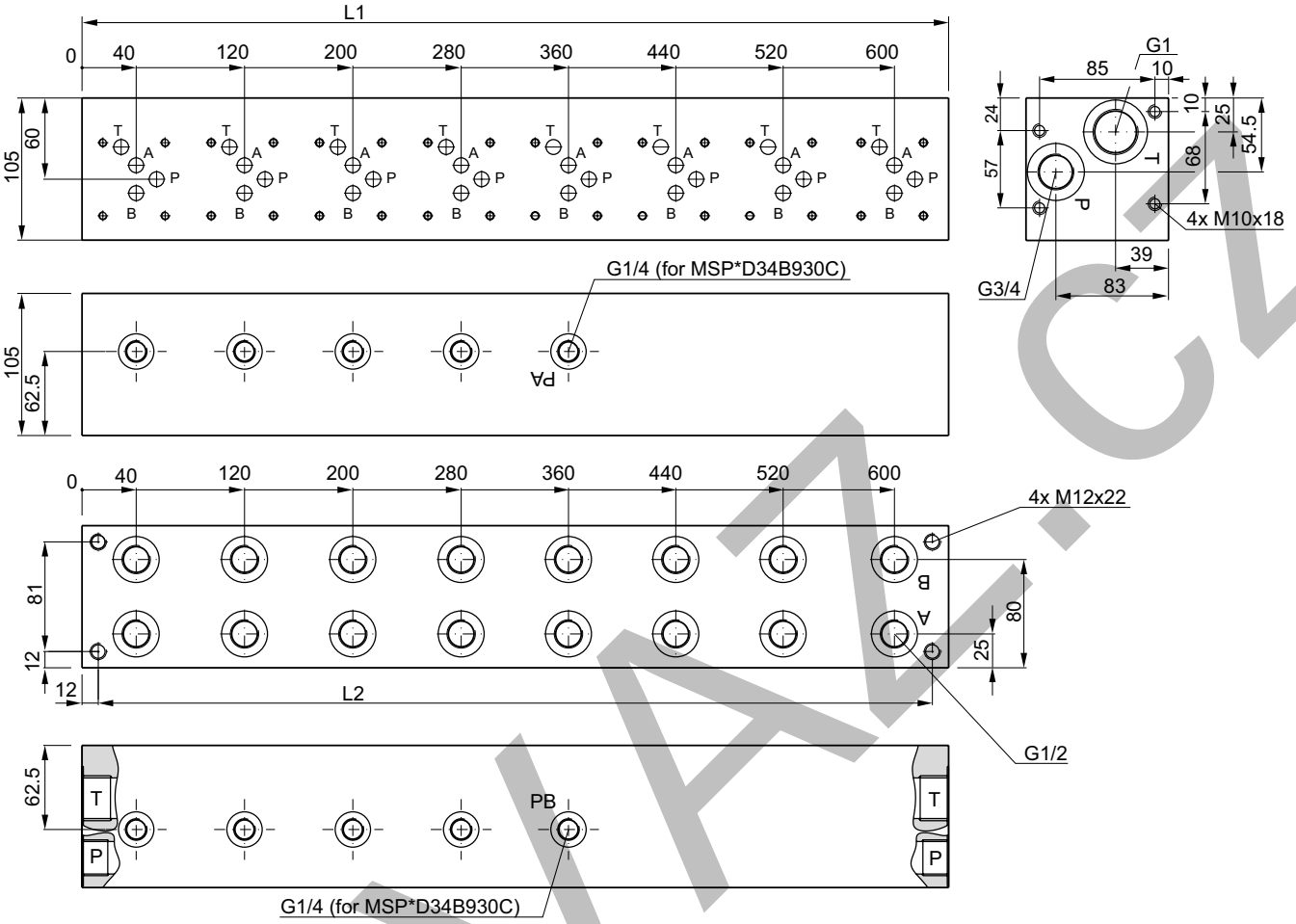
Multi-station manifold NG06 with side ports A+B and gauge ports



Code	Nominal size	Stations	L1 [mm]	L2 [mm]	Port		Gauge port	Weight [kg]
					P, T	A, B		
MSP1 D23 BA910C	NG06 CETOP 03	1	70	54	G½	G⅜	G¼	3.4
MSP2 D23 BA910C		2	120	104				5.8
MSP3 D23 BA910C		3	170	154				8.4
MSP4 D23 BA910C		4	220	204				10.6
MSP5 D23 BA910C		5	270	254				13.0
MSP6 D23 BA910C		6	320	304				15.7
MSP7 D23 BA910C		7	370	354				18.2
MSP8 D23 BA910C		8	420	404				20.6

MSP*D34 B930*

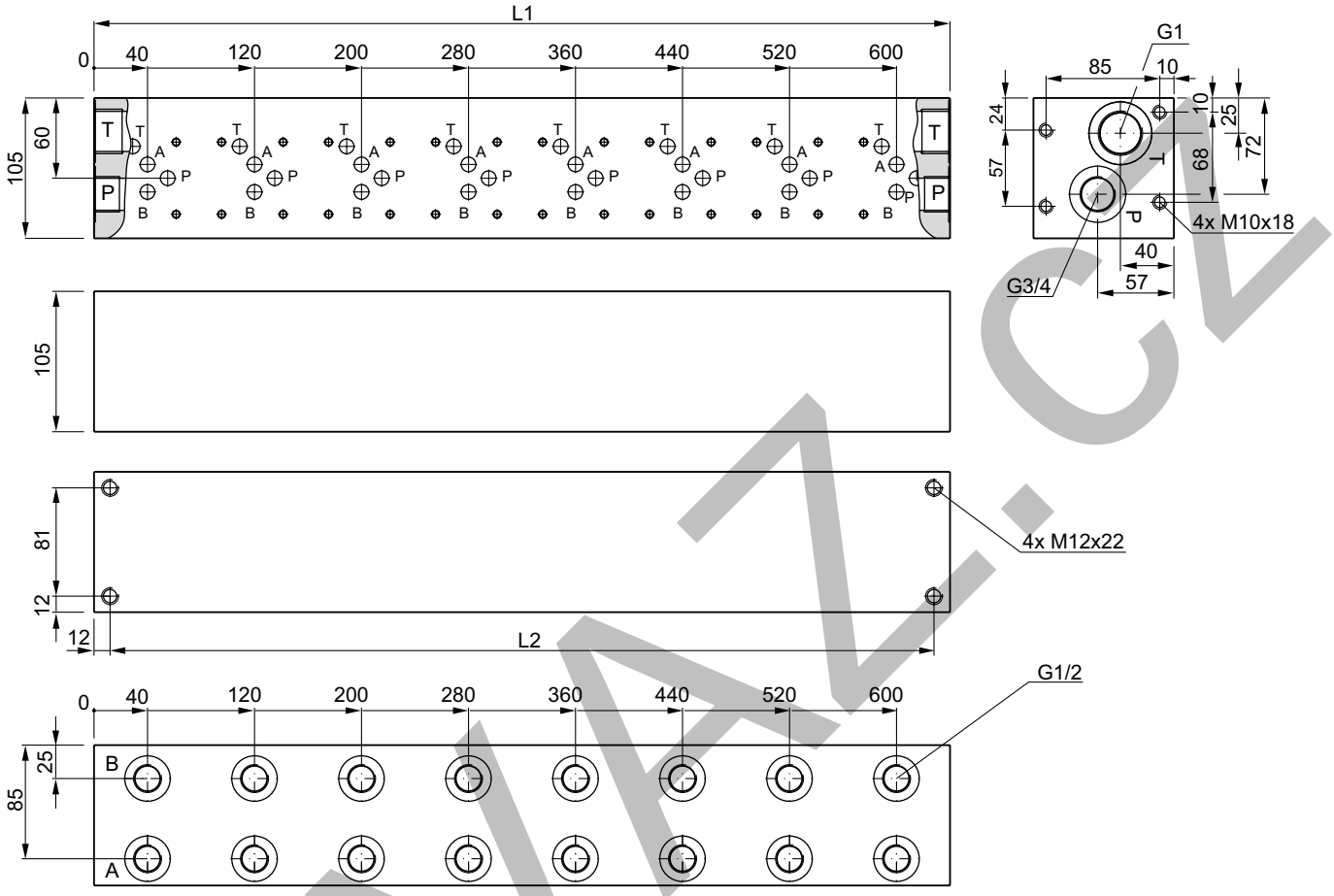
Multi-station manifold NG10 with rear ports A+B (gauge ports only with code "C")



Code	Nominal size	Stations	L1 [mm]	L2 [mm]	Port P	Port T	Port A, B	Gauge port	Weight [1] [kg]
MSP1 D34 B930*	NG10 CETOP 05	1	80	56	G¾	G1	G½	G¼ (only MSP*D34B930C)	5.2 (5.1)
MSP2 D34 B930*		2	160	136					10.7 (10.6)
MSP3 D34 B930*		3	240	216					16.2 (16.2)
MSP4 D34 B930*		4	320	296					21.6 (21.6)
MSP5 D34 B930*		5	400	376					27.2 (27.2)
MSP6 D34 B930		6	480	456				—	32.5
MSP7 D34 B930		7	560	536					38.0
MSP8 D34 B930		8	640	616					43.7

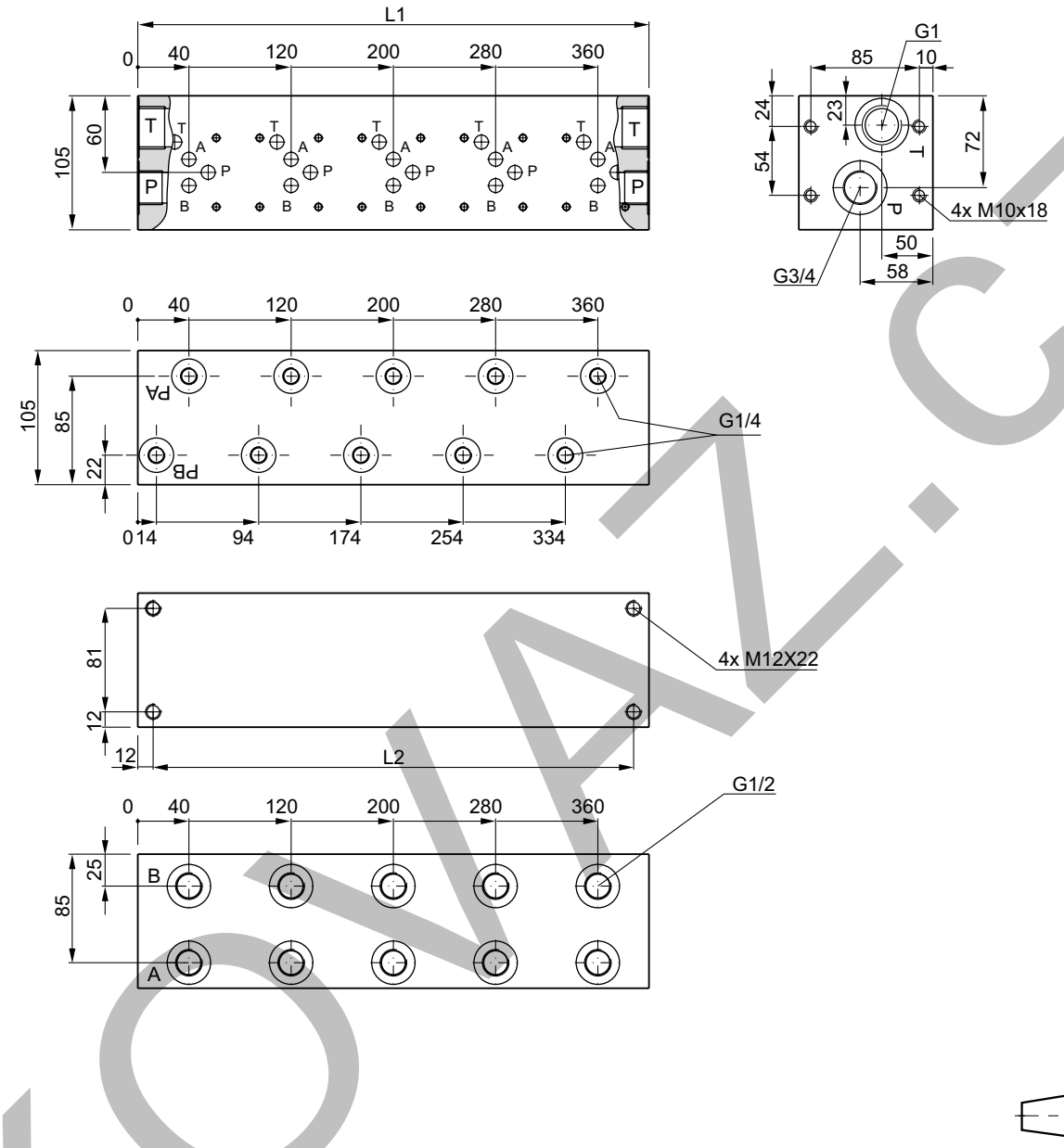
[1] Values in ( ) for MSP*D34B930C

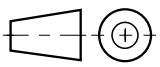
MSP*D34 BA930
Multi-station manifold NG10 with side ports A+B



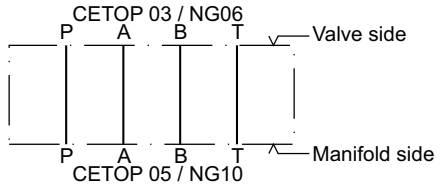
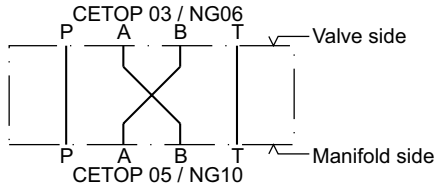
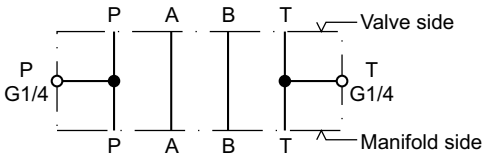
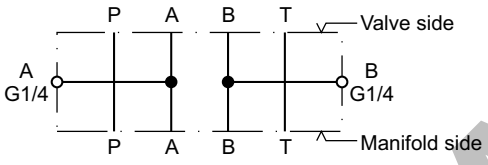
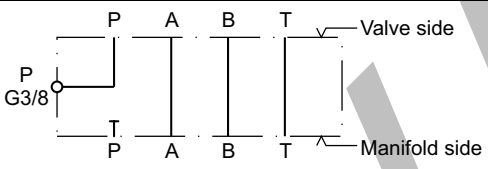
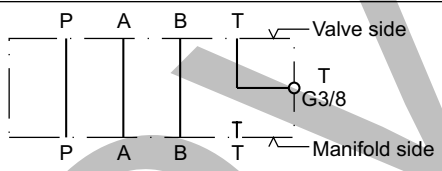
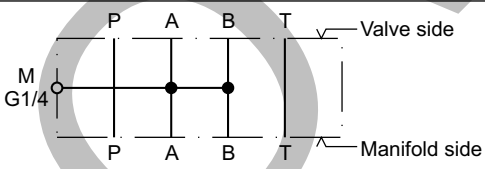
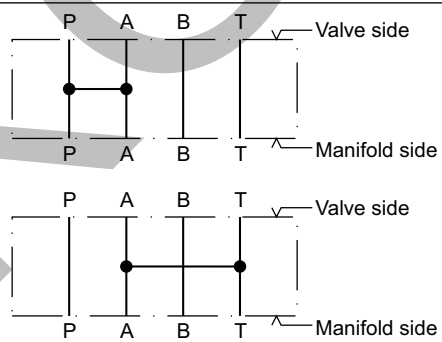
Code	Nominal size	Stations	L1 [mm]	L2 [mm]	Port			Gauge port	Weight [kg]
					P	T	A, B		
MSP1 D34 BA930	NG10 CETOP 05	1	80	56	G¾	G1	G½	—	5.1
MSP2 D34 BA930		2	160	136					10.6
MSP3 D34 BA930		3	240	216					16.0
MSP4 D34 BA930		4	320	296					21.5
MSP5 D34 BA930		5	400	376					26.9
MSP6 D34 BA930		6	480	456					32.5
MSP7 D34 BA930		7	560	536					37.7
MSP8 D34 BA930		8	640	616					43.4

MSP*D34 BA930C
Multi-station manifold NG10 with side connections A+B and gauge ports





Code	Nominal size	Stations	L1 [mm]	L2 [mm]	Port			Gauge port	Weight [kg]
					P	T	A, B		
MSP1 D34 BA930C	NG10 CETOP 05	1	80	56	G¾	G1	G½	G¼	5.1
MSP2 D34 BA930C		2	160	136					10.4
MSP3 D34 BA930C		3	240	216					15.8
MSP4 D34 BA930C		4	320	296					21.2
MSP5 D34 BA930C		5	400	376					26.5

Symbol	Type	Size	Height
	**PADA 1007-AA-BB**	NG10-NG06	25
	**PADA 1007/A-B/B-A**	NG10-NG06	25
	H06-1044	NG06	30
	**H06-1039**	NG06	30
	**H06-504**	NG06	30
	**H06-711**	NG06	30
	H06-1274	NG06	30
	**H06-1040**	NG06	30

Bold letters =
Short-term availability

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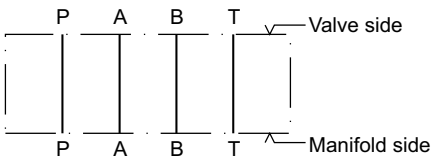
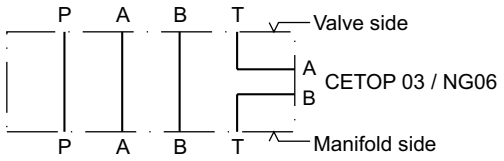
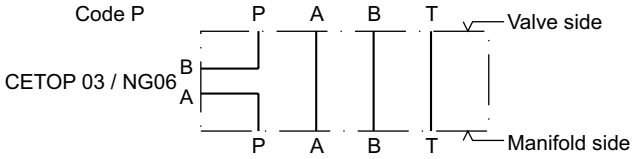
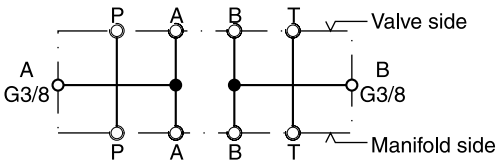
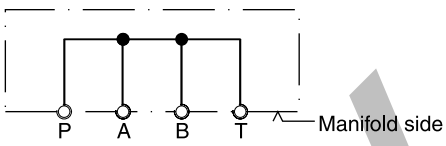
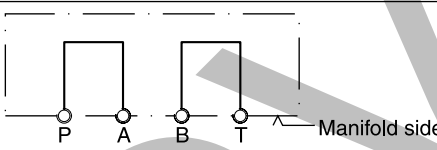
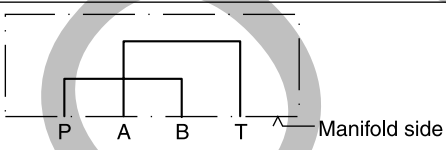
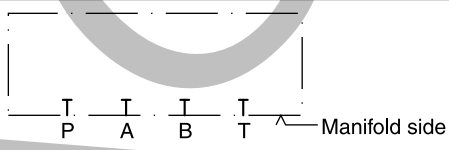
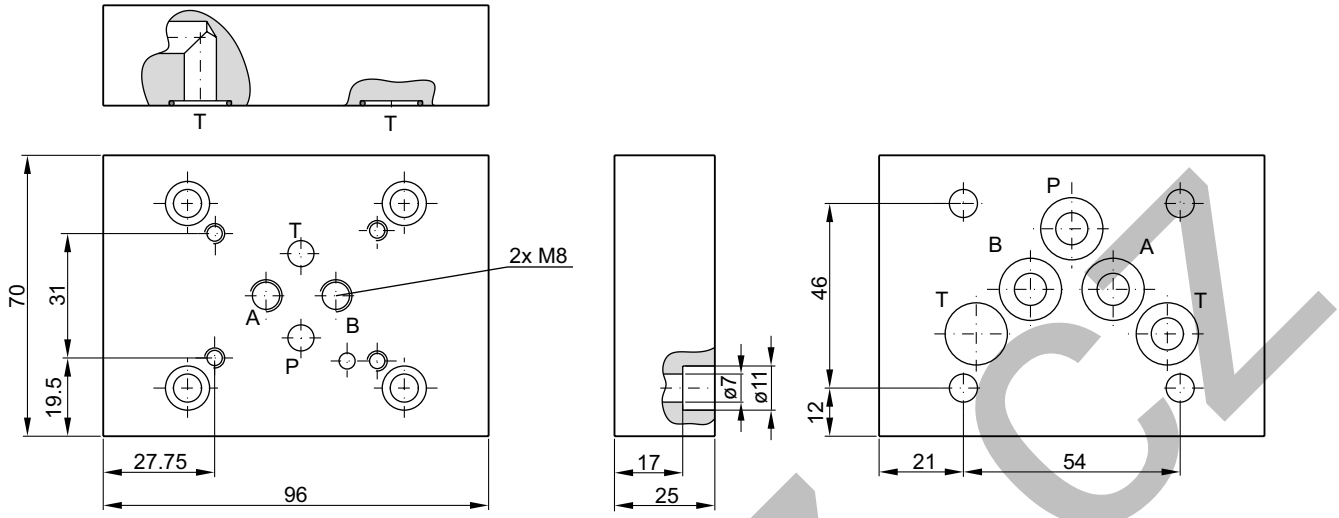
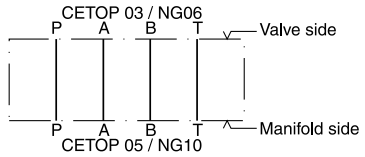
Symbol	Type	Size	Height
	**H06DO-1291**	NG06	10
Code S  Code P 	H06DU-814	NG06	71.3
 All ports can be equipped with orifices or plugs (1/16NPT)	CS06040N	NG06	40.3
 All ports can be equipped with orifices or plugs (1/16NPT)	CS06082N	NG06	40.3
 All ports can be equipped with orifices or plugs (1/16NPT)	CS06080N	NG06	40.3
	**D51DC071D**	NG06	26.3
	**D51VP071C** **D51VP101D**	NG06 NG10	26.3 26.9

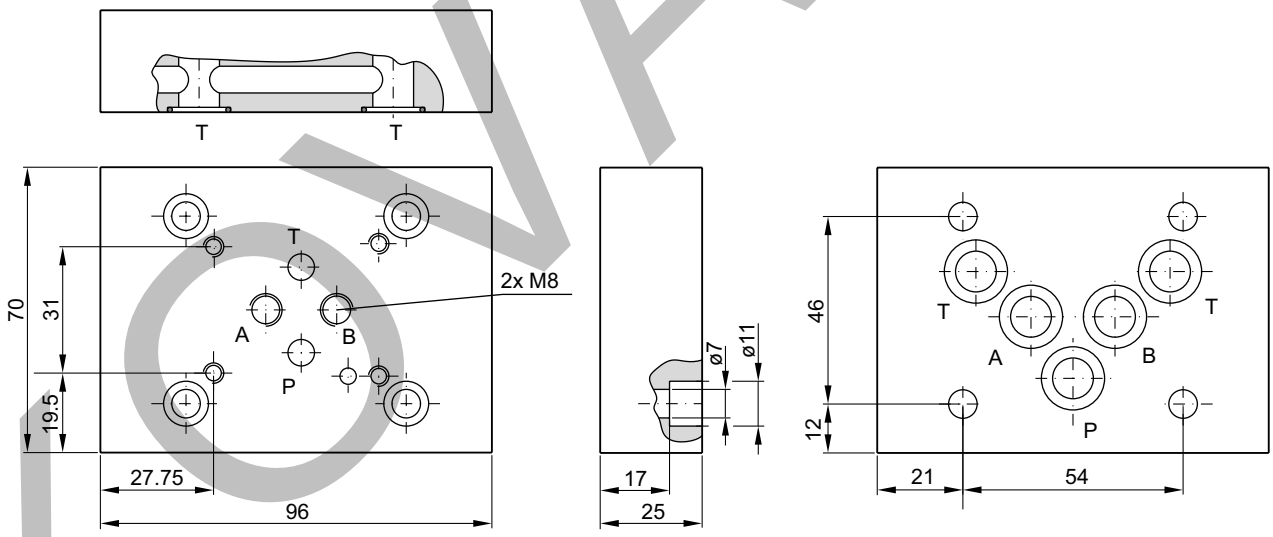
Bold letters =
Short-term availability

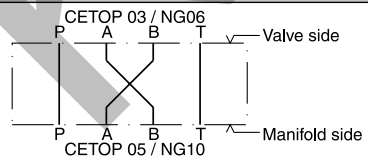
Adaptor plate PADA 1007-AA-BB, CETOP 05/03, nominal size NG10 to NG06



Symbol	Ordering code	Bolt kit	Bolt dimensions	Torque
	**PADA1007-AA-BB** CETOP 03/05 (O-rings included in delivery)	BK 408	4x M6x25 ISO 4762-12.9	13.2 Nm ±15 %

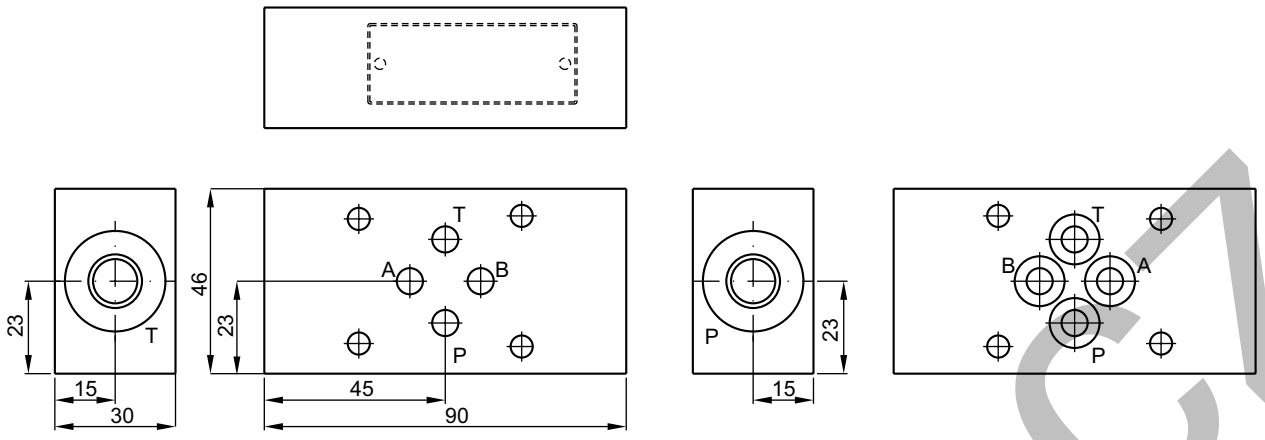
Adaptor plate PADA 1007/A-B/B-A, CETOP 03/05, nominal size NG10 to NG06

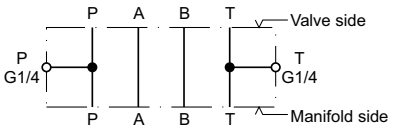


Symbol	Ordering code	Bolt kit	Bolt dimensions	Torque
	**PADA1007/A-B/B-A** CETOP 03/05 (O-rings included in delivery)	BK 408	4x M6x25 ISO 4762-12.9	13.2 Nm ±15 %

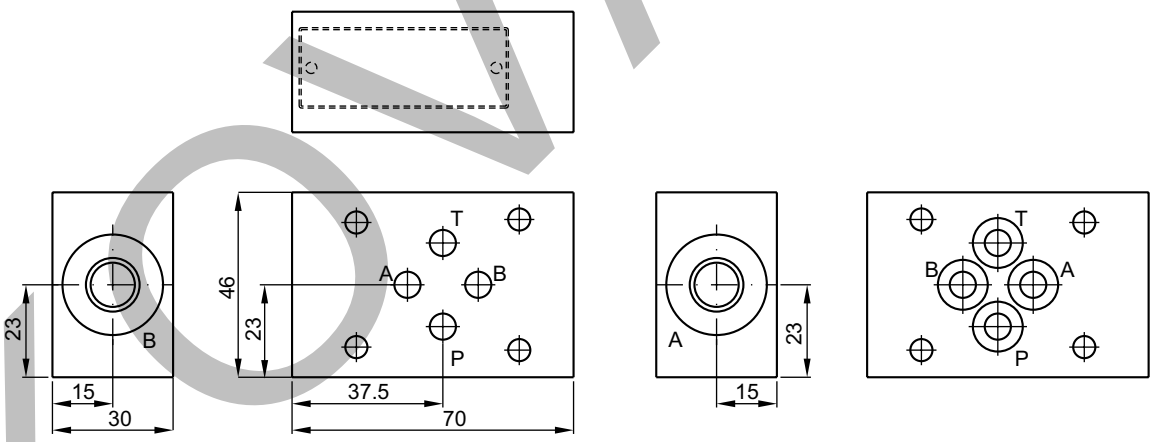
Bold letters =
Short-term availability

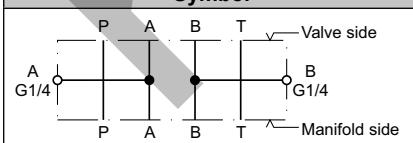
Sandwich plate H06-1044, CETOP 03 / NG06



Symbol	Ordering code
	**H06-1044** CETOP 03 (O-rings included in delivery)

Sandwich plate H06-1039, CETOP 03 / NG06



Symbol	Ordering code
	**H06-1039** CETOP 03 (O-rings included in delivery)

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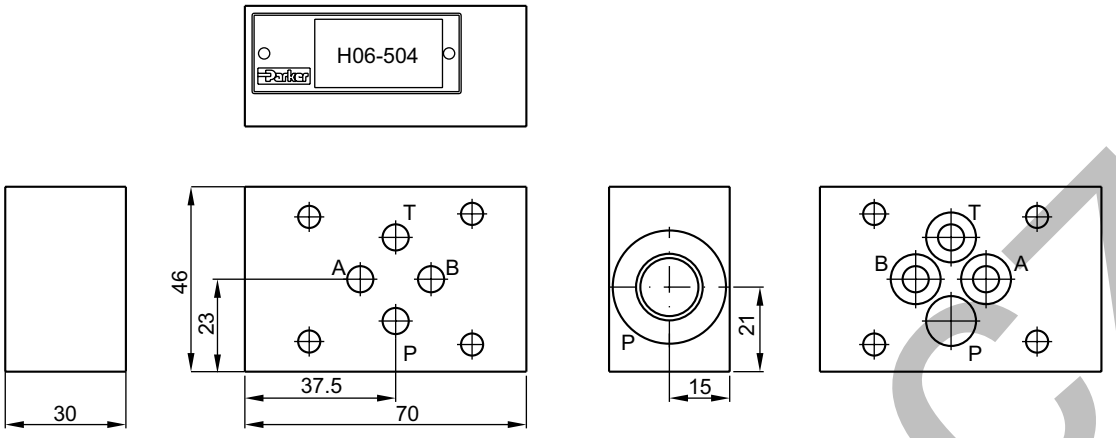
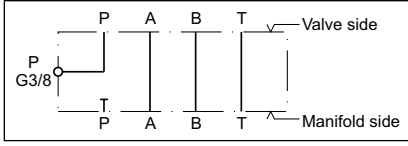
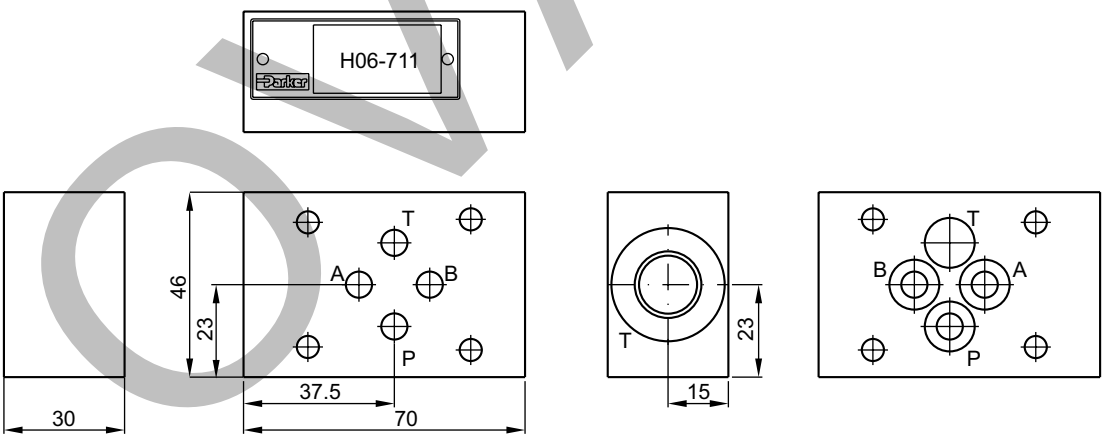
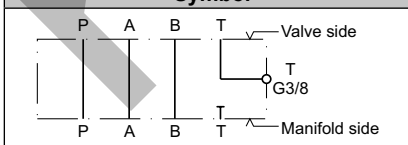
Sandwich plate H06-504, CETOP 03 / NG06



Symbol	Ordering code
	**H06-504** CETOP 03 (O-rings included in delivery)

Sandwich plate H06-711, CETOP 03 / NG06



Symbol	Ordering code
	**H06-711** CETOP 03 (O-rings included in delivery)

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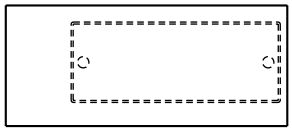
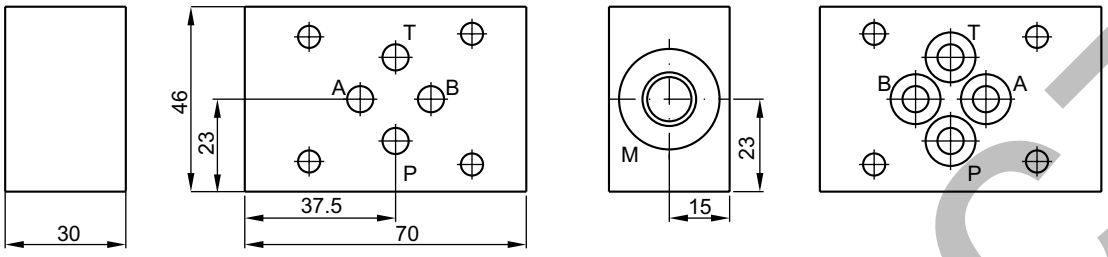
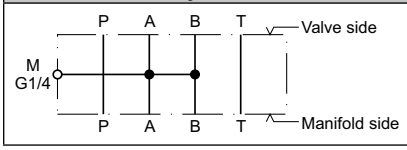
Sandwich plate H06-1274, CETOP 03 / NG06

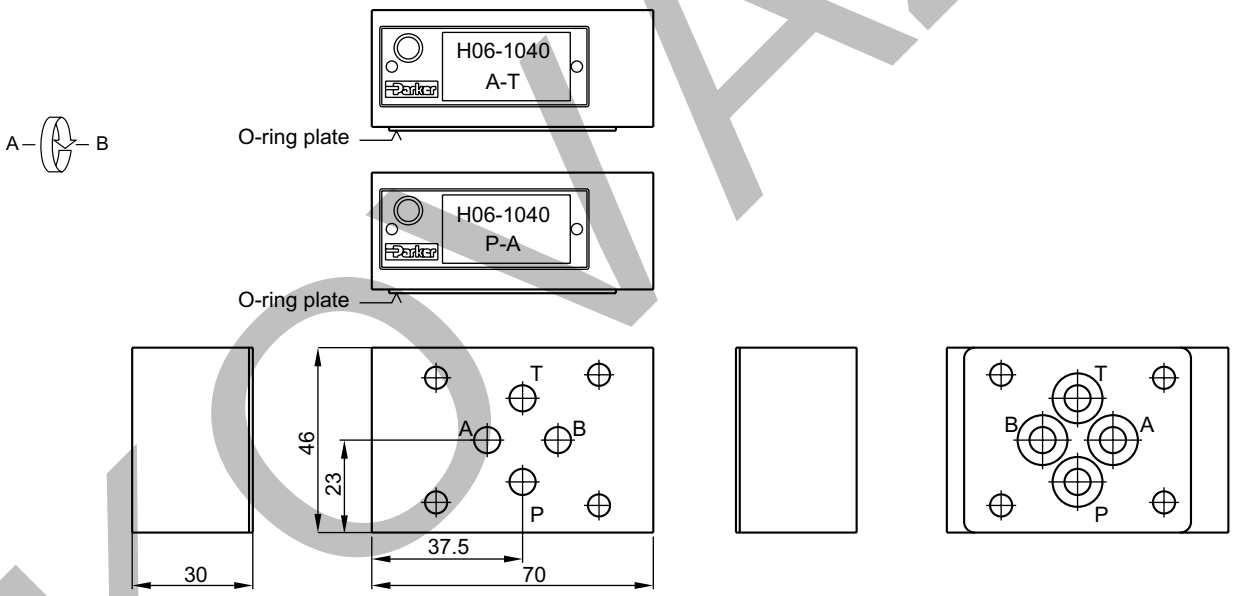


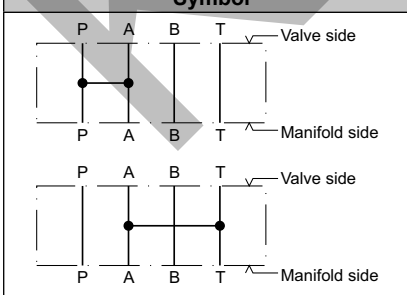


Symbol	Ordering code
	**H06-1274** CETOP 03 (O-rings included in delivery)

Sandwich plate H06-1040, CETOP 03 / NG06

The functional change is achieved by rotating the mounting position of the valve 180°.



Symbol	Ordering code
	**H06-1040** CETOP 03 (O-rings and O-ring plate included in delivery)

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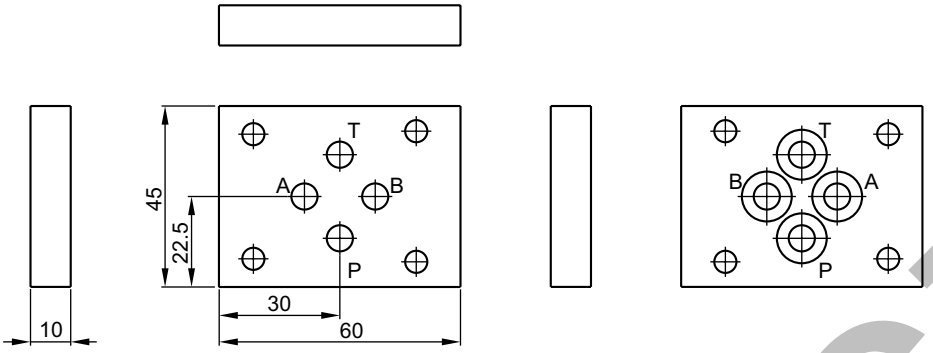
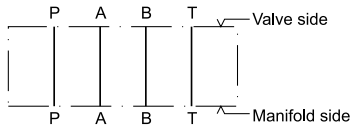
Sandwich plate H06DO-1291, CETOP 03 / NG06



Symbol	Ordering code
	**H06DO-1291** CETOP 03 (O-rings included in delivery)

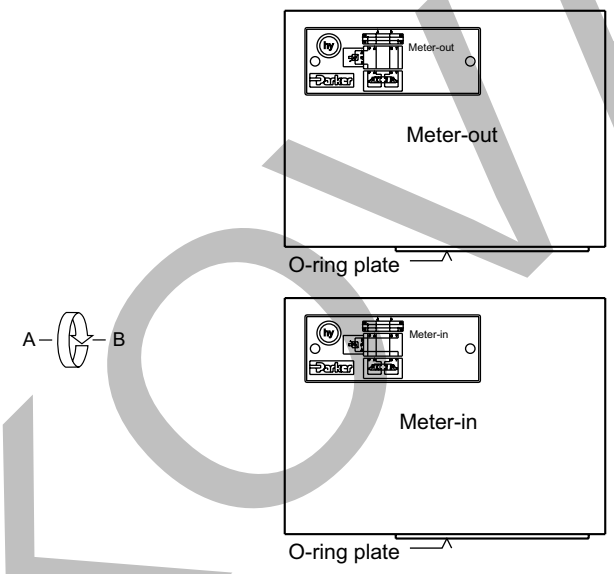
Sandwich plate H06DU-814, CETOP 03 / NG06

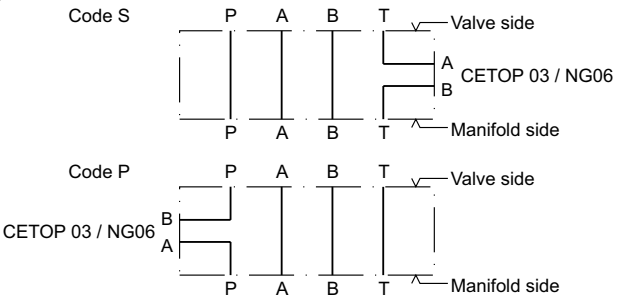
To mount a flow control valve GFG for meter-in (code P) or meter-out (code S) control.

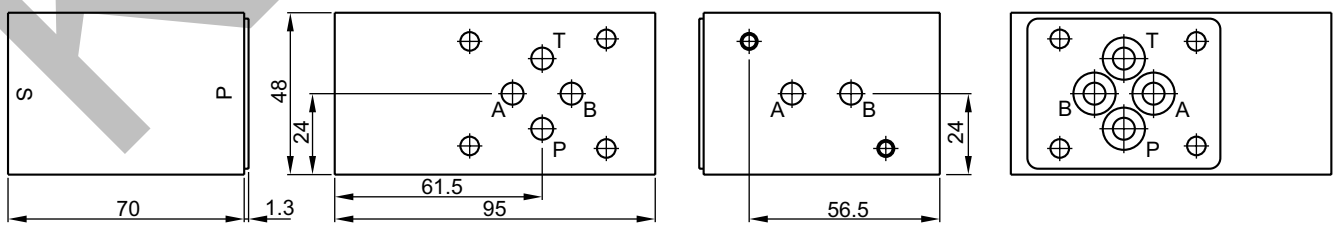
The functional change is achieved by rotating the mounting position of the valve 180°.

For use as secondary control please observe the permitted tank pressure.

Ordering code
H06DU-814 CETOP 03 (O-rings and O-ring plate included in delivery)







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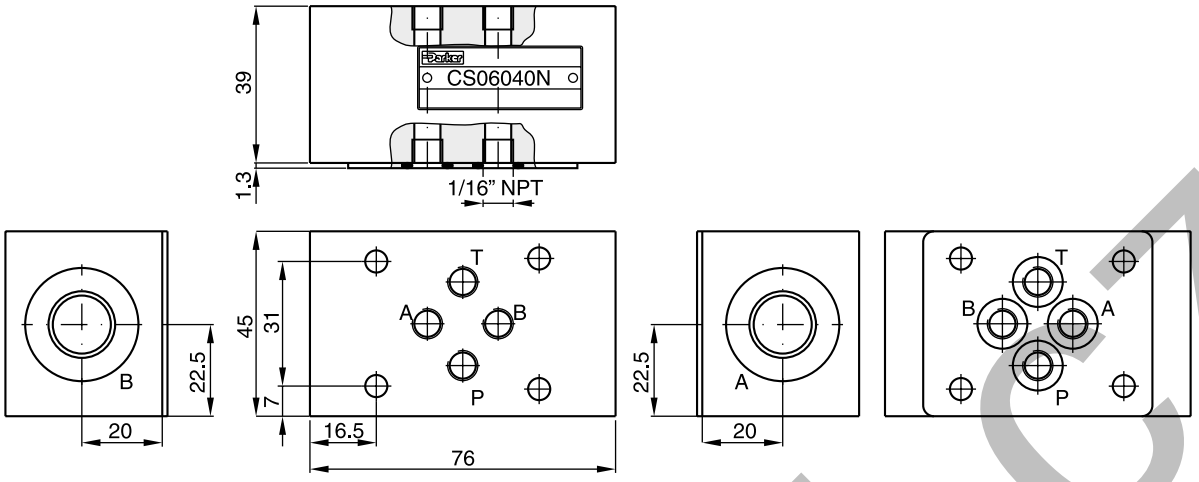
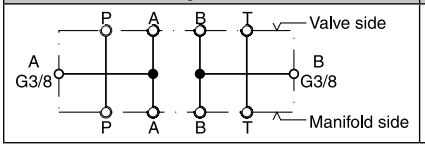
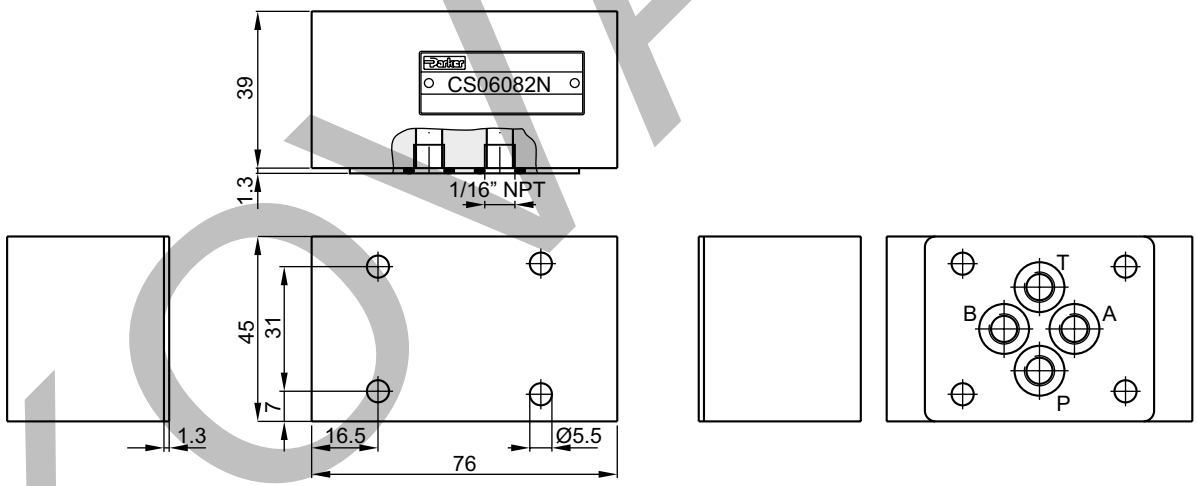
Sandwich plate CS06040N, CETOP 03 / NG06



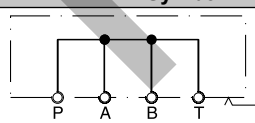
All ports on valve side and manifold side can be equipped with orifices or plugs (1/16 NPT).
For orifice kits see "Accessories" in chapter 8.

Symbol	Ordering code
	**CS06040N** CETOP 03 (O-rings and O-ring plate included in delivery)

Cover plate CS06082N, CETOP 03 / NG06



All ports on manifold side can be equipped with orifices or plugs (1/16 NPT).
For orifice kits see "Accessories" in chapter 8.

Symbol	Ordering code	Bolt Kit	Bolt dimensions	Torque
	**CS06082N** CETOP 03 (O-rings and O-ring plate included in delivery)	BK 300	4x M5x50 ISO 4762-12.9	7.6 Nm ±15 %

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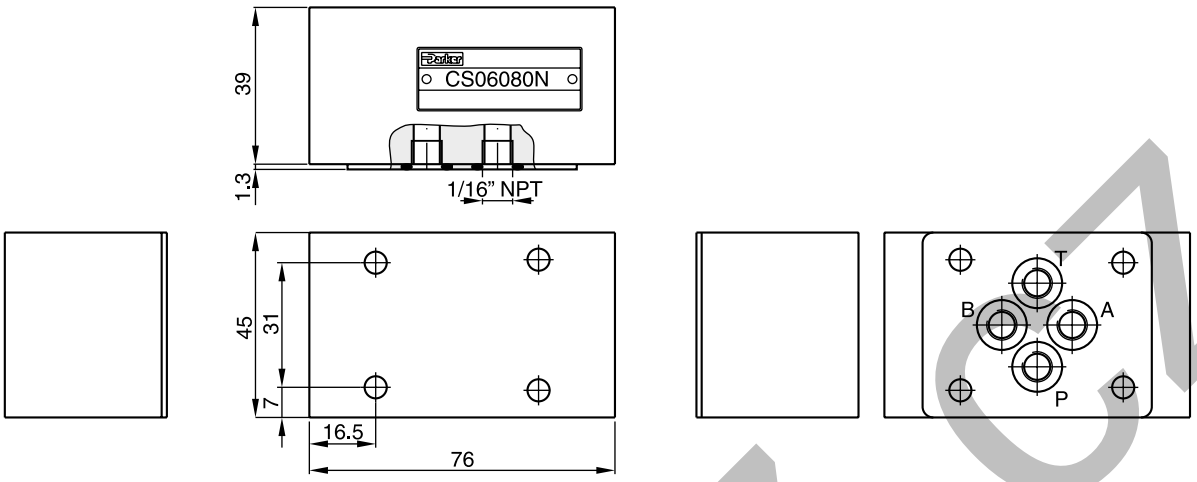
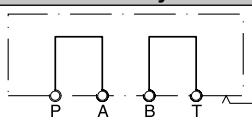
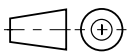
Cover plate CS06080N, CETOP 03 / NG06



All ports on manifold side can be equipped with orifices or plugs ($^{1}/_{16}$ NPT).
For orifice kits see "Accessories" in chapter 8.

Symbol	Ordering code	Bolt Kit	Bolt dimensions	Torque
	**CS06080N** CETOP 03 (O-rings and O-ring plate included in delivery)	BK 300	4x M5x50 ISO 4762-12.9	7.6 Nm ±15 %



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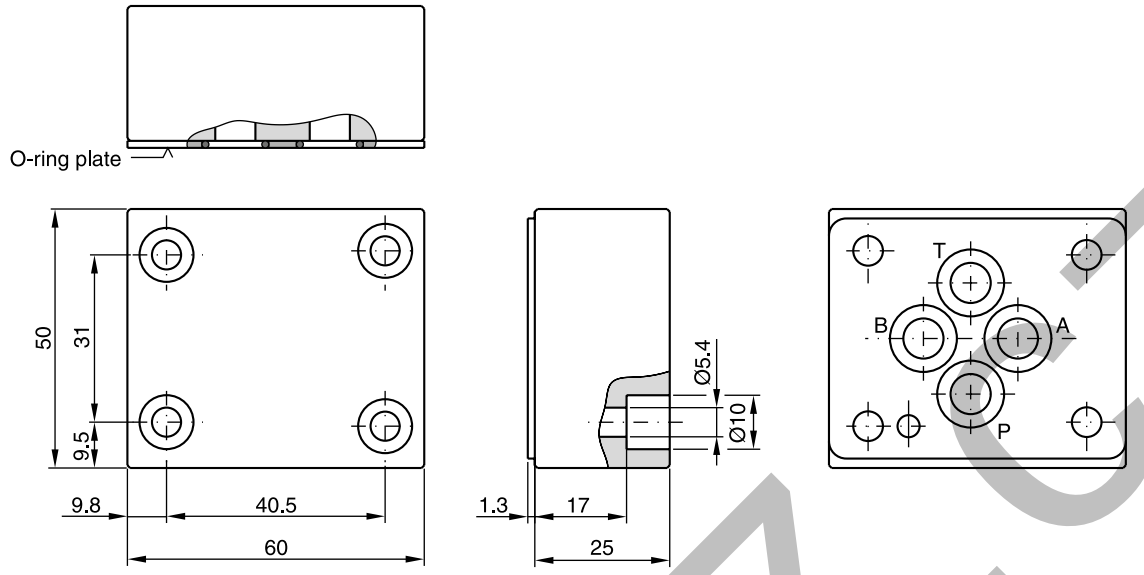
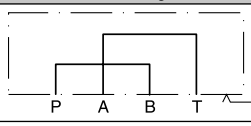
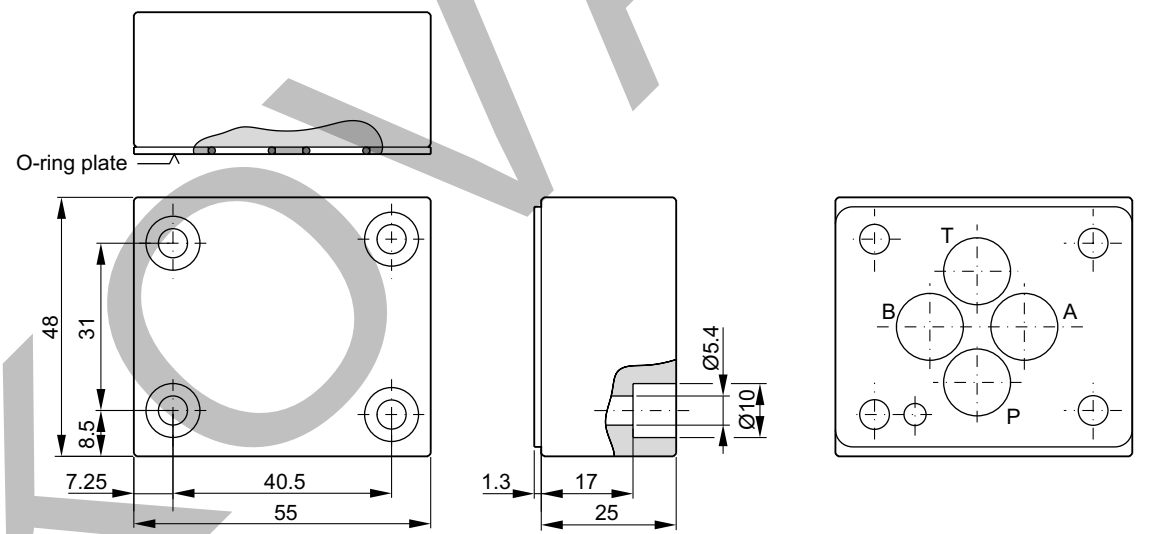
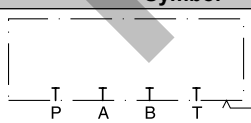
Cover plate D51DC071D, CETOP 03 / NG06



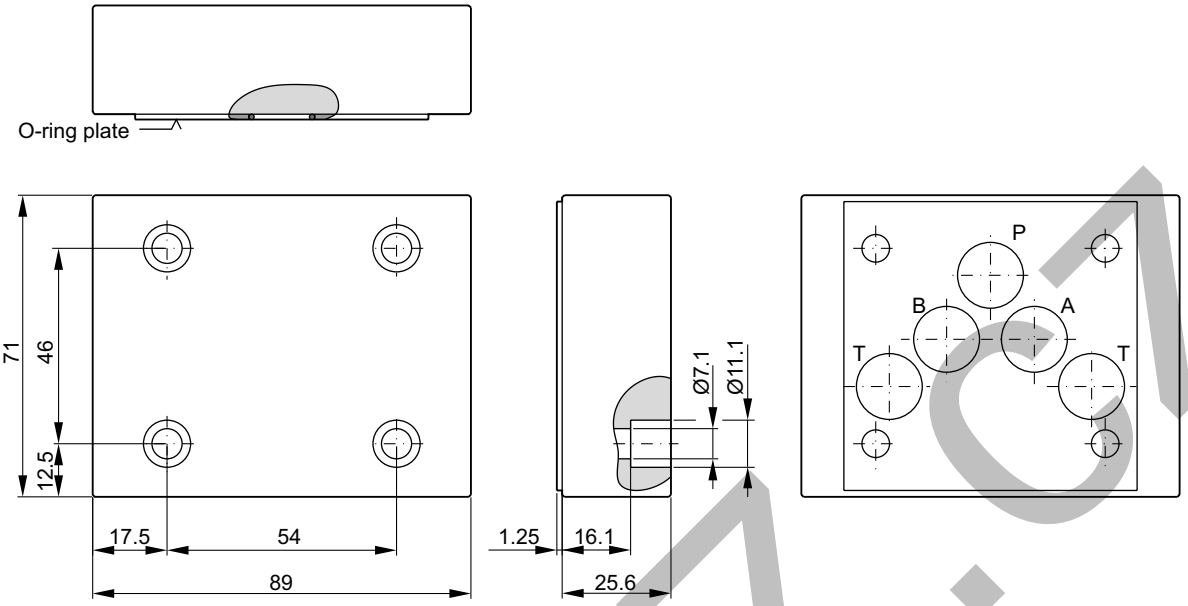
Symbol	Ordering code	Bolt Kit	Bolt dimensions	Torque
	**D51DC071D** CETOP 03 (O-rings and O-ring plate included in delivery)	BK 399	M5x25 ISO 4762-12.9	7.6 Nm ±15 %

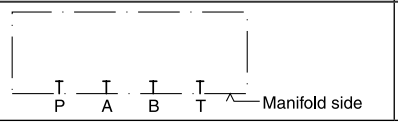
Cover plate D51VP071C, CETOP 03 / NG06

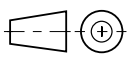


Symbol	Ordering code	Bolt Kit	Bolt dimensions	Torque
	**D51VP071C** CETOP 03 (O-rings and O-ring plate included in delivery)	BK 399	M5x25 ISO 4762-12.9	7.6 Nm ±15 %

Cover plate D51VP101D, CETOP 05 / NG10



Symbol	Ordering code	Bolt Kit	Bolt dimensions	Torque
	**D51VP101D** CETOP 05 (O-rings and O-ring plate included in delivery)	BK 408	4x M6x25 ISO 4762-12.9	13.2 Nm ±15 %



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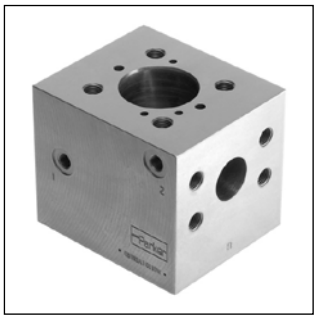
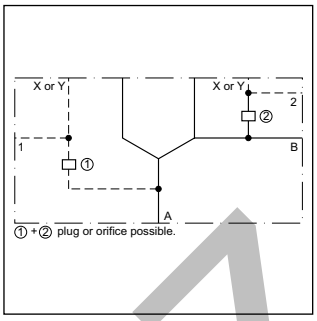
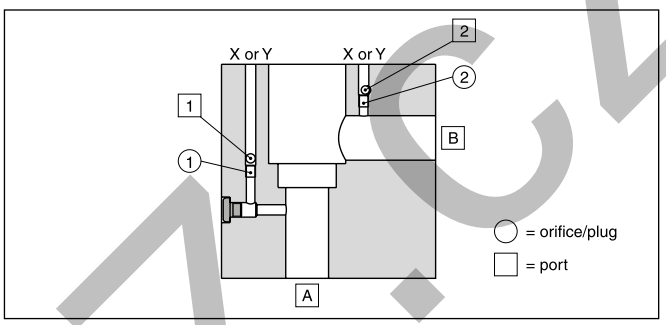
Cartridge manifold blocks are bodies for 2/2-way slip-in cartridge valves. They are used in systems with only one cartridge valve without the need to design a specific manifold block.

The pilot ports X and Y can either be connected to A and B or vice versa by changing the mounting position of the cartridge cover.

The wide range of Parker slip-in cartridge valves allows to design solutions for all hydraulic requirements.







Features

- Flanges SAE62 respectively CETOP square flange
- 2 options for pilot oil supply and drain
- 6 sizes

Ordering code

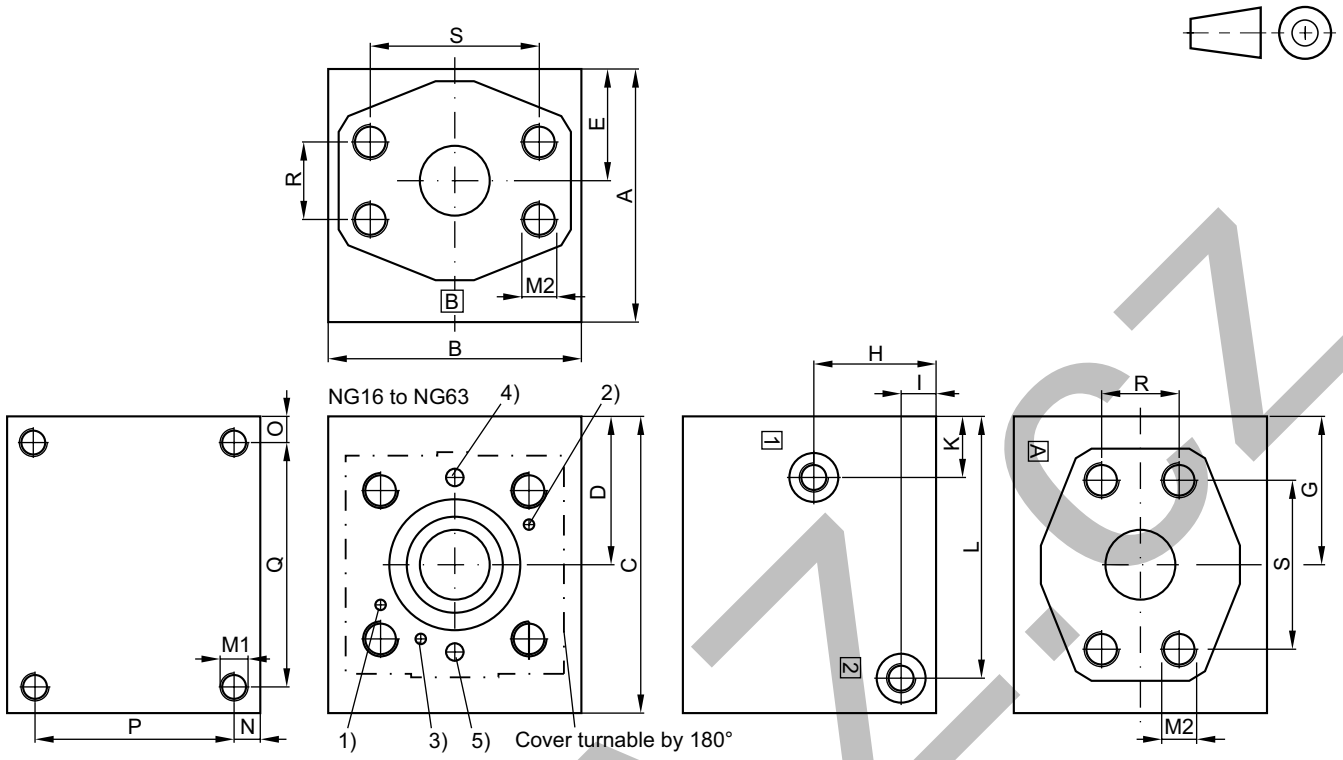
CB		A	1		10	W
Cartridge manifold block	Nominal size	Function In - Out	Manifold for 1 cartridge	Flange size	Design series	Without assembly

Code	Size
016	NG16
025	NG25
032	NG32
040	NG40
050	NG50
063	NG63

Code	Size	Flange
64	016	1" SAE62
65	025	1 ¼" SAE62
66	032	1 ½" SAE62
68	040/050	2" SAE62
70	063	3 ½" PN400

Technical data

Mounting interface		ISO 7368-B*-*-2-A/B
Mounting position		unrestricted
Max. operating pressure	[bar]	up to 420 (depending on p_{max} of flanges)
Flanges		SAE62 (6000 PSI series) ISO 6162, CETOP-square flange (400 bar series)
Surface protection		phosphated



1) Location pin for X connected to B and 2, Y connected to A and 1

2) Location pin for X connected to A and 1, Y connected to B and 2

3) Location pin for pressure functions

4) X or Y, orifice/plug ① (connected to A and 1)

5) X or Y, orifice/plug ② (connected to B and 2)

Ordering code	Max. operating pressure [bar]	A	B	C	D	E	G	H	I	K	L	N	O	P	Q	Port A and B	Port 1 and 2	Orifice thread ① and ②	Weight [kg]
CB 016 A 1 64 10 W	420	105	80	105	38.5	34	38.5	45	13	13.5	75.5	10	10	85	85	1" SAE62	G1/4	M5	6
CB 025 A 1 65 10 W	420	125	100	125	50	43	50	55	15	17	94.5	10	10	105	105	1-¼" SAE62	G1/4	M6	11
CB 032 A 1 66 10 W	420	125	125	145	72.5	51	72.5	55	15	31.5	125	15	15	95	115	1-½" SAE62	G1/4	M6	16
CB 040 A 1 68 10 W	420	145	145	170	85	65	85	70	20	35	150	15	15	115	140	2" SAE62	G3/8	M8	25
CB 050 A 1 68 10 W	420	155	155	190	95	70	95	70	20	37	170	15	15	125	160	2" SAE62	G3/8	M8	32
CB 063 A 1 70 10 W	400	192	192	240	120	86.5	120	86.5	20	45	220	15	15	162	210	3-½" PN 400	G3/8	M8	63

Ordering code	M1	M2	R	S
CB 016 A 1 64 10 W	M8 x 16	M12x19	27.8	57.2
CB 025 A 1 65 10 W	M10 x 18	M14x22	31.8	66.6
CB 032 A 1 66 10 W	M16 x 30	M16x32	36.5	79.3
CB 040 A 1 68 10 W	M16 x 30	M20x40	44.5	96.8
CB 050 A 1 68 10 W	M16 x 30	M20x40	44.5	96.8
CB 063 A 1 70 10 W	M16 x 30	M20x33	102.5	102.5

Cartridge manifold blocks are supplied with a set of plugs and orifices.

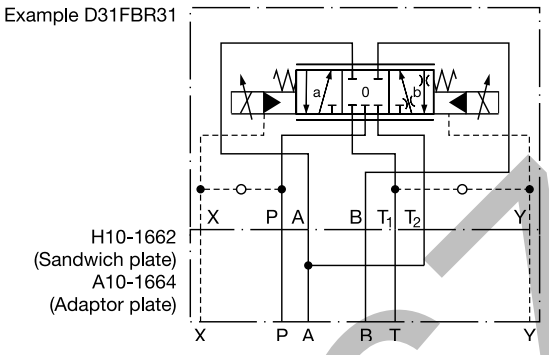
The adaptor plates A10 and sandwich plates H10 allow energy saving circuits for differential cylinders using the following directional control valves NG10:

D3DW**R*** D3FB**R*** D31FB**R***
D31NW**R*** D3FP**R*** D31FC**R***
D31FP**R***

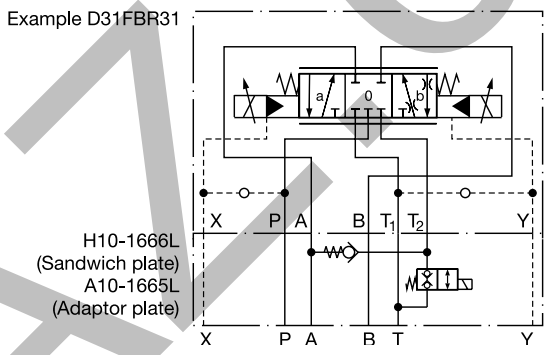
Features

- To be used in combination with the above-mentioned valves. See also series D31NWR in chapter 2 and series D3FB, D3FP, D31FB, D31FC and D31FP in chapter 3
- Port T1 is used as single tank port. Port T2 is separated from port T1 by the elimination of the tank bridge and is used for regeneration into the A port
- The circuit conception can be integrated into the manifold block as well

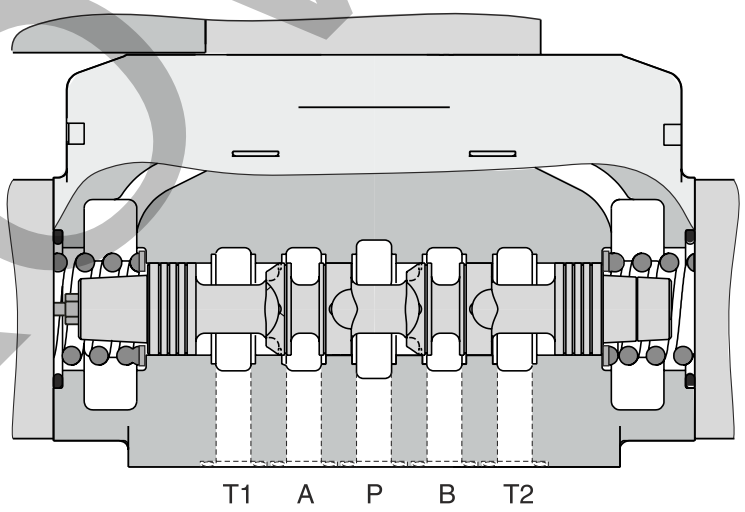
Regenerative function



Hybrid function



NG10 body without tank bridge – example D31FPR
T2 used as regenerative port.

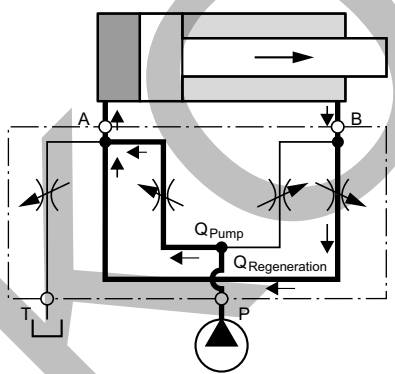


12

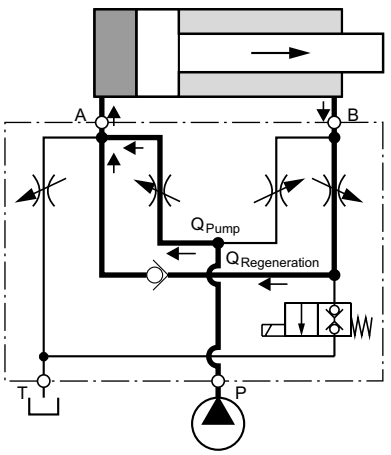
General						
Actuation			Solenoid (only A10-1665L and H10-1666L)			
Size			DIN NG10 / CETOP 05			
Mounting interface			DIN 24340 A10 / ISO 4401 / CETOP RP 121-H / NFPA D05			
Mounting position			unrestricted			
Ambient temperature		[°C]	-25...+60, -20...+60 (D*FBR), -20...+50 (D*FPR)			
$MTTF_D$ value		[years]	150			
			A10-1664	A10-1665L	H10-1662	H10-1666L
Weight		[kg]	11.9	14.4	2.8	4.9
Hydraulic						
Max. operating pressure		[bar]	350			
Fluid			Hydraulic oil according to DIN 51524			
Fluid temperature		[°C]	-20...+70 (NBR: -25...+70), -20...+60 (NBR: -25...+60) (D*FBR*, D*FPR*, D31FCR*)			
Viscosity	permitted	[cSt] / [mm²/s]	2.8...400 (20...400 D*FBR, D*FPR)			
	recommended	[cSt] / [mm²/s]	30...80			
Filtration			ISO 4406 (1999); 18/16/13			
			A10*		H10*	
Flow max.		[l/min]	150		250	
	Regeneration B-A	[l/min]	see diagram			
	Regeneration B-T	[l/min]	75		75	
Electrical characteristics						
Duty ratio			100 %			
Protection class			IP65 in accordance with EN 60529 (with correctly mounted plug-in connector)			
Supply voltage		[V]	24			
Tolerance supply voltage		[%]	±10			
Current consumption		[A]	1.21			
Power consumption		[W]	29			
Solenoid connection			Connector as per EN 175301-803			
Wiring min.		[mm²]	3 x 1.5 recommended			
Wiring length max.		[m]	50 recommended			

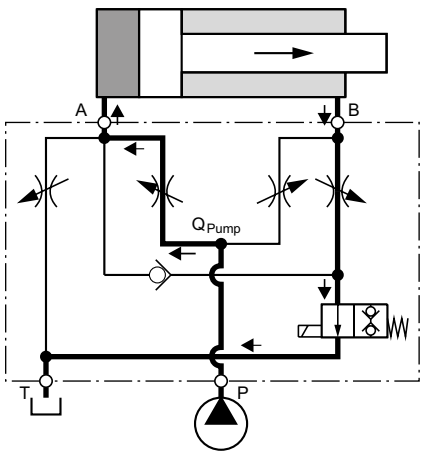
With electrical connections the protective conductor (PE ⏚) must be connected according to the relevant regulations.

Regenerative function



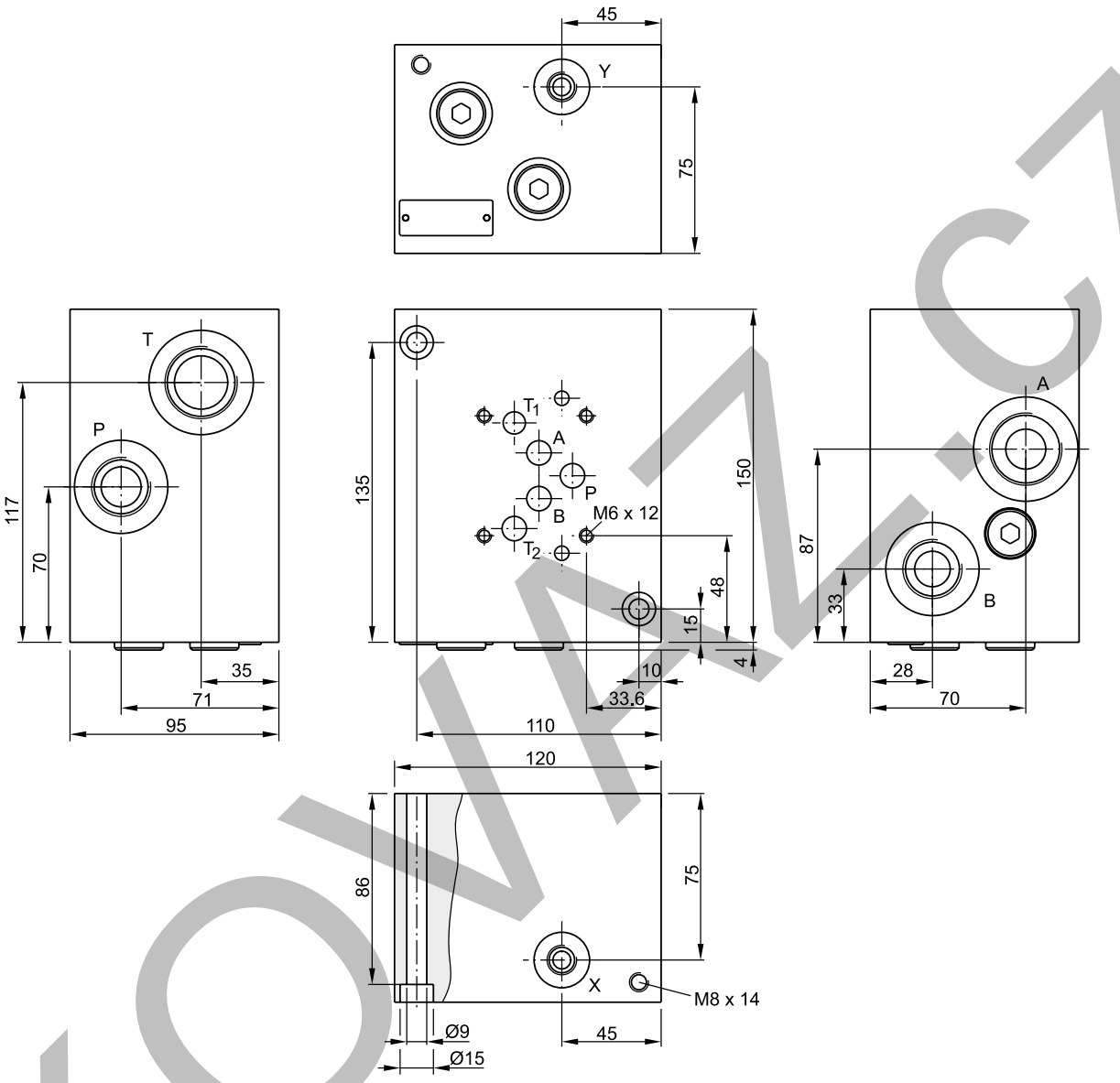
Hybrid function



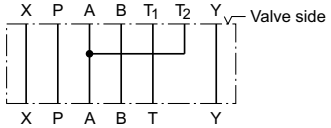


Energy saving A-regeneration and switchable hybrid version for NG10 valves

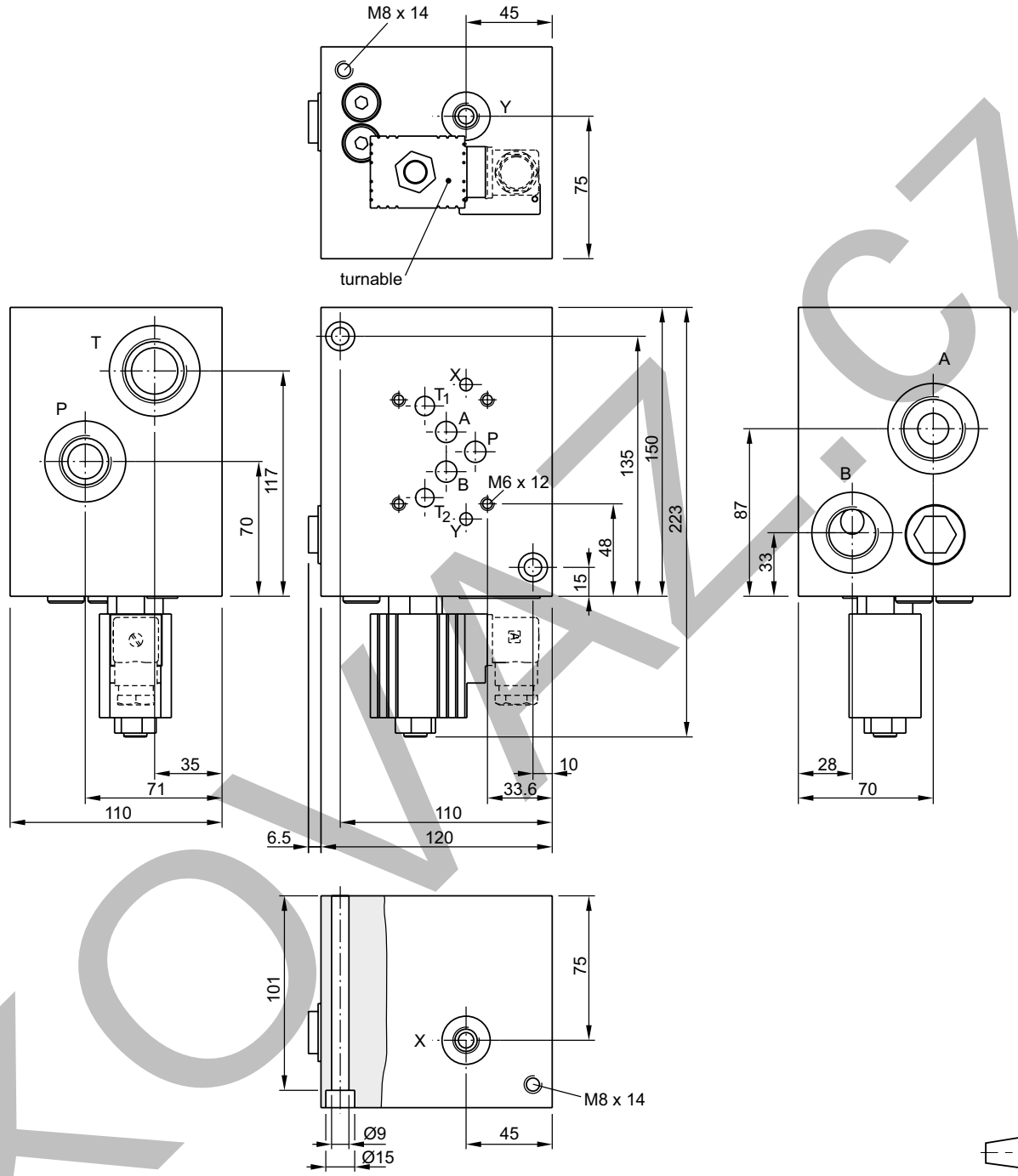
Subplate A10-1664, mounting interface acc. DIN 24340-A10, CETOP 05 / NG10
for A-regeneration

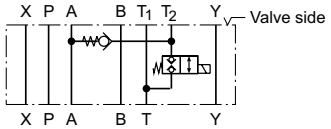


12

Symbol	Ordering code	Port
	**A10-1664** CETOP 05	A, T = G1 B, P = G¾ X, Y = G¼

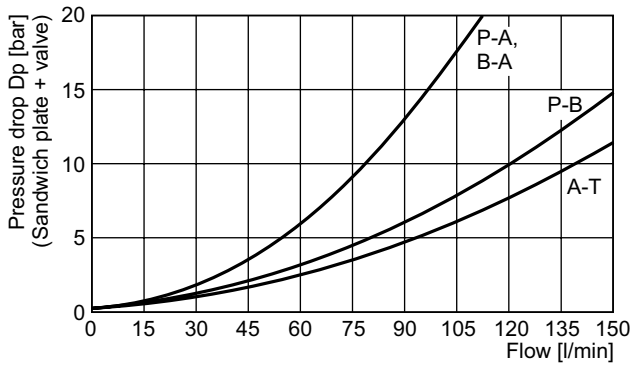
Subplate A10-1665L, mounting interface acc. DIN 24340-A10, CETOP 05 / NG10 for hybrid function



Symbol	Ordering code	Port	Kit
	**A10-1665L** CETOP 05	A, T = G1 B, P = G¾ X, Y = G¼	NBR: SK-A10-1665

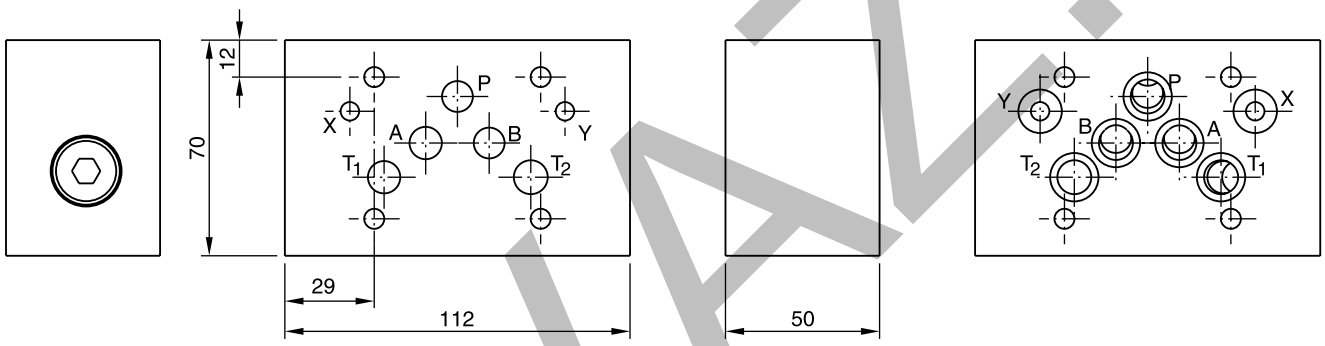
Sandwich plate H10-1662, mounting interface acc. DIN 24340-A10, CETOP 05 / NG10 for A-regeneration

p/Q performance curves

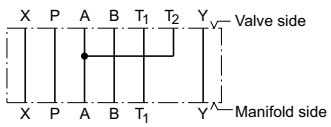


Measured with valves D31FP/FB/FC*, spool Z31 at command signal 100 %.
Curves for D3W, D31NW, D3FB and D3FP on request.

Dimensions

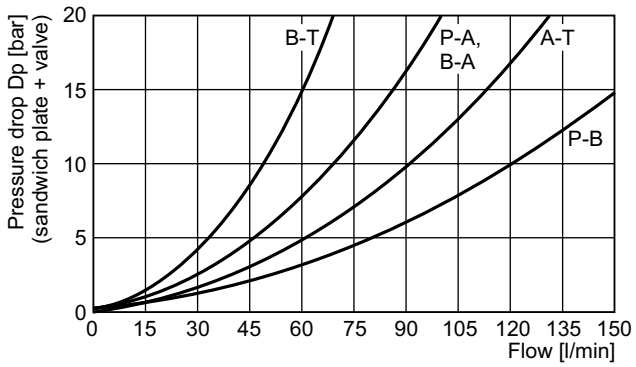


12

Symbol	Ordering code	Kit		Torque	Kit
	**H10-1662** CETOP 05 (O-rings included in delivery)	BK412	4x M6x90 ISO 4762-12.9	13.2 Nm ±15 %	NBR: SK-H10-1662

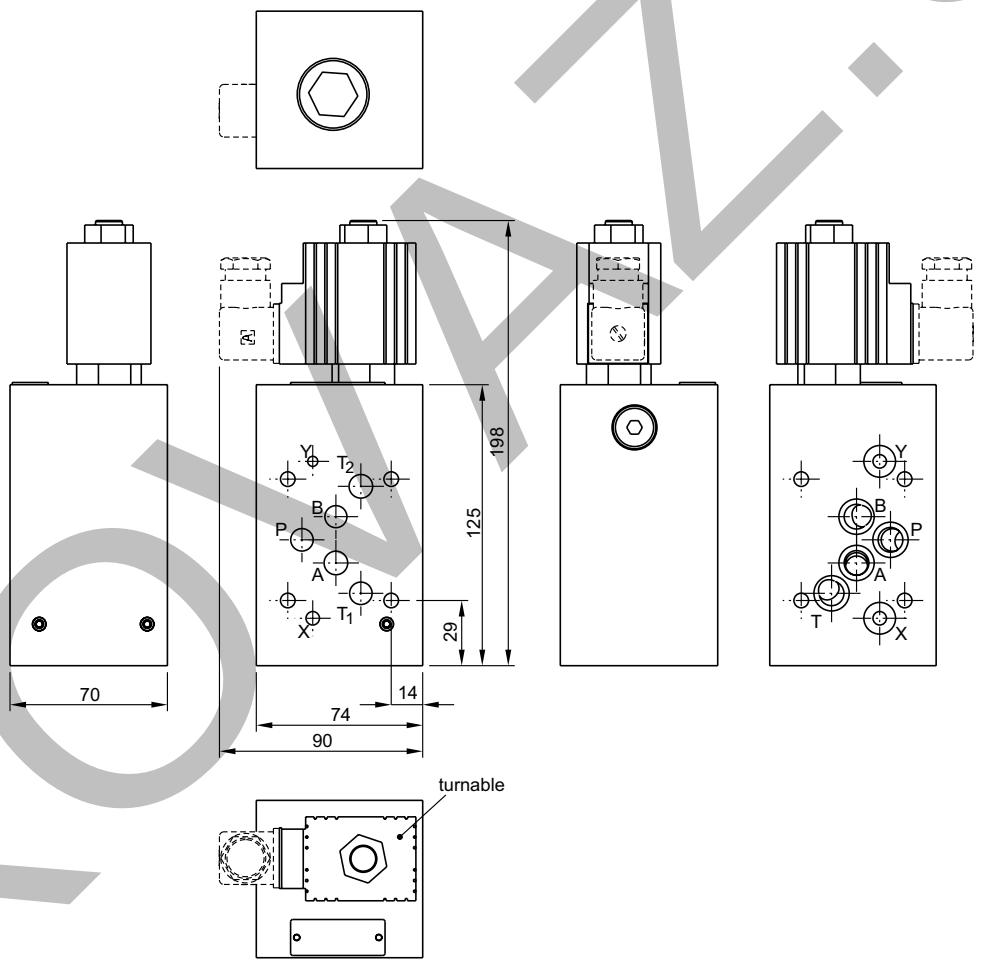
Sandwich plate H10-1666L, mounting interface acc. DIN 24340-A10, CETOP 05 / NG10 for hybrid function

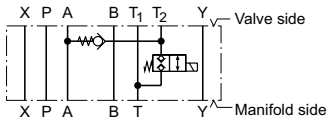
p/Q performance curves



Measured with valves D31FP/FE/FB/FC*, spool Z31 at command signal 100 %.
Curves for D3W, D31NW, D3FB and D3FP on request.

Dimensions



Symbol	Ordering code	Kit		Torque	Kit
	**H10-1666L** CETOP 05 (O-rings included in delivery)	BK528	4x M6x110 ISO 4762-12.9	13.2 Nm ±15 %	NBR: SK-H10-1666

BK bolt kits

Socket head cap screws as per ISO 4762-12.9

Ordering code	Description
BK 399	**Bolt kit M5x25**
BK 375	**Bolt kit M5x30**
BK 443	**Bolt kit M5x45**
BK 300	**Bolt kit M5x50**
BK 380	**Bolt kit M5x60 2 pcs.**
BK 421	**Bolt kit M5x65**
BK 400	**Bolt kit M5x70**
BK 401	**Bolt kit M5x75**
BK 402	**Bolt kit M5x80**
BK 444	Bolt kit M5x85
BK 403	**Bolt kit M5x90**
BK 468	Bolt kit M5x95
BK 404	**Bolt kit M5x100**
BK 466	Bolt kit M5x100 2 pcs.
BK 405	**Bolt kit M5x110**
BK 406	**Bolt kit M5x115**
BK 424	**Bolt kit M5x130**
BK 408	**Bolt kit M6x25**
BK 385	**Bolt kit M6x40**
BK 310	**Bolt kit M6x55**
BK 422	Bolt kit M6x75
BK 412	**Bolt kit M6x90**
BK 508	Bolt kit M6x100
BK 311	**Bolt kit M6x105**
BK 528	**Bolt kit M6x110**
BK 414	**Bolt kit M8x40**
BK 441	Bolt kit M8x50
BK 533	Bolt kit M8x90
BK 538	Bolt kit M8x95
BK 510	Bolt kit M8x100
BK 505	Bolt kit M10x35
BK 388	**Bolt kit M10x40**
BK 485	**Bolt kit M10x45**
BK 506	Bolt kit M10x45 6 pcs.
BK 389	**Bolt kit M10x50**
BK 390	**Bolt kit M10x50 6 pcs.**
BK 320	**Bolt kit M10x60 4 pcs. / M6x55 2 pcs.**
BK 484	**Bolt kit M10x65**
BK 539	Bolt kit M10x95
BK 521	Bolt kit M10x120 4 pcs. / M6x120 2 pcs.
BK 494	Bolt kit M12x45
BK 391	**Bolt kit M12x50**
BK 486	Bolt kit M12x70
BK 525	Bolt kit M12x75
BK 360	**Bolt kit M12x75 6 pcs.**
BK 532	Bolt kit M12x90
BK 504	Bolt kit M12x100
BK 522	Bolt kit M12x140 6 pcs.
BK 460	Bolt kit M12x145 6 pcs.
BK 415	**Bolt kit M16x55**
BK 366	Bolt kit M16x70
BK 526	Bolt kit M16x80
BK 511	Bolt kit M16x90
BK 529	Bolt kit M16x100
BK 487	Bolt kit M16x110
BK 512	Bolt kit M16x150
BK 507	Bolt kit M18x75
BK 416	Bolt kit M20x70
BK 417	Bolt kit M20x75
BK 527	Bolt kit M20x80

Ordering code	Description
BK 534	Bolt kit M20x90
BK 386	Bolt kit M20x90 6 pcs.
BK 481	Bolt kit M20x110
BK 513	Bolt kit M20x120
BK 514	Bolt kit M20x150
BK 515	Bolt kit M20x160
BK 419	Bolt kit M24x120 8 pcs.
BK 516	Bolt kit M24x150 8 pcs.
BK 530	Bolt kit M24x160 8 pcs.
BK 418	Bolt kit M30x100
BK 536	Bolt kit M30x120
BK 509	Bolt kit M30x130 8 pcs.
BK 420	Bolt kit M30x140 8 pcs.
BK 520	Bolt kit M30x150
BK 531	Bolt kit M30x150 8 pcs.
BK 518	Bolt kit M30x160
BK 519	Bolt kit M30x180

If no other specification is indicated, 1 bolt kit contains 4 screws.

Thread length

Threads	M5	M6	M10	M12
Thread length	1.5 x Ø thread			

Note

The torque for bolt kits or tie rod kits is according to valve type/product. Consult product chapters.

Torque for plugs

(Specifications ±15 %) [1)]

Metric	[Nm]
M10 x 1	15
M12 x 1.5	25
M14 x 1.5	25
M18 x 1.5	40
M20 x 1.5	50
M22 x 1.5	60
M24 x 1.5	65
M27 x 2	90
M33 x 2	140
M42 x 2	240
M48 x 2	300

BSPP	[Nm]
1/8	15
1/4	25
3/8	40
1/2	60
3/4	90
1	140
1 1/4	240
1 1/2	300
2	550

UNF	[Nm]
5/16	6.9
3/8	6.9
7/16	25
1/2	25
9/16	40
3/4	40
7/8	60
1 1/16	90
1 3/16	140
1 5/16	240
1 5/8	300

Bold letters =
Short-term availability

[1)] The tightening torques refer to counter material steel, cast iron and SG iron by usage of impact wrenchs (with torsion bar) and impulse tools. The plugs have to be screwed in slightly oiled in bodys respectively blocks.
For aluminium plugs the specified torque above has to be reduced to one third.
For aluminium blocks should be used 75 % of specified above.

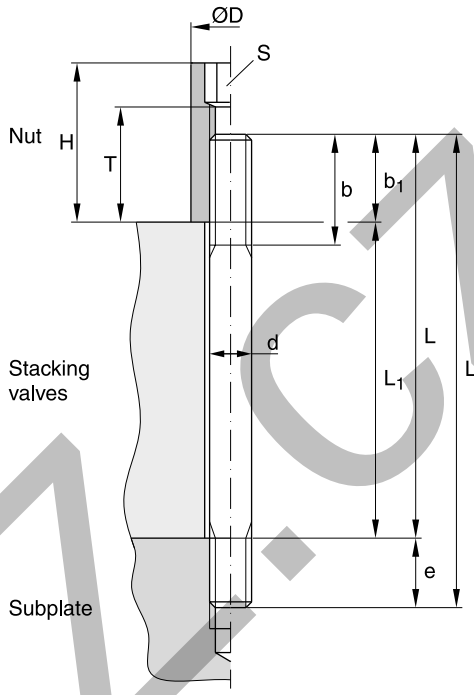
TK tie rod kits

Tie rod kits as per DIN 835-10.9

Ordering code	Description	recommended stacking length	
		min.	max.
TK 1455	**Tie rod kit M5x70**	**56**	**62**
TK 1482	**Tie rod kit M5x80**	**66**	**72**
TK 1453	Tie rod kit M5x90	76	82
TK 1484	**Tie rod kit M5x100**	**86**	**92**
TK 1446	**Tie rod kit M5x110**	**96**	**102**
TK 1473	**Tie rod kit M5x120**	**106**	**112**
TK 1474	**Tie rod kit M5x130**	**112**	**122**
TK 1405	**Tie rod kit M5x140**	**122**	**132**
TK 1450	**Tie rod kit M5x150**	**132**	**142**
TK 1409	**Tie rod kit M5x160**	**142**	**152**
TK 1411	**Tie rod kit M5x170**	**152**	**162**
TK 1454	**Tie rod kit M5x180**	**162**	**172**
TK 1415	**Tie rod kit M5x190**	**172**	**182**
TK 1416	**Tie rod kit M5x200**	**182**	**192**
TK 1475	**Tie rod kit M5x210**	**192**	**202**
TK 1407	Tie rod kit M5x220	202	212
TK 1413	Tie rod kit M5x230	212	222
TK 1434	Tie rod kit M5x240	222	232
TK 1436	Tie rod kit M5x250	232	242
TK 1438	Tie rod kit M5x260	242	252
TK 1476	Tie rod kit M5x270	252	262
TK 1485	Tie rod kit M6x80	66	71
TK 1486	**Tie rod kit M6x90**	**76**	**81**
TK 1487	**Tie rod kit M6x100**	**86**	**91**
TK 1418	**Tie rod kit M6x110**	**96**	**101**
TK 1488	Tie rod kit M6x120	106	111
TK 1489	**Tie rod kit M6x130**	**112**	**121**
TK 1490	**Tie rod kit M6x140**	**122**	**131**
TK 1422	**Tie rod kit M6x150**	**132**	**141**
TK 1491	**Tie rod kit M6x160**	**142**	**151**
TK 1423	**Tie rod kit M6x170**	**152**	**161**
TK 1492	**Tie rod kit M6x180**	**162**	**171**
TK 1493	**Tie rod kit M6x190**	**172**	**181**
TK 1427	**Tie rod kit M6x200**	**182**	**191**
TK 1494	**Tie rod kit M6x210**	**192**	**201**
TK 1428	Tie rod kit M6x220	202	211
TK 1460	Tie rod kit M6x230	212	221
TK 1495	Tie rod kit M6x240	222	231
TK 1432	Tie rod kit M6x250	232	241
TK 1496	**Tie rod kit M6x260**	**242**	**251**
TK 1497	Tie rod kit M6x270	252	261
TK 1469	Tie rod kit 4 x M10x170 / 2 x M6x170	152	155
TK 1478	Tie rod kit 4 x M10x190 / 2 x M6x190	172	175
TK 1470	Tie rod kit 4 x M10x220 / 2 x M6x220	202	205
TK 1479	Tie rod kit 4 x M10x250 / 2 x M6x250	232	235

TK-M5 NUT	Nut M5 (10 pcs.)
TK-M6 NUT	Nut M6 (10 pcs.)
TK-M10 NUT	Nut M10 (10 pcs.)

If no other specification is indicated, 1 tie rod kit contains 4 bolts and 4 nuts.



$b_1 \geq 1.5d$
$b_1 < b$
$b_1 < T$

d	D	S	H	T	e	b 1)	b 2)	b 3)
M5	9	5	25	20	10	16	22	22
M6	10	6	25	20	12	18	24	24
M10	17	10	25	15	15	26	32	45

Example:

TK1411: M5 x 170 DIN835 =
nominal stud length L = 170 mm.
stacking length L_1 = 160 mm
total stud length L_0 = 180 mm

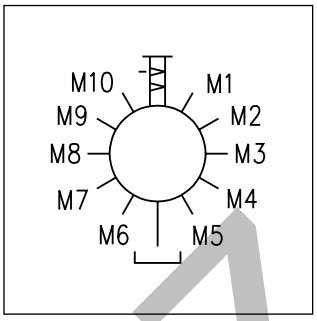
Note:

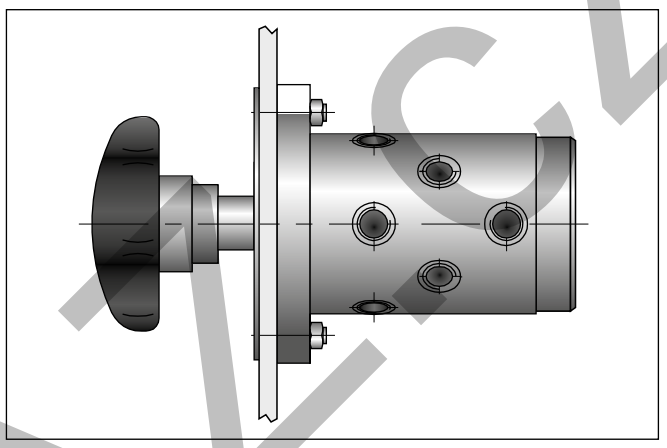
The torque for bolt kits or tie rod kits is according to valve type/product. Consult product chapters.

Bold letters =
Short-term availability

b 1) L ≤ 120 mm
b 2) 130 mm ≤ L ≤ 200 mm
b 3) 200 mm < L

The pressure gauge selector valve allows to connect up to 5 or 10 measuring points to one pressure gauge. When measuring is completed, the gauge is pressure-relieved to prevent it from being damaged by pressure surges. The accuracy and life time of the pressure gauge are thus increased considerably.





Design

Pressure gauge selector valve with locking, pressure-relieving piston. Measuring point selection by marked rotary handle and graduated dial.

Function

To select one of the measuring points from 1 to 5 or 1 to 10, the rotary handle is pulled out fully, and turned to the left or right. When the measuring point is selected by means of the handle marking and the dial, the handle is pushed in and the pressure gauge loaded with the pressure present. The piston is locked in the measuring position by a catch. When measuring is completed, the handle is pulled out, to relieve the pressure gauge via the drain line.

Features

- 5 or 10 measuring positions optional
- Extends the service life of the manometer by unloading the pressure

Ordering code

WM		A	
Pressure gauge selector valve	Measuring points	Design	Design series (not required for ordering)

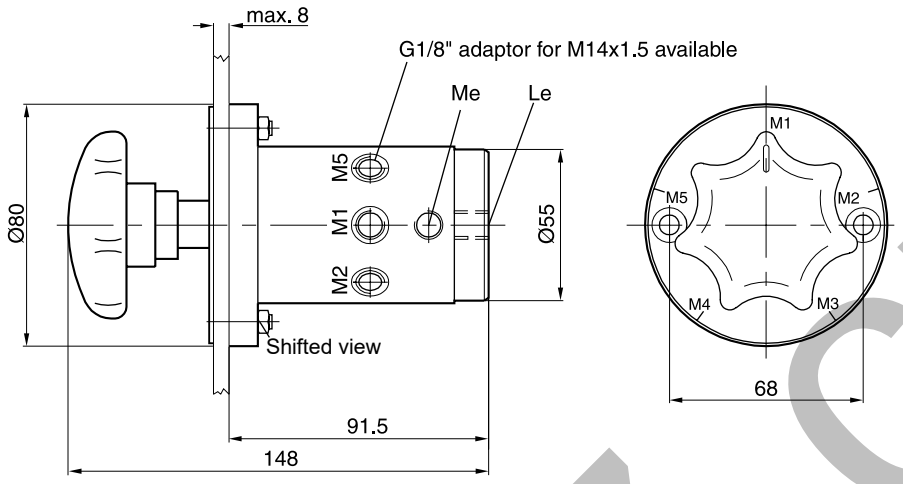
Code	Measuring
5	**5 points**
10	**10 points**

Bold letters =
Short-term availability

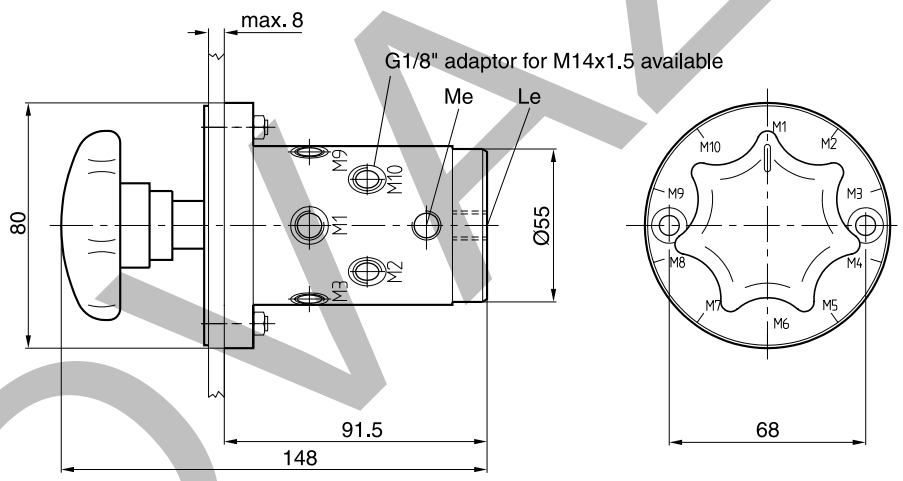
Technical data

General			
Mounting position			unrestricted
Ambient temperature		[°C]	-20...+60
Mounting			panel mounted
Connections			G⅛
Operation			by hand
Seals			Fluorocarbon
Measuring position selection			by turning handle
Weight		[kg]	1.8
Hydraulic			
Max. operating pressure		[bar]	315
Fluid			Hydraulic oil according to DIN 51524
Fluid temperature		[°C]	-20…+70
Viscosity range,	permitted	[cSt]/[mm²/s]	20...400
	recommended	[cSt]/[mm²/s]	30...80
Filtration			ISO 4406 (1999); 18/16/13
Max. pressure in drain port Le		[bar]	1.0

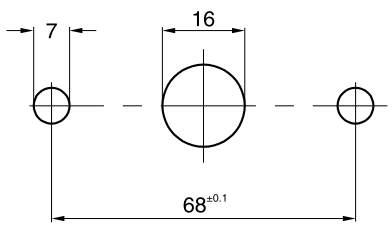
WM5A*



WM10A*



Mounting opening



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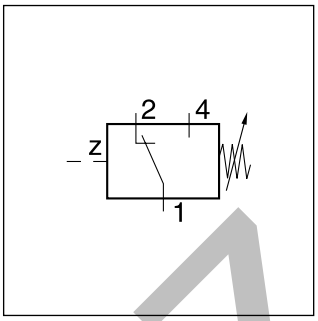
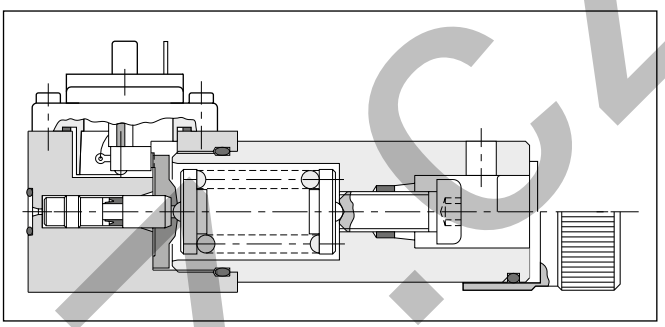
The electro-hydraulic pressure switch provides an electric signal when the sensed pressure goes above or below the selected setting.





Function

The spring loaded piston is hydraulically dampened. The PSB provides a very accurate hysteresis between the switching points (see diagram).

The required operating pressure is adjusted by the set-screw. Unauthorised adjustments can be prevented by the optional cylinder lock. The electric element is a micro switch with snap-action contact. Three terminals permit application as "On", "Off" or "Changeover" switch.

The electrical connection is made with a 3-pole plug-in connector to EN 175301-803 with ground.

Note

For inductive DC loads a spark discharger should be used to increase service life.

Features

- Flange or pipe mounting
- 4 pressure ranges
- Can be used as opener or closer
- Cylinder lock optional

Ordering code

PSB						
Pressure switch with manual switching point adjustment	**Switching pressure range**	**Adjustment**	**Connection**	**Seal**	**Design series** (not required for ordering)	**Lock**

Code	Switching pressure range
040	**3 to 40 bar**
100	**10 to 100 bar**
160	**10 to 160 bar**
250	**20 to 250 bar**

Code	Adjustment
A	**Hexagon socket**
S	Knob with scale

Code	Connection
F1	**Flange (front face)**
V1	**Fitting (front face, tube Ø6)**

Code	Lock
–	**without lock**
Z	Cylinder lock (not for scale knob)

Code	Seal
A	**NBR**
1	FPM

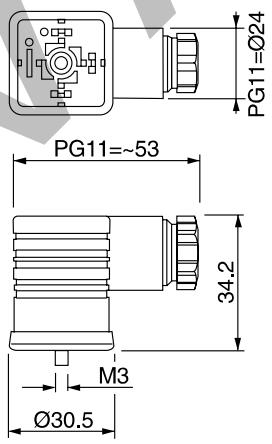
Bold letters =
Short-term availability

Technical data

General		
Symbol		DIN 24340
Design		Plunger type switch
Mounting		PSB*F1* flange (front face) PSB*V1 pipe mounting
Mounting position		unrestricted
Ambient temperature	[°C]	-20 ... +60
$MTTF_D$ value	[years]	150
Weight	[kg]	1.0
Hydraulic		
Operating pressure	[bar]	to 315
Actuating pressure difference		see diagram
Duty cycle		max. 1/s
Fluid		Hydraulic oil according to DIN 51524
Fluid temperature	[°C]	-20...+70 (NBR: -25...+70)
Viscosity, permitted	[cSt] / [mm²/s]	20 ... 400
recommended	[cSt] / [mm²/s]	30 ... 80
Filtration		ISO 4406 (1999); 18/16/13
Electrical connection		Plug-in connector to EN 175301-803
Insulation		IP65 as per EN 60529 (with correctly mounted plug-in connector)
Contact load carrying capacity		5 A at 250 VAC; 1 A at 50 VDC; 0.2 A at 250 VDC

Plug EN 175301-803

Description	Threaded cable joint	Ordering code
Plug EN 175301-803, design type AF, protection class IP65	PG11	**HR 21500157**
Plug with LED, 12...230 V AC/DC, protection class IP65	PG11	**HR 21502321**



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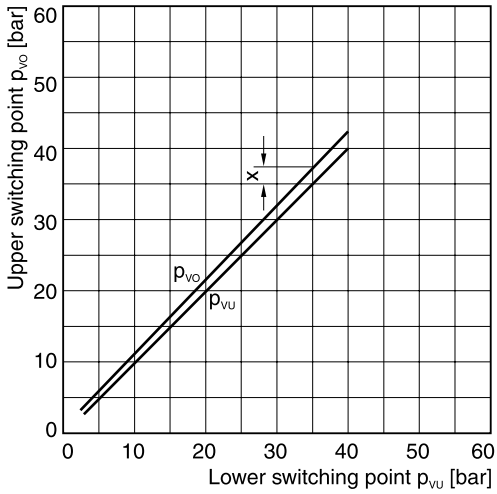
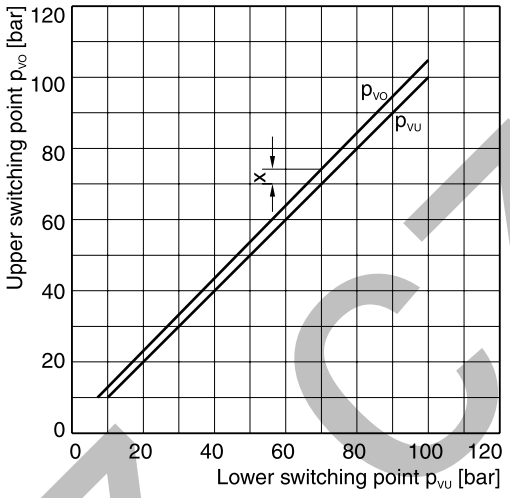
Switching pressure difference

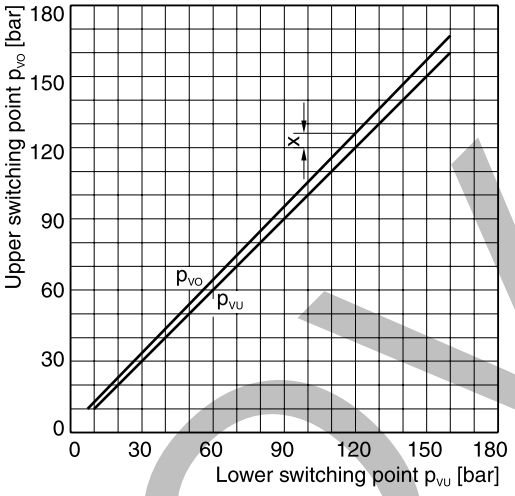
PSB040



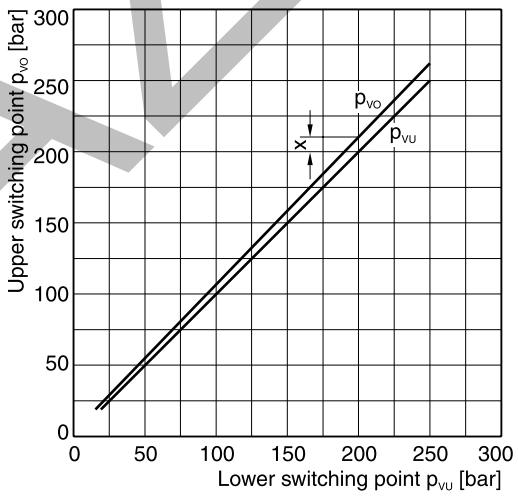
PSB100



PSB160



PSB250



X = switching differential

All characteristic curves measured with HLP46 at 50 °C.

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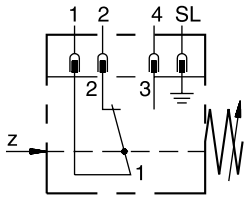
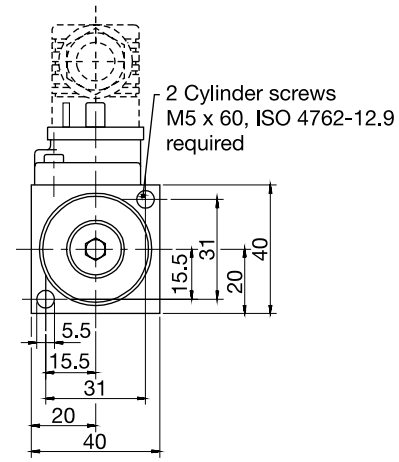
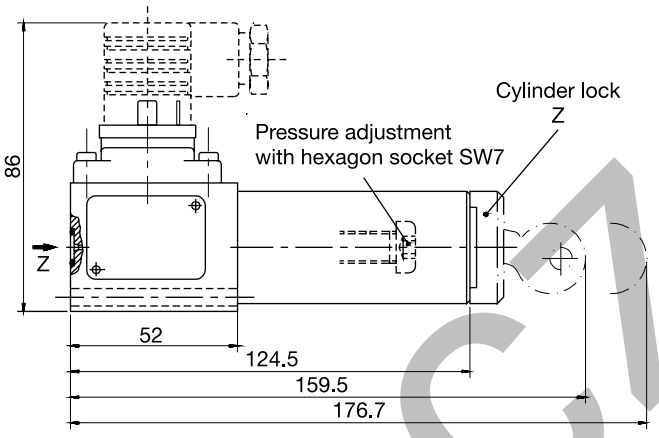
Electrical connections

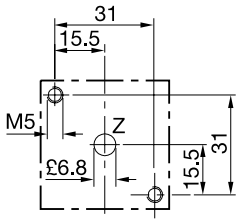


Electrical connection EN175301-803

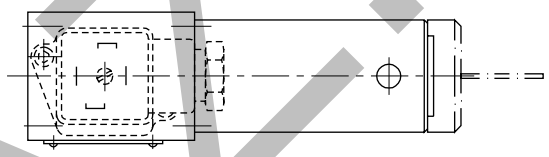
PSB*F1*



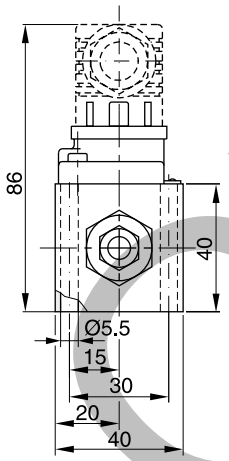


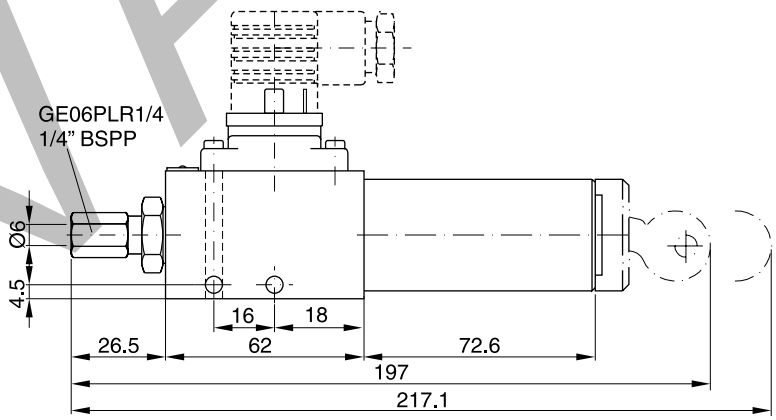


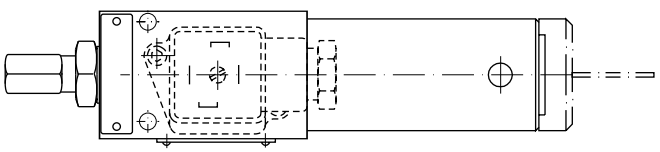
Mounting pattern



PSB*V1*







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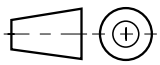
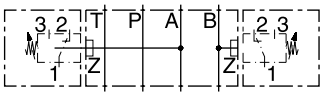
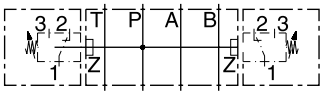
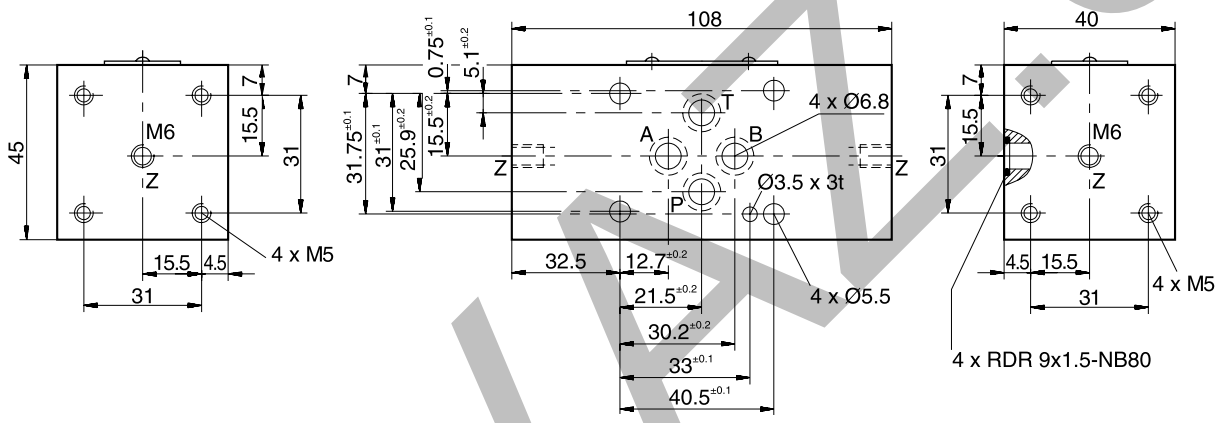


Technical Data

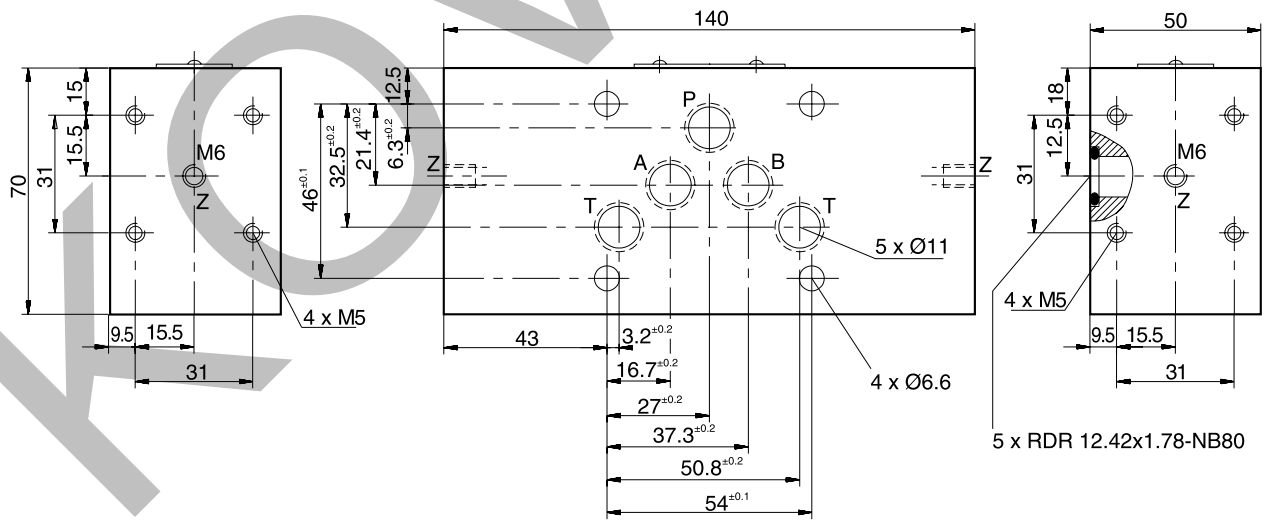
Switch code	Ordering code	Nominal size	Function
	**H06PSB-994**	**06**	**Pressure switch connection to A or B or A and B: Connections not used are closed by plug.**
	H10PSB-996	**10**	
	H06PSB-993	06	Pressure switch connection to P (left or right mounting is possible). Connection not used is closed by plug.
	H10PSB-995	10	

Bold letters =
Short-term availability

Dimensions NG06



Dimensions NG10



12

- Compact
- Rugged
- Reliable
- Easy operation
- Long-term stability
- Excellent interference resistance
- Metal housing
- High protection class
- Many variants
- Rotatable
- Analogue output
- Password
- MPa, bar, psi

The Pressure Controller combines the functions of a pressure switch, a pressure sensor and a display instrument:

- Pressure display (manometer)
- Switching outputs
- Analogue signal

Simple operation, compact design and high reliability are the most important features of the SCPSD. The Pressure Controller offers excellent technical performance and optimum pressure management. It is ideal for permanent use in industrial applications.

Easy to operate

Parameter setting is carried out via the keys or with a programming module.

High functionality

Every switching output can be set individually:

- Normally closed/normally open contacts
- On and off switching pressures
- Delay times
- Hysteresis/window function
- Damping

Intelligent settings which are not possible with a mechanical switch can be achieved with these convenient switch functions. Several switches can be replaced by a single controller.

The analogue output is individually settable

- 0/4…20 mA switchable
- Settable initial pressure
- Settable final pressure

Reliable/safe

Pressure is captured by a measuring cell with long-term stability. Any functional error is monitored and can be processed in accordance with DESINA. Thanks to a password, unauthorized change of parameters is prevented.

Rugged

The housing is made of metal and is resistant to humidity, shock and vibrations. The electronics are protected from reverse polarity, overvoltage and short circuits.

Everything within view

The large illuminated display is readable even from a considerable distance. Pressures are shown in MPa, bar or psi.

Optimum installation possibilities

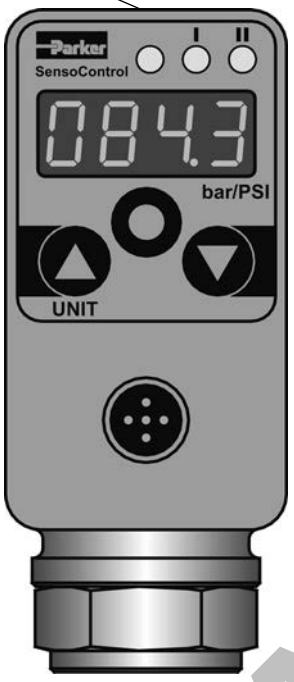
With its compact design and excellent interference resistance the SCPSD is suitable for installation under critical conditions.

With its directionally settable housing, the display can always be read very easily.

Universal

Many versions are available to suit a wide variety of applications.

- Optical interface
- Switch status display



Everything in view
- Chamfered display
- Digital display
- Large
- Luminescent
- Display
- psi/bar/Mpa
- Actual pressure
- Minimum pressure
- Maximum pressure
- Switching points

Easy to operate
- 3 large keys
- Display of units

Pressure connection
- Stainless steel
- Measuring cell stable long-term
- Wide media tolerance

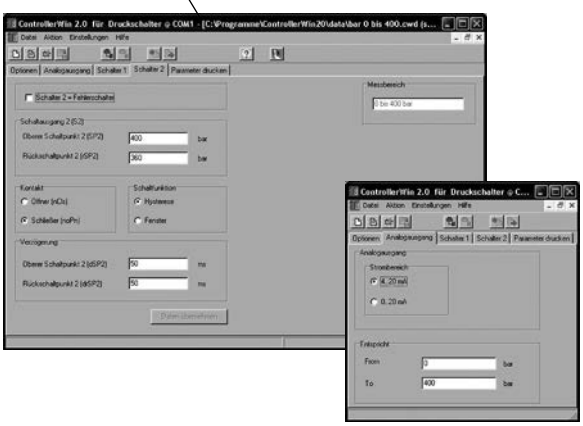
Rugged
- Metal housing
- Watertight
- High interference resistance
- Vibration resistant
- Shockproof

Flexible installation
- Compact
- Rotatable 290°

Thread
- Internal thread
- External thread

Tube clamp
- Safe mounting with a rugged SCSD-S27 clamp

Programming module
- Can be set with ControllerWIN software



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SCPSD	004	010	016	060	100	250	400	600
Pressure range P_n (bar)	-1...4	-1…10	-1...16	0…60	0…100	0…250	0…400	0…600
Overload pressure P_{max} (bar)	10	20	40	120	200	500	800	1200
Burst pressure P_{burst} (bar)	12	25	50	550	800	1200	1700	2200
Measuring element	Ceramic low pressure			DMS thin film high pressure				

Input quantities	
Reversing cycles	≥ 100 Mio.
Scanning rate	≥ 5 ms
Connecting thread	G1/4 BSPP; ED soft seal NBR [1)] (DIN 3852 T2, form X); ED (DIN3852 T11, form E)
Torque	35 Nm
Parts in contact with media	Low pressure: 1.4404 stainless steel; AL2O3 ceramic; NBR high pressure: stainless steels 1.4404; 1.4542
Temperature range of medium	-20 …+85 °C
Weight	approx. 300 g
Output quantities	
Accuracy	± 0.5 % FS typ.; ± 1 % FS max.
Temperature drift	± 0.02 % FS/°K typ. (at -20…+85 °C) ± 0.03 % FS/°K max.
Long-term stability	± 0.2 % FS/a
Repeat accuracy	± 0.25 % FS
Switching point accuracy	± 0.5 % FS typ.; ± 1 % FS max.
Display accuracy	± 0.5 % FS typ. ± 1 Digit ± 1 % FS max. ± 1 Digit
Response speed	
Switching output	≤ 10 ms
Analogue output	≤ 10 ms
Electrical connection	
Power supply	15…30 VDC nominal 24 VDC; protection class 3
Electrical connection	M12x1; 4-pole; 5-pole with gold-plated contacts. appliance inlet connector DIN EN 175301-803 form A (formerly DIN43650)
Short circuit protection	yes
Reverse polarity protection	yes
Overload protection	yes
Current consumption	< 100 mA

Housing	
	directionally adjustable up to 290°
Material	pressure die-casting Z 410; painted
Foil material	polyester
Display	4-figure 7-segment LED; red; digit height 9 mm
Protection class	IP67 DIN EN 60529; IP65 with plug-in connector DIN EN 175301-803 form A (formerly DIN43650)
Environmental conditions	
Environmental temperature range	-20…+85 °C
Storage temperature range	-40…+100 °C
Vibration resistance	20 g; 10…500 Hz IEC60068-2-6 [2)]
Shock resistance	50 g; 11 ms IEC60068-2-29 [2)]
EM compatibility	
Interference emissions	EN 61000-6-3
Interference resistance	EN 61000-6-2
Outputs	
Switching outputs	2 MOSFET high side switches (PNP)
Contact functions	normally open/normally closed; window/hysteresis; freely settable function
Switching voltage	Power supply - 1.5 VDC
Switching current max.	0.5 A per switch
Short circuit current	2.4 A per switch
Analogue output	0/4…20 mA; programmable; freely scalable; RL ≤ (power supply - 8 V)/ 20 mA (≤ 500 Ω)

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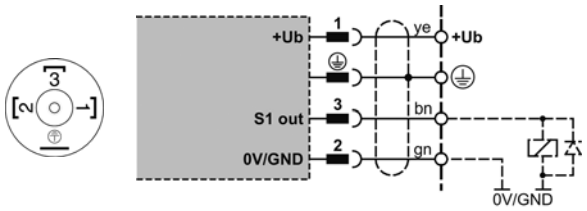
1) Other sealing materials (FPM, EPDM etc.) on request.
2) Does not apply to DIN EN 175301-803 form A (formerly DIN43650) version.

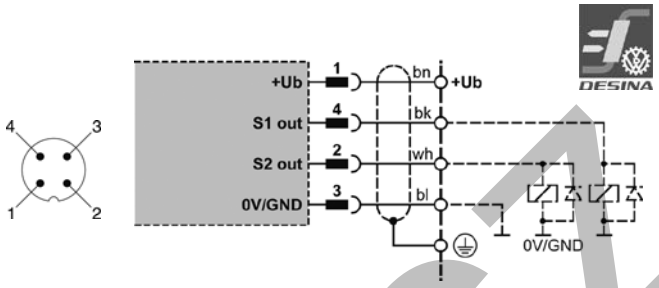
SCPSD-xxx-04-x6

1 switching output;
DIN EN 175301-803 form A (formerly DIN43650)



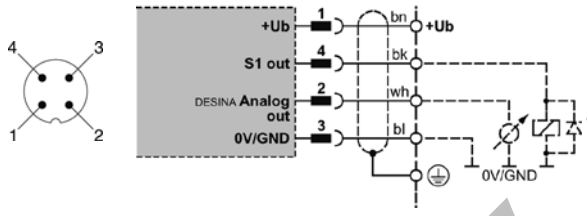
SCPSD-xxx-04-x7

2 switching outputs;
M12x1; 4-pole



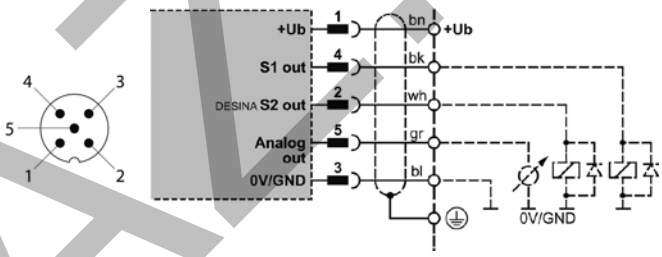
SCPSD-xxx-14-x7

1 switching output;
1 analogue output;
M12x1; 4-pole



SCPSD-xxx-14-x5

2 switching outputs;
1 analogue output;
M12x1; 5-pole



ye = yellow gn = green wh = white gr = grey
bn = brown bk = black bl = blue

Measurement range (bar)	Display resolution increment (bar)	Smallest reverse switch value RSP	Greatest switch value SP	Smallest settable difference between SP and RSP (SP-RSP)
-1…4	0.01	-1	4	0.08
-1…10	0.01	-1	10	0.05
-1…16	0.01	-1	16	0.09
0…60	0.1	0	60	0.3
0…100	0.1	0	100	0.6
0…250	1	0	250	2
0…400	1	0	400	3
0…600	1	0	600	3

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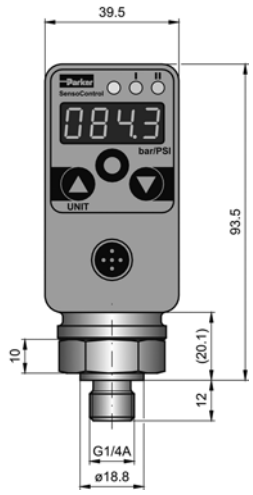
Pressure range selection

With pressure switches the settable pressure is very relevant.

Because a 400 bar pressure switch shows the same resolution (1 bar) as a 600 bar pressure switch (also 1 bar), a 600 bar pressure switch can be deployed even at a smaller nominal pressure (eg. 315 bar).

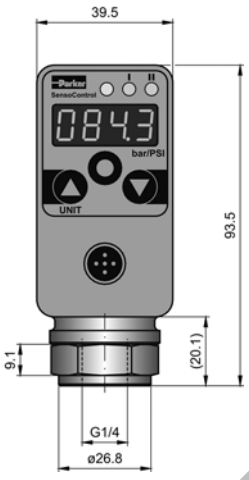
The positive effects of this are the same accuracy with higher safety and fewer product variants.

External thread
SCPSD-xxx-x4-1x

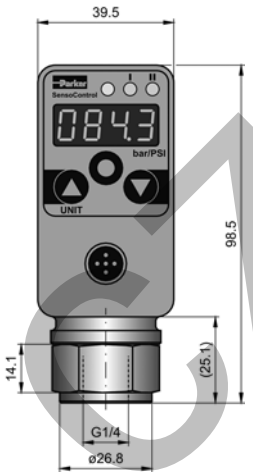


High and low pressure
DMS/ceramic

Internal thread
SCPSD-xxx-x4-2x

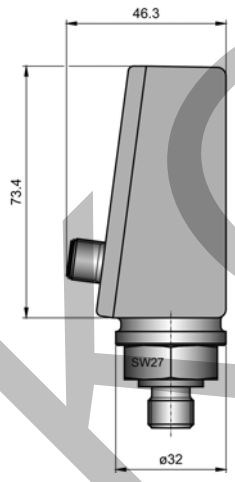


High pressure (from 60 bar)
DMS

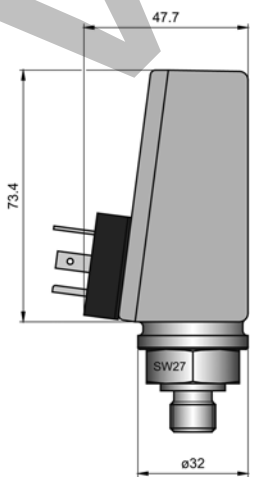


Low pressure (up to 16 bar)
Ceramic

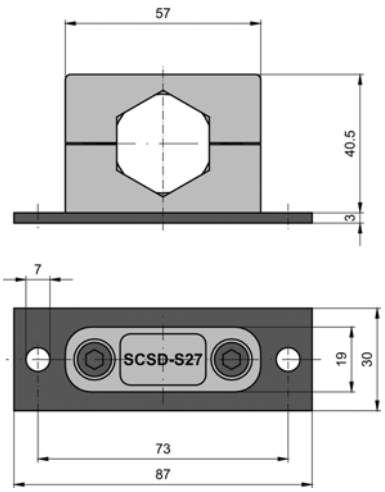
M12 plug-in connector
SCPSD-xxx-x4-x5



DIN EN 175301-803 form A (formerly DIN43650)
SCPSD-xxx-04-x6



Accessories
Clamp



12

SCPSD digital pressure switch

Pressure range
004; 010; 016; 060; 100; 160, 400; 600 bar

1 switching output; without analogue output
DIN EN 175301-803 form A
(formerly DIN 43650) plug-in connector
SCPSD - xxx - 04 - x 6

2 switching outputs; without analogue output
M12x1 plug-in connector; 4-pole
SCPSD - xxx - 04 - x 7

1 switching output; with analogue output
M12x1 plug-in connector; 4-pole
SCPSD - xxx - 14 - x 7

2 switching outputs; with analogue output
M12x1 plug-in connector; 5-pole
SCPSD - xxx - 14 - x 5

Type
G1/4 BSPP external thread = 1
G1/4 BSPP internal thread = 2

Ordering examples

SCPSD-100-04-27
Pressure range 100 bar
2 switching outputs
G ¼ BSPP internal thread
M12 plug-in connector

SCPSD-60-14-27
Pressure range 60 bar
1 switching output
1 analogue output
G ¼ BSPP internal thread
M12 plug-in connector

SCPSD-004-14-17
Pressure range 4 bar
2 switching outputs
1 analogue output
G ¼ BSPP external thread
M12 plug-in connector

Accessories

PC programming kit	**SCSD-PRG-KIT**
Fixing clamp	**SCSD-S27**
Reducing adaptor M22x1.5	**SCA-¼-M22x1.5-ED**
Reducing adaptor G ½ BSPP	**SCA-¼-ED-½-ED**
Damping adaptor	**SCA-1/X-EDX-1/X-D**
Flange adaptor for mechanical pressure switch	**SCAF-¼-40**

Connecting cable and separate plugs

Connecting cable, ready-made SCK-400-xx-xx
(open cable end)

Cable length in m
02 2 m
05 5 m
10 10 m

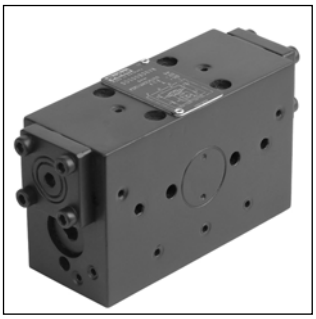
Plug-in connector
45 M12 cable socket; straight
55 M12 cable socket; 90° angled
56 DIN EN 175301-803 form A plug connector
(formerly DIN 43650)

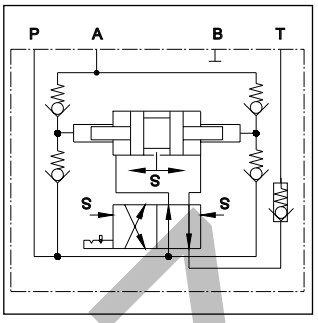
Separate plugs

M12 cable socket; straight	SCK-145
M12 cable socket; 90° angled	SCK-155
DIN EN 175301-803 Form A plug connector (formerly DIN 43650)	SCK-006

12

Pressure intensifiers are used wherever a particular section of a hydraulic system has to be pressurized to a substantially higher pressure than the available primary pressure (clamping functions). With an intensification ratio of 1 : 4 (1 : 2, 1 : 6) it enables a cost-effective system solution especially in clamping applications, with primary pressures up to 125 bar. A pilot operated check valve can be flanged underneath the pressure intensifier for quick filling and decompression of the high pressure section.





Features

- Mounting pattern NG06, DIN 24 340 Design A, CETOP, ISO
- Check valve attachable to bottom flange
- High pressure up to 500 bar
- Volume flow formed with low pulsation
- Compact design

Design

Main functional parts of the pressure intensifier:
piston, rocker mechanism, slide valve with lock,
4 check valves which separate the high pressure section from the low pressure section, check valve in the tank port to partition of the tank section from the primary pressure.

Function

After the high pressure section is filled with oil, (e.g. extension of a clamping cylinder), the pressure intensifier begins operation: The low pressure moves the intensifier piston because of the surface ratio and compresses the oil column in the high pressure section.

At the end of the intensifier's piston stroke, the rocker mechanism switches the directional slide valve to the crossed switching position, and the intensifier piston pumps oil from the piston rod area into the high pressure section. The process repeats itself until the pressure ratio corresponding to the surface ratio has lead to a balance of force on the intensifier piston.

The pressure intensifier switches itself off and immediately on again when the high pressure (e.g. due to external leakage) begins to drop (pay attention to the flow characteristic). The switching speed of the slide valve is dependent on the operating speed of the intensifier piston.

Note

- To avoid exceeding the admissible maximum pressure, a pressure relief or pressure control valve must be fitted on the primary side (pressure setting, max. 125 bar / 1 : 4, max. 250 bar / 1 : 2 or max. 83 bar / 1 : 6).
- There must be no pressure peak on the primary side when operating in the maximum pressure range.
- It is recommended to mount a 10µm filter on the primary side to ensure damage-free operation.

Ordering code

SD	**500**	☐	**06**	**V**	☐
Pressure intensifier	**Working pressure 500 bar (max. pressure)**	**Intensification ratio**	**Nominal size (pressure intensifier) Interface DIN 24 340 Design A, CETOP, ISO**	**Seals FPM**	**Design series** (not required for ordering)

Code	Intensification ratio
A	**1 : 4**
B	**1 : 2**
C	**1 : 6**

Bold letters =
Short-term availability

Technical data

General		
Symbol		DIN 24 300
Design		Piston and poppet valve in body
Mounting type		NG06, DIN 24 340, design A, CETOP, ISO
Ports		Subplate
Mounting position		unrestricted
Ambient temperature	[°C]	-20...+60
$MTTF_D$ value	[years]	150
Weight	[kg]	3.0 kg
Hydraulic		
Max. operating pressure Port A Port P, B, T	 [bar] [bar]	 500, 125 (ratio 1:4), 250 (ratio 1:2)
Fluid		Hydraulic oil according to DIN 51524
Fluid temperature	[°C]	+10...+70
Viscosity, permitted recommended	[cSt] / [mm^2/s] [cSt] / [mm^2/s]	20 ... 400 30...80
Filtration		ISO 4406 (1999); 18/16/13
Flow		see performance curve
Intensification ratio		$p_P : p_A$ = 1 : 4, 1 : 2, 1 : 6
Flow volume		$Q_P : Q_A$ = 4 : 1, 2: 1, 6 : 1
Stroke volume	[cm^3]	3 (per double stroke)
Operating		Hydraulic-mechanic automatic control

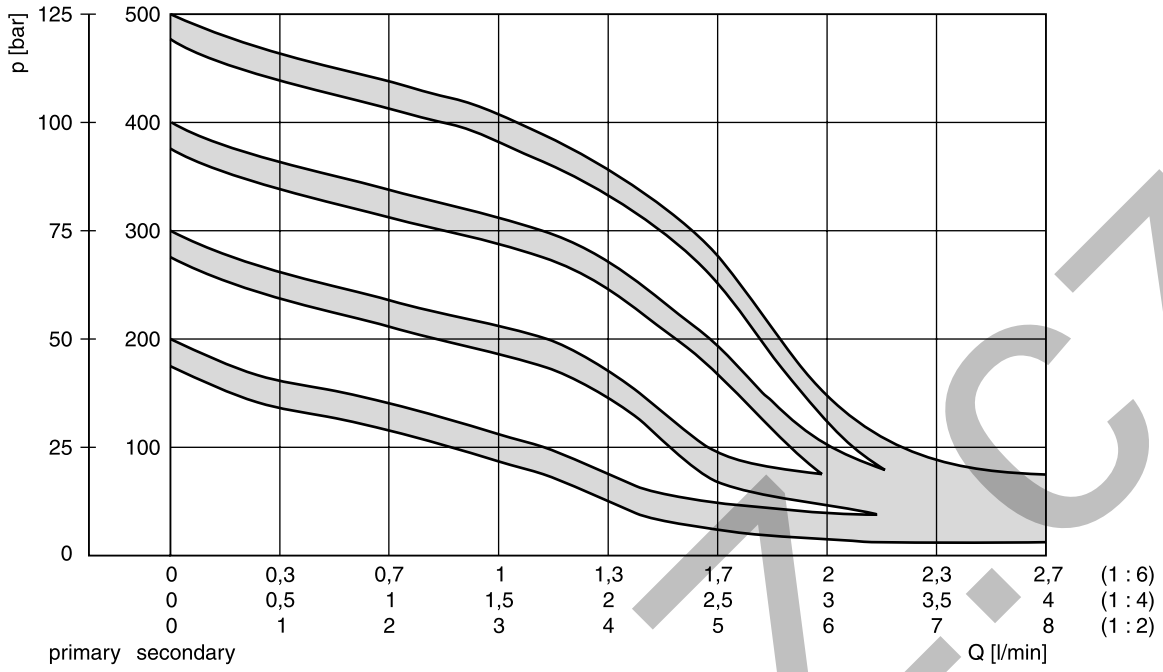
Accessories

Type	Description	Number
SD 500*06V	Seals	
	9.25 x 1.78	3
	10.82 x 1.78	1
	M5 x 75 ISO 4762-12.9	4

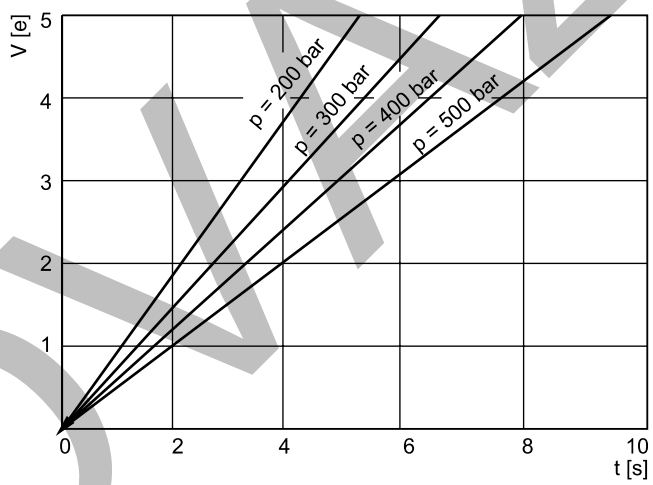
Seals are included in delivery.
Mounting screws are not included in delivery.

Surface finish	Kit		
$R_{max}6.3$ 0.01/100	BK401	4x M5x75 ISO 4762-12.9	9.0 Nm

Flow characteristics

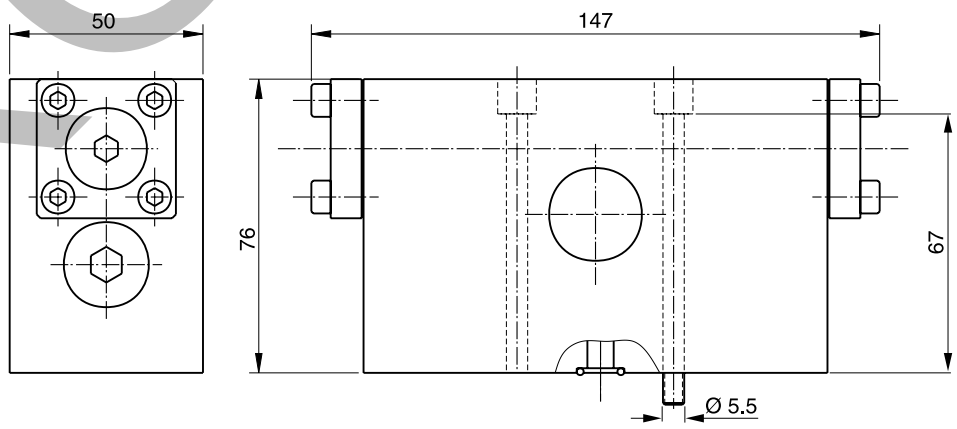


Approximate values of the compression time for compressing a filled volume to target pressure (1 : 4)



All characteristic curves measured with HLP46 at 50 °C.

Dimensions



12

Pilot operated check valve plate NG06

Description

Pilot operated check valve plates are flanged under the pressure intensifier for quick filling and decompression.

Design

The check valve plate is equipped with a hydraulic, pilot operated check valve.

Opening ratio: Main valve 2.5 : 1

Pilot ratio 10 : 1

Technical data

General		
Design		Spring loaded ball seat valve
Mounting type		Flange
Mounting position		any
Ambient temp.	[°C]	-20...+60
Weight	[kg]	1.3
Hydraulic		
Operating pressure range		
Port A	[bar]	max. 500,
Port P, B, T	[bar]	max. 125 / 1:4 and 250 / 1:2
Fluid		Hydraulic oil according to DIN 51524
Fluid temperature	[°C]	+10...+70
Viscosity, perm. [cSt] / [mm²/s]		20...400
recom. [cSt] / [mm²/s]		30...80
Filtration		ISO 4406 (1999); 18/16/13
Flow		see characteristic curve
Pilot ratio		Main valve 2.5:1, pre-discharge 10:1
Opening pressure	[bar]	approx. 0.5

Ordering code

H06 SDV

Bold letters =
Short-term availability

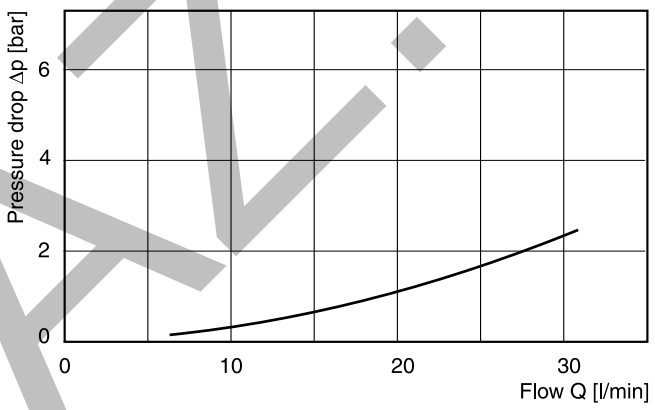
Accessories

Type	Description	Number
H06SDV	Seals	
	9.25 x 1.78	4
	M5x115 ISO 4762-12.9	4

Seals are included in delivery.
Mounting screws are not included in delivery.

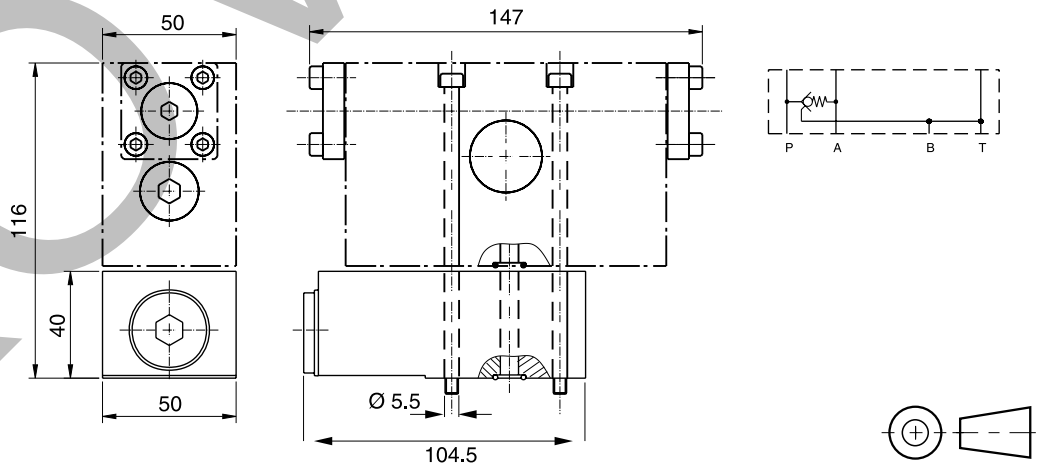
Characteristic curve

Pilot operated check valve



Curve measured with HLP46 at 50 °C.

Dimensions



Surface finish	Kit		
R_{max}6.3 ⏥ 0.01/100	BK406	4x M5x115 ISO 4762-12.9	9.0 Nm

12

Pilot operated check valve plate NG10

Description

Pilot operated check valve plates are flanged under the pressure intensifier for quick filling and decompression.

Design

The check valve plate is equipped with a hydraulic, pilot operated check valve.

Opening ratio: Main valve 2.5 : 1

Pilot ratio 10 : 1

Technical data

General		
Design		Spring loaded ball seat valve
Mounting type		Flange
Mounting position		any
Ambient temp.	[°C]	-20...+60
Weight	[kg]	2.3
Hydraulic		
Operating pressure range		
Port A Port P, B, T	[bar] [bar]	max. 500, max. 125 / 1:4 and 250 / 1:2
Fluid		Hydraulic oil according to DIN 51524
Fluid temperature	[°C]	+10...+70
Viscosity, perm. [cSt] / [mm²/s] recom. [cSt] / [mm²/s]		20...400 30...80
Filtration		ISO 4406 (1999); 18/16/13
Flow		see characteristic curve
Pilot ratio		Main valve 2.5:1, pre-discharge 10:1
Opening pressure	[bar]	approx. 0.5

Ordering code

H10 SDV

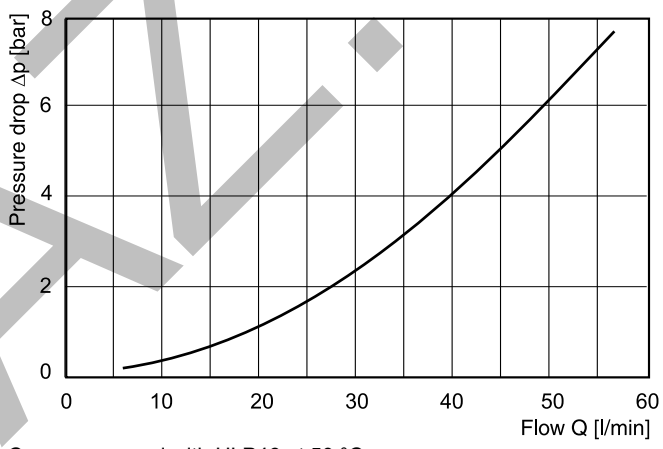
Accessories

Type	Description	Number
H10SDV	Seals	
	12.24 x 1.78	4
	M5x75 ISO 4762-12.9	4
	M6x50 ISO 4762-12.9	4

Seals are included in delivery.
Mounting screws are not included in delivery.

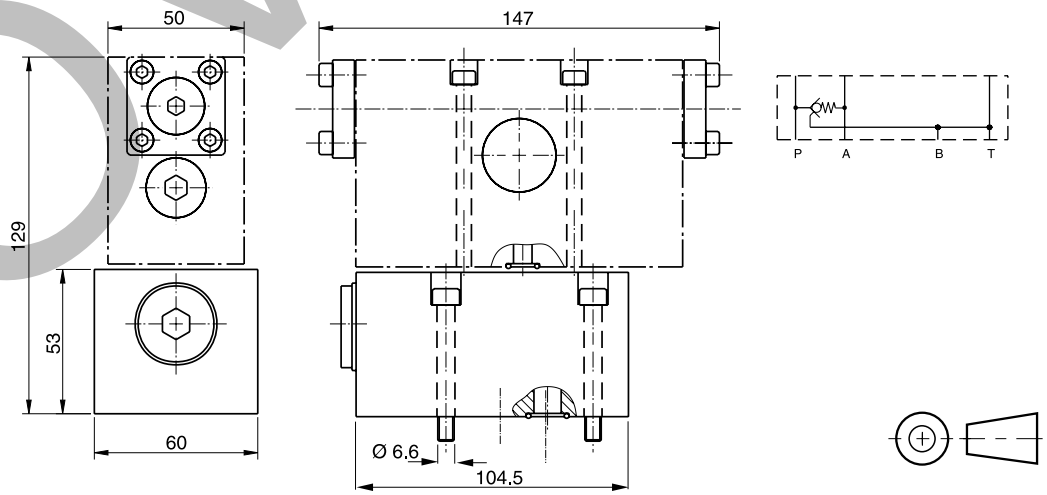
Characteristic curve

Pilot operated check valve



Curve measured with HLP46 at 50 °C.

Dimensions



Surface finish	Kit		
R_{max}6.3 ⏥ 0.01/100	BK490	4x M5x75 4x M6x50 ISO 4762-12.9	9.0 Nm 18.0 Nm

Notes