

GEMOT GRUP

Str. Principatele Unite nr. 13 A  
Telefon 0745300187  
Email gemotgrup@yahoo.com

# HYDRAULIC VALVES

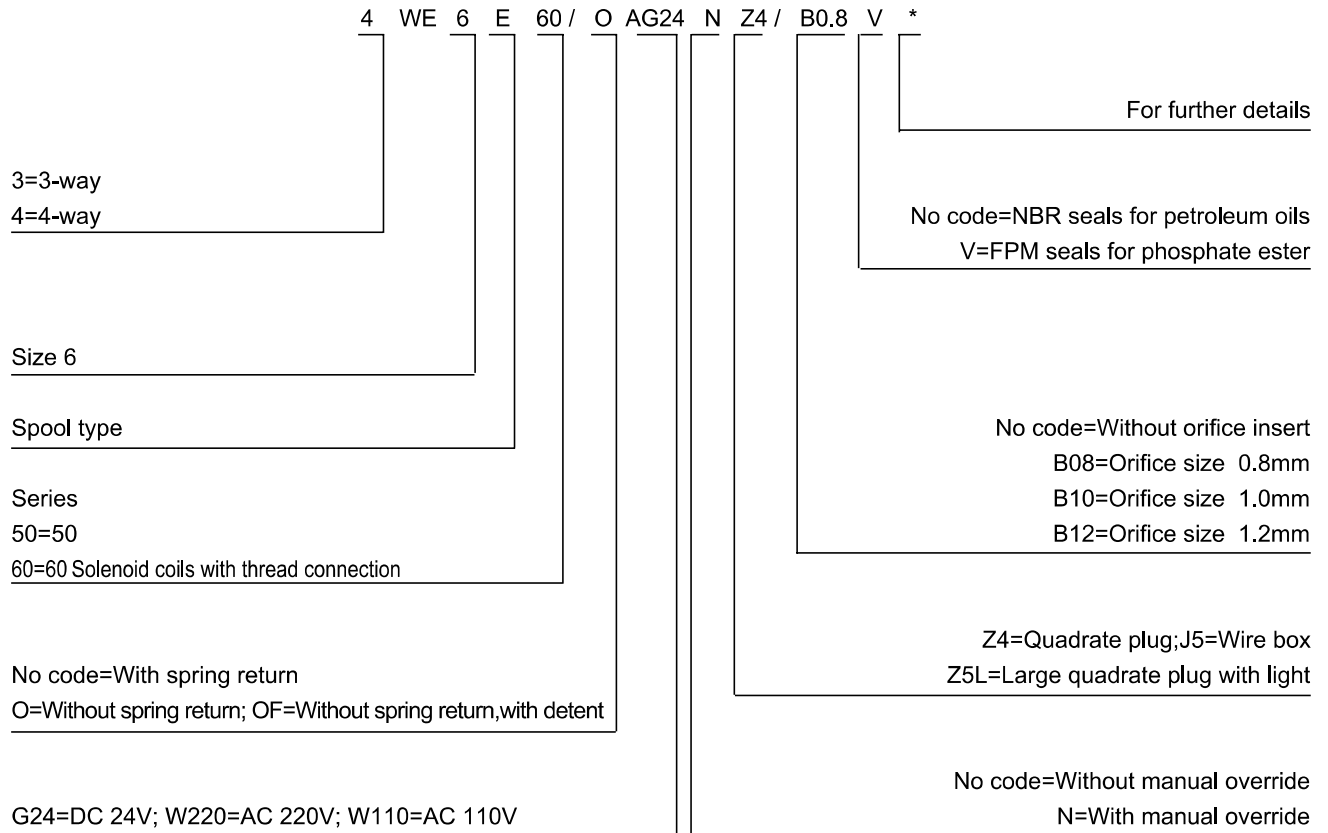
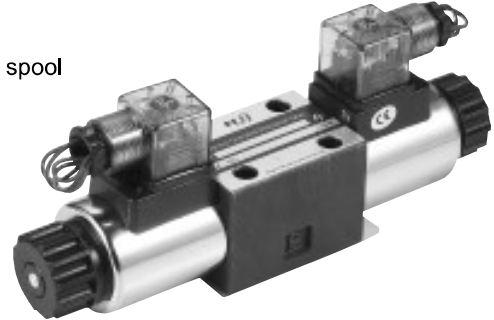


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# WE 6 SERIES SOLENOID OPERATED DIRECTIONAL CONTROL VALVES

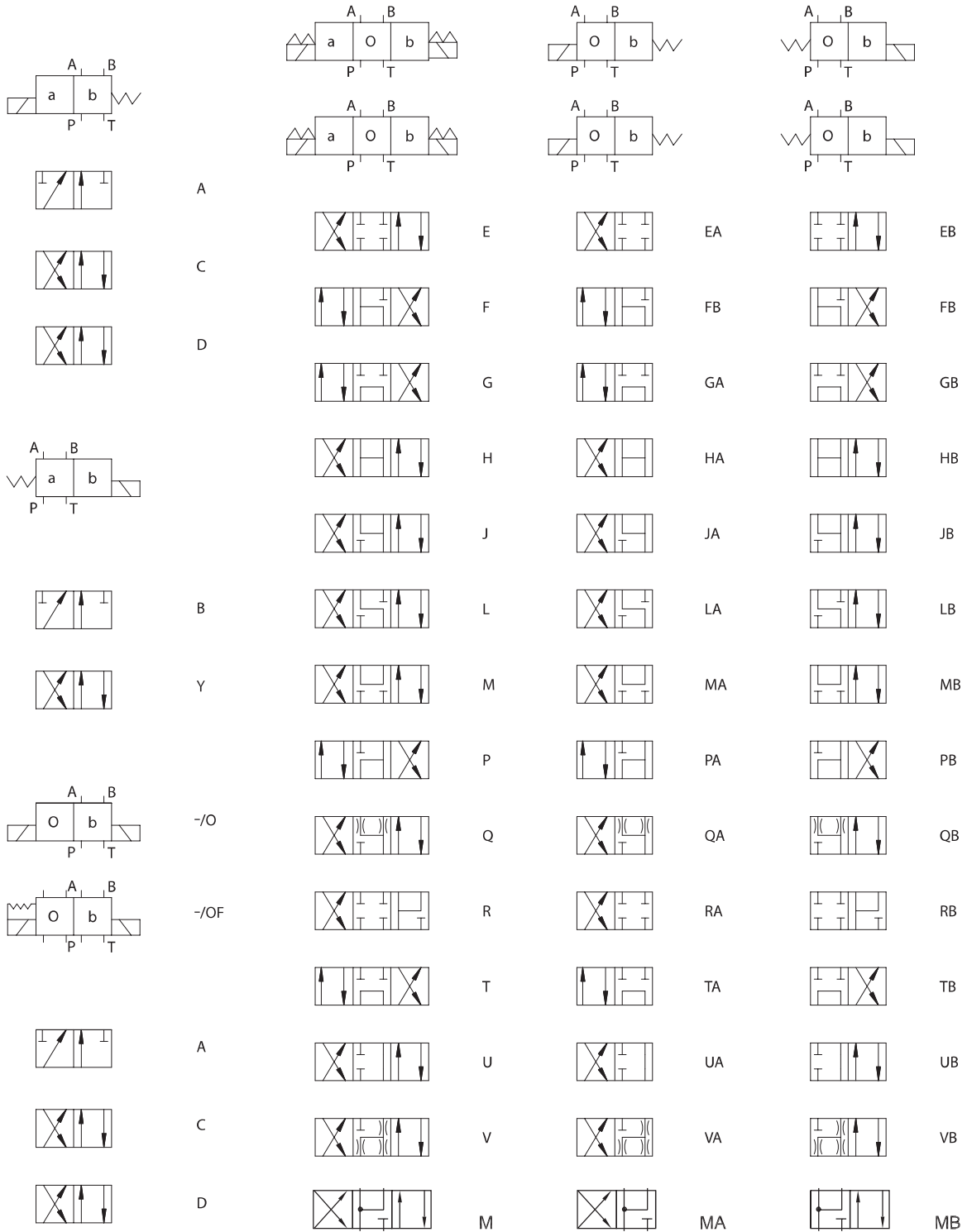
WE 6 series directional control valves are solenoid operated directional spool valves, these valves are used to the start, stop and direct flow.



*Technical data*

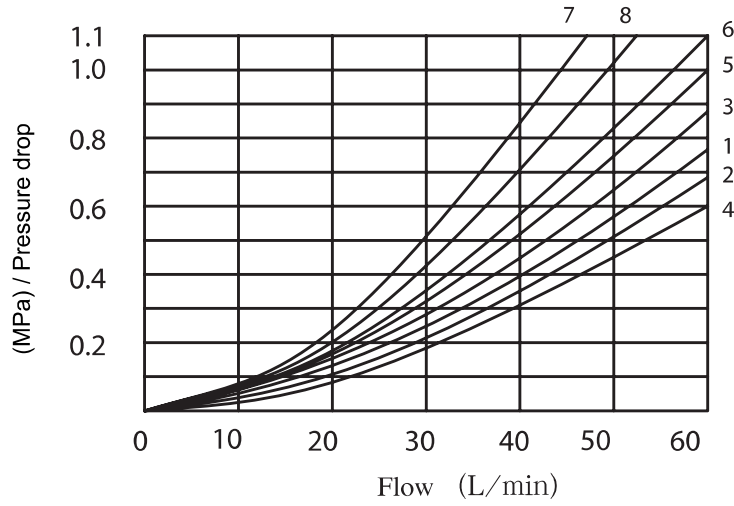
Size	6
Max. flow rate (L/min.)	60
Operating pressure (MPa)	ABP oil port 31.5
	T oil port 16

 Spool symbols





WE6 Pressure drop vs. flow curves

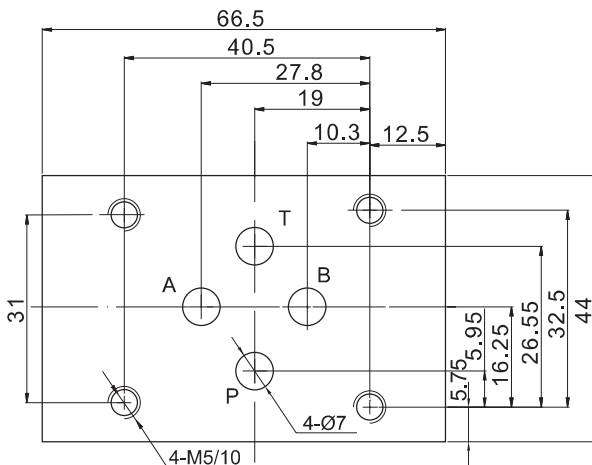


Spool symbols	Flow direction			
	P-A	P-B	A-T	B-T
A	3	3		
B	3	3		
C	1	1	3	1
D	5	5	3	3
E	3	3	1	1
F	2	3	3	5
G	5	3	6	6
H	2	4	2	2
J	1	1	2	1
L	1	1	2	2
M	2	4	3	3
P	2	3	3	5
Q	1	1	2	1
R	5	5	4	
T		3	6	6
U	3	1	3	3
V	1	2	1	1
W	1	1	2	
Y	5	5	3	3

Point 7 is "R" spool on the b position, flow A-B

Point 8 is "G" spool on the middle position, flow P-T

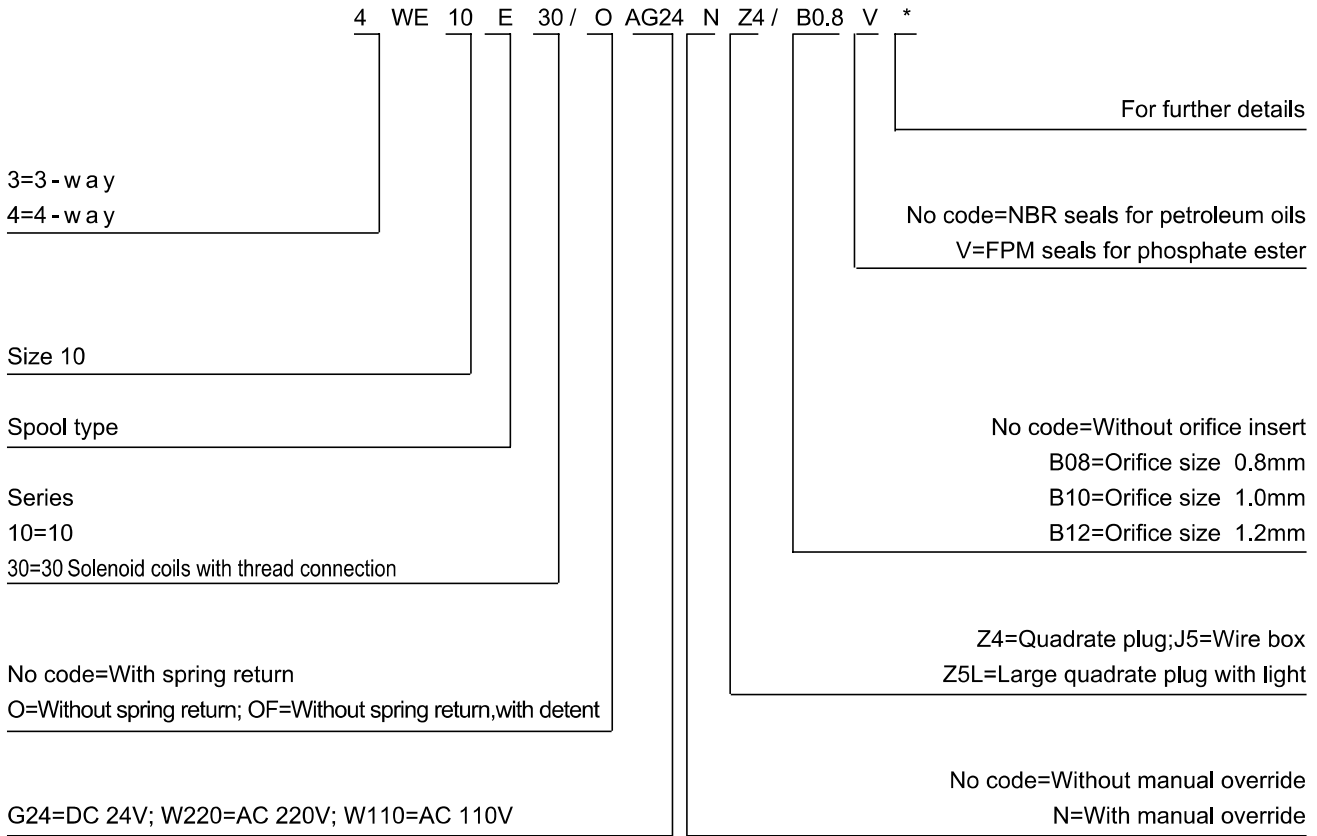
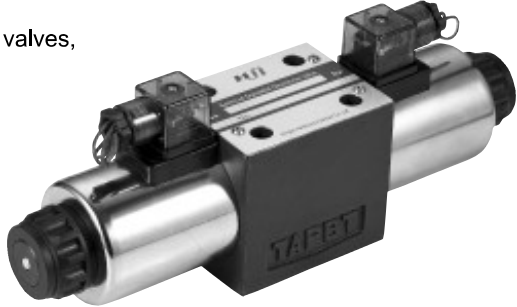
4WE6 Installation Dimensions



Installations are same with Z1S6, Z2S6, Z2FS6, ZDB6, ZDR6.

# WE 10 SERIES SOLENOID OPERATED DIRECTIONAL CONTROL VALVES

WE series directional control valves are solenoid operated directional spool valves, these valves are used to the start, stop and direct flow.

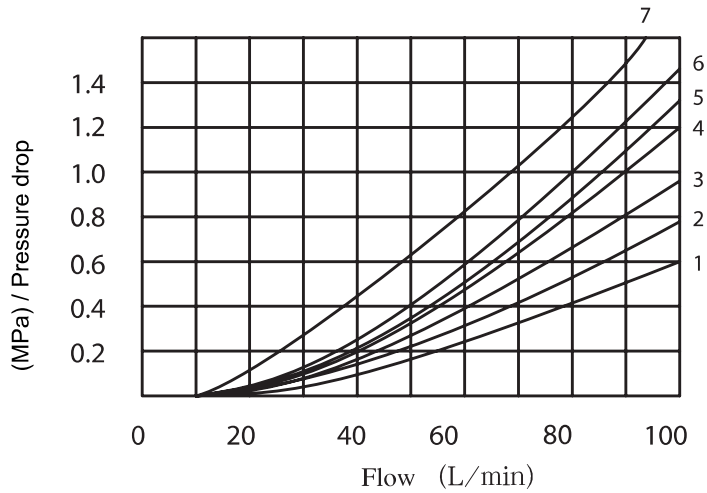


*Technical data*

Size	10
Max flow rate (L/min )	120
Operating pressure (MPa)	ABP oil port 31.5
	T oil port 16



WE10 Pressure drop vs. flow curves

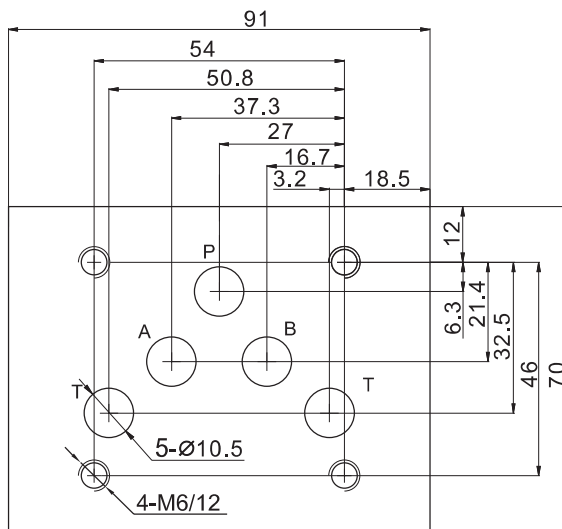


Spool symbols	Flow direction			
	P-A	P-B	A-T	B-T
A, B	2	2		
C, D, Y, J	2	2	3	3
E, Q, V	2	2	4	4
F	2	3	3	5
G	3	3	4	6
H	1	1	4	5
L, U	2	2	3	5
M	1	1	5	5
P	3	2	5	3
R	2	4	3	
T	3	5	5	6
W	2	2	5	5

Point 7 is "R" spool on the b position, flow A-B

Point 4 is "G" spool on the middle position, flow P-T

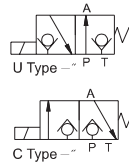
4WE10 Installation Dimensions



Installations are same with  
Z1S10, Z2S10, Z2FS10, ZDB10, ZDR10.

# M-SE SERIES DIRECTIONAL BALL VALVES

M-SE series are solenoid operated poppet valves, they are used to control the start, stop and direction of flow.



M - 3 SE 6 U 20 315 G24 N Z4 P B0.8

Mineral hydraulic oil

3=3 actuator ports

4=4 actuator ports

Model

Size 6;10

U=2/3 way normally open; C=2/3 way normally closed  
D=2/4 way; Y=2/4 way

Series number

Operating pressure

G24=DC 24V ; W220=AC 220V

No code=Without throttle insert

B0.8=Throttle 0.8mm

B10=Throttle 1.0mm

B12=Throttle 1.2mm

B14=Throttle 1.4mm

B15=Throttle 1.5mm

B18=Throttle 1.8mm

B20=Throttle 2.0mm

B22=Throttle 2.2mm

No code=Without cartridge check valves

P=With cartridge check valves

Z4=Quadrate plug; Z5=Large quadrate plug

No code=Without manual override

N=With manual override

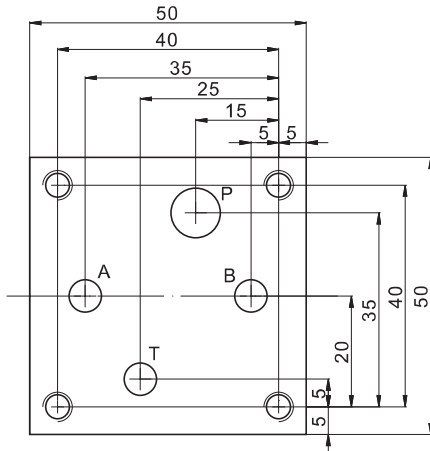
## Technical data

Size	6U	6C	6D	6Y	10U	10C	10D	10Y
Rated flow (L/min.)	16	16	12	12	30	24	30	24
Rated pressure (MPa)	31.5							

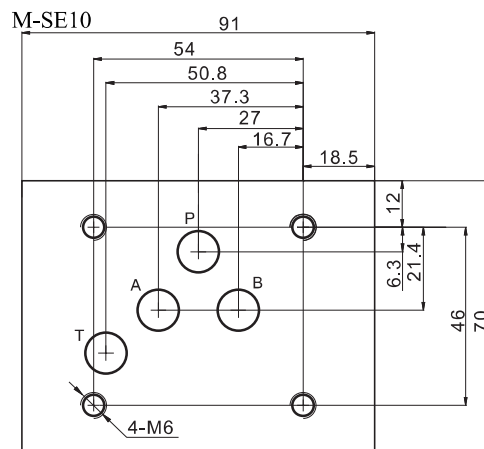



## Installation dimensions

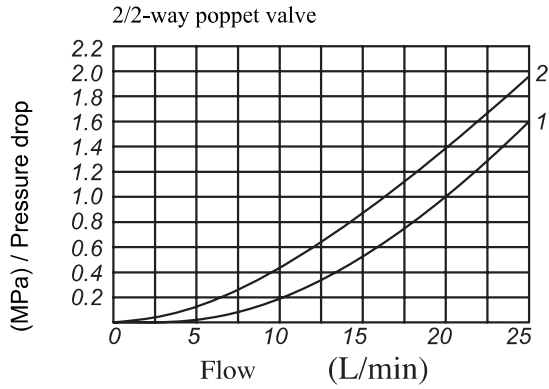
M-SE6



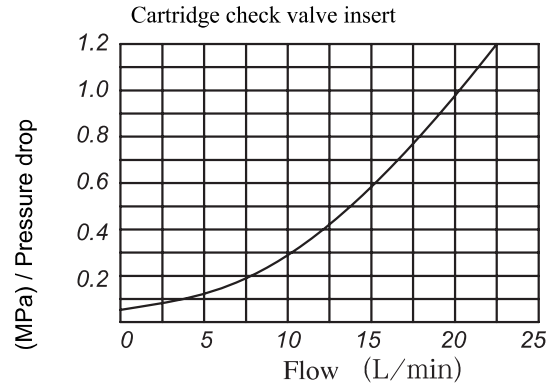
M-SE10



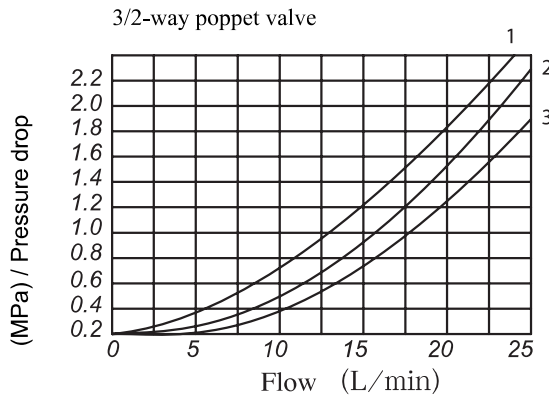
 Pressure drop vs. flow curves



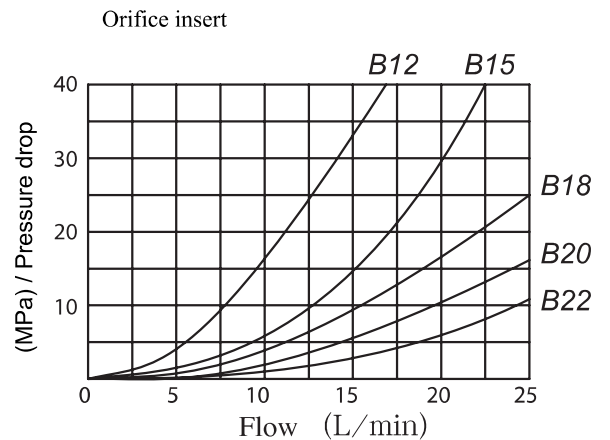
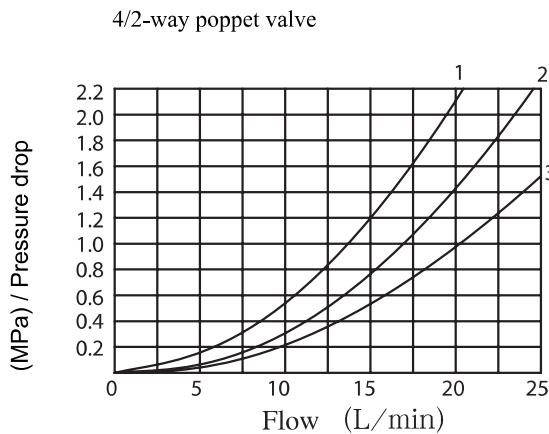
- 1. 2SE6N P-T
- 2. 2SE6P P-T



- 1. 3SE6 U/C A-T
- 2. 3SE6U P-A
- 3. 3SE6C P-A



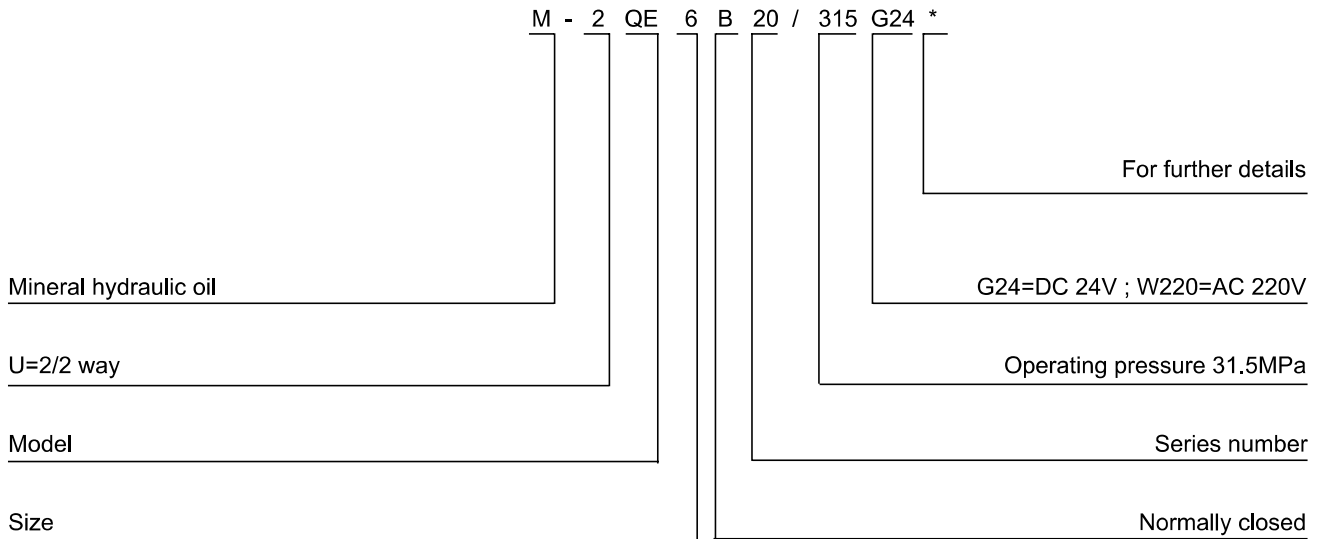
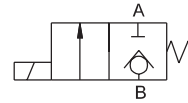
- 1. 4SE6 D/Y A-T
- 2. 4SE6 D/Y P-A
- 3. 4SE6 D/Y P-B, B-T



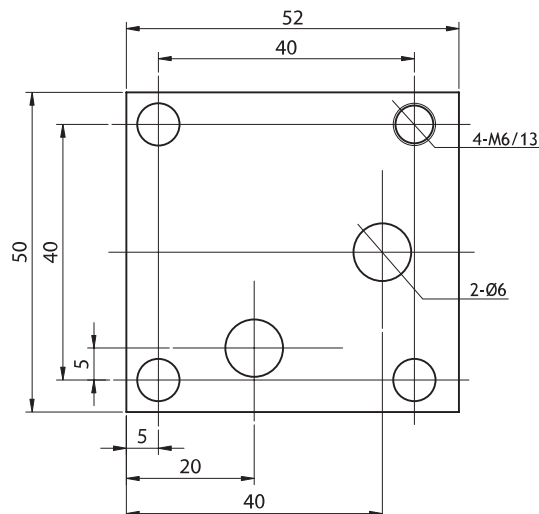
# QE SERIES SOLENOID OPERATED UNLOADING BALL VALVES

QE series solenoid operated unloading ball valve is used to control the opening and closing in pilot return lines.

It is often used for releasing the pressure in pressure-maintaining return lines

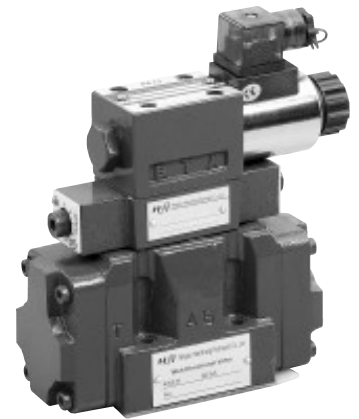


## Installation dimensions



## WEH SERIES SOLENOID PILOT OPERATED DIRECTIONAL VALVES

WEH series are solenoid pilot operated spool type valves. This series are used to control the start, stop and direction of flow.



4WEH 10 H E 50 / O G24 N ET S Z4 / B0.8 P4.5 D1 V \*

Size 10; 16; 25; 32

No code=Spring return  
H=Hydraulic return

See the function symbol of spool valve

Series 20=Size 10; Series 50=Size16-32

O=Without spring return  
OF=Without spring return, with detent

G24=DC 24V; W220=AC220V; W110=AC110V

No code=Without manual overrides  
N=With manual overrides

No code=Externally pilot , externally drained  
E=Internally pilot, externally drained  
ET= Internally pilot, internally drained  
T= Externally pilot, internally drained

Technical data

Size		10	16	25	32
Max. operating pressure P. A. B.		28	28	28	28
	Externally drained	31.5	25	25	25
T (Port) MPa	Internally drained	AC -10	AC -10	AC -10	AC -10
		DC -16	DC -16	DC -16	DC -16
Y (Port) MPa	Externally drained	AC -10	AC -10	AC -10	AC -10
		DC -16	DC -16	DC -16	DC -16
Min. pilot pressure (MPa)		0.45-1	0.45-1.3	0.45-1	0.45-1
Max. flow rate (L/min.)		160	300	650	1100

For further details

No code=NBR seals for petroleum oils  
V=Phosphate ester

No code=Without ratio pressure reducing valve  
D1=With ratio pressure reducing valve

No code=Without pilot pressure  
P0.45=With pilot pressure  
cracking pressure is 0.45MPa

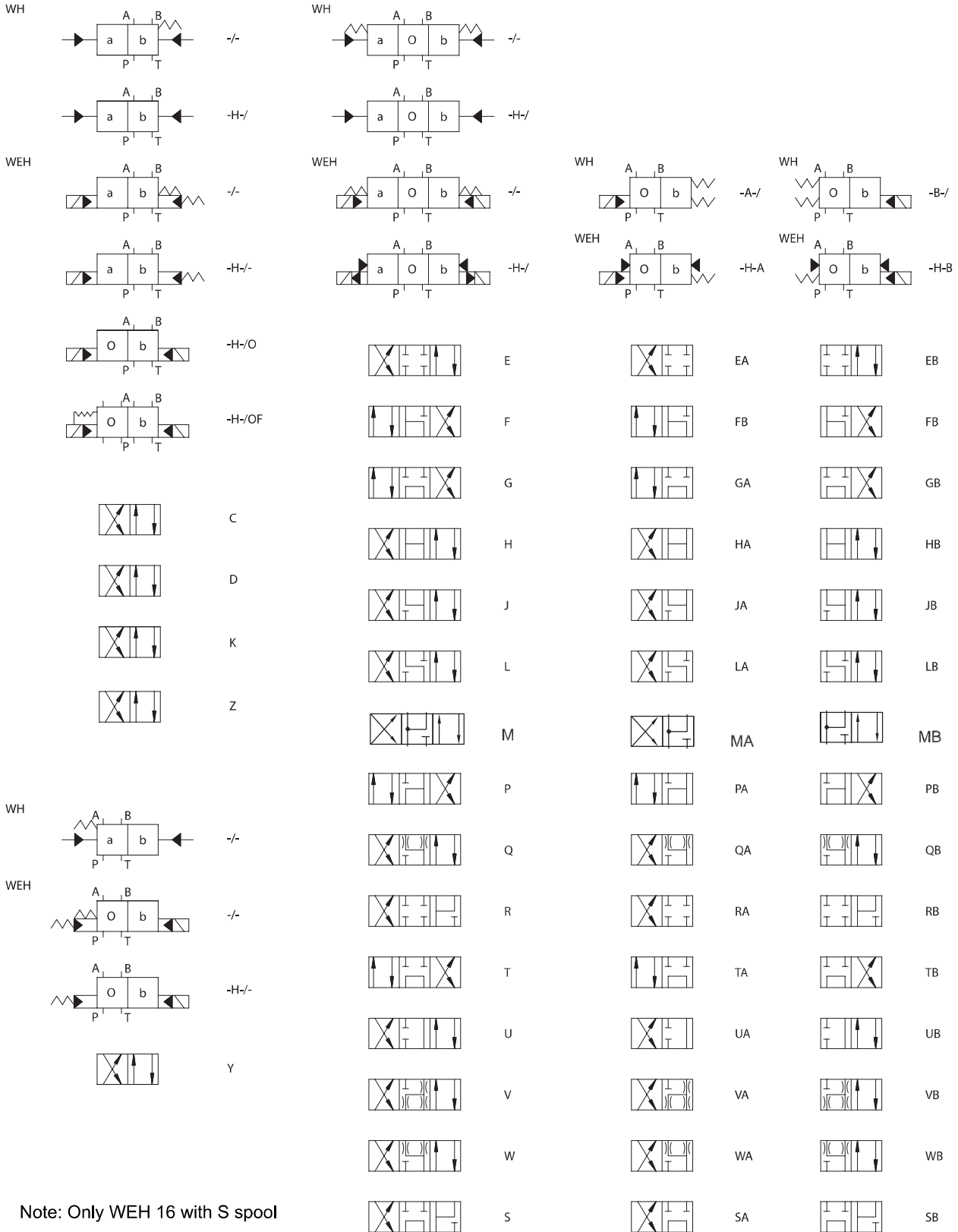
Omit if without plug-in throttleer  
B0.8=Throttle orifice size 0.8  
B10=Throttle orifice size 1.0  
B12=Throttle orifice size 1.2  
B15=Throttle orifice size 1.5


Z4=Quadrate plug Z5=Large quadrate plug

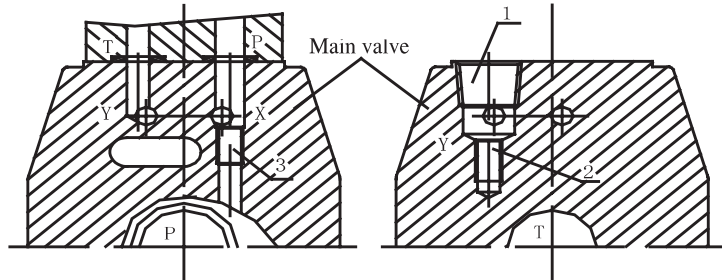
No code=Without pilot adjustment  
S=With meter-in pilot adjustment  
S1=With meter-out pilot adjustment



# Spool symbols



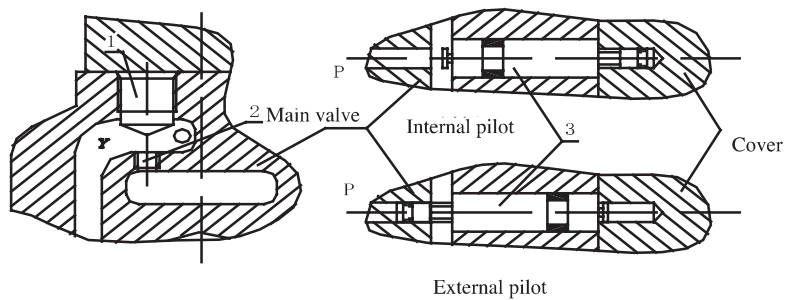
 Pilot fluid supply



WEH10 explanation partial drawing

WEH 10

1. Internal pilot and external pilot: The "P" port with M6 screw (3) is external pilot, to convert valve into internal pilot, the M6 screw (3) must be removed.
2. Internal drain and external drain: Removing the bolt (1), to install M6 screw (2) is external drain.

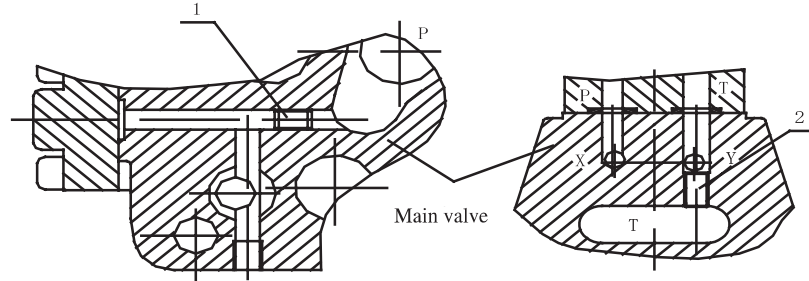


WEH16 explanation partial drawing

WEH16

1. Internal pilot and external pilot: Removing the sideward cover, installing the pin to allow "P" port with open position is internal pilot, to convert the pin into "P" port with plugged position is external drain.
2. Internal drain and external drain: Removing the bolt (1) and installing M6 screw (2) is external drain, unscrew the M6 screw (2) is internal drain.

Pilot fluid supply



WEH25

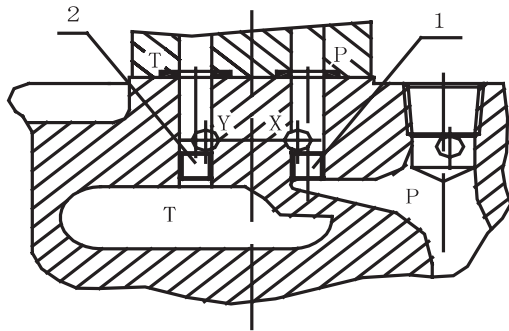
WEH25 explanation partial drawing

1. Internal pilot and external pilot

Removing the sideward cover, installing M6 screw (1) is external pilot, unscrew the M6 screw (2) is internal pilot.

2. Internal drain and external drain

Removing the M6 screw (2) in the "T" port on the top of main valve is internal drain; installing the M6 screw (2) is external drain.



WEH32 explanation partial drawing

WEH32

1. Internal pilot and external pilot

Installing the M6 screw (1) in the "P" port on the top of main valve is external pilot; removing the M6 screw (1) is internal pilot.

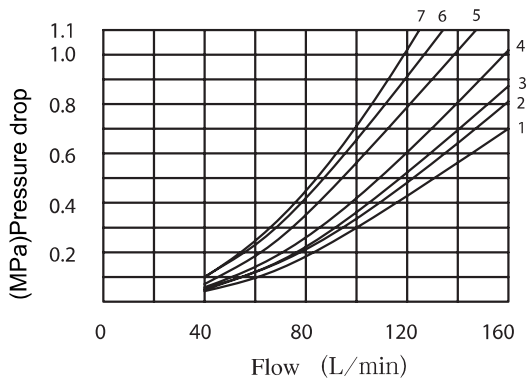
2. Internal drain and external drain

Removing the M6 screw (2) in the "T" port on the top of main valve is external drain; installing the M6 screw (2) is internal drain.

**NOTE:** 1. The "X" port on the base plate must be plugged if internal pilot.  
2. The "Y" port on the base plate must be plugged if internal drain.

 Pressure drop vs. flow curves

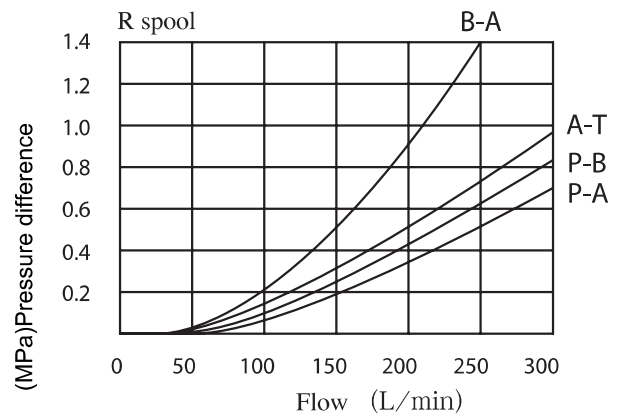
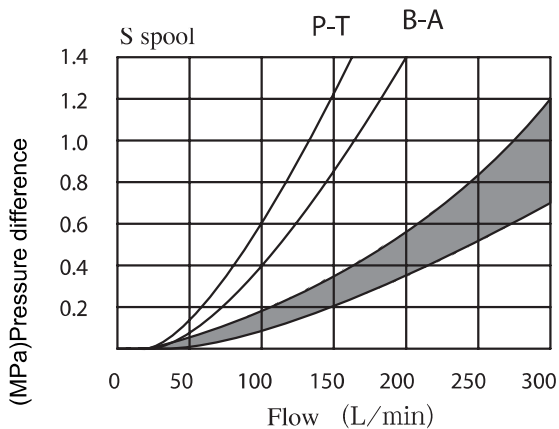
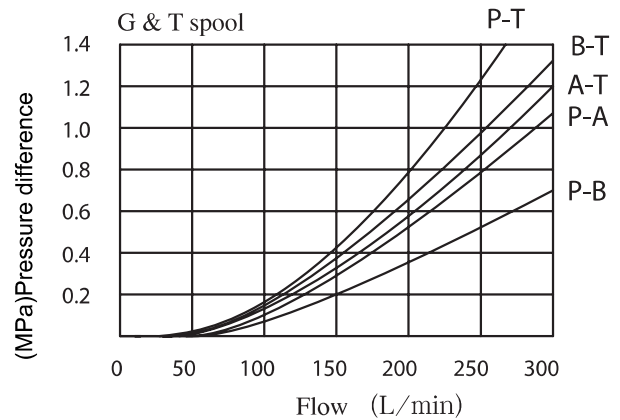
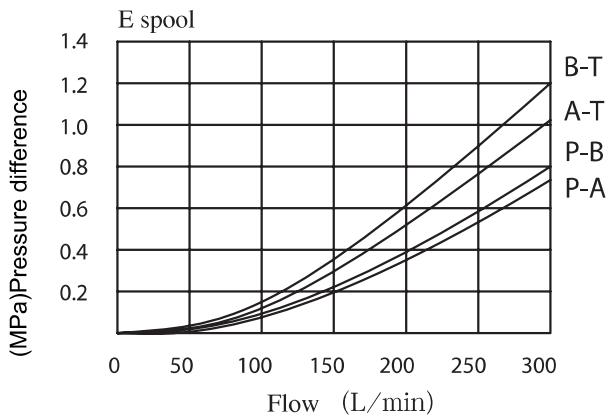
WEH 10



Spool symbols	Middle		
	A-T	B-T	P-T
F	3		6
G			7
H	1	3	5
P		7	5
T			7
L	3		

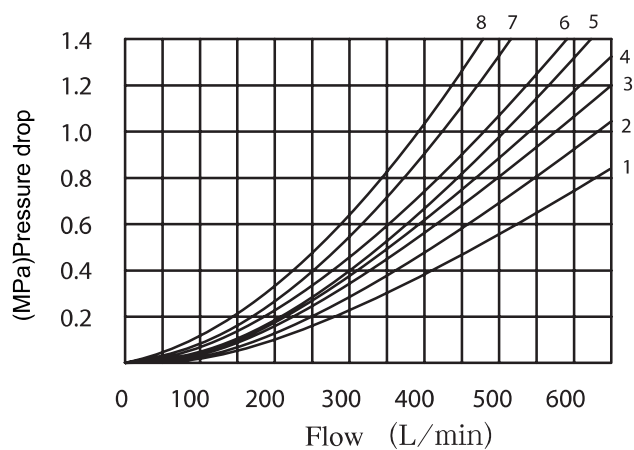
Spool symbols	Flow direction			
	P-A	P-B	A-T	B-T
E	1	2	4	5
F	1	4	1	4
G	4	2	2	6
H	4	4	1	4
J	1	2	1	3
L	2	3	1	4
M	4	4	3	4
P	4	1	3	4
Q	2	2	3	5
R	2	3	3	5
T	4	2	2	6
U	3	3	3	4
V	2	2	3	5
W	2	2	3	5

WEH 16



▶ Pressure drop vs. flow curves

WEH 25

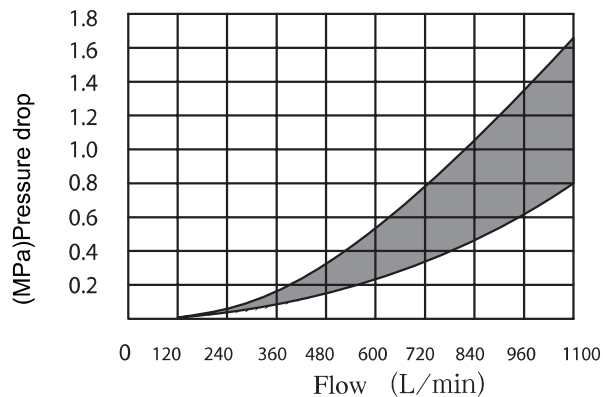
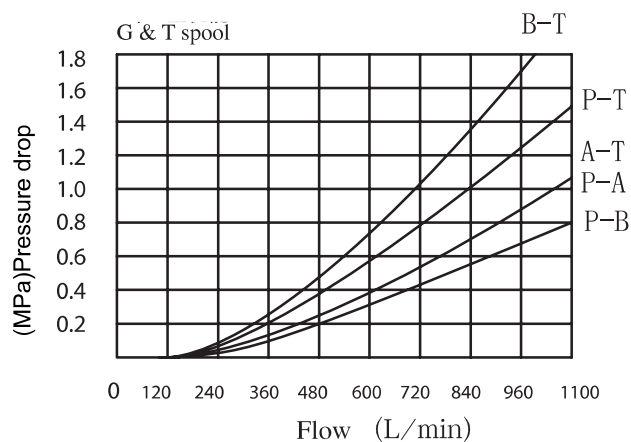
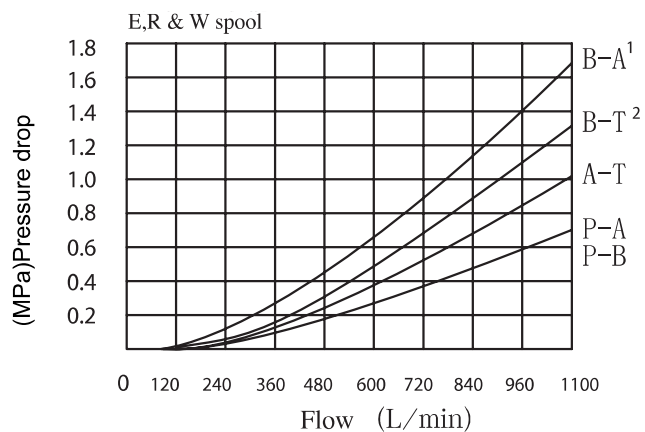


Point 7 is spool on the middle position, flow P-T


Point 8 is spool on the middle position, flow P-T

Spool symbols	Flow direction			
	P-A	P-B	A-T	B-T
E	1	1	1	3
F	1	4	3	3
G	3	1	2	4
H	4	4	3	4
J	2	2	3	5
L	2	2	3	3
M	4	4	1	4
P	4	1	1	5
Q	2	2	3	5
R	2	1	1	
U	2	1	1	6
V	4	4	3	6
W	1	1	1	3
T	3	1	2	4

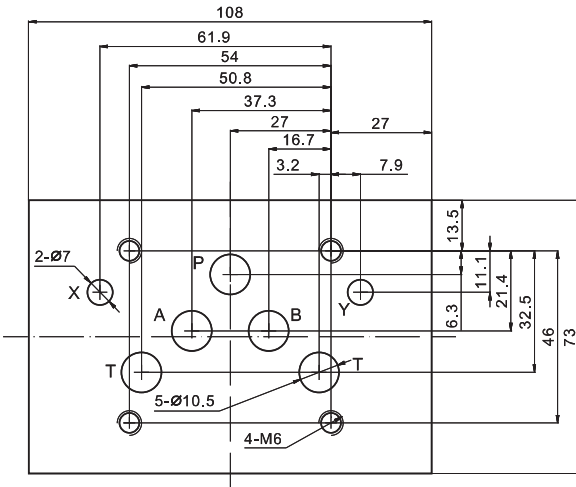
▶ Pressure drop vs. flow curves



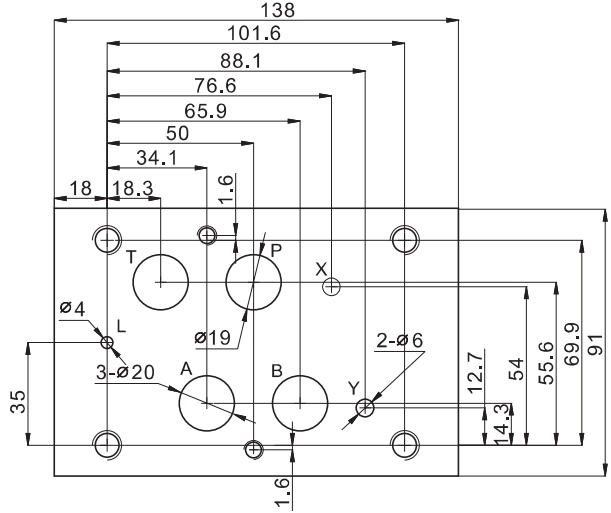
1 only for R spool  
2 not for R spool

 Installation dimensions

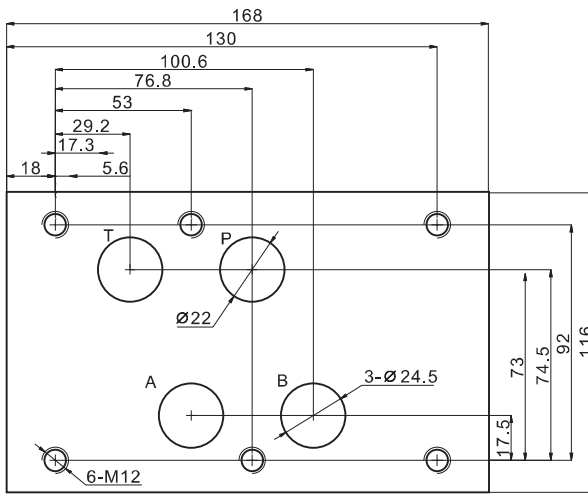
WEH 10



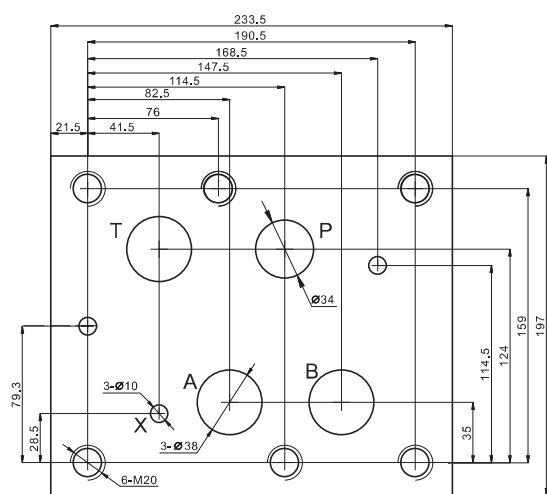
WEH 16



WEH 25



WEH 32



## WH SERIES HYDRAULIC OPERATED DIRECTIONAL VALVES

WH series hydraulic operated directional valves can be used to change the direction of hydraulic oil by moving the main spool when the valve receives a hydraulic signal from the pilot hydraulic oil.



WH 16 H G 20 / S V \*

Model

Size 10; 16 ; 25; 32

No code=Spring return

H=Hydraulic return

(Only size 10: C, D, K, Z, Y with H)

Function symbol refer to page 19

For further details

No code=NBR seals for petroleum oils

V=FPM seals for phosphate ester

No code=without pilot adjustment

S=With meter-in pilot adjustment

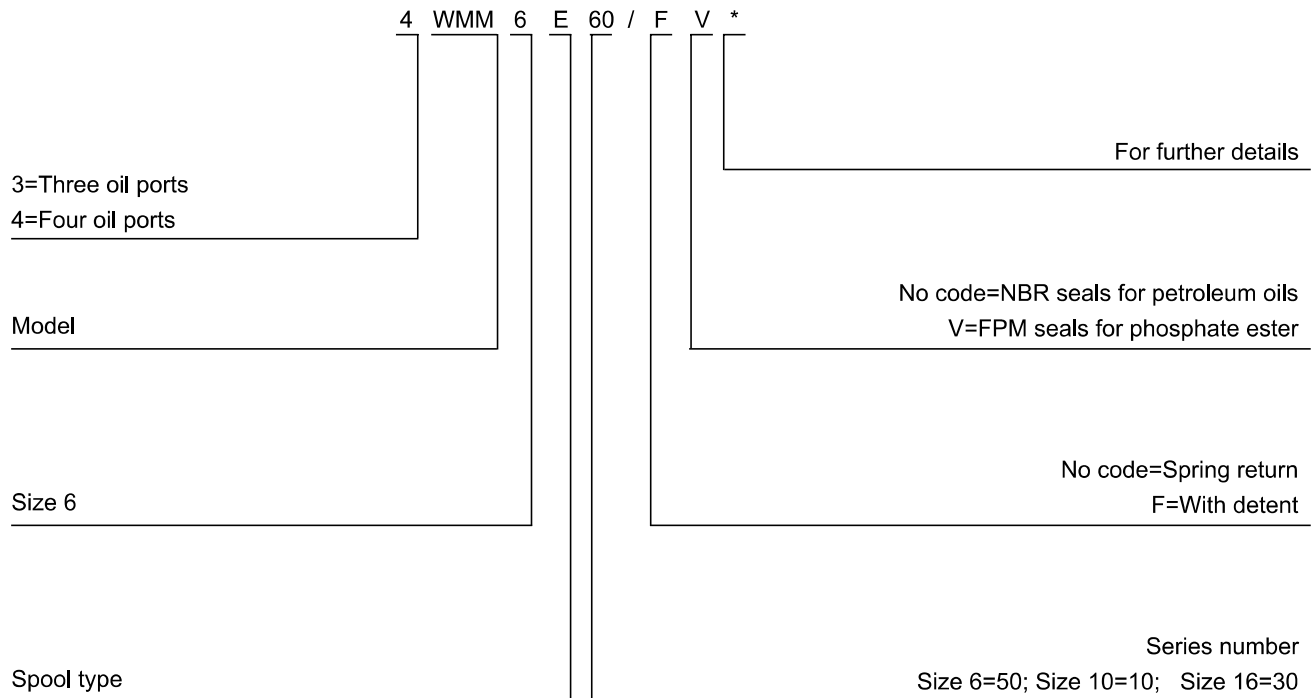
S2=With meter-out pilot adjustment

Series number 20= Size 10; 50=Size 16, 25, 32

Installation dimensions refer to 4WEH models.

## WMM SERIES MANUALLY OPERATED DIRECTIONAL VALVES

WMM series manually operated directional valves are direct type directional valves, It can control the start, stop & direction of fluid flow. This series with detent or return spring are available.

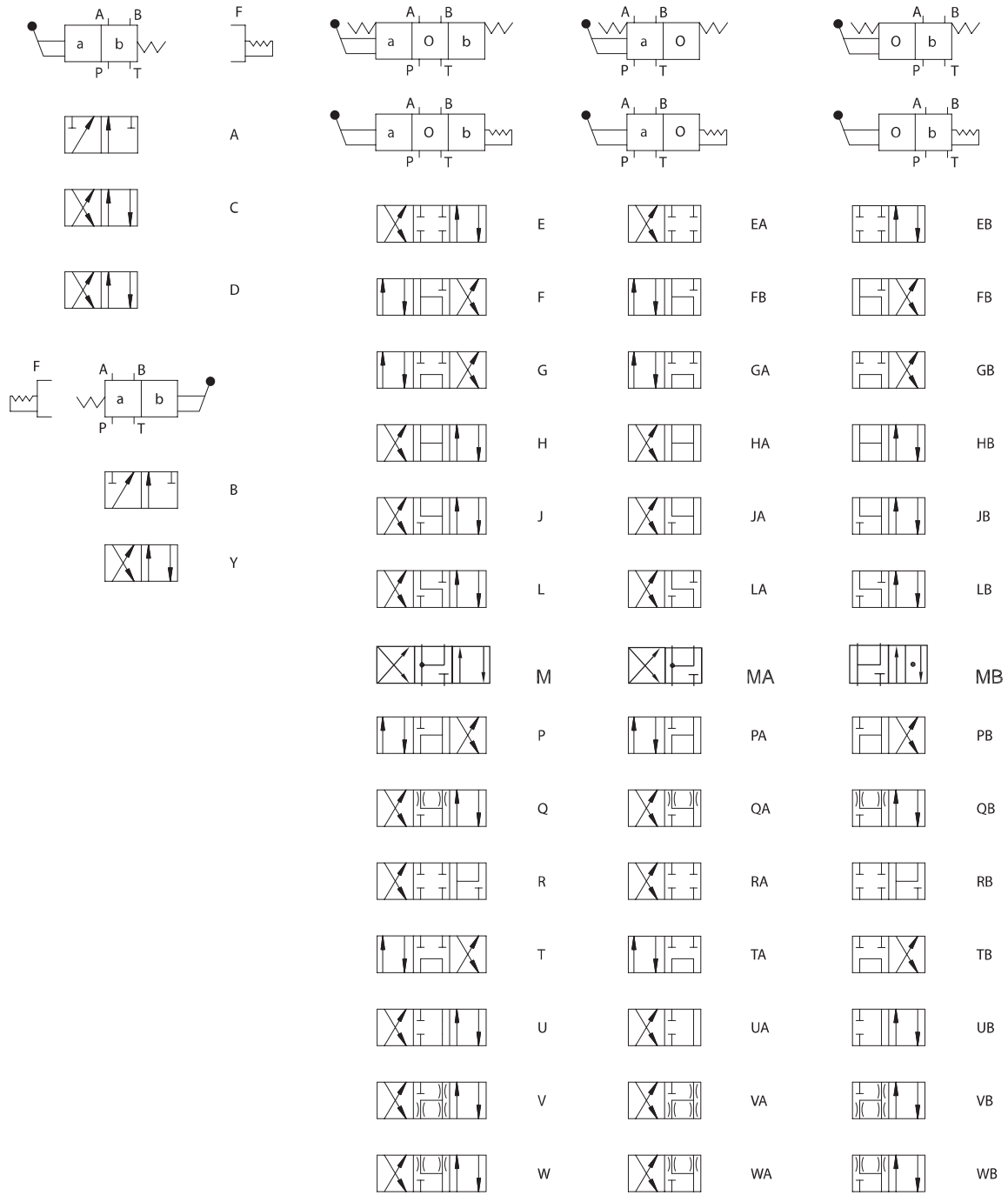


*Technical data*

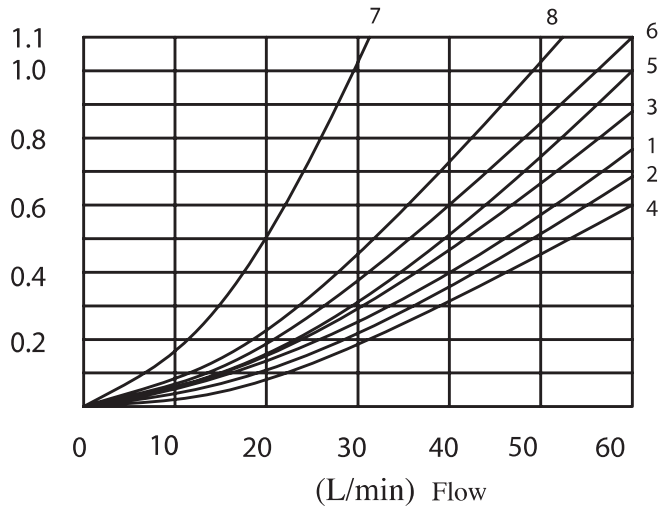
Size	6
Flow rate(L/min)	60
Operating pressure (MPa)	A, B,P oil ports 31.5;T oil oil port 16



 WMM Spool symbols



▶ WMM6 Pressure drop vs. flow curves

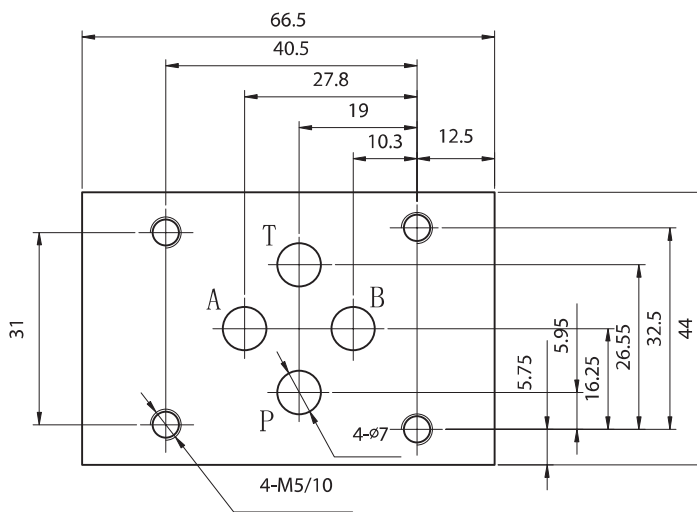


Spool symbols	Flow direction			
	P-A	P-B	A-T	B-T
A	3	3		
B	3	3		
C	1	1	3	1
D	5	5	3	3
E	3	3	1	1
F	2	3	3	5
G	5	3	6	6
H	2	4	2	2
J	1	1	2	1
L	1	1	2	2
M	2	4	3	3
P	2	3	3	5
Q	1	1	2	1
R	5	5	4	
T		3	6	6
U	3	1	3	3
V	1	2	1	1
W	1	1	2	
Y	5	5	3	3

Point 7 is "R" spool on the b position, flow A-B

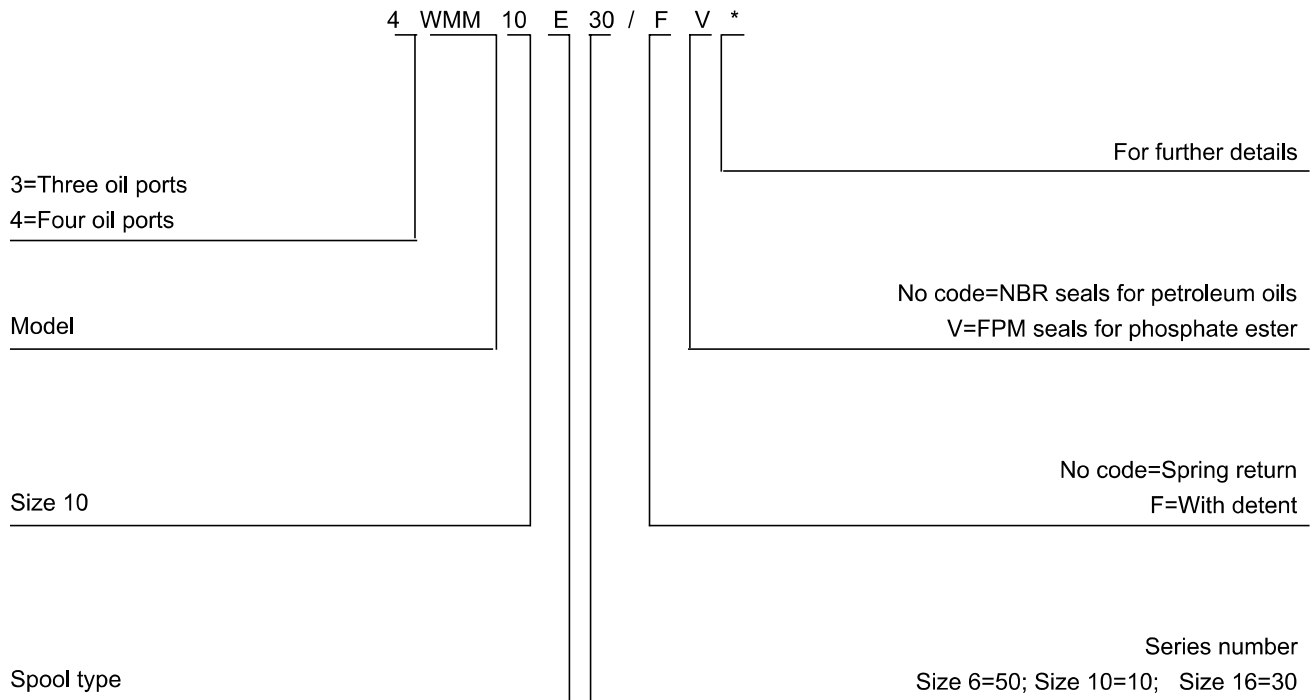
Point 8 is "G" spool on the middle position, flow P-T

▶ 4WMM6 Installation Dimensions



## WMM SERIES MANUALLY OPERATED DIRECTIONAL VALVES

WMM series manually operated directional valves are direct type directional valves, It can control the start, stop & direction of fluid flow. This series with detent or return spring are available.

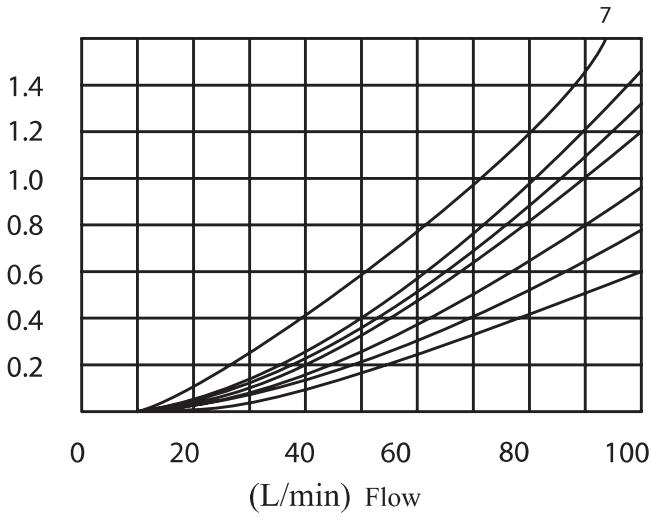


*Technical data*

Size	10
Flow rate(L/min)	100
Operating pressure (MPa)	A, B,P oil ports 31.5;T oil oil port 16

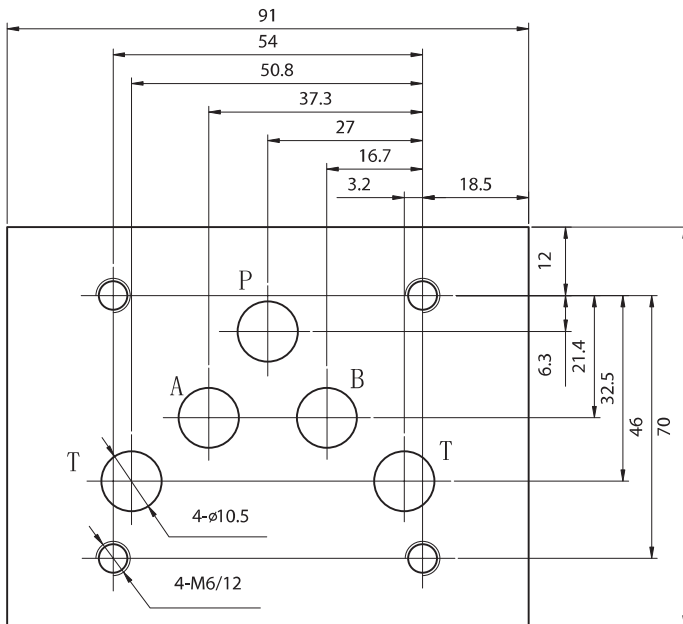


▶ WMM10 Pressure drop vs. flow curves



Spool symbols	Flow direction			
	P-A	P-B	A-T	B-T
A	2	2		
B	2	2		
C	2	2	3	3
D	2	2	3	3
E	2	2	4	4
F	2	3	3	5
G	3	3	4	6
H	1	1	4	5
J	2	2	3	3
L	2	2	3	5
M	1	1	5	5
P	3	2	5	3
Q	2	2	4	4
R	2	4	3	
T	3	5	5	6
U	2	2	3	5
V	2	2	4	4
W	2	2	5	5
Y	2	2	3	3

▶ 4WMM10 Installation Dimensions

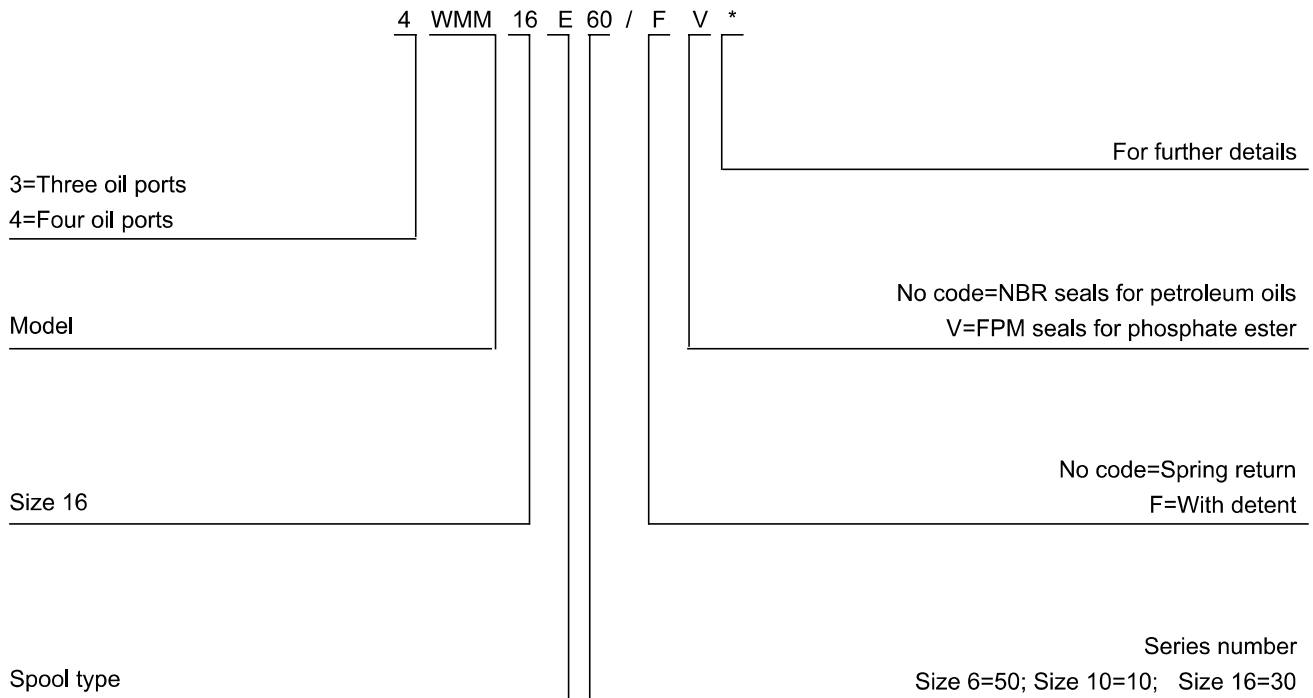


Point 7 is "R" spool on the b position, flow A-B

Point 4 is "G" spool on the middle position, flow P-T

## WMM SERIES MANUALLY OPERATED DIRECTIONAL VALVES

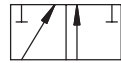
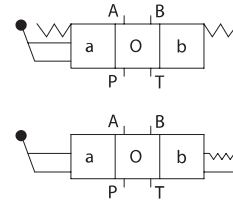
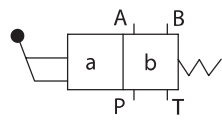
WMM series manually operated directional valves are direct type directional valves, It can control the start, stop & direction of fluid flow. This series with detent or return spring are available.



*Technical data*

Size	16	25
Flow rate(L/min)	300	650
Operating pressure (MPa)	A, B,P oil ports 31.5;T oil oil port 16	

**WMM Spool symbols**



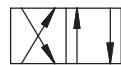
A



C



D



K



Z



E



F



G



H



J



L



M



P



Q



R



T



U



V



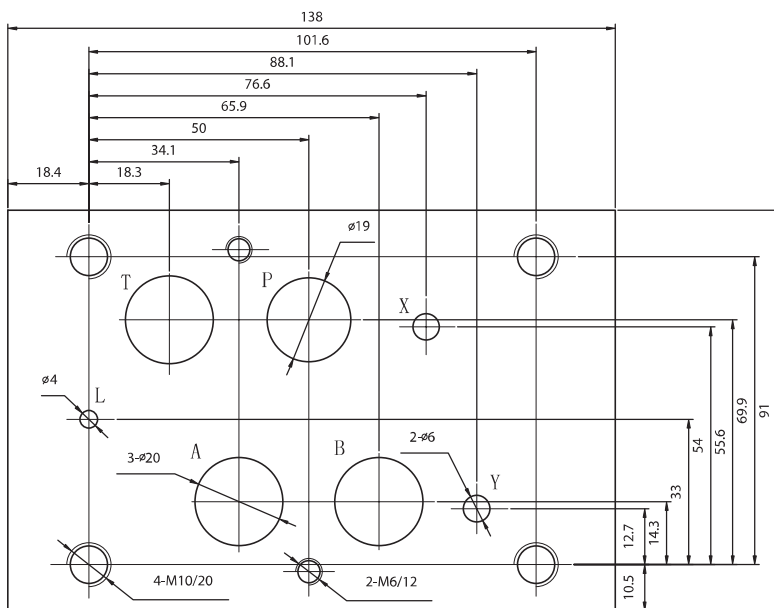
W



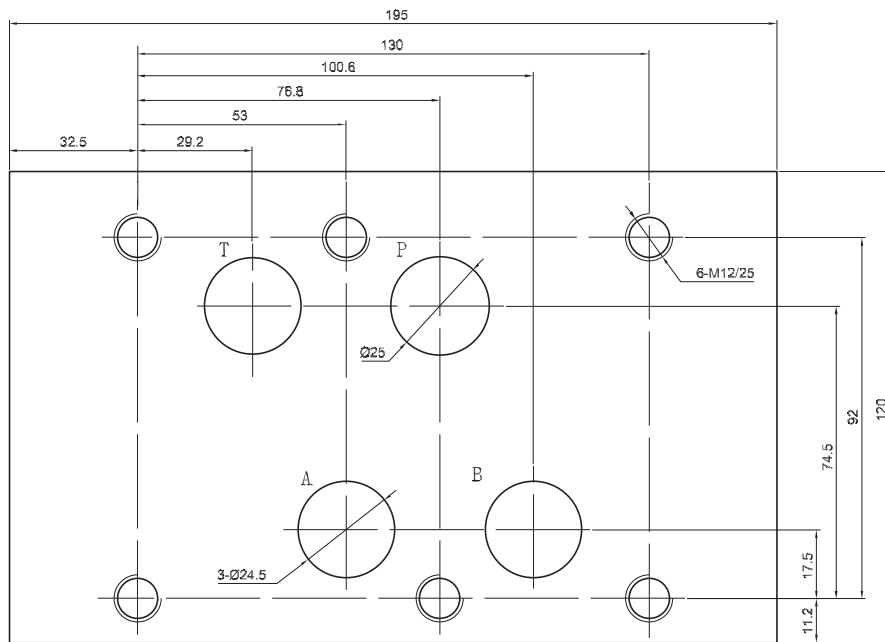
S

Note: Only WMM16 with S

**4WMM16 Installation Dimensions**



▶ 4WMM25 Installation Dimensions

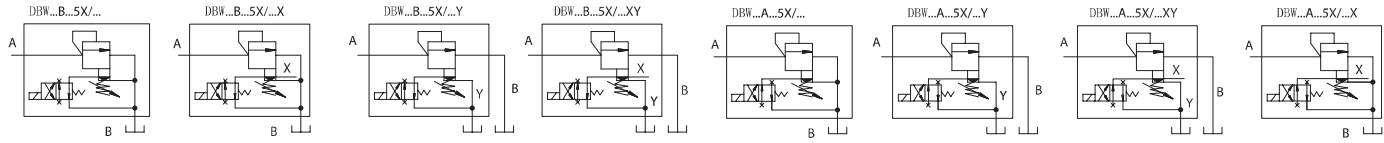




# DB/DBW DB/DBW 30/5X SERIES PILOT OPERATED PRESSURE RELIEF VALVES



DB is pilot operated pressure relief valve, DBW is a pilot operated solenoid relief valve available to unload system pressure.  
 The performance of 5X series is superior than 30 series, the 5X series can be used to control the pressure of hydraulic systems smoothly in a wide range. This type is suitable for a hydraulic system which demands high flow rate.



**DB W 10 A G - 1 - 30 / 315 U G24 N Z4 / 2 / V**

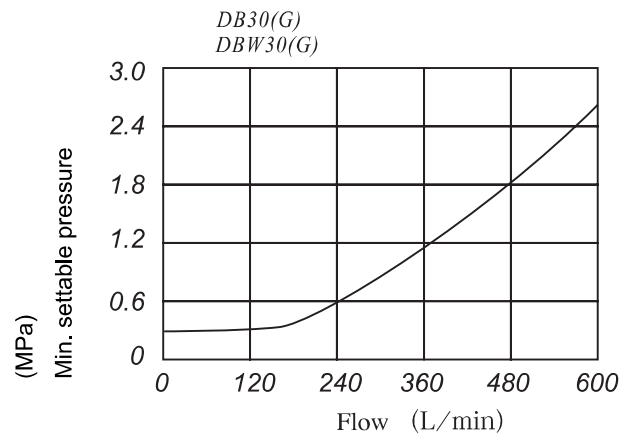
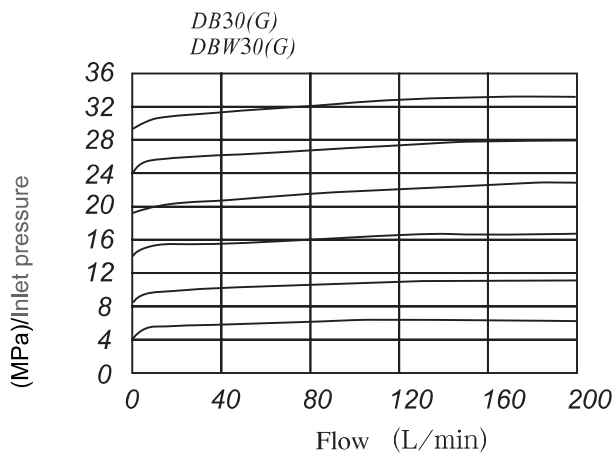
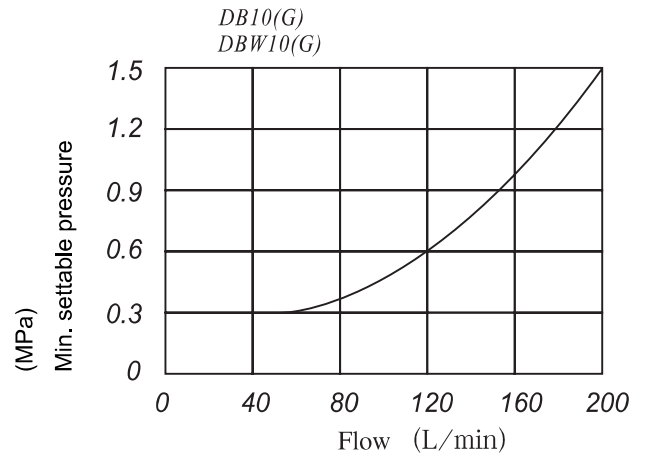
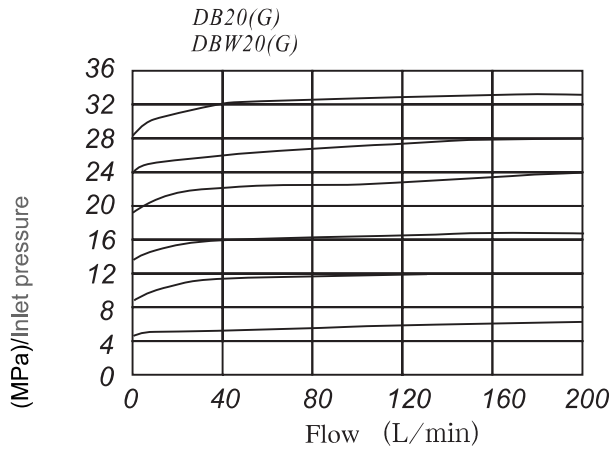
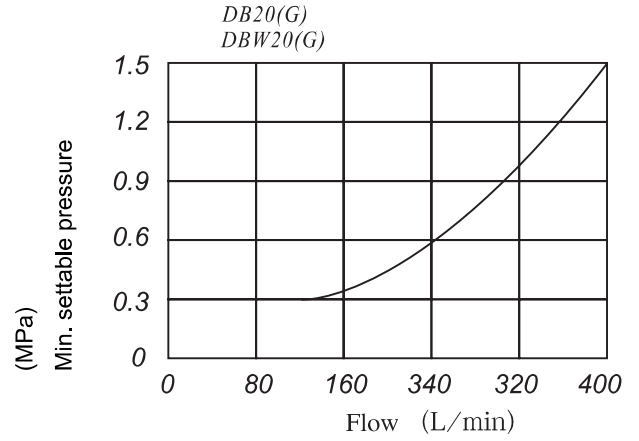
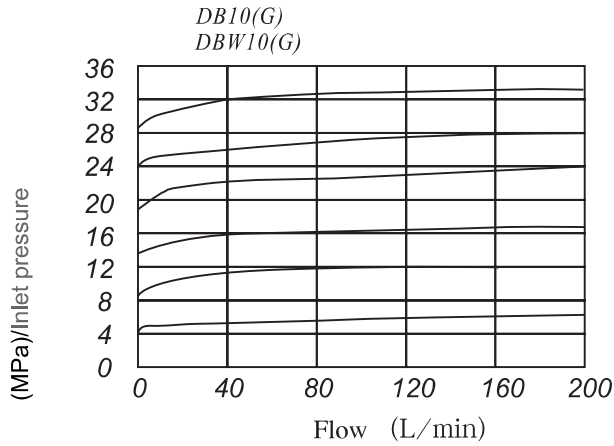
<p><b>Model</b></p> <p>No code=Without directional valve W=With directional valve</p> <p>Subplate mounting: 10; 20; 30 Threaded connection: 8; 10; 16; 20; 25; 30</p> <p>A=Normally closed; B=Normally open</p> <p>No code=subplate mounting G=Threaded connection</p> <p>1=Adjustable knob 2=Adjustable hexagonal nut screw and protection cap 3=Lockable rotary knob</p> <p>Series number: 30 Series number 30 and 50</p> <p>See the table below for pressure range</p>	<p>No code=NBR Seals for petroleum oils V=FPM Seals for phosphate ester</p> <p>No code=Inch thread; 2=Metric thread</p> <p>Z4=Quadrante plug; Z5=Big quadrante plug Z5L=Big quadrante plug with light</p> <p>No Code=Without manual override N=With manual override</p> <p>W220=AC 220V; G24=DC 24V</p> <p>No Code=Standard U=For min. opening pressure</p>
---	---

*Technical data*

Size	10		20		30	
Series No.	30	5X	30	5X	30	5X
Operating pressure(MPa)	31.5	35	31.5	35	31.5	35
Max. flow rate (L/min.)	200	250	400	500	600	650
Fluid temperature (°C)	-20~70					
Filtration accuracy (um)	25					



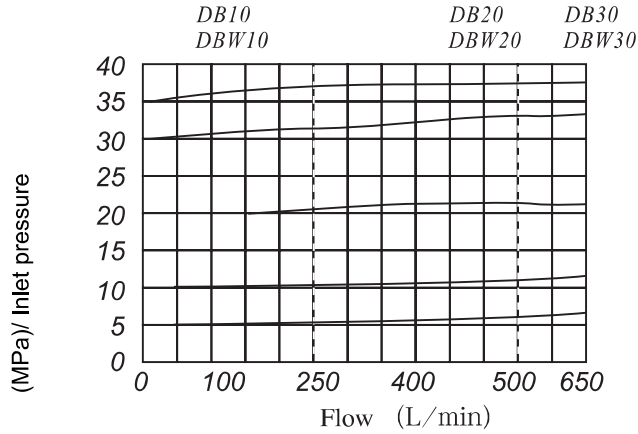
Operating pressure vs. flow



DB...5X...

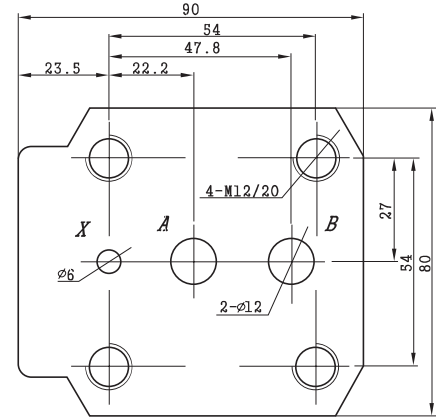


Operating curves vs. flow

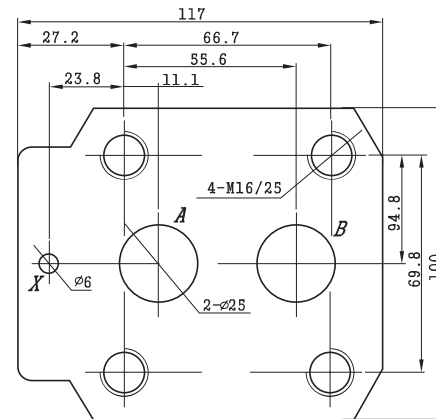


Subplate mounting

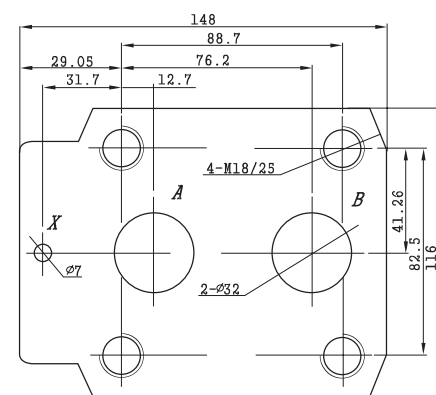
DB 10



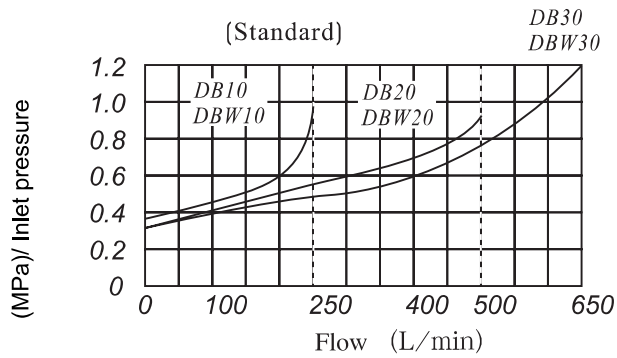
DB 20



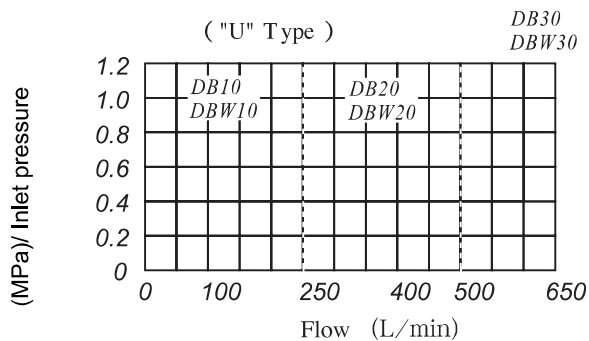
DB 30



Min. settable pressure and bypass pressure

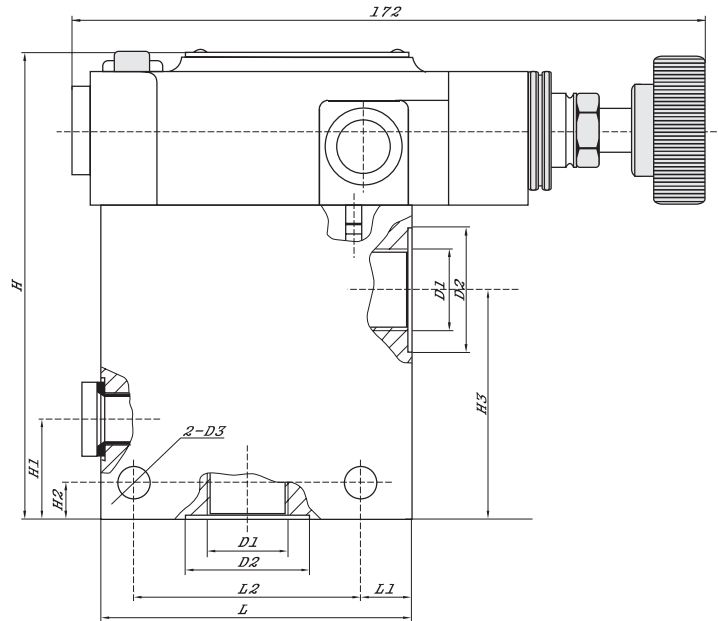


Min. settable pressure and bypass pressure





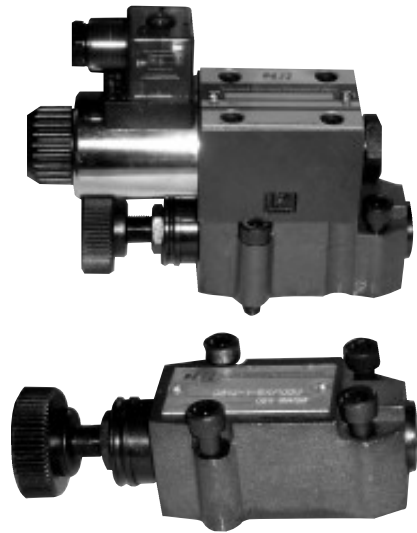
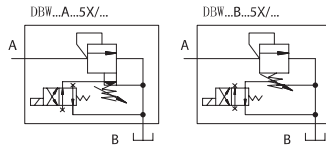
## Threaded Connections



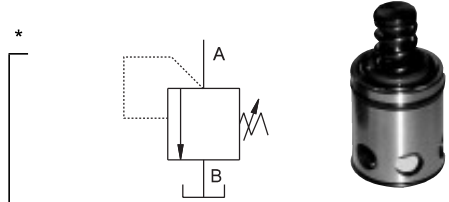
Model	D1		D2	D3	L	L1	L2	H	H1	H2	H3
	Metric	Inch									
DB8G	M18X1.5	G 3/8"	28								
DB10G	M22X1.5	G 1/2"	34								
DB15G	M27X2	G 3/4"	42								62
DB20G	M33X2	G 1"	47	9	85	14	62	125	27	10	57
DB25G	M42X2	G1 1/4"	58								
DB30G	M48X2	G1 1/2"	65	11	100	18	72	138	42	13	66

# DBT/DBWT SERIES REMOTE CONTROL RELIEF VALVES

DBT/DBWT series remote control relief valves are direct relief valves. DBT series relief valve can be used to remote control pressure in hydraulic systems. DBWT series are used to remote control pressure in a system and unload pressure with a solenoid valve.



	DB	W	T	A	1	-	30	/	100	G24	N	Z4	/	2	/	V	*
Model																	
No code=Without solenoid valve W=With solenoid valve																	
No code=Pilot operated valve C=Pilot valve without main spool(without size) C=Pilot valve with main spool(with size 10 or 30) T=Pilot valve without main spool for subplate connection(without size)																	
A=Normally closed; B=Normally open																	
1= Handle knob; 2=Adjustable screw with protection cap																	
Series number 30 and 50																	
100=10MPa; 315=31.5MPa																	



For further details

No code=NBR seals for petroleum oils  
V=FPM seals for phosphate ester

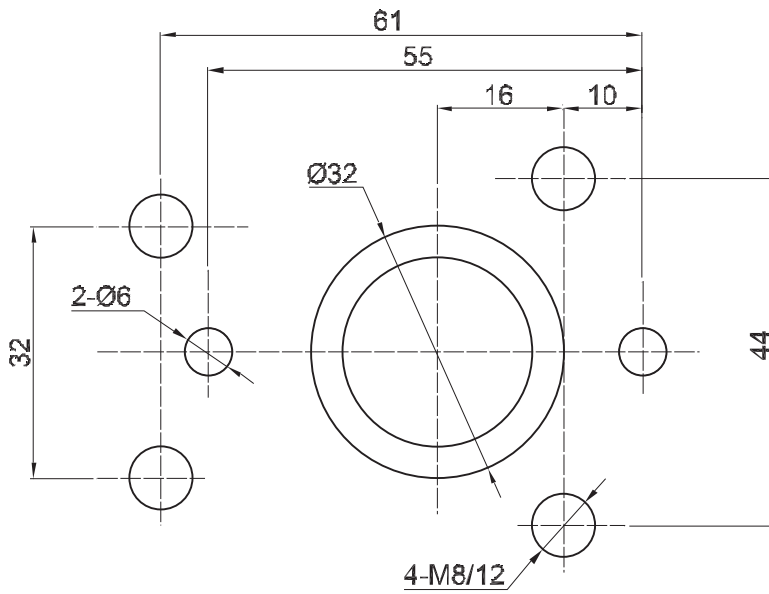
No code=Y, Z 1/4"; 2=Y,M14/1.5

Z4=Small quadrate plug;  
Z5=Big quadrate plug

No code=Without checking button  
N= With checking button

W220=AC 220V; G24=DC 24V

▶ DBT Installation dimensions

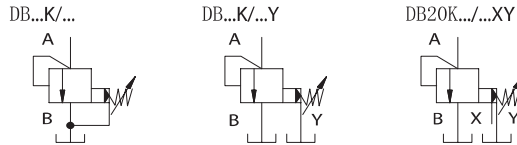


*Technical data*

Operating pressure		31.5
Back pressure	DBT	31.5
	DBWT	AC up to 10,DC up to 16
Max. adjustable pressure		31.5
Max. flow rate		3
Fluid temperature range		-20~70
Filtration accuracy		25

## DB... K SERIES PLUG-IN PRESSURE RELIEF VALVES

DB...K series are pilot operated relief valves used to limit pressure in a hydraulic system.



DB 10 K 1 - 40 / 100 Y V \*

**Model**

Size: 6; 10; 20

K=Plug-in for manifold mounting

1= Rotary handle; 2=Adjustable screw with protective cap

40=40 series are suitable for 6; 10  
10=10 series are suitable for 20

For further details

No code=NBR seals for petroleum oils  
V=FPM seals for phosphate ester

Y=Internally pilot, externally drained  
XY=EXternally pilot(Only for DB20K)

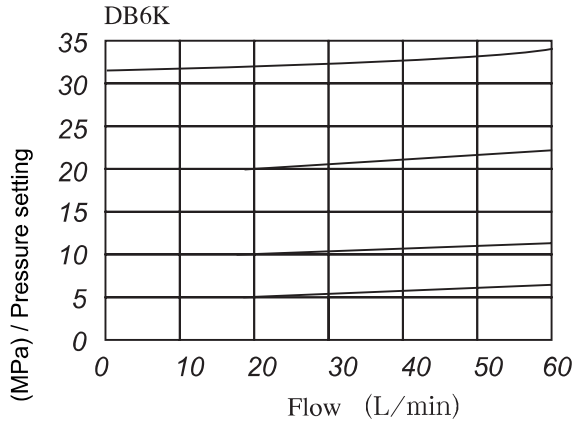
50=5 MPa 100=10 MPa 200=20 MPa 315=31.5 MPa

### Technical data

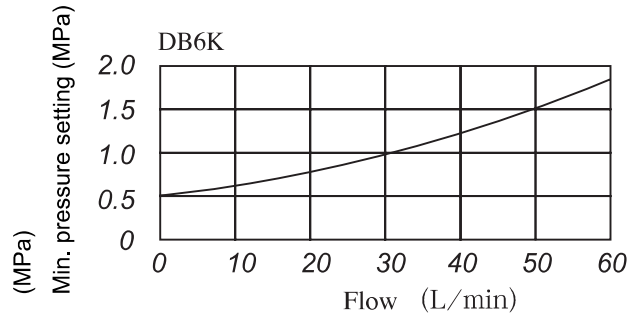
Size	6	10	20
(MPa) Operating pressure		31.5	
(MPa) Set pressure	5,10,20,31.5		Up to 5,10,20,31.5
(L/min) Max. flow rate	60	100	300
(°C) Fluid temperature range		-20~70	
(µm) Filtration accuracy		25	



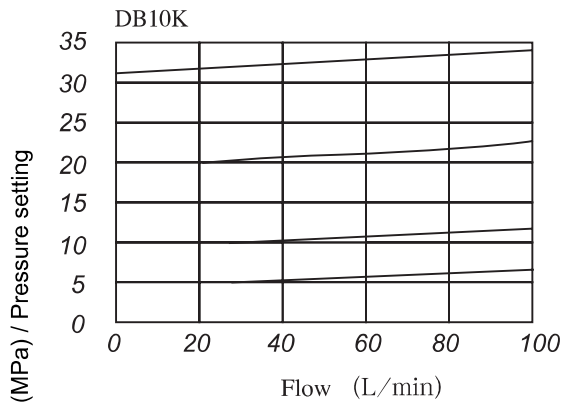
Pressure setting vs. flow curves



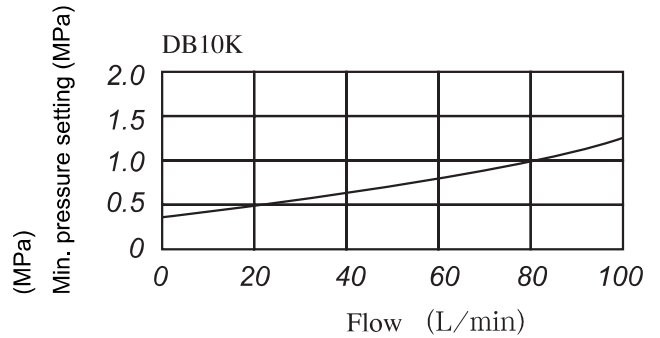
Min. Pressure setting vs. flow curves



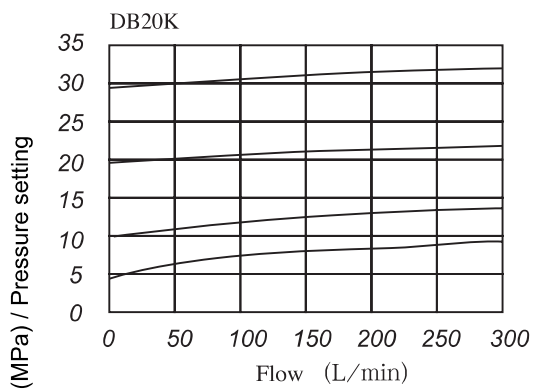
Pressure setting vs. flow curves



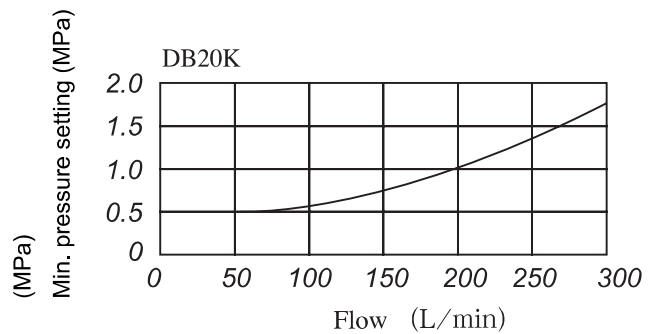
Min. Pressure setting vs. flow curves



Pressure setting vs. flow curves



Min. Pressure setting vs. flow curves

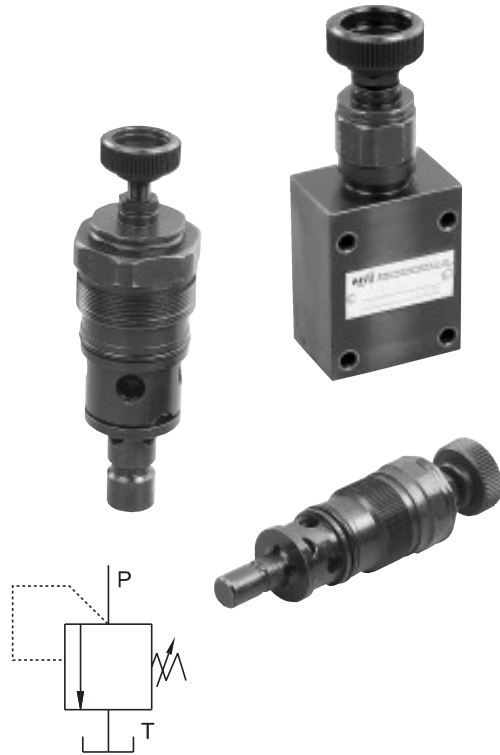






## DBD DIRECT OPERATED PRESSURE RELIEF VALVES

DBD series relief valves are direct operated poppet type used to limit pressure in a hydraulic system. The design can be divided into poppet (Max.400bar) and ball (Max.630bar) type. There are 7 pressure adjustment ranges available 25; 50; 100; 200; 315; 400; 630bar. It has characteristics of compact structure, high performance, reliable work, low noise and long service life. These series are widely applied to many lower flow systems, can be also used as relief valve and remote control valve, etc.



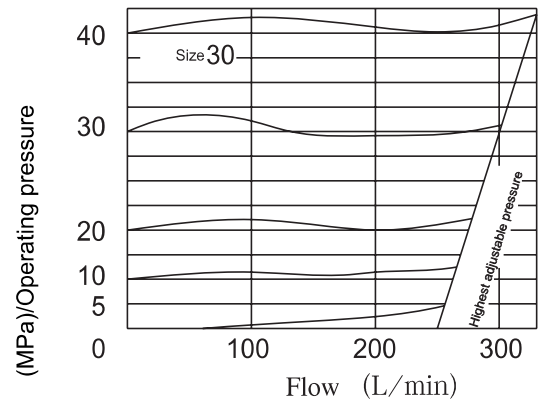
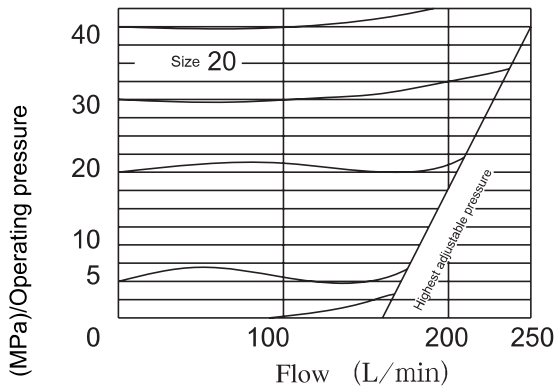
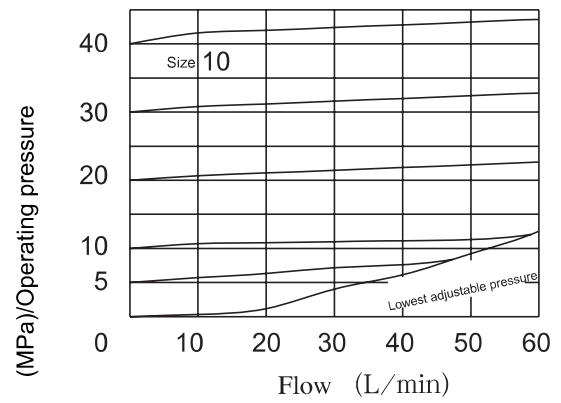
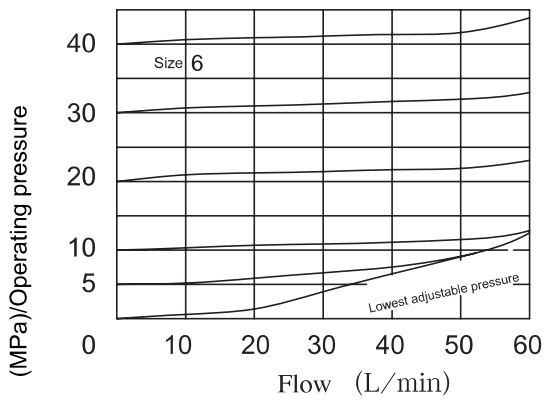
### Technical data

Size	6	8	10	15	20	25	30
Operating pressure(Mpa)	31.5						
Max. flow rate (L/min)	35	60	80	150	200	250	300
Fluid temperature (°C)	-20~70						
Filtration accuracy (μm)	25						

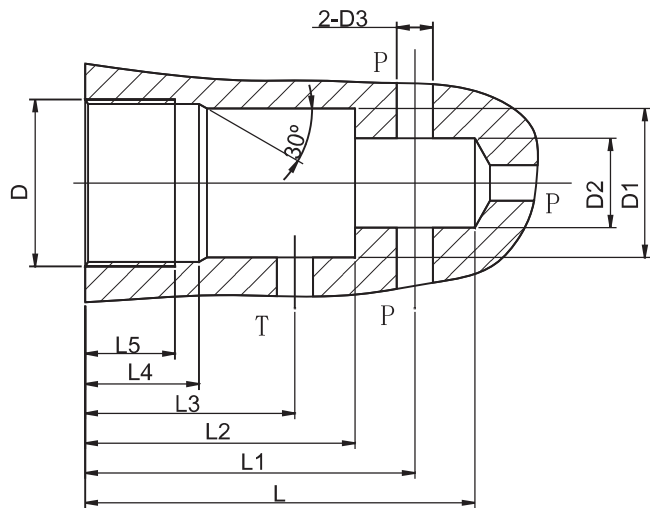
**DBD S 6 K 10 / 10 / 2 / V**

<p>Direct operated</p>   <p>S=Adjustable screw and protective cap H= Handwheel A=Lockable handknob(Only available for 6;8;10)</p>  <p>Size 6(8)10(15)20(25)30</p>  <p>K=Plug-in mounting G=Threaded connection P=Subplate mounting</p>	<p style="text-align: right;">No code=NBR seals for petroleum oils V=FPM seals for phosphate ester</p>   <p style="text-align: right;">No code=Inch thread; 2=metric</p>  <p style="text-align: right;">Pressure range(MPa): 2.5; 5; 10; 20; 31.5; 40; 63</p>  <p style="text-align: right;">Series No. 10 series(Pressure class: 2.5~40MPa) Series No. 11 series(Pressure class: 63 MPa)*</p>
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## Operating Curves



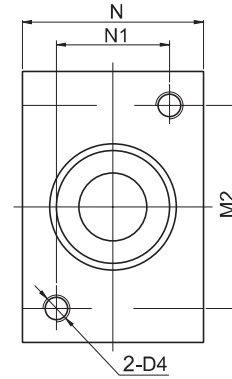
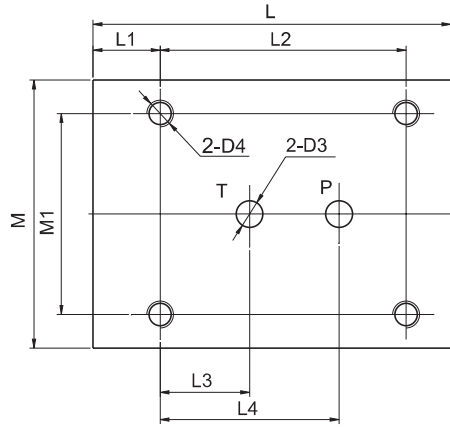
## DBD\*K Dimensions for cartridge



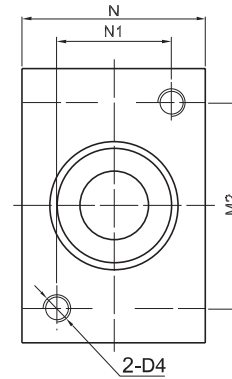
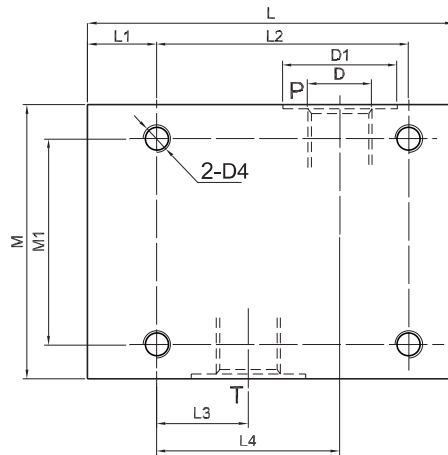
Size	D	D1	D2	D3	L	L1	L2	L3	L4	L5
6	M28x1.5	25H8	15	6	65	56.5±1	45	35	19	15
10	M35x1.5	32H8	18.5	10	80	67.5±1	52	41	23	18
20	M45x1.5	40H8	24	20	110	91.5±1	70	54	27	21
30	M60x2	55H8	38.75	30	140	113.5±1	84	60	29	23

 Installation dimensions

DBD\*P



DBD\*G

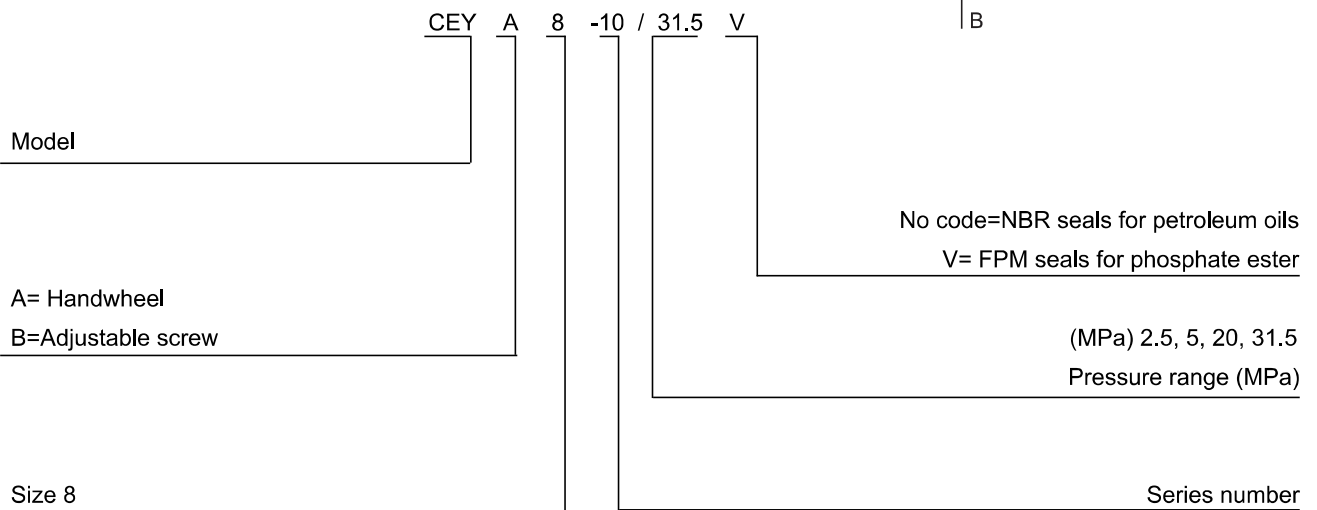
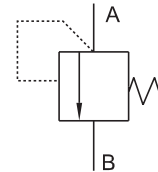


Size	L	L1	L2	L3	L4	M	M1	N	N1
6	80	15	55	20	40	60	45	45	25
(8)10	100	20	70	21	49	80	60	60	40
(15)20	135	20	100	34	65	100	70	70	50
(25)30	180	25	130	35	85	130	100	90	60

D		D1	D2	D3	D4
Inch	Metric				
G 1/4"	M14x1.5	25	M6	6	M6
(G 3/8")G1/2"	(M18x1.5) M22x1.5	(28)34	M8	(8)10	M8
(G 3/4")G1"	(M27x2) M33x2	(42)47	M8	(15)20	M8
(G1 1/4") G1 1/2"	(M42x2) M48x2	(56)61	M10	(25)30	M10

## CEY-2 PLUG-IN DIRECT RELIEF VALVES

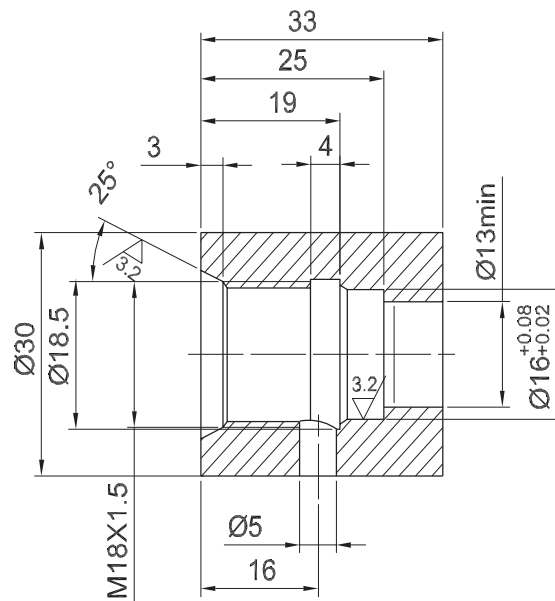
CEY-2 relief cartridge valves are used to limit pressure in hydraulic system, with compact structure, excellent performance, which are widely used in power units with small flow.



### CEY-2 / Technical data

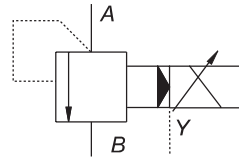
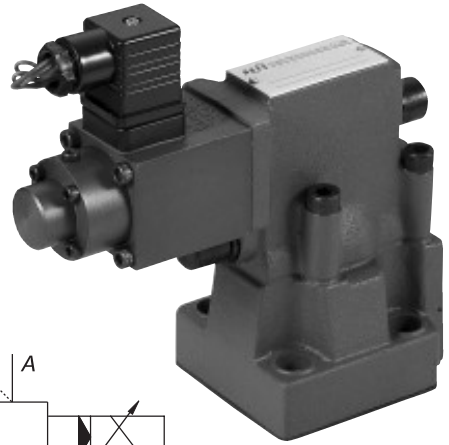
Operating pressure(MPa)	5	10	20	31.5
Max. flow rate (L/min.)	8			
Fluid temperature (°C)	-20 ~ 70			
Filtration accuracy (um)	25			

### CEY Installation dimensions



## XB/XBK TYPE PROPORTIONAL PRESSURE RELIEF VALVES

XB type valve is a pilot operated pressure relief valve with poppet structure, which can change the system pressure continuously by electrical input signal, the pressure limit can be preset by proportional solenoid and may be relative with current. XBK relief valve in the XB-based, install a spring loaded pressure relief valve to provide maximum pressure protection.



XB   K   T   10   -   30/   31.5   Y / 2   V   \*

NO code=Without max, pressure protection  
K=With max, pressure protection

No code=pilot operated pressure relief valve  
C=Pilot valve with main spool assembly  
C=Pilot valve without main spool

T=Pilot operated valve as remote control valve

Size=10, 20, 30

30=Series number

5=5MPa  
10=10MPa  
20=20MPa  
31.5=31.5MPa

For Further detailed

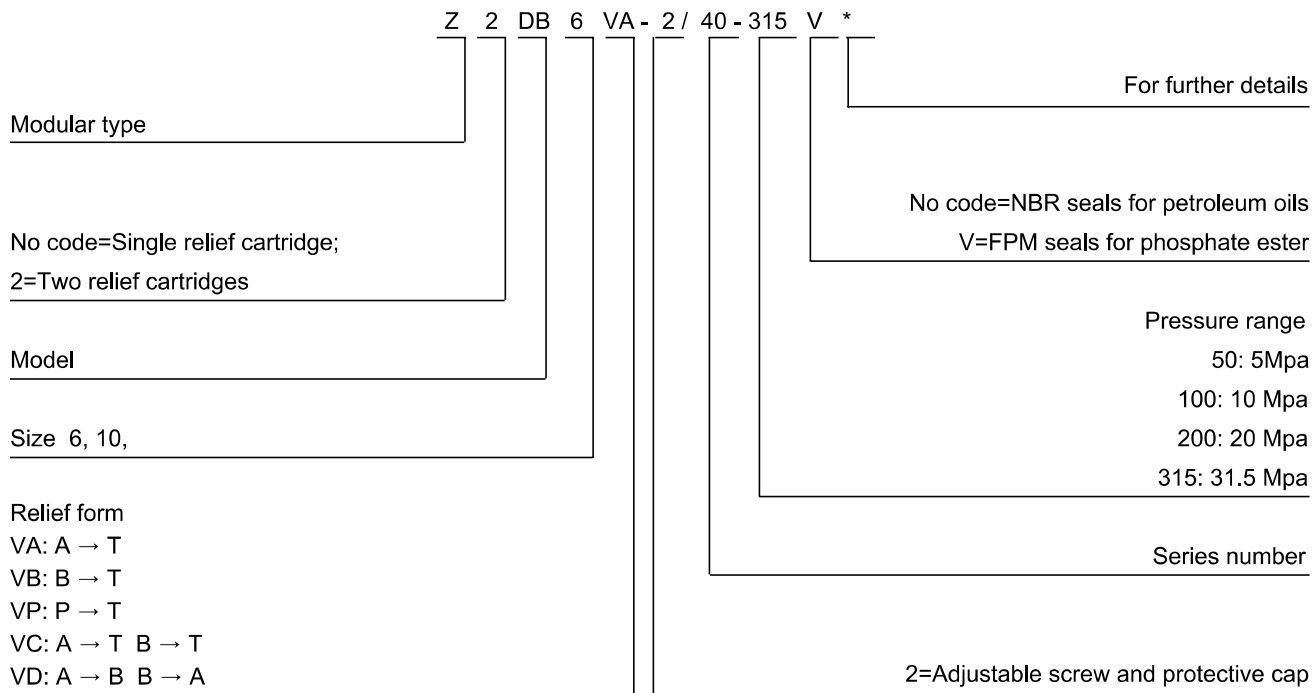
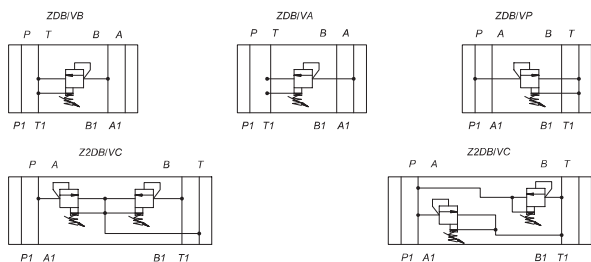
No code=NBR seals for petroleum oils  
V=FPM seals for phosphate ester

NO code=Inch thread  
Z=Metric

Y=Internally piloted / externally drained  
XY=externally drained / externally drained

## ZDB/Z2DB SERIES RELIEF MODULAR VALVES

Pressure relief valves of ZDB/Z2DB series are pilot operated style modular valves.

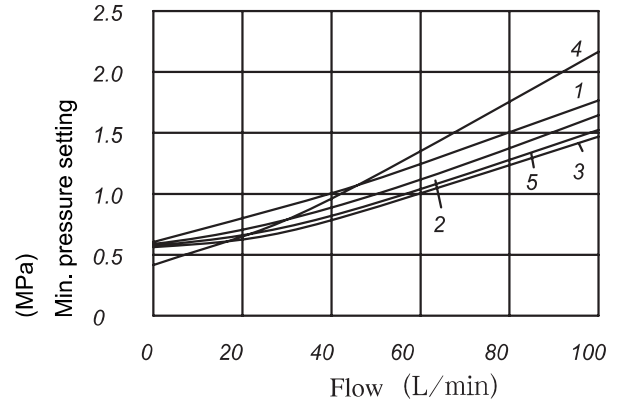
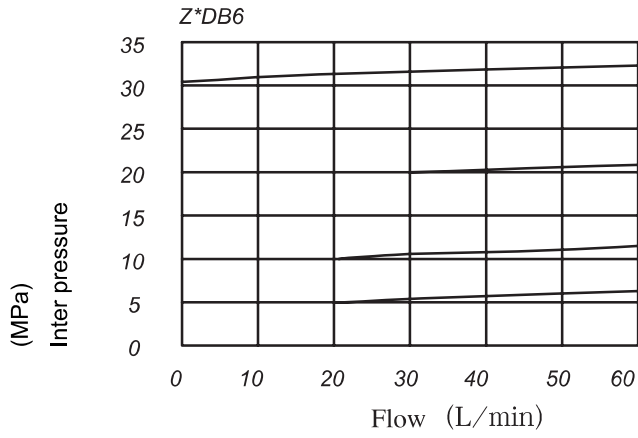


### Technical data

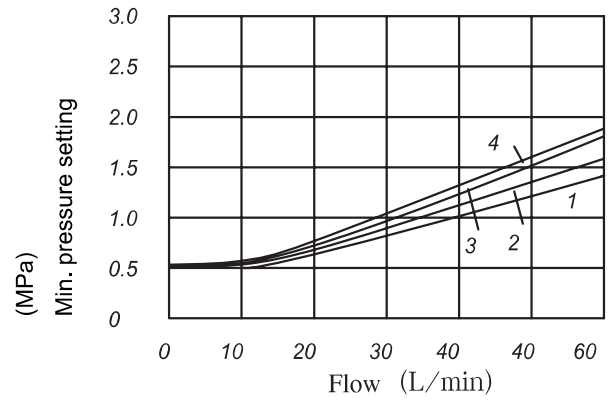
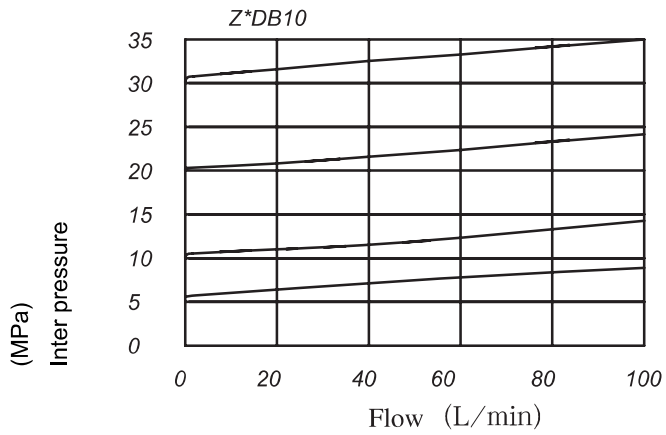
Size	6	10	16	22
Operating pressure (MPa)	31.5	31.5	31.5	31.5
Flow rate (L/min.)	60	100	200	400
Oil temperature range (°C)	-20~70	-20~70	-20~70	-20~70

Installation dimensions refer to page 5, 8.

▶ Operating pressure vs. flow



- 1 AV (A - B)
- 2 VA
- 3 VB, VC
- 4 VP, VD (B - A)



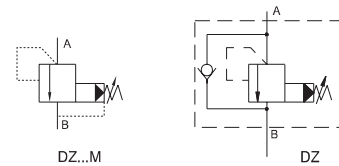
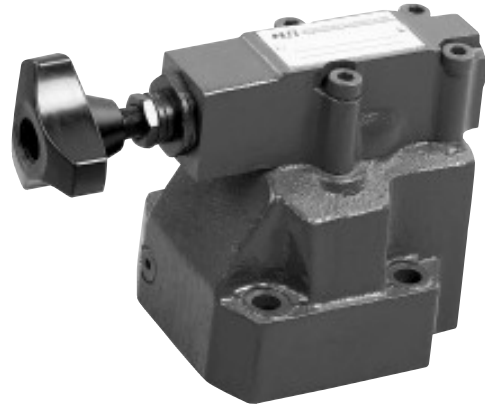
- 1 VA, VB
- 2 VP
- 3 VC
- 4 VD (A - B)
- 5 VD (B - A)



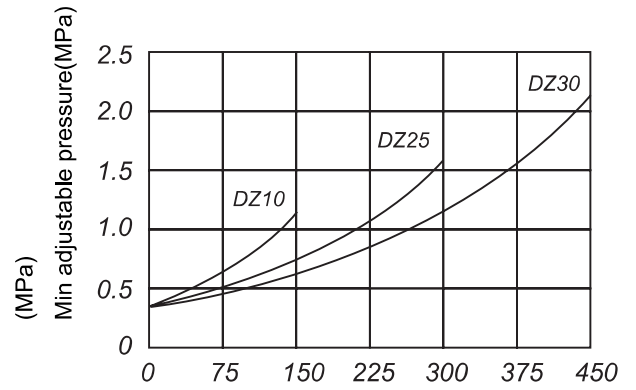
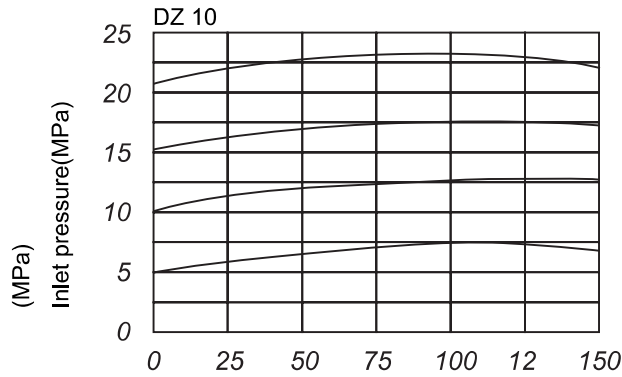
## DZ30/5X PILOT-OPERATED SEQUENCE VALVES

DZ type pilot-operated sequence valve is used to control the sequencing, braking, unloading or other functions.

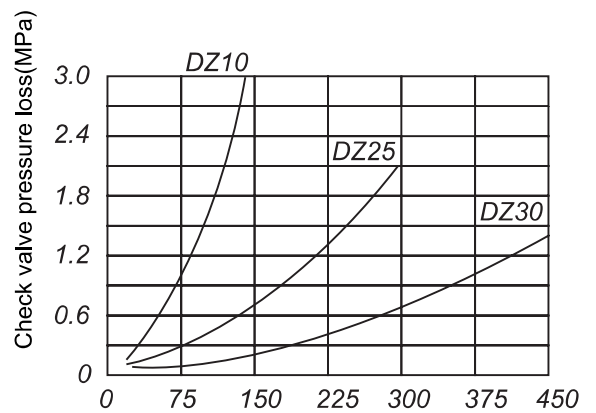
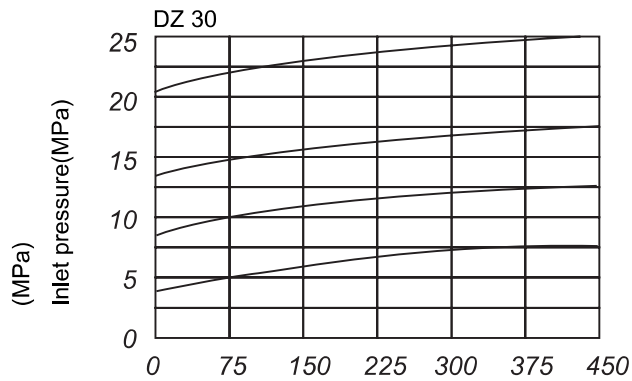
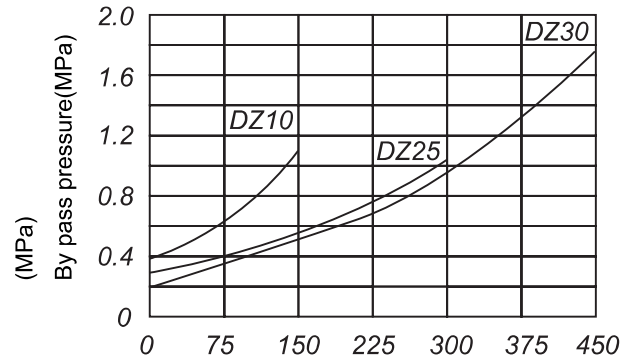
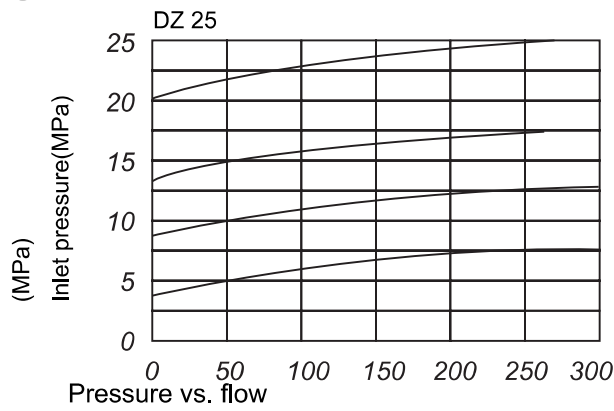
The valve has two connection types and four kinds of control methods of pilot oil, therefore, it has different functions by changing the control method of pilot oil. The 5X series DZ type valve has higher performance than 30 series, with smoothly adjustable performance, widely adjustable range, high flow rate.



	DZ	C	10	- 1 -	30	/ 210 /	X	M / 2 /	V *
Model									
No code = Complete valve C=(Without size) Pilot valve C=(With size) Pilot valve with cartridge									
Size 10=10; 25=20; 32= 30									
1=Hand knob; 2=Screw adjustment with protective cap									
30=30 Series; 50=5X Series									
210=Max. adjustable pressure is 21MPa									
									For further details
									No code=NBR seals for petroleum oils V=FPM seals for phosphate ester
									No code=Drain port with G 1/4" 2=Drain port with M14X1.5
									No code=With check valve M=Without check valve
									No code= Internal pilot, internal drain X=External pilot, internal drain Y=Internal pilot, external drain XY=External pilot, external drain




Pressure vs. flow

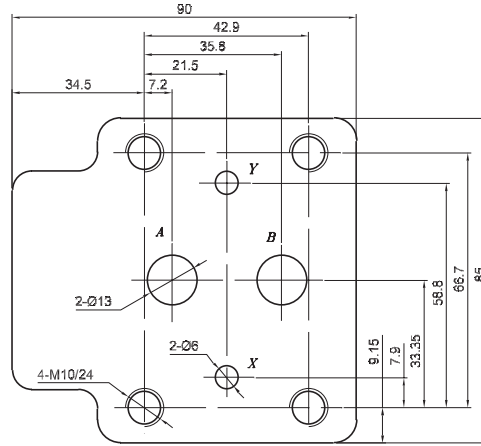


Charateristic

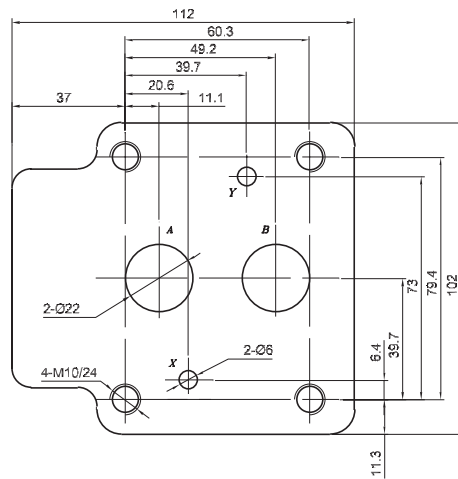
Size	10	20	32
Flow (L/min)	150	300	450
Operating pressure of A,B,X port (MPa)	31.5		
Back pressure of Y port (MPa)	31.5		
Adjustable switching pressure MPa	0.3-21		
Fluid temperature range	-20-70		

 Installation dimensions

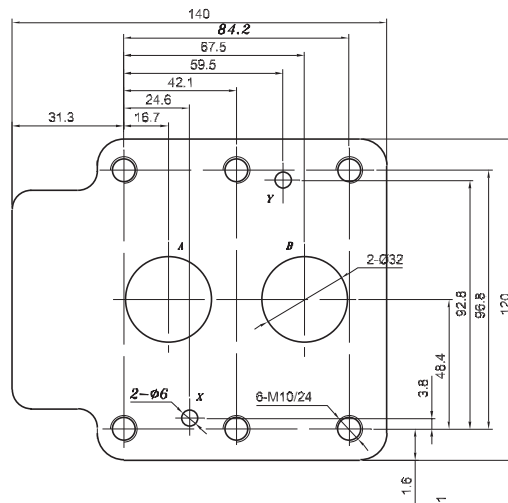
DZ10



DZ20

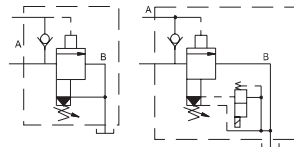
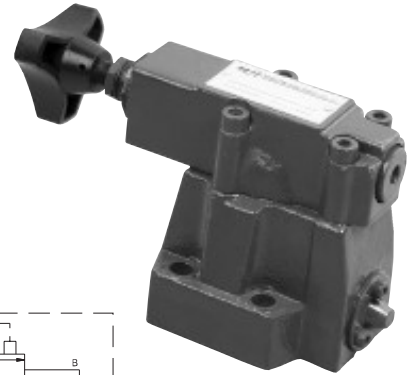


DZ30



## DA/DAW SERIES PILOT OPERATED UNLOADING VALVES

DA/DAW series are pilot operated pressure unloading valves. This series are used to unload the oil pumps' pressure in a hydraulic system with accumulator. The valve allows high-pressure pump to operate and low-pressure pump to unload pressure.



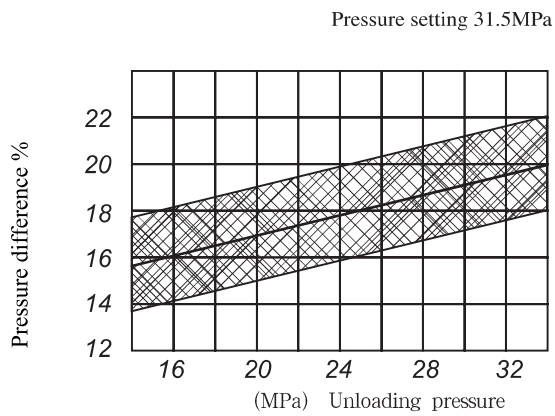
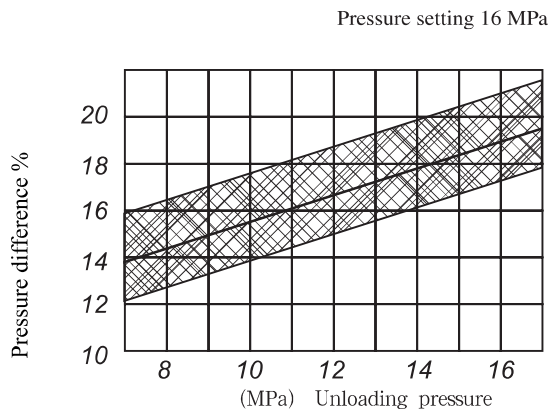
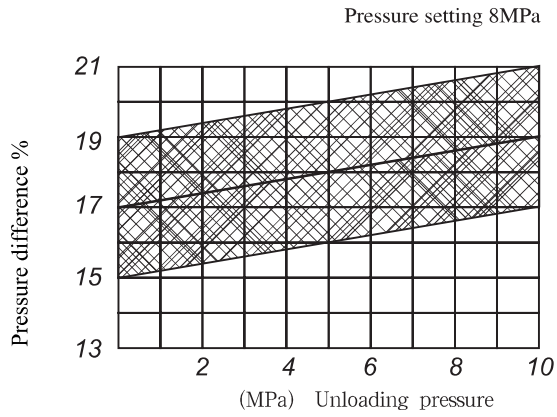
DA

DAW

	DA	W	10	A	- 1 *	30	/ 80	Y	G24	N	Z4	/ V *	
Model													For further details
No code=Without directional valve W= With directional valve													No code=NBR seals for petroleum oils V=FPM seals for phosphate ester
Size=10; 20; 30													Z5L=Quadrate plug with light
A=Normally closed; B=Normally open													No code=Without manual override N=With manual override
1=Adjustable knob 2=Hexagonal nut and protective cap													W220=AC 220V; G24=DC 24V
Series Number													No code=Internally piloted, internally drained Y=Internally piloted; externally drained
80=2-8MPa; 160=8-16 MPa; 315=16-31.5 MPa													

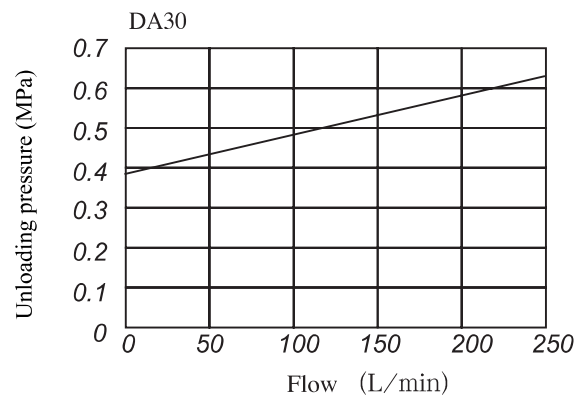
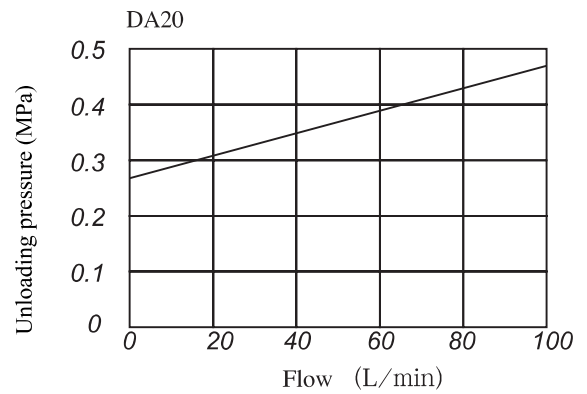
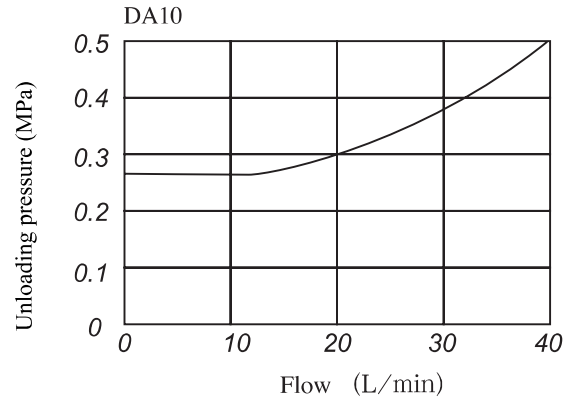


Pressure difference from P-T of a pump




(Control range in hatching area)

Unloading pressure from P-A of a pump

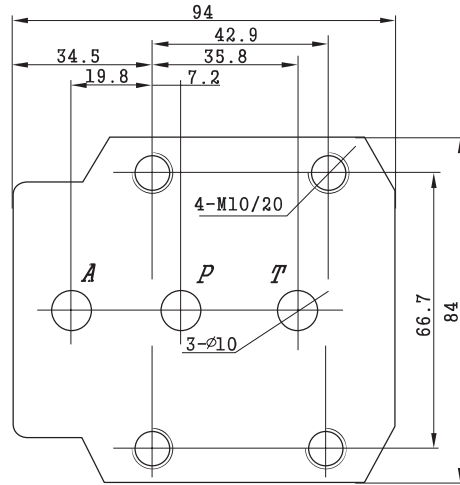


Technical data

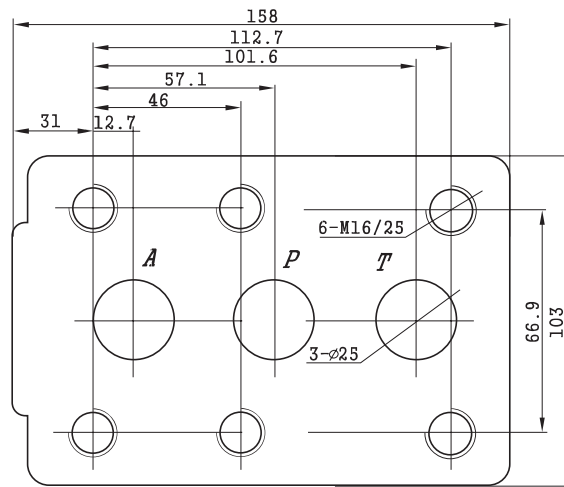
Size	10	20	30
Input pressure of A port (MPa)		31.5	
Max. Flow	40	100	250
Fluid temperature (°C)		-20~70	
Filtration		25	

 Installation dimensions

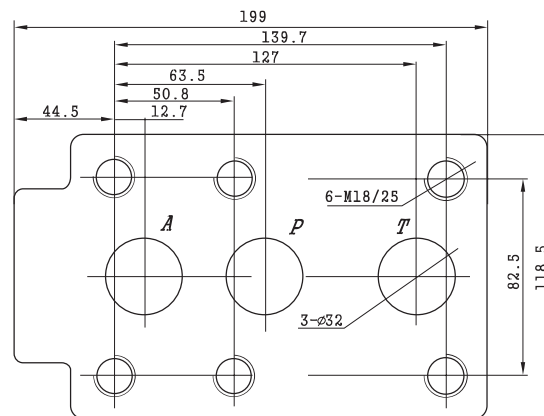
DA10



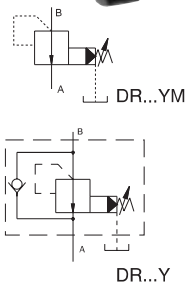
DA20



DA30



# DR TYPE 30/5X SERIES PILOT OPERATED PRESSURED REDUCING VALVES



DR are pilot operated pressure reducing valves, which can be used to reduce and maintain pressure in a certain circuit.

Although, 5X series and 30 series with same connection and pressure control, the capability of 5X series is better than 30 series. The 5X have more smoothy adjustable performance, it not only reaches the output pressure at low level under high flow rate, but also with the characteristics of high flow and widely pressure adjustable ranges.

Model For further detailed

DR C 10 - G 1 30 / 10 Y M / 2 / V \*

No code=Complete valve  
 C=(Without size) Pilot valve  
 C=(With size 30)Pilot valve with cartridge assembly

Size 10(15)20(25)30

No code=Subplate mounting; G=Threaded connection

1=Adjustable handle ; 2=Adjustable screw with protective cap

30=30 Series; 50=5X Series

No code=NBR seals for petroleum oils  
 V=FPM seals for phosphate ester

No code=Inch thread 2=Metric

No code=With check valve; M=Without check valve

Y=Internally piloted; externally drained

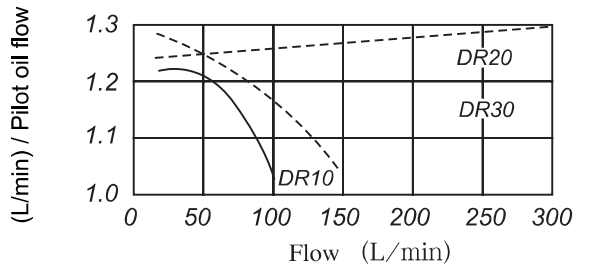
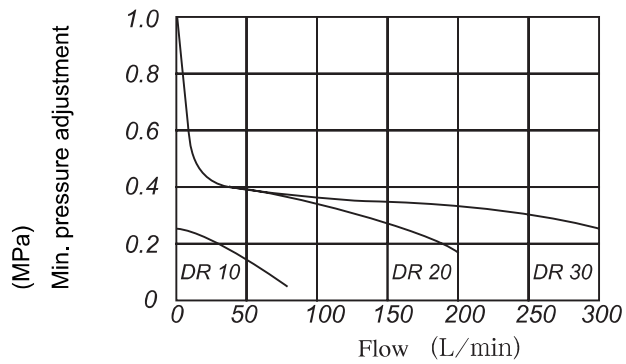
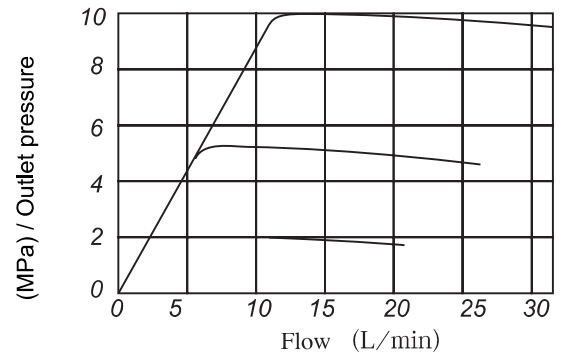
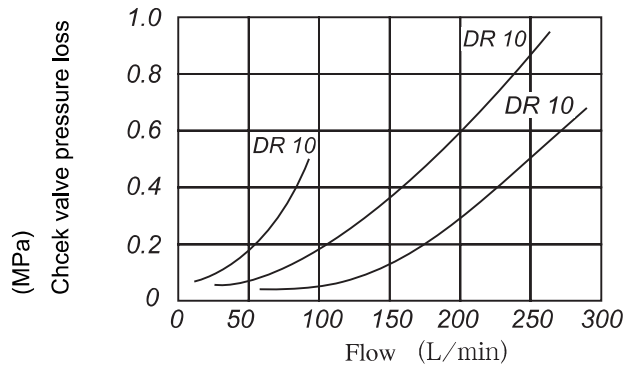
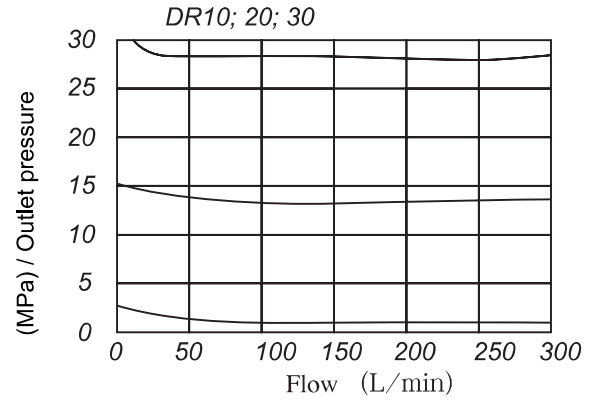
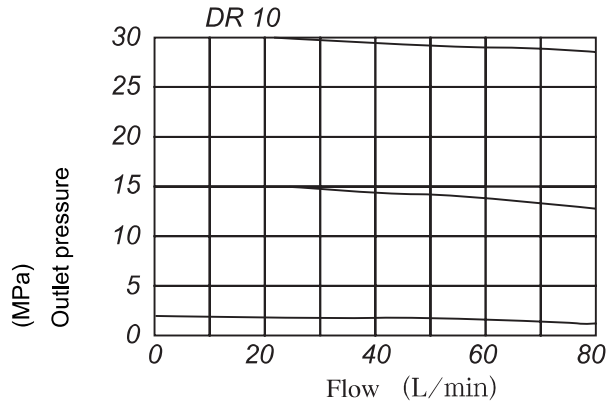
See the table below for pressure setting

(MPa)	30	5X
5		5
10	10	10
20		20
31.5		31.5
35	35	35

Size	Pipeline mounting		
	Size	Metric	Inch
	8	M18x1.5	G3/8"
10	10	M22x1.5	G1/2"
	16	M27x2	G3/4"
20	20	M33x2	G1"
	25	M42x2	G1 1/4"
32	30	M48x2	G1 1/2"

Size	(8) 10	(15)20	(25)30
Rate(L/min)	80	200	300
Operating pressure(Mpa)		31.5	
Input pressure(MPa)		31.5	
Output pressure(MPa)	0.3-31.5		1-31.5
Back pressure Y port(MPa)		31.5	
Fluid temperature (°C)		-20-70	
Filtration accuracy (µm)		25	

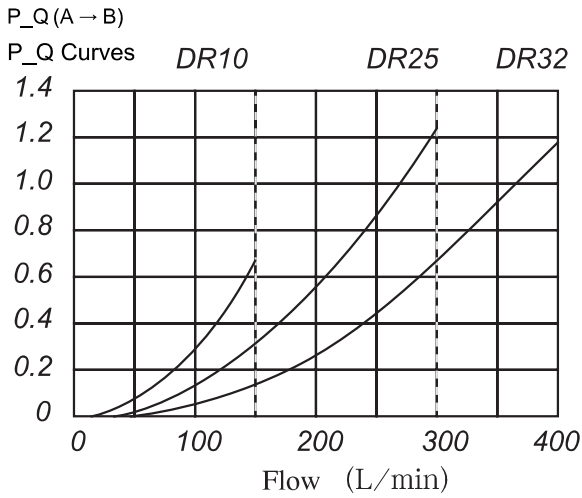
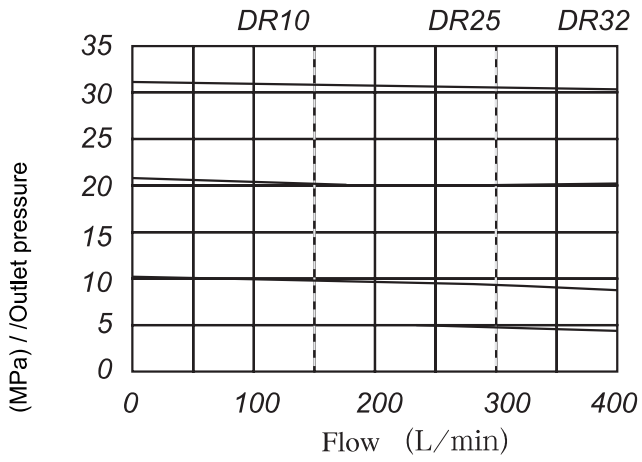
▶ Operating pressure vs. flow



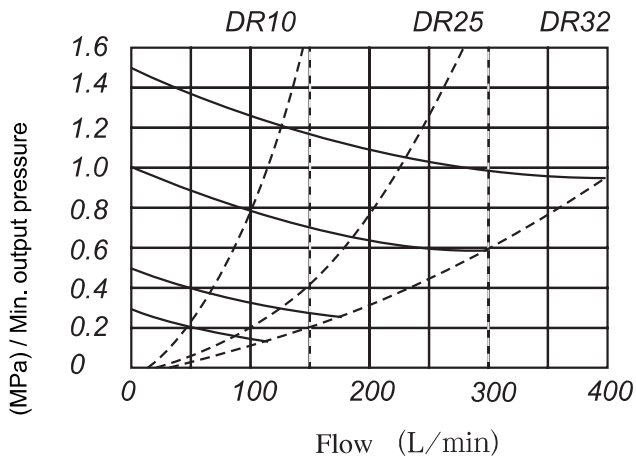
- =2(MPa) $\Delta$ P DR10
- =10(MPa) $\Delta$ P DR10
- =2(MPa)和10(MPa) $\Delta$ P DR20,30



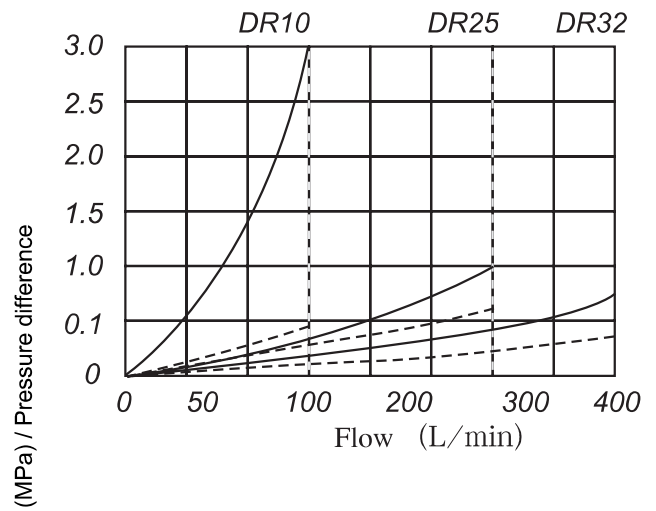
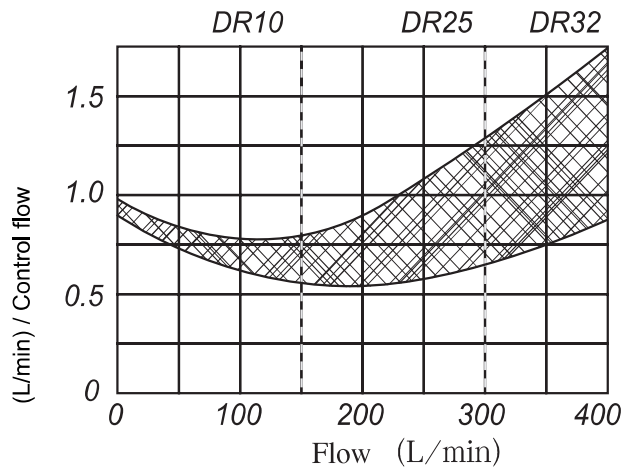
▶ Operating curves



▶ Min. pressure setting vs. flow

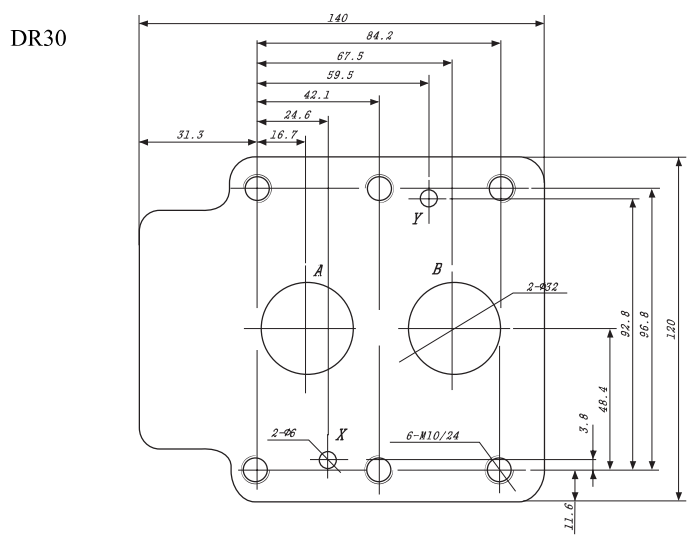
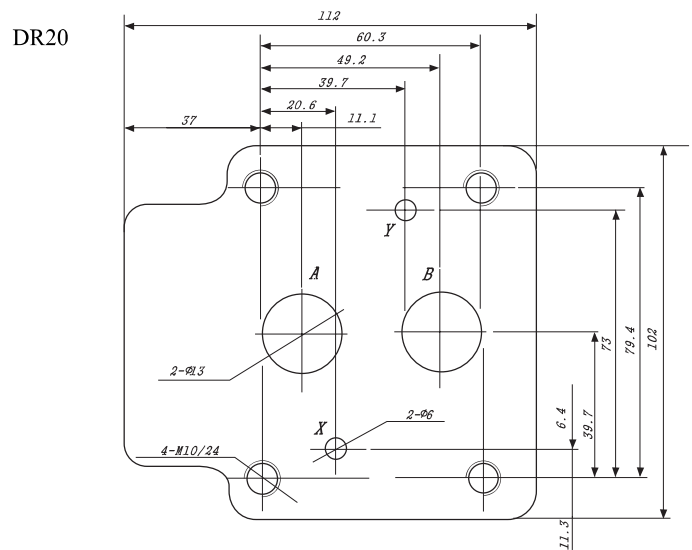
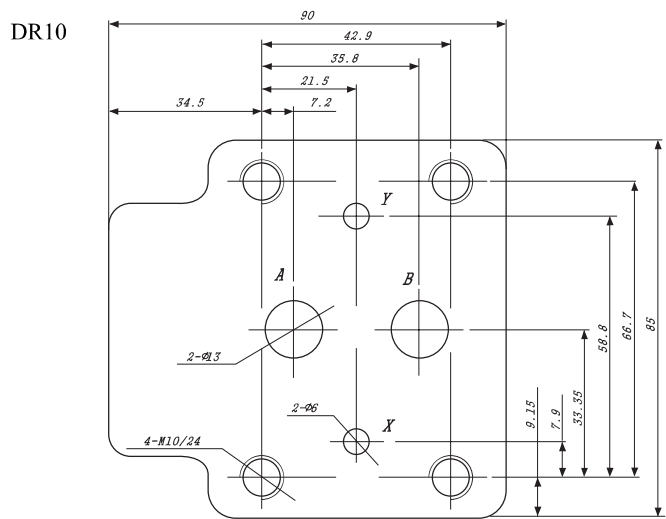


▶ Pilot flow vs. system flow



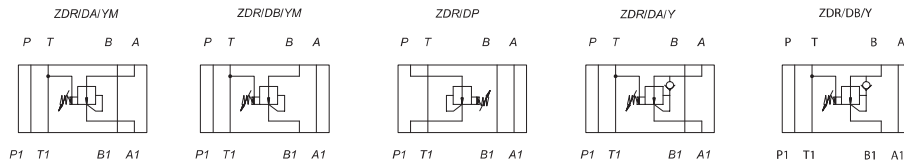
————— Fluid resistance when cartridge closed  
 - - - - - Fluid resistance when cartridge open

▶ Subplate mounted dimensions



## ZDR-D SERIES DIRECT REDUCING MODULAR VALVES

ZDR-D series are 3-way direct operated pressure reducing valves, which are used to reduce the pressure in a certain circuit lower than of the main circuit.



**Z DR 6 D A 2 / 30 25 Y M \***

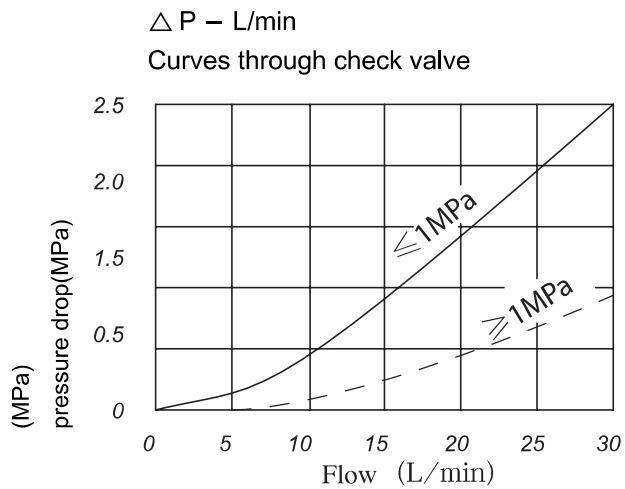
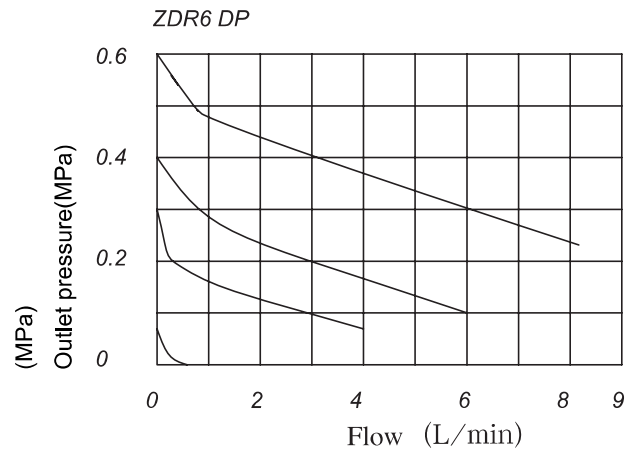
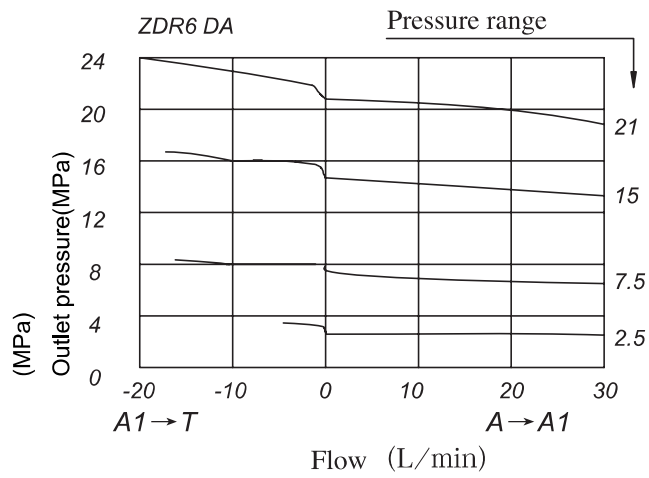
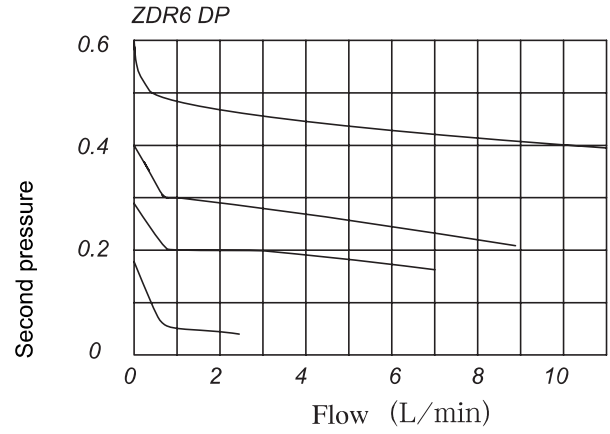
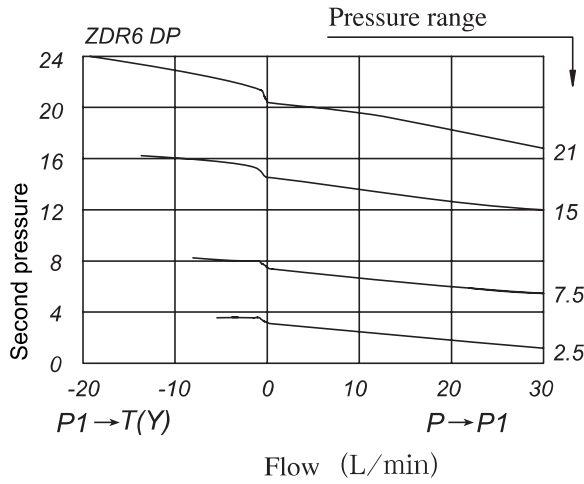
<p>Modular</p> <hr/> <p>Model</p> <hr/> <p>Size 6; 10</p> <hr/> <p>Direct type</p> <hr/> <p>Pilot oil port</p> <p>A= A oil port</p> <p>B= B oil port</p> <p>P= P oil port</p> <hr/> <p>1= Adjustable handwheel</p> <p>2= Adjustable screw</p> <p>3= Lockable handwheel</p>	<p>For further details</p> <hr/> <p>No code=With check valve</p> <p>M=Without check valve</p> <hr/> <p>Y=Internal pilot; external drain</p> <hr/> <p>Pressure range</p> <p>25: 2.5Mpa</p> <p>75: 7.5Mpa</p> <p>150: 15Mpa</p> <p>210: 21Mpa</p> <hr/> <p>Series number</p>
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### Technical data

Size	6	10
Operating pressure (MPa)	31.5	31.5
Second working pressure (MPa)	21	21
Back pressure (MPa)	6	6
Flow rate (L/min.)	30	60
Fluid temperature (°C)	-20~80	-20~80

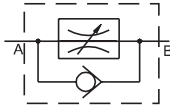
Installation dimensions refer to page 5, 8.

▶ Operating pressure vs. flow curves



# 2FRM SERIES FLOWS CONTROL VALVES

2FRM series flow control valves are restrictive style flow regulators, without affected by pressure and temperature.



Model \_\_\_\_\_

Size: 5, 10, 16 \_\_\_\_\_

Series number \_\_\_\_\_  
30=Size5, 20= Size10, 50= Size16

See the form below for flow rate (direction A-B)

2FRM 5 - 30 15 B V \*

For further details

No code=NBR seals for petroleum oils  
V=FPM seals for phosphate ester

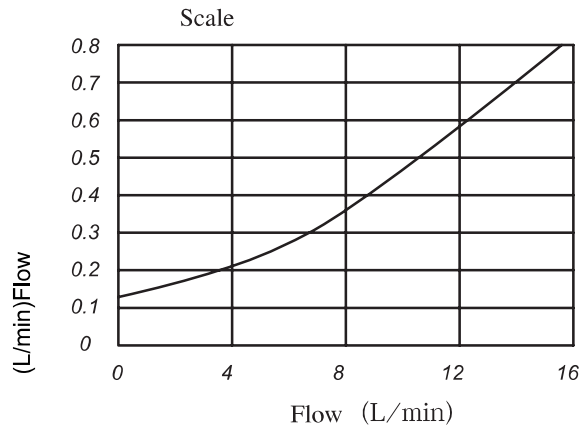
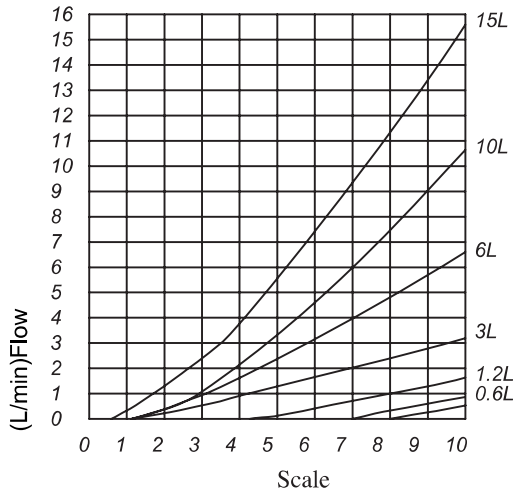
No code=Without pressure compensating locator  
B=With pressure compensating locator

### Technical data

Size	5							10				16		
Max.flow rate (L/min.)	0.2	0.6	1.2	3	6	10	15	10	16	25	50	60	100	160
ΔP Value(MPa)	0.05	0.05	0.06	0.09	0.18	0.36	0.67	0.2	0.25	0.35	0.6	0.28	0.43	0.73
Operating pressure (Mpa)	21							31.5				31.5		
Min. pressure loss	0.3-0.5							0.3-0.7				0.5-1.2		
Filtering to prolong service life (μm)	25(Q<5 L/min.); 10(Q<0.5 L/min.)													

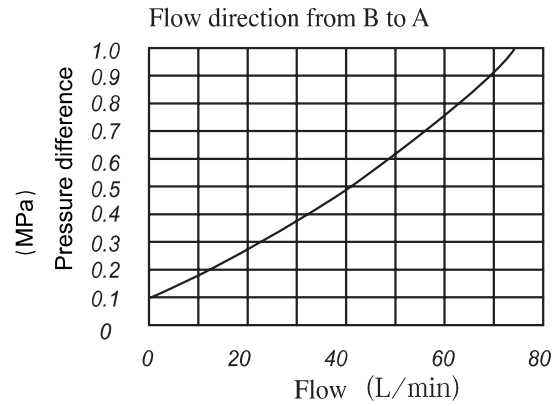
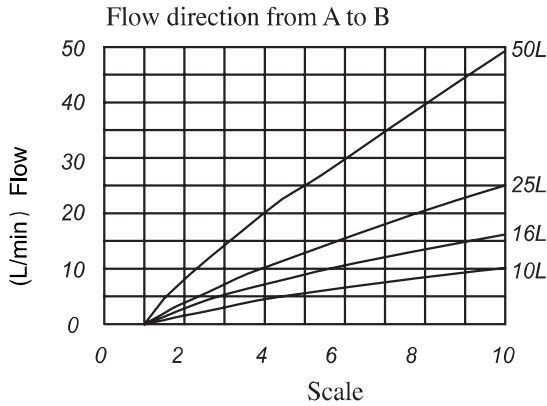
### 2FRM5 Operating curves

▶ A → B Flow direction from A to B  
5 Size

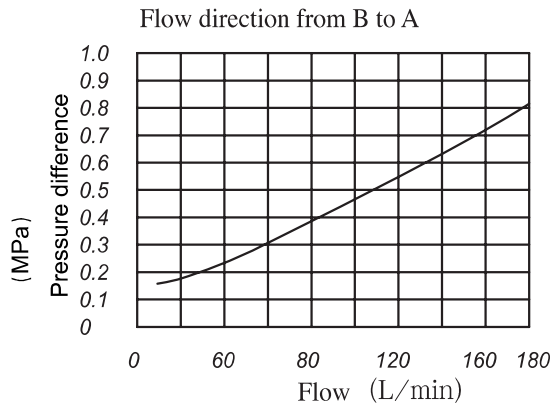
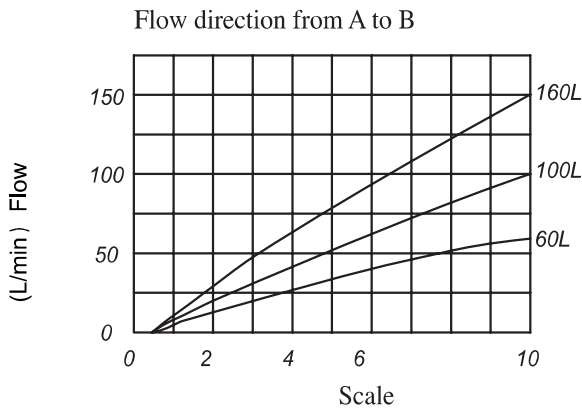




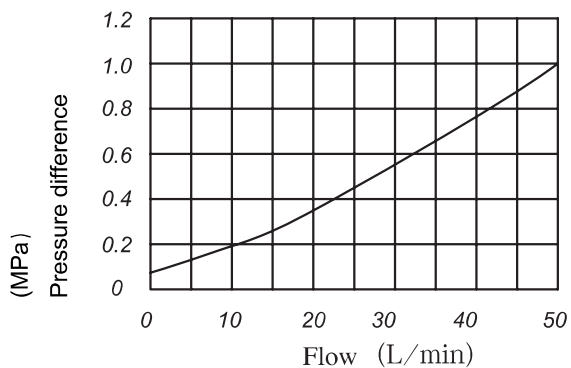
### 2FRM10 Operating curves



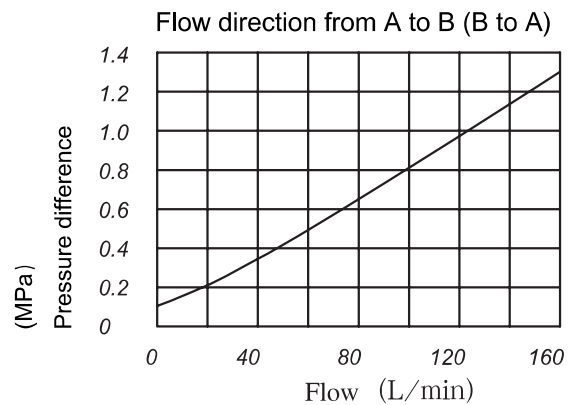
### 2FRM16 Operating curves



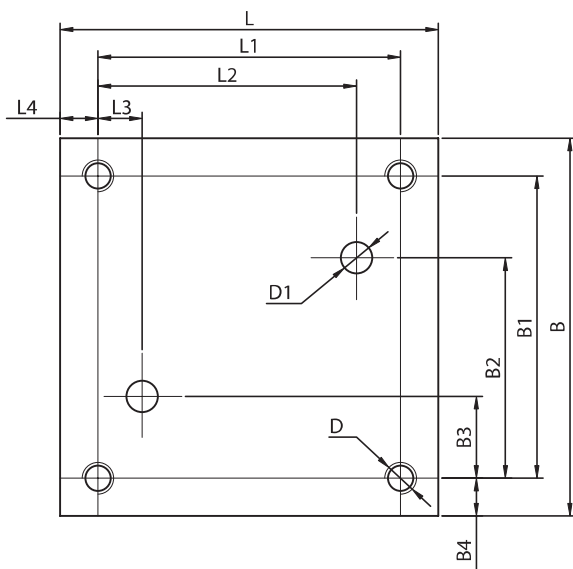
### Z4S10 Rectifier sandwich place curves



### Z4S16 Rectifier sandwich place curves



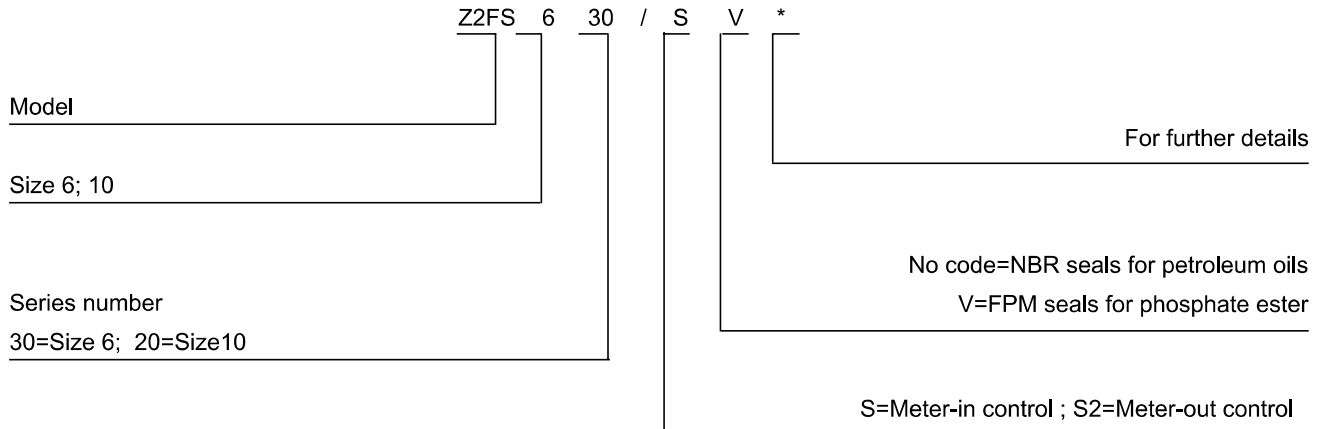
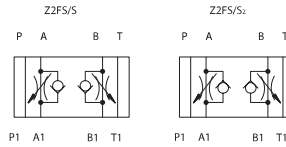
▶ 2FRM installation dimensions



Typ	B	B1	B2	B3	B4	L	L1	L2	L3	L4	D	D1
2FRM5	60	48	35	13	6	60	48	41	7	6	4-M5	2-Ø5
2FRM10	101.5	82.5	71.6	30.1	95	95	76	55.1	9.6	8.5	4-M8	2-Ø10
2FRM16	123.5	101.5	90.5	15	11	123.5	101.5	75	20.5	11	4-M10	2-Ø16

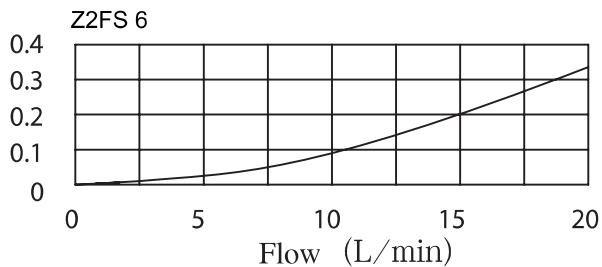
## Z2FS SERIES DOUBLE THROTTLE CHECK VALVES

Z2FS series double throttle/check valves are used to restrict flow in one direction while allowing free-flow in the opposite direction as check valves.

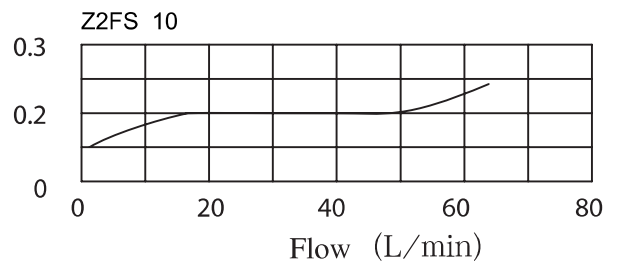


### Technical data

Size	6	10
Operating pressure (MPa)	31.5	31.5
Flow rate (L/min.)	80	160
Fluid temperature range (°C)	-30-80°C	-30-80°C



(MPa)  
Pressure difference



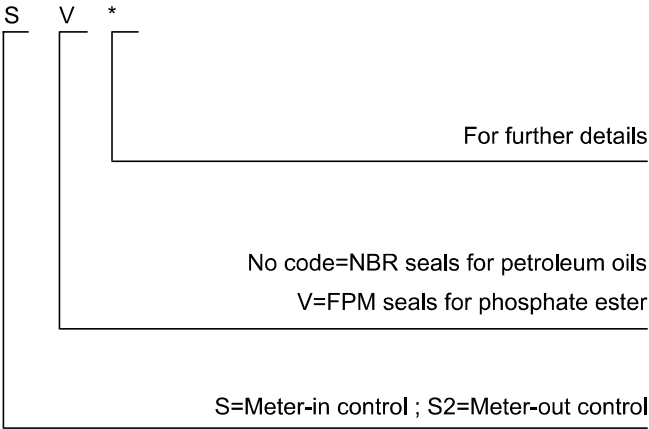
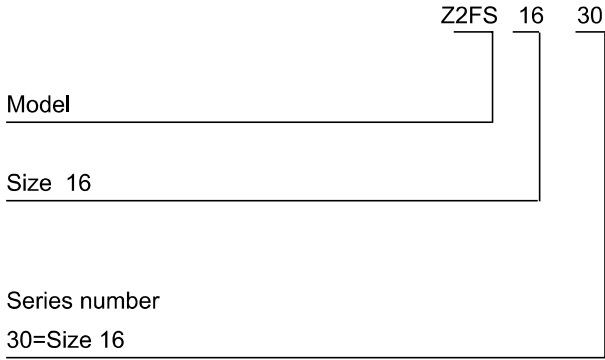
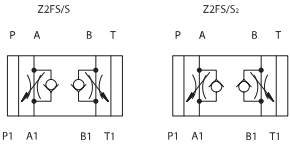
(MPa)  
Pressure difference





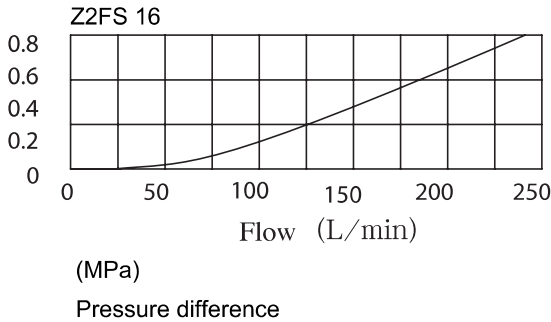
# Z2FS SERIES DOUBLE THROTTLE CHECK VALVES


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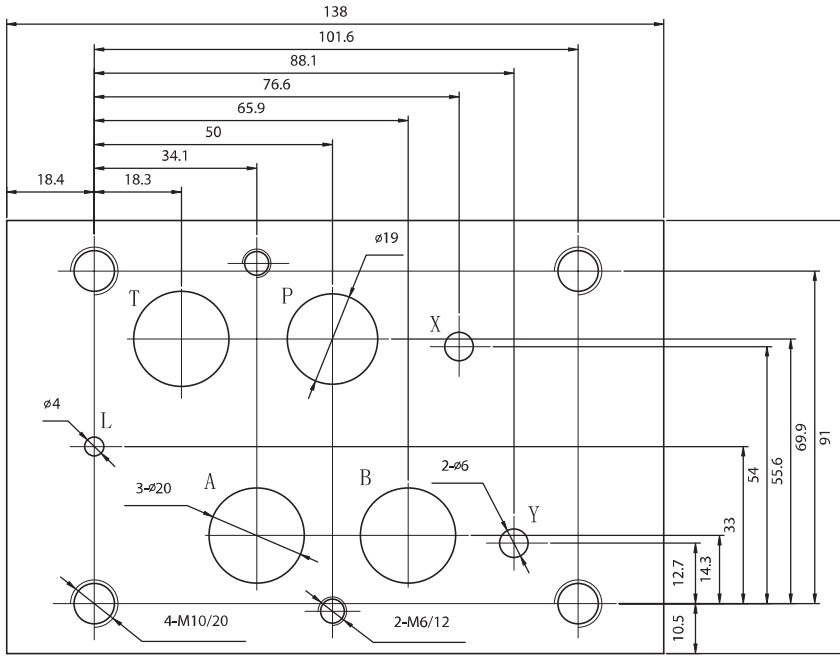


*Technical data*

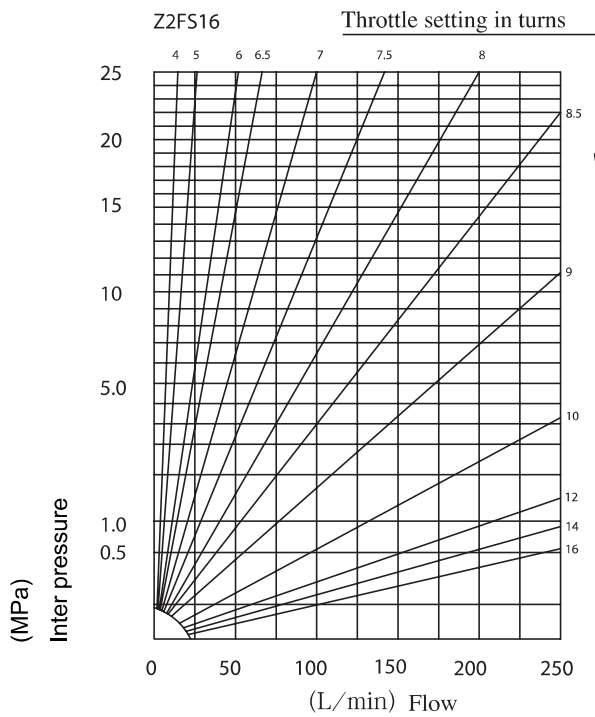
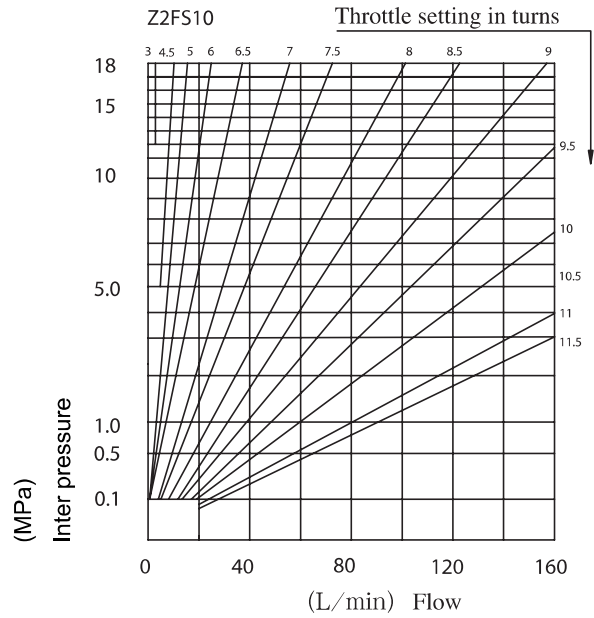
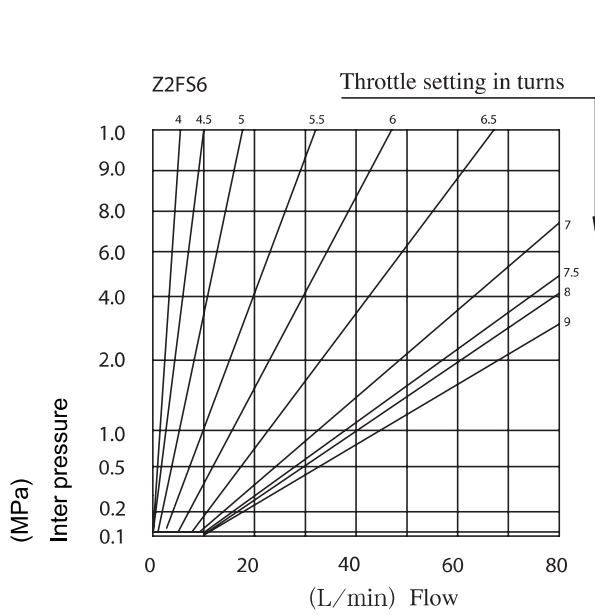
Size	16
Operating pressure (MPa)	35
Flow rate (L/min.)	250
Fluid temperature range (°C)	-30-80°C



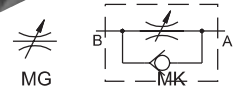
 Z2FS Installation Dimensions



▶ Flow curves at a constant throttle setting



# MG THROTTLE VALVES/MK THROTTLE CHECK VALVES



MG/MK series throttle/throttle check valves mounted on the oil pipe lines directly. MG throttle valve is used to regulate flow by turning adjustment sleeve. MK throttle check valve is used to control flow in one direction and allow free flow in the opposite.

MG 10 G 1.2 / 2 / V \*

MG=Throttle valve MK=Throttle check valve

Size 6, 8, 10, 15, 20, 25, 30

G=Threaded connection

Series number

For further details

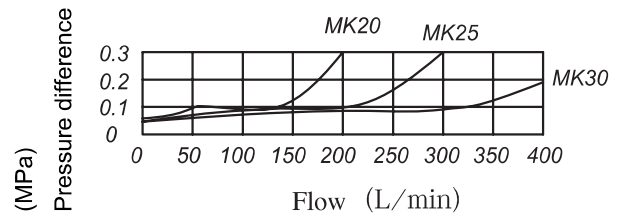
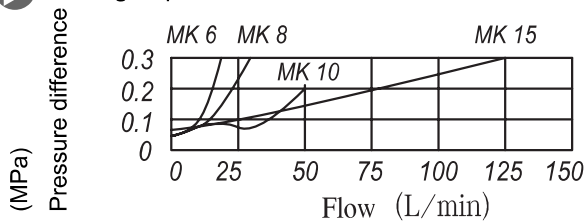
No code=NBR seals for petroleum oils  
V=FPM seals for phosphate ester

No code=Inch threaded; 2=Metric threaded

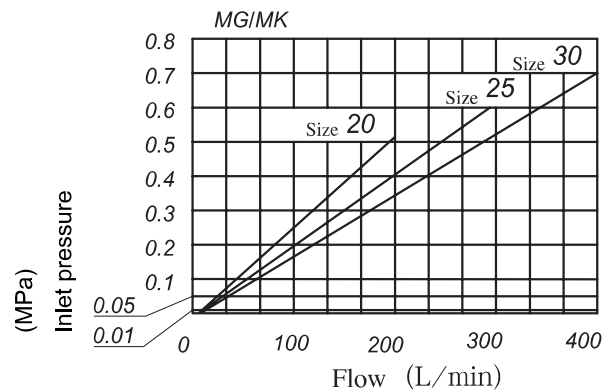
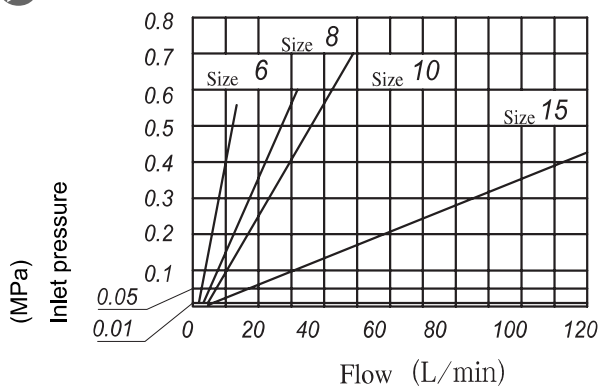
### Technical data


Size	6	8	10	15	20	25	30
Operating pressure (Mpa)	31.5	31.5	31.5	31.5	31.5	31.5	31.5
Flow rate (L/min.)	15	30	50	125	200	300	400
(Inch)	G1/4"	G3/8"	G1/2"	G3/4"	G1"	G11/4"	G1 1/2"
(Metric)	M14x1.5	M18x1.5	M22x1.5	M27x1.5	M33x1.5	M42x2	M48x2
Cracking pressure of check valve	0.05MPa						

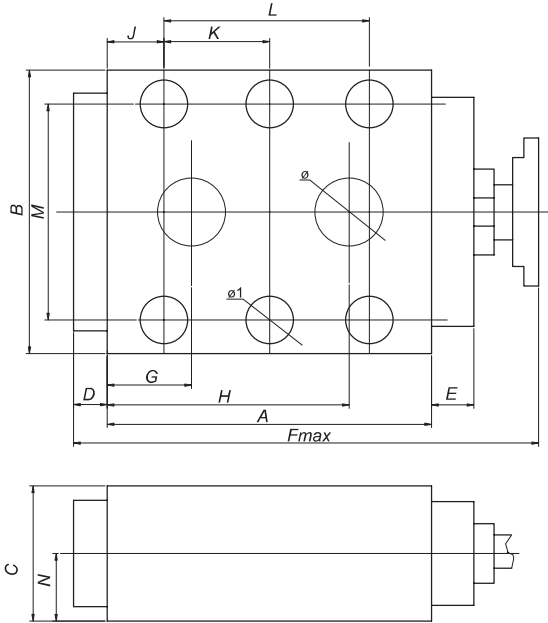
### ▶ Through open check valve curve



### ▶ Through open check valve curve



 MK\*P Subplate mounting

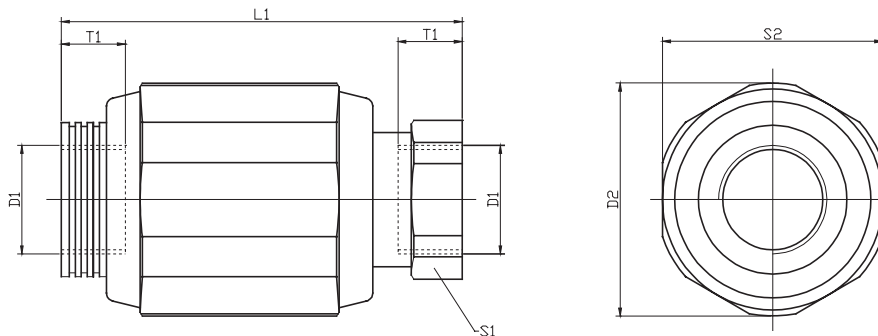


Technical data

Size	A	B	C	D	E	F <sub>max</sub>	G	H	J	L	M	K	ø	ø1
10	110	84	50	10	25	190	39	69	29	40	64	–	2-ø10	4-ø11
20	140	104	70	10	33	229	94	94	34	72	76	–	2-ø20	4-ø13
30	185	148	95	20	40	295	124	124	35	112	116	56	2-ø30	6-ø13

Technical data

 MG Drawing



size	D <sub>1</sub>		D <sub>2</sub>	L	1 S	2S	T	(kg)
	Metric	Inch						
6	M14x1.5	G1/4"	34	65	22	32	12	0.3
8	M18x1.5	G3/8"	38	65	24	36	12	0.4
10	M22x1.5	G1/2"	48	80	30	46	14	0.7
15	M27x2	G3/4"	58	100	41	55	16	1.1
20	M33x2	G1"	72	110	46	70	18	1.9
25	M42x2	G1 1/4"	87	130	55	85	20	3.2
30	M48x2	G1 1/2"	93	150	60	90	22	4.1

## DV/DRV SERIES THROTTLE VALVES/THROTTLE CHECK VALVES

DV/DRV; DVP/DRVP series throttle check valves are used to regulate the speed of actuators simply and precisely.



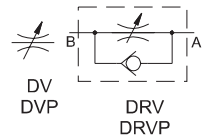
DV 10 S 1 - 10 V 2 \*

DV=Throttle shut-off valve  
 DRV=Throttle check shut-off valve  
 DVP= Subplate type throttle shut-off valve  
 DRVP= Subplate type throttle check shut-off valve

Size 6, 10, 12, 16, 20, 25, 30, 40

No code=Threaded connection  
 S=Subplate mounting

1=Steel; 2=Brass; 3=Stainless steel



For further details

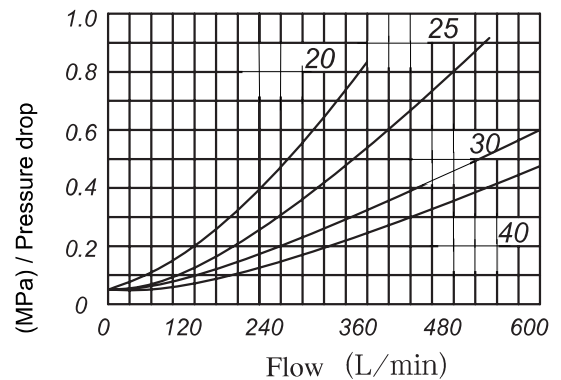
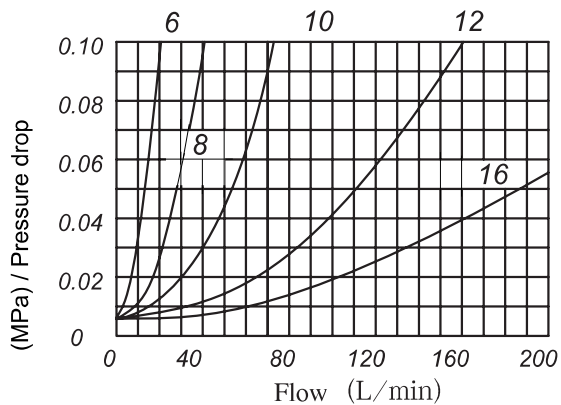
No code=Inch thread; 2=Metric

No code=NBR seals for petroleum oils  
 V=FPM seals for phosphate ester

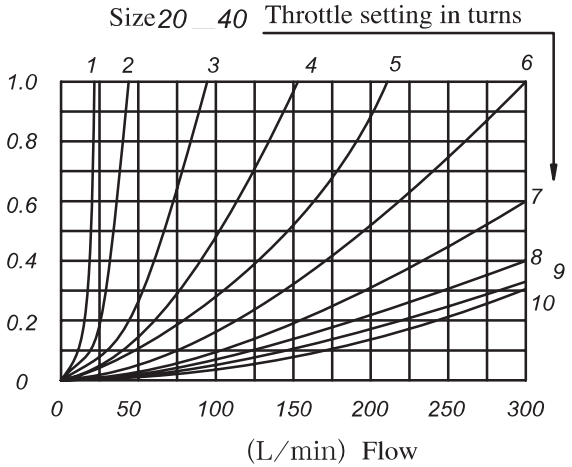
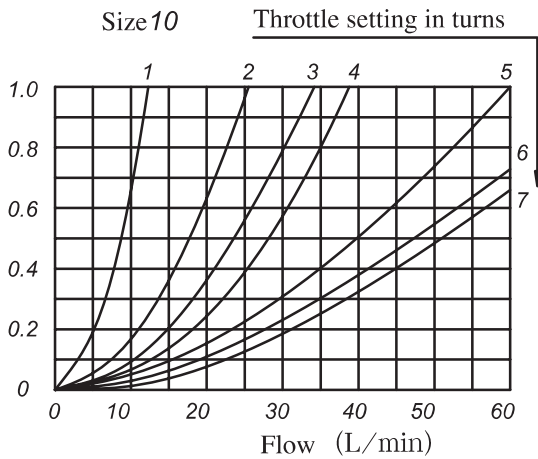
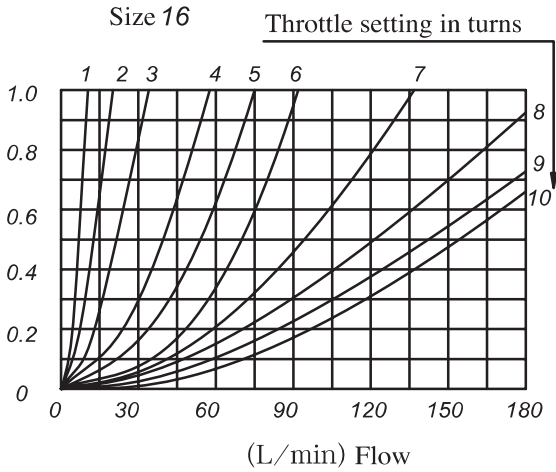
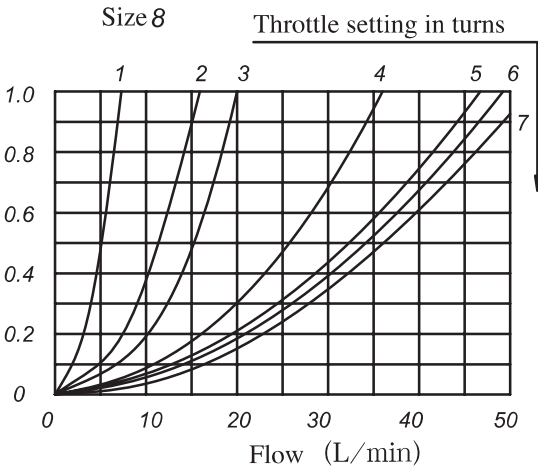
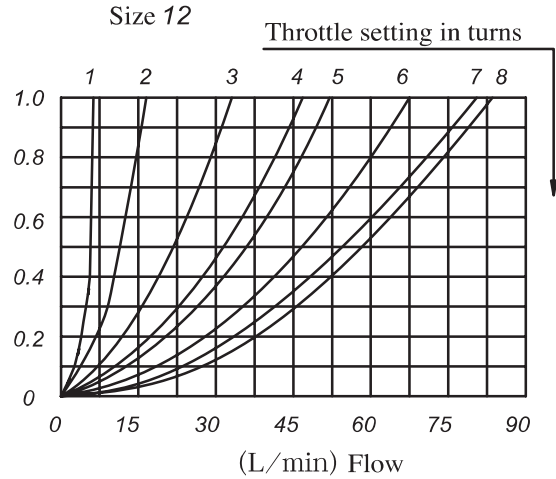
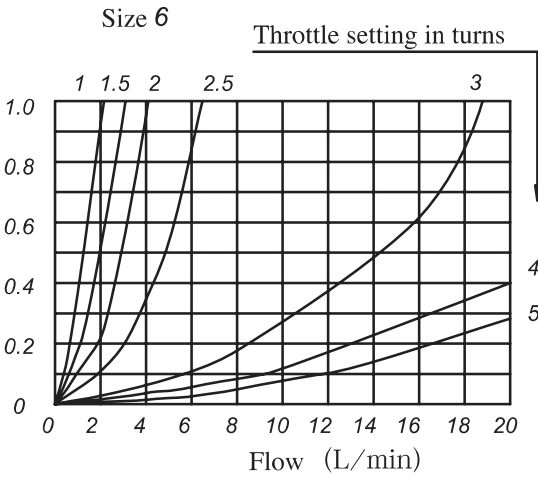
Series number

Size	6	8	10	12	16	20	25	30	40
Operating pressure (Mpa)	35	35	35	35	35	35	35	35	35
Flow rate (L/min.)	16	24	35	45	60	100	150	210	375
DV , DRV (Inch)	G1/8"	G1/4"	G3/8"	G1/2"	G3/4"	G1"	G1 1/4"	G1 1/2"	G2"
DV, DRV (Metric)	M10x1	M14x1.5	M18x1.5	M22x1.5	M27x2	M33x2	M42x2	M48x2	M60x2
Opening pressure for check valve	0.05MPa								
Pipeline type panel connection	M16x1.5	M18x1.5	M18x1.5	M22x1.5	M22x1.5	M33x2	M33x2	M33x2	M33x2

B → A  $\Delta P/min$  (DRV/DRVP) Flow Direction



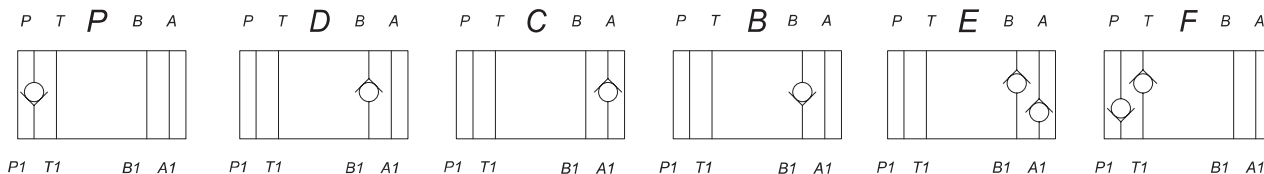
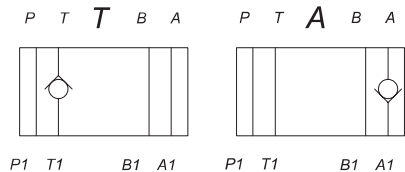
▶ A → B ΔP L/min (DV/DVP/DRV/DRVP) Flow Direction





# Z1S SERIES MODULAR CHECK VALVES

Z1S series are direct operated check valves.



**Z1S 6 A 1 - 30 V \***

Model \_\_\_\_\_  
 Size 6; 10 \_\_\_\_\_  
 See the symbol for flow type \_\_\_\_\_  
 1=Cracking pressure : 0.05MPa  
 2=Cracking pressure : 0.3MPa  
 3=Cracking pressure : 0.5MPa

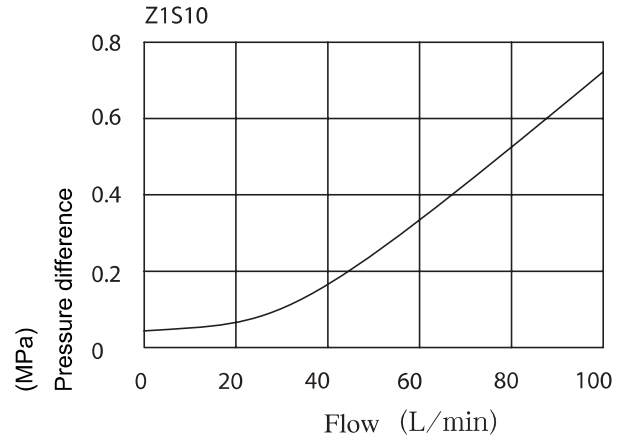
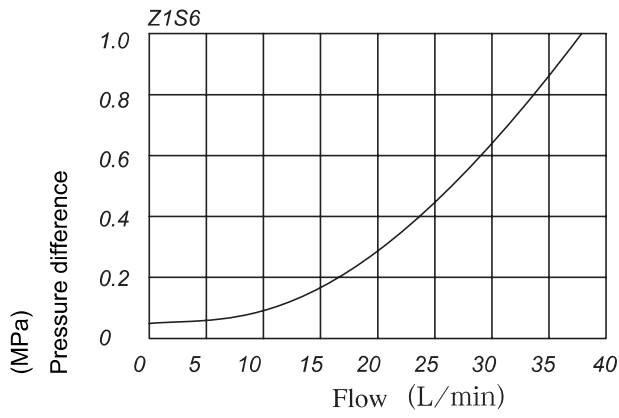
For further details \_\_\_\_\_  
 No code=NBR seals for petroleum oils  
 V=FPM seals for phosphate ester  
 Series number \_\_\_\_\_

*Technical data*

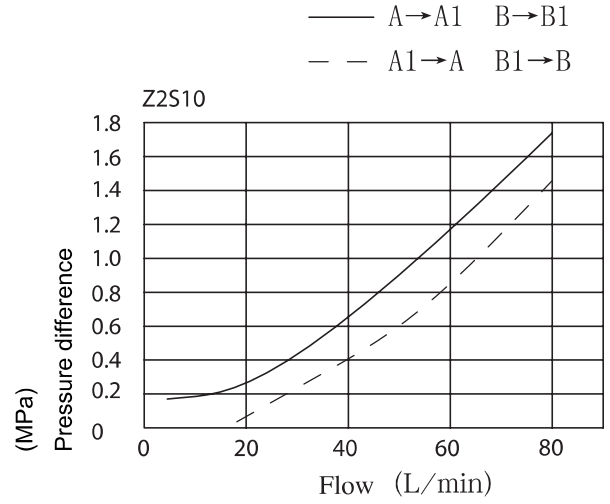
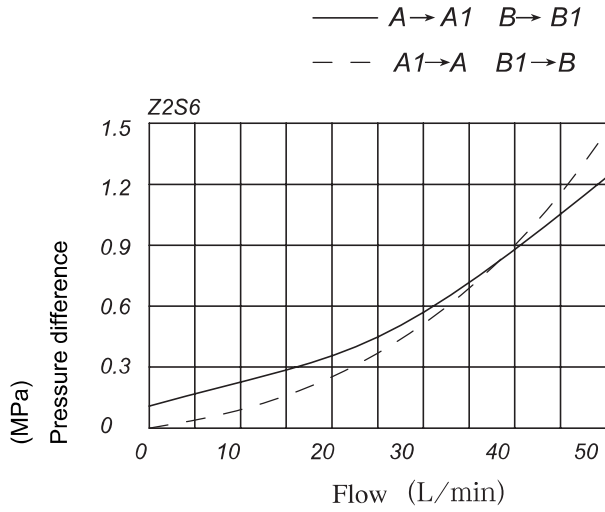
Size	6	10
Operating pressure (MPa)	31.5	31.5
Flow rate (L/min)	40	100
Oil temperature range (°C)	-20~70	-20~70

Installation dimensions refer to Z2S models.

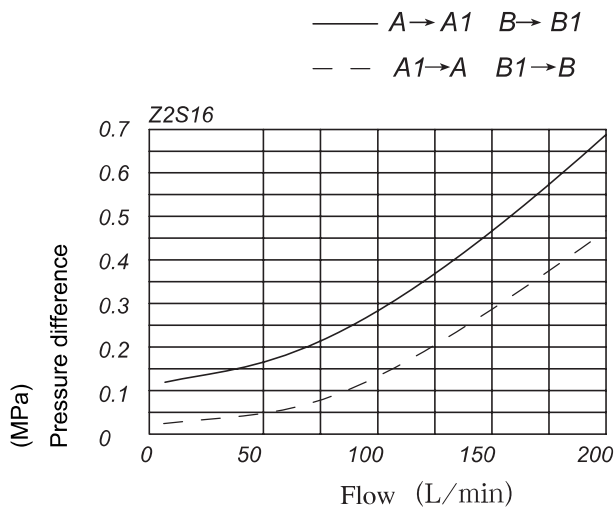
▶ Operating curves



▶ Operating curves

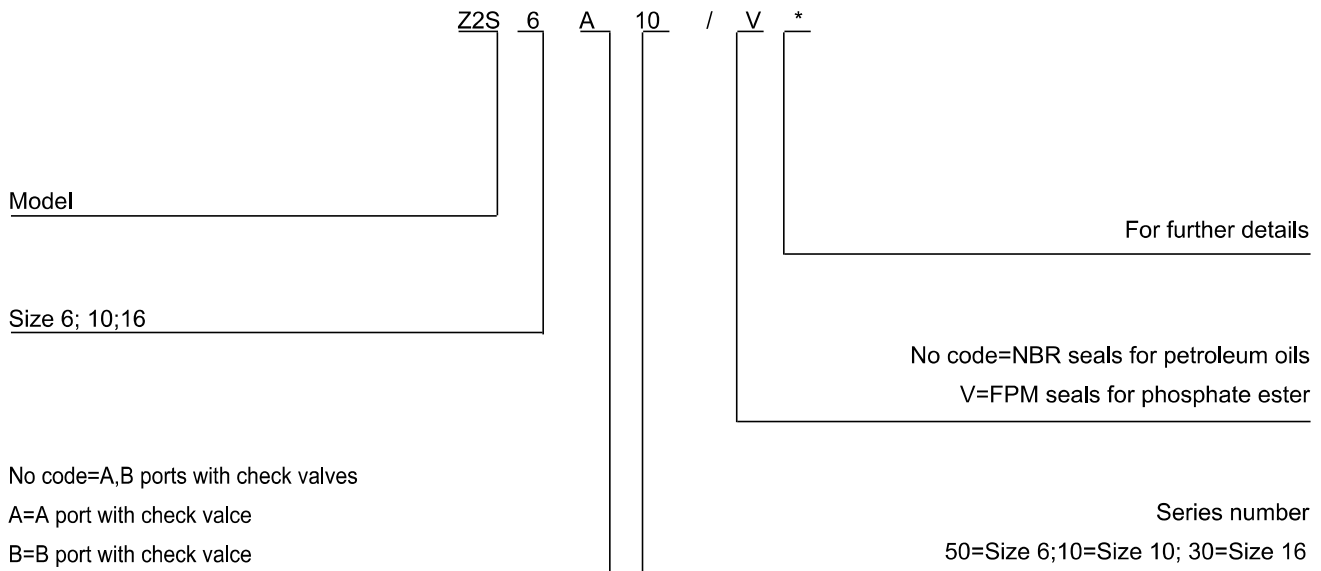
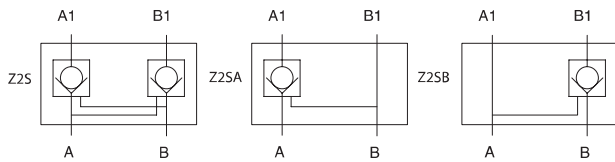


▶ Operating curves



## Z2S SERIES PILOT CONTROLLED CHECK MODULAR VALVES

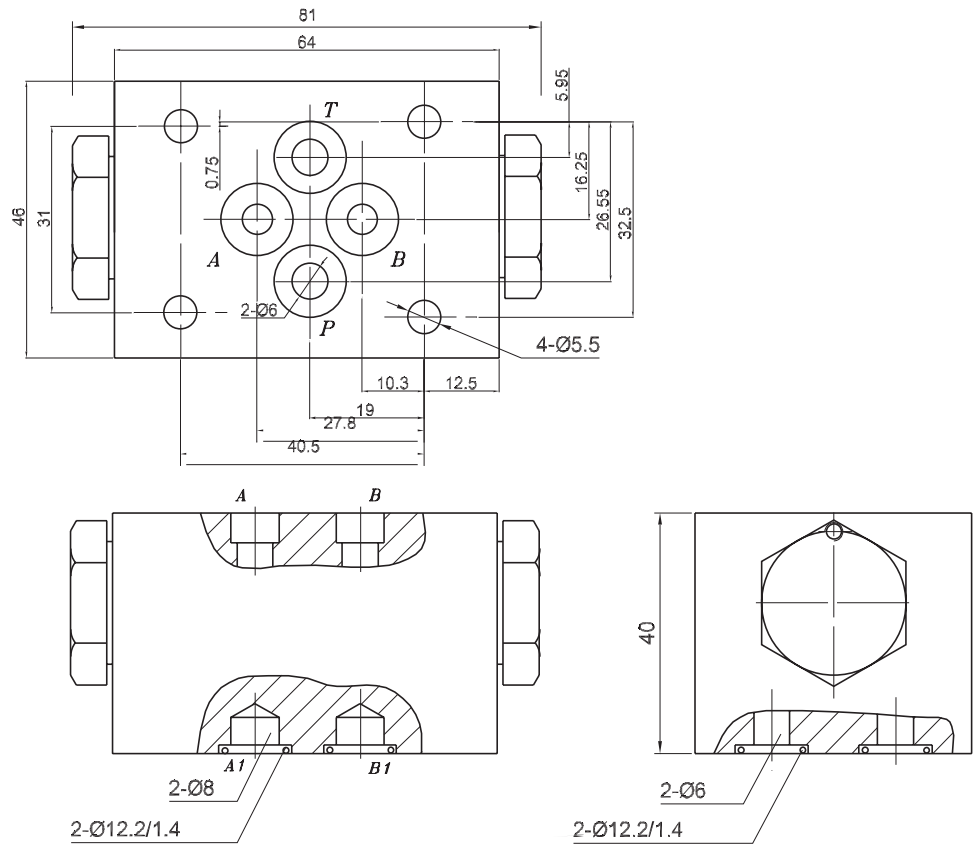
Z2S series are pilot operated style sandwich valves. These valves used to close one or two actuator ports.



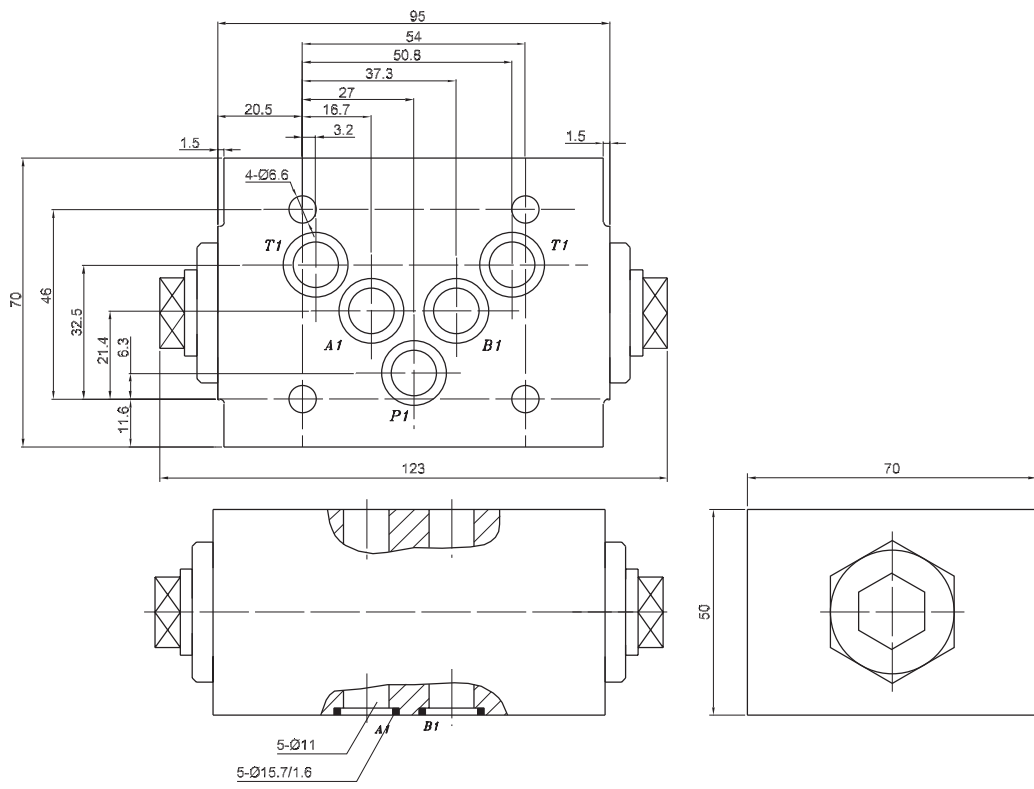
*Technical data*

Size	6	10	16
Operating pressure (MPa)	31.5	31.5	31.5
Cracking pressure of check valve(MPa)	0.15	0.1	0.1
Flow rate (L/min.)	50	80	200
Fluid temperature range (°C)	-20~80	-20~80	-20~80

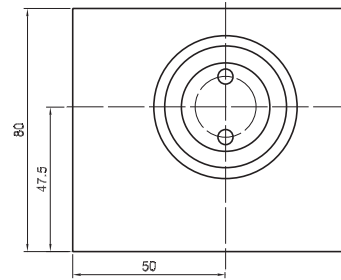
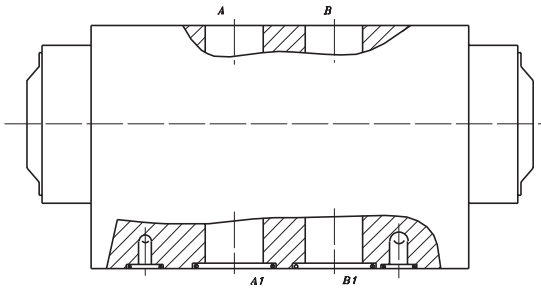
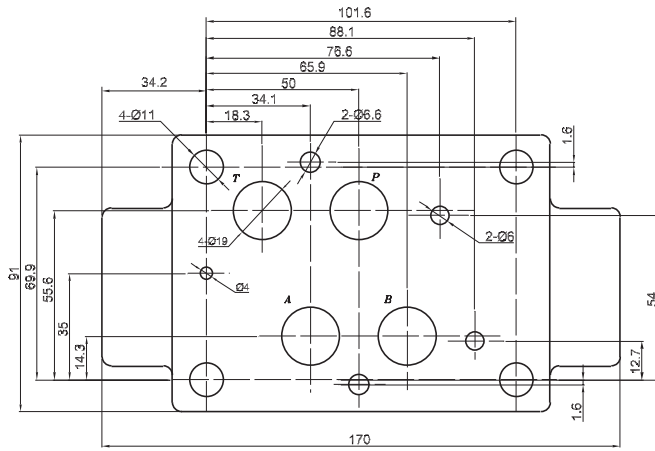
**Z2S 6 Installation Dimensions**



**Z2S 10 Installation Dimensions**



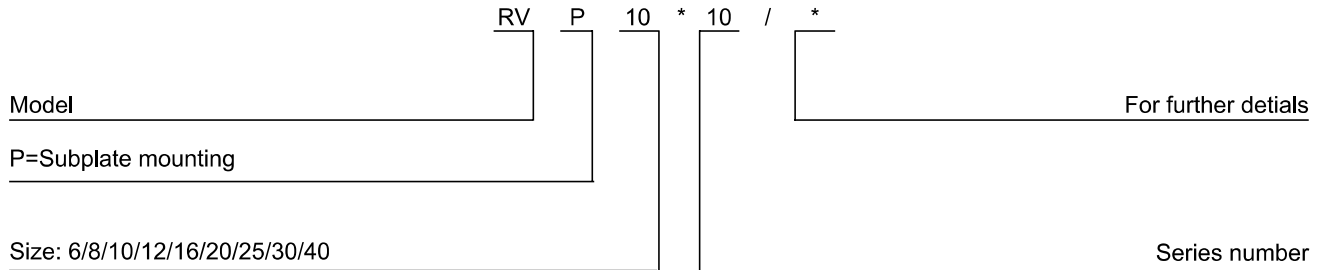
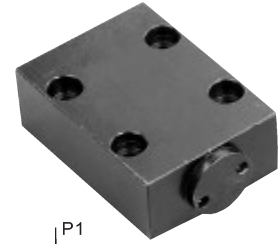
Z2S 16 Installation Dimensions



## RVP SERIES CHECK VALVES

RVP series check valves allow free flow in one direction and block flow in the counter direction.

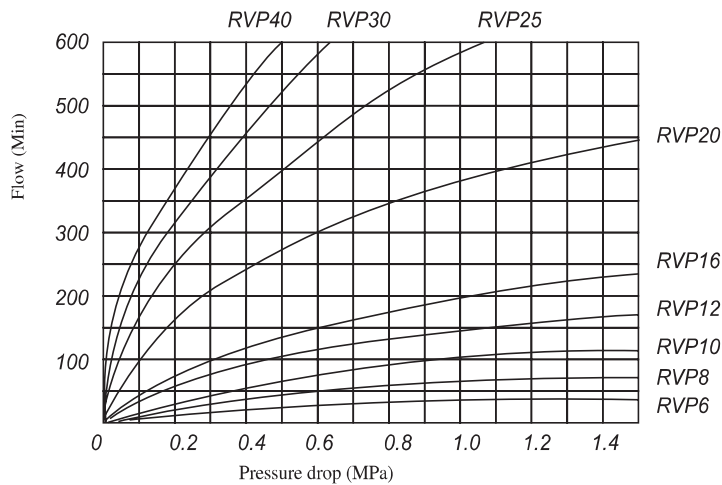
The valve connection is subplate mounting.



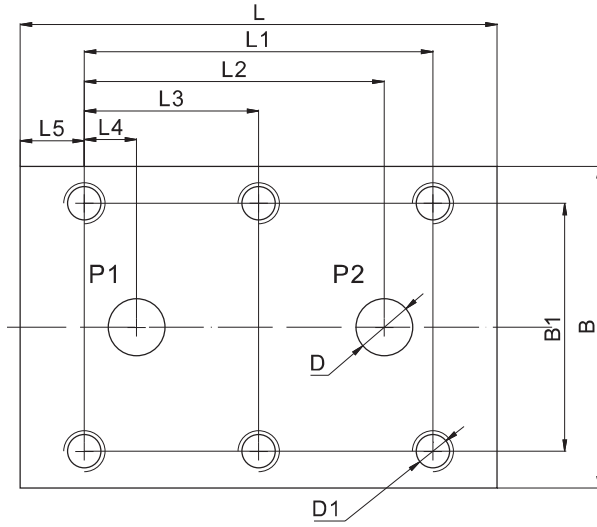
### Technical data

Size	6	8	10	12	16	20	25	30	40	Max. operating pressure	Cracking pressure
Rated flow(L/min.)	15	30	50	80	100	200	300	380	460	31.5	0.05

### ▶ Operating curves



 RVP Installation Dimensions



Model	B	B1	L	L1	L2	L3	L4	L5	D	D1
RVP6	41.5	28.5	41.5	19	17.6	–	1.6	6.4	2-Ø5	4-M6
RVP8	46	33.5	63.5	35	30	–	4.5	14.2	2-Ø7	4-M6
RVP10	51	38	70	33.5	29.5	–	4	18	2-Ø10	4-M6
RVP12	57.5	44.5	80	38	34	–	4	21	2-Ø13	4-M6
RVP16	70	54	104	76	65.4	38	11.4	14	2-Ø17	6-M8
RVP20	76.5	60	127	95	76	47.5	19	16	2-Ø22	6-M8
RVP25	100	76	165	120	100.1	60	20.6	15	2-Ø28.5	6-M10
RVP30	115	92	186	143	118.8	71.5	23.8	15	2-Ø35	6-M12
RVP40	140	111	192	133.5	114.5	67	25.5	16	2-Ø47.5	6-M12

# Directional Control

## S SERIES CHECK VALVES



S series check valves allow free flow in one direction and block flow in the counter direction.

Model S 10 A 1 / 2 \* For further details

See the table below for size No code=Inch thread; 2=Metric

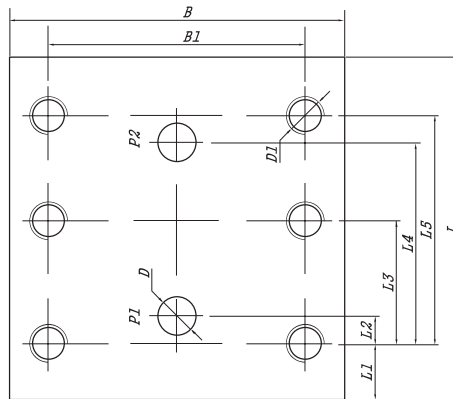
A=Threaded in-line connection Cracking pressure  
 P=Subplate mounting (only for Size10,20,30) 1=0.05MPa; 2=0.15 MPa  
3=0.30 MPa; 5=0.5 MPa

### Technical data

Size		6	8	10	15	20	25	30
Threaded connection	Inch	G1/4"	G3/8"	G1/2"	G3/4"	G1"	G1 1/4"	G1 1/2"
	Metric	M14x1.5	M18x1.5	M22x1.5	M27x2	M33x2	M42x2	M48x2
Rated flow(L/min.)		15	30	50	120	200	300	400
Max. operating pressure (MPa)		31.5						
(S) Distance across flats		19	24	30	36	45	60	63
(L) Length		58	58	72	85	98	120	132



Subplate dimensions



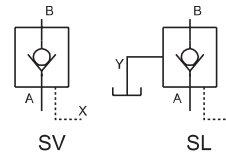
Size	B	B1	L	L1	L2	L3	L4	L5	D	D1
10	87	66.7	90	23.5	7.2	—	35.8	42.9	11	4-M10 20
20	110	79.4	120	23.4	11.1	—	49.2	60.3	22	4-M10 20
30	128	96.8	148	27.8	16.7	42.1	67.5	84.2	28	6-M10 20



## SV/SL PILOT OPERATED CHECK VALVES

SV/SL pilot operated check valves allow free flow in one direction and block flow in the counter direction to maintain pressure. The oil is allowed to flow in the counter direction when the X port is connected.

SV is designed for internally drained, SL is designed for externally drained.



S V 10 P A 1 - 30 / 2 V \*

V=Internally drained (without drain port)

L=Externally drained (with drain port)

See the table below for size

P=Subplate mounting(Only for size 10,20,30);

G=Threaded connection

A=Pilot type;

B=Direct type

1=0.3MPa ; 2=0.5MPa ; 3=0.8MPa

For further details

No code=NBR seals for petroleum oils


V=FPM for phosphate ester

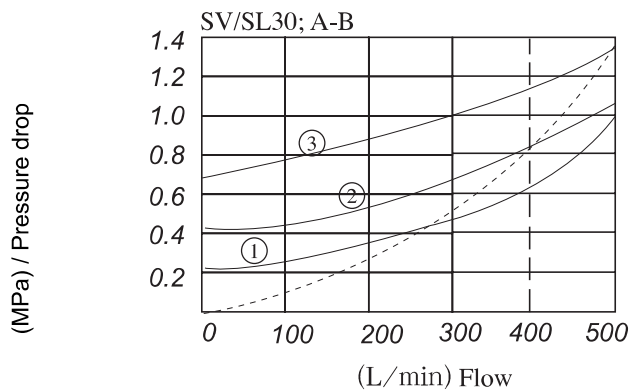
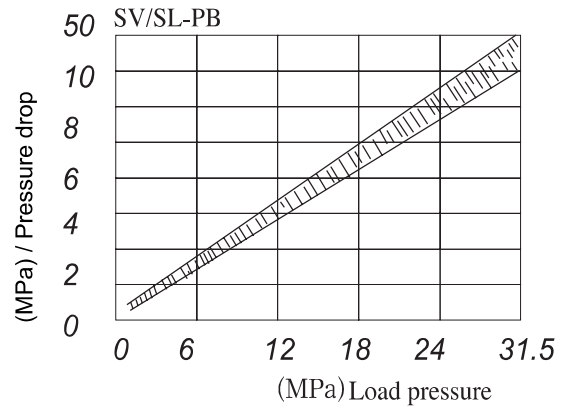
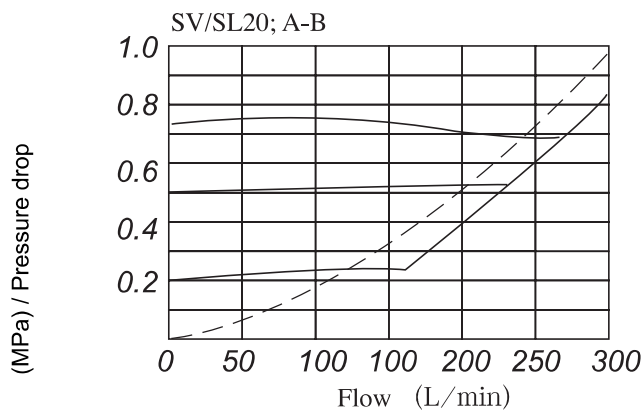
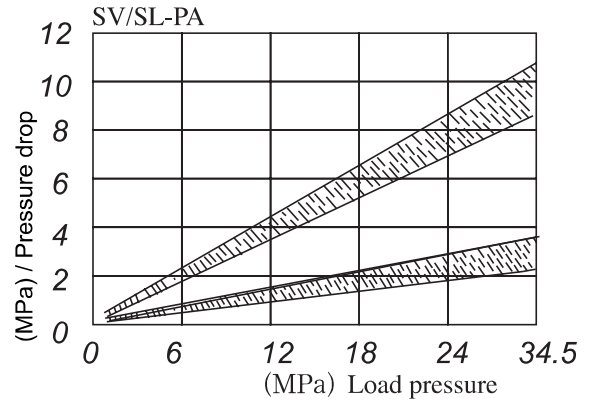
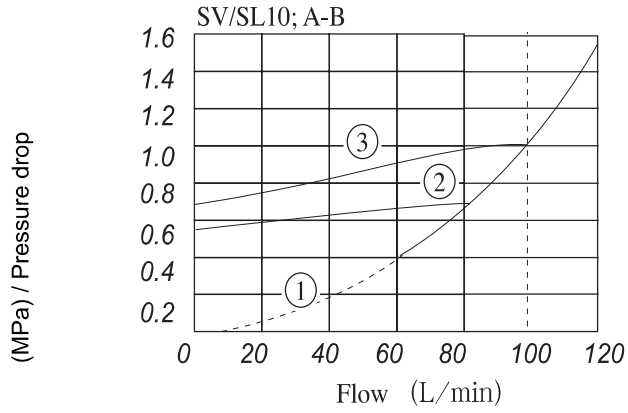
No code=Inch thread; 2=Metric

Series number

### Technical data

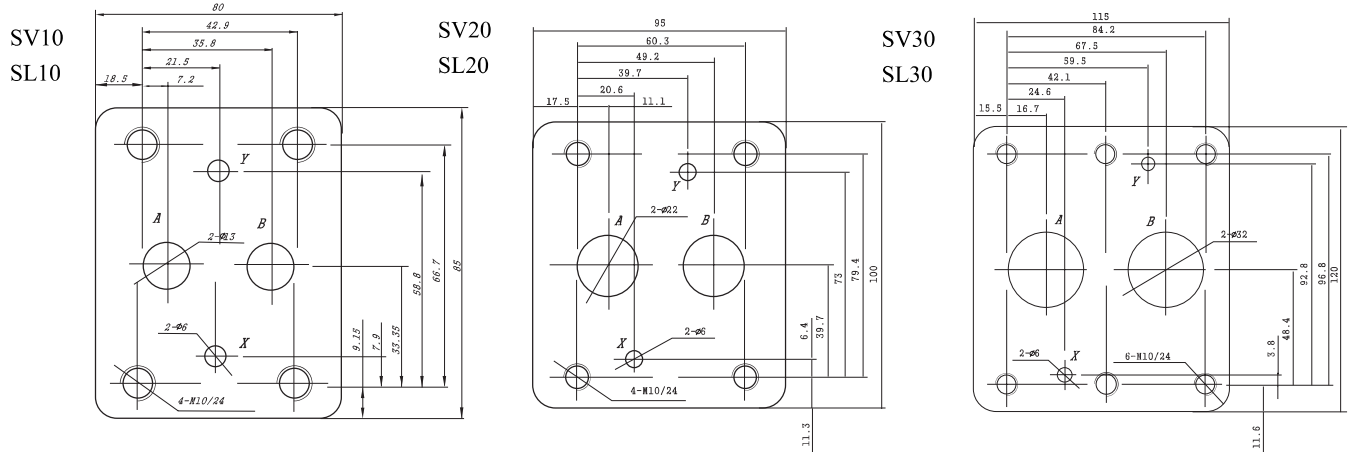
Size	SV10	SL10	SV20	SL20	SV30	SL30
Port X, pilot volume(cm <sup>3</sup> )	2.2		8.7		17.5	
Port Y, volume(cm <sup>3</sup> )	—	1.9	—	7.7	—	15.8
Direction of flow	Free flow A to B; B to A when piloted open					
Operating pressure	31.5					
Pilot control pressure range	0.5—31.5					
Max. flow rate (L/min)	80		150		300	

 Pressure drop vs. flow curves

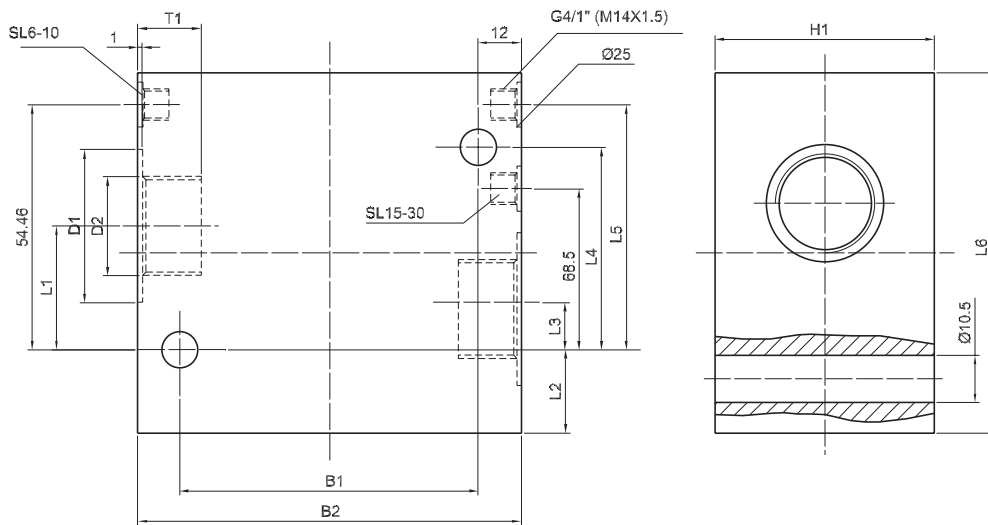


\* ①, ②, ③ above the curves are the same in the ordering code

▶ Subplate mounting dimensions



▶ Threaded connection dimensions

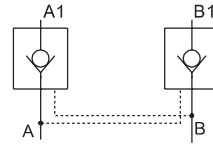


Tv	Si-7	B1	B2	D1	D2	T1	H1	L1	L2	L3	L4	L5	L6
SV	10	66.5	85	34	G 1/2" M22X1.5	14	42	27.5	18.5	10.5	33.5	49	80
	15	79.5	100	42	G 3/4" M27X2	16	57	36.7	17.3	13.3	50.5	67.5	95
	20	79.5	100	47	G1" M33X2	18	57	36.7	17.3	13.3	50.5	67.5	95
	25	97	120	56	G 1/4" M42X2	20	75	54.5	15.5	20.5	73.5	89.5	115
	30	97	120	61	G1/2" M48X2	22	75	54.5	15.5	20.5	73.5	89.5	115
SL	10	66.5	85	34	G 1/2" M22X1.5	14	42	22.5	18.5	10.5	33.5	49	80
	15	79.5	100	42	G 3/4" M27X2	16	57	30.5	17.5	13	50.5	72.5	100
	20	79.5	100	47	G1" M33X2	18	57	30.5	17.5	13	50.5	72.5	100
	25	97	120	56	G1 1/4" M42X2	20	75	54.5	15.5	20.5	84	99.5	125
30	97	120	61	G1 1/2" M48X2	22	75	54.5	15.5	20.5	84	99.5	125	

# YS DOUBLE-DIRECTION HYDRAULIC LOCK

YS series double-direction lock is used to close two oil ports for pressure maintaining.

The valve features: long time no leakage, good pressure maintaining.

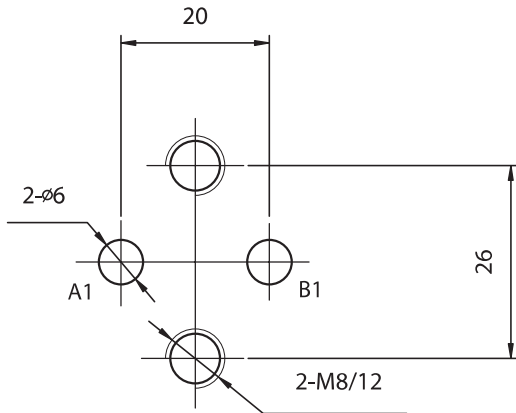


Model	YS S - 6 A	Structure form
Double-direction		Size

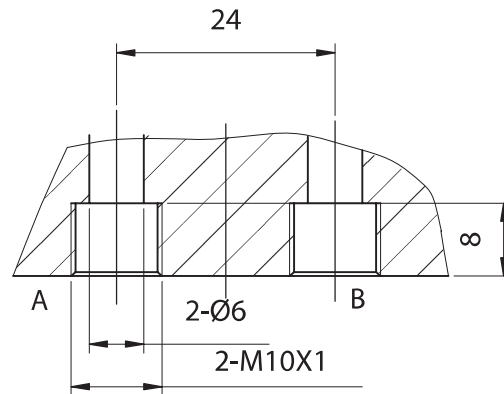
### Technical data


Nominal pressure (MPa)	31.5
Flow rate (L/min.)	25

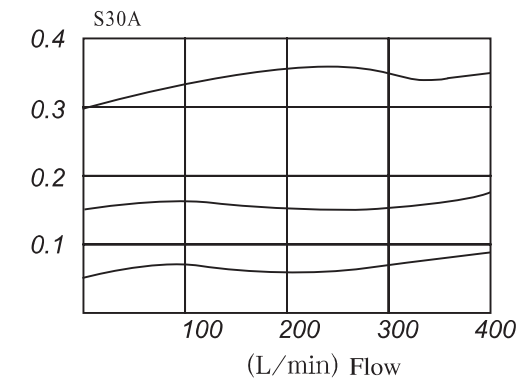
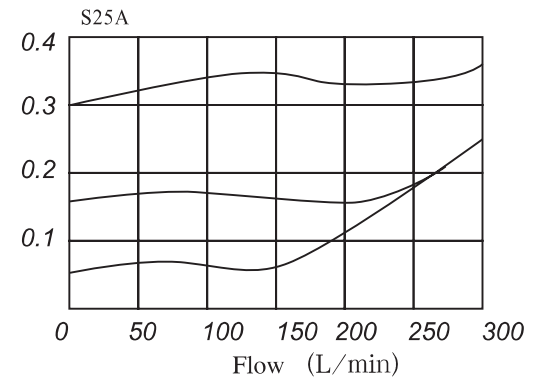
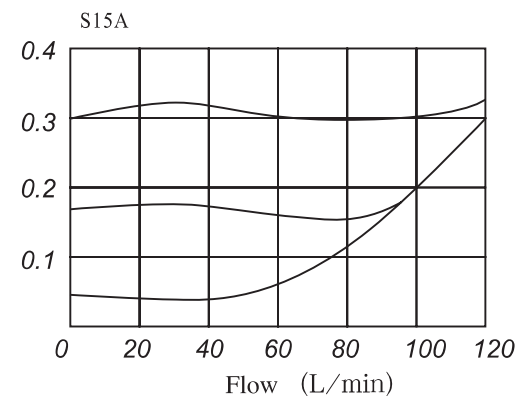
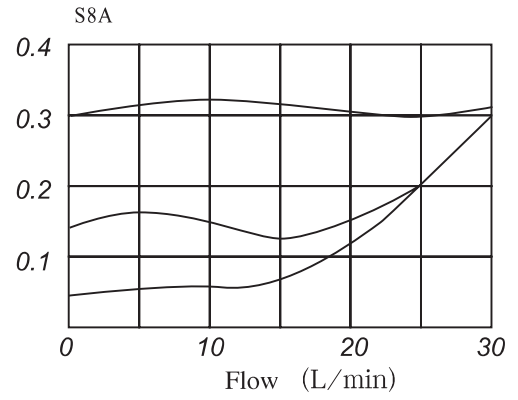
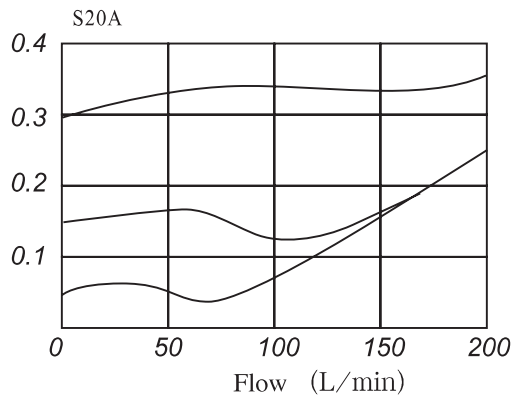
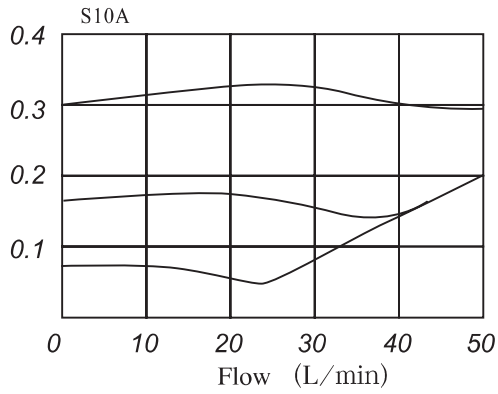
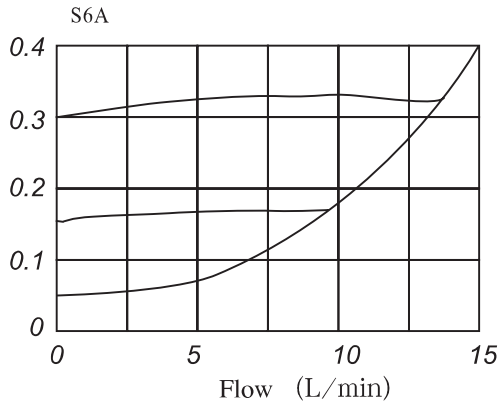
### Installation Dimensions



### Oil connection ports



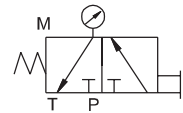
 Operating curves



# Accessories

## AF6 SERIES PRESSURE GAUGE SHUTTER

AF6 series valve is a three-way slide valve operated manually. This series are used for checking a working pressure in hydraulic systems occasionally.



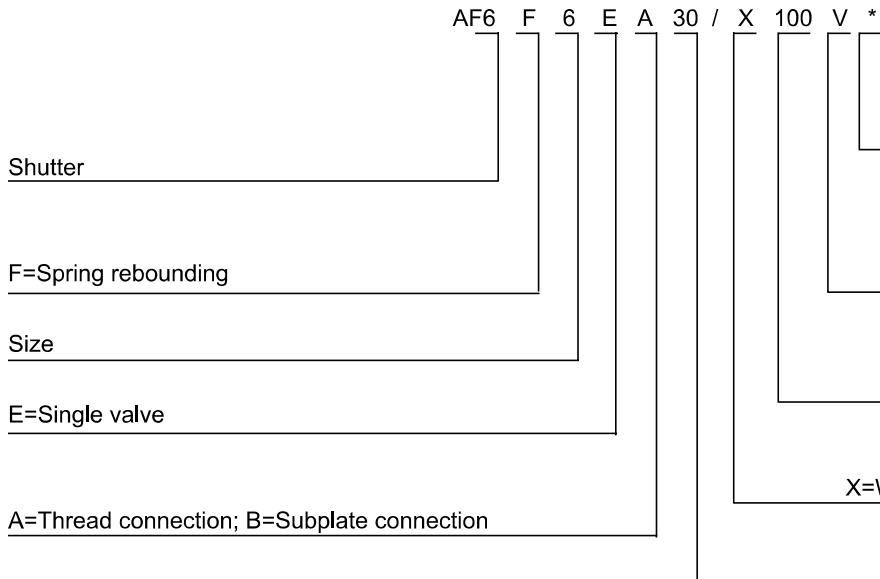
For further details

No code=NBR seals for petroleum oils  
V=FPM seals for phosphate ester

Pressure gauge indicating range

X=Without accessories; Y=With accessories

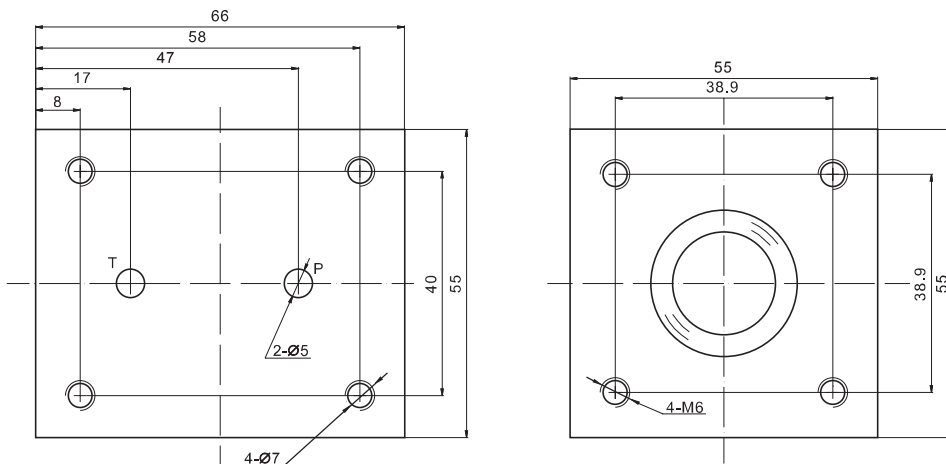
Series number



### Technical data

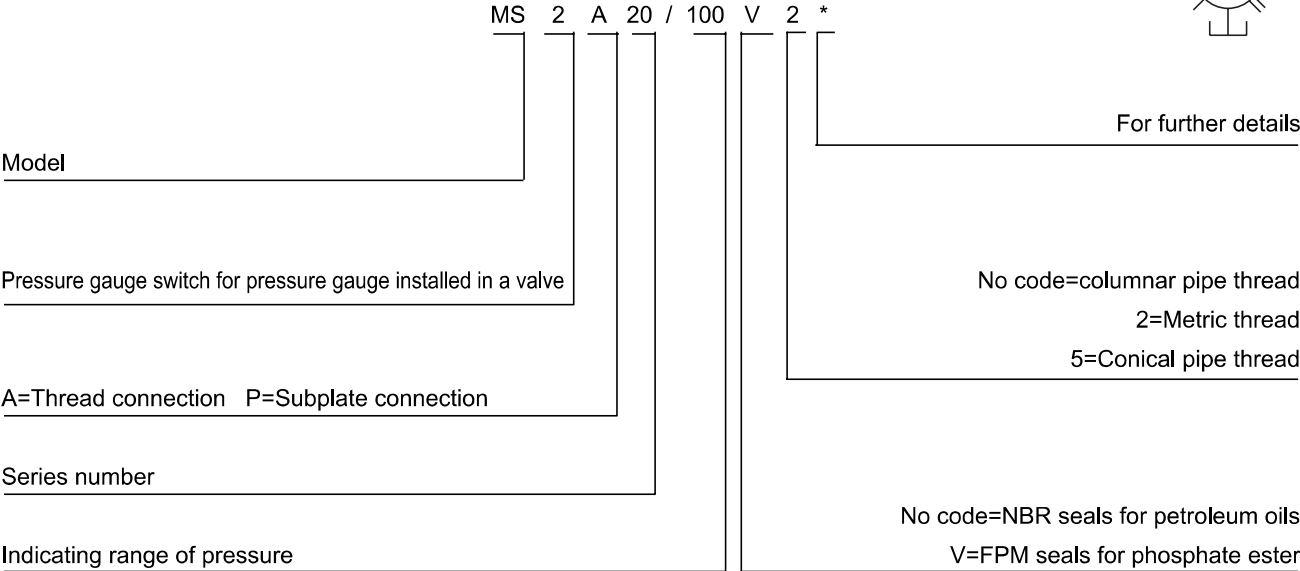
Operating Pressure range (MPa)	To 30
Pressure gauge indicating (MPa)	6.3; 10; 16; 25; 40
Fluid temperature range (°C)	-20~80

### Installation Dimensions



# MS2 SERIES PRESSURE GAUGE SWITCH WITH 6 POINTS

MS2 series pressure gauge switch is a turned type switch. Only one can show the pressure in six oil lines by turning the valve bush.



*Technical data*

Max. working pressure allowed (Mpa)	31.5
Max. back pressure allowed in return oil ports (Mpa)	1
Pressure gauge indicating rang (Mpa)	2.5, 6, 10, 16, 25, 40
Union joint thread size	G1/4", Z1/4", M14x15
Pressure gauge connection thread	Z1/4", M14x1.5
Fluid temperature range ( C°)	-20*~80*

**Installation Dimensions**

