MOOG

Modular Valves
NG06, NG10

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This catalog is for users with technical knowledge. To ensure that all necessary characteristics for function and safety of the system are given, the user has to check the suitability of the products described herein. In case of doubt, please contact Moog.

Part No. CDL6825 500-463 01/03

Size 06

Excerpt from Moog Modular Valve User's Manual

This is a portion of a user's manual made available in segments on the website for the convenience of our customers. If you have questions or need additional information please contact us.

This manual describes the functionality and features of the present Modular Valves. Information contained herein is subject to change without notification and should not be construed as a commitment by Moog Inc. This manual is periodically reviewed and revised. Moog Inc. assumes no responsibility for any errors or omissions in this document. Critical evaluation of the manual by the user is welcomed. Your comments will assist us in future product documentation.

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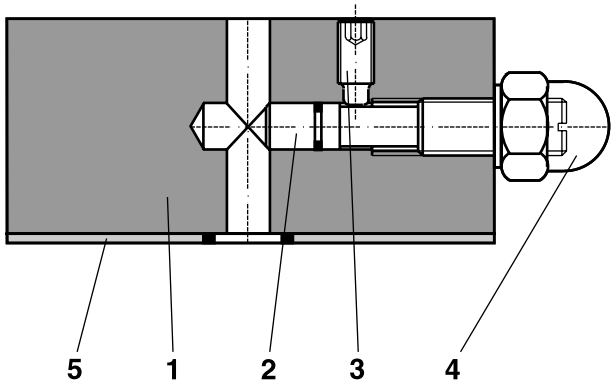
See www.moog.com to find the location nearest you.

DESCRIPTION OF FUNCTION, SECTION

Throttle valve type N-ZFSRP06 throttles or completely stops flow from either direction.

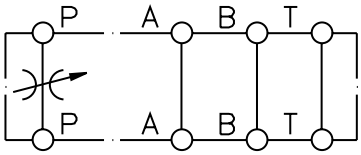
They comprise of the following:
- housing (1)
- throttling screw (2)
- hex. skt. grub screw (3), and a
- dome nut (4).

To access the screwdriver adjustement, remove the dome nut (4).



Positive stops govern the end positions. Sealing is by the use of a seal plate and four O-rings (5).

SYMBOL AND PART NUMBERS

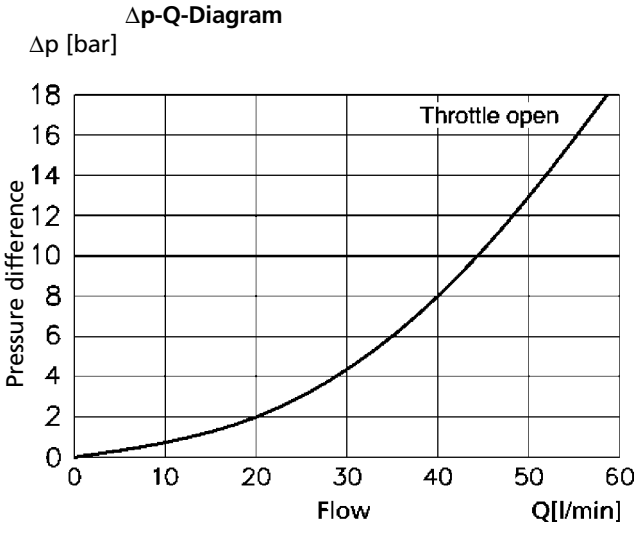
	NG	$Q_{max.}$ [l/min]	DESIGNATION	PART NUMBER
	6	60	N-ZFSRP06A4A2P	XEB17486-000N01

TECHNICAL DATA

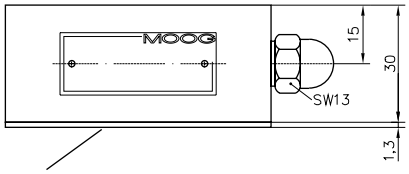
General Data	Value	Unit	Specifications
Designation	-	-	Throttle valve
Mode of construction	-	-	Modular valve
Mounting pattern	-	-	Size 03 (NG06) as per ISO 4401
Mounting dimensions	-	mm	See Unit Dimensions
Mounting position	-	-	Any
Flow max.	$Q_{max.}$	l/min	60
Ambient temperature range	min.	°C	-25
	max.	°C	+60
Working pressure			
Inlet	min.	bar	0
	max.	bar	315
Outlet	min.	bar	0
	max.	bar	315
Fluid temperature range	min.	°C	-25
	max.	°C	+80
Viscositiy range	min.	$mm^2 \bullet s^{-1}$ [cSt]	2,8
	max.	$mm^2 \bullet s^{-1}$ [cSt]	380
Operational viscositiy	ν	$mm^2 \bullet s^{-1}$ [cSt]	35
Weight	m	kg	0,8

PERFORMANCE CURVES

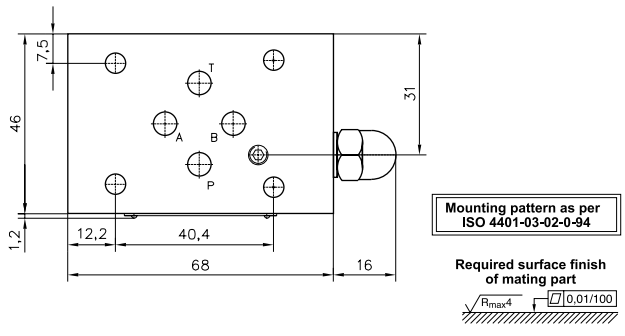
Δp-Q-Diagram



INSTALLATION DRAWING N-ZFSRP06



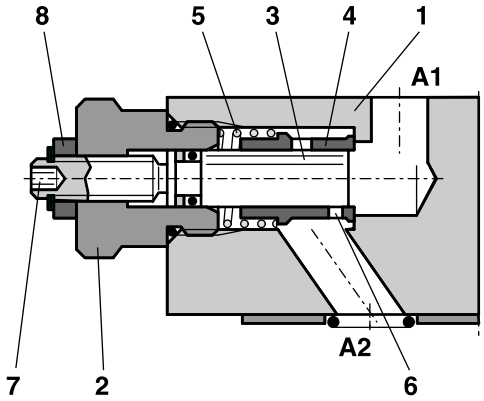
4 x O-Ring NBR 9,25x1,78
(Part number: X783-00288);
Seal kit, complete: XEB17582-000N00



DESCRIPTION OF FUNCTION, SECTION

Valves type N-ZFDRP06 are double throttle/check valves in sandwich plate design. They serve to limit a main or pilot flow of one or two user ports.

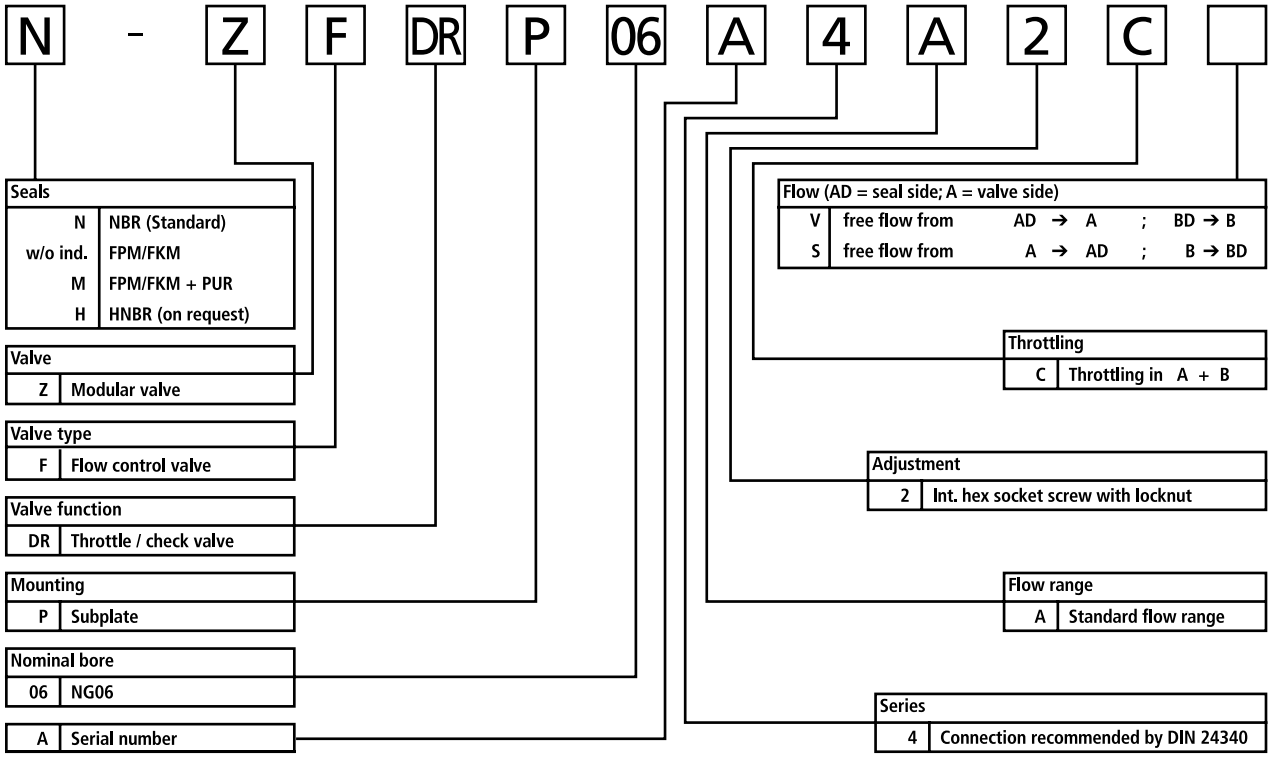
They comprise of the following:
- housing (1)
- guide nut (2)
- throttling screw (3)
- metering bush (4) and a
- spring (5).



Two symmetrically arranged throttle/check valves limit flow by means of adjustable throttling spools in one direction and give free return flow in the other. At metering-out, the fluid in line A2 reaches the line A1 via the throttle position (6), a combination from the metering bush (4) and the throttling screw (3). To set the throttle orifice, use a four A/F hexagon key in the end (7) of the self-locking throttling screw (3).

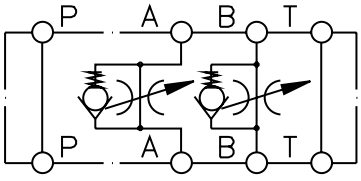
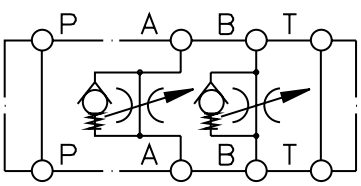
The 13 A/F locknuts (8) provide additional security. Oil flowing from the line A1 pushes the metering bush (4) against the spring (5) and allows oil to flow freely from line A1 to A2, operating as a check valve. By rotating the valve about its long axis, it can be mounted with either of these two interface surfaces uppermost. One position gives a METER-IN function, the other METER-OUT.

ORDERING INFORMATION



Subject to technical changes

SYMBOLS AND PART NUMBERS

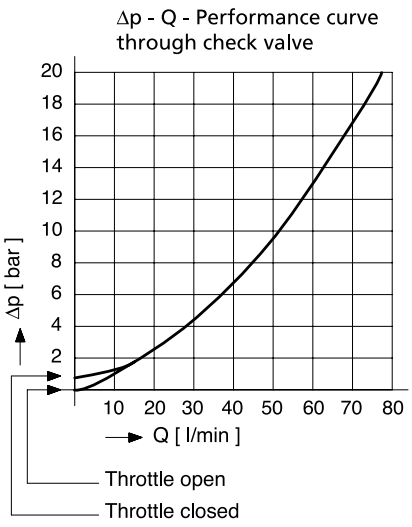
	NG	$Q_{max.}$ [l/min]	DESIGNATION	PART NUMBER
	6	80	N-ZFDRP06A4A2CV	XEB17296-000N01
	6	80	N-ZFDRP06A4A2CS	XEB17297-000N01

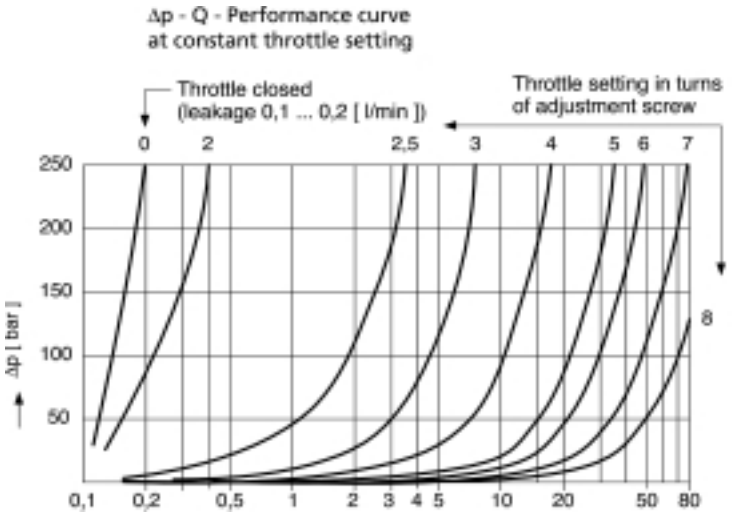
THROTTLE CHECK VALVES

TECHNICAL DATA

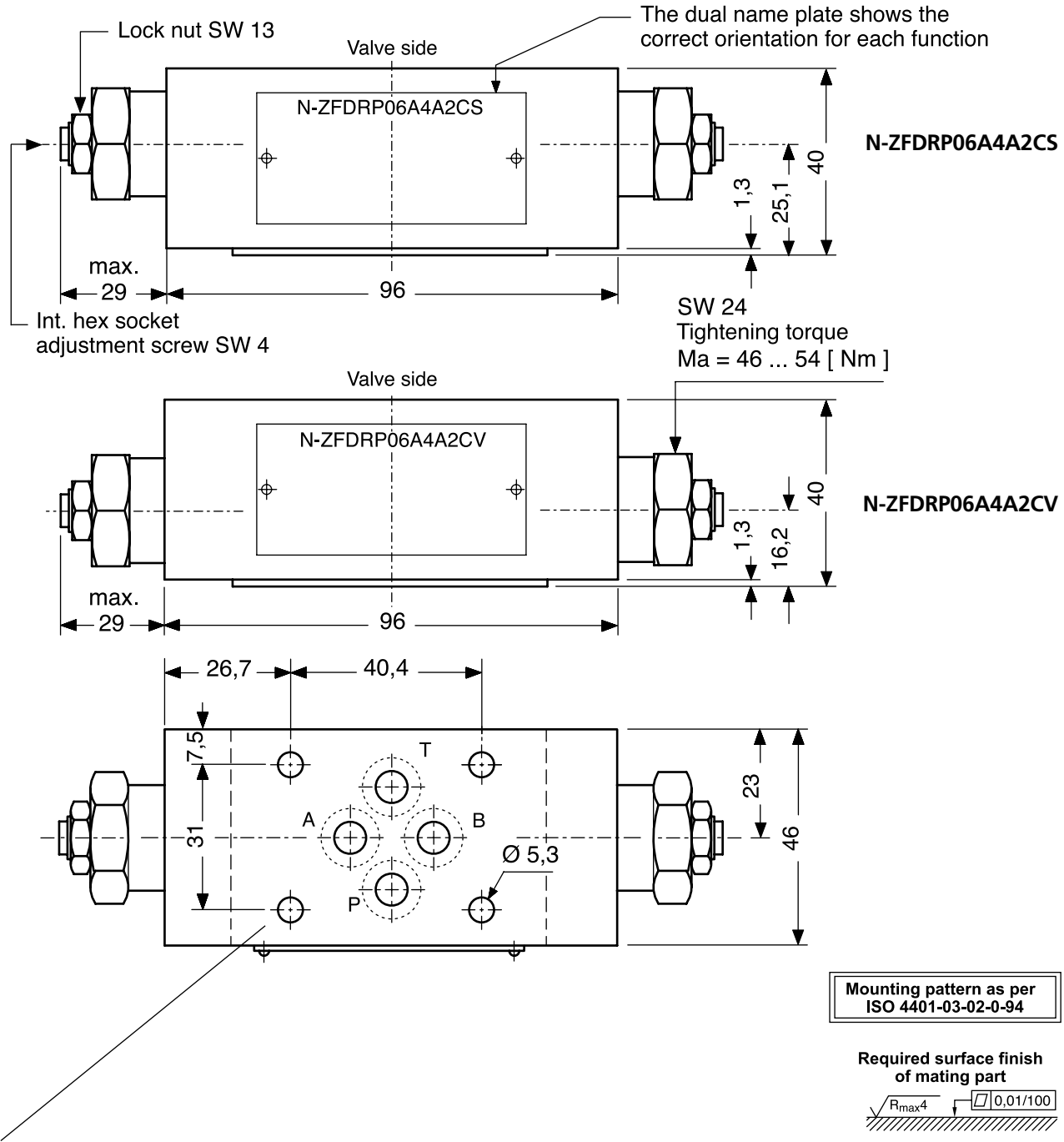
General Data	Value	Unit	Specifications
Designation	-	-	Throttle check valve
Type designation	-	-	See Ordering Information
Mode of construction	-	-	Modular valve
Mounting pattern	-	-	Size 03 (NG06) as per ISO 4401
Mounting dimensions	-	mm	See Unit Dimensions
Mounting position	-	-	Any
Flow max.	$Q_{max.}$	l/min	80 (See Performance Curves)
Ambient temperature range	min.	°C	-25
	max.	°C	+60
Working pressure			
Inlet	min.	bar	0
	max.	bar	315
Outlet	min.	bar	0
	max.	bar	315
Fluid temperature range	min.	°C	-25
	max.	°C	+80
Viscositiy range	min.	$mm^2 \bullet s^{-1}$ [cSt]	2,8
	max.	$mm^2 \bullet s^{-1}$ [cSt]	380
Operational viscositiy	v	$mm^2 \bullet s^{-1}$ [cSt]	35
Weight	m	kg	1,3
Cracking pressure	p_O	bar	ca. 0,7 (in free flow direction)

PERFORMANCE CURVES





INSTALLATION DRAWING N-ZFDRP06A4A2CV/S



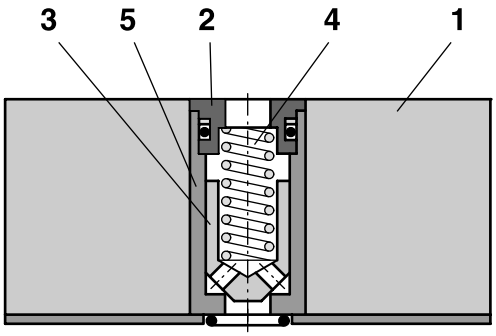
4 x O-Ring NBR 9,25x1,78 (Part number: X783-00288); Seal kit, complete: XEB17583-000N00

DESCRIPTION OF FUNCTION, SECTION

Check valves type N-ZREP06 are direct operated valves in sandwich plate design. They give leakfree closure in one direction and allow free flow in the other.

They comprise of the following:
- housing (1)
- spring retainer (2)
- poppet (3) and a
- spring (4).

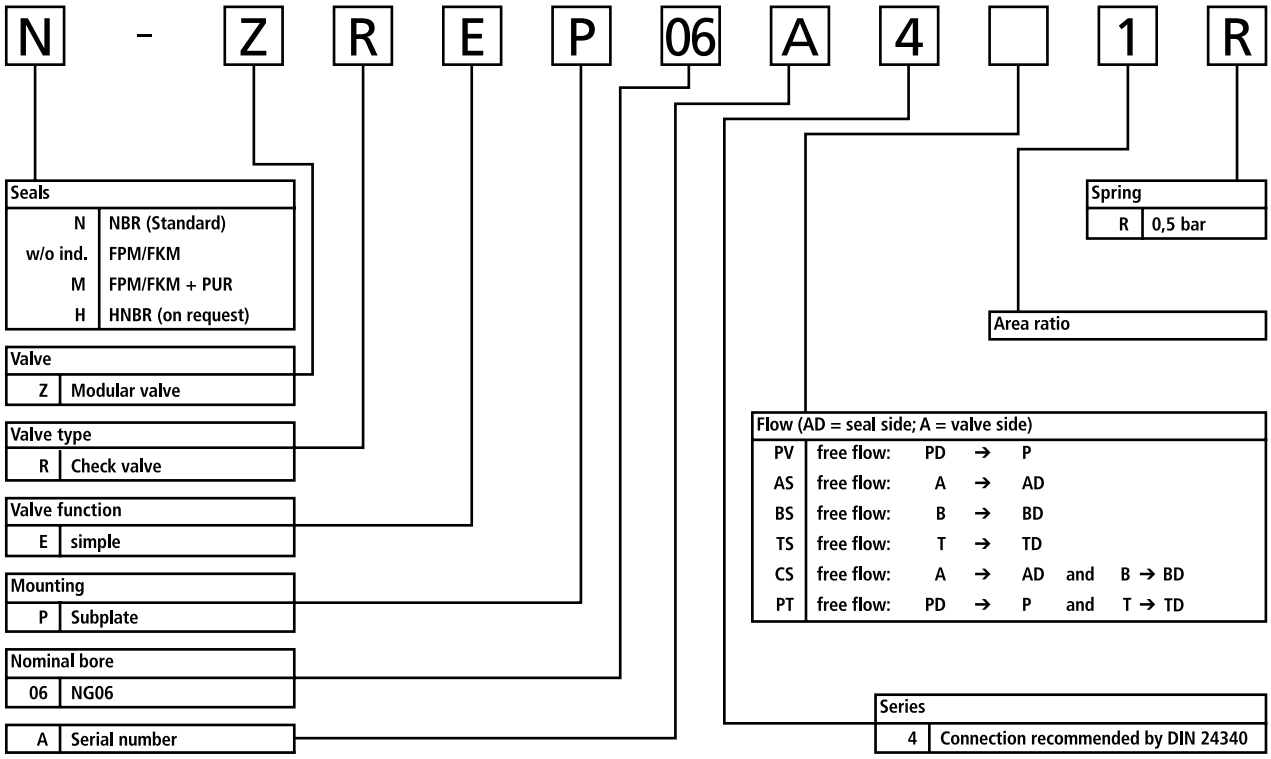
These last three parts belong to the slip-in poppet cartridge (5).



The stroke of the poppet (3) at the internal diameter is limited by the spring retainer (2). The built-in spring (4) supports the closing movement and also serves to hold the valve poppet (3) in the closed position.

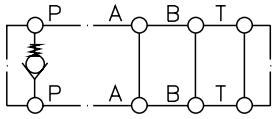
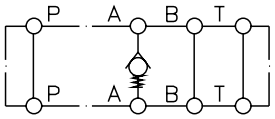
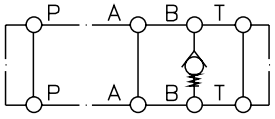
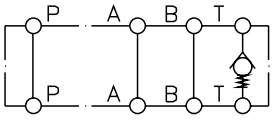
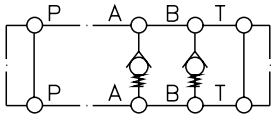
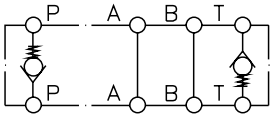
The slip-in cartridge (5) can be inverted in its bore, enabling simple field changes from free flow IN to free flow OUT and vice versa. The flow direction is marked on the cartridge with a check valve symbol.

ORDERING INFORMATION



Subject to technical changes

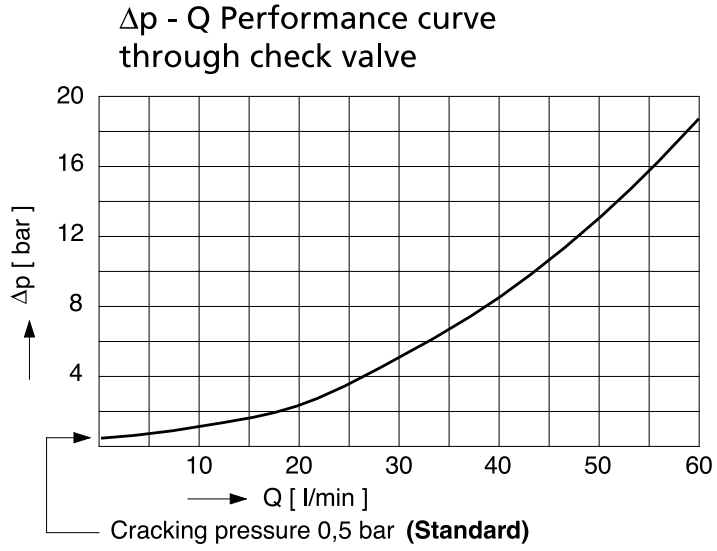
SYMBOLS AND PART NUMBERS

	NG	$Q_{max.}$ [l/min]	DESIGNATION	PART NUMBER
	6	60	N-ZREP06A4PV1R	XEB17139-000N01
	6	60	N-ZREP06A4AS1R	XEB17302-000N01
	6	60	N-ZREP06A4BS1R	XEB17303-000N01
	6	60	N-ZREP06A4TS1R	XEB17304-000N01
	6	60	N-ZREP06A4CS1R	XEB17305-000N01
	6	60	N-ZREP06A4PT1R	XEB17457-000N01

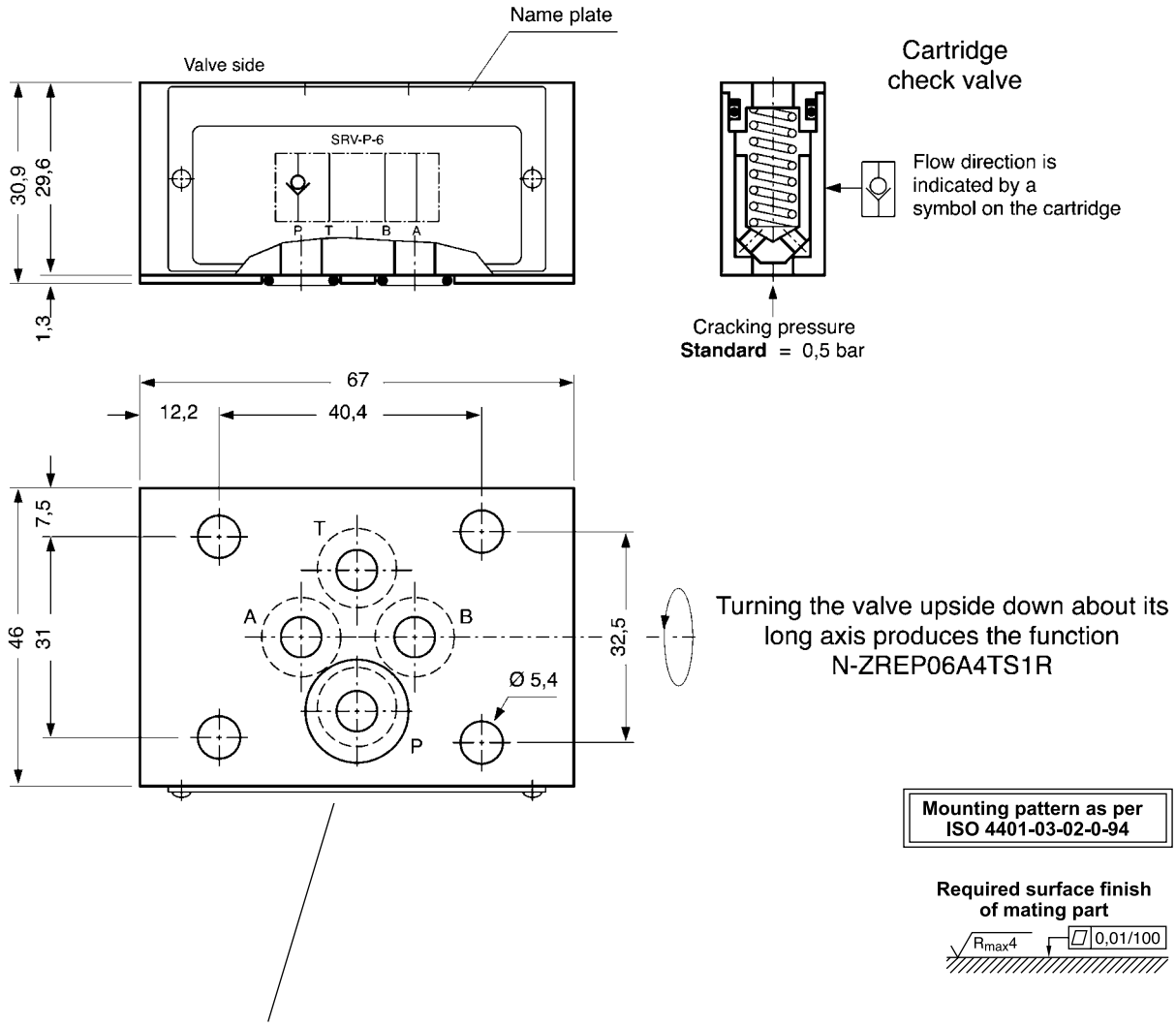
TECHNICAL DATA

General Data	Value	Unit	Specifications
Designation	-	-	Check valve
Type designation	-	-	See Ordering Information
Mode of construction	-	-	Modular valve
Mounting pattern	-	-	Size 03 (NG06) as per ISO 4401
Mounting dimensions	-	mm	See Unit Dimensions
Mounting position	-	-	Any
Flow max.	$Q_{max.}$	l/min	60 (See Performance Curves)
Ambient temperature range	min.	°C	-25
	max.	°C	+60
Working pressure			
Inlet	min.	bar	0
	max.	bar	315
Outlet	min.	bar	0
	max.	bar	315
Fluid temperature range	min.	°C	-25
	max.	°C	+80
Viscositiy range	min.	$mm^2 \bullet s^{-1}$ [cSt]	2,8
	max.	$mm^2 \bullet s^{-1}$ [cSt]	380
Operational viscositiy	ν	$mm^2 \bullet s^{-1}$ [cSt]	35
Weight	m	kg	0,7
Cracking pressure	p_O	bar	0,5

PERFORMANCE CURVE



INSTALLATION DRAWING N-ZREP06A4_1R



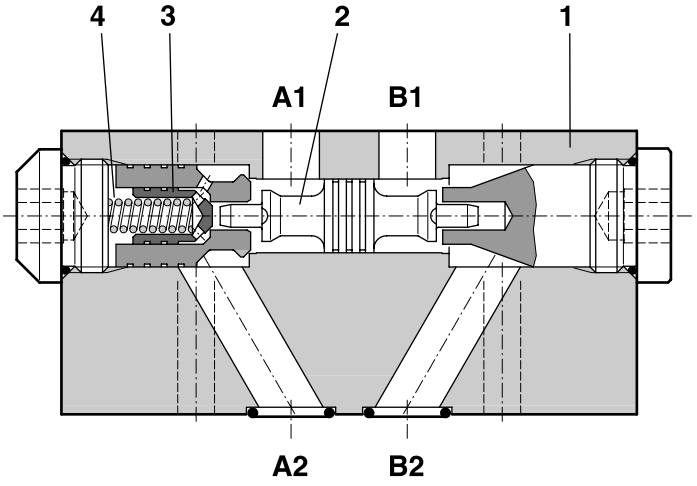
4 x O-Ring NBR 9,25x1,78 (Part number: X783-00288);
Seal kit, complete: XEB17593-000N00 (all except CS + PT-Versions)
XEB17601-000N00 (CS + PT-Version)

DESCRIPTION OF FUNCTION, SECTION

Check valves type N-ZRDP06 are self-piloting check valves in sandwich plate design. They ensure closure of the service line with near-zero leakage, and therefore block the effects of external forces on the actuator and various leakages across the directional valve.

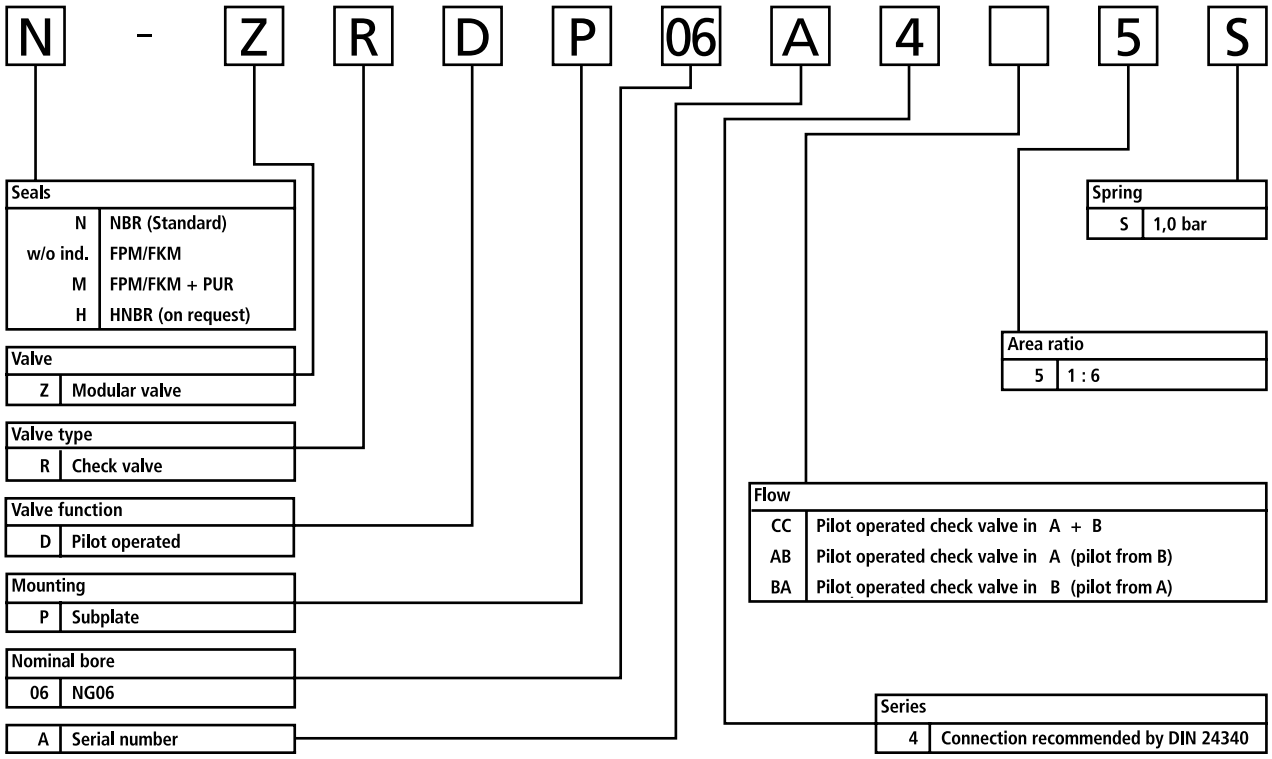
They comprise of the following:

- housing (1)
- dual piston (2)
- pilot poppet (3) and a
- spring (4).



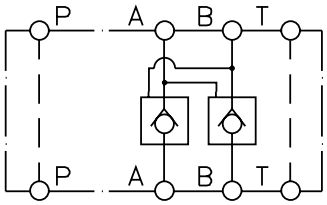
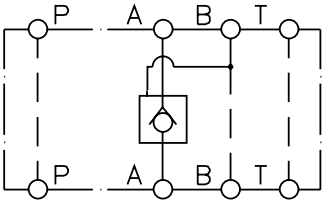
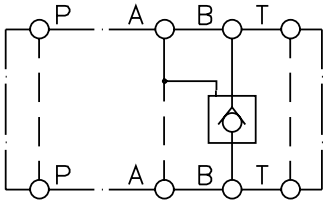
There is free flow from A1 to A2, while flow is blocked in the other direction. When oil flows from B1 to B2, build-up of pressure causes the dual piston (2) to move. As the piston (2) is moved to the left, the pilot poppet (3) is pushed from its seat. Oil can now flow from A2 to A1. In order to ensure that the poppet valve seats properly, the service ports of the directional valve should be connected to the return line in the neutral position.

ORDERING INFORMATION



Subject to technical changes

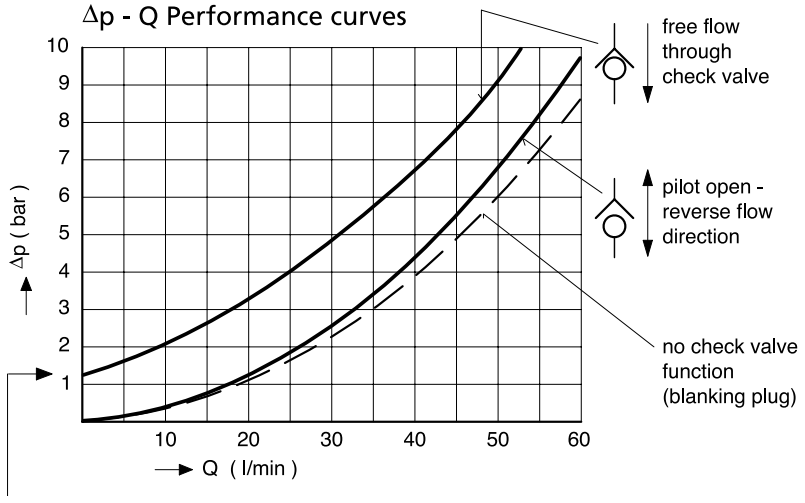
SYMBOLS AND PART NUMBERS

	NG	$Q_{max.}$ [l/min]	DESIGNATION	PART NUMBER
	6	60	N-ZRDP06A4CC5S	XEB16883-000N01
	6	60	N-ZRDP06A4AB5S	XEB17299-000N01
	6	60	N-ZRDP06A4BA5S	XEB17300-000N01

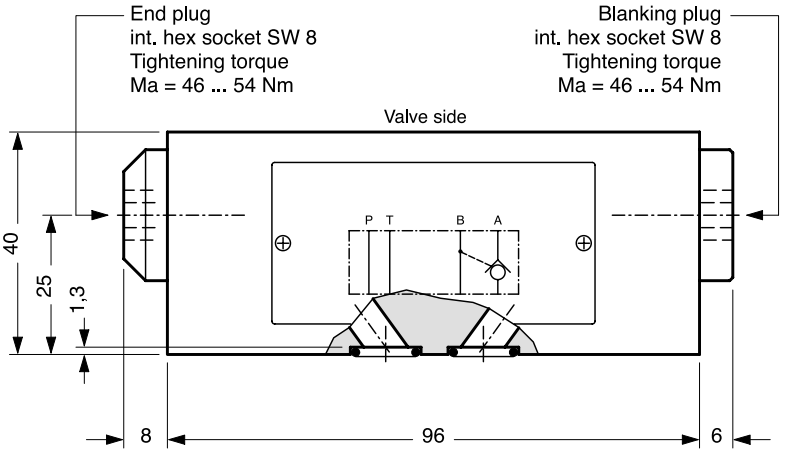
TECHNICAL DATA

General Data	Value	Unit	Specifications
Designation	-	-	Pilot operated check valve
Type designation	-	-	See Ordering Information
Mode of construction	-	-	Modular valve
Mounting pattern	-	-	Size 03 (NG06) as per ISO 4401
Mounting dimensions	-	mm	See Unit dimensions
Mounting position	-	-	Any
Flow max.	$Q_{max.}$	l/min	60 (See Performance Curves)
Ambient temperature range	min.	°C	-25
	max.	°C	+60
Working pressure			
Inlet	min.	bar	0
	max.	bar	315
Outlet	min.	bar	0
	max.	bar	315
Fluid temperature range	min.	°C	-25
	max.	°C	+80
Viscositiy range	min.	$mm^2 \bullet s^{-1}$ [cSt]	2,8
	max.	$mm^2 \bullet s^{-1}$ [cSt]	380
Operational viscositiy	ν	$mm^2 \bullet s^{-1}$ [cSt]	35
Weight	m	kg	1,2
Area ratio	-	-	1 : 6

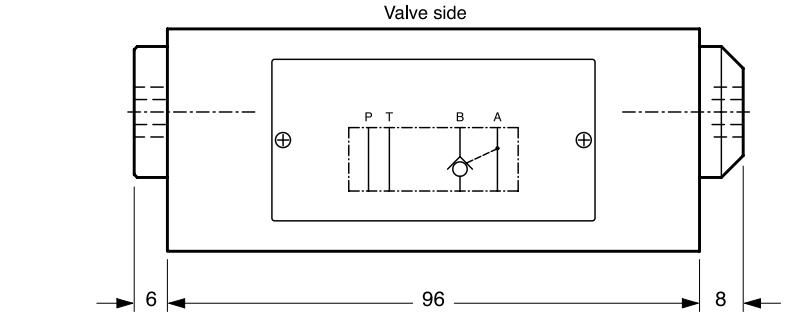
PERFORMANCE CURVES



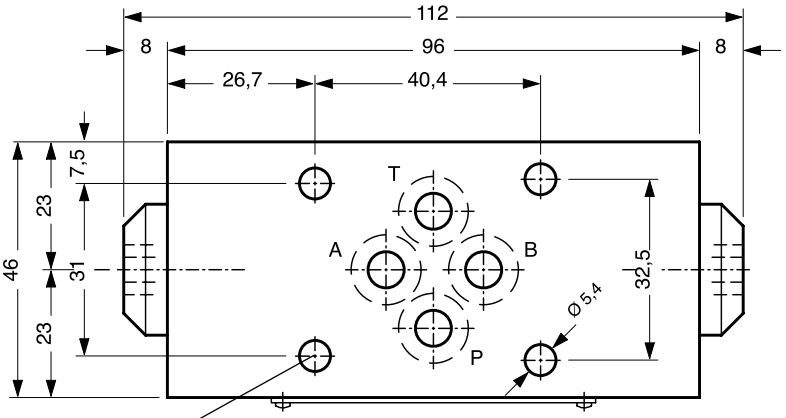
INSTALLATION DRAWING N-ZRDP06A4__5S



N-ZRDP06A4AB5S



N-ZRDP06A4BA5S

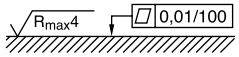


N-ZRDP06A4CC5S

4 x O-Ring NBR 9,25x1,78 (Part number: X783-00288);
Seal kit, complete: XEB17587-000N00 (CC-Version)
XEB17589-000N00 (AB + BA-Version)

Mounting pattern as per ISO 4401-03-02-0-94

Required surface finish of mating part

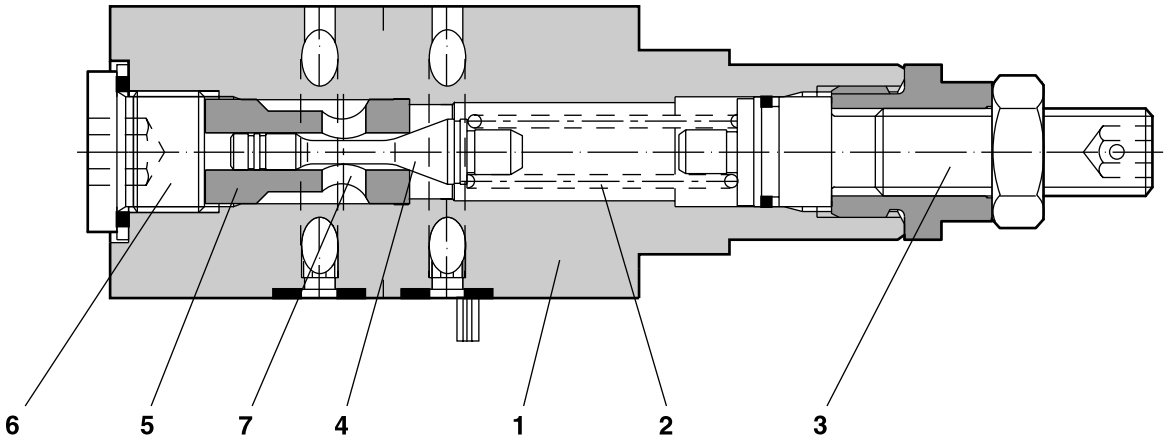


DESCRIPTION OF FUNCTION, SECTION

Pressure relief valves type ZDBDP06 are direct operated poppet type valves in sandwich plate design. They limit maximum pressure in a hydraulic system.

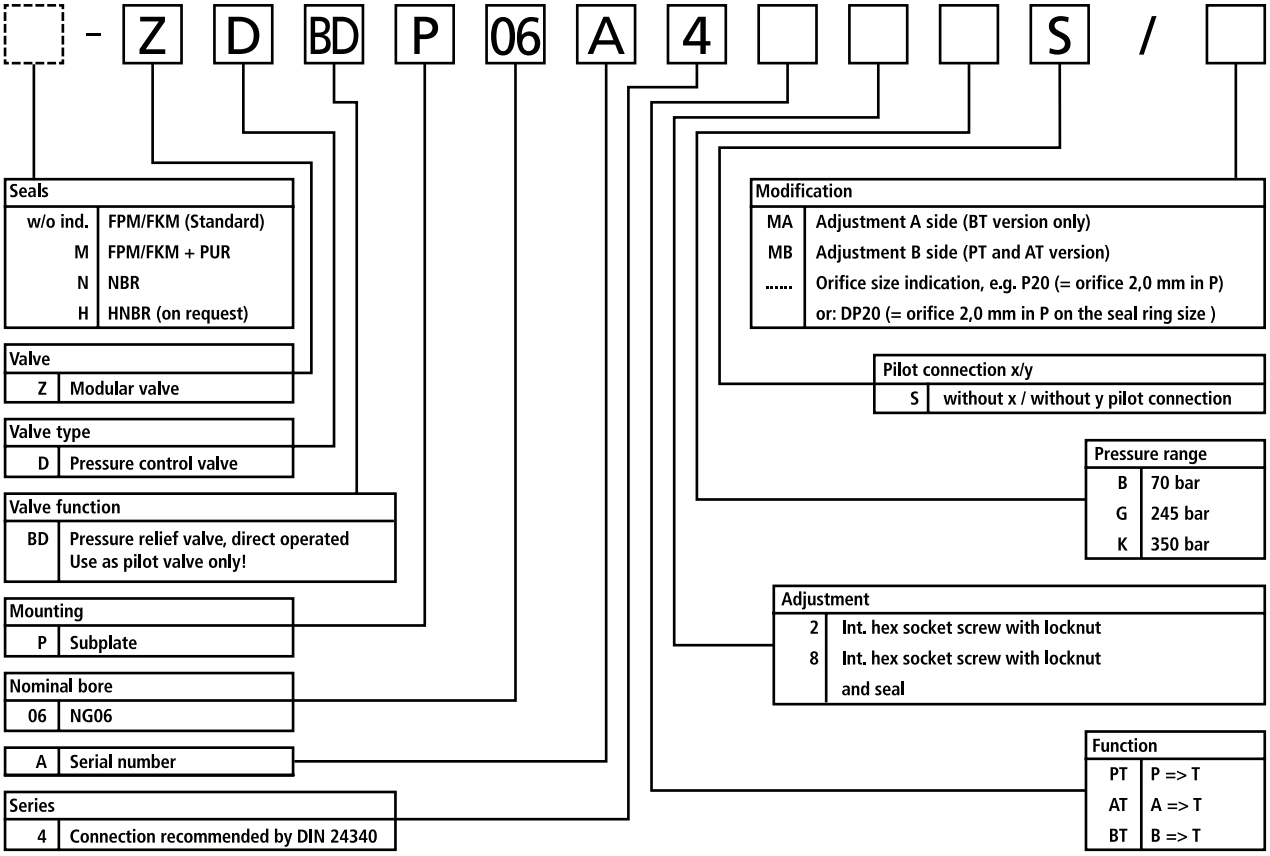
They comprise of the following:

- housing (1)
- adjustment spring (2)
- adjustment mechanism (3)
- poppet (4)
- poppet sleeve (5)
- plug (6).



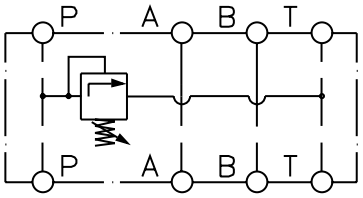
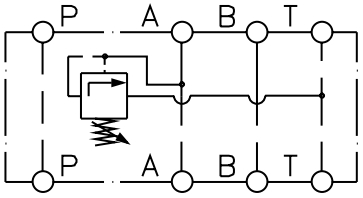
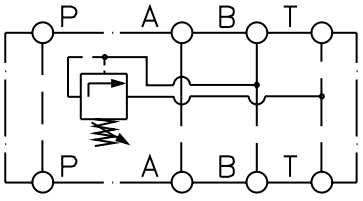
Pressure relief valves are normally closed. Pressure at port (7) acts upon the exposed surface area of the poppet (4). If the pressure at the port (7) exceeds the value set on the adjustment spring (2), the poppet (4) opens. Fluid flows from the spring-loaded side of the poppet (4) into the tank.
These valves should be used only as pilot valves!

ORDERING INFORMATION



Subject to technical changes

SYMBOLS AND PART NUMBERS

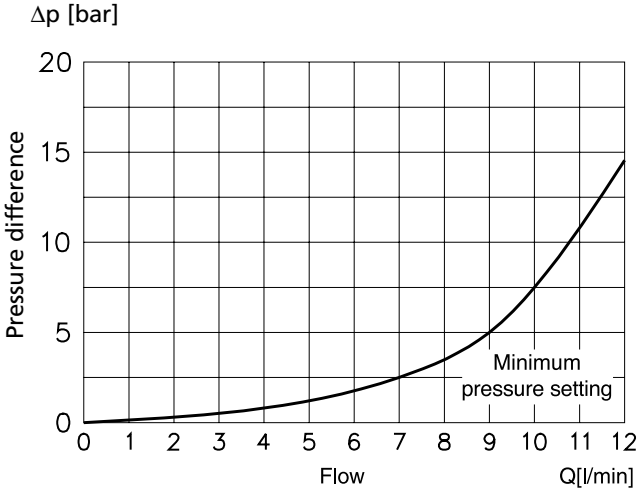
	NG	$Q_{max.}$ [l/min]	DESIGNATION	PART NUMBER
	6	12	ZDBDP06A4PT2BS/MB	XZB10129-000-01
			ZDBDP06A4PT2GS/MB	XZB10131-000-01
			ZDBDP06A4PT2KS/MB	XZB10132-000-01
	6	12	ZDBDP06A4AT2BS/MB	XZB10084-000-01
			ZDBDP06A4AT2GS/MB	XZB10086-000-01
			ZDBDP06A4AT2KS/MB	XZB10087-000-01
	6	12	ZDBDP06A4BT2BS/MA	XZB10125-000-01
			ZDBDP06A4BT2GS/MA	XZB10127-000-01
			ZDBDP06A4BT2KS/MA	XZB10128-000-01

TECHNICAL DATA

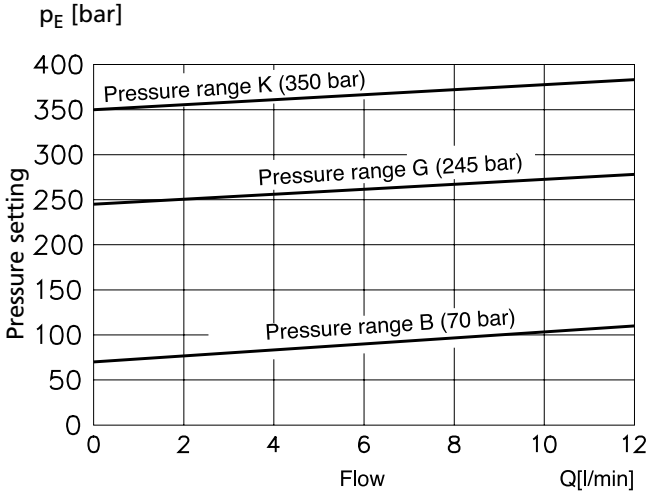
General Data	Value	Unit	Specifications
Designation	-	-	Pressure reducing valve direct operated
Type designation	-	-	See Ordering Information
Mode of construction	-	-	Modular valve
Mounting pattern	-	-	Size 03 (NG06) as per ISO 4401
Mounting dimensions	-	mm	See Unit Dimensions
Mounting position	-	-	Any
Nominal flow	Q_N	l/min	6
Ambient temperature range	min.	°C	-25
	max.	°C	+60
Working pressure			
Inlet	min.	bar	0
	max.	bar	350
Outlet	min.	bar	0
	max.	bar	350
Fluid temperature range	min.	°C	-25
	max.	°C	+80
Viscositiy range	min.	$mm^2 \bullet s^{-1}$ [cSt]	2,8
	max.	$mm^2 \bullet s^{-1}$ [cSt]	380
Operational viscositiy	ν	$mm^2 \bullet s^{-1}$ [cSt]	35
Weight	m	kg	1

PERFORMANCE CURVES

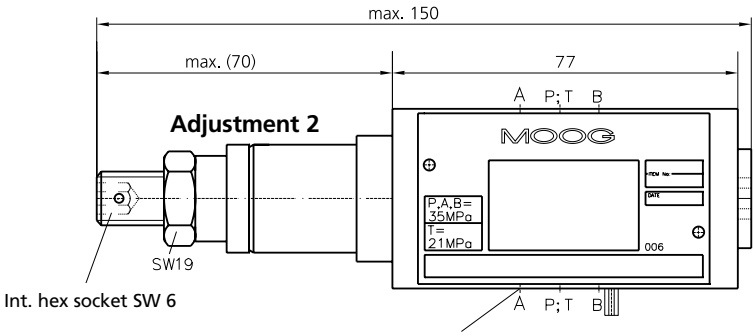
Δp-Q-Diagram

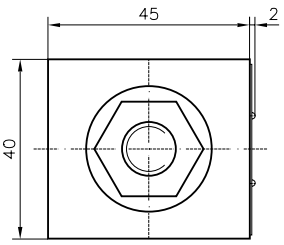


p_E-Q-Diagram

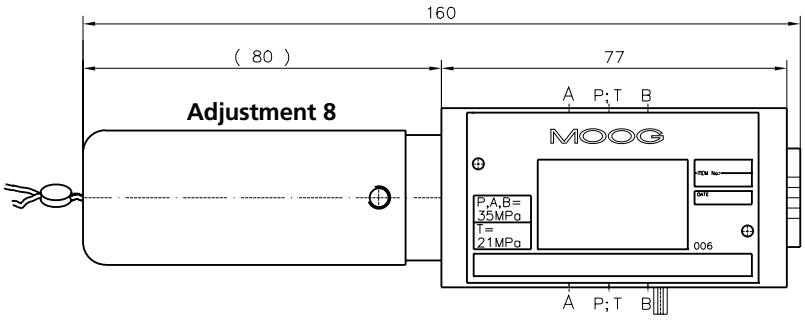


INSTALLATION DRAWING ZDBDP06A4BT_S/MA



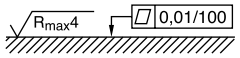


4 x O-Ring Fluorocarbon 9,25x1,78 (Part number: X980-02012); Seal kit, complete: XEB13967-000-00
for M-Version: 4 x Axial seal ring 8,5x12,5x1,5 (Part number: XE15498); Seal kit, complete: XEB17133-000M00

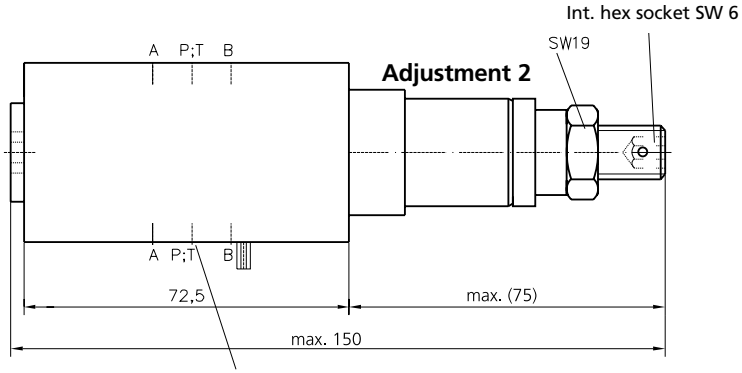


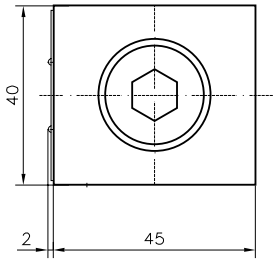
Mounting pattern as per ISO 4401-03-02-0-94

Required surface finish of mating part

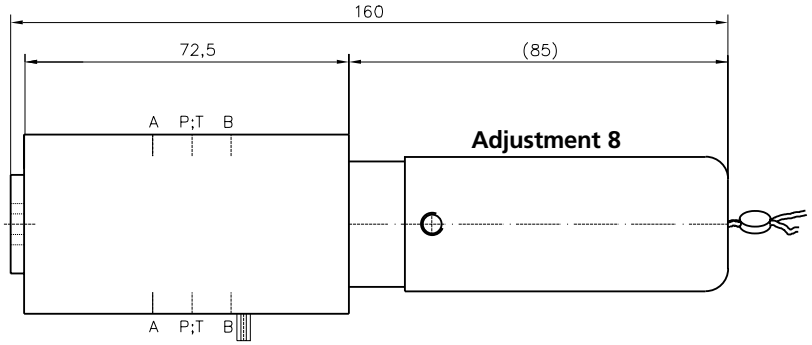


INSTALLATION DRAWING ZDBDP06A4PT(AT)_S/MB



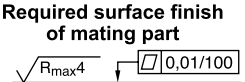


4 x O-Ring Fluorocarbon 9,25x1,78 (Part number: X980-02012); Seal kit, complete: XEB13967-000-00
for M-Version: 4 x Axial seal ring 8,5x12,5x1,5 (Part number: XE15498); Seal kit, complete: XEB17133-000M00



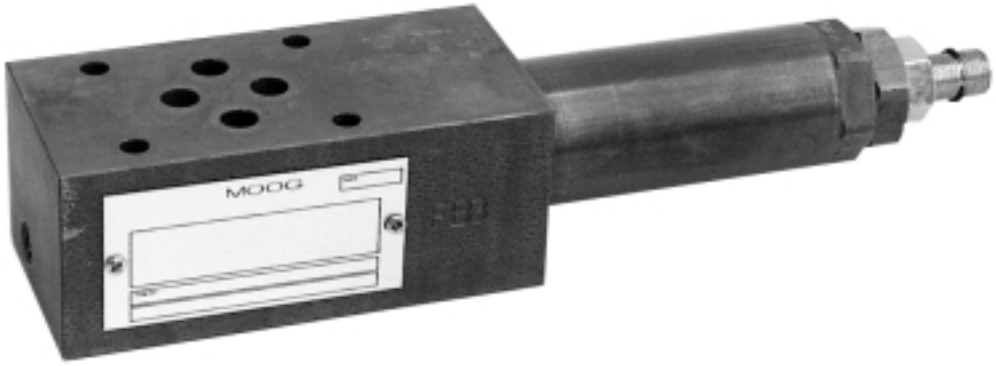
Mounting pattern as per ISO 4401-03-02-0-94

Required surface finish of mating part

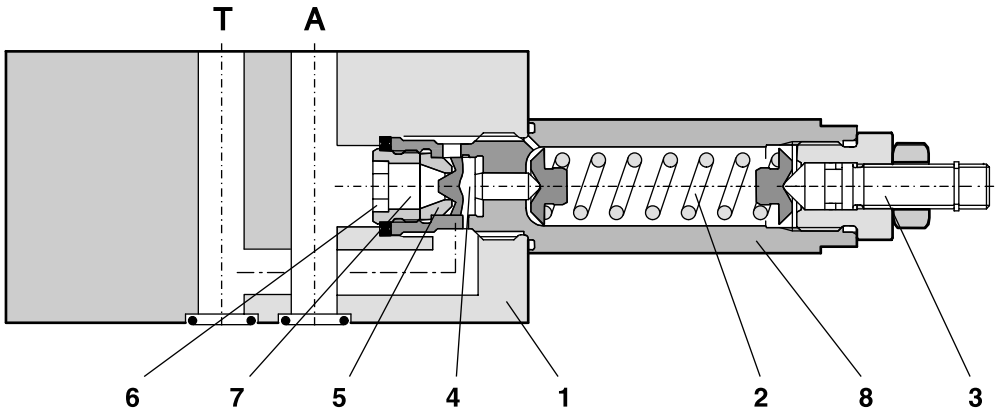


DESCRIPTION OF FUNCTION, SECTION

Pressure relief valves type N-ZDBDHP06 are direct operated poppet type valves in sandwich plate design. They limit maximum pressure in a hydraulic system.



They comprise of the following:
- housing (1)
- adjustment spring (2)
- adjustment mechanism (3)
- poppet (4)
- poppet seat (5)
- plug (6)
- cartridge body (8).



Pressure relief valves are normally closed. Pressure at the port (7) acts upon the exposed surface area of the poppet (4). If the pressure at the port (7) exceeds the value set on the adjustment spring (2), the poppet (4) opens. Fluid flows from the spring-loaded side of the poppet (4) into tank.
These valves could be used also as main stage valves!

ORDERING INFORMATION

N - Z D BDH P 06 A 4 □ □ □ S / MB

Seals	
N	NBR (Standard)
w/o ind.	FPM/FKM
M	FPM/FKM + PUR
H	HNBR (on request)

Valve	
Z	Modular valve

Valve type	
D	Pressure control valve

Valve function	
BDH	Pressure relief valve, direct operated Use as main valve!

Mounting	
P	Subplate

Nominal bore	
06	NG06

A	Serial number

Series	
4	Connection recommended by DIN 24340

Modification	
MB	Adjustment B side

Pilot connection x/y	
S	without x / without y pilot connection

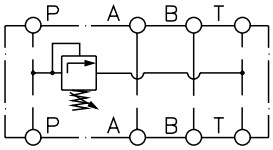
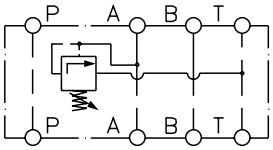
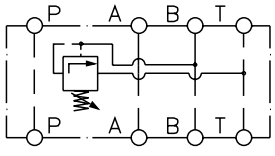
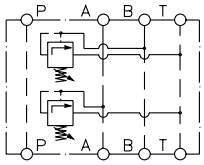
Pressure range	
C	105 bar
G	245 bar
I	315 bar

Adjustment	
2	Int. hex socket screw with locknut
8	Int. hex socket screw with locknut and seal

Function		
PT	P	=> T
AT	A	=> T
BT	B	=> T
CT	A,B	=> T

Subject to technical changes

SYMBOLS AND PART NUMBERS

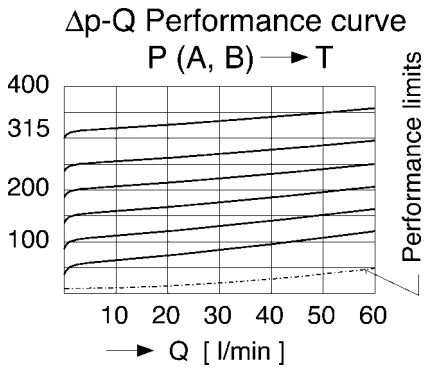
	NG	$Q_{max.}$ [l/min]	DESIGNATION	PART NUMBER
	6	60	N-ZDBDHP06A4PT2CS/MB N-ZDBDHP06A4PT2GS/MB N-ZDBDHP06A4PT2IS/MB	XEB17458-000N01 XEB17462-000N01 XEB17466-000N01
	6	60	N-ZDBDHP06A4AT2CS/MB N-ZDBDHP06A4AT2GS/MB N-ZDBDHP06A4AT2IS/MB	XEB17459-000N01 XEB17463-000N01 XEB17467-000N01
	6	60	N-ZDBDHP06A4BT2CS/MB N-ZDBDHP06A4BT2GS/MB N-ZDBDHP06A4BT2IS/MB	XEB17460-000N01 XEB17464-000N01 XEB17468-000N01
	6	60	N-ZDBDHP06A4CT2CS N-ZDBDHP06A4CT2GS N-ZDBDHP06A4CT2IS	XEB17461-000N01 XEB17465-000N01 XEB17469-000N01

TECHNICAL DATA

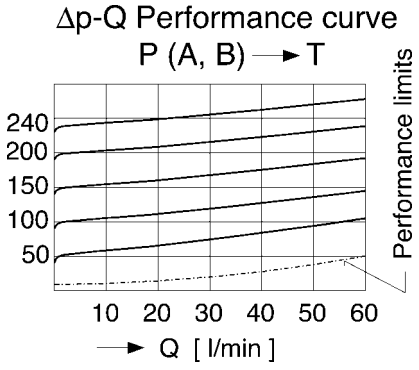
General Data	Value	Unit	Specifications
Designation	-	-	Pressure relief valve direct operated
Type designation	-	-	See Ordering Information
Mode of construction	-	-	Modular valve
Mounting pattern	-	-	Size 03 (NG06) as per ISO 4401
Mounting dimensions	-	mm	See Unit Dimensions
Mounting position	-	-	Any
Flow max.	$Q_{max.}$	l/min	60 (See Performance Curves)
Ambient temperature range	min.	°C	-25
	max.	°C	+60
Working pressure			
Inlet	min.	bar	0
	max.	bar	315
Outlet	min.	bar	0
	max.	bar	315
Fluid temperature range	min.	°C	-25
	max.	°C	+80
Viscositiy range	min.	$mm^2 \bullet s^{-1}$ [cSt]	2,8
	max.	$mm^2 \bullet s^{-1}$ [cSt]	380
Operational viscositiy	ν	$mm^2 \bullet s^{-1}$ [cSt]	35
Weight	m	kg	1,5 => Version PT, AT, BT / 2,4 => Version CT

PERFORMANCE CURVES

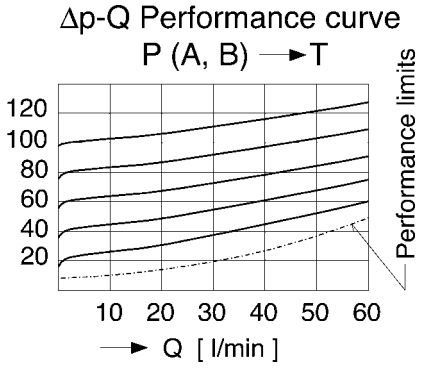
N-ZDBDHP06A4__IS/MB



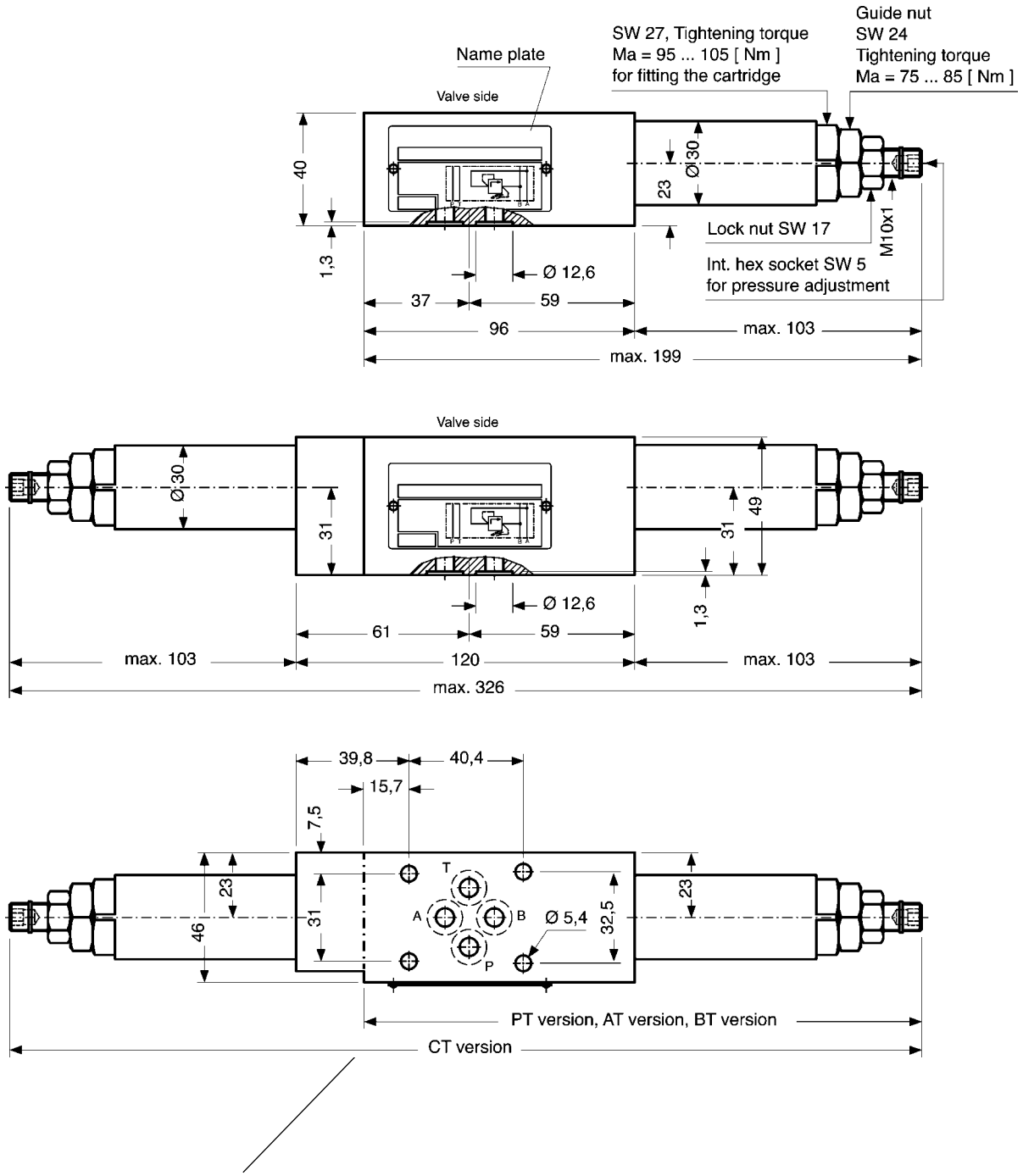
N-ZDBDHP06A4__GS/MB



N-ZDBDHP06A4__CS/MB



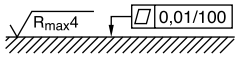
INSTALLATION DRAWING N-ZDBDHP06A4_S/MB



4 x O-Ring NBR 9,25x1,78 (Part number: X783-00288);
Seal kit, complete: XEB17605-000N00 (PT, AT, BT version)
XEB17623-000N00 (CT version)

Mounting pattern as per ISO 4401-03-02-0-94

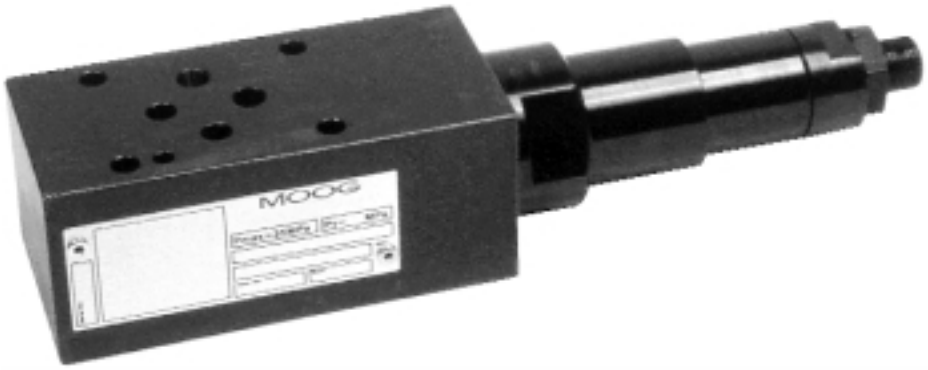
Required surface finish of mating part



PRESSURE RELIEF VALVES PILOT OPERATED

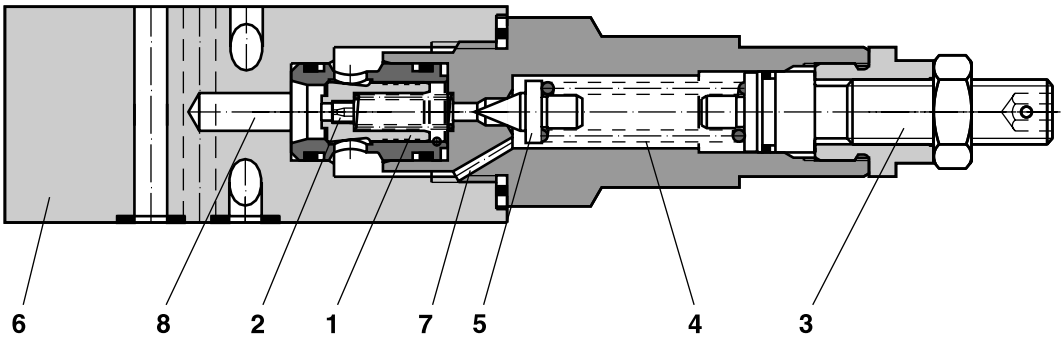
DESCRIPTION OF FUNCTION, SECTION

Pressure relief valves type ZDBVP06 are pilot operated poppet type valves in sandwich plate design. They limit maximum pressure in a hydraulic system.



They comprise of the following:

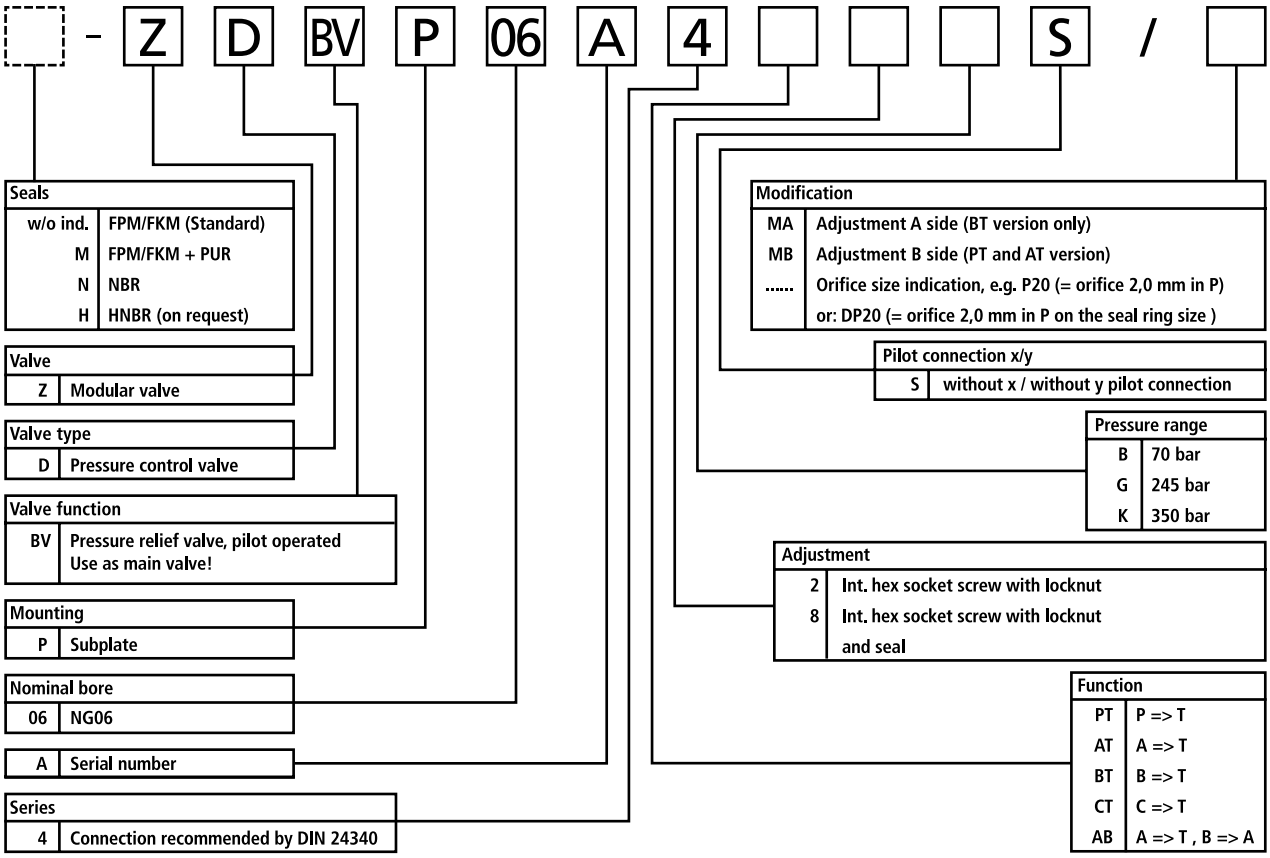
- housing (6)
- adjustment spring (4)
- adjustment mechanism (3)
- main poppet (1)
- pilot poppet (5).



Pressure relief valves are normally closed. Pressure (shown in cross-section on port 8) acts upon both sides of the main poppet (1), via orifice (2), and also upon the pilot poppet (5).

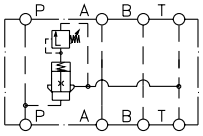
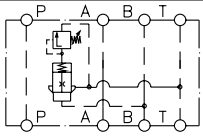
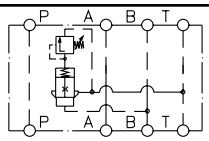
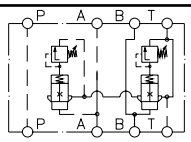
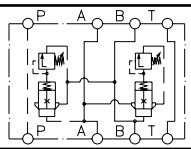
As the pressure on the exposed surface area of the pilot poppet (5) exceeds spring force (4), it opens allowing pilot flow via orifice (2) and drain (7). This pressure drop across the main poppet (1), allows the main flow into the tank.

ORDERING INFORMATION



Subject to technical changes

SYMBOLS AND PART NUMBERS

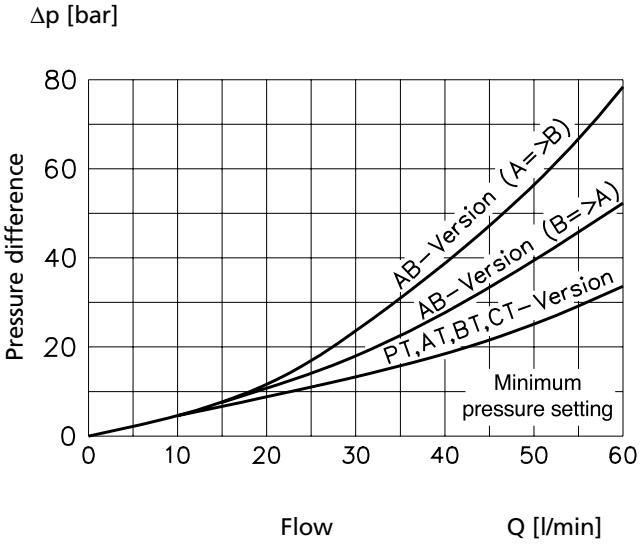
	NG	$Q_{max.}$ [l/min]	DESIGNATION	PART NUMBER
	6	60	ZDBVP06A4PT2BS	XZB10048-000-01
			ZDBVP06A4PT2GS	XZB10050-000-01
			ZDBVP06A4PT2KS	XZB10051-000-01
	6	60	ZDBVP06A4AT2BS	XZB10088-000-01
			ZDBVP06A4AT2GS	XZB10090-000-01
			ZDBVP06A4AT2KS	XZB10091-000-01
	6	60	ZDBVP06A4BT2BS	XZB10052-000-01
			ZDBVP06A4BT2GS	XZB10054-000-01
			ZDBVP06A4BT2KS	XZB10055-000-01
	6	60	ZDBVP06A4CT2BS	XZB10096-000-01
			ZDBVP06A4CT2GS	XZB10098-000-01
			ZDBVP06A4CT2KS	XZB10099-000-01
	6	60	ZDBVP06A4AB2BS	XZB10092-000-01
			ZDBVP06A4AB2GS	XZB10094-000-01
			ZDBVP06A4AB2KS	XZB10095-000-01

TECHNICAL DATA

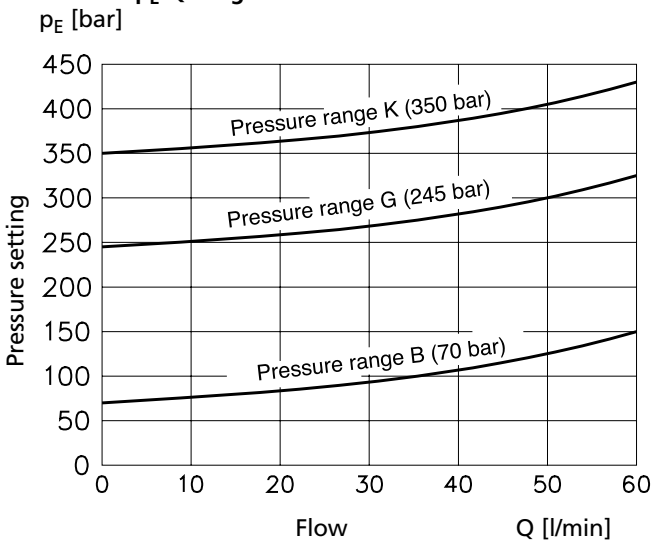
General Data	Value	Unit	Specifications
Designation	-	-	Pressure relief valve pilot operated
Type designation	-	-	See Ordering Information
Mode of construction	-	-	Modular valve
Mounting pattern	-	-	Size 03 (NG06) as per ISO 4401
Mounting dimensions	-	mm	See Unit Dimensions
Mounting position	-	-	Any
Flow max.	$Q_{max.}$	l/min	60 (See Performance Curves)
Ambient temperature range	min.	°C	-25
	max.	°C	+60
Working pressure			
Inlet	min.	bar	0
	max.	bar	350
Outlet	min.	bar	0
	max.	bar	350
Fluid temperature range	min.	°C	-25
	max.	°C	+80
Viscositiy range	min.	$mm^2 \bullet s^{-1}$ [cSt]	2,8
	max.	$mm^2 \bullet s^{-1}$ [cSt]	380
Operational viscositiy	ν	$mm^2 \bullet s^{-1}$ [cSt]	35
Weight	m	kg	1,5 => Version PT, AT, BT / 2,5 => Version CT, AB

PERFORMANCE CURVES

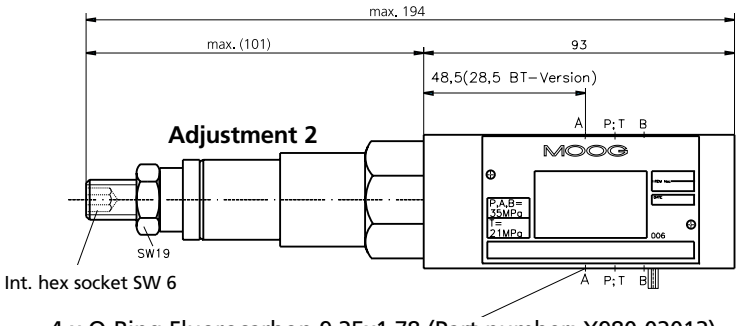
Δp-Q-Diagram

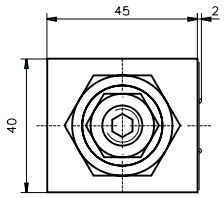


p_E-Q-Diagram



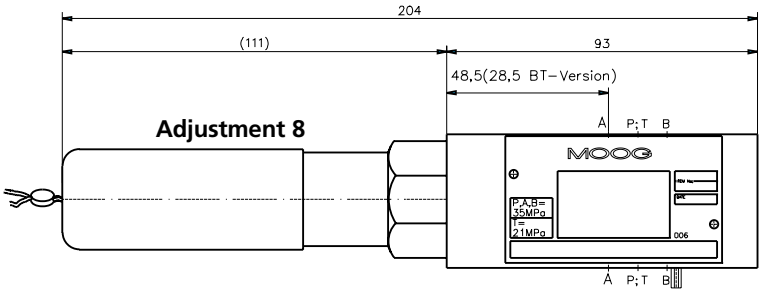
INSTALLATION DRAWING ZDBVP06A4PT(AT,BT)_S/MA(MB)





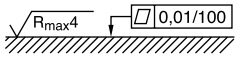
4 x O-Ring Fluorocarbon 9,25x1,78 (Part number: X980-02012)
M-Version: 4 x Axial seal ring 8,5x12,5x1,5 (Part number: XE15498)

Seal kit, complete: XEB17626-000-00
Seal kit, complete: XEB17626-000M00

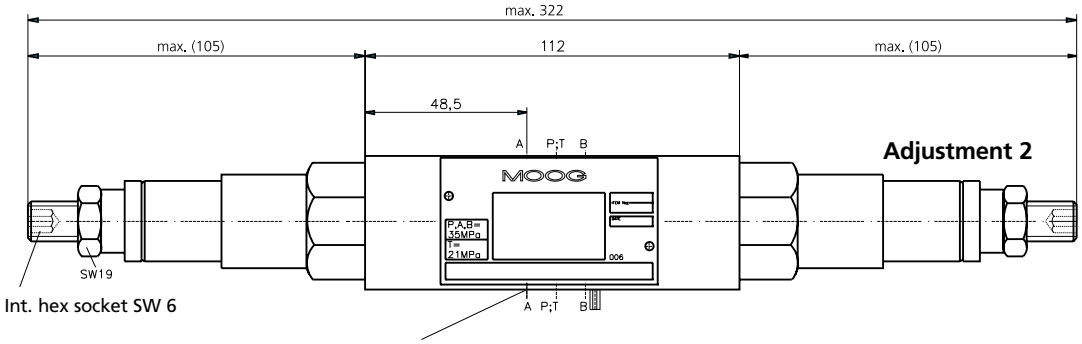


Mounting pattern as per ISO 4401-03-02-0-94

Required surface finish of mating part



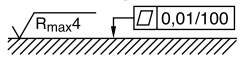
INSTALLATION DRAWING ZDBVP06A4CT(AB)_S

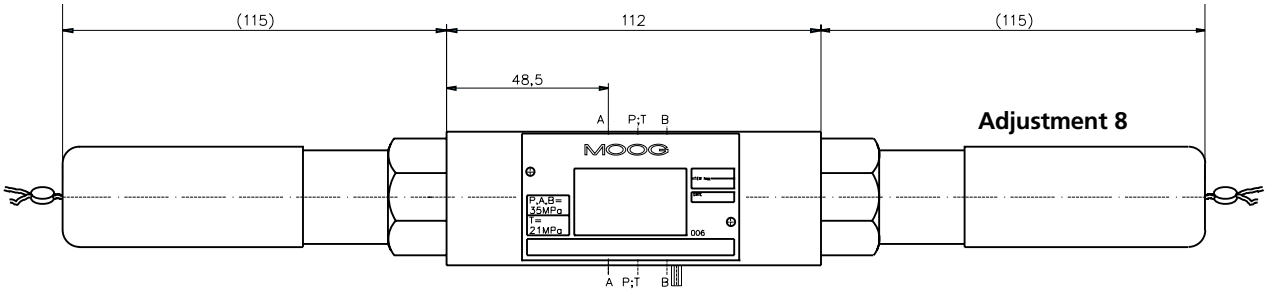


4 x O-Ring Fluorocarbon 9,25x1,78 (Part number: X980-02012)
Seal kit, complete: XEB17628-000-00 (CT), XEB17630-000-00 (AB)
M-Version: 4 x Axial seal ring 8,5x12,5x1,5 (Part number: XE15498)
Seal kit, complete: XEB17628-000M00 (CT), XEB17630-000M00 (AB)

Mounting pattern as per ISO 4401-03-02-0-94

Required surface finish of mating part

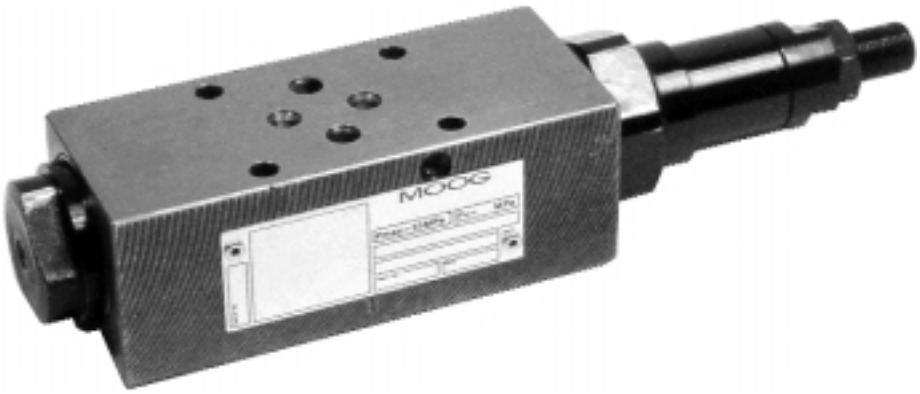




PRESSURE REDUCING VALVES DIRECT OPERATED

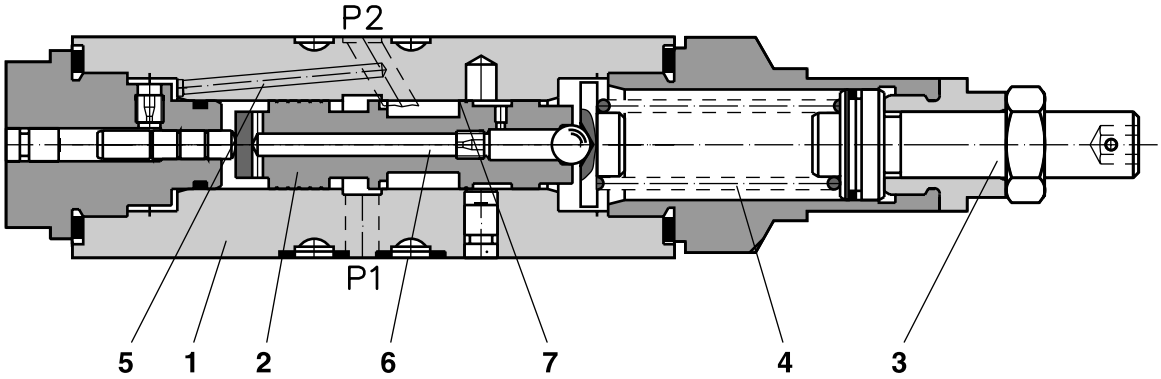
DESCRIPTION OF FUNCTION, SECTION

Pressure reducing valves type ZDMDP06 are 3-way direct operated pressure reducing valves in sandwich plate design. They reduce pressure in a branch circuit lower than that of the main circuit.



They comprise of the following:
- housing (1)
- control spool (2)
- adjustment spring (4)
- adjustment mechanism (3).

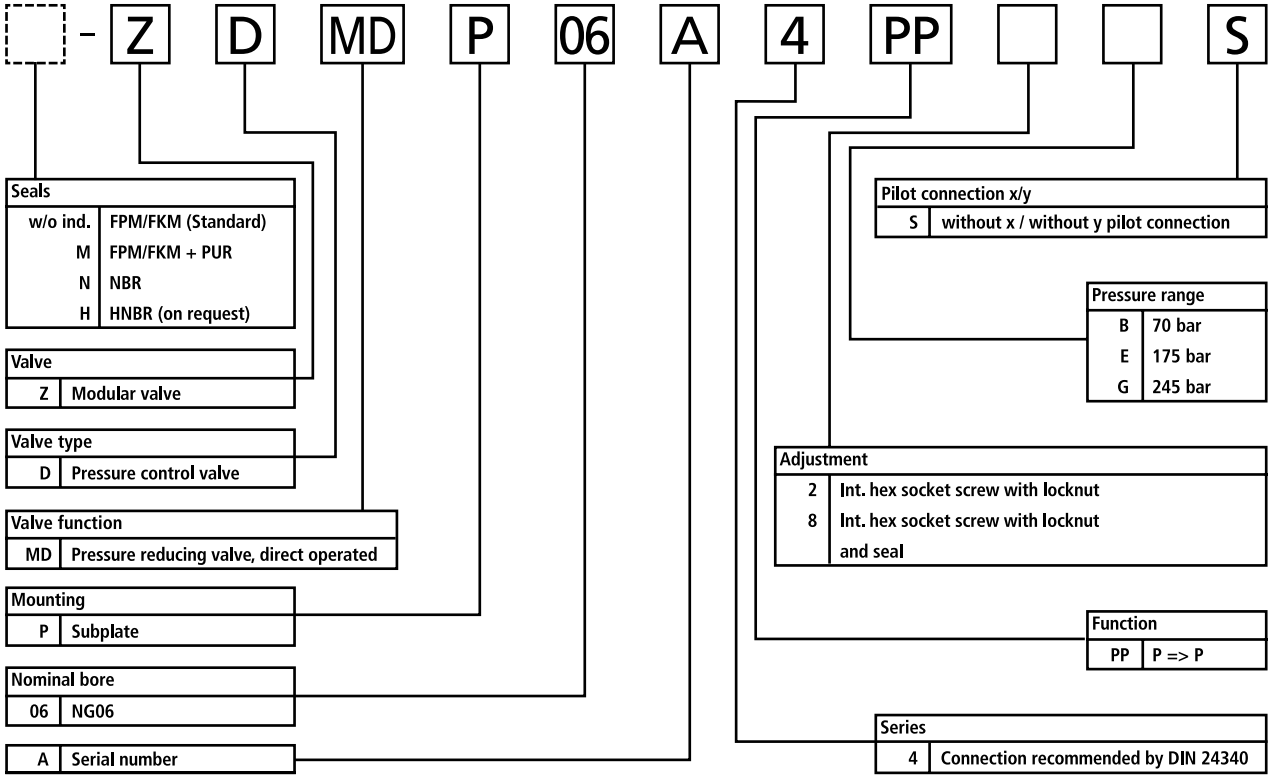
Pressure in the branch circuit is manually set by the adjustment mechanism (3).



The reducing valve is normally open permitting flow from port P1 to P2. Pressure in port P2 acts on the end of the spool (2), via drilling (5), against spring force (4). When downstream pressure in port P2 increases, the control spool (2) moves right, throttling fluid from the main system. The spool modulates to maintain set pressure in port P2.

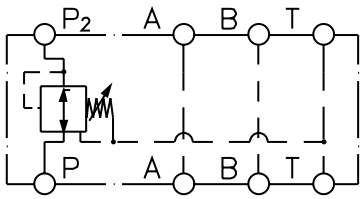
If pressure continues to rise (external forces in the branch circuit), the control spool (2) moves further right against the spring (4). Port P2 then connects to tank via land (7). Fluid drains to the tank to maintain set pressure. The control spool (2) being pressure balanced through drill (6), has its travel dampened by the orifice.

ORDERING INFORMATION



Subject to technical changes

SYMBOL AND PART NUMBERS

	NG	$Q_{max.}$ [l/min]	DESIGNATION	PART NUMBER
	6	60	ZDMDP06A4PP2BS	XZB10034-000-01
			ZDMDP06A4PP2ES	XZB10035-000-01
			ZDMDP06A4PP2GS	XZB10036-000-01

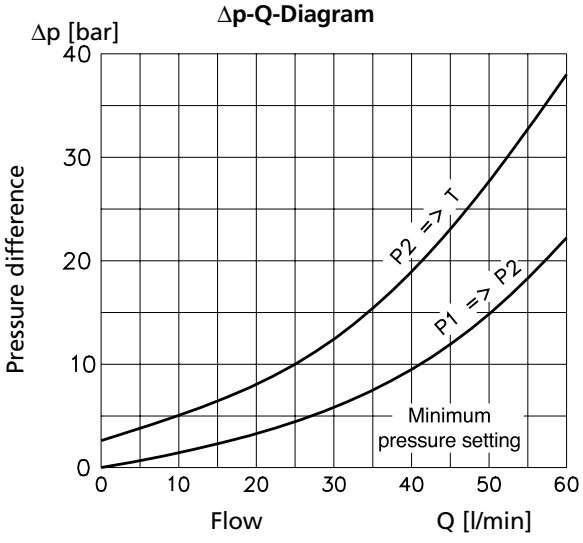
PRESSURE REDUCING VALVES DIRECT OPERATED

TECHNICAL DATA

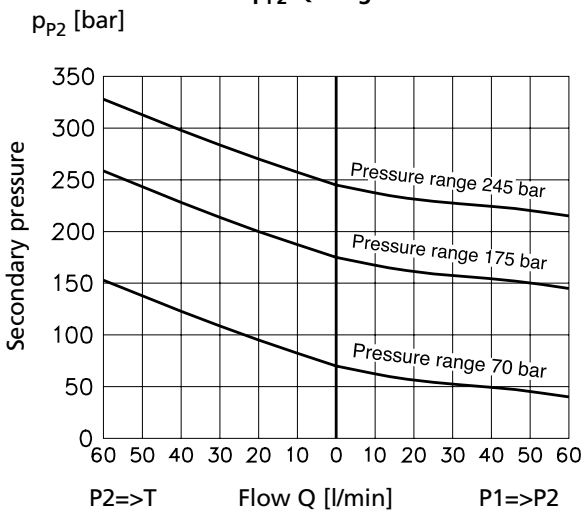
General Data	Value	Unit	Specifications
Designation	-	-	Pressure reducing valve direct operated
Type designation	-	-	See Ordering Information
Mode of construction	-	-	Modular valve
Mounting pattern	-	-	Size 03 (NG06) as per ISO 4401
Mounting dimensions	-	mm	See Unit Dimensions
Mounting position	-	-	Any
Flow max.	$Q_{max.}$	l/min	up to 60 (See Performance Curves)
Ambient temperature range	min.	°C	-25
	max.	°C	+60
Working pressure			
Inlet	min.	bar	0
	max.	bar	350
Outlet (secondary pressure)	min.	bar	0
	max.	bar	up to 70, up to 175, up to 245
Fluid temperature range	min.	°C	-25
	max.	°C	+80
Viscositiy range	min.	$mm^2 \bullet s^{-1}$ [cSt]	2,8
	max.	$mm^2 \bullet s^{-1}$ [cSt]	380
Operational viscositiy	ν	$mm^2 \bullet s^{-1}$ [cSt]	35
Weight	m	kg	1

PERFORMANCE CURVES

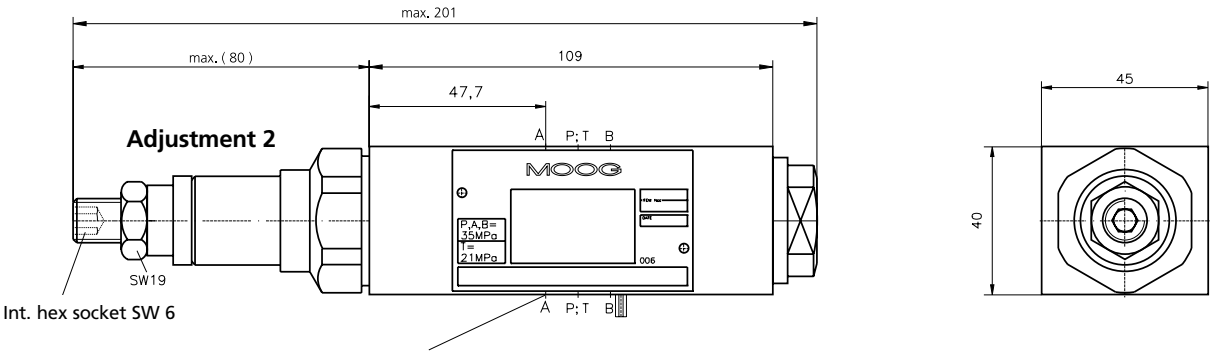
Δp-Q-Diagram



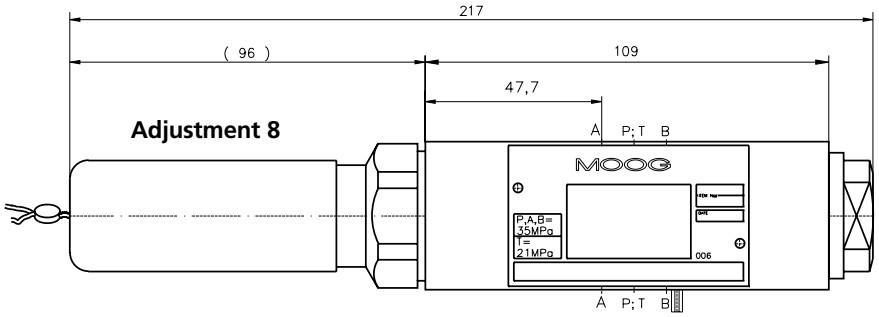
p_{P2}-Q-Diagram

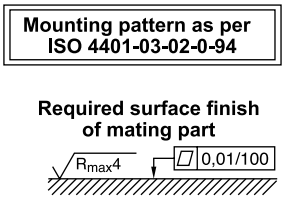


INSTALLATION DRAWING ZDMDP06A4PP__S



4 x O-Ring Fluorocarbon 9,25x1,78 (Part number: X980-02012) Seal kit, complete: XEB17632-000-00
M-Version: 4 x Axial seal ring 8,5x12,5x1,5 (Part number: XE15498) Seal kit, complete: XEB17632-000M00





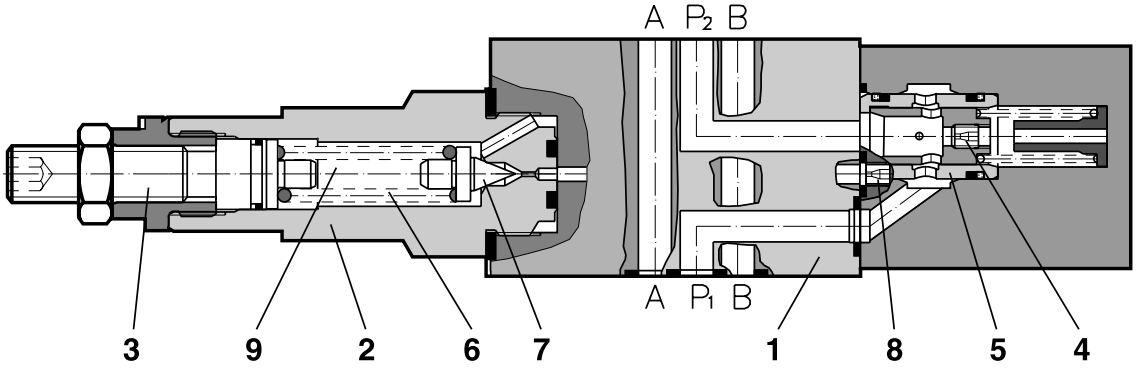
PRESSURE REDUCING VALVES, PILOT OPERATED

DESCRIPTION OF FUNCTION, SECTION

Pressure reducing valves type ZDMVP06 are pilot operated pressure reducing valves in sandwich plate design. They reduce pressure in a branch circuit lower than that of the main circuit.

They comprise of the following:
- housing (1)
- cartridge (2).

Pressure in the branch circuit is manually set by the adjustment mechanism (3).

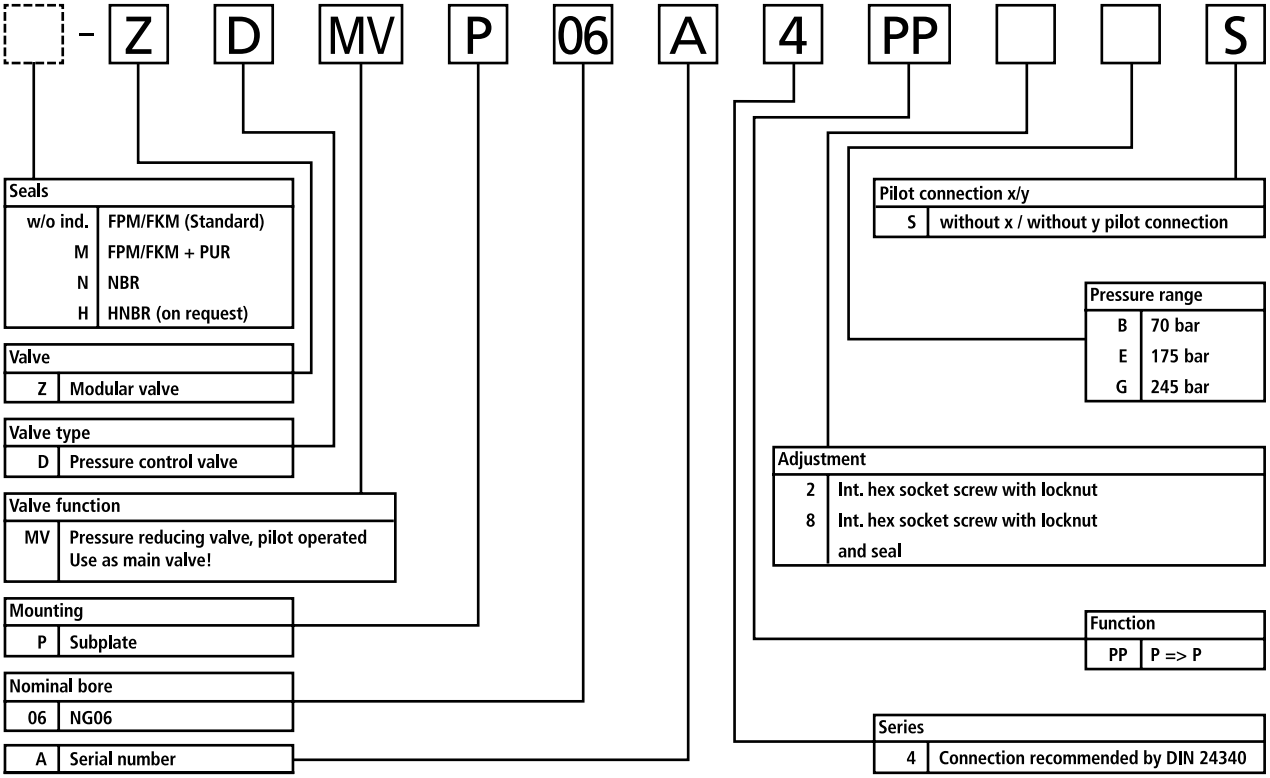


Pressure reducing valves are normally open, permitting fluid to flow from the port P1 to P2. Pressure at port P2 is applied on main spool (5), and via orifice (4), on the spring-loaded side of the main spool (5). If pressure at port P2 exceeds the value set at the spring (6), the pilot poppet (7) opens.

Fluid flows from the spring-loaded side of the main spool (5) through the orifice (8), and the pilot poppet (7) to the spring chamber (9) into the tank. Main spool (5) modulates to maintain constant pressure at port P2.

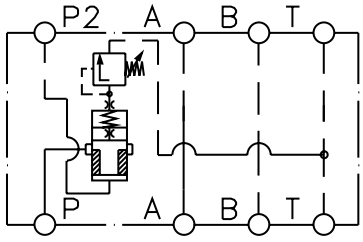
PRESSURE REDUCING VALVES, PILOT OPERATED

ORDERING INFORMATION



Subject to technical changes

SYMBOL AND PART NUMBERS

	NG	$Q_{max.}$ [l/min]	DESIGNATION	PART NUMBER
	6	60	ZDMVP06A4PP2BS ZDMVP06A4PP2ES ZDMVP06A4PP2GS	XZB10076-000-01 XZB10077-000-01 XZB10079-000-01

PRESSURE REDUCING VALVES, PILOT OPERATED

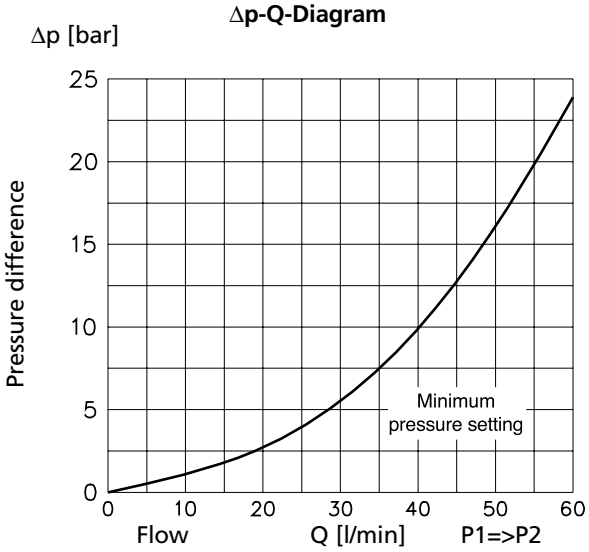
ZDMVP06

TECHNICAL DATA

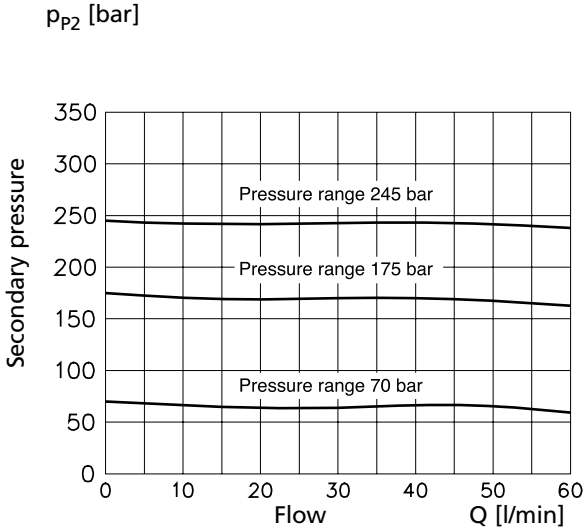
General Data	Value	Unit	Specifications
Designation	-	-	Pressure reducing valve pilot operated
Type designation	-	-	See Ordering Information
Mode of construction	-	-	Modular valve
Mounting pattern	-	-	Size 03 (NG06) as per ISO 4401
Mounting dimensions	-	mm	See Unit Dimensions
Mounting position	-	-	Any
Flow max.	$Q_{max.}$	l/min	up to 60 (See Performance Curves)
Ambient temperature range	min.	°C	-25
	max.	°C	+60
Working pressure			
Inlet	min.	bar	0
	max.	bar	350
Outlet (secondary pressure)	min.	bar	0
	max.	bar	up to 70, up to 175, up to 245
Fluid temperature range	min.	°C	-25
	max.	°C	+80
Viscositiy range	min.	$mm^2 \bullet s^{-1}$ [cSt]	2,8
	max.	$mm^2 \bullet s^{-1}$ [cSt]	380
Operational viscositiy	ν	$mm^2 \bullet s^{-1}$ [cSt]	35
Weight	m	kg	1,5

PERFORMANCE CURVES

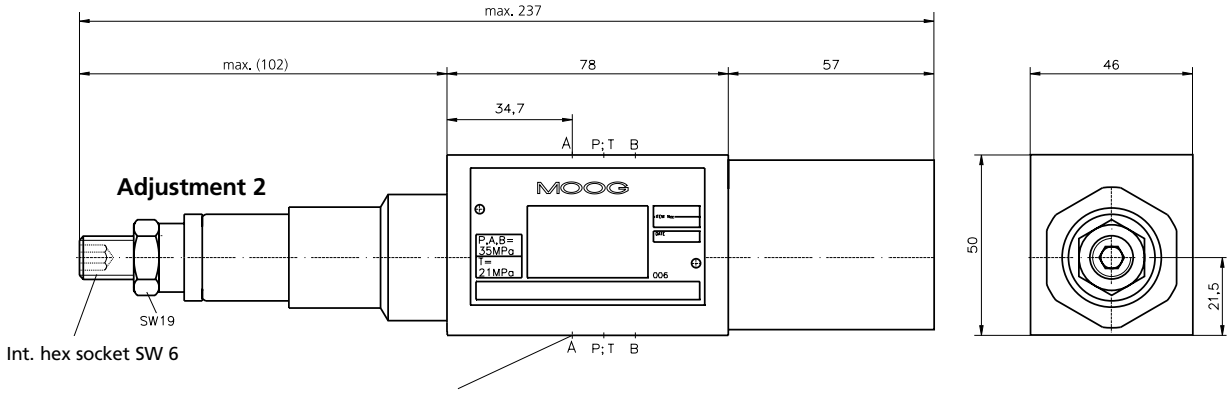
Δp-Q-Diagram



p_{P2}-Q-Diagram

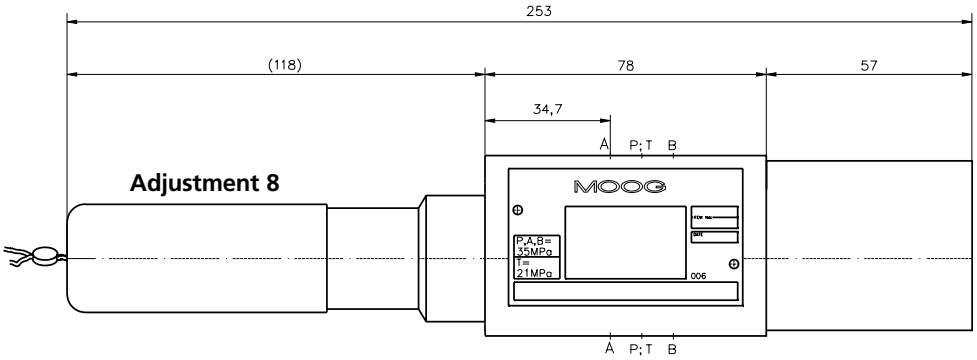


INSTALLATION DRAWING ZDMVP06A4PP__S



4 x O-Ring Fluorocarbon 9,25x1,78 (Part number: X980-02012) Seal kit, complete: XEB17634-000-00

M-Version: 4 x Axial seal ring 8,5x12,5x1,5 (Part number: XE15498) Seal kit, complete: XEB17634-000M00



Mounting pattern as per ISO 4401-03-02-0-94

Required surface finish of mating part