



STACK VALVES CETOP - 03



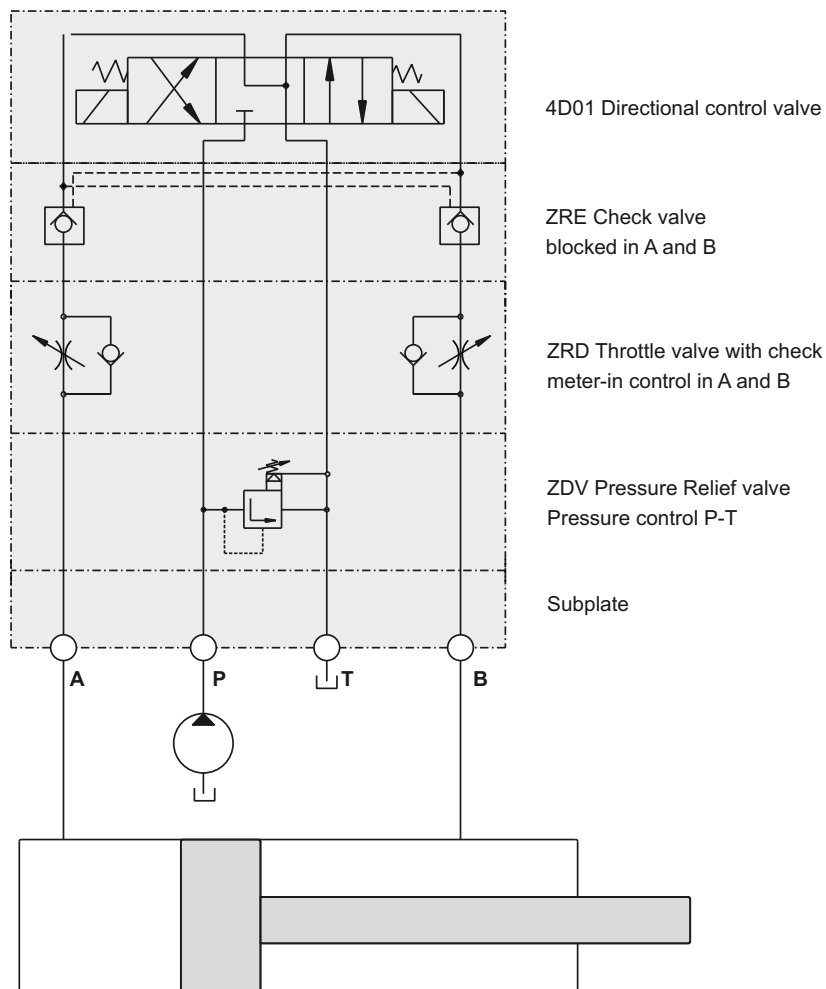
DESCRIPTION

The Stack Valves described in this bulletin can be used as vertical and horizontal stack systems.

As pressure relief, pressure reducing valves, throttle valves with check, as check and counterbalance valves they are standardized according to CETOP, ISO and DIN in mounting configuration and meet industrial requirements for compact control systems.

Stack valves size 03 have the same mounting configuration as the directional control valve 4D01 and can be arranged as shown on the following pages.

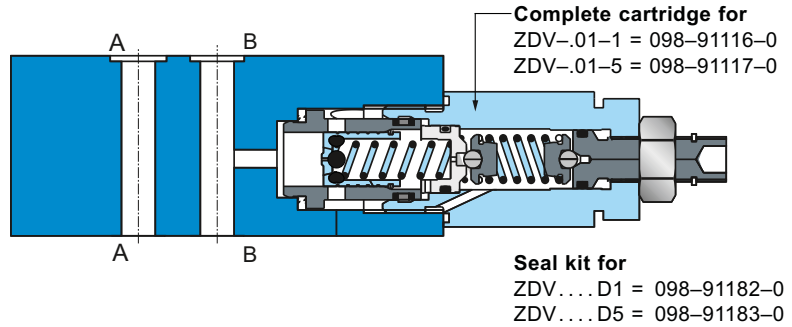
CIRCUIT EXAMPLE



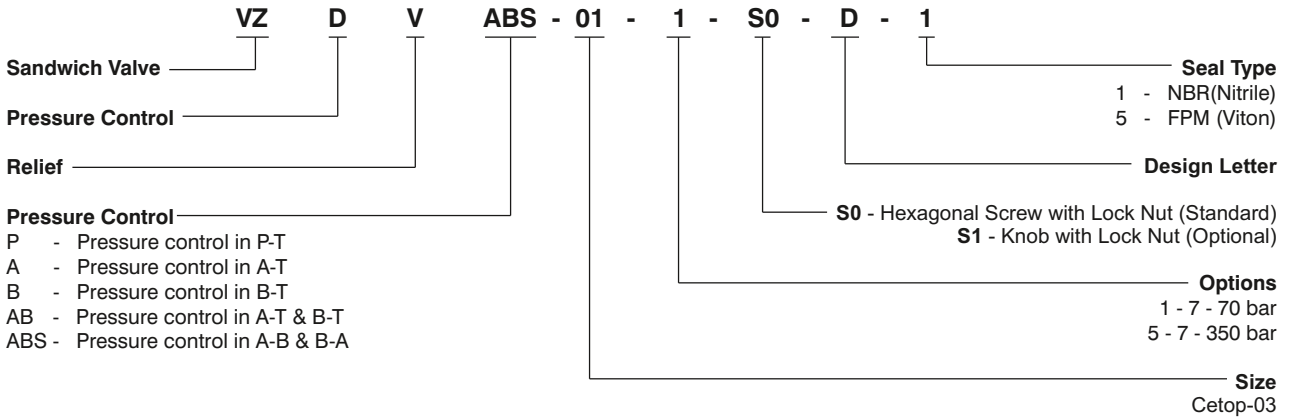
PRESSURE RELIEF VALVE - ZDV



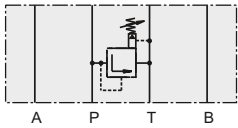
- Operating pressure range
 - ZDV-P / A / B / AB 7... 70/350 bar
 - ZDV-ABS 7... 70/315 bar
- Max. flow 80 l/min
- Viscosity range 10... 500 cSt
- Fluid temperature range -18... +60°C



ORDERING CODE :

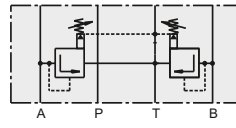


Pressure control P-T



Model Code:
 ZDV-P01-1-S0-D1 098-91201-0
 ZDV-P01-5-S0-D1 098-91202-0

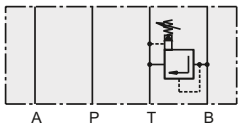
Pressure control A-T & B-T



Model Code:
 ZDV-AB01-1-S0-D1 098-91207-0
 ZDV-AB01-5-S0-D1 098-91208-0

1 = 7... 70 bar
 5 = 7... 350 bar

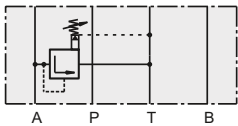
Pressure control B-T



Model Code:
 ZDV-B01-1-S0-D1 098-91205-0
 ZDV-B01-5-S0-D1 098-91206-0

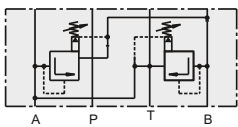
1 = 7... 70 bar
 5 = 7... 350 bar

Pressure control A-T



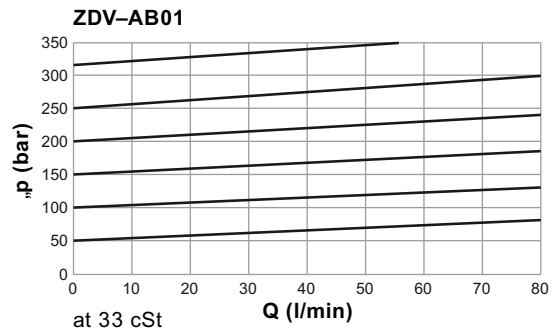
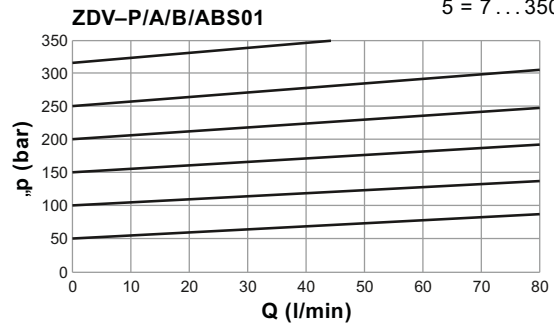
Model Code:
 ZDV-A01-1-S0-D1 098-91203-0
 ZDV-A01-5-S0-D1 098-91204-0

Pressure control A-B & B-A

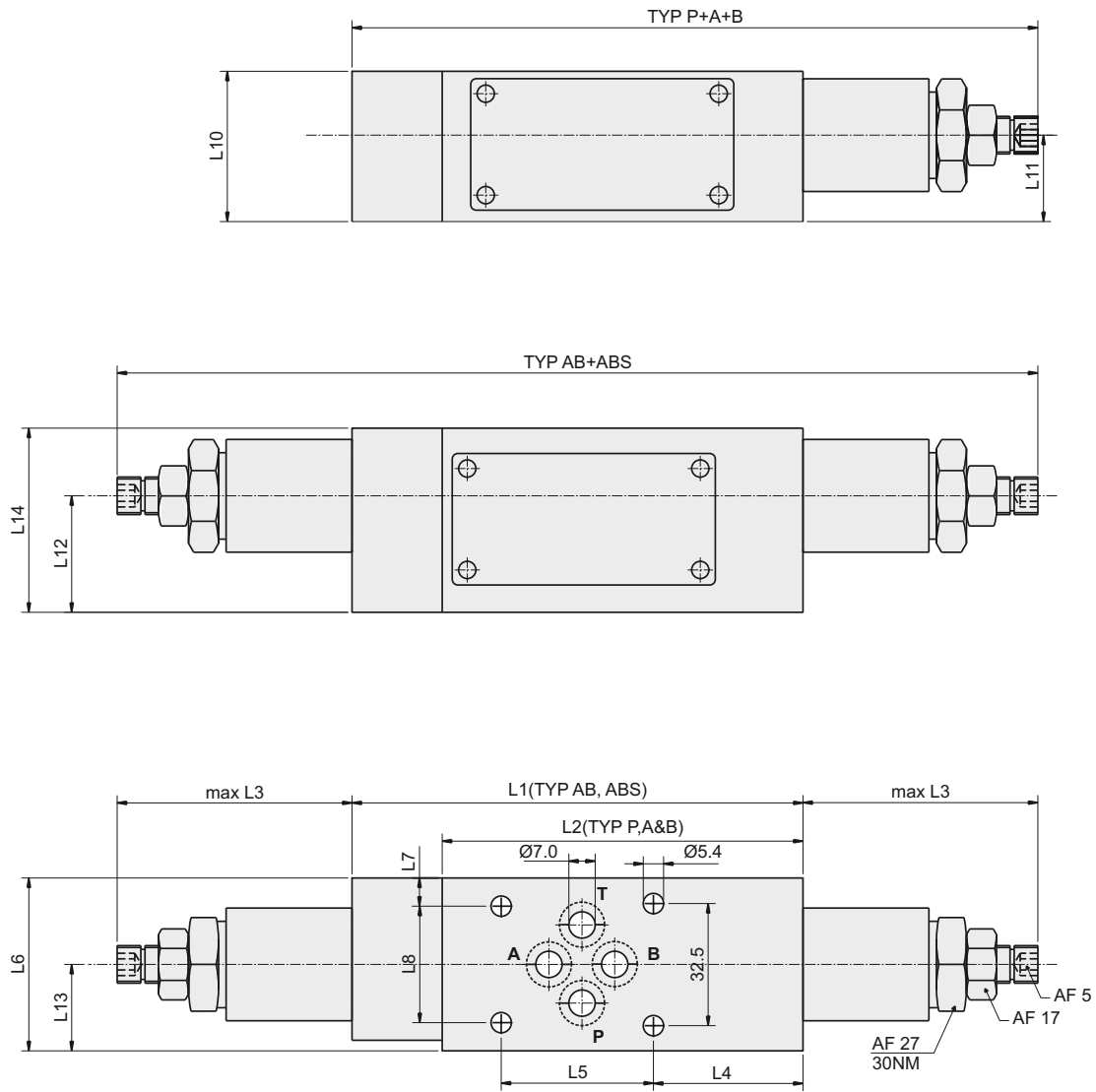


Model Code:
 ZDV-ABS01-1-S0-D1 098-91209-0
 ZDV-ABS01-5-S0-D1 098-91210-0

1 = 7... 70 bar
 5 = 7... 315 bar



INSTALLATION - 1.6/2.5kg



UNITS	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14
mm	120.0	96.0	62.5	39.9	40.5	46.0	7.5	31.0	32.5	40.0	23.0	31.0	23.0	49.0
in	4.72	3.78	2.46	1.57	1.59	1.81	0.29	1.22	1.28	1.57	0.90	1.22	0.90	1.93

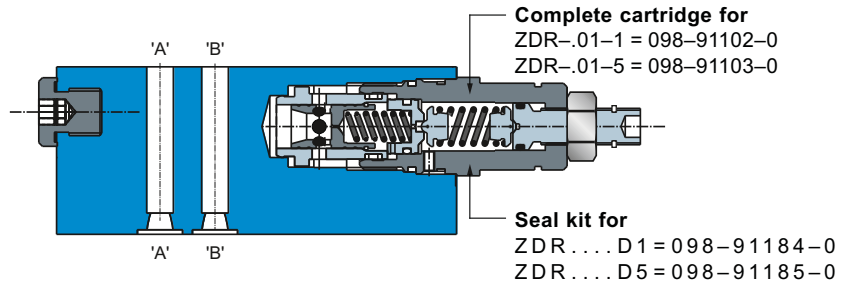
SERVICE INFORMATION:

MODEL CODE	SPARE PART NO.	DETAILS
VZDV-01-1	V098-91116-0	CARTRIDGE
VZDV-01-5	V098-91117-0	CARTRIDGE
VZDV.....D1	V098-91182-0	SEALKIT
VZDV.....D5	V098-91183-0	SEALKIT

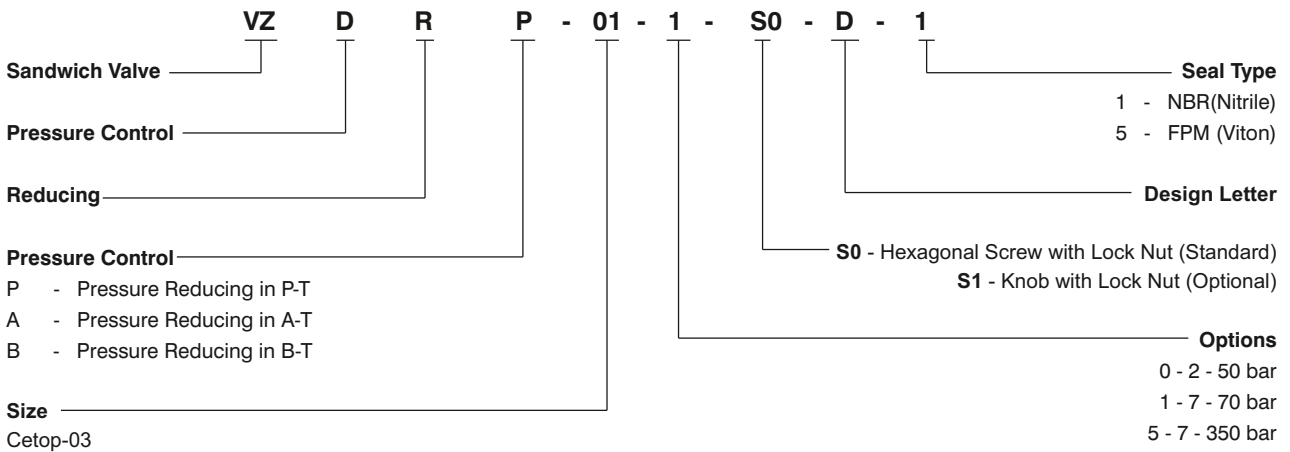
PRESSURE REDUCING VALVE - ZDR



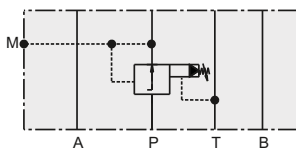
- Operating pressure range
 - ZDR-P 7...70/350 bar
 - ZDR-A / B 7...70/315 bar
- Max. flow 80 l/min
- Viscosity range 10 ... 500 cSt
- Fluid temperature range -18 ... + 60°C
- Pilot oil (P, A, B - T)max. 0.3 l/min



ORDERING CODE :



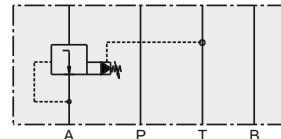
PRESSURE REDUCING IN P WITH PRESSURE GAUGE PORT



Model Code:	Order No.
ZDR-P01-1-S0-D1	098-91179-0
ZDR-P01-5-S0-D1	098-91211-0

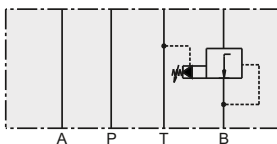
1 = 7 ... 70 bar
5 = 7 ... 350 bar

PRESSURE REDUCING IN A



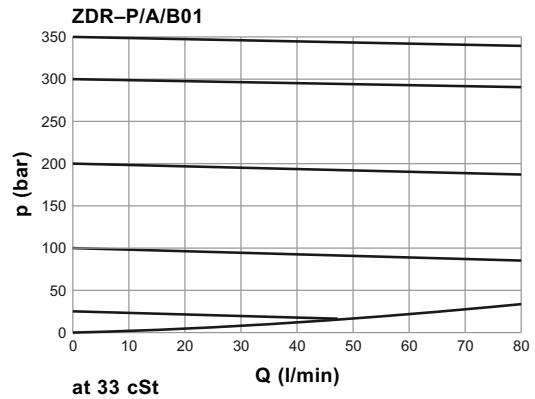
Model Code:	Order No.
ZDR-A01-1-S0-D1	098-91212-0
ZDR-A01-5-S0-D1	098-91213-0

PRESSURE REDUCING IN B

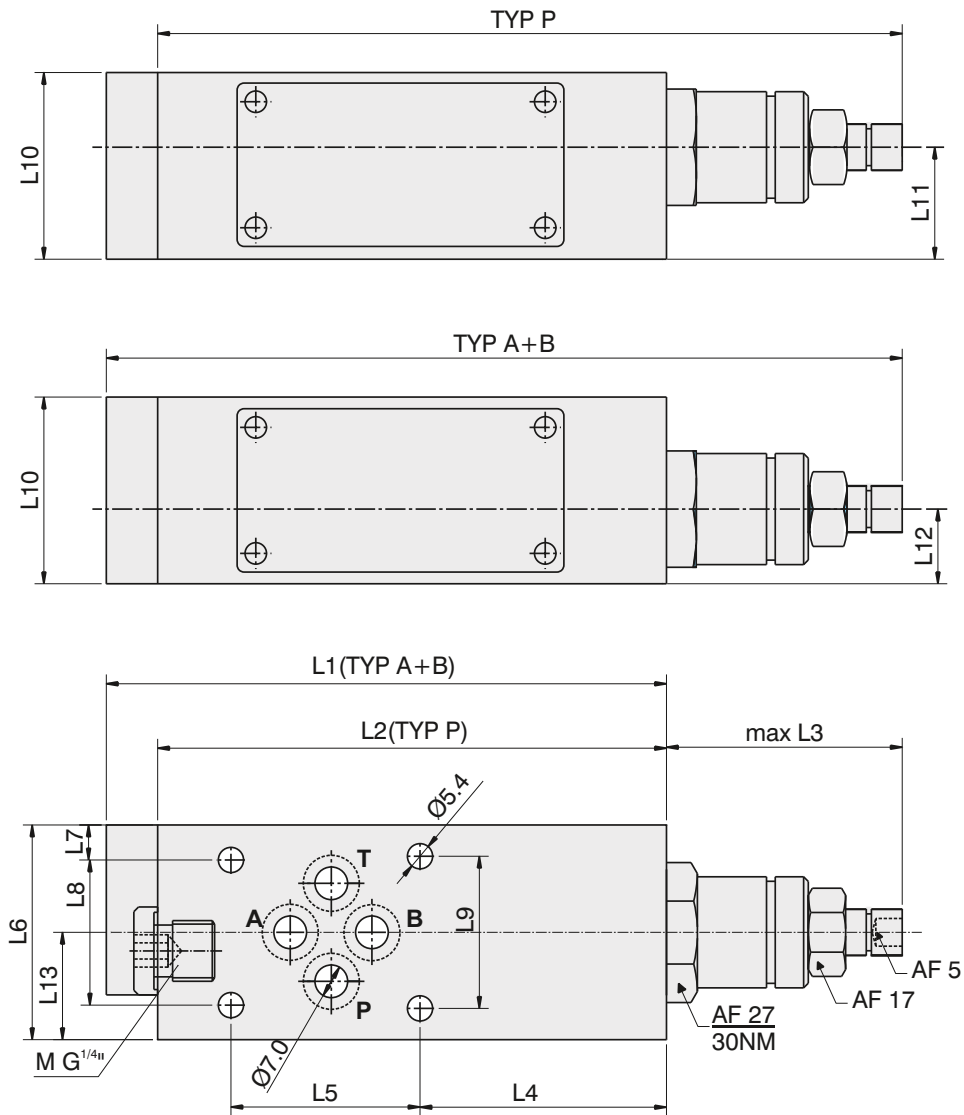


Model Code:	Order No.
ZDR-B01-1-S0-D1	098-91214-0
ZDR-B01-5-S0-D1	098-91215-0

1 = 7 ... 70 bar
5 = 7 ... 315 bar



INSTALLATION - 1.6kg



UNITS	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13
mm	120.0	109.0	50.5	52.9	40.5	46.0	7.50	31.0	32.5	40.0	24.0	16.0	23.0
in	4.72	4.29	1.99	2.08	1.59	1.81	0.29	1.22	1.28	1.57	0.94	0.63	0.90

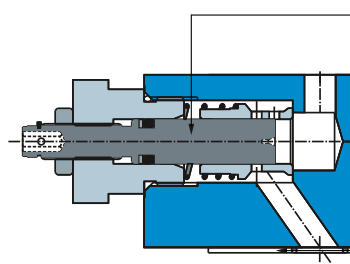
SERVICE INFORMATION:

MODEL CODE	SPARE PART NO.	DETAILS
VZDR-01-1	V098-91102-0	CARTRIDGE
VZDR-01-5	V098-91103-0	CARTRIDGE
VZDR.....D1	V098-91184-0	SEALKIT
VZDR.....D5	V098-91185-0	SEALKIT

THROTTLE WITH CHECK - ZRD



- Max. operating pressure 350 bar
- Max. flow 80 l/min
- Viscosity range 10 ... 500 cSt
- Fluid temperature range -18 ... + 60hC

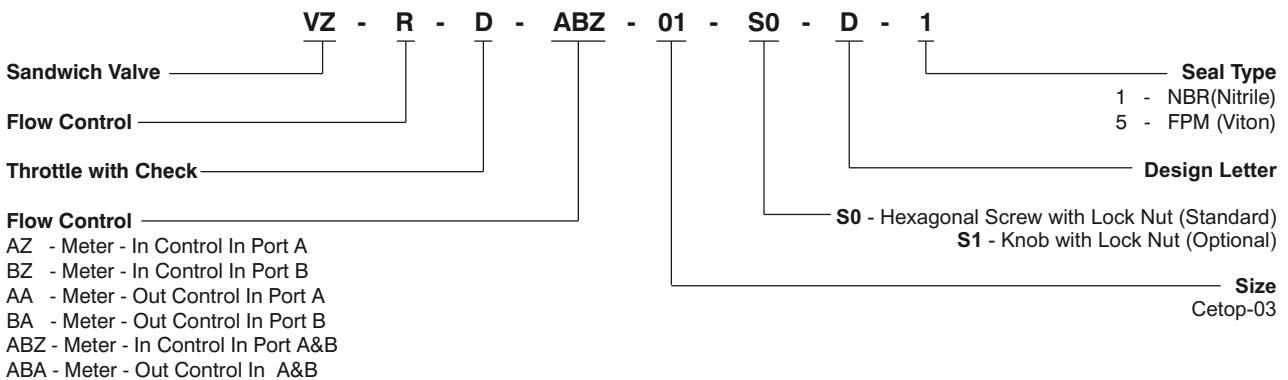


Complete cartridge for
ZRD-.01-1 = 098-91119-0

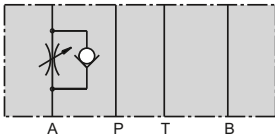
Seal kit for:
ZRD01 ... D1 = 098-91096-0
ZRD01 ... D5 = 098-91097-0

O-Ring Plate
S26-27553-0

ORDERING CODE :

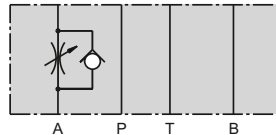


METER - IN CONTROL IN PORT A



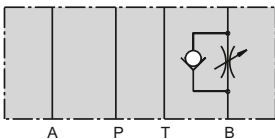
Series: ZRD-AZ01-S0-D1
Order No. 098-91056-0

METER - OUT CONTROL IN PORT A



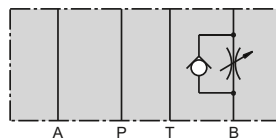
Series: ZRD-AA01-S0-D1
Order No. 098-91012-0

METER - IN CONTROL IN PORT B



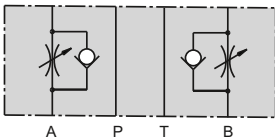
Series: ZRD-BZ01-S0-D1
Order No. 098-91057-0

METER - OUT CONTROL IN PORT B



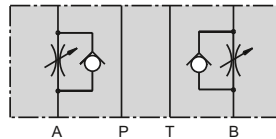
Series: ZRD-BA01-S0-D1
Order No. 098-91013-0

METER - IN CONTROL IN PORT A&B

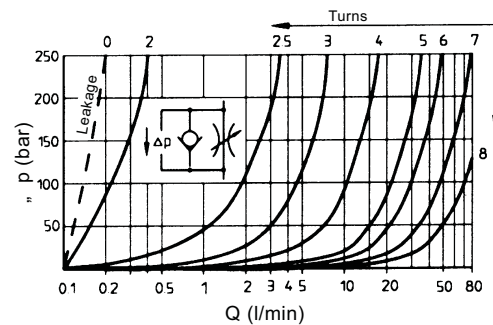
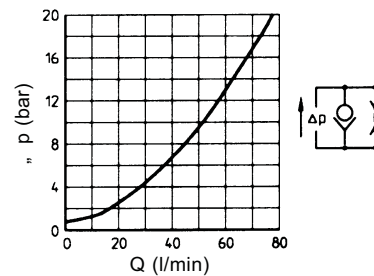


Series: ZRD-ABZ01-S0-D1
Order No. 098-91058-0

METER - OUT CONTROL IN A&B



Series: ZRD-ABA01-S0-D1
Order No. 098-91014-0

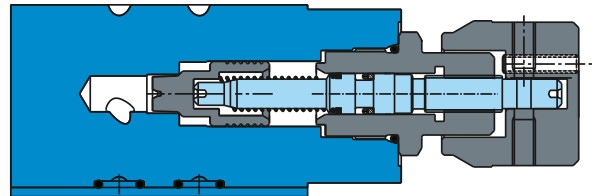


at 33 cSt

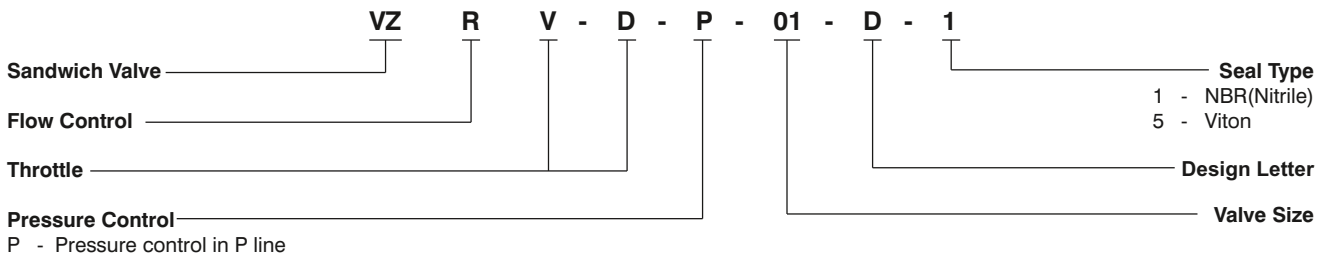
VZRVD Veljan Denison check and throttle modular valves are reliable in controlling the fluid flow. VZRVD valves are equipped with an adjusting knob (clockwise or anti-clockwise) to set the throttling area, for adjusting the flow rate of the process fluid.

OPERATING CHARACTERISTICS:

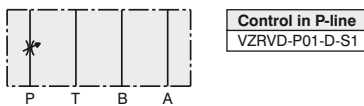
Type	:	Throttle with inline check
Design	:	Direct acting, Spool type
Maximum operating pressure	:	250 bar
Maximum flow rate	:	35 lpm
Weight	:	1.2 kgs



ORDERING CODE :

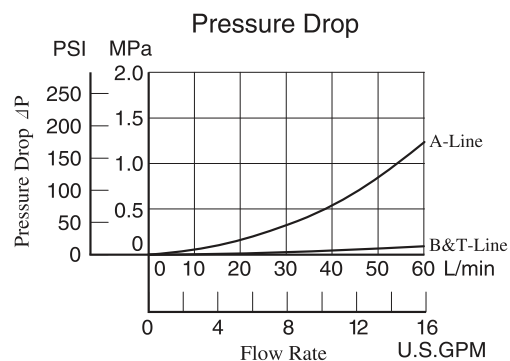
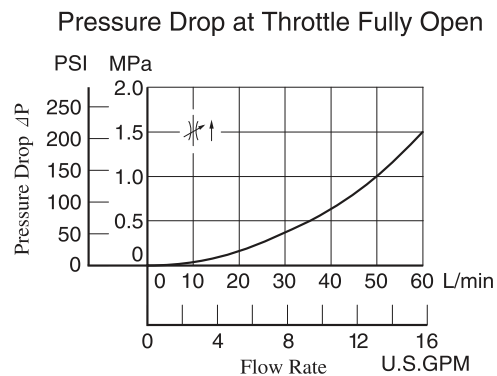
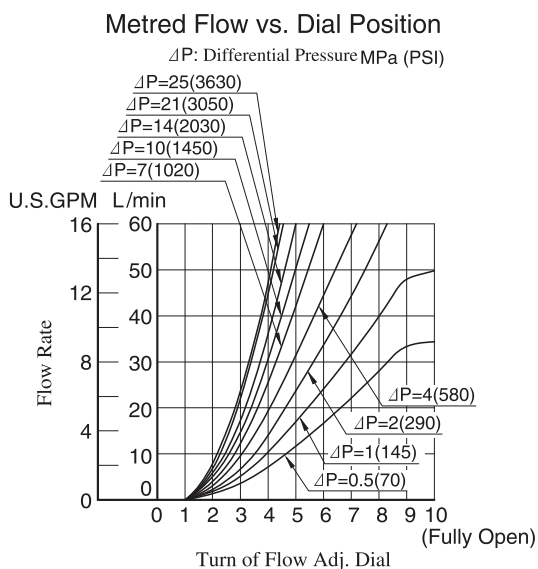


Graphical Symbol

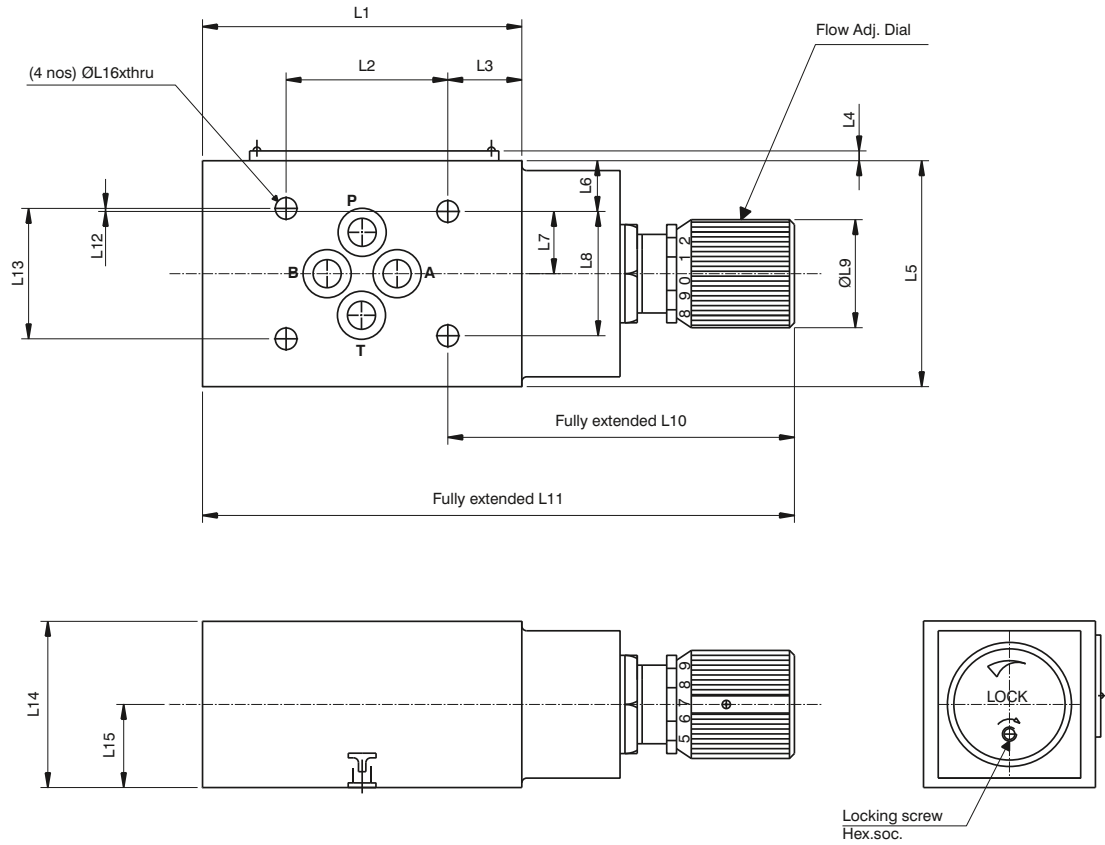


Typical Performance Characteristics

Hydraulic Fluid: Viscosity 35 mm²/s (164 SSU), Specific Gravity 0.850



INSTALLATION



INSTRUCTIONS:

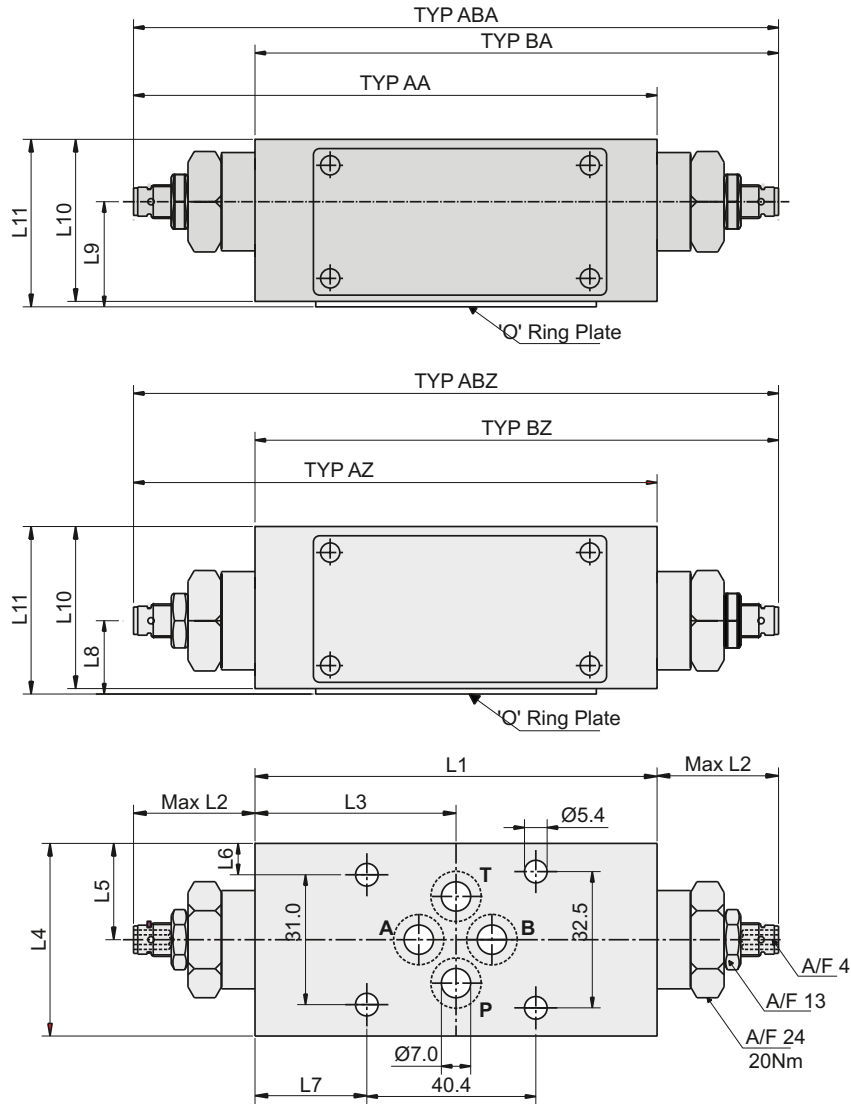
To make flow rate adjustment, loosen the lock nut for the dial and turn the flow adjustment dial clockwise or anti-clockwise. For a decrease of flow, turn the dial clockwise. Make sure to re-tighten the lock nut firmly after adjustment of flow rate.

UNITS	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15	L16
mm	65.0	40.5	11.0	1.8	47.0	8.0	15.5	31.0	32.0	77.5	131.5	0.75	32.5	40.0	20.5	5.5
in	2.56	1.59	0.43	0.07	1.85	0.31	0.61	1.22	1.26	3.05	5.18	0.03	1.28	1.57	0.81	0.22

SERVICE INFORMATION:

MODEL CODE	SPARE PART NO.	DETAILS
VZRVD-03	VC-S14-73401	SEALKIT_NBR
VZRVD-03	VC-S14-73402	SEALKIT_VITON

INSTALLATION - 1.2/1.3kg



UNITS	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11
mm	96.0	29.0	48.0	46.0	23.0	7.5	26.7	17.5	25.1	38.8	40.0
in	3.779	1.14	1.89	1.81	0.905	0.29	28.61	0.69	0.99	1.53	1.57

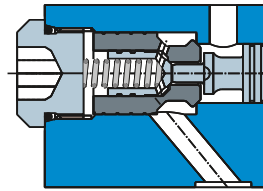
SERVICE INFORMATION:

MODEL CODE	SPARE PART NO.	DETAILS
VZRD-01	V098-91119-0	CARTRIDGE
VZRD01.....D1	V098-91096-0	SEALKIT
VZRD01.....D5	V098-91097-0	SEALKIT
VZRD-S	VS26-27553-0	O-RING PLATE

PILOT OPERATED CHECK - ZRE

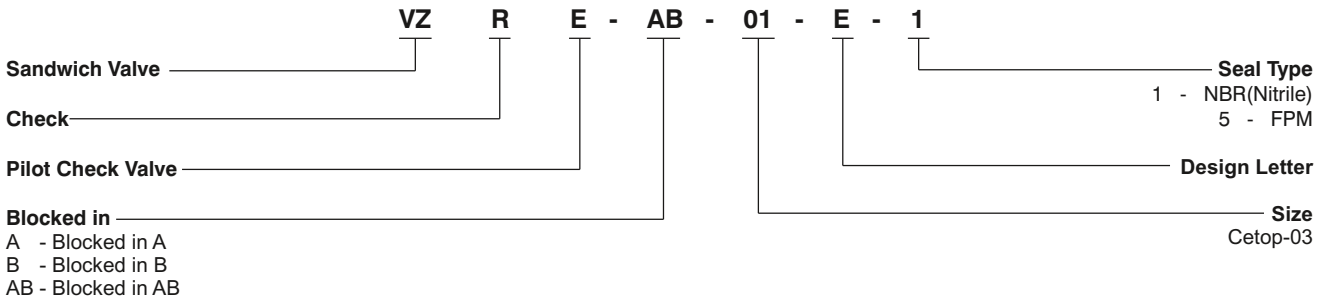


- Max. operating pressure 350 bar
- Max. flow 60 l/min
- Opening ratio 1 : 6 (pilot cone /main cone)
- Cracking pressure 1.2 bar (check valve)
- Viscosity range 10 ... 500 cSt
- Fluid temperature range -18 ... + 60°C

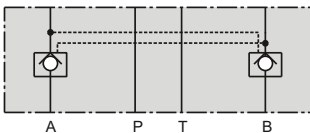


Seal kit for
 ZRE... D1 = 098-91088-0
 ZRE... D5 = 098-91089-0

ORDERING CODE :

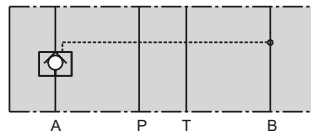


BLOCKED IN A AND B



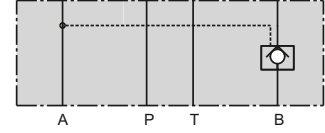
Model code: ZRE-AB01-D1
 Order No. 098-91020-0

BLOCKED IN A



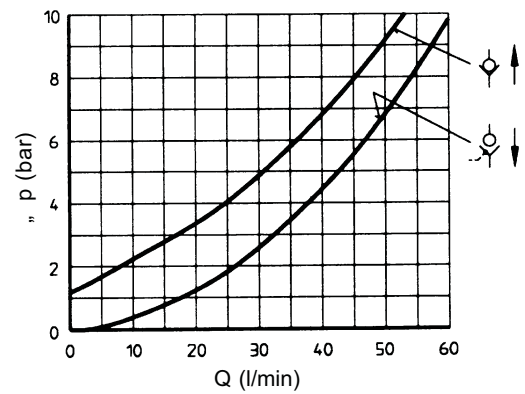
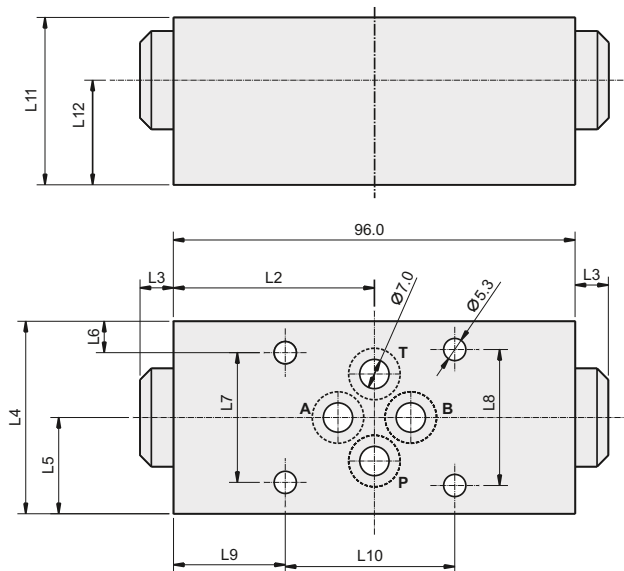
Model code: ZRE-A01-D1
 Order No. 098-91018-0

BLOCKED IN B



Model code: ZRE-B01-D1
 Order No. 098-91019-0

INSTALLATION - 1.2kg



SERVICE INFORMATION:

MODEL CODE	SPARE PART NO.	DETAILS
VZRE.....D1	V098-91088-0	SEALKIT
VZRE.....D5	V098-91089-0	SEALKIT

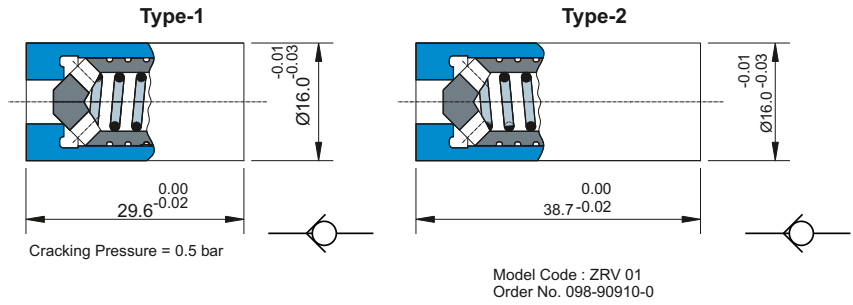
UNITS	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12
mm	96.0	48.0	8.0	46.0	23.0	7.5	31.0	32.5	26.7	40.5	40.0	25.0
in	3.78	1.89	0.31	1.81	0.90	0.29	1.22	1.28	1.05	1.59	1.57	0.98

NOTE : When service of this valve is necessary, it should be replaced as a complete unit as the internal components form a matching set (not applicable to the seal kit).

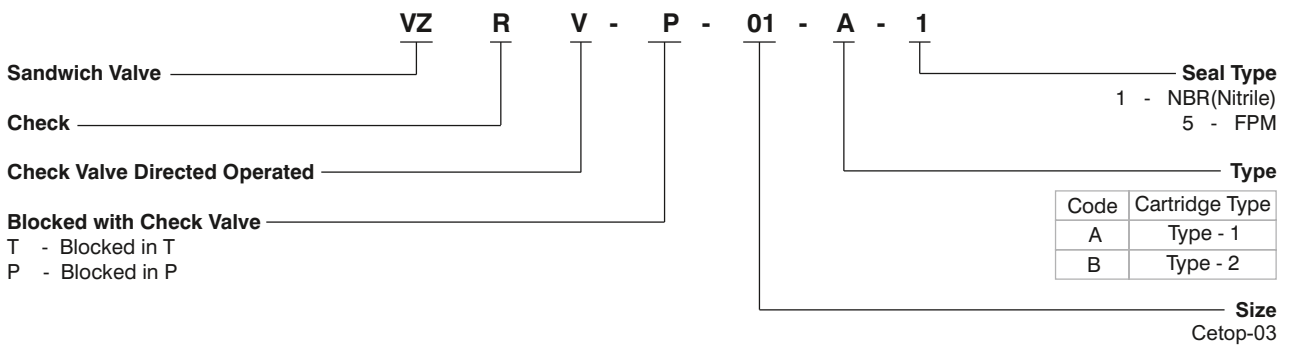
CHECK VALVE - ZRV



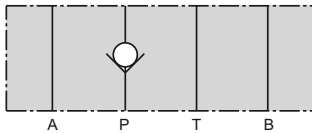
- Max. operating pressure 350 bar
- Max. flow 40 l/min
- Cracking pressure 0.5 bar
- Viscosity range 10 ... 500 cSt
- Fluid temperature range -18 ... + 60°C



ORDERING CODE :

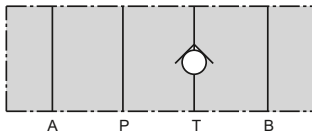


BLOCKED IN P

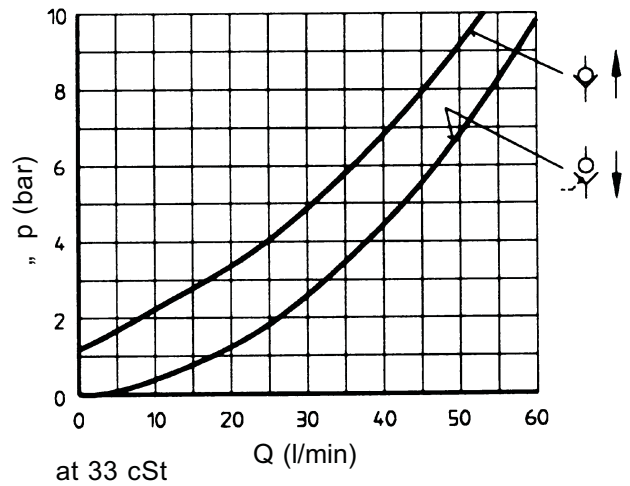


Series :ZRV-P01
Order No :V98-90025-0

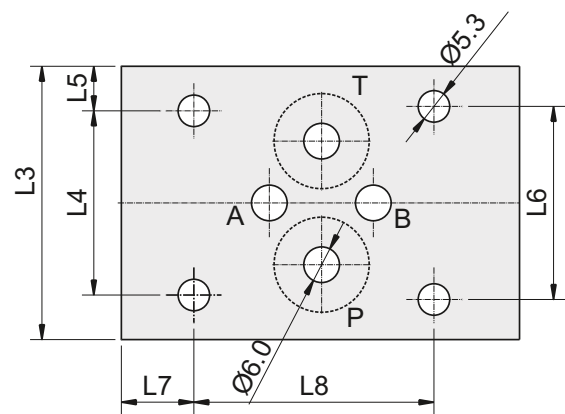
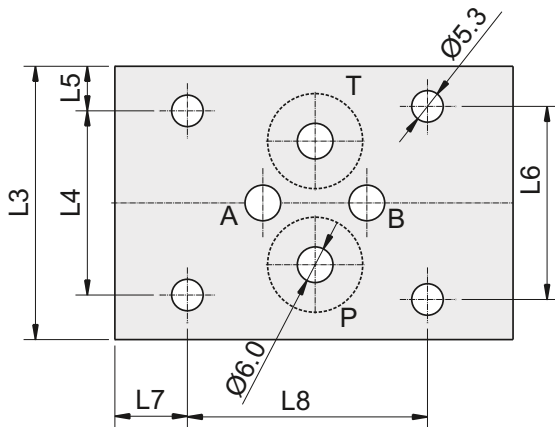
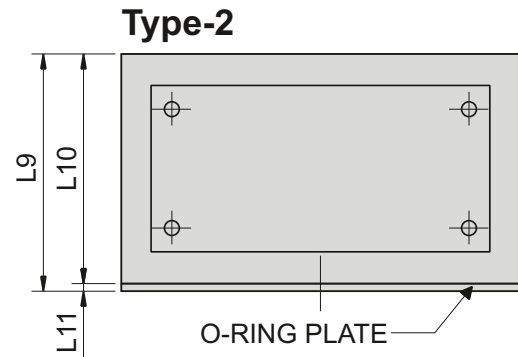
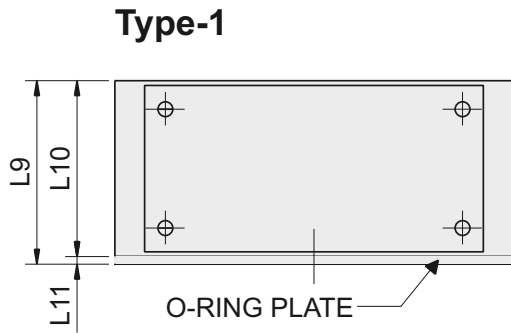
BLOCKED IN T



Series :ZRV-T01
Order No :V98-90026-0



INSTALLATION - 0.7kg



Type-1

UNITS	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11
mm	67.0	33.5	46.0	30.33	7.5	32.5	12.2	40.5	30.9	29.6	1.3
in	2.64	1.31	1.81	1.22	0.29	1.28	0.48	1.59	1.21	1.16	0.05

Type-2

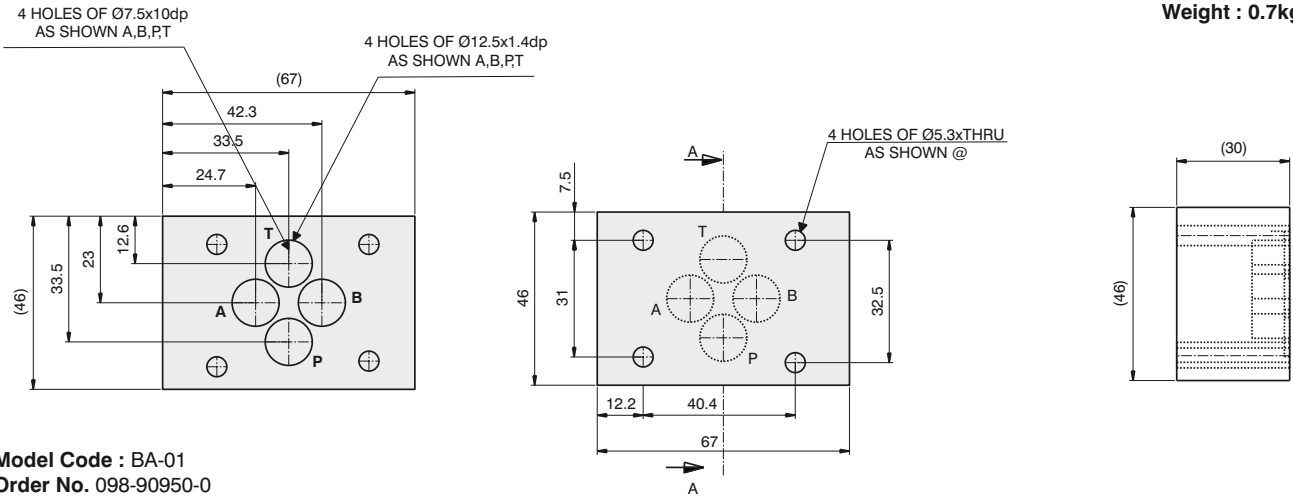
UNITS	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11
mm	67.0	33.5	46.0	30.33	7.5	32.5	12.2	40.5	40.0	38.7	1.3
in	2.64	1.31	1.81	1.22	0.29	1.28	0.48	1.59	1.56	1.52	0.05

SERVICE INFORMATION:

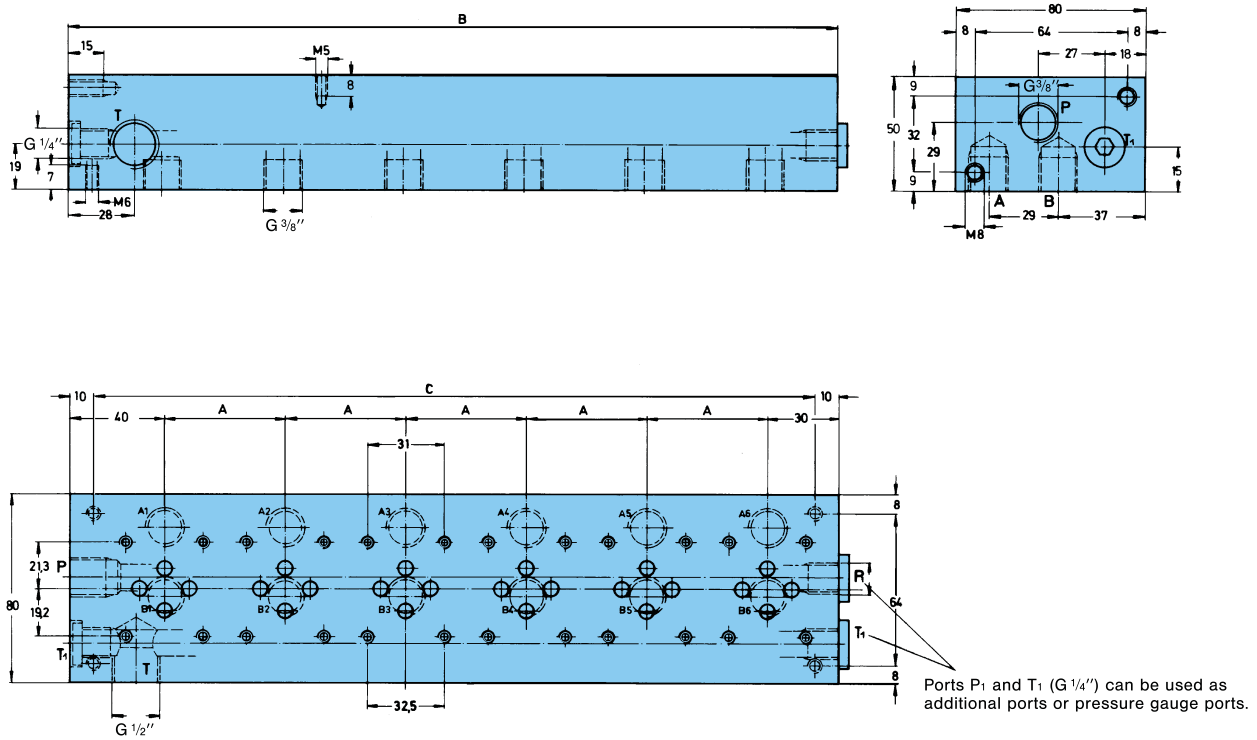
MODEL CODE	SPARE PART NO.	DETAILS
VZRV.....S	VS26-27553	O-Ring plate
VERV-01(Type-1)	V098-90910-0	VERV CARTRIDGE-1
VERV-01(Type-2)	V098-90911-0	VERV CARTRIDGE-2

COVER PLATE

Weight : 0.7kg

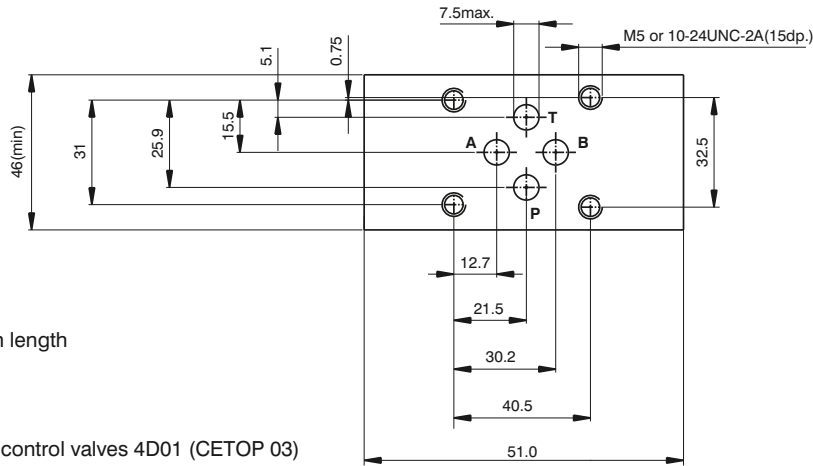


SUB PLATE



QTY. OF VALVES	SERIES	ORDER NO.	DIMENSIONS			WEIGHT (Kg)
			A	B	C	
2	GPU 01-2	099-90874-0	51	121	101	2.8
3	GPU 01-3	099-90875-0	51	172	152	4.0
4	GPU 01-4	099-90876-0	51	223	203	5.2
5	GPU 01-5	099-90867-0	51	274	254	6.4
6	GPU 01-6	099-90866-0	51	325	305	7.6

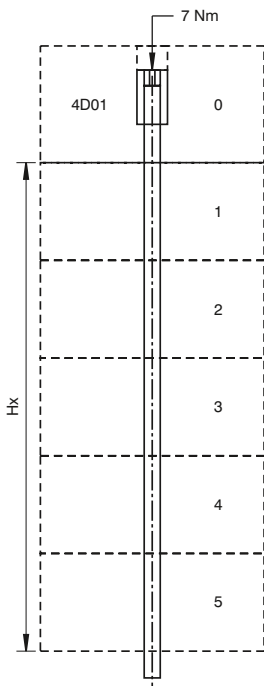
MOUNTING CONFIGURATION



Flatness 0.01 mm/100 mm length
Surface finish 0.8 μm

Note:
Information for directional control valves 4D01 (CETOP 03)
and single subplates see publication 4-EN 3060.

BOLT KITS



	Combination	H + 32	Code		
H = 31 mm VZRV = I	(1 x I) x 4	31	03 A		
	(1 x II) x 4	40	03 B		
	(1 x III) x 4	49	03 C		
	(2 x I) x 4	62	03 D		
	(1 x I) + (1 x II) x 4	71	03 E		
	(1 x I) + (1 x III) x 4	80	03 F		
	(2 x II) x 4	80	03 G		
	(1 x II) + (1 x III) x 4	89	03 H		
	(2 x I) + (1 x II) x 4	102	03 I		
	(2 x I) + (1 x III) x 4	111	03 J		
	(1 x I) + (2 x II) x 4	111	03 K		
	(1 x I) + (1 x II) + (1 x III) x 4	120	03 L		
	H = 40 mm VZDR/VZRE/VZRD/VZNS = II	(3 x II) x 4	120	03 M	
		(2 x II) + (1 x III) x 4	129	03 N	
		(2 x I) + (2 x II) x 4	142	03 O	
		H = 49 mm VZDV-AB/ABS = III	(2 x I) + (1 x II) + (1 x III) x 4	151	03 P
			(1 x I) + (3 x II) x 4	151	03 Q
			(1 x I) + (2 x II) + (1 x III) x 4	160	03 R
			(4 x II) x 4	160	03 S
		(3 x II) + (1 x III) x 4	169	03 T	
(2 x I) + (3 x II) x 4	182	03 U			
(1 x I) + (4 x II) x 4	191	03 V			
(2 x I) + (2 x II) + (1 x III) x 4	191	03 W			
(1 x I) + (3 x II) + (1 x III) x 4	199	03 X			
(5 x II) x 4	200	03 Y			

1 Screws
2 Tie rods Strength class 10.9 (DIN)
(please order 4 nuts additionally)

Hx = Total height
H = Height of Valve body

