



# STACK VALVES

Cetop - 03 | Cetop - 05



we help you see your ideas work

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# STACK VALVES CETOP - 03



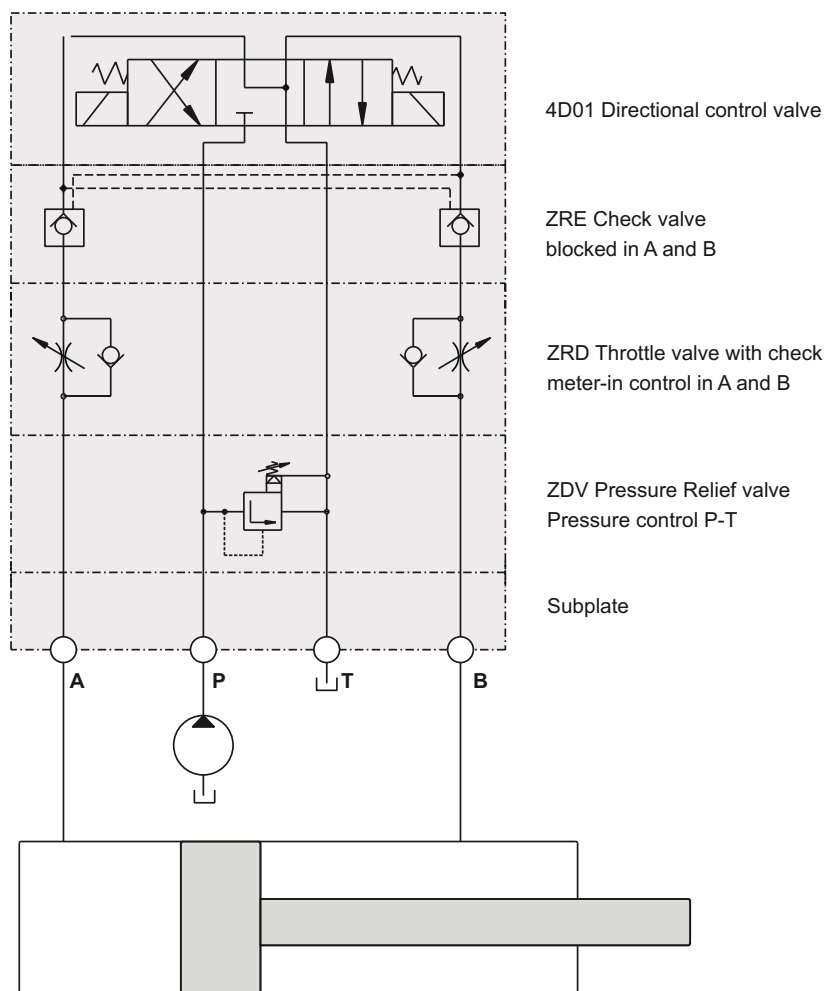
## DESCRIPTION

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.

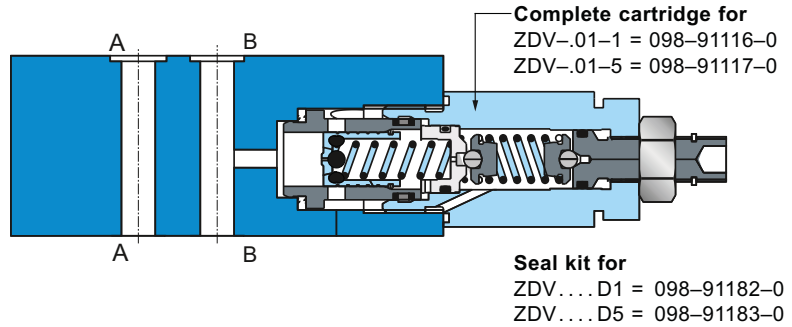
## CIRCUIT EXAMPLE



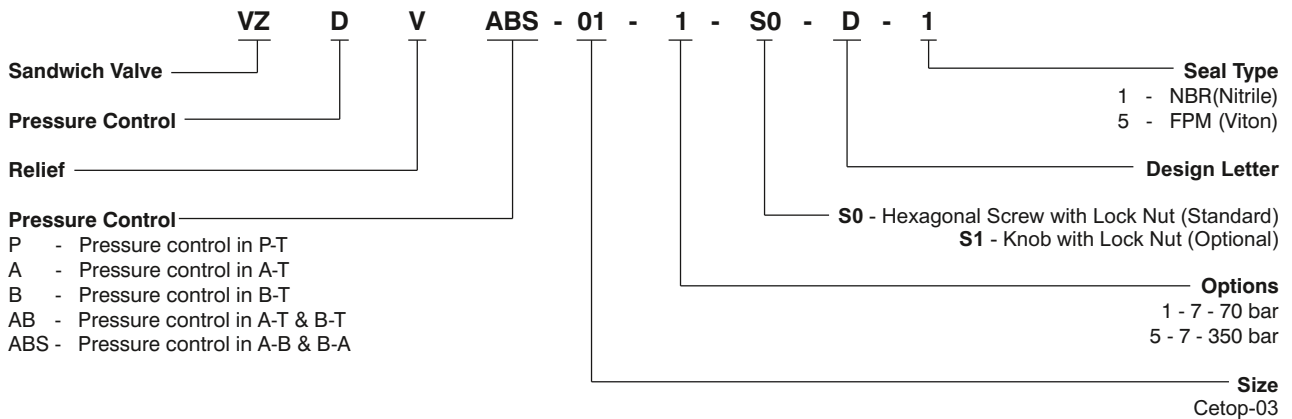
# PRESSURE RELIEF VALVE - ZDV



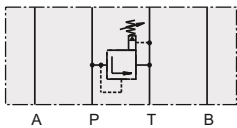
- Operating pressure range
  - ZDV-P / A / B / AB 7... 70/350 bar
  - ZDV-ABS 7... 70/315 bar
- Max. flow 80 l/min
- Viscosity range 10... 500 cSt
- Fluid temperature range -18... +60°C



## ORDERING CODE :

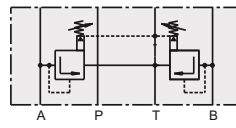


### Pressure control P-T



Model Code:	Order No.
ZDV-P01-1-S0-D1	098-91201-0
ZDV-P01-5-S0-D1	098-91202-0

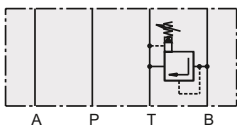
### Pressure control A-T & B-T



Model Code:	Order No.
ZDV-AB01-1-S0-D1	098-91207-0
ZDV-AB01-5-S0-D1	098-91208-0

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

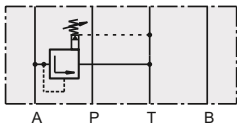
### Pressure control B-T



Model Code:	Order No.
ZDV-B01-1-S0-D1	098-91205-0
ZDV-B01-5-S0-D1	098-91206-0

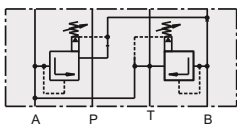
1 = 7... 70 bar  
 5 = 7... 350 bar

### Pressure control A-T



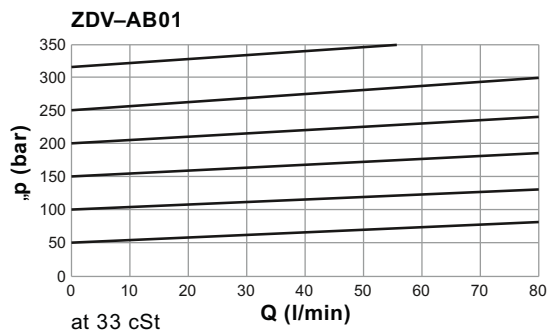
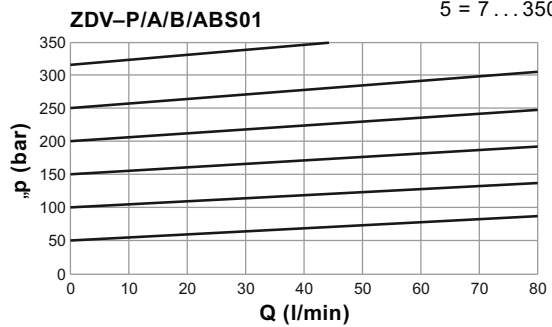
Model Code:	Order No.
ZDV-A01-1-S0-D1	098-91203-0
ZDV-A01-5-S0-D1	098-91204-0

### Pressure control A-B & B-A

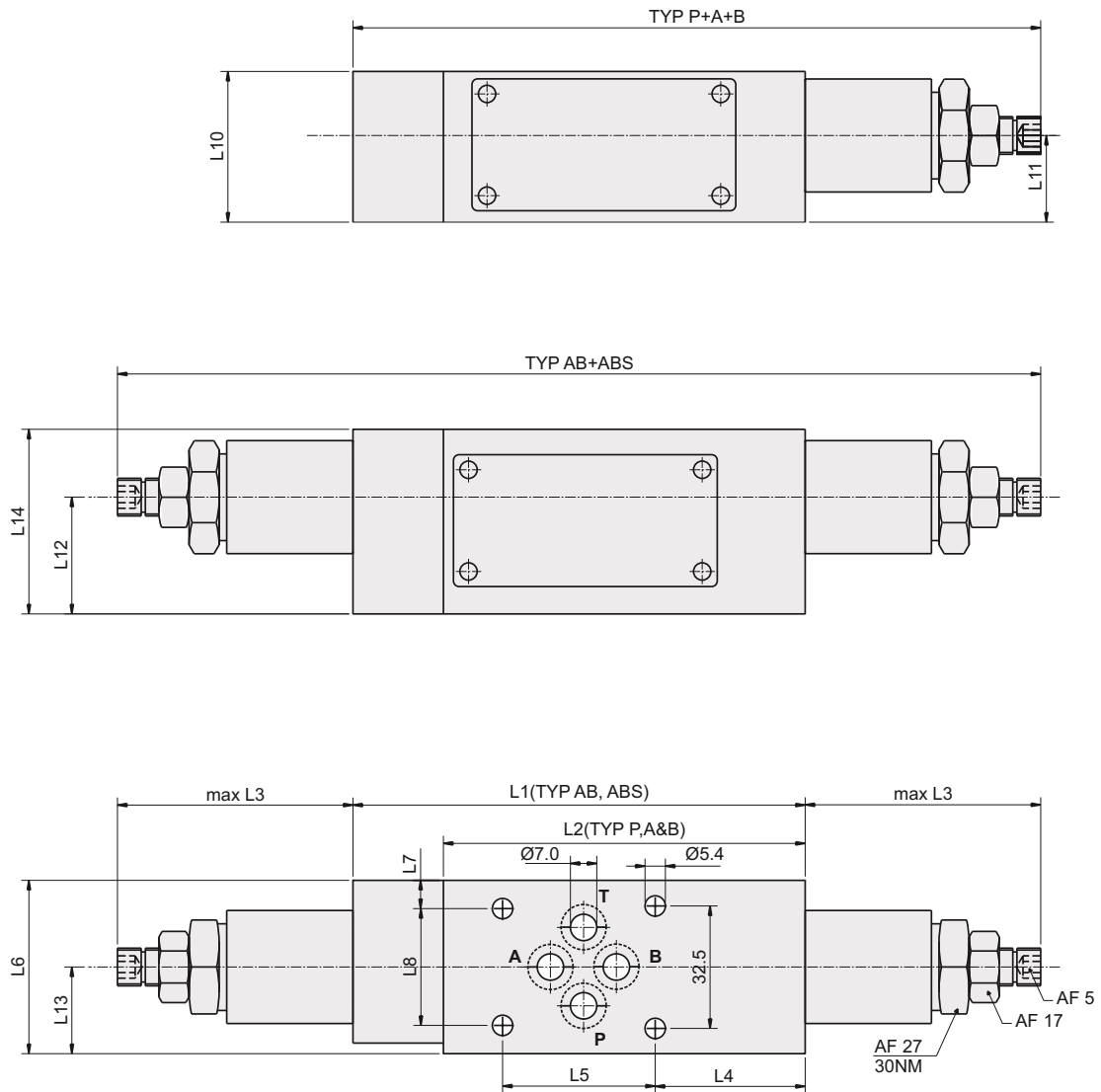


Model Code:	Order No.
ZDV-ABS01-1-S0-D1	098-91209-0
ZDV-ABS01-5-S0-D1	098-91210-0

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

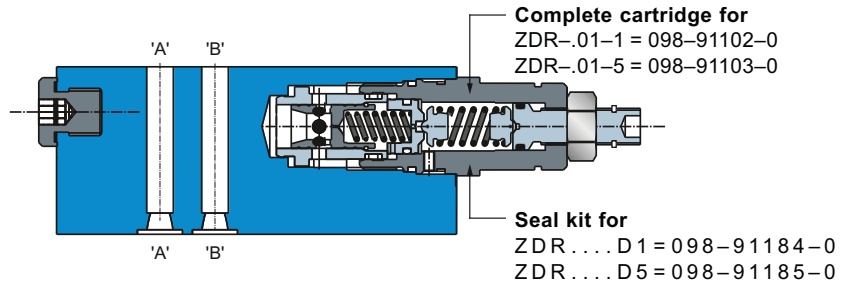
**SERVICE INFORMATION:**

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

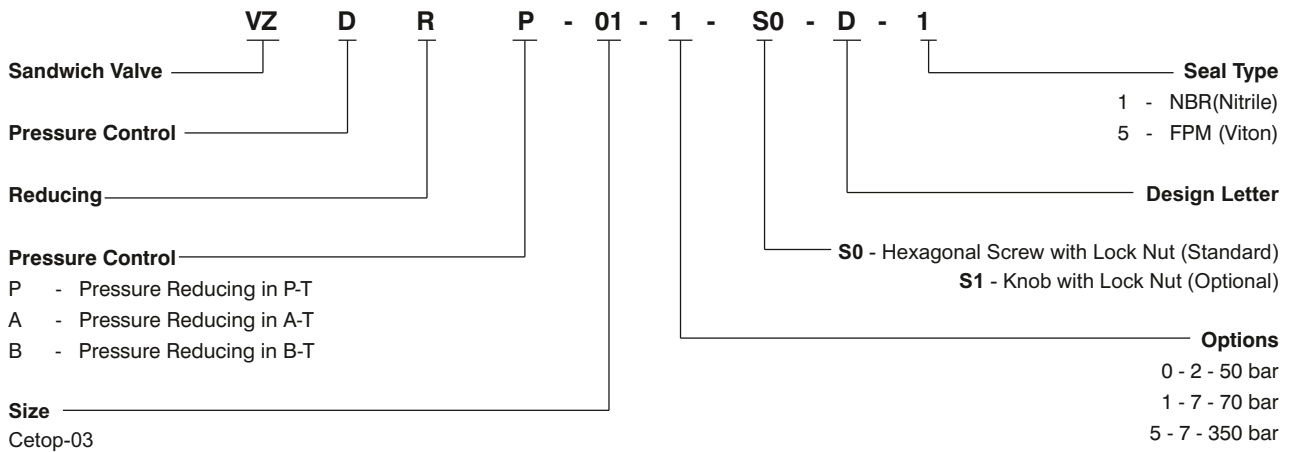
# PRESSURE REDUCING VALVE - ZDR



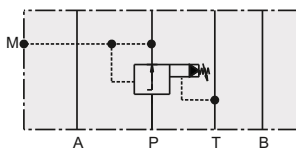
- Operating pressure range
  - ZDR-P 7...70/350 bar
  - ZDR-A / B 7...70/315 bar
- Max. flow 80 l/min
- Viscosity range 10 ... 500 cSt
- Fluid temperature range -18 ... + 60°C
- Pilot oil (P, A, B - T)max. 0.3 l/min



## ORDERING CODE :



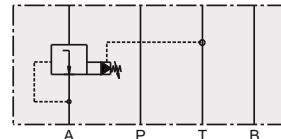
### PRESSURE REDUCING IN P WITH PRESSURE GAUGE PORT



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

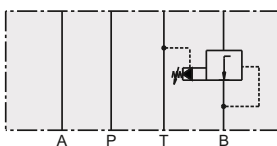
1 = 7 ... 70 bar  
5 = 7 ... 350 bar

### PRESSURE REDUCING IN A



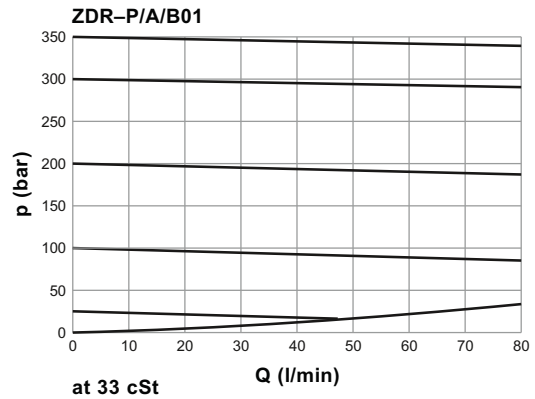
Model Code:	Order No.
ZDR-A01-1-S0-D1	098-91212-0
ZDR-A01-5-S0-D1	098-91213-0

### PRESSURE REDUCING IN B



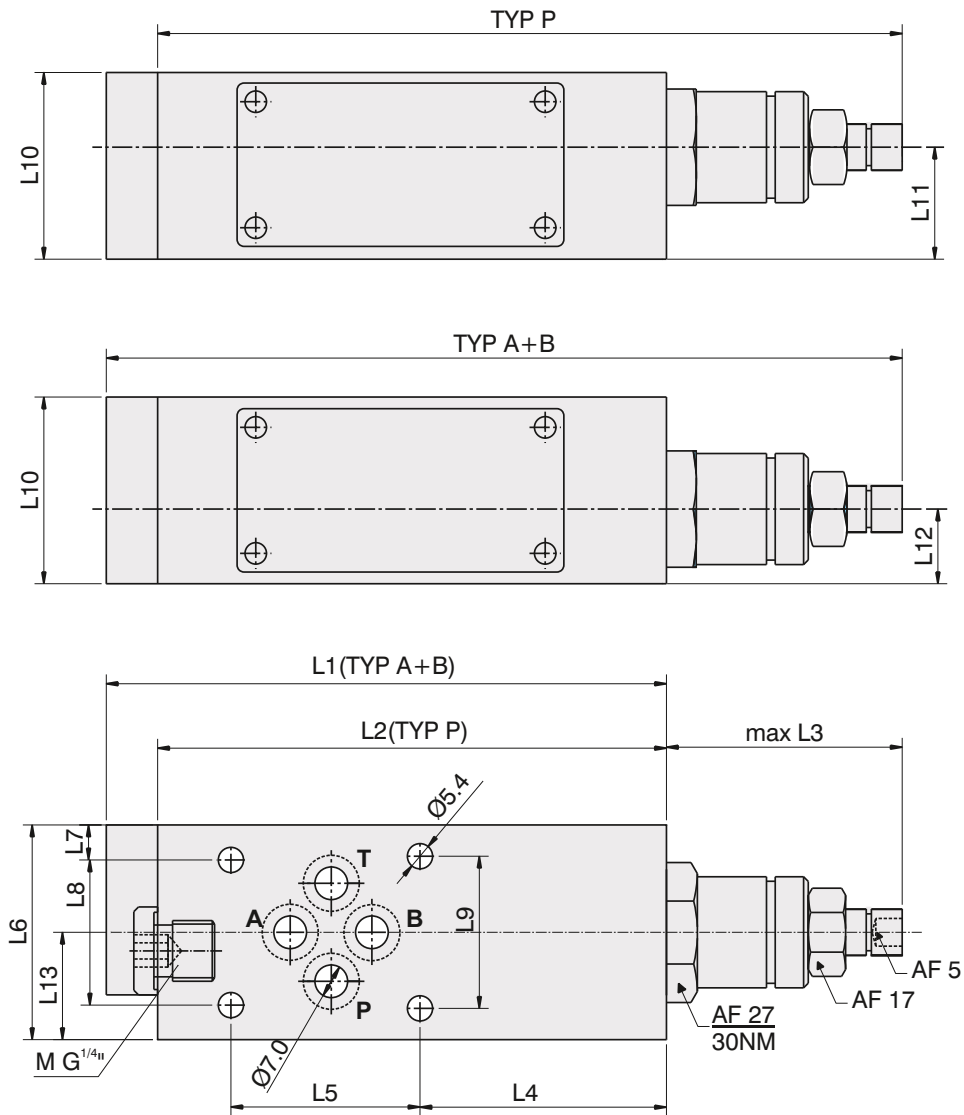
Model Code:	Order No.
ZDR-B01-1-S0-D1	098-91214-0
ZDR-B01-5-S0-D1	098-91215-0

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

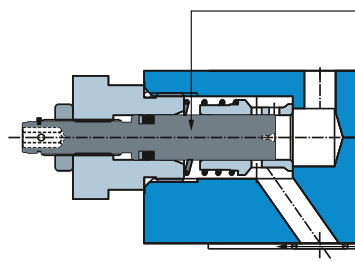
**SERVICE INFORMATION:**

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

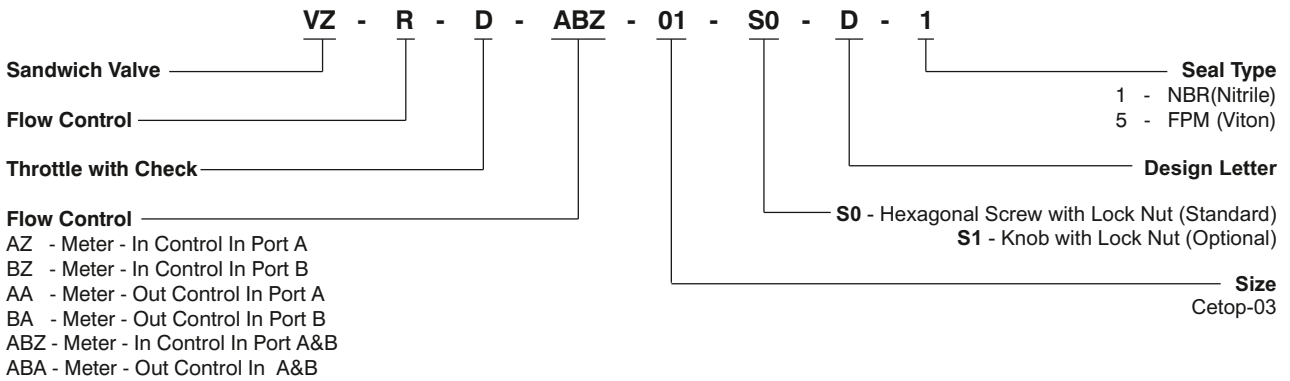


**Complete cartridge for**  
ZRD-.01-1 = 098-91119-0

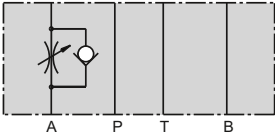
**Seal kit for:**  
ZRD01 ... D1 = 098-91096-0  
ZRD01 ... D5 = 098-91097-0

**O-Ring Plate**  
S26-27553-0

## ORDERING CODE :

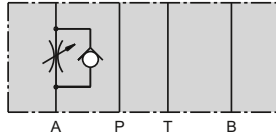


### METER - IN CONTROL IN PORT A



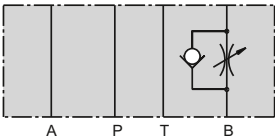
Series: ZRD-AZ01-S0-D1  
 Order No. 098-91056-0

### METER - OUT CONTROL IN PORT A



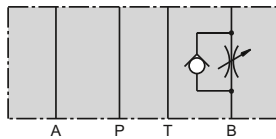
Series: ZRD-AA01-S0-D1  
 Order No. 098-91012-0

### METER - IN CONTROL IN PORT B



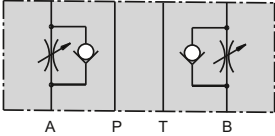
Series: ZRD-BZ01-S0-D1  
 Order No. 098-91057-0

### METER - OUT CONTROL IN PORT B



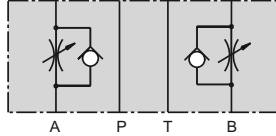
Series: ZRD-BA01-S0-D1  
 Order No. 098-91013-0

### METER - IN CONTROL IN PORT A&B

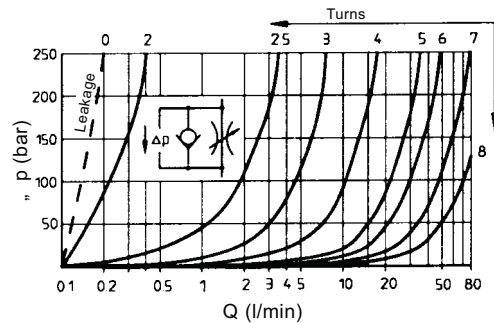
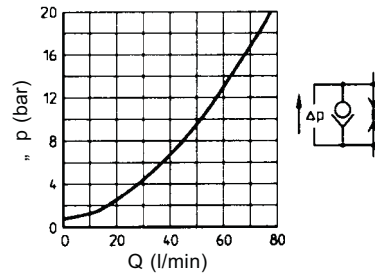


Series: ZRD-ABZ01-S0-D1  
 Order No. 098-91058-0

### METER - OUT CONTROL IN A&B



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

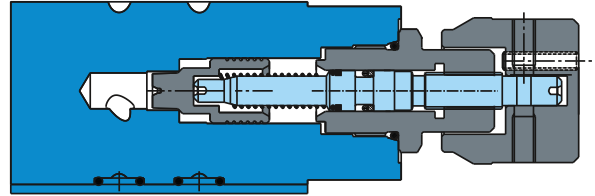


at 33 cSt

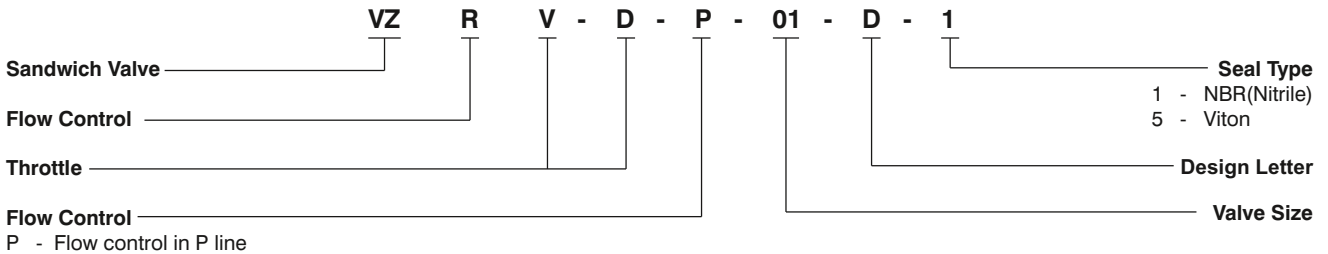
VZRVD Veljan Denison check and throttle modular valves are reliable in controlling the fluid flow. VZRVD valves are equipped with an adjusting knob (clockwise or anti-clockwise) to set the throttling area, for adjusting the flow rate of the process fluid.

## OPERATING CHARACTERISTICS:

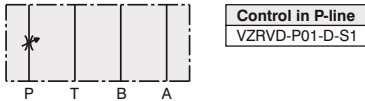
Type	:	Throttle with inline check
Design	:	Direct acting, Spool type
Maximum operating pressure	:	250 bar
Maximum flow rate	:	35 lpm
Weight	:	1.2 kgs



## ORDERING CODE :

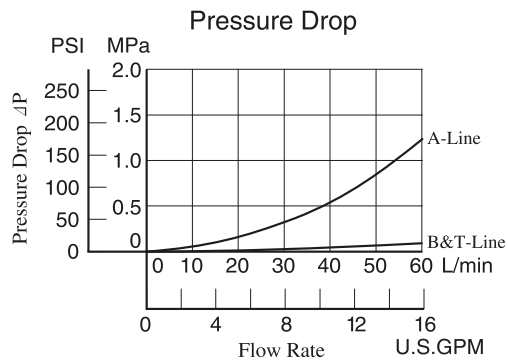
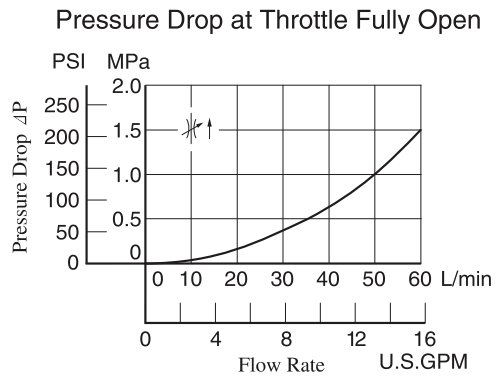
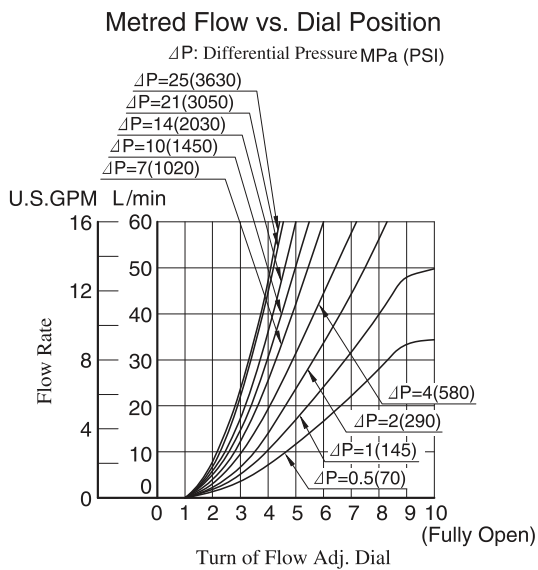


## Graphical Symbol

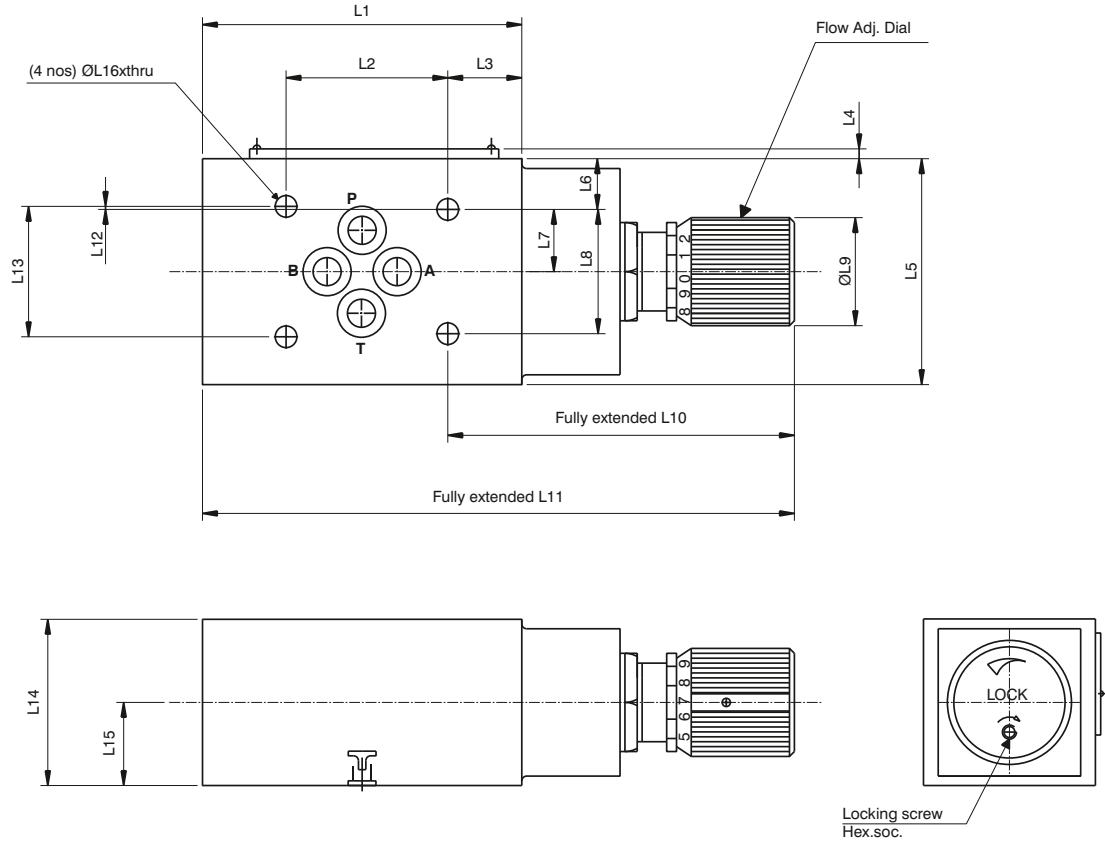


## Typical Performance Characteristics

Hydraulic Fluid: Viscosity 35 mm<sup>2</sup>/s (164 SSU), Specific Gravity 0.850



## INSTALLATION



## INSTRUCTIONS:

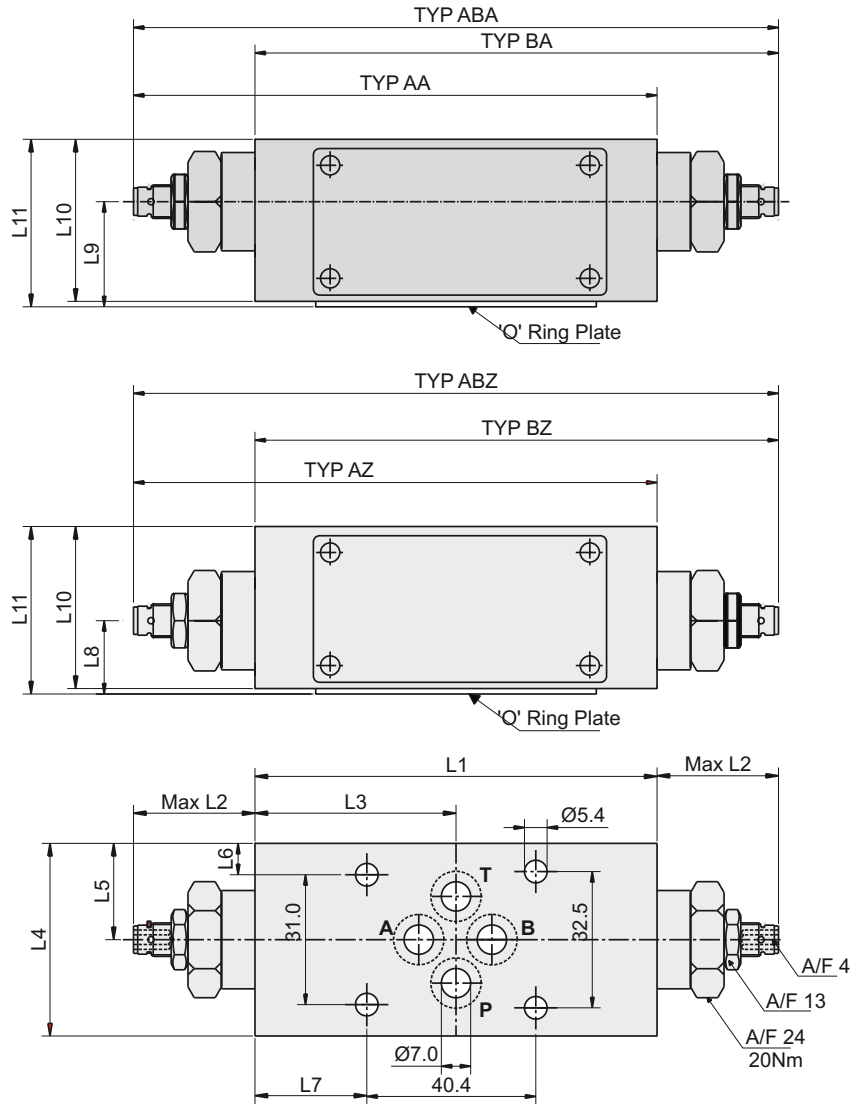
To make flow rate adjustment, loosen the lock nut for the dial and turn the flow adjustment dial clockwise or anti-clockwise. For a decrease of flow, turn the dial clockwise. Make sure to re-tighten the lock nut firmly after adjustment of flow rate.

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

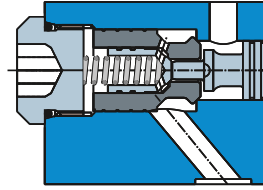
### SERVICE INFORMATION:

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

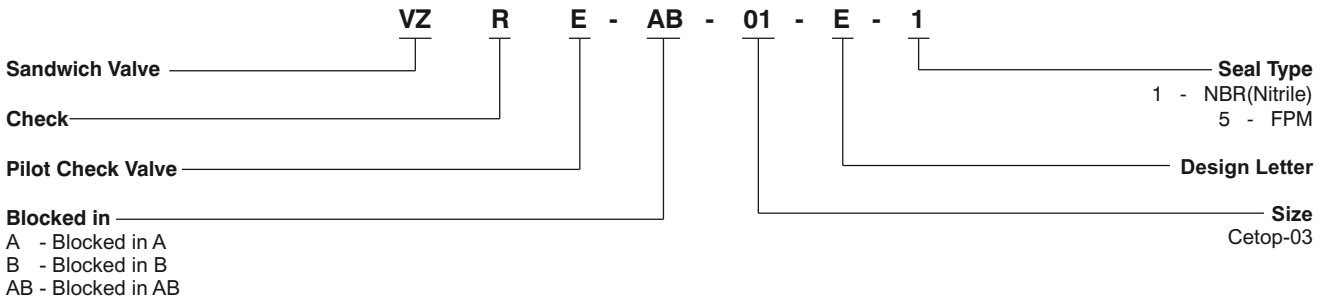


- Max. operating pressure 350 bar
- Max. flow 60 l/min
- Opening ratio 1 : 6 (pilot cone /main cone)
- Cracking pressure 1.2 bar (check valve)
- Viscosity range 10 ... 500 cSt
- Fluid temperature range -18 ... + 60°C

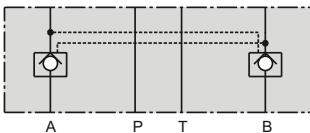


**Seal kit for**  
 ZRE... D1 = 098-91088-0  
 ZRE... D5 = 098-91089-0

## ORDERING CODE :

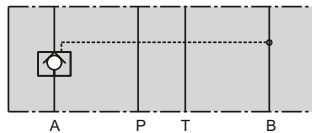


### BLOCKED IN A AND B



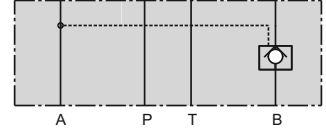
Model code: ZRE-AB01-D1  
 Order No. 098-91020-0

### BLOCKED IN A



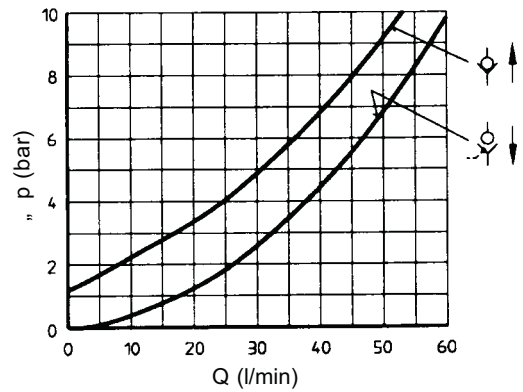
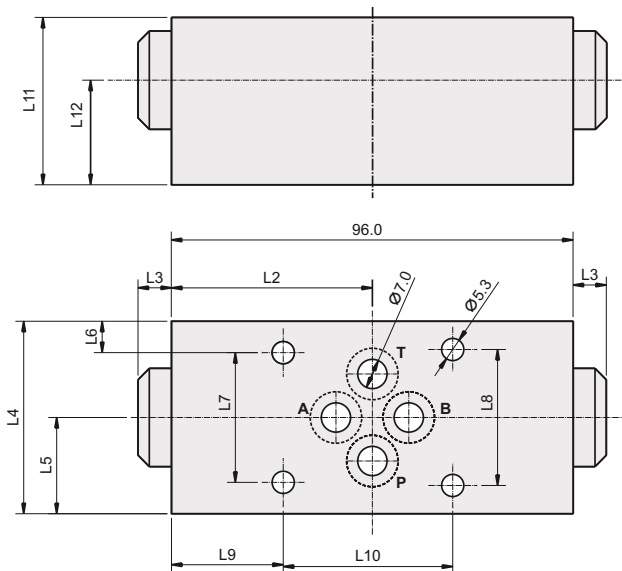
Model code: ZRE-A01-D1  
 Order No. 098-91018-0

### BLOCKED IN B



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

## INSTALLATION - 1.2kg



at 33 cSt

### SERVICE INFORMATION:

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

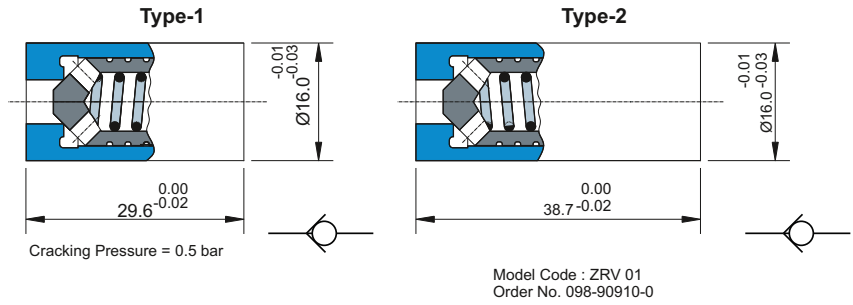
UNITS	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12
mm	96.0	48.0	8.0	46.0	23.0	7.5	31.0	32.5	26.7	40.5	40.0	25.0
in	3.78	1.89	0.31	1.81	0.90	0.29	1.22	1.28	1.05	1.59	1.57	0.98

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).

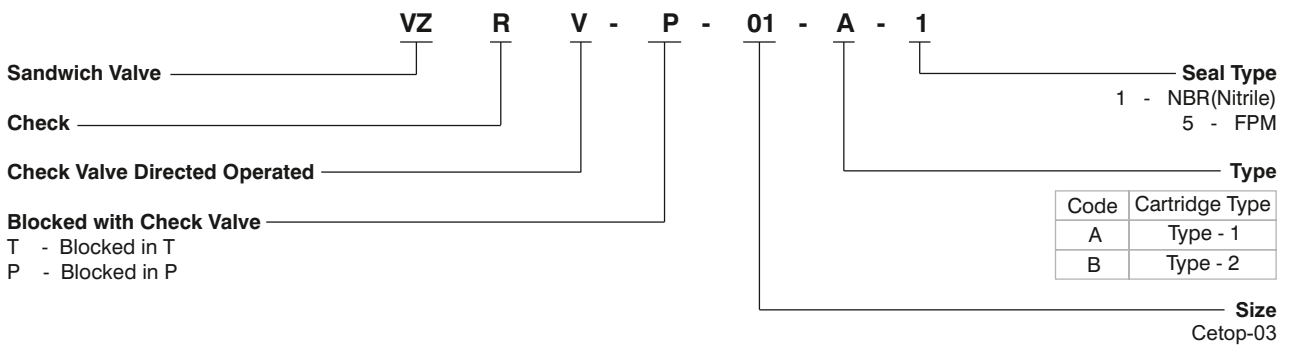
# CHECK VALVE - ZRV



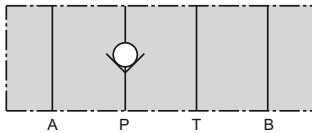
- Max. operating pressure 350 bar
- Max. flow 40 l/min
- Cracking pressure 0.5 bar
- Viscosity range 10 ... 500 cSt
- Fluid temperature range -18 ... + 60°C



## ORDERING CODE :

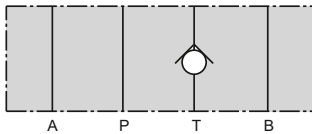


### BLOCKED IN P

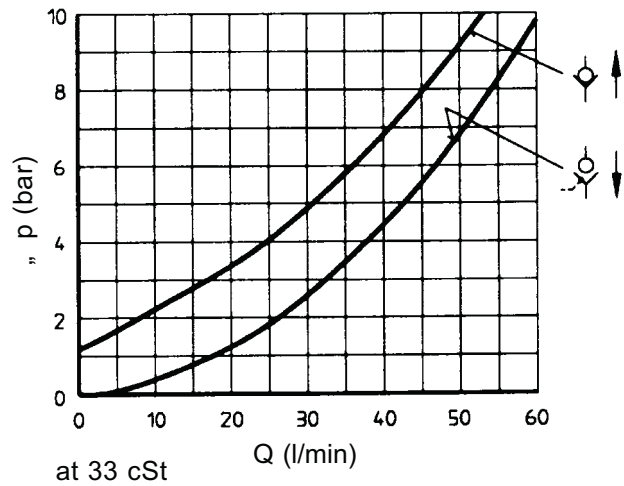


Series :ZRV-P01  
Order No :V98-90025-0

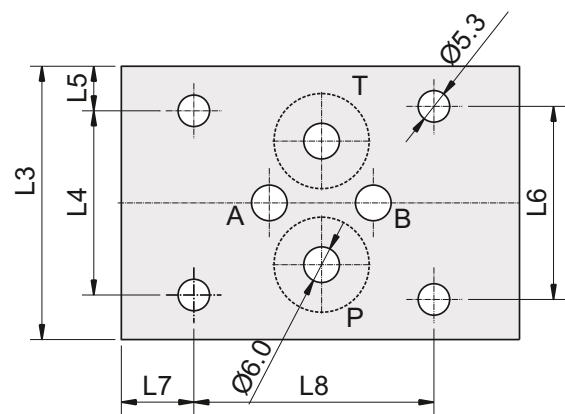
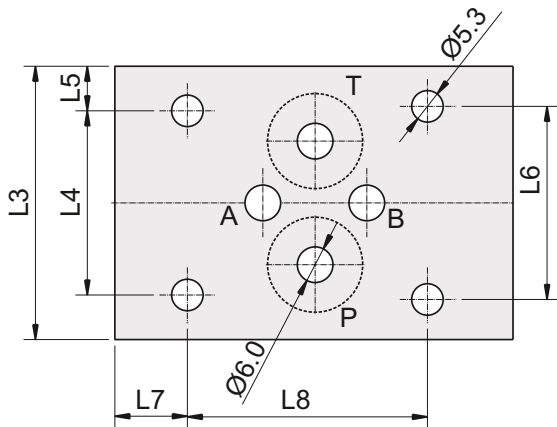
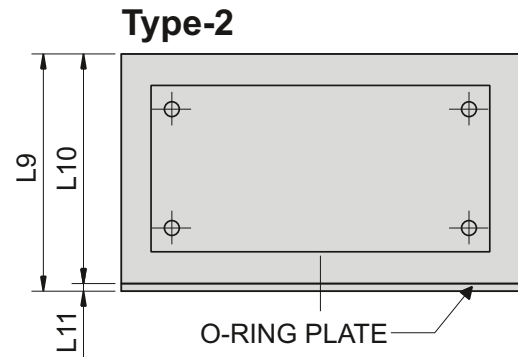
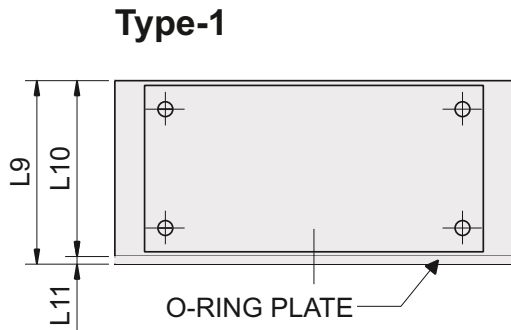
### BLOCKED IN T



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

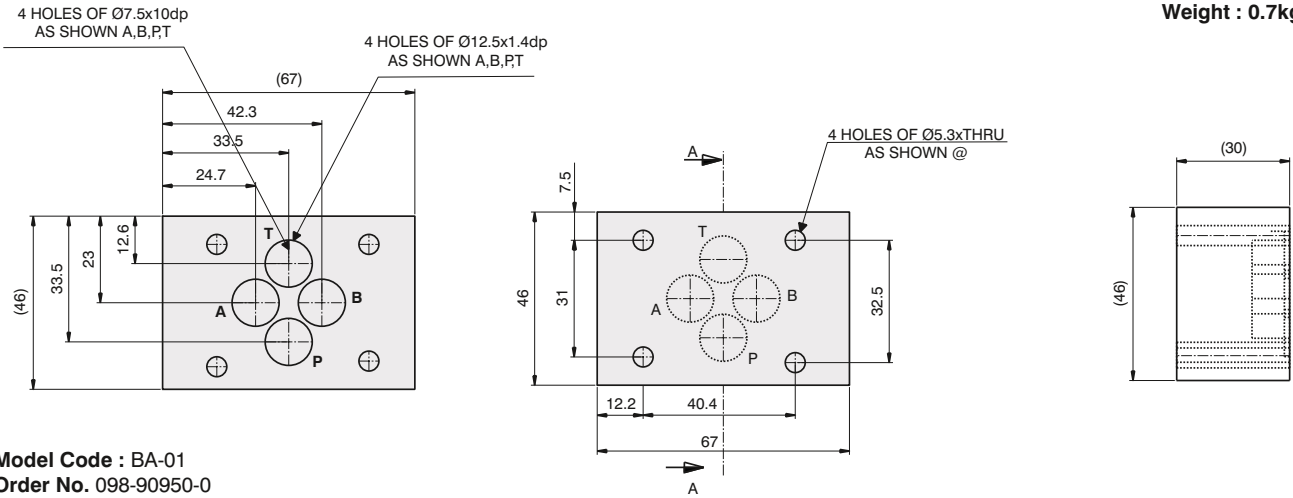
**SERVICE INFORMATION:**

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

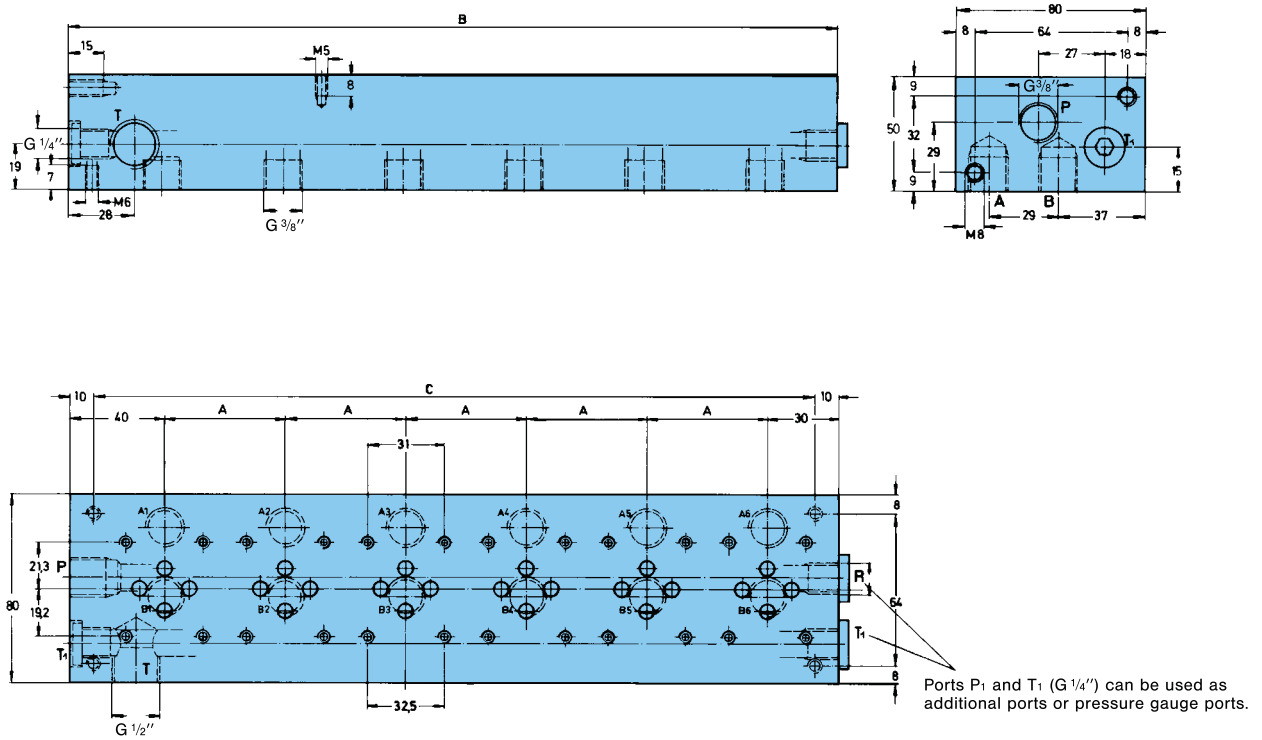


**COVER PLATE**

Weight : 0.7kg

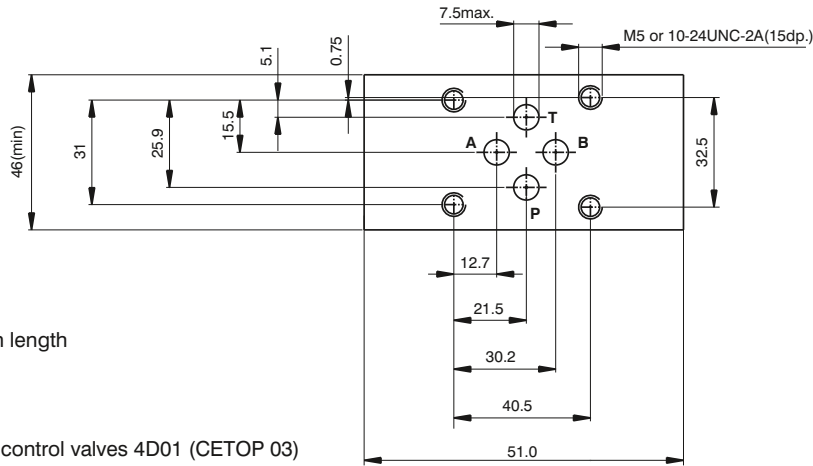


**SUB PLATE**



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

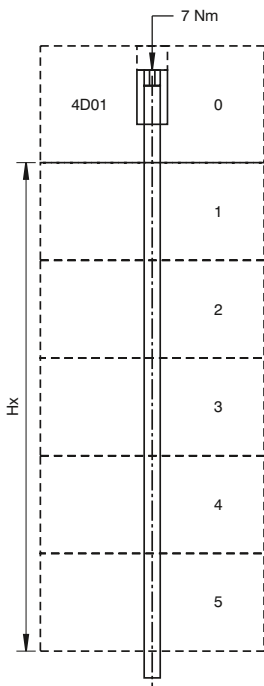
**MOUNTING CONFIGURATION**



Flatness 0.01 mm/100 mm length  
Surface finish 0.8  $\mu\text{m}$

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	
	= II	(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	
		(3 x II) x 4	120	03 M	
		(2 x II) + (1 x III) x 4	129	03 N	
		= III	(2 x I) + (2 x II) x 4	142	03 O
			(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





# STACK VALVES CETOP - 05



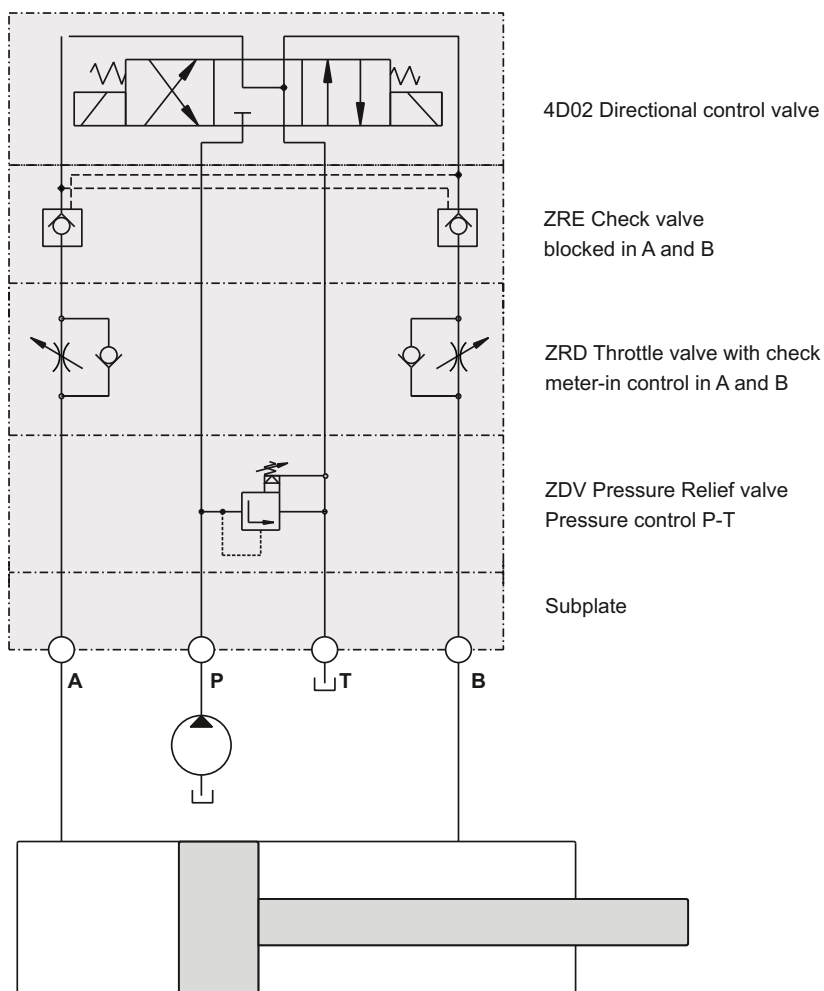
## DESCRIPTION

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 05 have the same mounting configuration as the directional control valve 4D02 and can be arranged as shown on the following pages.

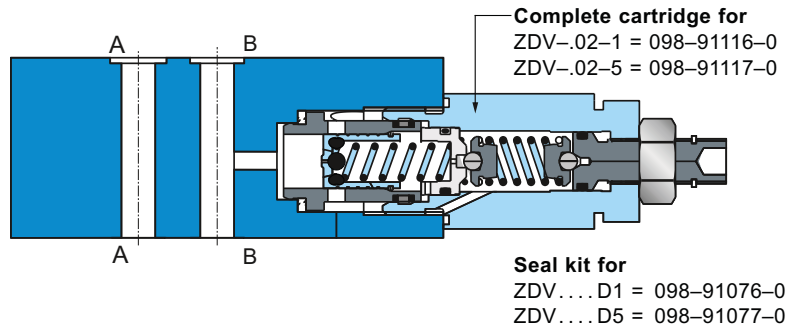
## CIRCUIT EXAMPLE



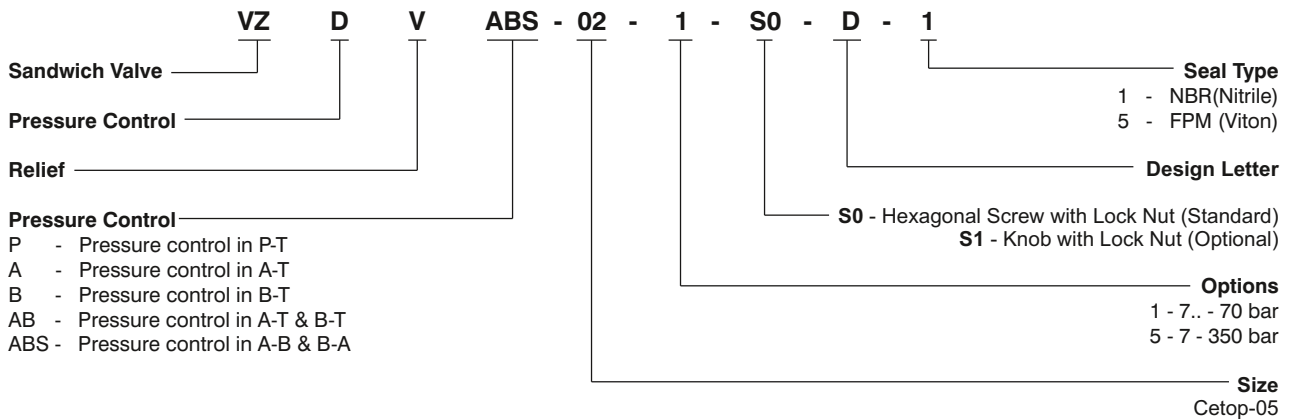
# PRESSURE RELIEF VALVE - ZDV



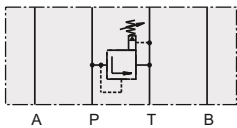
- Operating pressure range
  - ZDV-P / A / B / AB 7... 70/350 bar
  - ZDV-ABS 7... 70/315 bar
- Max. flow 140 l/min
- Viscosity range 10... 500 cSt
- Fluid temperature range -18... +60°C



## ORDERING CODE :

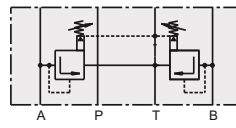


### Pressure control P-T



Model Code:	Order No.
ZDV-P02-1-S0-D1	098-91034-0
ZDV-P02-5-S0-D1	098-91035-0

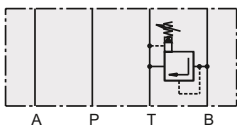
### Pressure control A-T & B-T



Model Code:	Order No.
ZDV-AB02-1-S0-D1	098-91207-0
ZDV-AB02-5-S0-D1	098-91208-0

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

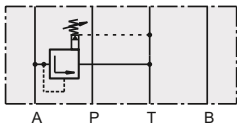
### Pressure control B-T



Model Code:	Order No.
ZDV-B02-1-S0-D1	098-91038-0
ZDV-B02-5-S0-D1	098-91039-0

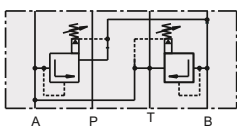
1 = 7... 70 bar  
 5 = 7... 350 bar

### Pressure control A-T



Model Code:	Order No.
ZDV-A02-1-S0-D1	098-91203-0
ZDV-A02-5-S0-D1	098-91204-0

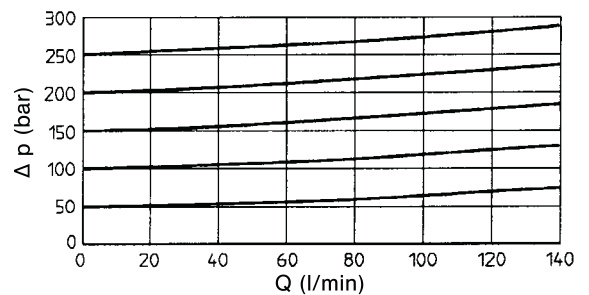
### Pressure control A-B & B-A



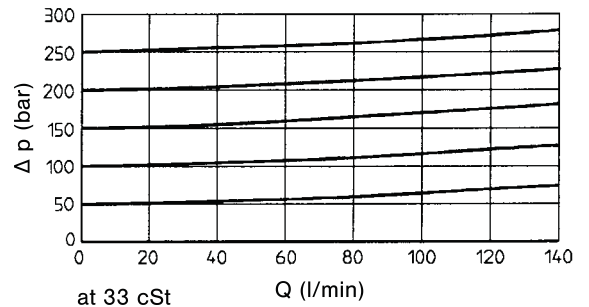
Model Code:	Order No.
ZDV-ABS02-1-S0-D1	098-91042-0
ZDV-ABS02-5-S0-D1	098-91043-0

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

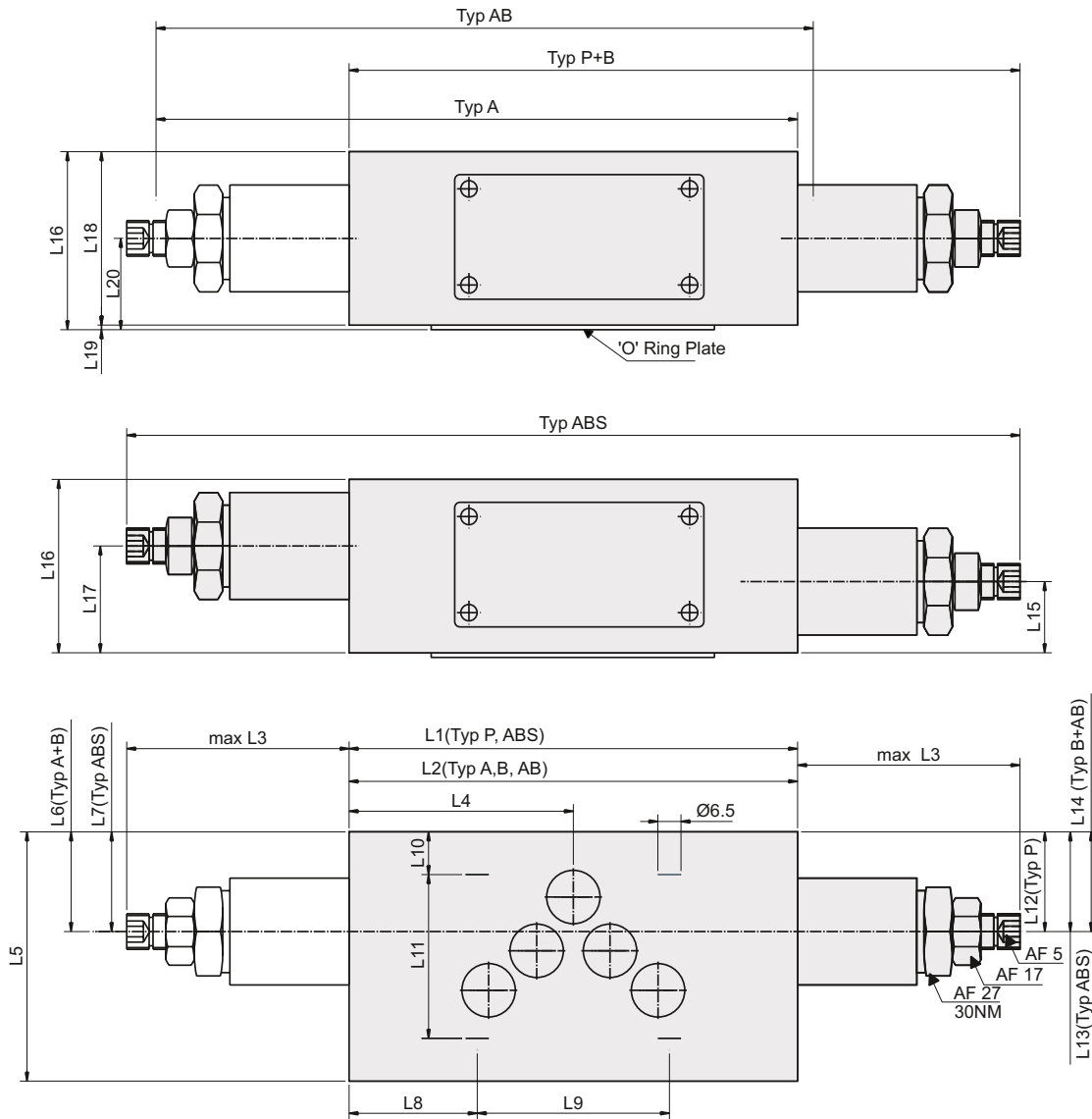
### ZDV-P/A/B/ABS02



### ZDV-AB02



**INSTALLATION - 3.0 / 3.7 kg**



UNITS	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15	L16	L17	L18	L19	L20
mm	126.0	116.0	62.5	58.0	70.0	30.0	28.0	31(36)	54.0	12.0	46.0	26.5	28.0	30.0	20.0	50.0	33.0	48.7	1.3	25.7
in	4.96	4.56	2.46	2.28	2.75	1.811	1.1	1.22 1.42	2.12	0.47	1.81	1.04	1.1	1.18	0.78	1.96	1.23	1.92	0.05	1.01

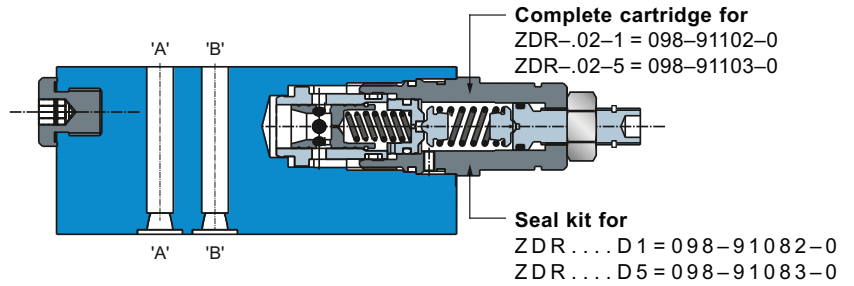
**SERVICE INFORMATION:**

MODEL CODE	SPARE PART NO.	DETAILS
VZDV-02-1	V098-91116-0	CARTRIDGE
VZDV-02-5	V098-91117-0	CARTRIDGE
VZDV.....D1	V098-91076-0	SEALKIT
VZDV.....D5	V098-91077-0	SEALKIT
VZDV-5	VS16-85742	'O' RING PLATE

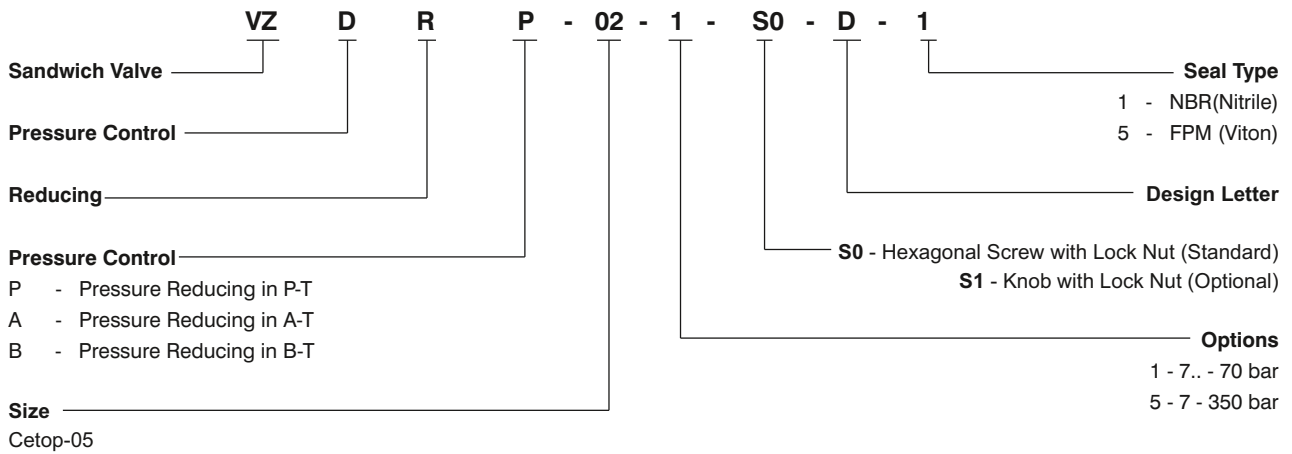
# PRESSURE REDUCING VALVE - ZDR



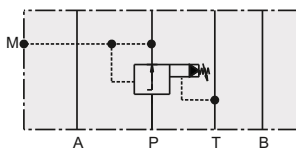
- Operating pressure range
  - ZDR-P 7...70/350 bar
  - ZDR-A / B 7...70/315 bar
- Max. flow 120 l/min
- Viscosity range 10 ... 500 cSt
- Fluid temperature range -18 ... + 60°C
- Pilot oil (P, A, B - T)max. 0.3 l/min



## ORDERING CODE :



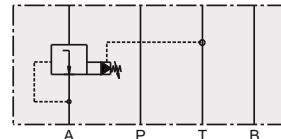
### PRESSURE REDUCING IN P WITH PRESSURE GAUGE PORT



**Model Code:**  
ZDR-P02-1-S0-D1    **Order No.** 098-91050-0  
ZDR-P02-5-S0-D1    098-91051-0

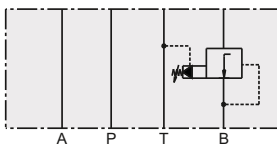
↑  
1 = 7 ... 70 bar  
5 = 7 ... 350 bar

### PRESSURE REDUCING IN A



**Model Code:**  
ZDR-A02-1-S0-D1  
ZDR-A02-5-S0-D1

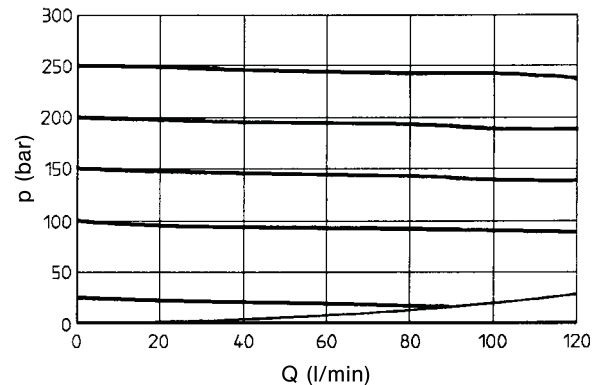
### PRESSURE REDUCING IN B



**Model Code:**  
ZDR-B02-1-S0-D1  
ZDR-B02-5-S0-D1

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

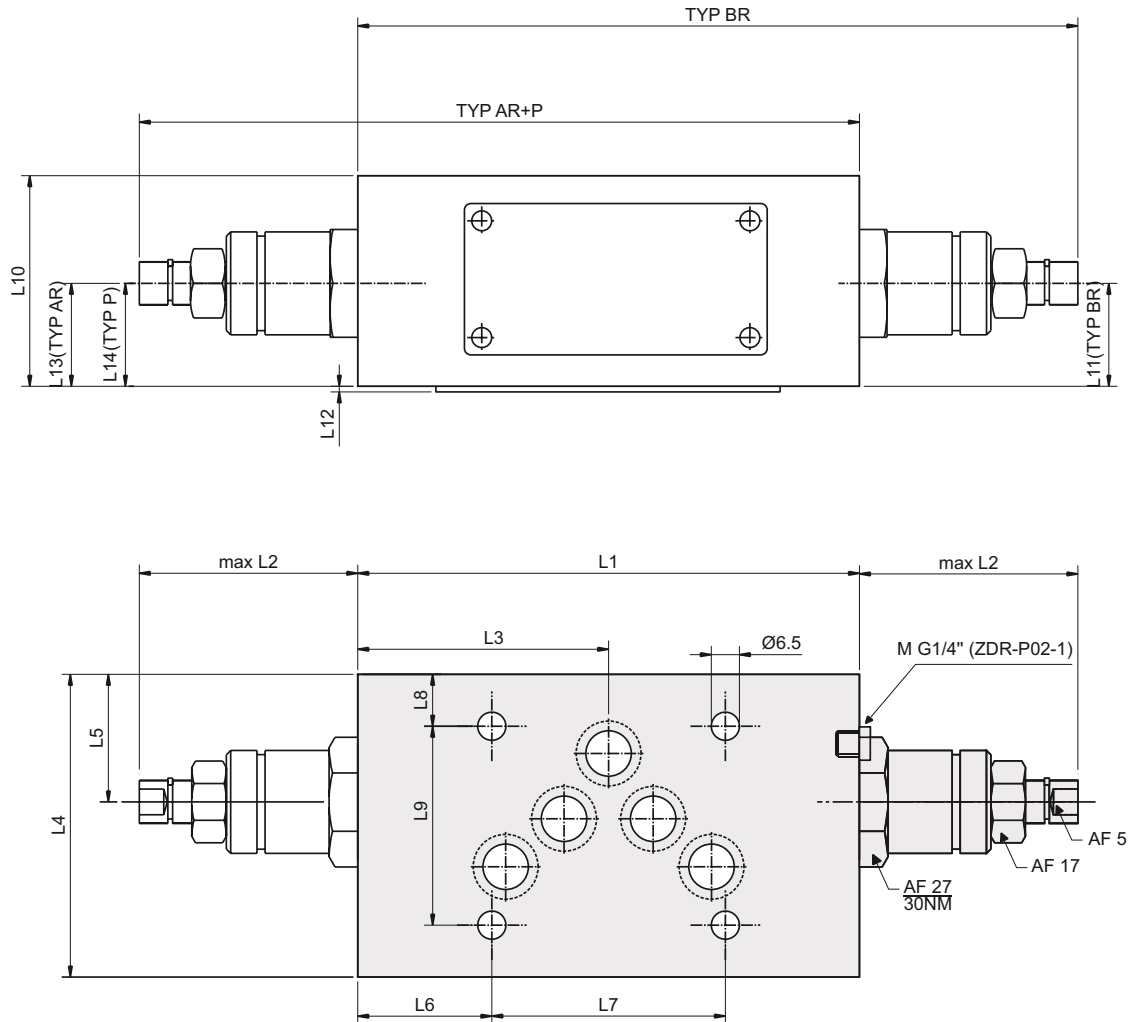
### ZDR-P/AR/BR02



at 33 cSt



## INSTALLATION - 2.9 / 3.0 kg



UNITS	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14
mm	116.0	50.5	58.0	70.0	29.5	31.0	54.0	12.0	46.0	50.0	23.8	1.3	23.8	26.3
in	4.56	1.99	2.28	2.75	1.16	1.22	2.12	0.47	1.18	1.96	0.94	0.05	0.94	1.03

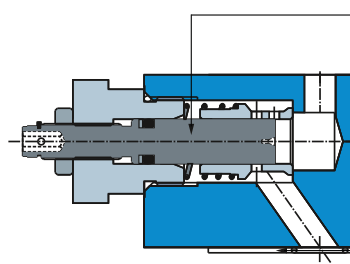
### SERVICE INFORMATION:

MODEL CODE	SPARE PART NO.	DETAILS
VZDR-02-1	V098-91102-0	CARTRIDGE
VZDR-02-5	V098-91103-0	CARTRIDGE
VZDR.....D1	V098-91082-0	SEALKIT
VZDR.....D5	V098-91083-0	SEALKIT
VZDR-S	VS16-85742-0	'O' RING PLATE

# THROTTLE WITH CHECK - ZRD



- Max. operating pressure 350 bar
- Max. flow 160 l/min
- Viscosity range 10 ... 500 cSt
- Fluid temperature range -18 ... + 60hC

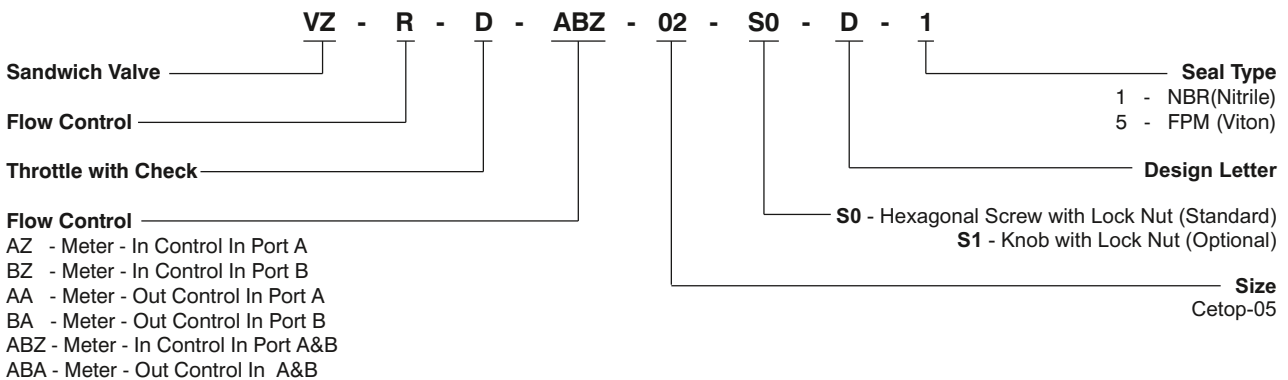


**Complete cartridge for**  
ZRD-.02-1 = 098-91120-0

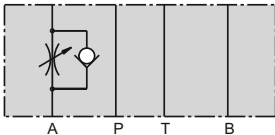
**Seal kit for:**  
ZRD01 ... D1 = 098-91098-0  
ZRD01 ... D5 = 098-91099-0

**O-Ring Plate**  
S 16-85742-0

## ORDERING CODE :

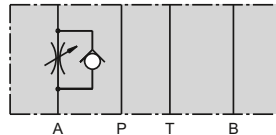


### METER - IN CONTROL IN PORT A



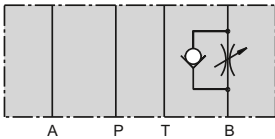
Series: ZRD-AZ02-S0-D1  
 Order No. 098-91059-0

### METER - OUT CONTROL IN PORT A



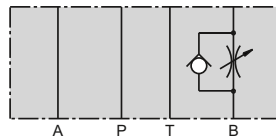
Series: ZRD-AA02-S0-D1  
 Order No. 098-91015-0

### METER - IN CONTROL IN PORT B



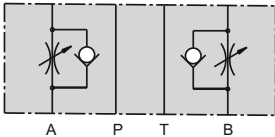
Series: ZRD-BZ02-S0-D1  
 Order No. 098-91060-0

### METER - OUT CONTROL IN PORT B



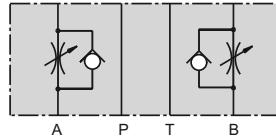
Series: ZRD-BA02-S0-D1  
 Order No. 098-91016-0

### METER - IN CONTROL IN PORT A&B

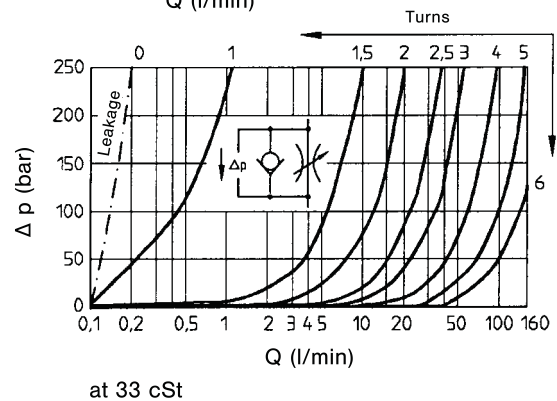
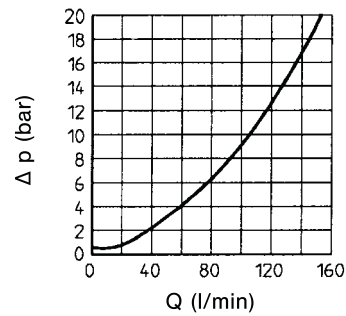


Series: ZRD-ABZ02-S0-D1  
 Order No. 098-91061-0

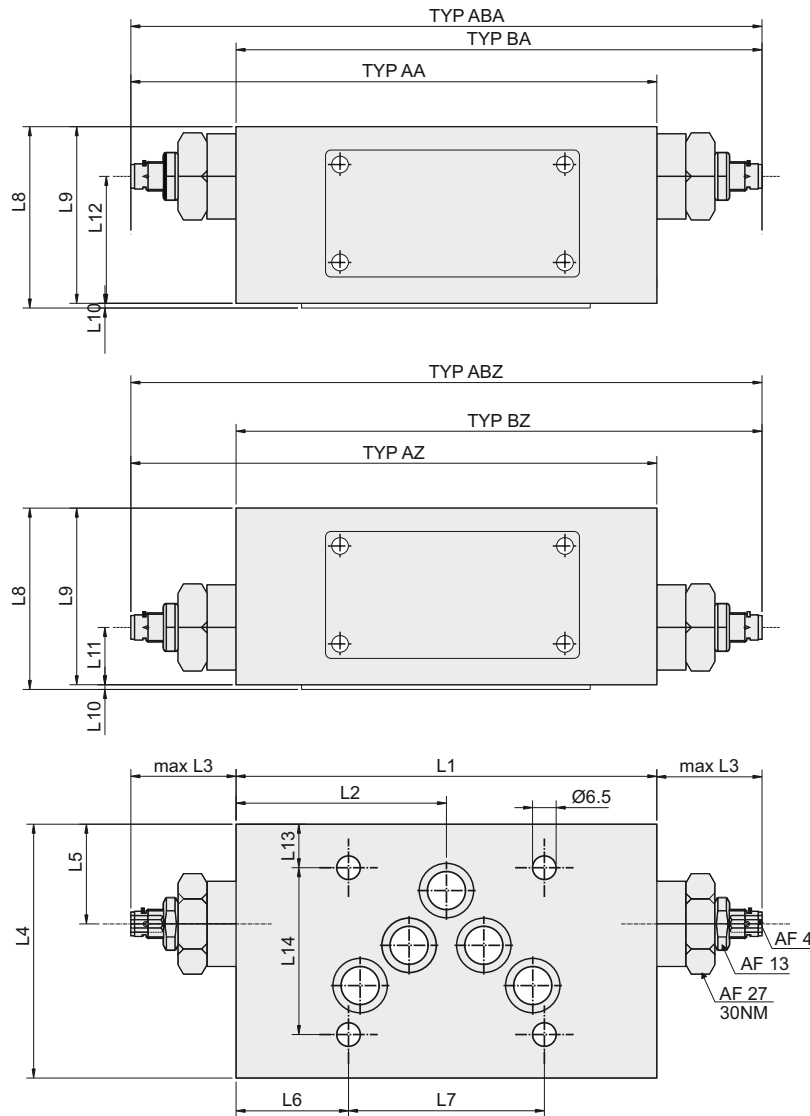
### METER - OUT CONTROL IN A&B



Series: ZRD-ABA02-S0-D1  
 Order No. 098-91017-0



## INSTALLATION - 2.8 / 2.9 kg

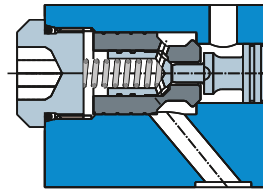


UNITS	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14
mm	116.0	58.0	22.0	70.0	27.5	31.0	54.0	50.0	48.7	1.3	16.3	35.0	12.0	46
in	4.56	2.28	0.87	2.75	1.08	1.22	2.12	1.96	1.91	0.05	0.64	1.37	0.47	1.81

### SERVICE INFORMATION:

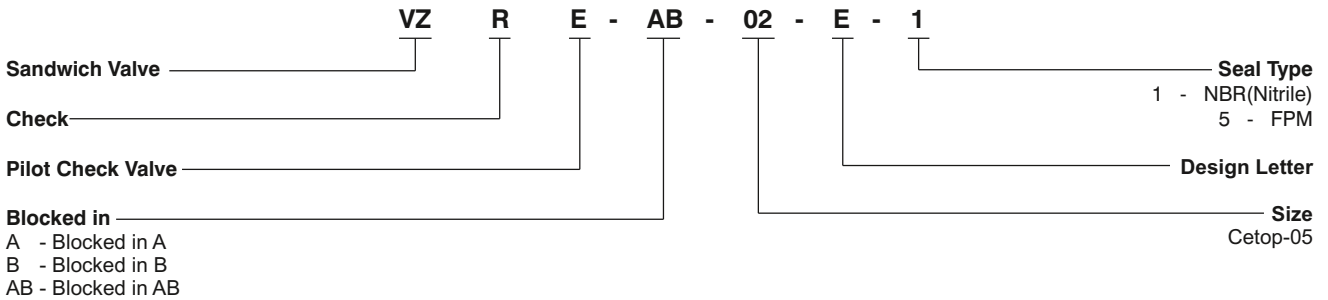
MODEL CODE	SPARE PART NO.	DETAILS
VZRD-02	V098-91120-0	CARTRIDGE
VZRD02.....D1	V098-91098-0	SEALKIT
VZRD02.....D5	V098-91099-0	SEALKIT
VZRD-S	VS26-85742-0	O-RING PLATE

- Max. operating pressure 350 bar
- Max. flow 120 l/min
- Opening ratio 1 : 6 (pilot cone /main cone)
- Cracking pressure 2 bar (check valve)
- Viscosity range 10 . . . 500 cSt
- Fluid temperature range -18 . . . + 60°C

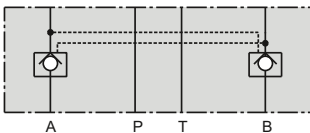


**Seal kit for**  
 ZRE... D1 = 098-91090-0  
 ZRE... D5 = 098-91091-0

## ORDERING CODE :

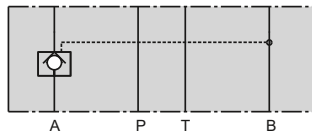


### BLOCKED IN A AND B



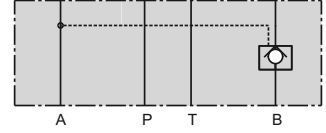
Model code: ZRE-AB02-D1  
 Order No. 098-91300-0

### BLOCKED IN A



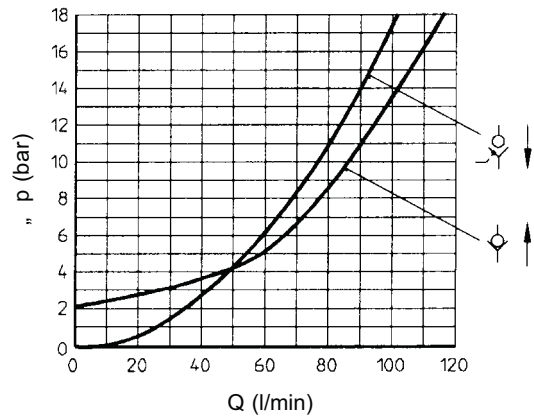
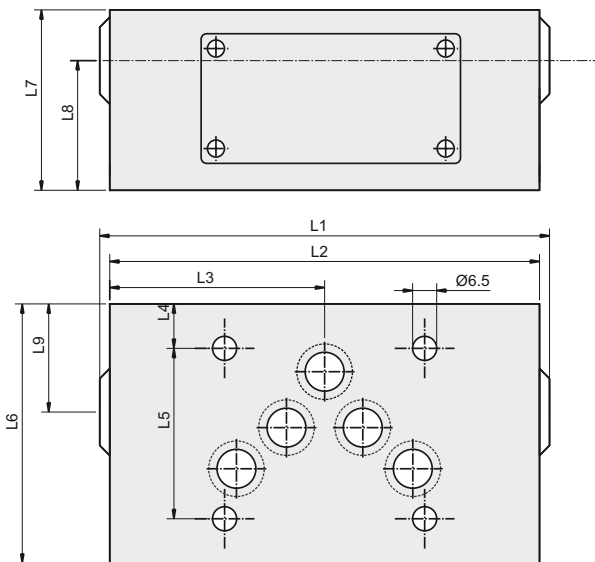
Model code: ZRE-A02-D1  
 Order No. 098-91298-0

### BLOCKED IN B



Model code: ZRE-B02-D1  
 Order No. 098-91304-0

## INSTALLATION - 3.1 kg



### SERVICE INFORMATION:

MODEL CODE	SPARE PART NO.	DETAILS
VZRE.....D1	V098-91090-0	SEALKIT
VZRE.....D5	V098-91091-0	SEALKIT

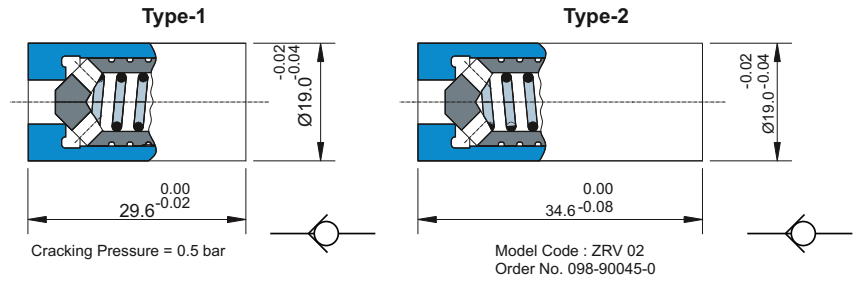
UNITS	L1	L2	L3	L4	L5	L6	L7	L8	L9
mm	117.0	116.0	58.0	12.0	46.0	70.0	50.0	35.0	28.5
in	4.60	4.56	2.28	0.47	1.81	2.75	1.97	1.38	1.12

**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).

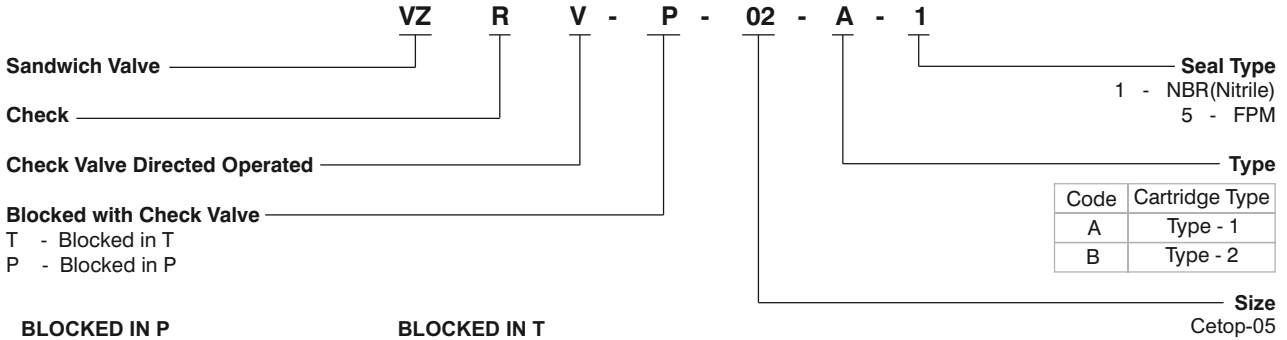
# CHECK VALVE - ZRV



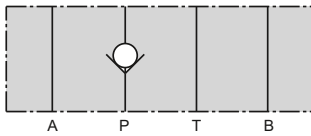
- Max. operating pressure 350 bar
- Max. flow 100 l/min
- Cracking pressure 0.5 bar
- Viscosity range 10 . . . 500 cSt
- Fluid temperature range -18 . . . + 60°C



## ORDERING CODE :

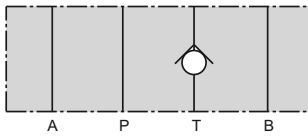


### BLOCKED IN P



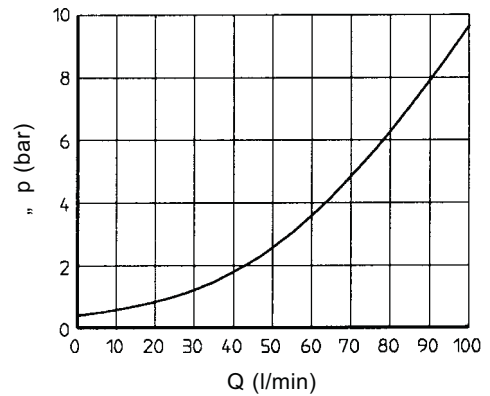
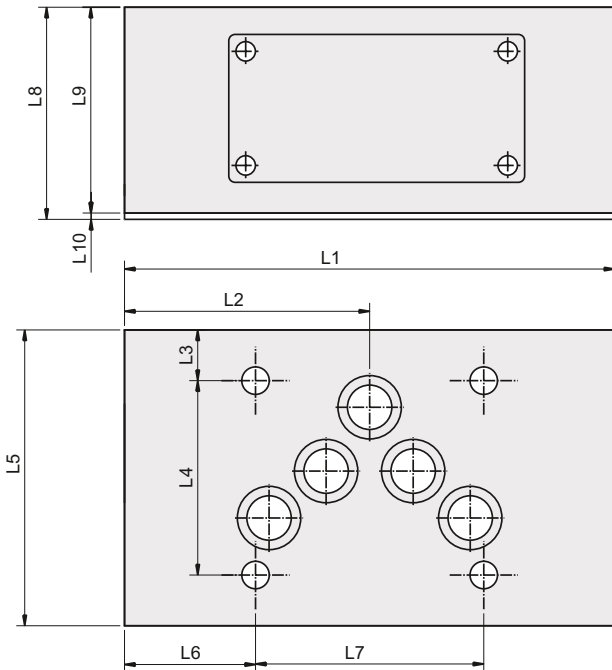
Series :ZRV-P02  
Order No :V98-90043-0

### BLOCKED IN T



Series :ZRV-T02  
Order No :V98-90044-0

## INSTALLATION - 2.0kg



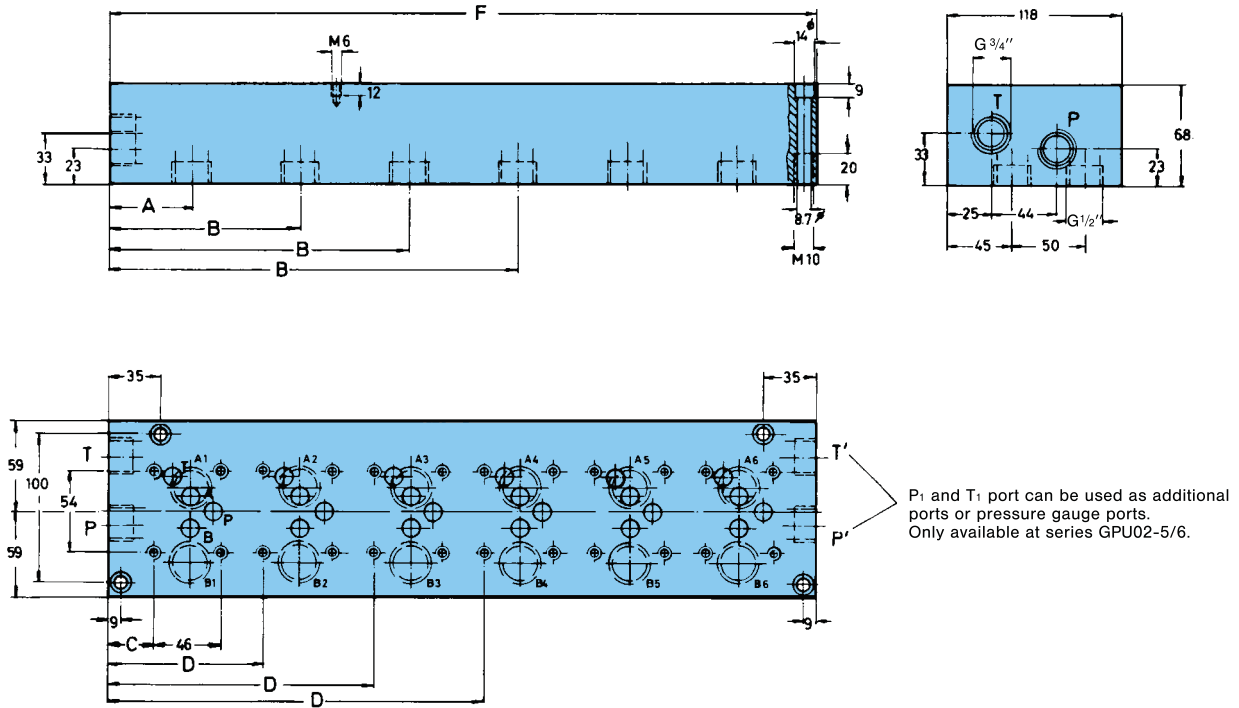
at 33 cSt

## SERVICE INFORMATION:

MODEL CODE	SPARE PART NO.	DETAILS
VZRV.....S	VS16-85742-0	O-Ring plate
VERV-02	V098-90045-0	VERV CARTRIDGE

UNITS	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
mm	116.0	58.0	12.0	46.0	70.0	31.0	54.0	35.9	34.6	1.3
in	4.57	2.28	0.47	1.81	2.75	1.22	2.12	1.41	1.36	0.05

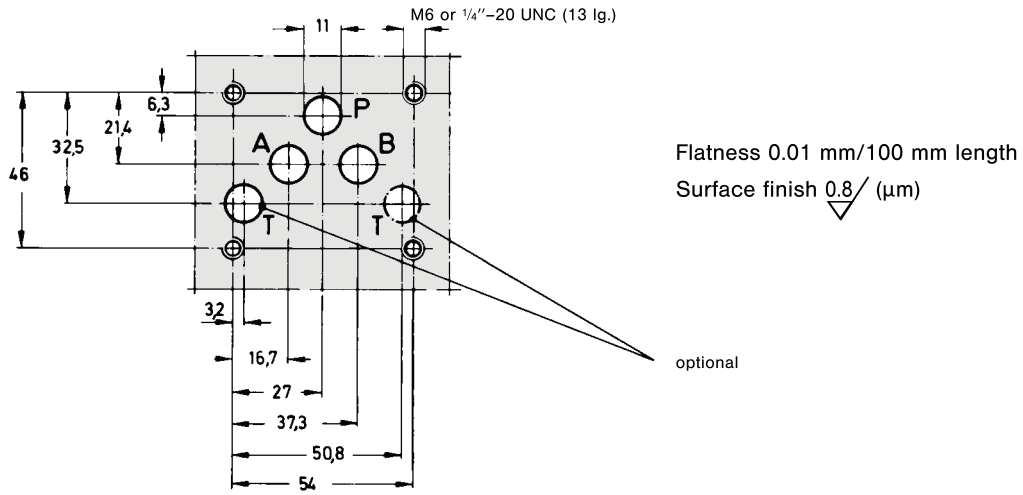
Multiple Subplate - Series GPU



Qty. of Valves	Series	Order No.	Dimensions					Weight
			A	B	C	D	F	(kg)
2	GPU 02-2	099-90827-0	54.5	128.5	30	104	180	8.9
3	GPU 02-3	099-90812-0	54.5	202.5	30	178	254	12.5
4	GPU 02-4	099-90813-0	54.5	276.5	30	252	328	16.1
5	GPU 02-5	099-90831-0	54.5	350.5	30	326	402	19.7
6	GPU 02-6	099-90833-0	54.5	424.5	30	400	476	23.3

The product described is subject to continual development and the manufacturer reserves the right to change the specifications without notice.

**Mounting Configuration according to CETOP, ISO and DIN**



Note:  
Information for directional control valves 4D02 (CETOP 05) and single subplates see publication 4-EN 3300 .

The product described is subject to continual development and the manufacturer reserves the right to change the specifications without notice.





# NOTES



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Veljan is a pioneer Hydraulics and Pneumatics company in India and a leader in its own right.

Veljan has a wealth of experience in developing and manufacturing a wide range of Hydraulic and Pneumatic Products and systems for over 55 years now at its three manufacturing plants near Hyderabad. These plants are equipped with state-of-the-art production and test facilities and supported by a 500 – strong skilled workforce.

## HYDRAULICS :

### Pumps

- Vane : • Fixed Displacement (Single / Double / Triple & Drive Train) 6 to 540 cc / rev and up to 320 bar pressure
- Variable Displacement Vane (11 & 22 cc / rev)
- Piston : • Variable Displacement Piston ( Swash plate design for Open loop) 9 to 140 cc/rev and up to 280 bar pressure

### Motors

- Vane : • 5 to 811 Nm Torque and Max. Pressure 4000 rpm
- Roller Cam : • 71 to 3040 Nm Torque & 400 to 750 rpm

### Pressure Controls

- Relief / Reducing / Unloader / Sequence Valves (up to 350 Bar pressure with threaded or flanged ports) 3/8" to 1 1/2"

### Check Valves

- Direct and Pilot operated (3/8" to 2")

### Throttle Valves

- With & without free return flow check valve (3/8" to 1 1/2")

### Flow Control Valves

- pressure and temperature compensated (3/8" to 3/4")

### Directional Control Valves

- Manual / Pilot and Solenoid operated (1/4" to 3/4")

### Mobile Valves

- 1 to 8 sections, 80 LPM flow and up to 242 bar pressure.

### Cartridge & Seat valves

- Manifolds and Complete Power packs
- 40 to 1000 mm bore, up to 8500 mm stroke and 500 bar pressure Tie Rod, Mill Duty, Mobile Duty and Custom designs

## PNEUMATICS :

### FRLs

- 1/4" to 2"

### Cylinders

- Compact, ISO, Heavy Duty Tie Rod and Custom designs (10 - 500 mm Bore) and up to 17 bar pressure

### Rotary actuators

- 90° actuation

### 2/3/4-way DC Valves

- Spool (with & without seals), Poppet, Diaphragm & D-slide Designs, M5 and 1/8 to 1" size, Manual / Mechanical / Pilot & Solenoid Operators.

### Auxiliary Valves

- Flow Control, Non-Return, Shuttle, Quick Exhaust Etc.

### Presses

- C-frame and Column type

## SYSTEMS :

- Ship Stabilizers & Steering Gear and complete Turnkey Hydraulic / Pneumatic / Hydro Mechanical systems

With its own in-house product development & enhancement, expansion of product range is an ongoing process at Veljan to meet the market demands.

If you are looking for a reliable and an economical supplier to source your hydraulic & pneumatic products, think of Veljan.

Note: Product details are liable to change without any notice

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Hydraulic Pumps & Motors Plant



Hydraulic Valves Plant



Gear Pumps Plant



Hydraulic Cylinders Plant



Marine Equipments Plant



Pneumatics Plant



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