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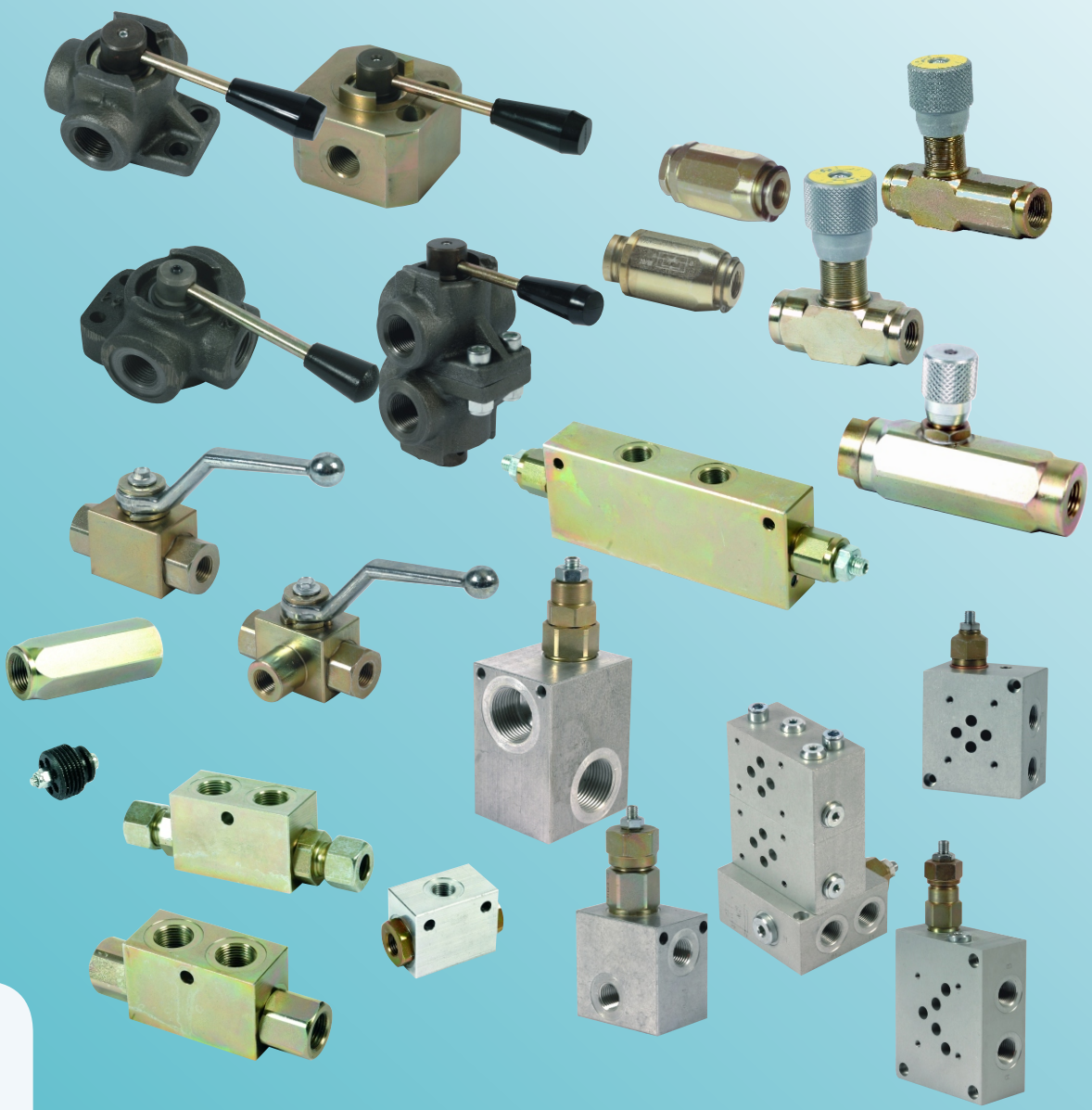

Hydraulic Valves

modulus range

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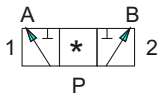
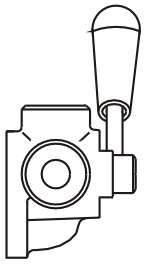
DDF3V

3 ways flow diverter valve



DDF3V



Description:

They are manual operated 3 ways, 3 positions diverter valves.
They can be applied on double effect cylinders, too.
The high resistence cast iron body and the high precision tooling are guarantee of low leakage.

Technical features:

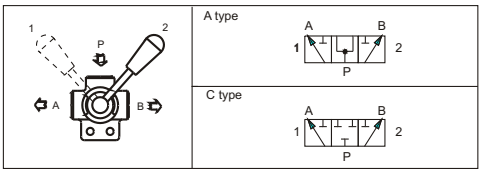
Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	100 mm2/sec
Fluid temperature	-20°C / 80°C
Max contamination level	Class 18/14 ISO4406(NAS1638)

Ordering code

DDF3V — **In-line 3 ways diverter valve**

01 — **Size:**
01, 02, 03, 04, 05

A — **Scheme**
A = open center
C = closed center

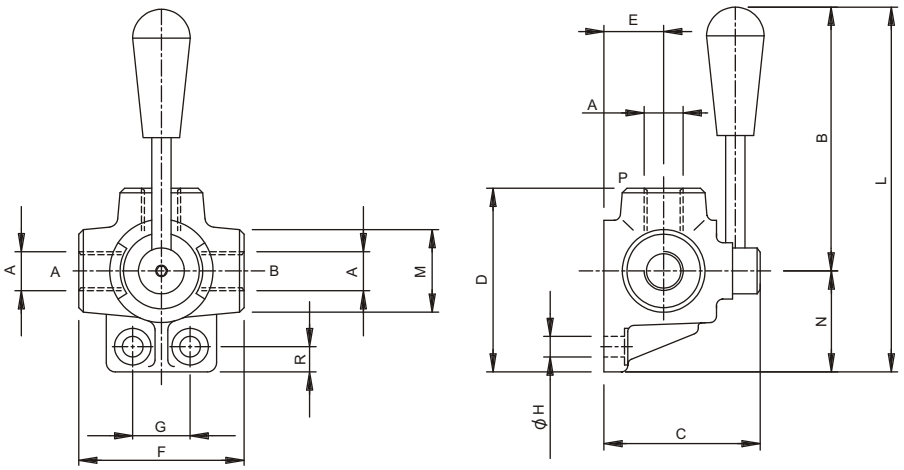


Characteristics:

Code	Size	Max flow l/min	Max pressure bar
DDF3V01	BSPP 1/4	40	300
DDF3V02	BSPP 3/8	60	
DDF3V03	BSPP 1/2	90	250
DDF3V04	BSPP 3/4	120	220
DDF3V05	BSPP 1	200	

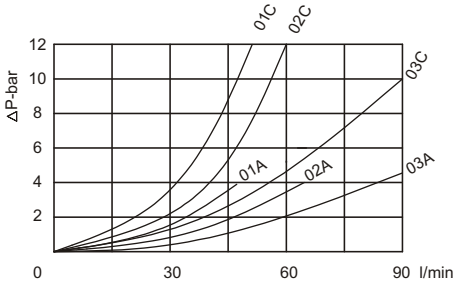
On request we can quote NPT or SAE threaded valves

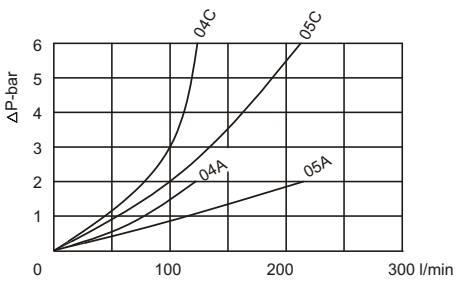
DDF3V- Overall dimensions:



Code	A	B	C	D	E	F	G	H	L	M	N	R	Weight Kg
DDF3V01	BSPP 1/4	128	62	77	21	73	24	8,5	169	35	41	14,5	0,95
DDF3V02	BSPP 3/8	128	62	77	21	73	24	8,5	169	35	41	14,5	0,90
DDF3V03	BSPP 1/2	128	70	96	25	85	32	10,5	180	40	52	17	1,45
DDF3V04	BSPP 3/4	125	80	100	28	90	32	10,5	180	45	55	14	1,80
DDF3V05	BSPP 1	140	90	115	32,5	96	32	11	207	56	67	17	2,50

Pressure drops diagrams:





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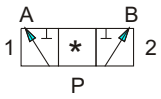
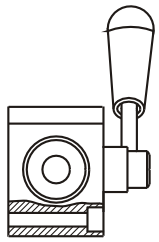
DDF3VAP

High pressure 3 ways flow diverter valve



DDF3VAP



Description:

They are manual operated 3 ways, 3 positions diverter valves.
They can be applied on double effect cylinders, too.
The high resistence steel body and the high precision tooling are guarantee of low leakage.

Technical features:

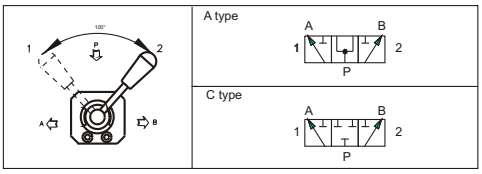
Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	100 mm2/sec
Fluid temperature	-20°C / 80°C
Max contamination level	Class 18/14 ISO4406(NAS1638)

Ordering code

DDF3VAP — **In-line 3 ways high pressure diverter valve**

01 — **Size:**
01, 02, 03, 04

A — **Scheme**
A = open center
C = closed center

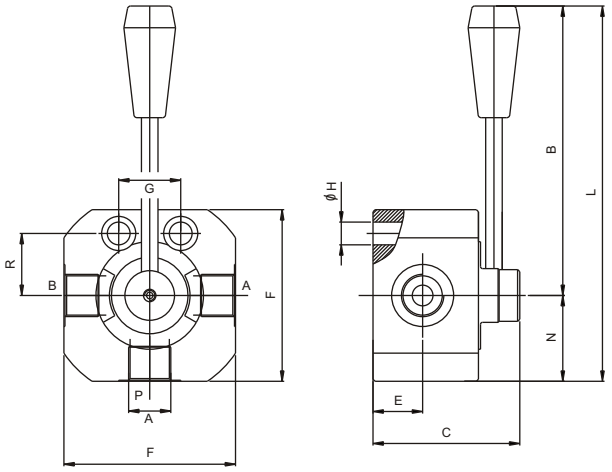


Characteristics:

Code	Size	Max flow l/min	Max pressure bar
DDF3VAP01	BSPP 1/4	40	400
DDF3VAP02	BSPP 3/8	60	
DDF3VAP03	BSPP 1/2	90	350
DDF3VAP04	BSPP 3/4	120	

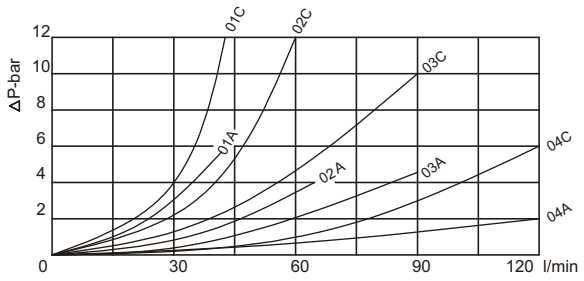
On request we can quote NPT or SAE threaded valves

Overall dimensions:



Code	A	B	C	E	F	G	H	L	N	R	Weight Kg
DDF3VAP01	BSPP 1/4	130	62,5	21	68	25	8,5	164	34	25	1,45
DDF3VAP02	BSPP 3/8	130	62,5	21	68	25	8,5	164	34	25	1,40
DDF3VAP03	BSPP 1/2	128	71	24	83	30	11	169,5	41,5	30	2,25
DDF3VAP04	BSPP 3/4	126,5	79,5	28	88	30	11	170,5	44	32	2,90

Pressure drop diagram:



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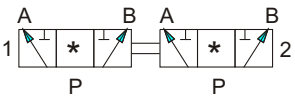
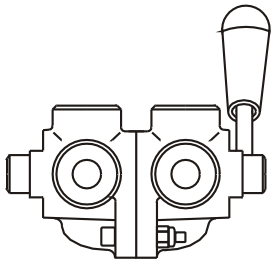
DDF6V

6 ways flow diverter valve



DDF6V



Description:

They are manual operated 6 ways, 3 positions flow diverter valves. The high resistence cast iron body and the high precision tooling are guarantee of low leackage.

Technical features:

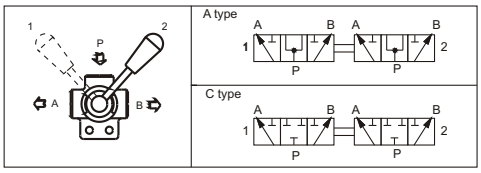
Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	100 mm2/sec
Fluid temperature	-20°C / 80°C
Max contamination level	Class 18/14 ISO4406(NAS1638)

Ordering code

DDF6V — **In-line 6 ways diverter valve**

01 — **Size:**
01, 02, 03, 04, 05

A — **Scheme**
A = open center
C = closed center

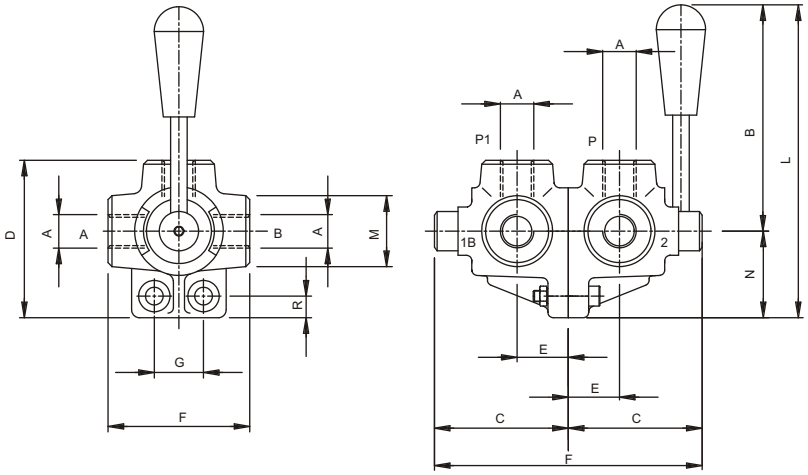


Characteristics:

Code	Size	Max flow l/min	Max pressure bar
DDF6V01	BSPP 1/4	40+40	300
DDF6V02	BSPP 3/8	60+60	
DDF6V03	BSPP 1/2	90+90	250
DDF6V04	BSPP 3/4	120+120	220
DDF6V05	BSPP 1	200+200	

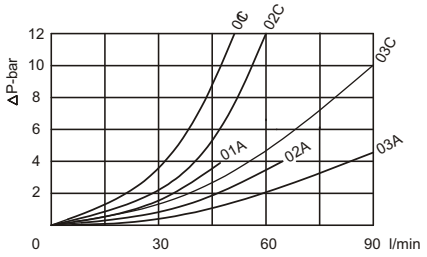
On request we can quote NPT or SAE threaded valves

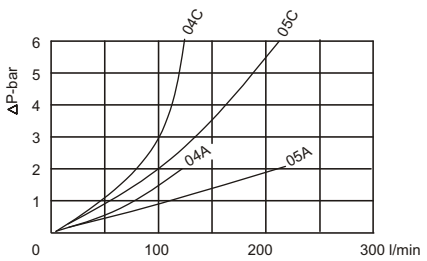
DDF6V- Overall dimensions:



Code	A	B	C	D	E	F	G	L	M	N	R	Weight Kg
DDF6V01	BSPP 1/4	128	62	77	21	146	24	169	35	41	14,5	2,00
DDF6V02	BSPP 3/8	128	62	77	21	146	24	169	35	41	14,5	1,90
DDF6V03	BSPP 1/2	128	70	96	25	170	32	180	40	52	17	3,00
DDF6V04	BSPP 3/4	125	80	100	28	180	32	180	45	55	14	3,70
DDF6V05	BSPP 1	140	90	115	32,5	192	32	207	56	67	17	5,10

Pressure drop diagrams (for each section):





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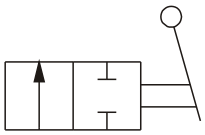
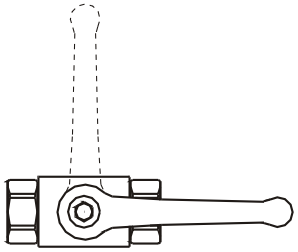
RSAP2V

High pressure 2 ways ball valve



RSAP2V



Description:

High pressure 2 ways in-line mounting ball valves. Steel body with zinc plating protection against corrosion, chromed steel internal ball and aluminum lever.

Technical features:

Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	100 mm2/sec
Fluid temperature	-10°C /100°C
Max contamination level	Class 18/14 ISO4406(NAS1638)

Ordering code

RSAP2V — **High pressure 2 ways ball valve**

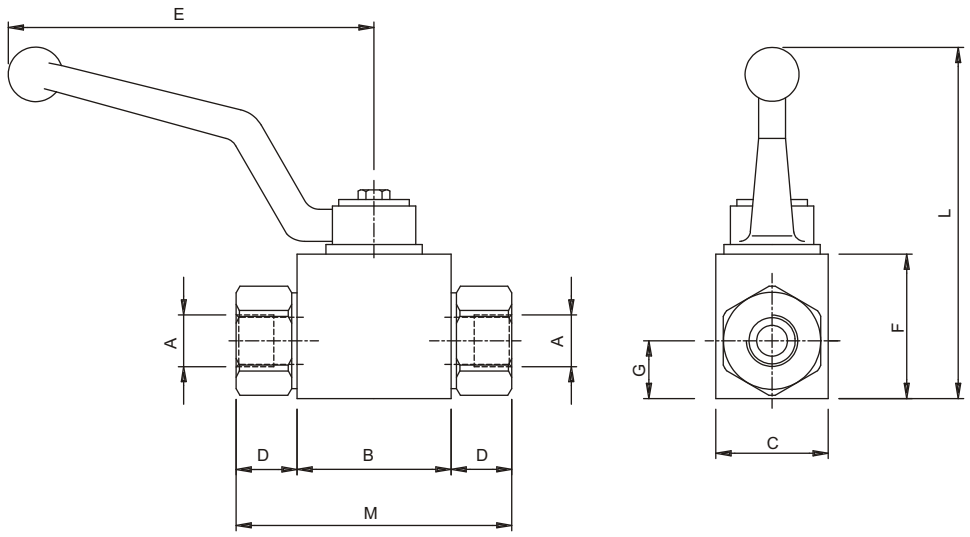
01 — **Size:**
01, 02, 03, 04, 05

Characteristics:

Code	Size	Max flow l/min	Max pressure bar
RSAP2V01	BSPP 1/4	25	500
RSAP2V02	BSPP 3/8	35	
RSAP2V03	BSPP 1/2	60	
RSAP2V04	BSPP 3/4	100	400
RSAP2V05	BSPP 1	150	350

On request we can quote NPT or SAE threaded valves

Overall dimensions:



Code	A	B	C	D	E	F	G	L	M	Weight Kg
RSAP2V01	BSPP 1/4	42	30	14,5	110	35	14	88	71	0,50
RSAP2V02	BSPP 3/8	44	35	14,5	110	40	17	94	73	0,65
RSAP2V03	BSPP 1/2	48	37	17,5	110	43	18	96	83	0,75
RSAP2V04	BSPP 3/4	63	45	16	180	55	23	105	95	1,40
RSAP2V05	BSPP 1	67	55	22,5	180	65	29	115	112	2,20

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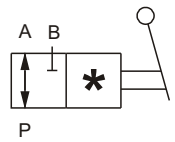
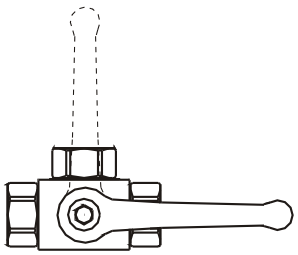
RSAP3V

High pressure 3 ways ball valve



RSAP3V



Description:

High pressure 3 ways in-line mounting ball valves. Steel body with zinc plating protection against corrosion, chromed steel internal ball and aluminum lever.

Technical features:

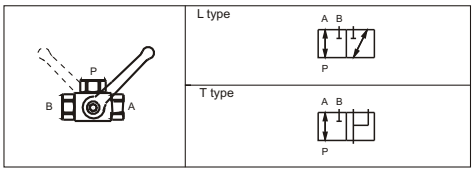
Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	100 mm2/sec
Fluid temperature	-10°C /100°C
Max contamination level	Class 18/14 ISO4406(NAS1638)

Ordering code

RSAP3V — **High pressure 3 ways ball valve**

01 — **Size:**
01, 02, 03, 04, 05

L — **Scheme**
L, T

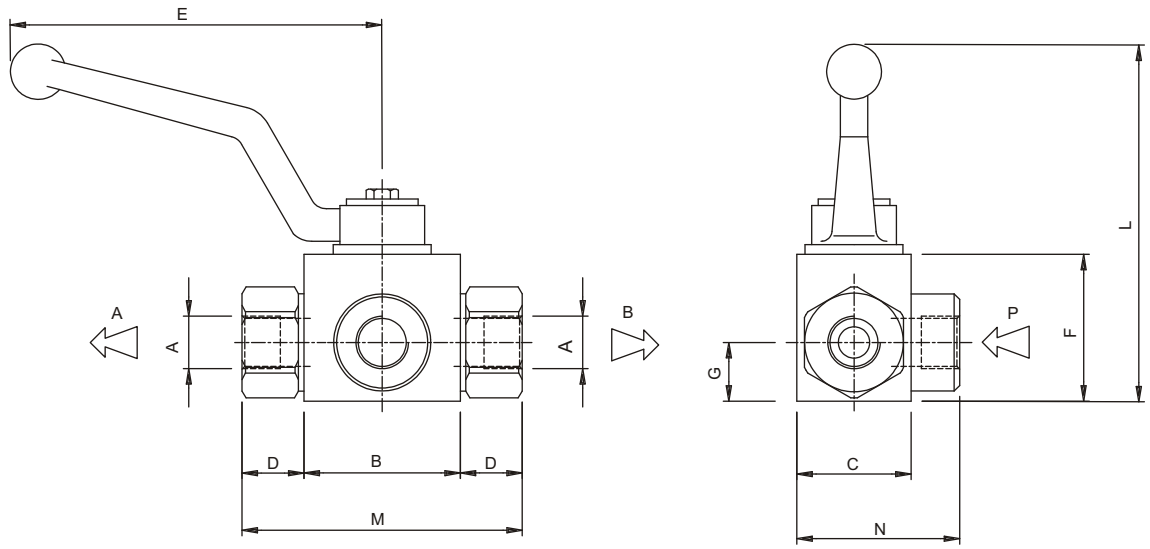


Characteristics:

Code	Size	Max flow l/min	Max pressure bar
RSAP3V01	BSPP 1/4	25	400
RSAP3V02	BSPP 3/8	35	
RSAP3V03	BSPP 1/2	60	350
RSAP3V04	BSPP 3/4	100	
RSAP3V05	BSPP 1	150	

On request we can quote NPT or SAE threaded valves

RSAP3V - Overall dimensions:



Code	A	B	C	D	E	F	G	L	M	Weight Kg
RSAP3V01	BSPP 1/4	42	30	14,5	110	35	14	88	71	0,50
RSAP3V02	BSPP 3/8	44	35	14,5	110	40	17	94	73	0,70
RSAP3V03	BSPP 1/2	48	37	17,5	110	43	18	96	83	0,80
RSAP3V04	BSPP 3/4	62	45	16,5	180	55	23	105	95	1,50
RSAP3V05	BSPP 1	66	55	23	180	65	29	115	112	2,35

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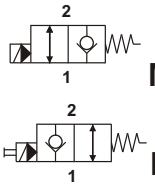
MSV

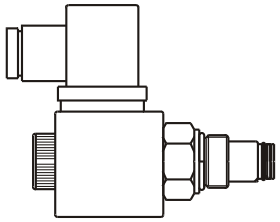
Pilot operated two ways single locking solenoid valve



MSV30

MSV31E

MSV



Description:

MSV are solenoid pilot operated 2 ways directional valves.
The tapered poppet ensures an extremely low leakage.

Technical features:

Max pressure	210 bar (up to 300bar*)
Max flow	20 l/min (up to 40 l/min*)
Weight	0,27 Kg (with coil)
Coil thermal insulation	Class F
Electric connection	DIN 43650-A / ISO 4400
Coil protection degree	IP 65 / DIN 40050
Duty cycle	ED 100%
Voltage required	+/- 10% nominal voltage
Normatives	EN50081-1/EN50082-2 (89/336 CEE electromagnetic comp.) 73/23/CEE / 96/68/CEE (low voltage)

*: with M140 series coils only. The max flow/max pressure cannot be achieved at the same time.

Ordering code

MSV — **Two-way pilot operated solenoid valve**

30 — **Operation:**
30 = normally closed
31 = normally open

0 — **Options:**
0 = no options
E = emergency (std for MSV31)

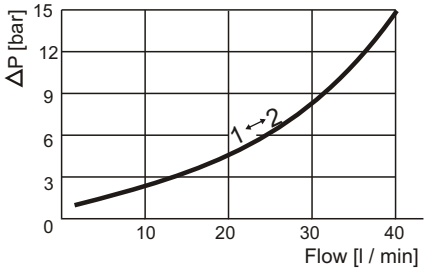
0000 — **Supply voltage:**
0000 = no coil (std)
see side table

Coils selection

Supply voltage (V)	Coil type	Spare coil code	Spare connector code	Holding power consumption
12DC	12DC	M13040001	KA132000B1	18W
24DC	24DC	M13040002	KA132000B1	18W
24AC/ 50 Hz 60 Hz	24DC	M13040002	KA132R11B1	18W
115AC/ 50 Hz 60 Hz	110RC	M13040004	KA132R12B1	18W
230AC/ 50 Hz 60 Hz	220RC	M13040005	KA132R13B1	18W
***115AC/ 50 Hz 60 Hz**	115/50AC	M13040006	KA132000B1	28VA
***230AC/ 50 Hz 60 Hz**	230/50AC	M13040007	KA132000B1	28VA

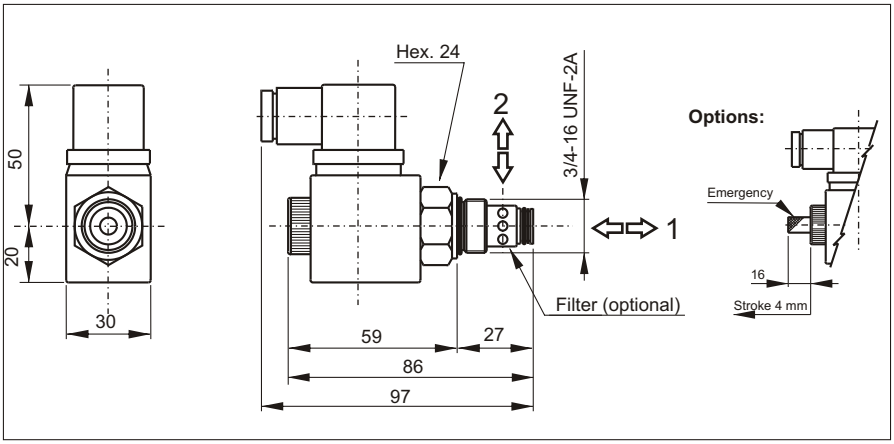
Only for MSV30 normally closed valves.
Other voltages and electric connection types (Amp Junior, flying leads,...) are available on request.
Inrush power consumption can be up to 3,5 times higher than the holding one.

Pressure drop diagram

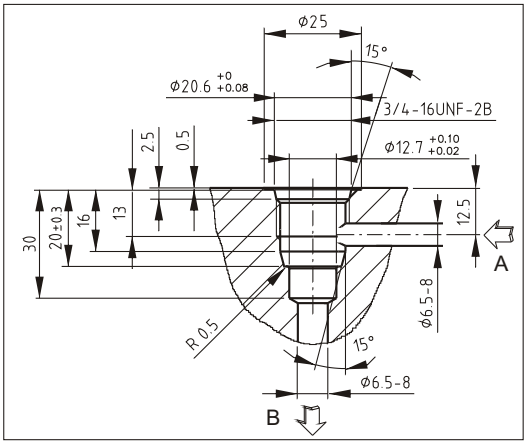


Note: Values measured on valve alone (no cavity) with an oil viscosity of 46 cSt at 50 °C.

Overall dimensions



Cavity



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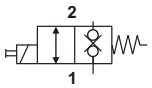
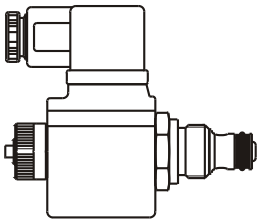
MDV

Direct operated two ways double locking solenoid valve



MDV30E

MDV



Description:

MDV are solenoid direct operated 2 ways directional valves.
The tapered poppet ensures virtually zero leakage.

Technical features:

Max pressure	250 bar
Max flow	15 l/min
Weight	0,32 Kg (with coil)
Coil thermal insulation	Class H
Electric connection	DIN 43650-A / ISO 4400
Coil protection degree	IP 65 / DIN 40050
Duty cycle	ED 100%
Voltage required	+/- 10% nominal voltage
Normatives	EN50081-1/EN50082-2 (89/336 CEE electromagnetic comp.) 73/23/CEE / 96/68/CEE (low voltage)

Note: On request version with max flow 25 l/min and max pressure 210 bar is avaiable.

Ordering code

MDV — **Two-way direct operated solenoid valve**

30 — **Operation:** 30 = normally closed

E — **Options:** E = emergency (std)

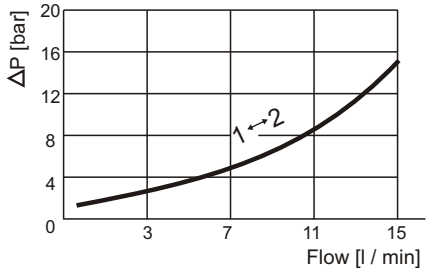
0000 — **Supply voltage:** 0000 = no coil (std) see near table

Coil selection:

Supply voltage (V)	Coil type	Spare coil code	Spare connector code	Holding power consumption
12DC	12DC	M14040001	KA132000B1	22W
24DC	24DC	M14040002	KA132000B1	22W
24AC/ 50 Hz 60 Hz	24DC	M14040002	KA132R11B1	22W
115AC/ 50 Hz 60 Hz	110RC	M14040004	KA132R12B1	22W
230AC/ 50 Hz 60 Hz	220RC	M14040005	KA132R13B1	22W

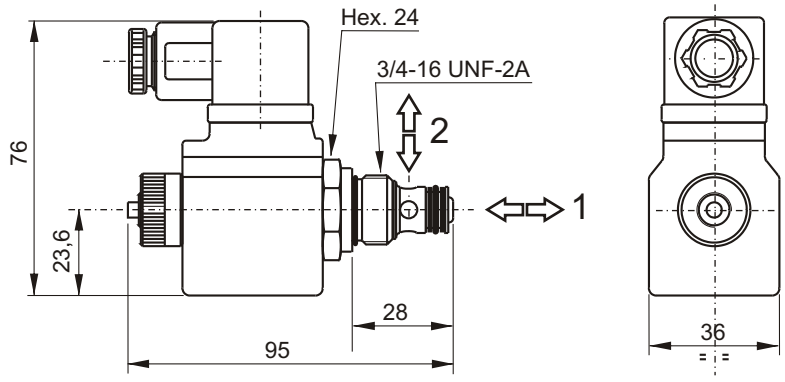
Other voltages and electric connection types (Amp Junior, flying leads,...) available on request.
Inrush power consumption can be up to 3,5 times higher than the holding one.

Pressure drop diagram

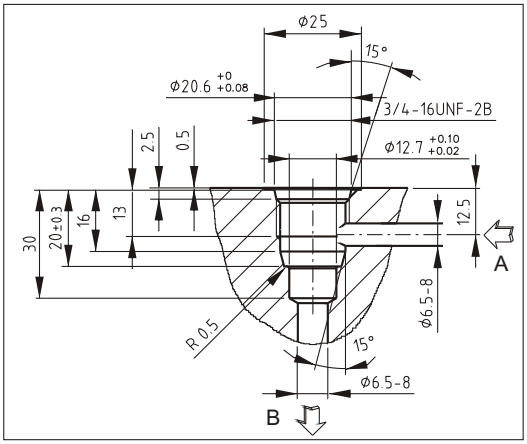


Note: Values measured on valve alone (no cavity) with an oil viscosity of 46 cSt at 50 °C.

Overall dimensions



Cavity



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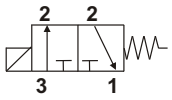
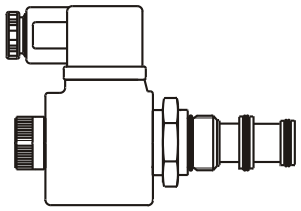
MSV3V

Direct operated 3/2 directional spool solenoid valve



MSV3V



Description:

Three ways two positions direct acting solenoid valve with standard 3/4-16 UNF cavity.

Technical features:

Max pressure	210 bar
Max flow	20 l/min
Weight	0,35 Kg (with coil)
Coil thermal insulation	Class H
Electric connection	DIN 43650-A/ISO 4400
Coil protection degree	IP 65/DIN 40050
Duty cycle	ED 100 %
Voltage required	+/- 10% nominal voltage
Recommended tightening torque	30 Nm
Oil temperature	-25 ÷ +70°C

Ordering code

MSV3V — **Three way direct operated solenoid valve**

40 — **Spool type:**
40 = std

0 — **Options:**
0 = no options (std)
E = emergency

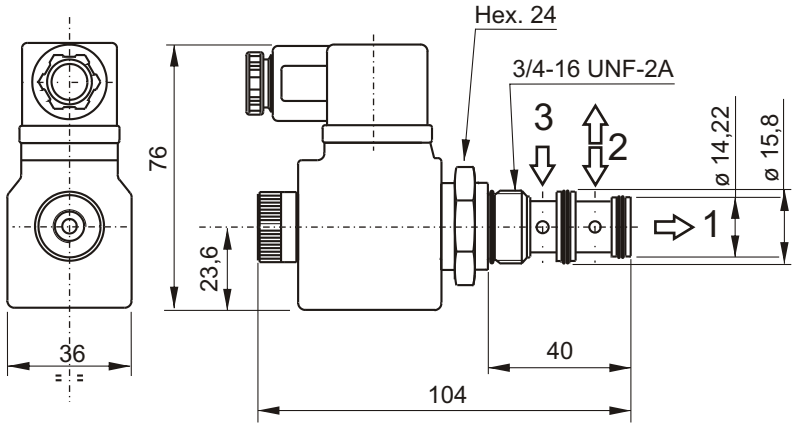
0000 — **Supply voltage:**
0000 = no coil (std)
see side table

Coils selection

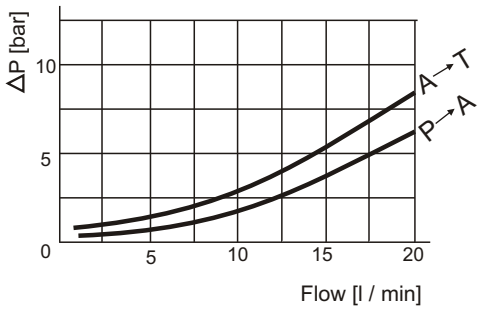
Supply voltage (V)	Coil type	Spare coil code	Spare connector code	Holding power consumption
12DC	12DC	M14040001	KA132000B1	22W
24DC	24DC	M14040002	KA132000B1	22W
24AC/50 Hz 60 Hz	24DC	M14040002	KA132R11B1	22W
115AC/50 Hz 60 Hz	110RC	M14040004	KA132R12B1	22W
230AC/50 Hz 60 Hz	220RC	M14040005	KA132R13B1	22W

Other voltages and electric connection types (AMP JUNIOR,flying leads,...) are available on request.
Inrush power consumption can be up to 3,5 times higher than the holding one.

Overall dimensions



Pressure drop diagram



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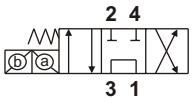
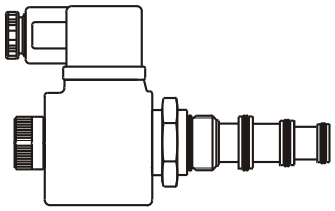
MSV4V

Direct operated 4/3 or 4/2 directional spool solenoid valve



MSV3V



Description:

Four ways two positions direct acting solenoid valve with standard 3/4-16 UNF cavity.

Technical features:

Max pressure	210 bar
Max flow	12 l/min
Weight	0,37 Kg (1 solenoid) 0,64 Kg (2 solenoid)
Coil thermal insulation	Class H
Electric connection	DIN 43650-A/ISO 4400
Coil protection degree	IP 65/DIN 40050
Duty cycle	ED 100 %
Voltage required	+/- 10% nominal voltage
Recommended tightening torque	30 Nm
Oil temperature	-25 ÷ +70°C

Ordering code

MSV4V — **Four way direct operated solenoid valve**

A2 — **Spool and scheme:** see side table

00 — **Options:** 00 = std

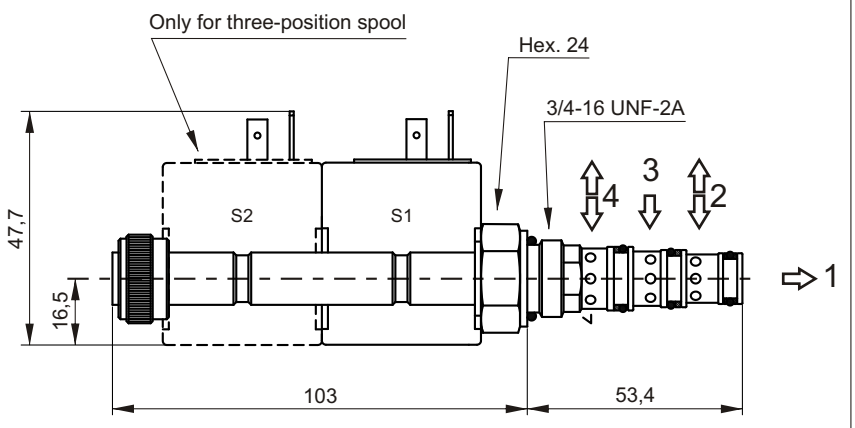
24DC — **Supply voltage:** see below table

Coils selection

Supply voltage (V)	Coil type	Spare coil code	Spare connector code	Holding power consumption
12DC	12DC	M14040001	KA132000B1	22W
24DC	24DC	M14040002	KA132000B1	22W
24AC/50 Hz 60 Hz	24DC	M14040002	KA132R11B1	22W
115AC/50 Hz 60 Hz	110RC	M14040004	KA132R12B1	22W
230AC/50 Hz 60 Hz	220RC	M14040005	KA132R13B1	22W

Other voltages and electric connection types (AMP JUNIOR,flying leads,...) are available on request.
Inrush power consumption can be up to 3,5 times higher than the holding one.

Overall dimensions



Spool and scheme

Code	
	4 2 / a 0 b / 3 1

Double solenoid

A2*	
B2	
C2	
E2	

Single solenoid

A11C	

* = spools with price additional
Other spools are avaiable on request

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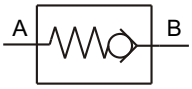
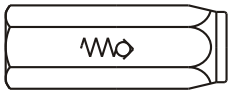
VUR

In-line mounting check valve



VUR



Description:

These valves allow oil flow in one way only. On the opposite side the sealing is guaranteed by a steel tapered, hardened and grinded poppet or ball. The spring allows the valve installation in any position. External body protected against corrosion by zinc plating.

Technical features:

Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	100 mm2/sec
Fluid temperature	-20°C / 80°C
Max contamination level	Class 18/14 ISO4406(NAS1638)

Ordering code

VUR — **Cartridge check valve**

01 — **Size:**
01, 02, 03, 04, 05, 06, 07

C — **Type:**
C = Poppet type
S = Ball type (only for VUR-01, VUR-02)

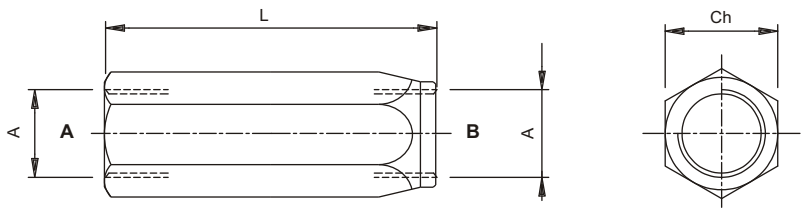
- — **Opening pressure:**
- = 1 bar standard
3 = 3 bar
6 = 6 bar

Characteristics:

Code	Size	Max flow l/min	Max pressure bar
VUR01	BSPP 1/4	20	350
VUR02	BSPP 3/8	45	350
VUR03	BSPP 1/2	70	350
VUR04	BSPP 3/4	110	350
VUR05	BSPP 1	160	350
VUR06	BSPP 1-1/4	200	250
VUR07	BSPP 1-1/2	300	210

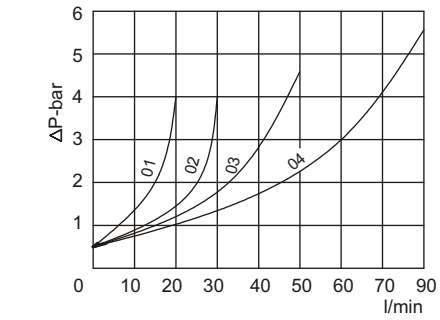
On request we can quote SAE or NPT threaded valves

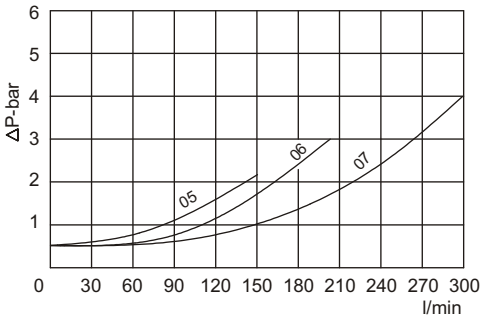
Overall dimensions



Code	A	L	Ch	Weight Kg
VUR01	BSPP 1/4	62	19	0,10
VUR02	BSPP 3/8	68	24	0,18
VUR03	BSPP 1/2	77	30	0,32
VUR04	BSPP 3/4	88	36	0,49
VUR05	BSPP 1	105	41	0,68
VUR06	BSPP 1-1/4	123	55	1,49
VUR07	BSPP 1-1/2	138	65	2,40

Pressure drop diagram





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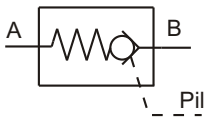
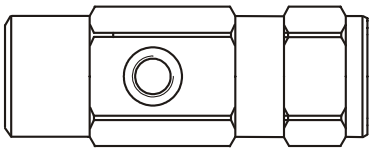
VBPS

In-line pilot operated check valve



VBPS



Description:

These valves allow oil flow in one way only. On the opposite side the sealing is guaranteed by a steel tapered, hardened and grinded poppet. Oil flow in opposite way is possible only supplying a pressure on the pilot line according to the pilot ratio. The spring allows the valve installation in any position. External body is protected against corrosion by zinc plating.

Technical features:

Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	100 mm2/sec
Fluid temperature	-20°C / 80°C
Max contamination level	Class 18/14 ISO4406(NAS1638)

Ordering code

VBPS — **In-line pilot operated check valve**

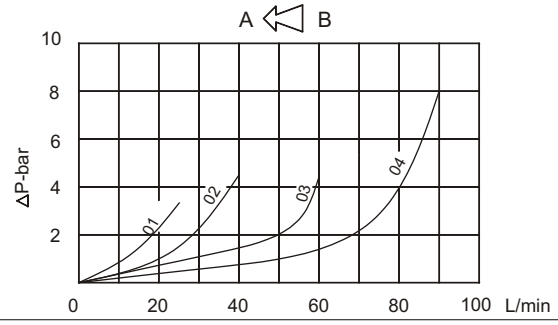
01 — **Size:**
01, 02, 03, 04

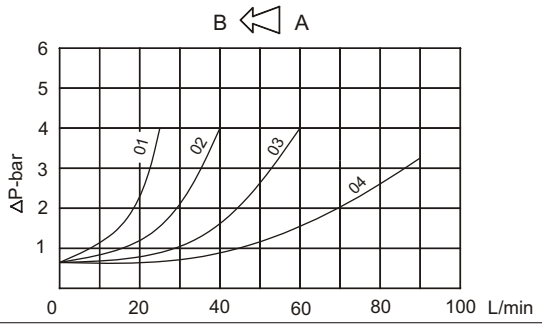
Characteristics:

Code	Size	Max flow l/min	Max pressure bar
VBPS01	BSPP 1/4	25	350
VBPS02	BSPP 3/8	40	350
VBPS03	BSPP 1/2	60	350
VBPS04	BSPP 3/4	90	300

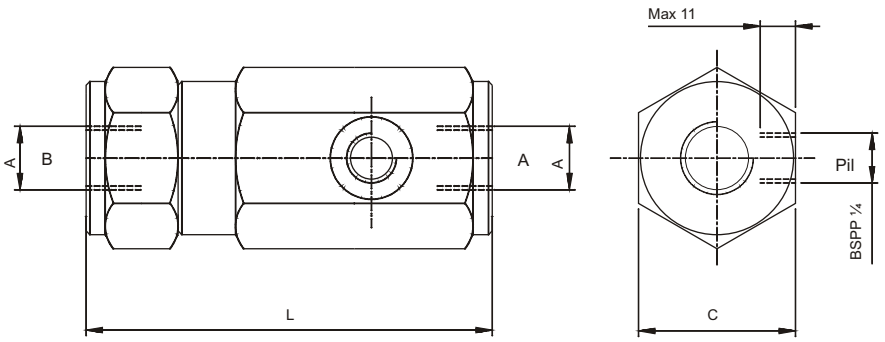
On request we can quote NPT or SAE threaded valves

Pressure drop diagrams:





Overall dimensions



Code	A	L	C	Pilot ratio	Opening pressure bar	Weight Kg
VBPS01	BSPP 1/4	100	36	1:5	0,5	0,75
VBPS02	BSPP 3/8	105	41	1:4,4	0,5	1
VBPS03	BSPP 1/2	125	41	1:4,2	0,5	1,1
VBPS04	BSPP 3/4	130	55	1:4	0,5	2

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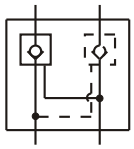
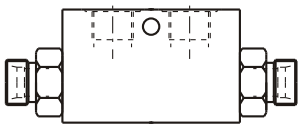
VR*E

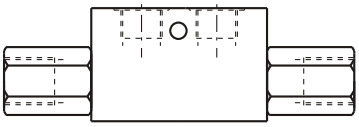
Pilot operated check valve



VR*E*A



VR*E*F



Description:

These valves lock a double or single acting cylinder not allowing any external force to change its position. Sealing is guaranteed by hardened ground tapared poppets. The valve can be unlocked feeding A or U ports.
They can be mounted in any position and are protected by zinc plating.

Technical features:

Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	100 mm2/sec
Fluid temperature	-20°C / 80°C
Max contamination level	Class 18/14 ISO4406(NAS1638)
Open pressure	2 - 4 bar

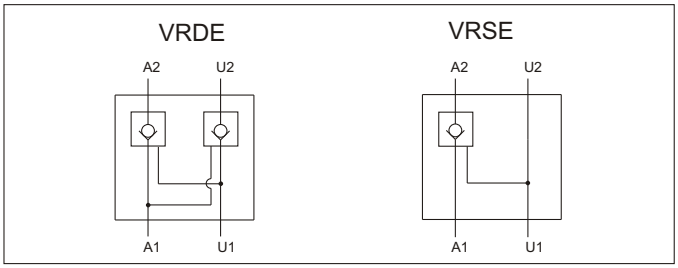
Ordering code

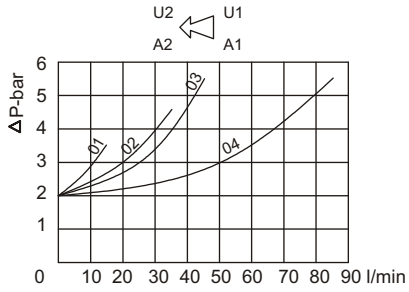
VR*E — **Pilot operated check valve**
VRDE = double acting
VRSE = single acting

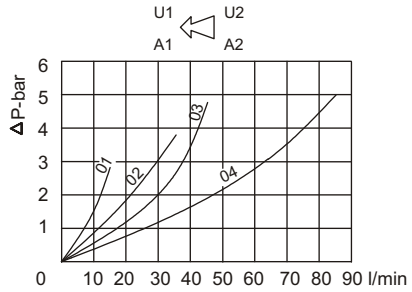
01 — **Size:**
01, 015, 02, 03, 04

***** — **Ports**
A = DIN 2353 (not for size 04)
F = treath

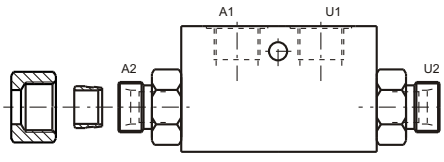
Standard graphical symbol



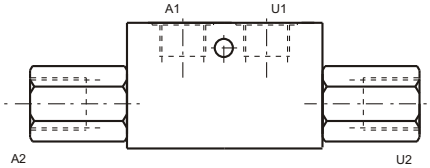




Ports type “A” DIN 2353



Ports type “F” thread



Characteristics:

Code	Size	Max flow l/min	Max pressure bar
VR*E01*	BSPP 1/4	20	350
VR*E015*	BSPP 3/8	20	
VR*E02*	BSPP 3/8	35	
VR*E03*	BSPP 1/2	50	
VR*E04F	BSPP 3/4	100	300

On request we can quote NPT or SAE threaded valves

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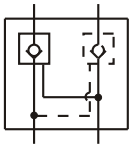
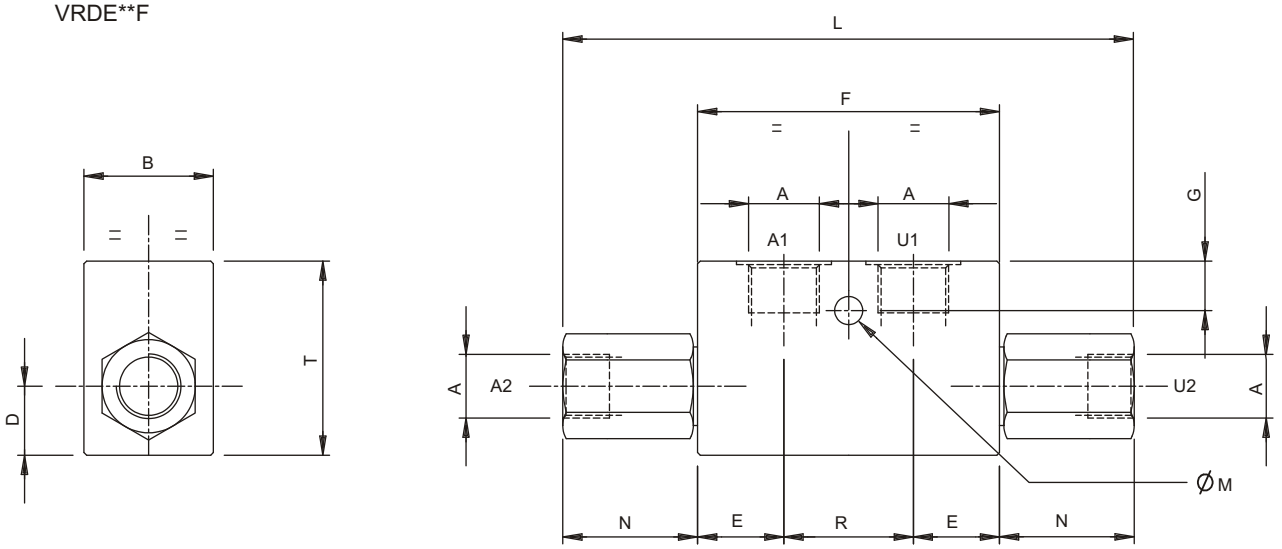
VR*E

Pilot operated check valve



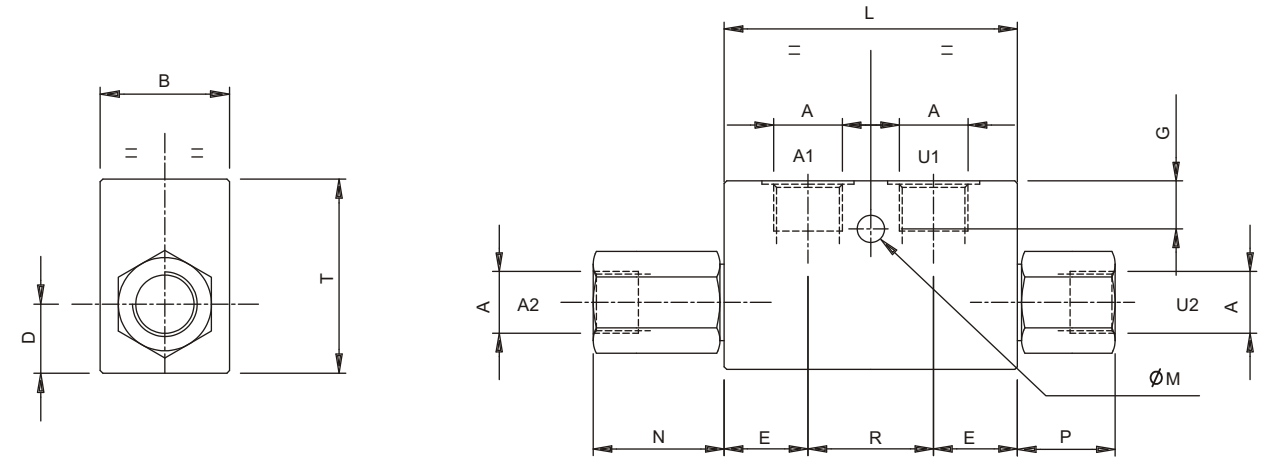
VR*EF(thread)**

VRDE**F



Code	A	B	D	E	F	G	L	M	N	R	T	Pilot ratio	Weight Kg
VRDE01F	BSPP 1/4	30	13	15	68	7	118	7	25	38	40	1:4,5	0,69
VRDE015F	BSPP 3/8	30	13	15	68	7	118	7	25	38	40	1:4,5	0,64
VRDE02F	BSPP 3/8	30	14	21	80	8	128	8	24	38	40	1:5,5	0,74
VRDE03F	BSPP 1/2	35	16	22,5	90	8	142	8	26	45	45	1:5	1,04
VRDE04F	BSPP 3/4	40	22	27	100	8	192	8	46	46	60	1:4	1,92

VRSE**F



Code	A	B	D	E	P	G	L	M	N	R	T	Pilot ratio	Weight Kg
VRSE01F	BSPP 1/4	30	13	15	25	7	68	7	25	38	40	1:4,5	0,68
VRSE015F	BSPP 3/8	30	13	15	25	7	68	7	25	38	40	1:4,5	0,63
VRSE02F	BSPP 3/8	30	14	21	16	8	80	8	24	38	40	1:5,5	0,74
VRSE03F	BSPP 1/2	35	16	22,5	17	8	90	8	26	45	45	1:5	1,04
VRSE04F	BSPP 3/4	40	22	27	36	8	100	8	46	48	60	1:4	1,92

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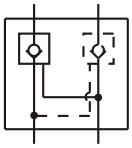
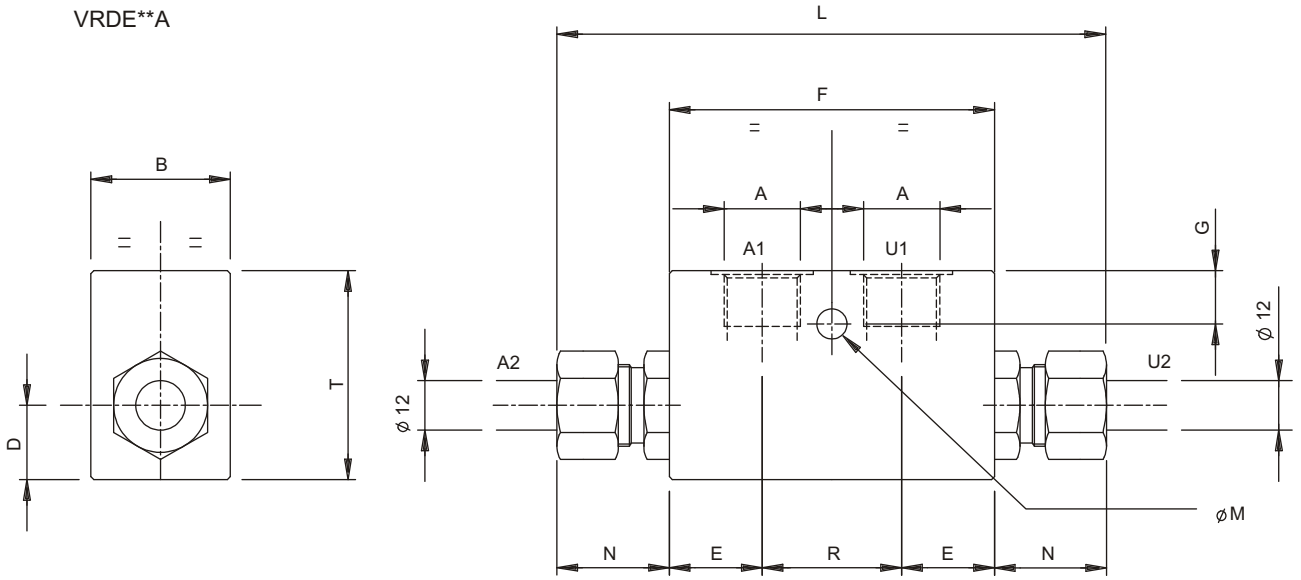
VR*E

Pilot operated check valve



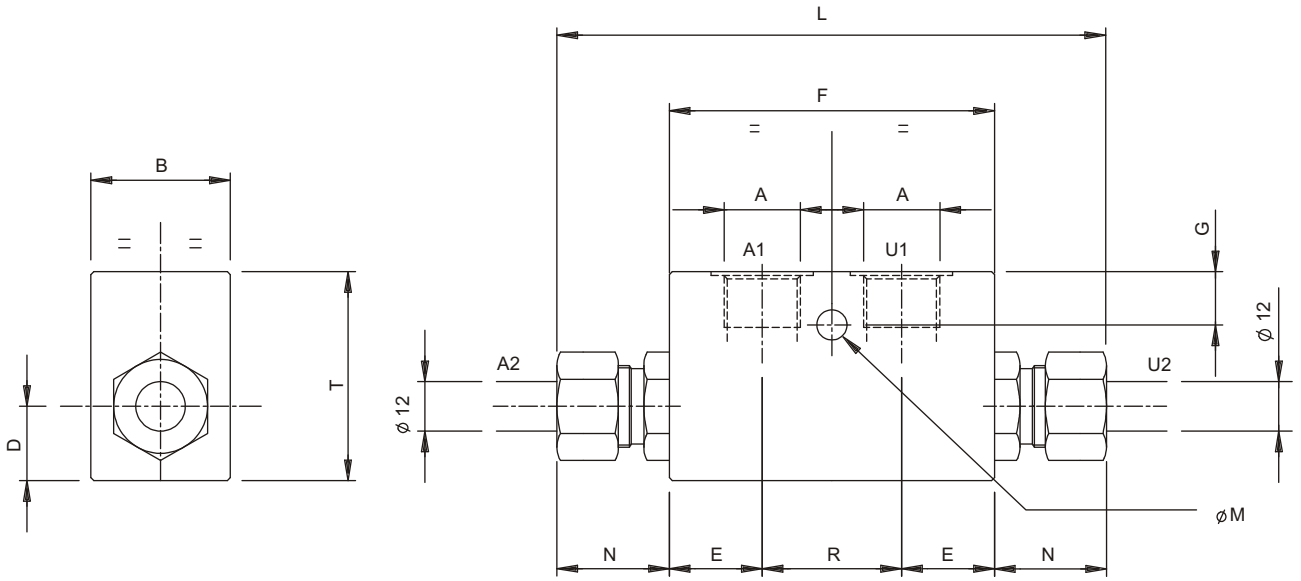
VR*EA(DIN 2353)**

VRDE**A



Code	A	B	D	E	F	G	L	M	N	R	T	Pilot ratio	Weight Kg
VRDE01A	BSPP 1/4	30	13	15	68	7	138	7	35	38	40	1:4,5	0,69
VRDE015A	BSPP 3/8	30	13	15	68	7	138	7	35	38	40	1:4,5	0,64
VRDE02A	BSPP 3/8	30	14	14	64	8	134	8	35	36	40	1:5,5	0,63
VRDE03A	BSPP 1/2	35	16	22,5	90	8	164	8	37	45	45	1:5	1,10

VRSE**A



Code	A	B	D	E	F	G	L	M	N	R	T	Pilot ratio	Weight Kg
VRSE01A	BSPP 1/4	30	13	15	68	7	138	7	35	38	40	1:4,5	0,69
VRSE015A	BSPP 3/8	30	13	15	68	7	138	7	35	38	40	1:4,5	0,64
VRSE02A	BSPP 3/8	30	14	14	64	8	134	8	35	36	40	1:5,5	0,63
VRSE03A	BSPP 1/2	35	16	22,5	90	8	164	8	37	45	45	1:5	1,10

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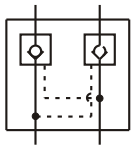
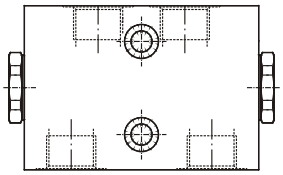
VRDL

Double acting piloted check valve



VRDL



Description:

These valves lock a double or single acting cylinder not allowing any external force to change its position. Sealing is guaranteed by hardened grinded tapered poppets.
They can be mounted in any position and are protected by zinc plating.

Technical features:

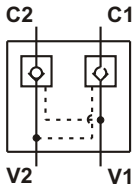
Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	100 mm2/sec
Fluid temperature	-20°C / 80°C
Max contamination level	Class 18/14 ISO4406(NAS1638)

Ordering code

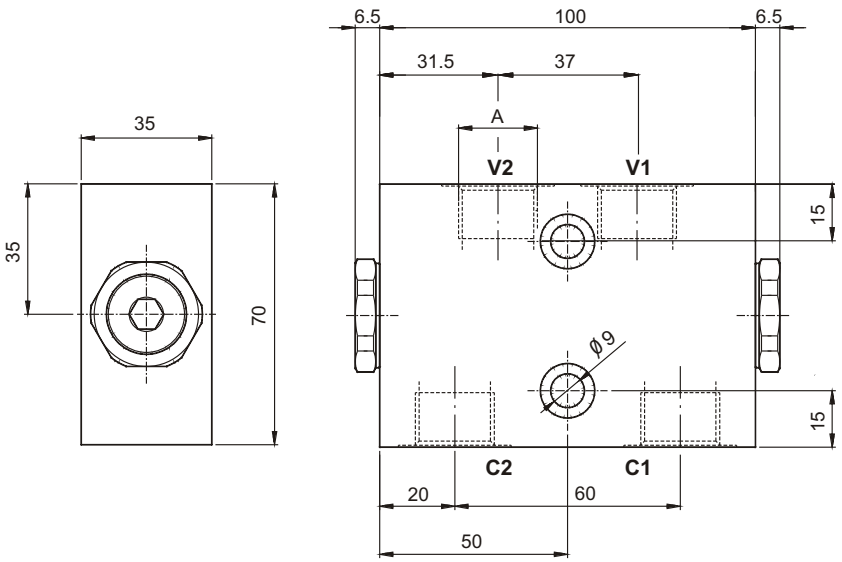
VRDL — **Double acting piloted check valve**

02 — **Size:**
02: 3/8 BSPP
03: ½ BSPP

Standard graphic symbol



Characteristics and overall dimensions:



Code	A	Max flow l/min	Max pressure bar	Pilot ratio	Weight Kg
VRDL02	BSPP 3/8	35	350	1:7,1	1,60
VRDL03	BSPP 1/2	45			1,60

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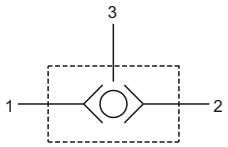
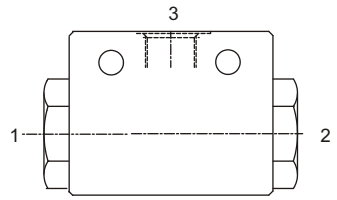
VUSF

Shuttle valve



VUSF



Description:

These valves are used to select one pressure between two lines (1-2) and let it go to port 3. The lower pressure line is locked.

Technical features:

Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	100 mm2/sec
Fluid temperature	-20°C / 80°C
Max contamination level	Class 18/14 ISO4406(NAS1638)

Ordering code

VUSF — **Shuttle valve**

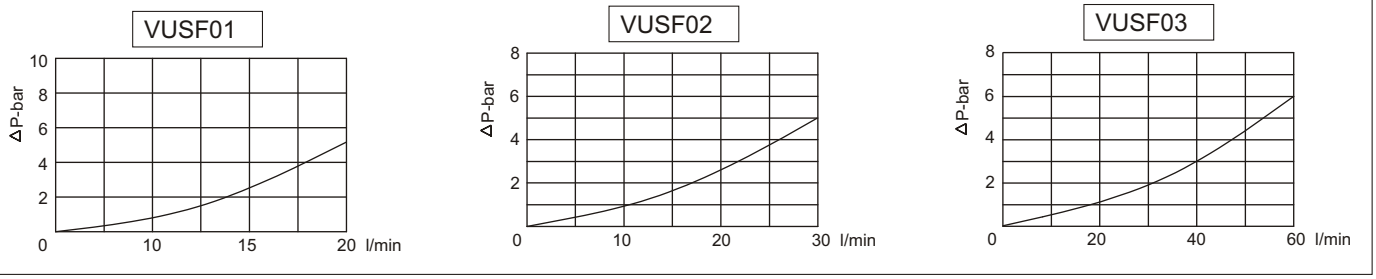
*** *** — **Size:** 01, 02, 03

Characteristics:

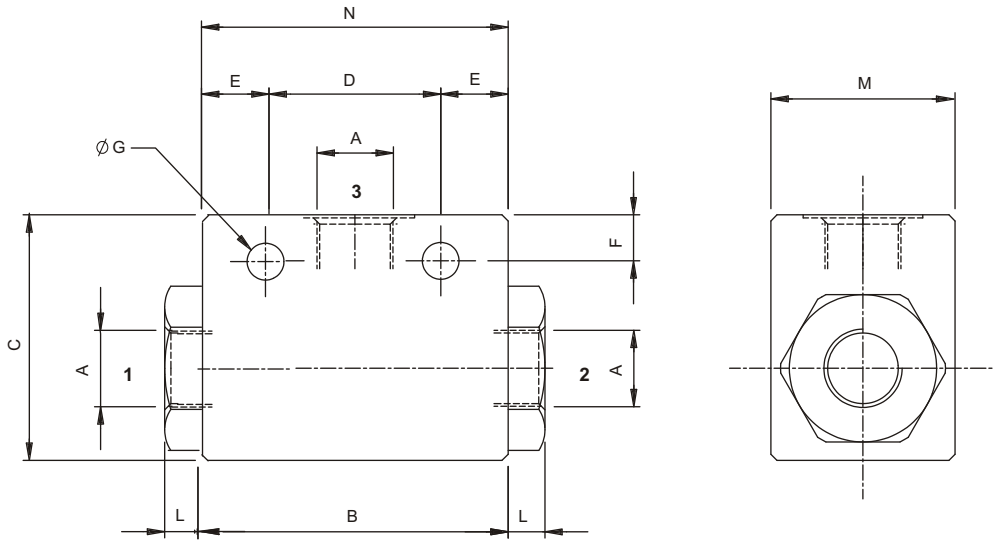
Code	Size	Max flow l/min	Max pressure bar
VUSF01	BSPP 1/4	20	350
VUSF02	BSPP 3/8	30	
VUSF03	BSPP 1/2	60	320

On request we can quote SAE or NPT threaded valves

Pressure drop diagram



Overall dimensions



Code	A	B	C	D	E	F	G	L	M	N	Weight Kg
VUSF01	BSPP 1/4	50	40	28	11	8	7,5	6	30	62	0,21
VUSF02	BSPP 3/8	65	50	45	10	8	8	6,5	35	78	0,41
VUSF03	BSPP 1/2	80	60	60	10	10	10	7,5	40	95	0,67

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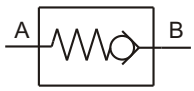
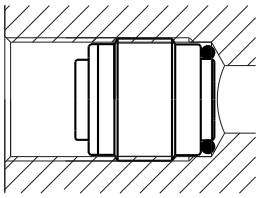
VUI

Cartridge check valve



VUI



A ⇐ free flow **B**

Description:

These valves allow free flow from "B" to "A" and stop it on the opposite way. Mounting is made inside threaded cavities with shoulder at 118° to ensure perfect sealing. The seat and ball are made in hardened and grinded steel.

Technical features:

Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	100 mm2/sec
Fluid temperature	-20°C / 80°C
Max contamination level	Class 18/14 ISO4406(NAS1638)

Ordering code

VUI — **Cartridge check valve**

*** *** — **Size:**
01, 02, 03, 04

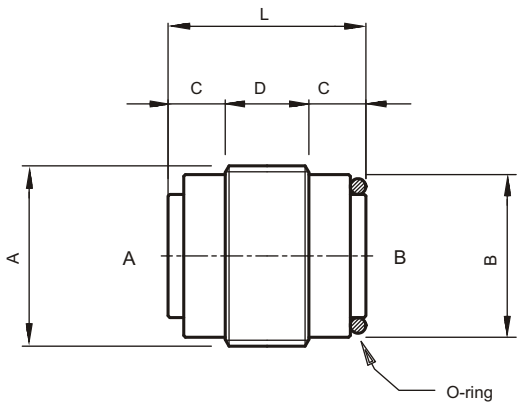
S — **Opening pressure:**
S = Standard 0,5 bar
X = On request

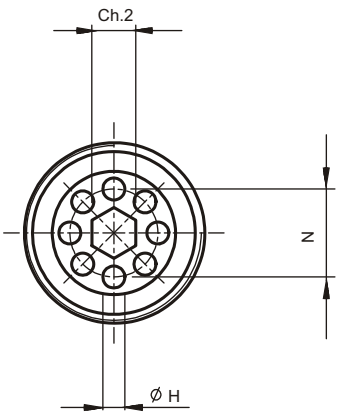
Characteristics:

Code	Size	Max flow l/min	Max pressure bar
VUI01	BSPP 1/4	20	350
VUI02	BSPP 3/8	30	
VUI03	BSPP 1/2	50	
VUI04	BSPP 3/4	80	

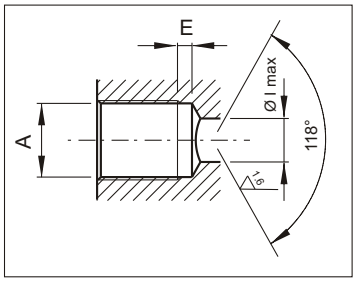
On request we can quote SAE threaded valves

Overall dimensions





Cavity



Code	A	B	C	D	E	H	L	N	Ch1	Ch2	O-ring	Tightening torque Nm	Weight Kg
VUI01	BSPP 1/4	11,3	5,5	6	4	1,25	17	6	3	3	9x1	6	0,012
VUI02	BSPP 3/8	24	5,5	7,5	4	2	18,5	8	4	3	10,8x1,78	6	0,020
VUI03	BSPP 1/2	18,5	7	8,5	5	2,25	22,5	10,5	6	5	14x1,78	10	0,036
VUI04	BSPP 3/4	24	7,5	13,5	5	3	28,5	14	8	8	18,7x2,62	20	0,073

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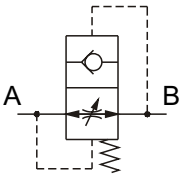
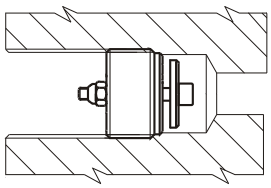
VUBA

Automatic hose burst safety check valve



VUBA



Description:

Automatic check valves allowing free oil flow from a cylinder in normal conditions. In case of sudden hose break, the valve stops the flow avoiding the uncontrolled cylinder lowering.
Available with or without drilled plate, to allow a cylinder slow lowering or completely stop it in position.
The valve can be adjusted ("F" dimension) to actuate at different flow rates.

Technical features:

Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	100 mm2/sec
Fluid temperature	-20°C / 80°C
Max contamination level	Class 18/14 ISO4406(NAS1638)

Ordering code

VUBA — **Automatic check valves**

01 — **Size:**
01, 02 , 03, 04

CF 0,8 — **Execution with controlled flow through a calibrated orifice on the flat plate**
specify orifice W Ø in mm

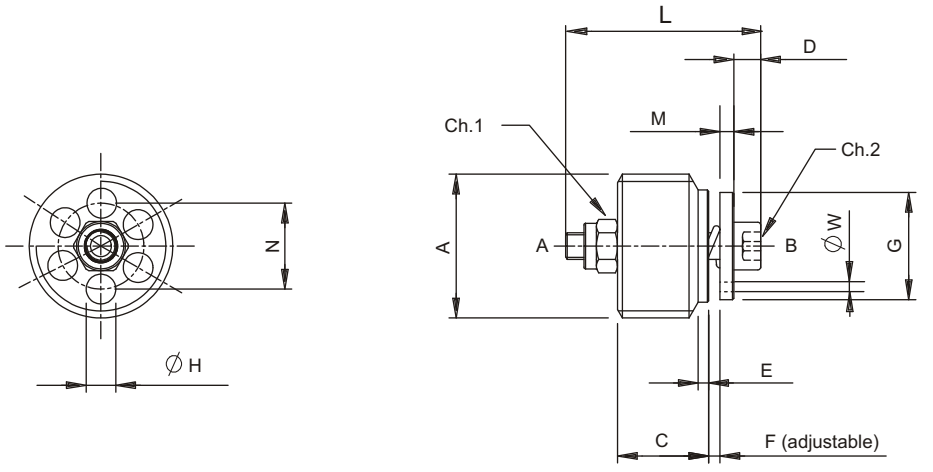
*** *** — **Version:**
– = only cartridge
MF = with MF style body
FF = with FF style body

Characteristics:

Code	Size	Max flow l/min	Max pressure bar
VUBA01	BSPP 1/4	25	350
VUBA02	BSPP 3/8	50	
VUBA03	BSPP 1/2	80	
VUBA04	BSPP 3/4	150	

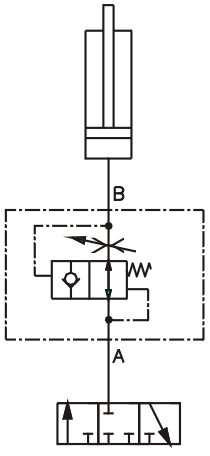
On request we can quote SAE threaded valves

Cartridge overall dimensions:



Code	A	C	D	E	G	H	L	M	N	Ch1	Ch2	Tightening torque Nm	Weight Kg
VUBA01	BSPP 1/4	8,2	3	1,2	10,4	2,5	19	1,4	8	5,5	2,5	2	0,007
VUBA02	BSPP 3/8	11	3	1,5	12,7	3,25	23	2	10	5,5	2,5	3	0,013
VUBA03	BSPP 1/2	13	4	1,5	15	4	29	2	11,5	7	3	4	0,024
VUBA04	BSPP 3/4	18	4	1,5	18	5,2	34	2	14,5	7	3	10	0,047

Typical application:



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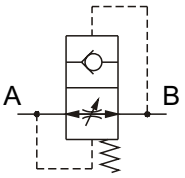
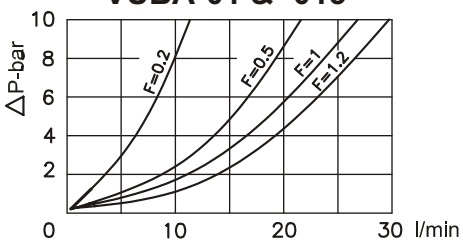
VUBA

Automatic hose burst safety check valve

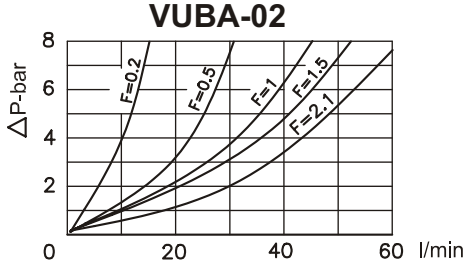


Pressure drops

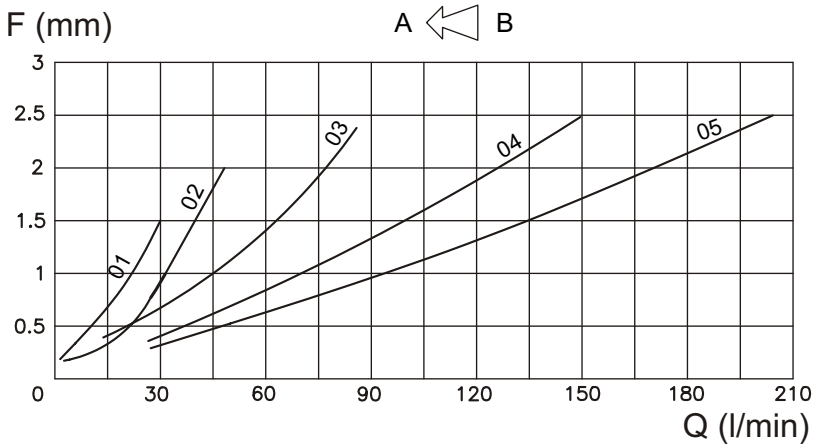
VUBA-01 & -015



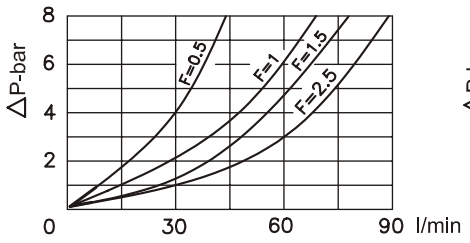
VUBA-02



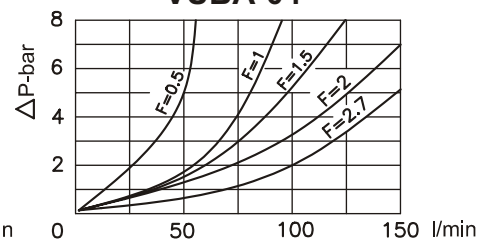
F setting Vs valve closing flow



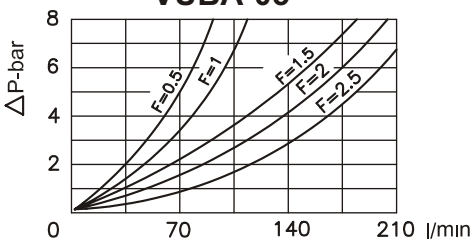
VUBA-03



VUBA-04

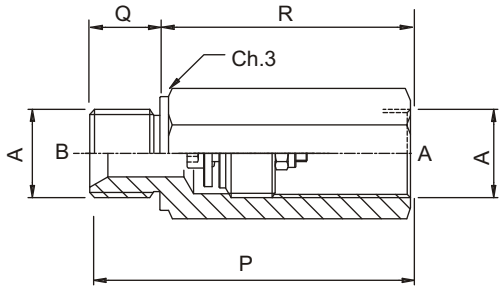


VUBA-05



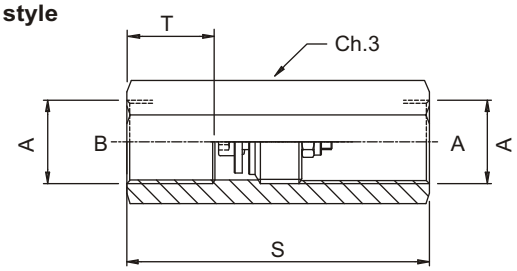
In/line mounting bodies overall dimensions

MF style



Mounting body code	A	R	P	Q	Ch3	Weight Kg
CMFVUBA01	BSPP 1/4	38	50	12	19	0,07
CMFVUBA02	BSPP 3/8	46	58	12	25	0,09
CMFVUBA03	BSPP 1/2	51	65	14	28	0,15
CMFVUBA04	BSPP 3/4	62	78	16	35	0,23

FF style



Mounting body code	A	S	T	Ch3	Weight Kg
CFFVUBA01	BSPP 1/4	48	12	19	0,07
CFFVUBA02	BSPP 3/8	52	12	25	0,09
CFFVUBA03	BSPP 1/2	60	14	28	0,14
CFFVUBA04	BSPP 3/4	74	16	35	0,22

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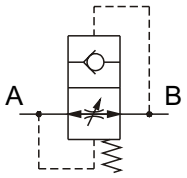
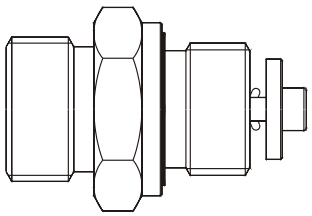
VUBADIN

DIN adjustable check valve



VUBADIN



Description:

DIN adjustable check valves allowing free oil flow from a cylinder in normal conditions. In case of sudden hose break the valve stops the flow avoiding the uncontrolled cylinder lowering.
Available with or without drilled plate, to allow the cylinder slow lowering or completely stop it in position.
The valve can be adjusted to actuate at different flow rates.
These valves should be always mounted close to the actuator.
The peculiarity of these valves is that they can be fitted directly on the cylinder head on one side and connect to the hose fitting on the other.

Ordering code

VUBADIN — **Automatic check valve**

02 — **Size:**
02, 03

T10 — **Pipe size:**
T10: for d.10 pipe
T12: for d.12 pipe
T15: for d.15 pipe

CF 0,8 — **Execution with controlled flow through a calibrated orifice on the flat plate**
specify orifice W Ø in mm

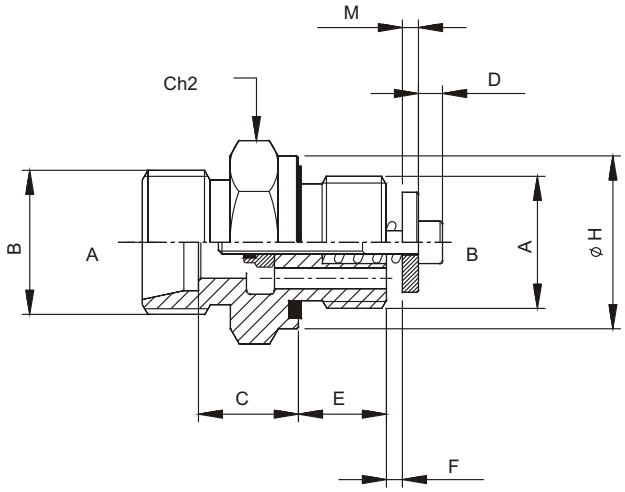
Technical features:

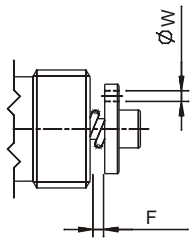
Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	100 mm2/sec
Fluid temperature	-20°C / 80°C
Max contamination level	Class 18/14 ISO4406(NAS1638)

Characteristics:

Code	Size	Max flow l/min	Max pressure bar
VUBADIN02T10	BSPP 3/8	50	315
VUBADIN02T12	BSPP 3/8	50	315
VUBADIN02T15	BSPP 3/8	50	315
VUBADIN03T15	BSPP 1/2	80	315

Cartridge overall dimensions:



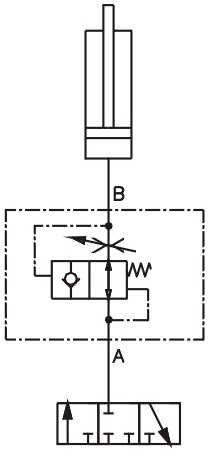


"F" setting on request

Hole on flat poppet on request

Code	B	C	D	E	Ø Hose	H	M	Ch2	Weight Kg
VUBADIN02T10	M 16x1.5	12.5	3	11	12	21.6	2	22	0,035
VUBADIN02T12	M 18x1.5	12.5	3	11	12	21.6	2	22	0,038
VUBADIN02T15	M 22x1.5	13.5	3	11	15	21.6	2	24	0,040
VUBADIN03T15	M 22x1.5	14	4	13	15	26.8	2	27	0,045

Typical application:



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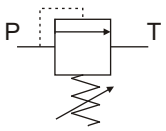
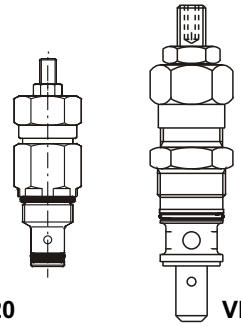
VMDC

Cartridge type relief valve



VMDC



VMDC20 **VMDC35/80/120**

Description:

VMDC are direct acting security valves with fast operating times to limit pressure peaks. They are equipped with hydraulic antivibration system to ensure low noise and stable pressure relieving.

Technical features:

Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	100 mm2/sec
Fluid temperature	-20°C / 80°C
Max contamination level	Class 18/14 ISO4406(NAS1638)

Ordering code

VMDC — **Cartridge check valve**

*** *** — **Size:**
20, 35, 80, 120

C — **Pressure setting range:**
A, B, C, D, L. See table.

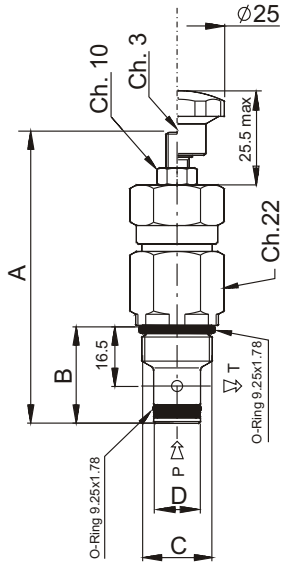
1 — **Regulation device:**
1 = grub screw
2 = hand wheel
3 = screw-on cap

Characteristics:

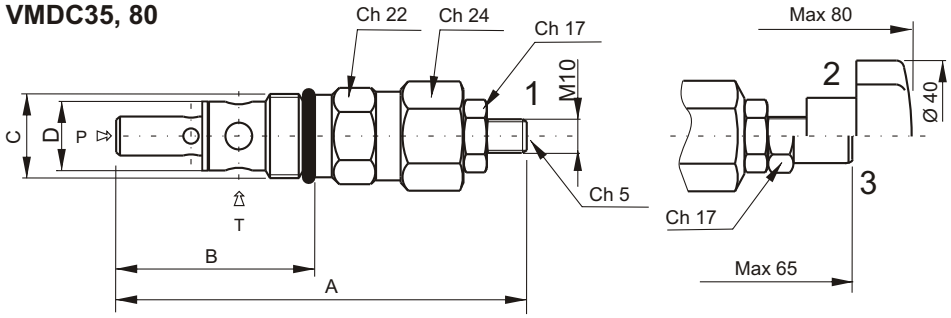
Code	Max flow [l/min]	Adjustable pressure [bar]
VMDC20A	20	10÷40
VMDC20B	20	20÷110
VMDC20C	20	30÷250
VMDC20D	20	70÷350
VMDC35L	35	10÷60
VMDC35A	35	20÷180
VMDC35B	35	35÷280
VMDC35C	35	70÷350
VMDC80A	80	10÷100
VMDC80B	80	50÷250
VMDC80C	80	100÷350
VMDC120A	120	10÷100
VMDC120B	120	50÷250
VMDC120C	120	100÷350

Overall dimensions

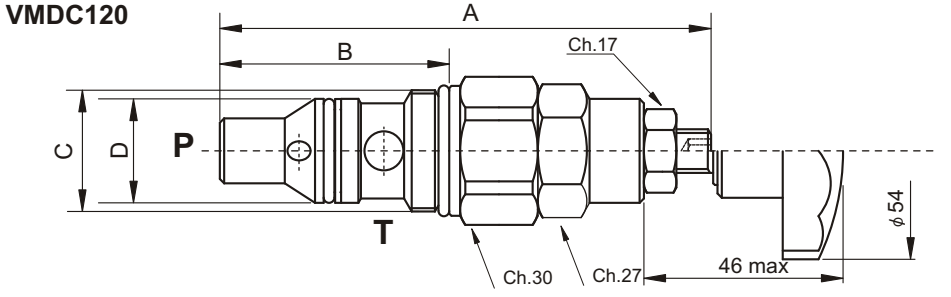
VMDC20



VMDC35, 80



VMDC120



Code	A max	B	C	ØD	Weight [Kg]
VMDC20	74	26,5	3/4-16UNF	12,7	0,16
VMDC35	103	50	M20 x 1,5	18	0,17
VMDC80	103	51,5	M24 x 1,5	21	0,25
VMDC120	112	53	M28 x 1,5	24	0,30

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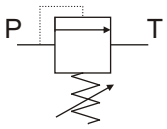
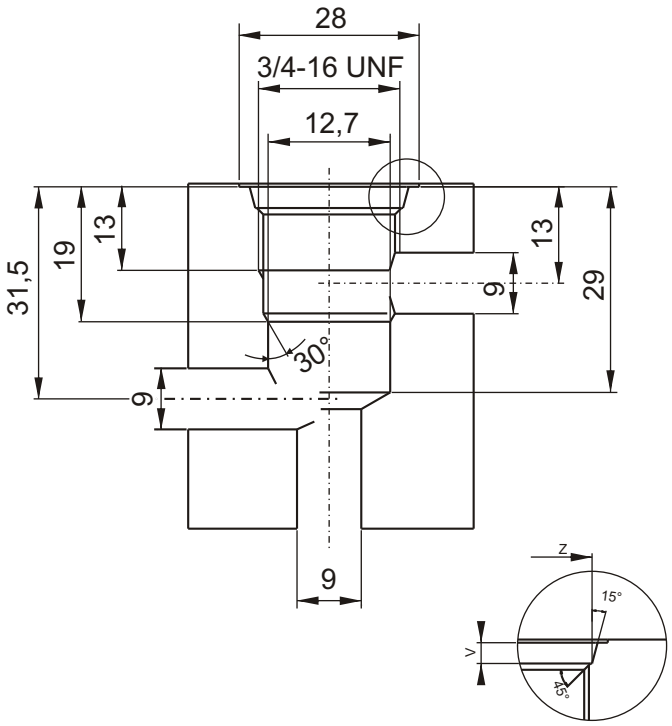
VMDC

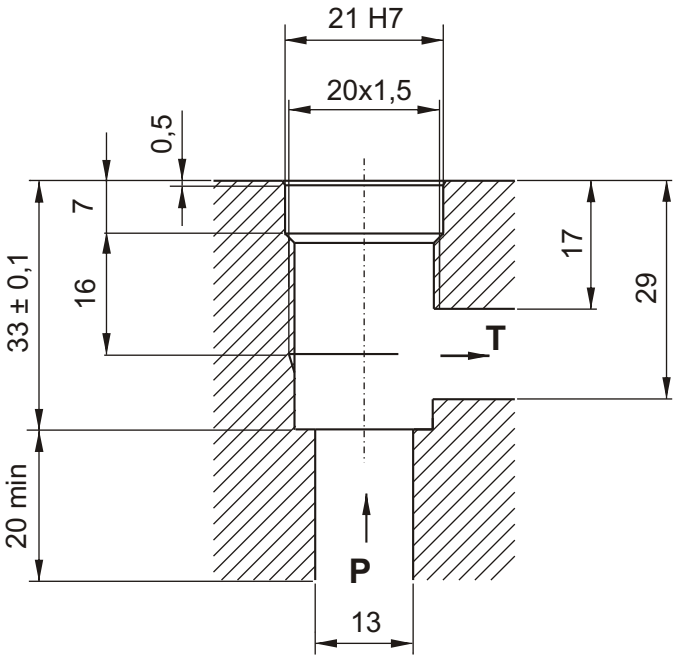
Cartridge type relief valve



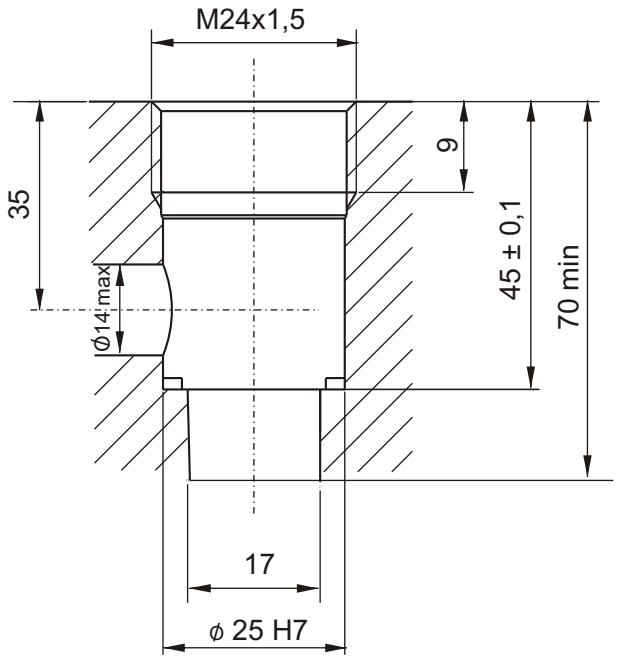
VMDC20 cavity



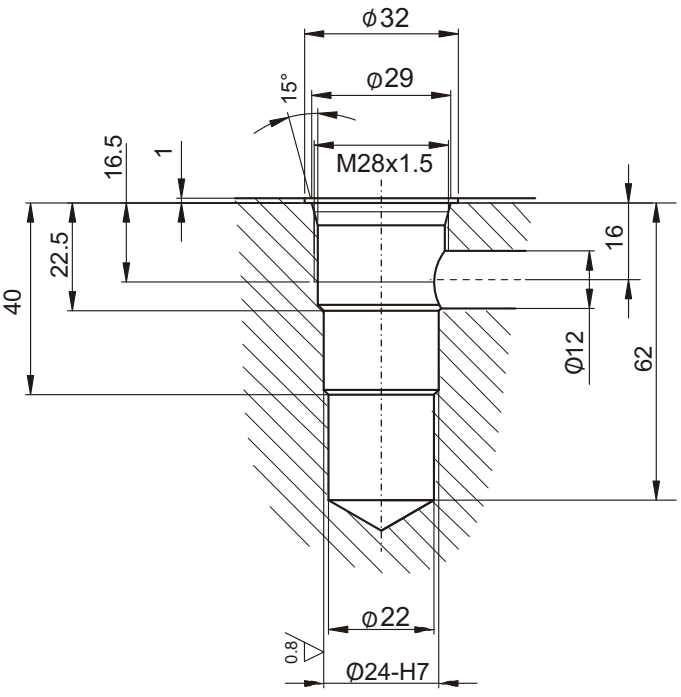
VMDC35 cavity



VMDC80 cavity



VMDC120 cavity



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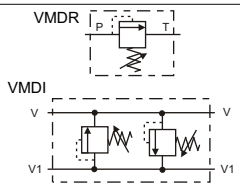
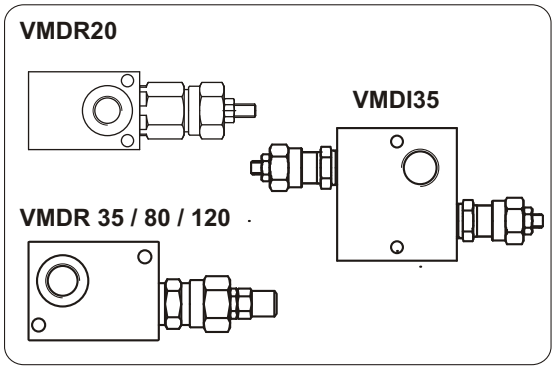
VMDR-VMDI

In line single or double cross relief valve





Description:

VMDR / VMDI are single / double direct acting security in line valves with fast operating times to limit pressure peaks. The versions size 35 and 80 are equipped with hydraulic antivibration systems to ensure low noise and stable pressure relieving.

Technical features:

Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	100 mm2/sec
Fluid temperature	-20°C / 80°C
Max contamination level	Class 18/14 ISO4406(NAS1638)

Ordering code

VMD — **In line mounting relief valve**

R — **Type:**
R = single
I = double (only for sizes 35)

35 — **Size (l/min):**
20, 35, 80, 120

02 — **Ports size :**
01 = 1/4" BSPP (only VMDR20)
02 = 3/8" BSPP (only VMDR20/35)
03 = 1/2" BSPP (only VMDR35/80)
04 = 3/4" BSPP (only VMDR80/120)
05 = 1'' BSPP (only VMDR120)

C — **Pressure setting range:**
A, B, C. See side table.

1 — **Regulation device:**
1 = grub screw
2 = hand wheel
3 = screw-on cap

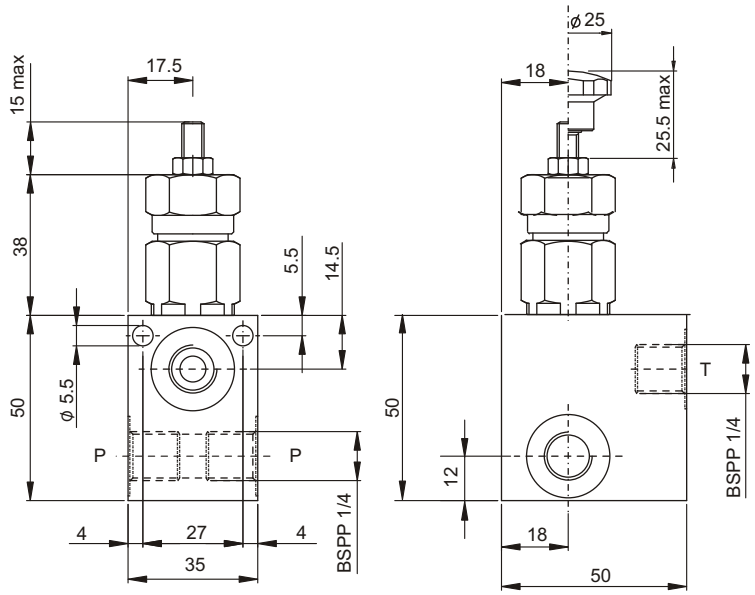
Characteristics:

Code	Max flow l/min	Max pressure bar
VMDR20**A	20	40
VMDR20**B	20	110
VMDR20**C	20	210
VMD*35**A	35	100
VMD*35**B	35	270
VMD*35**C	35	350
VMDR80**A	80	40
VMDR80**B	80	110
VMDR80**C	80	210
VMDR120**A	120	40
VMDR120**B	120	110
VMDR120**C	120	210

On request we can quote SAE and NPT threaded valves

Overall dimensions

VMDR20



Code	A	Weight Kg
VMDR2001*	BSPP 1/4	0,25
VMDR2002*	BSPP 3/8	

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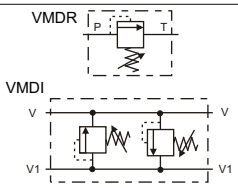
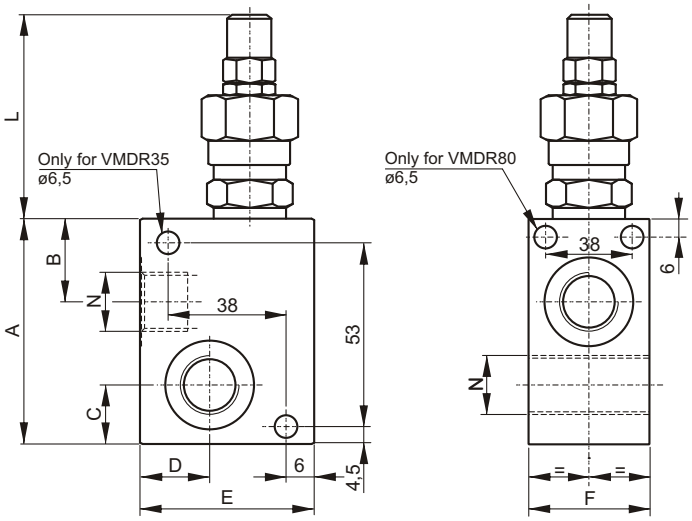
VMDR-VMDI

In line single or double cross relief valve

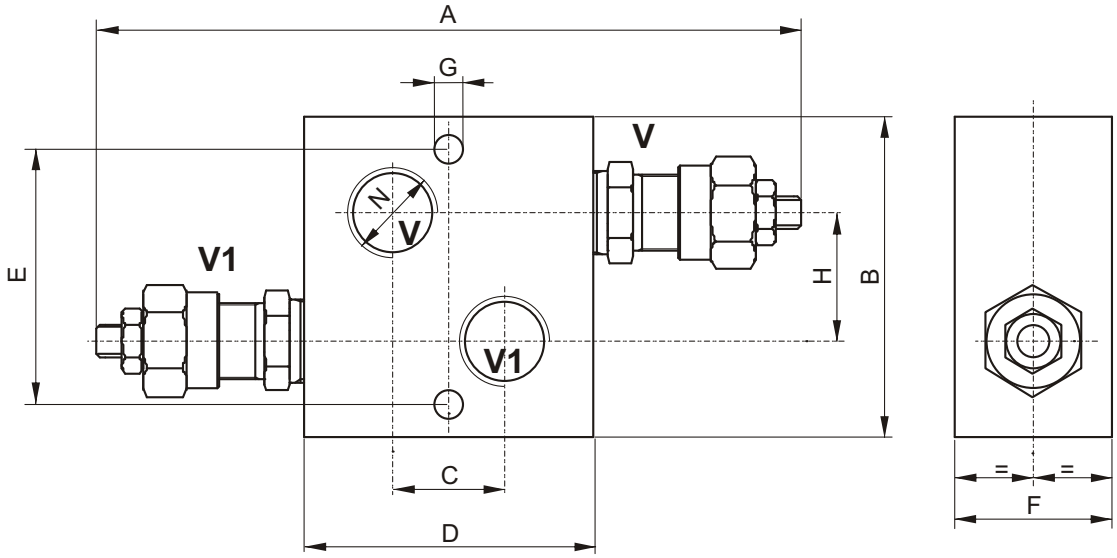


VMDR 35 / 80 / 120



Code	Dimension (mm)								
	Size	A	B	C	D	E	F	L max	Weight Kg
VMDR3502*	BSPP 3/8	65	16	17	20	50	35	64	0,4
VMDR3503*	BSPP 1/2	65	16	17	20	50	35	64	0,4
VMDR8003*	BSPP 1/2	80	17	18	26	60	50	84.5	0,7
VMDR8004*	BSPP 3/4	80	17	18	26	60	50	84,5	0,75
VMDR12004*	BSPP 3/4	95	19	24	30	70	60	98.5	1,2
VMDR12005*	BSPP 1	95	19	24	30	70	60	98,5	1,2

VMDI35



Code	Dimension (mm)									
	Size	A max	B	C	D	E	F	G	H	Weight Kg
VMDI3502*	BSPP 3/8	190	70	42	90	50	35	6,5	26	0,79
VMDI3503*	BSPP 1/2	190	70	42	90	50	35	6,5	26	0,79

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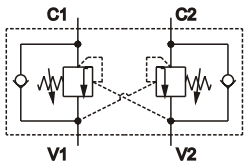
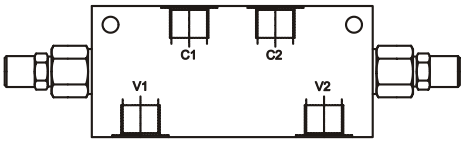
WBC*

Double and single effect overcentre valve



WBCDELU



Description:

These valves lock a cylinder, not allowing any external force to change its position, and control the lowering, avoiding cavitation and overpressure. The cylinder lowering is controlled by piloting ports V1 and V2
They can be mounted in any position and are protected by zinc plating.

Technical features:

Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51525
Fluid viscosity	2,8 - 380 mm2/sec
Fluid temperature	- 30 °C / 80 °C
Max contamination level	Class 10 in accordance with NAS 1638 with filter B 25 > 75
Weight	See table below

Ordering code

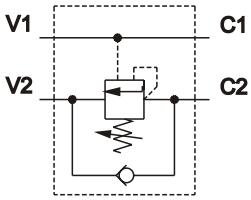
WBC* — **Overcentre valve**
WBCD = double acting
WBCS = single acting

*** *** — **Size:**
01, 02, 03

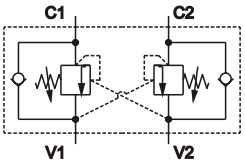
***** — **Spring**
A = 30÷210 bar
B = 60÷350 bar

***** — **Body material**
- = Aluminum
S = Steel

Standard graphical symbol

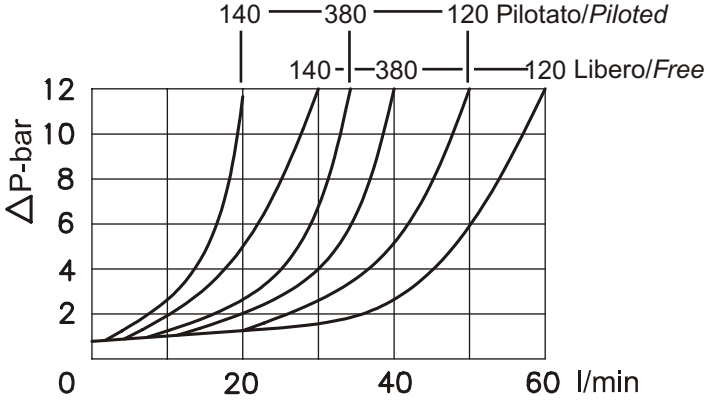


WBCSELU



WBCDELU

Pressure drops



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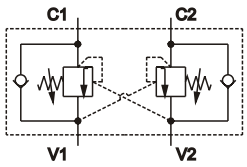
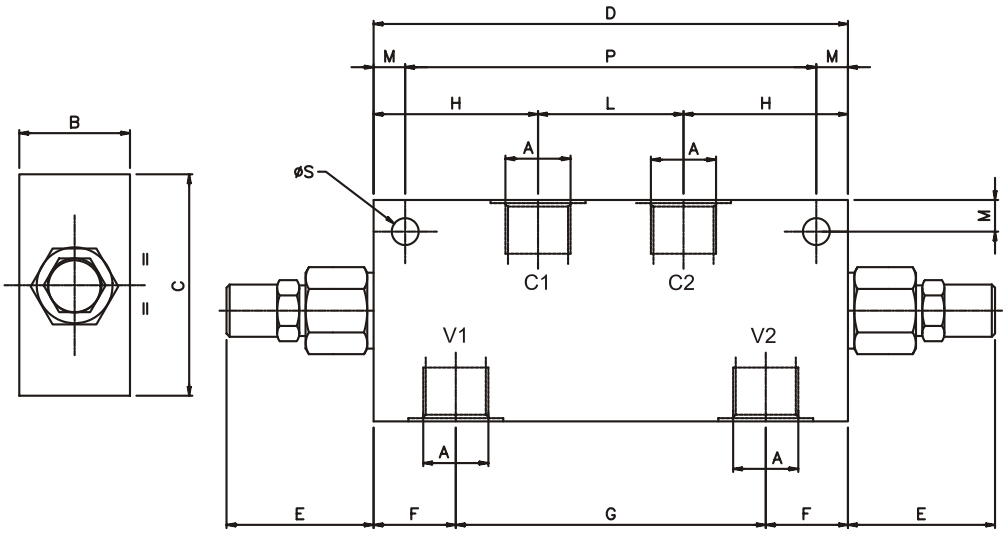
WBC*

Double and single effect overcentre valve

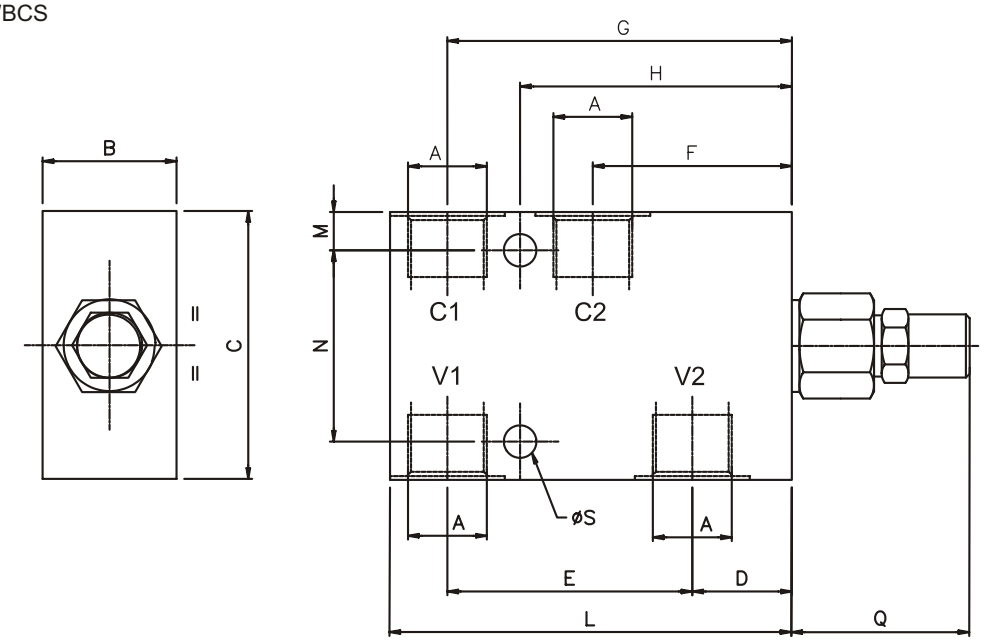


WBCD



Codice *Code*	A	Portata Max *Max flow* l/min	Pressione Max *Max pressure* bar	Rapporto di pilotaggio *Pilot Ratio*	B	C	D	E	F	G	H	L	M	N	Peso *Weight* Kg
WBCD01	BSPP 1/4	30	350	1:4,25	25	50	150	46,5	26	98	52	48	10	6,5	2,0
WBCD02	BSPP 3/8	40		1:4,25	25	50	150	46,5	26	98	52	48	10	6,5	1,5
WBCD03	BSPP 1/2	60		1:4,25	30	60	150	46,5	26	98	52	48	10	6,5	2,0

WBCS



Codice *Code*	A	Portata Max *Max flow* l/min	Pressione Max *Max pressure* bar	Rapporto di pilotaggio *Pilot Ratio*	B	C	D	E	F	G	H	L	M	N	Q	S	Peso *Weight* Kg
WBCS01	BSPP 1/4	30	350	1:4,25	30	60	26	64	52	90	71	105	10	40	46,5	6,5	1,4
WBCS02	BSPP 3/8	40		1:4,25	25	50	26	64	52	90	71	95	10	40	46,5	6,5	1,4
WBCS03	BSPP 1/2	60		1:4,25	30	60	26	64	52	90	71	100	10	50	46,5	8,5	1,8

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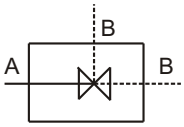
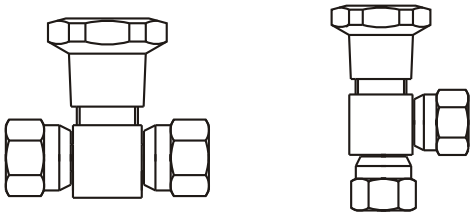
EM**01C

Gauge isolator



EMIL01C **EM9001C**



Description:

They are used in hydraulic systems in order to connect or isolate a gauge.

Technical features:

Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	100 mm2/sec
Fluid temperature	-20°C / 80°C
Max contamination level	Class 18/14 ISO4406(NAS1638)

Ordering code

EM — **Gauge isolator**

****** — **Type:**
IL : in line
90 : 90°

01 — **Size:**
01 : 1/4 BSPP

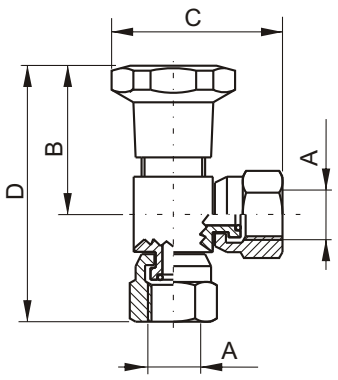
C — **Threads type:**
C : turning female - turning female

Characteristics:

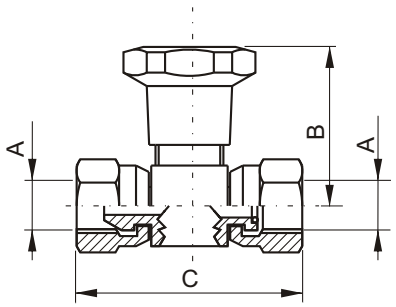
Code	Size	Max flow l/min	Max pressure bar
EM**01C	BSPP 1/4	5	350

Overall dimensions

EM9001C



EMIL01C



Code	A	B	C	D	Weight Kg
EM9001C	BSPP 1/4	38	32	62	0,140
EMIL01C	BSPP 1/4	38	54	-	0,143

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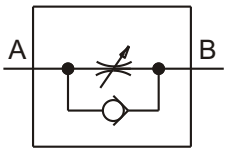
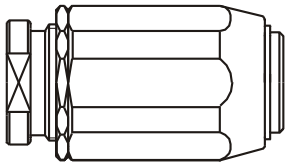
VRF

Unidirectional flow control valve



VRF



Description:

These valves allow to control the oil flow in one direction while the return way is free. The flow regulation is made directly rotating the valve body by a tool.

Technical features:

Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51525
Fluid viscosity	2,8 - 380 mm2/sec
Fluid temperature	- 30 °C / 80 °C
Max contamination level	Class 10 in accordance with NAS 1638 with filter B 25 > 75
Weight	See table below

Ordering code

VRF — **In-line unidirectional flow control valve**

01 — **Size:** 01, 02, 03, 04, 05, 06, 07

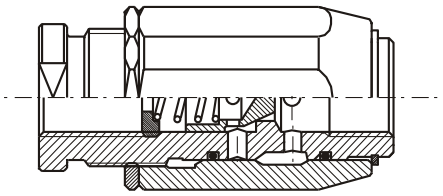
*** *** — **Type**
C = poppet type
S = ball type

Characteristics:

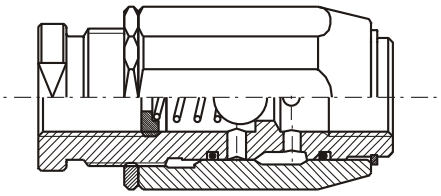
Code	Size	Max flow l/min (A to B)	Max pressure bar
VRF01	BSPP 1/4"	15	350
VRF02	BSPP 3/8"	30	
VRF03	BSPP ½"	45	
VRF04	BSPP 3/4"	80	250
VRF05	BSPP 1"	110	250
VRF06	BSPP 1" 1/4	150	230
VRF07	BSPP 1" ½"	210	230

On request we can quote SAE and NPT threaded valves

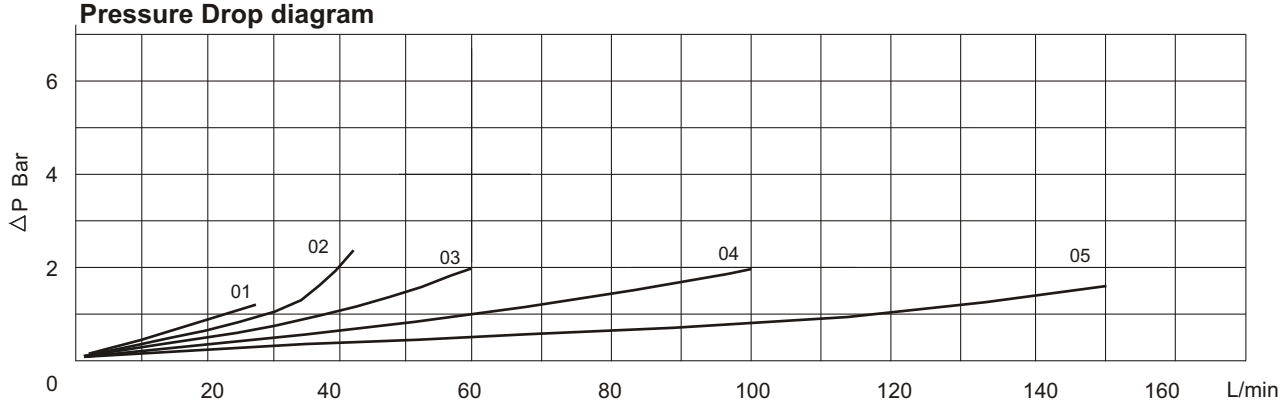
VRF- poppet type



VRF- ball type



Pressure Drop diagram



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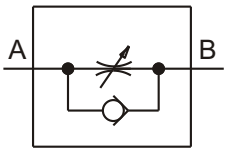
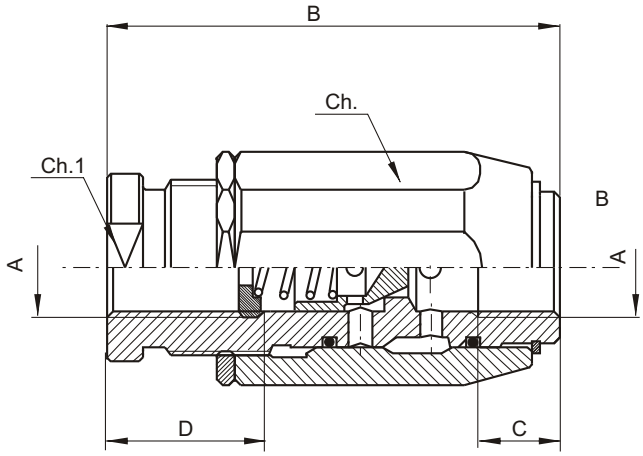
VRF

Unidirectional flow control valve

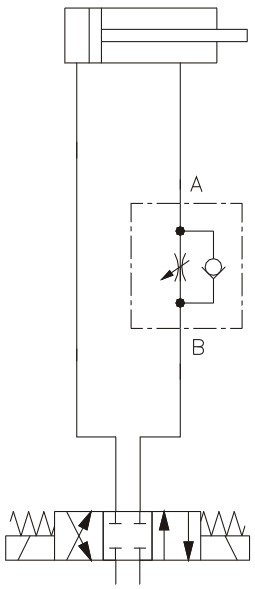


Overall dimensions



Code	A	B	C	D	Ch	Ch1	Weight Kg
VRF01	BSPP 1/4	66	13	21	32	22	0,30
VRF02	BSPP 3/8	78	18	22	38	26	0,48
VRF03	BSPP 1/2	83	18	18	41	30	0,59
VRF04	BSPP 3/4	95	21	24	46	32	0,82
VRF05	BSPP 1	109	21	27	55	41	1,31
VRF06	BSPP 1”1/4	135	25	32	80	55	3,31
VRF07	BSPP 1”½	150	25	41	90	60	4,76

Service example



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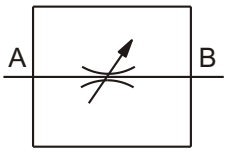
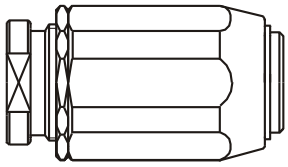
VRB

Bidirectional flow control valve



VRB



Description:

These valves allow to control the oil flow. The flow regulation is made directly rotating the valve body by a tool.

Technical features:

Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51525
Fluid viscosity	2,8 - 380 mm2/sec
Fluid temperature	- 30 °C / 80 °C
Max contamination level	Class 10 in accordance with NAS 1638 with filter B 25 > 75
Weight	See table below

Ordering code

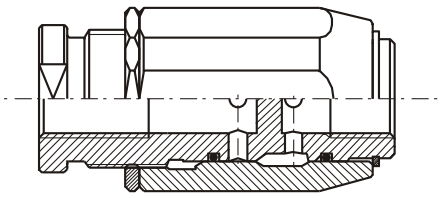
VRB	**In-line bidirectional flow control valve**
* *	**Size:** 01, 02, 03, 04, 05,

Characteristics:

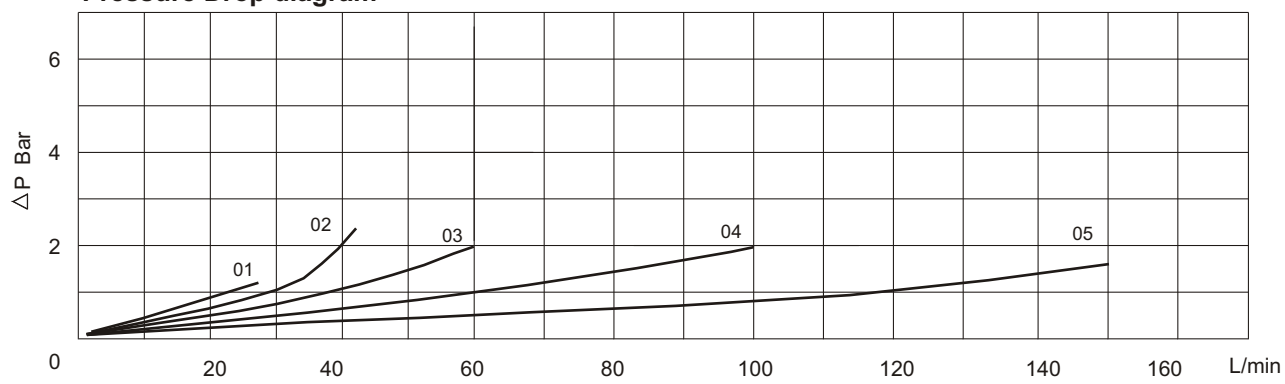
Code	Size	Max flow l/min	Max pressure bar
VRB01	BSPP 1/4”	15	350
VRB02	BSPP 3/8”	30	
VRB03	BSPP 1/2”	45	
VRB04	BSPP 3/4”	110	250
VRB05	BSPP 1”	160	250

On request we can quote SAE and NPT threaded valves

VRB- bidirectional flow control



Pressure Drop diagram



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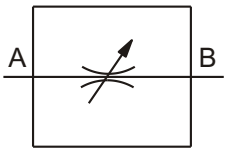
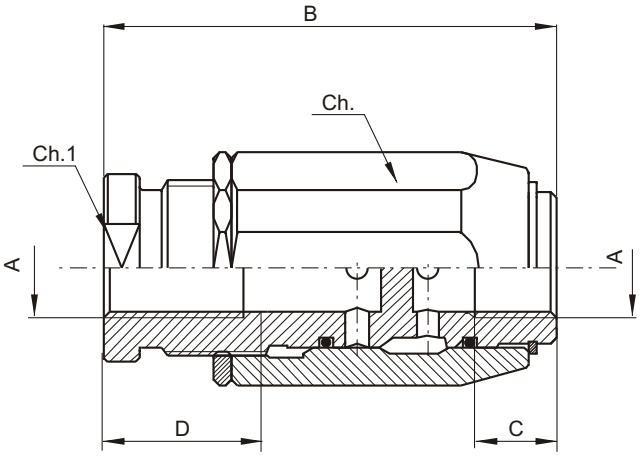
VRB

Bidirectional flow control valve

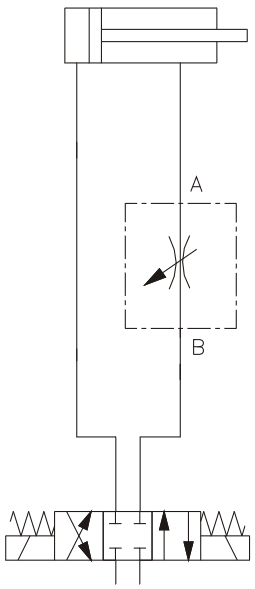


Overall dimensions



Code	A	B	C	D	Ch	Ch1	Weight Kg
VRB01	BSPP 1/4	66	13	21	32	22	0,38
VRB02	BSPP 3/8	78	18	26	38	26	0,43
VRB03	BSPP 1/2	83	18	28	41	30	0,55
VRB04	BSPP 3/4	95	21	28	46	32	0,82
VRB05	BSPP 1	109	21	28	55	41	1,31

Service example



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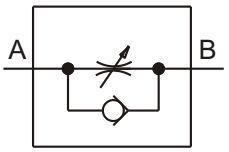
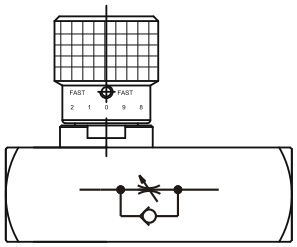
STU

Needle type unidirectional flow control valve



STU



Description:

These valves control the oil flow in one direction while the return way is open. The flow regulation is made by a precise aluminium handle with graduated scale.

Technical features:

Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	100 mm2/sec
Fluid temperature	-20°C / 80°C
Max contamination level	Class 18/14 ISO4406(NAS1638)

Ordering code

STU — **Needle type unidirectional flow control valve**

01 — **Size:** 01, 02, 03, 04

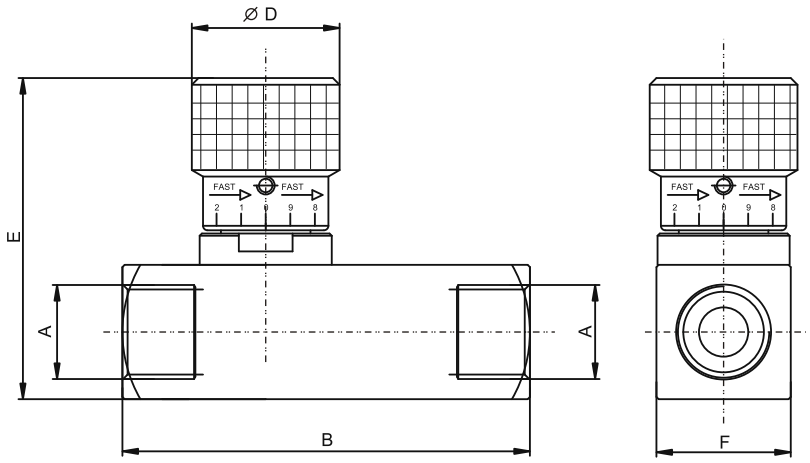
Option:

Characteristics:

Code	Size	Max flow l/min	Max pressure bar
STU01	BSPP 1/4	15	400
STU02	BSPP 3/8	30	
STU03	BSPP 1/2	50	
STU04	BSPP 3/4	80	

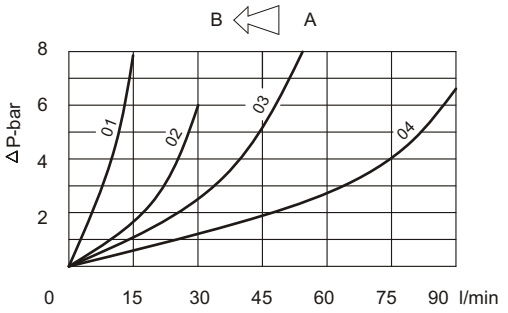
On request we can quote NPT or SAE threaded valves

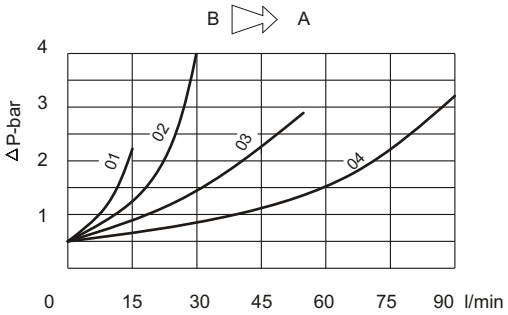
Overall dimensions



Code	A	B	D	E	F	Weight Kg
STU01	BSPP 1/4	66	30	68	25	0,37
STU02	BSPP 3/8	77	30	68	25	0,38
STU03	BSPP 1/2	91	33	72	30	0,60
STU04	BSPP 3/4	112,5	42	94	40	1,40

Pressure drop diagrams





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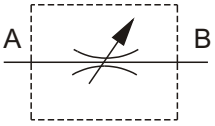
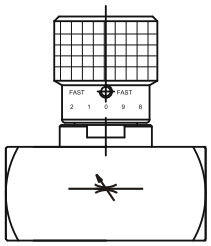
STB

Needle type bidirectional flow control valve



STB



Description:

These valves are used to adjust the flow speed in both direction. The regulation is made by a precise aluminium handle with graduated scale.

Technical features:

Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	100 mm2/sec
Fluid temperature	-20°C / 80°C
Max contamination level	Class 18/14 ISO4406(NAS1638)

Ordering code

STB — **Needle type bidirectional flow control valve**

01 — **Size:** 01, 02, 03, 04

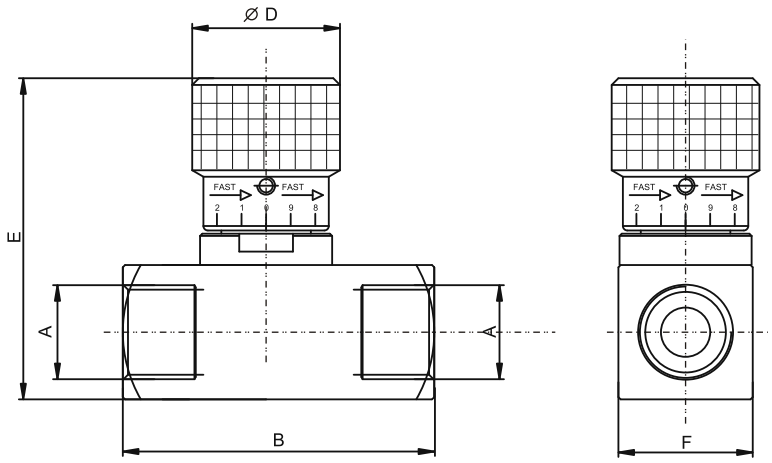
Option:

Characteristics:

Code	Size	Max flow l/min	Max pressure bar
STB01	BSPP 1/4	15	400
STB02	BSPP 3/8	30	
STB03	BSPP 1/2	50	
STB04	BSPP 3/4	80	

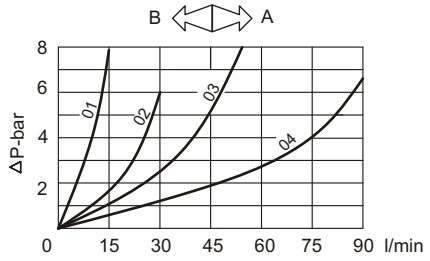
On request we can quote NPT or SAE threaded valves

Overall dimensions



Code	A	B	D	E	F	Weight Kg
STB01	BSPP 1/4	54	30	68	25	0,32
STB02	BSPP 3/8	54	30	68	25	0,30
STB03	BSPP 1/2	64	33	72	30	0,45
STB04	BSPP 3/4	81	42	94	40	1,10

Pressure drop diagram



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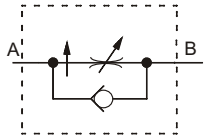
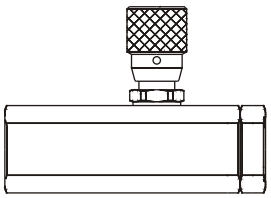
VRC

Compensated flow control valve



VRC



Description:

These valves control the oil flow in one direction while the return way is free. The flow regulation is made by a precise aluminium handle with graduated scale. Thanks to pressure compensation, the Δp through the valve thus the oil flow, is kept constant indipendently of the load.

Technical features:

Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	100 mm2/sec
Fluid temperature	-20°C / 80°C
Max contamination level	Class 18/14 ISO4406(NAS1638)

Ordering code

VRC — **Compensated flow control valve**

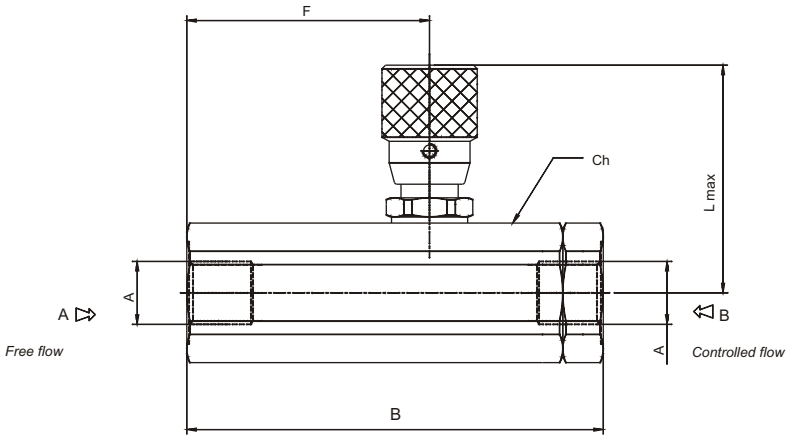
01 — **Size:** 01, 02, 03

Characteristics:

Code	Size	max flow L/min	Max pressure bar
VRC01	BSPP 1/4	10	250
VRC02	BSPP 3/8	18	250
VRC03	BSPP 1/2	33	250

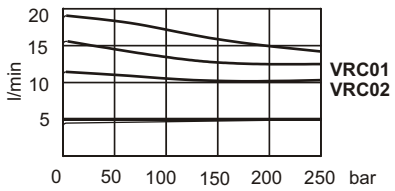
On request we can quote NPT or SAE threaded valves

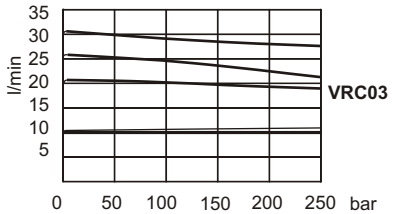
Overall dimensions

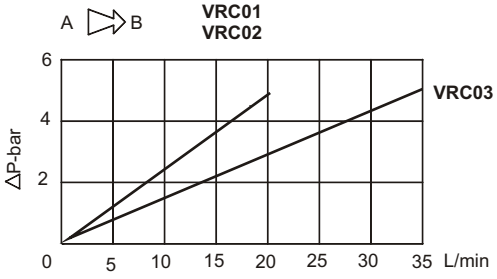


Code	A	B	F	L	Ch	Weight Kg
VRC01	BSPP 1/4	88	51	52	27	0.34
VRC02	BSPP 3/8	88	51	52	27	0.32
VRC03	BSPP 1/2	108	61	57	36	0.70

Pressure drop diagram







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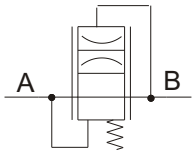
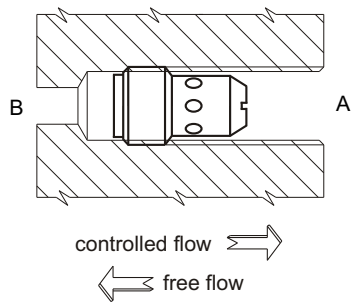
VSC

Pressure compensated fixed type flow control valve



VSC



Description:
VSC are pressure compensated flow control valves with fixed setting able to keep constant flow independently of oil pressure. These valves are normally used on simple effect cylinders, to keep constant lowering speed also with different load values.

Technical features:

Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	100 mm2/sec
Fluid temperature	-20°C / 80°C
Max contamination level	Class 18/14 ISO4406(NAS1638)

On request we can quote SAE threaded valves

Ordering code

VSC — **Pressure compensated fixed type flow control valve**

01 — **Size: 01:** 1/4'' BSPP
02: 3/8'' BSPP
03: ½'' BSPP

*** *** — **Controlled flow - l/min** (see table below)

*** *** — **Version:**
- = only cartridge
MF = with MF style body
FF = with FF style body

Characteristics:

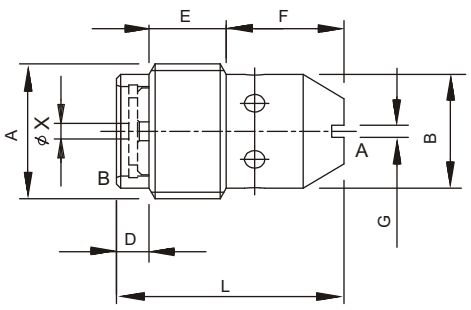
Spare part code	Ø X [mm]	Nominal controlled flow [l/min][1]
VSC01A	0,8	1
VSC01B	1	2
VSC01C	1,25	3
VSC01D	1,5	4
VSC01E	1,75	5
VSC01F	2	6
VSC01H	2,75	8
VSC01L	3,5	10
VSC01M	4	12
VSC01N	5	15

Spare part code	Ø X [mm]	Nominal controlled flow [l/min][1]
VSC02A	1,25	2
VSC02B	1,5	3
VSC02C	2	4
VSC02D	2,25	5
VSC02E	2,5	6
VSC02F	3	9
VSC02G	3,5	12
VSC02H	4	18

Spare part code	Ø X [mm]	Nominal controlled flow [l/min][1]
VSC03A	2,5	9
VSC03B	3	12
VSC03C	3,5	17
VSC03D	4	21
VSC03E	4,5	27
VSC03F	5	32
VSC03G	5,5	40
VSC03H	6	47

[1] Tollerance ±10%

Overall dimensions



Code	A	B	D	E	F	L	G	Tightening torque Nm	Max pressure bar	Weight Kg
VCS01	BSPP 1/4	10,5	/	8	15	23	1,2	2	250	0,015
VCS02	BSPP 3/8	13,5	/	10	15	25	1,5	3	250	0,022
VCS03	BSPP 1/2	17	4,5	13	17,5	35	2	4	210	0,048

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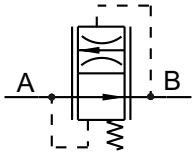
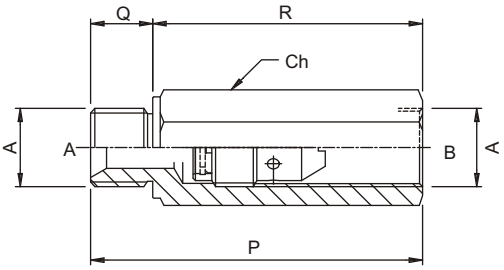
VSC

Pressure compensated flow control valve



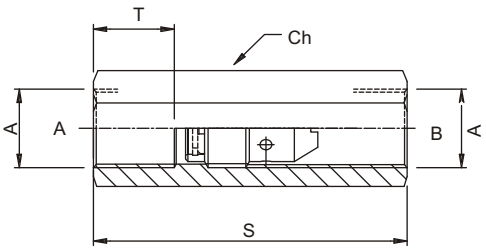
Overall dimensions

Version "MF"



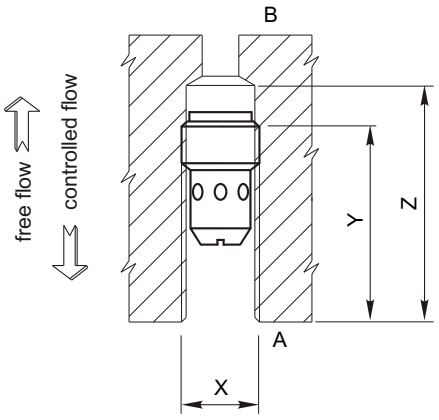
Code	A	R	P	Q	Ch	Weight Kg
CMFVSC01	1/4	43	54	11	19	0,09
CMFVSC02	3/8	45	58	13	22	0,12
CMFVSC03	1/2	64	78	14	27	0,17

Version "FF"



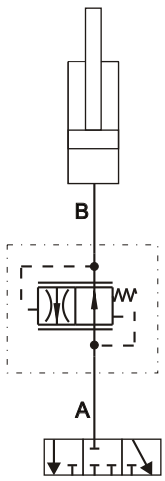
Code	A	S	T	Ch	Weight Kg
CFFVSC01	1/4	51	13	19	0,08
CFFVSC02	3/8	56	14	22	0,10
CFFVSC03	1/2	69	15	27	0,15

Cavity dimensions



Code	Size	X	Z	Y
VSC01	1/4" BSPP	11,8	45	37
VSC02	3/8" BSPP	5,25	52	42
VSC03	1/2" BSPP	19	60	50

Typical apllication



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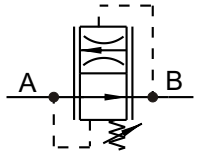
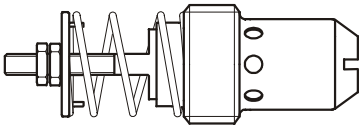
VRD

Cartridge type pressure compensated adjustable flow control valve



VRD



Description:
VRD are pressure compensated adjustable flow regulator valves able to keep constant flow independently of oil pressure. These valves are normally used on simple effect cylinders, to keep constant lowering speed independently of the load.

Technical features:

Max operating pressure	See table below
Hydraulic fluids	Mineral oils DIN 51524
Fluid viscosity	100 mm2/sec
Fluid temperature	-20°C / 80°C
Max contamination level	Class 18/14 ISO4406(NAS1638)

Ordering code

VRD — **Cartridge type pressure compensated adjustable flow regulator**

01 — **Size:**
01, 02, 03, 04

*** *** — **Controlled flow - l/min**
(see table below)

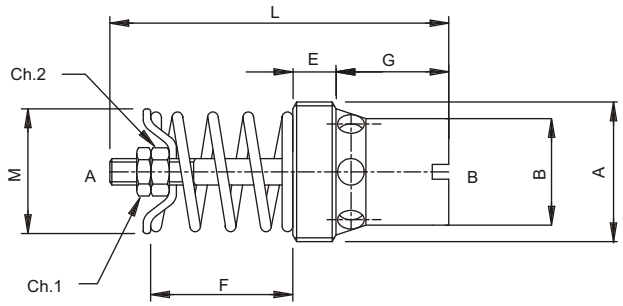
*** *** — **Version:**
OO = only cartridge
MF = with MF style body
FF = with FF style body

Characteristics:

Code	Size	Max flow l/min	Max pressure bar
VRD01	BSPP 1/4	15	300
VRD02	BSPP 3/8	35	
VRD03	BSPP 1/2	65	
VRD04	BSPP 3/4	150	

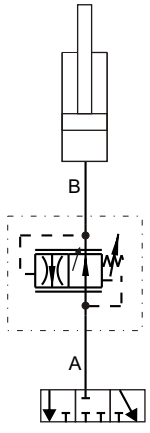
	Flow range L/min					
Code	A	B	C	D	E	F
VRD01	1-1,6	1,5-2,5	2,4-4	3,9-6,3	6,2-10	9,5-15
VRD02	2,5-4	3,8-6,3	6,1-10	9,8-16	15,8-25	24,5-35
VRD03	16-21	20,5-28	27,5-37	36,5-50	48-65	/
VRD04	37-50	48-65	63-90	88-120	115-150	/

Overall dimensions



Code	A	B	E	G	L	M	Ch1	Ch2	Tightening torque Nm	Weight Kg
VRD01	BSPP 1/4	10	6	13,5	39	10	5,5	5,5	6	0,013
VRD02	BSPP 3/8	12,5	5	15,5	45	14	6	7	8	0,024
VRD03	BSPP 1/2	16	7	16	51	18	6	7	12	0,037
VRD04	BSPP 3/4	20	10	21	62	23	6	7	15	0,070

Typical application



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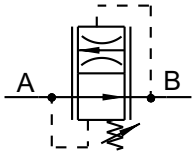
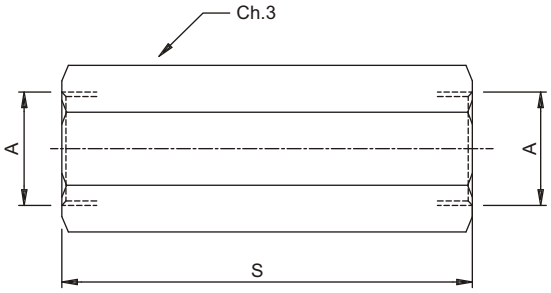
VRD

Cartridge type pressure compensated adjustable flow control valve



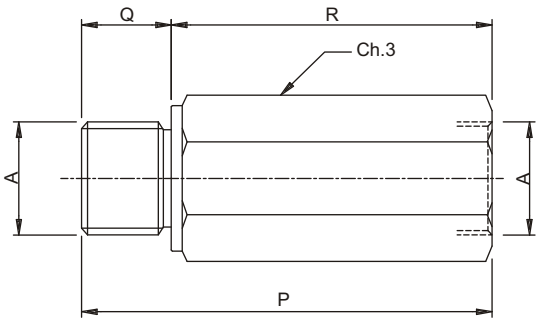
Overall dimensions

Version "FF"



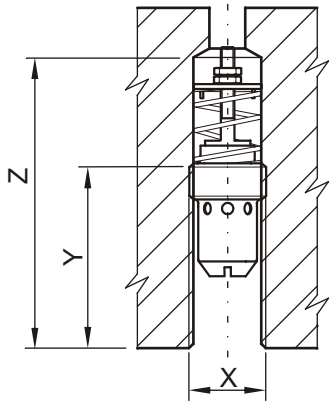
Code	A	S	Ch3	Weight Kg
CFFVRD01	1/4	66	19	0,11
CFFVRD02	3/8	73	22	0,12
CFFVRD03	1/2	81	27	0,20
CFFVRD04	3/4	99	32	0,29

Version "MF"



Code	A	R	P	Q	Ch3	Weight Kg
CMFVRD01	1/4	57	68	11	19	0,11
CMFVRD02	3/8	64	77	13	22	0,14
CMFVRD03	1/2	69	83	14	27	0,24
CMFVRD04	3/4	87	104	17	32	0,34

Cavity dimensions



Code	Dimensions		
	X	Y	Z
VRD01	1/4”	35	57
VRD02	3/8”	40	63
VRD03	1/2”	45	72
VRD04	3/4”	54	85

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Hydronit Srl
via Pastrengo 62
20039 Varedo - Italy
Phone: +39 0362 1841 210
Fax: +39 0362 1841 214
E-mail: sales@hydronit.com
www.minipowerpacks.com
www.hydronit.com

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