Series SCS, VNR, VSO, VSC and VMR automatic valves

Circuit selector Mod. SCS
Series VNR unidirectional valves
Series VSO - VSC quick exhaust valves
Valve with adjustable exhaust Mod. VMR

- Mod. SCS: channelling of two signals coming alternately from two different points towards the same point
- Series VNR: operations at low pressures
- Series VSC - VSO: able to increase the speed of cylinders
- Series VSC - VSO: depressurisation of tanks containing compressed air
- Mod. VMR: able to maintain pressure constant at a set value which allows the overpressure to exhaust

Automatic valves are defined as those valves which change their state simply as a result of compressed air being present or absent at their inlets.

The circuit selector Mod. SCS - 668-06 enables two signals coming alternately from two different points to be channelled towards the same point.

Series VNR unidirectional valves allow operation at low pressures both when there is a free flow and during retention.

Series VSC and VSO quick exhaust valves are commonly used to increase the speed of cylinders or for rapid depressurisation of tanks containing compressed air.

The adjustable valves Mod. VMR 1/8-B10 allow to maintain tank/capacity at a constant pressure value and thus enable a quick exhaust in the atmosphere even in case of an internal overpressure.

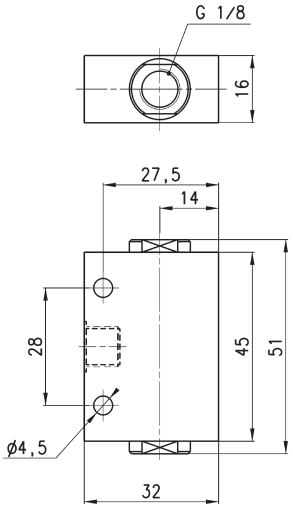
GENERAL DATA

Valve group	automatic valves
Construction	Mod. SCS, Series VNR, Series VSO and Series VSC: poppet-type Mod. VMR: diaphragm type
Materials	Series SCS: AL body - brass bush - NBR seals - Delrin poppet Series VNR: brass body - NBR seals - stainless steel spring Series VSO: brass body - NBR seals Series VSC: brass body - Desmopan seal Mod. VMR: brass body - zinc-plated steel spring - NBR seals
Mounting	in any position
Ports	according to the different models (see tables)
Operating temperature	Mod. SCS, Series VNR, Series VSO and Series VSC: 0°C ÷ 80°C (with dry air -20°C) Mod. VMR: -5°C ÷ 50°C (with the dew point of the fluid lower than 2°C at the min. working temperature)
Fluid	filtered air, without lubrication. If lubricated air is used, it is recommended to use ISO VG32 oil. Once applied the lubrication should never be interrupted.

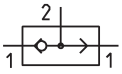
Circuit selector Mod. SCS

The selector is mounted by through holes in the body.

Materials used:
- AL body
- brass bush
- NBR seals
- Delrin poppet



OR01

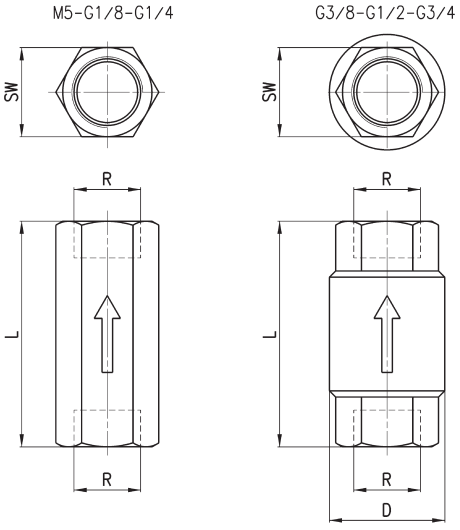


Mod.	Flow (Nl/min)	Min. operating pressure (bar)	Max working pressure (bar)
SCS-668-06	800	0.2	10

Series VNR unidirectional valves

The poppet-type construction of these valves allow operation at low pressures both when there is a free flow and during retention.

Ports: M5 - G1/8 - G1/4 - G3/8 - G1/2 - G3/4
Materials used:
- brass body
- NBR seals
- stainless steel spring



VNR1

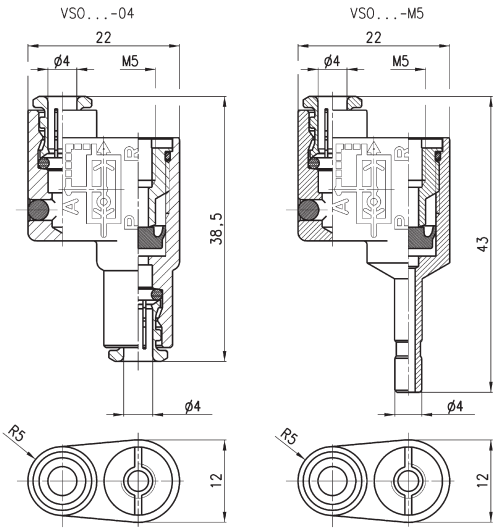
DIMENSIONS

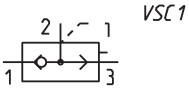
Mod.	R	L	SW	D	Flow (Nl/min)	Min. operating pressure (bar)	Max working pressure (bar)
VNR-205-M5	M5	25	8	9	50	1	10
VNR-210-1/8	G1/8	34	13	15	600	0.2	10
VNR-843-07	G1/4	43	17	20	1400	0.2	10
VNR-238-3/8	G3/8	55	23	34.5	3000	0.02	25
VNR-212-1/2	G1/2	58.5	27	34.5	5800	0.02	25
VNR-234-3/4	G3/4	65	33	41.5	8000	0.06	25

Quick exhaust valves Series VSO

The models VSO 425 -M5 and VSO 426-04 are particularly suitable to be mounted on solenoid valves and valves incorporating a ø 4 cartridge.

Ports: M5 or ø 4 cartridge
Materials used:
- brass body
- NBR seal



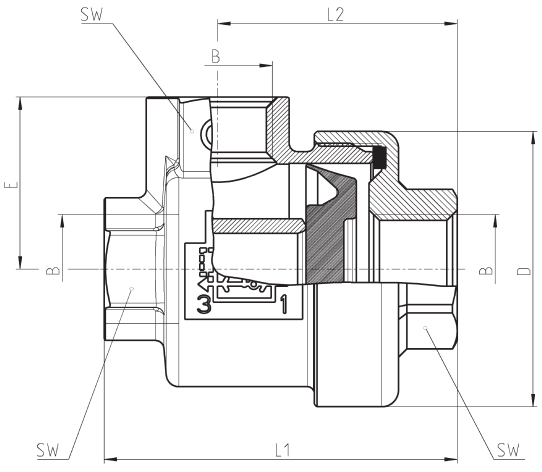


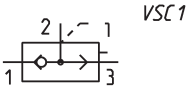
Mod.	Flow 1 > 2 (Nl/min)	Flow 2 > 3 (Nl/min)	Min. operating pressure (bar)	Max working pressure (bar)	NOTE
VSO 425-M5	50	100	1	16	flow at 6 bar, ΔP = 1 bar
VSO 426-04	50	100	1	16	flow at 6 bar, ΔP = 1 bar

Quick exhaust valves Series VSC

These models are particularly suitable to be mounted directly on the cylinder mouth through the use of a nipple. It is recommended to mount a silencer on the outlet.

Ports: G1/8 - G1/4 - G1/2
Materials used:
- brass body
- Desmopan seal

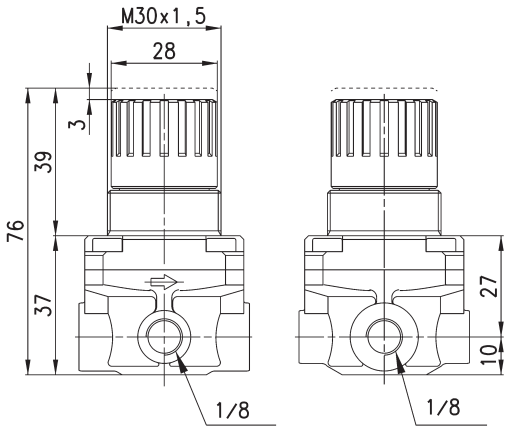


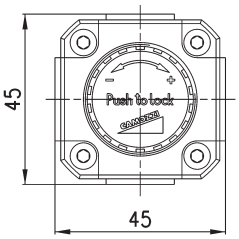


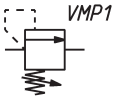
Mod.	B	D	E	L1	L2	SW	Flow 1 > 2 (Nl/min)	Flow 2 > 3 (Nl/min)	Min. operating pressure (bar)	Max working pressure (bar)	NOTE
VSC 588-1/8	1/8	28	17.5	36.5	25	14	650	1000	0.5	12	flow at 6 bar, ΔP 1 bar
VSC 544-1/4	1/4	33	20.5	42	28.5	17	1100	2300	0.3	12	flow at 6 bar, ΔP 1 bar
VSC 522-1/2	1/2	43	27	57.5	39.5	24	4500	6700	0.2	12	flow at 6 bar, ΔP 1 bar

Valve with maximum adjustable pressure Mod. VMR 1/8-B10

Working pressure: 1 bar ÷ 8 bar

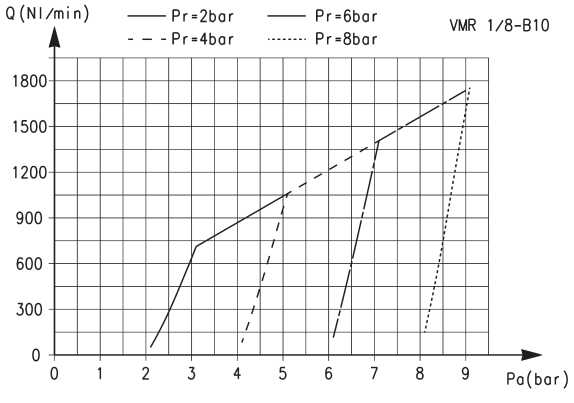






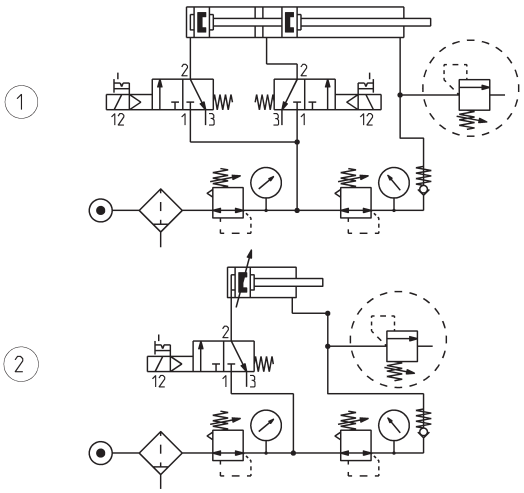
Mod.
VMR 1/8-B10

VALVE Mod. VMR 1/8-B10 - FLOW DIAGRAM and FUNCTIONING SCHEMES



FLOW DIAGRAM

Pa = Inlet pressure
Pr = Regulated pressure
Q = Flow



FUNCTIONING SCHEME 1: overpressure exhaust in a cylinder chamber or in a tank when the set value has been exceeded.

FUNCTIONING SCHEME 2: VMR valve with maximum adjustable pressure allows pressure in a cylinder chamber or in tank to exhaust in the atmosphere every time the set regulation value is exceeded.

Series VBO - VBU blocking valves

Unidirectional valves (VBU) and bidirectional valves (VBO)
Ports G1/8, G1/4, G3/8 and G1/2

- Series VBU: unidirectional valves with operating pressure from 0.3 to 10 bar
- Series VBO: bidirectional valves with operating pressure from 0 to 10 bar
- Direct mounting on cylinders or on distribution and fluid control blocks

These unidirectional and bidirectional blocking valves have been realised in order to enable mounting directly on cylinders.
The inner design of the blocking valves Series VBO and VBU allows a very high flow rate and reliable operation.

These valves can be mounted directly also on distribution and fluid control blocks.

GENERAL DATA

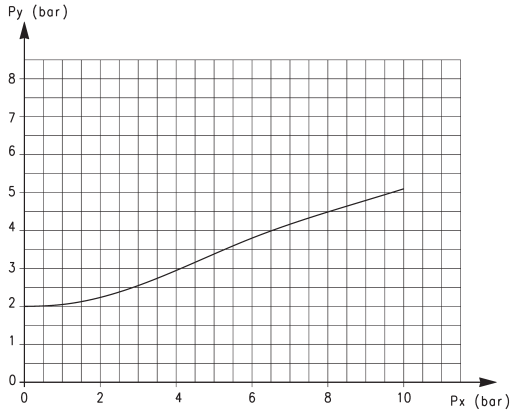
Construction	poppet type
Valve group	unidirectional and bidirectional blocking valve
Materials	Brass - NBR seals - stainless steel springs - PTFE
Mounting	by male thread
Ports	G1/8 - G1/4 - G3/8 - G1/2
Position	in any position
Operating temperature	0°C ÷ 80°C (with dry air -20°C)
Operating pressure	VBU: 0,3 ÷ 10 bar, VBO: 0 ÷ 10 bar
Nominal pressure	6 bar
Nominal flow	see graph
Nominal diam.	G1/8 ø 5,5 mm - G1/4 ø 8 mm - G3/8 ø 11 mm - G1/2 ø 15 mm
Fluid	filtered air, without lubrication. If lubricated air is used, it is recommended to use oil ISO VG32. Once applied, the lubrication should never be interrupted.

CODING EXAMPLE

VB	U		1/8

VB	SERIES: VB
U	VERSIONS: U = unidirectional O = bidirectional
1/8	PORTS: G1/8 G1/4 G3/8 G1/2

DIAGRAM OF THE PILOT PRESSURE



This diagram shows the relation between working pressure (Px) and pilot pressure required in order to operate the valve (Py).
The opening pressure of the unidirectional valve is 0,3 bar.

FLOW DIAGRAMS OF UNIDIRECTIONAL AND BIDIRECTIONAL VALVES

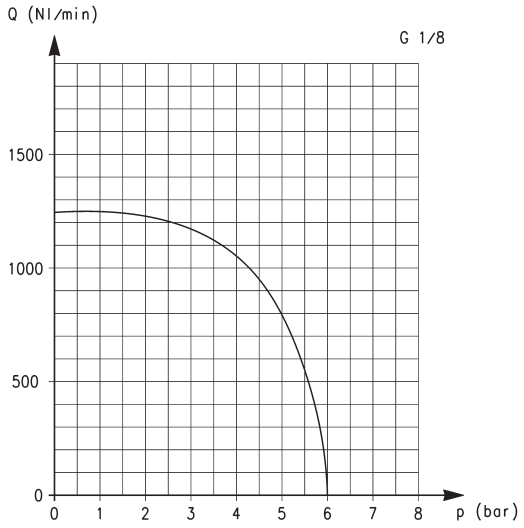


Diagram for valves VBU and VBO with G1/8 ports.

Q is the flow measured in Nl/min and determined with an inlet pressure of 6 bar.

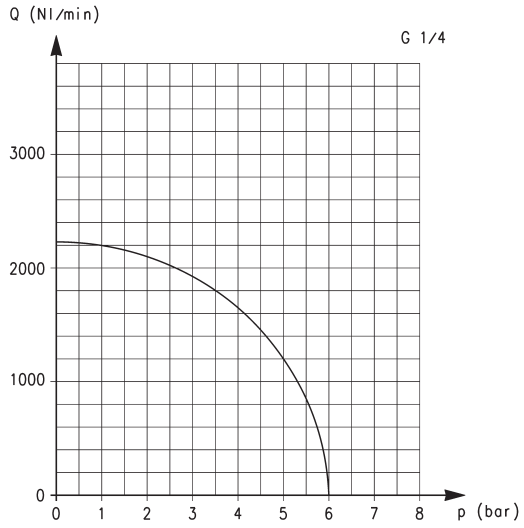


Diagram for valves VBU and VBO with G1/4 ports.

Q is the flow measured in Nl/min and determined with an inlet pressure of 6 bar.

FLOW DIAGRAMS OF UNIDIRECTIONAL AND BIDIRECTIONAL VALVES

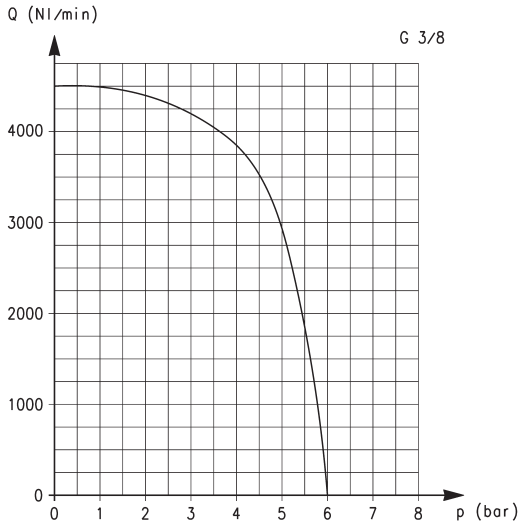


Diagram for valves VBU and VBO with G3/8 ports.

Q is the flow measured in Nl/min and determined with an inlet pressure of 6 bar.

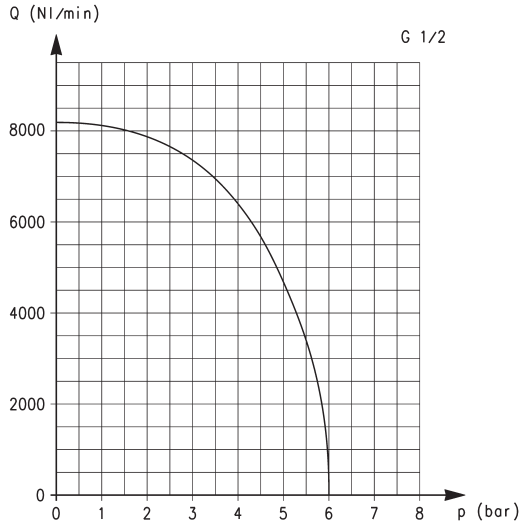
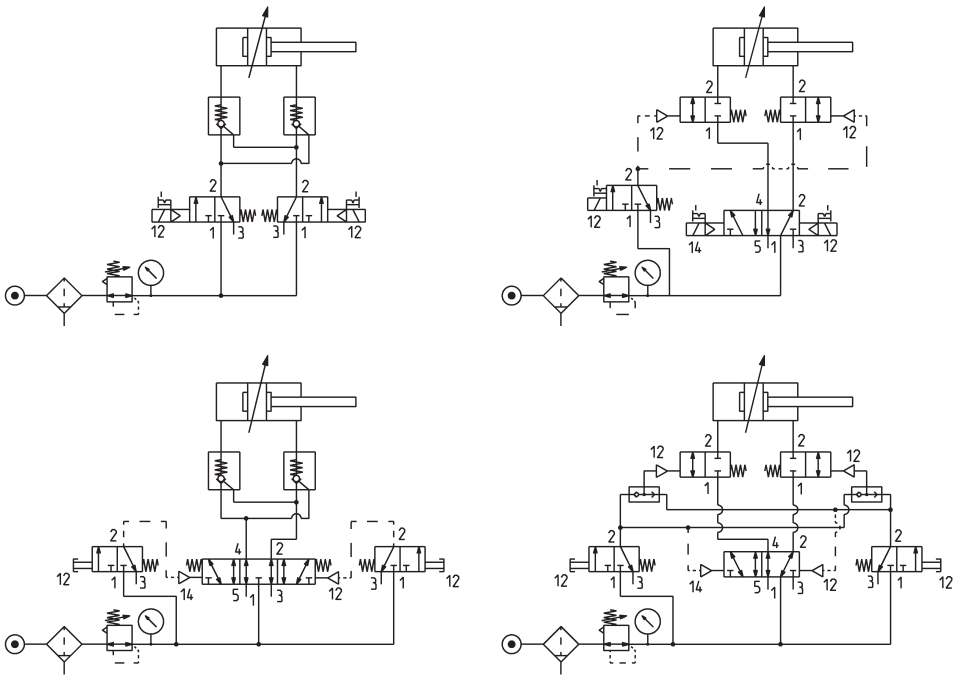


Diagram for valves VBU and VBO with G1/2 ports.

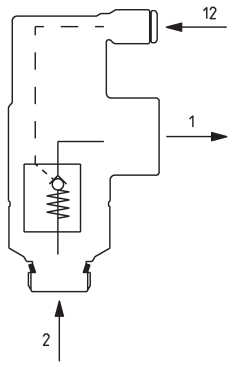
Q is the flow measured in Nl/min and determined with an inlet pressure of 6 bar.

APPLICATION SCHEMES

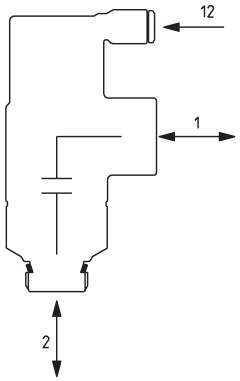
VBU = UNIDIRECTIONAL blocking valve
VBO = BIDIRECTIONAL blocking valve



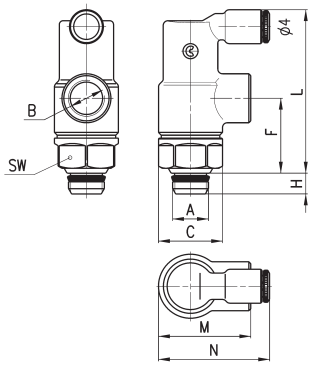
VBU



VBO

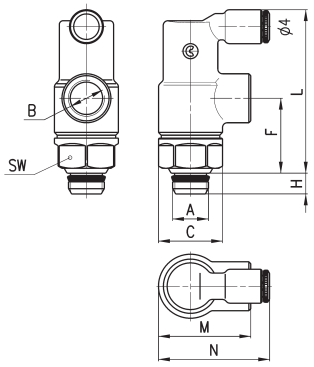


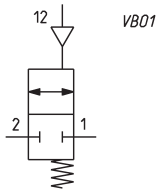
Unidirectional blocking valve



DIMENSIONS									
Mod.	A	B	C	F	H	L	M	N	SW
VBU 1/8	1/8	1/8	16,9	20	5,5	43	24,5	30	15
VBU 1/4	1/4	1/4	20,5	25	7	50	32,2	33,5	19
VBU 3/8	3/8	3/8	26,8	33	8	67	40	39,5	24
VBU 1/2	1/2	1/2	30	45,5	9	85,7	52	48	27

Bidirectional blocking valve





DIMENSIONS									
Mod.	A	B	C	F	H	L	M	N	SW
VBO 1/8	1/8	1/8	16,9	20	5,5	43	24,5	30	15
VBO 1/4	1/4	1/4	20,5	25	7	50	32,2	33,5	19
VBO 3/8	3/8	3/8	26,8	33	8	67	40	39,5	24
VBO 1/2	1/2	1/2	30	45,5	9	85,7	52	48	27