

Series 2L basic logic valves

Cartridge Ø 4 mm.
or - and - yes - not - memory



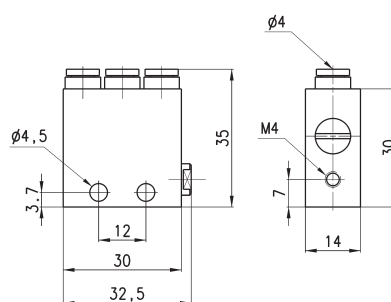
Series 2L basic logic functions are available in 5 different models and can be mounted separately by means of 2 passing holes in the body.
Bracket Mod. 2LQ-8A allows to have the inlets and outlets on the front side, facilitating the mounting of the connection tubes.

All models are constructed with the pressure window incorporated, which allows an easy detection of any problems. Moreover the fittings are incorporated into the valve body and are super-rapid Ø4.
The "NOT" element has an actuating pressure of 0,3 bar.

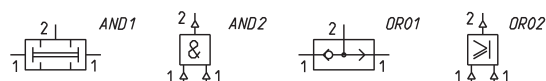
GENERAL DATA

Construction	poppet (spool memory)
Materials	aluminium body; NBR seals; OT58 brass
Valve group	automatic valves (logic units)
Ports	cartridge Ø 4
Operating temperature	0°C ÷ 60°C (-20°C with dry air)
Operating pressure	2 bar ÷ 10 bar
Nominal flowrate	100 NL/min. (6 bar ΔP = 1)
Fluid	filtered air, without lubricant. If lubricated air is used, it is recommended to use oil ISO VG32. Once applied the lubrication should never be interrupted.

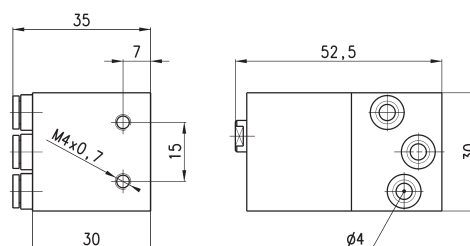
Basic logic valves AND / OR



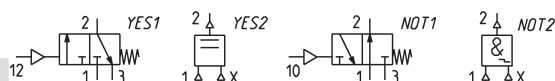
Mod.	Function	Pneumatic symbol	Logic symbol
2LD-SB4-B	AND	AND1	AND2
2LR-SB4-B	OR	OR01	OR02



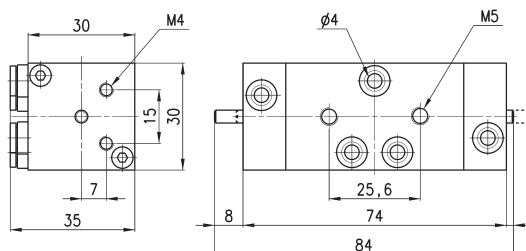
Basic logic valves YES / NOT



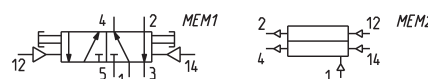
Mod.	Function	Pneumatic symbol	Logic symbol
2LS-SB4-B	YES	YES1	YES2
2LT-SB4-B	NOT	NOT1	NOT2



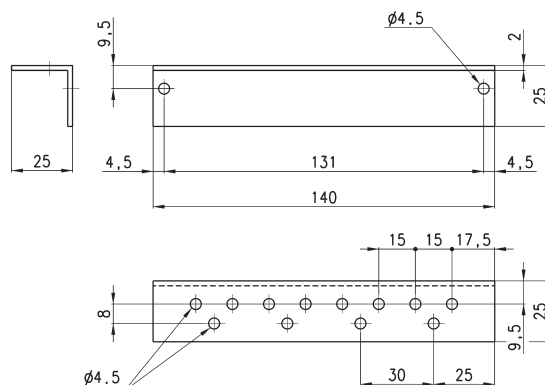
Basic logic valves "Memory"



Mod.	Function	Pneumatic symbol	Logic symbol
2LM-SB4-B	Memory	MEM1	MEM2



Right-angled bracket

Mod.
2LQ-8A

Pneumatically operated 3/2 NC amplifier valve - G1/8 ports

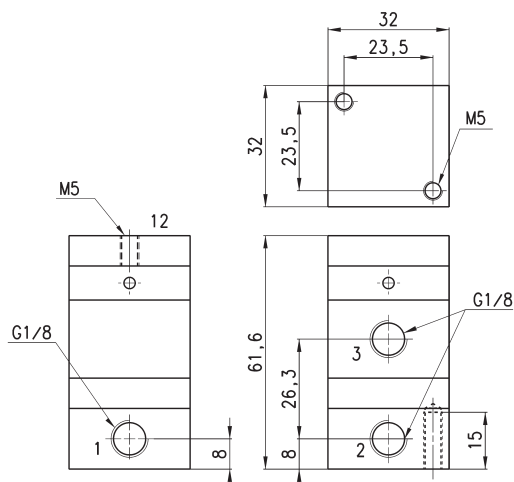
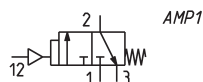


The amplifier valve Mod. 2LA-AM is able to change low pressure signals into signals with pressure from 2 to 8 bar. The poppet type construction shows a minimum permanent air consumption at rest.

Mounting: with M5 screws
Installation: in any position
Fluid: filtered air, without lubricant

Materials:

- AL body
- NBR seals



Mod.	Working pressure (bar)	Min/max operating pressure (bar)	Permanent air consumption at rest (NL/min)	Nominal flow (NL/min ΔP 1)
ZLA-AM	2 ÷ 8	0.03 / 0.6	3.3	120

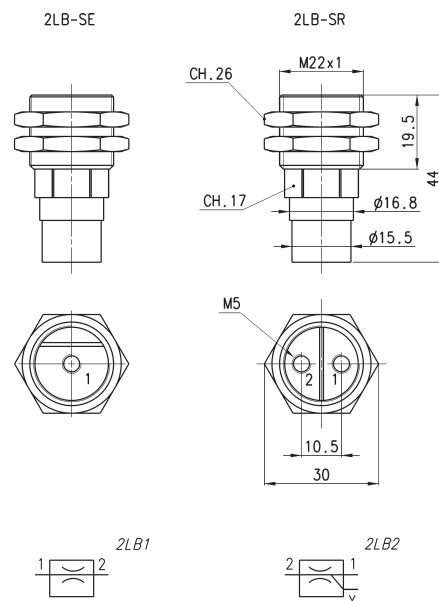
Sender and receiver sensor Series 2L - M5 ports



Materials: aluminium - brass
Construction: nozzle without moving parts
Threading mounting: M22 x 1
Mounting diameter: 22.5 mm
Mounting bracket: B20-25, E20-25
Max air consumption: P 2 bar 45 NL/min
Fluid: filtered air, without lubricant

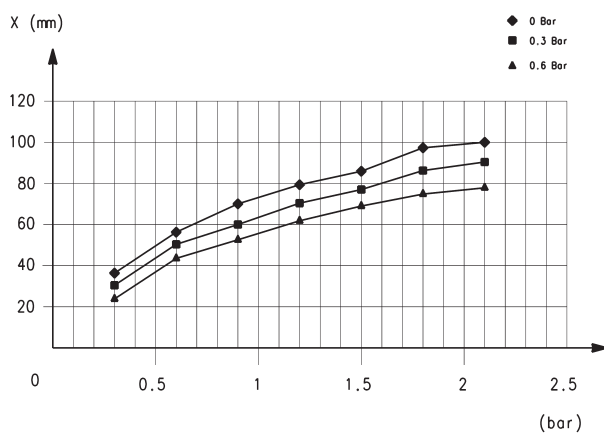
Conditions of functioning: the receiver pressure (2LB-SR) has to be lower or equal compared with the sender pressure (2LB-SE)

The receiver nozzle (2LB-SR) is supplied to ensure the self-cleaning. The air jet of the sender (2LB-SE) avoids the free outflow of the air jet from the receiver. A back pressure is thus produced that generates at outlet A a pilot pressure which is sent to the amplifier drive. When an object interrupts the air jet between the two sensors, this signal becomes zero.

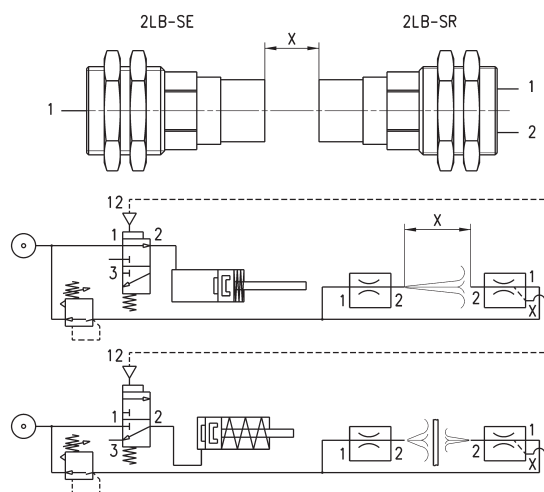


Mod.	Type	Min. pressure	Max pressure	Temperature	Symbol
2LB-SE	Sender	0.3 bar	2 bar	-20°C ÷ +60°C	2LB1
2LB-SR	Receiver	0.3 bar	0.6 bar	-20°C ÷ +60°C	2LB2

SENDER AND RECEIVER SENSORS SERIES 2L



DISTANCE DIAGRAM between
SENDER (2LB-SE) and RECEIVER (2LB-SR)
according to the supply pressures

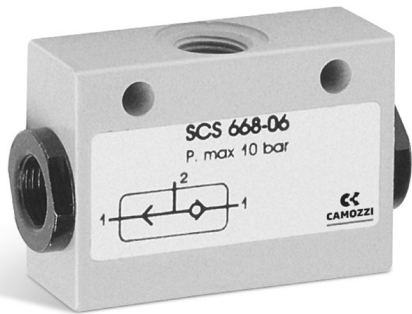


X = distance between nozzles (30 mm ÷ 80 mm)

Circuit selector Mod. SCS

Ports: G1/8

» Channelling of two signals coming alternately from two different points towards the same point



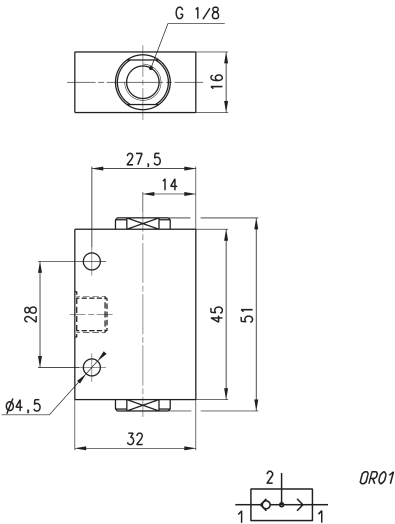
The circuit selector Mod. SCS - 668-06 enables two signals coming alternately from two different points to be channelled towards the same point.

GENERAL DATA

Valve group	automatic valves
Construction	poppet-type
Materials	AL body brass bush Delrin poppet NBR seals
Mounting	in any position
Ports	G1/8
Operating temperature	0°C ÷ 80°C (with dry air -20°C)
Medium	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.



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

Series VNR unidirectional valves

Ports: M5, G1/8, G1/4, G3/8, G1/2, G3/4, G1

» Operations at low pressures



Series VNR unidirectional valves, thanks to their poppet-type construction, can operate at low pressures both when there is a free flow and during retention.

GENERAL DATA

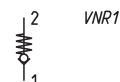
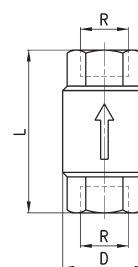
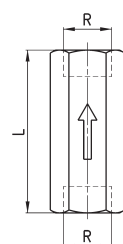
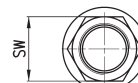
Valve group	automatic valves
Construction	poppet-type
Materials	brass body stainless steel spring NBR seals
Mounting	in any position
Ports	M5, G1/8, G1/4, G3/8, G1/2, G3/4, G1
Operating temperature	0°C ÷ 80°C (with dry air -20°C)
Medium	filtered air, without lubrication. If lubricated air is used, it is recommended to use ISO VG32 oil. Once applied the lubrication should never be interrupted.

Series VNR unidirectional valves



M5-G1/8-G1/4

G3/8-G1/2-G3/4-G1



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
VNR-201-01	G1	74.5	40	48	13000	0.06	25

Series VSO, VSC quick exhaust valves

Series VSO ports: M5, G1/8, cartridge $\varnothing 4$

Series VSC ports: G1/8, G1/4, G1/2



- » Suitable to rapidly discharge air contained in tanks, systems or cylinder chambers.
- » Threaded versions and with fitting

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.

Mod. VSO 425-M5, VSO 426-04: they are particularly suitable to be mounted on solenoid valves and valves incorporating a $\varnothing 4$ cartridge.

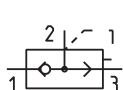
Mod. VSO 4-1/8: it is particularly suitable for direct mounting on the actuator connection. The air coming in from the jointed part (1) is used by the threaded side (2), whilst the exhaust (3) passes through the holes sideways to the valve body.

Mod. VSC: they 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.

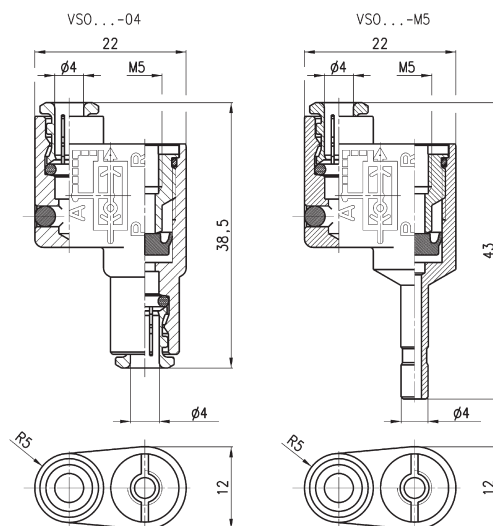
GENERAL DATA

Valve group	automatic valves
Construction	poppet-type
Materials	Series VSO: brass body - NBR seals Series VSC: brass body - Desmopan seal
Mounting	in any position
Ports	Series VSO: M5, G1/8, cartridge $\varnothing 4$ Serie VSC: G1/8, G1/4, G1/2
Operating temperature	0°C ÷ 80°C (with dry air -20°C)
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.

Quick exhaust valves Mod. VSO 425-M5, VSO 426-04

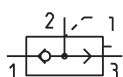


VSC1

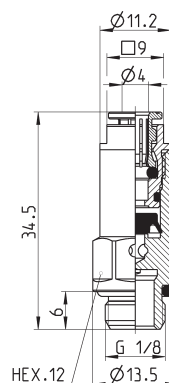


Mod.	Ports	Flow rate at 6 bar 1 > 2 (NL/min)	Flow rate at 6 bar 2 > 3 (NL/min)	Min. operating pressure (bar)	Max working pressure (bar)
VSO 425-M5	M5	50 ($\Delta P = 1$ bar)	100 ($\Delta P = 1$ bar)	1	16
VSO 426-04	cartridge $\varnothing 4$	50 ($\Delta P = 1$ bar)	100 ($\Delta P = 1$ bar)	1	16

Quick exhaust valve Mod. VSO 4-1/8

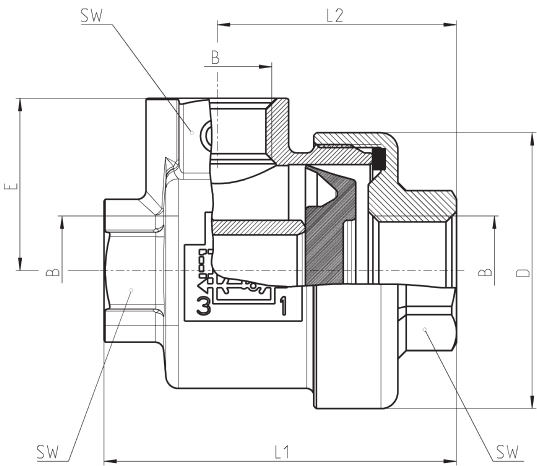
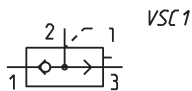


VSC1



Mod.	Ports	Flow rate at 6 bar 1 > 2 (NL/min)	Flow rate at 6 bar 2 > 3 (NL/min)	Min. operating pressure (bar)	Max working pressure (bar)
VSO 4-1/8	G1/8	50 ($\Delta P = 1$ bar)	330 (free flow)	0.5	16

Series VSC quick exhaust valves



Mod.	B	D	E	L1	L2	SW	Ports	Medium inlet flow rate 1 > 2 [flow at 6 bar, ΔP 1 bar] (NL/min)	Medium exhaust flow rate 2 > 3 [flow at 6 bar, ΔP 1 bar] (NL/min)	Min. operating pressure (bar)	Max working pressure (bar)
VSC 588-1/8	1/8	28	17.5	36.5	25	14	G1/8	630	940	0.5	12
VSC 544-1/4	1/4	33	20.5	42	28.5	17	G1/4	860	1600	0.3	12
VSC 522-1/2	1/2	43	27	57.5	39.5	24	G1/2	4700	6250	0.2	12

Adjustable overpressure exhaust valve Mod. VMR 1/8-B10

Ports: G1/8



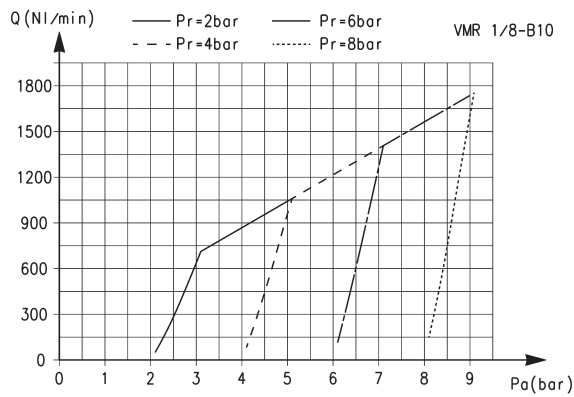
» Able to maintain pressure constant at a set value which allows the overpressure to exhaust

The adjustable valve Mod. VMR 1/8-B10 allows to discharge the overpressure that can be generated in a volume.

GENERAL DATA

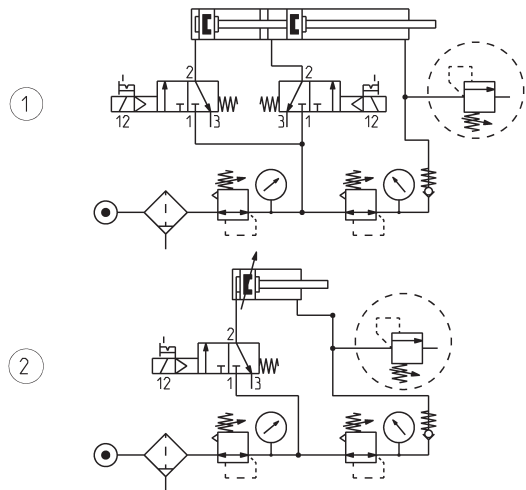
Valve group	automatic valves
Construction	diaphragm type
Materials	brass body zinc-plated steel spring NBR seals
Mounting	in any position
Ports	G1/8
Operating temperature	-5°C ÷ 50°C (with the dew point of the fluid lower than 2°C at the min. working temperature)
Medium	filtered air, without lubrication. If lubricated air is used, it is recommended to use ISO VG32 oil. Once applied the lubrication should never be interrupted.

FLOW DIAGRAM and FUNCTIONING SCHEMES

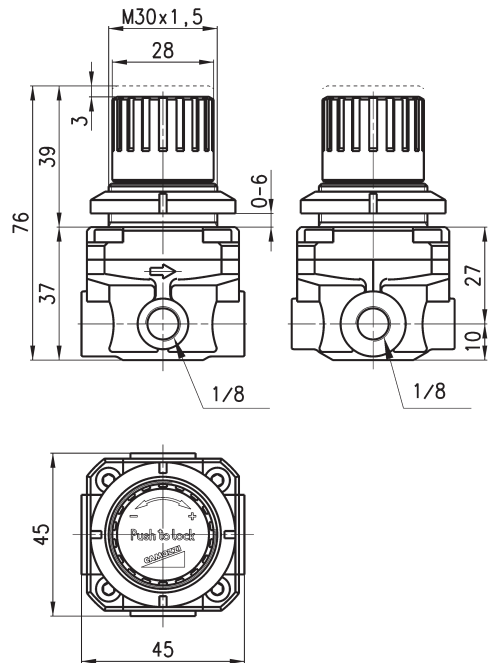
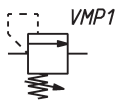


FLOW DIAGRAM

P_a = Inlet pressure
 P_r = Regulated pressure
 Q = Flow



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



Mod.	Working pressure (bar)
VMR 1/8-B10	1 ÷ 8

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. They can be used as high flow valves for blows, cleaning of pieces, filling of volumes. For these applications it is suggested to connect the supply to port 2 (having the male thread).

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

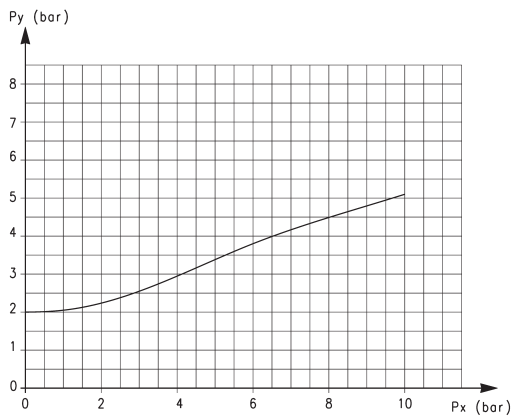
GENERAL DATA

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

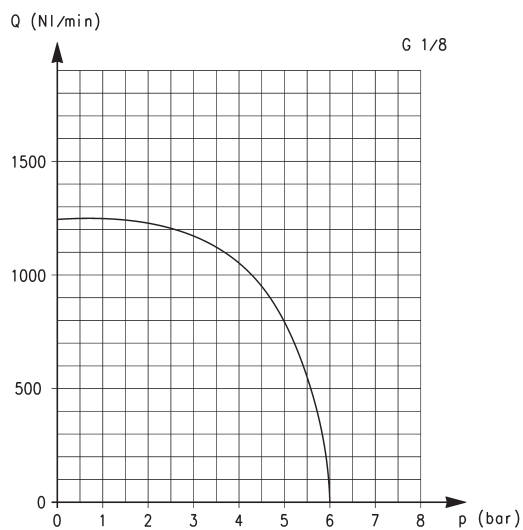


Diagram for valves VBU and VBO with G1/8 ports.

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

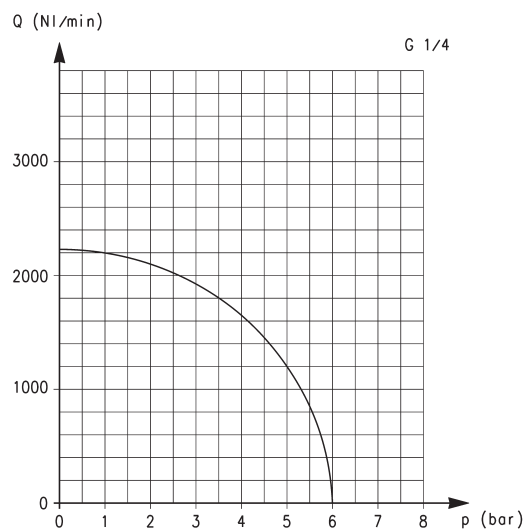


Diagram for valves VBU and VBO with G1/4 ports.

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

FLOW DIAGRAMS OF UNIDIRECTIONAL AND BIDIRECTIONAL VALVES

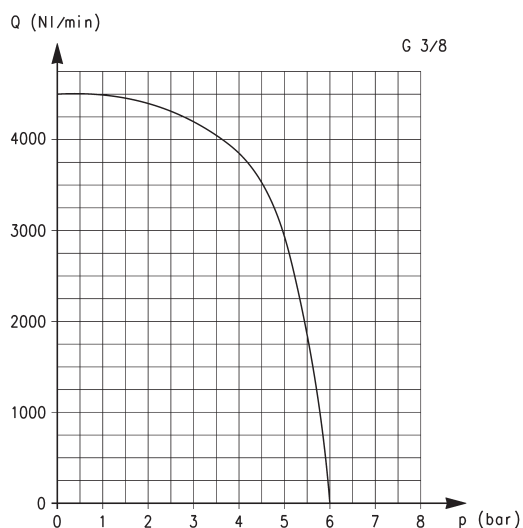


Diagram for valves VBU and VBO with G3/8 ports.

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

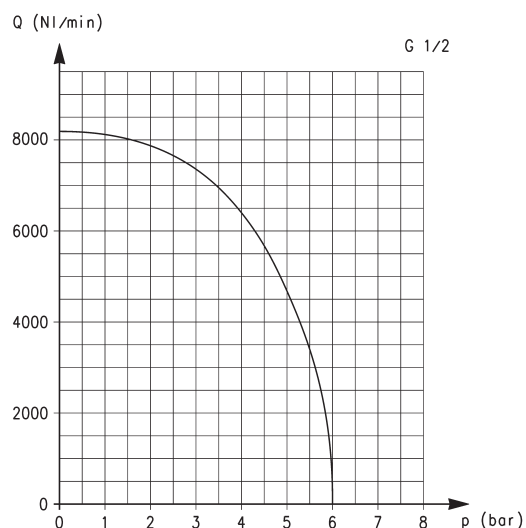
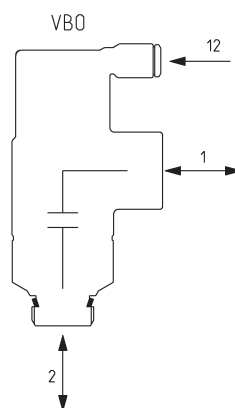
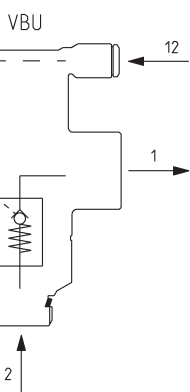
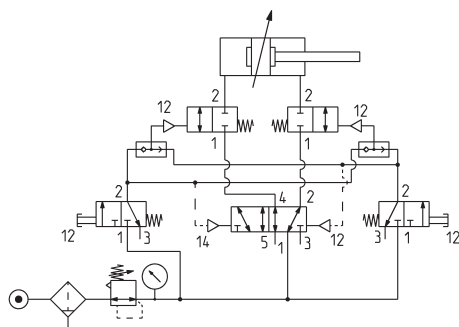
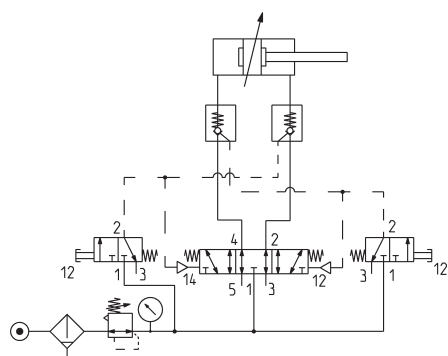
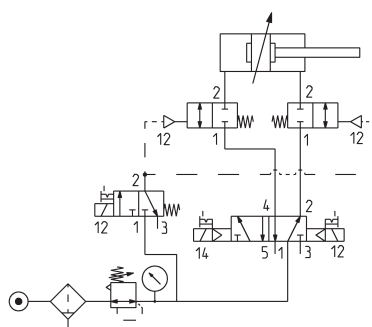
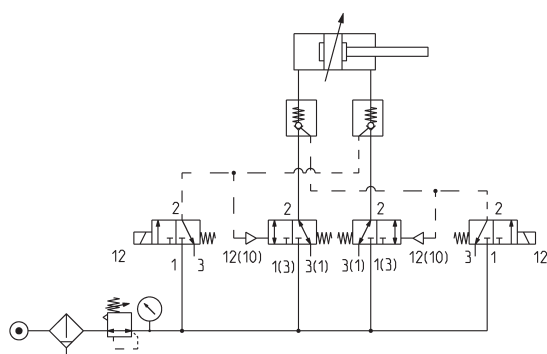


Diagram for valves VBU and VBO with G1/2 ports.

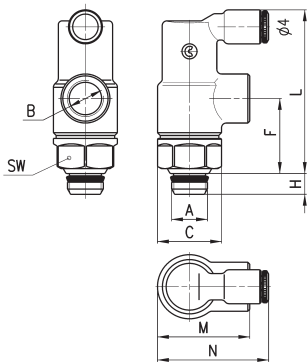
Q is the flow measured in Nl/min and determined with an inlet pressure of 6 bar.

APPLICATION SCHEMES

VBU = UNIDIRECTIONAL blocking valve
VBO = BIDIRECTIONAL blocking valve

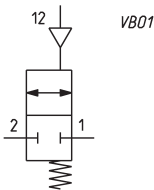
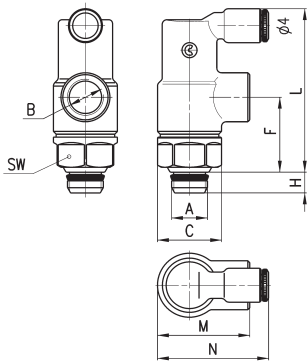


Unidirectional blocking valve



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