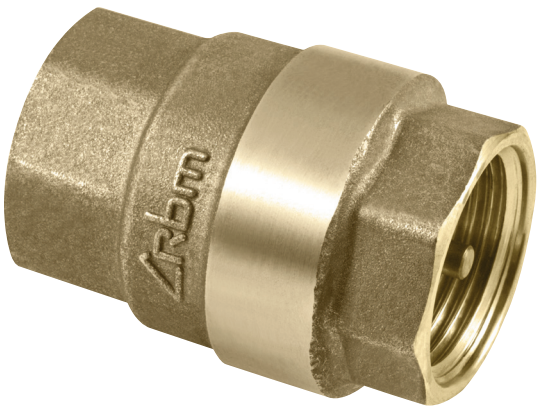
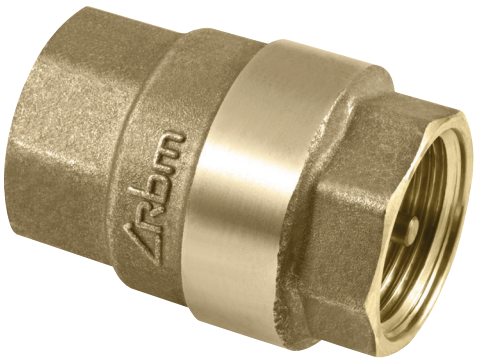


Rev. 09/2012

CHECK VALVE

CHECK VALVE



PRODUCTION RANGE

Connections	Rod	PN [bar]	Size	Code	Kv [m³/h]
THREADED FF UNI-EN-ISO 228	brass	25	1/2"	**860.04.02**	3,11
THREADED FF UNI-EN-ISO 228	brass	25	3/4"	**860.05.02**	6,39
THREADED FF UNI-EN-ISO 228	brass	25	1"	**860.06.02**	10,11
THREADED FF UNI-EN-ISO 228	brass	16	1"1/4	**860.07.02**	16,67
THREADED FF UNI-EN-ISO 228	brass	16	1"1/2	**860.08.02**	24,62
THREADED FF UNI-EN-ISO 228	brass	16	2"	**860.09.02**	38,84
THREADED FF UNI-EN-ISO 228	brass	12	2"1/2	**860.10.02***	-
THREADED FF UNI-EN-ISO 228	brass	12	3"	**860.11.02***	-
THREADED FF UNI-EN-ISO 228	brass	12	4"	**860.13.02***	-
THREADED FF UNI-EN-ISO 228	plastic	25	1/2"	**860.04.12**	3,11
THREADED FF UNI-EN-ISO 228	plastic	25	3/4"	**860.05.12**	6,39
THREADED FF UNI-EN-ISO 228	plastic	25	1"	**860.06.12**	10,11
THREADED FF UNI-EN-ISO 228	plastic	16	1"1/4	**860.07.12**	16,67
THREADED FF UNI-EN-ISO 228	plastic	16	1"1/2	**860.08.12**	24,62
THREADED FF UNI-EN-ISO 228	plastic	16	2"	**860.09.12**	38,84
THREADED MM UNI-EN-ISO 228	plastic	25	1/2"	**1851.04.10**	3,11
THREADED MM UNI-EN-ISO 228	plastic	25	3/4"	**1851.05.10**	6,39
THREADED MM UNI-EN-ISO 228	plastic	25	1"	**1851.06.10**	10,11

DESCRIPTION

Non-controllable retaining valve, suitable for all types of systems (industrial, pneumatic, hydraulic and residential). It can be located in horizontal, vertical and oblique position.

The internal sealing device was designed so as to withstand circuit overpressure and to always guarantee greatest valve efficiency.

PURPOSE

The **non-controllable retaining valve** can be considered as a safety means to be inserted inside a circuit.

It has the purpose of allowing the circulation of the fluid inside the circuit only in the direction imposed by the retaining valve and to prevent the fluid from flowing in the opposite direction from the direction imposed by the valve.

USE

The **non-controllable retaining valve** can be used in industrial and residential systems and can be mounted in horizontal, vertical and oblique position.

When mounting, **it is important to observe the direction shown by the arrow on the retaining valve body.**

In the case where overpressure is present in the circuit, the shutter of the sealing system is placed directly on the stop present in the body of the retaining valve and it guarantees perfect closure of the valve.

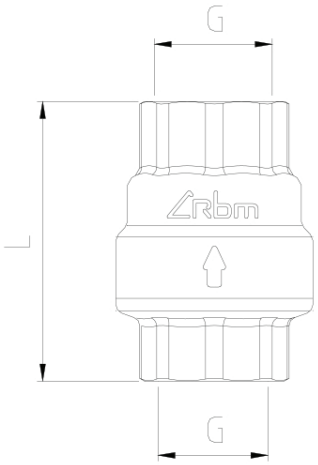
CONSTRUCTION CHARACTERISTICS

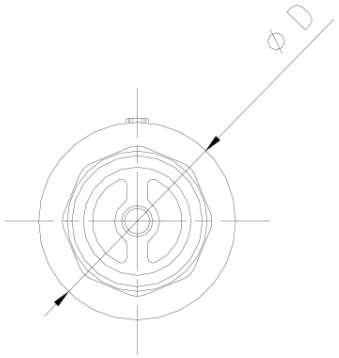
Body	brass DIN 17660
Ring	brass DIN 17660
Spring	AISI 302
Gaskets	EPDM + PEROX
Threaded connections	FF UNI-EN-ISO 228 MM UNI-EN-ISO 228

TECHNICAL CHARACTERISTICS

P_{max} Maximum operating pressure	25/16/12 bar
P_{min} Minimum opening pressure	0,04 bar (4 KPa)
T_{max} Maximum operating temp.	0 °C ÷ 90 °C (water) -20 °C ÷ 110 °C (air)
Fluid used	water, air

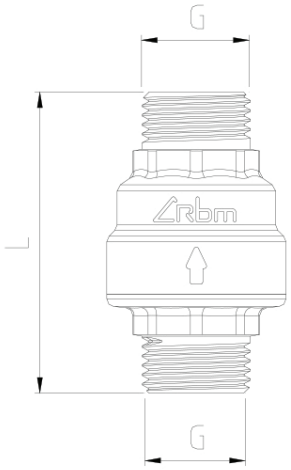
DIMENSIONAL CHARACTERISTICS





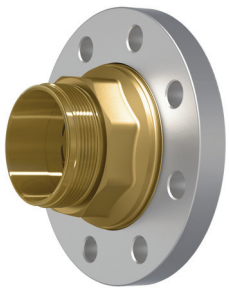
Code	Size (G)	DN [mm]	L [mm]	ØD [mm]
860.04.X2	1/2"	15	49	34,5
860.05.X2	3/4"	20	57	40,5
860.06.X2	1"	25	68	48,5
860.07.X2	1" 1/4	32	70	58,5
860.08.X2	1" 1/2	40	75	68,5
860.09.X2	2"	50	81	85
860.10.02*	2" 1/2	65	-	-
860.11.02*	3"	80	-	-
860.13.02*	4"	100	-	-

* product under construction



Code	Size (G)	DN [mm]	A [mm]	ØD [mm]
1851.04.10	1/2"	15	58	34,5
1851.05.10	3/4"	20	65,3	40,5
1851.06.10	1"	25	80	48,5

ACCESSORIES

Product	Code	Size	DN	Description
	**120.04.00**	1/2"	DN15	**THREADED FLANGE PN16** • Body made of nickel-plated brass; • Threaded connection M UNI-EN-ISO 228/I; • Flange connection UNI 2223 PN 16 DIN 2566 PN 16; • Pmax maximum operating pressure: 16 bar; • Max. temperature: 150 °C.
	120.05.00	3/4"	DN20	
	120.06.00	1"	DN25	
	120.07.00	1"1/4	DN32	
	120.08.00	1"1/2	DN40	
	120.09.00	2"	DN50	
	120.10.00	2"1/2	DN65	
	120.11.00	3"	DN80	
	120.13.00	4"	DN100	

Product	Code	Size	Description
	3086 12 I	1/2"	**FILTER WITH THREADED FITTING** Combined with retaining valves, this filter protects pumps. • Filter made of AISI 304L stainless steel • Threaded fitting 6.6 • Maximum operating temperature: 90 °C
	3086 34 I	3/4"	
	3086 10 I	1"	
	3086 04 I	1"1/4	
	3086 02 I	1"1/2	
	3086 20 I	2"	
	3086 22	2"1/2	
	3086 30	3"	
	3086 40	4"	

FLUID-DYNAMIC CHARACTERISTICS

Analytical procedure for valve dimensioning valid for liquids with ρ ≃ 1 kg/dm³

$$Kvs = Q * \left(\frac{10000}{\Delta P} \right)^{0,5}$$

suitable for water at temperatures from 0 to 30 °C

Analytical procedure for determining the pressure drop for liquids with ρ ≃ 1 kg/dm³

$$\Delta P = \left(\frac{Q}{Kvs} \right)^{2} \times 10.000$$

suitable for water at temperatures from 0 to 30 °C

Correction of Kvs for fluids with ρ different from 1 kg/dm³

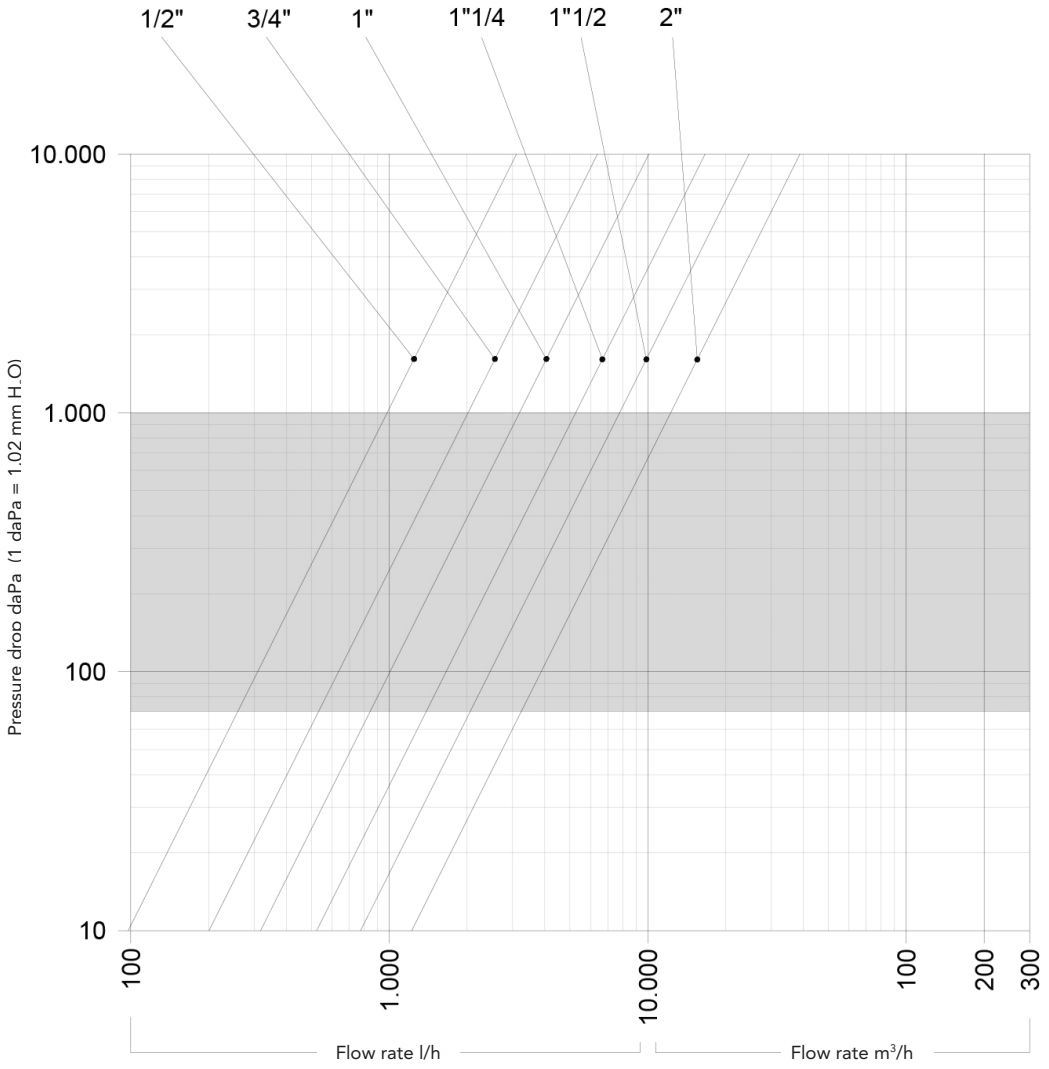
$$Kvs' = Kvs * \sqrt{\rho'}$$

Correction of ΔP for fluids with ρ different from 1 kg/dm³

$$\Delta P' = \Delta P \times \rho'$$

KEY

ΔP	pressure drop in daPa (1daPa=10Pa)
ΔP'	pressure drop corrected into daPa (1daPa=10Pa).
ΔP_{max}	recommended pressure difference for correct operation
Q	flow rate in m³/h
Kvs	hydraulic characteristic in m³/h (1m³/h=1.000 l/h)
ρ'	density of the liquid in kg/dm³



QUICK CHOICE OF A RETAINING VALVE*

Size	Kv	TRANSIT WATER FLOW RATE [l/h]	
		with ΔP 1.000 Pa	with ΔP 10.000 Pa
1/2"	3,11	301	952
3/4"	6,39	639	2.020
1"	10,11	1.011	3.197
1"1/4	16,67	1.667	5.270
1"1/2	24,62	2.462	7.785
2"	38,84	3,884	12.280
2"1/2	-	-	-
3"	-	-	-
4"	-	-	-

* This table has the purpose of providing technicians with only a quick indicative reference and of allowing them to combine the component chosen with a certain system size. The values shown in the table are not binding. They are only limit values referring to the performance of components.

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