



Rev. 07/2020

**BY-PASS VALVE
FOR DIFFERENTIAL
PRESSURE**

BY-PASS VALVE FOR DIFFERENTIAL PRESSURE



PRODUCTION RANGE

Code	Size	Couplings	Calibration field [bar]
124.05.00	3/4"	MF UNI-EN-ISO 228	0,1 ÷ 0,7
124.06.00	1"	MF UNI-EN-ISO 228	0,1 ÷ 0,7
124.07.00	1"1/4	MF UNI-EN-ISO 228	0,1 ÷ 0,7
124.22.00	Ø22	Ø 22 mm copper pipe fittings	0,1 ÷ 0,7

DESCRIPTION

THE PURPOSE

Bypass valves are normally used on delivery piping to transfer part of the fluid when the flow is interrupted by one of more motorised and/or self-operated shut-off valves (thermostatic valves, zone and two-way control valves, etc.). The bypass valve eliminates the risk of a gradual increase in speed of the fluid in open utilities and, at the same time, avoids wear and excessive vibrations and noise.

The valves are calibrated by turning the control knob to loosen the compression spring.

The differential pressure can be set to a maximum of 0.7 bar.

The values are shown on a slide with markers (e.g. 0.7 = 70 kPa).

The calibration value must be equal to the sum of the pressure drops between the point where the valve is located and the terminal at the

least convenient distance.

In the case of systems with more than one distribution zone, it is advisable to install several bypass valves for the purpose of a more sensitive adjustment.

PRODUCTION RANGE

The bypass valves are available in the 3/4" – 1" – 1"1/4 sizes for iron pipes and in the version with Ø22 connections for copper pipes.

USE

The bypass valves are to be installed:

- Between the uprights for primary distribution;
- On the primary distribution manifolds.

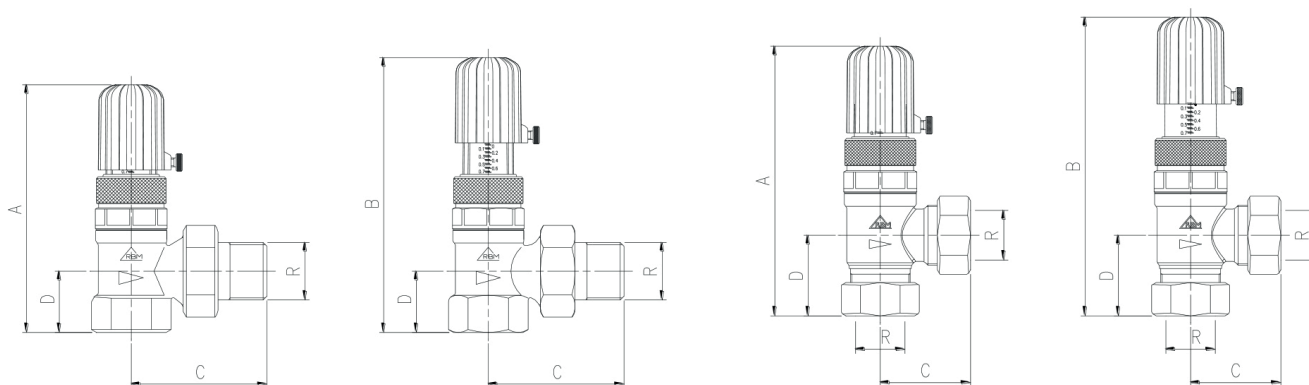
CONSTRUCTION FEATURES

Body	Brass
Seals	Elastomer
Hand wheel	Shockproof ABS
Calibration spring	AISI 302 stainless steel
Connections for copper pipes	Ø 22 mm
Connections for steel pipes	Threaded connections MF UNI-EN-ISO 228

TECHNICAL FEATURES

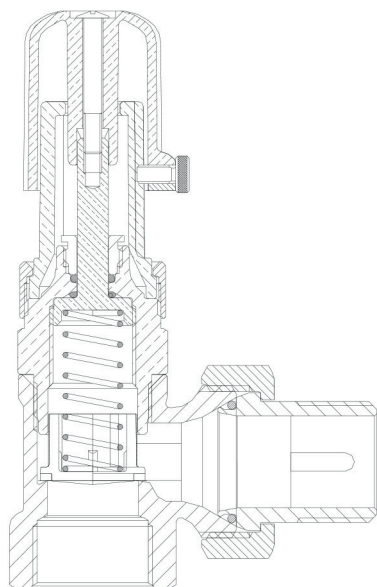
Usable fluid	Water, Water + Glycol 50%
Max operating temperature	110 °C
Max operating pressure	10 bar (1000 kPa)
Calibration field	0.1 - 0.7 bar

DIMENSIONAL FEATURES



Bypass valve with connections for steel pipe

Bypass valve with connections for copper pipe



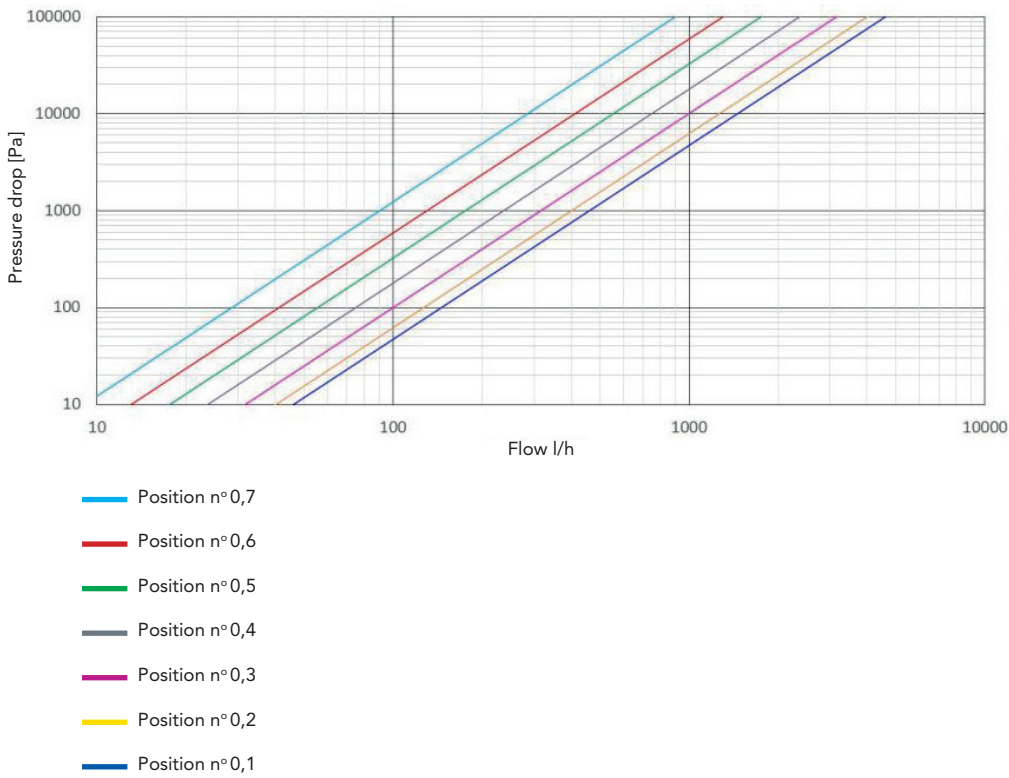
Connections	R [mm]	A* [mm]	B** [mm]	C [mm]	D [mm]
Steel pipes	3/4"	113,0	126,0	62,4	28,5
Steel pipes	1"	119,0	132,0	68,0	33,0
Steel pipes	1"1/4	149,0	172,0	81,0	39,9
Copper pipes	Ø 22	121,0	134,0	40,7	36,2

* Hand wheel fully closed

** Hand wheel fully open

FLUID DYNAMICS FEATURES

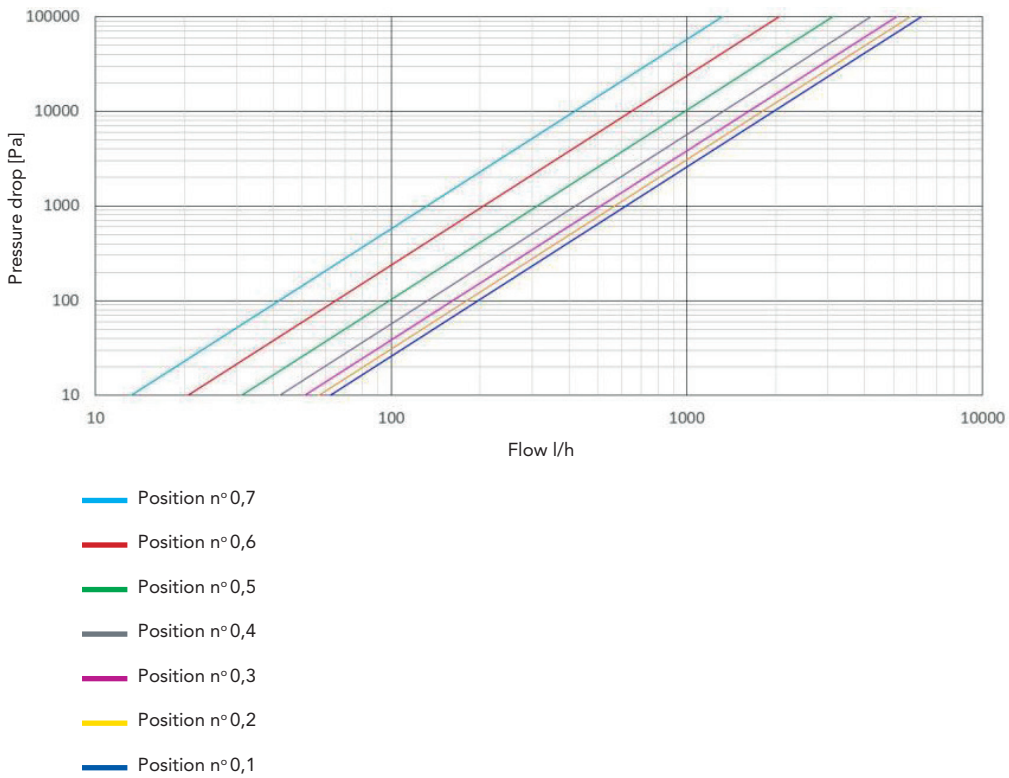
PRESSURE DROP DIAGRAM 0124-05-00



3/4" bypass valve for steel pipes and valve with connections for **Ø22** mm copper pipe fittings

Position no.	Kvs [m ³ /h]
0,7	0,90
0,6	1,30
0,5	1,75
0,4	2,36
0,3	3,15
0,2	4,00
0,1	4,60

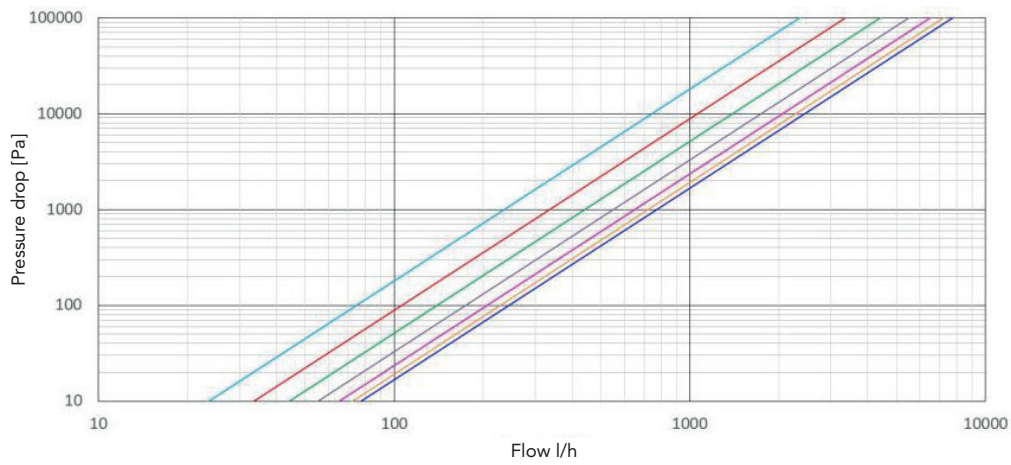
PRESSURE DROP DIAGRAM 0124-06-00



1" bypass valve for steel pipes

Position no.	Kvs [m ³ /h]
0,7	1,32
0,6	2,05
0,5	3,11
0,4	4,20
0,3	5,10
0,2	5,70
0,1	6,20

PRESSURE DROP DIAGRAM 0124-07-00



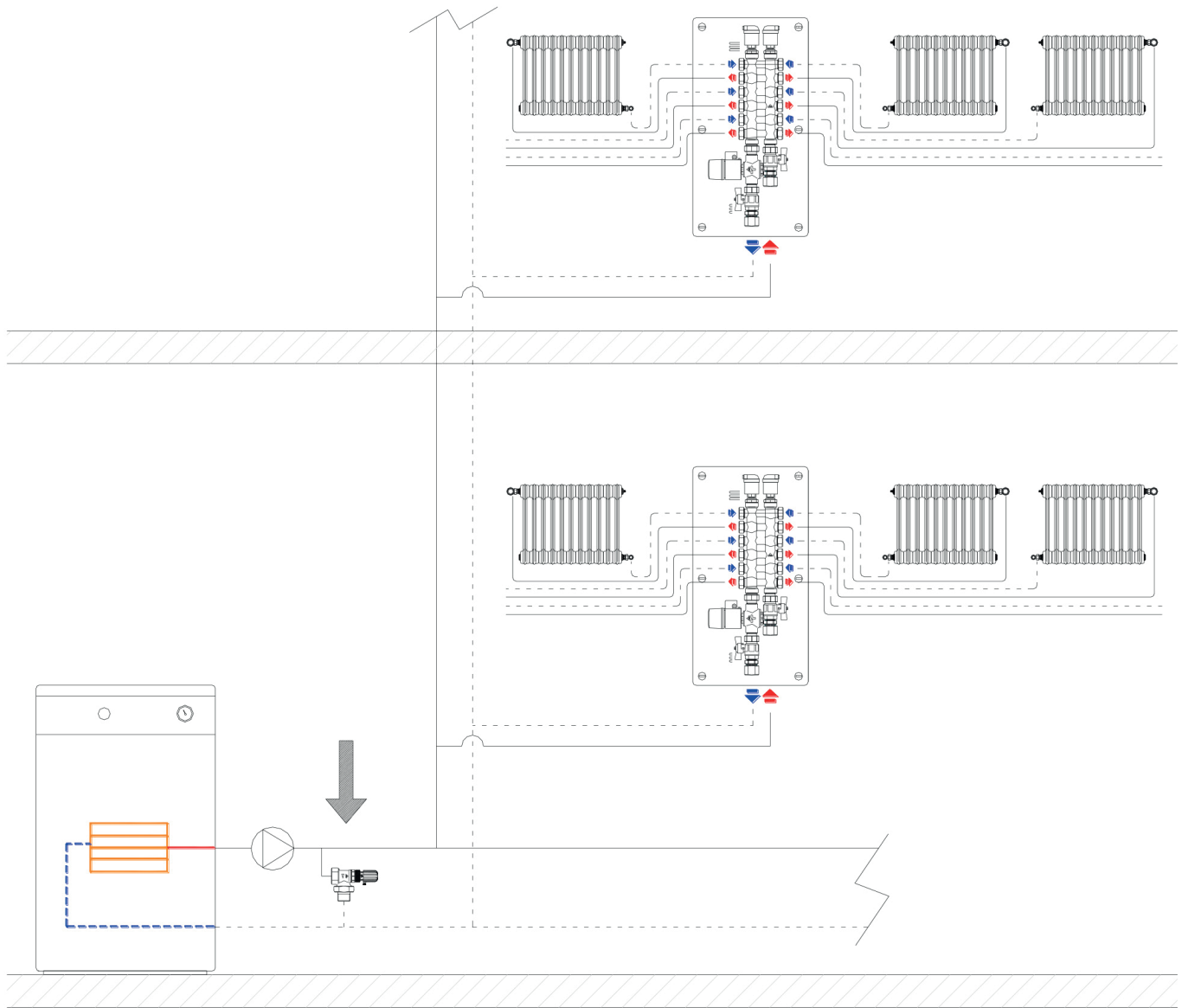
- Position n°0,7
- Position n°0,6
- Position n°0,5
- Position n°0,4
- Position n°0,3
- Position n°0,2
- Position n°0,1

1"1/4 bypass valve for steel pipes

Position no.	Kvs [m ³ /h]
0,7	2,35
0,6	3,35
0,5	4,40
0,4	5,50
0,3	6,50
0,2	7,20
0,1	7,70

TYPICAL APPLICATIONS

Bypass valve installed in a boiler room to ensure correct circulation of the boiler circuit in the case of total or partial shut-off of the manifold/thermostatic valves.



SPECIFICATIONS

124 SERIES

Settable bypass valve for total or partial overflow of thermal circuits. Brass body. Elastomer seals. AISI 302 stainless steel spring. Shockproof ABS hand wheel. Graduated scale on knob. Threaded connections UNI-EN-ISO 228 (or compression ones for copper pipe). Max operating pressure 110 °C. Max. operating pressure 10 bar. Calibration field 0.1-0.7 bar. Setting unit 0.1 bar. Available sizes 3/4" ÷ 1"1/4 (or compression for Ø 22 copper pipe).

RBM spa reserves the right to improve and change the described products and related technical data at any moment and without prior notice: always refer to the instructions attached with the supplied components; this sheet is an aid, should the instructions be extremely schematic. Our technical office is always at your disposal for any doubt, problem or explanation.