

Thermostatic valve bodies with pre-setting Series 130UM 131UM-1130UM-1131UM

CEN EN 215/1 CERTIFIED



Main features

Available in the following versions:

- Angle body, straight body
- For iron, copper and polyethylene piping
- With 3/8" radiator connection and 1/2" connection on pipe side
- Plug stroke presetting device
- Compact size
- Conforms with UNI 8464/90

- The 130UM and 131UM series are CEN certified in accordance with EN215/1 and HD1215.2 (Type 130F) when coupled with actuators Series 138 and its derived products (Series 148).

N.B. Watts Industries Italia manufacturers others CEN Certified thermostat adaptable valves whose specifications are available on request.

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Description

Thermostatic valve bodies **Series 130UM, 131UM, 1130UM, 1131UM** are used as shut-off and control devices for heat emitters (radiators, fan-coils, radiant panels, etc.) in heating and air-conditioning systems, coupled with thermostatic actuators Series 138 and its derived products Series 148. The valves are supplied in the angle and straight body configuration, with male and female thread. They require installation on the radiator. Connection is through an O-ring sealed straight tailpiece using an Allen wrench. Characteristic of the O-ring is that it ensures perfect external sealing each time the valves are installed on radiators instead of others (manual) which involve the risk of the internal threading on the radiator plug no longer conforming.



130UM

Nickel-plated thermostatic valve. Angle body. Connection for iron pipe. O-ring sealed straight tailpiece. With easily removable protective cap to allow installation of thermal commands series 148 and electrothermic actuators 22C.

Type	Part number	Size body	Kvs	Weight (g)
130UM	130UMSN38	3/8"	2,1	190
130UM	130UMSN12	1/2"	2,6	240
130UM	130UMSN34	3/4"	3,3	370



131UM

Nickel-plated thermostatic valve. Straight body. Connection for iron pipe. O-ring sealed straight tailpiece. With easily removable protective cap to allow installation of thermal commands series 148 and electrothermic actuators 22C.

Type	Part number	Size body	Kvs	Weight (g)
131UM	131UMSN38	3/8"	1,1	210
131UM	131UMSN12	1/2"	1,8	270
131UM	131UMSN34	3/4"	2,6	360



1130UM

Nickel-plated thermostatic valve. Angle body. Connection for copper or plastic pipe. O-ring sealed straight tailpiece. With easily removable protective cap to allow installation of thermal commands series 148 and electrothermic actuators 22C.

Type	Part number	Size body	Size Tube	Kvs	Weight (g)
1130UM	1130UMSN38X	3/8"	1/2"	2,6	180
1130UM	1130UMSN12	1/2"	1/2"	2,6	220



1131UM

Nickel-plated thermostatic valve. Straight body. Connection for copper or plastic pipe. O-ring sealed straight tailpiece. With easily removable protective cap to allow installation of thermal commands series 148 and electrothermic actuators 22C.

Type	Part number	Size body	Size Tube	Kvs	Weight (g)
1131UM	1131UMSN38X	3/8"	1/2"	1,8	200
1131UM	1131UMSN12	1/2"	1/2"	1,8	240

Application

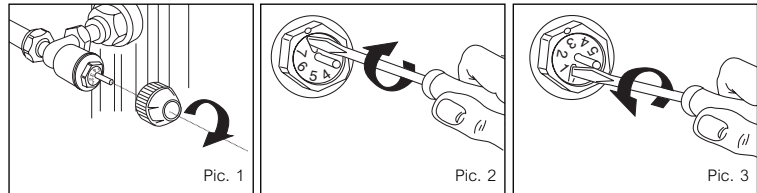
Thermostat adaptable valves are designed for room temperature control in manual or automatic mode when coupled with thermostatic actuators (**Series 148, 148SD, 148CD**) or electrothermic actuators (**Art. 22C**). The use of thermostat adaptable valves allows installation of metering systems (see Sections on Measuring and metering systems) as required by Italian legislation Act 10/91 art. 26. The valves are provided with active memory presetting which, when using thermostatic or thermoelectric actuators, enables exact balancing of the heating system. Such balancing is obtained by turning the ring nut located under the handwheel in order to limit the plug stroke. Above all when removing the handwheel for thermostatting the system, the active memory presetting holds the balancing made permanently.

Operation

Valve operation is by manual movement (through the protective cap) or automatic movement (combined with thermostatic or electrothermic actuators) of the plug which shuts off the heat carrier fluid. The hydraulic flow rate and pressure drop characteristics for the valves can be deduced from appropriate charts: in the thermostatic function they assume the characteristics of such device. The reliability of the thermostatic valve bodies **Series 130UM, 131UM, 1130UM, 1131UM**, is guaranteed by the 100% testing of the production which tests for water tightness of the valve body and its components towards the outside and the tight seal of the plug in its flow shut-off function.

Pre-setting

- 1 - Pull out the handwheel by turning it anti-clockwise (**Pic.1**)
- 2 - fully close the presetting ring nut (**Pic.2**)
- 3 - Open the ring nut until the required position by making the number to coincide with the reference notch (**Pic.3**)



		Pre-setting								
		Qms (l/h)								
	Dn	1	2	3	4	5	6	7	Max	Qmn
	3/8"	80	175	215	215	215	215	215	215	215
	1/2"	80	175	215	215	215	215	215	215	215
	3/4"	80	180	230	230	230	230	230	230	230
	3/8"	75	160	200	200	200	200	200	200	200
	1/2"	75	175	225	225	225	225	225	225	225
	3/4"	80	180	240	240	240	240	240	240	240
	±%	60	30	20	10	10	10	10	10	10

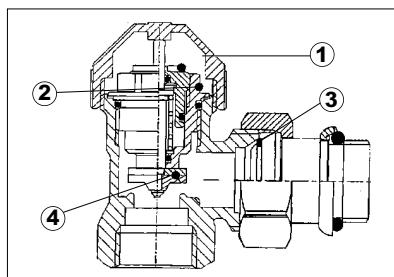
Where : $K_v = \frac{qms}{316}$

Installation

Valve selection is based on the size of the connection to the radiator and the connecting piping. Thermostatic valve bodies **Series 130UM, 131UM, 1130UM, 1131UM** can be installed on radiators supplied by iron, copper and plastic pipes, coupled with the balancing lockshield valves of **Series 195UM, 196UM, 1195UM, 1196UM**. When the system requires thermostating, merely remove the protective cap from the cap and replace it with a thermostatic or electrothermic actuators by tightening the ring nut. All this can be done without plumbing work and with the system running.

Hydraulic characteristics

Kv values in the various pre-setting positions						
Setting positions	130UM 3/8" 1130UM 3/8"	130UM 1/2" 1130UM 1/2"	130UM 3/4"	131UM 3/8" 1131UM 3/8"	131UM 1/2" 1131UM 1/2"	131UM 3/4"
1	0.27	0.27	0.27	0.27	0.27	0.27
2	0.60	0.62	0.67	0.57	0.64	0.64
3	0.88	0.90	1.00	0.78	0.90	0.95
4	1.12	1.13	1.30	0.91	1.12	1.23
5	1.31	1.32	1.56	0.97	1.30	1.51
6	1.46	1.47	1.80	1.00	1.44	1.74
7	1.60	1.60	2.00	1.02	1.55	1.96
A	2.05	2.60	3.30	1.10	1.80	2.60



Features

- 1) Presetting stuffing nut can be replaced also with the system under pressure.
- 2) Complete plug can be replaced without emptying the system by using Art. 225.
- 3) O-ring sealed tailpiece.
- 4) Plug seal of elastomeric material, vulcanized ethylene-propylene terpolymer (EDPM).

Technical characteristics

Nominal pressure	10 bar
Max. differential pressure	1.5 bar
Max. temperature	110° C
Usable liquids	Water also with glycol ≤ 50%

Design features

Valve body	Brass CW617N
Handwheel	Polypropylene
O-ring	EPDM
Tailpiece	Brass CW617N

Flow rate/pressure drop charts

The charts show the hydraulic flow rate and pressure drop characteristics for the valve body-actuator combination: in the thermostatic function they assume their own particular characteristics represented by straight lines -1K, -2K. The nominal flow rate q_{mN} is the one corresponding to -2K when the presetting device is not operative. The straight line marked max represents the flow rate when the valve is fully opened. The diagrams are valid when a presetting is not made on the valve body.

Use of the tamper-proof cover

Thermostat adaptable valve bodies **Series 130UM, 131UM**, are fitted with a tamper-proof cover which protects the valve rod and threading before the preliminary mounting on the thermostatic head. It can be used for setting different flow rates by rotating either clockwise (to close valve plug) or anti-clockwise (to open valve plug), passing from full shut-off to full opening according to the indications stamped on the handwheel .



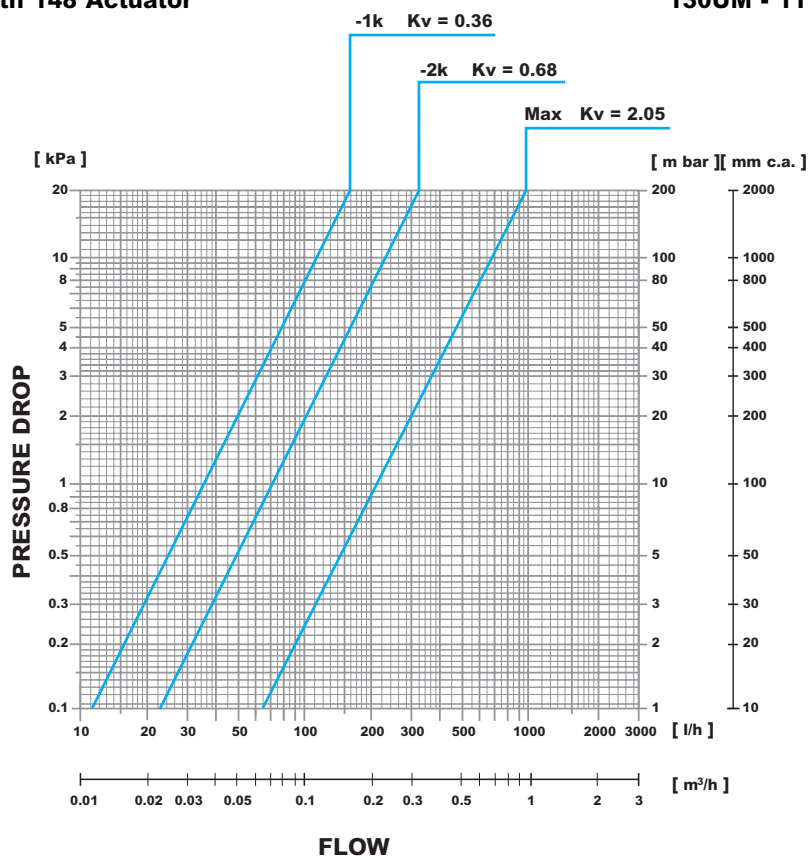
Thermostatic valve certified EN215-1

Coupled with thermostatic actuator Series 138 and derived products Series 148.

Type	DN	K _v n	q _{mN} (l/h)
130UM + 148	3/8"	0,68	215
130UM + 148	1/2"	0,68	215
130UM + 148	3/4"	0,73	230

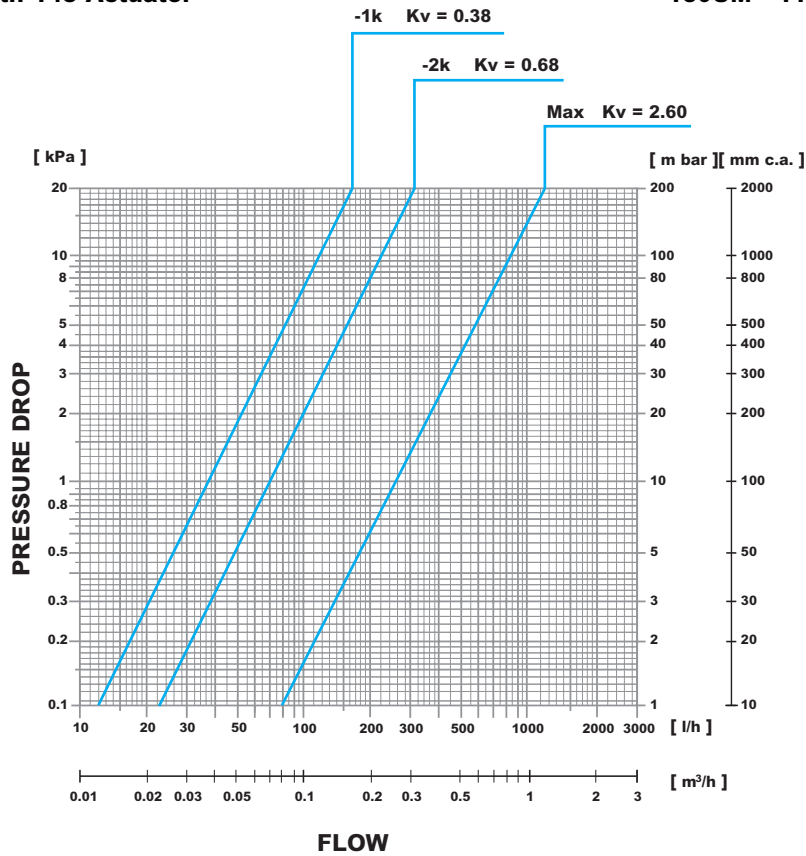
Angle body with 148 Actuator

130UM - 1130UM - DN 3/8"



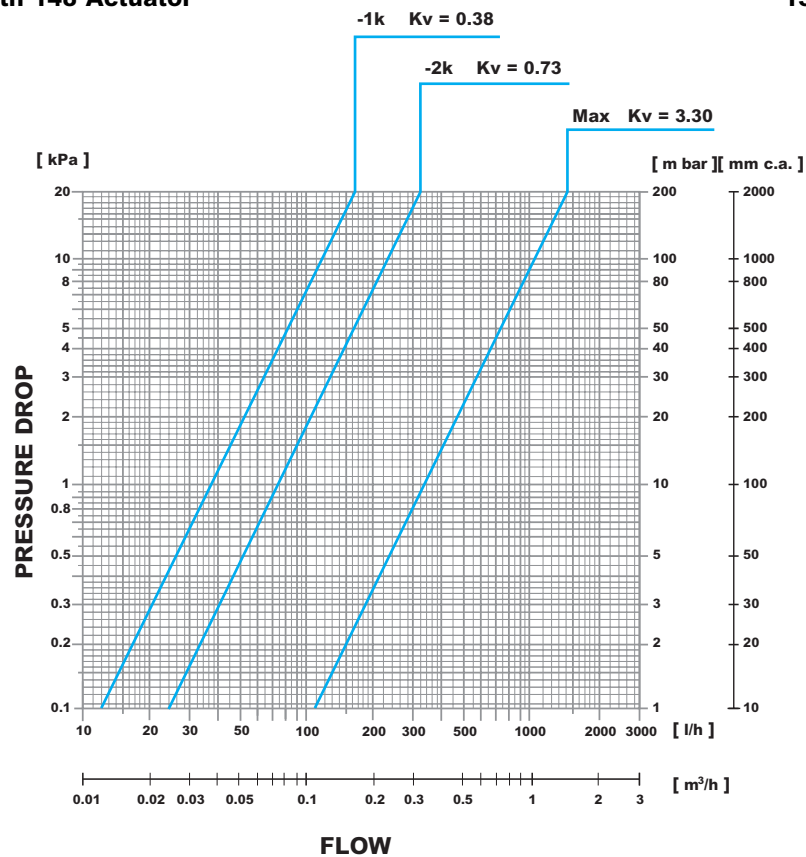
Angle body with 148 Actuator

130UM - 1130UM - DN 1/2"



Angle body with 148 Actuator

130UM - DN 3/4"



Example

When it is preferred to use an analytical method to know the pressure drop D_p (kPa), given the flow rate (litres/h) and the K_{vn} , adopt the following relation:

$$D_p = \left(\frac{0.01 \cdot q}{K_{vn}} \right)^2 =$$

Determine the pressure drop of the thermostat adaptable valve Art. 131UM + 148 Nd 3/8" with a flow rate of 80 litres

$$D_p = \left(\frac{0.01 \cdot 80}{0,63} \right)^2 = 1,61 \text{ kPa}$$



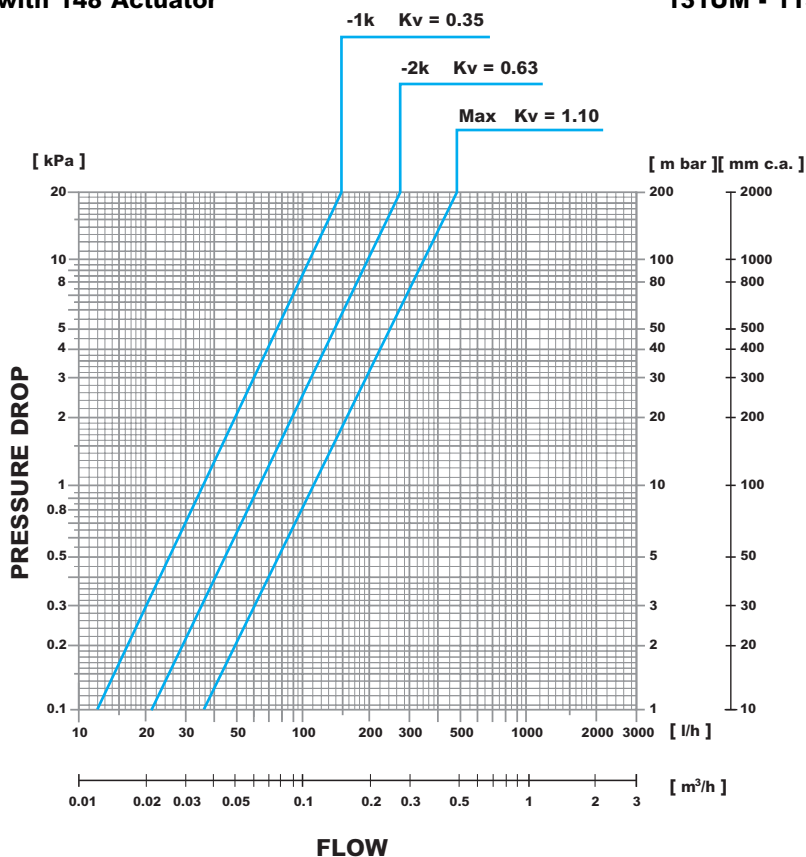
Thermostatic valve certified EN215-1

Coupled with thermostatic actuator Series 138 and derived products Series 148.

Type	DN	K _{vn}	qmN (l/h)
131UM + 148	3/8"	0,63	200
131UM + 148	1/2"	0,71	225
131UM + 148	3/4"	0,76	240

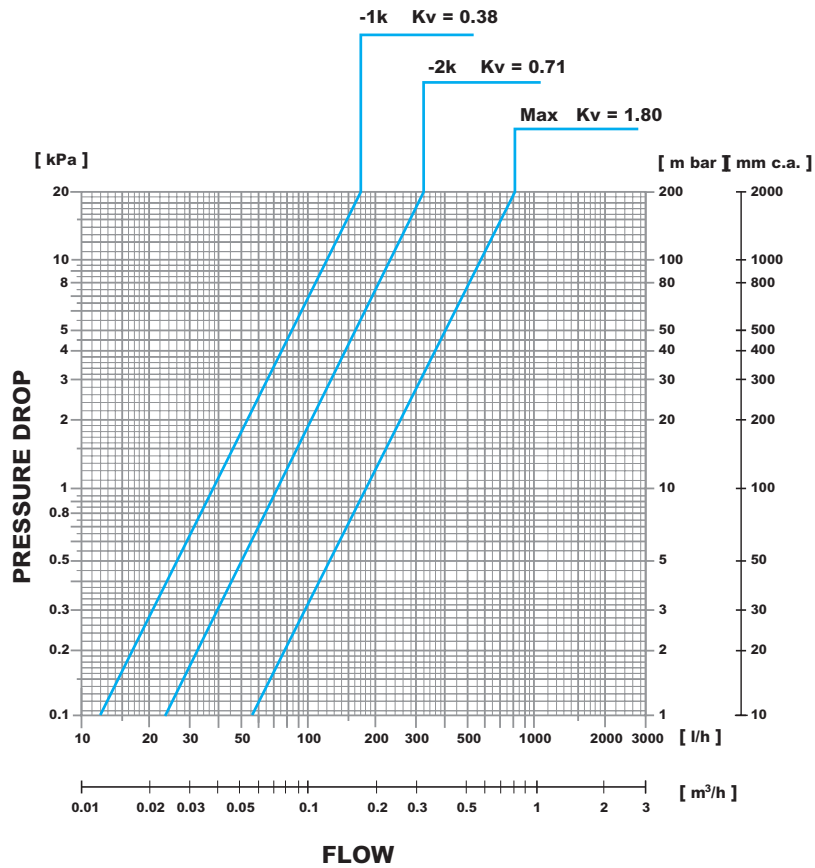
Straight body with 148 Actuator

131UM - 1131UM - DN 3/8"



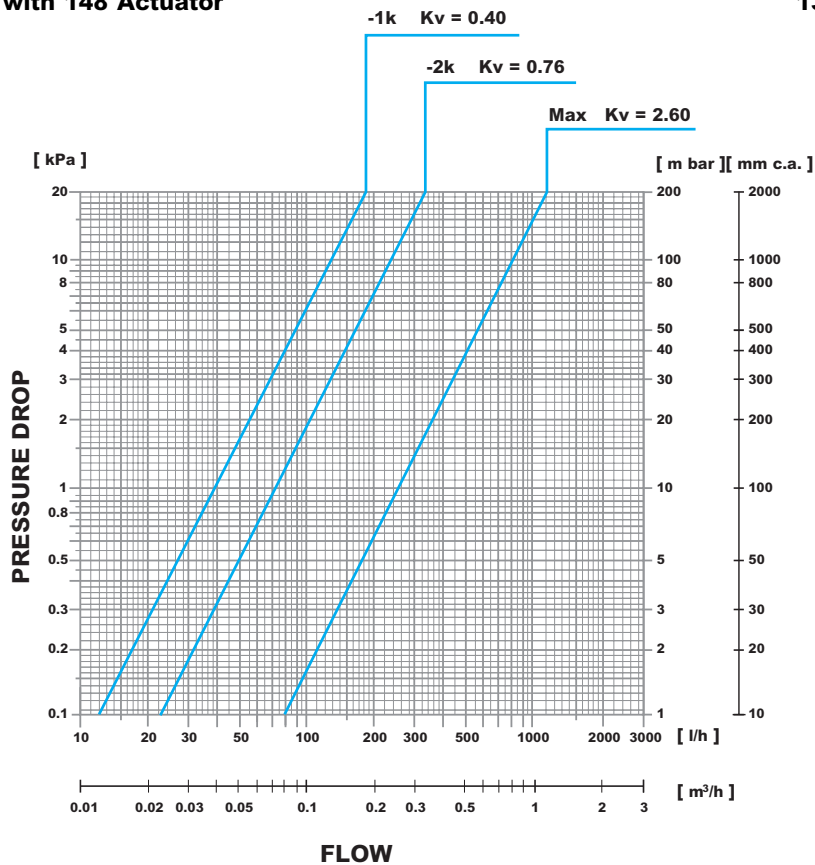
Straight body with 148 Actuator

131UM - 1131UM - DN 1/2"



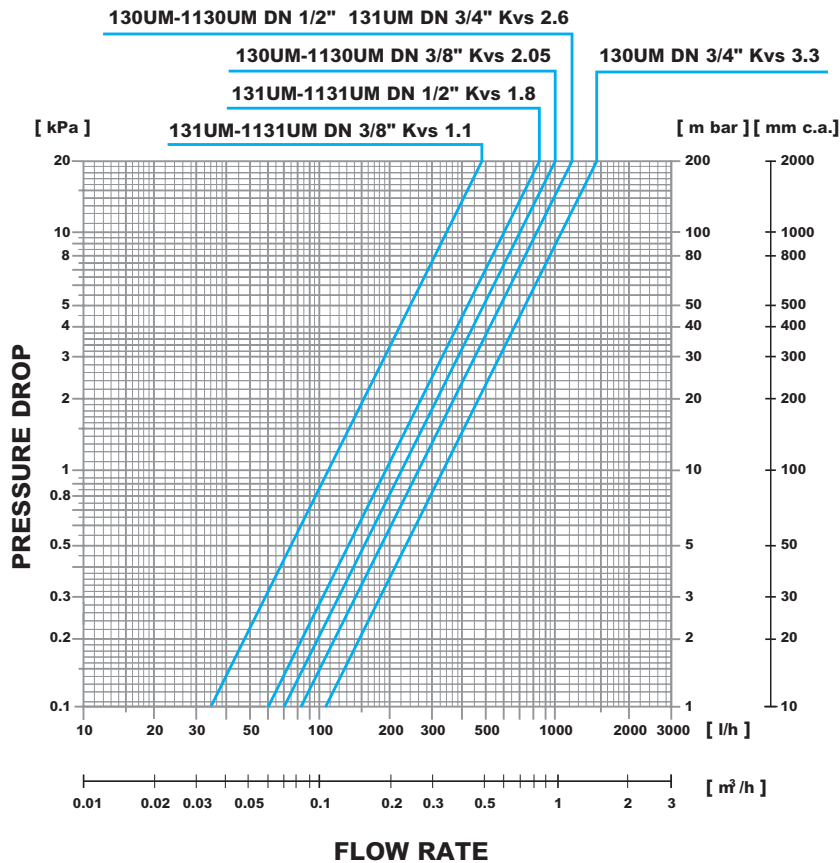
Straight body with 148 Actuator

131UM - DN 3/4"



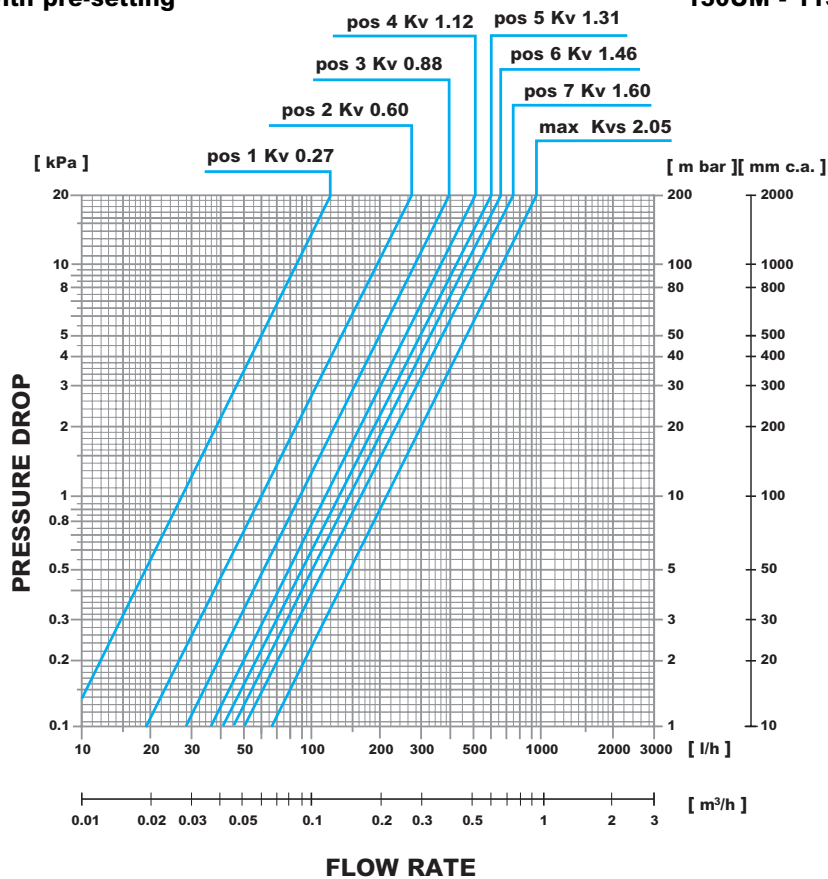
Max Opening

130UM - 1130UM - 131UM - 1131UM



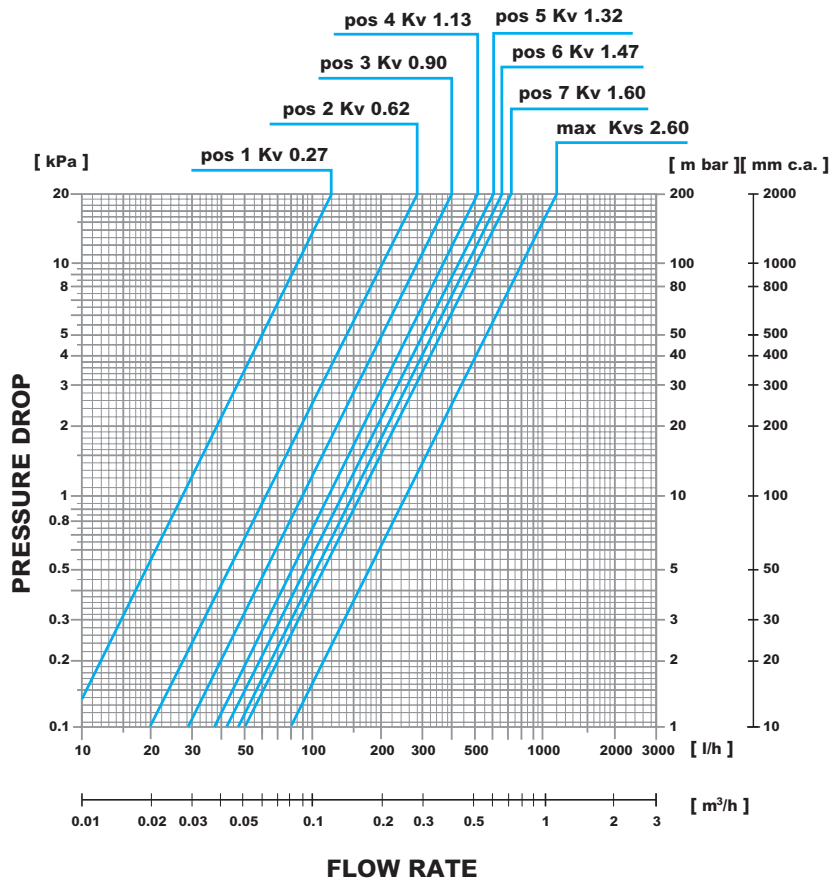
Angle body with pre-setting

130UM - 1130UM - DN 3/8"



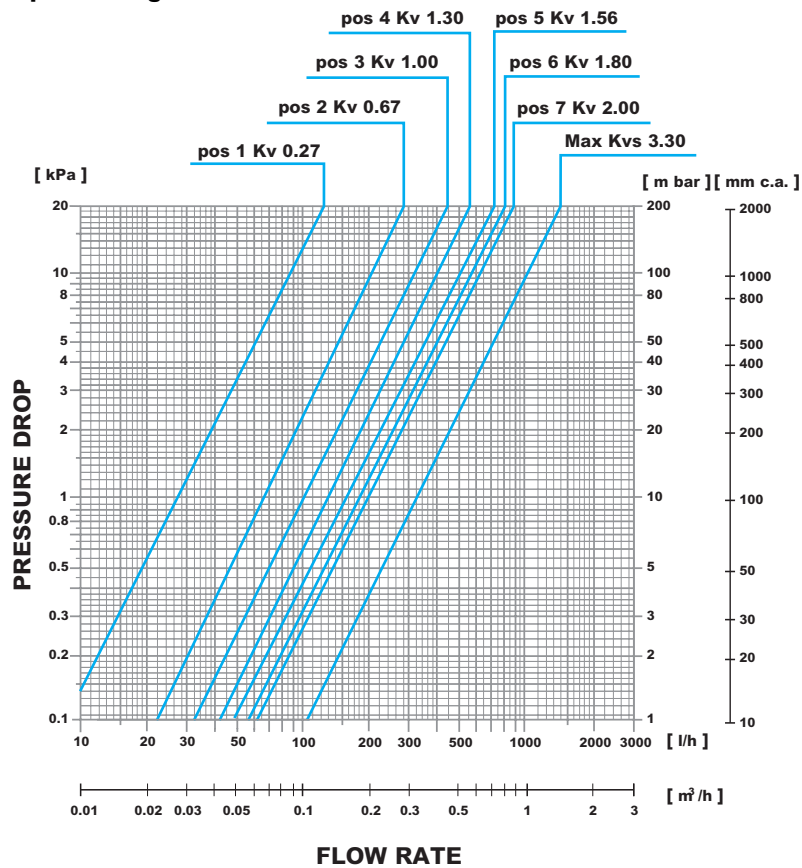
Angle body with pre-setting

130UM - 1130UM - DN 1/2"



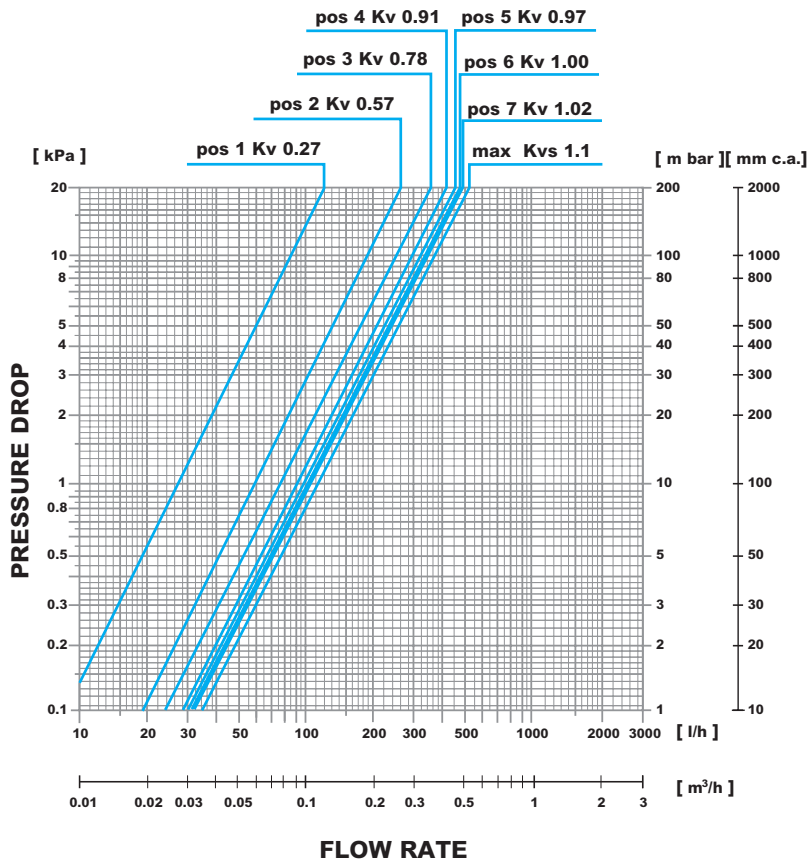
Angle body with pre-setting

130UM - DN 3/4"



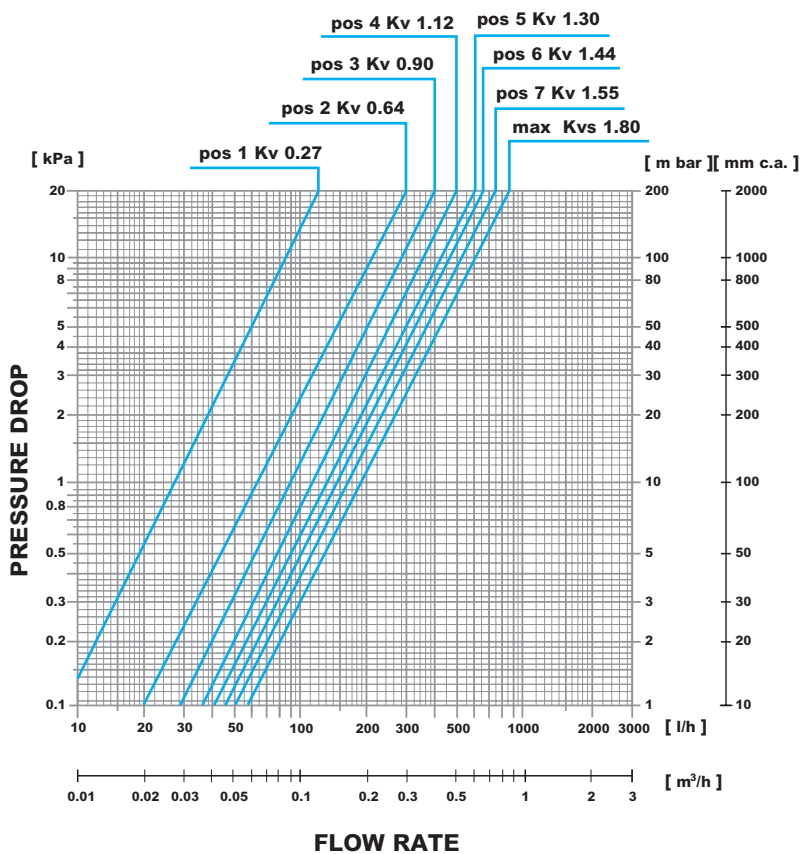
Straight body with pre-setting

131UM - 1131UM - DN 3/8"



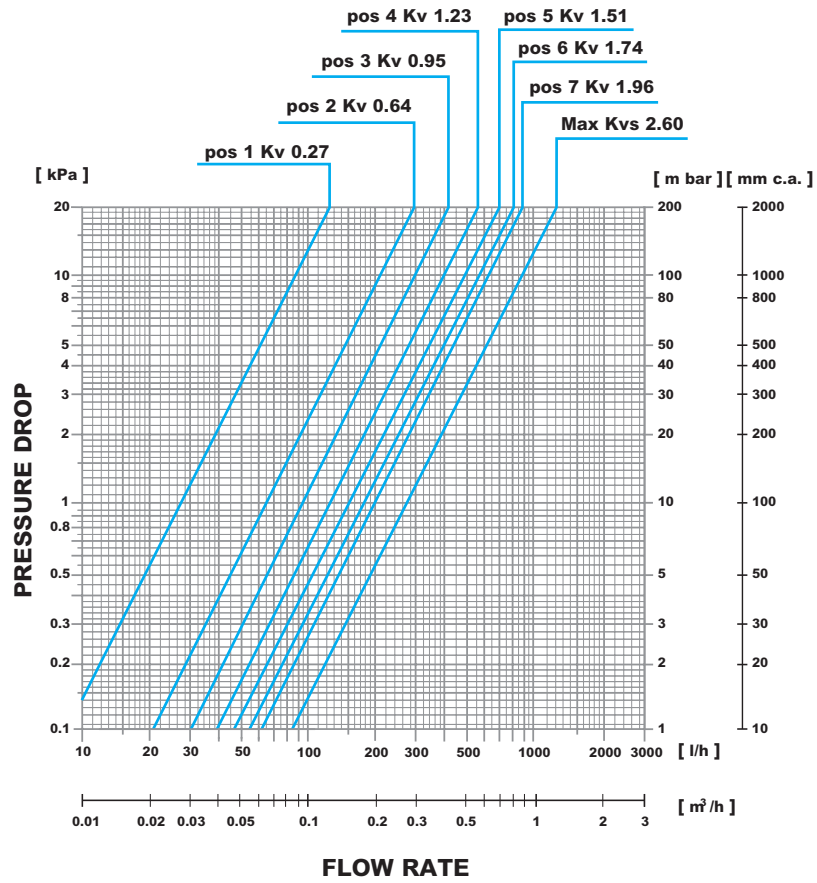
Straight body with pre-setting

131UM - 1131UM - DN 1/2"



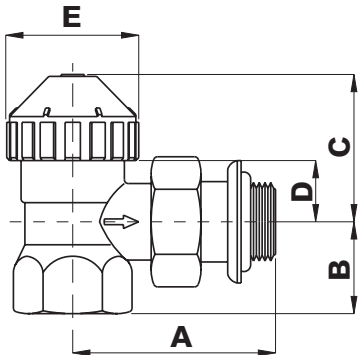
Straight body with pre-setting

131UM - DN 3/4"



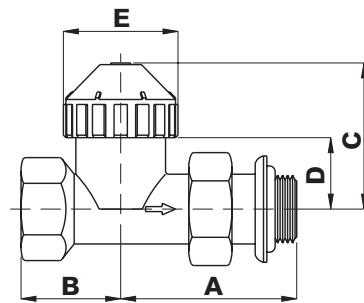
Overall dimensions (mm)

130UM



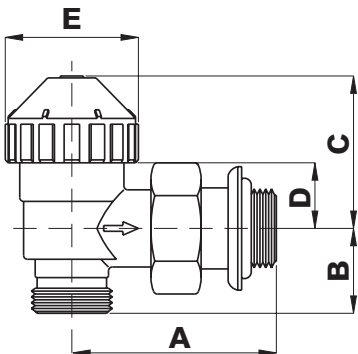
DN	A	B	C	D	E
3/8"	49	20	40	18	35
1/2"	53	23	40	18	35
3/4"	61	28	40	18	35

131UM



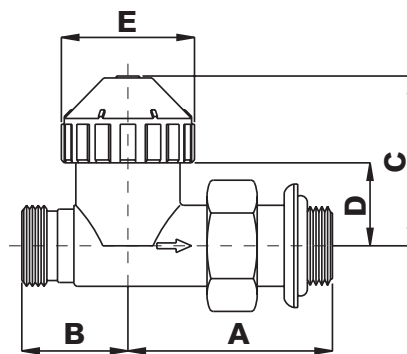
DN	A	B	C	D	E
3/8"	49	26	46.5	24.5	35
1/2"	53	29	46.5	24.5	35
3/4"	61	34	46.5	24.5	35

1130UM



DN	A	B	C	D	E
3/8"	49	20,5	40	18	35
1/2"	53	20,5	40	18	35

1131UM



DN	A	B	C	D	E
3/8"	49	26	46,5	24,5	35
1/2"	53	26	46,5	24,5	35

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