



- For water and refrigerants (max. 40 % glycol)
- Media temperature 2...95°C
- Pressure class PN16

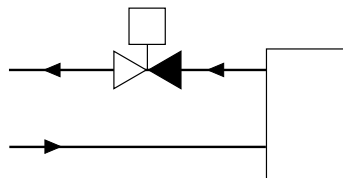
The control valves in the VTTV/VTTR/VTTB range are available as 2- and 3-way versions, as well as bypass versions. Body in brass, spindle and plug in PA+GF. O-rings made of FKM. The valves have linear flow characteristics.

Function

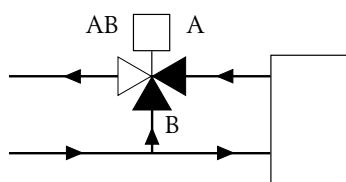
The 2-way valve is closed when the spindle is in its highest position and completely open when the spindle is in its lowest position.

The 3-way valve is closed between port A and port AB (the ports opposite to one another) when the spindle is in its highest position. In this position, the valve is also open between the bottom port B and the common supply port AB. When the spindle is in its lowest position, the 3-way valve is completely open between port A and port AB and consequently closed between the bottom port B and the common port AB.

The bypass valve operates in the same way as the 3-way valve, but the connection to bottom port B has a different design.



2-way valve



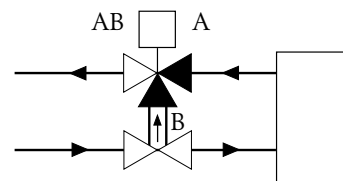
3-way valve

VTTV/VTTR/VTTB

2-, 3-way and 3-way (bypass) zone valves,
DN15...DN20

The valves in the VTTV/VTTR/VTTB range are used to control heating and cooling in fan-coil or chilled beams applications. They are intended to be used together with the thermal RTAOM... or RTAN... actuators.

- For differential pressure up to 250 kPa
- No leakage when the valve is closed



3-way bypass valve

Sizes

The valves are available with kvs values from 0.25 up to 6.0.

Installation

The valve is to be mounted with the spindle vertically or 90° to the right or left. It must not be mounted with the spindle pointing downwards. At high media temperatures, the valve is to be mounted with the spindle to the side in order to minimize heating of the valve actuator. For the plug to seal properly, the 2-way valve is to be mounted with the arrow on the valve body pointing in the flow direction.

The 3-way and bypass valves can be used either as mixing valves or as diverting valves.

As mixing valves (2 inlets, 1 outlet), they must be mounted in the mixing point, according to the flow direction marks on the valve.

As diverting valves (1 inlet, 2 outlets), the maximum differential pressure allowed is one third of the normal value (see schedule).

Typical applications

The valves are used to control hot and cold water in heating, ventilation and climate systems. They can also control refrigerants in for example liquid recovery systems.

Valve actuators

The valves fit Regin's thermal actuators RTAOM... (using the supplied adapter) or RTAN...

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Models

2-way valves	Connection	Kvs	Max. diff. pressure, direct way
VTTV15-0,25	G½"	0.25	250 kPa
VTTV15-0,4	G½"	0.4	250 kPa
VTTV15-0,6	G½"	0.6	250 kPa
VTTV15-1,0	G½"	1	250 kPa
VTTV15-1,6	G½"	1.6	250 kPa
VTTV20-2,5	G¾"	2.5	250 kPa
VTTV20-4,0*	G¾"	4	100 kPa
VTTV20-6,0*	G¾"	6	100 kPa

3-way valves	Connection	Kvs, A-AB	Kvs, B-AB	Max. diff. pressure, mixing valves	Max. diff. pressure, diverting valves
VTTR15-0,25	G½"	0.25	0.25	250 kPa	83 kPa
VTTR15-0,4	G½"	0.4	0.4	250 kPa	83 kPa
VTTR15-0,6	G½"	0.6	0.6	250 kPa	83 kPa
VTTR15-1,0	G½"	1	0.8	250 kPa	83 kPa
VTTR15-1,6	G½"	1.6	1	250 kPa	83 kPa
VTTR20-2,5	G¾"	2.5	1.6	250 kPa	83 kPa
VTTR20-4,0*	G¾"	4	2.5	100 kPa	33 kPa
VTTR20-6,0*	G¾"	6	4	100 kPa	33 kPa

3-way valves with bypass	Connection	Kvs, A-AB	Kvs, B-AB	Max. diff. pressure, mixing valves	Max. diff. pressure, diverting valves
VTTB15-0,25	G½"	0.25	0.25	250 kPa	83 kPa
VTTB15-0,4	G½"	0.4	0.4	250 kPa	83 kPa
VTTB15-0,6	G½"	0.6	0.6	250 kPa	83 kPa
VTTB15-1,0	G½"	1	0.8	250 kPa	83 kPa
VTTB15-1,6	G¾"	1.6	1	250 kPa	83 kPa
VTTB20-2,5	G¾"	2.5	1.6	250 kPa	83 kPa
VTTB20-4,0*	G¾"	4	2.5	100 kPa	33 kPa
VTTB20-6,0*	G¾"	6	4	100 kPa	33 kPa

* To be used with a 125 N actuator.

Technical data

Pressure class	PN16 (1.6 MPa)
Connection	External pipe thread, see table below
Flow characteristics	Linear
Stroke	2.5 mm
Leakage control	0 % when the valve is closed
Media	Hot or cold water. Also refrigerants (max. 40 % glycol).
Media temperature	2...95°C
Adapter	Supplied for the RTAOM... actuators

Material

Body	Brass
Spindle	PA+GF
Seat	PPO+GP
O-ring	FKM

Suitable valve actuators

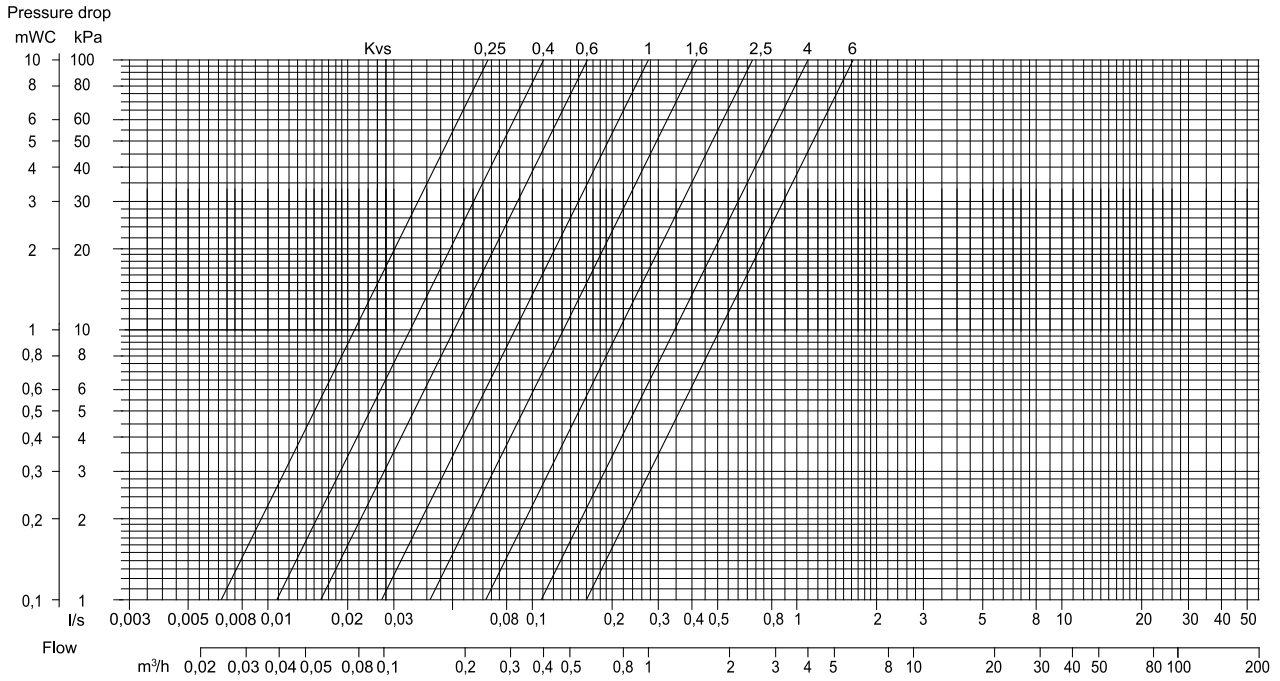
Valve actuator	Supply voltage	Control signal
RTAOM100-24	24 V AC/DC	On/off, normalt öppen (NO)
RTAOM100-24A	24 V AC	0...10 V DC, normalt öppen (NO)
RTAOM100-230	230 V AC	On/off, normalt öppen (NO)
RTAOM125-24	24 V AC/DC	On/off, normalt öppen (NO)
RTAOM125-230	230 V AC	On/off, normalt öppen (NO)
RTAN-24	24 V AC	On/off, normally closed (NC)
RTAN-230	230 V AC	On/off, normally closed (NC)
RTAN-24A	24 V AC	0...10 V DC, normally closed (NC)
RTAN140-24	24 V AC	On/off, normally closed (NC)
RTAN140-230	230 V AC	On/off, normally closed (NC)
RTAN140-24A	24 V AC	0...10 V DC, normally closed (NC)

VTTV/VTTR/VTTB valve + RTAOM or RTAN actuator = Valve closed against port A when actuator has no voltage applied

Suitable connections for copper tubing

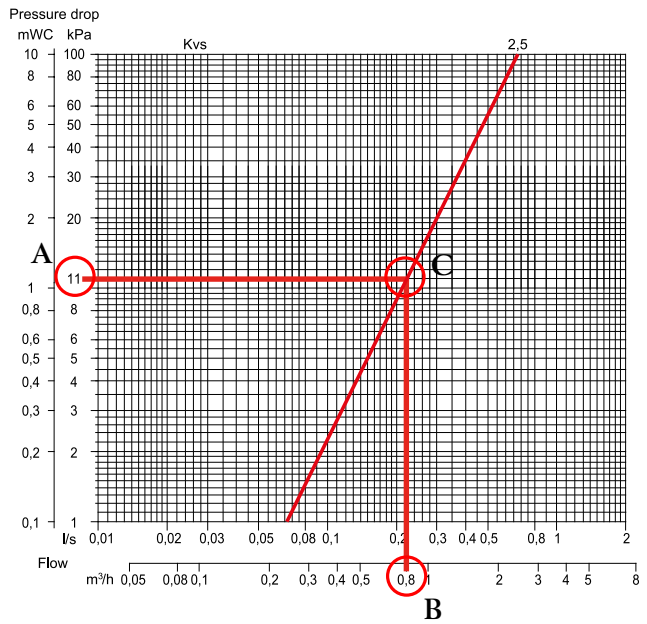
Article number	Name	Material	Valve	Threads, valve	Pipe
1885136	Nut and olive	Chromed brass	DN15	G $\frac{1}{2}$ "	K12
1886274	Nut and olive	Chromed brass	DN20 (kvs 2.5)	G $\frac{3}{4}$ "	K15
1884709	Nut and olive	Chromed brass	DN20 (kvs 2.5, 4.0 and 6.0)	G $\frac{3}{4}$ "	K18

Pressure drop diagram



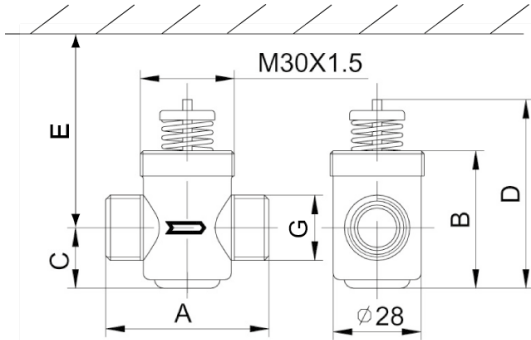
Example: calculation of kv value

If the pressure drop is 11 kPa (A) and the flow is 0.8 m³/h (B), the kv value is 2.5 (C). See the markings in the picture to the right.

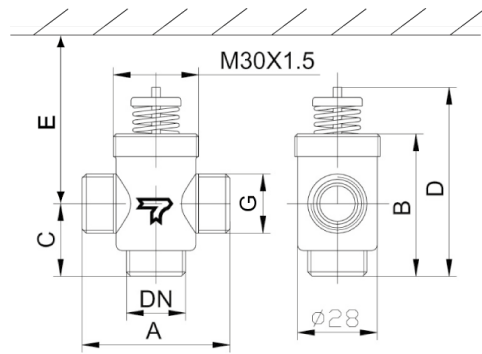


Dimensions

2-way valves	G	A	B	C	D	Weight
VTTV15	½"	52	46	20	62	110
VTTV20-2,5	¾"	56	46	22	62	120
VTTV20-4,0/6,0	¾"	78	59	35	75	420



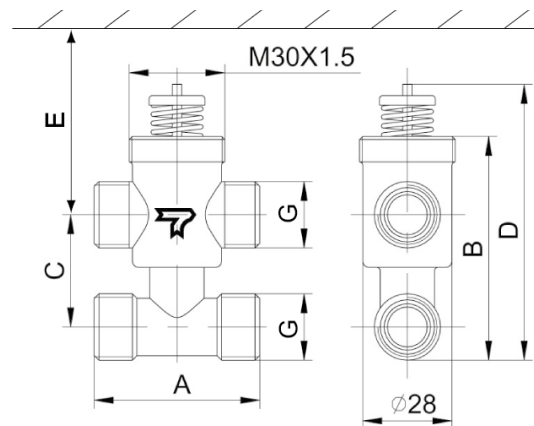
3-way valves	G	A	B	C	D	Weight
VTTR15	½"	52	52	26	68	116
VTTR20-2,5	¾"	56	57	32	73	144
VTTR20-4,0/6,0	¾"	78	70	45	86	430



E>=130

Measurements in mm and g.

3-way valves with bypass	G	A	B	C	D	Weight
VTTB15	½"	52	70	35	62	164
VTTB20-2,5	¾"	56	88	50	62	228
VTTB20-4,0/6,0	¾"	78	82	44	75	520



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