



Technical description

Application:

Heating and cooling systems

Functions:

Pre-setting
Mixing
Diverting

Pressure class:

PN 10

Max. differential pressure:

Max. differential pressure to ensure that the valve does not open against a closed thermostat/actuator:

DN 15: 120 kPa
DN 20: 75 kPa

Temperature:

Max. working temperature: 120°C. With actuator max. 100°C.
Min. working temperature: -20°C

Material:

Body: Bronze CuSn5ZnPb5
O-rings: EPDM
Valve plug: EPDM
Return spring: Stainless steel X10CrNi18-8
Valve insert: Brass, PPS (polyphenylsulphide)
Spindle: Stainless steel X10CrNiS18-9

Connection nipples:

Threaded and soldering nipple: Brass CuZn39Pb3
Welding nipple: St35
Gasket (flat end): Centellen WS 3820

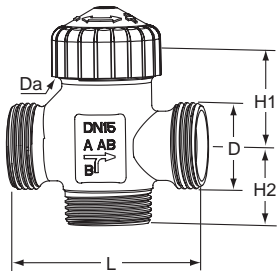
Marking:

Valve body: TA, DN and flow direction arrow.

TPV-C with pre-setting

3-way valve

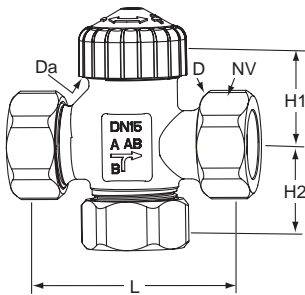
Male thread with eurocone



TA No	DN	D	Da	L	H1	H2	Kvs
52 135-314	15	G3/4	M30x1,5	58	26	23,5	1,10

3-way valve

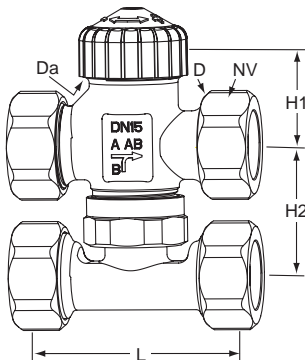
Flat end



TA No	DN	D	Da	L*	H1	H2*	NV	Kvs
52 135-315	15	G3/4	M30x1,5	62	26	25,5	30	1,10
52 135-320	20	G1	M30x1,5	71	31,5	35,5	37	2,11

4-way valve

Flat end

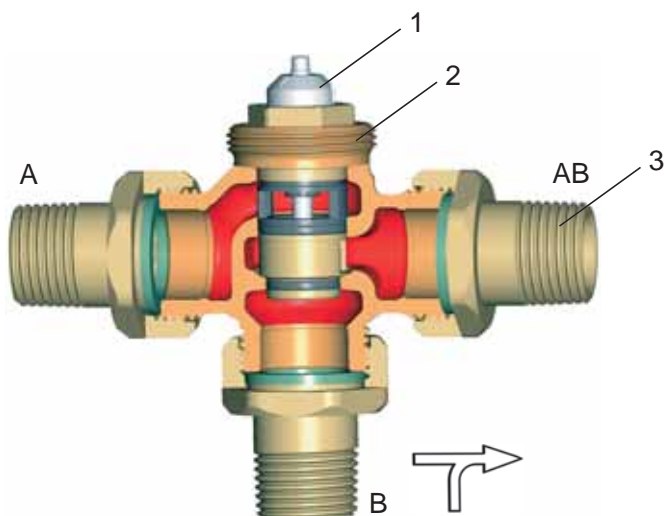


TA No	DN	D	Da	L*	H1	H2	NV	Kvs
52 135-415	15	G3/4	M30x1,5	62	26	40	30	1,10
52 135-420	20	G1	M30x1,5	71	31,5	60	37	2,11

*) Incl. gaskets

Kvs = m³/h at a pressure drop of 1 bar and fully open valve.

Operating instruction



1. Thermostatic insert with stepless pre-setting
2. M30x1,5 connection
3. Universal connection possibilities

Stainless spindle with double O-ring sealing. Outer O-ring can be exchanged without draining the system.

Self-acting thermostatic heads are used for control without auxiliary power. When the temperature rises, the B-AB passage is closing, and the A-AB passage opens.

Motorized actuators are used for proportional or three-point control with auxiliary power.

Thermal actuators are used for on/off control with auxiliary power. In the model normally open (NO), the B-AB passage is open at no current, and the A-AB passage is closed.

In the model, normally closed (NC), the B-AB passage is closed at no current, and the A-AB passage is open.

The adjustable pre-setting enables the adjustment of the necessary flow in the AB outlet. To pre-set, the pre-setting tool (TA No 50 198-004) is placed onto the valve insert, and the desired value is set. The setting values can be read on the front of the valve insert. Without the pre-setting tool the pre-setting cannot be manipulated.

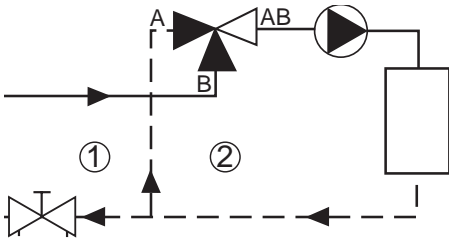
Installation

The installation examples show cooling systems. At heating systems, the layout is the reverse.

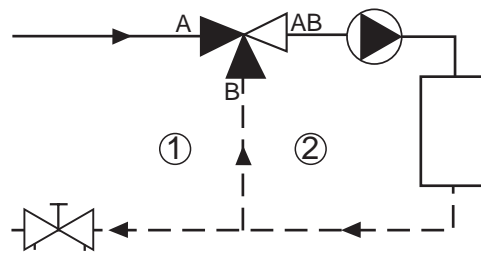
Mixing function

Temperature control in heating or cooling systems. Variable flow in the primary circuit and constant flow in the secondary circuit.

With thermostatic head or actuator normally closed (NC):



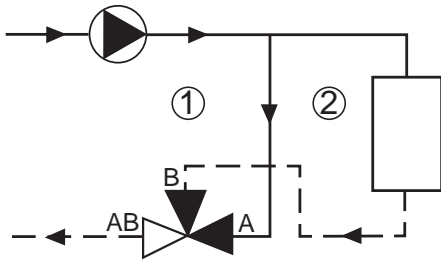
With actuator normally open (NO):



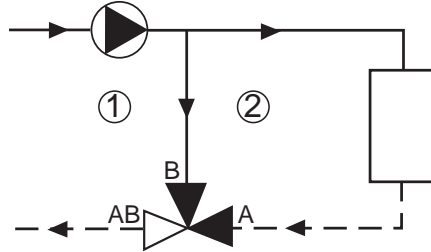
Diverting function

Flow control in heating or cooling systems. Constant flow in the primary circuit and variable flow in the secondary circuit.

With thermostatic head or actuator normally closed (NC):



With actuator normally open (NO):



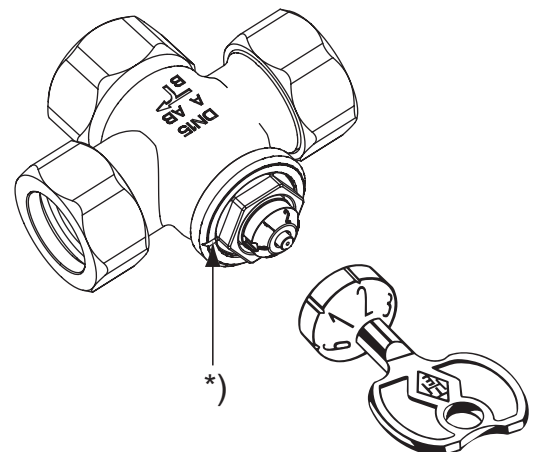
1 = Primary circuit

2 = Secondary circuit

Setting

The valve has stepless pre-setting which can be adjusted by the pre-setting tool.
The valve is delivered with the pre-setting of 6, i.e. fully open valve.

1. Remove the protective cap.
2. Set the required value pointing at the index* by using the pre-setting tool (TA No 50 198-004).
3. Refit the protective cap, thermostat head or actuator.



Noise

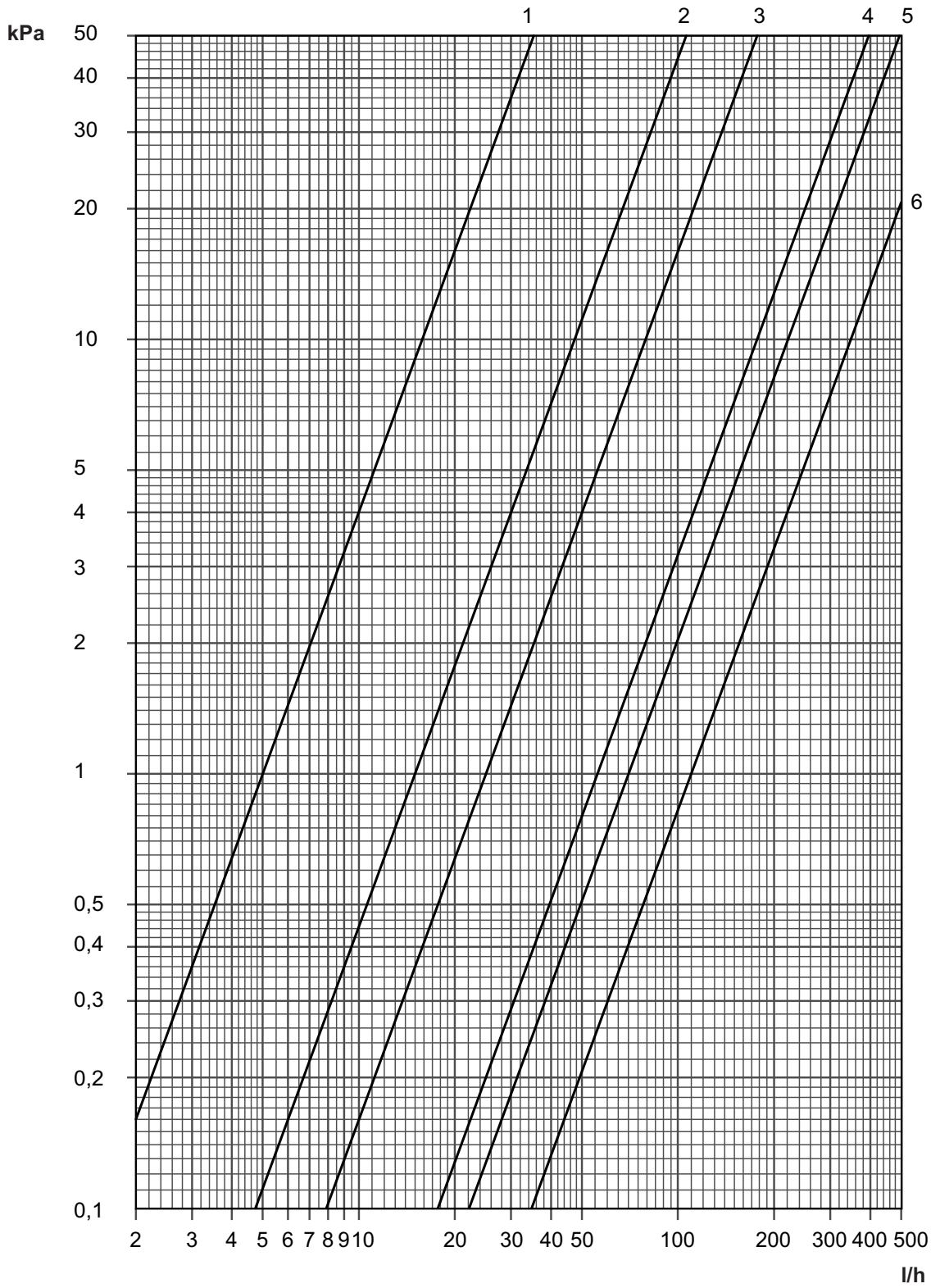
The following conditions must be fulfilled in order to avoid noise in the heating system:

- Flows correctly balanced
- The water in the system must have been de-aerated
- Circulation pumps which do not give too high differential pressure (alternative use a differential pressure controller, e.g. STAP).

The maximum recommended pressure drop in order to avoid noise: 30 kPa = 0,3 bar.

Diagram DN 15

Pre-setting value

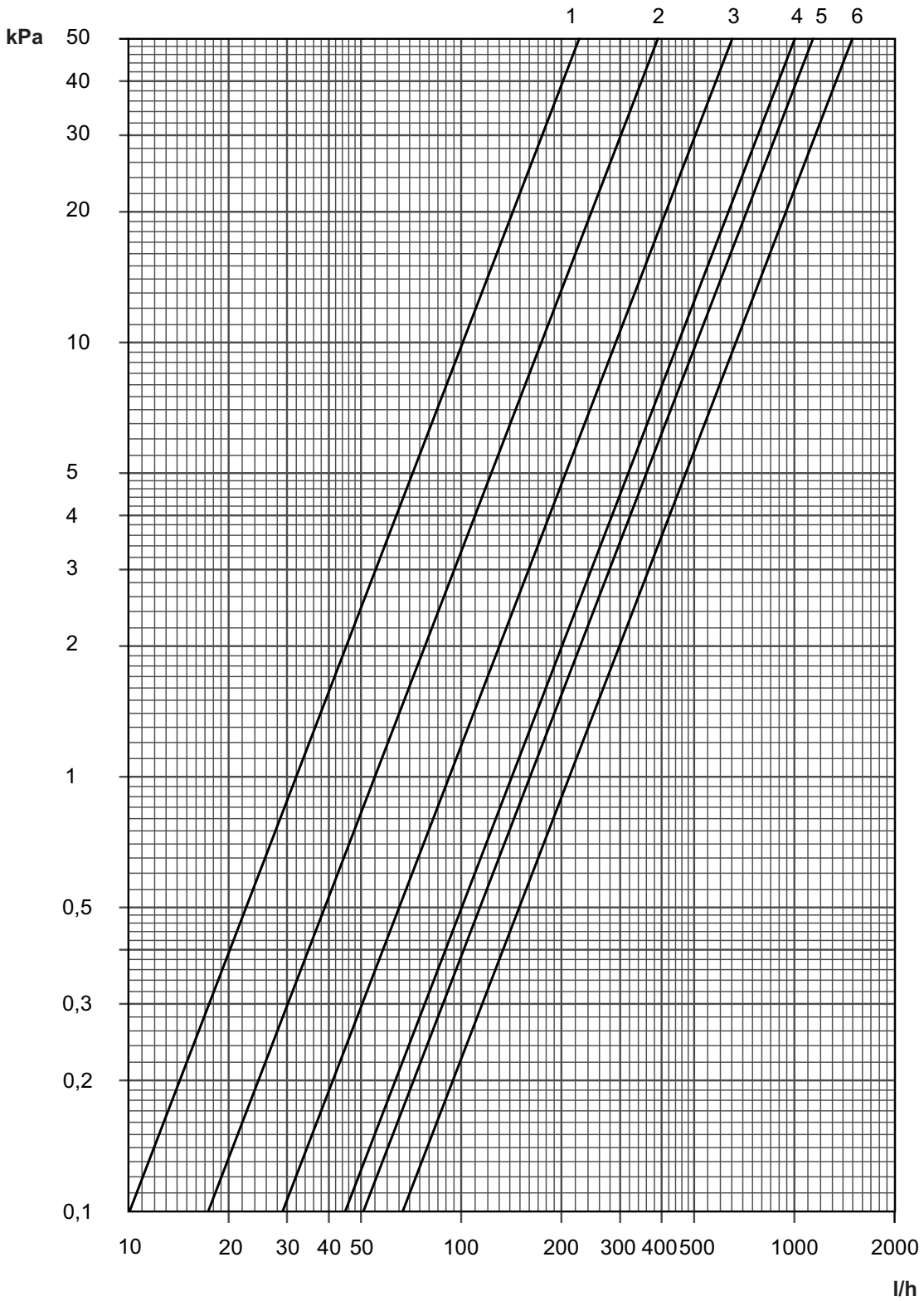


Pre-setting value	1	2	3	4	5	6
Fully open valve disc*	0,05	0,15	0,25	0,56	0,70	1,10

*) The Kvs value corresponds with the flow in direction B-AB when the valve is fully open, or with the flow in direction A-AB when the valve is closed.

Diagram DN 20

Pre-setting value



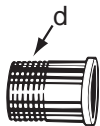
Pre-setting value	1	2	3	4	5	6
Fully open valve disc*	0,32	0,55	0,92	1,42	1,61	2,11

*) The Kvs value corresponds with the flow in direction B-AB when the valve is fully open, or with the flow in direction A-AB when the valve is closed.

Accessories

Connection nipple, threaded

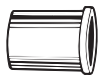
For flat sealings



TA No	d	For valve DN
52 136-415	R1/2	15
52 136-420	R3/4	20

Connection nipple, soldering

For flat sealings



TA No	For pipe Ø	For valve DN
52 136-515	15	15
52 136-516	16	15
52 136-518	17	15
52 136-522	22	20

Connection nipple, welding

For flat sealings



TA No	For pipe DN	For valve DN
52 136-615	15	15
52 136-620	20	20

Connection nipple, smooth end

For flat sealings

For connection with press coupling

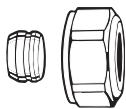


TA No	For pipe Ø	For valve DN
52 136-715	15	15
52 136-718	18	20
52 136-722	22	20

Compression fitting for copper or steel pipes

For eurocone

Metal-to-metal sealing

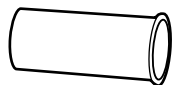


TA No	For pipe Ø
52 136-010	10
52 136-012	12
52 136-014	14
52 136-015	15
52 136-016	16
52 136-018	18

For pipes with 0,8 - 1 mm thick walls, support bushes must be used.

Support bush

AMETAL®

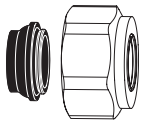


TA No	For pipe Ø
53 320-010	10x0,8
53 320-110	10x1,0
53 320-012	12x1,0
53 320-014	14x1,0
53 320-015	15x1,0
53 320-315	15x1,2
53 320-016	16x1,0
53 320-018	18x1,0
53 320-318	18x1,2

Compression fitting for copper or steel pipes

For eurocone

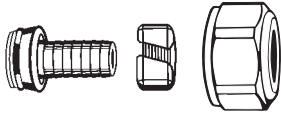
Nickel plated, soft sealing (EPDM)



TA No	For pipe Ø
52 136-112	12
52 136-114	14
52 136-115	15
52 136-116	16
52 136-118	18

Compression fitting for plastic pipes

For eurocone



TA No	For pipe Ø
52 136-212	12x2
52 136-214	14x2
52 136-216	16x2
52 136-217	17x2
52 136-218	18x2
52 136-219	18x2,5
52 136-220	20x2
52 136-221	21x2,5

Compression fitting for multi-layer pipes

For eurocone



TA No	For pipe Ø
52 136-314	14x2
52 136-316	16x2
52 136-318	18x2

Pre-setting tool



TA No
50 198-004

