



Pipeline valves

V135

Linear 3 way Diverting and Mixing Valve

Application

The V135 is a three-way mixing or diverting valve for hot water heating systems. It is typically used with a T100R or T100RS thermostat for hot water control applications, e.g. temperature control of underfloor heating systems.

Special Features

- Balanced valve insert for high differential pressure resistance
- Small stroke with high kv-value
- Robust red bronze valve housing
- Handwheel cap supplied with valve
- Upper spindle sealing can be replaced under system pressure



Technical Data

Media	
Medium:	Water with max. 50 % glycol according to VDI 2035 (up to 50 % Glycol)
pH-value:	8 - 9.5
Pressure values	
Max. operating pressure:	16 bar (232 psi)
Max. differential pressure with T100R thermostat:	10 bar (145 psi)
Operating temperatures	
Water:	-10...120 °C (14 - 248 °F)
Water-glycol mixtures:	-10...110°C (14 - 230°F)
Specifications	
Flow:	AB → A or B A or B → AB
Starting position:	AB - A (B closed)
Stroke:	2 mm
Closing dimension:	11.5 mm
Actuator connection:	M30 x 1.5

Construction

Overview		Components	Materials
	1	Handwheel cap	White plastic
	2	Valve housing PN16 with internal threads	Red bronze
	3	Valve housing PN16 with external threads	Red bronze
	Not depicted components:		
		Valve insert	Brass and plastic with EPDM O-rings and soft seals
		Union-nuts, threaded tailpieces and sealings (C type only)	Brass

Method of Operation

As mixing valve on primary side (in connection with T100R/RS thermostat):

The thermostat sensor is attached to the supply pipeline of the secondary loop. The combination of V135 and T100R/RS acts as mixing valve and controls the amount of primary supply (port A) and return water (port B) to achieve the desired hot water temperature in the secondary supply loop.

As mixing valve on secondary side (in connection with T100R/RS thermostat):

The thermostat sensor is attached to the supply pipeline of the secondary loop. The combination of V135 and T100R/RS acts as mixing valve and controls the amount of secondary supply water (port A) mixed to the return water (port B) to achieve the desired hot water temperature in the secondary supply loop (port AB).

As diverting valve on primary side (in connection with T100R/RS thermostat):

The thermostat sensor is attached to the supply pipeline of the secondary loop. The combination of V135 and T100R/RS acts as diverting valve and diverts the primary supply (port AB) into the heat exchanger (port A) when the secondary supply temperature is below the set temperature of the T100R/RS thermostat. When the temperature is above the set temperature the primary supply is diverted through the bypass into the return (port B).

Installation Guidelines

Setup requirements

- To avoid stone deposit and corrosion the composition of the medium should conform with VDI-Guideline 2035.
- Additives have to be suitable for EPDM sealings.
- System has to be flushed thoroughly before initial operation with all valves fully open
- Any complaints or costs resulting from non-compliance with above rules will not be accepted by Resideo.
- Please contact us if you should have any special requirements or needs

Installation Example

- 1) hot water
- 2) cold water

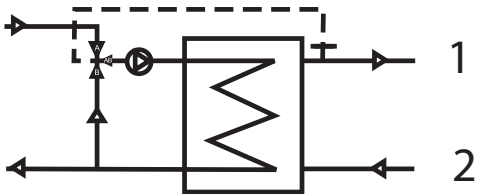


Fig. 1 Mixing valve on primary side

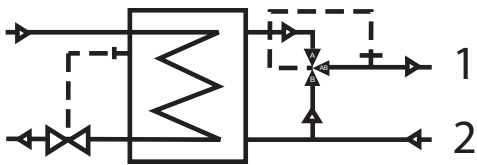


Fig. 2 Mixing valve on secondary side

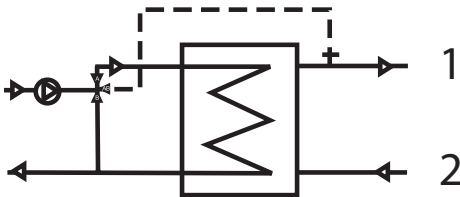


Fig. 3 Diverting valve on primary side

Technical Characteristics

kvs-Values

Connection sizes:	15	20	25	32
k_{VS} (C_V)-values:	2.8	3.2	5.0	5.0

Pressure drop characteristics

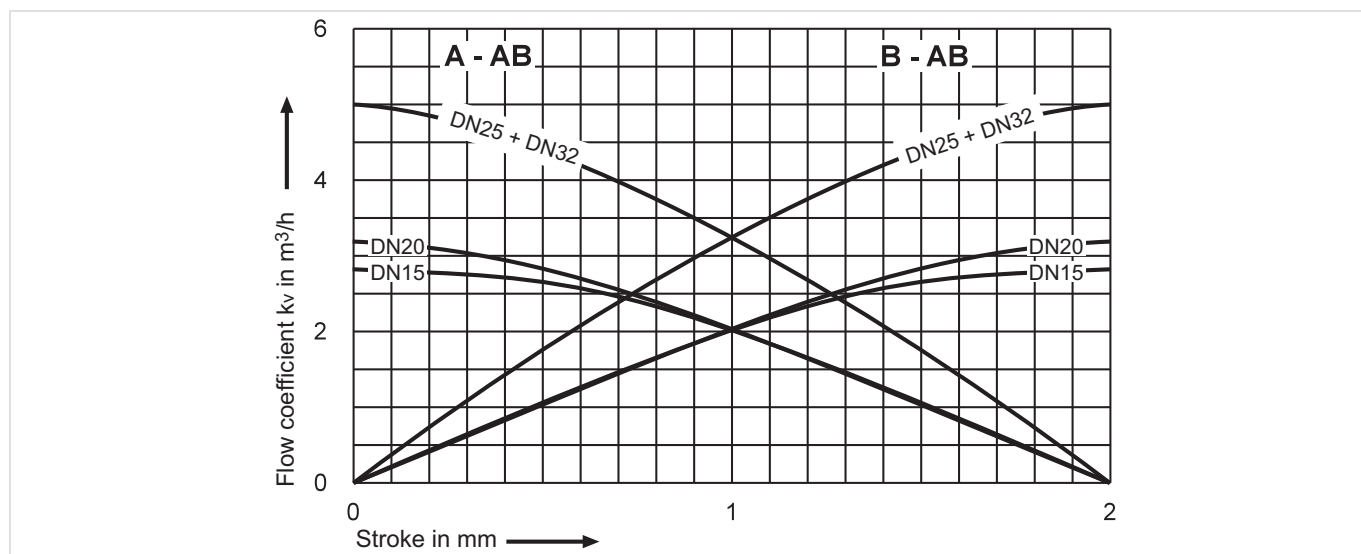
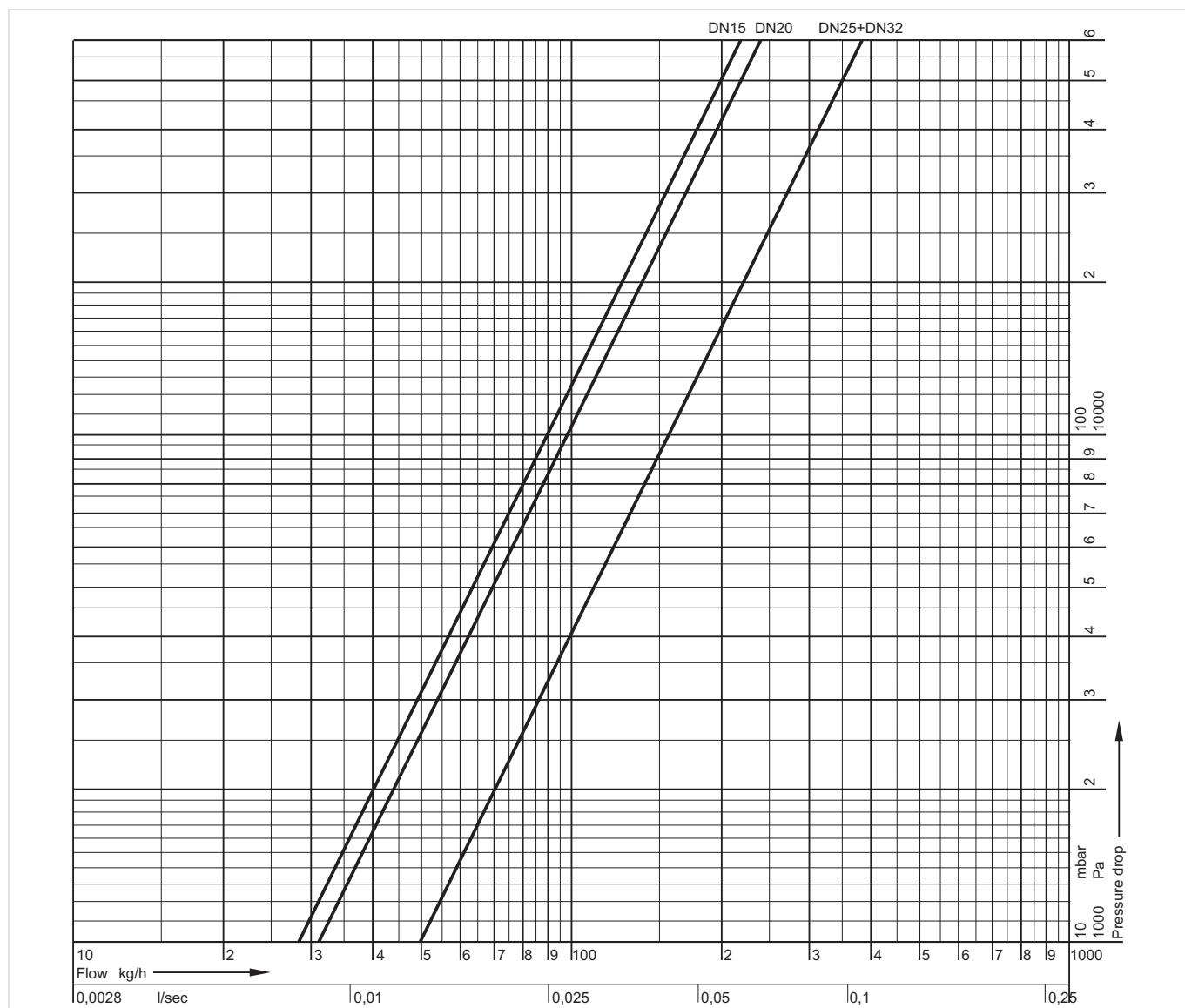
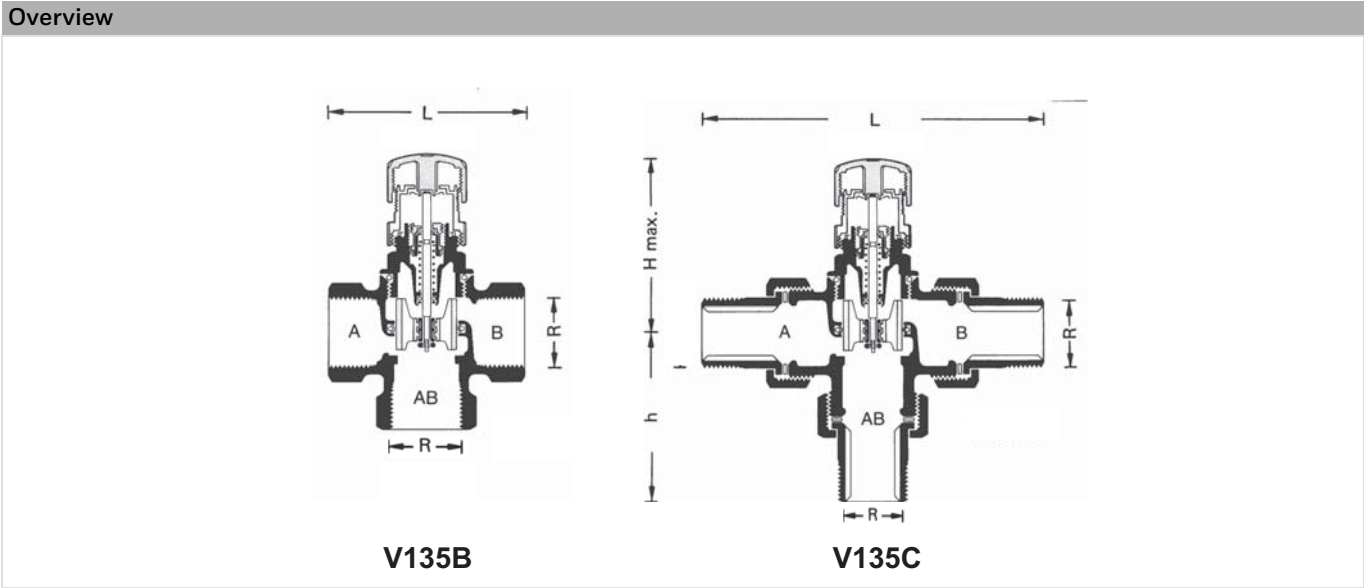


Fig. 4 A - AB and B - AB



Dimensions



DN	k _{vs} (c _v)-value	Dimensions B type				Dimensions C type				Weight [kg]
		R	H	h	L	R	H	h	L	
15	2.8	1/2"	82	40	80	1/2"	82	60	130	0.5
20	3.2	3/4"	82	40	80	3/4"	82	70	140	0.6
25	5	1"	82	45	90	1"	82	80	159	0.8
32	5	1 1/4"	82	50	100	1 1/4"	82	95	180	1.3

Note: All dimensions in mm unless stated otherwise.

Ordering Information

The following tables contain all the information you need to make an order of an item of your choice. When ordering, please always state the type, the ordering or the part number.

Options

Order text:	Size:	Packing unit:	Item No.:
V135 B type mixing and diverting valve with internal threads	DN15	1 pc	V135-1/2B
	DN20	1 pc	V135-3/4B
	DN25	1 pc	V135-1B
	DN32	1 pc	V135-1 1/4B
V135 C type mixing and diverting valve with external threads, union nuts and externally threaded tailpieces	DN15	1 pc	V135-1/2C
	DN20	1 pc	V135-3/4C
	DN25	1 pc	V135-1C
	DN32	1 pc	V135-1 1/4C

Available in sizes DN15...DN32. (Sizes DN40 and DN50 obsolete but spare parts still available)

Accessories

	Description	Dimension	Item No.
	T100R	Thermostat with remote sensor (screw-in sensor)	
	Note: For detailed information see T100R/RS data sheet.		
	With R ¹ / ₂ " immersion pocket, Setting range 10 - 50 °C		T100R-AA
	With R ¹ / ₂ " immersion pocket, Setting range 30 - 70 °C		T100R-AB
	With R ¹ / ₂ " screw in sensor, Setting range 10 - 50 °C		T100RS-DA
	With R ¹ / ₂ " screw in sensor, Setting range 30 - 70 °C		T100RS-DB
	MT4	Actuator: 4.0 mm stroke, 90 N, on/off, thermoelectric	
		24 AC/DC	MT4-024-NO
			MT4-024-NO-2.5M
			MT4-024S-NO
			MT4-024-NC
			MT4-024-NC-2.5M
			MT4-024S-NC
		230 AC/DC	MT4-230-NO
			MT4-230-NO-2.5M
			MT4-230S-NO
			MT4-230-NC
			MT4-230-NC-2.5M
			MT4-230S-NC

Spare Parts

Overview	Description	Dimension	Item No.
	1 Valve insert		
		DN15, 1/2"	V135A-1/2VE
		DN20, 3/4"	
		DN25, 1"	V135A-1VE
		DN32, 1 1/4"	
		DN40, 1 1/2"	V135A-1 1/2VE
		DN50, 2"	
	2 Handwheel		H100/U

FROM
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For more information
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