ROTARY VALVES

MIXING VALVE
SERIES VRG330

Internal thread

External thread

The compact rotary 3-way mixing and diverting valve series VRG330 is developed in particular for high flow applications and is available in DN 20–50, brass, PN10. Two types of connections are available; internal thread and external thread. Patented + Registered design.

OPERATION

The ESBE series VRG330 is a range of compact low leakage mixing valves made of special brass alloys allowing use in heating and cooling installations.

For easy manual operation the valves are equipped with non-slip knobs and end stops for an operation angle of 90°. Together with actuator series ESBE ARA600, the VRG330 valves are also easily automated thanks to the unique valve-to-actuator interface. For more advanced control functions, the ESBE controllers allows even more applications.

ESBE VRG330 valves are available in dimensions DN 20 – 50 with internal thread or external thread.

The VRG330 is designed for high flow applications with extra high Kvs-value between port ■ - ▲ .Kvs-value in bypass (●) is about 60% of specified Kvs (■ - ▲).

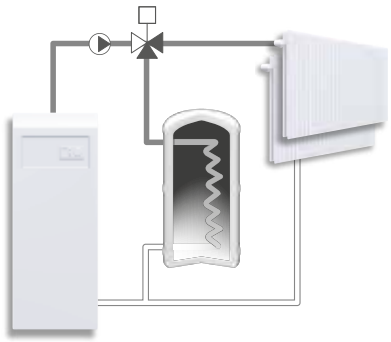
SERVICE AND MAINTENANCE

The slender and compact design of the valve allows for easy tool access when assembling and disassembling the valve.

Repair kits are available for key components.

INSTALLATION EXAMPLES

All the examples of installations can be mirrored. The valve position scale can be turned over and rotated to fit a number of installation layouts and should at the installation be fitted in the correct position as shown in the instruction for installation. The symbol markings of the valve ports (■●▲) minimize the risk of incorrect installation.



VALVE VRG330 DESIGNED FOR

- Heating
- Comfort cooling
- Solar heating
- Zone

SUITABLE ACTUATORS AND CONTROLLERS

- Series ARA600
- Series 90*

*Adaptor kit necessary

- Series CRA210, CRA120*
- Series CRB210, CRB220
- Series CRC210, CRC120*
- Series CRD220
- Series CRK210
- Series CRS210

TECHNICAL DATA

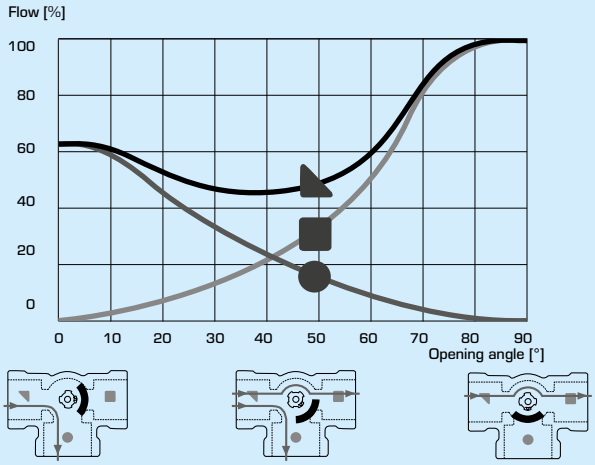
Pressure class: PN 10
Media temperature: max. (continuously) +110°C
max. (temporarily) +130°C
min. -10°C
Torque (at nominal pressure), DN15-32: < 3 Nm
DN40-50: < 5 Nm
Leakrate in % of flow*: < 0,05
Working pressure: 1 MPa (10 bar)
Max. differential pressure drop: Mixing, 100 kPa (1 bar)
Diverting, 200 kPa (2 bar)
Close off pressure: 200 kPa (2 bar)
Rangeability Kv/Kv^{min}, A-AB: 100
Connections: Internal thread, EN 10226-1
External thread, ISO 228/1
Media: Heating water (in accordance with VDI2035)
Water / Glycol mixtures, max. 50%
Water / Ethanol mixtures, max. 28%

* Differential pressure 100kPa (1 bar)

Material
Valve body: Dezincification resistant brass, DZR
Slide: Abrasion resistant brass
Shaft and bushing: PPS composite
O-rings: EPDM

PED 2014/68/EU, article 4.3

VALVE CHARACTERISTICS



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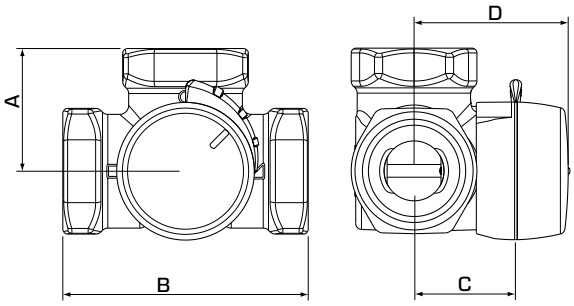
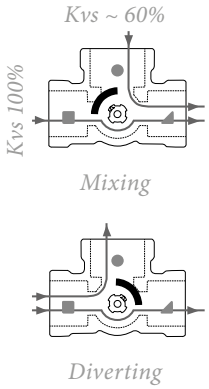
MIXING VALVE
SERIES VRG330



VRG331, VRG332



The flat-sided spindle top points towards the sleeve position.

SERIES VRG331, INTERNAL THREAD

Art. No.	Reference	DN	Kvs* ■ - ▲	Kvs* ■ - ●	Connection	A	B	C	D	Weight [kg]	Note
11700100	VRG331	20	13	8	Rp ¾"	36	72	32	50	0,43	
11700200	VRG331	25	17	10	Rp 1"	41	82	34	52	0,70	
11700300	VRG331	32	32	20	Rp 1¼"	47	94	37	55	0,95	
11701100	VRG331	40	45	30	Rp 1½"	53	106	44	62	1,65	
11701300	VRG331	50	65	40	Rp 2"	60	120	46	64	2,28	

SERIES VRG332, EXTERNAL THREAD

Art. No.	Reference	DN	Kvs* ■ - ▲	Kvs* ■ - ●	Connection	A	B	C	D	Weight [kg]	Note
11700600	VRG332	20	13	8	G 1"	36	72	32	50	0,43	
11700700	VRG332	25	17	10	G 1¼"	41	82	34	52	0,70	
11700800	VRG332	32	32	20	G 1½"	47	94	37	55	0,95	
11701200	VRG332	40	45	30	G 2"	53	106	44	62	1,66	
11701400	VRG332	50	65	40	G 2¼"	60	120	46	64	2,28	

* Kvs-value in m^3/h at a pressure drop of 1 bar.

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DIMENSIONING

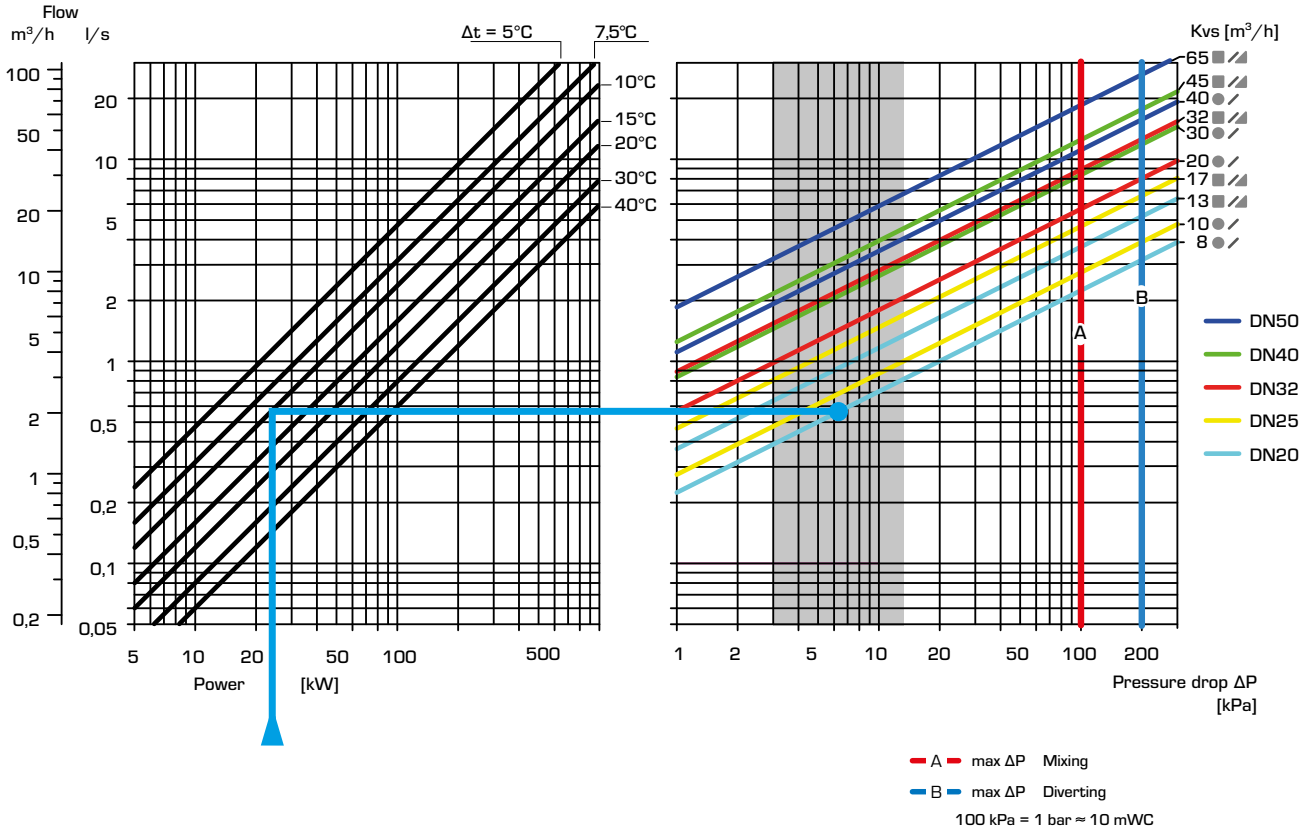
RADIATOR OR UNDERFLOOR HEATING SYSTEMS

Start with the heat demand in kW (e.g. 25 kW) and move vertically to the chosen Δt (e.g. 10°C).

Move horizontally to the shaded field (pressure drop of 3-15 kPa) and select the smaller Kvs-value (e.g. 8,0). A mixing valve with suitable Kvs-value will be found in respective product description.

OTHER APPLICATIONS

Make sure maximum ΔP is not exceeded (see lines A and B in the graph below).



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