ROTARY MOTORIZED VALVES

CHANGE-OVER / DIVERTING VALVE SERIES VRG230

The compact rotary 3-way mid-port valve series VRG230 is available in DN 20–50, and is made of brass, PN 10.
Two types of connections are available; internal thread and external thread.
Patented + Registered design.

Internal thread

External thread

OPERATION

The ESBE series VRG230 is a range of low leakage rotary valves made of special brass alloys suitable for mid-port change-over / diverting operation.

For easy manual operation, the valves are equipped with non-slip knobs and end stops. The valve position scale can be turned over and rotated, allowing a wide choice of mounting positions. Together with actuator series ESBE ARA600, the VRG230 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 VRG230 valves are available in dimensions DN 20 – 50 with internal or external thread.

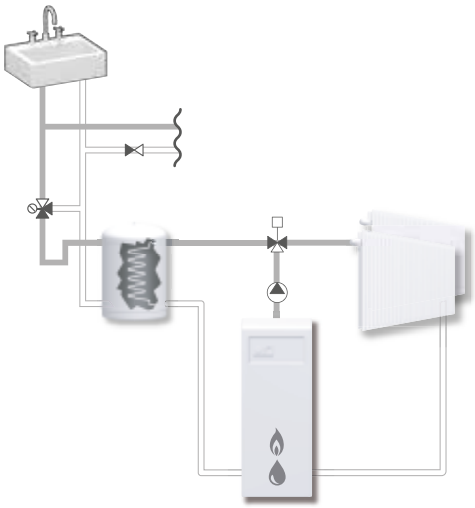
SERVICE AND MAINTENANCE

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 VRG230 DESIGNED FOR

- Heating
- Comfort cooling
- Solar heating
- Ventilation
- 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*:	< 0,5%
Working pressure:	1 MPa (10 bar)
Max. differential pressure drop:	Diverting, 200 kPa (2 bar)
	Mixing, 100 kPa (1 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%

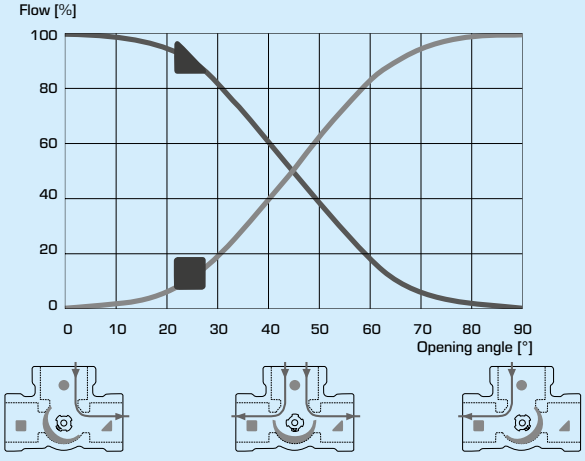
* Differential pressure 100kPa (1 bar)

Material

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

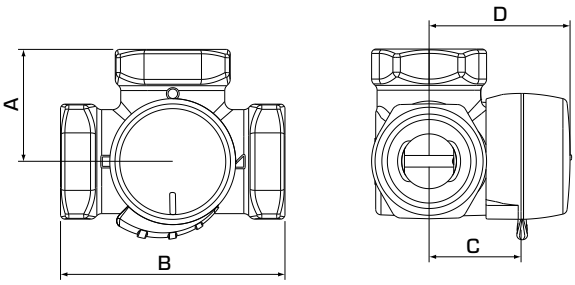
PED 2014/68/EU, article 4.3 / SI 2016 No. 1105 (UK)

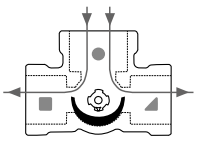
VALVE CHARACTERISTICS



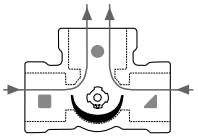
ESBE®

CHANGE-OVER / DIVERTING VALVE
SERIES VRG230





Diverting



Mixing

VRG231, VRG232

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

SERIES VRG231, INTERNAL THREAD

Art. No.	Reference	DN	Kvs*	Connection	A	B	C	D	Weight [kg]	Note
11620100	VRG231	20	6,3	Rp ¾"	36	72	32	50	0,43	
11620200	VRG231	25	10	Rp 1"	41	82	34	52	0,70	
11620300	VRG231	32	16	Rp 1¼"	47	94	37	55	0,95	
11621400	VRG231	40	30	Rp 1½"	53	106	44	62	1,72	
11621600	VRG231	50	40	Rp 2"	60	120	46	64	2,39	

SERIES VRG232, EXTERNAL THREAD

Art. No.	Reference	DN	Kvs*	Connection	A	B	C	D	Weight [kg]	Note
11620600	VRG232	20	6,3	G 1"	36	72	32	50	0,43	
11620700	VRG232	25	10	G 1¼"	41	82	34	52	0,70	
11620800	VRG232	32	16	G 1½"	47	94	37	55	0,95	
11621500	VRG232	40	30	G 2"	53	106	44	62	1,73	
11621700	VRG232	50	40	G 2¼"	60	120	46	64	2,39	

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

CHANGE-OVER / DIVERTING VALVE SERIES VRG230

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. 15°C).

Move horizontally to the shaded field (pressure drop of 3-15 kPa) and select the smaller Kvs-value (e.g. 4.0). 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).