

# MIXING VALVE SERIES VRG130

The compact rotary 3-way mixing valve series VRG130 is available in DN 15–50, and is made of brass, PN10. Five types of connections are available; internal thread, external thread, compression fitting, rotating nut and pump flange. Patented + Registered design.

## OPERATION

The ESBE series VRG130 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°. The valve position scale can be turned over and rotated, allowing a wide choice of mounting positions. Together with actuator series ESBE ARA600 the VRG130 valves are also easily automated and have extraordinary regulating accuracy thanks to the unique valve-to-actuator interface. For more advanced control functions, the ESBE controllers allows even more applications.

ESBE VRG130 valves are available in dimensions DN 15–50 with internal or external thread, with rotating nut and pump flange in DN20, or with compression fittings for pipe O.D. 22 and 28 mm.

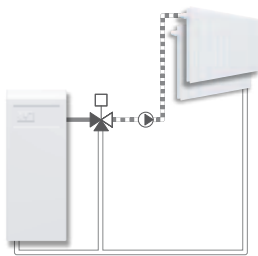
## SERVICE AND MAINTENANCE

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

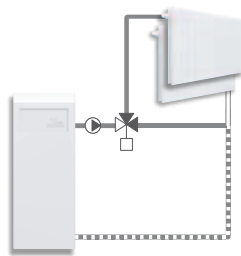
Repair kits are available for key components.

## 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.



Mixing



Diverting



## VALVE VRG130 DESIGNED FOR

- Heating
- Comfort cooling
- Potable water
- Floor heating
- Solar heating
- Ventilation
- Zone
- District hot water
- District heating
- District cooling

## SUITABLE ACTUATORS AND CONTROLLERS

- Series ARA600
- Series 90\*
- \* Adaptor kit necessary, see product page
- Series 90C
- Series CRC110
- Series CRB100
- Series CRA110

## 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\*: \_\_\_\_\_ Mixing < 0.05%  
 \_\_\_\_\_ Diverting < 0.02%  
 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<sup>min</sup>, A-AB: \_\_\_\_\_ 100  
 Connections: \_\_\_\_\_ Internal thread, EN 10226-1  
 \_\_\_\_\_ External thread, ISO 228/1  
 \_\_\_\_\_ Compression fitting, EN 1254-2

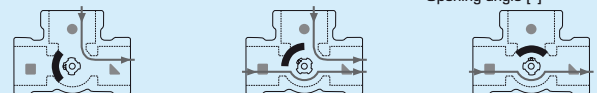
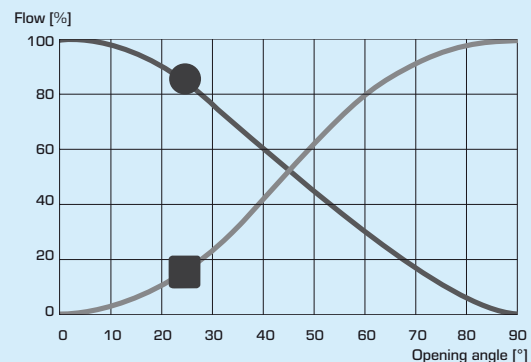
\* Differential pressure 100kPa (1 bar)

## Material

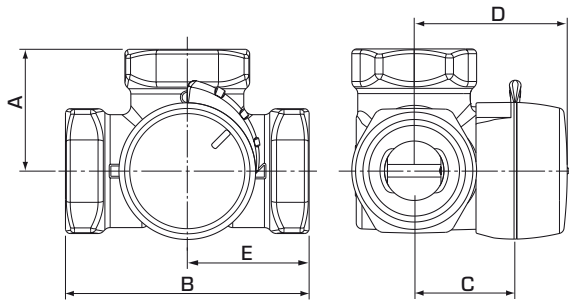
Valve body: \_\_\_\_\_ Dezincification resistant brass, DZR  
 Slide: \_\_\_\_\_ Abrasion resistant brass  
 Shaft and bushing: \_\_\_\_\_ PPS composite  
 O-rings: \_\_\_\_\_ EPDM

PED 97/23/EC, article 3.3

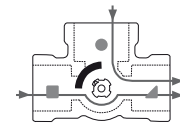
## VALVE CHARACTERISTICS



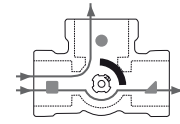
# MIXING VALVE SERIES VRG130



VRG131, VRG132, VRG133



Mixing



Diverting

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

## SERIES VRG131, INTERNAL THREAD

| Art. No.   | Reference | DN | Kvs * | Connection | A  | B   | C  | D  | E  | Weight [kg] | Replaces |
|------------|-----------|----|-------|------------|----|-----|----|----|----|-------------|----------|
| 1160 01 00 | VRG131    | 15 | 0.4   | Rp 1/2"    | 36 | 72  | 32 | 50 | 36 | 0.40        |          |
| 1160 02 00 |           |    | 0.63  |            |    |     |    |    |    |             |          |
| 1160 03 00 |           |    | 1     |            |    |     |    |    |    |             |          |
| 1160 04 00 |           |    | 1.6   |            |    |     |    |    |    |             |          |
| 1160 05 00 |           |    | 2.5   |            |    |     |    |    |    |             |          |
| 1160 06 00 |           |    | 4     |            |    |     |    |    |    |             |          |
| 1160 07 00 | VRG131    | 20 | 2.5   | Rp 3/4"    | 36 | 72  | 32 | 50 | 36 | 0.43        |          |
| 1160 08 00 |           |    | 4     |            |    |     |    |    |    |             |          |
| 1160 09 00 |           |    | 6.3   |            |    |     |    |    |    |             |          |
| 1160 10 00 | VRG131    | 25 | 6.3   | Rp 1"      | 41 | 82  | 34 | 52 | 41 | 0.70        |          |
| 1160 11 00 |           |    | 10    |            |    |     |    |    |    |             |          |
| 1160 12 00 | VRG131    | 32 | 16    | Rp 1 1/4"  | 47 | 94  | 37 | 55 | 47 | 0.95        |          |
| 1160 34 00 | VRG131    | 40 | 25    | Rp 1 1/2"  | 53 | 106 | 44 | 60 | 53 | 1.68        |          |
| 1160 36 00 | VRG131    | 50 | 40    | Rp 2"      | 60 | 120 | 46 | 64 | 60 | 2.30        |          |

## SERIES VRG132, EXTERNAL THREAD

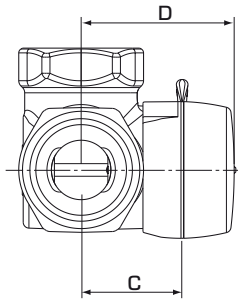
| Art. No.   | Reference | DN | Kvs * | Connection | A  | B   | C  | D  | E  | Weight [kg] | Replaces |
|------------|-----------|----|-------|------------|----|-----|----|----|----|-------------|----------|
| 1160 15 00 | VRG132    | 15 | 0.4   | G 3/4"     | 36 | 72  | 32 | 50 | 36 | 0.40        |          |
| 1160 16 00 |           |    | 0.63  |            |    |     |    |    |    |             |          |
| 1160 17 00 |           |    | 1     |            |    |     |    |    |    |             |          |
| 1160 18 00 |           |    | 1.6   |            |    |     |    |    |    |             |          |
| 1160 19 00 |           |    | 2.5   |            |    |     |    |    |    |             |          |
| 1160 20 00 |           |    | 4     |            |    |     |    |    |    |             |          |
| 1160 21 00 | VRG132    | 20 | 2.5   | G 1"       | 36 | 72  | 32 | 50 | 36 | 0.43        |          |
| 1160 22 00 |           |    | 4     |            |    |     |    |    |    |             |          |
| 1160 23 00 |           |    | 6.3   |            |    |     |    |    |    |             |          |
| 1160 24 00 | VRG132    | 25 | 6.3   | G 1 1/4"   | 41 | 82  | 34 | 52 | 41 | 0.70        |          |
| 1160 25 00 |           |    | 10    |            |    |     |    |    |    |             |          |
| 1160 26 00 | VRG132    | 32 | 16    | G 1 1/2"   | 47 | 94  | 37 | 55 | 47 | 0.95        |          |
| 1160 35 00 | VRG132    | 40 | 25    | G 2"       | 53 | 106 | 44 | 60 | 53 | 1.69        |          |
| 1160 37 00 | VRG132    | 50 | 40    | G 2 1/4"   | 60 | 120 | 46 | 64 | 60 | 2.30        |          |

## SERIES VRG133, COMPRESSION FITTING

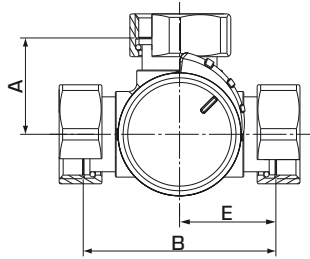
| Art. No.   | Reference | DN | Kvs * | Connection | A  | B  | C  | D  | E  | Weight [kg] | Replaces |
|------------|-----------|----|-------|------------|----|----|----|----|----|-------------|----------|
| 1160 29 00 | VRG133    | 20 | 4     | CPF 22 mm  | 36 | 72 | 32 | 50 | 36 | 0.40        |          |
| 1160 30 00 |           |    | 6.3   |            |    |    |    |    |    |             |          |
| 1160 31 00 | VRG133    | 25 | 10    | CPF 28 mm  | 41 | 82 | 34 | 52 | 41 | 0.45        |          |

\* Kvs-value in m<sup>3</sup>/h at a pressure drop of 1 bar: Flow chart, see product catalogue. CPF = compression fitting

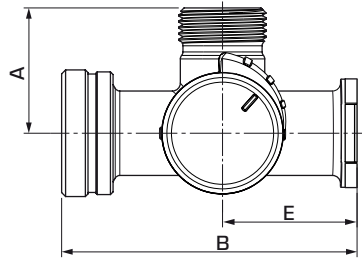
# MIXING VALVE SERIES VRG130



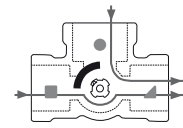
VRG138, VRG139



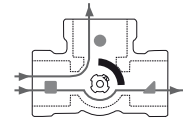
VRG138



VRG139



Mixing



Diverting

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

### SERIES VRG138, ROTATING NUT AND EXTERNAL THREAD

| Art. No.   | Reference | DN | Kvs * | Connection      | A  | B  | C  | D  | E  | Weight [kg] | Replaces |
|------------|-----------|----|-------|-----------------|----|----|----|----|----|-------------|----------|
| 1160 38 00 | VRG138    | 20 | 4     | 2x RN 1" + G 1" | 36 | 72 | 32 | 50 | 36 | 0.56        |          |
| 1160 39 00 |           |    | 4     | 3x RN 1"        |    |    |    |    |    | 0.59        |          |
| 1160 40 00 |           |    | 6.3   | 2x RN 1" + G 1" |    |    |    |    |    | 0.56        |          |
| 1160 41 00 |           |    | 6.3   | 3x RN 1"        |    |    |    |    |    | 0.59        |          |

### SERIES VRG139, PUMP FLANGE AND EXTERNAL THREAD

| Art. No.   | Reference | DN | Kvs * | Connection            | A    | B   | C  | D  | E  | Weight [kg] | Replaces   |
|------------|-----------|----|-------|-----------------------|------|-----|----|----|----|-------------|------------|
| 1160 44 00 | VRG139    | 20 | 2.5   | PF 1½" + G 1½" + G 1" | 47.5 | 112 | 32 | 50 | 51 | 0.82        | 1100 55 00 |
| 1160 45 00 |           |    | 6.3   |                       |      |     |    |    |    | 0.82        | 1100 56 00 |
| 1160 46 00 |           |    | 8     |                       |      |     |    |    |    | 0.82        | 1100 20 00 |

\* Kvs-value in m<sup>3</sup>/h at a pressure drop of 1 bar: Flow chart, see product catalogue. RN = Rotating Nut PF = Pump flange