



SERIES 02

Three-port slipper valves PN10, male-threaded

VBG31...

Three-port slipper valves, PN10, male-threaded

- Grey cast iron GG-25
- Screwed fittings for DN20 ... DN40 mm
- k_{vs} 6.3 ... 25 m³/h
- Angle of rotation 90°
- Male threaded connections G1¼B ... G2¼B
- With manual adjuster
- Can be fitted with type SQK... or SQL... electric actuators
- No maintenance required

Application

For use in closed-circuit heating systems, preferably in mixing applications.

Media

- Hot water: 2 ... 120 °C
- Water with antifreeze: Max. 50 % vol.

Recommendation

Water should be treated as specified in VDI 2035.

Operating pressure

Max. operating pressure 1000 kPa (10 bar).

Types

Type	DN		k _{VS} value [m ³ /h]	Δp _{Vmax} [kPa]
	[ins]	[mm]		
VBG31.20	¾	20	6.3	30
VBG31.25	1	25	10	
VBG31.32	1¼	32	16	
VBG31.40	1½	40	25	

DN = Nominal diameter
k_{VS} = Nominal flow to VDI2173

Δp_{Vmax} = Maximum admissible pressure differential across the closed valve

Ordering

The valve, actuator and mounting kit, if required, must be ordered separately.
When ordering, please specify the quantity, product name and type code.

Example: 1 three-port slipper valve type VBG31.25, 1 actuator type SQL33.00 and 1 mounting kit, type ASK32

Delivery

Screwed fittings are supplied with the three-port valves.
The valve, actuator and mounting kit are packed separately.

Compatibility

The following Landis & Staefa electric actuators are suitable for the VBG31... slipper valves:

Actuator Type		Assembly kit	Operating voltage	Run-time for 90°	Type of control	Actuator data sheet
SQK33.00	1)	ASK32	AC 230 V	125 s	3-position	N4506
SQL33.00	3)			125 s		
SQL33.03	3)			30 s		
SQK34.00	2) 4)	---	135 s	N4508		
SQL83.00	3)	ASK32	AC 24 V	125 s		N4506
SQK84.00	2) 4)	---		135 s		N4508

- 1) Can be fitted with 1 auxiliary switch, type ASC9.5
- 2) Can be fitted with 1 auxiliary switch, type ASC9.7
- 3) Can be fitted with 1 auxiliary switch type ASC9.5, or 1 double auxiliary switch, ASC9.4 or 1 potentiometer and 1 auxiliary switch type ASZ7.4.
- 4) For direct mounting on the Series 02 valves, type VBG31... (no mounting kit required)

ASK32 mounting kit

The ASK32 mounting kit consists of a short console with a screw.
Mounting instructions are enclosed with the kit.
The mounting kit is required when fitting the Series 02 VBG31... valves with actuator types SQK33.00, SQL33.0... and SQL83.00.

Mechanical design

Assembly

The valve and actuator are easy to assemble directly on site.
 Two special screws are provided in the housing cover to fix the mounting kit and the scale plate for position indication.

The valve, actuator and ASK32 mounting kit (if needed) are packed separately.

- Type SQK34.00 and SQK84.00 actuators do not require an mounting kit.
- The ASK32 mounting kit is required for actuator types SQK33.00, SQL33.00, SQL33.03 and SQL83.00.

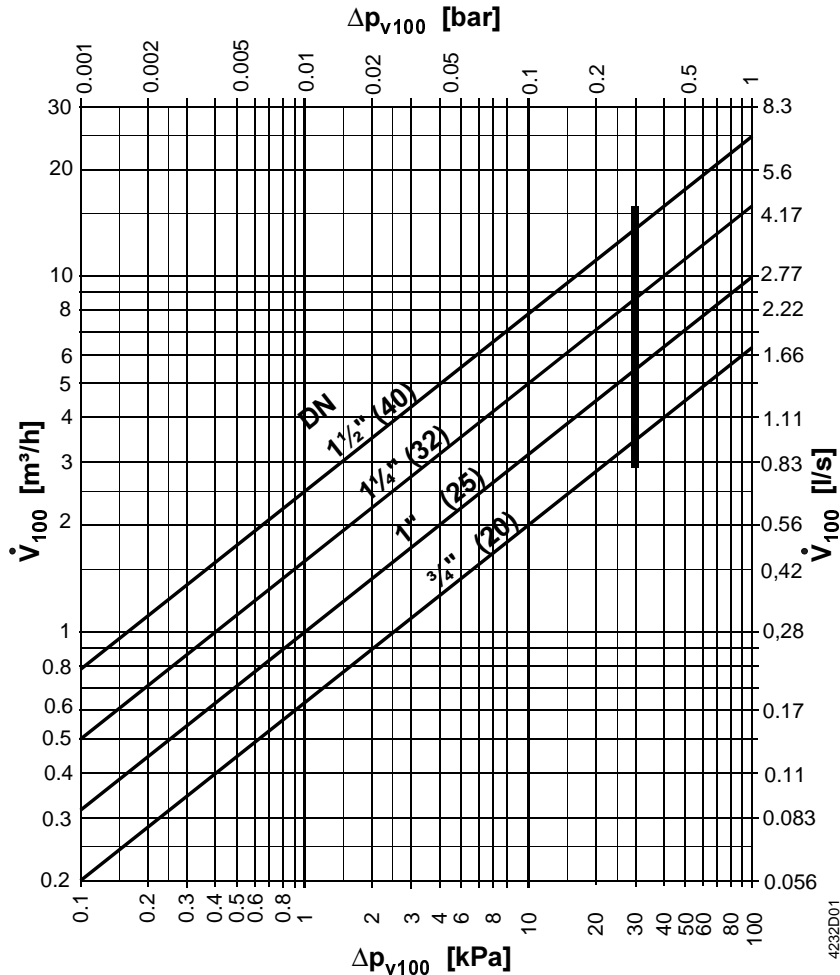
Manual operation

The manual adjuster, scale plate and valve slipper can be re-positioned to suit the application (boiler flow from the left or from the right).

Automatic operation

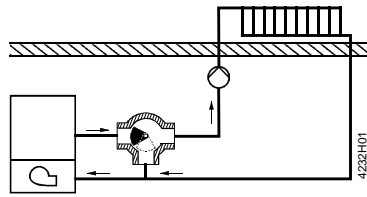
Remove the manual adjuster before fitting the SQK34.00 or SQK84.00 actuator to the valve. The scale plate and valve slipper can be re-positioned to suit the application (direction of boiler flow).

Sizing

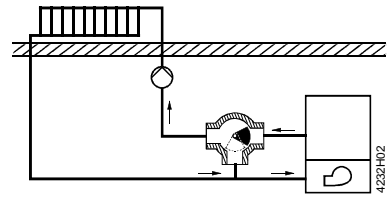


= max. Δp_{v100} in kPa
 100 kPa = 1 bar \approx 10 m WG
 1 m³/h = 0.278 kg/s water at 20°C

The VBG31... valves should preferably be used in mixing applications. In systems where oxygen can enter the hydraulic system, there is an increased risk of corrosion which can cause the valve slipper to seize.



Boiler flow from left

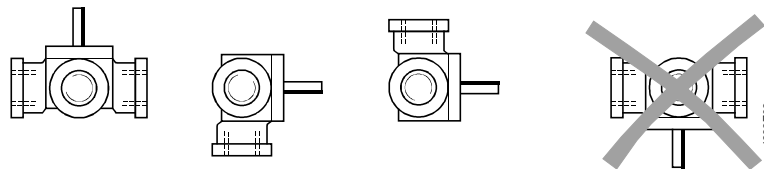


Boiler flow from right

- The VBG31... valves are assembled in the factory for the "boiler flow from left" application.
- In systems with "boiler flow from right", the valve slipper, scale plate and manual adjuster must be re-positioned, as described in the mounting instructions for VB... slipper valves.

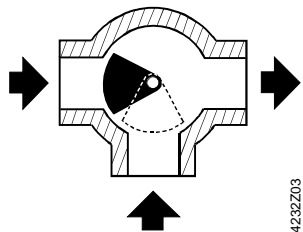
Mounting

Orientation

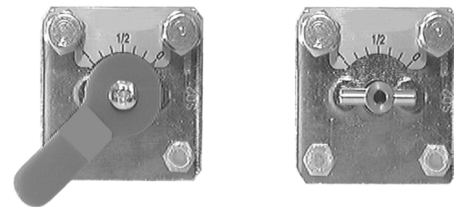


Permissible

Not permissible



Slipper position on delivery
Slipper positioned for "boiler flow from left".
Anti-clockwise rotation: opening
Clockwise rotation: closing.



Manual adjuster with scale plate, position indicator and colour marking for position of slipper
Position indicator at "0" = boiler flow path fully closed.
Mounting instructions are enclosed with the valve.

Commissioning

When commissioning the valve, ensure that the position and rotation of the valve slipper are appropriate for the system concerned.

The position of the valve slipper is indicated by:

- the manual adjuster and scale plate
- the yellow mark on the pin in the valve shaft

 **Warning**

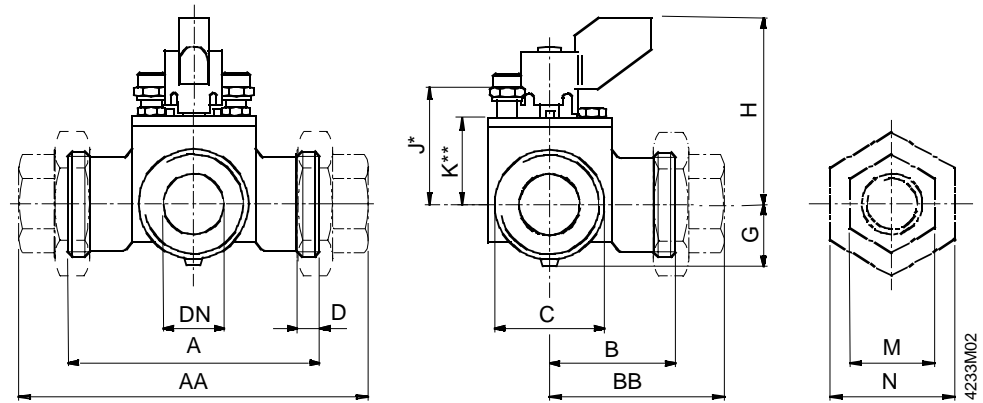
Before performing any service work on the valve, actuator or mounting kit: switch OFF the pump and power supply, close the main shut-off valve in the pipework, release pressure in the pipes and allow them to cool down completely.
If necessary, disconnect electrical connections from terminals.
The valve can be commissioned with the manual adjuster fitted, or with a correctly fitted actuator.

Technical data

Operating data	Characteristic	
	– Through-port	Linear
	– Bypass	Linear
	Leakage	0 ... 0.1% of k_{vs} value
	Angle of rotation	90°
Materials	Threaded connections	Valve G...B to ISO228/1 Screwed fittings Rp... to ISO7/1
	Valve body	Grey cast iron GG-25 to DIN EN 1561
	Shaft	Stainless steel
	Slipper	Hot-pressed brass
	Manual adjuster	Plastic
	Scale plate for position indication	Aluminium
	O-rings	EPDM
Dimensions / Weight	Dimensions	See "Dimensions"
	Weight	See table under "Dimensions"

Dimensions

All dimensions in mm



Type	DN [mm]	A [ins]	AA	B	BB	C [ins]	D	G	H	J*	K**	M	N	Wt [kg]	
VBG31.20	20	¾	110	162	55	81	G1¼B	12	24.5	74	46	34	32	48	1.9
VBG31.25	25	1	110	168	55	84	G1½B	14	24.5	74	46	34	38	48	2.2
VBG31.32	32	1¼	130	195	65	97.5	G2B	14	42.5	81.5	53.5	41.5	47	67	3.5
VBG31.40	40	1½	130	198	65	99	G2¼B	16	42.5	81.5	53.5	41.5	53	73	3.8

Wt Weight in kg of VBG31... valve with screwed fittings
 J* Installation height of actuators SQK34.00 or SQK84 (without mounting kit)
 K** Installation height of actuators SQK33.00, SQL33.... or SQL83.00 with ASK32 mounting kit

Overall height of valve and actuator = Installation height of three-port slipper valve
 + Installation height of mounting kit (if used)
 + Installation height of actuator
 + Minimum clearance (> 200 mm) from ceiling or wall for mounting, connection, operation, service etc.