SIEMENS

4252

Series 02

Four-port slipper valves PN10, female-threaded VCI31...

Four-port slipper valves, PN10, female-threaded

- **Grey cast iron GG-25**
- **DN20 ... DN40 mm**
- **k_{vs} 6.3 ... 25 m^3/h**
- **Angle of rotation 90°**
- **Female-threaded connections, Rp¾ ... Rp1½**
- **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. 1000 kPa (10 bar)

Types

Valves Type	DN [ins]	DN [mm]	k_{vs} value [m^3/h]	Δp_{v100} [kPa]
VCI31.20	¾	20	6.3	30
VCI31.25	1	25	10	
VCI31.32	1¼	32	16	
VCI31.40	1½	40	25	

DN = Nominal diameter
k_{vs} = Nominal flow to VDI2173
Δp_{v100} = Maximum admissible pressure differential across the fully open valve

Ordering

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

Example: **1 four-port slipper valve, type VCI31.25**, **1 actuator, type SQL33.00** and **1 mounting kit, type ASK32**

Delivery

The valve, actuator and mounting kit are packed separately.

Compatibility

The following Landis & Staefa electric actuators are suitable for type VCI31… four-port slipper valves:

Actuator type	Mounting kit	Operating voltage	Run-time for 90°	Type of control	Actuator data sheet
SQK33.00 1)	ASK32	AC230 V	125 s	3-position	N4506
SQL33.00 3)	ASK32		125 s		
SQL33.03 3)	ASK32		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 plus 1 auxiliary switch, type code ASZ7.4

For direct mounting (without mounting kit) on Series 2 type VCI31… four-port valves.

ASK32 mounting kit

The ASK32 mounting kit consists of a console and screw.
Mounting instructions are enclosed.
The mounting kit is required when assembling the VCI31… four-port valves (Series 01 and 02) with actuator types SQK33.00, SQL33.00, SQL33.03 or 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.

- No mounting kit is required for the SQK34.00 or SQK84.00
- The ASK32 mounting kit is required for actuator types SQK33.00, SQL33.00, SQL33.03 and SQL83.00.

The position of the valve slipper is indicated by:

- The manual adjuster and scale plate
- A groove on the front of the valve shaft (only visible if no manual adjuster is fitted)

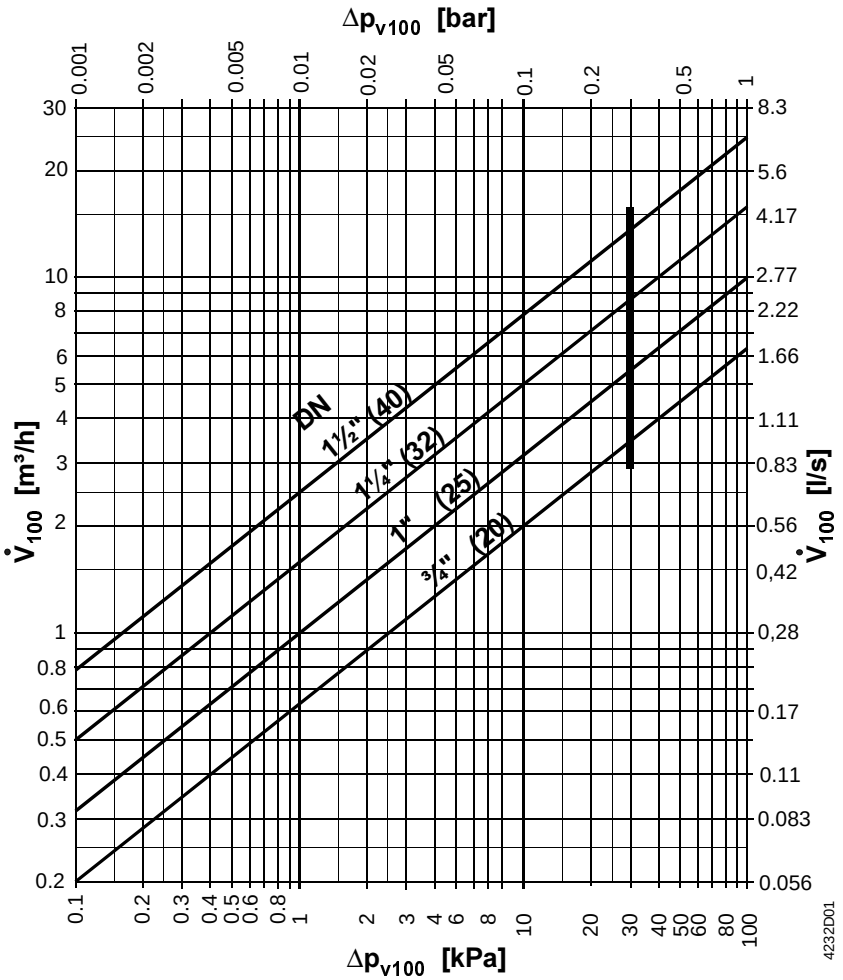
Manual operation

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 and valve slipper can be re-positioned to suit the application (direction of boiler flow).

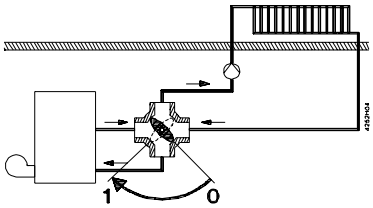
Sizing



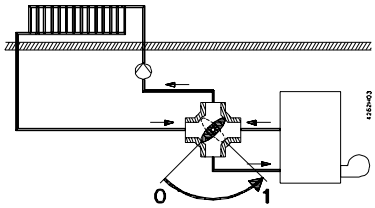
= Max. pv100
100 kPa = 1 bar ~ 10 mWG
1 m^3/h = 0.278 kg/s water at 20 °C

Engineering

The VCI31… four-port valves should be installed in accordance with the flow-direction arrows on the valve body. 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

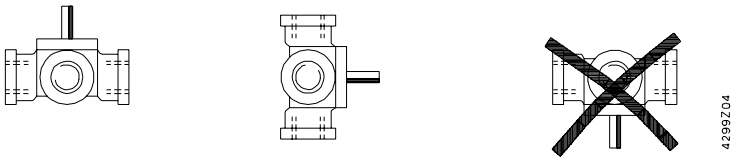


Boiler flow from right

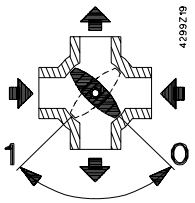
- The VCI31… valves are factory-assembled for the "boiler flow from left" application.
- If installed in a "boiler flow from right" application, the scale plate should be rotated through 180° as shown in the mounting instructions for VC… valves.

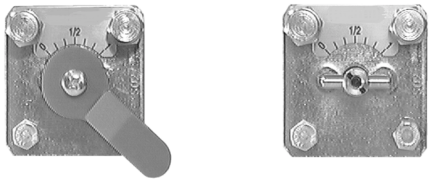
Mounting

Orientation



Permissible *Not permissible*





Slipper position on delivery
Slipper positioned for "boiler flow from left".
Clockwise rotation: valve opens
Anti-clockwise rotation: valve closes

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

Commissioning

When commissioning the valve, ensure that the position and rotation of the valve slipper are appropriate for the system concerned (see "Engineering").

⚠ **Warning**

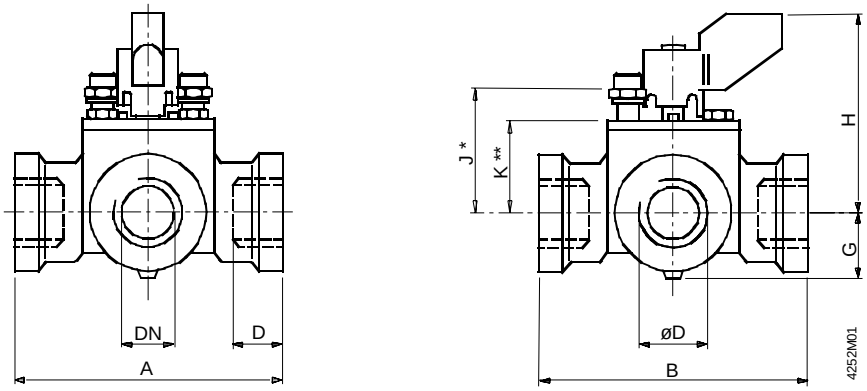
Before performing any service work on the valve, actuator or mounting kit: switch OFF the pump and power supply, close the main shut-off valve in the pipework, release pressure in the pipes and allow them to cool down completely.
If necessary, disconnect electrical connections from terminals.
The valve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

Technical data

Operating data	Flow characteristic, all paths	Linear
	Angle of rotation	90°
	Threaded connections (valve)	Rp... to ISO7/1
Materials	Body	Grey cast iron GG-25 to DIN EN 1561
	Shaft and slipper (single unit)	Hot-pressed brass
	O-rings	EPDM
	Manual adjuster	Plastic
	Scale plate for position indication	Aluminium
Dimensions / Weight	Dimensions	See table under "Dimensions"
	Weight	See table under "Dimensions"

Dimensions

All dimensions in mm



Type	DN [mm]	DN [ins]	ø D [ins]	A	B	D	G	H	J *	K **	Wt [kg]
VCI31.20	20	¾	Rp¾	110	110	14.5	24.5	74	46	34	1.4
VCI31.25	25	1	Rp1			17					
VCI31.32	32	1¼	Rp1¼	130	130	19	42.5	81.5	53.5	41.5	2.1
VCI31.40	40	1½	Rp1½								2.3

ø D = Rp… threaded pipe connections to ISO7/1
Wt = Weight in kg, of four-port slipper valve
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 four-port valve
\+ Installation height of mounting kit (if used)
\+ Installation height of actuator
\+ Minimum clearance (> 200 mm) from ceilings or walls for mounting, connection, operation etc.