

Two-port seat valves PN16 with male thread

VVG44...



Two-port seat valves PN16 with male thread G...B

- Bronze Rg5
- DN15 ... DN40 mm (1/2 ... 1 1/2")
- k_{vs} 0.25 ... 25 m³/h
- Stroke 5.5 mm
- Manual adjustment by means of mounted knob
- Can be equipped with SQS35..., SQS65... or SQS85... actuators
- Fittings can be delivered separately

Application

In small or medium-sized heating, ventilating and air conditioning plants as a **control or safety shutoff valve. For closed circuits only.**

Media

Cooling water	+2 ... +120 °C
Chilled water	
Low temperature hot water	
Water with anti-freeze	

Type summary

Type	DN		k_{vs} [m ³ /h]	S_v	$\Delta p_{vmax.}$ [kPa]
	[mm]	[inch]			
VVG44.15-0.25 VVG44.15-0.4 VVG44.15-0.63	15	1/2"	0.25	> 50	400
0.4					
0.63					
VVG44.15-1			1	> 100	
VVG44.15-1.6			1.6		
VVG44.15-2.5			2.5		
VVG44.15-4	4				
VVG44.20-6.3	20	3/4"	6.3	> 100	300
VVG44.25-10	25	1"	10		
VVG44.32-16	32	1 1/4"	16		
VVG44.40-25	40	1 1/2"	25		
					100

DN = Nominal diameter
 k_{vs} = Nominal flow value as per VDI2173
 S_v = Rangeability as per VDI2173

$\Delta p_{vmax.}$ = Max. permissible differential pressure across the valve's control path, valid for the entire stroke range

Ordering

When ordering please specify the quantity, product name and type code.

Example: **3 Two-port seat valves VVG44.25-10**

The fittings must be ordered separately.

Delivery

The valve, actuator and possible fittings are packed and supplied separately.

Equipment combinations

Valves		Actuators ¹⁾		Fittings
		Δp_{\max}	Δp_s	
Type	H ₁₀₀ [mm]	[kPa]		Type
VVG44.15-0.25 VVG44.15-0.4 VVG44.15-0.63	5.5	400	1600	ALG15
VVG44.15-1 VVG44.15-1.6			850	
VVG44.15-2.5 VVG44.15-4			400	
VVG44.20-6.3 VVG44.25-10 VVG44.32-16			800	
VVG44.40-25		300	400	ALG20
		200	225	ALG25
		100	100	ALG32
				ALG40
Data sheet N4573				

- 1) Actuators available for delivery:
- AC 230 V with 3-position signal
 - AC 24 V with 3-position signal
 - AC 24 V with DC 0...10 V or DC 2...10 V proportional pos. signal

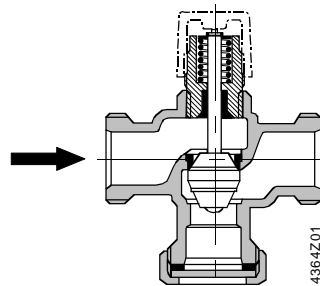
H₁₀₀ = 100 % stroke of the valve and the actuator

Δp_{\max} = Max. permissible differential pressure across the valve's control path across the entire actuating range of the motorised valve

Δp_s = Maximum permissible differential pressure (closing pressure) at which the motorised valve will close securely against pressure.

Mechanical design

Valve cross-section



Guided parabolic plug which is integrated in the valve stem.

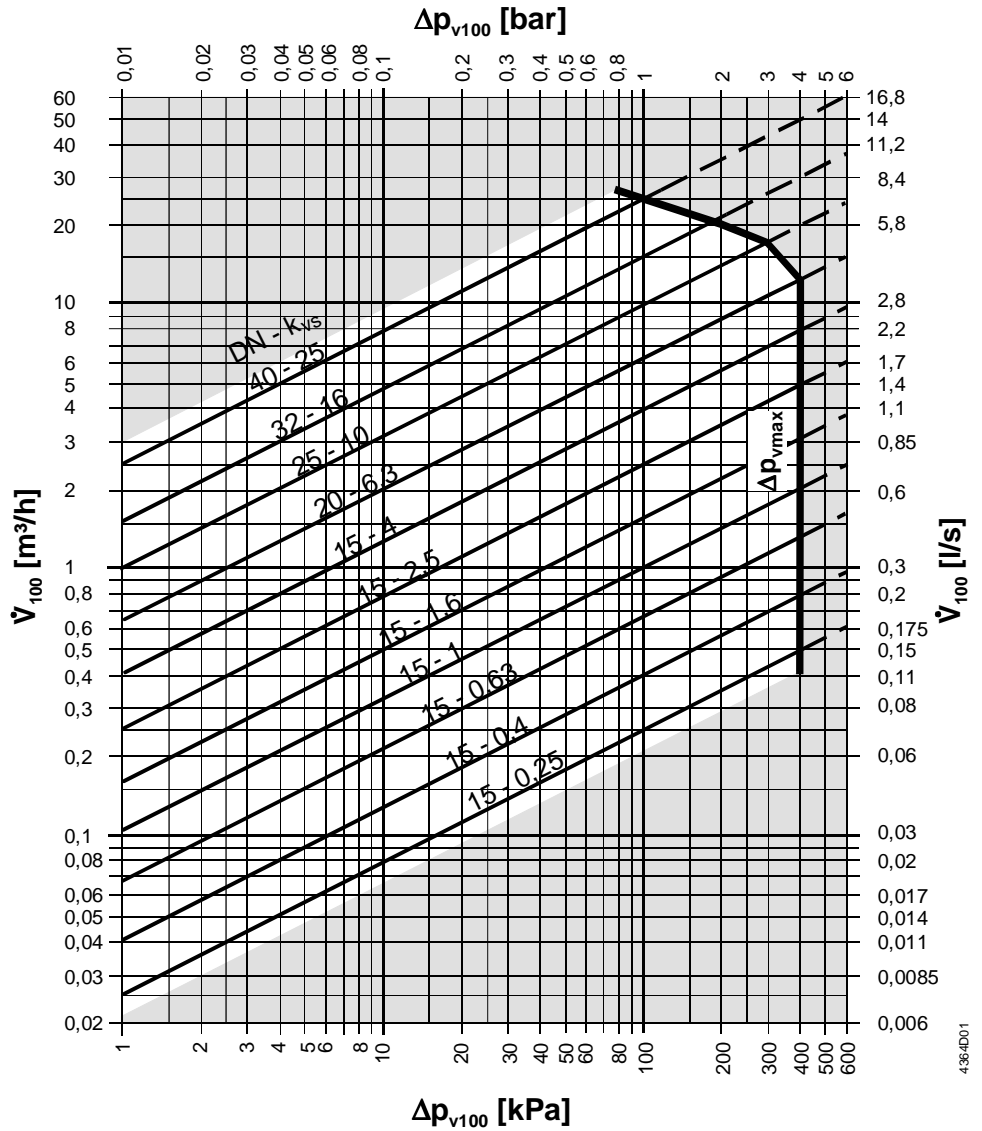
The seat is attached to the valve body or directly integrated in the valve body.

Note The two-port seat valve does **NOT** become a three-port valve by removing the blocking nut on the bypass port.

Disposal

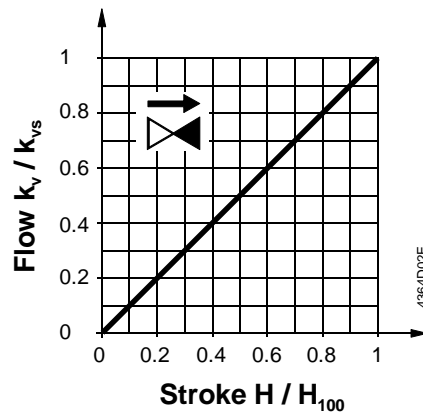
The various material types used require that you disassemble the unit and sort the components prior to disposal.

Sizing
Flow diagram



- 100 kPa = 1 bar \approx 10 mWG
- 1 m³/h = 0.278 kg/s water at 20 °C
- Δp_{vmax} = Max. permissible differential pressure across the valve's control path, valid for the entire stroke range.
- Δp_{v100} = Pressure difference across the fully opened valve across the control path at \dot{V}_{100} flow in kPa or in bar
- \dot{V}_{100} = Flow in m³/h or l/s

Valve flow characteristic



Valve flow characteristic linear as per VDI /VDE2173

Notes

Engineering

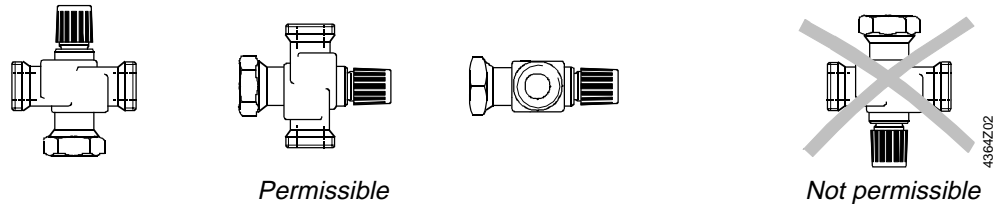
- We recommend installation in the return pipe, as the temperatures in this pipe are lower for applications in heating systems, which in turn, extends the stem sealing gland's life.
- Water quality requirements as per VDI2035.

Note We recommend installing a strainer upstream of the valve to ensure long-term functional safety.

Mounting

Both valve and actuator can easily be assembled at the mounting location. Neither special tools nor adjustments are required.
The valve is supplied with mounting instructions.

Mounting positions



Direction of flow

When mounting, pay attention to the valve's flow direction symbol .

Commissioning

Commission the valve using the mounted manual adjustment button or a correctly mounted actuator.

- Stem retracts: Increasing flow
- Stem extends: Decreasing flow

Service

For actuator service work: Turn off the pump and the operating voltage, close the shutoff valves, depressurize the pipes and allow them to cool down.
Disconnect the electrical connections, where required, from the terminals.
Recommission the valve using the mounted manual adjustment button or a correctly mounted actuator.

Stem sealing gland

The stem sealing gland cannot be exchanged. In the case of leakage, the entire valve must be replaced, whereby the information provided in "Service" must be observed.
Contact your local office or branch.

Warranty

The use of third-party actuators expressly voids any warranty claims.
The technical data Δp_{\max} , Δp_s , leakage rate, noise level and life apply only when used together with the Landis & Staefa actuators as listed in "Type summary".

Technical data

Function data

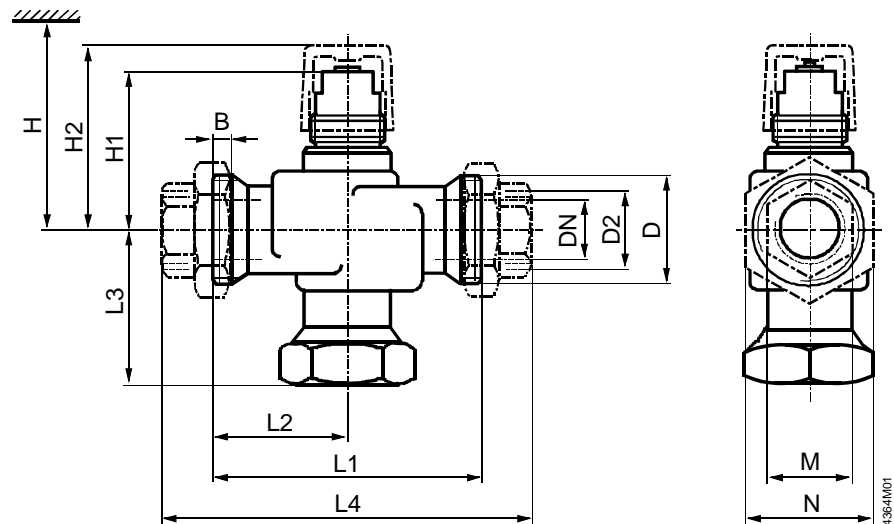
PN class	PN16
Valve flow characteristic	0 ... 100 %linear as per VDI /VDE2173
Leakage rate	0 ... 0.02 % of k_{vs} value, VDE /VDI2174
Permissible pressure	1600 kPa (16 bar), ISO7268 / EN1333
Working pressure	DIN4747 / DIN3158 in the range of +2 ... +120 °C
Threaded connection	
Valve	G...B as per ISO228/1
Fittings	Rp... as per ISO7/1
Stroke	5.5 mm
Weight	see "Dimensions" (table)

Materials

Valve body	bronze G-CuSn5ZnPb (Rg5) as per DIN1705
Seat	stainless steel, bronze Rg5 and brass
Stem	stainless steel
Plug	stainless steel or brass
Sealing gland	brass
Gland materials	EPDM-O rings
Fittings ALG...	black malleable cast iron

Dimensions

All dimensions in mm



DN [mm]	B	D	D2	H1	H2	L1	L2	L3	L4	M	N	Weight without fittings [kg]
15	8.5	G1B	Rp½	53	63	100	50	58	148	25	41	0.6
20	9	G1½B	Rp¾	68	78			59	150	32	50	1.0
25		G1½B	Rp1	71	81	105	52.5	62.5	160	38	55	1.4
32	11	G2B	Rp1¼	77.5	87.5			63.5	170	47	70	1.95
40		G2¼B	Rp1½	80.5	90.5	130	65	76	198	53	75	2.75

DN [mm]	H SQS35..., SQS65..., SQS85...
15	> 364
20	> 379
25	> 382
32	> 389
40	> 392

DN = Nominal diameter

H = Total actuator height plus minimum distance to the wall or the ceiling for mounting, connection, operation, service, etc.

H1 = Dimension from the pipe centre to install Structure of the actuator

H2 = Pipe centre to upper edge of manual adjustment button