



Two-port seat valves with female threads, ANSI class 250

VVI44...
VVI44...J

- Bronze UNS CA 844
- Female threaded to ISO 7-1
- DN 15...25 (1/2"...1")
- k_{vs} 0.34...8.6 m³/h
- Stroke 5.5 mm
- Manual adjustment by means of mounted knob (optional)
- Can be equipped with SQS... or SSC... actuators
- Available with brass trim (standard versions VVI44...)
or stainless steel trim (special versions VVI44...J)

Use

In small size heating-, ventilation- and air conditioning plants as control- or safety shut off valve to control the supply of hot or chilled water to fan coil units, radiators, reheat coils and similar terminal units. **For closed loops only.**

To operate the valve, an actuator, delivering at least 300 N of force is required.

Type summary

Standard versions with brass trim

Type	DN	k_{vs} [m ³ /h]	S_v
VVI44.15-0.34	15	0.34	> 50
VVI44.15-0.54		0.54	
VVI44.15-0.85		0.85	
VVI44.15-1.37		1.37	> 100
VVI44.15-2.15		2.15	
VVI44.15-3.44		3.44	
VVI44.20-5.43	20	5.43	
VVI44.25-8.6	25	8.6	

Special versions with stainless steel trim

Type	DN	k_{vs} [m ³ /h]	S_v
VVI44.15-0.34J	15	0.34	> 50
VVI44.15-0.54J		0.54	
VVI44.15-0.85J		0.85	
VVI44.15-1.37J		1.37	> 100
VVI44.15-2.15J		2.15	
VVI44.15-3.44J		3.44	
VVI44.20-5.43J	20	5.43	
VVI44.25-8.6J	25	8.6	


DN Nominal size

k_{vs} Nominal flow rate of cold water (5...30 °C) through the fully open valve (H_{100}) by a differential pressure of 100 kPa (1 bar)

S_v Rangeability k_{vs} / k_{vr}

k_{vr} Smallest k_v value, at which the flow characteristic tolerances can still be maintained, by a differential pressure of 100 kPa (1 bar)

Accessories

Type		Description
426888950		<ul style="list-style-type: none"> – Protective knob to cover the bonnet and threads. – Manual override to open the valve to maximum 70 %.

Ordering

When ordering, please specify the quantity, product name and type reference.
Minimum order quantity is 10 pieces or multiples of 10 pieces.

Example

10 pieces 2-port valve, type VVI44.25-8.6J

Delivery

The valves are shipped in bulk packaging containing 10 pieces.

Equipment combinations

Valves	H ₁₀₀ [mm]	Actuators			
		SQS...		SSC...	
		Δp_{max}	Δp_s	Δp_{max}	Δp_s
[kPa]					
VVI44.15-0.34(J)	5.5	200 (400)	655	200 (400)	655
VVI44.15-0.54(J)					
VVI44.15-0.85(J)					
VVI44.15-1.37(J)		200 (300)	345	200 (300)	345
VVI44.15-2.15(J)					
VVI44.15-3.44(J)					
VVI44.20-5.43(J)					
VVI44.25-8.6(J)	200 (250)	276	200 (250)	276	

H₁₀₀ = Nominal stroke

Δp_{max} = Maximum permissible differential pressure across the valve, valid for the entire actuating range of the motorized valve. (max. recommended operating pressure drop)
Values in brackets are valid for the valves with stainless steel trim.

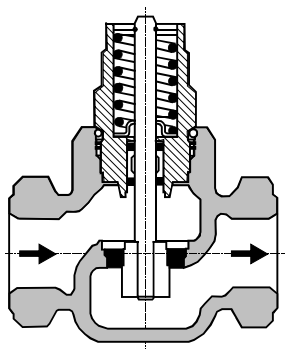
Δp_s = Maximum permissible differential pressure at which the motorised valve will close securely against the pressure (close off pressure)

Actuator overview

Type reference	Operating voltage	Positioning signal		Positioning time	Spring return function	Spring return time	Data sheet	
SQS35.00	AC 230 V	3-position		150 s	No		N4573	
SQS35.03				35 s				
SQS35.50				150 s	Yes			8 s
SQS35.53				35 s				
SQS65.5	AC 24 V	DC 0...10 V	0...1000 Ω	35 s	No		N4895	
SQS65		DC 2...10 V						
SQS65.2			3-position	150 s				
SQS85.00		35 s						
SQS85.03	AC 230 V	3-position		150 s	No		N4895	
SSC31				AC 24 V				
SSC81	AC 24 V	DC 0...10 V		150 s	Yes		N4895	
SSC61	AC/DC 24 V			30 s				
SSC61.5				< 30 s				

SSC... are UL approved

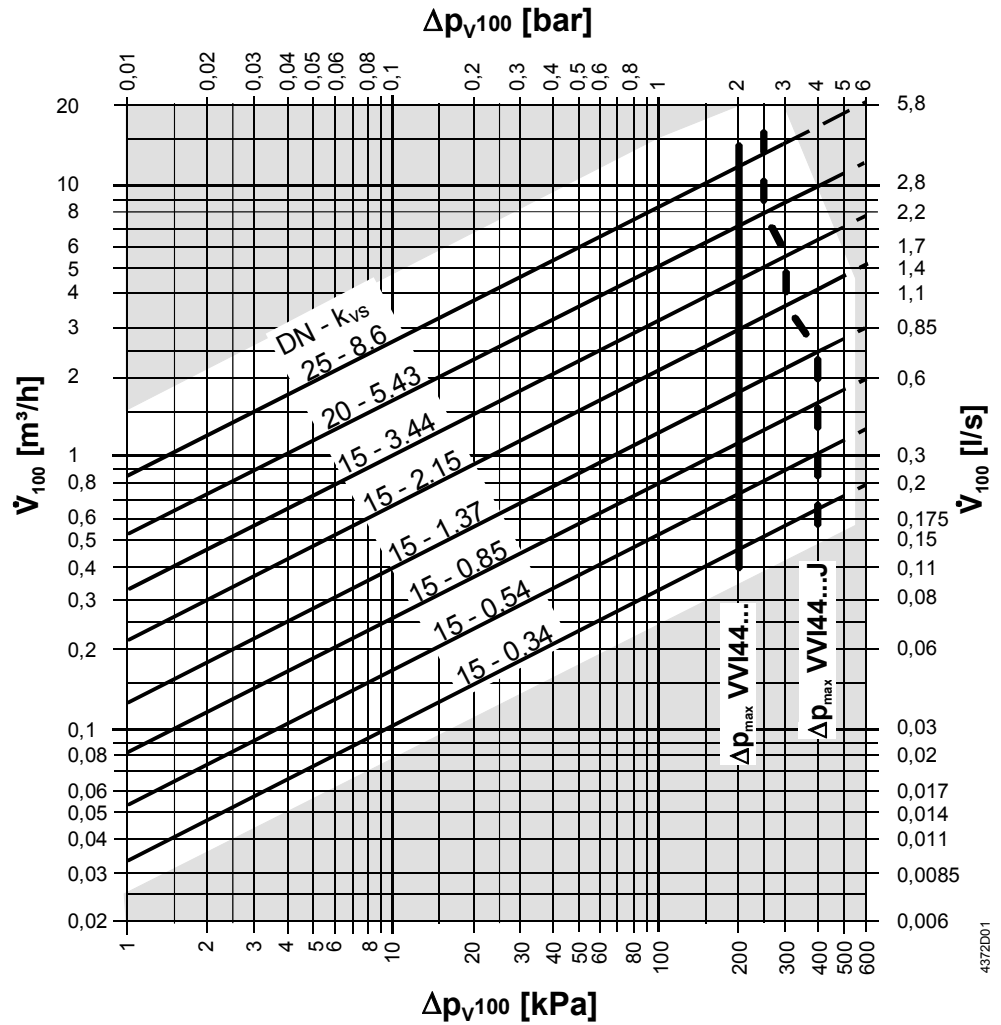
Technical Design



The valve is of the «normally closed» design, where the return spring provides the necessary force to pull the plug against the seat.

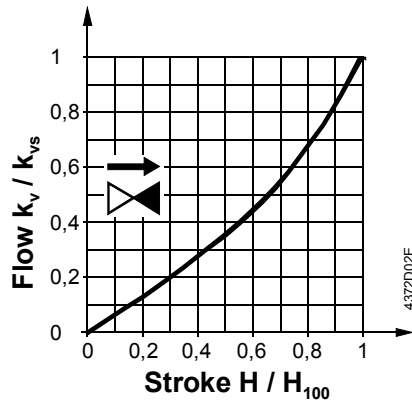
In the event of a power failure, a fail-safe actuator returns the plug to its closed position, while a fail in place actuator will hold the last commanded valve plug position.

Flow diagram



- Δp_{max} = Maximum permissible differential pressure across the valve, valid for the entire actuating range
- Δp_{V100} = Differential pressure across the fully open valve and the valve's control path by a volume flow \dot{V}_{100}
- \dot{V}_{100} = Volume flow through the fully open valve (H_{100})
- 100 kPa = 1 bar \approx 10 mWC
- 1 m^3/h = 0.278 l/s water at 20 °C

Valve flow characteristic



Equal percentage, optimized for a wide controllable range

Notes

Engineering

Water quality requirements as per VDI 2035.

Note

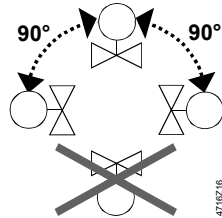
We recommend installing a strainer upstream of the valve to ensure long-term functional safety.

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.

Orientation



Direction of flow

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

Commissioning

Commission the valve only if the actuator has been mounted correctly (optional, see «Accessories»).

Valve stem retracts: valve opens = increasing flow

Valve stem extends: valve closes = decreasing flow

Maintenance

Warning

VVI44... valves require no maintenance.

When doing service work on the valve / actuator:

- Deactivate the pump and turn off the power supply
- Close the shutoff valves
- Fully reduce the pressure in the piping system and allow pipes to completely cool down

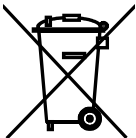
If necessary, disconnect the electrical wires.

Before putting the valve into operation again, make certain the actuator is correctly fitted.

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 «Maintenance» must be observed. Contact your local office or branch.

Disposal



Before disposal the valve must be dismantled and separated into its various constituent materials.

Legislation may demand special handling of certain components, or it may be sensible from an ecological point of view.

Current local legislation must be observed.

Warranty

The technical data given for these applications is valid only for valves used in conjunction with the actuators described under «Equipment combinations».



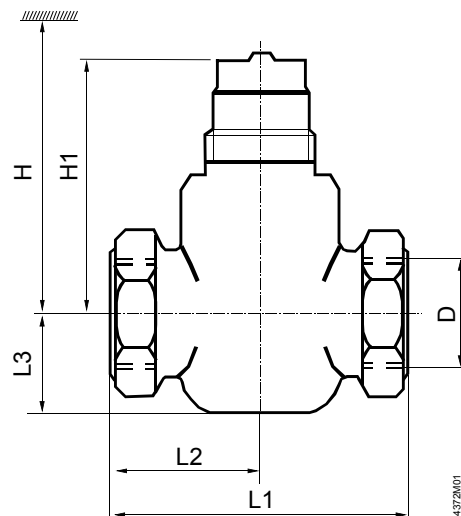
The use of valve type VVI44...(J) with third-party actuators invalidates any warranty offered by Siemens Switzerland Ltd / HVAC Products.

Technical data

Functional data	PN class	PN 16 to ISO 7268 (DIN 2401)
	ANSI class 250	ASME B16.15
	Permissible operating pressure	250 psi
	Flow characteristic	modified equal percentage, optimized for a wide controllable range
	Leakage rate	0...0.02 % of k_{vs}
	Permissible media	chilled water, low temperature hot water, high temperature hot water, water with anti-freeze; recommendation: water treatment to VDI 2035
	Medium temperature	2...120 °C
	Rangeability S_v	DN 15...25: > 100 (VVI44.15-0.34..0.85: >50)
	Nominal stroke	5.5 mm
	Materials	Valve body
Stem		stainless steel ASTM A582 Type 303
Plug, seat		brass or stainless steel
Sealing gland		brass
Gland materials		special EPDM rubber
Dimensions / Weight	Refer to «Dimensions»	
	Threaded connections	Rp to ISO 7-1

Dimensions

Dimensions in mm



DN	D [inch]	H		H1	L1	L2	L3	kg [kg]
		SQS...	SSC...					
15	Rp $\frac{1}{2}$ "	> 372	> 336	61	70	35	24	0.60
20	Rp $\frac{3}{4}$ "	> 372	> 336	61	82	41	26	0.80
25	Rp1"	> 378	> 342	67	98	49	30	1.20

H Overall height of valve from centre of pipe with actuator (SQS... or SSC...) plus minimum clearance (>200 mm) from ceilings or walls for mounting, connection, operation, service etc.

H1 Installation height from centre of pipe, for actuator (upper edge)

W Weight incl. packaging