Data sheet

2 - way valve
VS 2

Description / Application

The valves with split or linear characteristic provide a quality, cost effective solution for most LPHW and chilled water applications. These valves may be used with glycol concentrations of up to 30% .

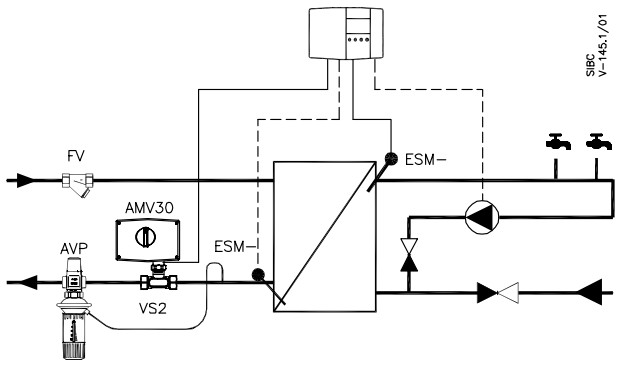
Main data:

- SPLIT or LIN characteristic
- Ext. thread PN 16
- Suitable for use with AMV(E) 10/20/30, AMV(E) 13/23/33 and AMV 100 (only DN 15) actuators

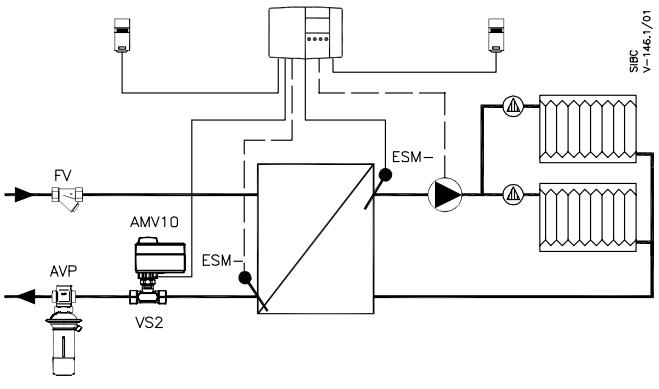
Type	AMV 100	AMV 10/13	AMV(E) 10/13	AMV(E) 20/23	AMV(E) 30/33
VS2 DN 15 *	•	•	-	-	-
VS2 DN 20	-	-	•	•	•
VS2 DN 25	-	-	•	•	•

* *VS2 DN 15 valve has linear characteristic and cannot be recommended to be used with modulating controlled actuators (AME actuators) for DHW production.*

Principles



Hot water service application with heat exchanger



Heating application, indirect district heating substation

Data sheet 2 - way valve VS 2

Ordering

DN	Ext. thread ISO 228/1	k_{vs} (m^3/h)	Stroke (mm)	**Code No.**
15	G ¾ A	0.25	4	**065F2111**
		0.40	4	**065F2112**
		0.63	4	**065F2113**
		1.0	4	**065F2114**
		1.6	4	**065F2115**
20	G 1 A	2.5	5	**065F2120**
25	G 1¼ A	4.0	5	**065F2125**

Accessories

DN	Weld-on tailpieces	Tailpieces with external threads
15	**003H6908**	**003H6902**
20	**003H6909**	**003H6903**
25	**003H6910**	**003H6904**

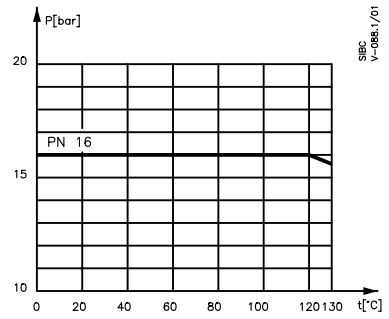
Spare parts

Type	Valve size	**Code No.**
Stuffing box	DN 15 - 25	**065F0006**

Ordering

Pressure stage	PN 16
Max. water temperature	130 °C
Cavitation factor	≥ 0.5
Max. closing pressure Δp	10 bar
Max. operating pressure Δp_v	6 bar *
Control characteristic	Lin for k_{vs} 0.25 - 1.6, split for k_{vs} 2.5 - 4.0
Leakage acc. to standard IEC 534	Max. 0.05% of k_{vs}
Control range	> 50:1
Media	Water, pH 7 - 10 Glycolic water 30% down to 5 °C
Thread standard	ISO 228 - 1

* *Increased noise level when Δp_v is higher than 4 bar*

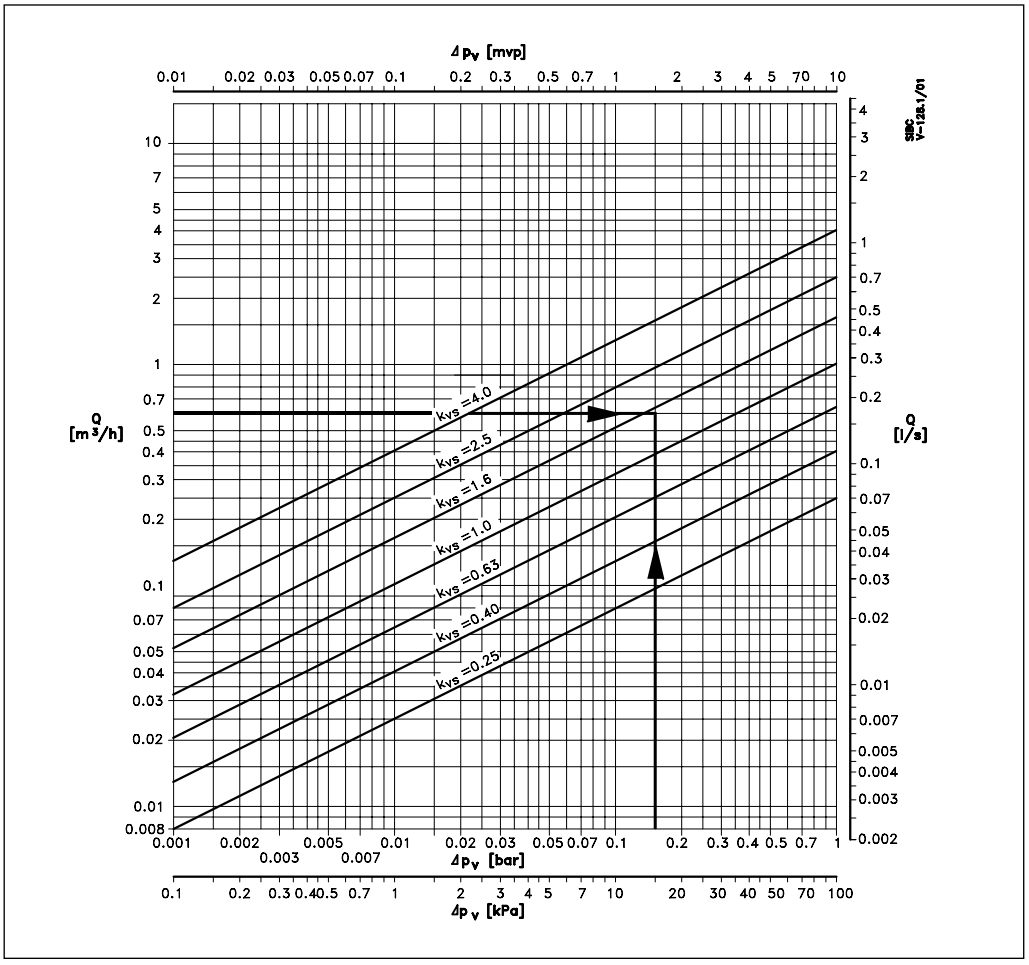


Temperature and pressure diagram according to DIN 4747 and DIN 2401.

Materials

Body	Dezincing free brass
Cone, seat and spindle	Stainless steel
Gasket	EPDM O-rings

Sizing



Example:

Given:

P	= 14 kW	P	= heating power (kW)
Δt	= 20 K	Δt	= temperature difference (K)
ΔP_v	= 0.15 bar	ΔP_v	= differential pressure across the valve (bar)

Current flow Q (m^3/h) through the valve is calculated according to formula:

$$Q = \frac{P \times 0.86}{\Delta t}$$

$$Q = \frac{14 \times 0.86}{20} = 0.6\,m^3/h$$

k_{vs} value - flow (m^3/h) in fully opened valve is calculated according to formula:

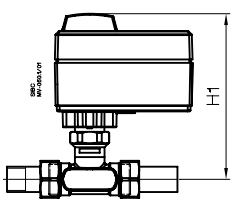
$$k_{vs} = \frac{Q}{\sqrt{\Delta p_v}}$$

$$k_{vs} = \frac{0.6}{\sqrt{0.15}} = 1.5 \rightarrow 1.6\,m^3/h$$

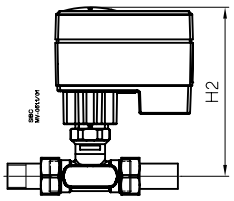
or read from sizing diagram by taking a line through Q scale (0.6 m^3/h) and Δp scale (0.15 bar) to intersect k_{vs} axis at 1.6.

Solution:
VS 2 DN 15 k_{vs} = 1.6

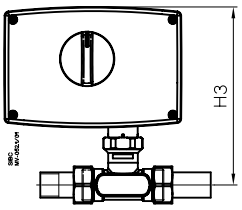
Dimensions



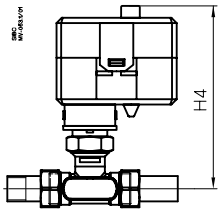
AMV(E) 10 +
*VS2 DN 15 * - 25*



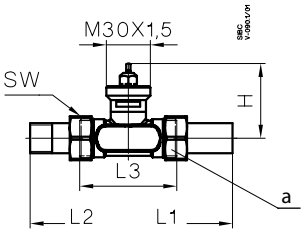
AMV(E) 13 +
VS2 DN 15 - 25*



AMV(E) 20/30, 23/33 +
VS2 DN 15 - 25*



AMV 100 +
VS2 DN 15



Type	Stroke (mm)	L1 (mm)	L2 (mm)	L3 (mm)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	H4 (mm)	a ISO 228/1	SW (mm)	Weight (kg)
VS2 15	4	139	131	65	49	142	145	155	140	G ¾A	32	0.25
VS2 20	5	154	142	70	56	149	152	162	-	G 1A	41	0.35
VS2 25	5	159	159	75	62	155	158	168	-	G 1¼A	46	0.57

Type	AMV(E) 10/13	AMV(E) 20/23	AMV(E) 30/33
VS2 15	-	-	-
VS2 20	•	•	•
VS2 25	•	•	•

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