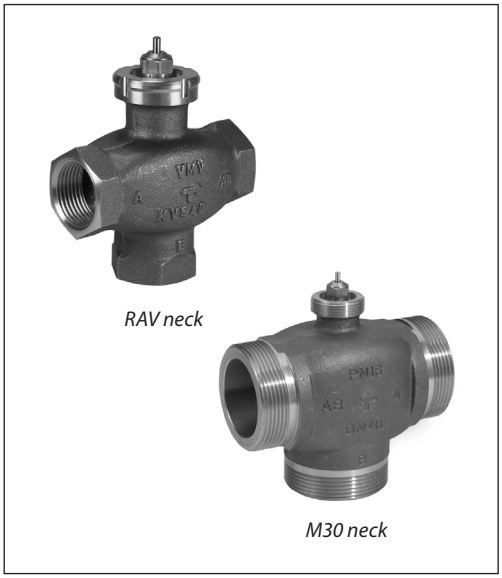
Data sheet

3-way seated valve VMV (PN 16)

– version with RAV neck, internal thread

– version with M30 neck, external thread

Description



VMV is 3-way seated mixing valve primarily use for flow temperature control.

It can be combined with:
- AMV(E) 10, 13 electrical actuator
- AMV 150 electrical actuator
- ABV thermohydraulic actuator
- VMV DN 15 and DN 20 can additionally be combined with self-acting thermostatic actuators RAVI and RAVK

Main data:
- DN 15-40
- k_{vs} 2.5-12 m³/h
- PN 16
- Temperature:
  - Circulation water / glycolic water up to 30%: 2 … 120 °C
- Connections:
  - Internal and external thread

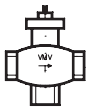
Ordering

Example:
3-way seated valve, DN 15, k_{vs} 2.5, PN 16, t_{max} 120 °C, ext. thread

- *1x VMV DN 15 valve*
  Code No: ***065F6015***

Option:
- *1x Ext. thread tailpieces*
  Code No: ***065Z7010***

VMV valve

Picture	DN	k_{VS} (m³/h)	Connection		Actuator connection	Code No.
	15	2.5	Internal thread acc. to ISO 7/1	R_p ½	RAV neck	**065F0015**
	20	4.0		R_p ¾		**065F0020**
	25	6.3		R_p 1		**065F0025**
	32	10		R_p 1¼		**065F0032**
	40	12		R_p 1½		**065F0040**
	15	2.5	Cylindrical external thread acc. to ISO 228/1	G ¾ A	M30 neck	**065F6015**
	20	4.0		G 1 A		**065F6020**
	25	6.3		G 1¼ A		**065F6025**
	32	10		G 1½ A		**065F6032**
	40	12		G 2 A		**065F6040**

Accessories

Picture	Type	Type designations	DN	Code No.
	VMVH[1)]	Manual operation unit		**065F0005**
	External thread tailpieces [2)]		15	**065Z7010**
			20	**065Z7011**
			25	**065Z7012**
			32	**065Z7013**
			40	**065Z7014**
	Adapter RAV / M30 neck		15 – 20	**065Z7018**

[1)] *Only for valves with RAV neck*
[2)] *Only for valves with external thread (M30 neck); incl. 3 tailpieces per code number*

Service kits

Picture	Type designations	Code No.
	Valve stuffing box	**065F0006** [1)]

[1)] *The products can only be ordered in multiple packing containing 10 pieces each*

Technical data

VMV valve

Nominal diameter	DN	15	20	25	32	40
k_{VS} value	m^3/h	2.5	4.0	6.3	10	12
Stroke	mm	2.0	2.1	2.6	3.1	3.3
Control ratio		1:50				
Control characteristic		Approximately linear				
Cavitation factor z		≥ 0.5				
Leakage acc. to standard IEC 534		A-AB ≤ 0.05 % of k_{VS}				
		B-AB ≤ 0.1 % of k_{VS}				
Nominal pressure	PN	16				
Medium		Circulation water / glycolic water up to 30%				
Medium pH		Min. 7, max. 10				
Medium temperature	°C	2 … 120				
Connections		Int. and ext. thread				
Materials						
Valve body		Red bronze CuSn5ZnPb (Rg5)				
Valve seat		Red bronze CuSn5ZnPb (Rg5)				
Valve cone		EPDM				
Spindle		Stainless steel				

Application principles

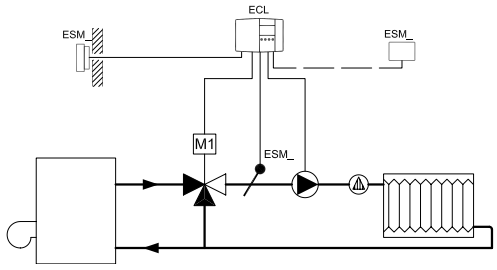


Fig.1 Combination of ABV and VMV

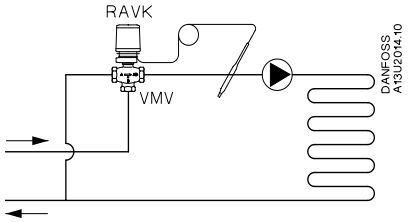


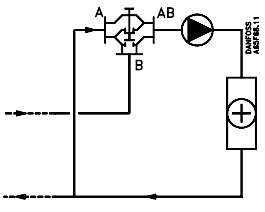
Fig.2 Combination of VMV and RAVI/RAVK

Installation

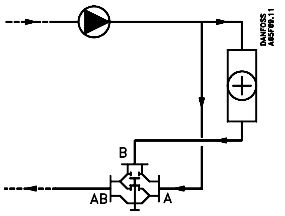
VMV must always be installed as a mixing valve (two inlet ports-one outlet port), according to flow direction arrows cast into the valve body. VMV closes across main ports A-AB on rising spindle travel.

Combination of VMV and RAVI/RAVK (see "Application principles", Fig.2):
Inlet must be on port B and return on port A.

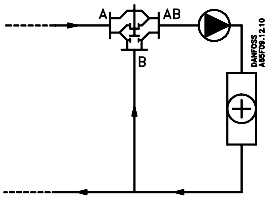
NC (normally closed)
RAVK (only VMV DN 15, 20)
ABV-NC



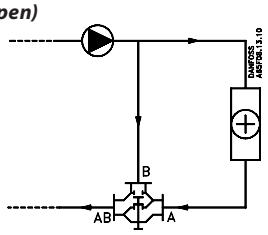
NC (normally closed)
RAVK (only VMV DN 15, 20)
RAVI (only VMV DN 15, 20)
ABV-NC



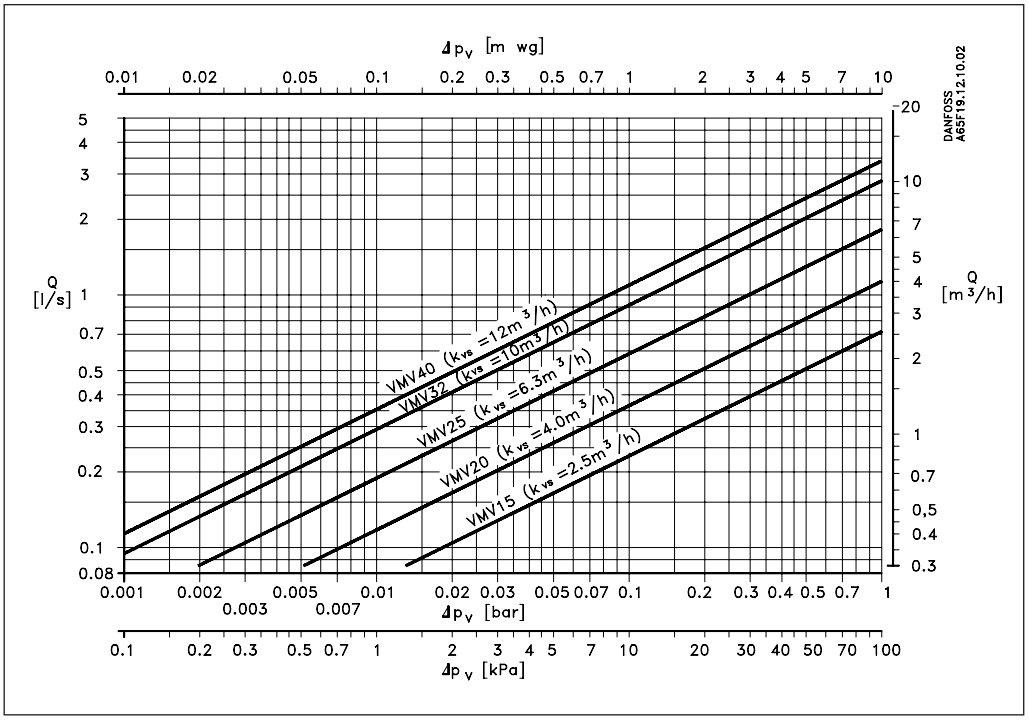
NO (normally open)
ABV-NO



NO (normally open)
ABV-NO



Sizing



$Q = k_{VS} \sqrt{\Delta p_v}$

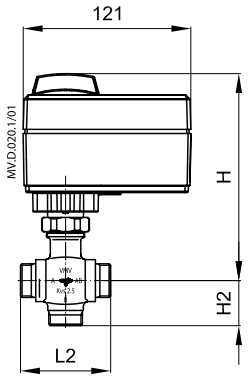
Q- actual flow in valve in m^3/h

k_{VS}- flow in valve in m^3/h with $\Delta p_v = 1$ bar

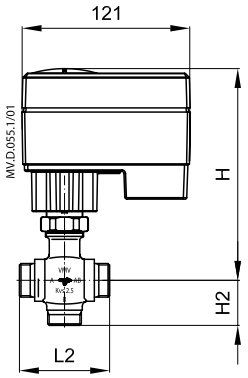
Δp_v- differential pressure across valve (bar)

Type	Max Δp_v
VMV 15	0.6 bar
VMV 20	0.5 bar
VMV 25	0.3 bar
VMV 32	0.2 bar
VMV 40	0.2 bar

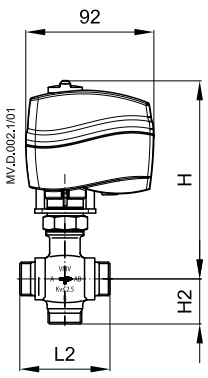
Dimensions



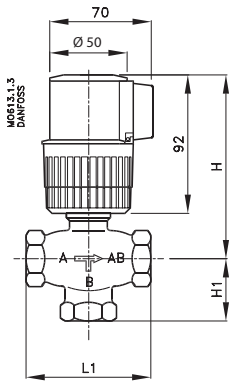
AMV(E) 10



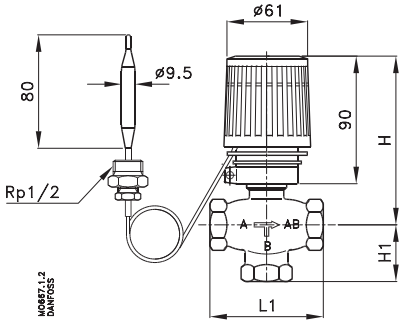
AMV(E) 13



AMV 150

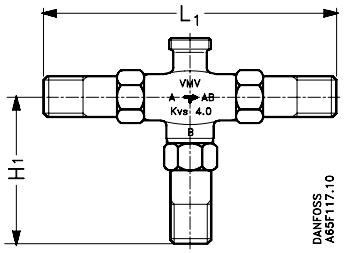


ABV



RAVI/RAVK

DN	L1	L2	H1	H2	H (mm)					Valve weight
	mm				ABV	RAVI/RAVK	AMV(E) 10	AMV(E) 13	AMV 150	(kg)
15	70	71	35	36	120	100	159	162	160	0.5
20	80	86	40	43	120	100	159	162	160	0.6
25	90	93	45	47	125	-	164	167	165	0.9
32	105	106	52.5	53	130	-	169	172	170	1.2
40	120	120	60	60	135	-	174	177	175	1.6



DN	L_1 mm	H_1 mm
15	137	69
20	158	79
25	177	89
32	202	101
40	258	129