

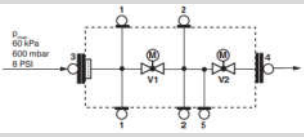
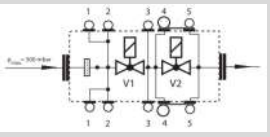
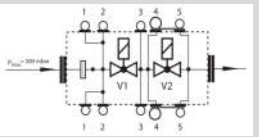
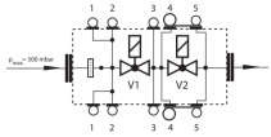
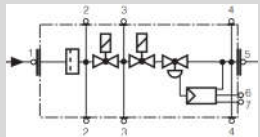
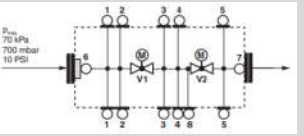
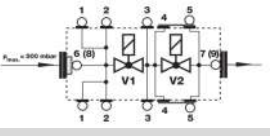
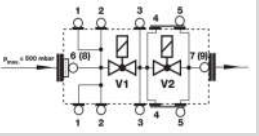
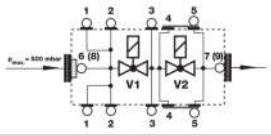
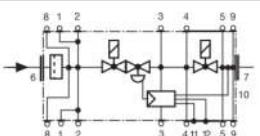
Comparison MBE/DMV/MBC

Product	MBE	DMV.../11 eco	DMV.../11	DMV.../12	MBC (SE/VEF)
Valve function					
Sizes	Rp 1 1/2 - 2 DN 65 - 150 NPT 1 1/2 - 2 NPS 2½ - NPS 6	Rp 1 1/2 - 2 DN 65-125 NPT 2	Rp 1 1/2 - 2 DN 65-125 NPT 2	Rp 1 1/2 - 2 DN 65-125 NPT 2	Rp 1 1/2 - 2 DN 65-125 NPT 2
Maximal inlet pressure	Rp2/NPT2: 60kPa (600 mbar, 240 "W.C.) DN65-150/NPS 2 1/2 - 6: 70kPa (700 mbar, 280 "W.C.)	50 kPa (500 mbar; 200 "W.C.)	50 kPa (500 mbar; 200 "W.C.)	50 kPa (500 mbar; 200 "W.C.)	36 kPa (360 mbar; 145 "W.C.)
Actuator	Electronic actuator	Coil with power circuit	Coil with rectifier	Coil with power circuit	Coil with power circuit
Opening time	~6sec	DMV-D: < 1 s / DMV-DLE ~ 5 - 20s	DMV(-D): < 1 s / DMV-DLE ~ 5 - 20s	DMV-D: < 1 s / DMV-DLE ~ 5 - 20s	< 1 s
Closing time	< 1 s	< 1 s	< 1 s	< 1 s	< 1 s
Adjustment opening time	no	Adjustable fast stroke (opening time ~5-20s)	Adjustable fast stroke (opening time ~5-20s)	Adjustable fast stroke (opening time ~5-20s)	No
Main flow adjustment	No	Yes	Yes	Yes	No
Soft shut off	Yes (software regulated)	No	No	No	No
Degree of protection	IP 55	IP 54	IP 54	IP 54	IP 54
Temperature	-20°C to +60°C	NBR: -15 °C to +60 °C Viton: 0 °C to +60 °C	NBR: -15 °C to +60 °C Viton: 0 °C to +60 °C	NBR: -15 °C to +60 °C Viton: 0 °C to +60 °C	Rp2: -15°C to + 70°C DN65-100: -15 °C to +60 °C
Installation position	Actuator vertically upright to lying horizontally	Solenoid vertically upright to lying horizontally	Solenoid vertically upright to lying horizontally	Solenoid vertically upright to lying horizontally	Rp2: Solenoid vertically upright to lying horizontally DN65-100: Solenoid vertically upright
Voltage AC	One Actuator for AC 100-240 VAC (50/60Hz);	Seperate Coil for each Voltage 230 VAC, 110VAC (50/60Hz)	Seperate Coil for each Voltage 230 VAC, 110VAC (50/60Hz)	Seperate Coil for each Voltage 230 VAC, 110VAC (50/60Hz)	Seperate Coil for each Voltage 230 VAC (50/60Hz)
Voltage DC	One Actuator for DC: 24 VDC (± 30%)	24VDC	24VDC	24VDC	24VDC
Closed position signal	Yes, already integrated in VD-X-POC	Yes, only with accessory K01/CPI	Yes, only with accessory K01/CPI	Yes, only with accessory K01/CPI	No
Proof of closure (POC) switch	Yes, already integrated in VD-X-POC	Yes, only with accessory K01/CPI	Yes, only with accessory K01/CPI	Yes, only with accessory K01/CPI	No
Visual indicator	Yes	No	No	No	No
Operational lamp	Yes	Yes	Yes	Yes	Yes
Electrical connection	Plug connection as per DIN EN 175301-803	Plug connection as per DIN EN 175301-803	Plug connection as per DIN EN 175301-803	Plug connection as per DIN EN 175301-803	Plug connection as per DIN EN 175301-803
ATEX	No	No	No	No	No
SIL	No	No	No	No	No
Biogas	Suitable for gases or gas families 1,2,3 (DVGW G 260), bio and digester gases (DVGW G 262 (A)) up to max. 1.0 vol. % H2S (vaporous, +25 °C)	No	No	No	No
H2S	up to 1,0 vol.% H2S	up to 0,1 vol.% H2S	up to 0,1 vol.% H2S	up to 0,1 vol.% H2S	No
Vibration proofed	VD-...-AC: according EN 13611 (up to 1 G) VD-X-DC: according MIL-810G METHOD 514.6 Category 24				
Material	Housing: Aluminium, steel, brass-metal free Valve seal: - DN50: NBR basis, - DN65-150: VMQ basis, all suitable for gases as per G260/I As replacement for a DMV-... Viton version, VMQ could have a different gas resistance as Viton. Individual testing is recommended.	Housing: Aluminium, steel, free of non-ferrous metals Valve seal: - NBR basis, suitable for gases as per G260/I - FKM basis, suitable for gases as per G260/I (Viton version)	Housing: Aluminium, steel, free of non-ferrous metals Valve seal: - NBR basis, suitable for gases as per G260/I - FKM basis, suitable for gases as per G260/I (Viton version)	Housing: Aluminium, steel, free of non-ferrous metals Valve seal: - NBR basis, suitable for gases as per G260/I - FKM basis, suitable for gases as per G260/I (Viton version)	Housing: Cast aluminium Diaphragms, valve seals: NBR-based, Silopren (silicone rubber) Solenoid drive: Aluminium, steel, brass

Comparison MBE/DMV/MBC

Product	MBE	DMV.../11 eco	DMV.../11	DMV.../12	MBC (SE/VEF)
Approvals	CE, cULus, FM, EAC, Ukr, AGA	CE, CSA, FM, EAC, Ukr, AGA	CE, CSA, FM, EAC, Ukr, AGA	CE, CSA, FM, EAC, Ukr, AGA	Rp 2, DN 65 - 100: CE, EAC, Ukr, AGA NPT 2: CSA, UL, FM, AGA
Flange connection	Size 65, 80 & 150: One flange version. Oval holes to cover ISO and ANSI Size 100 & 125: Two flange versions either for ISO or ANSI	Only available in DN	Only available in DN	Only available in DN	Only available in DN
Dirt trap	Sieve	Sieve	Sieve	Sieve	Sieve
Only Valve function Flow @ dp 10 mbar (Natural Gas)	Rp 2 : 130 m3/h DN 65: 260 m3/h DN 80: 360 m3/h DN 100: 520 m3/h DN 125: 790 m3/h	Rp 2 (DMV 525) : 140 m3/h DN 65: 160 m3/h DN 80: 260 m3/h DN 100: 370 m3/h DN 125: 620 m3/h	Rp 2 (DMV 525) : 140 m3/h DN 65: 160 m3/h DN 80: 260 m3/h DN 100: 370 m3/h DN 125: 620 m3/h	Rp 2 (DMV 525) : 140 m3/h DN 65: 240 m3/h DN 80: 340 m3/h DN 100: 560 m3/h DN 125: 750 m3/h	Only in combination with vavle + regulator available
Valve + Regulator function Flow @ dp 10 mbar (~ max. regulation, Natural Gas)	Rp 2 : 120 m3/h DN 65: 230 m3/h DN 80: 320 m3/h DN 100: 470 m3/h DN 125: 710 m3/h	DMV + FRS Rp 2 (DMV 525): 95 m3/h DN 65: 120 m3/h DN 80: 160 m3/h DN 100: 260 m3/h DN 125: 380 m3/h	DMV + FRS Rp 2 (DMV 525): 95 m3/h DN 65: 120 m3/h DN 80: 160 m3/h DN 100: 260 m3/h DN 125: 380 m3/h		Rp 2 : 108 m3/h DN 65: 170 m3/h DN 80: 280 m3/h DN 100: 450 m3/h
Power consumption @ 230 VAC & 110 VAC	Per actuator Rp2: 8W DN65: 8W DN80: 8W DN100: 8W DN125: 8W	Start/Holding Rp2: 65W/16W (2x) DN65: 65W/16W (2x) DN80: 95W/20W (2x) DN100: 125W/25W (2x) DN125: 125W/25W (2x)	Rp2: 110W DN65: 110W DN80: 110W DN100: 135W DN125: 200W	Start/Holding Rp2: 65W/16W (2x) DN65: 95W/20W (2x) DN80: 125W/25W (2x) DN100: 125W/25W (2x) DN125: 160W/35W (2x)	Start/Holding Rp2: 200W/30W (2x) DN65: 95W/20W (2x) DN80: 125W/25W (2x) DN100: 125W/25W (2x)
Power consumption @ 24 VDC	Per actuator Rp2: 8W DN65: 8W DN80: 8W DN100: 8W DN125: 8W	Start/Holding Rp2: 65W/16W (2x) DN65: 65W/16W (2x) DN80: 95W/17W (2x) DN100: 100W/20W (2x) DN125: 100W/20W (2x)	Rp2: 43W (2x) DN65: 43W (2x) DN80: 46W (2x) DN100: 47W (2x) DN125: 76W (2x)	Start/Holding Rp2: 65W/16W (2x) DN65: 65W/17W (2x) DN80: 100W/20W (2x) DN100: 100W/20W (2x) DN125: 130W/25W (2x)	
Weight	Rp2: 8,9 Kg/ 19,6 lbs DN65: 13,5 Kg/ 29,7 lbs DN80: 14,5 Kg/ 32,0 lbs DN100: 17,0 Kg/ 37,5 lbs DN125: 18,5 Kg/ 40,7 lbs DN150: 23,9 Kg/ 52,6 lbs	Rp2: 7,2 Kg/ 15,9 lbs DN65: 10,0 Kg/ 22,0 lbs DN80: 16,3 Kg/ 35,9 lbs DN100: 24,2 Kg/ 53,4 lbs DN125: 31,7 Kg/ 69,9 lbs	Rp2: 12,3 Kg/ 27,1 lbs DN65: 14,8 Kg/ 32,6 lbs DN80: 24,1 Kg/ 53,1 lbs DN100: 31,1 Kg/ 68,6 lbs DN125: 51,1 Kg/ 112,7 lbs	Rp2: 7,0 Kg/ 15,4 lbs DN65: 16,5 Kg/ 36,4 lbs DN80: 23,3Kg/ 51,4 lbs DN100: 29,3Kg/ 64,6 lbs DN125: 53,0Kg/ 116,8 lbs	Rp2: 16,8 Kg/ 37,0 lbs DN65: 18,4 Kg/ 40,6 lbs DN80: 26,0 Kg/ 57,3 lbs DN100: 33,3 Kg/ 73,4 lbs
Mid-volume space	Rp2: 0,95 l (VPS 504) DN65: 2,36 l (VPS 504/508) DN80: 2,68 l (VPS 504/508) DN100: 3,82 l (VPS 504/508) DN125: 5,35 l (VPS 508) DN150: tbd	Rp2: 0,39 l (VPS 504) DN65: 0,69 l (VPS 504) DN80: 1,47 l (VPS 504/508) DN100: 2,28 l (VPS 504/508) DN125: 3,56 l (VPS 508)	Rp2: 0,39 l (VPS 504) DN65: 0,69 l (VPS 504) DN80: 1,47 l (VPS 504/508) DN100: 2,28 l (VPS 504/508) DN125: 3,56 l (VPS 508)	Rp2: 0,39 l (VPS 504) DN65: 1,47 l (VPS 504/508) DN80: 2,28 l (VPS 504/508) DN100: 3,55 l (VPS 504/508) DN125: 6,00 l (VPS 508)	Rp2: 0,10 l (VPS 504) DN65: 1,47 l (VPS 504/508) DN80: 2,28 l (VPS 504/508) DN100: 3,55 l (VPS 504/508) DN125: 6,00 l (VPS 508)
Height/ needed installation height [mm]	Rp2: 357/382 DN65: 488/ 513 DN80: 488/ 513 DN100: 488/ 513 DN125: 500/ 525	Rp2: 267/363 DN65: 267/ 363 DN80: 350/ 474 DN100: 411/ 569 DN125: 471/ 642	Rp2: 340/488 DN65: 338/ 537 DN80: 397/ 614 DN100: 450/ 719 DN125: 554/ 892	Rp2: 267/363 DN65: 350/ 469 DN80: 411/ 569 DN100: 471/ 642 DN125: 543/ 763	DN65: 429/ 548 DN80: 497/ 655 DN100: 579/ 750
Assembly	Flexible Following components need to be orderd and assembled by customer: VB-X VD-X-XX (PS-X + BUS-Cable)	Compact customer need to order only one specific article	Compact customer need to order only one specific article	Compact customer need to order only one specific article	Compact customer need to order only one specific article

Comparison MBE/DMV/MBC

Product	MBE	DMV.../11 eco	DMV.../11	DMV.../12	MBC (SE/VEF)
Pressure taps Rp/NPT	 <p>1,2,3,4 Pressure tap G1/8 ISO 228 5 Sealing plug NPT 1; connection for vent line (For version VB-2L only)</p>	 <p>1,2,3,5 Pressure tap G1/8 ISO 228 4 For system accessories</p>	 <p>1,2,3,5 Pressure tap G1/8 ISO 228 4 For system accessories</p>	 <p>1,2,3,5 Pressure tap G1/8 ISO 228 4 For system accessories</p>	 <p>1,2,3,5 Pressure tap G1/8 ISO 228 4 Sealing plug G1/8 (optional) 6,7 Vent nozzle G 1/8</p>
Pressure taps DN/NPS	 <p>1,2,3,5 Pressure tap G1/8 ISO 228 4 For system accessories 6,7 Sealing plug G1/4 ISO 228 8 Connection for vent line (For version VB-...L only)</p>	 <p>1,2,3,5 Pressure tap G1/8 ISO 228 4 For system accessories 6,7 Sealing plug G1/4 ISO 228 8,9 Optional G 1/2</p>	 <p>1,2,3,5 Pressure tap G1/8 ISO 228 4 For system accessories 6,7 Sealing plug G1/4 ISO 228 8,9 Optional G 1/2</p>	 <p>1,2,3,5 Pressure tap G1/8 ISO 228 4 For system accessories 6,7 Sealing plug G1/4 ISO 228 8,9 Optional G 1/2</p>	 <p>1,2,3 Pressure tap G1/8 ISO 228 4,5 Optional, for system accessories 6,7 Sealing plug G1/4 ISO 228 8,9 Optional G 1/2 10 Pulse line pbr (integrated) 11,12 Vent nozzle G1/8</p>
Regulator function	VD-R	not integrated	not integrated	not integrated	MBC (SE/VEF)
regulation function	Electronic regulation (according to EN 88-3, but fulfil EN 88-1)	only in combination with FRS/FRNG	only in combination with FRS/FRNG	only in combination with FRS/FRNG	Servo pressure regulation (according to EN 88-1)
Standard	EN 88-3	EN 88-1	EN 88-1	EN 88-1	EN 88-1, EN 12067-1
Regulated by	Software	Spring + Membrane	Spring + Membrane	Spring + Membrane	Spring + Membrane
Constant outlet pressure	3 Sensors to cover the complete range from 0 to 50 kPa (0 to 500 mbar) PS-10/40: 0,4 to 10 kPa / 2 to 40 "W.C. PS-50/200: 2 to 50 kPa / 8 to 150 "W.C. PS-0: -0,5 to 0,5 kPa / -2 to 2 "W.C.	45 springs to cover the complete range from 0 to 20 kPa (0 to 200 mbar) with FRS: 0,25 kPa to 20 kPa (2,5 to 200 mbar) with FRNG: 0 to 20 kPa (0 to 200 mbar)	45 springs to cover the complete range from 0 to 20 kPa (0 to 200 mbar) with FRS: 0,25 kPa to 20 kPa (2,5 to 200 mbar) with FRNG: 0 to 20 kPa (0 to 200 mbar)	45 springs to cover the complete range from 0 to 20 kPa (0 to 200 mbar) with FRS: 0,25 kPa to 20 kPa (2,5 to 200 mbar) with FRNG: 0 to 20 kPa (0 to 200 mbar)	Rp2: S22: 0,4 to 2 kPa (4- to 20 mbar) S82: 0,5 to 8 kPa (5 to 80 mbar) S302: 3 -to30 kPa (30 to 300 mbar) S02/N: 0 ± 0,1 kPa (0± 1 mbar) DN 65-100: Change of setpoint spring possible. 0,4 to 2 kPa (4 to 20 mbar) 2 to 4 kPa (20 to 40 mbar) 4 to 8 kPa (40 to 80 mbar) 8 to 15 kPa (80 to 150 mbar) fixed spring: 3 to 30 kPa (30 to 300 mbar)
Proportional regulation of pressure (1:1)	Need to be checked	Yes	Yes	Yes	Yes
Proportional regulation of mass flow rate (1:1)	No	No	No	No	No
Proportional regulation of pressure (Gas/Air ratio control)	No	No	No	No	Rp2: 0,4:1 ... 3:1 DN65-100: 0,75:1 ... 3:1
Zero pressure regulation	Yes	Yes with FRNG	Yes with FRNG	Yes with FRNG	Yes
Compensation of pressure fluctuation	By software	No	No	No	With internal orifices
Accuracy class	± 5% or 50 Pa (0,5 mbar)	AC 15 (± 15%)	AC 15 (± 15%)	AC 15 (± 15%)	AC 15 (± 15%)
Feedback signal	Via flexible BUS Cable	FRS/FRNG: Integrated impulsipe	FRS/FRNG: Integrated impulsipe	FRS/FRNG: Integrated impulsipe	Integrated impulsipe
Compensation of temperature	Yes Sensor is calibrated to temperature and measurement range	No pneumatic feedback pipe	No pneumatic feedback pipe	No pneumatic feedback pipe	No pneumatic feedback pipe