

Flow Control and Pressure Reducing Automatic Metering Valve (AMV)

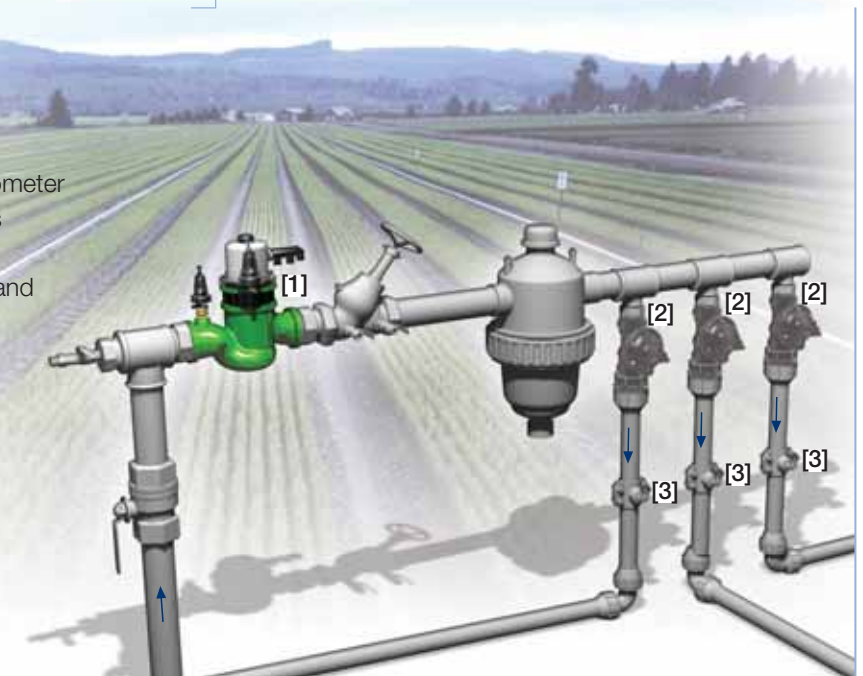
IR-972-D0-KV

The BERMAD Model IR-972-D0-KV integrates a vertical turbine Woltman-type water meter with a diaphragm actuated hydraulic control valve. Equipped with a Mechanical Shut-Off Pilot, a Flow Control Pilot, and a Pressure Reducing Pilot, the BERMAD AMV limits demand and reduces downstream pressure to constant preset maximum values. It automatically shuts itself after accurately delivering a preset quantity of water.



Features and Benefits

- Integrated "All-in-One" Control Valve
 - Saves space, cost and maintenance
- Easy Modification to Mechanical Drive Hydrometer
 - Adaptable to future computerized systems
- Hydraulic Flow, Pressure and Batch Control
 - Limits fill-up rate and consumer over-demand
 - Protects downstream system
 - Non-computerized quantity follow-up and control
- Internal Inlet & Outlet Flow Straighteners
 - Saves on straightening distances
 - Maintains accuracy
- Integrated Flow Metering Calibration Device
 - Measurement precision to $\pm 2\%$
- Paddle-Type Hydro-Mechanical Flow Pilot
 - No added head loss
 - Wide setting range



Typical Applications

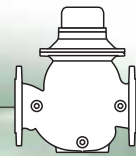
- Semi-Automatic Irrigation Systems
- Manual Irrigation Intended for Computerization
- Line Fill-Up Control Solutions
- Pressure Reducing Systems
- Multiple Independent Consumer Systems
- Volumetric Irrigation Systems

[1] BERMAD Model IR-972-D0-KV limits fill-up rate and consumer over-demand, protects filter and system, and delivers precise water quantity.

[2] BERMAD Model IR-220-bZ

[3] BERMAD Vacuum Breaker Model 1/2"-ARV

BERMAD Irrigation



IR-972-DO-KV

For full technical details, refer to Engineering Section.

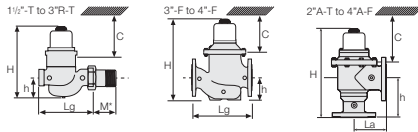
900 Series

Flow Control & Pressure Reducing

Technical Specifications

Dimensions and Weights

Size	DN Inch	40-T 1 1/2-T	50-T 2-T	50A-T 2A-T	80R-T 3R-T	80R-F 4R-F	80-F 3-F	80A-F 3A-F	100-F 4-F	100A-F 4A-F
Lg	mm inch	250 9.8	250 9.8	N.A.	250 9.8	310 12.2	300 11.8	N.A.	350 13.8	N.A.
La	mm inch	N.A.	N.A.	120 4.7	N.A.	N.A.	N.A.	150 5.9	N.A.	180 7.1
H	mm inch	293 11.5	300 11.8	322 12.7	300 11.8	298 11.7	405 15.9	425 16.7	470 18.5	500 19.7
C	mm inch	210 8.3	210 8.3	210 8.3	210 8.3	225 8.9	285 11.2	285 11.2	365 14.4	365 14.4
h	mm inch	95 3.7	95 3.7	125 4.9	79 3.1	100 3.9	123 4.8	196 7.7	137 5.4	225 8.9
M*	mm inch	67 2.6	77 3.0	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Weight	Kg lb.	6.8 15	8.8 19.4	8.1 17.4	7.3 16.1	16 35.3	26.0 57.3	25.8 56.2	37.0 81.6	36.1 78.9



Accuracy & Flow Data (ISO 4064-I, Class A)

Size	Accuracy	DN inch	40 1 1/2	50 2	3"R 80R	80 3	100 4
Q min (Minimum flow)	5%	m ³ gpm	0.8 3.5	0.8 3.5	1.2 5.3	1.2 5.3	1.8 7.9
Qn, ISO 4064-1 (Nominal flow)	2%	m ³ gpm	15 66	15 66	17 75	40 176	60 264
Qper=Q3 (Permanent flow)	2%	m ³ gpm	25 110	40 176	40 176	100 440	160 704

Dial Options

Capacity	Cubic Meter (m ³)								1000 Gallon							
	40	80	120	150	200	350	600	800	1,200	2,100	13	50	130	200	500	870
Graduation	Cubic Meter (m ³)								Gallon							
	1	1	2	2	5	10	10	10	20	50	100	1000	2,500	5,000	10,000	20,000
1 1/2" & 2"	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
3"R		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
3"			■	■	■	■	■	■	■	■	■	■	■	■	■	■
4"				■	■	■	■	■	■	■	■	■	■	■	■	■

Technical Data

End Connections:

Threaded: 1 1/2, 2 & 3"R; DN40, 50 & 80R

Flanged: 3R, 3 & 4"; DN80R, 80 & 100

Pressure Rating: 10 bar; 145 psi

Minimum Operating Pressure: 0.5 bar; 7 psi

For lower pressure requirements, consult factory

Setting Range: 1-7 bar; 15-100 psi

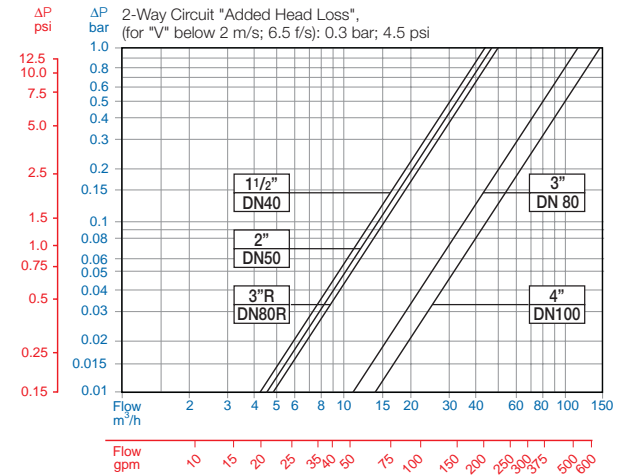
Flow Setting Range: 1-5 m/sec; 3.3-16.5 f/sec

How to Order

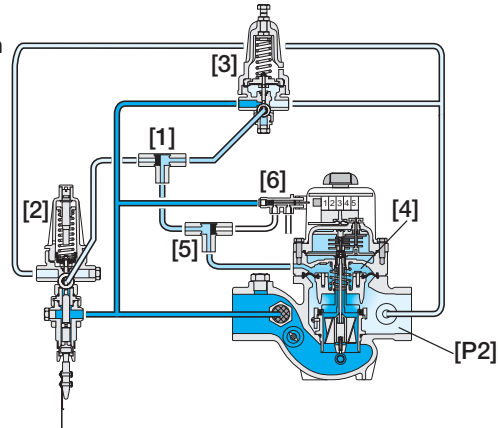
Please specify the requested valve in the following sequence: (for more options, refer to Ordering Guide.)

Sector	Size	Primary Feature	Control Categories	Additional Feature	Pattern	Construction Materials	End Connections	Coating	Voltage & Position	Tubing & Fittings	Dial Capacity	Pulse Rate	Additional Attributes
IR	1 1/2-4"	972	D0	00	G	I	BP	PG	-	PP	120	NPS	KV
Other sizes available on request.													
Globe	Angle 90°		G										
	120° (2 1/2" & 4" only)		A										
			H										
BSP (1 1/2, 2 & 3"R only)			BP										
NPT (1 1/2, 2 & 3"R only)			NP										
ISO-16			16										
ISO-10			10										
ISO-14 (ISO-10/4 Holes)			14										
ANSI-125			A1										
JIS-10			J1										
BST-D			BD										
				Plastic Tubing & Fittings		PP							
				Plastic Tubing & Brass Fittings		PB							
							40 m ³	040	2,100 m ³	2K0			Plastic Control Accessories
							80 m ³	080	3,500 m ³	3K0			Paddle Flow Control Pilot
							120 m ³	120	13,000 Gal.	1G0			Homologation Approved
							150 m ³	150	50,000 Gal.	5G0			Other attributes available on request
							200 m ³	200	130,000 Gal.	1KG			
							350 m ³	350	200,000 Gal.	2KG			
							600 m ³	600	510,000 Gal.	5KG			
							800 m ³	800	875,000 Gal.	8KG			
							1,200 m ³	1K0					

Flow Chart



Operation



Shuttle Valve (SV-1) [1] hydraulically connects the Paddle Flow Pilot (PFP) [2] or the Pressure Reducing Pilot (PRP) [3] to the AMV Control Chamber [4] through Shuttle Valve (SV-5) [5]. When the Shut-Off Pilot (SOP) [6] is set, the PFP commands the AMV to throttle closed should demand rise above setting. The PRP commands the AMV to reduce Downstream Pressure [P2] to pilot setting. Upon delivering the preset quantity of water, the SOP switches and directs line pressure to pressurize SV-5, which thereby transmits this pressure into the control chamber, shutting the AMV.



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