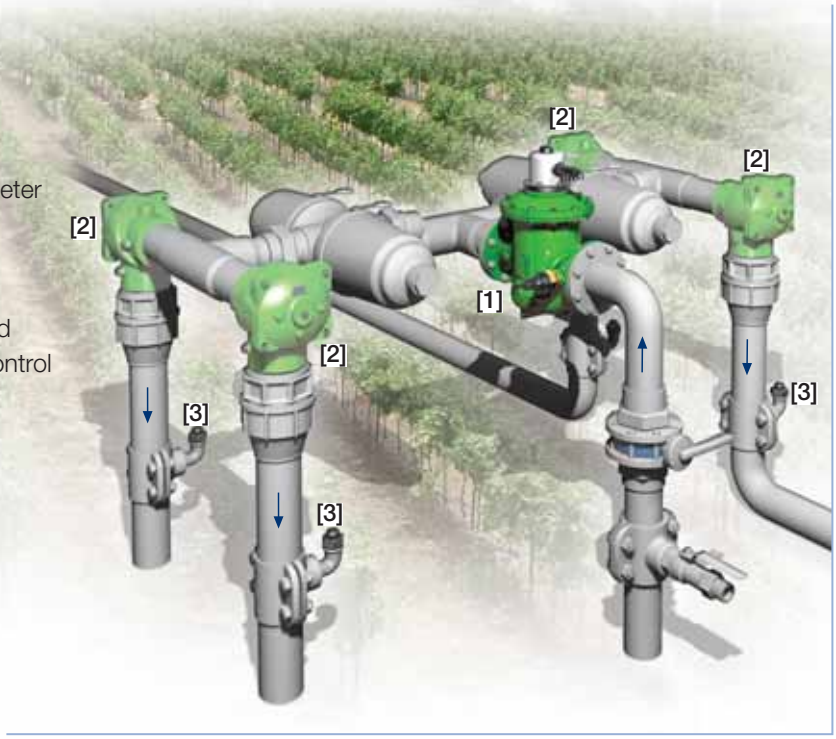
Flow Control Automatic Metering Valve (AMV)

IR-970-D0-KV

The BERMAD Flow Control Automatic Metering Valve integrates a vertical turbine Woltman-type water meter with a diaphragm actuated hydraulic control valve. Equipped with a Mechanical Shut-Off Pilot and a Flow Pilot, the BERMAD Model IR-970-D0-KV limits the flow to a constant preset maximum. 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 Pressure and Batch Control
  - Line pressure driven
  - Limits fill-up rate and consumer over-demand
  - Non-computerized quantity follow-up and control
- Internal Inlet & Outlet Flow Straighteners
  - Saves on straightening distances
  - Maintains accuracy
- Integrated Flow Metering Calibration Device
- Paddle-Type Hydro-Mechanical Flow Pilot
  - No added head loss
  - Wide setting range
- User-Friendly Design
  - Easy pressure and dose setting
  - Simple in-line inspection and service

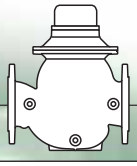


Typical Applications

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

[1] BERMAD Model IR-970-D0-KV limits fill-up rate and consumer over- demand, and delivers precise water quantity.
[2] BERMAD On/Off Control Valve Model IR-405-Z
[3] BERMAD Vacuum Breaker Model ½"-ARV

BERMAD Irrigation



IR-970-DO-KV

900 Series

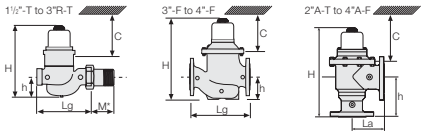
Flow Control

For full technical details, refer to Engineering Section.

Technical Specifications

Dimensions and Weights

Size	DN Inch	40-T 1½-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	250	250	N.A.	250	310	300	N.A.	350	N.A.
	inch	9.8	9.8	N.A.	9.8	12.2	11.8	N.A.	13.8	N.A.
La	mm	N.A.	N.A.	120	N.A.	N.A.	N.A.	150	N.A.	180
	inch	N.A.	N.A.	4.7	N.A.	N.A.	N.A.	5.9	N.A.	7.1
H	mm	293	300	322	300	298	405	425	470	500
	inch	11.5	11.8	12.7	11.8	11.7	15.9	16.7	18.5	19.7
C	mm	210	210	210	210	225	285	285	365	365
	inch	9	9	9	9	9	11	11	15	15
h	mm	95	95	125	79	100	123	196	137	225
	inch	3.7	3.7	4.9	3.1	3.9	4.8	7.7	5.4	8.9
M*	mm	67	77	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	inch	2.6	3.0	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Weight	Kg	6.8	8.8	8.1	7.3	16	26.0	25.8	37.0	36.1
	lb.	15	19.4	17.4	16.1	35.3	57.3	56.2	81.6	78.9



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

Size	Accuracy	DN inch	40 1½	50 2	3"R 80R	80 3	100 4
Q min (Minimum flow)	5%	m³	0.8	0.8	1.2	1.2	1.8
		gpm	3.5	3.5	5.3	5.3	7.9
Qn, ISO 4064-1 (Nominal flow)	2%	m³	15	15	17	40	60
		gpm	66	66	75	176	264
Qper=Q3 (Permanent flow)	2%	m³	25	40	40	100	160
		gpm	110	176	176	440	704

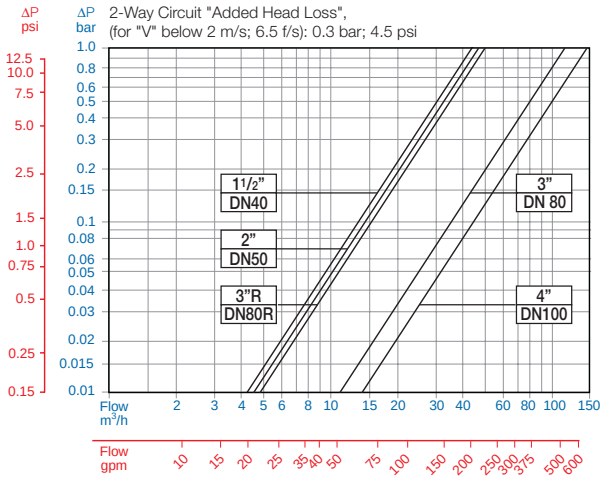
Dial Options

Capacity	Cubic Meter (m³)										1000 Gallon					
	40	80	120	150	200	350	600	800	1,200	2,100	13	50	130	200	500	870
Graduation	Cubic Meter (m³)										Gallon					
	1	1	2	2	5	10	10	10	20	50	100	1000	2,500	5,000	10,000	20,000
1½" & 2"	■	■	■	■	■	■	■				■	■	■			
3"R		■	■	■	■	■	■	■			■	■	■	■		
3"				■	■	■	■	■	■			■	■	■	■	
4"					■	■	■	■	■	■		■	■	■	■	■

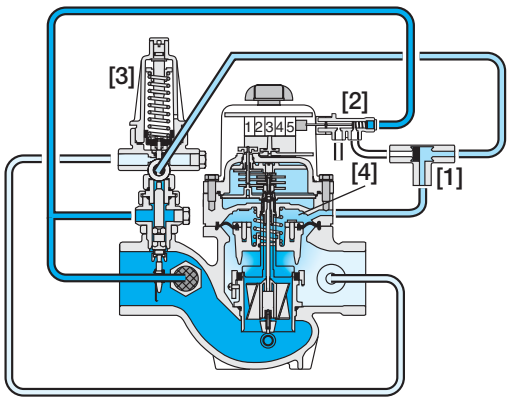
Technical Data

End Connections:
Threaded: 1½, 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: 1-5 m/sec; 3.3-16.5 f/sec

Flow Chart



Operation



The Shuttle Valve **[1]** hydraulically connects the Shut-Off Pilot (SOP) **[2]** or the Paddle Flow Pilot (PFP) **[3]** to the AMV Control Chamber **[4]**.The PFP commands the AMV to throttle closed should demand rise above setting, and to modulate open when demand drops below setting. Upon delivering the preset quantity of water, the SOP switches and pressurizes the shuttle valve, which thereby transmits this pressure into the control chamber, causing the AMV to shut.

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	Additonal Attributes
IR	1½-4"	970	D0	00	G	I	BP	PG	-	PP	120	NPS	KV

Other sizes available on request.

Globe	G
Angle 90°	A
120° (2½" & 4" only)	H

Plastic Tubing & Fittings	PP
Plastic Tubing & Brass Fittings	PB

BSP (1½, 2 & 3"R only)	BP
NPT (11/2, 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

40 m³	040	2,100 m³	2K0
80 m³	080	3,500 m³	3K0
120 m³	120	13,000 Gal.	1G0
150 m³	150	50,000 Gal.	5G0
200 m³	200	130,000 Gal.	1KG
350 m³	350	200,000 Gal.	2KG
600 m³	600	510,000 Gal.	5KG
800 m³	800	875,000 Gal.	8KG
1,200 m³	1K0		

Plastic Control Accessories	K
Paddle Flow Control Pilot	V
Homologation Approved	L

Other attributes available on request

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