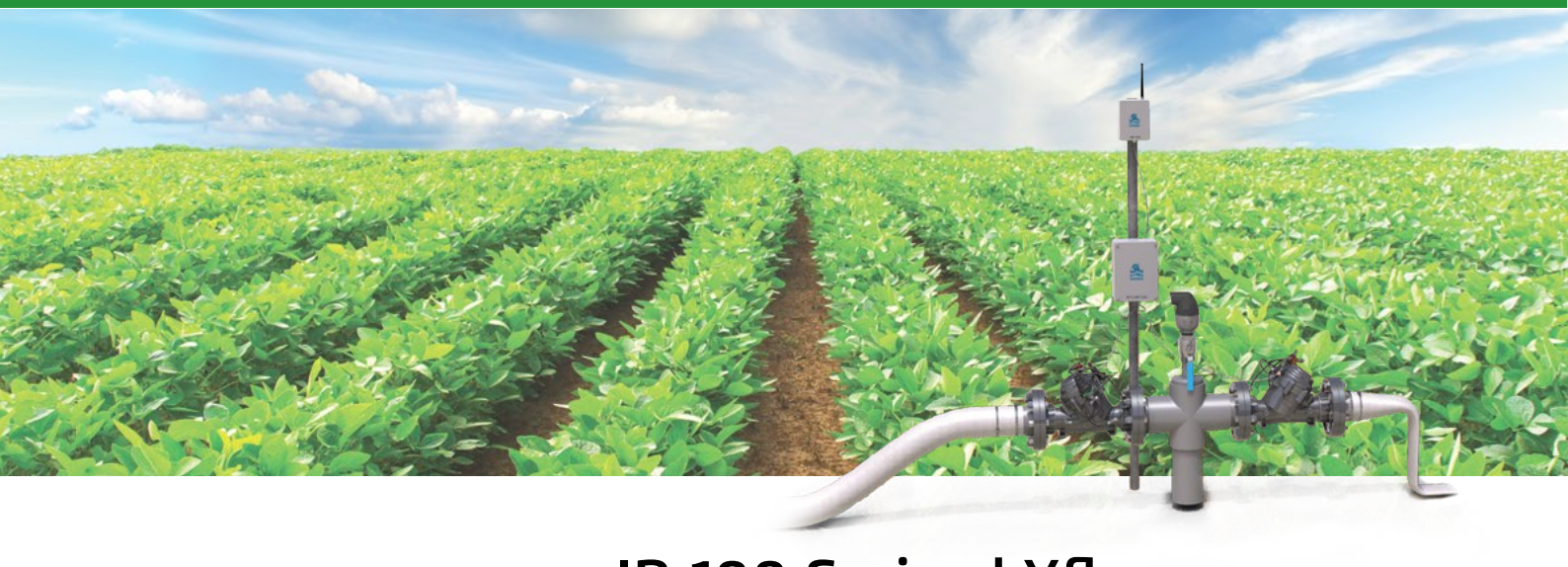


IR-100 Series hYflow

The BERMAD IR-100 hYflow is at the leading edge of control valve design, providing a valve that is free of the typical limitations associated with standard control valves.

A unitized flexible super-travel diaphragm & guided plug provide a significantly 'look through' passage resulting in accurate & stable regulation and ultra-high flow capacity.

The hYflow unique body design allows on-site adaption to a wide range of end connection types and sizes. Its articulated flange connections isolate the valve from pipeline bending & pressure stresses.

*Valves up to 3" can be converted to double chamber on-site

Available in sizes:

Oblique (Y) - 1½", 2", 2"L, 2½", 3", 3"L, 4", 4"L, 6"R & 6" ;
Angle - 2", 3", 3"L, 4"
"T" & Double (D) "T" patterns - 3"

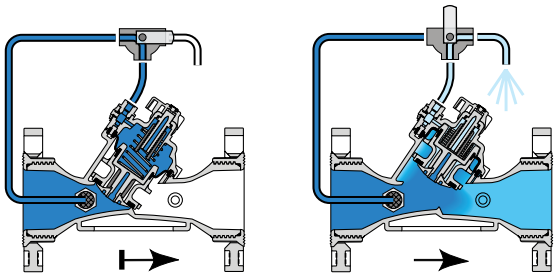
Features and Benefits

- Hydraulic Control Valve
  - Line pressure driven
  - Hydraulically controlled On/Off
- Engineered Composite Material Valve with Industrial Grade Design
  - Adaptable on-site to a wide range of end connection sizes and types
  - Articulated flange connections eliminate mechanical and hydraulic stresses
  - Highly durable, chemical and cavitation resistant
- hYflow 'Y' Valve Body with "Look Through" Design
  - Ultra-high flow capacity - Low pressure loss
- Unitized Flexible Super Travel Diaphragm and Guided Plug
  - Smooth closing
  - Requires low actuation pressure
  - Prevents diaphragm erosion and distortion
- User-Friendly Design
  - Simple in-line inspection and service

Typical Applications

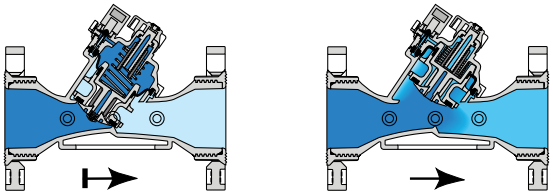
- Irrigation Control Head
- In-Field Control Head
- LPS - Low Pressure Systems
- Energy Saving Irrigation Systems
- Computerized Irrigation Systems

Operation Modes (On/Off)



3-Way Control

Line pressure applied to the control chamber of the valve creates a hydraulic force that moves the valve to the closed position and provides drip tight sealing. Discharging pressure from the control chamber to the atmosphere causes the line pressure under the plug to open the valve.



2-Way Internal Control

Line pressure enters the control chamber through the internal restriction. The closed solenoid causes pressure to accumulate in the control chamber, thereby shutting the valve. Opening the Solenoid releases more flow from the control chamber than the restriction can allow in. This causes pressure in the control chamber to drop, allowing the valve to open.

Technical Specifications

Available Patterns & Sizes:
Oblique (Y) - 1½"-6"; DN40-DN150
Angle (A) - 2", 3", 3"L, 4"; DN50, DN80, DN80L, DN100
"T" (T) & Double (D) patterns - 3"; DN80

Available End Connections:

Threaded:
Female BSP-T/NPT (1½"-3"L; DN40-DN80L)
Male BSP-F (2" & 2½"; DN50 & DN65)
Flanged: 3", 3"L, 4", 4"L, 6"R & 6"
Universal Plastic or metal "Corona" ISO, ANSI, AS, JIS
PVC: 75mm, 90mm, 110mm, 2.5", 3", 4"
PVC "glue-in" adapters for cement welding

Victaulic: 2", 3", 4"
Plastic grooved adapters

Pressure Rating: 10bar; 150psi
Operating Pressure Range: 0.5-10bar; 7-150psi
Temperature Range: Water up to 60°C; 140°F

Standard Materials:

- **Body, Cover and Plug:** Polyamide (Nylon) 6 – 30GF Black
- **Diaphragm:** NR
- **Seals:** NR
- **Spring:** Stainless Steel
- **Cover bolts:** Stainless Steel

Flow Properties

Size	DN Inch	40 1½	50 2	50 2	50L 2L	65 2½	80 3	80 3	80 3	80 3	80 3	80 3	80L 3L	80L 3L	100 4	100 4"	100L 4L	150R 6R	150 6
Pattern		Y	Y	A	Y	Y	Y	A	T	TT	D	DD	Y	A	Y	A	Y	Y	Y
									One side	Two sides	One side	Two sides							
KV		50	50	50	100	100	100	85	95	130	90	200	200	190	200	190	340	340	400

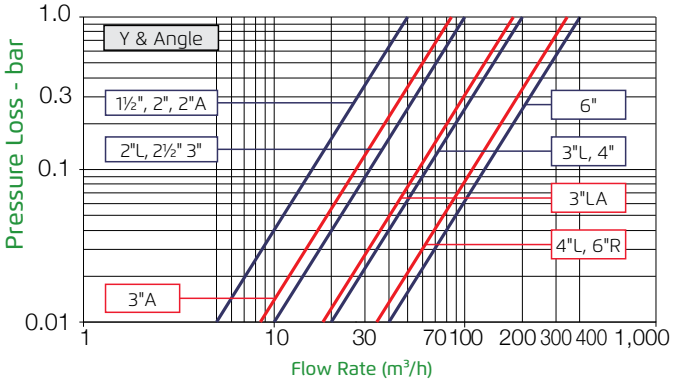
$$\Delta P = \left(\frac{Q}{Kv}\right)^2$$

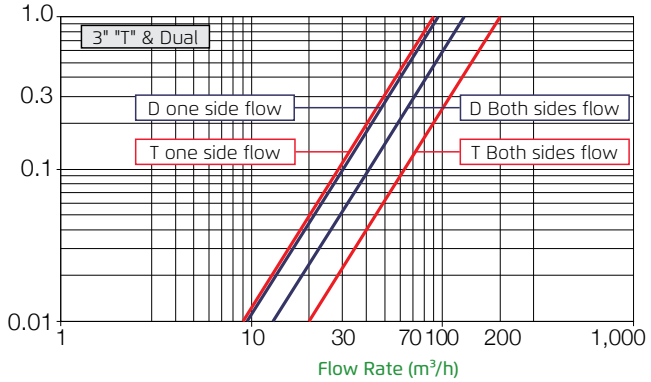
Kv = m³/h @ ΔP of 1 bar
Q = m³/h
ΔP = bar

Cv = 1.155 Kv

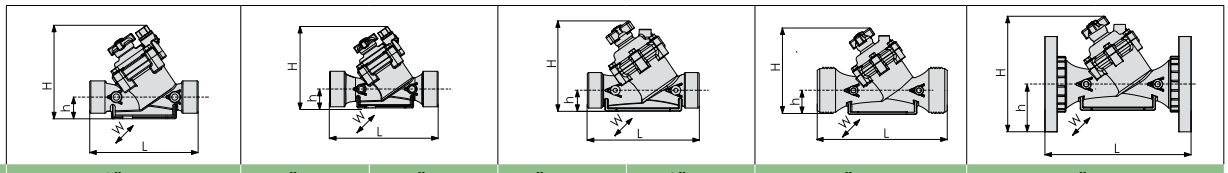
Flow Chart

2-Way circuit "Added Head Loss" (for "V" below 2 m/s): 0.3 bar

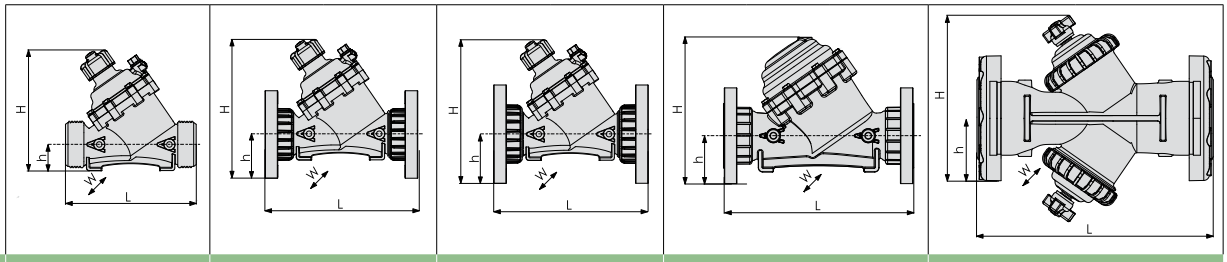




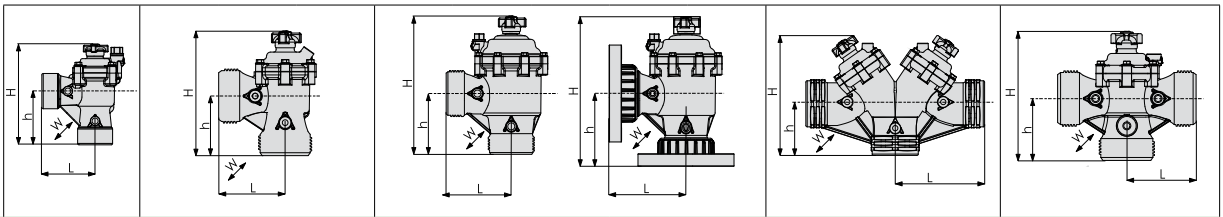
Dimensions & Weights



Size Inch; DN	1½"; 40	2"; 50	2"; 50	2"L; 50L	2½"; 50L	3"; 80	3"; 80	
Pattern	Y	Y	Y	Y	Y	Y	Y	
End Connections	Rc 1½ (BSP.T)	Rc 2 (BSP.T)	G 2 (BSP.F)	Rc 2 (BSP.T)	G 2½ (BSP.F)	Rc 3 (BSP.T)	Universal Flanges	
	1½" NPT	2" NPT	---	2" NPT	---	3" NPT	Metal	Plastic
L (mm)	200	230	230	230	230	298	308	308
H (mm)	173	173	173	187	187	199	244	244
h (mm)	40	40	40	43	43	55	100	100
W (mm)	97	97	97	135	135	135	200	200
CCDV (lit)	0.12	0.12	0.12	0.15	0.15	0.15	0.15	0.15
Weight (Kg)	1.1	1.2	1.2	1.47	1.47	1.6	4.4	2.5



Size Inch; DN	3"L; 80L	3"L; 80L		4"; 100		4"L; 100L			6"; 150	
Pattern	Y	Y		Y		Y			Y "Boxer"	
End Connections	Rc 3 (BSP.T)	Universal Flanges		Universal Flanges		Universal Flanges			Grooved Ends	Universal Flanges
						4"L; 100L		6"R; 150R		
	3" NPT	Metal	Plastic	Metal	Plastic	Metal	Plastic	Metal		Plastic
L (mm)	298	308	308	350	350	442	442	470	480	504
H (mm)	278	317	317	329	329	340	340	377	198	286
h (mm)	60	100	100	112	112	112	112	149	100	143
W (mm)	168	200	200	224	224	226	226	287	475	475
CCDV (lit)	0.62	0.62	0.62	0.62	0.62	1.15	1.15	1.15	2x0.62	2x0.62
Weight (Kg)	3	4.4	3.5	7.5	4.6	13.5	10	16.5	11	12.5



Size Inch; DN	2"; 50	3"; 80			3"L; 80L			4"; 100		3"; 80	3"; 80
Pattern	A	A			A			A		Dual	T
End Connections	Rc 2 (BSP.T)	Rc 3 (BSP.T)	Universal Flanges		Rc 3 (BSP.T)	Universal Flanges		Universal Flanges		Rc 3 (BSP.T)	Rc 3 (BSP.T)
	2" NPT	3" NPT	Metal	Plastic	3" NPT	Metal	Plastic	Metal	Plastic	3" NPT	3" NPT
L (mm)	115	133	138	138	150	155	155	176	176	200	133
H (mm)	216	246	251	251	343	348	348	369	369	269	247
h (mm)	115	118	123	123	140	145	145	166	166	116	119
W (mm)	97	135	200	200	170	200	200	224	224	135	135
CCDV (lit)	0.12	0.15	0.15	0.15	0.62	0.62	0.62	0.62	0.62	2x0.15	0.15
Weight (Kg)	0.8	1.6	4.4	2.5	2.8	5.6	3.7	7.2	4.4	3.2	2.1

CCDV = Control Chamber Displacement Volume DC = Double Chamber Other End Connections adapters are available on request.
For dimensions and weights of adapters or valve with adapters please consult with customer service

End Connections

BERMAD develops and supplies a wide range of end connections for the 100 hYflow Series Valves.

These end connections provide full flexibility when designing and installing the valves.

Select your desired end connection option from the table on page 23:

- Plastic Flanges
- Metal Flanges
- Glue-In PVC Adaptors
- Grooved Adaptors

Adaptors can be ordered per valve (2 Kits) or in Packs of 6 - 12 kits.