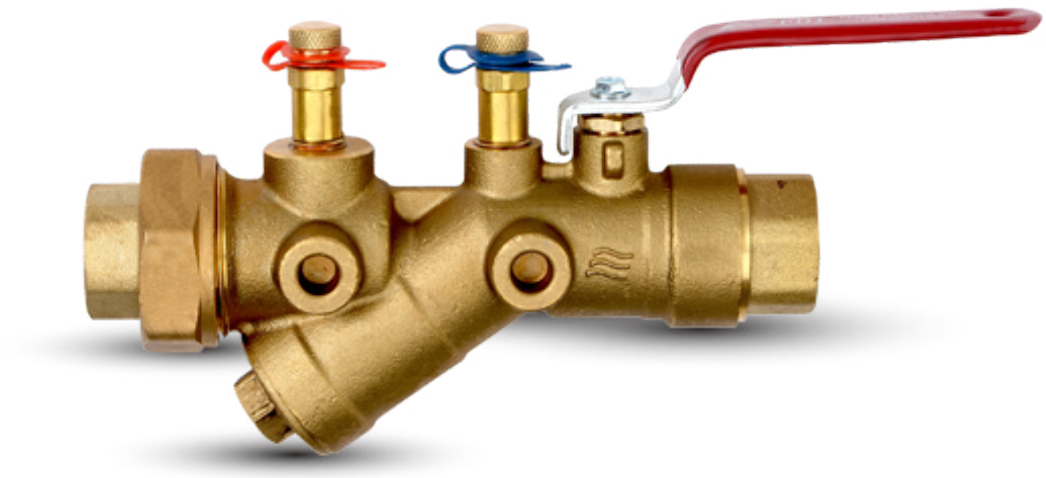
IMI FLOW DESIGN

AC/ACR



Automatic Balancing Valves

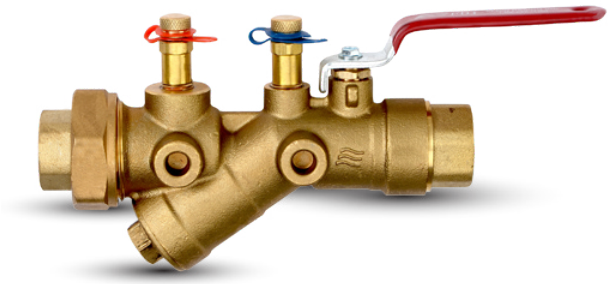
Flow regulator & union

IMI Hydronic Engineering

Breakthrough Engineering

AC

AutoFlow combination ball valve, AutoFlow regulator and union with up to five (5) accessory port locations. Unit is factory set to automatically limit the flow rate to within 5% of the specified amount. The flow cartridge is removable from the valve body to provide access for flow rate changes, inspection, and cleaning without breaking the main piping. The ball valve has PTFE packing, brass packing nut and blowout-proof stem, large diameter plated ball and a full size steel handle with vinyl grip. The union has an EPDM “O”-ring and tailpiece available in M, F and S connections. Ball valve end is available only in FPT or SWT. Pressure / Temperature ports are standard.



ACR

Compact, Y-shaped combination ball valve, AutoFlow regulator and union with four accessory port locations.

Key features

- **Flow Limiting**
  No wasted pumping
- **Combination Valve**
  Union, regulator and shut-off in one
- **Accuracy**
  +/-5%
- **Tamper Resistant**

Technical description

Application:
Hydronic Balancing

Functions:
Flow regulator, union and shut-off

Dimensions:
1/2” - 2” AC Valve

Rating:
400 psig at 250° F (27 bar at 120° C)

Pressure range:
2-32 psi or 5-60 psi

Accuracy:
±5%

Material:
Body: DZR Brass
Flow cartridge: Series 300 stainless steel wear surfaces with stainless steel spring

Connections

AC

Model	Size in./mm		Fixed Conn. (Outlet) in./mm			Union Conn. (Intlet) in./mm		
AC050	1/2”	(15)	1/2”	(15)	S, F	1/2	(15)	F, M, S
						3/4	(20)	F, M, S
AC075	3/4”	(20)	3/4”	(15)	S, F	1/2	(15)	F, M, S
						3/4	(20)	F, M, S
						1	(25)	M, S
AC100	1”	(25)	1”	(25)	S, F	1/2	(15)	M, S
						3/4	(20)	F, M, S
						1	(25)	F, M, S
						1 1/4	(32)	F, M, S
AC125	1 1/4”	(32)	1 1/4”	(32)	S, F	1/2	(15)	M, S
						3/4	(20)	F, M, S
						1	(25)	F, M, S
						1 1/4	(32)	F, M, S
						1 1/2	(40)	M, S
AC150	1 1/2”	(40)	1 1/2”	(40)	S, F	1 1/4	(32)	F, M, S
						1 1/2	(40)	F, M, S
						2	(50)	F, M, S
AC200	2”	(50)	2”	(50)	S, F	1 1/4	(32)	F, M, S
						1 1/2	(40)	F, M, S
						2	(50)	F, M, S

ACR

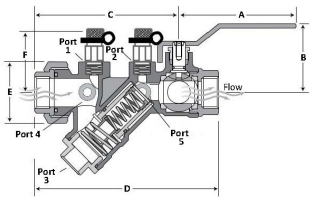
Model	Size in./mm		Fixed Conn. (Outlet) in./mm			Union Conn. (Intlet) in./mm		
ACR050	1/2”	(15)	1/2”	(15)	S, F	1/2	(15)	F, M, S
						3/4	(20)	F, M, S
ACR075	3/4”	(20)	3/4”	(20)	S, F			
ACR100*	1”	(25)	1”	(25)	S, F	1/2	(15)	F, M, S
						3/4	(20)	F, M, S
						1	(25)	M, S
ACR150*	1 1/2”	(40)	1 1/2”	(40)	S, F	1/2	(15)	F, M, S
						3/4	(20)	F, M, S
						1	(25)	F, M, S
						1 1/4	(32)	F, M, S
						1 1/2	(40)	M, S

S = sweat **F** = female NPT **M** = male NPT

Notes

*Denotes female thread not available on union end.

Articles



Dimensions / Flow

AC

Model	Size	A	B	C	D	E	F	Maximum Flow gpm (lps)* Control Range psi (kpa) 2-32 (L)	5-60 (H)
	in.	in./mm	in./mm	in./mm	in./mm	in./mm	in./mm	(14-220)	(35-414)
AC050	1/2	4.1 (104)	2.0 (51)	4.8 (122)	6.7 (170)	2.1 (53)	2.2 (56)	8 (0.5)	12 (0.75)
AC075	3/4	4.1 (104)	2.0 (51)	4.9 (124)	6.7 (170)	2.1 (53)	2.2 (56)	8 (0.5)	12 (0.75)
AC100	1	4.7 (104)	2.7 (69)	6.6 (168)	9.5 (241)	2.8 (71)	2.3 (58)	19 (1.2)	27 (1.7)
AC125	1 1/4	4.7 (119)	2.7 (69)	6.6 (168)	9.6 (244)	2.8 (71)	2.3 (58)	19 (1.2)	27 (1.7)
AC150	1 1/2	5.6 (119)	3.6 (91)	8.4 (213)	11.7 (297)	3.8 (97)	2.4 (61)	50 (3.15)	70 (4.4)
AC200	2	5.6 (119)	3.6 (91)	8.5 (216)	12.0 (305)	3.8 (97)	2.4 (61)	50 (3.15)	70 (4.4)

Notes

Dimensions based on F X F connections and will vary with mixed options/connections.

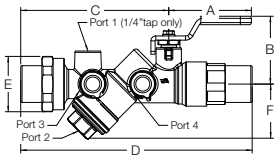
Dimensions are subject to minor changes.

For pump head calculations, add the indicated pressure drop of 4.6 ft or 2 psi for 2-32 psi or 11.6 ft or 5 psi for 5-60 psi to the calculated drop for other components.

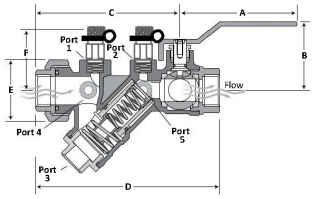
Available in ISO7 threads.

Dimensions / Flow

ACR



1/2" - 3/4" ACR



1" - 1-1/2" ACR

Model	Size	A	B	C	D	E	F	Maximum Flow gpm (lps)* Control Range psi (kpa) 2-32 (L)	5-60 (H)
	in./mm	in./mm	in./mm	in./mm	in./mm	in./mm	in./mm	(14-220)	(35-414)
ACR050*	1/2	2.3 (58)	1.9 (48)	4.0 (102)	6.0 (152)	1.6 (41)	1.5 (38)	3 (0.19)	5 (0.31)
ACR075*	3/4	2.3 (58)	1.9 (48)	4.1 (104)	6.5 (165)	1.6 (41)	1.5 (38)	3 (0.19)	5 (0.31)
ACR100	1	4.1 (104)	2.0 (51)	5.5 (140)	7.6 (193)	2.1 (53)	1.97 (50)	8 (0.5)	12 (0.75)
ACR150	1 1/2	4.7 (119)	2.7 (69)	7.9 (201)	10.7 (271)	2.8 (71)	2.64 (67)	19 (1.2)	27 (1.7)

Notes

Weights based on S X S connections and will vary with mixed options/connections.

Dimensions are subject to minor changes.

*1/4” port (1/2 & 3/4 only)

See IOM for cartridge change instructions.

Weight / Cv

AC

Model	Weight lb./(kg)	Cv (Kv)
AC050	2.5 (1.13)	7.9 (6.8)
AC075	2.5 (1.13)	8.8 (7.6)
AC100	6.2 (2.81)	19.7 (17.0)
AC125	6.1 (2.80)	20.4 (17.6)
AC150	15.6 (7.08)	52.7 (45.6)
AC200	15.4 (6.99)	55.1 (47.7)

Notes
Weights based on F X F connections and will vary with mixed options connections
Weights are subject to minor changes
Cv's based on the body only without flow cartridge.
See operation manual for Installation and Maintenance F033

ACR

Model	Weight lb./(kg)	Cv (Kv)
ACR050	1.5 (0.7)	5.7 (4.9)
ACR075	1.5 (0.7)	5.7 (4.9)
ACR100	2.5 (1.13)	8.8 (7.6)
ACR150	6.8 (3.08)	20.4 (17.65)

Notes
Weights based on S X S connections and will vary with mixed options/connections.
Weights are subject to minor changes.
Cv's based on the body only without flow cartridge.
See IOM for cartridge change instructions.

Flow Rate

AC

Size	psid Range	Flow Rate (gpm)
1/2" - 3/4"	2 - 32 (L)	0.33, 0.5, 0.67, 0.75, 0.88, 1.0, 1.1, 1.25, 1.5, 1.75, 2.0, 2.25, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.28, 6.0, 7.0, 8.0
	5 - 60 (H)	1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10, 11, 12
1" - 1 1/4"	2 - 32 (L)	0.5, 0.67, 0.75, 0.88, 1.0, 1.1, 1.25, 1.5, 1.75, 2.0, 2.25, 2.5, 2.64, 3.0, 3.5, 4.0, 4.5, 5.0, 5.28, 6.0, 7.0, 8.0, 9.0, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19
	5 - 60 (H)	1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27
1 1/2" - 2"	2 - 32 (L)	5.0, 6.0, 7.0, 8.0, 9.0, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50
	5 - 60 (H)	8.0, 9.0, 10, 11, 12, 13, 14, 15, 16, 17,18,19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58,60, 62, 64, 68, 70

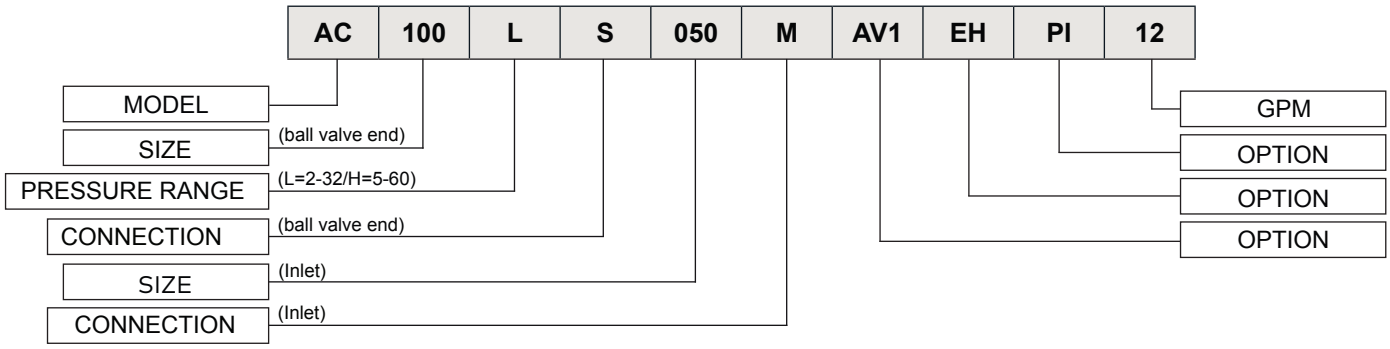
Size	kPa Range	Flow Rate (lps)
15 - 20 mm	14 - 220 (L)	0.021, 0.032, 0.042, 0.047, 0.056, 0.063, 0.069, 0.079, 0.095, 0.110, 0.126, 0.142, 0.158, 0.167, 0.189, 0.221, 0.252, 0.284, 0.315, 0.333, 0.379, 0.442, 0.505
	35 - 414 (H)	0.063, 0.095, 0.126, 0.158, 0.189, 0.252, 0.315, 0.379, 0.442, 0.505, 0.568, 0.631, 0.694, 0.757
25 - 32 mm	14 - 220 (L)	0.032, 0.042, 0.047, 0.056, 0.063, 0.069, 0.079, 0.095, 0.110, 0.126, 0.142, 0.158, 0.167, 0.189, 0.221, 0.252, 0.284, 0.315, 0.333, 0.379, 0.442, 0.505, 0.568, 0.631, 0.694, 0.757,0.820, 0.883, 0.946, 1.009, 1.073, 1.136, 1.199
	35 - 414 (H)	0.063,0.095, 0.126, 0.158, 0.189, 0.252, 0.315, 0.379, 0.442, 0.505, 0.568, 0.631, 0.694, 0.757, 0.820, 0.883, 0.946, 1.009, 1.073, 1.136, 1.199, 1.262, 1.325, 1.388, 1.451, 1.514, 1.577, 1.640, 1.703
40 - 50 mm	14 - 220 (L)	0.315, 0.379, 0.442, 0.505, 0.568, 0.631, 0.694, 0.757, 0.820, 0.883, 0.946, 1.009, 1.073, 1.136, 1.199, 1.262, 1.388, 1.514, 1.640, 1.767, 1.893, 2.019, 2.145, 2.271, 2.397, 2.524, 2.650, 2.776, 2.902, 3.028, 3.155
	35 - 414 (H)	0.505, 0.568, 0.631, 0.694, 0.757, 0.820, 0.883, 0.946, 1.009, 1.073, 1.136, 1.199, 1.262, 1.325, 1.388, 1.451, 1.514,1.577, 1.640, 1.703, 1.767, 1.893, 2.019, 2.145, 2.271, 2.397, 2.524, 2.650, 2.776, 2.902, 3.028, 3.155, 3.281, 3.407, 3.533, 3.659, 3.785, 3.912, 4.038, 4.290, 4.416

ACR

Size	psid Range	Flow Rate (gpm)
1/2" - 3/4"	2 - 32 (L)	0.33, 0.5, 0.67, 0.75, 0.88, 1.0, 1.1, 1.25, 1.5, 1.75, 2.0, 2.25, 2.5, 3.0
	5 - 60 (H)	1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 5.0
1"	2 - 32 (L)	0.33, 0.5, 0.67, 0.75, 0.88, 1.0, 1.1, 1.25, 1.5, 1.75, 2.0, 2.25, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.28, 6.0, 7.0, 8.0
	5 - 60 (H)	1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10, 11, 12
1 1/2"	2 - 32 (L)	0.5, 0.67, 0.75, 0.88, 1.0, 1.1, 1.25, 1.5, 1.75, 2.0, 2.25, 2.5, 2.64, 3.0, 3.5, 4.0, 4.5, 5.0, 5.28, 6.0, 7.0, 8.0, 9.0, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19
	5 - 60 (H)	1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27

Size	kPa Range	Flow Rate (lps)
15 - 20 mm	2 - 32 (L)	0.021, 0.035, 0.042, 0.047, 0.056, 0.063, 0.069, 0.079, 0.095, 0.110, 0.126, 0.142, 0.158, 0.167,
	5 - 60 (H)	0.063,0.095, 0.126,0.158,0.189,0.252, 0.315
25 mm	14 - 220 (L)	0.021, 0.032, 0.042, 0.047, 0.056, 0.063, 0.069, 0.079, 0.095, 0.110, 0.126, 0.142, 0.158, 0.167, 0.189, 0.221, 0.252, 0.284, 0.315, 0.333, 0.379, 0.442, 0.505
	35 - 414 (H)	0.063, 0.095, 0.126, 0.158, 0.189, 0.252, 0.315, 0.379, 0.442, 0.505, 0.568, 0.631, 0.694, 0.757
40 mm	14 - 220 (L)	0.032, 0.042, 0.047, 0.056, 0.063, 0.069, 0.079, 0.095, 0.110, 0.126, 0.142, 0.158, 0.167, 0.189, 0.221, 0.252, 0.284, 0.315, 0.333, 0.379, 0.442, 0.505, 0.568, 0.631, 0.694, 0.757,0.820, 0.883, 0.946, 1.009, 1.073, 1.136, 1.199
	35 - 414 (H)	0.063,0.095, 0.126, 0.158, 0.189, 0.252, 0.315, 0.379, 0.442, 0.505, 0.568, 0.631, 0.694, 0.757, 0.820, 0.883, 0.946, 1.009, 1.073, 1.136, 1.199, 1.262, 1.325, 1.388, 1.451, 1.514, 1.577, 1.640, 1.703

Model Order Designation



S = female sweat **F** = female NPT **M** = male npt

Options Available

AA Automatic Air Vent

AV Manual Air Vent

DX Dual Extended P/T Ports

EH Extended Handle

HN Hose End Drain Valve with Cap

MI Metal ID Tag

PI Plastic ID Tag

PL Plug

PP Propress®

SE Stem Extender

T4 1/4" F Tap

XL Ext. P/T Port