

Available for use with Magic Aire models
BV, BM, HB, CH, CE, DU, DV, and DH.

Features and Benefits include:

Cost Savings

- We realize that our customers are looking for Differentiation and Value when they select Magic Aire products. With a completely assembled, tagged, and competitively-priced valve package offering, we offer customers reduced jobsite labor and installation time.

Time Savings

- By offering valve packages that can be selected at the same time as the units, our customers save time in selection and reduce the number of vendors necessary to fulfill an order
- Easy for user to add accessory directly to order using Magic Aire selection software and a stand-alone nomenclature

Quality and Reliability

- Each valve package is custom selected for the unit and coil type it will be used with which reduces errors in selection
- All packages are 100% factory tested
- Standard processes are utilized and controlled to insure a quality product every time



OPTIONS

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Options Available:

	Characterized Control Valve	Supply Line	Return Line	Bypass Line (For use with 3 way packages)	Union Connection type for Coil Side	Field Return and Supply side connection type	Other internal connections types
Package 1	2 or 3 way	Y-Strainer with Ball Valve combination	Ball valve with Memory stop	Ball Valve with Memory Stop	Sweat	Sweat	NPT
Package 2	2 or 3 way	Y-Strainer with Ball Valve combination	Venturi type Metering and Balance Valve	Ball Valve with Memory Stop	Sweat	Sweat	NPT
Package 3	2 or 3 way	Y-Strainer with Ball Valve combination	Automatic Balancing Valve	-	Sweat	Sweat	NPT

General Notes:

1. All valve packages and piping components are for chilled water and hot water and not to be used for steam service.
2. Valve packages are factory assembled, boxed individually, and shipped loose for field installation and wiring. Interconnecting to be supplied by the field.
3. Three-way control valves piped as mixing valves
4. Valve packages for chilled water service are designed with handle extensions intended for use with a maximum of 1 1/4" thick insulation. Insulation shall be provided by the field.
5. All packages include pressure/ temperature ports.
6. To prevent erosion and noise, valve packages are not to be operated above the control valve water flow limits. Valve packages are for use in treated closed loop chilled or hot water systems. Do not use valves with open or portable water systems which may reduce the life and effectiveness of the valve.

Selection Procedure:

1. Select Valve Package according to associated unit and coil.
2. See tables on pages 6-15 for Max Cv of control valves.
3. Calculate ΔP of control valve based on GPM and Max Cv.

$$\Delta P = \left(\frac{Q \times \sqrt{G}}{C_v} \right)^2$$

ΔP = psi (pressure drop across control valve)

Q = flow in GPM

G = specific gravity of fluid (water = 1)

C_v = flow coefficient

1 psi = 2.309 ft of water (60° F)

Control Set-Up		
Actuator Control Type	Valve Set-Up	Safety Function
On/Off	NO	Non-Spring Return
On/Off	NC	
Proportional	NO	
Proportional	NC	
Floating Point	NO	
Floating Point	NC	
On/Off	NO/FO	Spring Return
On/Off	NC/FC	
Proportional	NO/FO	
Proportional	NC/FC	
Floating Point	NO/FO	
Floating Point	NC/FC	

Note: For proportional actuators, the control type is 2-10 VDC. This option can be field-converted to 4-20mA using a field provided and installed 500 ohm resistor.

Definitions of control terms:

Spring Return: Fail-safe operation utilizing a mechanical, spring-return mechanism to fail to position designated during power loss.

Non – Spring Return: During power loss the actuator stays in its last position.

On/Off: The actuator is able to drive either to its full open position, or its full closed position.

Floating Point: The actuator has both clockwise (CW) and counter-clockwise (CCW) control inputs. One drives the actuator to its open, the other to its close position.

Proportional: The actuator drives proportional to its control input and modulates throughout its angle of rotation. Also know as modulating control.

NO: Normally Open from A-port to AB-port

NC: Normally Closed from A-port to AB-port

FO: Fail Open from the A-port to the AB-port upon power loss.

FC: Fail Closed from the A-port to the AB-port upon power loss.

Valve Package Model Number Nomenclature

Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Example	V	P	A	H	B	0	8	6	3	C	2	A	1	A	A

Model Series

VPA-- Valve Package

Unit Type

BM -- Modular Belt Drive
 BV -- Vertical Belt Drive
 CH -- C-Series Fan Coil
 CE -- C-Series Fan Coil
 DH -- Horizontal Direct Drive
 DV -- Vertical Direct Drive
 DU -- Horizontal/Vertical Fan Coil
 HB -- Horizontal Belt Drive

Unit Size

CFM

02 -- 200
 04 -- 400
 06 -- 600
 08 -- 800
 10 -- 1000
 12 -- 1200
 16 -- 1600
 20 -- 2000
 30 -- 3000
 40 -- 4000
 60 -- 6000

Number of Rows of Coil

1 -- 1 Row
 2 -- 2 Rows
 3 -- 3 Rows
 4 -- 4 Rows
 6 -- 6 Rows
 A -- A - Coil

Valve Type

2 -- Two Way Valve
 3 -- Three Way Valve

System Type

H -- Heating
 C -- Cooling

Valve Package Option

1 -- Standard - Memory Stop
 2 -- Circuit Setter
 3 -- Auto Flow

GPM

AA -- Non-Auto Flow Valve Package
 AB -- 0.5
 AC -- 1.0
 AD -- 1.5
 AF -- 2.0
 AG -- 2.5
 AH -- 3.0
 AJ -- 3.5
 AK -- 4.0
 AL -- 5.0
 AM -- 6.0
 AN -- 7.0
 AP -- 8.0
 AR -- 9.0
 BA -- 10.0
 BB -- 10.5
 BC -- 11.0
 BD -- 12.0
 BF -- 13.0
 BG -- 14.0
 BH -- 15.0
 BK -- 16.0
 BL -- 17.0
 BM -- 18.0
 BN -- 19.0
 CA -- 20.0
 CD -- 21.0
 CE -- 22.0
 CF -- 25.0
 DA -- 30.0
 DB -- 35.0
 FA -- 40.0
 FB -- 45.0
 GA -- 50.0
 GB -- 55.0
 HA -- 60.0
 HB -- 65.0
 JA -- 70.0

Actuator Control

1 -- On/Off
 2 -- Proportional (2-10 Vdc)
 3 -- Floating Point

Actuator Type

A -- Spring Return - NO/FO
 B -- Spring Return - NC/FC
 C -- Non-Spring Return - NO
 D -- Non-Spring Return - NC

BMB - 4-Row														
Model	Coil Connection		Interconnecting Field Piping	Valve Package					Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	By-Pass Balancing Valve (3 way packages)	Y-Strainer		Coil Performance			Control Valve Performance	
			Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	GPM	PD (ft)	Cv	Max Cv	PD (ft)
BM08	3/4"	5/8"	Adapter required	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4"(S)	3/4"(S) - 1/2" (M)	3/4"	3/4"	2.50	1.00	3.80	4.70	0.65
										8.40	9.70	4.10	4.70	7.37
BM12	3/4"	5/8"	Adapter required	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4"(S)	3/4"(S) - 1/2" (M)	3/4"	3/4"	3.20	1.23	4.38	4.70	1.07
										12.80	17.52	4.64	4.70	17.11
BM16	1-1/8"	1"	3/4"	1" (S) - 3/4" (M)	3/4"	3/4"(S) - 3/4" (M)	3/4"(S) - 1/2" (M)	3/4"	3/4"	4.10	1.20	5.68	7.40	0.71
										16.00	16.53	5.98	7.40	10.79
BM20	1-1/8"	1"	1"	1" (S) - 1" (M)	1"	1" (M) - 1" (S)	1" (S) - 1/2" (M)	1"	1"	7.00	1.60	8.41	10.00	1.13
										20.80	12.37	8.98	10.00	9.98
BM30	1-1/8"	1"	1"	1" (S) - 1" (M)	1"	1" (M) - 1" (S)	1" (S) - 1/2" (M)	1"	1"	9.00	2.31	8.99	10.00	1.87
										24.80	13.69	10.18	10.00	14.19
BM40	1-3/8"	1-1/4"	1-1/4"	1 1/4"(S) - 1 1/4" (M)	1-1/4"	1 1/4"(M) - 1 1/4" (S)	1 1/4"(S) - 3/4" (M)	1-1/4"	1-1/4"	12.00	2.22	12.25	19.00	0.92
										33.00	13.68	13.55	19.00	6.96
BM60	1-3/8"	1-1/4"	1-1/4"	1 1/4"(S) - 1 1/4" (M)	1-1/4"	1 1/4"(M) - 1 1/4" (S)	1 1/4"(S) - 3/4" (M)	1-1/4"	1-1/4"	20.00	4.44	14.41	19.00	2.56
										44.00	17.52	15.97	19.00	12.37

BMB - 6-Row														
Model	Coil Connection		Interconnecting Field Piping	Valve Package					Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	By-Pass Balancing Valve (3 way packages)	Y-Strainer		Coil Performance			Control Valve Performance	
			Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	GPM	PD (ft)	Cv	Max Cv	PD (ft)
BM08	3/4"	5/8"	Adapter required	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4"(S)	3/4"(S) - 1/2" (M)	3/4"	3/4"	2.50	1.30	3.33	4.70	0.65
										7.20	10.21	3.42	4.70	5.41
BM12	7/8"	3/4"	3/4"	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4" (S)	3/4"(S) - 1/2" (M)	3/4"	3/4"	3.00	1.30	4.00	4.70	0.94
										9.60	10.99	4.40	4.70	9.62
BM16	1-1/8"	1"	1"	1" (S) - 3/4" (M)	3/4"	3/4" (M) - 1" (S)	1" (S) - 1/2" (M)	1"	1"	7.00	3.50	5.68	7.40	2.06
										12.00	9.26	5.99	7.40	6.07
BM20	1-1/8"	1"	1"	1" (S) - 3/4" (M)	3/4"	3/4" (M) - 1" (S)	1" (S) - 1/2" (M)	1"	1"	7.00	2.10	7.34	7.40	2.06
										14.40	8.06	7.70	7.40	8.74
BM30	1-3/8"	1-1/4"	1-1/4"	1 1/4"(S) - 1" (M)	1"	1" (M) - 1 1/4"(S)	1 1/4"(S) - 3/4" (M)	1-1/4"	1-1/4"	7.00	1.14	9.96	10.00	1.13
										14.40	4.37	10.46	10.00	4.78
BM40	1-5/8"	1-1/2"	1-1/2"	1 1/2"(S) - 1 1/4" (M)	1-1/4"	1 1/4" (M) - 1 1/2"(S)	1 1/2"(S) - 3/4" (M)	1-1/2"	1-1/2"	15.00	2.50	14.41	19.00	1.44
										48.00	21.35	15.78	19.00	14.72
BM60	1-5/8"	1-1/2"	1-1/2"	1 1/2"(S) - 1 1/4" (M)	1-1/4"	1 1/4" (M) - 1 1/2"(S)	1 1/2"(S) - 3/4" (M)	1-1/2"	1-1/2"	19.00	3.18	16.18	19.00	2.31
										60.00	24.10	18.56	19.00	23.01

BVE - A-COIL														
Model	Coil Connection		Interconnecting Field Piping	Valve Package					Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	By-Pass Balancing Valve (3 way packages)	Y-Strainer		Coil Performance			Control Valve Performance	
			Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	GPM	PD (ft)	Cv	Max Cv	PD (ft)
BV08	3/4"	5/8"	Adapter required	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4"(S)	3/4"(S) - 1/2" (M)	3/4"	3/4"	3	1.5	3.72	4.70	0.94
										12.3	22.1	3.97	4.70	15.80
BV12	3/4"	5/8"	Adapter required	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4"(S)	3/4"(S) - 1/2" (M)	3/4"	3/4"	3	1.1	4.34	4.70	0.94
										18.6	36.6	4.67	4.70	36.13
BV16	7/8"	3/4"	3/4"	3/4"(S) - 3/4" (M)	3/4"	3/4" (M) - 1" (S)	3/4"(S) - 3/4" (M)	3/4"	3/4"	4.1	1.71	4.76	7.40	0.71
										18	20.23	6.08	7.40	13.65
BV20	1-1/8"	1"	1"	1" (S) - 3/4" (M)	3/4"	3/4" (M) - 1" (S)	1" (S) - 1/2" (M)	1"	1"	7	3.25	5.90	7.40	2.06
										19.9	21.77	6.48	7.40	16.68
BV30	1-1/8"	1"	1"	1" (S) - 1" (M)	1"	1" (M) - 1" (S)	1" (S) - 1/2" (M)	1"	1"	7	1.4	8.99	10.00	1.13
										38	35	9.76	10.00	33.31
BV40	1-3/8"	1-1/4"	1-1/4"	1 1/4"(S) - 1 1/4" (M)	1-1/4"	1 1/4"(M) - 1 1/4" (S)	1 1/4"(S) - 3/4" (M)	1-1/4"	1-1/4"	10.5	1.8	11.89	19.00	0.70
										50.5	34.3	13.10	19.00	16.30

CHA - 3-Row														
Model	Coil Connection		Interconnecting Field Piping	Valve Package					Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	By-Pass Balancing Valve (3 way packages)	Y-Strainer		Coil Performance			Control Valve Performance	
			Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	GPM	PD (ft)	Cv	Max Cv	PD (ft)
CH02	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2" (S) - 1/2" (M)	1/2"	1/2"	2	4.97	1.36	1.20	6.41
										2.5	7.09	1.43	1.20	10.01
CH04	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2" (S) - 1/2" (M)	1/2"	1/2"	2	5.77	1.26	1.20	6.41
										4.25	19.18	1.47	1.20	28.94
CH06	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2" (S) - 1/2" (M)	1/2"	1/2"	2.5	2.17	2.58	3.00	1.60
										6.5	9.5	3.20	3.00	10.83
CH08	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2" (S) - 1/2" (M)	1/2"	1/2"	3	3.36	2.49	3.00	2.31
										9	20.04	3.05	3.00	20.76
CH10	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2" (S) - 1/2" (M)	1/2"	1/2"	3.5	2.21	3.58	4.70	1.28
										9.5	10.65	4.42	4.70	9.43
CH12	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2" (S) - 1/2" (M)	1/2"	1/2"	5	4.18	3.71	4.70	2.61
										11	15.4	4.26	4.70	12.64

CHA - 4-Row														
Model	Coil Connection		Interconnecting Field Piping	Valve Package					Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	By-Pass Balancing Valve (3 way packages)	Y-Strainer		Coil Performance			Control Valve Performance	
			Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	GPM	PD (ft)	Cv	Max Cv	PD (ft)
CH02	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2" (S) - 1/2" (M)	1/2"	1/2"	2	6.46	1.20	1.20	6.41
										2.5	9.27	1.25	1.20	10.01
CH04	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2" (S) - 1/2" (M)	1/2"	1/2"	2	7.5	1.11	1.20	6.41
										4.25	25.33	1.28	1.20	28.94
CH06	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2" (S) - 1/2" (M)	1/2"	1/2"	2.5	2.68	2.32	3.00	1.60
										6.5	12.13	2.83	3.00	10.83
CH08	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2" (S) - 1/2" (M)	1/2"	1/2"	3	4.24	2.21	3.00	2.31
										9	25.9	2.69	3.00	20.76
CH10	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2" (S) - 1/2" (M)	1/2"	1/2"	3.5	1.68	4.10	4.70	1.28
										9.5	7.7	5.20	4.70	9.43
CH12	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2" (S) - 1/2" (M)	1/2"	1/2"	5	3.02	4.37	4.70	2.61
										11	10.94	5.05	4.70	12.64

DHB - 4-Row														
Model	Coil Connection		Interconnecting Field Piping	Valve Package					Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	By-Pass Balancing Valve (3 way packages)	Y-Strainer		Coil Performance			Control Valve Performance	
			Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	GPM	PD (ft)	Cv	Max Cv	PD (ft)
DH04	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2" (S) - 1/2" (M)	1/2"	1/2"	2	4.06	1.51	1.90	2.56
										4	12.13	1.74	1.90	10.22
DH06	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2" (S) - 1/2" (M)	1/2"	1/2"	2	2.47	1.93	3.00	1.03
										5	9.9	2.41	3.00	6.41
DH08	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2" (S) - 1/2" (M)	1/2"	1/2"	3	3.42	2.46	3.00	2.31
										7	13.27	2.92	3.00	12.56
DH10	3/4"	5/8"	Adapter required	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4" (S)	3/4"(S) - 1/2" (M)	3/4"	3/4"	4.5	4.06	3.39	3.00	5.19
										7.5	9.39	3.72	3.00	14.42

DVA - 4-Row														
Model	Coil Connection		Interconnecting Field Piping	Valve Package					Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	By-Pass Balancing Valve (3 way packages)	Y-Strainer		Coil Performance			Control Valve Performance	
			Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	GPM	PD (ft)	Cv	Max Cv	PD (ft)
DV04	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2" (S) - 1/2" (M)	1/2"	1/2"	2	3.18	1.70	1.90	2.56
										4	9.2	2.00	1.90	10.22
DV06	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2" (S) - 1/2" (M)	1/2"	1/2"	2	2.49	1.93	3.00	1.03
										5	10	2.40	3.00	6.41
DV08	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2" (S) - 1/2" (M)	1/2"	1/2"	3	2.73	2.76	4.7	0.94
										7	10.29	3.31	4.7	5.12
DV10	3/4"	5/8"	Adapter required	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4" (S)	3/4"(S) - 1/2" (M)	3/4"	3/4"	4.5	2.56	4.27	4.7	2.11
										7.5	5.68	4.78	4.7	5.87

DUC - 3-Row														
Model	Coil Connection		Interconnecting Field Piping	Valve Package					Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	By-Pass Balancing Valve (3 way packages)	Y-Strainer		GPM	Coil Performance		Control Valve Performance	
			Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	PD (ft)		Cv	Max Cv	PD (ft)	
DUC08	7/8"	3/4"	3/4"	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4" (S)	3/4"(S) - 1/2" (M)	3/4"	3/4"	2	1.37	2.60	4.70	0.42
										10	15.35	3.88	4.70	10.44
DUC12	7/8"	3/4"	3/4"	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4" (S)	3/4"(S) - 1/2" (M)	3/4"	3/4"	2	1	3.04	4.70	0.42
										10	9.825	4.85	4.70	10.44
DUC16	7/8"	3/4"	3/4"	3/4"(S) - 3/4" (M)	3/4"	3/4"(S) - 3/4" (M)	3/4"(S) - 1/2" (M)	3/4"	3/4"	2	0.85	3.29	7.40	0.17
										12	9.55	5.90	7.40	6.07
DUC20	1-1/8"	1"	1"	1" (S) - 3/4" (M)	3/4"	3/4" (M) - 1" (S)	1" (S) - 1/2" (M)	1"	1"	2	0.79	3.42	7.40	0.17
										12	7.84	6.51	7.40	6.07

DUC - 3-Row														
Model	Coil Connection		Interconnecting Field Piping	Valve Package					Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	By-Pass Balancing Valve (3 way packages)	Y-Strainer		GPM	Coil Performance		Control Valve Performance	
			Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	PD (ft)		Cv	Max Cv	PD (ft)	
DUC08	7/8"	3/4"	3/4"	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4" (S)	3/4"(S) - 1/2" (M)	3/4"	3/4"	2	1.22	2.75	4.70	0.42
										10	12.89	4.23	4.70	10.44
DUC12	7/8"	3/4"	3/4"	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4" (S)	3/4"(S) - 1/2" (M)	3/4"	3/4"	2	0.99	3.05	4.70	0.42
										10	9.29	4.98	4.70	10.44
DUC16	7/8"	3/4"	3/4"	3/4"(S) - 3/4" (M)	3/4"	3/4"(S) - 3/4" (M)	3/4"(S) - 1/2" (M)	3/4"	3/4"	2	0.85	3.29	7.40	0.17
										12	9.563	5.89	7.40	6.07
DUC20	1-1/8"	1"	1"	1" (S) - 3/4" (M)	3/4"	3/4" (M) - 1" (S)	1" (S) - 1/2" (M)	1"	1"	2	0.79	3.42	7.40	0.17
										12	8.05	6.42	7.40	6.07

HBB - 4-Row														
Model	Coil Connection		Interconnecting Field Piping	Valve Package					Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	By-Pass Balancing Valve (3 way packages)	Y-Strainer		GPM	Coil Performance		Control Valve Performance	
			Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	PD (ft)		Cv	Max Cv	PD (ft)	
HBB08	3/4"	5/8"	Adapter required	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4" (S)	3/4"(S) - 1/2" (M)	3/4"	3/4"	2.5	1	3.80	4.70	0.65
										8.4	9.7	4.10	4.70	7.37
HBB12	3/4"	5/8"	Adapter required	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4" (S)	3/4"(S) - 1/2" (M)	3/4"	3/4"	3	1	4.56	4.70	0.94
										16.8	29	4.74	4.70	29.48
HBB16	7/8"	3/4"	3/4"	3/4"(S) - 3/4" (M)	3/4"	3/4"(S) - 3/4" (M)	3/4"(S) - 1/2" (M)	3/4"	3/4"	4	1.1	5.79	7.40	0.67
										22.3	29.3	6.26	7.40	20.95
HBB20	1-1/8"	1"	1"	1" (S) - 1" (M)	1"	1" (M) - 1" (S)	1" (S) - 1/2" (M)	1"	1"	7	1.5	8.68	10.00	1.13
										27.6	20.3	9.30	10.00	17.57
HBB30	1-1/8"	1"	1"	1" (S) - 1" (M)	1"	1" (M) - 1" (S)	1" (S) - 1/2" (M)	1"	1"	7.00	1.20	9.71	10.00	1.13
										30.00	19.40	10.35	10.00	20.76
HBB40	1-3/8"	1-1/4"	1-1/4"	1 1/4"(S) - 1 1/4" (M)	1-1/4"	1 1/4"(M) - 1 1/4" (S)	1 1/4"(S) - 3/4" (M)	1-1/4"	1-1/4"	11.50	2.00	12.35	19.00	0.85
										38.00	18.30	13.49	19.00	9.23
HBB60	1-3/8"	1-1/4"	1-1/4"	1 1/4"(S) - 1 1/4" (M)	1-1/4"	1 1/4"(M) - 1 1/4" (S)	1 1/4"(S) - 3/4" (M)	1-1/4"	1-1/4"	11.00	1.00	16.71	19.00	0.77
										45.00	15.40	17.42	19.00	12.94

HBB - 6-Row														
Model	Coil Connection		Interconnecting Field Piping	Valve Package					Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	By-Pass Balancing Valve (3 way packages)	Y-Strainer		GPM	Coil Performance		Control Valve Performance	
			Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	PD (ft)		Cv	Max Cv	PD (ft)	
HBB08	3/4"	5/8"	Adapter required	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4" (S)	3/4"(S) - 1/2" (M)	3/4"	3/4"	2.5	1.3	3.33	4.70	0.65
										14.9	38	3.67	4.70	23.19
HBB12	7/8"	3/4"	3/4"	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4" (S)	3/4"(S) - 1/2" (M)	3/4"	3/4"	3	1.3	4.00	4.70	0.94
										18.8	35.5	4.79	4.70	36.91
HBB16	1-1/8"	1"	1"	1" (S) - 3/4" (M)	3/4"	3/4" (M) - 1" (S)	1" (S) - 1/2" (M)	1"	1"	4	1	6.08	7.40	0.67
										23.8	31.7	6.42	7.40	23.86
HBB20	1-1/8"	1"	1"	1" (S) - 1" (M)	1"	1" (M) - 1" (S)	1" (S) - 1/2" (M)	1"	1"	7	2.5	6.72	10.00	1.13
										21.6	20.4	7.26	10.00	10.76
HBB30	1-3/8"	1-1/4"	1-1/4"	1 1/4"(S) - 1" (M)	1"	1"(M) - 1 1/4" (S)	1 1/4"(S) - 3/4" (M)	1-1/4"	1-1/4"	11.50	2.20	11.78	10.00	3.05
										44.50	30.50	12.24	10.00	45.68
HBB40	1-5/8"	1-1/2"	Adapter required	1 1/4"(S) - 1 1/4" (M)	1-1/4"	1 1/4" (M) - 1 1/2" (S)	1 1/2"(S) - 3/4" (M)	1-1/2"	1-1/2"	11.50	1.20	15.95	19.00	0.85
										40.00	13.40	16.60	19.00	10.22
HBB60	1-5/8"	1-1/2"	Adapter required	1 1/4"(S) - 1 1/4" (M)	1-1/4"	1 1/4" (M) - 1 1/2" (S)	1 1/2"(S) - 3/4" (M)	1-1/2"	1-1/2"	11.00	0.70	19.97	19.00	0.77
										60.00	20.50	20.13	19.00	23.01

BMB - 2-Row													
Model	Coil Connection		Interconnecting Field Piping	Valve Package				Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	Y-Strainer		GPM	Coil Performance		Control Valve Performance	
	Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	PD (ft)		Cv	Max Cv	PD (ft)	
BM08	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	3	2	3.22	3.00	2.31
									6	7.323	3.37	3.00	9.23
BM12	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	2	1.32	2.64	4.70	0.42
									9	19.08	3.13	4.70	8.46
									4.1	1.5	5.08	7.40	0.71
BM16	7/8"	3/4"	3/4"	3/4" (S) - 1/2" (M)	1/2"	1/2" (M) - 3/4" (S)	3/4"	3/4"	21.8	33	5.76	7.40	20.02
									7	2.22	7.14	7.40	2.06
BM20	1-1/8"	1"	1"	1" (S) - 3/4" (M)	3/4"	3/4" (M) - 1" (S)	1"	1"	27.16	26.99	7.94	7.40	31.08
									7	2.23	7.12	7.40	2.06
BM30	1-1/8"	1"	1"	1" (S) - 3/4" (M)	3/4"	3/4" (M) - 1" (S)	1"	1"	29	30.7	7.95	7.40	35.43
									7	1.22	9.63	10.00	1.13
BM40	1-1/8"	1"	1"	1" (S) - 3/4" (M)	3/4"	3/4" (M) - 1" (S)	1"	1"	39.9	30.8	10.92	10.00	36.73
									7	1.53	8.60	19.00	0.31
BM60	1-1/8"	1"	1"	1" (S) - 1" (M)	1"	1" (M) - 1" (S)	1"	1"	39.9	36.6	10.02	19.00	10.17

BMB - 4-Row													
Model	Coil Connection		Interconnecting Field Piping	Valve Package				Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	Y-Strainer		GPM	Coil Performance		Control Valve Performance	
	Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	PD (ft)		Cv	Max Cv	PD (ft)	
BM16	7/8"	3/4"	3/4"	3/4" (S) - 1/2" (M)	1/2"	1/2" (M) - 3/4" (S)	3/4"	3/4"	4.1	1.1	5.94	7.40	0.71
									25.5	34	6.64	7.40	27.39
BM20	1-1/8"	1"	1"	1" (S) - 3/4" (M)	3/4"	3/4" (M) - 1" (S)	1"	1"	7	1.427	8.90	7.40	2.06
									31.4	22.7	10.01	7.40	41.54
BM30	1-1/8"	1"	1"	1" (S) - 3/4" (M)	3/4"	3/4" (M) - 1" (S)	1"	1"	7	1.13	10.00	7.40	2.06
									41.9	31.4	11.36	7.40	73.96
BM40	1-1/8"	1"	1"	1" (S) - 1" (M)	1"	1" (M) - 1" (S)	1"	1"	10.6	1.43	13.46	19.00	0.72
									30	10.03	14.39	19.00	5.75
BM60	1-1/8"	1"	1"	1" (S) - 1" (M)	1"	1" (M) - 1" (S)	1"	1"	15	2.04	15.95	19.00	1.44
									40	13.16	16.75	19.00	10.22

BVE - 2-Row													
Model	Coil Connection		Interconnecting Field Piping	Valve Package				Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	Y-Strainer		GPM	Coil Performance		Control Valve Performance	
	Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	PD (ft)		Cv	Max Cv	PD (ft)	
BV08	7/8"	3/4"	3/4"	3/4" (S) - 1/2" (M)	1/2"	1/2" (M) - 3/4" (S)	3/4"	3/4"	3.6	10.85	1.66	3.00	3.32
									5	19.5	1.72	3.00	6.41
BV12	7/8"	3/4"	3/4"	3/4" (S) - 1/2" (M)	1/2"	1/2" (M) - 3/4" (S)	3/4"	3/4"	3	2.667	2.79	3.00	2.31
									10	22.12	3.23	3.00	25.63
									4	1.12	5.74	7.40	0.67
BV16	7/8"	3/4"	3/4"	3/4" (S) - 1/2" (M)	1/2"	1/2" (M) - 3/4" (S)	3/4"	3/4"	13.7	11.35	6.18	7.40	7.91
									7	0.866	11.43	19.00	0.31
BV20	1-1/8"	1"	1"	1" (S) - 1" (M)	1"	1" (M) - 1" (S)	1"	1"	18.9	5.96	11.76	19.00	2.28
									7	0.852	11.52	19.00	0.31
BV30	1-1/8"	1"	1"	1" (S) - 1" (M)	1"	1" (M) - 1" (S)	1"	1"	27.8	12.2	12.09	19.00	4.94
									10	1.825	11.24	19.00	0.64
BV40	1-1/8"	1"	1"	1" (S) - 1" (M)	1"	1" (M) - 1" (S)	1"	1"	29.9	15	11.73	19.00	5.71

BVE - A-coil													
Model	Coil Connection		Interconnecting Field Piping	Valve Package				Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	Y-Strainer		GPM	Coil Performance	Control Valve Performance		
			Nominal	Nominal	Nominal	Nominal	Nominal	Nominal		PD (ft)	Cv	Max Cv	PD (ft)
BV08	3/4"	5/8"	Adapter required	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4"(S)	3/4"	3/4"	3	1.5	3.72	4.70	0.94
									12.3	21.54	4.03	4.70	15.80
BV12	3/4"	5/8"	Adapter required	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4"(S)	3/4"	3/4"	3	1.151	4.25	4.70	0.94
									16	27.34	4.65	4.70	26.74
BV16	7/8"	3/4"	3/4"	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4"(S)	3/4"	3/4"	4.1	1.29	5.48	7.40	0.71
									18	20.23	6.08	7.40	13.65
BV20	1-1/8"	1"	1"	1" (S) - 1" (M)	1"	1" (M) - 1" (S)	1"	1"	7	2.81	6.34	10.00	1.13
									19.9	18.69	6.99	10.00	9.14
BV30	1-1/8"	1"	1"	1" (S) - 1" (M)	1"	1" (M) - 1" (S)	1"	1"	7	1.326	9.23	10.00	1.13
									30	19.9	10.21	10.00	20.76
BV40	1-3/8"	1-1/4"	1-1/4"	1 1/4"(S) - 1" (M)	1"	1" (M)- 1 1/4"(S)	1 1/4"	1 1/4"	10.5	2.2	10.75	19.00	0.70
									40	28.09	11.46	19.00	10.22

CHA - 1-Row													
Model	Coil Connection		Interconnecting Field Piping	Valve Package				Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	Y-Strainer		GPM	Coil Performance	Control Valve Performance		
			Nominal	Nominal	Nominal	Nominal	Nominal	Nominal		PD (ft)	Cv	Max Cv	PD (ft)
CH02	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	1	2.76	0.91	1.20	1.60
									1.5	5	1.02	1.20	3.60
CH04	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	1	3.47	0.82	1.20	1.60
									2.5	12.73	1.06	1.20	10.01
CH06	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	1	5.53	0.65	1.20	1.60
									4.5	46.07	1.01	1.20	32.44
CH08	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	1	5.06	0.68	1.20	1.60
									5.5	81.99	0.92	1.20	48.46
CH10	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	1.75	2.75	1.60	1.90	1.96
									7	24.36	2.15	1.90	31.31
CH12	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	2	3.81	1.56	1.90	2.56
									8.75	41.37	2.07	1.90	48.93

CHA - 2-Row													
Model	Coil Connection		Interconnecting Field Piping	Valve Package				Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	Y-Strainer		GPM	Coil Performance	Control Valve Performance		
			Nominal	Nominal	Nominal	Nominal	Nominal	Nominal		PD (ft)	Cv	Max Cv	PD (ft)
CH02	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	1	5.1	0.67	0.8	3.60
									1.5	9.63	0.73	0.8	8.11
CH04	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	1	6.539	0.59	0.8	3.60
									2.5	25.27	0.76	0.8	22.53
CH06	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	1	2.09	1.05	1.90	0.64
									4.5	15.03	1.76	1.90	12.94
CH08	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	1	1.938	1.09	1.90	0.64
									5.5	26.33	1.63	1.90	19.33
CH10	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	1.75	1.27	2.36	4.70	0.32
									6.5	8.01	3.49	4.70	4.41
CH12	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	2	1.62	2.39	4.70	0.42
									8.75	14.8	3.45	4.70	8.00

CHA - 3-Row													
Model	Coil Connection		Interconnecting Field Piping	Valve Package				Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	Y-Strainer		GPM	Coil Performance		Control Valve Performance	
				Nominal	Nominal	Nominal	Nominal			PD (ft)	Cv	Max Cv	PD (ft)
CH02	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	2	4.97	1.36	1.90	2.56
									2.5	7.09	1.43	1.90	3.99
CH04	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	2	5.77	1.26	1.90	2.56
									4.25	19.18	1.47	1.90	11.54
CH06	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	2.5	2.17	2.58	3.00	1.60
									6.5	9.5	3.20	3.00	10.83
CH08	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	3	3.36	2.49	3.00	2.31
									9	20.04	3.05	3.00	20.76
CH10	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	3.5	2.21	3.58	4.70	1.28
									9.5	10.65	4.42	4.70	9.43
CH12	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	5	4.18	3.71	4.70	2.61
									11	15.4	4.26	4.70	12.64

CHA - 4-Row													
Model	Coil Connection		Interconnecting Field Piping	Valve Package				Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	Y-Strainer		GPM	Coil Performance		Control Valve Performance	
				Nominal	Nominal	Nominal	Nominal			PD (ft)	Cv	Max Cv	PD (ft)
CH02	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	2	6.46	1.20	1.90	2.56
									2.5	9.27	1.25	1.90	3.99
CH04	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	2	7.5	1.11	1.90	2.56
									4.25	25.33	1.28	1.90	11.54
CH06	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	2.5	2.68	2.32	3.00	1.60
									6.5	12.13	2.83	3.00	10.83
CH08	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	3	4.24	2.21	3.00	2.31
									9	25.9	2.69	3.00	20.76
CH10	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	3.5	1.68	4.10	7.40	0.52
									9.5	7.7	5.20	7.40	3.80
CH12	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	5	3.02	4.37	7.40	1.05
									11	10.94	5.05	7.40	5.10

DHB - 4-Row													
Model	Coil Connection		Interconnecting Field Piping	Valve Package				Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	Y-Strainer		GPM	Coil Performance		Control Valve Performance	
				Nominal	Nominal	Nominal	Nominal			PD (ft)	Cv	Max Cv	PD (ft)
DH04	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	2	3.49	1.63	1.90	2.56
									4	10	1.92	1.90	10.22
DH06	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	2	2.23	2.03	3.00	1.03
									5	8.48	2.61	3.00	6.41
DH08	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	3	3.1	2.59	4.70	0.94
									7	11.68	3.11	4.70	5.12
DH10	3/4"	5/8"	Adapter required	3/4" (S) - 1/2" (M)	1/2"	1/2" (M) - 3/4" (S)	3/4"	3/4"	4.5	3.58	3.61	4.70	2.11
									7.5	7.9	4.05	4.70	5.87

DVA - 4-Row													
Model	Coil Connection		Interconnecting Field Piping	Valve Package				Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	Y-Strainer		GPM	Coil Performance		Control Valve Performance	
				Nominal	Nominal	Nominal	Nominal			PD (ft)	Cv	Max Cv	PD (ft)
DV04	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	2	2.78	1.82	3.00	1.03
									4	7.69	2.19	3.00	4.10
DV06	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	2	2.25	2.03	3.00	1.03
									5	8.53	2.60	3.00	6.41
DV08	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	3	2.55	2.85	3.00	2.31
									7	9.4	3.47	3.00	12.56
DV10	3/4"	5/8"	Adapter required	3/4" (S) - 1/2" (M)	1/2"	1/2" (M) - 3/4" (S)	3/4"	3/4"	4.5	2.38	4.43	7.40	0.85
									7.5	5.11	5.04	7.40	2.37

DUC - 2-Row													
Model	Coil Connection		Interconnecting Field Piping	Valve Package				Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	Y-Strainer		GPM	Coil Performance		Control Valve Performance	
			Nominal	Nominal	Nominal	Nominal	Nominal	Nominal		PD (ft)	Cv	Max Cv	PD (ft)
DUC08	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	3	4.5	2.15	3.00	2.31
									7	17.59	2.54	3.00	12.56
DUC12	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	5	7.1	2.85	3.00	6.41
									9	19.08	3.13	3.00	20.76

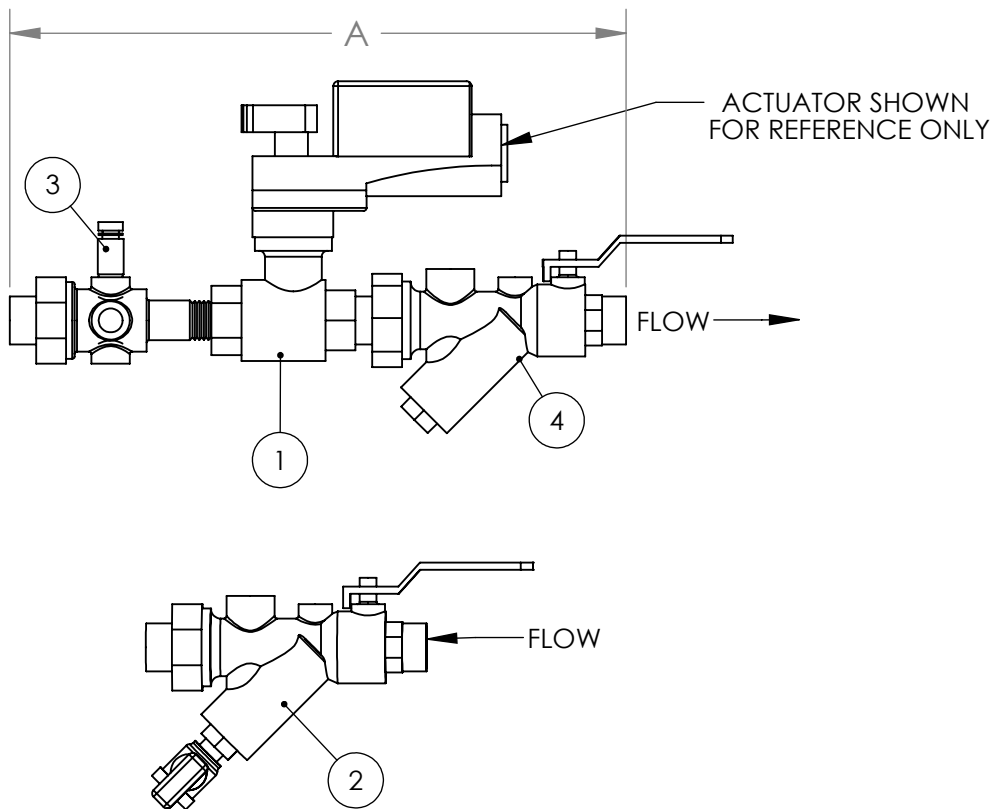
DUC - 3-Row													
Model	Coil Connection		Interconnecting Field Piping	Valve Package				Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	Y-Strainer		GPM	Coil Performance		Control Valve Performance	
			Nominal	Nominal	Nominal	Nominal	Nominal	Nominal		PD (ft)	Cv	Max Cv	PD (ft)
DUC08	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	3	3.59	2.40	3.00	2.31
									7	13.71	2.87	3.00	12.56
DUC12	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	5	6.37	3.01	3.00	6.41
									9	17.09	3.31	3.00	20.76
DUC16	7/8"	3/4"	3/4"	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) - 3/4"(S)	3/4"	3/4"	9	8.84	4.60	4.70	8.46
									12	14.25	4.83	4.70	15.04
DUC20	7/8"	3/4"	3/4"	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) - 3/4"(S)	3/4"	3/4"	12	12.39	5.18	7.40	6.07
									18	24.67	5.50	7.40	13.65

DUC - 4-Row													
Model	Coil Connection		Interconnecting Field Piping	Valve Package				Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	Y-Strainer		GPM	Coil Performance		Control Valve Performance	
			Nominal	Nominal	Nominal	Nominal	Nominal	Nominal		PD (ft)	Cv	Max Cv	PD (ft)
DUC16	7/8"	3/4"	3/4"	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) - 3/4"(S)	3/4"	3/4"	9	11.22	4.08	4.70	8.46
									12	18.11	4.28	4.70	15.04
DUC20	7/8"	3/4"	3/4"	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) - 3/4"(S)	3/4"	3/4"	12	11.77	5.31	7.40	6.07
									18	23.44	5.65	7.40	13.65

HBB - 1-Row													
Model	Coil Connection		Interconnecting Field Piping	Valve Package				Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	Y-Strainer		GPM	Coil Performance		Control Valve Performance	
			Nominal	Nominal	Nominal	Nominal	Nominal	Nominal		PD (ft)	Cv	Max Cv	PD (ft)
HBB08	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	2	3.5	1.62	1.90	2.56
									5.4	21.7	1.76	1.90	18.63
HBB12	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	2	4.8	1.39	1.90	2.56
									4.1	17.5	1.49	1.90	10.74
HBB16	7/8"	3/4"	3/4"	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) - 3/4"(S)	3/4"	3/4"	4	3.7	3.16	3.00	4.10
									12.8	31.6	3.46	3.00	42.00
HBB20	7/8"	3/4"	3/4"	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) - 3/4"(S)	3/4"	3/4"	3.98	4.25	2.93	3.00	4.06
									10.97	27	3.21	3.00	30.85

HBB - 2-Row													
Model	Coil Connection		Interconnecting Field Piping	Valve Package				Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	Y-Strainer		GPM	Coil Performance		Control Valve Performance	
			Nominal	Nominal	Nominal	Nominal	Nominal	Nominal		PD (ft)	Cv	Max Cv	PD (ft)
HBB08	5/8"	1/2"	1/2"	1/2" (S) - 1/2" (M)	1/2"	1/2" (M) - 1/2" (S)	1/2"	1/2"	3	2	3.22	3.00	2.31
									9.5	16.7	3.53	3.00	23.13
HBB12	7/8"	3/4"	3/4"	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) - 3/4"(S)	3/4"	3/4"	2	1.319	2.65	4.70	0.42
									12.7	35.8	3.22	4.70	16.84
HBB16	7/8"	3/4"	3/4"	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) - 3/4"(S)	3/4"	3/4"	4	0.9	6.40	7.40	0.67
									12.8	8.4	6.71	7.40	6.90
HBB20	1-1/8"	1"	1"	1" (S) - 3/4" (M)	3/4"	3/4" (M) - 1" (S)	1"	1"	6.97	1.1	10.09	7.40	2.05
									24.97	12.2	10.86	7.40	26.27
HBB30	1-1/8"	1"	1"	1" (S) - 1" (M)	1"	1" (M) - 1" (S)	1"	1"	7	0.92	11.08	19.00	0.31
									30	14.9	11.80	19.00	5.75
HBB40	1-1/8"	1"	1"	1" (S) - 1" (M)	1"	1" (M) - 1" (S)	1"	1"	11	1.7	12.81	19.00	0.77
									40	18.5	14.13	19.00	10.22
HBB60	1-3/8"	1-1/4"	1-1/4"	1 1/4"(S) - 1" (M)	1"	1" (M) - 1 1/4"(S)	1 1/4"	1 1/4"	15.9	1.4	20.41	19.00	1.62
									39.9	8.7	20.55	19.00	10.17

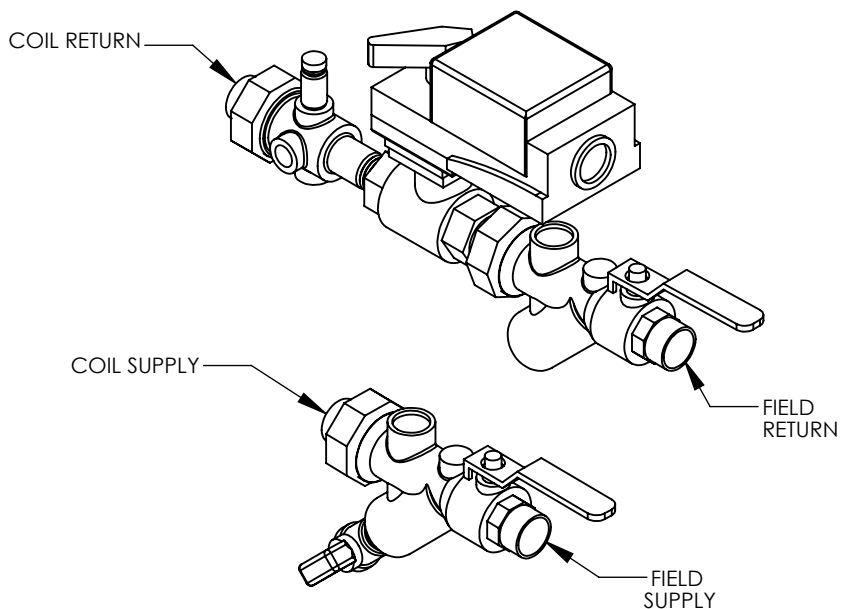
HBB - 4-Row													
Model	Coil Connection		Interconnecting Field Piping	Valve Package				Field Run Out Pipe	Performance				
	O.D.	Nominal		Union	Control Valve	Balancing Valve	Y-Strainer		GPM	Coil Performance		Control Valve Performance	
			Nominal	Nominal	Nominal	Nominal	Nominal	Nominal		PD (ft)	Cv	Max Cv	PD (ft)
HBB08	3/4"	5/8"	Adapter required	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4"(S)	3/4"	3/4"	1	0.15	3.92	4.70	0.10
									3.8	1.96	4.12	4.70	1.51
HBB12	3/4"	5/8"	Adapter required	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4"(S)	3/4"	3/4"	3	1	4.56	4.70	0.94
									16.7	25.2	5.05	4.70	29.13
HBB16	7/8"	3/4"	3/4"	3/4"(S) - 1/2" (M)	1/2"	1/2" (M) -3/4"(S)	3/4"	3/4"	4	1.1	5.79	7.40	0.67
									28	41.6	6.59	7.40	33.03
HBB20	1-1/8"	1"	1"	1" (S) - 3/4" (M)	3/4"	3/4" (M) - 1" (S)	1"	1"	7	1.4	8.99	10.00	1.13
									27.5	17.8	9.90	10.00	17.45
HBB30	1-1/8"	1"	1"	1" (S) - 3/4" (M)	3/4"	3/4" (M) - 1" (S)	1"	1"	7	1.2	9.71	10.00	1.13
									30	18	10.74	10.00	20.76
HBB40	1-3/8"	1-1/4"	1-1/4"	1 1/4"(S) - 1" (M)	1"	1" (M)- 1 1/4"(S)	1 1/4"	1 1/4"	11.4	1.8	12.91	19.00	0.83
									37.9	16.6	14.13	19.00	9.18
HBB60	1-3/8"	1-1/4"	1-1/4"	1 1/4"(S) - 1" (M)	1"	1" (M)- 1 1/4"(S)	1 1/4"	1 1/4"	11.4	1.1	16.51	19.00	0.83
									60.6	26.3	17.95	19.00	23.47



Pipe Dimensions (+/- 0.5")		
CONX. SIZE	VALVE SIZE	A
1/2	1/2	11.4
3/4	1/2	11.9
3/4	3/4	12.0
1	3/4	13.9
1	1	14.1
1-1/4	1	14.9
1-1/4	1-1/4	15.7
1-1/2	1-1/4	18.2

ALL DIMENSIONS ARE IN INCHES

PART IDENTIFICATION	
ITEM #	PART
1	Control Valve
2	Y-Strainer
3	Union
4	Autoflow



CODE NO.

CATALOG NO.

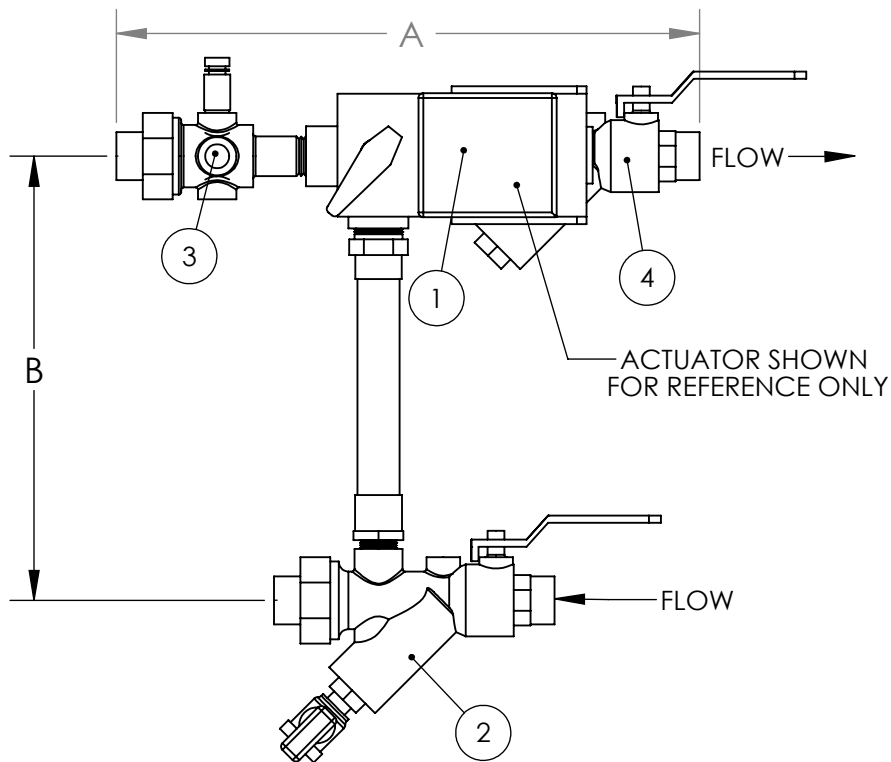
Magic Aire®

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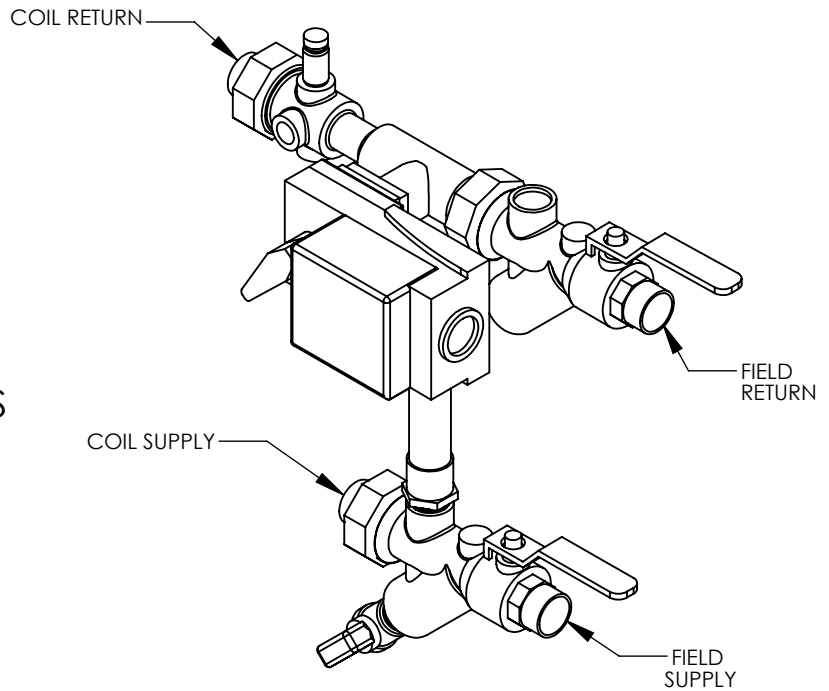
STANDARD VALVE PACKAGE
3-WAY WITH AUTOFLOW

VP



PIPE DIMENSIONS (+/- 0.5")			
CONX. SIZE	VALVE SIZE	A	B
1/2	1/2	11.4	12.2
3/4	1/2	11.9	12.2
3/4	3/4	12.0	13.1
1	3/4	13.9	13.1
1	1	14.1	13.2
1-1/4	1	14.8	13.2
1-1/4	1-1/4	16.0	14.9
1-1/2	1-1/4	18.4	14.9

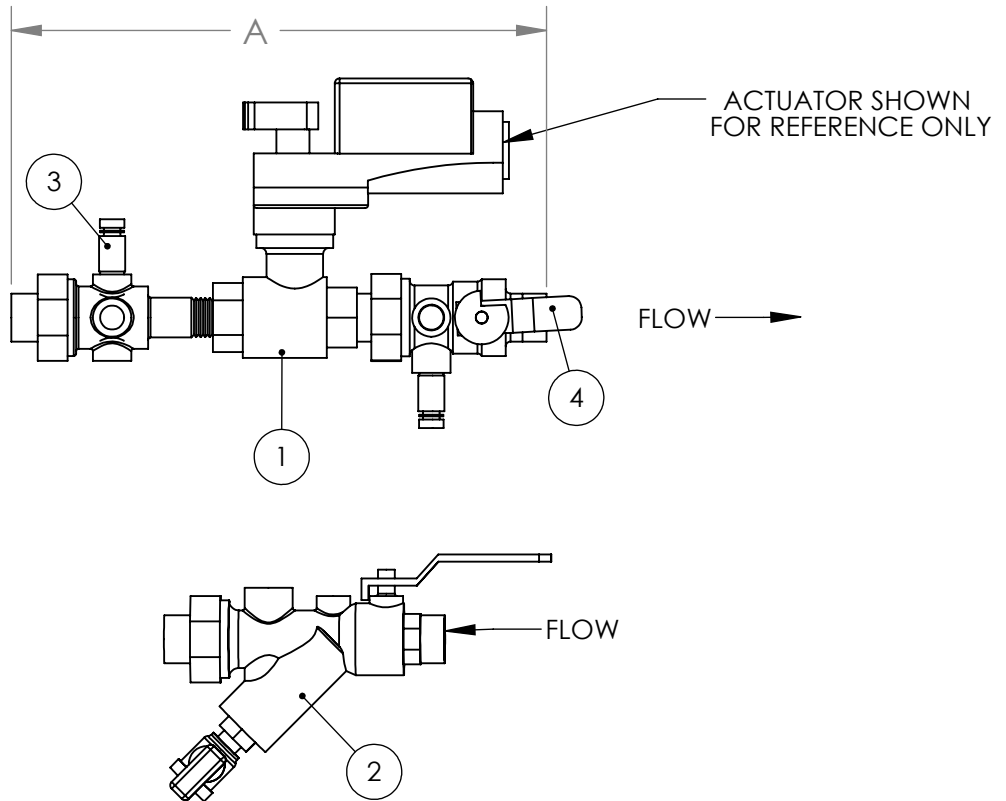
ALL DIMENSIONS ARE IN INCHES



PART IDENTIFICATION	
ITEM #	PART
1	Control Valve
2	Y-Strainer
3	Union
4	Autoflow

PRODUCT INFORMATION IS SUBJECT TO CHANGE WITHOUT NOTICE

JOB NAME	JOB #	LOCATION	BUYER	BUYER #	DRAWING NO. 053-00773L	REV -
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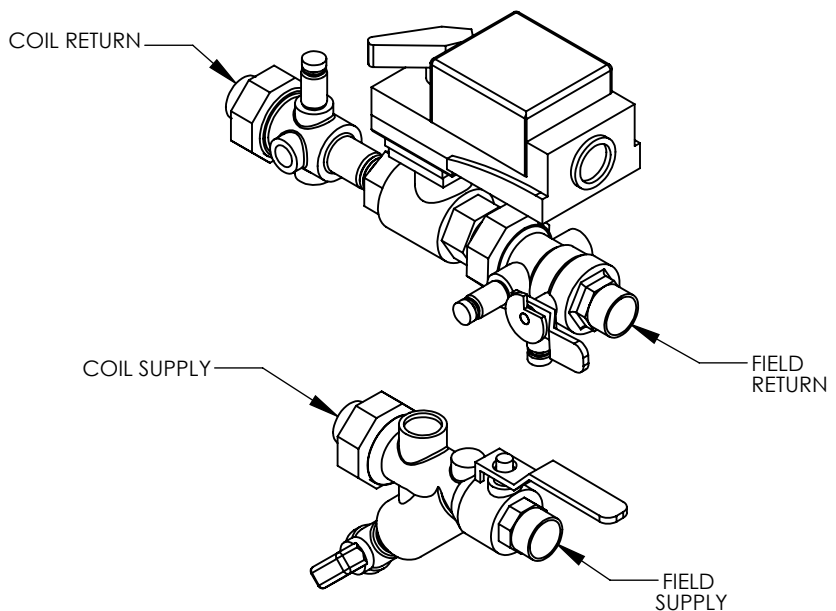
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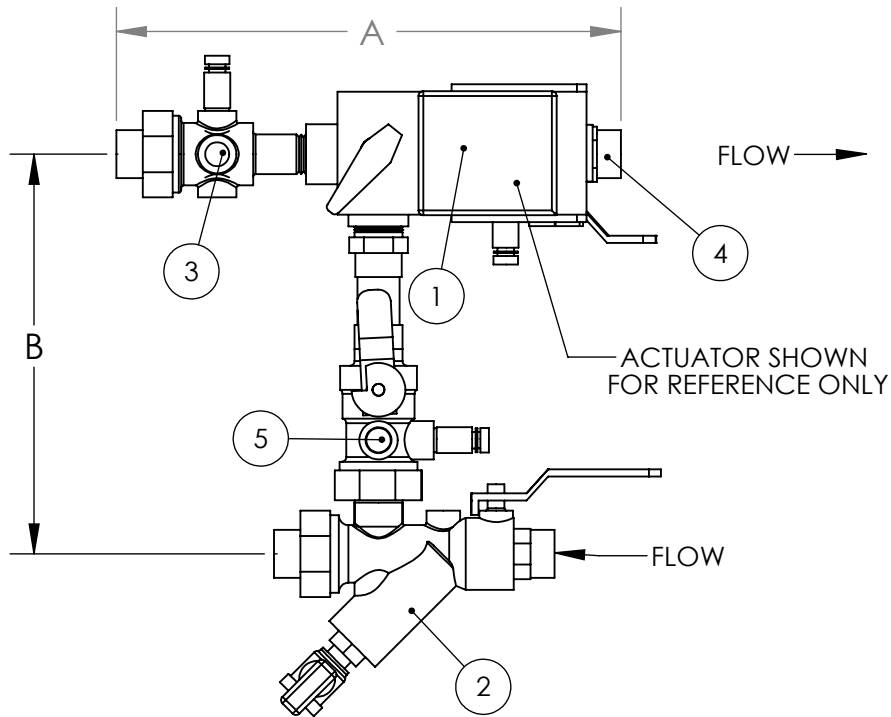
CONX. SIZE	VALVE SIZE	A
1/2	1/2	9.8
3/4	1/2	10.0
3/4	3/4	10.3
1	3/4	10.5
1	1	10.6
1-1/4	1	12.2
1-1/4	1-1/4	13.2
1-1/2	1-1/4	12.9

ALL DIMENSIONS ARE IN INCHES

PART IDENTIFICATION

ITEM #	PART
1	Control Valve
2	Y-Strainer
3	Union
4	Circuit Setter

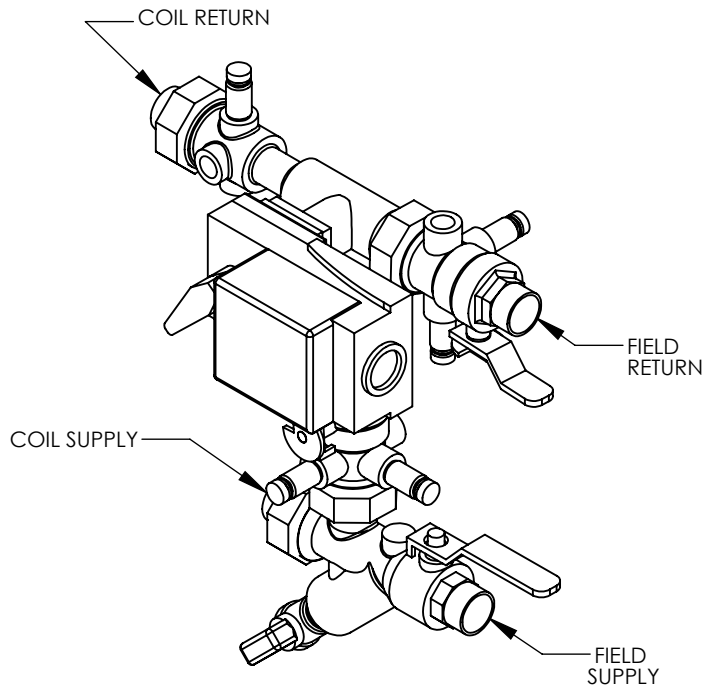




PIPE DIMENSIONS (+/- 0.5")

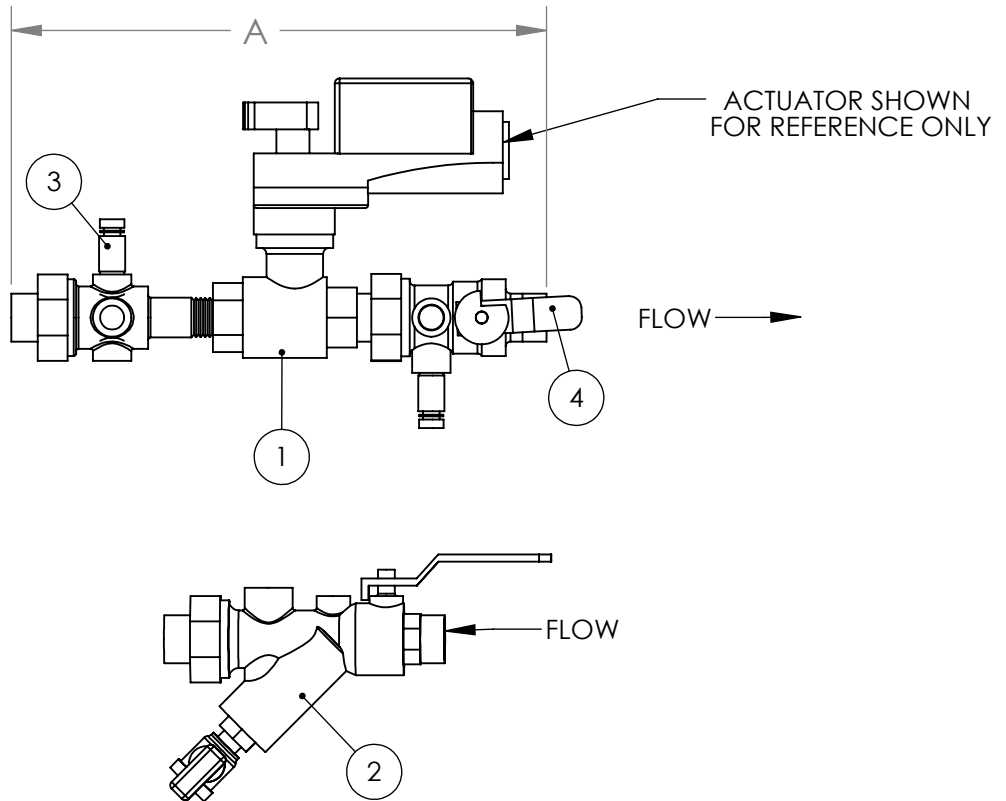
CONX. SIZE	VALVE SIZE	A	B
1/2	1/2	9.8	12.2
3/4	1/2	10.0	12.2
3/4	3/4	10.3	13.1
1	3/4	10.5	13.1
1	1	10.6	13.2
1-1/4	1	12.2	13.2
1-1/4	1-1/4	13.5	14.9
1-1/2	1-1/4	13.1	14.9

ALL DIMENSIONS ARE IN INCHES



PART IDENTIFICATION

ITEM #	PART
1	Control Valve
2	Y-Strainer
3	Union
4	Circuit Setter
5	Bypass Ball Valve w/Memory Stop



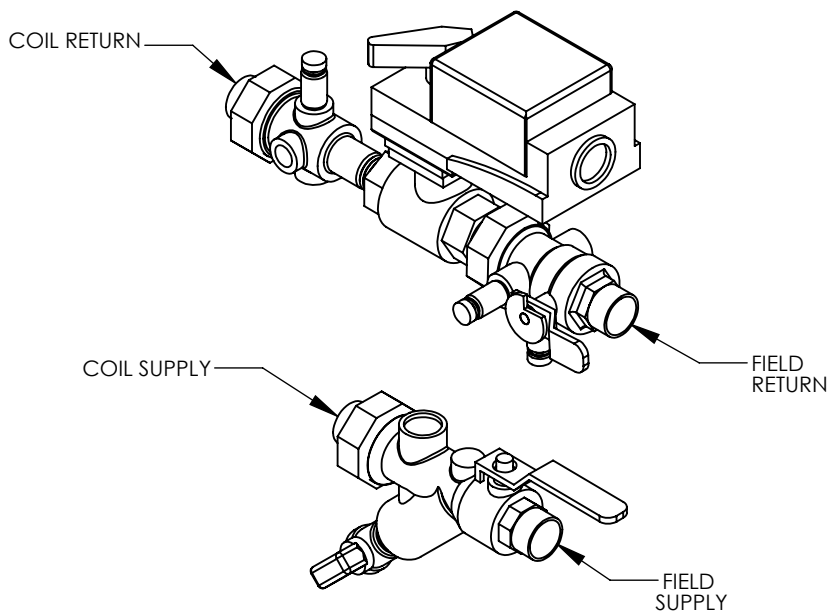
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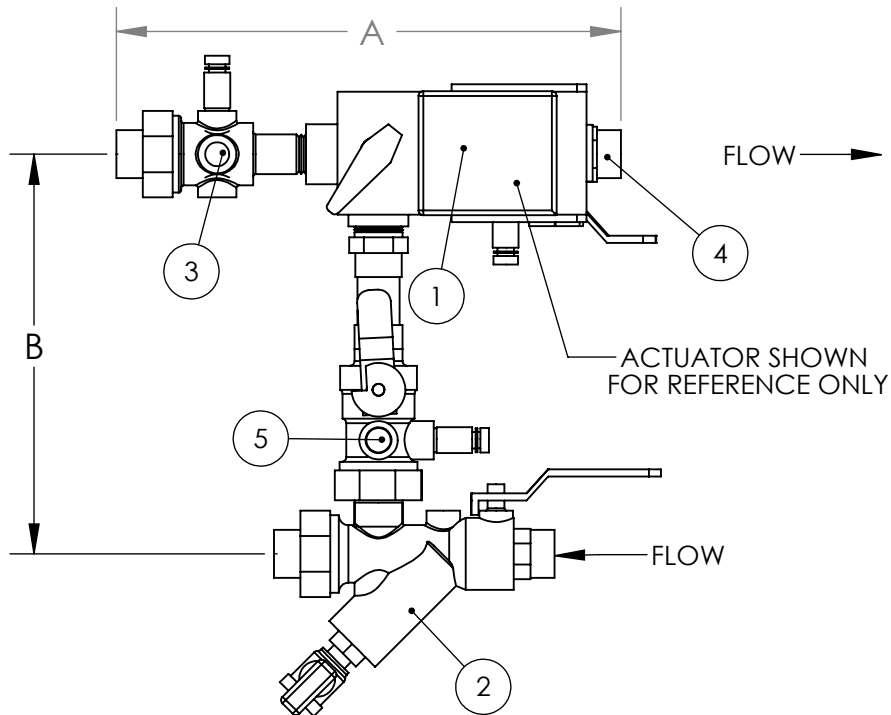
CONX. SIZE	VALVE SIZE	A
1/2	1/2	9.6
3/4	1/2	10.0
3/4	3/4	10.1
1	3/4	10.5
1	1	10.6
1-1/4	1	12.2
1-1/4	1-1/4	13.3
1-1/2	1-1/4	12.9

ALL DIMENSIONS ARE IN INCHES

PART IDENTIFICATION

ITEM #	PART
1	Control Valve
2	Y-Strainer
3	Union
4	Ball Valve

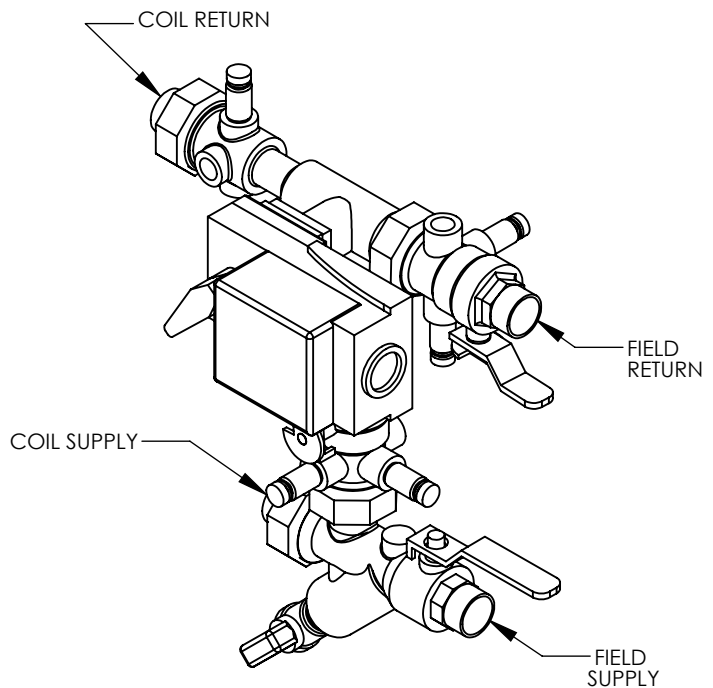




PIPE DIMENSIONS (+/- 0.5")

CONX. SIZE	VALVE SIZE	A	B
1/2	1/2	9.6	12.2
3/4	1/2	10.0	12.2
3/4	3/4	10.1	13.1
1	3/4	10.5	13.1
1	1	10.6	13.2
1-1/4	1	12.2	13.2
1-1/4	1-1/4	13.5	14.9
1-1/2	1-1/4	13.1	14.9

ALL DIMENSIONS ARE IN INCHES



PART IDENTIFICATION

ITEM #	PART
1	Control Valve
2	Y-Strainer
3	Union
4	Ball Valve w/Memory Stop
5	Bypass Ball Valve w/Memory Stop