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MIXING VALVES

Mixing Valves

Table Of Contents

Apollo Mixing Valves ... Your Best Choice For Value And Protection

Introduction	2
Hydronic Tempering Valves 34-100 Series	3
Point of Source Radiant Heat Mixing Valves 34C High Temperature 34H Series	6 4-5
Point of Source ASSE 1017 Mixing Valves 34A Series 34C Series	4-5 6
Point of Use ASSE 1070 Mixing Valves 34B Series 34D "Mini" Series	7 8
Automatic Temperature Controller (ATC) 34HL Series	9-10
Emergency Eye Wash/Face Wash Mixing Valve 34E	11-12
Mixing Valves Application Chart	13-14

No matter how big or small your job, you can trust Apollo® temperature activated mixing valves to provide all the code-compliant performance you're looking for.

Conserving energy and assuring safe use of our water systems by those who depend on them has grown increasingly important in recent years. Government at every level is working with our industry to enhance and improve the safety of our hot water supplies. This brochure addresses the use of Apollo® mixing valves to protect water users and extend energy efficiency.

A Proper Balance

Maintaining proper water temperature in hot water supply systems is critical. Water stored and delivered at too high a temperature puts users at risk of scalding. But maintaining water at too low a temperature presents other risks. It can turn a tank or piping system into a breeding ground for bacteria -- potentially harmful to water users young and old.

Keeping water at the optimum temperature is exactly what our Apollo® thermostatic mixing valves are designed to do.

For Every Job

Our Apollo® family of mixing valves includes ASSE certified products to meet all your point-of-source and point-of-use requirements. We also offer a full range of non-ASSE models designed specifically for the higher temperatures associated with hydronic and radiant heating systems. And they're built to resist corrosion. All valves feature a high-copper-content all bronze body and heavy duty stainless steel springs. Our mixing valves offer fingertip control of water temperatures up to 180°F and the convenience of easy in-line servicing.

Mixing Valves

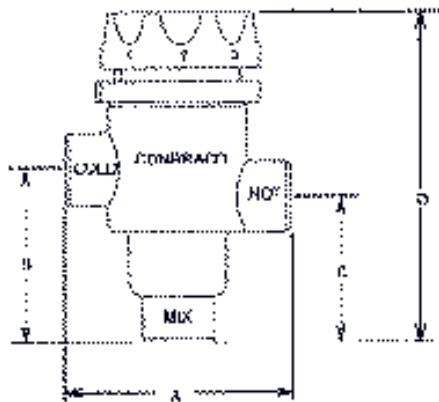
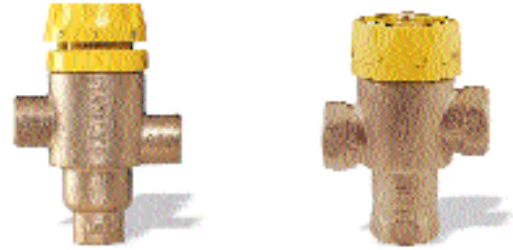
Hydronic Tempering Valves

34-100 Series

Designed to provide non-ASSE extension of water heater capacity and hot water temperature control in hydronic heating applications. Numbered indicator control allows easy setup and fingertip control. Available in low or high temperature options depending on floor or baseboard application.

FEATURES

- Low temperature range (100°-130°F)
- High temperature range (120°-150°F)
- Stainless steel spring and rings
- Corrosion resistant bronze body
- Thermoplastic shuttle assembly
- Thread or solder connections
- In-line repairable
- Low flow restriction
- Fingertip temperature control



Size	Connection	Dimensions(in.)			
		A	B	C	D
1/2"	solder	2.563	1.938	1.625	3.688
1/2"	threaded	2.688	1.938	1.750	3.625
3/4"	solder	3.063	2.063	2.063	3.875
3/4"	threaded	2.938	2	2	3.750

ORDERING NUMBERS

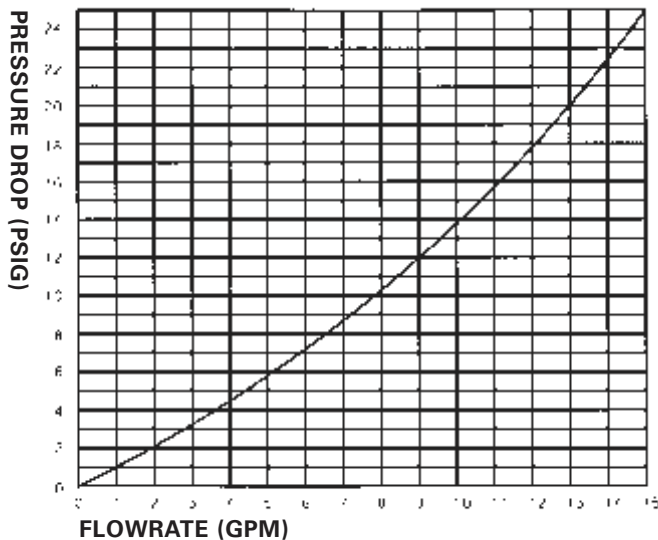
STANDARD MODEL

Size(in.)	Threaded	Solder
1/2	34-105-01	34-103-01
3/4	34-106-01	34-104-01

LOW TEMPERATURE MODEL

Size (in.)	Threaded	Solder
1/2	34-105-L1	34-103-L1
3/4	34-106-L1	34-104-L1

To Order Repair Kits: 34-100-01RK for Standard Temp.
34-100-L1RK for Low Temp.



Mixing Valves

ASSE 1017 Point of Source Commercial Mixing Valves



MVA (34A) Series/MVAH Hydronic Series

The Apollo MVA thermostatic master mixing valves are designed for ASSE 1017 "point of source" applications. They provide reliable hot water temperature control of potable and hydronic hot water distribution systems.

FEATURES

- Superior thermostatic element technology for optimal performance, reliability and accuracy
- Integral inlet strainers and check valves are standard to protect against cross-flow and foreign particles in the piping system
- Thermostat over-temperature control
- Maximum temperature limit option
- Fingertip temperature control
- Materials of construction meet the requirements of the EPA Safe Drinking Water Act
- Instantaneous cold or hot water supply failure shut-off protection
- Multiple connection options to fit your specific needs
- High temperature version for hydronic/radiant heating applications

APPROVALS

- ASSE 1017 - Temperature Actuated Mixing Valve for Hot Water Distribution Systems
- CSA B125.3 - Plumbing Supply Fittings

MATERIAL

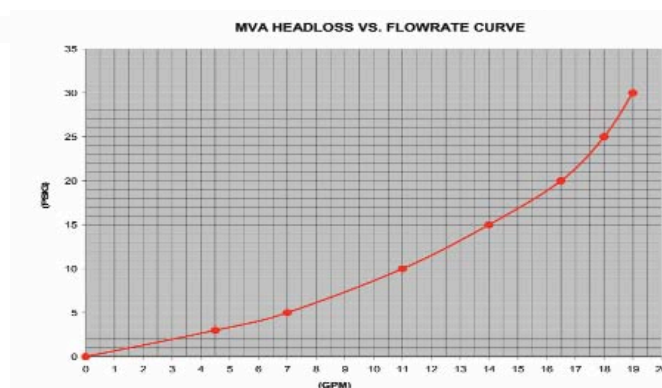
Body:	ASTM B Bronze
Shuttle:	Noryl® Modified PPO (Polyphenylene Oxide)
Sensor:	Copper/Wax filled
O-ring:	Chloramine Resistant EPDM
Spring:	ASTM A313 Stainless Steel
Cap:	ABS (Acrylonitrile Butadiene Styrene)

PERFORMANCE RATING

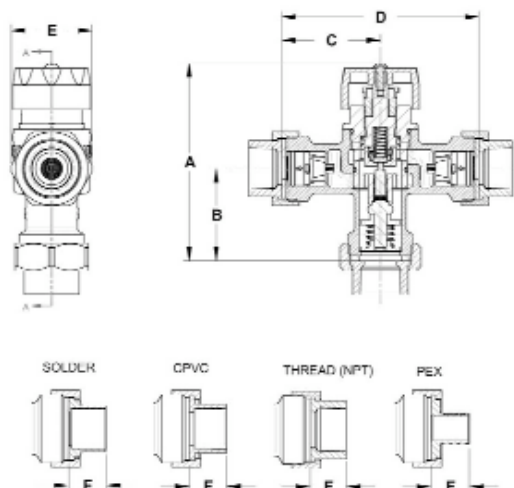
• Maximum working pressure -	10 psig (10 kPa)
• Maximum working temperature -	210°F (99°C)
• Cold water inlet temperature range -	39 - 80°F (4 - 27°C)
• Hot water inlet temperature range -	120 - 180°F (49 - 82°C)
• Minimum Flowrate* -	1/2 gpm (1.9 lpm)
• Flowrate at 30 psid (138kPa) -	19 gpm (64 lpm)
• Mixed water temperature range -	85 - 140°F (30 - 60°C)/ 130 - 180°F (54 - 82°C)
• Mixed water temperature tolerance -	±5°F (1.7°C)

* Minimum flow when the valve is installed with recirculating water pump.

FLOW CURVE Flow curve is based on the following: Cold and hot water inlet pressures at 45 psig; cold water supply temperature at 55 ±5°F; hot water supply temperature at 140 ±5°F, and mixed water temperature at 105 ±5°F.



Mixing Valves



MVA (34A) Series and MVAH (34A-H) Hydronic Series

Model Numbers

Standard 85° - 140°F		120°F Adjustment Limit Stop	
Order Number	Model Number	Order Number	Model Number
34A213T	MVA12	34A213BT	MVAB12
34A214T	MVA34	34A214BT	MVAB34
34A215T	MVA1	34A215BT	MVAB1
34A213S	MVAS12	34A213BS	MVABS12
34A214S	MVAS34	34A214BS	MVABS34
34A215S	MVAS1	34A215BS	MVABS1
34A213C	MVAC12	34A213BC	MVABC12
34A214C	MVAC34	34A214BC	MVABC34
34A215C	MVAC1	34A215BC	MVABC1
34A213X	MVAX12	34A213BX	MVABX12
34A214X	MVAX34	34A214BX	MVABX34
34A215X	MVAX1	34A215BX	MVABX1

Hydronic Temperature Control*

Size & Connection	High Temp (130°F-180°F)	
	Order Number	Model Number
1/2" FNPT	34A213HT	MVAH12
3/4" FNPT	34A214HT	MVAH34
1" FNPT	34A215HT	MVAH1
1/2" Solder	34A213HS	MVAHS12
3/4" Solder	34A214HS	MVAHS34
1" Solder	34A215HS	MVAHS1
1/2" CPVC	34A213HC	MVAHC12
3/4" CPVC	34A214HC	MVAHC34
1" CPVC	34A215HC	MVAHC1
1/2" PEX	34A213HX	MVAHX12
3/4" PEX	34A214HX	MVAHX34
1" PEX	34A215HX	MVAHX1

* Hydronic applications
not covered by
ASSE Standards.

Model Number	Series Number	Connection Type	A	B	C	D	E	F	Unit Wt. (lbs)
MVA12	34A213T	1/2" FNPT	3.73	2.11	2.28	4.56	1.87	0.73	2.75
MVA34	34A214T	3/4" FNPT	3.73	2.11	2.28	4.56	1.87	0.77	2.84
MVA1	34A215T	1" FNPT	3.73	2.11	2.28	4.56	2.12	0.94	2.93
MVAS12	34A213S	1/2" Solder	3.73	2.11	2.28	4.56	1.87	0.81	2.54
MVAS34	34A214S	3/4" Solder	3.73	2.11	2.28	4.56	1.87	0.81	2.60
MVAS1	34A215S	1" Solder	3.73	2.11	2.28	4.56	2.12	0.94	2.66
MVAC12	34A213C	1/2" CPVC	3.73	2.11	2.28	4.56	1.87	0.58	2.39
MVAC34	34A214C	3/4" CPVC	3.73	2.11	2.28	4.56	1.87	0.80	2.42
MVAC1	34A215C	1" CPVC	3.73	2.11	2.28	4.56	2.12	1.09	2.45
MVAX12	34A213X	1/2" PEX	3.73	2.11	2.28	4.56	1.87	0.83	2.54
MVAX34	34A214X	3/4" PEX	3.73	2.11	2.28	4.56	1.87	0.83	2.60
MVAX1	34A215X	1" PEX	3.73	2.11	2.28	4.56	2.12	1.04	2.66

Mixing Valves

Commercial High Capacity Mixing Valves



3/4" - 1"



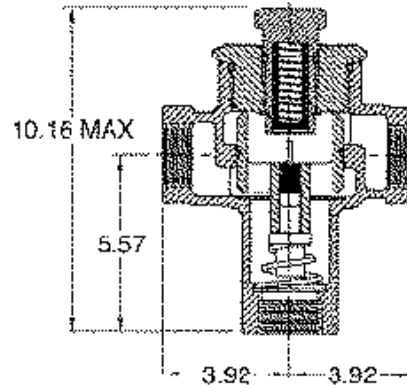
1-1/4" - 2"

MVC (34C Series)

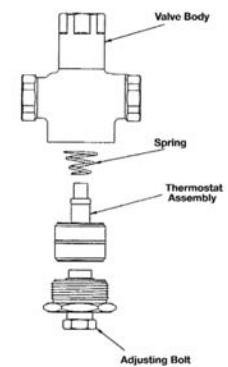
The Apollo® Model MVC (34C Series) ASSE 1017 listed, high-capacity mixing valves are thermostatically controlled regulating valves designed for use in large commercial and institutional potable "point of source" and non-potable hot water systems or applications. Simple adjustment of water temperature from 90°-140°F or 130°-180°F.

FEATURES

- Sizes 3/4", 1", 1-1/4", 1-1/2", 2"
- Standard temp range 90°-140°F
- High temp range 130°-180°F (use suffix "H1") for hydronic/radiant heating systems
- Highest flow in its class
- Threaded connections
- Installs easily on heating source
- Patented design for easy in-line maintenance
- Supply pressures to 150 psig
- U.S. Patent #6,328,219
- ASSE 1017 approved
- CSA B125-01



34C-104/34C-105

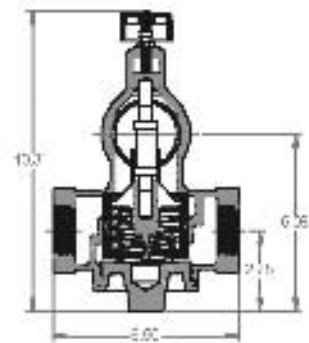
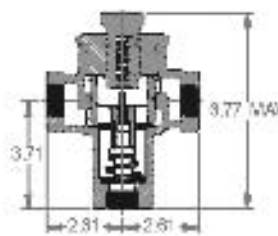


ORDERING NUMBERS

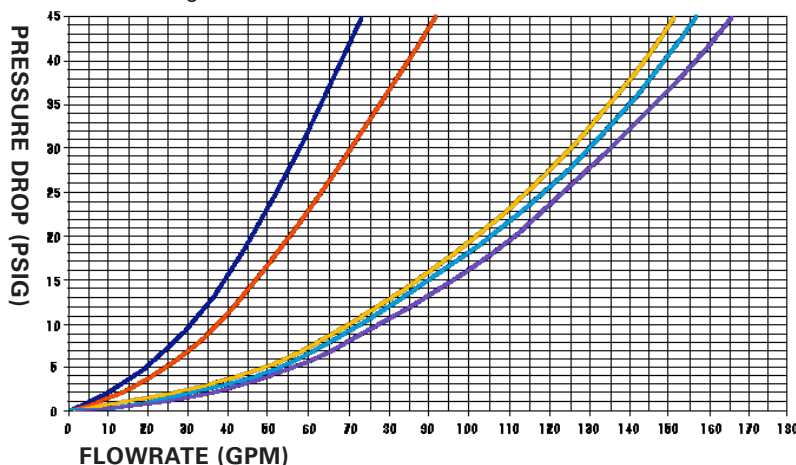
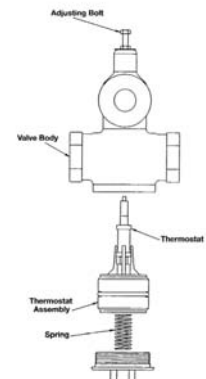
Size (in.)	Part No.	High Temp. Part No.
3/4	34C-104-01	34C-104-H1
1	34C-105-01	34C-105-H1
1-1/4	34C-106-01	34C-106-H1
1-1/2	34C-107-01	34C-107-H1
2	34C-108-01	34C-108-H1

Special Features

Selected Apollo 34C mixing valves feature a two-piece shuttle with integral over-travel spring so they're smaller and easier to install than other high-capacity valves. Plus their patented snap-fit element retainer and shuttle with special finger-grip pads assure easy removal and servicing without tools.



34C-106/34C-108



Mixing Valves

MVB (34B Series)

The Apollo® Model "MVB" (34B Series) thermostatic mixing valves are designed to control and limit the volumes of cold and hot water required to deliver mixed water at a predetermined temperature either from the "point of source" or "point of use" application for single or multiple fixtures.

FEATURES

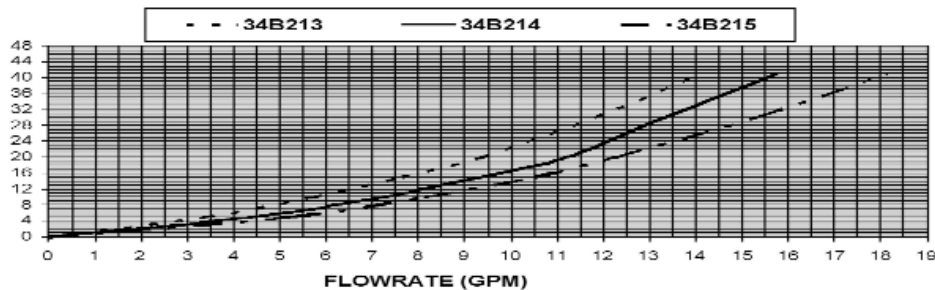
- Highest capacity that meets ASSE 1070
- Superior thermostatic element technology for optimum reliability, dependability and accuracy
- Integral strainers and check valves provide protection against cross-flow and foreign particles
- Thermostat over-temperature protection
- Tamper resistant locking cap feature
- Maximum temperature setting adjustment
- Meets the requirements of the EPA Safe Drinking Water Act
- Instantaneous cold or hot water supply failure shut-off protection
- Multiple connection options to fit your specific needs

APPROVALS

- ASSE 1017 - Temperature Actuated Mixing Valve for Hot Water Distribution Systems
- ASSE 1070 - Water Temperature Limiting Device
- CSA B125.3 - Plumbing Supply Fittings

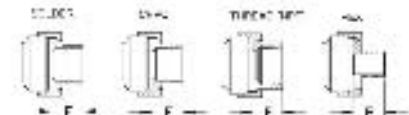
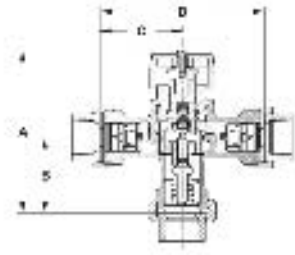
PERFORMANCE RATING

Maximum working pressure	=150 psig (1034 kPa)
Maximum working temperature	=210°F (99°C)
Hot water inlet temperature range	=120 - 180°F (49 - 82°C)
Mixed water temperature range	=80 - 120°F (27 - 49°C)
Mixed water temperature tolerance	=± 3°F (1.7°C)
Minimum flow rate	=1 gpm (3.7 lpm)



Model Number	Series Number	Connection Type	A	B	C	D	E	F	Unit Wt. (lbs)
MVB12	34B213T	1/2" FNPT	4.52	2.11	2.28	4.56	1.87	0.73	2.75
MVB34	34B214T	3/4" FNPT	4.52	2.11	2.28	4.56	1.87	0.77	2.84
MVB1	34B215T	1" FNPT	4.52	2.11	2.28	4.56	2.12	0.94	2.93
MVBS12	34B213S	1/2" Solder	4.52	2.11	2.28	4.56	1.87	0.81	2.54
MVBS34	34B214S	3/4" Solder	4.52	2.11	2.28	4.56	1.87	0.81	2.60
MVBS1	34B215S	1" Solder	4.52	2.11	2.28	4.56	2.12	0.94	2.66
MVBC12	34B213C	1/2" CPVC	4.52	2.11	2.28	4.56	1.87	0.58	2.39
MVBC34	34B214C	3/4" CPVC	4.52	2.11	2.28	4.56	1.87	0.80	2.42
MVBC1	34B215C	1" CPVC	4.52	2.11	2.28	4.56	2.12	1.09	2.45
MVBX12	34B213X	1/2" PEX	4.52	2.11	2.28	4.56	1.87	0.83	2.54
MVBX34	34B214X	3/4" PEX	4.52	2.11	2.28	4.56	1.87	0.83	2.60
MVBX1	34B215X	1" PEX	4.52	2.11	2.28	4.56	2.12	1.04	2.66

ASSE 1070/1016
Point of Use
Mixing Valves



Mixing Valves

ASSE 1070/1016 Point of Use "Mini Mixer" Valves

MVD (34D Series)

The new Apollo® MCVD (34D Series) Mini Thermostatic mixing valves are designed for ASSE 1070 "Point of Use" temperature control applications with a single fixture using proven ASTM grade materials. These valves will hold a desired temperature within $\pm 2^{\circ}\text{F}$ and will shut off in the event of hot or cold water failure. They come equipped with a tamper-resistant high temperature limit stop to prevent the valve from being set above 120°F .

FEATURES

- 100% Made in the USA
- New tamper resistant locking control knob
- Adjustable maximum temperature limit stop
- Crush proof integral check valves
- Hot/cold water failure protection
- Single outlet for sensor faucets
- Bypass fitting option for dual control faucets
- Satin chrome plating option
- 3/8" compression connections

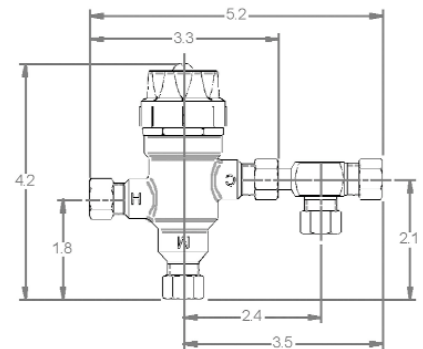
PERFORMANCE RATING

Outlet temperature range (85°F - 120°F)

Maximum pressure: 125 psig

Maximum inlet temperature: 210°F

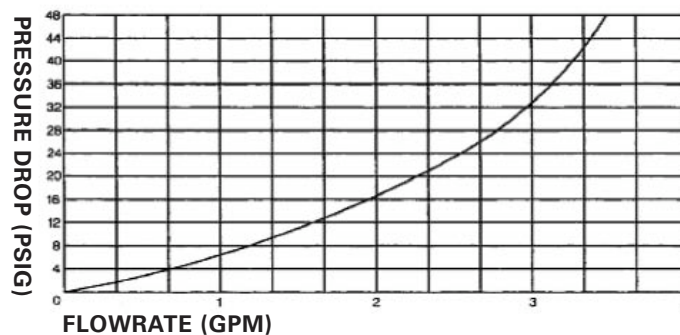
Minimum flow rate" 0.5 GPM



APPROVALS

- ASSE 1070 - "Performance Requirements for Water Temperature Limiting Devices"
- ASSE 1016-96 - "Individual Thermostatic Control Valve for Individual Fixtures"
- CSA B125.3-05 - "Plumbing Fittings"

Model	Series	Description	Weight
MVD	34D30201	3/8" Single Out Bronze	.82
MVDR	34D30217	3/8" Single Out Chrome	.82
MVDB	34D302B1	3/8" Double Out Bronze	1.0
MVDBR	34D302B17	3/8" Double Out Chrome	1/0



Mixing Valves

NEW FROM APOLLO®...THE FIRST MULTIPLE-FIXTURE HI-LO MIXING VALVE THAT MEETS ASSE 1017 AND THE NEW ASSE 1069 STANDARD

Only Apollo® offers fast delivery on the first water temperature mixing assembly to meet ASSE 1017 and the strict performance levels required by the new ASSE 1069 Standard.

The new 34HL Automatic Temperature Control Mixing Valve uses proven Apollo thermostatic control to produce a consistent mix of water from low through high flow range.

This single assembly controls mixed water temperatures to multiple-outlet shower and sink installations. It's the ideal choice in new construction or retrofits in nursing homes, prisons, hospitals, schools, gymnasiums, airports and other facilities where constant safe water temperature needs to be maintained at several outlets without the use of independent ASSE 1016 shower valves.

FEATURES

- The Apollo 34HL Automatic Temperature Controller (ATC) is an advanced Thermostatic Mixing Valve capable of maintaining safe, consistent temperature control of water at low and high flows to within $\pm 3.6^\circ\text{F}$.
- The 34HL will provide consistent temperature control at flow rates as high as 60 GPM and as low as 1.5 GPM, including mid-range flow between high and low.
- This high quality Apollo valve performs its function without requiring recirculation pumps like other systems in order to achieve low flow control.
- Integral strainers and checks are provided at the hot and cold supply inlets for greater reliability and performance.
- These cast bronze thermostatic mixing valves are manufactured to the same exacting standards that have made the Apollo name famous for durability and reliability.

OPERATION

- The 34HL design is patented with a variable fluid flow assembly and dual thermal actuated controls for either low or high flow conditions.
- The passages are calibrated to control water temperature during all flow conditions without a "dead zone" between low and high flow.
- The 34HL also provides fluid shutoff as required by ASSE 1069 in the case that either the hot or cold supply lines fail (or are shut off for any reason) to prevent scalding.
- The valve can be tamper-resistant to limit the water temperature from exceeding safe conditions as required by ASSE 1069.
- The valve also meets the requirements of ASSE 1017 for Point of Source Applications.

This device will service end use fixture fittings, including but not limited to, gang showers and sitz baths, by supplying tempered water at a preset temperature through a single supply pipe and will meet ASSE standard 1069 2005. ASSE 1069 devices are designed to reduce the risk of scalding and thermal shock during changes in hot or cold water supply pressure or temperature, or loss of cold water supply.

Product Specifications

Maximum Static Pressure	150 psig (1034 kpa)
Maximum Water Temperature	200° F (93° C)
Minimum Flow	0.5 gpm (1.9 lpm)
Minimum Flow ASSE 1069 & 1017	1.5 gpm (5.7 lpm)
Temperature Adjustment Range	90° F - 140° F
Maximum Inlet Pressure Differential	30 psi (207kpa)
Inlet Connection	1" NPT
Outlet Connection	1-1/4" NPT
Temperature Gauge (1)	0-200°F
Pressure Gauge (3)	0-160 psi
Shipping Weight	36 lbs

Automatic Temperature Controller (ATC)

34HL Series



Mixing Valves

Automatic Temperature Controller (ATC)

UNITED STATES PATENT
US 6,929,188 B2



Standard Approvals

ASSE 1069-Automatic Temperature Control Mixing Valves

This device will control outlet water temperature to individual or multiple fixtures within 3.6°F to reduce the risk of scalding or thermal shock. This device is intended to be installed where the bather has no access to the temperature adjustment, and where no further mixing occurs downstream of the device.

The Apollo 34HL ATC will meet the performance requirements of ASSE 1069 at flow as low as 1.5 GPM up through maximum flow rate.

ASSE 1017-Temperature Actuated Mixing Valves for Hot Water Distribution Systems

This device will control outlet set water temperature to hot water distribution systems near the hot water source within 3°F below 2 GPM and within 5°F above 5 GPM.

Flow Capacity

Model	Min. Flow to ASSE 1069	Pressure Drop Across Valve			
		10 psi (69 kpa)	20 psi (138 kpa)	30 psi (207 kpa)	45 psi (310 kpa)
34HL10501	1.5 gpm	22 gpm	42 gpm	52 gpm	60 gpm
	6 lpm	83 lpm	159 lpm	197 lpm	227 lpm

OPTIONS:

- 34HL10517 - Nickel plated
- 34HLBOX01 - Cabinet, flush mount, SS
- 34HLBOX02 - Cabinet, flush mount, CS powder coat
- 34HLBOX03 - Cabinet, wall mount, SS
- 34HLBOX04 - Cabinet, wall mount, CS powder coat

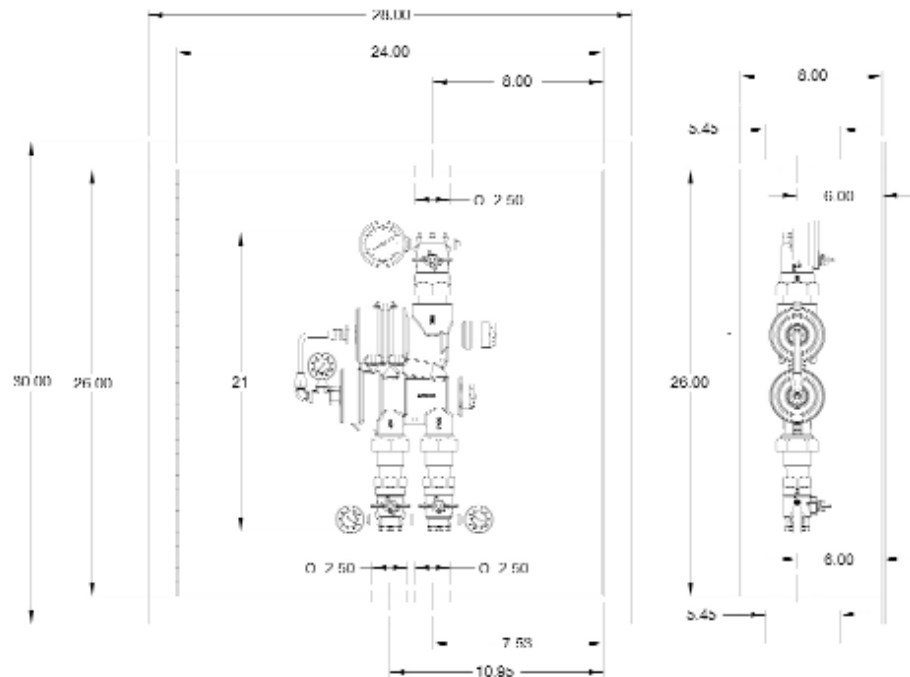


Figure 1: Typical Valve Dimensions with Stainless Steel Recessed Cabinet Option

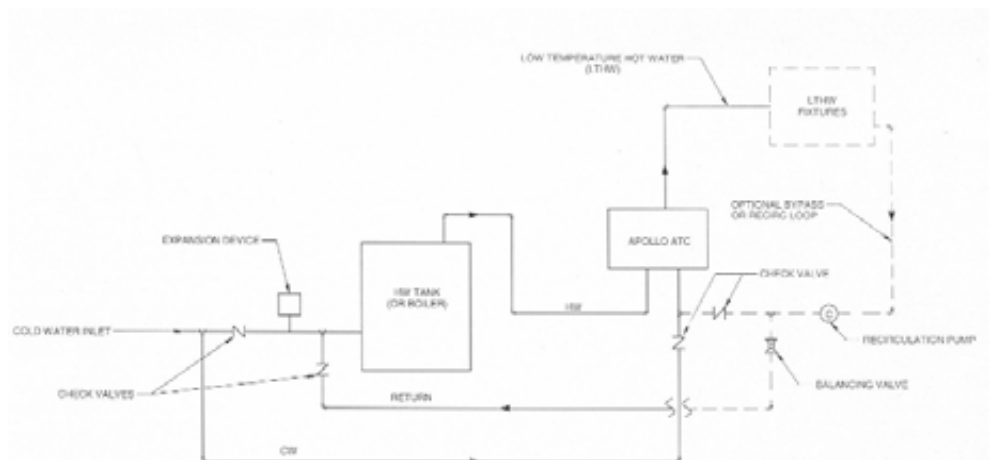


Figure 2: Typical Installation With Optional Recirculation Loop

Mixing Valves

MVE (34E Series)

The Apollo® Model "MVE" (34E Series) emergency mixing valves are designed to control the cold and hot water temperature to deliver tepid water at a predetermined temperature to emergency eyewash/facewash fixtures. The device provides a precise temperature and flow control in the event of cold water, hot water and thermostatic element failures.

FEATURES

- Hot and cold water supply failure protection patented design (US Patent 6,926,20 B2)
- Tepid water temperature limit control and adjustment
- Tepid water temperature adjustment handle with locking mechanism for tamper-proof protection and inadvertent adjustment
- Integral inlet check valves and strainers to provide protection against cross-flow and foreign particles
- Superior thermostatic element technology for optimum reliability, dependability and accuracy
- Thermostatic element failure and over-travel protection
- High efficiency and positive shut-off check valves
- In-line accessibility and serviceability of failure protection module and mixing valve internal components
- Meets the requirements of the EPA Safe Drinking Water Act
- Corrosion resistant components
- Single cartridge design of failure protection module for easy service and maintenance.
- Integral hot water by-pass

APPROVALS

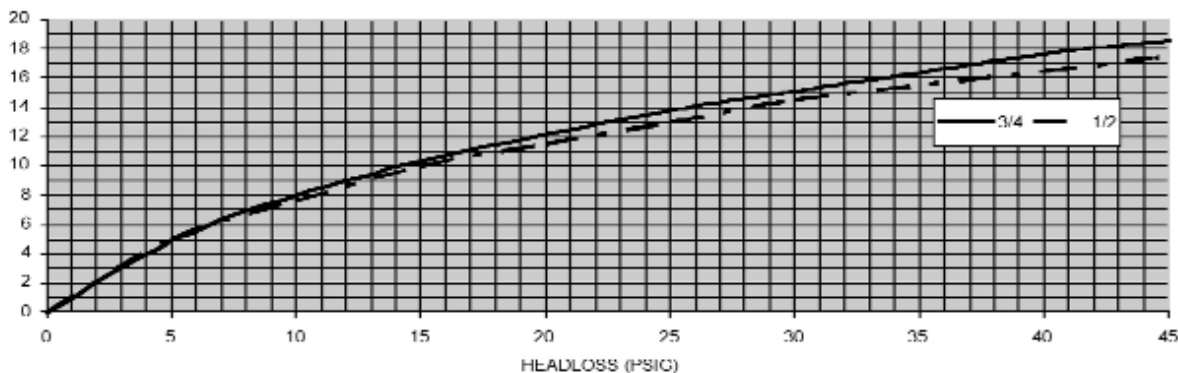
- ASSE 1071 - Temperature Actuated Mixing Valves for Plumbed Emergency Equipment - **PENDING**
- ANZI Z358.1 - Emergency Eyewash & Shower Equipment

PERFORMANCE RATING

Maximum working pressure	=150 psig (1034 kPa)
Hot water inlet temperature range	=120 - 180°F (49 - 82°C)
Cold water inlet temperature range	=40 - 70°F (4.4 - 21°C)
Tepid water temperature adjustment range	=65 - 95°F (18.3 - 35°C)
Mixed water temperature tolerance	=± 5°F (2.8°C)
Flow rate @ 30±0.5 psig (206.9 ±3.4 kPa) differential	=15 gpm (56.8 lpm)

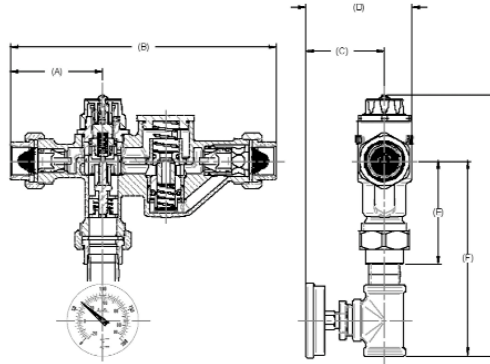
Emergency Eye Wash/Face Wash Mixing Valve

34E Series



Mixing Valves

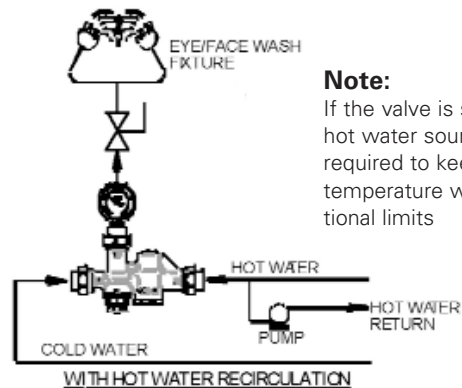
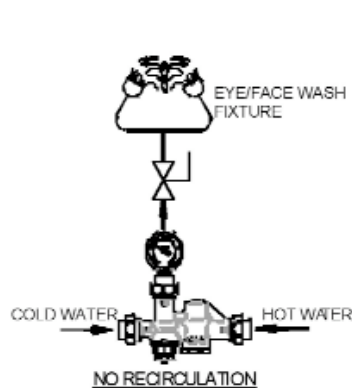
Emergency Eye Wash/Face Wash Mixing Valve



Model No. Series No. Connection	MVE-12 34E103T 1/2" FPT	MVES-12 34E103S 1/2" Solder	MVE-34 34E104T 3/4" FPT	MVES-34 34E104S 3/4" Solder
A (in.)	3.09	3.22	3.09	3.10
B (in.)	8.90	9.15	8.90	8.90
C (in.)	2.66	2.66	2.67	2.67
D (in.)	3.60	3.60	3.60	3.60
E (in.)	3.45	3.45	3.45	3.45
F (in.)	5.77	5.77	6.32	6.32
G (in.)	7.83	7.83	8.39	8.39
Unit Wt. (lbs.)	3.94	3.73	5.13	5.07

34E Typical Installations

Note: Piping and installation of the device must be in accordance to federal, state, and local plumbing codes.



Note:

If the valve is some distance from the hot water source, recirculation is required to keep the hot water supply temperature within the required operational limits

Mixing Valves

Apollo® Mixing Valves Application Chart

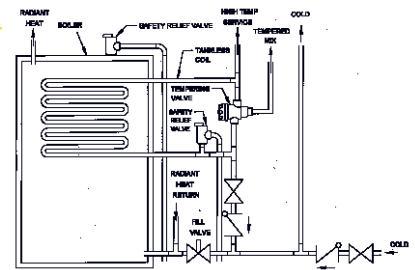
Point Of Source

34-100 Series



Apollo 34 Series mixing valves help extend hot water supply and enhance the life and accuracy of hydronic thermostats in residential and small commercial systems. These valves may be used to increase draw capacity of automatic storage water heaters. They save hot water and energy by automatically regulating the mix of hot water with cold. Water temperatures can be adjusted by simply turning the yellow knob to the desired setting.

- Sizes 1/2", 3/4"
- Corrosion resistant bronze body and stainless steel spring
- Easy installation
- For tankless coils, water heaters, boilers and solar energy systems
- Outlet temperatures from 120°F to 130°F (110°F to 150°F optional)

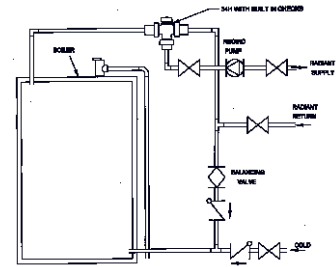


34H Series – Radiant Heat



Apollo 34H Series mixing valves are ideal for use with domestic and commercial boilers and all types of radiant systems. They are available in a variety of pipe end connections and are equipped with element over-travel protection. Also the 34H Series mixing valves offer integral checks to prevent cross-connection of temperatures.

- Sizes 1/2", 3/4", 1"
- Maximum rated working pressure 125 psig
- Mixed temperature range is 120°F to 180°F
- Corrosion resistant cast bronze body
- Union tailpieces and union nuts, standard
- Designed to make maintenance fast and easy
- Glass-filled Noryl® shuttle

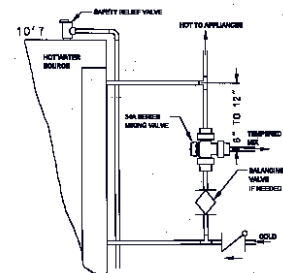


34A Series – ASSE 1017



Apollo 34A Series mixing valves provide thermostat control of temperatures in residential, commercial and non-potable hot water systems. They are ASSE 1017 certified and designed for use with water heaters and boilers. During operation, the valve redistributes and extends safe hot water from the heater to various sections of a building's water system. 34A Series mixing valves offer integral checks to prevent cross-connection of temperatures. They also enable the contractor to direct mount the unit to the heater or boiler instead of trapping the valve.

- Sizes 1/2", 3/4", 1"
- Highest flow capacity in their class
- Maximum rated working pressure of 125 psig
- Easy temperature control from 85°F to 140°F
- Corrosion resistant cast bronze body
- Union tailpieces and union nuts, standard
- Easily accessible internals allow in-line servicing
- Glass-filled Noryl® shuttle

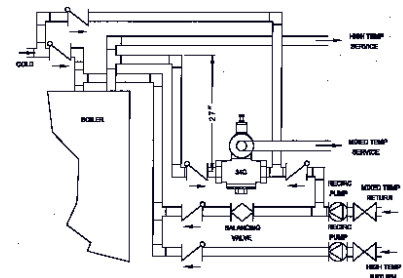


34C Series – ASSE 1017



Apollo 34C Series high capacity mixing valves are ASSE 1017 certified. Also available in a high temperature model, these large capacity valves are designed for use in large commercial and institutional potable as well as non-potable hot water systems.

- Sizes 3/4"- 2"
- Highest capacity available
- Corrosion resistant cast bronze body
- Stainless steel and thermoplastic internals
- Maximum rated pressure 150 psig
- Controlled temperature range is 90°F to 140°F (130°F to 180°F optional)
- All replaceable parts accessible from single point
- Inline repairable
- Glass-filled Noryl® shuttle

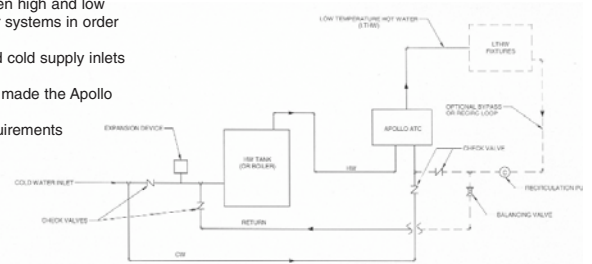


34HL Series – ASSE 1017 ASSE 1069



Apollo 34HL single assembly controls mixed water temperatures to multiple-outlet shower and sink installations. It's the ideal choice in new construction or retrofits in nursing homes, prisons, hospitals, schools, gymnasiums, airports and other facilities where constant safe water temperature needs to be maintained at several outlets without the use of independent ASSE 1016 shower valves.

- Capable of maintaining safe, consistent temperature control of water at low and high flows to within $\pm 3.6^\circ\text{F}$
- Provides consistent temperature control at flow rates as high as 60 GPM and as low as 1.5 GPM, including mid-range flow between high and low
- Performs without requiring recirculation pumps like other systems in order to achieve low flow control
- Integral strainers and checks are provided at the hot and cold supply inlets for greater reliability and performance.
- Manufactured to the same exacting standards that have made the Apollo name famous for durability and reliability
- Units can be mounted in parallel for extra large flow requirements



Mixing Valves

Apollo® Mixing Valves Application Chart

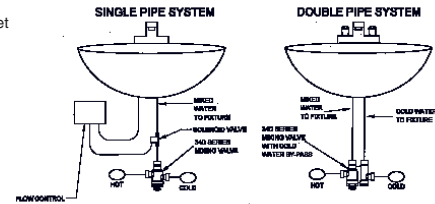
Point Of Use

34D Series – ASSE 1070



Apollo 34D Series thermostatic "Mini Mixer" valves are ASSE 1016/1070 certified and designed as the ultimate single fixture valve, with a mixed accuracy of $\pm 2^\circ\text{F}$. Two designs are available depending on the application; single outlet design for sensor type faucets and double outlet design for standard connections.

- Compact, space saving design
- $3/8"$ compression x $3/8"$ compression connections
- Factory equipped with integral checks
- Corrosion resistant cast bronze body
- Stainless and thermoplastic internals
- Bypass tee option for cold water connection
- Chrome plating option

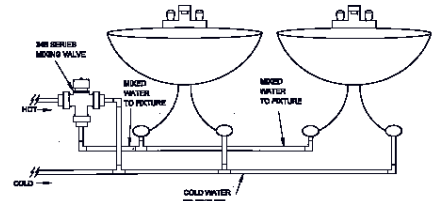


34B Series – ASSE 1070 ASSE 1017



Apollo 34B Series thermostatic mixing valves are dual ASSE 1070 and 1017 certified for point-of-use applications and provide enough capacity to protect up to twelve separate fixtures while maintaining an accuracy of $\pm 3^\circ\text{F}$. They offer easy adjustment of water temperatures. In accordance with ASSE 1070 standards, Series 34B valves come with maximum set point control features.

- Sizes $1/2"$, $3/4"$, $1"$
- Controlled temperatures from full cold up to 120°F .
- Corrosion resistant bronze body
- Union tailpieces, nuts, standard
- NPT, solder, CPVC and PEX connections
- Inline repairable
- Glass-filled Noryl® shuttle
- Factory equipped with integral checks and strainers
- Locking cap feature

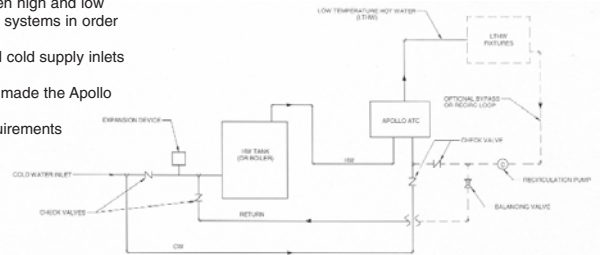


34HL Series – ASSE 1069 ASSE 1017



Apollo 34HL is dual ASSE 1069 and 1017 certified as Point of Source and Point of Use. This thermostatic device will service multiple end-use fixture fittings, including but not limited to, gang showers and sitz baths, by supplying tempered water at a preset temperature through a single supply pipe and will meet ASSE standard 1069 2005. ASSE 1069 devices are designed to reduce the risk of scalding and thermal shock during changes in hot or cold water supply pressure or temperature, or loss of cold water supply.

- Capable of maintaining safe, consistent temperature control of water at low and high flows to within $\pm 3.6^\circ\text{F}$
- Provides consistent temperature control at flow rates as high as 60 GPM and as low as 1.5 GPM, including mid-range flow between high and low
- Performs without requiring recirculation pumps like other systems in order to achieve low flow control
- Integral strainers and checks are provided at the hot and cold supply inlets for greater reliability and performance.
- Manufactured to the same exacting standards that have made the Apollo name famous for durability and reliability
- Units can be mounted in parallel for extra large flow requirements
- Cabinets available



34E Series -ASSE 1071*



Apollo 34E Emergency Mixing Valves are designed to control the cold and hot water temperature to deliver tepid water at a predetermined temperature to emergency eyewash/facewash fixtures. The device provides a precise temperature and flow control in the event of cold water, hot water and thermostatic element failures. Complies with ANSI Z358.1, ASSE 1071 list - pending.

- Hot and cold water supply failure protection patented design (US Patent 6,926,20 B2)
- Tepid water temperature limit control and adjustment
- Tepid water temperature adjustment handle with locking mechanism for tamper-proof protection and inadvertent adjustment
- Integral inlet check valves and strainers to provide protection against cross-flow and foreign particles
- Superior thermostatic element technology for optimum reliability, dependability and accuracy
- Thermostatic element failure and over-travel protection
- High efficiency and positive shut-off check valves
- In-line accessibility and serviceability of failure protection module and mixing valve internal components
- Meets the requirements of the EPA Safe Drinking Water Act
- Corrosion resistant components
- Single cartridge design of failure protection module for easy service and maintenance.
- Integral hot water by-pass

*Pending

Notes

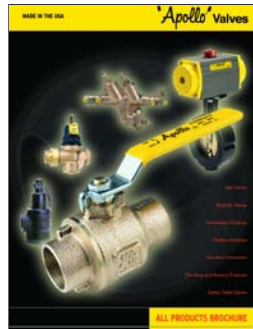
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Mixing Valves

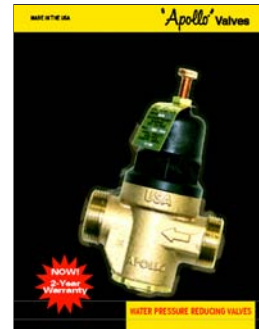
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All Products Catalog

Pressure Reducing Valves
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Conbraco Industries, Inc. warrants, to its initial purchaser only, that its products which are delivered to this initial purchaser will be of the kind described in the order or price list and will be free of defects in workmanship or material for a period of one year from the date of delivery to you, our initial purchaser.

Should any failure to conform to this warranty appear within one year after the date of the initial delivery to our initial purchaser, Conbraco will, upon written notification thereof and substantiation that the goods have been stored, installed, maintained and operated in accordance with Conbraco's recommendations and standard industry practice, correct such defects by suitable repair or replacement at Conbraco's own expense.

New For April 2009: Extension of Warranty for Apollo products manufactured in the USA. Conbraco warrants those products that are manufactured in our USA facilities for an additional 3 years; making the total warranty FIVE years. This extended warranty applies to Apollo brand product with "Made in the USA" markings only.

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"Apollo" Valves

We lead because we listen.