

"Apollo"®

34ALF-200	G-4
34BLF-200/300	G-6
34C - 34CLF	G-8
34DLF-300	G-10
34-200	G-11
34HL	G-12
34E - 34ELF	G-14
ACCESSORIES	G-15

MIXING VALVES



34-200 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"; Solder
- Corrosion Resistant Bronze Body and Stainless Steel Spring
- Easy Installation
- For Tankless Coils, Water Heaters, Boilers and Solar Energy Systems
- Outlet Temperatures from 120° to 130°F (110° to 150°F Optional)

34A-LF SERIES



Apollo® 34A-LF 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-LF 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 heat trapping the valve.

- Sizes 1/2", 3/4", 1"
- Highest Flow Capacity in its Class
- Maximum Rated Working Pressure of 125 psig
- Easy Temperature Control From 85° to 140°F
- Corrosion Resistant Cast Bronze Body
- Integral Checks
- Union Tailpieces and Union Nuts Standard
- NPT, Solder, CPVC, Press, Push and PEX Connections
- Easily Accessible Internals Allow In-Line Servicing
- Glass-Filled Noryl® Shuttle

34ALF-H SERIES



Apollo® 34ALF-H 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 of 125 psig
- Mixed Temperature Range of 120° 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

34B-LF SERIES



Apollo® 34B-LF Series thermostatic mixing valves are mixing valves are triple ASSE 1017, ASSE 1069, and 1070 certified for point-of-use applications and provide enough capacity to protect up to twelve separate fixtures while maintaining an accuracy of +/- 3°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 and Nuts Standard
- NPT, Solder, CPV, Push, PEX Connections
- In-Line Repairable
- Glass-Filled Noryl® Shuttle
- Factory Equipped with Integral Checks and Strainers
- Locking Cap Feature



34CLF SERIES



Apollo® 34CLF 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 hot water systems.

- Sizes 3/4" - 2"
- Industry Leading Flow Rates
- Corrosion Resistant Cast Bronze Body
- Stainless Steel and Thermoplastic Internals
- Maximum Rated Pressure of 150 psig
- All Replaceable Parts Accessible from Single Point
- Controlled Temperature Range of 90° to 140°F (130° to 180°F Optional - "H" Model non-ASSE)
- In-Line Repairable
- Glass-Filled Noryl® Shuttle
- Optional Non Lead Free for Non-Potable Water

34D-LF SERIES



Apollo® 34D Series Thermostatic "Mini Mixer" Valves are dual ASSE 1070 certified and designed as the ultimate single fixture valve, with a mixed accuracy of +/- 2°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" 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

34E/34E-LF SERIES



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 Z358.1-2009 & ASSE 1071-2008.

- 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-Resistant 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

34HL SERIES



Apollo® 34HL High/Low Mxing Valve is a single assembly that 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 ± 3.6° 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
- Does Not Require 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
- Units Can Be Mounted in Parallel for Extra Large Flow Requirements

MIXING VALVES



MVA-LF (34ALF SERIES)/MVAH HYDRONIC SERIES
POINT OF SOURCE THERMOSTATIC MIXING VALVE



Apollo® 34ALF 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
- 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
- Lead Free Construction Certified: 0.25% Lead max
- **Made in USA - ARRA compliant**

OPTIONS

- **PEX A F1960 Tailpieces** **NEW!**
- (-B) Temperature Limit Stop (120° F max)
- High Temp Range (H) Radiant Heat Application 120°F - 180°F (Not ASSE Certified) See 34A-H Submittal Sheet

STANDARD MATERIAL LIST

BODY	C89836 Lead Free 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)

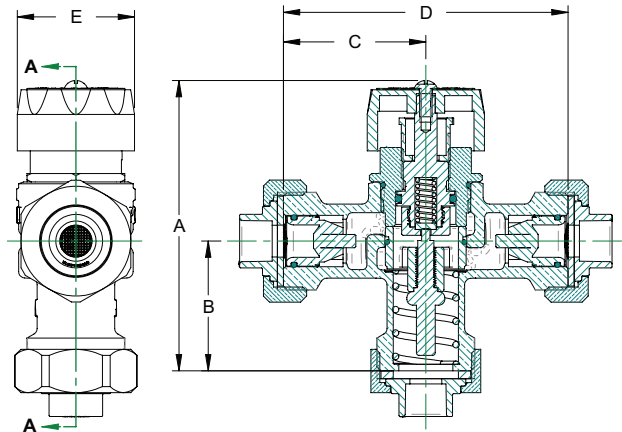
APPROVALS

- ASSE 1017 - Temperature Actuated Mixing Valve for Hot Water Distribution Systems
- CSA B125.3 - Plumbing Supply Fittings
- NSF/ANSI 372 - Lead Free

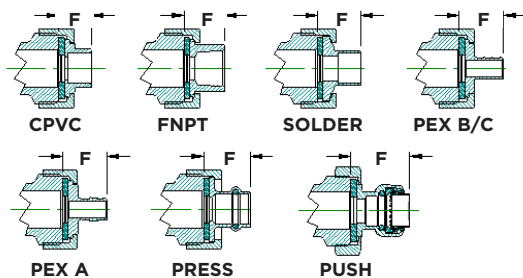
DIMENSIONS

SERIES NO.	CONNECTION	SIZE (IN.)	DIMENSIONS (IN.)						UNIT WT. (LB.)
			A	B	C	D	E	F	
34ALF213T	Thread - FNPT	1/2	3.73	2.11	2.28	4.56	1.87	0.95	2.75
34ALF213S	Solder		3.73	2.11	2.28	4.56	1.87	0.93	2.54
34ALF213C	CPVC		3.73	2.11	2.28	4.56	1.87	0.70	2.39
34ALF213X2	PEX A		3.73	2.11	2.28	4.56	1.87	1.20	2.54
34ALF213X	PEX B/C		3.73	2.11	2.28	4.56	1.87	1.02	2.54
34ALF213PR	Press		3.73	2.11	2.28	4.56	1.87	0.99	2.60
34ALF213P	Push		3.73	2.11	2.28	4.56	1.87	1.23	2.94
34ALF214T	Thread - FNPT	3/4	3.73	2.11	2.28	4.56	1.87	0.93	2.84
34ALF214S	Solder		3.73	2.11	2.28	4.56	1.87	0.93	2.60
34ALF214C	CPVC		3.73	2.11	2.28	4.56	1.87	0.92	2.42
34ALF214X2	PEX A		3.73	2.11	2.28	4.56	1.87	1.20	2.60
34ALF214X	PEX B/C		3.73	2.11	2.28	4.56	1.87	1.25	2.60
34ALF214PR	Press		3.73	2.11	2.28	4.56	1.87	1.14	2.65
34ALF214P	Push		3.73	2.11	2.28	4.56	1.87	1.78	3.08
34ALF215T	Thread - FNPT	1	3.73	2.11	2.28	4.56	1.87	1.06	2.93
34ALF215S	Solder		3.73	2.11	2.28	4.56	1.87	1.06	2.66
34ALF215C	CPVC		3.73	2.11	2.28	4.56	1.87	1.16	2.45
34ALF215X2	PEX A		3.73	2.11	2.28	4.56	1.87	1.17	2.66
34ALF215X	PEX B/C		3.73	2.11	2.28	4.56	1.87	1.55	2.66
34ALF215PR	Press		3.73	2.11	2.28	4.56	1.87	1.18	2.71
34ALF215P	Push		3.73	2.11	2.28	4.56	1.87	1.96	3.29

* PEX A (ASTM F1960) Cold Expansion PEX
** PEX B/C (ASTM F1807) Crimp PEX



TAILPIECES

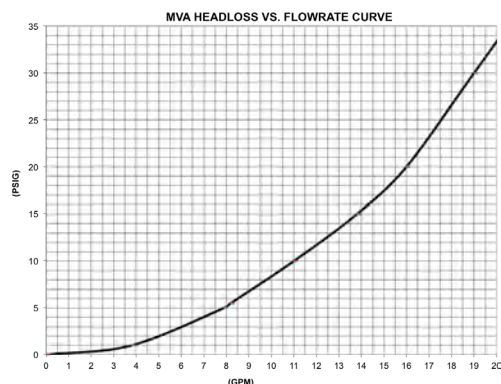




MVA-LF (34ALF SERIES)/MVAH HYDRONIC SERIES
POINT OF SOURCE THERMOSTATIC MIXING VALVE

PERFORMANCE RATING

- Maximum Working Pressure: 150 psig (1034 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° - 200°F (49° - 82°C)
- Minimum Flow Rate: 1/2 gpm (1.9 lpm)
- Mixed Water Temp. Range - Standard: 85° - 120°F
- Mixed Water Temp. Range - High: 120° - 180°F
- Mixed Water Temperature Tolerance: ±5°F (1.7°C)
- Flow Rate at 30 psig (138 kPa): 19 gpm (64 lpm)
- Maximum Pressure Differential Between Hot & Cold: 25%



SIZE (IN.)	CONNECTION	STANDARD TEMP (85° - 140°F)		CAL. MAX. TEMP (120°F)		RADIANT	
		MODEL NO.	ORDER NO.	MODEL NO.	ORDER NO.	HIGH TEMP (120° - 180°F)*	
						MODEL NO.	ORDER NO.
1/2"	Solder inlets x Solder outlet	MVAS12LF	34ALF213S	MVABS12LF	34ALF213BS	MVAHS12LF	34ALF213HS
	FNPT inlets x FNPT outlet	MVA12LF	34ALF213T	MVAB12LF	34ALF213BT	MVAH12LF	34ALF213HT
	CPVC inlets x CPVC outlet	MVAC12LF	34ALF213C	MVABC12LF	34ALF213BC	-	-
	PEX A inlets x PEX A outlet	MVAX212LF	34ALF213X2	MVABX212LF	34ALF213BX2	-	-
	PEX B/C inlets x PEX B/C outlet	MVAX12LF	34ALF213X	MVABX12LF	34ALF213BX	-	-
	Solder inlets x CPVC outlet	MVASC12LF	34ALF213SC	MVABSC12LF	34ALF213BSC	-	-
	FNPT inlets x CPVC outlet	MVATC12LF	34ALF213TC	MVABTC12LF	34ALF213BTC	-	-
	PEX B/C inlets x CPVC outlet	MVACX12LF	34ALF213XC	MVABXC12LF	34ALF213BXC	-	-
	CPVC inlets x PEX B/C outlet	MVACX12LF	34ALF213CX	MVABXC12LF	34ALF213BCX	-	-
	PRESS inlets x PRESS outlet	MVAPR12LF	34ALF213PR	MVABPR12LF	34ALF213BPR	-	-
PUSH inlets x PUSH outlet	MVAP12LF	34ALF213P	-	-	-	-	
3/4"	Solder inlets x Solder outlet	MVAS34LF	34ALF214S	MVABS34LF	34ALF214BS	MVAHS34LF	34ALF214HS
	FNPT inlets x FNPT outlet	MVA34LF	34ALF214T	MVAB34LF	34ALF214BT	MVAH34LF	34ALF214HT
	CPVC inlets x CPVC outlet	MVAC34LF	34ALF214C	MVABC34LF	34ALF214BC	-	-
	PEX A inlets x PEX A outlet	MVAX234LF	34ALF214X2	MVABX234LF	34ALF214BX2	-	-
	PEX B/C inlets x PEX B/C outlet	MVAX34LF	34ALF214X	MVABX34LF	34ALF214BX	-	-
	Solder inlets x CPVC outlet	MVASC34LF	34ALF214SC	MVABSC34LF	34ALF214BSC	-	-
	FNPT inlets x CPVC outlet	MVATC34LF	34ALF214TC	MVABTC34LF	34ALF214BTC	-	-
	PEX B/C inlets x CPVC outlet	MVACX34LF	34ALF214XC	MVABXC34LF	34ALF214BXC	-	-
	CPVC inlets x PEX B/C outlet	MVACX34LF	34ALF214CX	MVABXC34LF	34ALF214BCX	-	-
	PRESS inlets x PRESS outlet	MVAPR34LF	34ALF214PR	MVABPR34LF	34ALF214BPR	-	-
PUSH inlets x PUSH outlet	MVAP34LF	34ALF214P	-	-	-	-	
1"	Solder inlets x Solder outlet	MVAS1LF	34ALF215S	MVABS1LF	34ALF215BS	MVAHS1LF	34ALF215HS
	FNPT inlets x FNPT outlet	MVA1LF	34ALF215T	MVAB1LF	34ALF215BT	MVAH1LF	34ALF215HT
	CPVC inlets x CPVC outlet	MVAC1LF	34ALF215C	MVABC1LF	34ALF215BC	-	-
	PEX A inlets x PEX A outlets	MVAX21LF	34ALF215X2	MVABX21LF	34ALF215BX2	-	-
	PEX B/C inlets x PEX B/C outlets	MVAX1LF	34ALF215X	MVABX1LF	34ALF215BX	-	-
	Solder inlets x CPVC outlet	MVASC1LF	34ALF215SC	MVABSC1LF	34ALF215BSC	-	-
	FNPT inlets x CPVC outlet	MVATC1LF	34ALF215TC	MVABTC1LF	34ALF215BTC	-	-
	PEX B/C inlets x CPVC outlet	MVACX1LF	34ALF215XC	MVABXC1LF	34ALF215BXC	-	-
	CPVC inlets x PEX B/C outlet	MVACX1LF	34ALF215CX	MVABXC1LF	34ALF215BCX	-	-
	PRESS inlets x PRESS outlet	MVAPR1LF	34ALF215PR	MVABPR1LF	34ALF215BPR	-	-
PUSH inlets x PUSH outlet	MVAP1LF	34ALF215P	-	-	-	-	

* High temperature models are not ASSE certified.
 ** PEX A (ASTM F1960) Cold Expansion PEX
 *** PEX B/C (ASTM F1807) Crimp PEX

MIXING VALVES



MVB-LF (34BLF SERIES)

POINT OF USE THERMOSTATIC MIXING VALVE



Apollo® Model MVB-LF (34B-LF 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 safe temperature either from the "point of source" or "point of use" application for single or multiple fixtures.

FEATURES

- Now Certified to Meet ASSE 1069
- 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
- Instantaneous Cold or Hot Water Supply Failure Shut-Off Protection
- Multiple Connection Options to Fit Your Specific Needs
- Lead Free Construction Certified: 0.25% Lead max
- **PEX A F1960 Tailpieces Available NEW!**
- **Made in USA - ARRA Compliant**

APPROVALS

- ASSE 1017 - Temperature Actuated Mixing Valve for Hot Water Distribution Systems
- ASSE 1069 - Automatic Temperature Control Mixing Valves
- ASSE 1070 - Water Temperature Limiting Device
- CSA B125.3 - Plumbing Supply Fittings
- NSF/ANSI 372 - Lead Free

PERFORMANCE RATING

- Maximum Supply Pressure: 150 psig (1034 kPa)
- Maximum Working Temperature: 210°F (99°C)
- Cold Water Inlet Temperature Range: 39° - 80°F
- 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: 0.5 gpm (1.9 lpm)
- Maximum Pressure Differential Between H/C: 25%
- Minimum Inlet/Outlet Temperature Differential: 10°F

STANDARD MATERIAL LIST

BODY	C89836 Lead Free 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)

MIXING VALVES

SIZE (IN.)	CONNECTION	SERIES NO.
1/2"	Solder inlets x Solder outlet	34BLF313S
	FNPT inlets x FNPT outlet	34BLF313T
	CPVC inlets x CPVC outlet	34BLF313C
	PEX A inlets x PEX A outlet	34BLF313X2
	PEX B/C inlets x PEX B/C outlet	34BLF313X
	Solder inlets x CPVC outlet	34BLF313SC
	FNPT inlets x CPVC outlet	34BLF313TC
	PEX B/C inlets x CPVC outlet	34BLF313XC
	CPVC inlets x PEX B/C outlet	34BLF313CX
	PRESS inlets x PRESS outlet	34BLF313PR
	PUSH inlets x PUSH outlet	34BLF313P

SIZE (IN.)	CONNECTION	SERIES NO.
3/4"	Solder inlets x Solder outlet	34BLF314S
	FNPT inlets x FNPT outlet	34BLF314T
	CPVC inlets x CPVC outlet	34BLF314C
	PEX A inlets x PEX A outlet	34BLF314X2
	PEX B/C inlets x PEX B/C outlet	34BLF314X
	Solder inlets x CPVC outlet	34BLF314SC
	FNPT inlets x CPVC outlet	34BLF314TC
	PEX B/C inlets x CPVC outlet	34BLF314XC
	CPVC inlets x PEX B/C outlet	34BLF314CX
	PRESS inlets x PRESS outlet	34BLF314PR
	PUSH inlets x PUSH outlet	34BLF314P

SIZE (IN.)	CONNECTION	SERIES NO.
1"	Solder inlets x Solder outlet	34BLF315S
	FNPT inlets x FNPT outlet	34BLF315T
	PEX A inlets x PEX A outlets	34BLF315X2
	PEX B/C inlets x PEX B/C outlets	34BLF315X
	PRESS inlets x PRESS outlet	34BLF315PR
	PUSH inlets x PUSH outlet	34BLF315P

* PEX A (ASTM F1960) Cold Expansion PEX
 ** PEX B/C (ASTM F1807) Crimp PEX



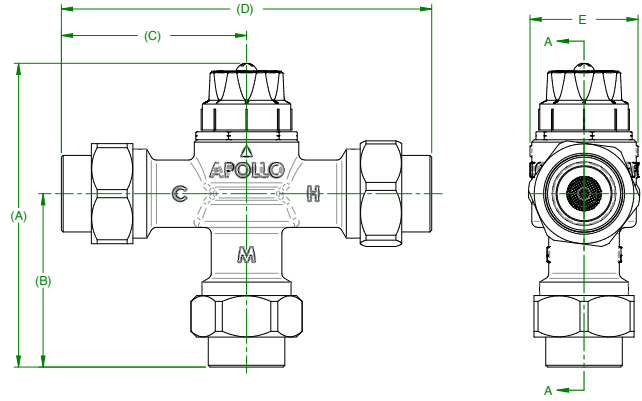
MVB-LF (34BLF SERIES)

POINT OF USE THERMOSTATIC MIXING VALVE

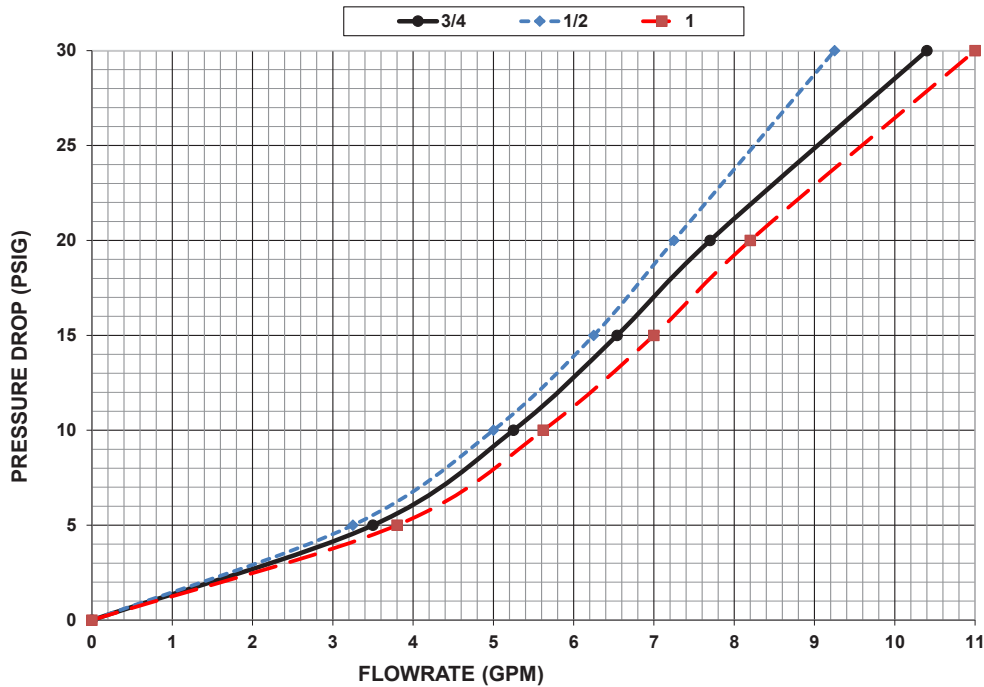
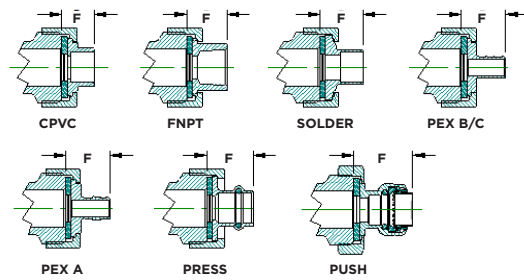
DIMENSIONS

SERIES NO.	CONNECTION	SIZE (IN.)	DIMENSIONS (IN.)						WEIGHT (LB.)
			A	B	C	D	E	F	
34BLF313T	Thread - FNPT	1/2	5.04	2.85	3.05	6.09	1.87	0.95	2.70
34BLF313S	Solder		5.12	2.93	3.13	6.25	1.87	0.93	2.54
34BLF313C	CPVC		4.89	2.70	2.90	5.79	1.87	0.70	2.42
34BLF313X2	PEX A		5.14	4.24	4.44	8.87	1.87	1.20	2.60
34BLF313X	PEX B/C		5.14	2.95	3.15	6.29	1.87	1.02	2.60
34BLF313PR	Press		5.19	2.99	3.19	6.37	1.87	0.99	2.65
34BLF313P	Push		6.43	4.24	4.44	8.87	1.87	1.23	3.45
34BLF314T	Thread - FNPT	3/4	5.12	2.93	3.13	6.25	1.87	0.93	2.80
34BLF314S	Solder		5.12	2.93	3.13	6.25	1.87	0.93	2.60
34BLF314C	CPVC		5.18	2.99	3.18	6.37	1.87	0.92	2.40
34BLF314X2	PEX A		6.43	4.24	4.44	6.37	1.87	1.20	2.60
34BLF314X	PEX B/C		5.14	2.95	3.15	6.29	1.87	1.25	2.60
34BLF314PR	Press		5.33	3.13	3.33	6.65	1.87	1.14	2.70
34BLF314P	Push		5.95	3.76	4.44	8.87	1.87	1.78	3.20
34BLF315T	Thread - FNPT	1	5.25	3.02	3.22	6.43	2.12	1.06	3.58
34BLF315S	Solder		5.25	3.02	3.22	6.43	2.12	1.06	3.34
34BLF315C	CPVC		5.38	3.15	3.35	6.69	2.12	1.16	3.31
34BLF315X2	PEX A		5.75	3.55	3.75	7.48	2.12	1.17	3.70
34BLF315X	PEX B/C		5.36	3.13	3.33	6.65	2.12	1.55	3.39
34BLF315PR	Press		5.37	3.14	3.37	6.74	2.12	1.18	3.31
34BLF315P	Push		6.05	3.85	4.05	8.09	2.12	1.96	4.50

* PEX A (ASTM F1960) Cold Expansion PEX
 ** PEX B/C (ASTM F1807) Crimp PEX



TAILPIECES



MIXING VALVES



MVC (34C/34CLF SERIES)

HIGH CAPACITY THERMOSTATIC MIXING VALVE



3/4" - 1"

STANDARD MATERIAL LIST

BODY	C89836 Lead Free Bronze
SHUTTLE	Glass Filled Noryl [®]
SENSOR	Copper/Wax Filled
STEM	ASTM B16 C3600 Brass
SPRING	Stainless Steel
RETAINER	ASTM B16 C3600 Brass

Apollo[®] Model MVC-LF (34C-LF Series) ASSE 1017 listed, High-Capacity Mixing Valves are thermostatically controlled regulating valves designed for use in large commercial and institutional "point of source" and hydronic hot water systems or applications. Simple adjustment of water temperature from 90°-140°F or 130°-180°F.

SPECIAL FEATURES

Apollo[®] 34CLF 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 the need for special tools.

FEATURES

- Standard Temperature Range 90°-140°F (-01 suffix)
- High Temperature Range 130°-180°F (use suffix "H1") for Hydronic/Radiant Heating Systems
- Highest Flow Rates in its Class, Up to 165 gpm
- Threaded Connections
- All-Bronze and Stainless Steel Construction
- Patented Design for Easy In-Line Maintenance
- Supply Pressures to 150 psig
- U.S. Patent #6,328,219
- Lead Free Construction Certified: 0.25% Lead Max
- **Made in USA - ARRA Compliant**

OPTIONS

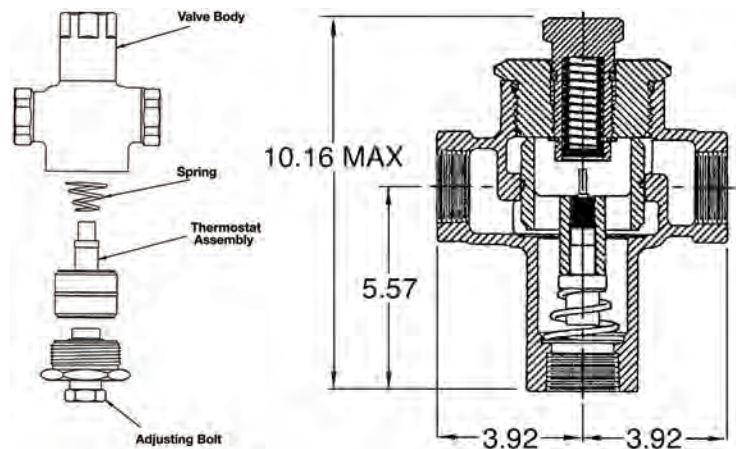
- (-01) Standard Temp 90° - 140°F
- (-H1) Hydronic High Temps/Non-ASSE 130° - 180°F
- Bronze Wye Strainer - See 59LF Series
- 34C Standard Bronze Construction for Radiant Applications

APPROVALS

- ASSE 1017 - Temperature Actuated Mixing Valve for Hot Water Distribution Systems
- CSA B125.3 - Plumbing Supply Fittings
- NSF/ANSI 372 - Lead Free

SIZE (IN.)	CONNECTION	STANDARD TEMP (90° - 140°F)		HIGH TEMP (130° - 180°F)*	
		MODEL NO.	ORDER NO.	MODEL NO.	ORDER NO.
3/4"	FNPT Inlets x FNPT Outlet	MVC34	34C10401	MVCH34	34C104H1
		MVC34LF	34CLF10401	MVCH34LF	34CLF104H1
1"	FNPT Inlets x FNPT Outlet	MVC1	34C10501	MVCH1	34C105H1
		MVC1LF	34CLF10501	MVCLFH1	34CLF105H1

*High temperature models are not ASSE certified.





MVC (34C/34CLF SERIES)
HIGH CAPACITY THERMOSTATIC MIXING VALVE



1-1/4" - 2"

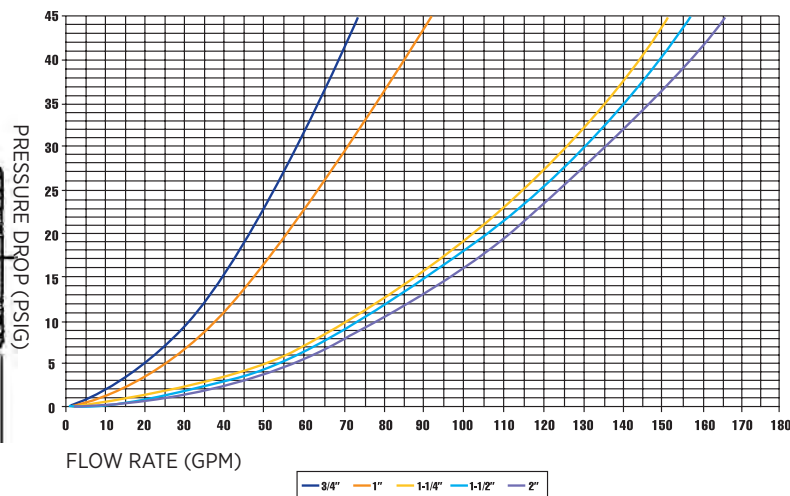
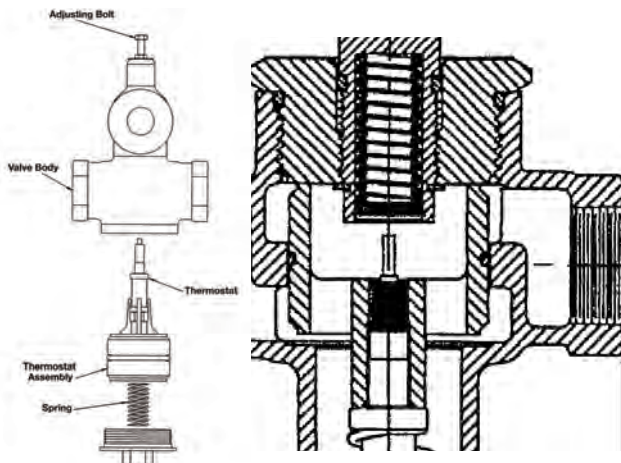
PERFORMANCE RATING

- Minimum Flow Rate: 1.0 gpm*
- Maximum Pressure: 150 psig
- Minimum Temperature: 200°F
- Cold Water Inlet Temperature Range: 39° - 80°F
- Hot Water Inlet Temperature Range: 120° - 200°F
- Mixed Water Temperature Range: 90° - 140°F
- Maximum Pressure Differential Between Hot & Cold: 25%

**when installed at/near hot water source w/ recirculated tempered water with a continuously operating pump*

SIZE (IN.)	CONNECTION	STANDARD TEMP (90° - 140°F)		HIGH TEMP (130° - 180°F)*	
		MODEL NO.	ORDER NO.	MODEL	SERIES
1-1/4"	FNPT inlets x FNPT outlet	MVC114	34C10601	MVCH114	34C106H1
		MVC114LF	34CLF10601	MVCH114LF	34CLF106H1
MVC112		34C10701	MVCH112	34C107H1	
MVC112LF		34CLF10701	MVCH112LF	34CLF107H1	
2"	MVC2	34C10801	MVCH2	34C108H1	
	MVC2LF	34CLF10801	MVCH2LF	34CLF108H1	

**High temperature models are not ASSE certified.*



MIXING VALVES



MVD (34DLF SERIES)

SINGLE FIXTURE THERMOSTATIC MIXING VALVE



Apollo® MVD (34DLF 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 ± 3°F and will shut off flow in the event of hot or cold water failure. They come equipped with a tamper-resistant cap and high temperature limit stop to prevent adjustment above 120°F.

FEATURES

- Tamper Resistant Locking Control Knob
- Adjustable Maximum Temperature Limit Stop
- Crush Proof Integral Check Valves
- Hot/Cold Water Failure Protection
- Single Outlet Model for Sensor Faucets
- Bypass Fitting Option for Dual Fixture Faucets
- Satin Chrome Plating Option
- 3/8" Compression or Hose Connections
- Mounting Bracket Included
- Lead Free Construction Certified: 0.25% Lead Max
- Made in the USA - ARRA Compliant

APPROVALS

- ASSE 1070 - Performance Requirements for Water Temperature Limiting Devices
- CSA B125.3 - Plumbing Fittings
- NSF/ANSI 372 - Lead Free
- NSF/ANSI 61 - Water Quality

STANDARD MATERIAL LIST

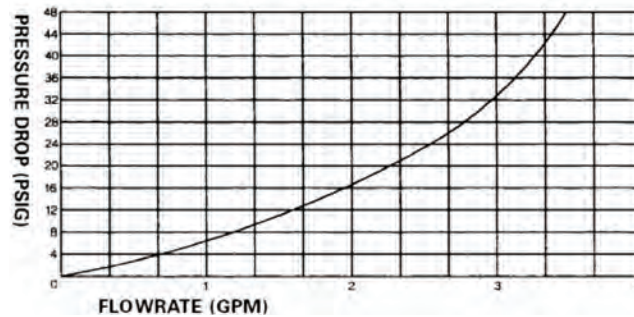
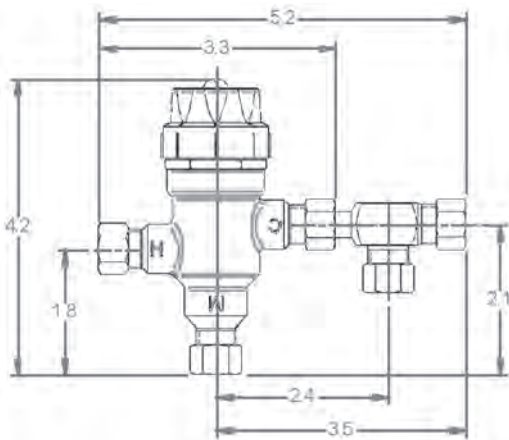
BODY	C89836 Lead Free Bronze
SHUTTLE	Modified PPO Noryl®
O-RING	Chloramine Resistant EPDM
SENSOR	Copper/Wax Filled
SPRING	ASTM A313 Stainless Steel
CAP	ABS Thermoplastic

SIZE (IIN.)	MODEL NO.	ORDER NO.	CONNECTION	FINISH	DESCRIPTION	WEIGHT (LB.)
3/8	MVD-LF	34DLF30201	Compression Inlet x Compression Outlet	Bronze	3/8" Single Inlet	0.82
3/8	MVDR-LF	34DLF30217		Chrome Plated	3/8" Single Inlet	0.82
3/8	MVDB-LF	34DLF302B1		Bronze	3/8" Double Inlet (bypass)	1.00
3/8	MVDBR-LF	34DLF302B17		Chrome Plated	3/8" Double Inlet (bypass)	1.00

PERFORMANCE RATING

- Minimum Supply Pressure: 30 psi (207 kpa)
- Minimum Inlet/Outlet Temperature Differential: 15°F
- Maximum Hot/Cold Pressure Differential: 25%
- Hot Inlet Temperature Range: 120° - 200°F (49° - 93°C)
- Cold Inlet Temperature Range: 38° - 80°F (3.3° - 27°C)
- Outlet Temperature Control: 80° - 120°F (27° - 49°C)
- Mixed Water Temperature Range: 80° - 120°F (27° - 49°C)
- Mixed Water Temperature Tolerance: ± 7°F
- Maximum Pressure: 150 psi (10.3 bar)
- Flow Rate: 0.5* - 3.2 gpm

*must use recirculation pump loop for <1.0 gpm flow





TV (34-200 SERIES)
HYDRONIC MIXING VALVE



The Apollo® Model TV (34-200 Series) Thermostatic Mixing Valve provides non-ASSE extension of water heater capacity and hot water temperature control in hydronic heating systems. Available in low or high temperature options for floor or baseboard applications.

FEATURES

- Stainless Steel Spring
 - Corrosion Resistant Bronze Body
 - Thermoplastic Shuttle Assembly
 - Solder Connections are Standard
 - In-Line Repairable
 - Fingertip Temperature Control
 - **Made in USA - ARRA compliant**
- *Not intended for potable water

DIMENSIONS

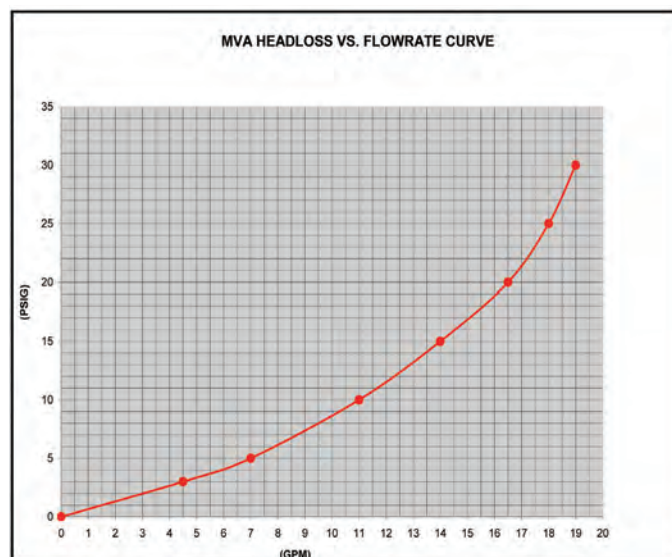
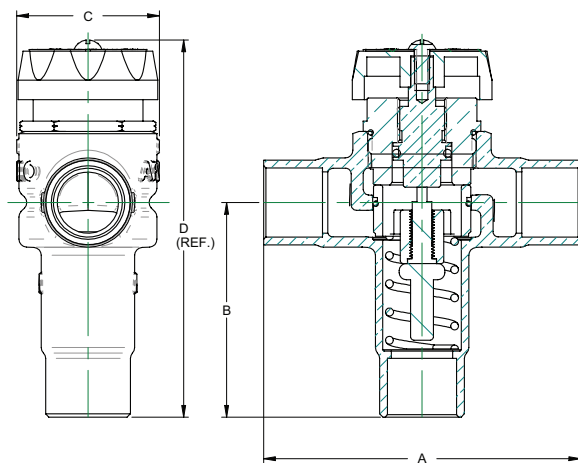
ORDER NO. LOW TEMP 85° - 120° F	ORDER NO. HIGH TEMP 120° - 180° F	CONNECTION	SIZE (IN.)	DIMENSIONS (IN.)		WEIGHT (LB.)
				HEIGHT	WIDTH	
34203L1	3420301	Solder	1/2	4.45	3.75	1.4
34204L1	3420401	Solder	3/4	4.47	4.00	1.46

STANDARD MATERIAL LIST

BODY	C83600 Bronze
SHUTTLE	Scale Resistant Noryl® Polymer
SENSOR	Copper/Wax Filled
O-RING	Chloramine Resistant EPDM
SPRING	ASTM A313 Stainless Steel
CAP	ABS Thermoplastic

PERFORMANCE RATING

- Maximum Supply Pressure: 150 psi (1034 kpa)
- Minimum Inlet/Outlet Temperature Differential: 15°F
- Hot Inlet Temperature Range: 120° - 210°F (49° - 99°C)
- Cold inlet temperature Range: 39° - 80°F (4° - 27°C)
- Outlet Temperature Control: 80° - 120°F (27° - 49°C)
- Outlet Temperature Control (Hydronic): 120° - 180°F
- Low Temperature (L1) Mix Range: 85° - 120°F (30° - 49°C)
- High Temperature (O1) Mix Range: 120° - 180°F (49° - 82°C)
- Mixed Water Temperature Tolerance: +/- 7°F (1.7°C)



MIXING VALVES



34HL SERIES US PATENT #6,929,188 B2
HIGH-LOW MIXING VALVE



The 34HL 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.

Standard bronze construction. Not intended for potable water applications.

FEATURES

- 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.
- Does not require recirculation pumps like other systems for low flow control.
- Integral strainers and checks are provided at the hot and cold supply inlets for greater reliability and performance.
- **Made in USA - ARRA compliant.**

OPERATION

- Patented design 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.
- 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.

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.

OPTIONS

- 34HL10517 Nickel Plated Automatic Temperature Controller
- 34HLBOX01 Cabinet, Flush Mount, SS
- 34HLBOX02 Cabinet, Flush Mount, CS, Powder Coat
- 34HLBOX03 Cabinet, Wall Mount, SS
- 34HLBOX04 Cabinet, Wall Mount, CS, Powder Coat

SPECIFICATIONS

MAXIMUM STATIC PRESSURE	150 psig (1034 kpa)
MAXIMUM WATER TEMPERATURE	200° F (93° C)
MINIMUM FLOW ASSE 1069 & 1017	1.5 gpm (5.7 lpm)
TEMPERATURE ADJUSTMENT RANGE	90° - 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 lb

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.



34HL SERIES
HIGH-LOW MIXING VALVE

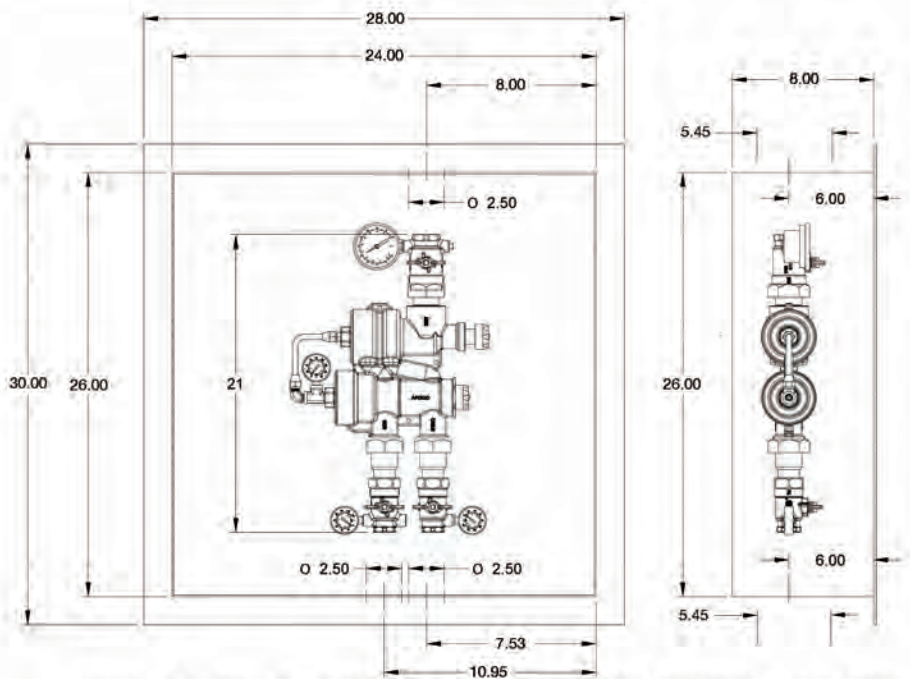


Figure 1: Typical Valve Dimensions with Stainless Steel Recessed Cabinet Option

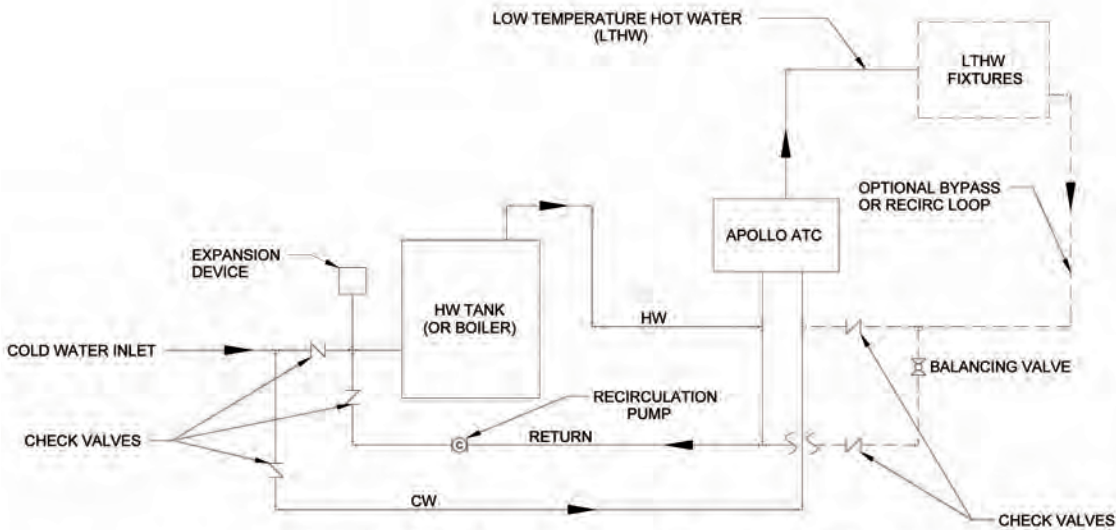


Figure 2: Typical Installation with Optional Recirculation loop

ORDER NO.	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



MVE (34E/34ELF SERIES)
EMERGENCY EYE WASH MIXING VALVE



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-Resistant 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 Bypass
- Positive Shutoff of Hot Supply When Cold Supply is Lost
- Lead Free Construction Certified: 0.25% Lead Max - Specify Model 34ELF
- **Made in USA - ARRA compliant**

APPROVALS

- ASSE 1071 - Temperature Actuated Mixing Valves for Plumbed Emergency Equipment
- ANSI/ISEA Z358.1 2009 Emergency Eyewash & Shower Equipment
- NSF/ANSI 372 - Lead Free (34ELF)
- NSF/ANSI 61 - Water Quality (34ELF)

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 psig (206.9 kPa) Differential: 15 gpm (56.8 lpm)
- Cold Bypass @ 30 psi (207 kPa) Differential: 13.5 gpm (51 lpm)

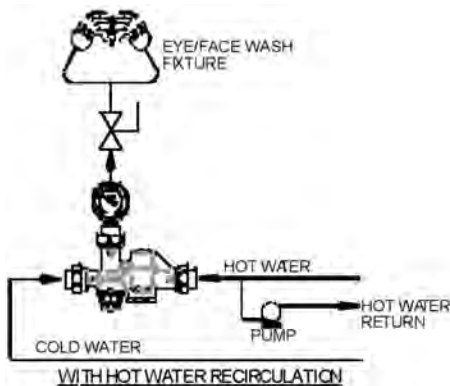
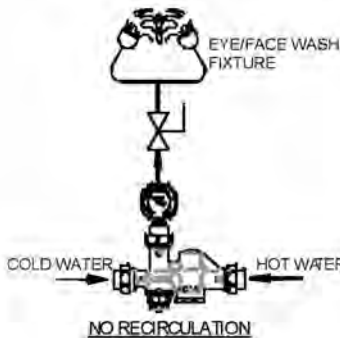
Note: The cold water supply shall be at least 20°F (-6.7°C) lower than the outlet water temperature setting

TYPICAL INSTALLATIONS

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

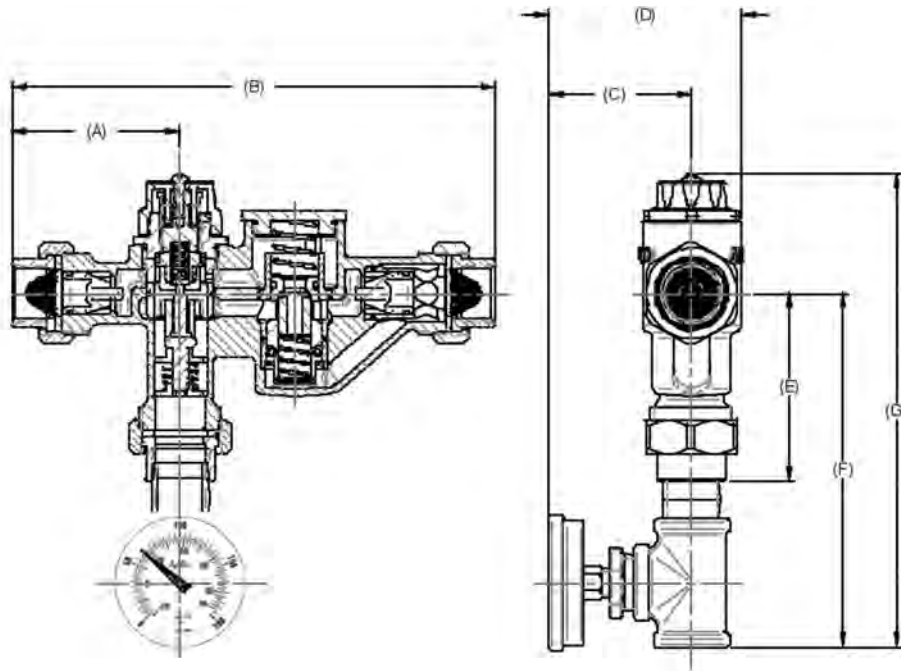
OPTIONS

- 34ELF - Lead Free

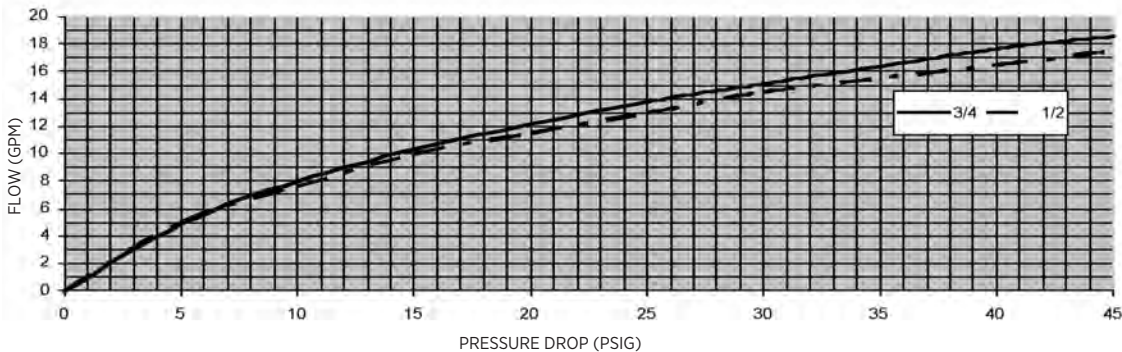




MVE (34E SERIES)
EMERGENCY EYE WASH MIXING VALVE



CONNECTION SIZE		1/2" THREADED	1/2" SOLDER	3/4" THREADED	3/4" SOLDER
Basic Valve	Model No.	MVE12	MVES12	MVE34	MVES34
	Ordering No.	34E103T	34E103S	34E104T	34E104S
Includes Outlet Temperature Gauge	Model No.	MVE12G	MVES12G	MVE34G	MVES34G
	Ordering No.	34E113T	34E113S	34E114T	34E114S
Includes Outlet Temp. Gauge And Inlet Ball Valves	Model No.	MVE12GB	MVES12GB	MVE34GB	MVES34GB
	Ordering No.	34E123T	34E123S	34E124T	34E124S
Lead Free Basic Valve	Model No.	MVE12LF	MVES12LF	MVE34LF	MVES34LF
	Ordering No.	34ELF103T	34ELF103S	34ELF104T	34ELF104S
DIMENSIONS (IN.) & WEIGHT (LB.)					
	A	3.09	3.22	3.09	3.10
	B	8.90	9.15	8.90	8.90
	C	2.66	2.66	2.67	2.67
	D	3.60	3.60	3.60	3.60
	E	3.45	3.45	3.45	3.45
	F	5.77	5.77	6.32	6.32
	G	7.83	7.83	8.39	8.39
	Unit Wt.	3.94	3.73	5.13	5.07



MIXING VALVES



TEMPERATURE GAUGE



The Apollo® Temperature Gauge accessory is used to easily measure the mixed water temperature from a mixing valve. The gauge can be used on the Apollo® 34ALF & 34BLF Series Mixing Valves sizes 1/2" & 3/4", is lead free and complies with NSF/ANSI 372 requirements.

PERFORMANCE RATING

- Maximum Working Pressure: 150 psig
- Gauge Temperature Range: 32° - 210°F

PART NUMBERS

PART NUMBER	SIZE
W339800	1/2"
W339900	3/4"

STANDARD MATERIAL LIST

BODY	DZR Brass
GAUGE SHELL	Stainless Steel
NUT	DZR Brass
WASHER	EPDM

TANKMAX
THERMAL MIXING VALVE



The Apollo® Tank Max Thermal Mixing Valve mixes hot water with cold to deliver 120°F water to fixtures. By setting the heater to 140°F or higher and mixing with cold water to deliver 120°F, the effective volume of 120°F delivered increases significantly. Tank Max is factory set at 120°F outlet temperature, but is easily adjustable to the needs of the system.

COMPONENTS

- 1 - Thermostatic Mixing Valve
- 1 - Tee Fitting
- 1 - Union Fitting
- 1 - 18" Flex Hose
- 1 - Water Temperature Gauge

PERFORMANCE RATING

- Operating Temp. Range: 90°-130°F
- Factory Set Temp. Range: 115°-120°F
- Hot Temp. Supply Range: Max 195°F
- Cold Temp. Supply Range: 39°-80°F
- Maximum Supply Pressure: 150 PSI
- Minimum Flow Rate: 1 GPM
- Maximum Flow Rate: See SS1454

CONNECTIONS

- 3/4" MNPT Mixing Outlet x 3/4" FNPT Union Fitting x 3/4" NPSH Cold Inlet

STANDARD MATERIALS LIST

BODY	Bronze
SEALS	EPDM
SPRINGS	Stainless Steel
INTERNAL CAP	Brass
PISTON	Engineered Polymer
GUIDE TUBE	Noryl GFN2

APPROVALS

- ASSE 1017
- NSF/ANSI 61 - Water Quality
- NSF/ANSI 372 - Lead Free
- IAPMO Listed
- CSA B125.3