SECTION 22 05 23

BRONZE AND BRASS VALVES AND FITTINGS

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\*\* NOTE TO SPECIFIER \*\* RWC Canada; Smart plumbing and heating solutions.
This section is based on the products of RWC Canada, which is located at:
74 Alex Ave.
Vaughan, ON, Canada L4L 5X1
Toll Free Tel: 888-820-0120
Tel: 905-265-2790
Email: [request info (info-ask@rwc.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=RWC+Canada&coid=53361&rep=&fax=&message=RE:%20Spec%20Question%20(15110rwc):%20%20&mf=)
Web: <https://www.rwc.com>
 [ [Click Here](https://www.arcat.com/arcatcos/cos53/arc53361.html) ] for additional information.
RWC and its family of brands develop safe, sustainable, and efficient solutions to help shape a better world. We engineer and innovate products to integrate seamlessly within the modern built environment. We make our customers' lives easier with a range of solutions to help them deliver, control, optimize and solve in simple, more efficient, and safer ways every day.
From improving plumbing and heating performance to syncing smart homes and transforming the delivery of liquid, air, and data, RWC shapes a better world for millions of people around the globe.

1. GENERAL
	1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Brass push-to-connect fittings.
		2. Pressure regulating valves.
		3. Thermostatic Mixing valves.
	1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 22 11 63 - Gray-Water Pumps (22 11 16) - Domestic Piping - PEX Fittings and Piping
		2. Section 22 40 00 - Plumbing Fixtures (22 05 23) - Valves Bronze.
	1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. American Society of Mechanical Engineers (ASME):
			1. ASME A112.18.1 - Plumbing Supply Fittings.
			2. ASME Boiler Code Section IV.
		2. American National Standards Institute (ANSI):
			1. ANSI Z21.22 - Relief Valves for Hot Water Supply Systems.
			2. ANSI Z1157 - Ball Valves.
		3. American Society of Sanitation Engineers (ASSE):
			1. ASSE 1003 - Performance Requirements for Water Pressure Reducing Valves for Potable Water Distribution Systems.
			2. ASSE 1017 - Performance Requirements for Temperature Actuated Mixing Valves for Hot Water Distribution Systems.
			3. ASSE 1019 - Performance Requirements for Wall Hydrant with Backflow Protection and Freeze Resistance.
			4. ASSE 1024 - Performance Requirements for Dual Check Backflow Preventers.
			5. ASSE 1061 - Performance Requirements for Push-Fit Fittings.
			6. ASSE 1069 - Performance Requirements for Automatic Temperature Control Mixing Valves
			7. ASSE 1070-2015/ASME A112.1070-2015/CSA B125.70-15 Performance Requirements for Water Temperature Limiting Devices
		4. ASTM International (ASTM):
			1. ASTM F1807 - Standard Specification for Metal Insert Fittings Utilizing a Copper Crimp Ring, or Alternate Stainless Steel Clamps, for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing.
		5. Canadian Standards Association (CSA):
			1. CSA 4.4 - Relief Valves for Hot Water Supply Systems.
			2. CSA B64.6 - Dual check valve (DuC) backflow preventers.
			3. CSA B125 - Plumbing supply fittings.
			4. CSA B356 - Water pressure reducing valves for domestic water supply systems.
		6. National Plumbing Code of Canada (NPC), International Association of Plumbing and Mechanical Officials (IAPMO).
		7. International Plumbing Code (IPC).
		8. National Fire Protection Association (NFPA):
		9. National Science Foundation (NSF):
			1. NSF/ANSI 14 - Plastics Piping System Components and Related Materials.
			2. NSF/ANSI 61 - Drinking Water System Components - Health Effects.
			3. NSF/ANSI 372 - Drinking Water System Components - Lead Content.
		10. Underwriters Laboratories (UL):
			1. UL 1821 - UL Standard for Safety Thermoplastic Sprinkler Pipe and Fittings for Fire Protection Service.
		11. Uniform Plumbing Code (UPC).
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
		2. Product Data:
			1. Manufacturer's data sheets on each product to be used.
			2. Preparation instructions and recommendations.
			3. Storage and handling requirements and recommendations.
			4. Typical installation methods.

\*\* NOTE TO SPECIFIER \*\* Delete if not applicable to product type.

* + 1. Verification Samples: Two representative units of each type, size, pattern, and color.
		2. Shop Drawings: Include details of materials, construction, and finish. Include relationship with adjacent construction.
	1. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.
		2. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
		3. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

\*\* NOTE TO SPECIFIER \*\* Include mock-up if the project size or quality warrant the expense. The following is one example of how a mock-up on might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
			1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
			2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
			3. Retain mock-up during construction as a standard for comparison with completed work.
			4. Do not alter or remove mock-up until work is completed or removal is authorized.
	1. PRE-INSTALLATION CONFERENCE
		1. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.
	2. DELIVERY, STORAGE, AND HANDLING
		1. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
		2. Protect from damage due to weather, excessive temperature, and construction operations.
	3. PROJECT CONDITIONS
		1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
	4. WARRANTY
		1. Manufacturer's standard limited warranty unless indicated otherwise.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: RWC Canada, which is located at: 74 Alex Ave.; Vaughan, ON, Canada L4L 5X1; Toll Free Tel: 888-820-0120; Tel: 905-265-2790; Email: [request info (info-ask@rwc.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=RWC+Canada&coid=53361&rep=&fax=&message=RE:%20Spec%20Question%20(15110rwc):%20%20&mf=); Web: <https://www.rwc.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

\*\* NOTE TO SPECIFIER \*\* Delete article not required.

* 1. BRASS PUSH-TO-CONNECT FITTINGS
		1. Basis of Design: SharkBite Push-to-Connect Transition Fittings as manufactured by RWC. Allows users to connect pipe in seconds.
			1. Standards Compliance:
				1. Listed to ASSE 1061, CSA B125, NSF/ANSI 61 and NSF 372.
			2. Performance Characteristics:
				1. Maximum Working Pressure: 200 psi (1379 kPa).
				2. Maximum Temperature: 200 degrees F (93 degrees C).
				3. Service. Potable water.
				4. Approved for use underground (wrap required in burial installations) and behind walls without access panels: Designed for hydronic heating as well as potable water distribution.
			3. Material:
				1. Body: DZR Lead Free Brass.
				2. O-Ring: EPDM.
				3. Grab Ring: Stainless steel.
				4. Tube Support Liner: Veradel.
				5. Finish: Natural Brass.
			4. Connections: Sharkbite. 1/2, 3/4, and 1 inch.
			5. Integral tube liner for PEX installations: No loose components. A secure and reliable connection.
			6. Color-coordinated collars on each end identify which side goes with which pipe.
				1. Tan collar fits copper tubing, and CTS PEX, CPVC, HDPE, and PE-RT: Connects all five types in any combination.
				2. White collar fits Schedule 40, 80, and 120 PVC pipe. Also fits Schedule 40 and 80 CVPC: Not for use on galvanized iron pipe.
				3. NOTE TO SPECIFIER \*\* Ideal for repairing a burst pipe or leak. Ideal to have on hand for emergency freezes. Delete coupling options not required.
			7. SharkBite PVC Slip Coupling: Allows up to two inches of PVC pipe to be removed and repaired using one fitting. Compatible with schedule 40, 80 and 120 PVC pipe.
				1. UIP3008: 1/2 inch PVC x 1/2 inch PVC.
				2. UIP3016: 3/4 inch PVC x 3/4 inch PVC.
				3. UIP3020: 1 inch PVC x 1 inch PVC.
			8. SharkBite PVC Transition Coupling: From schedule 40, 80 or 120 PVC pipe to PEX, copper, CPVC, PE-RT or HDPE pipe without needing any special tools or glue.
				1. UIP4008: 1/2 inch CTS x 1/2 inch PVC.
				2. UIP4016: 3/4 inch CTS x 3/4 inch PVC.
				3. UIP4020: 1 inch CTS x 1 inch PVC.
				4. Color-coordinated collars on each end identify which side goes with which pipe.
			9. SharkBite PVC Male Threaded Adapter: Used to transition between schedule 40, 80 and 120 PVC pipe and MNPT threaded connection.
				1. UIP120: 1/2 inch PVC x 1/2 inch MNPT.
				2. UIP134: 3/4 inch PVC x 3/4 inch MNPT.
				3. UIP140: 1 inch PVC x 1 inch MNPT.
				4. Compatible with schedule 40, 80 and 120 PVC pipe.
			10. SharkBite PVC Transition Slip Tee: Allows a water line to be transitioned from schedule 40, 80 or 120 PVC pipe to PEX, copper, CPVC, PE-RT or HDPE pipe without needing any special tools or glue. Commonly used for adding new water lines.
				1. UIP363: 1/2 inch CTS Slip x 1/2 inch CTS x 1/2 inch PVC.
				2. UIP364: 1/2 inch PVC Slip x 1/2 inch PVC x 1/2 inch CTS.
				3. UIP371: 3/4 inch CTS Slip x 3/4 inch CTS x 3/4 inch PVC.
				4. UIP372: 3/4 inch PVC Slip x 3/4 inch PVC x 3/4 inch CTS.
				5. UIP375: 1 inch CTS Slip x 1 inch CTS x 1 inch PVC.
				6. UIP376: 1 inch PVC Slip x 1 inch PVC x 1 inch CTS.
				7. Can be rotated after assembly for easier and faster installation.
			11. SharkBite PVC Caps: Used to cap the end of a PVC water pipe (schedule 40, 80, 120).
				1. UIP514: 1/2 inch.
				2. UIP518: 3/4 inch.
				3. UIP520: 1 inch.
				4. Compatible with schedule 40, 80 and 120 PVC pipe.
			12. SharkBite PVC Ball Valve: Install a shut-off ball valve and transition from schedule 40, 80 and 120 PVC pipe to PEX, copper, CPVC, PE-RT or HDPE pipe.
				1. 25550LF: 3/4 inch PVC x 3/4 inch CTS.
				2. 25551LF: 1 inch PVC x 3/4 inch CTS.
				3. Standards compliance: Certified to IAPMO/ANSI Z1157 NSF/ANSI61 and NSF 372 and listed by IAPMO.
				4. Identify which side goes with which pipe using the color-coordinated collars.
		2. Basis of Design: SharkBite Polybutylene Push-to-Connect Transition Fittings as manufactured by RWC. Allows users to connect copper, PEX, CPVC, HDPE, and PE-RT pipe to polybutylene in seconds. Intended for potable and hydronic heating water distribution. Glycol mixture for hydronic systems is acceptable up to 100 percent concentration.
			1. Standards Compliance:
				1. Designed to ASSE 1061.
				2. NSF/ANSI 14.
			2. Performance Characteristics:
				1. Maximum Working Pressure: 200 psi (1379 kPa).
				2. Maximum Temperature: 200 degrees F (93 degrees C).
				3. Service. Potable water.
				4. Approved for underground applications (wrap required in burial installations) and as a manufactured joint without access panels.
			3. Material:
				1. Body: DZR Lead Free Brass.
				2. O-ring: EPDM.
				3. Grab ring: Stainless steel.
				4. Tube support liner: Polysulfone.
				5. Finish: Natural Brass or chrome plated.
			4. Connections: Sharkbite. 1/2, 3/4, and 1 inch.
			5. Integral tube liner for PEX installations: No loose components. A secure and reliable connection.
			6. Fits copper tubing, and CTS PEX, HDPE, CPVC, PE-RT: Connects any five types to polybutylene.
			7. Color-coordinated collars on each end identify which side goes with which pipe.
			8. SharkBite Polybutylene Transition Coupling: Transition from polybutylene pipe to PEX, copper, CPVC, PE-RT or HDPE pipe without needing special tools, crimping, glue, or solder.
				1. U4008LF: 1/2 inch PB x 1/2 inch CTS.
				2. U4016LF: 3/4 inch PB x 3/4 inch CTS.
			9. SharkBite Brass Push Polybutylene Transition 90 degree Elbow: Make a quick 90 degrees transition from polybutylene to a different pipe type.
				1. U4248LF: 1/2 inch PB x 1/2 inch CTS.
				2. U4256LF: 3/4 inch PB x 3/4 inch CTS.
		3. Basis of Design: SharkBite Brass Push-to-Connect Transition Fittings as manufactured by RWC. For Copper, PEX, HDPE, CPVC or PEX Pipe. Allows users to connect pipe in seconds.
			1. Standards Compliance: Unless stated otherwise, all fittings specified meet the minimum following requirements. Additional compliances are listed with each product.
				1. Designed to ASSE 1061.
				2. Listed to NSF/ANSI 61, NSF/ANSI 14, NSFI 372, and IAPMO.
				3. Certified for potable and hydronic heating water distribution. Glycol mixture for hydronics is acceptable up to 100 percent concentration.
			2. Performance Characteristics:
				1. Maximum Working Pressure: 200 psi (1379 kPa).
				2. Maximum Temperature: 200 degrees F (93 degrees C).
				3. Service. Potable water.
				4. Certified for underground applications (wrap required in burial installations) and as a manufactured joint without access panels and they meet UPC, IPC and NPC requirements.
			3. Material:
				1. Body: DZR Lead Free Brass.
				2. O-ring: EPDM.
				3. Grab ring: Stainless steel.
				4. Tube support liner: Polysulfone.
				5. Finish: Natural Brass or chrome plated.
			4. Integral tube liner for PEX installations: No loose components. A secure and reliable connection.
			5. SharkBite Brass Push Straight Couplings:

\*\* NOTE TO SPECIFIER \*\* Delete fittings and fitting options not required.

* + - * 1. SharkBite Brass Push Coupling: Connect two pieces of pipe together. Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

U004LF: 1/4 inch (3/8 inch OD) x 1/4 inch (3/8 inch OD).

U006LF: 3/8 inch (1/2 inch OD) x 3/8 inch (1/2 inch OD).

U008LF: 1/2 x 1/2 inch.

U016LF: 3/4 x 3/4 inch.

U020LF: 1 x 1 inch.

UXL0135: 1-1/4 x 1-1/4 inch (PEX applications, stiffeners sold separately).

UXL0141: 1-1/2 x 1-1/2 inch (PEX applications, stiffeners sold separately).

Fittings , 1-1/4 to 2 inches, require stiffeners when connecting to PEX pipe.

* + - * 1. SharkBite Brass Push Slip Coupling: For repairs on copper and CPVC pipe. Remove and repair up to two inches of damaged pipe using a single fitting, no additional pipe required.

U3008LF: 1/2 x 1/2 inch.

U3016LF: 3/4 x 3/4 inch.

U3020LF: 1 x 1 inch.

UXL0635: 1-1/4 x 1-1/4 inch.

UXL0641: 1-1/2 x 1-1/2 inch.

UXL0654: 2 x 2 inch.

One end of coupling has a stop. Allows opposite end to slide freely over the end of a pipe. Fittings are released using a disconnect tool and slide back onto the other end of pipe for a successful connection and leak repair.

* + - * 1. SharkBite Brass Push Reducing Coupling: Used to connect two different sizes of pipe. Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe in any combination.

U050LF: 1/4 inch (3/8 inch OD) x 1/2 inch.

U009LF: 3/8 inch (1/2 inch OD) x 1/2 inch.

U058LF: 3/4 x 1/2 inch.

U060LF: 1 x 3/4 inch.

UXL013528: 1-1/4 x 1 inch (PEX applications, stiffeners sold separately).

UXL014128: 1-1/2 x 1 inch (PEX applications, stiffeners sold separately).

UXL014135: 1-1/2 x 1-1/4 inch (PEX applications, stiffeners sold separately).

Fittings , 1-1/4 to 2 inches, require stiffeners when connecting to PEX pipe.

* + - 1. SharkBite Brass Push Elbows:
				1. SharkBite Brass Push 45 degree Elbow: Connection between two pieces of pipe. Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe in any combination.

U648LF: 1/2 x 1/2 inch.

U656LF: 3/4 x 3/4 inch.

U660LF: 1 x 1 inch.

UXL0535: 1-1/4 x 1-1/4 inch (PEX applications, stiffeners sold

U260LF: 1 x 1 inch.

U272LF: 1/2 x 3/8 inch.

U274LF: 3/4 x 1/2 inch.

U276LF: 1/4 x 3/8 inch MIP.

U280LF: 1/2 x 1/2 inch MNPT.

U308LF: 1/2 x 1/2 inch FNPT.

UXL0235: 1-1/4 x 1-1/4 inch (PEX applications, stiffeners sold separately).

Fittings, 1-1/4 to 2 inches, require stiffeners when connecting to PEX pipe.

* + - * 1. SharkBite Brass Push 90 degree Elbow with Drain / Vent: Make a connection between two pieces of pipe and drain water from the line.

U5248LF: 1/2 x 1/2 x 1/8 inch NPSM Drain Thread.

U5256LF: 3/4 x 3/4 x 1/8 inch NPSM Drain Thread.

U5260LF: 1 x 1 x 1/8 inch NPSM Drain Thread.

Allows for water to be drained from the line if needed.

* + - * 1. SharkBite Brass Push Drop-Ear Elbow: To make a 90 degree transition to an FNPT threaded connection.

U249LF: 1/2 x 1/2 inch Drop-Ear.

U332LF: 3/8 inch (1/2 inch OD) x 1/2 inch FNPT.

U334LF: 1/2 x 1/2 inch FNPT.

U340LF: 3/4 x 3/4 inch FNPT.

Has mounting ears with holes for securing to a support surface.

Typically used for installing shower arms and tub spouts.

* + - * 1. SharkBite Brass Push Hy-Ear Elbow: Used to make 90 degree connection between two pieces of pipe. Compatible with PEX, copper, CPVC, PE-RT and HDPE pipes.

U335LF: 1/2 x 1/2 inch Hy-Ear.

Mounting ears with holes for securing to a surface.

Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

* + - * 1. SharkBite Brass Push 90 degree Street Elbow: Used to make a 90 degree connection. One end has a copper tube sized (CTS) tailpiece adapter that can be pushed into any SharkBite fitting. The other has a push-to-connect end compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

UXL0935: 1-1/4 x 1-1/4 inch.

UXL0941: 1-1/2 x 1-1/2 inch.

UXL0954: 2 x 2 inch.

* + - * 1. SharkBite Brass Push Reducing Elbow: Used to make a 90 degree connection between two different sizes of pipe. Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

U272LF: 1/2 x 3/8 inch (1/2 inch OD).

U274LF: 3/4 x 1/2 inch.

U278LF: 1 x 3/4 inch.

* + - * 1. SharkBite Brass Push Female Adapter Elbow: Used to make a 90 degree transition between PEX, copper, CPVC, PE-RT or HDPE pipe to an FNPT threaded connection.

U308LF: 1/2 x 1/2 inch FNPT.

U314LF: 3/4 x 3/4 inch FNPT.

* + - * 1. SharkBite Brass Push Male Adapter Elbow: Used to make a 90 degree transition between PEX, copper, CPVC, PE-RT or HDPE pipe to an MNPT threaded connection.

U280LF: 1/2 x 1/2 inch MNPT.

U286LF: 3/4 x 3/4 inch MNPT.

* + - * 1. SharkBite Brass Push Dishwasher Elbow: 90 degrees elbow fitting that connects the hot water line to the dishwasher.

U276LF: 1/4 inch (3/8 inch OD) x 3/8 inch MNPT.

U2276LF: 1/4 inch (3/8 inch OD) x 3/4 inch Female hose thread.

U281LF: 1/2 x 3/8 inch MNPT.

Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

* + - * 1. SharkBite Brass Push Copper Stub-Out: Stub-Out Elbow used during rough-in plumbing phase to enable a fixture to be installed after the drywall is completed and painted.

U351LFA: 1/2 inch SB x 1/2 inch Copper Tube 8 inch length.

Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

* + - 1. SharkBite Push Caps:
				1. Brass Push Caps: Used to cap the end of a water pipe. Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

U512LF: 3/8 inch (1/2 inch OD).

514LF: 1/2 inch.

U518LF: 3/4 inch.

U520LF: 1 inch.

UXL0435: 1-1/4 inch (PEX applications, stiffeners sold separately).

UXL0441: 1-1/2 inch (PEX applications, stiffeners sold separately).

UXL0454: 2 inches (PEX applications, stiffeners sold separately).

Fittings, 1-1/4 to 2 inches, require stiffeners when connecting to PEX pipe.

* + - 1. SharkBite Brass Push Adapters:
				1. SharkBite Female Adapter: Transition between PEX, copper, CPVC, PE-RT or HDPE pipe to an MNPT threaded connection.

U066LF: 1/4 inch (3/8 inch OD) x 1/2 inch FNPT Reducing.

U068LF: 1/2 x 3/4 inch FNPT Reducing.

U070LF: 3/8 inch (1/2 inch OD) x 1/2 inch FNPT Reducing.

U072LF: 1/2 x 1/2 inch FNPT Straight.

U088LF: 3/4 x 3/4 inch FNPT Straight.

U092LF: 3/4 x 1/2 inch FNPT Bullnose.

U094LF: 1 x 1 inch FNPT Straight.

* + - * 1. SharkBite Male Adapter: Transition between PEX, copper, CPVC, PE-RT or HDPE pipe to an FNPT threaded connection.

U110LF: 1/4 x 1/2 inch MNPT Reducing.

U118LF: 3/8 inch (1/2 inch OD) x 1/2 inch MNPT Reducing.

U120LF: 1/2 x 1/2 inch MNPT Straight.

U116LF: 1/2 x 3/4 inch MNPT Reducing.

U134LF: 3/4 x 3/4 inch MNPT Straight.

U138LF: 3/4 x 1/2 inch MNPT Bullnose.

U139LF: 3/4 x 1 inch MNPT Straight.

U140LF: 1 x 1 inch MNPT Straight.

U142LF: 1 x 3/4 inch MNPT Straight.

* + - * 1. SharkBite Brass Push Slip Male Adapter: Slip feature used to transition from copper or CPVC pipe to an MNPT threaded connection.

U3120LF: 1/2 x 1/2 inch MNPT.

U3134LF: 3/4 x 3/4 inch MNPT.

U3140LF: 1 x 1 inch MNPT.

Slip feature allows two inches of rigid copper or CPVC pipe to be cut out of an existing line and connected back together by using the Disconnect Clip to slide the fitting back to the other end of pipe.

* + - * 1. SharkBite Threaded Adapter: One side has a copper tube sized (CTS) tailpiece adapter that can be pushed into any SharkBite fitting. The other side has a FNPT connection.

U766LF: 3/4 inch CTS x 3/4 inch FNPT Threaded (CTS end inserts into 3/4 inch SB fittings).

U772LF: 1 inch CTS x 1 inch FNPT Threaded (CTS end inserts into 1 inch SB fitting).

Copper tube sized (CTS) tailpiece adapter on one side that can be pushed into any SharkBite fitting. On the other side is a FNPT connection.

Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

* + - * 1. SharkBite Brass Push Fitting Reducer: One side has copper tube sized (CTS) tailpiece adapter that can be pushed into any SharkBite fitting. Other side has a push-to-connect end compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

U719LF: 3/8 inch (1/2 inch OD) x 1/2 inch CTS (CTS end inserts into any 1/2 inch SB fitting).

U721LF: 3/8 inch (1/2 inch OD) x 3/4 inch CTS (CTS end inserts into any 3/4 inch SB fitting).

U722LF: 1/2 x 1 inch CTS (CTS end inserts into any 1 inch SB fitting).

U724LF: 3/4 x 1 inch CTS (CTS end inserts into any 1 inch SB fitting).

UXL123516: 1-1/4 x 1/2 inch.

UXL123522: 1-1/4 x 3/4 inch.

UXL123528: 1-1/4 x 1 inch.

* + - * 1. SharkBite Water Softener Adapter: Used to connect new water softeners or replacing existing connectors. Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

U086LF: 3/4 x 1 inch FIP.

Transition between CTS pipe to an MNPT threaded connection.

* + - * 1. SharkBite Stainless Steel Braided Water Softener Connector: Used to connect new water softeners or replacing existing connectors.

U3086FLEX24LF: 3/4 x 1 inch FIP, 24 inch long.

Push-to-connect on both ends of hose installation. Connect new water softeners or replacing existing connectors.

Make tight turns without kinking to connect pipes that do not line up.

Compatible with PEX, copper, CPVC and PE-RT and HDPE pipe.

* + - * 1. SharkBite Compression Adapter: Connect fixtures and appliances requiring a compression connection to a push-to-connect end that will work with 1/4 inch (3/8-inch OD) PEX pipe. Chrome finish.

U3523LF: 1/4 inch (3/8 inch OD) x 3/8 inch Compression Stop Valve Connector (Converts 3/8 inch comp stop to SharkBite).

* + - 1. SharkBite Brass Push Tees:
				1. SharkBite Brass Push Tee: Used to join same-size pipe together.

U358LF: 1/4 inch (3/8 inch OD) x 1/4 inch (3/8 inch OD) x 1/4 inch (3/8 inch OD).

U360LF: 3/8 inch (1/2 inch OD) x 3/8 inch (1/2 inch OD) x 3/8 inch (1/2 inch OD).

U362LF: 1/2 x 1/2 x 1/2 inch.

U370LF: 3/4 x 3/4 x 3/4 inch.

U374LF: 1 x 1 x 1 inch.

UXL0835: 1-1/4 x 1-1/4 x 1-1/4 inch.

UXL0841: 1-1/2 x 1-1/2 x 1-1/2 inch.

* + - * 1. SharkBite Brass Push Reducing Tee: Used to join different size pipe together.

U359LF: 1/2 inch x 1/2 inch x 1/4 inch (3/8 inch OD).

U364LF: 3/8 inch (1/2 inch OD) x 3/8 inch (1/2 inch OD) x 1/2 inch.

U359LF: 1/2 inch x 1/2 inch x 1/4 inch (3/8 inch OD).

U363LF: 1/2 inch x 1/2 inch x 3/8 inch (1/2 inch OD).

U454LF: 3/4 x 1/2 x 1/2 inch.

U412LF: 3/4 x 3/4 x 1/2 inch.

U444LF: 3/4 x 1/2 x 3/4 inch.

U416LF: 1 x 1 x 3/4 inch.

Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe; any combination.

* + - * 1. SharkBite Brass Push Cross Tee: Push-to-connect design for joining two different pipe sizes.

U380LF: 3/4 x 3/4 x 1/2 x 1/2 inch.

* + - * 1. SharkBite Brass Push Slip Tee: For adding a new water line into an existing plumbing system. Allows for two inches of rigid copper or CPVC pipe to be cut out of existing line and connected back together with Disconnect Clip to slide fitting back to other end of pipe. Slip end only suitable for copper and CPVC.

U3362LF: 1/2 x 1/2 x 1/2 inch.

U3370LF: 3/4 x 3/4 x 3/4 inch.

UXL0335: 1-1/4 x 1-1/4 inch (PEX applications, stiffeners sold separately).

UXL0341: 1-1/2 x 1-1/2 inch (PEX applications, stiffeners sold separately).

UXL0354: 2 x 2 inch (PEX applications, stiffeners sold separately).

Fittings, 1-1/4 to 2 inches, require stiffeners when connecting to PEX pipe.

* + - * 1. SharkBite Female Center Slip Tee: Push-to-connect tee with an FNPT threaded connection in the branch. For removing a section of pipe and adding in an expansion tank for a water heater. Screw expansion tank into middle FNPT branch after installing tee into line. Slip end only suitable for copper and CPVC.

U3482LF: 1/2 x 1/2 x 1/2 inch FNPT.

U3486LF: 3/4 x 3/4 x 3/4 inch FNPT.

* + - * 1. SharkBite Service Slip Tee Adapter: For adding water line to existing plumbing system. A better alternative to a saddle valve. The slip end is only suitable for use with copper and CPVC pipe. Service end of fitting is a copper tube size (CTS) end that connects with any half-inch SharkBite push-to-connect fittings. Slip feature allows two inches of rigid copper or CPVC pipe to be cut out of existing lines and connected back with the Disconnect Clip to slide the fitting back to the other end of pipe. Slip end only suitable for copper and CPVC.

U4482LF: 1/2 x 1/2 x 1/2 inch CTS.

* + - * 1. Multi-Port Tee: Multi-port tee with 1/2 inch outlets to supply multiple water lines. Reduces leaks by eliminating excess connection points. Traditionally used in PEX systems, for connection into PEX, copper or CPVC systems. Manifolds have a 1 inch trunk with 3/4 inch push-to-connect inlets and 1/2 inch push-to-connect branches.

Approved for behind-the-wall applications with no access panels.

Compatible with PEX, copper and CPVC pipe.

25552LF: 3/4 x 1/2 inch Outlet 3-Port Manifold - Open.

25553LF: 3/4 x 1/2 inch Outlet 3-Port Manifold - Closed.

25554LF: 3/4 x 1/2 inch Outlet 4-Port Manifold - Open.

25555LF: 3/4 x 1/2 inch Outlet 4-Port Manifold - Closed.

* + - * 1. Female Center Tee: Push-to-connect tee with FNPT threaded connection in the branch. Approved for underground and behind-the-wall applications with no access panels. Wrapping required when burying underground.

U462LF: 3/4 inch x 3/4 inch x 3/4 inch (Utilizes a U766LF thread adapter).

U464LF: 1 inch x 1 inch x 1 inch (Utilizes a U772LF thread adapter).

UXL10353515: 1-1/4 x 1-1/4 x 1/2 inch FNPT Branch Tee.

UXL10353520: 1-1/4 x 1-1/4 x 3/4 inch FNPT Branch Tee.

UXL10353525: 1-1/4 x 1-1/4 x 1 inch FNPT Branch Tee

UXL10414115: 1-1/2 x 1-1/2 x 1/2 inch FNPT Branch Tee

UXL10414120: 1-1/2 x 1-1/2 x 3/4 inch FNPT Branch Tee

Fittings, 1-1/4 to 2 inches, require stiffeners when connecting to PEX.

* + - * 1. Brass Push Water Hammer Arrestor: Used to protect the plumbing system against water hammer.

22630LF: 1/2 inch Residential

22631LF: 1/2 inch Commercial

22632LF: 3/4 inch Residential

22633LF: 1 inch Commercial

Can be positioned vertically or horizontally.

Compatible with PEX, copper, CPVC and PE-RT pipe.

Approved for behind-the-wall applications with no access panels.

* + - 1. Brass Push Control Valves
				1. Cash Acme Thermal Expansion Relief Valve: Replaces an expansion tank, shut-off valve and fitting when installing or servicing a water heater.

25704LF: 3/4 x 3/4 x 1/2 inch outlet.

A pressure-only safety relief valve to protect hot water supply systems where high pressure conditions are likely to occur because of thermal expansion.

Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

Can be rotated for easier installation.

1/2 inch outlet drains at 125 PSI. Rated for 200 psi (1379 kPa). and 200 degrees F (93 degrees C).

Standards Compliance:

Certified to IGC 128, IAPMO/ANSI Z1157, and CSA B125.3

* + - * 1. Cash Acme Check Valve: Spring-loaded check valve prevents reverse flow of water.

U2008-0000LF: 1/2 x 1/2 inch.

U2016-0000LF: 3/4 x 3/4 inch.

U2020-0000LF: 1 x 1 inch.

Push-to-connect design for installation on PEX, copper, CPVC, PE-RT and HDPE lines, horizontally or vertically.

Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

Rated for 150 psi and 200 degrees F (93 degrees C).

Connections: SharkBite: 1/2 to 1 inch.

* + - * 1. Cash Acme EB45 Double Union SharkBite Pressure Regulating Valve (PRV): Regulates downstream pressure in commercial and residential water applications.

23893-0045: 1/2 inch.

24476-0045: 1/2 inch with Metal Top.

23894-0045: 3/4 inch.

24477-0045: 3/4 inch with Metal Top.

23896-0060: 3/4 inch.60 psi (414 kPa) setting.

24449-0045: 3/4 inch with gauge.

23358-0045: 1 inch.

Standards Compliance:

Certified to ASSE 1003 and CSA B356.

SharkBite Push-To-Connect (PTC) fittings for potable and hydronic heating water distribution and meet UPC, IPC and NPC Canada requirements.

Push-to-connect design for quick and easy installation.

Features a half cartridge design that offers performance of a high-end, cartridge-based valve at the price of a traditional regulator.

Double Union SharkBite connection threads directly onto the valve body.

Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

* + - * 1. Cash Acme EB25 Pressure Regulating Valve (PRV): Regulates downstream pressure in commercial and residential water applications.

23955-0045: 3/4 inch EB25-DUSB Double Union SharkBite.

23956-0045: 1 inch EB25-DUSB Double Union SharkBite.

25844-0045: 1-1/4 inch EB25 Double Union SharkBite.

25845-0045: 1-1/2 inch EB25 Double Union SharkBite.

25846-0045: 2 inch EB25 Double Union SharkBite.

Standards Compliance:

Certified to ASSE 1003 and CSA B356.

SharkBite PTC fittings certified for potable water distribution.

Single-cartridge design enables servicing without having to remove the valve body. Push-to-connect design.

Numerical dial indicator shows the pressure without the need for a gauge.

Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

Factory set at 45 psi (310 kPa); easily adjustable between 20 to 90 psi (138 to 620 kPa).

* + - * 1. EB45 Direct SharkBite Pressure Regulating Valve (PRV): Regulates downstream pressure in commercial and residential water applications.

23807-0045: 1/2 inch.

24472-0045: 1/2 inch with Metal Top.

23808-0045: 3/4 inch.

24473-0045: 3/4 inch with Metal Top.

22675-0045: 1 inch.

Standards Compliance:

Certified to ASSE 1003. Listed by ASSE and IAMPO

Certified to CSA B356.

SharkBite Push-To-Connect fittings have been certified for potable and hydronic heating water distribution.

The SharkBite PTC fittings have been certified for underground applications and as a manufactured joint without access panels and they meet UPC, IPC and NPC requirements.

Push-to-connect. A half cartridge design.

Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

* + - * 1. A89 Boiler Feed Valve (PRV): Rapid fill capability. Balanced piston allowing for closer outlet control regardless of variations in inlet pressure.

25521Z: 1/2 inch A-89 Direct SharkBite.

Standards Compliance:

The SharkBite PTC Fittings:

Listed by IAPMO and certified for potable and hydronic heating water distribution.

Certified for underground applications and manufactured joint without access panels and meet UPC, IPC and NPC Canada requirements.

Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

Capable of handling up to 200 psi (1379 kPa). and is standard set to 14 psi (96 kPa) with an adjustment range of up to 30 psi (207 kPa).

* + - * 1. HG110-D Thermostatic Mixing Valve (TMV): Installed at water heater or fixture to distribute controlled temperature water through a domestic hot water system.

24548: 1/2 inch HG110-D Integrated SharkBite Connections and Integral Checks.

24549: 3/4 inch HG110-D Integrated SharkBite Connections and Integral Checks.

24504: 1/2 inch HG110-D SharkBite Union Connections.

24505: 3/4 inch HG110-D SharkBite Union Connection.

Standards Compliance: Certified to ASSE 1017, ASSE 1069, ASSE 1070/ASME A112.1070/CSA B125.70, and CSA B125.3, NSF 372, NSF 61

Mixes water to deliver at a controlled and safe temperature of 120 degrees F (49 degrees C).

Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

Adjustable Outlet temperature 85 to 130 degrees F (29 to 54 degrees C).

* + - * 1. HG160-D Thermostatic Mixing Valve (TMV): Controls water temperature to individual or multiple fixtures such as sinks, lavatories, or bathtubs.

24529: 1/2 inch HG160 with SharkBite Connections.

24530: 3/4 inch HG160 with SharkBite Connections.

Standards Compliance: Certified to ASSE 1017, ASSE 1069, ASSE 1070/ASME A112.1070/CSA B125.70, and CSA B125.3 , NSF 372, NSF 61

Deliver tempered water at a controlled and safe temperature of 120 degrees F (49 degrees C).

Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

Adjustable Outlet Temperature: 95 to 120 degrees F (35 to 49 degrees C).

* + - * 1. HG110-HX Thermostatic Mixing Valve (TMV): High flow rate temperature actuated thermostatic mixing valve delivers tempered water at 120 degrees F (49 degrees C).

24867: 3/4 inch HG110-HX with SharkBite Connections and Integral Checks.

Standards compliance: Certified to ASSE 1017 and CSA B125.3.

Outlet temperature range, 85 degrees F (29 degrees C) - 176 degrees F (80 degrees C), for heating system applications.

Unique, purpose designed adjuster tool integrated with cap minimizes unauthorized tampering with valve setting.

Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

* + - * 1. SharkBite Dual Check Valve: Prevents backflow and back-siphonage of water.

BF13434SB: 3/4 inch BF1, Dual Check, SharkBite Inlet and Outlet.

BF10101SB: 1 inch BF1, Dual Check, SharkBite Inlet and Outlet.

BF5M0134SB: 1 inch x 3/4 inch BF5, Dual Check, Meter Swivel Nut Inlet, SharkBite Outlet.

BF5M1401SB: 1-1/4 inch x 1 inch BF5, Dual Check, Meter Swivel Nut Inlet, SharkBite Outlet.

Standards Compliance: Certified to ASSE 1024 and CSA B64.6.

Compatible with PEX, copper, CPVC and PE-RT pipe.

Can be installed horizontally or vertically.

* + - * 1. NCLX-5LX Temperature and Pressure Relief Valve: Provides temperature and pressure protection for domestic water heaters and storage tanks. Outlet connection compatible with copper and CPVC.

24609-0150: NCLX-5LX w/ SharkBite Outlet Connection.

Standards Compliance: Certified to ANSI Z21.22/CSA 4.4 and are capacity certified to ASME Boiler Code Section IV.

Incorporates an inert thermal element coating that provides effective isolation from mineral deposits (liming) and galvanic corrosion.

Factory Relief settings: 150 psi pressure. 210 degrees F (99 degrees C) temperature.

Automatic and reseats after temperature or pressure relief.

* + - * 1. Slip EB45 Pressure Regulating Valve (PRV): Regulates downstream pressure in residential and commercial potable water piping systems.

24383-0045: 1/2 inch.

24474-0045: 1/2 inch with Metal Top.

24384-0045: 3/4 inch Slip Feature.

24475-0045: 3/4 inch with Metal Top.

Standards Compliance: Certified to ASSE 1003. Listed by ASSE and IAMPO (UPC), and meet UPC, IPC and NPC Canada requirements.

Half cartridge offers performance of a cartridge based valve.

Slip Feature: Allows replacement or installation of valve on rigid copper or CPVC pipe only. One end of valve has a stop, allowing opposite end to slide over end of pipe. Valve is released using a disconnect tool and slid back onto other end of pipe for a successful connection.

Valve Cover Lay Length: 1/2 inch: 4-3/4 inches. 3/4 inch: 5-1/4 inches.

Factory set at 45 psi. Adjustable between 10 to 70 psi (69 to 483 kPa).

* + - * 1. SharkBite Washing Machine Straight Valve: Push-to-connect quarter-turn straight stop valve for washing machine installations that have no outlet box.

25559LF: 1/2 inch x 3/4 inch MHT Straight Valve.

Standards Compliance: ASME A112.18.1, CSA B125.1-12.

Drop-ear mounting tabs for stability and quick installing. Mount to stud or joist.

Features 1/2 inch push-to-connect inlet compatible with PEX, copper, CPVC, PE-RT or HDPE pipes and a 3/4 inch hose thread outlet connection.

* + - * 1. SharkBite Washing Machine Angle Valve: A push-to-connect quarter-turn angle stop valve. Ideal for use in washing machine installations that have no outlet box.

25560LF: 1/2 inch x 3/4 inch MHT Angle Valve.

Standards Compliance: ASME A112.18.1, CSA B125.1-12.

Drop-ear mounting tabs for stability and quick installing. Mount to a stud or joist.

Features a 1/2 inch push-to-connect inlet compatible with PEX, copper, CPVC, PE-RT or HDPE pipes and a 3/4 inch hose thread outlet connection.

Potable water distribution and hydronic heating applications

* + - 1. SharkBite Brass Push Ball Valves:
				1. SharkBite Brass Push Ball Valve: Used to shut-off water flow for servicing and making repairs. Compatible with PEX copper, CPVC, PE-RT and HDPE pipe.

22222-0000LF: 1/2 x 1/2 inch.

22185-0000LF: 3/4 x 3/4 inch.

22223-0000LF: 1 x 1 inch.

UXLBV35: 1-1/4 x 1-1/4 inch.

UXLBV41: 1-1/2 x 1-1/2 inch.

UXLBV54: 2 x 2 inch.

Standards Compliance: Certified to IGZ-157.

Push-to-connect allows joining to PEX, copper, CPVC, PE-RT and HDPE pipe in any combination. Can be rotated after installation.

* + - * 1. SharkBite Brass Push Reducing Ball Valve: Connect two pieces of different sized PEX, copper, CPVC, PE-RT and / or HDPE pipe in any combination and easily shut-off water.

22973LF: 1/2 x 3/4 inch.

22993LF: 3/4 x 1 inch.

* + - * 1. SharkBite Slip Ball Valve: For replacing or adding ball valve into an existing line to shut-off water flow for servicing and making repairs. Compatible with copper and CPVC pipe only.

24735LF: 1/2 x 1/2 inch.

24736LF: 3/4 x 3/4 inch.

24737LF: 1 x 1 inch.

Slip feature allows two inches of rigid copper or CPVC pipe to be cut out of an existing line and connected back together.

* + - * 1. SharkBite Ball Valve with FNPT Connector: Shut-off water flow for servicing and making repairs. Transition between PEX, copper, CPVC, PE-RT or HDPE pipe to an FNPT threaded connection.

22182-0000LF: 1/2 x 1/2 inch FNPT.

22186-0000LF: 3/4 x 3/4 inch FNPT.

22187-0000LF: 1 x 1 inch FNPT.

Standards Compliance: Certified to IGZ-157.

* + - * 1. SharkBite Brass Push Ball Valve with Drain / Vent: Used to shut-off water flow for servicing and making repairs. Allows for water to be drained from the line. Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

22304-0000LF: 1/2 x 1/2 inch x 1/8 inch NPSM Drain Thread.

22305-0000LF: 3/4 x 3/4 inch 1/8 inch NPSM Drain Thread.

22306-0000LF: 1 x 1 inch 1/8 inch NPSM Drain Thread.

* + - * 1. SharkBite Ball Valve with Drain / Vent and Mounting Tab: Used to shut-off water flow for servicing and making repairs. Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

24615-0000LF: 1/2 x 1/2 1/8 inch NPSM Drain Thread.

24616-0000LF: 3/4 x 3/4 1/8 inch NPSM Drain Thread.

24617-0000LF: 1 x 1 1/8 inch NPSM Drain Thread.

24377: 1/8 inch NPSM.

* + - 1. SharkBite Brass Push Outdoor Hose Valves:
				1. Stop Valve with Drain / Vent: Multi-turn shut-off valve Integrated drain/vent for cold-weather maintenance and freezing protection. Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

24634LF: 1/2 x 1/2 inch.

24635LF: 3/4 x 3/4 inch.

25757: Stop Valve Repair Kit.

* + - * 1. SharkBite Hose Bibb, 90 Degrees: Multi-turn or quarter-turn shut-off for regulation of water flow.

24620LF: 1/2 x 3/4 inch MHT 90 Deg Hose Bibb - Quarter-Turn.

24621LF: 3/4 x 3/4 inch MHT 90 Deg Hose Bibb - Quarter-Turn.

24626LF: 1/2 x 3/4 inch MHT 90 Deg Hose Bibb - Multi-Turn.

24627LF: 3/4 x 3/4 inch MHT 90 Deg Hose Bibb - Multi-Turn.

25756: O-ring Repair Set for Multi Turn Hose Bibbs.

One-piece 2.4 inch diameter mounting flange and inlet connection. 3/4 inch garden hose outlet with 1/2 inch or 3/4 inch push-to-connect inlet.

Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

* + - * 1. SharkBite Hose Bibb 45 Degrees: Multi-turn or quarter-turn shutoff; water flow regulation.

24630LF: 1/2 x 3/4 inch MHT No-Kink 45 Deg Hose Bibb Quarter-Turn.

24631LF: 3/4 x 3/4 inch MHT No-Kink 45 Deg Hose Bibb - Quarter-Turn.

24632LF: : 1/2 x 3/4 inch MHT No-Kink 45 Deg Hose Bibb - Multi-Turn.

24633LF: 3/4 x 3/4 inch MHT No-Kink 45 Deg Hose Bibb - Multi-Turn.

25756: O-ring Repair Set for Multi Turn Hose Bibbs.

One-piece 2.4 inch diameter mounting flange and inlet connection. 3/4 inch garden hose outlet with a 1/2 inch or 3/4 inch push-to-connect inlet at a 45 degree angle to prevent hose kinks.

Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

* + - * 1. SharkBite Garden Valve: Multi-turn shut-off valve with mounting tabs and angled handle allows for regulation of water flow. To be post mounted.

24622LF: 1/2 x 3/4 inch MHT.

24623LF: 3/4 x 3/4 inch MHT.

25758: Garden Valve Repair Kit.

3/4 inch garden hose outlet with a 1/2 inch or 3/4 inch push-to-connect inlet. Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

* + - * 1. SharkBite Frost Free Sillcock: Protects valve from freezing conditions and from potential back pressure and contaminated water flowing back into the main line.

25743LF: 1/2 x 3/4 inch MHT 4 inches.

25744LF: 1/2 x 3/4 inch MHT 6 inches.

24628LF: 1/2 x 3/4 inch MHT 8 inches.

24629LF: 1/2 x 3/4 inch MHT 10 inches.

24636LF: 1/2 x 3/4 inch MHT 12 inches.

24637LF: 1/2 x 3/4 inch MHT 15 inches.

24638LF: 1/2 x 3/4 inch MHT 18 inches.

Standards Compliance: Approved for use in all national and local codes in US and Canada. Certified and listed to the following standards:

ASSE 1019 - Performance Requirements for Wall Hydrant with Backflow Protection and Freeze Resistance.

ANSI/NSF 61 - Drinking Water System Components - Health Effects.

ASI/NSF 372 - Drinking Water Components - Lead Content.

Integrated 1/2 inch push-to-connect inlet compatible with PEX, copper, CPVC, PE-RT and HDPE pipes and a 3/4 inch garden hose outlet. Shut-off is located at inlet of sillcock to drain the water from the line to protect the valve in freezing.

Integrated vacuum breaker to prevent backflow.

Mounting flange to secure the valve.

* + - 1. SharkBite Brass Push Supply Stops:
				1. SharkBite Brass Push Angle Stop: Control and shut-off of water flow to household plumbing fixtures and appliances. Compatible with PEX, copper, CPVC and PE-RT HDPE pipe.

23036-0000LF: 1/2 x 3/8 inch Compression.

24731LF: 1/2 x 3/8 inch Compression Loose Key.

23048-0000LF: 1/2 x 1/4 inch (3/8 inch OD).

24733LF: 1/2 x 1/4 inch (3/8 inch OD) Loose Key.

23336-0000LF: 1/2 x 1/4 inch Compression.

24946: 1/2 x 1/2 inch MIP.

Quarter-turn full-port brass ball valve. Chrome finish.

* + - * 1. SharkBite Brass Push Straight Stop: Control flow of water to household plumbing fixtures and appliances.

23037-0000LF: 1/2 x 3/8 inch Compression.

24732LF: 1/2 x 3/8 inch Compression Loose Key.

23049-0000LF: 1/2 x 1/4 inch (3/8 inch OD).

24734LF: 1/2 x 1/4 inch (3/8 inch OD) Loose Key.

23337-0000LF: 1/2 x 1/4 inch Compression.

24947: 1/2 x 1/2 inch MIP.

Quarter-turn full-port brass ball valve. Chrome finish.

Compatible with PEX, copper, CPVC and PE-RT HDPE pipe.

* + - * 1. Tee Stop: Tap into 1/2 inch or 3/4 inch pipe and add a new line to a fixture or appliance.

24983: 1/2 x 1/2 x 1/4 inch Compression.

24984: 1/2 x 1/2 x 3/8 inch Compression.

24985: 3/4 x 3/4 x 1/4 inch Compression.

24986: 3/4 x 3/4 x 3/8 inch Compression.

24987: 1/2 x 1/2 x 1/4 inch (3/8 inch OD).

For adding supply lines to fixtures and appliances such as dishwashers, humidifiers, and ice makers. Sleek chrome finish.

Quarter-turn full-port brass ball valve. Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

* + - * 1. SharkBite Dual Outlet Angle Stop: Controls water flow to household plumbing fixtures. Allows two independent supply lines to be attached to one single stop valve.

25558LF: 1/2 inch Angle Stop x 3/8 inch x 3/8 inch OD Comp Dual Outlet Stop.

Quarter-turn full-port brass ball valve. Chrome finish.

Compatible with PEX, copper, CPVC and PE-RT HDPE pipe.

* + - * 1. SharkBite Dual Outlet Stop Valve Adapter: Convert single outlet into a dual outlet stop valve. For adding supply lines to faucets, dishwashers, ice makers and other appliances.

U3358LF: 1/4 inch (3/8 inch OD) x 1/4 inch (3/8 inch OD) x 3/8 inch Compression.

U4358LF: 1/4 inch (3/8 inch OD) x 1/4 inch (3/8 inch OD) x 1/4 inch (3/8 inch OD) Tube.

For pairing with Straight Stops or Angle Stops.

Compatible with 1/4 inch (3/8 inch OD) PEX pipe.

Certified to IGZ-157.

* + - * 1. SharkBite Dual Tee Stop Valve Adapter: For combining two stop valves to one stub-out. Pair with Straight Stops or Angle Stops to add shut-offs for fixtures and appliances.

U782LF: 1/2 inch CTS x 1/2 inch CTS x 1/2 inch (CTS ends insert into any 1/2 inch SB fitting). Chrome finish.

Compatible with PEX, copper, CPVC and PE-RT HDPE pipe.

* + - * 1. SharkBite Compression Adapter: Connect fixtures and appliances requiring a compression connection to a push-to-connect end that will work with 1/4 inch (3/8-inch OD) PEX pipe. Chrome finish.

U3523LF: 1/4 inch (3/8 inch OD) x 3/8 inch Compression Stop Valve Connector (Converts 3/8 inch comp stop to SharkBite).

U3524LF: 1/4 inch (3/8 inch OD) x 1/4 inch Compression Nut.

* + - * 1. SharkBite Faucet Connector: Kitchen and bath. 1/4 inch (3/8 inch OD) SharkBite push-to-connect end that connects with PEX pipe and a 1/2 inch female faucet connector.

U3525LF: 1/4 inch (3/8 inch OD) x 1/2 inch NPSM.

* + - * 1. Toilet Connector: 1/4 inch (3/8 inch OD) SharkBite push-to-connect end connects with PEX, copper, CPVC, PE-RT or HDPE pipe and a 7/8 inch toilet connector on other end.

U3531LF: 1/4 inch (3/8 inch OD) x 7/8 inch Ballcock Threads Toilet Connector.

U3537LF: 1/4 inch (3/8 inch OD) x 7/8 inch Ballcock Threads Toilet Elbow.

* + - * 1. SharkBite Click Seal Push-To-Connect Faucet Connector: One-piece design combines 1/2 inch push-to-connect Supply Stop with a hand tightened Click Seal faucet connector. An audible click ensures a secure connection and prevents over-tightening.

24657: 1/2 inch Angle Stop x 1/2 inch NPSM Click Seal Connector x 20 inch.

24687 1/2 inch Straight Stop x 1/2 inch NPSM Click Seal Connector x 30 inch.

Compatible with PEX, copper, CPVC, and PE-RT and HDPE pipe.

Standards Compliance: Certified and listed to ASSE 1061, NSF/ANSI 61, NSF/ANSI 14, NSF/ANSI 372, and by IAPMO, Certified for potable and hydronic heating water distribution. Meet UPC, IPC and NPC requirements.

* + - * 1. SharkBite Click Seal Push-To-Connect Toilet Connector: One-piece design combines 1/2 inch push-to-connect Supply Stop with a hand tightened Click Seal toilet connector. Provides audible click to ensure a secure connection and prevent over-tightening.

24656: 1/2 inch Angle Stop x 7/8 inch Ballcock Click Seal Connector x 12 inch.

24686: 1/2 inch Straight Stop x 7/8 inch Ballcock Click Seal Connector x 16 inch.

Compatible with PEX, copper, CPVC, and PE-RT and HDPE pipe.

Standards Compliance: Meet UPC, IPC and NPC requirements.

* + - * 1. SharkBite Brass Push Dual Shut-off Valve: Control flow of water to household plumbing fixtures and appliances.

SBDS123814: 1/2 inch x 3/8 inch Compression x 1/4 inch Compression.

SBDS123838: 1/2 inch x 3/8 inch Compression x 3/8 inch Compression.

Quarter-turn full-port brass ball valve. Chrome finish.

Compatible with PEX, copper, CPVC and PE-RT HDPE pipe.

Standards Compliance: : NPC, ASME A112.18.1, CSA B125.1.

* + - * 1. SharkBite Angle Stop with Brushed Nickel Finish: Control valve for plumbing fixtures and appliances.

23036LFBN: 1/2 inch SB x 3/8 inch Brushed Nickel Angle Stop

Control and shut off water flow to fixtures or appliances.

Brushed nickel finish for an attractive appearance.

Quarter-turn full-port brass ball valve.

Compatible with PEX, copper, CPVC and PE-RT HDPE pipe

Standards Compliance: : NPC, ASME A112.18.1 and CSA B125.1,

* + - 1. SharkBite Brass Push Water Heater Connectors:
				1. Stainless Steel Braided Flexible Water Heater Connector: Electric or gas water heater to water lines. Compatible with PEX, copper, CPVC and PE-RT pipe.

U3068FLEX12LF: 1/2 x 3/4 inch FIP, 12 inches.

U3068FLEX15LF: 1/2 x 3/4 inch FIP, 15 inches.

U3068FLEX18LF: 1/2 x 3/4 inch FIP, 18 inches.

U3068FLEX24LF: 1/2 x 3/4 inch FIP, 24 inches.

U3088FLEX12LF: 3/4 x 3/4 inch FIP, 12 inches.

U3088FLEX15LF: 3/4 x 3/4 inch FIP, 15 inches.

U3088FLEX18LF: 3/4 x 3/4 inch FIP, 18 inches.

U3088FLEX24LF: 3/4 x 3/4 inch FIP, 24 inches.

Tested and listed to ASME A112.18.6.

* + - * 1. SharkBite Stainless Steel Corrugated Flexible Water Heater Connector: Electric or gas water heater to water lines. Compatible with PEX, copper, CPVC and PE-RT pipe.

SS3088FLEX12LF: 3/4 x 3/4 inch FIP, 12 inches.

SS3088FLEX18LF: 3/4 x 3/4 inch FIP, 18 inches.

SS3088FLEX24LF: 3/4 x 3/4 inch FIP, 24 inches.

SS3086FLEX24LF: 3/4 x 1 inch FIP, 24 inches.

SS3094FLEX24LF: 1 x 1 inch FIP, 24 inches.

SS3096FLEX24LF: 1 x 3/4 inch FIP, 24 inches.

Tested and listed to ASME A112.18.6, NSF/ANSI 61, and NSF/ANSI 372.

* + - * 1. SharkBite Stainless Steel Braided Flexible Water Heater Connector with Ball Valve: Electric or gas water heater to water lines. Integrated shut-off ball valve.

U3068FLEX18BVLF: 1/2 x 3/4 inch FIP, 18 inches.

U3088FLEX18BVLF: 3/4 x 3/4 inch FIP, 18 inches.

Compatible with PEX, copper, CPVC and PE-RT pipe.

Tested and listed to ASME A112.18.6.

* + - * 1. SharkBite Stainless Steel Corrugated Flexible Water Heater Connector with Shut-Off Ball Valve: Connects electric and gas water heater to water lines.

SS3068FLEX18BV: 1/2 x 3/4 inch FIP, 18 inches.

SS3088FLEX18BV: 3/4 x 3/4 inch FIP, 18 inches.

Compatible with PEX, copper, CPVC and PE-RT pipe.

Tested and listed to ASME A112.18.6.

* + - 1. SharkBite Brass Push Outlet Boxes:
				1. Brass Push Ice Maker Outlet Box: Recessed box provides quick shut-off to water supply for a refrigerator ice maker or water dispensing appliance.

25096: 1/2 inch SB x 1/4 inch Compression.

25097: 1/2 inch SB x 1/4 inch Compression with Water Hammer Arrestor.

One-piece recessed box. Mounting tabs allow mounting to left or right of stud bay and do not require additional support framing.

Available with or without water hammer arrestors.

Quarter-turn water shut-off with 1/4 inch compression outlet.

Snap-on faceplate accommodates 3/4 inch drywall.

Compatible with PEX, copper, CPVC and PE-RT pipe.

Standards Compliance: Certified for potable and hydronic heating water distribution. Meet UPC, IPC and NPC requirements.

* + - * 1. SharkBite Brass Push Washing Machine Outlet Box: Recessed box provides quick shut-off to water supply for a washing machine.

25098: 1/2 inch SB x 3/4 inch MHT.

25099: 1/2 inch SB x 3/4 inch MHT with Water Hammer Arrestor.

One-piece recessed box. Mounting brackets allow box to be mounted to left, right or center of stud bay and do not require additional support framing. Left, right or center drain compatible.

Available with or without water hammer arrestors.

Quarter-turn shut-off with 3/4 inch washing machine hose outlet.

Snap-on faceplate accommodates up to 3/4 inch drywall.

Compatible with PEX, copper, CPVC and PE-RT pipe.

* + - 1. SharkBite Brass Push Manifolds:
				1. Multi-Port Tee: Multi-port tee with 1/2 inch outlets to supply multiple water lines. Reduces the risk of leaks by eliminating excess connection points.

25552LF: 3/4 inch x 1/2 inch Outlet 3-Port Manifold - Open.

25553LF: 3/4 inch x 1/2 inch Outlet 3-Port Manifold - Closed.

25554LF: 3/4 inch x 1/2 inch Outlet 4-Port Manifold - Open.

25555LF: 3/4 inch x 1/2 inch Outlet 4-Port Manifold - Closed.

Traditionally used in PEX systems, allows for easy connection into PEX, copper or CPVC systems. All manifolds have a 1 inch trunk with 3/4 inch push-to-connect inlets and 1/2 inch push-to-connect branches.

Compatible with PEX, copper and CPVC pipe.

* + - * 1. SharkBite Home Run Manifold with Brass Push Ball Valves: Central water hub with various outlet valves supplying multiple water lines. Reduces risk of leaks by eliminating excess connection points.

PM012SB: 12 Port - 3/4 inch Inlet 1/2 inch Outlet.

PM024SB: 24 Port - 3/4 inch Inlet 1/2 inch Outlet.

Allows for central control for all water lines throughout the home. Innovative push-to-connect design makes for quick and easy installation. Minimizes the risk of leaks by eliminating excess connection points. Designed for use in a PEX system.

Standards Compliance: Listed to ASTM F877 and CSA B137.5.

* + - 1. Brass Push Tools and Miscellaneous Products:
				1. SharkBite Temperature Gauge: Used to monitor water temperature in domestic potable water and radiant systems.

24437: 1/2 inch Temperature Gauge Tee.

24439: 3/4 inch Temperature Gauge Tee.

24441: 1 inch Temperature Gauge Tee.

24443: 1/2 inch CTS Temperature Gauge (inserts into any 1/2 inch SB fitting).

24445: 3/4 inch CTS Temperature Gauge (inserts into any 3/4 inch SB fitting).

Monitor temperatures in domestic potable water and radiant systems.

Gauges can be installed as a reusable or permanent device.

Compatible with PEX, copper, CPVC and PE-RT pipe.

Standards Compliance: Certified for potable and hydronic heating water distribution. Meet UPC, IPC and NPC requirements.

* + - * 1. SharkBite Pressure Gauge:

Used to monitor water pressure in domestic potable water and radiant systems.

24436: 1/2 inch Pressure Gauge Tee.

24438: 3/4 inch Pressure Gauge Tee.

24438A: 3/4 inch Pressure Gauge Tee in Clamshell Packaging.

24440: 1 inch Pressure Gauge Tee.

24442: 1/2 inch CTS Pressure Gauge (inserts into an 1/2 inch SB fitting).

24444: 3/4 inch CTS Pressure Gauge (inserts into any 3/4 inch SB fitting).

Monitor pressure in domestic potable water and radiant systems.

Gauges can be installed as a reusable or permanent device.

Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

Standards Compliance: Certified for potable and hydronic heating water distribution. Meet UPC, IPC and NPC requirements.

* + - * 1. SharkBite Disconnect Tongs: Allows for easy removal of SharkBite brass push-to-connect fitting from pipe.

U711: 1/2 inch.

U713: 3/4 inch.

U715: 1 inch.

Easy one-handed operation in tight spaces.

Compact design with wide grip handles.

One-handed operation.

Quick and easy disassembly.

Ideal for working in tight spaces.

Color coordinated by size.

Made of stainless steel for durability.

* + - * 1. SharkBite Disconnect Clip: Allows for easy removal of Universal brass push-to-connect fitting from pipe.

U706: 1/4 inch.

U708: 3/8 inch.

U710: 1/2 inch.

U3712: 5/8 inch.

U712: 3/4 inch.

U714: 1 inch.

UXLDC35: 1-1/4 inch.

Compact design to keep on-hand.

Lightweight and durable plastic construction.

Ideal for working in tight spaces.

* + - * 1. SharkBite PVC Disconnect Clip and Depth Gauge: Used to release a SharkBite PVC fitting from schedule 40, 80 or 120 PVC pipe. Doubles as a depth gauge.

UIP710: 1/2 inch.

UIP712: 3/4 inch.

UIP714: 1 inch.

Compatible with the white collar iron pipe-sized fittings. Also used to mark proper insertion depth on the PVC pipe to ensure a watertight connection.

Lightweight and durable plastic construction.

Quick and easy disassembly.

Ideal for working in tight spaces.

* + - * 1. SharkBite Deburr and Gauge Tool: Measures insertion depth for SharkBite Universal fittings and deburrs pipe.

U702: Use for 1/4 inch to 1 inch.

UXLG03: Use for 1-1/4 inch to 2 inches.

Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

Lightweight and durable plastic construction.

* + - * 1. SharkBite Stiffener: Inserts inside 1-1/4 inch to 2 inch SharkBite Universal fittings. Required for use with PEX, PE-RT and HDPE pipe.

SBTL35: 1-1/4 inch.

SBTL41: 1-1/2 inch.

SBTL54: 2 inches.

* + - * 1. SharkBite Silicone Wrap: A non-adhesive, self-fusing silicone tape that protects brass fittings from contaminants that can be found in ground conditions. Required when burying SharkBite brass fittings underground. Underground burial of SharkBite brass fittings requires fitting be wrapped in impermeable material to protect the connection from ground contaminants.

25406: 10 ft. x 2 inch.

Stretches up to 300 percent for easy use and creates a watertight and airtight seal.

Creates a watertight and airtight seal by bonding to itself within minutes.

Conforms easily to any surface.

Resists UV, oil, salt, and corrosive chemicals.

Has a working temperature of minus 65 degrees F to more than 500 degrees F (minus 54 to 260 degrees C).

Comes in 10 ft. long rolls.

* + - 1. SharkBite Brass Push Copper Stub-Out: Stub-Out Elbow used during rough-in plumbing phase to enable a fixture to be installed after the drywall is completed and painted.
				1. U351LFA: 1/2 inch SB x 1/2 inch Copper Tube 8 inch Length.
				2. Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.
			2. SharkBite Transition Fittings:
				1. Brass Push Coupling: Connect two pieces of pipe together. Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

U004LF: 1/4 inch (3/8 inch OD) x 1/4 inch (3/8 inch OD).

U006LF: 3/8 inch (1/2 inch OD) x 3/8 inch (1/2 inch OD).

U008LF: 1/2 x 1/2 inch.

U016LF: 3/4 x 3/4 inch.

U020LF: 1 x 1 inch.

UXL0135: 1-1/4 x 1-1/4 inch (PEX applications, stiffeners sold separately).

UXL0141: 1-1/2 x 1-1/2 inch (PEX applications, stiffeners sold separately).

UXL0154: 2 x 2 inch (PEX applications, stiffeners sold separately)

Standards Compliance: SharkBite PTC Fittings certified for potable and hydronic heating water distribution. Meet UPC, IPC and NPC requirements.

Fittings, 1-1/4 inch to 2 inches, require stiffeners when connecting to PEX.

* + - * 1. SharkBite PVC Transition Coupling: Used to transition from schedule 40, 80 or 120 PVC pipe to PEX, copper, CPVC, PE-RT or HDPE pipe without special tools or glue.

UIP4008: 1/2 inch CTS x 1/2 inch PVC.

UIP4016: 3/4 inch CTS x 3/4 inch PVC.

UIP4020: 1 inch CTS x 1 inch PVC.

Standards Compliance: SharkBite PTC Fittings for potable and hydronic heating water distribution. Meet UPC, IPC and NPC requirements.

Color-coordinated collars on to identify which side goes with which pipe.

* + - * 1. SharkBite Brass Push Ball Valve: Used to shut-off water flow for servicing and making repairs. Compatible with PEX copper, CPVC, PE-RT and HDPE pipe.

22222-0000LF: 1/2 x 1/2 inch.

22185-0000LF: 3/4 x 3/4 inch.

22223-0000LF: 1 x 1 inch.

UXLBV35: 1-1/4 x 1-1/4 inch.

UXLBV41: 1-1/2 x 1-1/2 inch.

UXLBV54: 2 x 2 inch.

Standards Compliance: Certified to IGZ-157.

* + - * 1. SharkBite PVC Transition Slip Tee: Allows a water line to be transitioned from schedule 40, 80 or 120 PVC pipe to PEX, copper, CPVC, PE-RT or HDPE pipe without needing any special tools or glue. Commonly used for adding new water lines.

UIP363: 1/2 inch CTS Slip x 1/2 inch CTS x 1/2 inch PVC.

UIP364: 1/2 inch PVC Slip x 1/2 inch PVC x 1/2 inch CTS.

UIP371: 3/4 inch CTS Slip x 3/4 inch CTS x 3/4 inch PVC.

UIP372: 3/4 inch PVC Slip x 3/4 inch PVC x 3/4 inch CTS.

UIP375: 1 inch CTS Slip x 1 inch CTS x 1 inch PVC.

UIP376: 1 inch PVC Slip x 1 inch PVC x 1 inch CTS.

Can be rotated after assembly for easier and faster installation.

* + - * 1. SharkBite Brass Push Polybutylene Transition 90 degrees Elbow: Make a quick 90 degrees transition from polybutylene to a different pipe type.

U4248LF: 1/2 inch PB x 1/2 inch CTS.

U4256LF: 3/4 inch PB x 3/4 inch CTS.

Color-coordinated collars identify which side goes with which pipe.

Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

* + - * 1. SharkBite Brass Push Reducing Tee: Used to join different size pipe together.

U364LF: 3/8 inch (1/2 inch OD) x 3/8 inch (1/2 inch OD) x 1/2 inch.

U359LF: 1/2 x 1/2 inch x 1/4 inch (3/8 inch OD).

U363LF: 1/2 x 1/2 inch x 3/8 inch (1/2 inch OD).

U454LF: 3/4 x 1/2 inch x 1/2 inch.

U412LF: 3/4 x 3/4 inch x 1/2 inch.

U444LF: 3/4 x 1/2 inch x 3/4 inch.

U416LF: 1 x 1 inch x 3/4 inch.

Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe; any combination.

Fittings, 1-1/4 to 2 inches, require Stiffeners when connecting to PEX pipe.

* + - * 1. SharkBite Brass Push Reducing Coupling: Used to connect two different sizes of pipe. Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe.

U050LF: 1/4 inch (3/8 inch OD) x 1/2 inch.

U009LF: 3/8 inch (1/2 inch OD) x 1/2 inch.

U058LF: 3/4 x 1/2 inch.

U060LF: 1 x 3/4 inch.

UXL013528: 1-1/4 x 1 inch (PEX applications, stiffeners sold separately)

UXL014128: 1-1/2 x 1 inch (PEX applications, stiffeners sold separately)

UXL014135: 1-1/2 x 1-1/4 inch (PEX applications, stiffeners sold separately).

Connect two pieces of different sized PEX, copper, CPVC, PE-RT and / or HDPE pipe in any combination.

Fittings, 1-1/4 to 2 inches, require stiffeners when connecting to PEX pipe.

* + - * 1. Brass Push Cross Tee: Push-to-connect design for joining two different pipe sizes. Compatible with PEX, copper, CPVC, PE-RT and HDPE pipe in any combination.

U380LF: 3/4 x 3/4 x 1/2 x 1/2 inch.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. PRESSURE REGULATING VALVES
		1. Model Cash Acme EB45-DSB Sharkbite: Valve Sizes: 1/2, 3/4, and 1 inch. Used on copper tubing, and CTS CPVC and PEX. Back-pass check mechanism integral with the cartridge.
			1. Reduces high supplies of incoming water pressure. An inbuilt back-pass check. Integral SharkBite push-to-connect ends.
			2. Standards Compliance:
				1. ASSE 1003, 1061, CSA B356, and listed by CSA, ASSE and IAPMO), NSF/ANSI 61 and NSF/ANSI 372.
				2. SharkBite push-fit fittings: ASSE 1061 and NSF/ANSI 61, listed by CSA and IAPMO. For potable water distribution.
			3. Service: Potable Water.
			4. Performance:
				1. Maximum Pressure: 200 psi (1379 kPa).
				2. Maximum Temperature: 180 degrees F (93 degrees C).
				3. Outlet Pressure Range: 10 to 70 psi (69 to 482 kPa).
			5. EB45-DSB Valve Materials:
				1. Body: Lead Free Bronze. Body; 1 inch only: Lead Free DZR Brass.
				2. Spring Chamber: 1/2 and 3/4 inch Models: Reinforced Polymer or Iron.
				3. Spring Chamber 1 inch Model: Iron.
				4. Adjustable Spring and Pressure Plate: Zinc plated Steel.
				5. Diaphragm: Reinforced EPDM.
				6. Body Seat, 1/2 and 3/4 inch Models: Polyphenylene Ether plus PS.
				7. Body Seat, 1 inch Model: Polysulfone.
				8. Seat Disc: EPDM.
				9. Piston: Stainless/ Brass.
				10. Strainer Screen: Stainless Steel.
				11. O-Ring: EPDM.
		2. Model Cash Acme Type EB45: Valve Size: 1/2, 3/4, 1, 1-1/4, 1-1/2, and 2 inches. Reduces high supplies of incoming water pressure.
			1. Standards Compliance:
				1. Certified to ASSE 1003 and CSA B356., Listed by CSA, ASSE and IAPMO).
				2. Compliant with NSF/ANSI 61 and NSF/ANSI 372.
			2. Performance: Potable water,
				1. Maximum Temperature: 180 degrees F (water)
				2. Maximum Inlet Pressure:

Pipe Size: 1/2, 3/4, and1 inch: 400 psi (5758 kPa).

Pipe Size: 1-1/4, 1-1/2, and 2 inches: 300 psi (2068 kPa).

* + - * 1. Outlet Pressure Range: 10 to 70 psi (69 to 482 kPa).
			1. Materials:
				1. Body: Lead Free Bronze.
				2. Spring Chamber: 1/2 and 3/4 Models: Reinforced Engineered Polymer or Iron.
				3. Spring Chamber: 1 through 2 inch Models: Iron.
				4. Adjusting Spring: Zinc plated steel.
				5. Diaphragm: Reinforced EPDM.
				6. Body Seat 1/2 and 3/4 Models: Polyphenylene Ether plus PS.
				7. Body Seat 1 through 2 inch Models: Polysulfone.
				8. Seat Disc: EPDM.
				9. Piston: Stainless Steel/Brass.
				10. Strainer Screen: Stainless steel.
				11. O-ring: EPDM.
			2. Available Connections: EB45 models include both FIP and union connection threading on both ends.
				1. Threaded (NPT) Inlet and Outlet: 1/2, 3/4, 1, 1-1/4, 1-1/2, and 2 inches.
				2. Threaded (NPT) Union: 1/2, 3/4, 1, 1-1/4, 1-1/2, and 2 inches.
				3. Sweat Copper Union, Threaded (NPT): 1/2, 3/4, 1, 1-1/4, 1-1/2, and 2 inches.
				4. Threaded (NPT) Union Inlet and Outlet: 1/2, 3/4, 1, 1-1/4, 1-1/2, and 2 inches.
				5. Sweat Copper Union Inlet and Outlet: 1/2, 3/4, 1, 1-1/4, 1-1/2, and 2 inches.
				6. CPVC Union Inlet and Outlet: 3/4 and 1 inch.
				7. PEX Barb Union Inlet and Outlet: 3/4 and 1 inch.
				8. Union SharkBite Inlet and Outlet: 1/2, 3/4 and 1 inch.
				9. Direct SharkBite Inlet and Outlet: 1/2, 3/4 and 1, 1-1/4 inch.
				10. Direct SharkBite Inlet and Outlet with Slip Feature: 1/2 and 3/4 inch.
				11. Model 3/4 and 1 inch are also available with a pressure gauge.
		1. Model Cash Acme EB-25 Double Union SharkBite: Pipe Sizes: 3/4 and 1 inch. Reduces high supplies of incoming water pressure. A single piece cartridge with a pre-set numerical indicator and micro-fingers for noise dissipation.
			1. Instant push-fit connection for increased ease of use.
			2. Orange twist-cap eliminates need for wrench adjustment, numerical indicator shows the pressure without the need for a gauge.
			3. Single piece cartridges can be removed with valve body remaining in place.
			4. Integral back pass check with the cartridge.
			5. Cutting edge design and production incorporates "micro-fingers" that dissipate noise due to water flow across the seat.
			6. Available with a blanking cap for "rough-in" installations.
			7. Optional closing cap for direct burial applications.
			8. Standards Compliance:
				1. Certified to ASSE 1003 and CSA B356. Listed by CSA, ASSE and IAPMO.
				2. Compliant with NSF/ANSI 61 and NSF/ANSI 372. Certified for potable water distribution.
			9. Performance:
				1. Outlet Pressure Range: 20 to 90 psi (138 to 620 kPa).
				2. Maximum Temperature: 180 degrees F (82 degrees C).
				3. Maximum Inlet Pressure: 200 psi (1379 kPa).
			10. Materials
				1. Body: Stainless Steel.
				2. SharkBite O-Ring: EPDM.
				3. SharkBite Grab Ring: Stainless steel.
				4. SharkBite Tube Support Liner: Polysulfone.
				5. Spring Chamber: Nylon.
				6. Adjusting Spring: Zinc plated steel.
				7. Pressure Plate: Zinc plated steel.
				8. Diaphragm: EPDM.
				9. Body Seat: Polysulfone.
				10. Seat Disc: EPDM.
				11. Piston: Stainless Steel.
				12. Strainer Screen: Stainless Steel.
		2. Model Cash Acme EB-25. Pipe Sizes: 1/2, 3/4, 1, 1-1/4, 1-1/2, and 2 inch. Reduces high supplies of incoming water pressure. A single piece cartridge with a pre-set numerical indicator and micro-fingers for noise dissipation.
			1. Instant push-fit connection for increased ease of use.
			2. Orange twist-cap eliminates need for wrench adjustment, numerical indicator shows the pressure without the need for a gauge.
			3. Single piece cartridges can be removed with valve body remaining in place.
			4. Integral back pass check with the cartridge.
			5. Cutting edge design and production incorporates "micro-fingers" that dissipate noise due to water flow across the seat.
			6. Available with a blanking cap for "rough-in" installations.
			7. Optional closing cap for direct burial applications.
			8. Standards Compliance:
				1. Certified to ASSE 1003 and CSA B356. Listed by CSA, ASSE and IAPMO ().
				2. Compliant with NSF/ANSI 372. Certified for potable water distribution.
			9. Performance:
				1. Outlet Pressure Range: 20 to 90 psi (138 to 620 kPa).
				2. Maximum Temperature: 180 degrees F (82 degrees C).
				3. Maximum Inlet Pressure: 200 psi (1379 kPa).
			10. Materials:
				1. Body: Lead free bronze or Stainless Steel.
				2. Spring Chamber: Nylon.
				3. Adjusting Spring: Zinc plated steel.
				4. Pressure Plate: Zinc plated steel.
				5. Diaphragm: EPDM.
				6. Body Seat: Polysulfone.
				7. Seat Disc: EPDM.
				8. Piston: Stainless Steel.
				9. Strainer Screen: Stainless Steel.
			11. Available Connections:
				1. Threaded (NPT) Inlet and Outlet: 3/4 and 1 inch.
				2. Threaded (NPT) Union, Threaded (NPT): 1/2, 3/4, 1, 1-1/4, 1-1/2, and 2 inches.
				3. Sweat Copper Union, Threaded (NPT): 1/2, 3/4, 1, 1-1/4, 1-1/2, and 2 inches.
				4. Threaded (NPT) Union Inlet and Outlet: 3/4, 1, 1-1/4, 1-1/2, and 2 inches.
				5. Sweat Copper Union Inlet and Outlet: 3/4, 1, 1-1/4, 1-1/2, and 2 inches.
				6. PEX Barb Union Inlet and Outlet: 3/4 and 1 inch.
				7. Union SharkBite Connection Inlet and Outlet: 3/4 and 1 inch.
		3. Model Cash Acme EB-25 Stainless Steel: Pipe Sizes: 3/4 and 1 inch. Reduces high supplies of incoming water pressure. A single piece cartridge with a pre-set numerical indicator and micro-fingers for noise dissipation.
			1. Instant push-fit connection for increased ease of use.
			2. Orange twist-cap eliminates need for wrench adjustment, numerical indicator shows the pressure without the need for a gauge.
			3. Single piece cartridges can be removed with valve body remaining in place.
			4. Integral back pass check with the cartridge.
			5. Cutting edge design and production incorporates "micro-fingers" that dissipate noise due to water flow across the seat.
			6. Available with a blanking cap for "rough-in" installations.
			7. Standards Compliance:
				1. Certified to ASSE 1003 and CSA B356. Listed by CSA, ASSE and IAPMO.
				2. Compliant with NSF/ANSI 372. Certified for potable water distribution.
			8. Performance:
				1. Outlet Pressure Range: 20 to 90 psi (138 to 620 kPa).
				2. Maximum Temperature: 180 degrees F (82 degrees C).
				3. Maximum Inlet Pressure: 300 psi (2068 kPa).
			9. Materials:
				1. Body: Lead free bronze or Stainless Steel.
				2. Spring Chamber: Nylon.
				3. Adjusting Spring: Zinc plated steel.
				4. Pressure Plate: Zinc plated steel.
				5. Diaphragm: EPDM.
				6. Body Seat: Polysulfone.
				7. Seat Disc: EPDM.
				8. Piston: Stainless Steel.
				9. Strainer Screen: Stainless Steel.
			10. Available connections:
				1. Threaded (NPT) Inlet and Outlet: 3/4 and 1 inch.
				2. Threaded (NPT) Union Inlet and Outlet: 3/4 and 1 inch.
		4. Model Cash Acme E3: Pipe Sizes: 1/2, 3/4, 1, 1-1/4, 1-1/2 and 2 inches. Reduce high supplies of incoming water pressure. Separate cleanout plug houses a Stainless Steel or Monel strainer screen. A yoke-type design with a buna seat disc and a stainless steel body seat.
			1. Automatically reduces a high inlet pressure to a lower delivery pressure.
			2. Every valve is tested for performance prior to shipping:
			3. Solves water hammer, pipe noise and rapid wearing of fixtures, faucets, and valves:
			4. Standards Compliance: Certified to ASSE 1003 and NSF/ANSI 372. Listed by ASSE and IAPMO (UPC).
			5. Performance: Air and water.
				1. Outlet Pressure Range: 20 to 70 psi (138 to 483 kPa).
				2. Maximum Temperature: 180 degrees F (82 degrees C).
				3. Maximum Working Pressure: 300 psi (2068 kPa).
			6. Materials:
				1. Spring Chamber:

Models 1/2 and 3/4: Iron.

Models 1 through 2 inches: Aluminum.

* + - * 1. Adjustment Spring: Zinc plated steel.
				2. Body: Bronze.
				3. Diaphragm: EP/Nylon.
				4. Body Seat: Stainless steel.
				5. Seat Disc: Buna-N.
				6. Piston: Bronze.
				7. Piston Spring: Stainless Steel.
				8. Strainer Screen: Stainless steel or Monel.
				9. Cleanout Plug: Bronze.
			1. Available Connections: Threaded (NPT): 1/2, 3/4, 1, 1-1/4, 1-1/2 and 2 inches.
		1. Model Cash Acme E41: Pipe Sizes: 1/2, 3/4, 1, 1-1/4, 1-1/2 and 2 inches. Delivers water at a controlled pressure. Yoke-type design with a Buna seat disc and a stainless steel body seat.
			1. Standards Compliance: Certified to ASSE 1003 and NSF/ANSI 372 and is listed by ASSE.
			2. Inbuilt back-pass check.
			3. Fully pressure-balanced piston.
			4. Performance:
				1. Outlet Pressure Range: 20 to 70 psi (138 to 483 kPa).
				2. Maximum Temperature: 180 degrees F (82 degrees C).
				3. Maximum Working Pressure: 300 psi (2068 kPa).
				4. Service: Air and water.
			5. Materials:
				1. Spring Chamber:
				2. Models 1/2 and 3/4: Iron.
				3. Models 1 through 2 inches: Aluminum.
				4. Adjustment Spring: Zinc plated steel.
				5. Body: Bronze
				6. Diaphragm: EP/Nylon.
				7. Body Seat: Stainless steel.
				8. Diaphragm: Reinforced EPDM.
				9. Adjusting Spring: Zinc plated steel.
			6. Available Connections: Threaded (NPT): 1/2 and 3/4 inches.
		2. Model Cash Acme EB75: Pipe Sizes: 1/2 and 3/4 inches. A compact, iron-body for installations where small size and economy are important, and where local codes allow use of iron body regulators for water service.
			1. Inbuilt back-pass check.
			2. Fully pressure-balanced piston.
			3. Performance:
				1. Outlet Pressure Range: 0-70 psi (0 to 483 kPa.
				2. Maximum Temperature: 180 degrees F(82 degrees C).
				3. Maximum Working Pressure: 300 psi (2068 kPa)
				4. Service: Water.
			4. Materials:
				1. Body: Iron.
				2. Spring Chamber: Iron.
				3. Body Seat: Polysulphone.
				4. Diaphragm: Reinforced EPDM.
				5. Adjusting Spring: Zinc plated steel.
			5. Available Connections: Threaded (NPT): 1/2 and 3/4 inches.
		3. Model Cash Acme E56: Pipe Sizes: 2, 2-1/2, and 3 inch. Delivers air or water light oils and gases (except steam) at a controlled pressure. High capacity. Spring opposed, balanced piston with a stainless steel seat ring.
			1. Performance:
				1. Outlet Pressure Ranges: 15 to 50 psi (103 to 345 kPa), 40 to 60 psi (276 to 414 kPa), 50 to 110 psi (345 to 758 kPa), and 80 to 125 psi (552 to 862 kPa).
				2. Maximum Temperature: 180 degrees F(82 degrees C).
				3. Maximum Initial Pressure: 400 psi (2758 kPA) threaded, 225 psi (1551 kPA) 150 lbs ANSI flanged.
			2. Materials:
				1. Body: Lead-Free Bronze.
				2. Spring Chamber: Bronze.
				3. Piston: Lead-Free Bronze.
				4. Seat Ring: Stainless steel.
				5. Seat Disc: Buna-N.
				6. Adjusting Spring: Steel.
				7. Wiper Felt: Felt.
				8. O-Rings: Buna-N.
				9. Bottom Cap: Lead-Free Bronze.
			3. Available Connections:
				1. Threaded (NPT): 2, 2-1/2 and 3 inches.
				2. 150 lbs MSS Flanges: 2, 2-1/2 and 3 inches.
		4. Model Cash Acme EB45 Double union Temporary Bypass Kits: Pipe Sizes: 1 and 1-1/4. Used as temporary bypass, for installing an EB-45 Cash Acme Pressure Reducing Valve. Used to test system for leaks, pressure loss, and flush system of trash, dirt and debris protecting the valve from possible damage.
			1. Various double union end connections/
			2. Connect to CTS CPVC, copper and PEX pipe.
			3. Built in stainless steel strainer screen.
			4. Performance:
				1. Maximum Pressure: 400 psi (2758 kPa).
				2. Maximum Temperature (w/Tee): 180 degrees F (82 degrees C).
				3. Service: Potable water.
			5. Test Tube Materials:
				1. Body: CPVC.
				2. Face Seal: EPDM.
				3. Strainer Screen: Stainless steel.
				4. Coupling Nut: Brass.
				5. Tail Piece: Brass (Sweat and NPT threaded).
			6. Connections:
				1. Lead Free NPT Threaded connections.
				2. Lead Free Sweat Connections: 1 inch.
				3. Lead Free NPT Threaded Connections: 1-1/4 inch.
				4. Lead Free Sweat Connections: 1-1/4 inch.
		5. Model Cash Acme EB25 Plus: Pipe Sizes: 2-1/2, 3, and 4 inches. Flanged connections. Eliminates need for multivalve installation such as high-low valves installed in parallel to meet varying flow requirements or multi-valves installed in series to reduce high inlet pressures to desired line pressure. A lead-free for commercial and institutional water installations experiencing wide variation in water demand or where there are high inlet pressures. Factory set at 55 psi (379 kPa).
			1. Single piece cartridge can be removed with valve body remaining in place.
			2. Regulate minimum to maximum flow effectively with one valve.
				1. Coaxial double spring design eliminates need for high flow- low flow (1/3 - 2/3) valve arrangement with a single valve.
			3. Integral back-pass with the cartridge.
			4. Incorporates "micro-fingers" that dissipate noise due to water flow across the seat.
			5. Available with a blanking cap for "rough-in" installations.
			6. Standards Compliance:
				1. Certified to ASSE 1003, CSA B356, NSF/ANSI 372, and NSF/ANSI/CAN 61 standards.
				2. Listed with CSA and IAPMO and meets all requirements in National Plumbing Code of Canada, Uniform Plumbing Code, and the International Plumbing Code.
			7. Performance: Potable water service.
				1. Adjustable Outlet Pressure Range: 30 to 85 psi (207 to 586).
				2. Factory Set Pressure: 55 psi (379 kPa).
				3. Maximum Inlet pressure: 300 psi (1600 kPa).
				4. Maximum Operating Pressure: 149 degrees F.
			8. Materials:
				1. Body: Lead free dezincification resistant bronze.
				2. Strainer: Stainless steel integral strainer.
				3. Spring: Stainless steel spring.
				4. Seats and Diaphragm: High temperature rated aging resistant elastomer (EPDM).
			9. Available Connections: Flange Inlet (DIN) x Outlet (DIN): 2-1/2, 3, and 4 inches.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. VALVES THERMOSTATIC MIXING
		1. Cash Acme Tank Booster Pro: Temperature Actuated Mixing Valve. Installed at water heater to distribute tempered water throughout the domestic hot water system at a temperature of 120 degrees F (49 degrees C). Control delivered water temperature via a regulating piston.
			1. Precise temperature control:
			2. Allows the water heater to be set at 140 degrees F (60 degrees C) or higher:
			3. Adjustable and lockable mechanism:
			4. Factory set at 120 degrees F (49 degrees C).
			5. Integral recirculation port.
			6. Standards Compliance:
				1. Certified to ASSE 1017, ASSE 1070/ASME A112.1070/CSA B125.70, CSA B125.3, NSF/ANSI 61, and NSF/ANSI 372.
				2. Listed by IAPMO and ASSE for use in U.S. and Canada.
			7. Performance:
				1. Operating temperature range: 90 to 130 degrees F (32 to 55 degrees C).
				2. Factory set temperature range: 115 to 120 degrees F (46 to 48.9 degrees C).
				3. Hot temperature supply range: 120 to 180 degrees F (48.9 to 82.2 degrees C).
				4. Cold temperature supply range: 39 to 80 degrees F (5 to 27 degrees C).
				5. Maximum supply pressure: 150 psi (1030 kPa).
				6. Flow rate, minimum: 1 gpm (4 lpm).
			8. Materials:
				1. Body: DZR Brass.
				2. Seals: EPDM.
				3. Springs: Stainless Steel.
				4. Internal Cap: Brass.
				5. Piston: Engineered Polymer.
			9. Available Connections: 3/4 MNPT mix outlet x 3/4 FNPT union fitting x 3/4 NPSH cold inlet.
		2. Cash Acme Heatguard HG110 D LF: A Temperature Actuated Mixing Valve. A single point-of-use fixture or at the water heater to distribute tempered water throughout the domestic hot water system at a maximum temperature of 120 degrees F (49 degrees C). Temperature Actuated Mixing Valve controls the delivered water temperature via a regulating piston made from engineered polymer. The adjusting mechanism is be protected by a lockable cover. The valve shall be a Cash Acme Heatguard 110-D LF.
			1. Certified for distribution and point-of-use applications.
			2. Allows the water heater to be set at 140 degrees F (60 degrees C) or higher.
			3. Standards Compliance:
				1. Certified to ASSE 1017, ASSE 1069, ASSE 1070/ASME A112.1070/CSA B125.70, CSA B125.3, NSF 372, NSF/ANSI 61.
				2. Listed by IAPMO, CSA, and ASSE for use in accordance with U.S and Canadian plumbing codes.
			4. Performance: Potable water.
				1. Outlet temperature range: 85 to 130 degrees F (29 to 54 degrees C).
				2. Factory set and locked: 120 degrees F (49 degrees C).
				3. Temp. hot supply: 120 to 180 degrees F (48.9 to 82.2 degrees C).
				4. Temp. cold supply: 39 to 80 degrees F (3.9 to 26.7 degrees C).
				5. Maximum Pressure: 230 psi (1600 kPa).
				6. Flow rate, minimum: 1 gpm (3.8 L/min).
				7. Flow rate, maximum: 20 gpm (76 L/min).
			5. Materials:
				1. Body: DZR Brass.
				2. Seals: EPDM.
				3. Springs: Stainless Steel.
				4. Internal cap: Brass.
				5. Piston: Engineered Polymer.
			6. Available Connections:
			7. Sweat: 1/2, 3/4 and 1 inch.
			8. Barb (PEX): 1/2 and 3/4 inch.
			9. Threaded (NPT): 1/2 and 3/4 inch.
			10. CPVC: 1/2 and 3/4 inch.
			11. SharkBite: 1/2 and 3/4 inch.
		3. Cash Acme Heatguard HG160 LF: Temperature Actuated Mixing Valve installed to individual fixtures such as sinks, lavatories, or bathtubs; or multiple fixtures such as gang shower applications where bather has no access to temperature adjustment means. Reduces risk of scalding and thermal shock. Controls and delivers water temperature via a regulating piston. A special tool adjusts outlet temperature. Adjusting mechanism is hidden by a snap-on cover.
			1. Accurate temperature control, under varying supply conditions.
			2. Total flow shut-off if cold supply fails.
			3. Standards Compliance:
				1. Certified to ASSE 1017, ASSE 1069, ASSE 1070/ASME A112.1070/CSA B125.70, CSA B125.3, NSF 372, NSF/ANSI 61,
				2. Listed by ASSE, CSA, and IAPMO for use in accordance with U.S. and Canadian plumbing codes.
			4. Performance:
				1. Adj. outlet temperature range: 95 to 120 degrees F (35 to 48.9 degrees C).
				2. Factory set temperature range: 115 to 120 degrees F (46.1 to 48.9 degrees C).
				3. Temp. hot supply: 120 to 180 degrees F (48.9 to 82.2 degrees C).
				4. Temp. cold supply: 39 to 80 degrees F (3.9 to 26.7 degrees C).
				5. Maximum Pressure: 145 psi (1000 kPa).
				6. Flow rate, minimum: 0.34 gpm (1.3 L/min).
				7. Flow rate, maximum: 11 gpm (42 L/min).
			5. Materials:
				1. Body: DZR Brass.
				2. Seals: EPDM.
				3. Springs: Stainless Steel.
				4. Internal cap: Brass.
				5. Piston: Engineered Polymer.
			6. Available Connections:
				1. Sweat: 1/2 inch
				2. Barb (PEX): 1/2 and 3/4 inch
				3. Threaded (NPT): 1/2 and 1 inch
				4. CPVC: 1/2 and 3/4 inch
				5. SharkBite: 1/2 and 3/4 inch
		4. Cash Acme HG145 LF: A Temperature Actuated Mixing Valve installed at single point-of-use fixture to deliver hot water at a controlled temperature. Controls delivered water temperature via a regulating piston made from engineered polymer. Should have check valves at both inlets to prevent cross flow from hot to cold. Adjusting mechanism is protected by a snap-on cover.
			1. Compact design and included mounting bracket.
			2. Accurate temperature control with flows as low as 0.34 gpm (1.3 L/min).
			3. Serviceable inlet strainer screens included.
			4. Robust, low complexity construction and total flow shut-off if cold supply fails.
			5. Standards Compliance:
				1. Certified to ASSE 1070/ASME A112.1070/CSA B125.70, CSA B125.3, NSF 372, NSF/ANSI 61.
				2. Listed by ASSE, CSA, and IAPMO for use in accordance with U.S. and Canadian plumbing codes.
			6. Performance:
				1. Adj. outlet temperature range: 95 to 118 degrees F (35 to 48 degrees C).
				2. Factory set temperature range: 104 to 110 degrees F (40 to 43.3 degrees C).
				3. Temp. hot supply: 120 to 194 degrees F (48.9 to 90 degrees C).
				4. Temp. cold supply: 39 to 85 degrees F (3.9 to 30 degrees C).
				5. Maximum Pressure: 230 psi (1600 kPa).
				6. Flow rate, minimum: 0.34 gpm (1.3 L/min).
				7. Flow rate, maximum at 45 psi: 5.8 gpm (22 L/min).
			7. Materials:
				1. Body: DZR Brass.
				2. Springs: Stainless Steel.
				3. Internal cap: Brass.
				4. Piston: Engineered Polymer.
				5. Inlet Strainer Screens: Stainless Steel.
			8. Available Connections:
				1. Compression: Suitable for 3/8 inch OD tube. Also available with cold water bypass and elbow insert fittings.
		5. Cash Acme Heatguard HG110-HX LF: A Temperature Actuated Mixing Valve installed in conjunction with the water heating source to distribute tempered water to the system. Controls delivered water temperature via a regulating piston made from engineered polymer. Adjusting mechanism is an adjuster tool to minimize unauthorized tampering with valve.
			1. High flow rate design for lower pressure losses within the system.
			2. Integral union connections on all three ports:
			3. Standards Compliance:
				1. Certified to ASSE 1017, CSA B125.3, NSF 372, NSF/ANSI 61
				2. Listed by ASSE and IAPMO for use in accordance with U.S. and Canadian plumbing codes.
			4. Performance:
				1. Adj. outlet temperature range: 85 to 176 degrees F (29 to 80 degrees C).
				2. Factory set outlet temperature range: 115 to 120 degrees F (46 to 49 degrees C).
				3. Temp. hot supply: 120 to 180 degrees F (48.9 to 82.2 degrees C).
				4. Temp. cold supply: 39 to 80 degrees F (3.9 to 26.7 degrees C).
				5. Maximum Pressure: 230 psi (1600 kPa).
				6. Flow rate, minimum: 1 gpm (3.8 L/min).
				7. Flow rate, maximum: 20 gpm (76 L/min).
			5. Materials:
				1. Body: DZR Brass.
				2. Seals: EPDM.
				3. Springs: Stainless Steel.
				4. Internal cap: Brass.
				5. Piston: Engineered Polymer.
			6. Available Connections:
				1. Sweat: 1/2, 3/4, and 1 inch.
				2. Threaded (NPT): 1/2 and 3/4 inch.
		6. Cash Acme HG115 LF: A Temperature Actuated Mixing Valve installed at water heater to distribute tempered water throughout the domestic hot water system at a maximum of 120 degrees F (49 degrees C). Controls the delivered water temperature via a regulating piston made from engineered polymer.
			1. Allows the heater to be set at 140 degrees F (60 degrees C) or higher.
			2. Large sized valve with high flow rates.
			3. Integral union connections on all three ports.
			4. Standards Compliance:
				1. Certified to ASSE 1017, CSA B125.3, NSF 372, NSF/ANSI 61.
				2. Listed by ASSE and IAPMO for use in accordance with U.S. and Canadian plumbing codes.
			5. Performance:
				1. Adj. outlet temperature range: 85 to 176 degrees F (29 to 80 degrees C).
				2. Temp. hot supply: 120 to 180 degrees F (48.9 to 82.2 degrees C).
				3. Temp. cold supply: 39 to 80 degrees F (3.9 to 26.7 degrees C).
				4. Maximum Pressure: 230 psi (1600 kPa).
				5. Flow rate, minimum: 2.5 gpm (9.5 L/min).
				6. Flow rate, maximum: 27.2 gpm (100 L/min).
			6. Materials:
				1. Body: DZR Brass.
				2. Seals: EPDM.
				3. Springs: Stainless Steel.
				4. Internal cap: Brass.
				5. Piston: Engineered Polymer.
			7. Available Connections:
				1. Sweat: 3/4, 1 and 1-1/4 inch.
				2. Threaded (NPT): 3/4 and 1 inch.
		7. Cash Acme Heatguard Temperature Actuated Flow Reducer (TAFR): Help protect against scalding. A thermostatic device reducing water flow through the fixture to 0.25 gpm if water temperature exceeds 117 degrees F (47 degrees C).
			1. Conforms to international safety standards.
			2. Made from lead free brass with a chrome finish.
			3. Standards Compliance:
				1. Certified to ASSE 1062, CSA B125.3 and NSF/ANSI 61.
				2. Listed by ASSE and IAPMO.
			4. ShowerSafe Device Performance:
				1. Hot water supply temperature: 185 degrees F (85 degrees C) max.
				2. Max. flow rate: 4.0 gpm (15 lpm)
				3. Shut-down: less than 0.25 gpm (1 lpm)
				4. Nominal set temperature: 117 degrees F (47 degrees C) &#177; 2 degrees F (1 degrees C).
				5. Max. operating pressure: 145 psi (1000 kPa)
				6. Minch operating pressure: less than 1.5 psi (10.3 kPa)
				7. Threads: 1/2 inch NPT (inlet/outlet)
			5. TapSafe Device Performance:
				1. Hot water supply temperature: 185 degrees F (85 degrees C) max.
				2. Max. flow rate: 2.5 gpm (889 lpm).
				3. Shut-down: less than 0.25 gpm (1 lpm).
				4. Nominal set temperature: 117 degrees F (47 degrees C) &#177; 2 degrees F (1 degrees C).
				5. Max. operating pressure: 145 psi (1000 kPa).
				6. Minch operating pressure: less than 1.5 psi (10.3 kPa).
				7. Threads: Adaptor for standard male or female laundry faucets.
		8. Cash Acme Heatguard HG135 LF: A Temperature Actuated Mixing Valve at single point-of-use fixture delivering hot water at a controlled temperature. Controls deliver water temperature via a regulating piston. Check valves at both inlets prevent cross flow from hot to cold. Adjusting mechanism protected by a threaded cover.
			1. Compact design and included mounting bracket.
			2. Accurate temperature control with flows as low as 0 .25 gpm (1.0 Ipm).
			3. Serviceable inlet strainer screens included.
			4. Robust, low complexity construction and total flow shut-off if cold supply fails.
			5. Standards Compliance:
				1. Certified to ASSE 1070 / ASME A 112.1070 / CSA B125.7, NSF 372, NSF/ANSI 61
				2. Listed by ASSE, CSA, and IAPMO for use in accordance with U.S. and Canadian plumbing codes.
			6. Performance:
				1. Adj. outlet temperature range: 100 to 120 degrees F (38 to 49 degrees C).
				2. Factory set temperature range: 100 to 110 degrees F (40 to 43.3 degrees C).
				3. Temp. hot supply: 120 to 180 degrees F (59 to 82 degrees C).
				4. Temp. cold supply: 39 to 80 degrees F (4 to 27 degrees C).
				5. Maximum Pressure: 230 psi (1600 kPa).
				6. Flow rate, minimum: 0.25 gpm (1.0 Ipm).
				7. Flow rate, maximum at 45 PSI: 2.5 gpm (9.5 Ipm).
			7. Material:
				1. Body: DZR Brass.
				2. Springs: Stainless steel.
				3. Internal cap: Brass.
				4. Piston: Engineered Polymer.
				5. Inlet Strainer Screens: Stainless steel.
			8. Available Connections:
				1. Compression: Suitable for 3/8 inch OD tube.
		9. Cash Acme MasterGuard 600 Series: Temperature Actuated Mixing Valve installed at hot water source to distribute tempered water with mixed temperature setting as required by local plumbing codes. A thermostatic control mechanism based on the expanding wax principle. Integral shut-off valve isolators, strainers, check valves and gauge ports on each inlet.
			1. Fast reaction to changes in flow rate or supply temperature.
			2. Constant outlet temperature.
			3. Temperature Adjustment Knob.
			4. Can be locked at a desired temperature.
			5. Standards Compliance:
				1. Certified to ASSE 1017, CSA B125.3.
				2. Listed by IAPMO, CSA, and ASSE for use in accordance with U.S and Canadian plumbing codes.
				3. Valves are certified to NSF/ANSI/CAN 61 and NSF/ANSI 372.
			6. Performance:
				1. Outlet temperature range: 85 to 150 degrees F (29.4 to 66 degrees C).
				2. Factory set temp. range: 116.5 degrees F &#177; 3.5 degrees F (47 degrees C &#177; 2 degrees C).
				3. Hot temp. supply range: 120 to 180 degrees F (48.9 to 82.2 degrees C).
				4. Cold temp. supply range: 39 to 80 degrees F (3.9 to 26.7 degrees C).
				5. Maximum Pressure: 125 psi (862 kPa).
				6. Minch temp differential: 25 degrees F (47 degrees C).
			7. Materials:
				1. Body: Lead-Free Brass.
				2. Seals: EPDM.
				3. Springs: Stainless Steel.
				4. Internal cap: Brass.
				5. Piston PTFE: Coated Stainless Steel.
			8. Available Connections:
				1. MasterGuard 630: 3/4 x 1 inch.
				2. MasterGuard 640: 1 x 1-1/4 inch.
				3. MasterGuard 650: 1-1/4 x 1-1/2 inch.
				4. MasterGuard 660: 1-1/2 x 1-1/2 inch.
				5. MasterGuard 670: 1-1/2 x 2 inches.
				6. MasterGuard 680: 2 x 2 inches.
1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until substrates have been properly constructed and prepared.
		2. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.
	2. PREPARATION
		1. Clean surfaces thoroughly prior to installation.
		2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
	3. INSTALLATION
		1. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.
	4. FIELD QUALITY CONTROL
		1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection, or construction. Delete if not required.

* + 1. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.
	1. CLEANING AND PROTECTION
		1. Clean products in accordance with the manufacturer's recommendations.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION