



SYMMONS® Safetymix®



Single Handle Pressure-Balancing Mixing Valve for Shower or Tub/Shower Application INSTALLATION, OPERATION & SERVICE INSTRUCTIONS

Symmons valves, shower heads and hand sprays comply to all known standards, codes and specifications: CSA B-125, ANSI A-112.18.1M, ASSE 1016, EPA '92 etc. Symmons shower heads and hand sprays are equipped with a 2.5 gpm (9.5 L/min) water and energy saving flow restrictor.

This instruction sheet shows rough-in dimensions for Models 4-500(X), 1-100(X) and 1-215-X. See separate drawings enclosed with numbered models for applicable rough-in dimensions.

Tools required for installation of this product are: Phillips screw driver, tubing cutter, teflon tape, soldering equipment, adjustable wrench and channel-lock pliers.

Installation of Shower System Model 1-100(X) (Figure 2)

Install HOT on left and COLD on right according to valve markings.

1. Install piping and fittings with valve body as shown in Figure 2 or 3. **IMPORTANT:** Valve rough-in is 23/8" (60mm) min. – 3" (76mm) max. from CENTERLINE OF SUPPLIES TO FACE OF FINISH WALL. Install so that surface indicated on plaster shield on valve is flush with finish wall as shown in Figure 1.

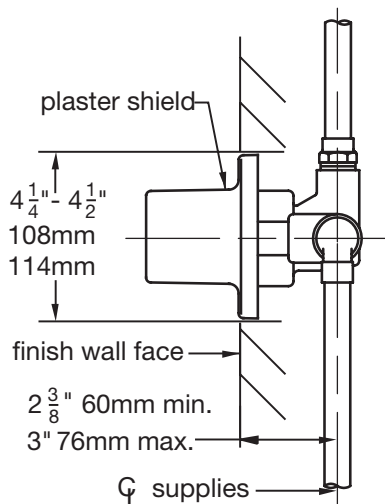
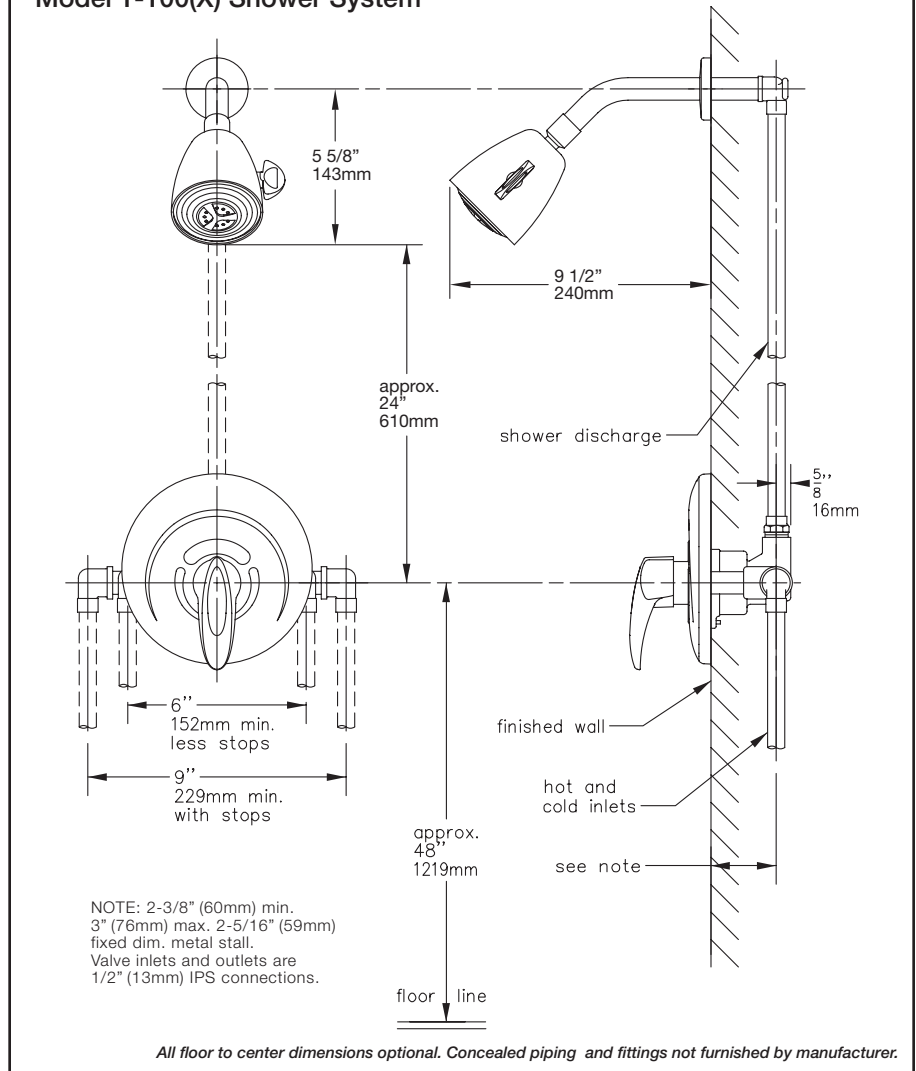


FIGURE 2
Model 1-100(X) Shower System

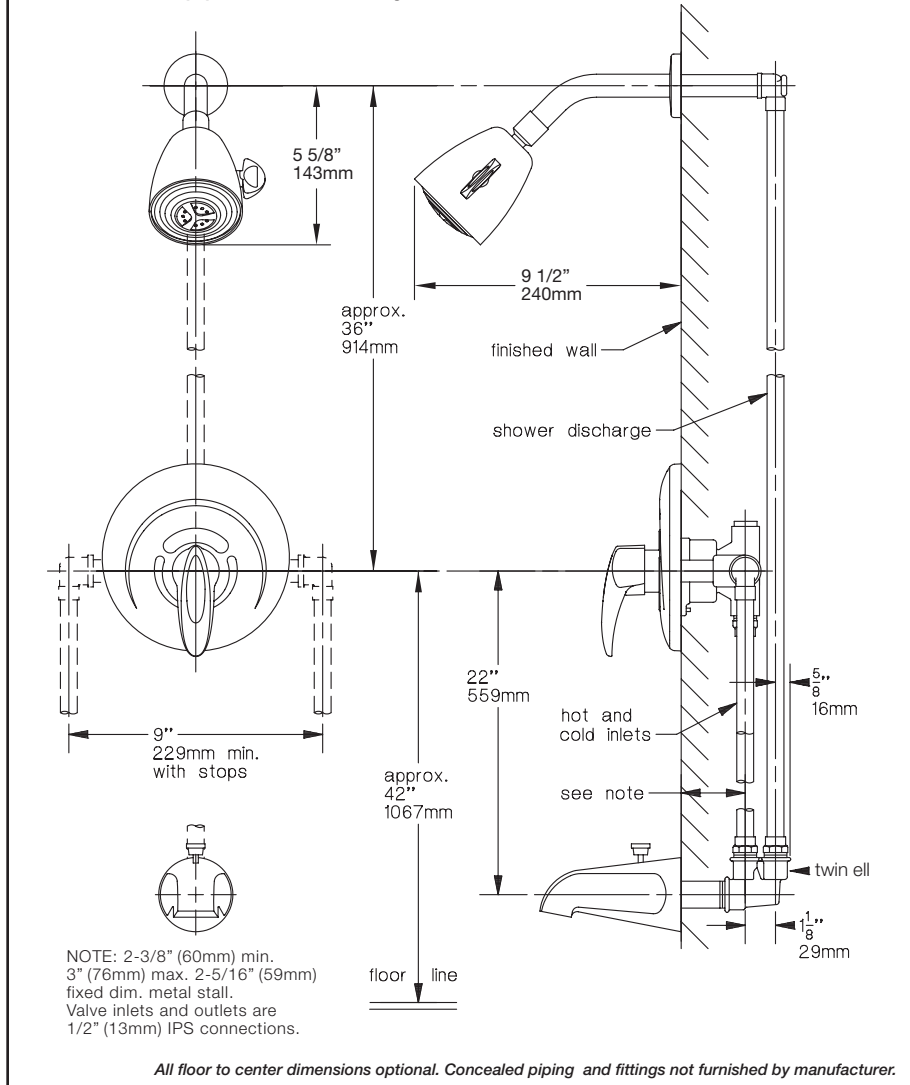


2. When finishing tile wall REMOVE (pull off; don't turn) ENTIRE PROTECTIVE PLASTER SHIELD and FILL AREA AROUND VALVE BODY WITH GROUT OR PLASTER. DO NOT PLASTER OVER SC-2 CAP OR SERVICE STOPS IF SO EQUIPPED.
3. Turn on hot and cold supplies, valve will not operate unless both hot and cold water are turned on.
4. This valve is equipped with a limit stop screw to be used to limit valve handle from being turned to excessively hot water discharge temperatures. To adjust, remove dome cover, place handle (VT-112) on stem, open valve to maximum desired temperature and turn in limit stop screw until it seats. **WARNING:** Failure to adjust the limit stop screw properly may result in serious scalding.

WARNING: This shower system may not protect the user from scalding when there is a failure of other temperature controlling devices elsewhere in the plumbing system.

5. Check packing nut (SC-7) for positive frictional resistance to handle turn throughout adjustment cycle and at shut-off position, tighten if necessary. Check valve cap, packing nut and all valve, pipe and fitting connections for leaks. Reattach dome cover back onto packing nut.
6. After finish wall is completed, remove protective backing from escutcheon gasket (T-149) exposing adhesive and adhere to inside top diameter of escutcheon (SC-144). This step should not preclude sealing valve body in wall as directed in installation instruction step #2.
7. Push escutcheon and gasket against wall and secure to valve with escutcheon screws (WO-20A). Mount temperature control handle (VT-112) on valve spindle spline, secure with screw (SC-15A). Install shower arm, flange and shower head. See Figures 2 and 3. Install tub spout on diverter twin-ell stub out (1-215-X only). Use putty or sealant on back edge of spout to make proper seal with finished wall.
8. **ALLOW VALVE TO RUN IN WARM POSITION FOR A FEW MINUTES TO TOTALLY FLUSH SYSTEM. IF SYSTEM IS QUITE DIRTY, REMOVE VALVE SPINDLE OR STOP SPINDLES (IF SO EQUIPPED) TO INSURE PROPER FLUSHING.** See service instructions.
9. Do not install positive shut-off devices on the outlet of this valve or devices that do not allow the valve to flow at least 1 GPM at 50 psi inlet pressure. **EXCEPTION:** If a self-closing or slow-closing valve is installed on the outlet, the supplies of the valve must be equipped with checks to eliminate hot to cold by-pass in the event the valve's handle is not turned to off after use. Contact your factory representative or Symmons directly for information on available checks.

FIGURE 3
Model 1-215(X) Tub/Shower System

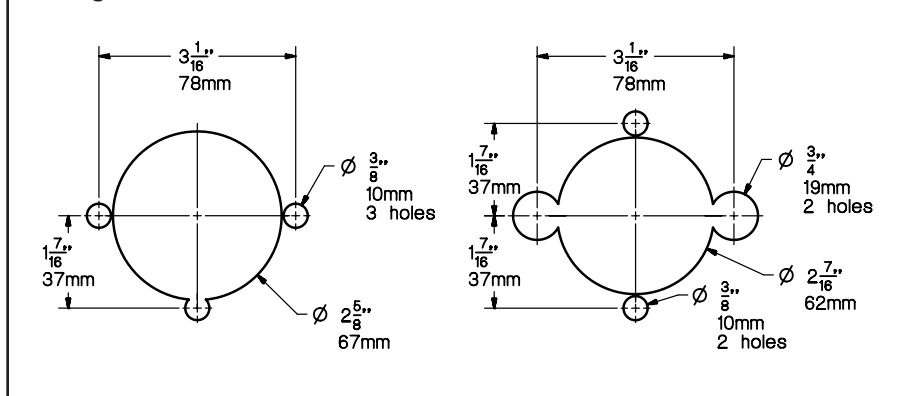


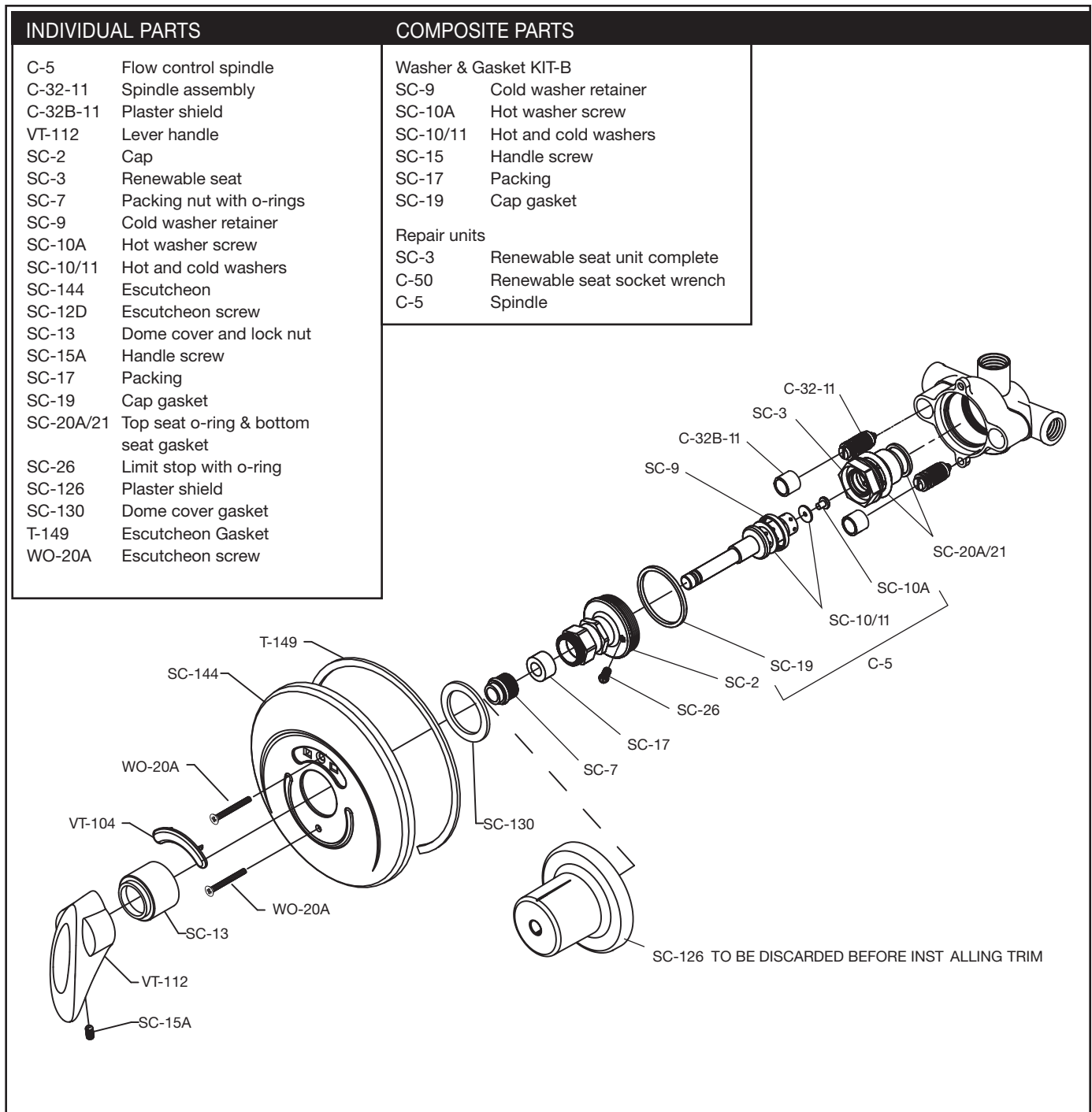
Installation of Tub/Shower System
Model 1-215-X (Figure 3)

The valve supplied with this system does NOT have a built-in choke and must be supplied with either a separate diverter valve or a twin-ell tub spout.

1. Follow instructions from previous page. Refer to Figure 3.

FIGURE 4
Fiberglass Wall Installation





FIBERGLASS WALL INSTALLATION

When installing Safetymix in fiberglass or panel walls and it is desired to sandwich wall between valve body and escutcheon, cut hole in wall as shown in Figure 4 and mount valve from rear. Note: It is always recommended to secure valve piping to rough construction and not depend on fiberglass wall for valve mounting security. On panel walls over 1" thick, install in conventional manner. (See figure 1).

OPERATION OF VALVE

The main handle of the Safetymix valve is for control of temperature only. From the OFF position, the handle is turned counter-clockwise through a minimum cold position, through a warm and hot position for a maximum turn of approximately one revolution. This allows for infinite temperature adjustments to suit the requirements of any user.

CARE AND CLEANING

The lustrous finish on your Safetymix valve should be treated with care. It can be readily damaged by improper handling or abusive treatment. To clean the finish wipe gently with a soft damp cloth and blot dry with a soft towel. Use only a mild soap solution if required. **DO NOT USE ABRASIVE CLEANERS. USE OF POLISH, ABRASIVE CLEANERS, SOLVENTS OR ACID CLEANERS WILL DAMAGE THE FINISH AND VOID THE SYMMONS WARRANTY.**

SERVICE

1. Shut off water supply to valve.
2. Loosen set screw (SC-15A) and remove handle (VT-112), dome cover (SC-13), and escutcheon (SC-144) in that order.
3. Open valve to about warm position and unscrew cap (SC-2). Warning: Failure to OPEN VALVE will damage cap and spindle. Spindle assembly (C-5) will be removed with cap. Leave packing nut (SC-7) in place while unscrewing cap to avoid distortion.
4. Ordinary service to eliminate dripping or not shutting off requires only the replacement of parts supplied in washer and gasket kit (KIT-B). Hold spindle with (VT-112) handle while removing hot washer screw and cold washer retainer (remove retainer with channel lock pliers).
5. Inspect surfaces of renewable seat (SC-3). If seat surfaces are worn or wire drawn or if NEW SPINDLE IS VERY LOOSE IN SEAT, replace SC-3 renewable seat. Use renewable seat socket wrench (C-50). Clean seat surfaces for proper sealing of top seat o-ring (SC-20A) and bottom seat gasket (SC-21). Tighten seat to 15 foot pounds of torque.
6. The perforated end of the (C-5) spindle assembly houses the balancing piston which is the heart of this pressure-balancing valve. The piston should be free to move back and forth and should click when the spindle assembly is shaken. If deposits block this action, tap the handle end of the spindle against a solid object to free the piston. Soaking in household vinegar will help free foreign matter. If this does not free piston, replace (C-5) spindle assembly. **DO NOT TAMPER WITH PERFORATED CYLINDER ON THE SPINDLE ASSEMBLY OR ATTEMPT REMOVAL OF THE PISTON.**
7. Reassemble, reversing above procedure. Be sure spindle assembly is drawn close to the cap before screwing cap back into valve. Warning: Failure to do this will damage cap and spindle.
8. **USE ONLY SYMMONS SAFETYMIX GENUINE REPAIR PARTS. FAILURE TO DO SO WILL VOID ALL WARRANTIES AND IMPAIR PROPER OPERATION OF YOUR VALVE.**

TROUBLE SHOOTING CHART

Problem	Cause	Solution (Follow service instructions)
Valve will not pass water.	Hot and cold water not turned on.	Turn on both supplies. Valve will not operate unless both HOT and COLD water pressure is turned on.
Valve leaks when shut off.	Hot and cold washers are worn, or foreign matter (solder, chips, etc.) are between washers and seat surfaces	Replace Hot and Cold washers, inspect top surface on hot and cold seats and replace if necessary.
Temperature control handle is turned from cold to hot (or hot back to cold) and volume from spout or head is not constant.	Pressure balancing piston housed in spindle assembly is blocked from free movement by foreign matter.	With valve open half way, remove handle and tap spindle with plastic hammer. If problem not solved, remove spindle assembly completely and tap handle against solid object to free piston. Soaking in household vinegar will help free foreign matter.
Valve delivers sufficient quantity of cold, but little hot, or the reverse of this.	Same as above	Same as above
Temperature varies without moving handle.	Same as above	Same as above
Valve delivery temperature reduces gradually during use; must be turned on to hotter positions to maintain constant temperature.	Overdraw on hot water supply, i.e., running out of hot water.	Reduce maximum flow by using volume control adjustment on valve or shower head. This will allow longer period of use before overdrawing hot water supply.

Commercial Limited Warranty

Symmons warrants to the original purchaser that any Symmons product (excluding batteries) when used in industrial, commercial or business use will be free of defects in material and workmanship during normal use for a period of 5 years from the date of purchase. At our option, we will either have you send the defective part or product prepaid to us for inspection, or we may elect to send you the replacement part or product without investigation. A replacement for any defective part or product, either new or refurbished (at our option), will be supplied FREE OF CHARGE for installation by the purchaser. Defect or damage caused by the use of replacement parts other than Symmons Genuine Replacement Parts will void this warranty. This warranty excludes product damage due to installation error, product abuse, or product misuse whether performed by a contractor, service company or yourself. Damage to the chrome and/or other decorative finishes on Symmons products may be a result of improper handling or abusive treatment. Finishes should only be cleaned with a soft, damp cloth or sponge. Use of polish, abrasive cleaners, solvents, or acid cleaners will damage the finish and void this warranty.

There are no other express warranties on this product and ALL WARRANTIES OF MERCHANTABILITY AND OTHER IMPLIED WARRANTIES ARE LIMITED IN ACCORDANCE WITH APPLICABLE LAW. SYMMONS INDUSTRIES, INC., EXPRESSLY DISCLAIMS CONTINGENT LIABILITY AND CONSEQUENTIAL DAMAGE OF EVERY KIND. Since some states do not allow limitations on how long an implied warranty lasts or an exclusion or limitation of incidental or consequential damages the above limitation or exclusion may not be applicable. This warranty gives specific legal rights. Other rights may vary from state to state. To obtain warranty service, write to Symmons Industries, Inc., 31 Brooks Drive, Braintree, MA 02184-3804 or call our Customer Service Department at 1-800-SYMMONS. If writing to us, please include proof of purchase, the model number of the product with a brief description of the problem, your name, address and phone number.

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