

# SYMMONS® Water Dance®

Single Handle High-Flo™ Pressure-Balancing Mixing Valve for Custom Shower or Tub/Shower Application

## INSTALLATION, OPERATION & SERVICE INSTRUCTIONS

This instruction sheet shows rough-in dimensions for Models 1-6320-X, 1-7520-X, 1-7470-X, 1-7460-X, 1-1560-X, 1-2560-X, 1-2550-X, and 1-2540-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.

### CAUTION

Please review the following water and drain system requirements prior to installation of any High-Flo valve or Water Dance Custom Showering System. This information serves as a general guide only as every installation contains its own unique conditions and should not replace sound, professional plumbing judgment.

### Water Heater

Determine that you have a sufficient supply of hot water for the Water Dance system selected and for the intended user's personal preference. With four flow-restricted outlets flowing simultaneously and continuously, a Water Dance system can deplete a standard 40 gallon hot water heater in less than 8 minutes.

### Pressure Required

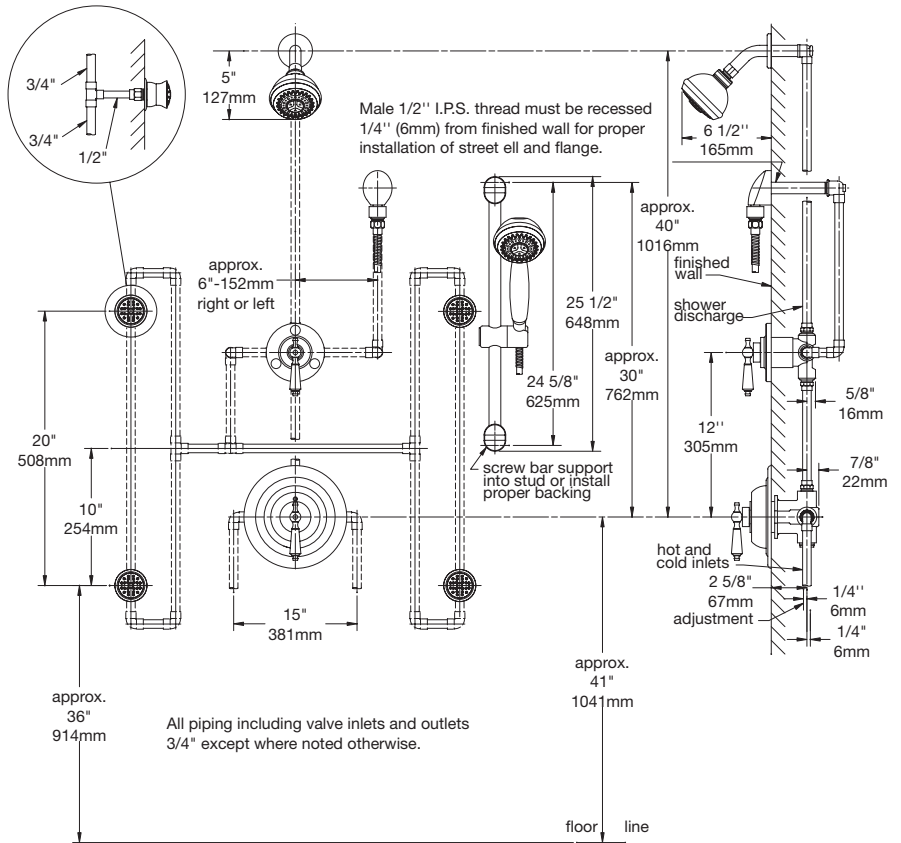
Verify that you have adequate flowing (not static) water pressure before installing a Water Dance system or High-Flo valve. For optimum performance we recommend a minimum of 60 psi flowing pressure to the High-Flo pressure balancing valve. Also reducing or eliminating long piping runs and sharp turns will result in a more satisfactory performance from the system.

### Drain Size

Determine that there is adequate drain size and capacity to handle the selected Water Dance system water volume. The High-Flo pressure balancing valve used in the Water Dance systems is capable of delivering 12 gpm at 45 psi. If two valves are to be used water volumes of up to 24 gpm are possible depending on available water pressure. Confirm that the shower drainage system can handle the anticipated water volume.

FIGURE 2: WATER DANCE Model 1-7470-X

### Dimensions Water Dance Two Wall Shower System, 1-7470-X

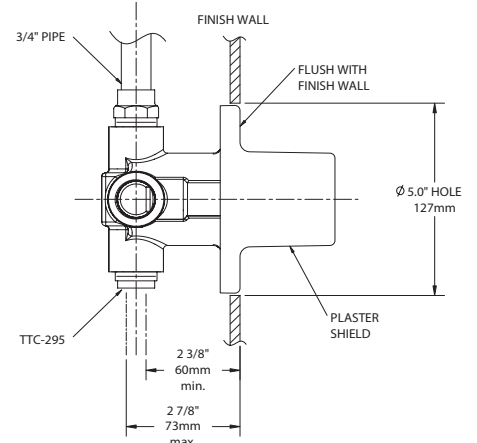


All floor to center dimensions optional. Concealed piping and fittings not furnished by manufacturer.

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. IMPORTANT: Valve rough-in is 2 3/8" (60mm) min. — 2 7/8" (73mm) 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.
2. IMPORTANT: Install plug (TTC-295) in either tub port for shower application or shower port for tub application. NOTE: Valve will not work properly with both ports unplugged.

FIGURE 1



3. 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.

4. For installation of diverter see installation instructions included with diverter.

5. For installation of body sprays refer to installation instructions included with body sprays. (NOTE: Any configuration with two or more body sprays requires that they be plumbed with a balancing loop as shown in Figures 2 and 3. This technique insures that each body spray delivers the same volume.)

6. Turn on hot and cold supplies, valve will not operate unless both hot and cold water are turned on.

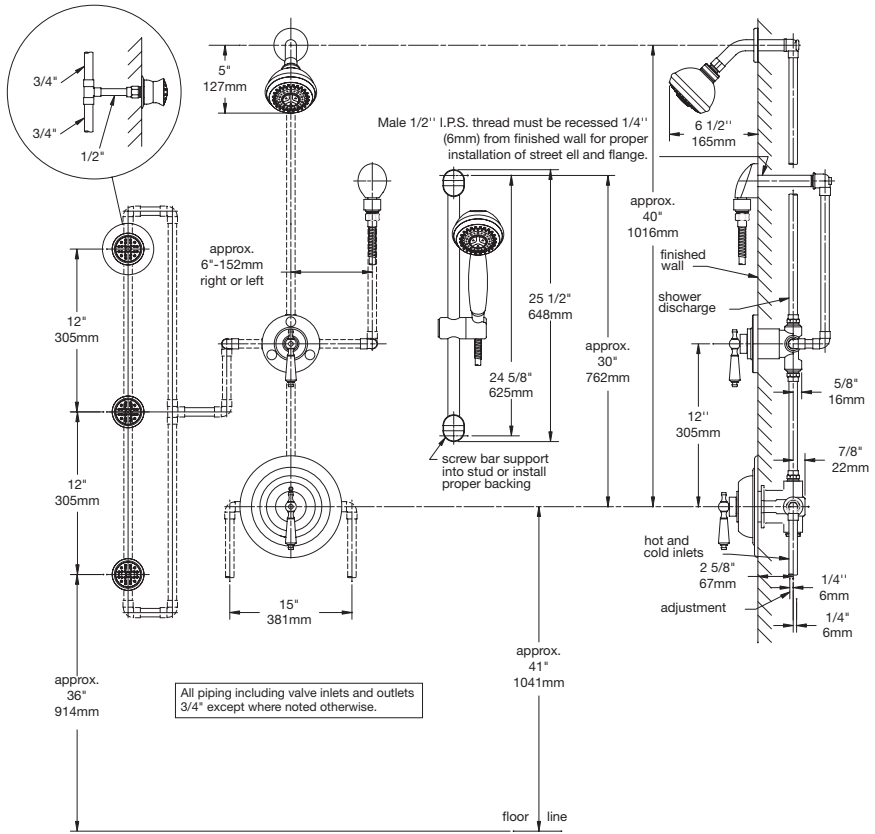
7. This valve is equipped with a limit stop screw to be used to limit valve handle from being turned to excessively hot water discharge temperatures. To adjust, remove dome cover, place handle on stem, open valve to maximum desired temperature and turn in limit stop screw until it seats. **WARNING:** 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.

8. 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.

9. Push escutcheon (HF-120 or HF-112), with slot facing downward, and gasket (HF-129 or HF-130) against wall and secure to valve with escutcheon screws (T3-28 or DF-9). Secure dial (HF-119) to escutcheon (HF-120). Mount temperature control handle (T3-31L or HF-28-LAM) on valve spindle spline, secure with screw and button. Install shower arm, flange and shower head. See Figures 2 and 3. Install tub spout on stub. Use putty or sealant on back edge of spout to make proper seal with finished wall.

10. 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 TO INSURE PROPER FLUSHING. See service instructions.

**FIGURE 3: WATER DANCE Model 1-7460-X**



*All floor to center dimensions optional. Concealed piping and fittings not furnished by manufacturer.*

11. 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 unless the inlet supplies of the valve are equipped with check stops (Suffix: X-CHKS) 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.

### FIBERGLASS WALL INSTALLATION

When installing the High Flo valve 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 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 High-Flo valve or Water Dance system 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.**

| INDIVIDUAL PARTS |                        | INDIVIDUAL PARTS |               | COMPOSITE PARTS |  |
|------------------|------------------------|------------------|---------------|-----------------|--|
| C-31             | Plaster shield         | T-32             | Handle screw  | HF-28-LAM       | Metal finish insert handle:<br>Handle screw (DF-10)  |
| C-32             | Stop spindle assembly  | T-33             | Plug button   | HF-28-LCF       | Clear faceted insert handle:<br>Handle screw (DF-10)   |
| DF-9             | Escutcheon screws      | T3-31 INS        | Handle insert | HF-28-LPO       | White insert handle:<br>Handle screw (DF-10)   |
| DF-10            | Handle screw           |                  |               | T3-31L          | Loop style lever handle:<br>Insert (T3-31 INS)<br>Handle screw (T-32)<br>Plug button (T-33)  |
| DF-25            | O-ring                 |                  |               | T3-31S          | Solid style lever handle:<br>Insert (T3-31 INS)<br>Handle screw (T-32)<br>Plug button (T-33) |
| HF-106           | Cold washer retainer   |                  |               |                 | <b>Washer &amp; Gasket KIT-HF</b>  |
| HF-107           | Hot water washer       |                  |               | HF-106          | Cold washer retainer   |
| HF-108           | Cold water washer      |                  |               | SC-10A          | Hot washer screw   |
| HF-109           | Renewable seat         |                  |               | HF-107/108      | Hot/cold washer  |
| HF-112           | Escutcheon             |                  |               | SC-17B          | Packing  |
| HF-113           | Dome                   |                  |               | SC-19           | Cap gasket   |
| HF-114           | Top seat o-ring        |                  |               |                 | <b>Repair Units</b>  |
| HF-117           | Dial                   |                  |               | HF-109          | Renewable seat unit<br>complete  |
| HF-118           | Handle flange          |                  |               | HF-103          | Spindle  |
| HF-119           | Dial assembly          |                  |               | C-31            | Plaster shield   |
| HF-120           | Escutcheon             |                  |               |                 |  |
| HP-17A           | O-ring                 |                  |               |                 |  |
| SC-2             | Cap                    |                  |               |                 |  |
| SC-7             | Packing nut            |                  |               |                 |  |
| SC-10A           | Hot washer screw       |                  |               |                 |  |
| SC-13B           | Dome cover             |                  |               |                 |  |
| SC-17B           | Packing                |                  |               |                 |  |
| SC-18            | Lock nut, dome         |                  |               |                 |  |
| SC-19            | Cap gasket             |                  |               |                 |  |
| SC-26            | Limit stop with o-ring |                  |               |                 |  |
| T-2              | Bottom seat o-ring     |                  |               |                 |  |
| T3-28            | Escutcheon screws      |                  |               |                 |  |

FIGURE 5: Parts Breakdown

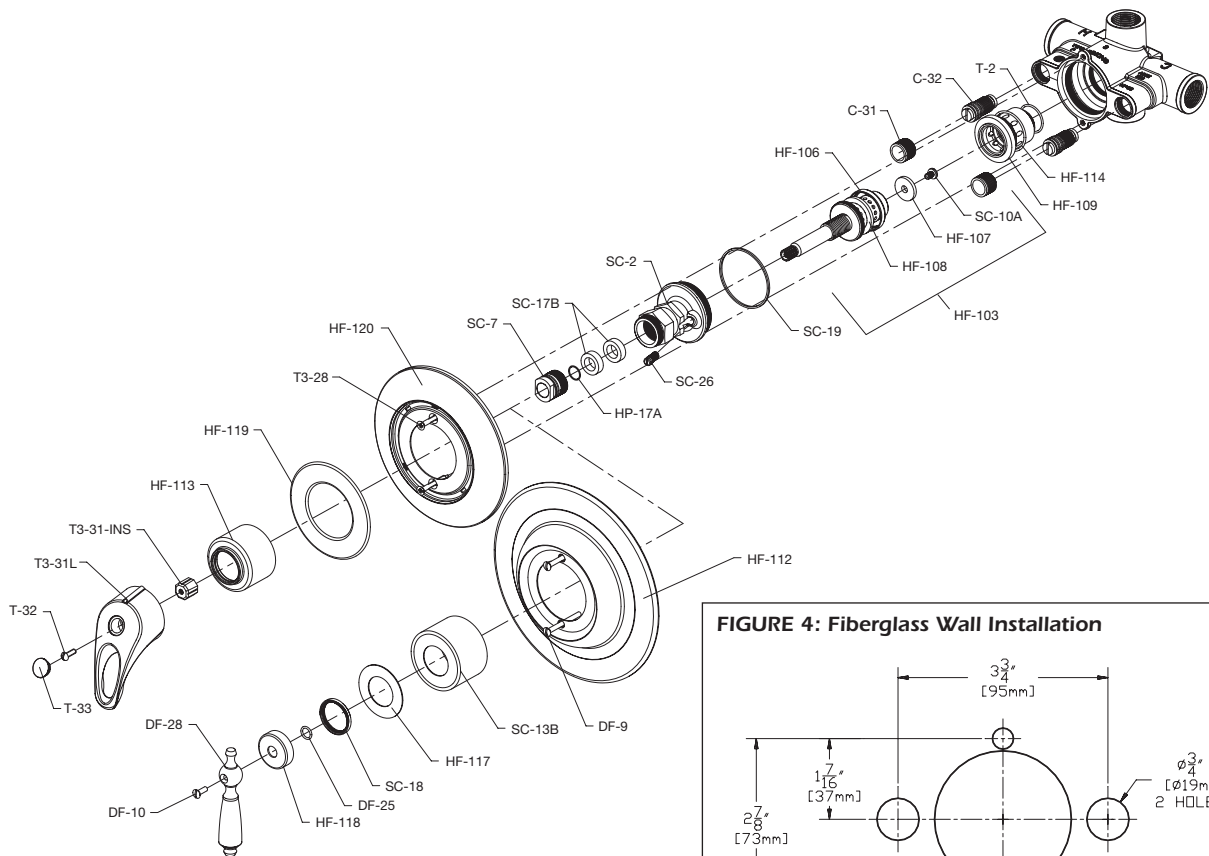
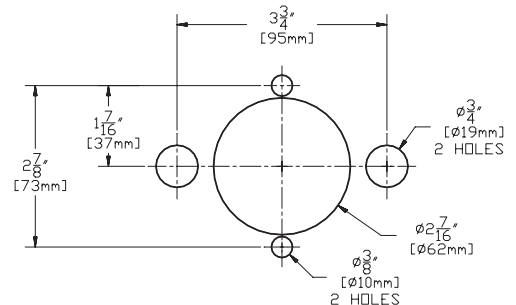


FIGURE 4: Fiberglass Wall Installation



## SERVICE

- |   |  |   |
|---|--|---|
| <ol style="list-style-type: none"> <li>1. Shut off water supply to valve.</li> <li>2. Loosen set screw and remove handle, dome cover, dial and escutcheon in that order.</li> <li>3. Open valve to about warm position and unscrew cap (SC-2). Warning: Failure to OPEN VALVE will damage cap and spindle. Spindle assembly (HF-103) will be removed with cap. Leave packing nut (SC-7) in place while unscrewing cap to avoid distortion.</li> <li>4. Ordinary service to eliminate dripping or not shutting off requires only the replacement of parts supplied in washer and gasket kit (KIT-HF). Hold spindle with handle while removing hot washer screw and cold washer retainer (remove retainer with channel lock pliers).</li> </ol> | <ol style="list-style-type: none"> <li>5. Inspect surfaces of renewable seat (HF-109). If seat surfaces are worn or wire drawn or if NEW SPINDLE IS VERY LOOSE IN SEAT, replace renewable seat (HF-109). Use 1/2" hex key. Clean seat surfaces for proper sealing of top seat o-ring (HF-114). Tighten seat to 15 foot pounds of torque.</li> <li>6. The perforated end of the (HF-109) 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</li> </ol> | <p>free piston, replace (HF-103) spindle assembly. DO NOT TAMPER WITH PERFORATED CYLINDER ON THE SPINDLE ASSEMBLY OR ATTEMPT REMOVAL OF THE PISTON.</p> <ol style="list-style-type: none"> <li>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.</li> <li>8. USE ONLY SYMMONS SAFETY MIX GENUINE REPAIR PARTS. FAILURE TO DO SO WILL VOID ALL WARRANTIES AND IMPAIR PROPER OPERATION OF YOUR VALVE.</li> </ol> |
|---|--|---|

## 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 end 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.   | Same as above  | Same as above  |
| Temperature varies without moving handle.   | Same as above  | Same as above  |
| Valve delivery temperature reduces gradually during use; handle must be turned on to hotter positions to maintain constant temperature. | Overdraw on hot water supply, i.e. running out of hot water.   | See note regarding Hot Water Heater on page 1.   |

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