

Shower-Hand Shower System, 4605 / 4600

Installation and Service Instructions



4605...... Shower HS System 4605-X..... Valve includes stops 4605-TRM Trim only

4600..... Shower Valve System 4600-X...... Valve includes stops

4600-TRM Trim only

Decorative Finish Code

append to part numbers if applicable

-STN Satin Nickel

-- Chrome (standard)

Tools & Materials

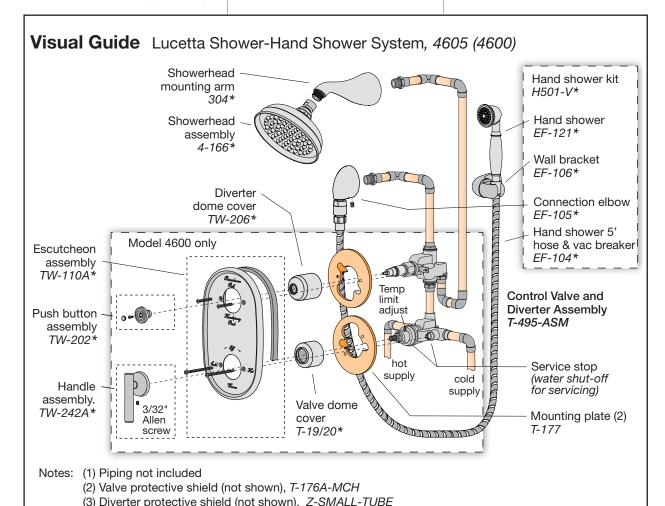


Meed Help?

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Installation Instructions

Rough-in Installation

Control valve assembly, piping and fittings

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Dimensions illustration	4

1) Mount valve assembly

Mounting plates Ensure plates are seated against front of valve assembly. (Using mounting plates is optional when wall thickness is greater than 3/4 inch.)

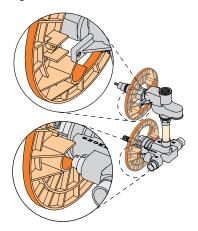


Figure 1 Mounting plates

Valve spindle Attach plastic protective shield to valve by snap fitting over end of spindle.

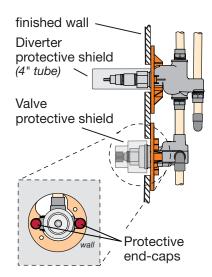


Figure 2 Protective shields

Diverter spindle Ensure protective tube is seated over spindle as shown above.

Valve service stops Ensure red protective end-caps are installed over service stops.

Valve assembly installation

Install through cutout holes in wall with both mounting plates flush against surface when secured with attached piping.

2) Install piping and fittings

Shower head (T on diverter)

Pipe from primary outlet port on diverter marked T to shower head mounting arm location.

Hand shower connection

Pipe from secondary outlet port on diverter marked S to hand shower connection elbow location.

Hot & Cold Supply (H & C)

Pipe hot water supply to valve input marked H and cold water supply to valve input marked C.

3) Remove protective shields.

Diverter Remove tube seated over end of diverter spindle.

Valve Remove shield snap fitted over the end of valve spindle.

Service stops Remove two red end-caps covering service stops.

4) Adjust valve spindle cap nut

- Turn hot & cold supplies on.
 Valve will not operate unless both hot and cold water supply pressure are turned on.
- Tighten packing nut for positive frictional resistance as handle is rotated from shutoff position across adjustment range. Reference figure 3 below.

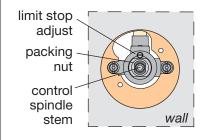


Figure 3 Limit stop screw

5) Flush system, check for leaks

- Turn valve to the warm position and run for a few minutes.
- If system is dirty, remove valve spindle in valve to ensure proper flushing. See service instructions.

Note: Do not install positive shut-off devices on valve outlet or devices that do not allow the valve to flow at least 1 GPM at 50 psi inlet pressure.

• Check for leaks around valve assembly and all pipe fittings.

6) Set limit stop screw

The limit stop screw limits valve handle from being turned to maximum position resulting in excessive hot water discharge temperatures.

- Place handle on control spindle and open valve to maximum desired temperature.
- Turn limit stop screw clockwise until it seats. Reference figure 3.



Warning: Failure to adjust the *limit stop screw* properly may result in serious scalding.

Trim Installation

1) Attach dome covers

Screw dome cover over end of diverter and valve spindle.

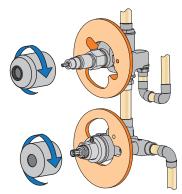


Figure 4 Dome covers

2) Fasten escutcheon to valve assembly

 Seat gasket against back of escutcheon as shown in figure below.

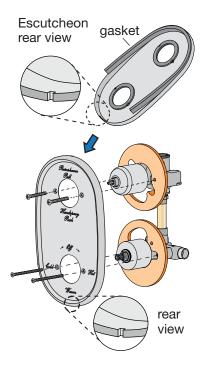


Figure 5 Attach escutcheon

- Position escutcheon over valve/ assembly against finished wall ensuring small cut-out at base of escutcheon is facing down.
- Secure using long Philips head screws.

3) Attach Handle

Attach handle and push-button to end of spindles as shown below.

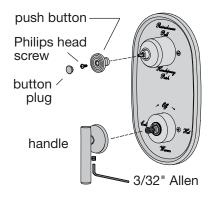


Figure 6 Attach handle

Note: Steps 4-7 model 4605 only 4) Attach arm & showerhead

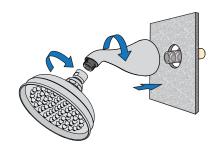


Figure 7 shower head and arm

5) Attach hand shower wall elbow connection

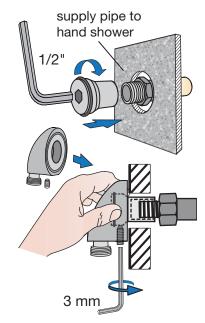


Figure 8 Connection elbow

6) Attach hand shower

 Fasten end of hose with vacuum breaker to connection elbow and other end to hand shower.

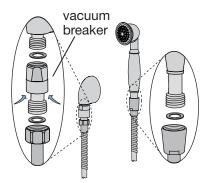


Figure 9 Attach handspray

7) Mount hand shower wall bracket

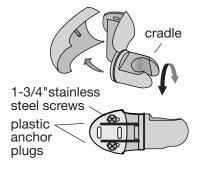


Figure 10 Wall bracket

 Place hand shower in wall bracket cradle and then rotate cradle for best position.



Figure 11 Hand shower cradle

Shower Operation

Control Valve

OFF (CW)

Turn valve to the OFF position by rotating handle fully clockwise.

ON (CCW) Adjust water temperature Turn handle from the OFF position counter-clockwise through the cold, warm and hot positions for approximately one full revolution.

Hand shower Control

Hand shower Push (in position)

Water flows to the hand shower. When *Control Valve* is turned

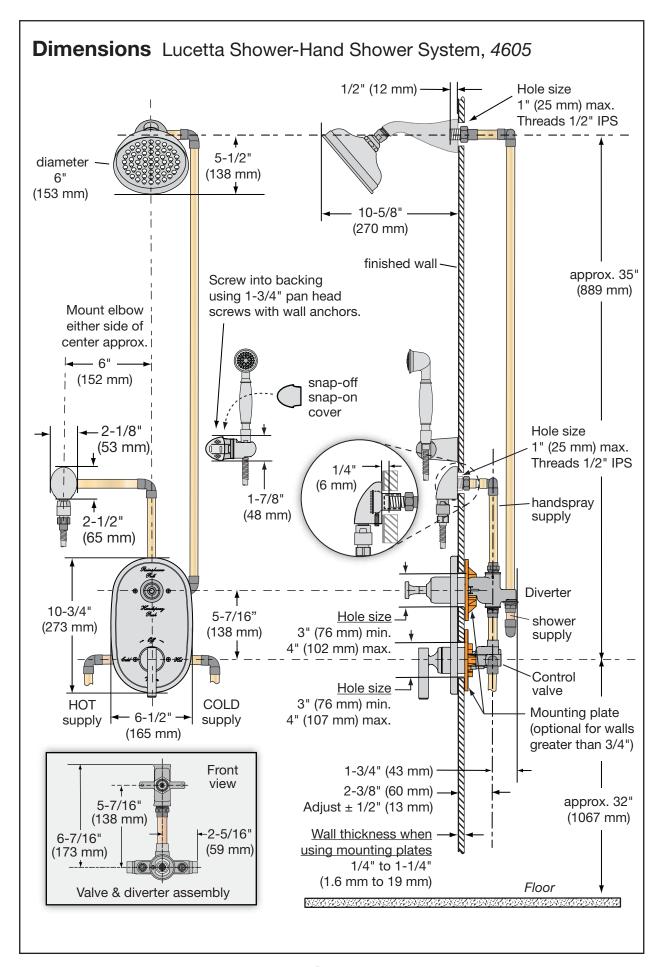
when *Control Valve* is turned off control button reverts to the Rainshower position

Rainshower Pull (out position)

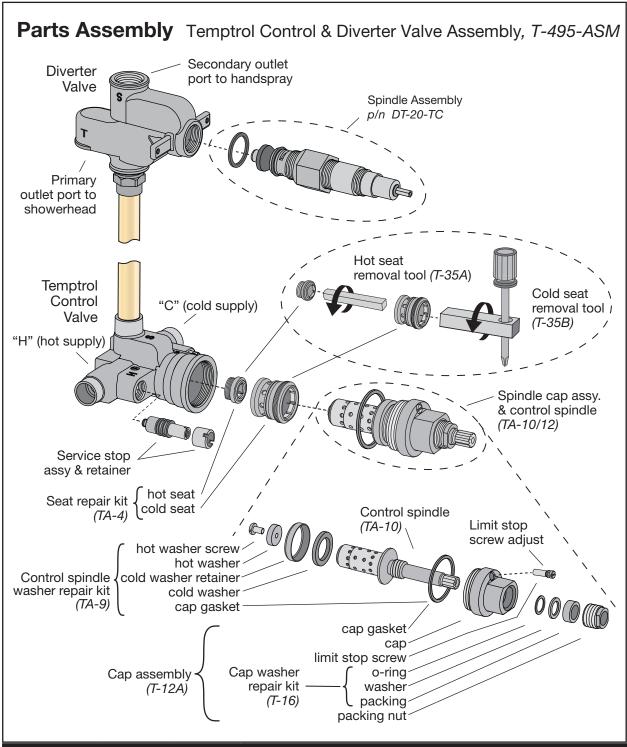
Water flows to the showerhead.

Care and Cleaning

Clean finished area by using mild soap and water or a non-abrasive cleaner and then quickly rinse. A non-abrasive wax may be used to preserve finish area.



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Replacement Parts and Special Tools					
Part Number	Control Valve	Handspray Diverter	Description		
TA-4	х		Hot and cold seat repair kit (requires tools p/n T-35A &T-35B)		
TA-9	x		Control spindle washer repair kit		
TA-10	х		Control spindle		
T-12A	x		Spindle cap assembly		
T-16	x		Spindle cap washer repair kit		
T-35A	х		Hot seat removal tool		
T-35B	х		Cold seat removal tool		
T-176A-MCH	x		Plaster shield		
DT-20-TC		x	Spindle Repair Kit		

Trouble Shooting Chart

Problem	Cause	Solution
Valve will not pass water	Both hot and cold water supply are not turned on.	Turn on both supplies. Valve will not operate unless both hot and cold water pressure is on.
Valve leaks when shut off.	Hot and cold washers are worn or foreign matter (dirt, chips) is lodged between washers and seat surfaces.	 Replace washers using control spindle washer repair kit, p/n TA-9. Replace hot & cold seats using hot/cold seat repair kit, p/n TA-4.
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 restricted from free movement by foreign matter.	 Open valve half way, remove handle and tap spindle with plastic hammer. Check water pressure balancing piston in control spindle assembly. See service instructions. Replace control spindle, p/n TA-10
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 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.
Valve delivers hot water when initially opened. Water turns colder as handle is rotated in a counter-clockwise direction toward the hot position.	Valve is piped incorrectly (i.e. the hot supply s piped to the valve's cold inlet and the cold supply is piped to the hot inlet.)	If piping is accessible, correct connections to the valve. If piping is not accessible, order a <i>reverse seat and tool kit</i> , p/n T-108. Older installations may also require replacing the hot seat, <i>hot/cold seat repair kit</i> , p/n TA-4

Service Instructions

Removing control spindle assembly (Ref. Parts Assembly figure)

- Shut off water supply to valve and remove control valve handle and dome cover.
- Remove escutcheon plate by first removing escutcheon screws.
- Turn valve's control spindle to half way position between minimum and maximum rotation.



Important: Failure to do this can damage *control spindle assembly*.

• Unscrew both *spindle cap* and *control spindle assembly.*

Hot/Cold Seat Repair Kit

Order p/n TA-4, T-35A and T-35B. Installation requires both hot & cold removal tools, p/n T-35A & T-35B.

- Remove *control spindle assembly*.
- Remove both seats with removal tools.

- Replace both seats even if only one appears worn.
- Install and tighten both seats to 15 foot pounds of torque.

Control Spindle Washer Repair Kit *Order p/n TA-9.*

- Remove *control spindle assembly*.
- Remove *cold washer* by holding spindle using valve handle and unscrew *cold washer retainer* using channel lock pliers.
- Remove *hot washer* by removing *hot washer screw*.

Checking Water Pressure Balancing Piston

The perforated end of the *control* spindle assembly houses the water pressure balancing piston which is the heart of the valve.

- Remove *control spindle assembly*.
- Shake spindle assembly and listen for clicking noise. Piston should be free to slide back and forth the full length of its travel.

- If piston appears restricted then do the following:
 - (1) Tap the handle or stem end of the spindle against a solid object to free the piston.
 - (2) Try soaking in household vinegar and repeat step (1).
- If unable to free piston, replace control spindle assembly, p/n TA-10.



Important: Do not attempt removal of the piston.

Valve re-assembly

Reassemble by reversing above procedures.

After the *control spindle assembly* (TA-10) is threaded back into the spindle cap assembly (TA-12A) ensure *control spindle* is rotated 1/2 half turn clockwise from its maximum counter clockwise rotational position. Failure to do this will damage assembly.