

HydroPanel II™ Shower System with HydroGuard® PB410 Pressure Balancing Valve

Technical Instructions

Description ■

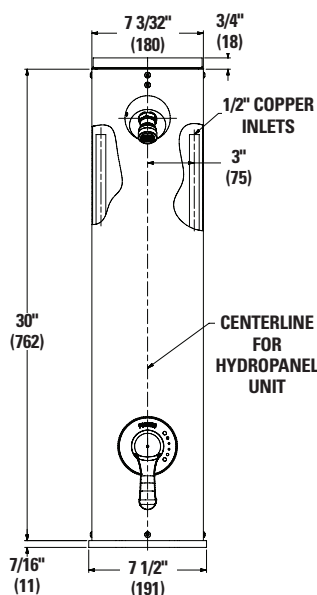
The Powers HydroPanel II™ Shower System with HydroGuard® PB410 valve combines pressure-balanced water control with the convenience of modular shrouding. It provides a concealed shower system where in-wall piping does not exist or may not be practical. The HydroGuard® PB410 features heavy cast brass construction, a poppet-type equalizing valve as part of a replaceable cartridge. The poppet-type construction offers a distinct advantage in that it will not stick because of lime buildup or foreign particles in the supplies. The metal-to-metal temperature limit stop prevent accidental scalding caused by over adjustment of handle. It also features integral checkstops. HydroPanel II™ comes complete with stainless steel shrouding, PB410 valve, piping, end cap and mounting hardware. Some models feature a stainless steel soap dish. Some models feature an ADA compliant lever handle. An optional hand shower comes preassembled.

Specifications ■

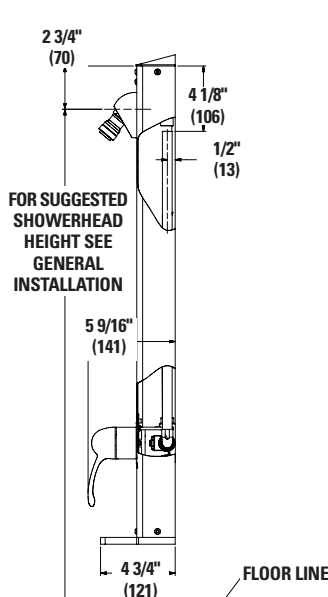
- HydroPanel II™ Brushed 18 Gauge 304 stainless steel
- Piping 1/2" (15mm) copper tubing
- Connections 1/2" (15mm) copper
- Flow rate 5 gpm (19 lpm)
- Maximum hot water temperature . 190°F (88°C)
- Maximum operating pressure 125psi (862 kPa)
- Showerhead Fixed chrome-plated brass
Adjustable swivel chrome-plated brass
- Hand shower Full spray with push button
- Listing/Certification (Valve only) .. ASSE 1016, CSA B125



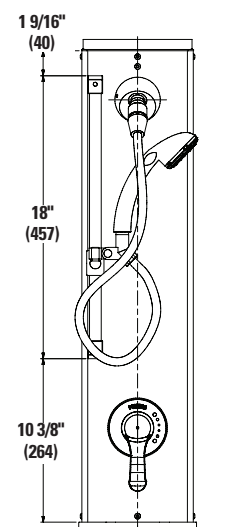
Installation ■



Hydropanel II Model 450-0416P
Fig. 1



Hydropanel II Model 450-0416P
Fig. 2



Hydropanel II Model 450-0420P
Fig. 3

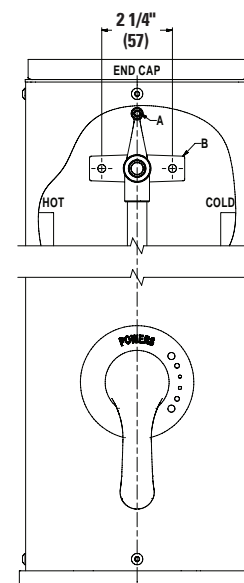


Fig. 4

Installation Continued ■

Installation should be in accordance with acceptable plumbing practices. Flush all piping thoroughly before installation. Failure to do so can result in valve malfunction. Before installation of HydroPanel II™, rotate the stem or handle off.

Position The HydroPanel II™ Unit ■

1. See Figure 1 and 2 to determine the horizontal position of the unit according to shower room layout, and mark the centerlines. For multiple shower applications, the recommended minimum distance between the center lines of the two units is 36 inches (914 mm).
2. Determine floor to showerhead height for the unit. Recommended height for men 77" (1956 mm), male youth 66" (1676 mm), women 70" (1778 mm) and female youth 60" (1524 mm).
3. The preassembled copper tubing for supply water inlets are 4-1/8" (106 mm) from the top of the shroud and 3" (75 mm) left and right of the centerline. Adjust supply line accordingly.

Install the Piping Assembly ■

1. Detach the piping from the shrouding by removing screw A above the showerhead (see Figure 4). Slide piping out of the shrouding; the showerhead remains attached to the shroud.
2. To mount the piping assembly bracket B, use bracket as a template and drill 2 small holes in the wall at showerhead height.
3. For mounting lower piping assembly, drill a small hole in the wall that is 23-5/8" (600 mm) below the upper bracket and on the center line. For unit with diverter, distance should be 35-5/8" (905 mm).
4. Install mounting anchors per room specifications. Secure bracket with mounting screws (NOT INCLUDED).
5. Connect the supply lines to the piping assembly.

Attach the Shrouding ■

Do not remove the entire chrome-plated end cap from the shrouding; it functions as an end cap and gasket for shroud extension. Part of the end cap can be broken out to provide vertical and horizontal piping clearance.

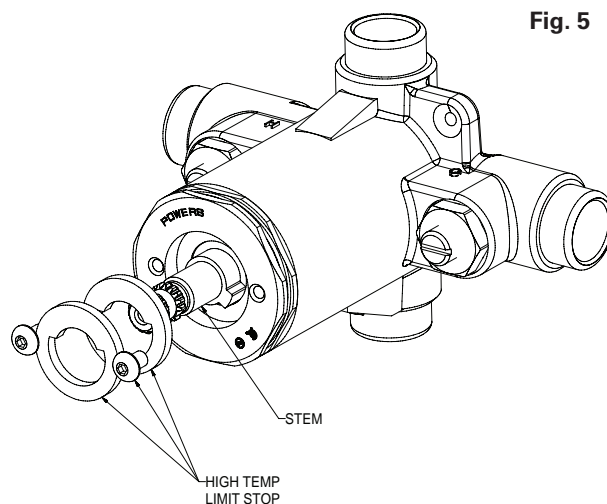
1. To remove scored section, hit it sharply with a hammer.
2. To connect the showerhead, slide the showerhead nipple on the inside of the shroud into the piping assembly. Secure shrouding with the screw at A.
3. Fit the handle over the stem. Turn on water supply. Turn handle fully counter clockwise and measure the outlet water temperature. Adjust temperature if required (see high temperature limit stop adjustment)
4. Check for leaks. Secure shrouding.
5. Snap on indicator plate, guide on the back of the plate goes into the locator hole.
6. Install sleeve o-ring onto the bonnet groove. Slide sleeve on to the bonnet.
7. Install the handle with the screw provided.

High Temperature Limit Stop Adjustment ■

The high temperature limit stop is located at the center of the bonnet. To adjust the temperature, unscrew two bonnet screws halfway. To increase the temperature, rotate the stem counterclockwise to the required temperature using the handle for leverage.

Do not place pliers or channel locks on the spline of the stem. Tighten the two bonnet screws. To decrease the temperature, turn the stem clockwise to the required temperature.

Rotate the limit stop with a help of a small flat head screw driver clockwise until it touches stem stop. Tighten the two bonnet screws. Turn valve off and then open it to verify setting (see Figure 5).



WARNING

Always verify the maximum temperature setting to the valve when any changes are made. This should also be checked as a part of a facilities maintenance/safety program.

Servicing ■

Before servicing checkstops or piping, turn off water supplies upstream. To access the checkstops, remove handle, indicator plate and shrouding.

At least every twelve months, open up the checkstops and check for the free movement of the poppet.

Before servicing the valve, either turn off the water supply upstream or close the checkstops. To close the checkstops, turn the adjustment screw on each stop clockwise.

Every six months, check and adjust the handle rotation setting.

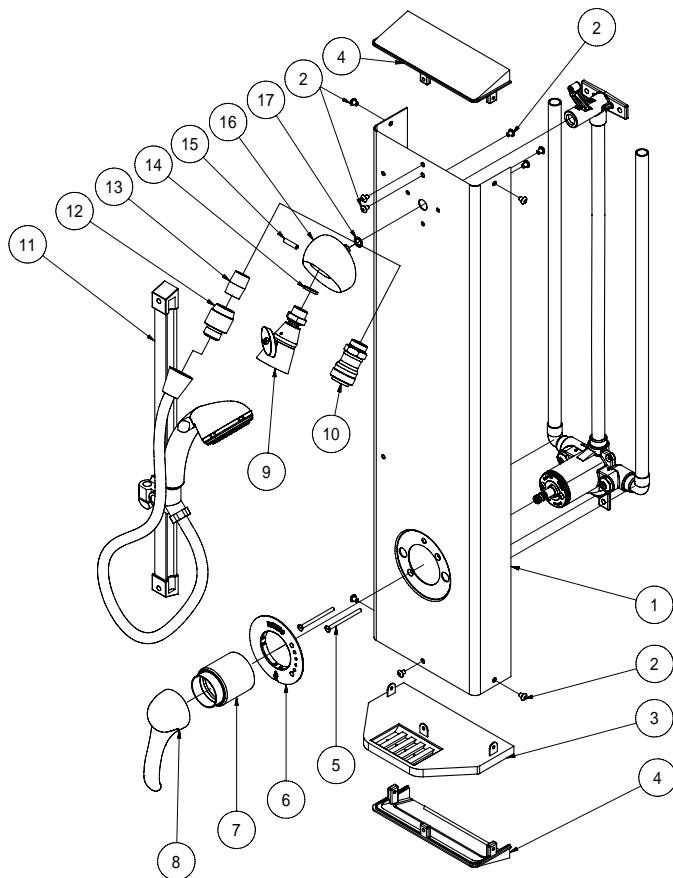
Every twelve months, remove the valve bonnet and check the internal components for the freedom of movement.

Troubleshooting ■

What to look for if:

- 1. The flow of the water is less then desired.**
 - a. Valves upstream from supply not fully open.
 - b. Low supply pressure.
 - c. Accumulation of lime deposit in hot water pipes, restricting the flow of the hot water
 - d. Showerhead clogged. Remove and clean.
 - e. Checkstops may not be fully open.
- 2. Flow of water is completely shut off.**
 - a. Valves upstream from supply completely closed.
 - b. Failure of hot or cold water supply pressure.
 - c. Checkstops closed.
- 3. Flow is untempered hot or cold water.**
 - a. The water supplies are connected to wrong ports.
 - b. Check for foreign material that may be clogging the cartridge.
- 4. Flow of water continues when valve is shut off.**
 - a. Worn shut off disc. Replace cartridge.
 - b. Scratched mixing plate. Replace with bonnet/stem kit.
- 5. Checkstops leak or they won't shut off.**
 - a. The checkstops may be damaged. Replace with checkstops replacement kit.
- 6. Maximum temperature is too low.**
 - a. Accumulation of lime deposit in hot water pipes, restricting the flow of the hot water
 - b. The concealed maximum temperature limit stop is not at its maximum adjustment. Set the maximum temperature limit stop.
 - c. Hot water is too low.

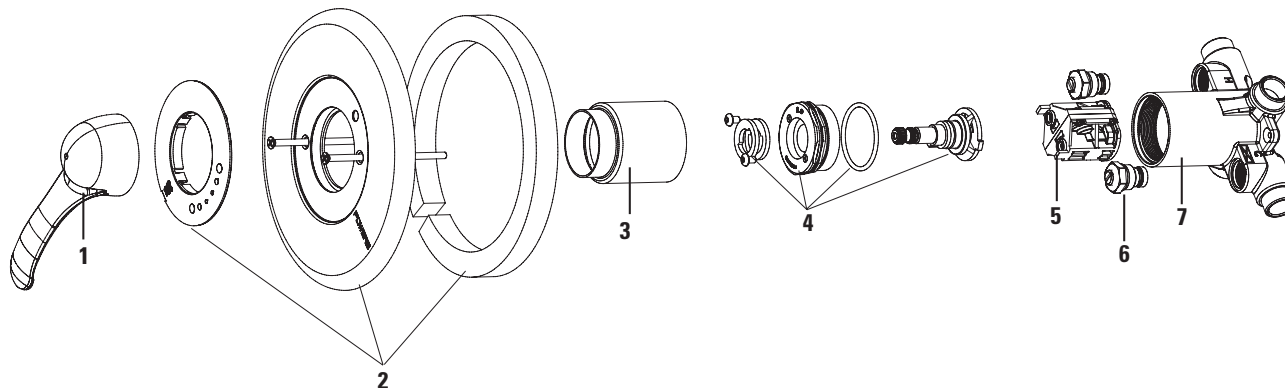
Parts List ■



Parts List		
Item	Part Number	Description
1	450-280	SHROUD (showerhead)
1	450-280A	SHROUD (handshower)
2	450-273A	SCREW 10-32 UNF x 1/4
3	450-268	SOAP DISH
4	450269G	CAP, END CHROME PLATE
5	450-272	SCREW 8-32 X 1-1/4
6	410-017A	TRIM PLATE COVER
7	220-054	SLEEVE KIT
8	420-049	HANDLE KIT
9	141-379	SHOWERHEAD - ADJUSTABLE SWIVEL
10	141-816	SHOWERHEAD - FIXED
11	141-837	PUSHBUTTON SHOWER HAND SPRAY
12	141-319	IN-LINE VACUUM BREAKER (handshower)
13	042-672G	NIPPLE - 12" NPT X 1-1/8" LG (handshower)
14	450-277	GASKET - SHOWERHEAD BASE
15	450-276	SET SCREW 10-32 UNF X 7/8
16	450-267G	BASE, SHOWERHEAD CHROME PLATE
17	047-013	QUAD RING 3/8" ID X 1/2" OD

Parts List ■

Fig. 6



Parts List		
Item	Part Number	Description
1	420-049	HANDLE KIT
2	410-022	TRIM PLATE KIT
3	220-054	SLEEVE KIT
4	410-410	BONNET/STEM KIT
5	900-240	CARTRIDGE
6	900-050	CHECKSTOP REPLACEMENT KIT
7	N/A	BODY

CALIFORNIA PROPOSITION 65 WARNING
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. (California law requires this warning to be given to customers in the State of California.)
 For more information: www.watts.com/prop65

NOTE: AFTER COMPLETING REPAIRS, CHECK DISCHARGE TEMPERATURE. RESET IF NECESSARY.
WARNING: FAILURE TO PERFORM THIS OPERATION COULD RESULT IN UNSAFE DISCHARGE TEMPERATURE, WHICH MAY CAUSE INJURY OR DEATH.

Warranty ■

The Seller warrants that the equipment manufactured by it and covered by this order or contract is free from defects in material and workmanship and, without charge, equipment found to be defective in material or workmanship will be repaired, or at Seller's option replaced F.O.B. original point of shipment, if written notice of failure is received by Seller within one (1) year after date of shipment (unless specifically noted elsewhere), provided said equipment has been properly installed, operated in accordance with the Seller's instructions, and provided such defects are not due to abuse or decomposition by chemical or galvanic action. THIS EXPRESS WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES, GUARANTEES, OR REPRESENTATIONS, EXPRESS OR IMPLIED. THERE ARE NO IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. The Seller assumes no responsibility for repairs made on the Seller's equipment unless done by the Seller's authorized personnel, or by written authority from the Seller. The Seller makes no guarantee with respect to material not manufactured by it.