

# POWERS

A WATTS INDUSTRIES CO.

## PRODUCT SPECIFICATION

### ESP™ Hydropanel™ II Infrared Sensor System

#### DESCRIPTION

The Powers ESP (Electronic Sensor Plumbing) Hydropanel II Infrared Shower System combines the convenience of modular shrouding with the benefits of solid state electronic water control. The Hydropanel II stainless steel shrouding provides a concealed shower system where in-wall piping does not exist or may not be practical. The ESP Infrared Shower System relies on infrared technology to sense the presence of a user and deliver tempered water to the shower with completely hands free operation.

When the unit is powered, the ESP sensor emits an invisible infrared beam into the shower area. When a bather enters the field of this beam, a signal is transmitted to a solenoid valve, which opens and sends water to the showerhead. The shower will operate as long as the bather stands in front of the sensor, for the pre-set shower run time.

The ESP Hydropanel II is ideal for new or retrofit applications in schools, health clubs, correctional facilities, remodeled buildings—anywhere space, hygiene and water conservation are concerns. Tempered water can be supplied to the ESP Hydropanel units by a master mixer such as the Powers Hydroguard 430 thermostatic mixing valve or Hi-Lo Cabinet Supply Fixture.



Figure 1.  
ESP  
Hydropanel  
I

#### BENEFITS

##### Modular Design:

The Hydropanel II is a single unit shower system, with the stainless steel shrouding that covers and protects the exposed piping. Installation requires minimal hardware: just mount the brackets, connect the supply water to the pre-piped solenoid, and hang the shrouding.

##### Water Conservation:

With electronic sensor plumbing control, water runs only when actually needed. The shower automatically turns on when a bather presses the pushbutton, and automatically shuts off at the pre-set run time, or when the bather presses the pushbutton again.

##### Reduced Maintenance:

Traditional metering valves are prone to maintenance and mechanical failure due to component wear, lime build-up and vandalism. Electronic Sensor Plumbing systems are much more reliable, with proven solenoid valves, solid state electronics and vandal resistant sensor assemblies.

#### COMPONENTS

The ESP Hydropanel II Shower System Series 450-5100 consists of stainless steel Hydropanel II shrouding, ESP Pushbutton Shower System, showerhead, piping, and soapdish. The ESP Pushbutton System consists of proximity sensor, pushbutton assembly, control box, wiring, solenoid valve and optional 24V AC transformer.

#### OPERATION

The ESP Hydropanel II Pushbutton Shower System includes an infrared sensor assembly, solenoid valve and pre-mounted piping. The shrouding removes with just three screws, for easy access to the pre-assembled piping. All electronic components use modular plug-type connectors for easy installation and maintenance. Refer to Figure 2 for a diagram of the ESP Hydropanel II Infrared Shower System components.

The ESP infrared sensor is mounted behind the front face of the vandal resistant Hydropanel shrouding. One the back of the sensor are two field adjustable potentiometers, for easy adjustment of infrared field sensibility (from 2" to 48") and maximum shower run time (0 to 14 minutes).

The sensor emits an invisible infrared beam into the shower area. A bather approaches the shower sensor within the sensitivity distance reflects the beam back to the sensor. An LED on the sensor lens lights to show sensor activation, and the sensor transmits a signal to the modular junction box.

#### SPECIAL FEATURES

- Commercial grade non-metallic solenoid valve is slow closing to prevent water hammer, has a straight through flow path for wider flow range, and has manual override.
- Safe low-voltage electronic system uses simple modular plug-type connections (vs. hard wiring).
- Sensor features a unique LED on lens to indicate sensor activation and simplify troubleshooting.
- Two easily set potentiometers allow adjustment to sensor sensitivity (2" to 48") and maximum run time (0 to 14 minutes).
- Vandal resistant (fixed) and swivel showerheads available.
- Box or plug-in transformers (optional) each power up to 8 ESP Shower Systems.
- Optional Modular Shrouding provides easy to install, stainless steel shrouding to cover all room piping. See form PS450SH for details on Hydropanel II modular shrouding.

#### SPECIFICATION

**Hydropanel:** Brushed 304 SS. Dimensions are 31 1/8" H x 7 1/2" W x 4 1/4" D. See figure 3 for complete dimensions.

**Showerhead:** Fixed or Swivel, 2.5 gpm maximum flow.

**Sensor:** Polyurethane Housing with two adjustable potentiometers for sensor sensitivity and maximum shower run time.

**Sensor Range:** Factory preset to 18"; field adjustable from 2" to 48".

**Cable Length:** Sensor to Modular Junction Box: 24", with modular plug connector for easy installation into junction box. Maximum cable extension (optional) 1000 feet.

**Modular Junction Box:** Plastic with Plug in Connections for sensor and solenoid valve; 2 1/4" x 2".

**Control Circuit:** Solid State 21 to 28 VAC. Shower time factory preset to maximum time of 14 minutes; field adjustable from 0-14 minutes.

**Transformer:** Box or Plug In Type. UL listed and CSA Certified Class 2 Transformers. Primary 120V 60 Hz, Secondary 24 VAC. Either powers up to 8 solenoids.

**solenoid Valve, Brass:** 24 VAC, 60 Hz, 1/2" NPT inlet/outlet connections. Maximum operating pressure 150 psig. Maximum fluid temperature: 140°F

## TYPICAL SPECIFICATION

Shower unit shrouding shall be 304 SS material, with pre-mounted, (vandal resistant) (swivel) 2.5 gpm flow restrictor showerhead and soapdish. Shrouding shall be pre-assembled and pre-piped for easy installation to supply lines.

Shower control shall be electronic and operate on 24 VAC. Shower shall be activated by a infrared sensor which responds to the presence of a bather in a shower and allows "hands free" activation. Shower must shut off when bather moves beyond sensor sensitivity range, or at the pre-set run time. Sensor shall be waterproof and feature both sensor sensitivity adjustment from 2" to 48", and maximum shower time adjustment of 0 to 14 minutes. Sensor assembly shall also feature an

LED through the sensor lens to indicate sensor activation. Modular junction Box must feature modular plug receptacles for shower and sensor connection. Shower system shall include a slow closing commercial grade (non-metallic) (brass) solenoid valve. All sensor and solenoid electrical connections must be accomplished using modular plug type connectors. Transformer shall be Class 2 type UL and CSA listed, operate on 120VAC, 60Hz and 24 VAC secondary coil. Transformer shall power up to eight solenoids.

Optional shrouding extensions shall be of 304 stainless steel, modular and compatible with shower unit housing.

## ORDERING INFORMATION

**450** -  - **00** -   -   -   -   -

ADA compliant

<b>Sensor</b>	<b>Order Code</b>	
Infrared .....	1	
<b>Transformer</b> (Order separately-See below)		
None .....	00	
<b>Control Box</b>		
None .....	00	
<b>Showerhead</b>		
Fixed Head .....	03	
Swivel Head .....	04	
Deluxe Hand Shower (141-163) .....	06	
Standard Hand Shower (141-827) .....	08	
Fixed Head, Standard Hand Shower and Diverter .....	10	
Fixed Head, Deluxe Hand Shower and Diverter .....	12	
<b>Soap Dish</b>		
With Soapdish .....	WD	
Less Soapdish .....	LD	
<b>Mixing Valve</b>		
<b>With Lever Handle Only</b>		
Pressure Equalizing 900 .....	900	
Pressure Equalizing 410 .....	410	
Thermostatic 420 .....	420	

**Transformer** (Powers up to 8 solenoids)

Box (444-119)

Plug (444-118)

Box (220V) (444-117)

## ENGINEERING APPROVAL

Project: \_\_\_\_\_

Contractor: \_\_\_\_\_

Architect/Engineer: \_\_\_\_\_

**POWERS**  
A WATTS INDUSTRIES CO.

© Feb. 2002 Powers, a Watts Industries Co.  
USA Phone: 800.669.5430  
www.powerscontrols.com  
Canada Phone: 888.208.8927