

**PACKAGED WATER HEATING UNITS  
PWHU**

**DESCRIPTION**

The ADCATherm PWHU packaged water heating units are designed for instant hot water heating in a safe and efficient way, using steam as primary fluid.

Each system is built to meet application and space requirements in a compact skid package, ready for connection into the system, reducing on-site labour and disruption time.

**MAIN FEATURES**

Accurate water heating with simple and intuitive controls.

Fully assembled and tested, saving design, assembly and commissioning time.

Compactly mounted in a structural steel metal frame to save floor space.

Tailor made to meet application and space requirements.

Hot water side manufactured in austenitic stainless steel with automatic air venting.

Fitted with ADCATherm PAT plate heat exchanger or ST shell & tube heat exchanger.



- OPTIONS:**
- Frame and/or primary side manufactured in stainless steel.
  - Humidity separator set.
  - Independent high limit set.
  - Steam pressure reducing set.
  - Pump trap set.
  - Recirculation pump and bypass set.
  - Primary and/or secondary side shut-off set.
  - Buffer vessel for semi-instantaneous systems (WAVE).
  - ADCATherm shell & tube heat exchanger.
  - Thermal insulation.
  - Wheels.

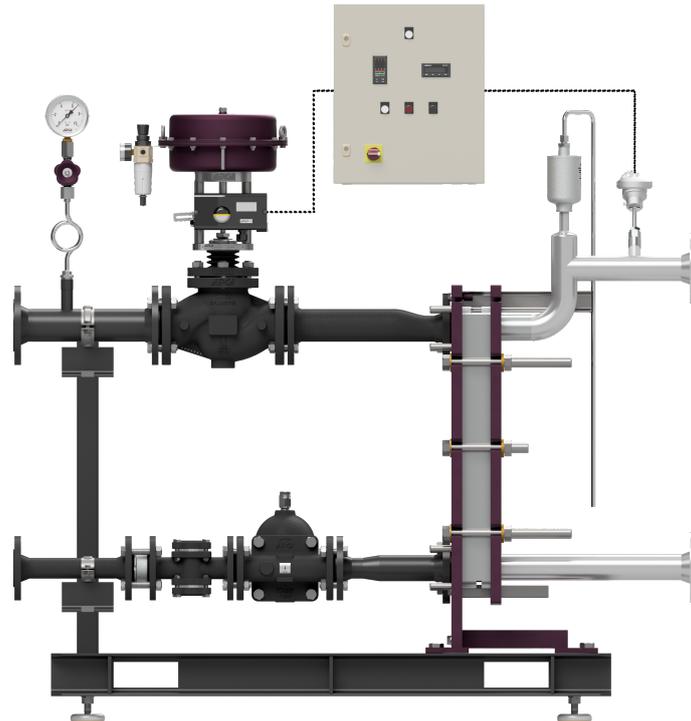
**USE:** Instant water heating for process and other applications.

**CONNECTIONS:** Flanged EN 1092-1 PN 16 or ASME B16.5 Class 150.  
Others on request.

CE MARKING
Non-standardized product designed acc. to requirements. Conformity assessment and CE marking are carried out case by case.

LIMITING CONDITIONS *	
Maximum allowable saturated steam (primary) pressure	9 bar
Maximum allowable water (secondary) pressure	9 bar
Maximum operating temperature (EPDM-HT seals)	180 °C
Pipework pressure rating	PN 16

\* Valid for units fitted with an ADCATherm PAT plate heat exchanger. Actual limiting conditions may vary depending on the requirements and final design.



*Basic unit configuration*

#### CONTROL VALVE AND SENSORS

An ADCATrol globe control valve is in charge of modulating steam flow rate, and carefully sized with nominal or reduced seat to match heat demand and recommended velocities. Fitted with either a pneumatic or electric actuator, with electro-pneumatic or electronic positioner, respectively.

The standard unit includes a fast response ADCATrol Pt100 temperature sensor on the secondary side, installed in a thermowell.

#### CONTROL PANEL

Steel enclosure (stainless steel on request) equipped with process controllers, volt-free terminals and analog outputs for monitorization of temperatures, alarms and remote setting.

The control panel can be alternatively fitted with PLC and touch screen, with data logging and communication capabilities. Installed control and instrumentation equipment is pre-wired and pneumatic equipment is piped to an air supply manifold, ready for connection.

#### HEAT EXCHANGER

An ADCATherm heat exchanger is carefully selected to guarantee the best system performance. Units can be supplied with highly efficient and expandable ADCATherm PAT series plate heat exchangers or one of many ADCATherm ST series shell & tube heat exchanger designs.

#### CONDENSATE DRAINAGE

Each unit is fitted with either a ADCA float steam trap or ADCAMat pump trap, carefully sized to ensure efficient condensate drainage regardless of pressure fluctuations.

#### FRAME AND PIPEWORK

Equipments are compactly mounted in a structural steel metal frame (stainless steel on request) and the layout can be adjusted to meet installation space requirements.

Pipework is sized for the application with primary side manufactured in carbon steel and valves and fittings in carbon steel or SG iron. Secondary side pipework is manufactured in stainless steel with valves and fittings in stainless steel or brass, if admissible.

## HUMIDITY SEPARATOR SET

Includes manual steam and condensate isolation valves, strainer and humidity separator with trapping station.

## INDEPENDENT HIGH LIMIT SET

Pneumatic or electrically actuated fail-safe high limit valve to immediately isolating steam supply once a secondary temperature is reached. Set includes independent controls and sensors. High limit valve can be globe or ball type.

## PRESSURE REDUCING SET

Includes pressure reducing valve, safety relief valve and pressure gauges. The optional humidity separator set is strongly advised when this set is considered.

## PUMP TRAP SET

Complete pumping trap set with receiver carefully sized for the load, ADCAMat pump trap, motive steam supply line with trapping station and air vent.

## PUMP AND BYPASS SET

Recirculation pump and bypass valve arrangement, allowing fast response to quick load changes, enhancing and stabilizing temperature control.

## SHUT-OFF VALVE SET

Primary side: Bellows sealed shut-off valves and strainer. Secondary side: Stainless steel ball valves. Allows manual isolation of the primary and/or secondary sides for convenience or protection.

TECHNICAL DATA *	
Power supply	230 V AC 50/60 Hz
Nominal current	5 A
Main switch	25 A
IP rating (control panel)	IP 65
Pneumatic supply	6 bar minimum
Control voltage	24 V DC
Electric actuators	24 V AC/DC or 230 V AC

\* May vary depending on unit configuration and options.

## DIMENSIONS

Non-standardized product designed according to requirements. Dimensions and weights are provided case by case. Consult the manufacturer.

## HOW TO ORDER

Please request and fill up the PWHU inquiry sheet.



Optional humidity separator set \*



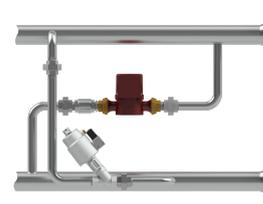
Optional independent high limit set \*



Optional pressure reducing set \*



Optional pump trap set



Optional pump & bypass set \*



Optional shut-off valve set \*

\* Can be integrated on the package or delivered as isolated components to be fitted on the line.