



# CONTROL SYSTEMS HP380 Discharge Controller

## For Transcritical CO2 Gas Cooler and Valve Control with Heat Reclaim

- Stand alone or networked
- Variable speed fan control
- Floating head pressure control
- High pressure valve control
- Adiabatic cooling
- Heat reclaim
- IP communications



#### PRODUCT DATA

Condenser Control Controls gas cooler fans and transcritical CO2 valves.

Heat Exchanger Controls heat exchanger and gas cooler bypass valves.

Excitatiget

**Alarms** 

The HP380 monitors and alarms on 2 pressure inputs, 2 temperature inputs and 4 digital inputs, for high pressure, fans healthy, adiabatic system healthy, auto/manual control switch. Alarm can be displayed locally and announced through the JTL Network.

locally and announced unrought the

**Display** The HP380 drives display detailing operation pressures and alarm

messages.

Remote Access If operating within a JTL Network, alarm parameters and alarm settings

can be viewed and adjusted remotely.

Transcritical Operation

The HP380 controller switches between subcritical and supercritical control using the current ambient temperature conditions.

HP valve Control In subcritical mode optimum control is achieved with the floating head

control.

In supercritical mode the pressure is controlled to a setpoint dependent

on the ambient temperature.

Fan speed Control In subcritical mode the control maintains the liquid at the cooler exit at

an appropriate subcooled level.

In supercritical mode the control maintains the cooler exit temperature at a fixed effect to the empirature

a fixed offset to the ambient temperature.

Adiabatic Cooling The HP380 enables adiabatic cooling when required to keep to exit

temperature at setpoint.

**Heat reclaim** When the site heating system requires heat the HP380 can elevate the

condensing conditions to provide additional heat. An Additional interface (IF67) is required for this function.

RODUCT DATA

### **HARDWARE**

Pressure transducer inputs (4-20 mA) 2 Pressure display drives

LCD10, LCD14 Display types

Temperature inputs (5k thermistor) 2 Voltage-free contact outputs 4 Voltage-free inputs 4 Analogue output (4-20 mA) 1 Analogue output (0-10 V)

#### TECHNICAL SPECIFICATION

Pressure input 1 Cooler exit pressure Pressure input 2 Inlet pressure

Temperature input 1 Cooler exit temperature Temperature input 1 Cooler air on temperature Analogue output 1 (0-10 V) Gas cooler fan speed control

Analogue output 2 (4-20 mA) HP valve control

Output 1 **Enable Adiabatic cooling** 

Output 2 Enable HP valve control

Output 3 Watchdog

Output 4 High discharge pressure safety Interlock

Relay output rating 2 A resistive (240 V max)

Input 1 Auto/manual control switch Input 2 Adiabatic cooling healthy Input 3 Fans healthy

Input 4 Valve faulty RS485 2 wire Communications port Communications data rate 4800 baud

Communications protocol JTL Jnet zone protocol

JTL Plant zone

JTL Modbus JTL Plant zone data rate 9600 baud **Ethernet Port** 10/100 Base T

Unit dimensions boxed (L x W x H 105 x 120 x 79 mm

Unit weight boxed 0.35 kg

Power supply (standard) 85-265 Vac (47-440 Hz)

85-265 Vdc (optional) 24 V

### ORDERING INFORMATION

HP380 Controller

#### **Power Supply Options:**

For 24 V append-24 to order code



This unit conforms with the relevant EU standards when fitted in accordance with its installation instructions.

Doc No. 05590 HP380.pmd Issue 1 Apr 2020