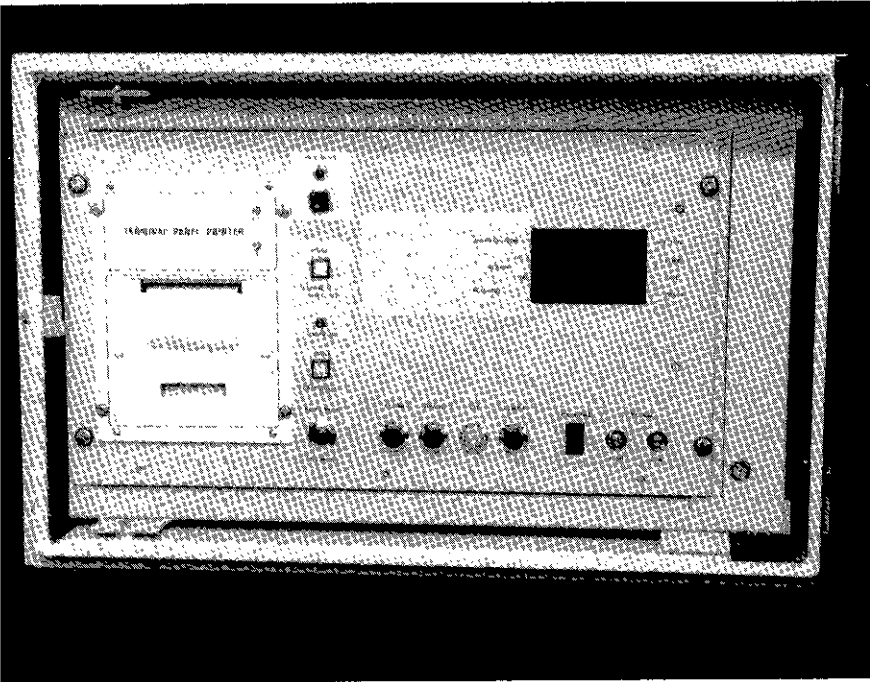


SMARTPOUR TEMPERATURE QUALITY MONITOR



HEPWORTH HEATING LTD., BELPER, U.K.

SMARTPOUR is a non-contact infrared molten metal temperature monitoring system which automatically checks the stream temperature as it pours into the mould.

THE SYSTEM COMPRISES:-

1. A 2-colour, ratio, infrared thermometer with air purge, water cooler, adjustable mounting bracket, protective lens assembly, eyepiece filter and cable.
- + 2. A 'Smartprint' remote wall, bench or panel mounting signal processor/ power supply /Read-out cabinet with printer.
- or 3. POWER SUPPLY/Digital Indicator Unit, Analogue to Digital Convertor + Software for your Computer.

Smartpour, installed on the moulding line, automatically monitors, stores and displays the pouring temperature, into each mould.

In 'Normal' Mode, it alerts the operator and gives a print-out if High or Low Limits of Acceptance are exceeded.

High and Low Temperature limits are set, manually, at the front panel where 'POUR TEMPERATURE', 'POURING TIME, in seconds, and 'POUR NUMBER' are displayed.

Smartpour may be used to monitor a continuous molten stream, when a representative temperature will be computed, for each 20 second segment.



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In 'Normal' Mode, all this data plus time and date, are printed when Temperature Limits are exceeded: simultaneously, audible and/or visual alarms, if fitted, alert pouring staff.

Print-out of all measurements may be selected at the Smartprint panel, say for a particular batch of moulds, or for a Quality Audit.

The 'Pour No.' counter is automatically reset, at 24.00 Hours, daily: it can be reset at any time say, for, a special run.

All the above pouring stream information may be fed to your Quality Control Data Collection Centre, via an RS232 Serial Link.

SMARTPOUR may also be used at other points in the Melting process, at the Induction Furnace or for any Stream Temperatures.

Other applications for SMARTPRINT are the monitoring and processing of intermittent, noisy or variable signals requiring a representative measured value to be printed.

SPECIFICATION

TWO COLOUR, RATIO SENSOR

FOCUSSING DISTANCE: Adjustable, 380mm(15") to infinity.

TARGET DISTANCE: Up to 20 Metres, for mould temperature application.

OPTICAL RESOLUTION: Target Distance, 'D' divided by '100', for the high temperature range: 'D' divided by '50' for the lower ranges.

Up to 99% Obscuration of Target Reticle; 'INVALID' signal above this.

EMISSIVITY SLOPE ADJUSTMENT: 0.85 to 1.15

AMBIENT TEMPERATURE RANGE (without auxillary cooling):

0 to 55 DEG. C (30 to 130 DEG. F)

INDICATOR/PROCESSOR UNIT

STANDARD TEMPERATURE RANGES:-

700 to 1400, 900 to 1600, or 1100 to 2000 Degrees Celsius

1300 to 2500, 1800 to 3200 or 2000 to 4000 Degrees Fahrenheit

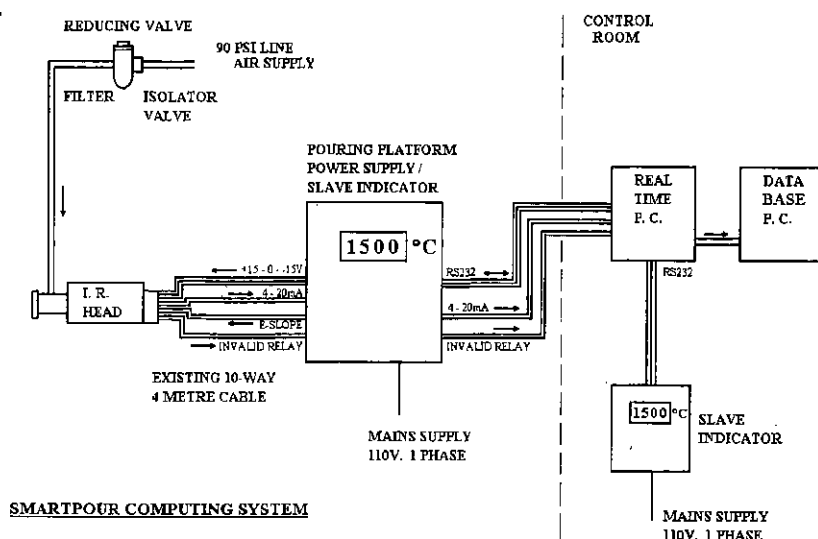
ACCURACY: 0.75% of full scale temperature or 6 DEG. C (10 DEG. F), whichever is the greater.

REPEATABILITY: 0.3% of full scale temperature +/- 1 Degree, or +/- 4°C (7°F)

LINEAR OUTPUTS

0 to 10V, 4 to 20 or 0 to 20MA d.c.

RS232 or Parallel BCD



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