

VIII DEVICES FOR TEMPERATURE CONTROL IN METALLURGY

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SYSTEM OF TEMPERATURE CONTROL OF MELTED METALS CKTP-0597

Designed to measure temperature of melted metals by means of contact method with the help of a submerging thermocouple and signal about measurement progress. The process is controlled by CPU.

Letter notation of NSC (ДСТУ 2837-94)
of thermoelectrical couple

B, S, R, A and K

Range of measured temperatures, °C

from 800 to 1800

Error of measurement of digital device, not more than, °C 1

Quantity of decimal positions of indicator screen

4 (height of digits 40 mm)

Power

220^{+22}_{-33} V, 47 - 63 Hz

Ambient temperature, °C

from 0 to 50 (different packaging for
from minus 40 to 50 °C range)

Weight of digital device, not greater than, kg

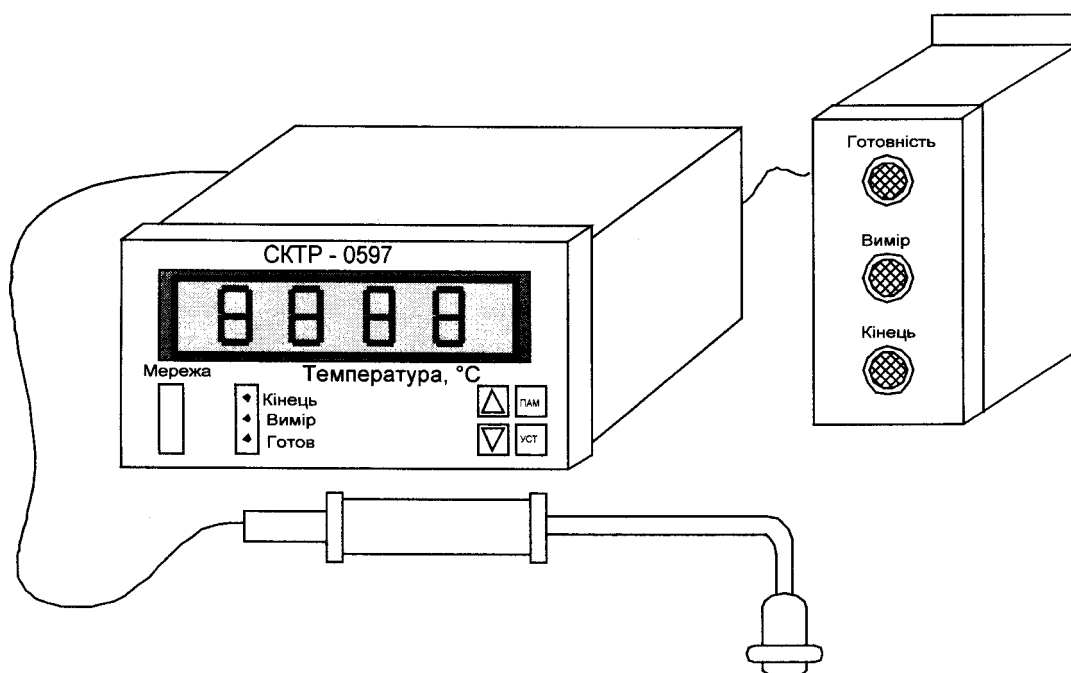
5

CKTP-0597 system is easy to use.

When thermocouple is attached, green light turns on which signals that the system is ready to measure. Yellow light (measurement) shows that the thermocouple has reached the temperature close to the set level.

After measurement process is over which lasts several seconds, red signal light turns on and brief sound alarm goes off. The digital indicator displays the measured value of temperature of melted metal that is stored until the next measurement.

CKTP-0597 system provides archiving of measurement results and time when they were taken in volatile memory. Archived data can be displayed on the indicator and sent to PC via RS232 or RS485.



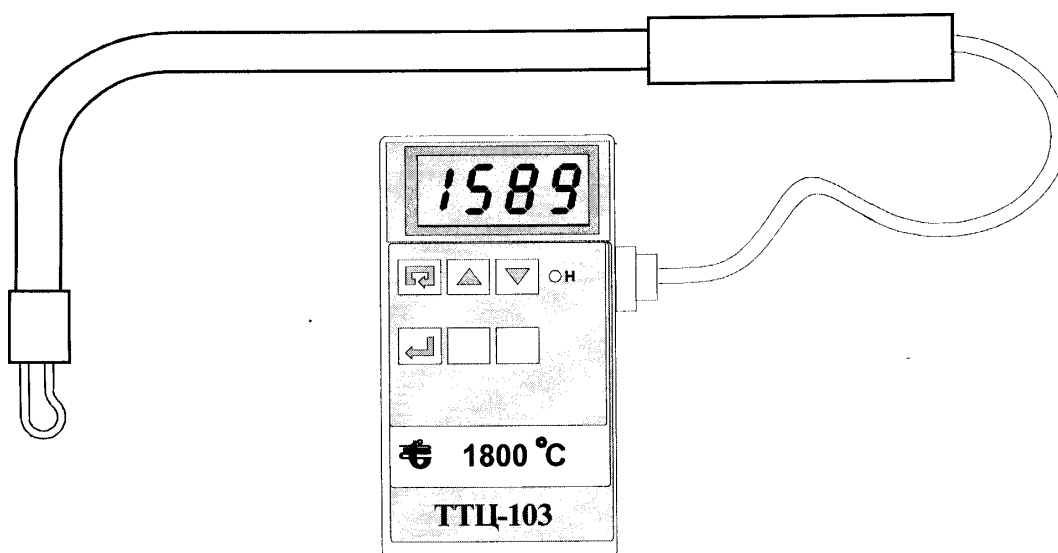
**MICROPROCESSOR THERMOELECTRICAL THERMOMETER
TTL-103 (TY 25.5Ц2.828.018-89)**

Designed to measure temperature of melted metal. Consists of digital measurement device and thermoelectrical couple package mounted into a special holder (so called fishing rod).

Measurement process involves submerging the package into melted metal and reading value from numeric display after measurement process is completed.

Sound and light signals are provided after measurement is over while measured temperature value (up to 32 values) is stored in the memory automatically and may be retrieved afterwards.

Range of controlled temperatures, °C	from 0 to 1800
Acceptable value of main error, %, not more than	1
Resolution, °C	1
Ambient temperature, °C	from 5 to 60
Power supply, V	3,6
Consumed power, Wt, not more than	0,012
Size, mm:	
of measurement device	125x70x25
thermocouple housing	1200x400



THERMOELECTRICAL COUPLE
ТПП-0788 (ТУ 25-7363.056-90)

Designed to measure temperature of melted metal by submerging the package of thermocouple ПТПП-0788 into measured environment for short period of time (5s) and then replacing the package with a new one.

ПТПП-0788 packages are single use items and can be supplied alone according to Specification 25-7363.057-90.

Working range of measured temperatures, °C from 900 to 1700

Letter notation of NSC (ДСТУ 2837-94) S

Class (ДСТУ 2857-94) 2

Index of thermal inertia, s, not more than 2

Replace the package after measurement

If requested by Customer, we can deliver thermocouples ТПП-0788 with housing length 1000 ...1400 mm and packages ПТПП-0788 with the length of casing 200...1200 mm.

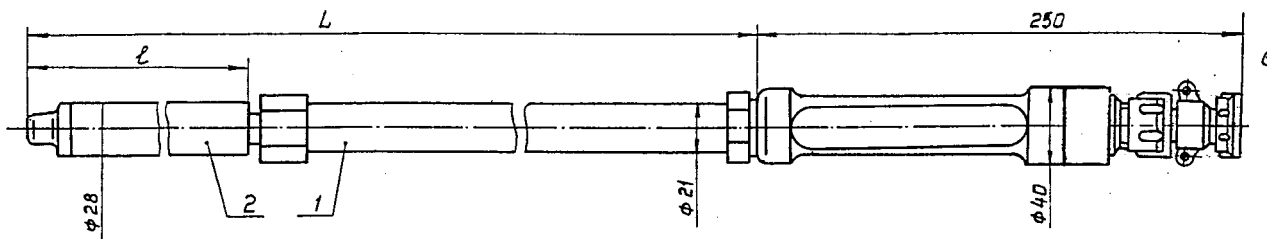


Fig. 1 - ТПП-0788

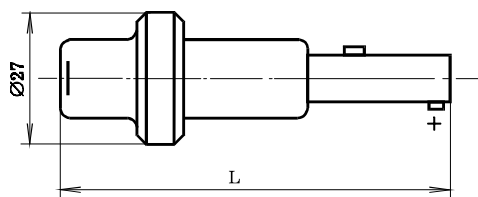


Fig. 2 - Package ПТПП-0788

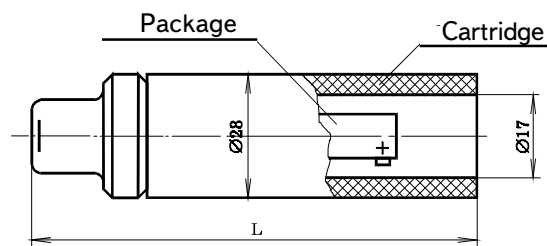


Fig. 3

THERMOELECTRICAL COUPLE
ТПР-0290 (ТУ У 33.2-04850451-088:2007)

Designed to measure temperature of fluid steel by submerging the package of thermocouple ПТПР-0290 into measured environment for short period of time (5s) and then replacing the package with a new one. ПТПР-0290 packages are single use items and can be supplied alone according to Specification ТУ У 33.2-04850451-089:2007.

Working range of measured temperatures, °C	from 1000 to 1800
Letter notation of NSC (ДСТУ 2837-94)	B
Class (ДСТУ 2857-94)	2 or 3
Index of thermal inertia, s, not more than	2
Time of submerging ПТПР-0290 package in melted steel (length of single measurement), not more than, s	5
Replace the package after measurement	

If requested by Customer, we can deliver packages ПТПР-0290 (Graph 3) with one of the listed casing lengths: 2100; 200; 250; 300; 500; 600; 900; 1000; 1200 mm.

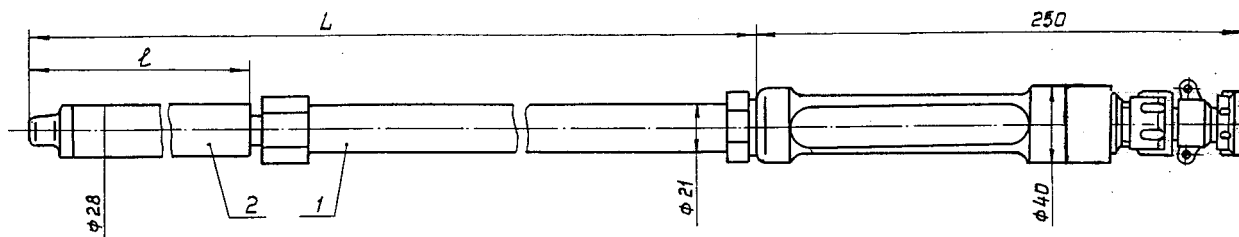


Fig. 1 - ТПР-0290

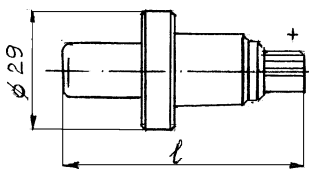


Fig. 2 - Package ПТПР-0290
 (ТУ У 33.2-04850451-089:2007)

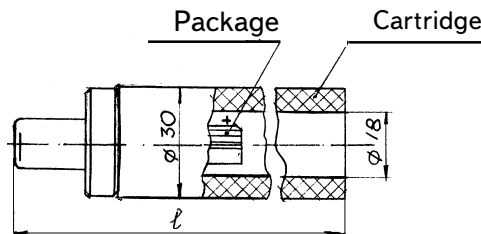
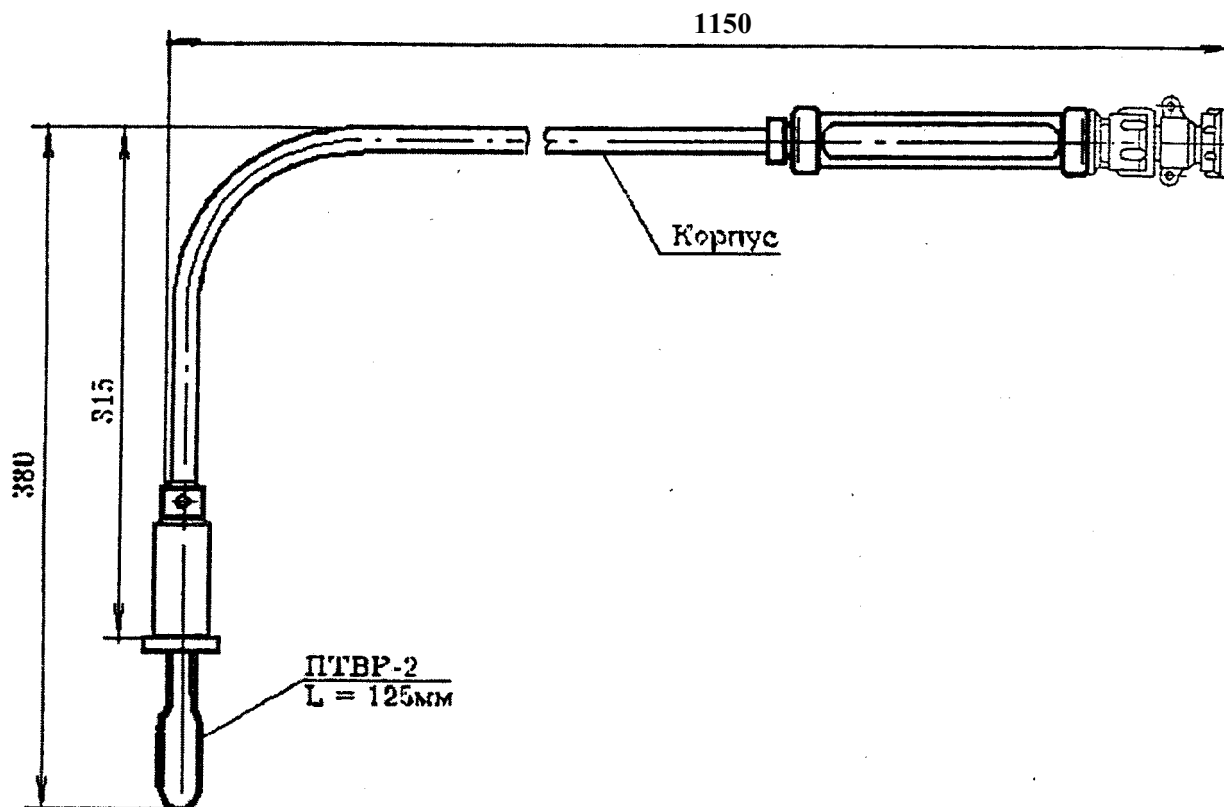


Fig. 3

THERMOELECTRICAL COUPLE
TBP-301-01 (TY 25.02.7921.46-79)

Designed for multiple brief temperature measurement of melted cast iron cleaned of slag in founding scoops by submerging the thermocouple package ПТВР-2 in measured environment. ПТВР-2 packages are multiple short-time use, supplied as separate items.

Working range of measured temperatures, °C	from 1200 to 1550
Letter notation (ДСТУ 2837-94)	A-1, A-2, A-3
Class (ДСТУ 2857-94)	2 or 3
Time of submerging ПТВР-2 package in melted iron (time of single measurement), s	5
Number of measurements with one package if submerged into cleaned cast iron	10
Number of measurements with one thermocouple if package is replaced, not less than	1500
Index of thermal inertia, s, not more than	2
Weight, not more than, kg:	
thermocouple,	1,0
package	0,05



THERMOELECTRICAL COUPLE
TBP-0688 (TY 25-7363.054-90)

Designed to measure temperature of cast iron cleaned from slag in different subsystems of iron founding by short time submerging (5s) into the measured environment and then replacing the package of thermoelectrical couple ПТВР-0688. The packages are single use items or, depending on specific usage conditions, repeated short-term use items. The package may be supplied as a separate item according to Specifications 25.7363.055-90

Working range of measured temperatures, °C	from 1200 to 1800
Letter notation of NSC (ДСТУ 2837-94)	A-1, A-2, A-3
Class (ДСТУ 2857-94)	2 or 3
Index of thermal inertia, s, not more than	2
Weight, not more than, kg: thermocouple, package,	1,5 0,2

