

PREHEATER 6000 TC

One button to the perfect temperature

In order to guarantee an optimum adhesion respectively a controlled foaming on the conductor, a reliable conductor preheating at the manufacture of high-quality cables, specifically automotive and data cables, is essential. Repeatable processes are the result that contributes to the increase of quality and productivity.

The PREHEATER 6000 TC (Temperature Controlled) is the innovative solution for a precise preheating of the conductor.

Precise temperature specification

Unique is the non-contact measurement of the conductor temperature inside the PREHEATER 6000 TC (Temperature Controlled) with its direct feedback to the power control, for a precise control of the wire preheating. The PREHEATER 6000 TC is positioned before the extruder and preheats the wire by means of conductive heating to 50 up to 150 °C (optional 250 °C). The heating frequency of 2,000 Hz with a maximum power of 35 kW ensures a perfect uniform conductor temperature.

Innovative temperature measurement and control

Without the exact measurement and control of the conductor temperature, there are numerous influences regarding the achievable accuracy – the environmental temperature, the initial temperature of the conductor and especially the development of the temperature of the wire guiding shortcircuit wheel within the first 10 to 20 minutes after starting or interrupting the production. The perfect solution is a continuous measurement of the conductor temperature at the output of the PREHEATER 6000 TC as well as the continuous control of the power and therefore an always precise actual value, for all conductor cross-sections, at all line speeds. The specification of the nominal conductor temperature is taken directly from the display of the device or the system control. Operating errors are as much eliminated as repeatable processes are ensured. The measured temperature is displayed on large LED displays on both sides of the device.

Your Benefits

- Repeatable processes
- Optimum adhesion of the insulation material on the conductor
- Continuous measurement and control of the conductor temperature
- Reliable capacitance values for the production of LAN cables
- Wire break detection

Specifications

Functional Principle	Conductive heating optionally including non-contact measurement and control of the conductor temperature
Conductor Material	Copper, aluminum, steel
Diameter Range	0.45 - 2.8 mm (0.16 - 6 mm ²) Standard System – larger diameter on request 0.32 - 1.2 mm (0.08 - 1 mm ²) for small diameters 0.32 - 2.8 mm (0.08 - 6 mm ²) for applications where smaller and bigger wires are produced on the same line. The above mentioned dimensions apply to solid, round conductors (stranded conductors).
Line Speed	From 50 up to 2,500 m/min
Heating Frequency	2.000 Hz
Power Rating	10, 20, 30, 35 kW
Conductor Temperature	50 to 150 °C (optional: 250 °C), based on an initial conductor temperature of 20 °C (Temperatures below 50 °C on request)
Interfaces	Ethernet/UDP interface, serial interface RS485 + RS232 Optional: Profibus-DP interface, 1 analogue input and 1 analogue output, 0 - 10 V, universal interface module for industrial fieldbus standards such as Profinet IO, EtherNet/IP, Profibus-DP, DeviceNet, CANopen

Power Supply	3 phases 400 V, $\pm 10\%$, 47 - 63 Hz
Permissible Ambient Temperature	15 to 45 °C
Humidity	max. 95 %, no condensation

What is the functional principle?

The device is based on conductive heating via a short circuit wheel. A non-contact infrared camera enables a precise control loop for repeatable processes.

What is the diameter / cross section range?

Four devices are available for product diameters from 0.32 to 2.8 mm (0.08 to 6 mm² cross section). Devices for larger dimensions are available on request.

What is the temperature range?

The PREHEATER 6000 TC provides temperatures from 50 to 150 °C. Higher temperatures up to 250 °C are optionally available.

What is the maximum line speed?

The maximum line-speed is up to 2,500 m/min, depending of the desired temperature, model, and adaptive heating option.

What is adaptive heating?

The optionally available adaptive heating provides a higher current which enables for higher line-speeds at a given nominal temperature.