



TOOL-TEMP[®]

CHEMICAL-PHARMA

Pharmaceutical-Chemical-Food

Optimised thermoregulation for reactors, jacketed vessels, extruders, parts of large installations, etc.

Efficient and precise regulation

Temperature regulation tasks in the pharmaceutical, chemical or food industry are often solved with complex special constructions. TOOL-TEMP well-established Temperature Control Units provide a cost-efficient alternative to these expensive special assemblies. TOOL-TEMP products are widely used in industrial applications and let themselves adapt easily to the specific temperature regulation tasks of the pharmaceutical, chemical and food applications.

Most processes in these fields require temperatures between -20°C and $+350^{\circ}\text{C}$. TOOL-TEMP standard products – also custom-made available – are covering this entire temperature range. The TOOL-TEMP sales program responds to high expectations and provides solutions for explosion-hazardous areas and for installations with need of particular regulation precision, fast temperature changes or ramp-regulation. Temperature Control Units are also an interesting alternative to costly steam installations.

Water and oil are the most common heat transfer mediums used in fluid regulated processes. Thanks to its optimal thermal conductivity, water is usually valorised for operations up to 100°C . The advantages of water in regards to heat transfer oils can also be exploited for operations above the atmospheric boiling point thanks to pres-

surised water units.

For operations at high temperature (up to 360°C), TOOL-TEMP recommends the heat transfer oil TOOL-THERM SH-3, a mineral-based and temperature stable oil or the food approved oil TOOL-THERM ST-32.

TOOL-TEMP Services

TOOL-TEMP products are exclusively developed and manufactured in Switzerland. Already at the R&D stage, a particular attention is carried to the choice of high-quality components. As an example all components getting in contact with water are manufactured from high quality stainless steel or bronze. TOOL-TEMP renounces by all units to use flexible hoses for the internal piping and consciously uses a robust fix piping. All our units are equipped with an integrated flow control which allows a constant monitoring of the medium circulation.

TOOL-TEMP disposes of a deep manufacturing penetration and can therefore ensure the quality of the in house produced components. Important parts such as pumps, heat exchangers, flow controls, even special switches and relays are manufactured in Sulgen.

Short reaction times also by customised solutions are a matter of course and daily part of our service.



Precision, increased productivity and constant quality thanks to the use of Temperature Control Units



Pressurised water unit 160°C 6kW up to 48kW heating capacity

In a closed system, the boiling point is raised by the static pressure in the circuit to 140°C and to 160°C respectively. TOOL-TEMP pressurised water units are fitted with an expansion tank. This makes it possible to work at low pressures and guarantees a stable temperature control.

Oil units up to 360°C 8kW up to 48kW heating capacity

Closed hot oil circuit with **overlying cold oil receiver**. The expansion tank of TOOL-TEMP oil units remains cold in the working process. An evaporation and ebullition from the heat transfer oil in the unit is therefore not possible. The heaters are designed in a way that oil cracking is impossible. The **heat exchanger** in the cooling water circuit remains **lime scale free** and guarantees reliability and durability.

ATEX-Oil units up to 350°C 9kW up to 18kW heating capacity

Built according to the TOOL-TEMP standards for hot oil units with overlying cold oil receiver. These units meet the established norms related to explosion-hazardous areas and guarantee therefore the users' safety.

Benefits of TOOL-TEMP Temperature Control Units

TOOL-TEMP Temperature Control Units convince with their industrial design. The units stand strong in the particularly rough everyday conditions and continuous operation.

The high temperature regulation units for use in explosion-hazardous areas fulfil the **directives (ATEX) 2014/34/EU**.

External temperature measurement

TOOL-TEMP units offer the possibility to regulate based on the tank temperature (internal probe) or on the temperature in the product (external probe).

Temperature difference monitoring prevents overheating of the product surface. The TOOL-TEMP digital controller also provides a **ramp function**, which supports recurrent regulation patterns.

The **digital flow** and **pressure indicators** are clearly visible on the unit and serve as essential parameters for consistent production quality.

The pump pressure is adjustable thanks to frequency inverters and guarantees problem free operations of jacketed vessels.

The multilingual controller containing all prevalent **interfaces** (RS-485, RS-232, Current Loop 20mA, CAN-bus, Profibus) allows the communication with a master control centre. It also enables the recording of the process temperatures.

TOOL-TEMP

Your Partner

Produced in Switzerland - worldwide service

- TOOL-TEMP units are exclusively developed and manufactured in Sulgen, Switzerland. This guarantees a high quality workmanship.
- Over 40 country agents and 14 TOOL-TEMP subsidiaries ensure a reliable and professional distribution and after-sale service locally.
- Short reaction times and rapid spare parts supply thanks to large stocks of spares and units.



Safety and reliability

- Constant quality thanks to the in-house development and manufacturing of core-components like pumps, heat exchangers, electro-technical parts, etc.
- Only well-selected high-class materials are used in manufacturing process.
- Clever safety circuits, acoustic and visual alarms to protect your installation.



Cost efficiency and rapidity

- Our deep level of manufacturing penetration provides a fast time-to-market, also for customised solutions.
- No costly production off-times and repairs thanks to maintenance friendly units.
- Good costs / performance ratio guarantees a fast return on investment.



Zürich Airport Sulgen



TOOL-TEMP AG
Industriestrasse 30
CH-8583 Sulgen
Schweiz - Suisse - Switzerland

Tel.: +41 (0)71 644 77 77
Fax: +41 (0)71 644 77 00
E-Mail: info@tool-temp.ch
Internet: www.tool-temp.ch

