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[Witt-NR-06-2018_Pressure-dependant-temperature-control]

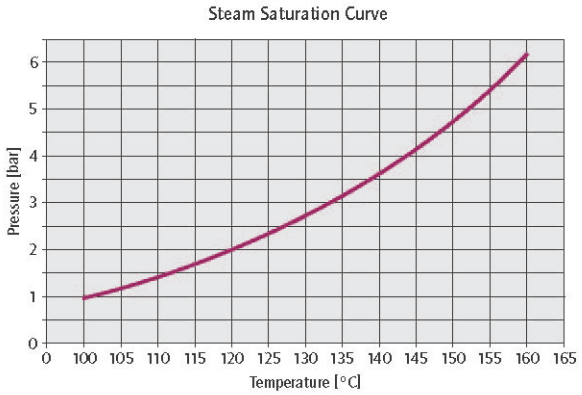
Software feature offers safety in temperature control

*The **TEMPRO basic C120** temperature controller from WITTMANN scores with a special innovative feature: pressure-dependant temperature setpoint limiting.*

TEMPRO basic C120 directly cooled single-circuit temperature controller from WITTMANN, also available with an optional touch screen; large version of the appliance on the right.

The **TEMPRO basic C120**, specially developed for large-scale consumers, is equipped with radial impeller pumps, which provide high volumetric flow rates for various pressure ranges. This temperature controller from WITTMANN offers a high degree of operating comfort and an extensive range of equipment options for every specific application. It is available with different heating and pump capacities (the large version offers up to 46 kW heating capacity and 3.5 kW pump output, as well as a maximum flow capacity of up to 280 l/min).

Directly cooled WITTMANN temperature controllers can operate with temperatures of up to 120°C and are used wherever high cooling capacities are required. In order to achieve high cooling capacities, the cooling water is not supplied indirectly via a cooling coil, as is normal practice, but the water inlet is connected directly to the heat exchanger instead. Consequently, the appliance’s maximum operating temperature is indirectly dependant on the water inlet pressure.



The steam pressure curve illustrates the connection between the water inlet pressure and the maximum operating temperature.

Previously, the minimum inlet pressure – 2 bar for the steam pressure curve illustrated above – and the maximum permissible temperature of 120°C were linked to each other in temperature controllers with direct cooling laid out for 120°C. The consequence was that such appliances could not be operated with low water inlet pressures. In such cases, the pressure setting had to be adjusted manually to the actual operating conditions via the appliance's display.

With the new software installed in **TEMPRO basic C120** temperature controllers, the system pressure (water inlet pressure) is measured continuously, the set temperature value is calculated on the basis of the actual inlet pressure, and a corresponding temperature setpoint limit is subsequently set automatically. Then this set value can no longer be exceeded. If an operator tries to move the calculated maximum temperature setpoint upwards, the LED set value display will flash and issue a warning signal. This indicates that raising the temperature setpoint is not possible for safety reasons, since the water inlet pressure is too low. A minimum pressure of 1 bar has been fixed as the lower limit to prevent cavitation in the pump housing.

WITTMANN's product range includes robots and automation systems, material handling systems, dryers, gravimetric and volumetric blenders, granulators, mold temperature controllers and chillers. With this comprehensive range of peripheral equipment, WITTMANN can provide plastics processors with solutions that cover all production requirements, ranging from autonomous work cells to integrated plant-wide systems.
The syndication of the WITTMANN Group has led to connectivity between all product lines, providing the advantage plastics processors have been looking for in terms of a seamless integration of injection molding machines, automation and auxiliary equipment – all occurring at a progressive rate.

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