



SINGLE ZONE

TEMPERATURE CONTROL UNITS

COMPACT • STANDARD • MAX

Precise Temperature Control for Single-Circuit Industrial Processes

IPECON Single Zone Temperature Control Units are designed for industrial processes requiring independent temperature control of a single heating or cooling circuit.

They are the preferred solution for machines equipped with only one process circuit or where a dedicated Temperature Control Unit is assigned to each individual process circuit. This concept provides maximum flexibility, simple integration and high operational reliability.

Single Zone TCU are available in three product versions to cover applications from compact laboratory equipment to high-capacity industrial systems.

COMPACT

Compact Temperature Control Units for Local Machine Integration



STANDARD

Versatile Temperature Control for Standard Industrial Applications



MAX

High-Capacity Temperature Control for Demanding Thermal Loads



PRODUCT RANGE

Model	Compact TCU	Standard TCU	Max TCU
Application	Small process equipment	Standard industrial applications	Heavy-duty industrial applications
Heating Capacity	Low	Medium	High
Cooling Capacity	Low	Medium	High
Flow Rate	Low	Medium	High
Hydraulic Design	Compact	Standard	Heavy-duty
Typical Installation	Stand-alone	Stand-alone	Stand-alone

Each unit is individually engineered according to the required process parameters.

TYPICAL APPLICATIONS

Single Zone Temperature Control Units are suitable for:

- Extruders
- Roller Head Units
- Gear Pumps
- Heating Drums
- Cooling Drums
- Repair Presses
- Small Mixing Equipment
- Laboratory Equipment
- Polymer Processing
- Rubber Processing
- General Industrial Heating & Cooling



KEY FEATURES

High Process Reliability

- Dedicated temperature control for one process circuit
- Stable process temperatures
- Continuous industrial operation
- High operational reliability

Flexible Design

- Compact footprint
- Modular hydraulic concept
- Easy installation
- Easy maintenance
- Indoor or outdoor installation

Hydraulic Equipment

Depending on the project requirements:

- High-efficiency circulation pumps
- Electric heaters and/or steam heat exchangers
- Plate or shell & tube heat exchangers
- Stainless steel process piping
- Expansion tank
- Safety equipment
- Pressure and temperature instrumentation

KEY FEATURES

Automation & Control

- Industrial PLC according to project requirements
- Industrial Touch Panel (HMI)
- High-precision temperature control
- Automatic and Manual Operating Modes
- Built-in Diagnostics
- Remote communication (optional)

Compliance

- CE compliant
- Additional country-specific compliance available upon request
- PED (where applicable)
- Complete technical documentation

TECHNICAL CAPABILITIES

Instead of fixed values, all units are engineered according to project requirements.

Parameter	Typical Range
Number of Circuits	1
Heating Capacity	According to project
Cooling Capacity	According to project
Flow Rate	According to project
Operating Temperature	Up to 160 °C*
Heating Medium	Electric / Steam / Hot Water
Cooling Medium	Water / Water-Glycol
Process Medium	Water / Water-Glycol
Power Supply	According to project
Control System	PLC based
Installation	Indoor / Outdoor

*** Depending on the selected product version.**



AVAILABLE OPTIONS

- Frequency-controlled pumps
- Redundant pumps
- Energy monitoring
- Flow measurement
- Pressure monitoring
- Remote diagnostics
- OPC UA / PROFINET / Ethernet/IP communication
- Stainless steel enclosure
- Factory Acceptance Test (FAT)
- Commissioning and training



WHY IPECON?

Process-Oriented Engineering

Every Single Zone TCU is engineered to match the customer's process requirements rather than being selected from a fixed product catalogue.

By combining standardized engineering principles with application-specific design, IPECON delivers solutions that provide:

- Reliable temperature control
- Long service life
- Easy maintenance
- Energy-efficient operation
- Seamless integration into existing production lines





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