



MULTI ZONE

TEMPERATURE CONTROL UNITS

COMPACT • MODULAR • COMMON FRAME

Intelligent Temperature Control for Multi-Circuit Industrial Processes

IPECON Multi Zone Temperature Control Units are designed for industrial processes requiring independent temperature control of multiple heating and cooling circuits integrated into a single system.

They are the preferred solution for machines and production lines with several process zones requiring individual temperature control, centralized operation and optimized thermal management.

The modular architecture enables each process circuit to operate independently while being monitored and controlled through a common automation platform.

Multi Zone TCU are available in three product versions to meet the requirements of compact machines, modular production systems and large industrial process lines.

COMPACT

Compact Multi-Zone
Systems for Smaller
Production Lines



MODULAR

Flexible Modular
Temperature
Control Systems



COMMON FRAME

Centralized
Multi-Zone
Systems on
a Common Frame



PRODUCT RANGE

Model	Compact Multi Zone TCU	Modular TCU	Common Frame TCU
Application	Compact production systems	Medium-sized process lines	Large production lines
Number of Process Circuits	2-4	2-8	4-24+
System Architecture	Compact skid	Modular	Common frame
Expandability	Limited	High	Very High
Typical Installation	Stand-alone	Modular installation	Central process unit

Every system is individually engineered according to the customer's process requirements and production technology.

TYPICAL APPLICATIONS

Multi Zone Temperature Control Units are designed for demanding industrial processes including:

- Triplex Extruders
- Duplex Extruders
- Roller Head Lines
- Rubber Calenders
- Internal Mixers
- Open Mills
- TSRD Systems
- Extrusion Lines
- Multi-Zone Heating Systems
- Continuous Rubber Processing
- Polymer Processing



KEY FEATURES

Independent Multi Zone Temperature Control

- Independent temperature control for multiple process circuits
- Centralized control and monitoring
- Stable process temperatures
- Uniform thermal conditions across the production process

Modular System Architecture

- Compact, Modular or Common Frame design
- Easy expansion for future process requirements
- Optimized installation footprint
- Service-friendly layout
- Flexible integration into new or existing production lines

Hydraulic Equipment

Configured according to project requirements:

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

KEY FEATURES

Automation & Control

- Industrial PLC according to project requirements
- Industrial Touch Panel (HMI)
- Independent control of each process circuit
- Centralized operator interface
- Automatic and Manual Operating Modes
- Built-in Diagnostics
- Alarm Management
- Remote communication (optional)

Compliance

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

TECHNICAL CAPABILITIES

Each Multi Zone TCU is individually engineered according to project requirements.

Parameter	Typical Range
Number of Process Circuits	2-24+
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
Control System	PLC based
Communication	PROFINET / Ethernet/IP / OPC UA
Installation	Indoor / Outdoor

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



AVAILABLE OPTIONS

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



WHY IPECON?

Engineered for Complex Thermal Processes

IPECON Multi Zone Temperature Control Units combine standardized engineering with application-specific system design to provide reliable temperature control for complex industrial processes.

The modular platform enables flexible configuration of independent process circuits while maintaining centralized operation, simplified maintenance and optimized energy efficiency.

Key Benefits

- Independent control of multiple process circuits
- Centralized operation and monitoring
- Scalable modular architecture
- Reduced installation time
- Easy maintenance and service access
- High process stability
- Energy-efficient operation
- Ready for future production expansion





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