

TEMPERATURE CONTROL SYSTEM FOR OIL COLD EV TEST



Temperature Control System for Oil Cold EV Test - ToronChill™ TCSy

ToronChill™ TCSy is a Temperature Control System engineered for Oil Cold EV Test programs that require stable temperature conditioning for oil-cooled components. It uses a refrigerant-to-heat-transfer-oil secondary heat exchange design to support both high- and low-temperature operation across varying test conditions.

Built for durability testing and thermal shock workflows, this Temperature Control System supports controlled flow and stable temperature output while helping reduce cross-contamination risk between refrigerant and oil. Optional communications and integrated leakage monitoring support safer, more repeatable EV test operations.

APPLICATIONS

Temperature Control System for Oil Cold EV Test - ToronChill™ TCSy Applications

- Oil-cooled motor testing: Maintains controlled oil temperature for performance and durability validation in EV test benches.
- Gearbox testing under thermal stress: Supports high/low temperature shock and long-duration endurance testing with stable oil conditioning.
- Engine and powertrain component testing: Provides consistent thermal control for oil-cooled equipment across changing load conditions.
- Thermal shock and durability workflows: Enables repeatable Oil Cold EV Test cycles where fast response and tight stability matter.



FEATURES

Temperature Control System for Oil Cold EV Test - ToronChill™ TCSy Key Features

- Wide temperature operating range: Temperature range from -40°C to 150°C for Oil Cold EV Test coverage.
- Stable control performance: Temperature stability of ±0.5°C for repeatable test conditions.
- Flexible flow control selections: Optional flow control ranges 2-20 / 4-40 / ≥60 L/min, with control stability better than ±0.2 L/min.
- Secondary heat exchange architecture: Heat-transfer-oil secondary loop helps prevent direct contact between refrigerant and oil.
- Open/closed system switching: Switchable open/closed design supports different external test stand requirements.
- Oil circuit optimized for viscosity: Special oil pump and flowmeter suitable for low-temperature, high-viscosity fluids.
- Smart fluid return management: Intelligent liquid return with automatic reverse blowing supports stable circulation.
- Leak detection and monitoring: Load leakage detection supports pipeline tightness checks; anti-leakage tank design includes leakage monitoring.
- Connectivity options: Optional RS485 / CAN / Ethernet for EV test integration.

TECHNICAL SPECIFICATIONS

Temperature Control System for Oil Cold EV Test - ToronChill™ TCSy Technical Specifications

Specification	Details
Product Type	Temperature Control System for Oil Cold EV Test

Specification	Details
Temperature Range	-40°C to 150°C
Temperature Stability	±0.5°C
Optional Flow Control Range	2-20 / 4-40 / ≥60 L/min
Flow Control Stability	Better than ±0.2 L/min
Heat Exchange Method	Refrigerant-to-heat-transfer-oil secondary heat exchange
System Configuration	Switchable open/closed system to match external test stand setup
Oil Circuit Hardware	Special oil pump and flowmeter for low-temp, high-viscosity fluids
Fluid Management	Intelligent liquid return; automatic reverse blowing
Leak Management	Load leakage detection; pipeline tightness support
Communication Options	RS485 / CAN / Ethernet
Safety/Monitoring	Anti-leakage tank design; leakage monitoring

ToronChiller™ TCSy Name rules

TCSy 16 W – C 4 D

Cooling capacity:

- "08" : Cooling capacity 22KW
- "12" : Cooling capacity 20KW
- "16" : Cooling capacity 26KW
- "20" : Cooling capacity 30KW
- "25" : Cooling capacity 35KW
- "30" : Cooling capacity 40KW

Heat discharge method:

- "U" : Air-cooled all-in-one machine
- "W" : Water-cooled all-in-one machine

Outlet loop:

- "S" : Single output
- "D" : Dual output

Lower limit of control temp:

- "4" : Lower temp. control limit -40°C



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