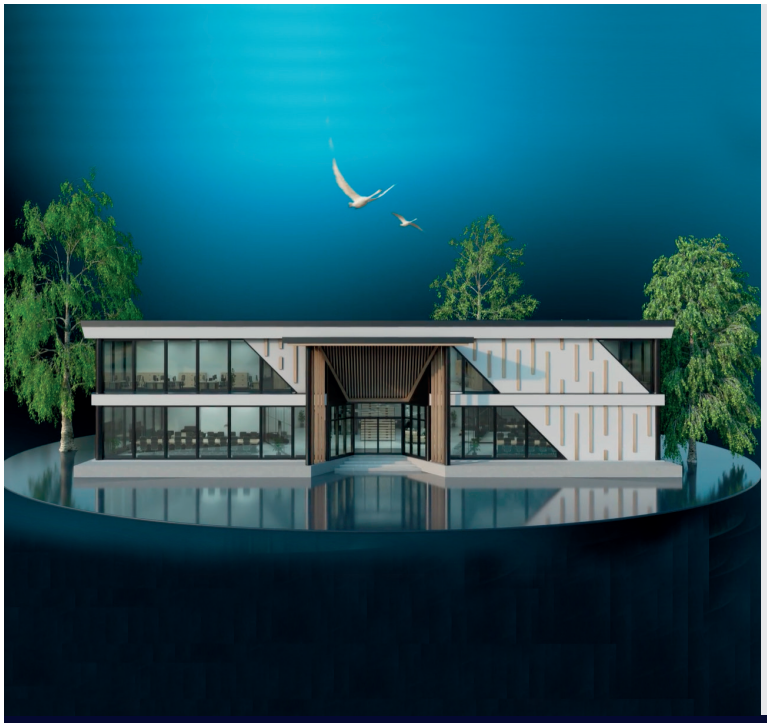
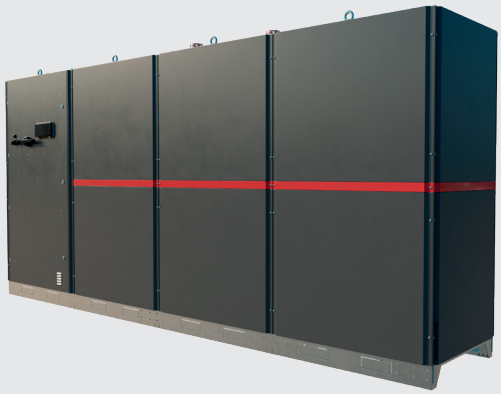
NovaCool290

NATURAL COOLING

MADE IN FINLAND





Energy-efficient chilled water station compliant w/ EcoDesign requirements.

Indoor Chilled Water Station With Natural Refrigerant

A Comprehensive Solution Streamlining Your Project From Design to Installation

Reliable Safety Concept

R290

Natural Refrigerant

The indoor NovaCool290 chilled water station with natural refrigerant offers an environmentally friendly solution for building cooling. The R290 refrigerant complies with the strictest environmental and F-gas regulations, making it a future-proof and safe choice. The R290 is a natural refrigerant with an ultra-low GWP of just 0.02.

Energy-Effective

The NovaCool290 chilled water station is equipped with four compressors, enabling energy-efficient four-stage capacity control. At partial loads, only the compressors needed to meet the required output are in operation. Energy efficiency can be further enhanced by integrating free cooling, which uses cold outdoor air to support the cooling process.

Cost-Effective Installation

The NovaCool290 chilled water station allows for a shorter turnaround time on site. Compared to traditional site-built chilled water systems, the time savings are significant. Fast project delivery is supported by high-quality design documentation, a comprehensive factory-built system, and thorough testing and commissioning carried out at the factory.

Safety Concept

The NovaCool290 chilled water station frame is specifically designed for R290 refrigerant. Its sealed construction ensures that no refrigerant can escape outside the unit, even in the event of a malfunction. The unit's safety concept is based on discharging refrigerant to the outside air in the event of a leak. The delivery includes built-in automation functions and an exhaust fan, both essential for safe operation. Safety design guidelines for planners are available for download from the selection tool to ensure proper system integration.

Reliable, Project-Specific

All units are manufactured and factory-tested in Finland, and delivered to the customer as a compact, ready-to-use package. The complete solution can be extensively customized to meet project-specific requirements in terms of automation, electrical components, and other accessories. The unit is factory-configured to match the hydronic system needs, enabling cooling at multiple temperature levels.

Lifecycle Service

We support and maintain the equipment throughout its entire lifecycle. Our IoT-based remote service integrates optimization, documentation, and maintenance into one reliable solution.

Functions

Chilled water station, staged control
Chiller, staged control
Chilled water station with free cooling, staged control
Chiller with free cooling, staged control

Standard Equipment

Refrigerant circuits: 4D model configuration (four compressors, two refrigerant circuits)
Compressors: Scroll compressors with crankcase heaters, thermal protection, and overcurrent protection
Heat exchangers: Stainless steel plate heat exchangers
Electronic expansion valves: Optimize refrigerant superheat control to improve energy efficiency
External setpoint control: 0–10 VDC signal
Flow switch
Kiotronic leak detection
ATEX-rated exhaust fan included in delivery

Optional Accessories

Constant Flow Pump for the Evaporator Circuit

F1: Variable-speed pump with frequency converter, <95 kPa
P1: Constant-speed pump, <95 kPa

Cooling Water Circuit Pump

F2: Variable-speed pump with frequency converter, <95 kPa
P2: Constant-speed pump, <95 kPa
BF2: Variable-speed pump with frequency converter, <130 kPa
BP2: Constant-speed pump, <130 kPa

Condenser Circuit Pump

F3: Variable-speed pump with frequency converter, <95 kPa
P3: Constant-speed pump, <95 kPa
BF3: Variable-speed pump with frequency converter, <130 kPa
BP3: Constant-speed pump, <130 kPa

Automation

RTU: Modbus RTU interface
TCP: Modbus TCP/IP interface
BAC: BACnet interface
KHI: Standard connectivity
SN: Service Next – Industrial Internet
EP: Remote display unit

Electrical

CE1: Basic electrical components
CE2: Power factor correction
CE3: Soft starters
CTL: Energy metering (Coptronic Light)

Sound & Vibration

CR: Acoustic hoods for compressors
FS: Frame sound insulation
SS: Compressor acoustic hood(s) and frame insulation
VD: Vibration isolation kit (includes vibration dampers and flexible connectors)

Piping Connections

DIN: DIN flange outlets

Miscallenous

TCV: Condensation pressure control valve
PCVI: Pressure-controlled water valves
YH/AH: Custom-sized evaporators
YL/AL: Custom-sized condensers

Performance Values

	28-4	32-4	36-4	44-4	48-4	80-4
Cooling Effect (kW)	108,1	130,3	155,9	178,2	216,3	344
Power Stages	0/25/50/75/100	0/25/50/75/100	0/25/50/75/100	0/25/50/75/100	0/25/50/75/100	0/25/50/75/100
Compressor Power Consumption at Selected Conditions (kW)	27,5	32,5	39,3	45,9	51,7	77
Main Fuse for Unit (A)	80	100	125	160	160	250
Number of Refrigerant Circuits	2	2	2	2	2	2
Volume Tank (liters)	800					
Frame Dimension L (mm)*	3185 – 4760					

Cooling: 15/10 °C, 35% EG, 36/43 °C
Frame length (L) depends on selected accessories*
We reserve the right to make changes. See detailed information in the Option selection program

Dimensions