SMARDT

INNOVATION ENGINEERED,
ENERGY OPTIMISED

Core Series

Water-cooled Chiller



Cooling Capacity
45–1600 TR
(160-5625 kW)

Available Refrigerants
R134a, R513a,
R515b, R1234ze

About Smardt

Global innovation in oil-free technology, products built for high-performance environments.



Smardt is a global leader in oil-free centrifugal chillers, delivering energy-efficient solutions with ultra-low lifecycle costs. With over 12,000 units installed worldwide, we support some of the most demanding environments from hospitals and commercial buildings to manufacturing and mission-critical facilities. Our chillers are powered by magnetic bearing technology and a Global Controls Platform, offering reliability, low maintenance, and future-ready performance.

As buildings evolve, we continue to reduce energy usage, support global compliance requirements, and help customers move towards more sustainable operations.

Core Series
Water-cooled Chiller

Smardt's extensive expertise in oil-free chiller technology is applied to its water-cooled solutions to redefine performance standards. Unparalleled energy efficiency is prioritized to significantly reduce operational overhead and ensure the lowest total cost of ownership. Customization is a core component, with flexible configurations engineered to meet unique site requirements, including seamless integration into restricted footprints. Furthermore, a commitment to enhanced serviceability, paired with simplified installation processes, ensures that owners benefit from systems delivering optimal performance with minimal complexity.

Designed for optimal performance



Oil-Free Operation –
The core of Smardt's performance

Smardt's oil-free centrifugal technology, driven by advanced magnetic bearings and variable-speed drives, achieves industry-leading Integrated Part Load Value (IPLV) efficiencies that surpass those of traditional oil-lubricated chillers. Its proprietary magnetic bearing system removes friction losses and mechanical wear while eliminating the need for complex, high-maintenance oil management systems.

Key benefits include:

- Optimized heat exchange with no oil contamination
- High part-load efficiency for real-world operating conditions
- Soft-start operation with minimal electrical impact
- Low noise and vibration
- Reduced maintenance complexity
- Robust, compact system design

Core Highlights

1. Efficiency & High-lift Performance
- Industry-leading part-load efficiencies across the entire capacity range.
- Optimized for high-lift applications.
- Engineered for high-LCHWT up to 40°C/105°F (Ideal for data center cooling).

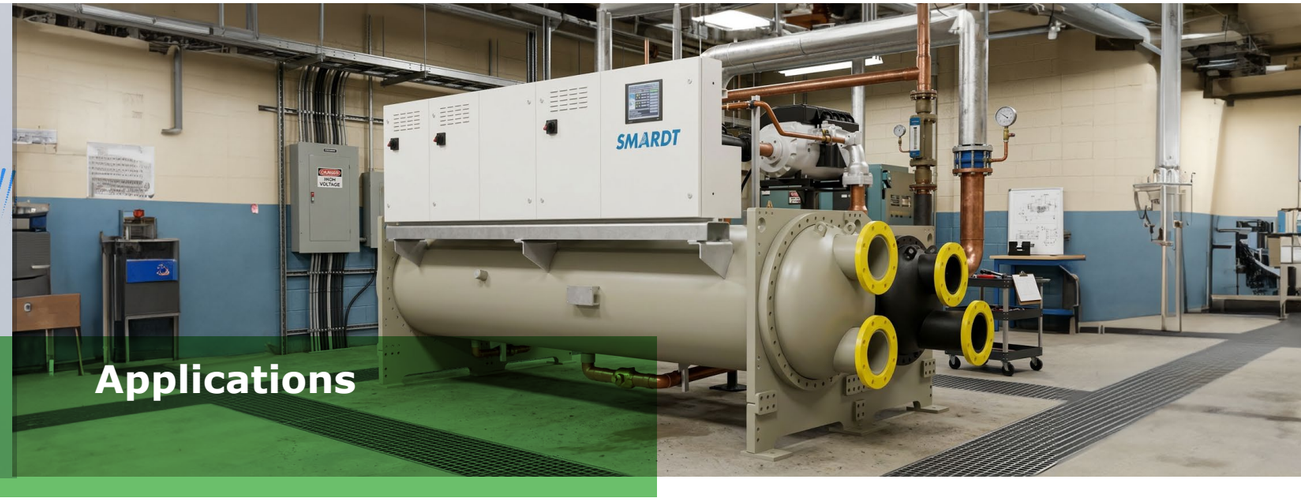
2. Built-in Redundancy & Reliability
- Multi-compressor redundancy, ensuring continuous operation and high up time.
- Advanced control loops, offering highly responsive adaptation to chilled water setpoints under volatile load conditions.

3. Quiet Operation & No Vibration
- Very low sound levels:No physical contact between moving metal parts, eliminating the need for expensive attenuation
- Spring vibration isolators not required

4. Ease of Installation & Simplified Serviceability
- Smaller physical footprint than conventional chillers with comparable tonnage capacity.
- Designed for ease of maintenance and serviceability, featuring field-serviceable compressors.
- Acceptance tested and pre-commissioned prior to delivery, ensuring seamless field commissioning process.



Personalized Setup



Applications

Compressors & Refrigerants

Smardt Core Series water-cooled chillers offer flexibility to meet diverse project requirements, utilizing standard Turbocor or high-lift oil-free compressors. Both compressors are compatible with R134a or low-GWP R513A, R515B and R1234ze** refrigerants, with built-in variable frequency drives (VFDs) for enhanced efficiency at part-load.

- **TTS & TGS:** Optimized for standard applications
- **TTH & TGH:** High-lift performance for hot, dry climates

***R1234ze refrigerant is not available for the North American market*

Options and Accessories

- Smardt Cool kit for very low entering condenser water temperature
- Passive harmonic filter (shipped loose)
- Dual Point power connections
- Marine water boxes
- Central plant optimization package (CPECS)
- Fast restart kit
- Stainless steel tube sheets
- Up to 300 psi (2MPa) water boxes
- Knocked-down construction & split barrel configuration, with dual refrigerant circuit

Engineered for critical and continuous-load environments, Smardt Core Series water-cooled chiller is ideal for diverse industry segments including:



Commercial Buildings



Data Centers



Pharmaceuticals



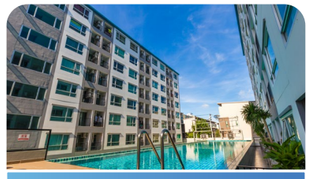
Hospitals



Education



Manufacturing



Hotels & Retail



Airports & Transportation



Marine & Naval

Delivering high efficiency, reliability and long-term value, Smardt Core Series water-cooled chiller supports the need of energy-conscious plant owners and operators across diverse industries.

Redefining Constraints in Mechanical Design

Mechanical rooms are rarely uniform, and standard equipment rarely fits without compromise. Smardt Core Series water-cooled chillers redefine the possibilities for challenging environments by offering an adaptable design framework engineered to navigate severe footprint, height, and entry limitations. By prioritizing precision-engineered flexibility, these systems ensure that high-performance cooling is seamlessly integrated into any facility's unique physical landscape.

Scalable Capacity

- Configurations supported from 1 to 8 compressors.
- Cooling loads matched with pinpoint accuracy.
- Seamless capacity scaling for precise, dynamic facility requirements.

Dimensional Versatility

- Mechanical room real estate maximized through reconfigured component positioning.
- Obstacles bypassed, including existing piping, columns, or height limitations.
- Fully adjustable physical geometry, including the sizing, stacking, and orientation of evaporator and condenser barrels.

Simplified Installation

- Demanding retrofits managed through certified knock-down kits.
- Seamless transport and field assembly provided for applications with restricted access routes.
- Costly structural modifications avoided.

Modular Configuration

- Operational harmony achieved through lead log system design.
- Coordinated component positioning and compressor management.
- Optimization of both spatial efficiency and overall system performance.

Narrow



Split Barrel



Knocked-down Kit



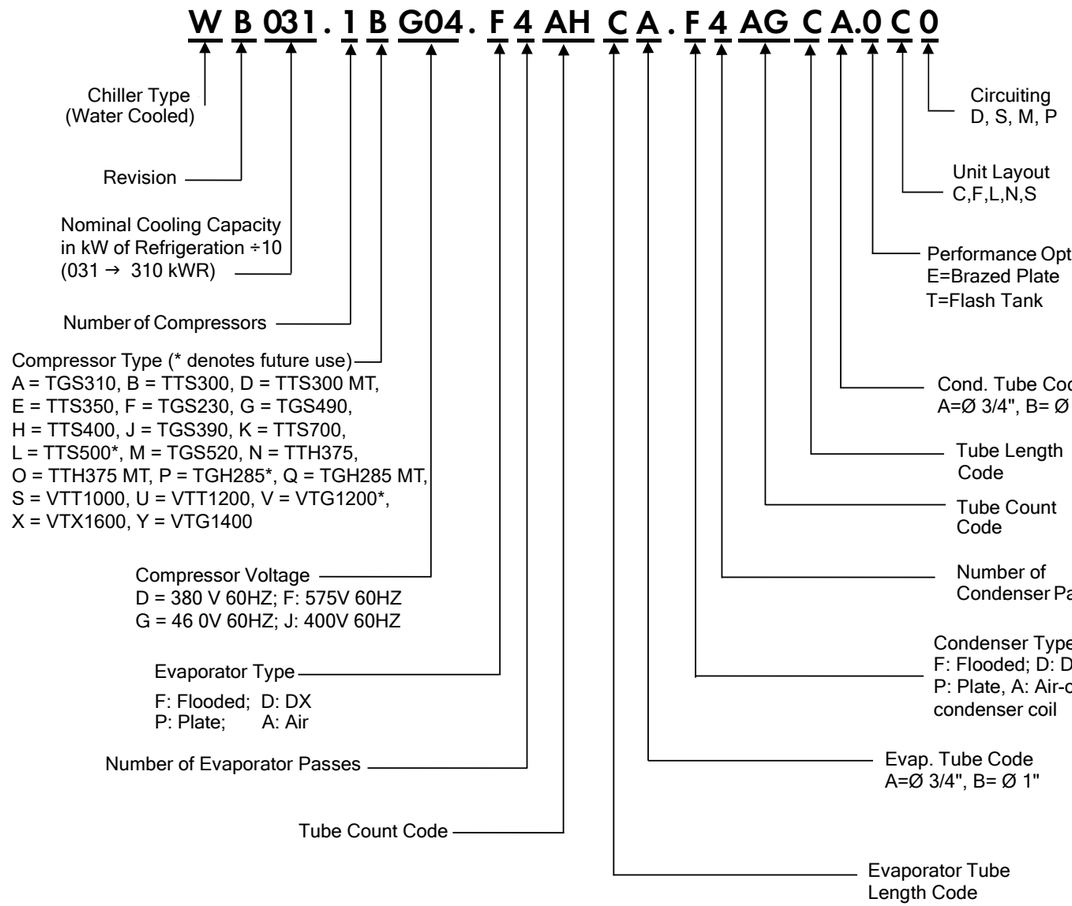
Side-by-Side



Compact Modular

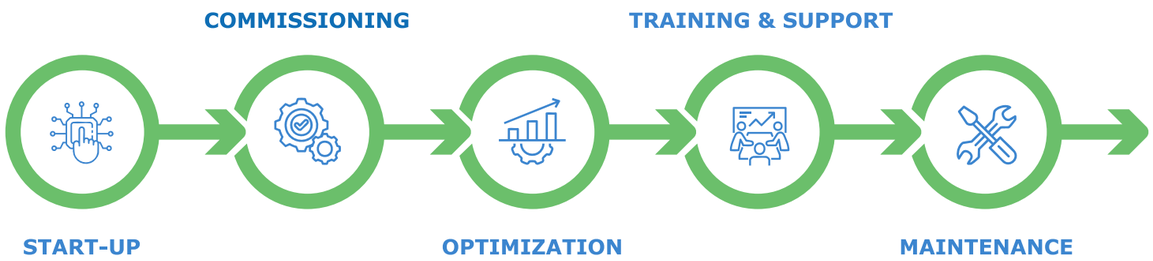


Model Nomenclature



Driving lifecycle performance

Smardt delivers a comprehensive suite of services designed to maximize the performance, reliability, and longevity of your HVAC systems. With global experience across more than 12,000 chiller installations, we support customers throughout the entire equipment lifecycle from start-up to optimization and beyond.



Process-driven optimization

We help you get the most from your central plant systems with a data-driven approach that cuts energy use, lowers costs, and boosts performance.

It starts with an energy audit to pinpoint inefficiencies, followed by tailored solutions built around your plant's needs. Often this includes our **Central Plant Energy Conservation System** (CPECS) a smart platform that dynamically manages equipment for maximum efficiency.

From assessment to full integration, we deliver seamless projects backed by proven results in commercial, institutional, and mission-critical facilities. The outcome: measurable savings, stronger reliability, and greater visibility supporting your efficiency and sustainability goals.



Core Benefits

- Improved system reliability
- Reduced operational risks & costs
- Regulatory & sustainability compliance
- Enhanced energy efficiency

System Capabilities

- Optimized energy performance
- Enhanced system control & transparency
- Lower operating costs
- Improved reliability with seamless execution