SMARDT

INNOVATION ENGINEERED,
ENERGY OPTIMISED

# AD Series
## Air-Cooled Chiller



**Cooling Capacity**
40 - 500 TR
(140 kW - 1786 kW)

**Available Refrigerants**
R134a, R513A,
R1234ze, R515B



# 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.

# AD Series

## Air-Cooled Chiller

The Smardt AD Series air-cooled chillers are engineered to deliver maximum reliability, outstanding energy efficiency, and the lowest total cost of ownership—even in the most demanding operating environments.

Designed for simplified installation, easy operation, and reduced lifecycle costs, the AD Series combines Smardt's oil-free centrifugal technology with rugged construction for long-term performance across a wide range of applications.

### Proven Performance in Extreme Conditions




**READY TO SHIP.**
**READY TO PERFORM.**

# Oil-Free Operation - Efficiency Without Compromise

Smardt's oil-free centrifugal technology utilizes advanced magnetic bearings and variable-speed drives to deliver industry-leading IPLV efficiencies. By eliminating oil-lubricated bearings, friction losses, mechanical wear, and complex oil management systems are completely removed.

The Turbocor compressor technology ensures the highest part-load efficiencies, with the rotor shaft and impellers levitated by a digitally controlled magnetic bearing system. Real-time feedback from position sensors ensures precise and centered rotation, resulting in significant energy savings and extended service life without the efficiency degradation seen in oil-based systems.

## Core Highlights

### 1. Efficiency & High-Lift Performance

- Industry-leading part-load efficiencies across the entire capacity range
- Optimized for high-lift applications and ambient temperatures up to 52°C (126°F)
- Optimized for High-LCHWT up to 30°C (For Data Center application)
- Stable and efficient operation under extreme climatic conditions

### 2. Durability & Reliability

- Advanced corrosion protection for coils, base frames, and critical components
- Multi-compressor redundancy ensures continuous operation and high up time

### 3. Quiet Operation

- Oil-free compressors operate up to 8 dBA quieter than screw chillers
- Low-noise ECM fans on all units for noise-sensitive installations

### 4. Ease of Use & Smart Operation

- Streamlined installation and intuitive operation
- Field-serviceable compressors simplify maintenance and reduce downtime
- Smardt Restart enables rapid system recovery—up to 20 seconds after power loss—eliminating the need for thermal storage (Optional)



# Compressors & Refrigerants

The Smardt AD Series offers 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*

## Available Options

The Smardt AD Series can be tailored with advanced options to meet specific project needs:

- Integrated pump packages for simplified plant design
- Refrigerant economizer for improved energy efficiency
- Smardt Lift for optimized efficiency in low-temperature or seasonal conditions
- Smardt fast restart kit for fast recovery after power interruptions



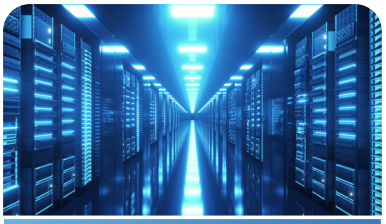


# Applications

Engineered for critical and continuous-load environments, the AD Series is ideal for diverse industry segments including:



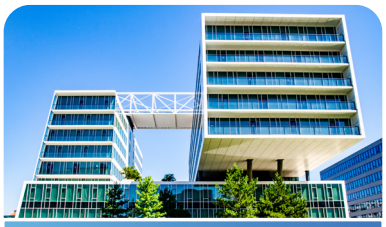
**Commercial Buildings**



**Data Centers**



**Pharmaceuticals**



**Hospitals**



**Higher Education**



**District Cooling**



**Hotels & Retail**



**Airport & Transportation**

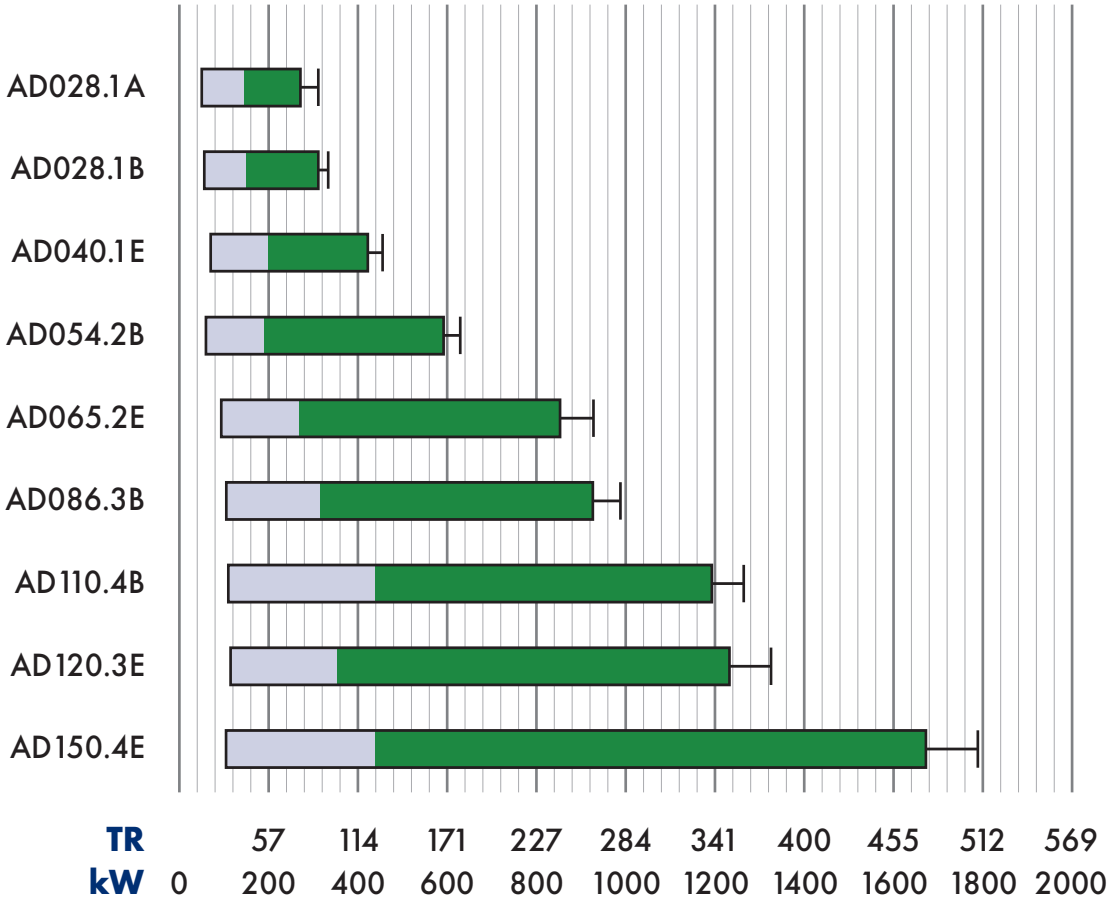


**Manufacturing**

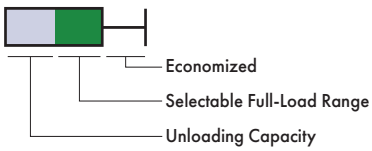
With its combination of oil-free efficiency, rugged durability, and high-lift capability, the Smardt AD Series delivers reliable cooling where performance matters most.

# Representative Models

Smardt can customize your AD Design Series chiller to meet your project's needs and specifications. The models included in this capacity chart are considered representative of the AD Design Series, but selection is not limited to these specific models or refrigerants. Your Smardt representative can provide capacity data for your project.

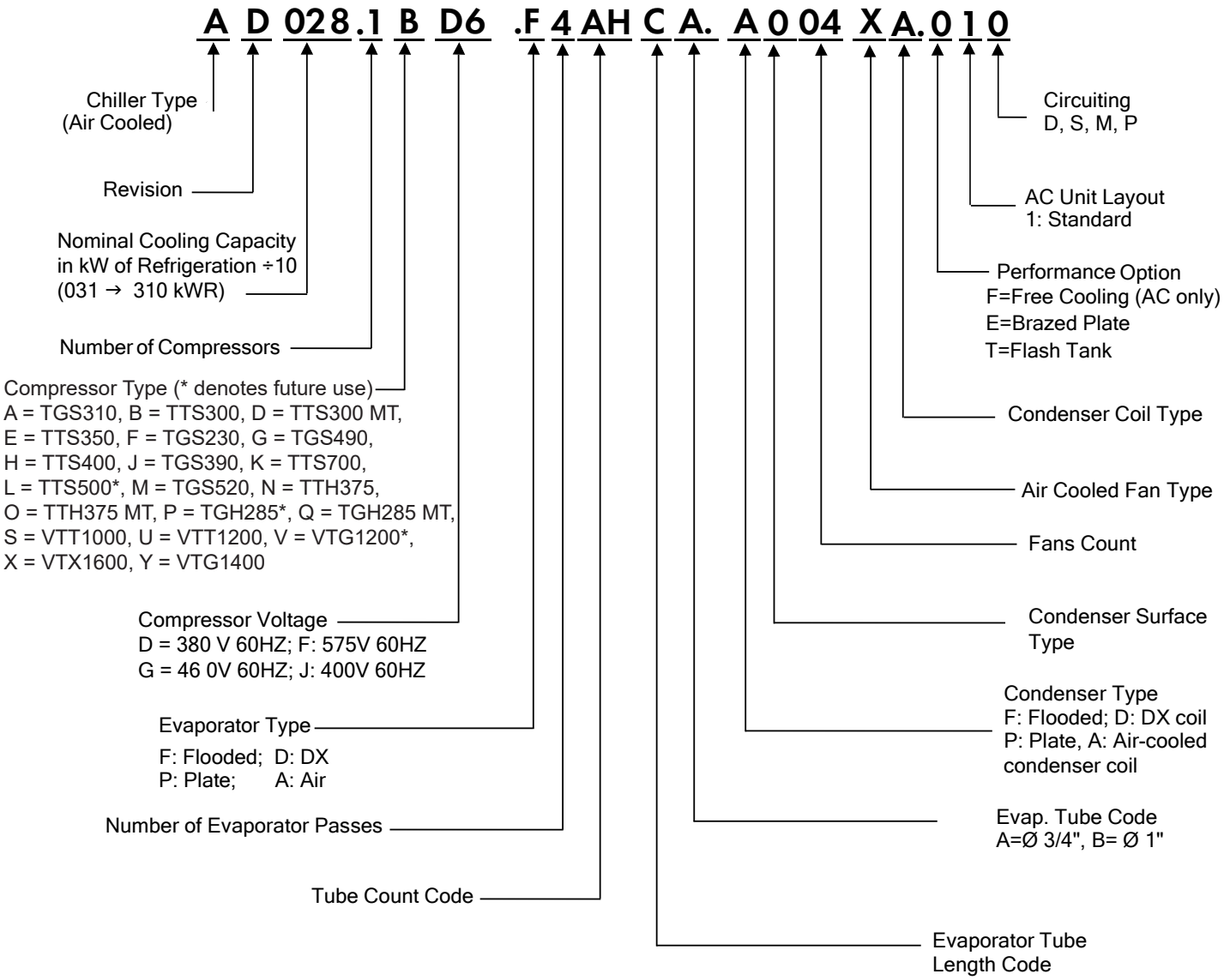



## Cooling Capacity TR (kW)



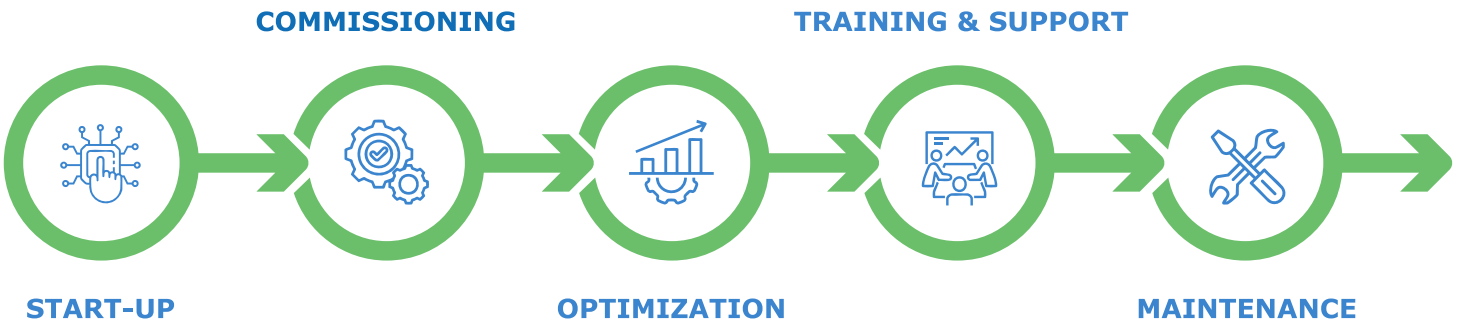

Note: Available cooling capacity will vary with operating conditions and chiller configuration. Capacities shown are based on standard AHRI conditions.

# 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.






## Core Benefits

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

# 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.




## System Capabilities

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