

Industrial Valves for Data Center Cooling Infrastructure



ABO valve

GET IN CONTROL
INTELLIGENT • INNOVATIVE • INTERNATIONAL
STAY IN CONTROL

*Reliable valve solutions for cooling systems
and automated assemblies used in data center facilities.*

Industrial Valves for Data Center Cooling Infrastructure

Data center infrastructure is expanding rapidly across Europe, America and worldwide. As computing density increases, reliable cooling systems become a critical requirement for uninterrupted facility operation.

Cooling systems form the backbone of most modern data center facilities. These systems rely on robust mechanical components that allow safe operation, maintenance and flexible system control.

Industrial valves play a key role in this infrastructure by enabling reliable isolation of cooling circuits, pumps and heat exchangers.

ABO valve supplies butterfly valves and automated valve assemblies used in cooling systems for data center infrastructure. Valves are installed at multiple points and the final valve configuration always depends on the specific design of the cooling system and the operating conditions of the installation.

Advantages of ABO valve Solutions

- **High Cv values enabling lower pressure drops**
- **Up to 2× higher flow capacity compared to conventional single-shaft valve designs**
(depends on valve size)
- **Compact design allows installation in limited spaces**
- **Simple installation without special equipment**
- **Seat replacement can be performed on site**

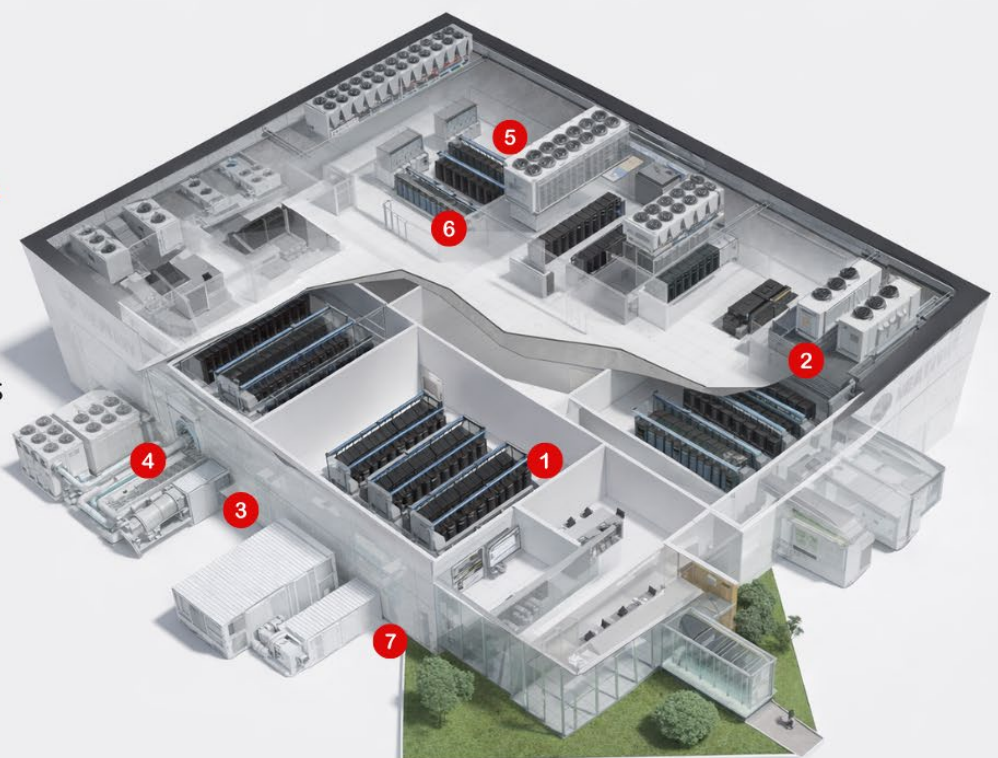
Valve Solutions Used in Data Center Applications

In data center cooling systems, several valve types are typically used depending on pipe diameter, system function and automation requirements.

ABO valve supplies the following product groups for these applications:

Typical Valve Locations in Data Center Cooling Systems

- 1 chilled water distribution
- 2 condenser water circuits
- 3 pump station isolation
- 4 heat exchanger connections
- 5 cooling tower installations
- 6 secondary cooling loops
- 7 auxiliary water systems



Resilient Seated Butterfly Valves – Series 900 (924)

Used in chilled water and cooling water distribution systems where reliable isolation and easy actuator integration are required.

For data center applications, valves are typically supplied with EPDM seat and stainless steel disc.

RESILIENT SEATED BUTTERFLY VALVE SERIES 900

- customizable materials
- optional protective coatings
- robust split-shaft design

DN25-DN2200 (1" to 88")
6/10/16BAR (87/145/232PSIG)
-40°C/+200°C (-40°F/+302°F)



Resilient Seated Butterfly Valves with PTFE Seat Series 500

Used in applications with glycol-based cooling media or where higher resistance of sealing materials is required.

RESILIENT SEATED BUTTERFLY VALVE WITH PTFE SEAT SERIES 500

- chemical and abrasive resistance
- ideal for demanding fluid applications

DN50 - DN400 (2" to 16")
6/10BAR (87/145PSIG)
-40°C/+80°C (-40°F/+176°F) UHMWPE
+200°C (+392°F) PTFE



High Performance Butterfly Valves Series 2E (5490)

Used in larger pipe diameters or applications operating under more demanding conditions.

HIGH PERFORMANCE BUTTERFLY VALVE SERIES 2E

- double-offset design
- compact structure
- bidirectional tightness

DN40 - DN600 (1.5" to 24")
16/25/40/50BAR (232/363/580/725PSIG)
-55°C/+200°C (-67°F/+392°F) R-PTFE
+325°C /+500°C
(+617°F/+932°F) METAL-METAL



Ball Valves – Small Diameter Applications

Ball valves are typically used in smaller pipe diameters and auxiliary circuits where compact design and fast operation are required.

BALL VALVE SERIES ART

- for small diameter pipelines
- stainless steel construction
- full bore design

DN8-DN100 (0.25" to 4")
PN40 / PN63
-20° C/+170° C (-4 °F/338 °F)



They are often equipped with electric actuators and used where temperature or flow control is required.

Material Selection

Valves for data center cooling systems can be supplied in various materials depending on operating conditions and water quality.

Typical body materials include:

- Ductile iron
- Carbon steel
- Stainless steel
- Aluminium-bronze
- Titanium

Typical Sealing materials include:

- EPDM
- NBR (BUNA)
- FKM (Viton®)
- RPTFE








Valve Selection Criteria

- pipe diameter
- operating pressure
- temperature range
- water quality / chemical treatment
- automation requirements
- maintenance accessibility

Automated Valve Assemblies

RECOMMENDED VALVE OPERATION IN DATA CENTER SYSTEMS

Final valve operation depends on system design and project requirements

	Typical Location	Recommended Operation
Main cooling water distribution	primary pipelines	
Chilled water distribution	secondary distribution pipelines	
Pump isolation	pump suction and discharge lines	
Heat exchanger connections	heat exchanger inlet and outlet	
Cooling tower connections	cooling tower piping systems	
Secondary cooling loops	CDU / rack cooling connections	
Auxiliary systems	auxiliary and control circuits	

Valves can be supplied with lever, gearbox, pneumatic or electric actuators and also limit switch boxes and solenoids, depending on project requirements.

Reference Project – Data Center Cooling Infrastructure (Sweden)

ABO valve supplied valves for a data center cooling infrastructure project in Sweden a valve system integrator delivering complete valve assemblies.

The project included the delivery of more than **2,500 resilient seated butterfly valves Series 900** used in cooling water systems. The valves were supplied in sizes DN65–DN350 (2 1/2" – 14") and prepared for integration into automated valve assemblies used in cooling water distribution systems.

Key project requirements included:

- reliable operation in continuously running cooling systems
- corrosion protection suitable for technical environments
- compatibility with actuator integration
- consistent valve configuration across a large number of installed units

Following the successful delivery of the project, cooperation between the companies continues on additional data center cooling projects in Sweden.



Cooling water system installation – data center project (Sweden)