



ICEMAN

— Central Chillers —





Continuous Centralized Process Cooling

Mokon Central Chillers

Leave it to Mokon to offer central chillers with all the benefits you're looking for. Accuracy and reliability. Efficiency. Maximum safety. Low maintenance. Compatibility. At Mokon, design is the difference and never more so than in our line of Iceman Central Chillers. With our range of air-cooled and water-cooled products in single- and multiple-circuit configurations and with capacities from 30 to 80 tons, Mokon has what you need to keep your machinery at peak performance temperature.

Accurate and Reliable

- Single or multiple-circuit designs – Based on required cooling capacity and processing conditions, you can choose from our single or multiple-circuit chillers. Single-circuit systems offer an economical means of single-source chilling, while a multiple-circuit system allows chilling from two or more circuits for varying load conditions.
- Automatic compressor staging for capacity control – Multiple-circuit systems operate only what is needed for your exact load conditions.
- Electronic hot gas bypass – Ensures precise control for partial cooling load conditions.
- Microprocessor or Allen-Bradley PLC (Programmable Logic Controller) – Gives you the highest available means of accurate temperature control with varying features based on your processing requirements.



Shown: 30-ton, dual-circuit, water-cooled system with isolation valving and manifolds.

Efficient

- Scroll compressors or semi-hermetic discus –
 - Scroll: Uses 50% fewer moving parts than reciprocating compressors, increasing efficiency and reliability while decreasing noise.
 - Semi-hermetic discus: Highly energy efficient, reliable, durable and serviceable. Provides tight compression tolerance.
- Brazed plate evaporators – Compact design provides highest heat transfer efficiency and takes up a minimum amount of space.
- Multiple-circuit configurations – Allow system to accurately match changing process needs while creating redundancy so operations can continue during routine maintenance.
- Thermal expansion valve – Gives tight control over range of operations through externally equalized valve.
- Small footprint – Allows more space for operators and other machinery.

Maximum Safety

- Flow switch – Protects system from process blockage and potential damage from no-flow condition.
- NEMA 4-rated enclosure – Protects electrical components from dust and water spray.
- Low and high-refrigerant pressure safety devices – Offer extra protection for compressor.
- NFPA 79 construction – Exceeds National Fire Protection Association's electrical standards.
- Branch fusing – Provides additional protection for transformers and compressors.
- Water regulating valve (water-cooled units) – Regulates flow of water for stable operation and water conservation.
- Main power disconnect – Provides safe means of main power disconnect and lockout/tag out capabilities for maintenance purposes.
- Operator password – Prevents unauthorized access to system or change in program.
- General fault and individual system alarms – Include freeze stat, high/low refrigerant pressure, compressor fault, no flow condition. Oil protection is offered on discus models.
- Emergency stop – Allows quick emergency shutdown of system.
- Audible alarm – Fast notification of problems with reset.

Compressors

- Staging for capacity control – Use only what you need for specific loads.
- Anti-recycling – Timed sequence stops short cycling.
- Manual/automatic lead/lag – Assures equal run times for each compressor to extend life.
- Scroll compressors – Hermetically sealed with fewer moving parts for quiet, efficient operation. More tolerable to liquid slugging.



Pressure Transducers



- Keep your chiller running smoothly by indicating compressor pressure.
- Excellent repeatability; eliminate many mechanical gauges and switches.

Electronic Hot Gas Bypass Valve



- Precise, accurate modulation of compressor flow for exact capacity control.
- Get only what you need to keep your process cool.
- Electronic controls assure accuracy.

Low Maintenance

- Welded steel frame – One-piece construction minimizes vibrations, while forklift slots make repositioning a breeze.
- Refrigeration shut-off-valve – Isolates refrigerant for regular service of circuit.
- Refrigeration liquid line solenoid valves – Keep refrigerant from backing up into the compressor during shutdown.
- Easy access – Compressors, valving, refrigeration components and tubing are all readily accessible.
- Digital freeze protection – Provides safety for low fluid temperatures.
- Strainer (option) – Reduces upkeep by keeping large debris out of evaporators and condensers.
- Pressure transducers – Eliminate mechanical gauges and switches for better reliability and a quicker and more accurate response.
- Replaceable core filter dryers (standard on 40-ton units and above) – Remove moisture and other contaminants from refrigerant system. Easily accessible for maintenance.

Compatible

- Capacity – Units from 30 to 80 tons as standard.
- Single or multiple-circuit designs – Allow you to customize your cooling capacity to meet process needs.
- Modular design – makes expansion convenient.
- Air-cooled and water-cooled units – Both provide the same easy-to-use, efficient, low maintenance temperature control.
- Isolation valves (option) – On evaporator and condenser (water) for ease of maintenance or shutdown.

Types and Sizes Available

- Air-cooled and water-cooled designs.
- Dual-circuit scroll compressor (30 to 80 tons).
- Dual-circuit semi-hermetic discus compressor (optional on 30 to 80 tons).
- Single-circuit scroll compressor (30 to 50 tons).
- Single-circuit semi-hermetic discus compressor (30 to 60 tons).
- Multiple-circuit configurations in both scroll and semi-hermetic discus compressors in various configurations and capacities.

Controllers



Microprocessor Controller

- Automatic PID set-up.
- Self-tuning.
- Alarm monitoring to protect process.
- Communications capable.
- Standard on single-circuit systems.



Programmable Logic Controller (PLC)

- Operator-friendly panel view display, with monochrome or color screen.
- Temperature indication for set point, entering and leaving chilled water, and supply and drain water.
- System status and refrigerant pressures indicated for ease of viewing.
- Alarms and history, hour meter for components operation, as well as troubleshooting guide displayed for assisting with preventive maintenance and shutdowns.

Pump Tanks



Mokon offers a variety of standard pump tank configurations that can be sized and customized to your process cooling water requirements.

Warranty/Service Information

All Mokon temperature control systems are approved for use only after simulated field tests, and all models are factory calibrated before shipping. Mokon offers a standard one-year warranty on all products.



Mokon Product Line

Since 1955, Mokon has been recognized as an innovative manufacturer of high performance circulating liquid temperature control systems. The tradition of engineering and construction advances continues to set new standards for durability, accuracy and efficiency for process control applications. Our product line includes:

Water Systems

Each of Mokon's circulating water temperature control systems features non-corrosive components and plumbing for long life and durability. The **Minitherm**, the original compact circulating water temperature control system, provides accurate and dependable control while measuring only one foot tall. Compact and portable, the **Hydrotherm** uses Mokon's unique design philosophy to provide lasting performance. The **Duratherm** also comes with a stainless steel pump and unique canister design that ensures a higher heat transfer rate for more economical operation. With a cast iron pump, the **Duratherm HTP** maximizes performance where high temperatures and high pressures are required. The **Dual Zone Duratherm** provides two independent zones of control from one location. The **Duratherm NPS** gives you accurate temperature control in either a positive or negative pressure mode.

HTF Systems

Mokon offers a complete line of heat transfer fluid systems, providing accurate temperature control of your process up to 600° F. All HTF models are designed with the highest quality components to offer maximum efficiency and long-lasting performance.

Iceman Portable and Central Chillers

The **Iceman Series** includes a complete line of portable air-cooled and water-cooled chillers that provides you with easy and accurate control of your chilled process fluid. Mokon's **Central Chillers** offer a wide variety of air-cooled and water-cooled chillers to keep plant-wide machinery at peak performance temperature. A **Full Range** system is also available for your heating/chilling needs.

Maintenance Products

The **Leak-Master** negative pressure system stops leaks in molds and processes without stopping production. The **D-Scaler** system removes rust, scale and lime deposits from your process. The **ClearFlo** system filters heat transfer fluids without disrupting operation, reducing contamination, and the **ClearFlo PLUS** will also eliminate water build-up within the heat transfer fluid system.

Custom Designed Systems

Not all process applications have the same specifications. In fact, Mokon customers have come to depend on our thermal and fluid dynamic design philosophies to help them meet their unique process requirements. Our custom design system capabilities enable us to provide application solutions with Mokon quality and craftsmanship built in.

Our engineers will develop the Mokon system you need. Whether your application requires special control capabilities, a unique size requirement, specific materials of construction, increased flow or heating capacities or just a special color, Mokon will be happy to work with you to find a solution.

Call Mokon today for more information.



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