

INNOVATIVE Application Solutions

MOKON

Pet Food

Innovations in pet food processing and packaging have led to better quality products.

With its growing demands, the pet food industry requires a partner with proven experience in accurate and dependable process temperature control. Mokon's design and application teams have developed innovative heating and cooling systems that provide real-world solutions for new and existing applications.

Application Details

A prominent pet food processor contacted Mokon looking for a precision temperature control system to replace their current form of heating and cooling that used central high temperature steam and chiller loops. Their jacketed mixer vessel was failing prematurely and, due to the thermal shock associated with rapid heating and cooling cycles from 50°F to 300°F (10°C to 149°C), the vessel required frequent maintenance.

Considerations

In addition to extending the life of the vessel, handling the rigors of high and low temperatures, meeting a NEMA 4 rated moisture resistant specification and having wash down capabilities, the customer wanted to accurately control and monitor the temperatures from an existing remote operator station.

Solution

Mokon's design engineer proposed a high-temperature circulating water system capable of supplying 300°F (149°C) water and incrementally introducing chilled fluid to eliminate thermal shock and minimize mineral deposits that caused valve and seal issues. The system was supplied with a separate microprocessor-based PID controller with remote set point and retransmission features for mounting and controlling from the operator station.



The comprehensive solution covered the customer's heat capacity requirements, was able to be controlled remotely per the customer specified interface with sound ramp and soak programming settings and had NEMA rating design features. The customer expressed significant satisfaction and has purchased additional equipment from Mokon.



Heating and cooling system with NEMA 4X electrical enclosure and components, stainless steel cabinetry for wash down and CE rated.



Designed to Perform. Built to Last.

Product Spotlight

Mokon's Full Range temperature control system is a unique product that provides a combination of heating and chilling in one compact, self-supporting system. This system is ideal for applications including jacketed vessels, laboratories, mixers, sanitary environments, and other processes that require both heating and chilling. Full Range systems are available in multiple sizes and configurations, a variety of cooling, heating and pumping capacities and a wide range of temperatures.



Mokon's Expertise:

- Water and Heat Transfer Oil Systems
- Portable and Central Chillers
- Custom Designed/Engineered Systems
- Closed and open loop circuitry
- Single and multi-zone circuits
- Combination heating and chilling systems
- Stainless steel cabinets and components
- Food-grade heat exchangers
- NEMA rated panels
- Cleanroom and wash down designs
- Sanitary environments
- Local and remote control functions
- Remote set point and re-transmission controllers and communication ports
- Remote interface electrical enclosures
- UL, CE, CSA, NFPA, NEMA and ASME designs

Typical Applications Include:

- Cleanroom
- Extrusion
- Heat exchangers
- Heat tracing/jacketed pipe
- Injection molding
- Jacketed vessels
- Laboratory
- Mixers and blenders
- R&D/Testing
- Ovens and furnaces
- Packaging
- Sanitary environments
- Vessels and reactors



7-zone custom water temperature control system designed for leading pet food manufacturer. Common NEMA 4 rated electrical enclosure with common supply and return for customer supplied chilled water.



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