



THE MYDAX MRI-CHILLER DESIGN

It is with pride that Mydax submits this quotation for our MRI chillers. Years ago a technology leader in the MRI industry came to Mydax in search of a "better chiller" than is typically available in the industry. The requirements came in light of a plague of problems that are effecting the typical chiller and furthermore the perceived reliability of MRI systems in general.

It is therefore, important to point out that the Mydax MRI chillers are designed specifically for MRI applications, or where reliability is critical. Mydax Engineers started from an already successful outdoor air-cooled chiller design, complete with our proprietary Low Thermal Stress Refrigeration Technology. Working with MRI Engineers and Field Support staff, Mydax optimized this design to minimize chiller downtime, the most costly for your reputation.

The single most important feature, Mydax's proprietary and patented "Low Thermal Stress Refrigeration Technology", means the refrigeration components will not have the continuous thermal shock induced by conventional refrigeration systems where the refrigeration lines are being blasted with cold refrigerant then allowed to warm -- only to be shocked cold again. This is the primary cause of failure in conventional refrigeration systems. Only Mydax technology provides for proportional metering of refrigerant to keep the unit running on an even keel, yet have fast response to immediate cooling needs. Our fundamental technology has been in use in our chillers, serving various high-tech industries, for over 15 years -- with unprecedented success.

The 1M30/41/82A-OD chillers, like our military-deployment design, is specifically designed to operate at full capacity over the extreme outdoor temperature range of -20°F to +120°F.

- For cold weather operation, heaters are provided for the electrical control enclosure, the compressor crankcase, and the refrigeration receiver.
- For hot weather operation, a liquid-cooled heatsink is provided for the high-power electrical components; the air-cooled condenser and compressor are sized to handle a continuous full load at the maximum outdoor temperature.
- The electrical enclosure is a NEMA-4 cabinet to secure the control system from windblown dust, rain, snow, splashing water, and formation of ice. An RS-232 computer interface is provided to allow remote monitoring to other equipment if necessary.
- The air-cooled condenser is mounted in the top of the chiller, with air inlets on two opposing sides. This layout provides the greatest protection from wind and blowing snow drifts. A variable-speed drive maintains only the fan speed necessary to provide adequate cooling; on cold days, fan rotation may not be required -- on hot days the fan will be running full speed.

The chiller is designed for simple and turn-key installation. Periodic Maintenance is limited to cleaning the condenser cooling fins, and inspecting the quality of the recirculation fluid.

- Installation is as simple as hooking up: (1) an electrical power cable, (2) two recirculating fluid lines, (3) filling the reservoir, and (4) turning on the START switch.
- Facilities hookup for electrical and recirculating fluid are conveniently arranged on one bulkhead.
- No refrigeration charging is necessary upon installation; which means no certified refrigeration technician has to be available for the installation.
- Access for both cleaning the condenser cooling fins and filling the fluid reservoir is provided through one hinged screened panel conveniently located on one side of the chiller.

A low level of unit maintenance is the priority in the Mydax design.

- The compressor and pump are selected as the best the industry offers. The Danfoss/Maneurop compressor is designed with internal protection to be fail resistant. The pump is a vertical seal-less design where the pump housing is submersed in the fluid and has no seals to wear out.
- Alarms will alert the user of impending faults relating to low reservoir level, clogged condenser, or restricted recirculation flow. This may allow service personnel to anticipate a problem and prevent downtime.
- Consistent with typical Mydax designs, this chiller contains a safety interlock loop designed to protect the chiller components in the event of a single item failure. This loop monitors incoming line power, refrigerant pressure, reservoir temperature, and fluid level and will shut down the unit before other components are damaged -- effectively reducing repair time.
- Maintenance and Service are simplified by a complete set of built-in meters and gauges for reading temperatures and pressures of the both the recirculation and refrigeration circuits. Flow rate of the recirculation fluid is displayed directly on the main display in gallons-per-minute.

Mydax has contracted with an ETL agency which has certified the 1M30A-OD chiller to be in accordance with UL 1995 for Heating and Cooling Equipment. Since this is often a requirement for installation at a medical facility, this same certification can be performed on any Mydax chiller design.

- This assures both you and your customers that our unit is built in compliance to the most stringent standards for safety.
- Mydax is prepared to maintain the on-site inspections to uphold the UL/ETL certification.

The Mydax team is prepared to provide premium Engineering and Field Technical Support with these chillers.

- All support documents, installation, service, training and users manual are available on our password-protected Technical Support web site.
- A 24-hour toll-free telephone number has been established for service calls, where contact can be made to a Mydax service person and the Mydax engineering staff at any time of need.
- Our Strategic Alliance with York International provides dispatched 4-Hour response to most all metropolitan locations throughout the world.
- Mydax offers VSEOS (Virtual Service Engineer On Site) to remotely dial into a chiller and view the operating parameters. This can help provide a speedy diagnosis of service problems and can also be used to periodically check the operating conditions of the chiller. The powerful "911" feature allows the chiller to automatically call Mydax or a local service center if an alarm condition is detected. This can reduce effective response time by alerting support personnel even before the local user knows of a problem.
- Mydax will provide training for support personnel either at the Mydax facility or a customer's preferred location.