# DESIGN CONDITIONS

## Mycom SMART M-100 Compressor PackageRefrigerant: Ammonia

## Capacity: 80 Tons of Refrigeration Evaporating Temperature: 11˚FCondensing Temperature: 95˚FSpeed: 1,148 RPM Power: 3/60/xxx V Power, 1/60/120V Control

# MYCOM SMART M COMPRESSOR PackageThe SMART M compressor shall consist of specified equipment, piping, valves controls, monitoring, insulation and wiring that is completely factory fabricated on a structural steel frame. The packaged plant must be factory tested and meet all codes and standards prior to delivery.

## Mycom N4M reciprocating compressor

## 100 HP Nema premium motor

## OSHA Belt guard

## Crankcase heater complete with thermostat

## Oil charging valve and drain check valves

## Oil separator mounted piped, complete with float drainer and side relief valve

## Discharge check and shut off valves

## Flywheel, motor pulley and belts

## Motor slide base and mounting of motor

## Structural steel base

## Compressor suction, discharge and water thermometers

## Compressor toolset

## Glycol or water cooled oil cooler and heads

## Water/glycol shut off and solenoid valves, pre-piped

## Interconnecting lines between the oil cooler and compressor jacket shall be nylon reinforced flexible hose.

## Cutout panel mounted complete with the following gauges and safety controls, pre-wired in series;

### Low Oil Pressure Gauge

### Oil Pressure Gauge

### Low Pressure Cutout

### High Pressure Cutout

### Oil Failure Switch

### High Oil Temperature Switch

## One (1) Integrated SMART Rink Connect Monitoring Panel

### Monitoring panel to be furnished, assembled and wired in a NEMA12 enclosure.

### All equipment and material shall be from manufacturer's regular production, UL and/or ULC or CSA certified, manufactured to standard quoted plus additional specified requirements.

### System shall be Distech Controls ECLYPSE line or manufacturer approved equal.

### System shall be Web based and allow for simultaneous support of wired IP and Wi-Fi (Access point, client, hotspot, mesh) including support of Wi-Fi bridge.

### System shall have 2 Ethernet ports allowing controllers to be wired daisy-chain topology and enable an STP loop-free topology configuration for redundancy and reliability.

### System shall contain embedded support of BACnet MS/TP routing to IP and MODBUS.

### System shall be BTL Listed as BACnet Building Controllers with embedded schedules, alarms and trend logs.

### Advanced built-in security features and authentication services for robust IP-based implementation must be included.

### Controller shall have remote access capabilities.

### Monitoring panel shall be mounted directly on skid with all instrumentation factory wiring and installed prior to shipping.

### All instrumentation shall be 4-20mA type sensors and be factory wired to the control panel with Belden 8451 or equal for 2-wire devices and Belden 8771 or equal for 3-wire devices.

### Colour touch-screen PC shall be minimum 10” with latest version of Windows OS.

### Graphics shall be informative and intuitive describing current package operating conditions related to safety, reliability and efficiency.

### Controller shall be capable of automatically recognizing other Smart Connected products.

### Control system shall be designed by manufacturer. Sub-contracting of work is not permitted.

## REFRIGERANT PIPING AND VALVES

### All Ammonia refrigerant piping shall conform to the latest edition of the ASME B31.5 Refrigeration Pressure Piping Code and CSA B52 Mechanical Refrigeration Code

### All refrigerant piping 1" and larger shall be socket welded or butt-welded. All refrigerant piping up to and including 3/4" shall be threaded or socket welded

### All Ammonia pressure relief valves shall be sized and piped to a suitable location as defined in the CSA B52 Mechanical Refrigeration Code

## WATER/GLYCOL PIPING AND VALVES

### Water and glycol piping shall be schedule 40 ASTM A53 grade A or B ERW pipe

## PRESSURE GAUGES AND THERMOMETERS

### Supply and install new pressure gauges for new pumps. Provide 2 ½" diameter pressure gauges. Gauges shall be constructed of material compatible with fluid being measured. All pressure gauges shall be liquid filled and come complete with isolation valves

### All thermometers shall be solar powered digital display, adjustable stem angle and separable wells

## PAINTING

### All insulated field fabricated steel shall be painted with a rust resistant primer prior to insulation.

### All un-insulated steel piping shall be painted with **two (2) coats** of industrial machinery enamel paint with colours to match accepted trade standard.

## ELECTRICAL WIRING

### All power and control electrical package wiring from the Integrated SMART Rink Connect Monitoring Panel to the refrigeration equipment motors, switches, controls and sensors. All electrical wiring must conform to CSA and local codes.

## Insulation

## 2.10.1 All pipes and pressure vessels which will have temperature loss of sweat during normal operation must be **factory insulated** with minimum 2” foam in place insulation.