QPX-EXP-PPX (HPX) 15
SPC BASE MOUNT

Lifeline® "Oil-Less" Scroll Medical Air Single Point Connection (SPC) Base Mount Quadruplex Expandable to Pentaplex System and Pentaplex Expandable to Hexaplex System (15 HP)

SPECIFICATION

Single Point Connection (SPC) System Design

The LifeLine® Oil-Less Scroll Medical air package is fully compliant with NFPA 99 and features a common base with single point connections for electrical, intake air, discharge air, and condensate drains. Designed and manufactured with ISO 13485 processes, each system is completely tested before shipment and includes:

- Quadruplex expandable to Pentaplex systems have four compressor towers, each with two “oil-less” scroll compressors and one motor
- Pentaplex expandable to Hexaplex systems have five compressor towers, each with two "oil-less" scroll compressors and one motor
- Duplex desiccant drying system with purge control
- Integral pre-wired control panel
- Corrosion resistant vertical air receiver

Compressor Module

The compressors are continuous duty rated scroll type, single stage and air-cooled. The compressors have one fixed and one orbiting scroll sealed with PTFE tip seals.

- Field replaceable tip seals
- Dust and contamination protection from two part face seal
- Orbiting bearing and pin crank bearings are grease filled
- Heat dissipation maximized by an integral cooling fan
- V-belt driven compressor protected by totally enclosed beltguard
- Fully adjustable motor mounting base to achieve belt tensioning

Compressor Motor

The motor is NEMA rated, open dripproof and operates at 3600 RPM with 1.15 service factor suitable for 3-phase 230/460V or 208V electrical service at 60 Hz, or 380V 3-phase at 50 Hz.

Compressor Assembly

The piped intake manifold includes one inline inlet air filter and one isolation valve per compressor, and a high inlet vacuum switch to protect the compressors. The compressor discharge assembly includes:

- Integral air-cooled aftercooler with independent cooling fan, ensuring a maximum approach temperature of 15°F above ambient, and integrated drain trap with automatic solenoid drain valve
- Discharge lines include heat-shielded flex connector, safety relief valve, isolation valve and check valve
- Integral valve per compressor provides load-less starting and rapid air evacuation at shutdown

Isolation System

Four-point, heavy duty isolation system fully isolates the compressor / motor tower from the system. Finite Element Analysis conducted to minimize vibration transfer. Seismically restrained isolators are available. With seismically restrained isolators, OSP-0291 seismic pre-certification rating of 2.0 SDS.

Air Receiver

Corrosion resistant, ASME Coded, National Board Certified vertical air receiver rated for minimum 200 PSIG design pressure.

The air receiver assembly includes.

- Zero Loss electronic drain valve, liquid level gauge glass, safety relief valve, and manual drain valve
- Piped 3-valve bypass assembly with flange-fitted valves
- Pressure gauge

Dryer/Filter/Regulator System

Each desiccant dryer is sized for peak calculated demand and produces a 10° F (-12° C) pressure dew point. Each dryer operates from a demand based purge saving control system featuring repressurization cycles. The dryer assembly includes the following mounted and piped:

- 441™ transfer valve utilizing two sliding ceramic plates with a 5-year warranty
- High efficiency coalescing prefilter rated for 0.01 micron with automatic drain and element change indicator
- Fully duplexed final line particle filters rated for 1 micron with element change indicators
- Duplexed final line regulators and safety relief valves
- Ceramic type dew point sensor with ± 2° F system accuracy
- CO Sensor with ± 2 PPM (at 10 PPM) system accuracy

TotalAlert 360 Control System

The pentaplex and hexaplex mounted and wired TotalAlert 360 control system is U.L. labeled. The control system provides automatic lead/lag sequencing and automatic alternation of all compressors based on first-on/first-off principle with provision for simultaneous operation if required.

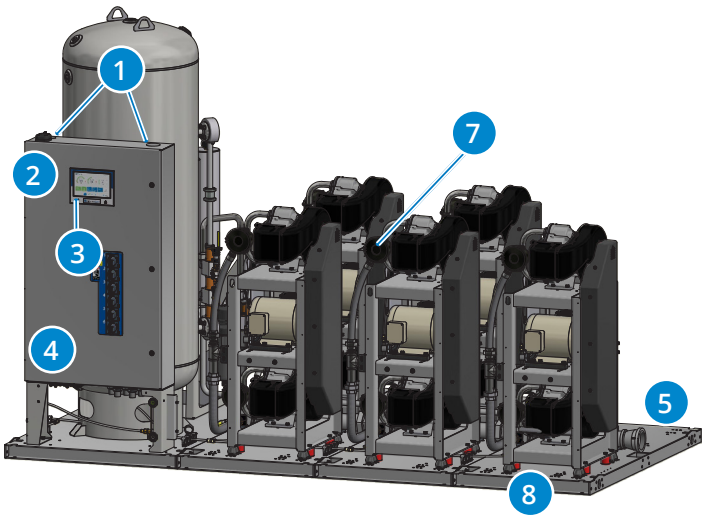
- NEMA 12 control panel enclosure
- Circuit breaker disconnects for each motor with external operators
- Full voltage motor starters with overload protection
- 24V control circuit
- 65kAIC SCCR rating for control cabinet

The touch screen controls feature a 10” color, high resolution screen. Screen displays and functions include:

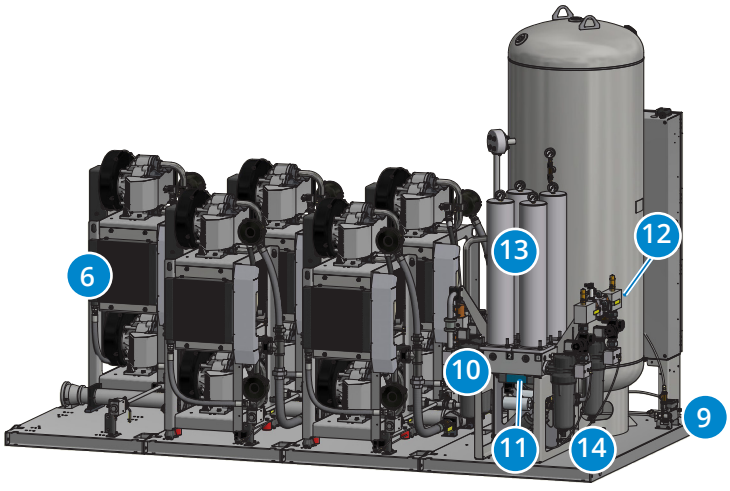
- Easy to read system pressure level, dew point level, CO level
- Status of all units (Running, Available, Off, next to Run)
- Trend graphs for outlet pressure, Dew Point, CO, and units running
- Run time hour meters for each unit
- Visual/audible alarm indications with isolated contacts for all standard remote alarms
- Event log recording alarms and system activity
- Service alerts
- Event log recording service warnings and service history
- Integral cellular connectivity to MyMedGas, allowing electronic notifications of alarms and warnings
- Daily rounds uploadable to MyMedGas
- BTL listed, BACnet/IP communication

Standard Configuration

Model Shown: 15 Hp Pentaplex Expandable to Hexaplex



1. *Control panel pre-drilled for power and alarms for easy electrical installations. Ethernet connection on panel top for easy installation of BACnet connectivity, with additional connection on the side panel for software updates.*
2. *TotalAlert 360 controls featuring 10" color screen with high resolution 1280x800 Capacitive Touch Display for exceptional clarity, visibility, and useability.*
3. *LED indication of Reserve in Use condition as backup annunciation to display failure and LED indication of power to the control panel.*
4. *Control cabinet components achieve rating of 65kAIC SCCR.*
5. *Inlet connection positioned for pipework attachment without stress on system.*
6. *Aftercooler with separate cooling fan to provide maximum approach temperature of 15° F above ambient ensuring effecient dryer operation.*
7. *Individual air inlet filter per compressor to protect compressors from incoming debris.*



8. *4-point heavy-duty isolation system for each compressor tower. Further vibration isolation achieved with flex hoses on intake and discharge.*
9. *Zero-Loss electronic discharge drain to save compressed air and remove moisture efficiently.*
10. *Manifold dryer block design with SAE fittings to reduce potential leak points and to reduce pressure drop losses.*
11. *441® ceramic plate dryer switching valve with 150 million cycle anticipated life to reduce maintenance and downtime costs.*
12. *Anodized aluminum blocks and flanged fittings utilized throughout air stream design to reduce leak points.*
13. *Dryer towers with repressurization cycle to eliminate desiccant shock and minimize desiccant dusting.*
14. *High efficiency inlet and outlet filters to protect the desiccant beds and medical air stream.*

TotalAlert 360 Control System

TotalAlert 360 10" Touch Screen

- 10" LCD 1280 x 800 Capacitive Touch Display for exceptional clarity and visibility, with enhanced user experience
- LCD is IPS-TFT for enhanced color and contrast, featuring 85% viewing angle in all directions
- Toolbars on all screens with easy access navigation icons that enable full access with minimal touches

MyMedGas Connectivity

- Cellular connectivity to cloud-based MyMedGas web page for remote operator to view system controls and display information
  - » View remotely system operation details, alarms and event history
  - » View remotely maintenance timers, service history logs
  - » Easily download system trends, event logs and reports for system management and record keeping
- Electronic notification
  - » Allows for remote alerts of alarm and warning conditions
  - » Allows for remote alerts of routine maintenance
- Logging rounds to MyMedGas
  - » Main screen touchpoint for MyMedGas with time stamp to log operating conditions, system parameters during daily rounds
  - » Automated report generated to MyMedGas

Ethernet Connectivity

- Control panel contains Ethernet port on top of cabinet for easy installation of BACnet
- TCP/IP protocol for BACnet activation
- Ethernet port on side of contol cabinet that allows reprogramming with a standard computer for software updates

Control Cabinet Safety

- Volt free relay contacts for all standard alarms
- Low voltage (24V) control circuit
- Full voltage motor starters with overload protection
- Circuit breaker disconnects for each compressor
- 65kAIC SCCR rating

Redundancy

- Each compressor and dryer unit has an individual board for control allowing units to function independently
- In unlikely malfunction of display board or display screen, unit will function normally and activate alarm
- If master board malfunctions, system goes to failsafe operation with backup pressure switch
- Independent LED indicators on control screen for Reserve in Use and power to the control panel as backup annunciation to display failure

Master Display Screen

- Main Screen
  - » Displays the system operating conditions, including System Pressure, Dew Point and CO level
  - » Displays the compressor unit sequence, including status of compressors (running, available, off) and next to start
- Trends & Graphs
  - » Shows measured values of the system operating conditions over a period of time (operating pressure, Dew Point, CO, ambient temperature)
  - » Shows unit usage and operation, clearly identifying each unit and its running status
  - » Selectable time periods consist of 60 minutes, 4 hours, 24 hours, and 6 days
  - » Visually precise with green and red shading for normal and non-normal areas
- Dryer Information
  - » Displays the operating mode of the dryer(s)
  - » Displays dryer image showing current status
- Service
  - » Displays ambient temperature in the room
  - » Maintenance screen shows suggested and required maintenance items with resettable timers
  - » Historical event log records all service activities
  - » Link to operations manuals associated with system
- Alarms and Shutdowns
  - » All system/unit Alarms and Shutdowns displayed with visual indication (Green or Red) and unit operation status, allowing for quick identification and evaluation of system operation
  - » Custom messaging for each alarm and shutdown
  - » Testing mode enables operator to test all alarm/shutdown events (password protected), with all test events recorded in the event log
  - » Event History Log records all system event history
- Unit Operation
  - » Screens show the operation mode of the unit along with automatic or manual mode setting
  - » Unit status screen displays the running hour meter values, including average daily run time and average starts/hour
  - » Pump rotation allows the unit to run for a short period to check pump rotation
- System Settings
  - » Allows the adjustment of system pressure operating range
  - » Displays pertinent system model information

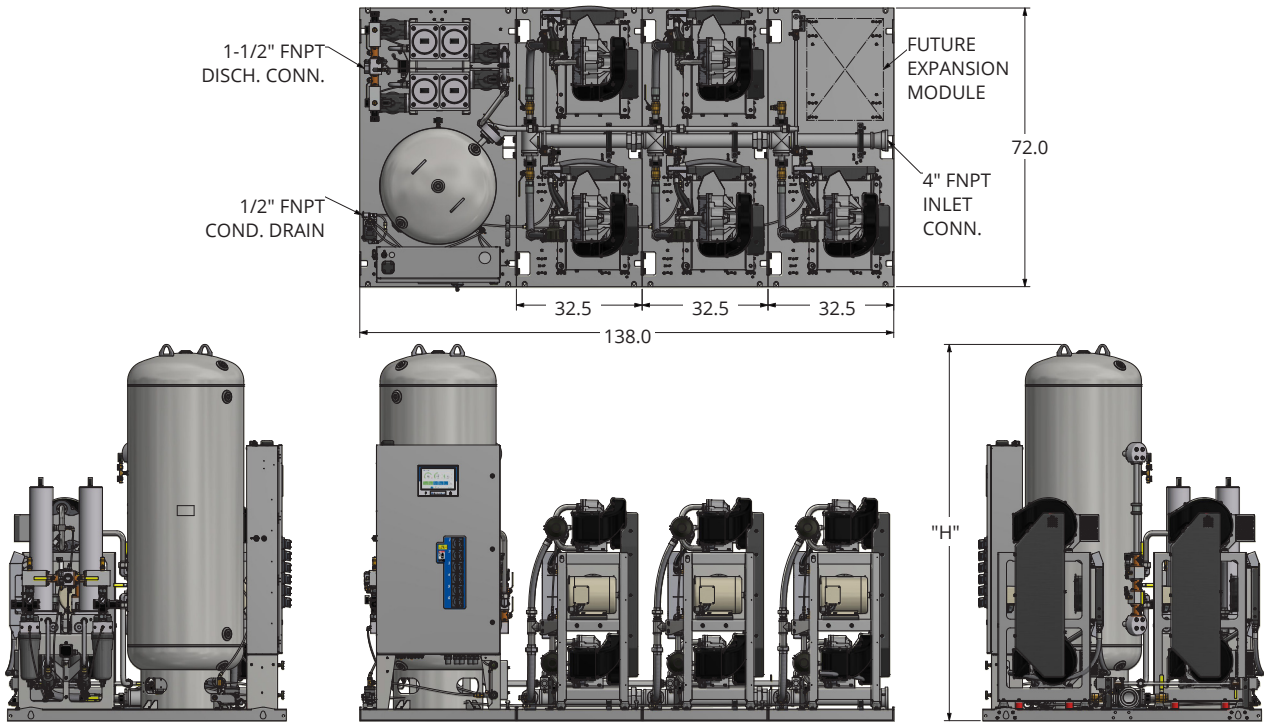
Medical Air System Specifications											
System Model No.	HP	System Capacity[2] 50 psig	System[3] BTU/Hr	Receiver (gallons)	Noise[4] Level	System FLA				System Weight (lbs)	Dimensions (in)
						208V	230V	460V	380V/ 50Hz		H
SAS15Q-200V-P	15	151.2	102,372 (136,496)	200	79	183.5	178.2	89.6	105.0	4,860	85.1"
SAS15Q-240V-P	15	151.2	102,372 (136,496)	240	79	183.5	178.2	89.6	105.0	4,961	97.1"
SAS15P-240V-H	15	201.6	136,496 (170,620)	240	79	220.2	213.8	107.5	126.0	5,560	97.1"

Specification Table Notes:

1. Normal operating conditions at a maximum ambient of 105° F. Consult factory for higher ambient conditions.
2. All capacities are shown as NFPA 99 system capacities (reserve compressor on standby) and are shown in Inlet Cubic Feet per Minute (ICFM).
3. All system BTU/HR are shown with reserve compressor on standby.
4. All noise levels are shown in dB(A) and reflect reserve compressor on standby.
5. System is designed for output pressure of 50-60 psig (344-413 kPa). For alternate pressures, contact factory.

Standard Configuration

15 Hp Pentaplex and Hexaplex



Notes:

- Inlet and discharge flex connections are built into package.
- Allow 36 inches in front of control panel for maintenance and ventilation, all other sides require 24 inches of clearance.
- Additional drawings/diagrams available for download at www.beaconmedaes.com.

Life is in the details.®

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