





We know the importance of customer relationships, business relationships and providing the best equipment to meet the customer's needs.

Led by our product knowledge, experience, and dedication to you, we will strive to provide the right equipment for any medical or laboratory gas application that is specified by you.

Medical Air Systems

Technologies:

- Oil-Less Scroll Compressors
- Oil-Less Reciprocating
- Oil-Free Rotary Screw
- Oil-Flooded Reciprocating Control & Instrument Air Systems



Medical Vacuum Systems

Technologies:

- Contactless Claw
- Lubricated Rotary Vane
- Dry Rotary Vane
- Oil-Flooded Screw
- Liquid Ring Vacuum



Medical Pipeline Products

- Manifolds
- Alarms
- Zone Valve Boxes
- Outlets
- Lab Pipeline Equipment
- Accessories



Medical Air Systems

Oil-Less Scroll

- 2-20 HP
- Base Mount, Modular, Single Point Connection
- After-cooler with separate fan
- Efficient desiccant dryers with integral purge control - low dew points, unaffected by flow conditions, reduced operating costs
- Patented Tensioning System - facilitates tensioning by personnel
- Quiet, low maintenance, small footprint
- Systems have the smallest footprint in the marketplace



Oil-Less Reciprocating

- 1 -20 HP
- Base Mount, Modular, Single Point Connection
- HMI touchscreen controls
- Modules designed to go through a standard doorway
- Insulated "heat cut" piston pin minimizes heat transmission from the piston wall to the piston pin needle bearing
- Efficient desiccant dryers with integral purge control low- dew points, unaffected by flow conditions, reduced operating costs.



Retro-fit Air Dryers

- Dew-Point/CO Monitor
- Demand-Based Purge Saving Control System
- Accuracy – minimum $\pm 2^{\circ}\text{F}$ for dew point
- Accuracy – minimum ± 2 PPM for carbon monoxide
- Desiccant cartridges eliminate downstream dust and simplify replacement
- Available from 8 to 365 SCFM standard, larger if needed
- -40°C Dryer (Larger Dryer Bed)



Medical Vacuum Systems

Contactless Claw Vacuum Systems

- 2-30 HP
- Non-contacting rotors
- Virtually maintenance-free operation
- Base mount, tank mount or space saver configurations
- "O2 Safe" available for all WAGD applications - safely operates at 100% oxygen content
- Variable Frequency Drive (VFD) available - matches motor speed with vacuum demand
- HMI easy-to-use touch screen display
- 2-micron inlet filter



Lubricated Rotary Vane Vacuum Systems

- 1-25 HP
- Base Mount Tank Mount - Horizontal, Vertical Single Point Connection, Modular
- HMI easy-to-use touch screen display
- Cooler running
- Quiet
- Minimum vane life 30,000 hours
- High discharge temperature switch
- 2-micron inlet filter



System Standard Features

Touch Screen Graphical Gateway



Standard Screen Displays

- Pressure
- Runtime
- Dew Point / CO Monitoring
- Dew Point Trend
- Alarm History
- Replacement Parts
- Service Indicator
- Troubleshooting Guidelines
- Maintenance Schedule and History
- Configurable Alarms

Standard on all Air and Vacuum Systems

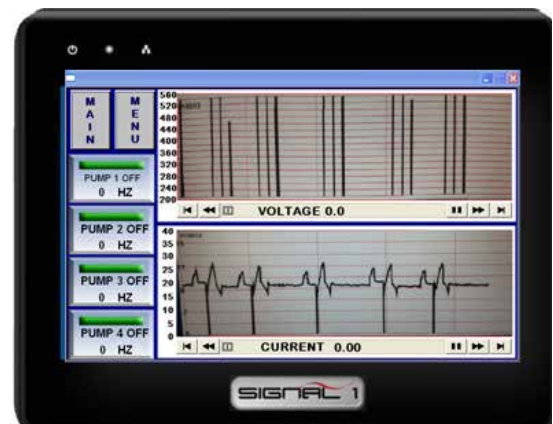
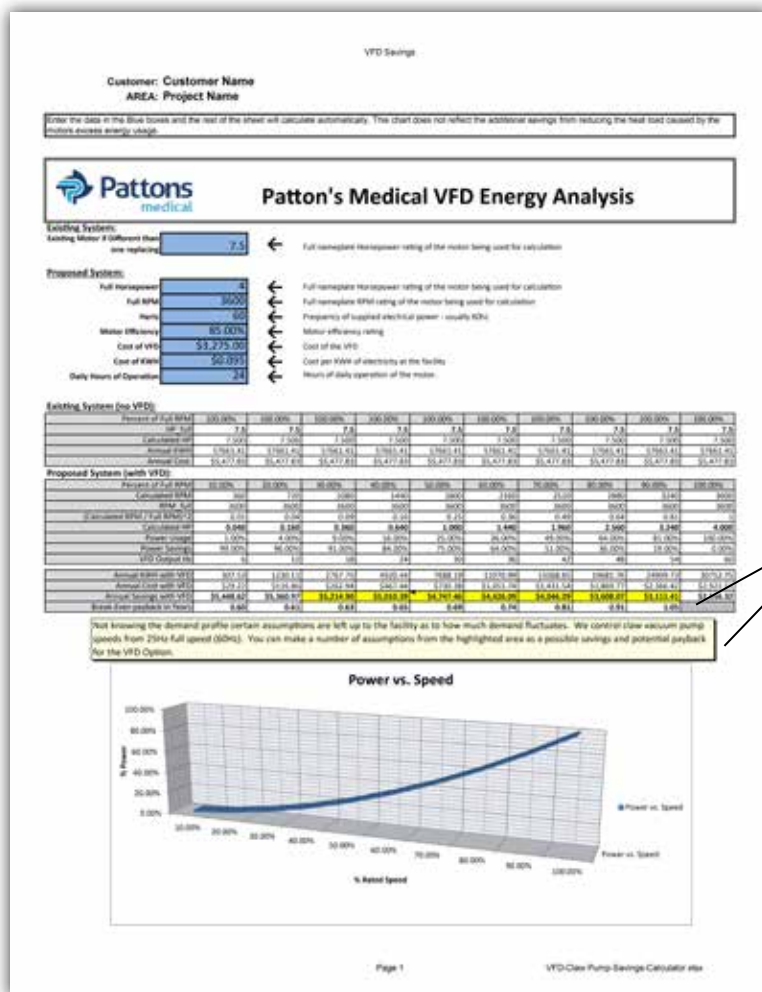
- 7" Wide TFT Graphic Touch Screen with Motion Actuated Back-Lit LED and Bright 65,536 (16-bit) Colors
- Downloadable 30-day Trend information via USB Host Port or Network Device
- 128 MB Flash Memory, 64MB DRAM
- Built-in Ethernet Port 10/100 Base-T (RJ45) with email capability for alarming personnel
- Supports over 100 Communication Protocols including BACnet IP, Ethernet IP, and Modbus TCP/IP
- Built-in Multiple Ports can handle three (3) additional Protocols simultaneously
- Built-in VNC Server allowing remote monitoring over Ethernet/Internet network for "Real Time" monitoring of live graphics through standard browser and smartphones
- Share data between Touch Screen Graphical Gateway and Building Management Systems with no additional software to implement

Energy Saving Opportunities

Contactless Claw Vacuum Systems

Features and Benefits:

- Claw Pumps are best suited for potential savings due to their efficiency/speed characteristics
- Single VFD utilized in Control Schema reducing the capital investment and maximizing pay back
- Backup mode in case of drive failure is across-the-line automatically, requiring no intervention by personnel
- Control down to 25Hz to ensure sufficient motor cooling
- Retrofit VFD panels can be added to existing systems to capture savings



Not knowing the demand profile certain assumptions are left up to the facility as to how much demand fluctuates. We control claw vacuum pump speeds from 25Hz-full speed (60Hz). You can make a number of assumptions from the highlighted area as a possible savings and potential payback for the VFD Option.

Medical Pipeline Products

Manifolds

- Fully automatic dual line dome biased manifold with fully automatic switch providing continuous final line pressure
- Input power 110 VAC, 50 to 60 HZ
- Microprocessor based control panel incorporates six LED's and illuminated LED display readable even in poor lighting conditions
- CGA gas specific header bar with integral check valves and cylinder pigtail assemblies included with Header Assembly
- Intelliswitch Option available
- Provides facility with flexibility as it works for high pressure, liquid and mini-bulk
- Eliminates pressure relief valve popping with Economizer feature – no wasted gas
- Captures 30% of wasted liquid in Dewers with its Look-Back Feature



Alarms

Local Area Alarms

- Digital sensors can be mounted locally or remotely
- Illuminated LED display, readable in even poor lighting conditions
- Adjustable high/low set-points for each specific gas service
- Alarm recognizes sensor (NFPA99 2015 compliant)

Master Alarms

- Up to 64 points in a standard configuration
- Self Diagnostic "Test" button for ease of maintenance
- Filters out transient signals less than 600msec in duration
- Conversions available
- Optional wireless network available to eliminate additional wiring



Medical Pipeline Product

Zone Valve Boxes

Features and Benefits:

- Can be configured to hold 1 to 7 zone valves with tube extensions
- Consists of a pull-out, removable opaque window
- Large, color-coded gas identification labels provided
- Provided with 2 adjustable steel brackets for mounting to structural support
- 2" Single Valves available in 4" depth box
- Anti-microbial coating to inhibit growth of microorganisms



Outlets

Features and Benefits:

- Accepts Chemetron® Diamond, Puritan Bennett®, and DISS specific adapters
- Pin indexed to prevent interchangeability of gas service
- Each outlet is cleaned for medical gas service and pressure tested
- Less than 3 psi (21 kPa) pressure drop through the outlet at 120 L/min and 50 psi (345 kPa) inlet pressure
- Inlet pipe can be rotated 360 degrees for ease of installation (wall and console styles)
- Outlets can be adjusted up to 3/4" (19mm) in mounting plate thickness
- Gas specific back bodies can accept either Quick Connect or DISS front bodies



Integrated Flowmeters

Features and Benefits:

- The flowmeter is built into the latch valve so it can not be removed from the wall
- Standard Thorpe Flowmeter 0-15lpm
- O2 DISS connection at full wall pressure; perfect for ventilators
- Slimmer profile compared to bulky Y-blocks to clear workspace



Laboratory Air and Vacuum Systems

Laboratory Systems

All technologies available

- Dewpoint based flow control capable
- Special filtration available
- Closed-loop or Open-loop control schemes
- Application specific custom packages available
- Smallest footprint in the marketplace
- Lab vacuum utilizes electronic purging no need to pipe air to the system



Replacement Parts & Maintenance

- Replacement Vacuum and Compressor Pumps and Motors
 - Hitachi
 - Busch
 - Rietschle
 - Kobelco
 - Becker
- Replacement filter elements and canisters
- Replacement CO and dew point monitors and sensors
- Calibration Kits
- Hitachi Bebicon replacement pump parts
- Retrofit Medical Gas Outlets and Alarms
- Retrofit Control Panels





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