





**Creating Medical Gas Solutions... for Life** 

## **INTRODUCTION**

Patton's Inc., now owned and operated by ELGi USA, began selling custom medical air packages to hospitals in 1980. For years we sold Quincy compressors to the local medical market. Knowing we had to expand our product line, we became a distributor for Powerex in 2003. For the next five years, we were one of their leading distributors for medical gas equipment. In 2012 ELGi USA purchased Patton's Inc. and Patton's Medical as an entry into the US marketplace for their industrial products as well diversification into the medical equipment business.

Deciding to sell and service our own medical gas equipment nationwide, we created Patton's Medical in 2008. This does not mean Patton's Medical is the "new kid on the block."We hired some of the best in the medical gas business with extensive back-grounds in sales, marketing, manufacturing and engineering. Within a short period of time, we were able to create a company and product line that is second to none in the industry. Although the influx of this new talent brought new ideas, products and direction to the company, our "old fashion" commitment to customer service is steadfast.

In order to provide the best equipment for the expanding medical market, we acquired collaborative developmental rights to sell Hitachi Bebicon and Scroll compressors. We knew these compressors had been used for over twenty years in the medical market and had proven to be extremely reliable. With this came the ability to sell parts and service for existing equipment that utilize the Hitachi pumps.

In addition to medical air compressors, we knew we had to offer medical vacuum. After extensive research of vacuum companies and vacuum pumps we chose Busch Vacuum pumps for their excellent reputation in the medical arena. We build multiplex vacuum packages utilizing oil-less rotary vane, lubricated rotary vane and oil-less rotary claw pumps.

Today, a premier offering of medical air and vacuum equipment is manufactured in our Charlotte facility. Additionally, we have embarked on a complete Medical Gas pipeline offering as Patton's Medical. Our products meet or exceed NFPA 99 and CSA standards in addition to being U.L. listed. If our standard products do not exactly fit your requirements, we will work with you to develop special packages to comply with your particular specifications or applications. Our mission is to be the leading innovator, deliverer, and manufacturer in the world of Medical Gas products. We strive to do this through constant examination of our processes and service to our customers.

We are committed to quality and innovation; we look forward to working with your needs to be your preferred partner for Medical Gas Equipment.

While we strive to grow our business, we know the importance of customer relationships, business relationships and providing the best equipment to meet the customer's needs. Our focus will continue to be on our customers. Lead by our product knowl-edge, experience and dedication to you, we will strive to provide the right equipment for any medical gas application that is specified.

# MEDICAL VACUUM SYSTEMS

### Features and Benefits:

- 🗹 Dry Rotary Vane— Relative low cost
- ☑ Lubricated Rotary Vane longer life, higher Vacuum Levels
- 🗹 Contactless Claw Low Maintenance, Standard & D2 Safe
- ☑ Rotary Oil-Flooded Screw
- ☑ Liquid Ring Vacuum—High Reliability, high vacuum levels

# MEDICAL AIR SYSTEMS

### Features and Benefits:

- ☑ Oil-less Reciprocating
- ☑ Oil-less Scroll Compressors
- ☑ Oil-free Rotary Screw
- ☑ Dil Flooded Reciprocating Control & Instrument Air Systems

# **MEDICAL PIPELINE PRODUCTS**

### Features and Benefits:

- 🗹 Manifolds
- 🗹 Alarms
- ☑ Zone Valve Boxes
- ⊠ Outlets
- ☑ Emergency Fill Stations
- ☑ Pressure Switches and Transducers
- ☑ Lab pipeline equipment
- 🗹 Accessories







# SYSTEM STANDARD FEATURES

## Touch Screen Graphical Gateway





### Standard Screen Displays



- ☑ Pressure
- 🗹 Runtime
- DewPoint/CO Monitoring
- Dew Point
  Trend
- Alarm History

- ☑ Replacement Parts
- ☑ Service Indicator
- ☑ Troubleshooting Guidelines
- Maintenance Schedule and History



- 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) Colo<u>rs</u>
- 🗹 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
- oxtimes 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, smart phones & mobile phones
- 4 🗹 Share data between Touch Screen Graphical Gateway and Building Management Systems with no additional software to implement



# MEDICAL VACUUM SYSTEMS

## Dry Rotary Vane Vacuum Systems

- ☑ NFPA 99 Compliant
- ⊠ 100% Oil-less
- ☑ 1 10 hp
- Base Mount, Tank Mount Horizontal, Vertical Single Point Connection, Modular
- ☑ HMI easy to use touch screen display
- 🗹 Low Maintenance
- ☑ Small Footprint
- 🗹 🛛 2 micron inlet filter

## Lubricated Rotary Vane Vacuum Systems

- ☑ NFPA 99 Compliant
- 🗹 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

## **Contactless Claw Vacuum Systems**

- ☑ NFPA 99 compliant
- ⊠ 2-30 hp
- ☑ Non-contacting rotors
- ☑ Virtually maintenance-free operation
- ☑ Base mount, tank mount or Space Saver configurations
- "02 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











# MEDICAL AIR SYSTEMS

## **Dil-less Reciprocating**

- ☑ NFPA 99 compliant 1 20 hp
- ☑ Base mount, Modular, Single Point Connection
- ☑ HMI touch screen 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.

## **Dil-less Scroll**

- ☑ NFPA 99 compliant 2-20 hp
- ☑ Base mount, Modular, Single Point Connection
- ☑ HMI touch screen controls
- 🗹 Aftercooler with separate fan
- ☑ Vibration isolation
- Efficient desiccant dryers with integral purge control low dew points, unaffected by flow conditions, reduced operating costs
- ☑ Patent Pending Tensioning System—facilitates tensioning by personnel
- 🗹 Quiet, Low Maintenance, Small footprint
- 🗹 Largest Scroll available in marketplace, Systems have smallest footprint in marketplace

## **Dil-free Rotary Screw**

- 🗹 NFPA 99 compliant
- 🗹 🛛 Air or water cooled
- ☑ Positive displacement, two-stage rotary screw air compressor capable of delivering 100% oil-free air
- ${\ensuremath{\boxtimes}}$  Energy Saving Load/Unload Capacity Control or VFD available
- 🗹 Low maintenance
- 🗹 High reliability
- 🗹 Quiet—Operation 64 74 dB(A) is standard.





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# MEDICAL AIR SYSTEMS

## **Retro-fit Air Dryers**

- 🗹 NFPA 99 Compliant
- ☑ Dew-Point/CO Monitor
- ☑ Demand-Based Purge Saving Control System
- ☑ Accuracy minimum ±2°F for Dew Point
- ☑ Accuracy minimum ±2 PPM for carbon monoxide
- ☑ Visual and Audible Alarms
- arnothing Available from 8 to 365 SCFM standard, larger if needed
- ☑ -40°C Dryer (larger Dryer Bed)

## Lab Air and Lab Vacuum Systems

- ☑ All technologies available
- ☑ NFPA 99 Compliant
- oxtimes Dewpoint based flow control capable
- 🗹 Special filtration available
- ☑ Closed-loop or Open-Loop Control schemes
- ☑ Application specific Custom packages available
- Smallest footprint in the market

## Retro-fit Control Panels

- ${\ensuremath{\boxtimes}}$  Used on existing older systems where parts are no longer available
- Can provide HMI controls to integrate to Building Automation Systems (BAS)
- 🗹 Can input spare parts lists for users
- ☑ Can provide sequencing of existing systems
- ☑ Fully NFPA99 Compliant
- 🗹 Custom Control Panels for existing systems





# **ENERGY SAVING OPPORTUNITIES**

## **Contactless Claw Vacuum Systems**

#### Features and Benefits:

- Claw Pumps are best suited for potential savings due to their efficiency/speed characteristics  $\mathbf{\nabla}$
- Single VFD utilized in Control Schema reducing the Capital Investment and maximizing payback  $\mathbf{\nabla}$
- Backup mode in case of drive failure is across-the-line automatically, requiring not intervention by personnel  $\mathbf{\nabla}$

100.00%

× 0.00%

10.00% 20.00% 30.00%

40.00%

50.00% 60.00% 70.00% 80.00% 90.00% %00.00

% Rated Speed

- Savings is dependent on demand profile of the facility  $\mathbf{\nabla}$
- Control down to 25Hz to insure sufficient motor cooling  $\checkmark$





**Power vs. Speed** 

Power vs. Speed Power vs. Speed

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
- ☑ Manifold complies with NFPA-99
- Incorporates balanced stem first stage regulators to reduce the inlet cylinder pressure to the dual final line regulator assembly
- 🗹 Incorporates pushbuttons for transducer calibration and switching validation
- ☑ Stainless steel diaphragm regulators



### 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
- oxtimes Filters out transient signals less than 600msec in duration
- 🗹 Conversions available
- 🗹 Optional wireless network available to eliminate additional wiring



# MEDICAL PIPELINE PRODUCTS

## 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



## Gas Control Panels & Emergency Fill Stations (EOSC)

#### Gas Control Panels

- $\square$  Designed to power surgical instruments in operating rooms
- ☑ Available in Horizontal or Vertical configurations
- ☑ Available in various gas types

### **Oxygen Fill Stations (EOSC)**

- ☑ Lockable weather tight enclosure, for outside mounting
- 🗹 Box can be mounted horizontally or vertically, simply by changing the front label
- ☑ Available in Recessed or Surface Mount
- ☑ Common of 1" and 2" connection sizes

### 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







## **Complimentary Factory Service Training**

- 🗹 Both Air and Vacuum Systems covered
- 🗹 "Hands-on" Training
- Covers Routine Maintenance Procedures as well as commissioning of new systems
- Complimentary, participant covers travel and lodging, Patton's Medical handles logistics.
- Designed to assist the end user in maintenance and understanding the different technologies and applications
- ☑ Offered bi-annual based upon participation and scheduling.



### Informative Lunch/Learn Programs

☑ Either standard informative program or custom application specific session conducted by Patton's Medical personnel

- ☑ Standard Programs include:
  - ☑ Medical Gas Installation
  - ☑ Who is Patton's Medical
  - ☑ Pipeline Products
  - ☑ Source Products



## **Replacement Parts & Maintenance**

- $\ensuremath{\boxtimes}$  Replacement Vacuum and Compressor Pumps and Motors
  - 🗹 Hitachi
  - ☑ Rietschle
  - ⊠ Kobelco
  - 🗹 Becker
- ☑ Replacement filter elements and canisters
- ☑ Replacement CD and Dewpoint Monitors and sensors
- 🗹 Calibration kits
- 🗹 🛛 Hitachi Bebicon Replacement pump parts
- ☑ Retrofit Medical Gas Outlets and Alarms
- 🗹 Retrofit Control Panels
- 🗹 Valves, gauges, and relief valves











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