Ohio® Medical

Desk Reference

- Medical, Laboratory
- Air Systems
- Vacuum Systems
- Medgas Pipeline

Ohio Medical®

Ohio Medical is a global leader of medical air and vacuum pumping systems, and medical suction and oxygen therapy devices. Our trusted brands include Ohio Medical and Amvex® medical suction regulators, Ohio Medical and Amvex air and oxygen flow meters, Healthcair® medical air and vacuum pumping systems, and Aeros® portable suction equipment.

Ohio Medical meets applicable regulatory requirements in the countries where we make and sell our products, and operates an ISO 13485 registered and FDA regulated medical device manufacturing facility. All Ohio Medical medgas products are produced to comply with NFPA 99 standards.

With our dedicated team of industry experts, Ohio Medical takes great pride in providing our customers with high quality, innovative solutions to meet the challenges of today's marketplace.

The history of the "Ohio" name dates back over 100 years ago to the Ohio Chemical and Manufacturing Company founded in Cleveland Ohio in 1910 when the company began manufacturing one of the first anesthesia gas machines, The Ohio Monovalve, which was used extensively during World War I.

Squire-Cogswell (founded in Chicago, Illinois in 1916) was a vital contract manufacturer for Ohio Chemical. They developed and manufactured medical gas and suction and oxygen therapy equipment including hospital vacuum regulators, custom vacuum, and medical gas pumping systems for healthcare applications. Squire-Cogswell/Aeros achievements include inventing and patenting the "Diamond 1" (also known as the "Ohio Diamond") medical gas adapter in 1951; inventing the first wall mounted intermittent suction device used for patient drainage in 1964; and introducing the first Moblvac® portable suction pump in 1975.

In 2005, Ohio Medical was formed by MVC Capital. The foundation of the newly formed Ohio Medical Corporation included the acquisitions of the Ohmeda® suction and oxygen therapy business from GE Healthcare, and the Squire-Cogswell/Aeros company which manufactured portable suction equipment, medical and industrial pumping systems, and medical gas pipeline products.

In 2007, Ohio Medical acquired Amvex® Corporation. This acquisition expanded our portfolio of suction and oxygen therapy products by including a global market leadership position for medical gas hoses and patented technologies for digital gauge suction regulators, and dual port wall mounted integrated air and oxygen flow meters.

Our next technological breakthrough came with the introduction of the Ohio Medical Push-To-Set™ (PTS) suction regulator. The PTS regulator is the first suction regulator to address a potential national healthcare concern regarding inadvertent "over-suctioning" by incorporating the patented technology of an automated occlude-to-set feature critical in setting appropriate vacuum pressure levels.

Most recently, Ohio Medical acquired MiniOx®, a long standing leader of Oxygen monitoring and analyzing products. MiniOx has a long history of serving the medical community and its rich history continues here at Ohio Medical.

We are proud of the "Ohio" name and significant impact our products have had on the medical industry and the patients we serve. Our brands reflect a strong heritage standing for patient safety, innovation, and quality products for over 100 years!

For ordering information, please call 1-800-448-0770 or 847-855-0500
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Table of Contents

PIPELINE

Outlets 4
Integrated Flowmeter....5
Zone Valve Boxes....6
Valves with Extensions 6
Alarms: Area, Master and Combo 7
Retrofit Alarm....8
Hose Retractor 8
Gas Control Panel 9
Ceiling Columns/Pedestals....9
Manifolds 10
Emergency Oxygen Inlet Station 10

VACUUM SYSTEMS

Rotary Vane Vacuum Systems 11
Simplex Rotary Vane Vacuum System 12
Dry Running Rotary Vane Vacuum System 15
Rotary Claw Vacuum Systems 17
“Water Miser” Liquid Ring Vacuum Systems 21

AIR SYSTEMS

Scroll Compressed Air Systems 25
Oil-Less Reciprocating Piston Air Compressor Systems....29
Replacement Air Treatment Modules 33
Enclosed Scroll Compressor Systems Non-NFPA 34

REPLACEMENT PUMPS, FILTERS

Bare Replacement Pumps....36
Bare Replacement Pumps, filters / Rebuild Kits....38

TECHNICAL INFORMATION

Calculated Peak Demand for a Medical Surgical Vacuum System 39
Calculated Peak Demand for a Medical Air System 40
Manifold Sizing 41
Medical Gas Equipment Mounting Height Detail 42
Suggested Medical Gas Master Alarm Points for Category 1 Facilities 43
Medical Alarm Panel Wiring....46

Outlets

Features:

- Accepts Chemetron®, Diamond, Puritan Bennett® and DISS specific adapters
- Available: Wall/Ceiling, Console and Ceiling Column
- Pin indexed to prevent interchangeability of gas services
- Cleaned for medical gas service
- NFPA® 99 Compliant
- Inlet pipe can be rotated 360 degrees for ease of installation
- Gas specific back bodies can accept either Quick Connect or DISS front identification bodies
- Outlet can accommodate various finished wall thicknesses from 3/8" (10 mm) to 1-1/4" (32 mm).

Diamond Compatible Wall Outlet

Chemetron Compatible Wall Outlet

Puritan-Bennett Compatible Wall Outlet

DISS Wall Outlet
DISS Ceiling Outlet

Diamond Compatible Console or Ceiling Column Outlet

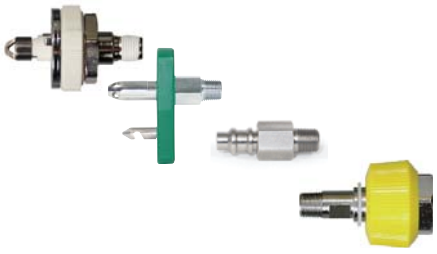
Chemetron Compatible Console or Ceiling Column Outlet

Puritan-Bennett Compatible Console or Ceiling Column Outlet

DISS Console or Ceiling Column Outlet

DESCRIPTION/ PRODUCT	Diamond Compatible Wall	Chemetron Compatible Wall	Puritan-Bennett Compatible Wall	DISS Wall	DISS Ceiling
Oxygen	261010-1	261020-1	261040-1	261000-1	261000-3
Vacuum	261010-5	261020-5	261040-5	261000-5	261000-7
Air	261010-13	261020-13	261040-13	261000-13	261000-15
Nitrous Oxide	261010-9	261020-9	261040-9	261000-9	261000-11
WAGD	261010-17	261020-17	261040-17	261000-21	261000-23
Nitrogen	N/A	N/A	N/A	261000-17	261000-19
Carbon Dioxide	N/A	N/A	N/A	261000-25	261000-27
Slide	261690	261690	261690	261690	N/A

- Slides, blanks and electrical receptacle are also available.
- Rebuild kits available


Adapters are available from Ohio Medical

The Integrated Flowmeter Outlet combines a Flowmeter and a Medical Gas Outlet into a single compact design. The right side port connection has a traditional tube style flowmeter which allows the user to adjust the flow setting. The left side port is a direct connection to the gas supply. The Integrated Flowmeter saves space, reduces construction costs and ensures that health care providers will always have a Flowmeter when they need one.

FEATURES:

- Flow rate meets the requirements of National Fire Protection Association® (NFPA) and CSA® (Canadian Standards Association)
- Each outlet is 100% tested and cleaned for medical gas service
- Indexed to eliminate interchangeability of gas services
- Flow Indicator
- Five year warranty
- A large color coded front plate is used for ease of gas identification and aesthetic appeal.
- The latch-valve assembly is gas specific.
- All outlets are cleaned and degreased for medical gas service, factory assembled and tested.
- All Ohio Medical® products comply with NFPA-99.

Ohmeda Coupler
(Oxygen)

Chemetron Coupler
(Oxygen)

DISS Male Fitting
(Medical Air)

DISS Male Fitting
(Oxygen)

Endless Options

The Integrated Flowmeter comes equipped with an extra 50 PSI supply outlet, giving you the flexibility to deliver more solutions. Options are endless with the Integrated Flowmeter; you can attach a hose, an additional flowmeter, a standard humidifier and so much more!

Zone Valve Boxes

Single Zone Valve Box
For 1/2", 2", 2-1/2" and 3" Valves

Features:

- Full port design
- Blow-out proof stem
- Cleaned for medical gas service
- Teflon seats
- Dual gauge port on pipe extension

Part Numbers:

261901-05	1/2"	Single Zone Valve Box
261901-07	3/4"	Single Zone Valve Box
261901-10	1"	Single Zone Valve Box
261901-12	1-1/4"	Single Zone Valve Box
261901-15	1-1/2"	Single Zone Valve Box

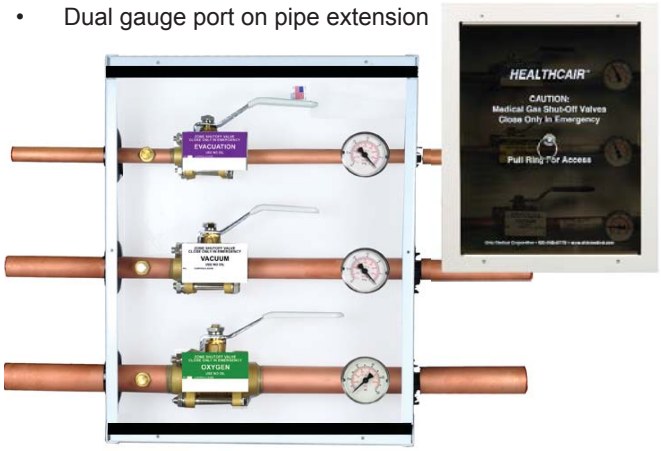
The following require a 6-1/2" deep box

261901-20	2"	Single Zone Valve Box
261901-25	2-1/2"	Single Zone Valve Box
261901-30	3"	Single Zone Valve Box

Multiple Zone Valve Box
4" and 6" Deep Box

Features:

- Full port design
- Blow-out proof stem
- Cleaned for medical gas service
- Teflon seats
- Dual gauge port on pipe extension



Part Numbers:

261902-XXXX	Double Zone Valve Box
261903-XXXXXX	Triplex Zone Valve Box
261904-XXXXXXXX	Quadruplex Zone Valve Box
261905-XXXXXXXXXX	Quintuplex Zone Valve Box

Replace XX with: **05 = 1/2"**
07 = 3/4"
10 = 1"
12 = 1-1/4"
15 = 1-1/2"
20 = 2" (Requires a 6-1/2" deep box)

Valves with Extensions

Features:

- Full port design
- Blow-out proof stem
- Sizes range from 1/2" (13mm) to 4" (76.2mm)
- Cleaned for medical gas service
- Teflon seats

Valve with Extensions

- 1/2" through 4" - Dual gauge ports on pipe extensions
- 4" - Single gauge port on pipe extension

Non-Locking Valves Part Number	Locking Valves Part Number
261630-05	261600-05
261630-07	261600-07
261630-10	261600-10
261630-12	261600-12
261630-15	261600-15
261630-20	261600-20
261630-25	261600-25
261630-30	261600-30
261630-40	261600-40

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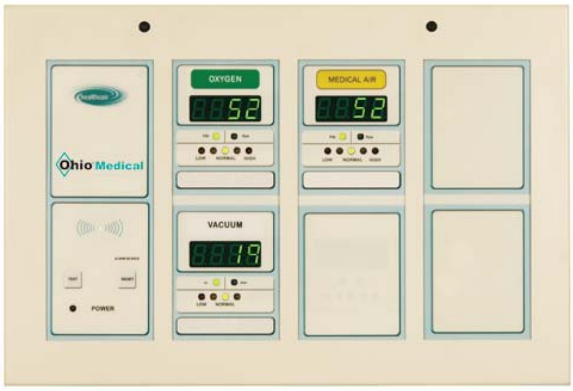
Features:

- Complies with NFPA 99 and Federal Communications Commission (FCC) Part 15
- Adjustable audible alarm repeat
- Field adjustable pressure settings
- Equipped with local or remote sensors (Area)
- High visibility LED readouts
- Optional BMS modules available
- Underwriters Laboratories Inc.® (UL) listed
- Normally Open or Closed Contacts (Master/Combo)

Area Alarm



Local	261861-**X**	1 Gas Area Alarm
	261862-**XX**	2 Gas Area Alarm
	261863-**XXX**	3 Gas Area Alarm
	261864-**XXXX**	4 Gas Area Alarm
	261865-**XXXXX**	5 Gas Area Alarm
	261866-**XXXXXX**	6 Gas Area Alarm
	261867-**XXXXXXX**	7 Gas Area Alarm
	261868-**XXXXXXXX**	8 Gas Area Alarm

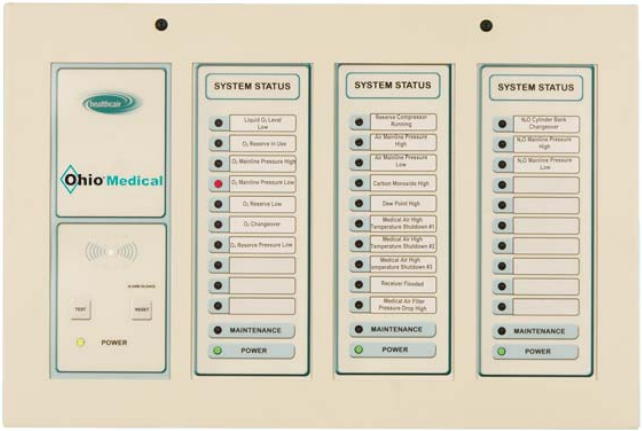
Remote

261851-**X**	1 Gas Area Alarm
261852-**XX**	2 Gas Area Alarm
261853-**XXX**	3 Gas Area Alarm
261854-**XXXX**	4 Gas Area Alarm
261855-**XXXXX**	5 Gas Area Alarm
261856-**XXXXXX**	6 Gas Area Alarm
261857-**XXXXXXX**	7 Gas Area Alarm
261858-**XXXXXXXX**	8 Gas Area Alarm

X = gas

1 = Oxygen
2 = Vacuum
3 = Nitrous Oxide
4 = Air
5 = Nitrogen
6 = WAGD
7 = Carbon Dioxide

Master Alarm



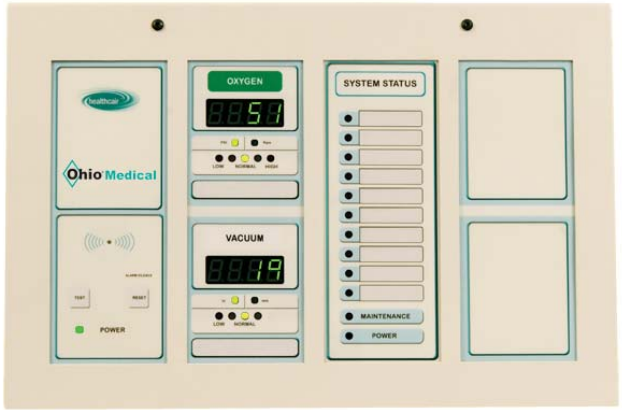
261890-XX

10 Point	10
20 Point	20
30 Point	30
40 Point	40
50 Point	50

If Dry Contacts are required, add "C" to the part number

Example: 261890-20C

Combo Alarm (Local or Remote)



26189X-XXX

Local	6
Remote	5

Master Alarm Modules
10 = 1, 10 point
20 = 2, 10 point
30 = 3, 10 point
40 = 4, 10 point

Replace X with gas
1 = Oxygen
2 = Vacuum
3 = Nitrous Oxide
4 = Air
5 = Nitrogen
6 = WAGD
7 = Carbon Dioxide

Retrofit Alarm

Features and Benefits:

- High visibility LED readouts
- Field adjustable pressure settings for each module
- Local or Remote sensors
- Adjustable audible repeat cycle
- Universal trim plate sized for any brand alarm

The Ohio Medical Retrofit Alarm is designed to replace and/or update most manufacturers' master alarms, area alarms and combination alarms without disturbing the wall.

The retrofit alarm kit includes a front panel display, a frame to cover the existing box, a power supply assembly, and area sensors if required.

The retrofit alarm is available in two sizes, four and six bay. The four bay box can accommodate up to 6 gases, or a combination of 4 gases and a 10 point master alarm with overall frame size of 19"L x 11.5"H. The six bay can accommodate up to 8 gases and a 10 point master with an overall frame size of 26"L x 11.5"H. The retrofit box can be fitted in any combination with each vertical slot capable of housing one master module or two area gas modules.

Hose Retractor

The Ohio Medical hose assemblies are manufactured with medical grade anti-static PVC tubing. The tubing is reinforced with polyester braiding. The maximum working pressure is 200 psi @ 70°F. The fittings have either the coupling or the grips color coded per CGA® (Compressed Gas Association) C-9 standards. The fittings are permanently crimped on each end to the tubing with ferrules.

Part Numbers

DISS Female to Male DISS Male - 5' Hose Length

263400-1-05	Oxygen Hose Assembly
263400A-2-05	Vacuum Hose Assembly
263400-3-05	Nitrous Oxide Hose Assembly
263400-4-05	Air Hose Assembly
263400-5-05	Nitrogen Hose Assembly
263400A-6-05	WAGD Hose Assembly
263400-7-05	Carbon Dioxide Hose Assembly

DISS Female to Ohmeda Compatible Quick Connect - 5' Hose Length

263401-1-05	Oxygen Hose Assembly
263401A-2-05	Vacuum Hose Assembly
263401-3-05	Nitrous Oxide Hose Assembly
263401-4-05	Air Hose Assembly
263401A-6-05	WAGD Hose Assembly

DISS Female to Chemetron Compatible Quick Connect - 5' Hose Length

263402-1-05	Oxygen Hose Assembly
263402A-2-05	Vacuum Hose Assembly
263402-3-05	Nitrous Oxide Hose Assembly
263402-4-05	Air Hose Assembly
263402A-6-05	WAGD Hose Assembly

Retractor

261746	Retractor

*Custom configurations are available.

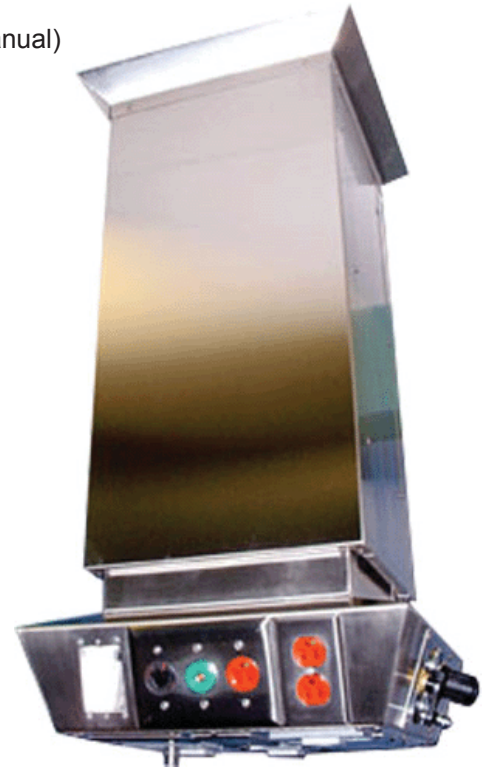
- Nitrogen, Instrument Air, CO2
- Pressure Range: 0-300 PSIG
- Pull to Lock
- Push to Adjust
- One DISS Outlet on Unit

Part Numbers:

261760	Nitrogen Control Panel
261911	Instrument Air Control Panel
263280	CO_2 Control Panel
261911-SH	Air Control Panel with Schrader Fitting

Ceiling Columns Pedestals

- Available Stationary or Retractable (Electrical Powered or Manual)
- Complies with NFPA 99



- Digital LCD Pressure Display
- NEMA 4x Enclosure
- Automatic Leak Detection
- Automatic Transducer
- Diagnostic Testing

Part Number Matrix 2634XX-XX-X*

120V

Oxygen	32
N_2O	34
N_2	36
Air	38
CO_2	40

All Other Voltages

Oxygen	33
N_2O	35
N_2	37
Air	39
CO_2	41

Control Unit Only	00
1 x 1	01
2 x 2	02
3 x 3	03
4 x 4	04
5 x 5	05
6 x 6	06
7 x 7	07
8 x 8	08
9 x 9	09
10 x 10	10

Heater Kit.....H
*Add to the end of the part number if a heater kit is required

HEATERS:
263431 (120V)
263409 (220V)

Emergency Oxygen Inlet Station

Part Numbers:

261825	Emergency Oxygen Inlet Station
261701-EXT	Check Valve, 3/4"
261702-EXT	Check Valve, 1"
261703-EXT	Check Valve, 1-1/4"
261704-EXT	Check Valve, 1-1/2"
261705-EXT	Check Valve, 2"
232600	Relief Valve, 1/2" NPT, Set at 75 PSIG
232602	Relief Valve Pipeaway Adapter, 1/2" NPT

- Continuous on demand
- Lubricated oil recirculated or oil-less running
- NFPA 99 compliant
- UL Listed Electrical Control Panel
- Available in Simplex, Duplex, Triplex or Quad
- Configurations:
  - Tank Mounted: Up to 10 hp
  - Stack Mounted: Up to 25 hp
  - Space Saver Vertical Tank Mount, Simplex or Duplex, up to 5 hp
- Warranty: 30/24 Months
- Vibration Free
- Oil sealed systems feature synthetic oil, reducing maintenance and oil changes.
- Oil-less are suitable for dedicated WAGD

Lubricated		
Model No.	**hp**	**SCFM @ 19" HG (each pump)**
S200	2	7.7
S300L	2	11.3
S300	3	16.1
S500L	5	25.6
S500	5	43.2
S750	7.5	60.1
S1000	10	71
S1500	15	101
S2000	20	112.1
S2500	25	172.2
Maximum Vacuum		29.1" Hg

Full Load Amps for Rotary Vane Vacuum Systems

Simplex Systems				
Model Number	**hp**	**System Full Load Amps**		
		208	230	460
S200B	2	8.1	7.4	3.7
S300LB	2	8.1	7.4	3.7
S300B	3	11.2	10.2	5.1
S500LB	5	17.3	15.8	7.9
S500B	5	17.3	15.8	7.9
S750B	7.5	24.8	22.6	11.3
S1000B	10	31.4	28.6	14.3

Duplex Systems				
Model Number	**hp**	**System Full Load Amps**		
		208	230	460
S200B	2	16.2	14.7	7.4
S300LB	2	16.2	14.7	7.4
S300B	3	22.4	20.3	10.2
S500LB	5	34.6	31.5	15.8
S500B	5	34.6	31.5	15.8
S750B	7.5	49.6	45.1	22.6
S1000B	10	62.8	57.1	28.6
S1500B	15	93.6	85.1	42.6
S2000B	20	120	109.1	54.6
S2500B	25	150.8	137.1	68.6

Triplex Systems				
Model Number	**hp**	**System Full Load Amps**		
		208	230	460
S500B	5	52.5	47.8	24
S750B	7.5	75	68.2	34.2
S1000B	10	94.8	86.2	43.2
S1500B	15	141	128.2	64.2
S2000B	20	180.6	164.2	82.2
S2500B	25	226.8	206.2	103.2

Quad Systems				
Model Number	**hp**	**System Full Load Amps**		
		208	230	460
S500B	5	69.8	63.6	31.9
S750B	7.5	99.8	90.8	45.5
S1000B	10	126.2	114.8	57.5
S1500B	15	187.8	170.8	85.5
S2000B	20	240.6	218.8	109.5
S2500B	25	302.2	274.8	137.5

*FLA amps listed are approximate

Oil Sealed Rotary Vane Medical Vacuum System

The Ohio Medical® Lubricated Rotary Vane Medical Vacuum System shall be fully NFPA 99 compliant for use in medical vacuum and dual Medical/Surgical applications. The unit will consist of electric motor driven pumps, vacuum receiver, electrical control system, and interconnection piping and wiring. The components shall be modularly assembled to accommodate most existing doorways and designed for serviceability. The packaged unit shall be factory tested prior to shipment and warranted for a period of (30) months from date of shipment or (24) months from date of start-up.

Vacuum Pump Module

The total recirculating oil sealed rotary vane vacuum pump shall be single stage air cooled, and capable of producing a maximum vacuum level of 29.1" Hg. The pump assembly shall include an integral anti-suck back valve, exhaust oil separator delivering 99.9% oil-free air, oil level sight glass, and an exhaust pressure gauge. Each pump is protected by a temperature switch, check valve, pump isolation valve, source isolation valve and flexible connector.

Vacuum Receiver

The vacuum receiver shall be constructed to ASME® (American Society of Mechanical Engineers) standards, rated for full vacuum, and include a valved by-pass, manual drain valve, vacuum gauge and the National Board label.

System Controls

The UL® listed electrical motor control system shall be of a fuseless design in a NEMA 12 enclosure. The "Continuous On Demand" feature shall stop the operation of the motor(s) during periods of low or no demand. The controls include individual self protected combination motor control(s) with short circuit, single phase and thermal overload protection, individual 120 volt control circuit transformers with fuseless primary and secondary protection, pressure sensors, and an electronic controller to automatically switch the operating sequence of the vacuum pumps (multiplex systems only). The cabinet door shall have an HMI (Human Machine Interface) system status display to include system pressure, pump operation, accumulated time, maintenance interval, fault conditions and silence button; lighted Hand-Off-Automatic selector switches and safety disconnect operating handles.

All required local alarm functions shall be integrated into the packaged system. The circuitry shall be designed so the audible signal can be silenced and the visual indicator will remain until the fault has been cleared and the reset button actuated. Local alarm functions shall be provided for reserve pump in use (lag alarm). Dry contacts are furnished for remote (master) alarm signals.

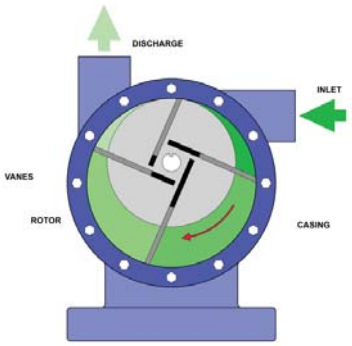
Accessories

Accessories included for job site installation are inlet and discharge flexible connectors, source isolation valve, vibration mounting pads and touch-up paint.

Total Recirculated Rotary Vane Continuous On Demand Medical Vacuum System Selection Chart

Design Capacity SCFM @ 19" Hg / capacity of each pump	Design Capacity ACFM @ 25" Hg / capacity of each pump	hp	Tank Size (gallons)	Length (A)	Width (B)	Height (C)	Weight	System Model Number
Vertical Tank Mounted Simplex								
7.7 / 7.7	21 / 21	2	60	26	44	74	570	S200B-T1V*
11.3 / 11.3	30.8 / 30.8	2	60	26	43	74	630	S300LB-T1V*
16.1 / 16.1	44 / 44	3	60	26	45	75	470	S300B-T1V*
25.6 / 25.6	70 / 70	5	60	29	52	75	470	S500LB-T1V*
43.2 / 43.2	118 / 118	5	80	29	52	81	650	S500B-T1V*
60.1 / 60.1	164 / 164	7.5	80	37	50	81	650	S750B-T1V*
71 / 71	194 / 194	10	80	29	48	81	700	S1000B-T1V*
Vertical Tank Mounted Duplex								
7.7 / 7.7	21 / 21	2	80	45	31	79	550	S200B-T2V
11.3 / 11.3	30.8 / 30.8	2	80	45	34	81	650	S300LB-T2V
16.1 / 16.1	44 / 44	3	80	52	34	82	750	S300B-T2V
25.6 / 25.6	70 / 70	5	80	52	42	81	750	S500LB-T2V
Horizontal Tank Mounted Duplex								
43.2 / 43.2	118 / 118	5	120	86	43	66	1100	S500B-T2
60.1 / 60.1	164 / 164	7.5	120	86	47	66	1100	S750B-T2
71 / 71	194 / 194	10	120	86	46	59	1300	S1000B-T2
Stack Mounted Duplex								
112.1 / 112.1	306 / 306	20	240	80	76	95	4800	S2000B-ST2
172.2 / 172.2	460 / 460	25	240	108	65	74	3800	S2500B-ST2
Stack Mounted Triplex								
120.2 / 60.1	328/164	7.5	240	113	64	74	3600	S750B-ST3
142 / 71	388 / 194	10	240	108	65	74	3800	S1000B-ST3
224.2 / 112.1	612 / 306	20	240	117	73	94	5800	S2000B-ST3
344.4 / 172.2	920 / 460	25	240	116	72	94	9000	S2500B-ST3
Stack Mounted Quadruplex								
180.3 / 60.1	492/164	7.5	240	113	65	74	3200	S750B-ST4
213.0 / 71.0	582 / 194	10	240	113	65	74	4800	S1000B-ST4
336.3 / 112.1	918 / 306	20	240	138	81	92	7500	S2000B-ST4
516.6 / 172.2	1380 / 460	25	240	131	82	90	8800	S2500B-ST4

*Category 3



Oil-less		
Model No.	hp	SCFM @ 19" Hg (each pump)
D100	1	3.3
D200	2	8.4
D300	3	11.7
D500L	5	14.3
D500	5	20.5
D750	7.5	28.6
D1000	10	54.5

Maximum Vacuum

1, 2, & 10 Hp..... 25" Hg
3 & 5 Hp..... 27" Hg
7.5 Hp..... 22" Hg

Design capacity values should correspond with the "Calculated Peak Demand". This will allow for the reserve pump as is required per NFPA for level 1 installations.

Full Load Amps for Oil-less Rotary Vane Vacuum Pumps

Simplex Systems				
Model Number	hp	System Full Load Amps		
		208	230	460
D100B	1	5.2	4.8	2.4
D150B	1.5	7.2	6.6	3.3
D200B	2	8.1	7.4	3.7
D300B	3	11.2	10.2	5.1
D500LB	5	17.3	15.8	7.9
D500B	5	17.3	15.8	7.9
D750B	7.5	24.8	22.6	11.3
D1000B	10	31.4	28.6	14.3

Duplex Systems				
Model Number	hp	System Full Load Amps		
		208	230	460
D100B	1	10.4	9.5	4.8
D150B	1.5	14.4	13.1	6.6
D200B	2	16.2	14.7	7.4
D300B	3	22.4	20.3	10.2
D500LB	5	34.6	31.5	15.8
D500B	5	34.6	31.5	15.8
D750B	7.5	49.6	45.1	22.6
D1000B	10	62.8	57.1	28.6

*FLA amps listed are approximate

Oil-less Rotary Vane Vacuum System Specifications/Selection Chart

Ohio Medical® Oil-less Rotary Vane, NFPA 99 compliant vacuum system shall consist of electric motor driven pumps, vacuum receiver, and an electrical control system. The components shall be modularly assembled to accommodate most existing doorways. The system shall include interconnecting piping and wiring to provide a functional operating package with applicable electrical and plumbing connections at the installation site. The packaged unit shall be factory tested prior to shipment and warranted for a period of (30) months from date of shipment or (24) months from date of start-up.

Vacuum Pump Module

The oil-less rotary vane vacuum pumps shall be single stage, air cooled, with self lubricating graphite vanes. The vacuum pump assembly shall include an integral inlet filter, vacuum regulating valve, check valve, pump isolation valve, a source isolation valve and flexible connector.

Vacuum Receiver

The vacuum receiver shall be constructed to ASME standards, rated for full vacuum, and include a valved by-pass, manual drain valve, vacuum gauge and the National Board label.

System Controls

The UL listed electrical motor control system shall be of a fuseless design in a NEMA 12 enclosure. The “Continuous On Demand” feature shall stop the operation of the motors during periods of low or no demand. The controls include individual self protected combination motor controls with short circuit, single phase and thermal overload protection, individual 120 volt control circuit transformers with fuseless primary and secondary protection, pressure sensors, and an electronic controller to automatically switch the operating sequence of the vacuum pumps. The cabinet door shall have an HMI (Human Machine Interface) system status display to include system pressure, pump operation, accumulated time, maintenance interval, fault conditions and silence button; lighted Hand-Off-Automatic selector switches and safety disconnect operating handles.

All required local alarm functions shall be integrated into the packaged system. The circuitry shall be designed so the audible signal can be silenced and the visual indicator will remain until the fault has been cleared and the reset button actuated. Local alarm functions shall be provided for reserve pump in use (lag alarm). Dry contacts are furnished for remote (master) alarm signals.

Accessories

Included for job site installation are inlet and discharge flexible connectors, source isolation valve, vibration mounting pads, and touch-up paint.

Design Capacity SCFM @ 19" Hg/ capacity of each pump	Design Capacity ACFM @ 25" Hg/ capacity of each pump	System Configuration	hp	Tank Size (gallons)	Length (A)	Width (B)	Height (C)	Weight	System model Number
3.3 / 3.3	5 / 5	Vertical Tank Mounted Duplex	1	80	63	30	78	740	D100-T2V
8.4 / 8.4	12 / 12	Vertical Tank Mounted Duplex	2	80	63	30	80	810	D200B-T2V
11.7 / 11.7	18 / 18	Vertical Tank Mounted Duplex	3	80	63	32	83	940	D300B-T2V
14.3 / 14.3	22 / 22	Vertical Tank Mounted Duplex	5	80	63	32	83	980	D500LB-T2V
20.5 / 20.5	31 / 31	Vertical Tank Mounted Duplex	5	80	63	34	83	1000	D500B-T2V
28.6 / 28.6	N/A	Horizontal Tank Mounted Duplex	7.5	120	90	42	77	1670	D750B-T2
54.5 / 54.5	110 / 110	Horizontal Tank Mounted Duplex	10	120	102	60	77	2820	D1000B-T2

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- Oil-less, non-contacting pump chamber design
- No friction (or wearing parts) in pumping chamber
- Low maintenance
- Long life

- Reliability
- High efficiency (cfm/hp)
- Low cost of ownership
- Clean air
- NFPA 99 compliant
- Warranty: 30/24

Full Load Amps for Rotary Claw Vacuum Systems

Duplex Systems				
Model Number	hp	System Full Load Amps		
		208	230	460
C300B	3	22.4	20.3	10.2
C500B	5	34.6	31.5	15.8
C750LB	7.5	49.6	45.1	22.6
C750B	7.5	49.6	45.1	22.6
C1000B	10	62.8	57.1	28.6
C1500B	15	93.6	85.1	42.6

Quad Systems				
Model Number	hp	System Full Load Amps		
		208	230	460
C300B	3	45.4	41.2	20.7
C500B	5	69.8	63.6	31.9
C750LB	7.5	99.8	90.8	45.5
C750B	7.5	99.8	90.8	45.5
C1000B	10	126.2	114.8	57.5
C1500B	15	187.8	170.8	85.5

Triplex Systems				
Model Number	hp	System Full Load Amps		
		208	230	460
C300B	3	34.2	31	15.6
C500B	5	52.5	47.8	24
C750LB	7.5	75	68.2	34.2
C750B	7.5	75	68.2	34.2
C1000B	10	94.8	86.2	43.2
C1500B	15	141	128.2	64.2

*FLA amps listed are approximate

Duplex Tank Mounted				
Model Number	**hp Each**	**Maximum Vacuum Level ("Hg)**	**SCFM @ 19" Hg Each**	**Design Capacity SCFM @ 19" Hg**
C300-T2	3	25	23	23
C500-T2	5	25	39	39
C750L-T2	7.5	24	53	53
C750-T2	7.5	24	69	69
C1000-T2	10	23	92	92
Triplex Stack Mounted				
Model Number	**hp Each**	**Maximum Vacuum Level ("Hg)**	**SCFM @ 19" Hg Each**	**Design Capacity SCFM @ 19" Hg**
C500-ST3	5	25	39	78
C750L-ST3	7.5	24	53	106
C750-ST3	7.5	24	69	138
C1000-ST3	10	24	92	184
C1500-ST3	15	23	120	240
Quadruplex Stack Mounted				
Model Number	**hp Each**	**Maximum Vacuum Level ("Hg)**	**SCFM @ 19" Hg Each**	**Design Capacity SCFM @ 19" Hg**
C500-ST4	5	25	39	117
C750L-T2	7.5	24	53	159
C750-T2	7.5	24	69	207
C1000-ST4	10	23	92	276
C1500-ST4	15	23	120	360

The Ohio Medical® Oil-less Rotary Claw Medical Vacuum System shall be fully NFPA 99 compliant for use in medical vacuum and WAGD applications. The unit will consist of electric motor driven pumps, vacuum receiver, electrical control system, and interconnection piping and wiring. The components shall be modularly assembled to accommodate most existing doorways and designed for serviceability. The packaged unit shall be factory tested prior to shipment and warranted for a period of (30) months from date of shipment or (24) months from date of start-up.

Vacuum Pump Module

The oil-less contactless rotary claw vacuum pump shall be single stage, and air cooled. The pump design utilizes two ductile iron claw type rotors rotating in opposite direction inside a cast iron housing. The timing of the rotors shall be maintained by a precision gear set which is separated from the oil free pumping chamber by a combination of lip seals. The vacuum pump assembly shall also include a 5 micron particulate inlet vacuum filter, vacuum regulator/ relief valve, and exhaust silencer. The assembly shall also include check valves, pump isolation valves, a source isolation valve and flexible connectors.

Vacuum Receiver

The vacuum receiver shall be constructed to ASME standards, rated for full vacuum, and include a valved by-pass, manual drain valve, vacuum gauge and the National Board label.

System Controls

The UL listed electrical motor control system shall be of a fuseless design in a NEMA 12 enclosure. The “Continuous On Demand” feature shall stop the operation of the motors during periods of low or no demand. The controls include individual self protected soft starters with short circuit, single phase and thermal overload protection, individual 120 volt control circuit transformers with fuseless primary and secondary protection, pressure sensors, and an electronic controller to automatically switch the operating sequence of the vacuum pumps. The cabinet door shall have an HMI (Human Machine Interface) system status display to include system pressure, pump operation, accumulated time, maintenance interval, fault conditions and silence button; lighted Hand-Off-Automatic selector switches and safety disconnect operating handles.

All required local alarm functions shall be integrated into the packaged system. The circuitry shall be designed so the audible signal can be silenced and the visual indicator will remain until the fault has been cleared and the reset button actuated. Local alarm functions shall be provided for reserve pump in use (lag alarm). Dry contacts are furnished for remote (master) alarm signals.

Accessories

Included for job site installation are inlet and discharge flexible connectors, source isolation valve, vibration mounting pads, and touch-up paint.

Oil-less Contactless Rotary Claw Medical Vacuum System Selection Chart

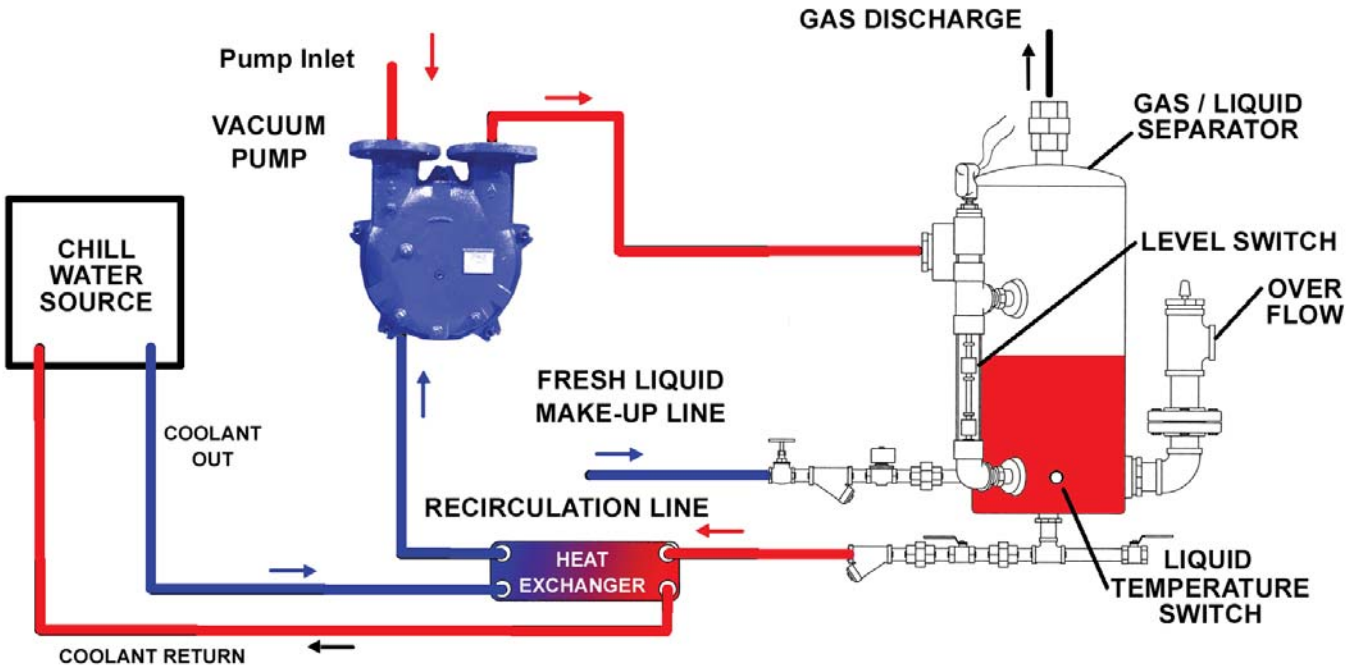
Design Capacity SCFM @ 19" Hg / capacity of each pump	hp	Tank Size (gallons)	Length(A)	Width(B)	Height(C)	Weight	System model Number
Tank Mounted Duplex							
23 / 23	3	120	83	37	60	1000	C300B-T2
39 / 39	5	120	86	42	62	1500	C500B-T2
53 / 53	7.5	120	86	46	62	2000	C750LB-T2
69 / 69	7.5	120	88	49	64	2100	C750B-T2
Stack Mounted Duplex							
92 / 92	10	120	70	60	80	2100	C1000B-ST2
Stack Mounted Triplex							
78 / 39	5	240	114	62	96	2750	C500B-ST3
106 / 53	7.5	240	106	68	74	2800	C750LB-ST3
138 / 69	7.5	240	100	65	74	3000	C750B-ST3
184 / 92	10	240	117	72	91	3800	C1000B-ST3
240 / 120	15	240	117	74	91	4400	C1500B-ST3
Stack Mounted Quadruplex							
117 / 39	5	204	113	65	74	4000	C500B-ST4
159 / 53	7.5	240	113	65	78	4500	C750LB-ST4
207 / 69	7.5	240	113	65	78	4700	C750B-ST4
276 / 92	10	240	116	71	91	5000	C1000B-ST4
360 / 120	15	240	142	81	91	6000	C1500B-ST4

- NFPA 99 compliant
- UL Listed Electrical Control panel
- Water Sealed
- Available in Simplex, Duplex, Triplex or Quad
- Configurations: Tank, Base or Stack Mounted
- Medical or Laboratory Applications
- Minimal maintenance, Maximum Durability
- No contacting parts in pumping chamber
- Cool running and long wear

- Optional Heat Exchanger shown below for optimal seal fluid conservation
- Warranty: 30/24 Months
- Suitable for dedicated WAGD

Model No.	hp	SCFM @ 19" Hg (each pump)
LR-3-1	3	12
LR-5-1	5	26.4
LR-75-1	7.5	31.5
LR-10-1	10	52.7
LR-15-1	15	75.5
LR-20-1	20	100.7
LR-30-1	30	137.4
LR-40-1	40	199.6

Design capacity values should correspond with the “Calculated Peak Demand”. This will allow for the reserve pump as is required per NFPA for level 1 installations.



Full Load Amps for Liquid Ring Vacuum Systems
Water Sealed Partial or Total Recirculation

Simplex Systems				
Model Number	hp	System Full Load Amps		
		208	230	460
LR3B	3	11.2	10.2	5.1
LR5B	5	17.3	15.8	7.9
LR75B	7.5	24.8	22.6	11.3
LR10B	10	31.4	28.6	14.3
LR15B	15	46.8	42.6	21.3
LR20B	20	60	54.6	27.3
LR25B	25	75.4	68.6	34.3

Duplex Systems				
Model Number	hp	System Full Load Amps		
		208	230	460
LR3B	3	22.4	20.3	10.2
LR5B	5	34.6	31.5	15.8
LR75B	7.5	49.6	45.1	22.6
LR10B	10	62.8	57.1	28.6
LR15B	15	93.6	85.1	42.6
LR20B	20	120	109.1	54.6
LR25B	25	150.8	137.1	68.6

Triplex Systems				
Model Number	hp	System Full Load Amps		
		208	230	460
LR10B	10	94.8	86.2	43.2
LR15B	15	141	128.2	64.2
LR20B	20	180.6	164.2	82.2
LR25B	25	226.8	206.2	103.2

Quad Systems				
Model Number	hp	System Full Load Amps		
		208	230	460
LR5B	5	69.8	63.6	31.9
LR75B	7.5	99.8	90.8	45.5
LR10B	10	126.2	114.8	57.5
LR15B	15	187.8	170.8	85.5

*FLA amps listed are approximate

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Liquid Ring Water Sealed Partial Recirculating Vacuum System

Ohio Medical® partial recirculating, NFPA 99 compliant vacuum system shall consist of electric motor driven positive displacement non-pulsating liquid ring vacuum pumps, ASME vacuum receiver, electrical control system, and interconnection piping and wiring. The components shall be modularly assembled to accommodate most existing doorways and designed for serviceability. The packaged unit shall be factory tested prior to shipment and warranted for a period of (30) months from date of shipment or (24) months from date of start-up.

Vacuum Pump Module

Each liquid ring vacuum pump shall have cast iron body, stainless steel impeller, and mechanical seals to be direct driven by a TEFC motor. Pump suction accessories shall include an inlet check valve, isolation valve and inlet flexible connector. Pump discharge accessories shall include a discharge air/water separator constructed of high density polyethylene that also serves as the partial recirculation reservoir tank. The recirculation reservoir shall have a two station, combination level sensor/sight glass to maintain proper liquid level. The pump discharge separator vents shall be manifolded, and a flexible connector shall be provided for job site installation to facilitate connection of vent piping to the exterior of the building.

Recirculation liquid control will be interactive through a temperature sensor, with a range of 75°F to 90°F. Each recirculation liquid line shall include a strainer and isolation/flow regulation valve.

The make-up water lines shall include a strainer, regulating valve, solenoid valve with manual priming valve and flexible connector. Each pump will require 59°F cooling water.

Vacuum Receiver

The vacuum receiver shall be constructed to ASME standards, rated for full vacuum, and include a valved by-pass, manual drain valve, sight glass, vacuum gauge and the National Board label.

System Controls

The UL listed electrical motor control system shall be of a fuseless design in a NEMA 12 enclosure. The “Continuous On Demand” feature shall stop the operation of the motors during periods of low or no demand. The controls include individual self protected combination motor controls with short circuit, single phase and thermal overload protection, individual 120 volt control circuit transformers with fuseless primary and secondary protection, pressure sensors, and an electronic controller to automatically switch the operating sequence of the vacuum pumps. The cabinet door shall have an HMI (Human Machine Interface) system status display to include system pressure, pump operation, accumulated time, maintenance interval, fault conditions and silence button; lighted Hand-Off-Automatic selector switches and safety disconnect operating handles.

All required local alarm functions shall be integrated into the packaged system. The circuitry shall be designed so the audible signal can be silenced and the visual indicator will remain until the fault has been cleared and the reset button actuated. Local alarm functions shall be provided for reserve pump in use (lag alarm). Dry contacts are furnished for remote (master) alarm signals.

Accessories

Accessories included for job site installation are inlet and discharge flexible connectors, source isolation valve, vibration mounting pads and touch-up paint.

Liquid Ring Continuous On Demand Vacuum Systems Selection Chart, Partial Recirculation

Design Capacity SCFM @ 19" Hg/ capacity of each pump	Design Capacity ACFM @ 25" Hg/ capacity of each pump	hp	Tank Size (gallons)	Average make-up water required @ 19" Hg (GPM)	Length (A)	Width (B)	Height (C)	Weight	System Model Number
Tank Mounted Duplex									
12 / 12	31 / 31	3	120	0.7	83	44	69	1300	LP3B-T2
26.4 / 26.4	68 / 68	5	120	1.1	83	44	71	1500	LP5B-T2
31.5 / 31.5	80 / 80	7.5	200	1.6	89	47	77	1700	LP75B-T2
52.7 / 52.7	136 / 136	10	200	2.0	98	63	80	2800	LP10B-T2
69.6 / 69.6	181 / 181	15	200	2	98	63	80	2800	LP15B-T2
Base Mounted Duplex									
174 / 174	415 / 415	30	240	4.9	126	71	75	4300	LP30B-B2
Base Mounted Triplex									
190.4 / 95.2	516 / 258	20	240	3.3	150	64	86	4600	LP20B-B3
348 / 174	830 / 415	30	240	4.9	176	70	100	6260	LP30B-B3
Stack Mounted Duplex									
95.2 / 95.2	258 / 258	20	120	3.3	71	63	95	3200	LP20B-ST2
Stack Mounted Triplex									
105.4 / 52.7	272 / 136	10	240	2.0	126	65	96	3800	LP10B-ST3
139.2 / 69.6	362 / 181	15	240	2.9	126	65	96	4100	LP15B-ST3
Stack Mounted Quadruplex									
94.5 / 31.5	240 / 80	7.5	240	1.6	114	64	92	4200	LP75B-ST4
158.1 / 52.7	408 / 136	10	240	2.0	114	64	92	4900	LP10B-ST4
208.8 / 69.9	543 / 181	15	240	2.9	114	64	94	5500	LP15B-ST4

- Ohio Medical Scroll Systems feature a dedicated pump to motor design. This ensures optimal design safety and energy efficiency by cycling on fewer motors during low demand in lieu of starting multi pump modules.
- Quiet
- Low vibration
- 10,000 hour maintenance interval for tip seals
- 5,000 hour maintenance interval for shaft bearing
- Warranty: 30/24

Full Load Amps for Oil-Less Air Compressors Systems

Simplex Systems				
Model Number	hp	System Full Load Amps		
		208	230	460
AS200B	2	9.6	8.7	4.4
AS300B	3	12.7	11.5	5.8
AS500B	5	18.8	17.1	8.6
AS750B	7.5	26.3	23.9	12
AS1000B	10	32.9	29.9	15

Triplex Systems				
Model Number	hp	System Full Load Amps		
		208	230	460
AS300B	3	37.8	34.2	17.2
AS500B	5	56.1	51	25.6
AS750B	7.5	81	73.6	37
AS1000B	10	100.8	91.6	46

Duplex Systems				
Model Number	hp	System Full Load Amps		
		208	230	460
AS200B	2	19.2	17.4	8.8
AS300B	3	25.4	23	11.6
AS500B	5	37.6	34.2	17.2
AS750B	7.5	52.6	47.8	24
AS1000B	10	65.8	59.8	30

Quad Systems				
Model Number	hp	System Full Load Amps		
		208	230	460
AS300B	3	51.4	46.4	23.2
AS500B	5	75.8	68.8	34.4
AS750B	7.5	107.3	97.5	49
AS1000B	10	133.7	121.5	61

*FLA amps listed are approximate

Ohio Medical® Oil-less Rotary Scroll Compressed Air System shall be fully NFPA 99 compliant. The unit will consist of electric motor driven single stage oil-less rotary scroll air compressor module(s), electrical control system, ASME air receiver, air cooled aftercooler(s) with individual drains, inline intake air filters, air treatment module, interconnection copper/brass piping, and wiring. The components shall be modularly assembled to accommodate most existing doorways and designed for serviceability. The packaged unit shall be factory tested prior to shipment and warranted for a period of (30) months from date of shipment or (24) months from date of start-up.

Air Compressor Modules

The compressor(s) shall have PTFE composite tip seals and be rated for 10,000 hours of operation. Compressor bearings shall be external to the compression chamber and shall be serviceable. Compressors with bearings that are not accessible for service and have limited life span shall not be accepted. Each belt driven compressor module inlet shall include an inline filter with particle retention of 10 microns, inlet isolation valve and flex connector. The compressor discharge piping includes air cooled after cooler with moisture separator and automatic drain, isolation valves, ASME safety pressure relief valve, thermal malfunction shutdown device.

Air Receiver

The corrosion resistant coated receiver is equipped with an ASME safety pressure relief valve, sight glass pressure gauge, automatic drain, three-valve by-pass and source isolation valve.

Air Treatment Module

The air treatment module shall include dual dryers, dual filtration system, and a CO and Dew Point monitoring device with local audible and visual signals and dry contacts for remote monitoring. The components shall be mounted on a common base with interconnecting copper/brass piping and upstream and downstream isolation valves. The isolation valves shall allow either set of components to be serviced without shutting down the system.

The dryer system shall be duplexed and provide a pressure dew point of 10°F. Dryers shall be heatless desiccant design selected and sized to provide for the peak-calculated demand. The desiccant dryer shall be equipped with a Dewpoint Dependent Switching feature to minimize the need for purge air.

The dual filtration system is designed to remove liquids and particulate matter, and consists of one micron coalescing filters with differential pressure indicators and automatic drain, air line pressure regulators with gauges, final pressure relief valve, and sampling valve.

System Controls

The UL listed electrical motor control system shall be of a fuseless design in a NEMA 12 enclosure. The “Continuous On Demand” feature shall stop the operation of the motors during periods of low or no demand. The controls include individual self protected combination motor controls with short circuit, single phase and thermal overload protection, individual 120 volt control circuit transformers with fuseless primary and secondary protection, pressure sensors, temperature switches with reset button, and an electronic controller to automatically change the operating sequence of the compressors. The cabinet door shall have an HMI (Human Machine Interface) system status display to include system pressure, dewpoint, pump operation, accumulated time, maintenance interval, fault conditions, and silence button; lighted Hand-Off-Automatic selector switches and safety disconnect operating handles. All required local alarm functions shall be integrated into the packaged system.

Accessories

Accessories included for job site installation are inlet and discharge flexible connectors, vibration mounting pads, and source isolation valve.

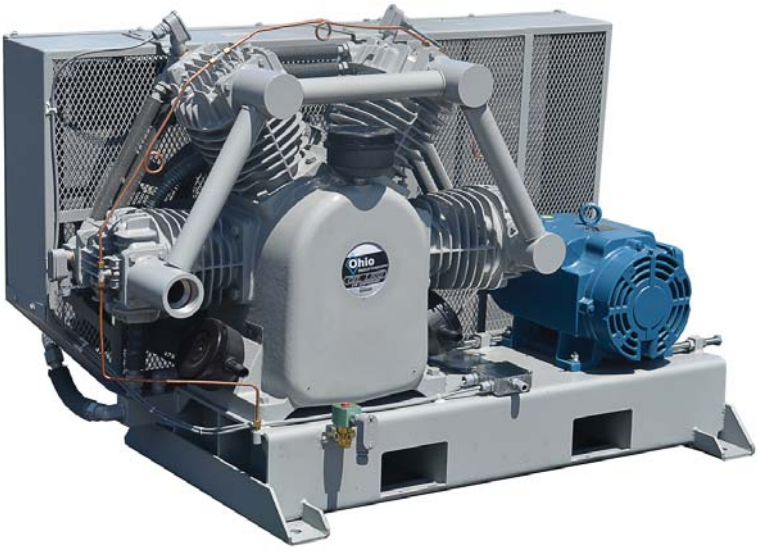
Oil-Less Rotary Scroll Air Systems with Desiccant Dryers Selection Chart

Design Capacity SCFM @ 50 PSIG	SCFM per module @ 50 PSIG	System Configuration	hp per pump	No. of Pump	Length (A)	Width (B)	Height(C)	System model Number
Oil-Less Scroll, Tank Mounted Simplex								
6.7	6.7	Tank Mounted Simplex	2	1	75	32	54	AS200-T1*
9.9	9.9	Tank Mounted Simplex	3	1	75	32	54	AS300-T1*
16,4	16.4	Tank Mounted Simplex	5	1	75	32	54	AS500-T1*
9.8	9.8	Tank Mounted Duplex	3	2	82	37	67	AS300-T2-DD
16.3	16.3	Tank Mounted Duplex	5	2	81	37	85	AS500-T2-DD
23.8	23.8	Tank Mounted Duplex	7.5	2	81	43	86	AS750-T2-DD
23.8	23.8	Stack Mounted Duplex	7.5	2	50	64	80	AS750-ST2-DD
32	32	Tank Mounted Duplex	10	2	87	44	73	AS1000-T2-DD
32	32	Stack Mounted Duplex	10	2	51	64	80	AS1000-ST2-DD
32.6	16.3	Tank Mounted Triplex	5	3	86	40	69	AS500-T3-DD
47.6	23.8	Tank Mounted Triplex	7.5	3	91	51	69	AS750-T3-DD
48.9	16.3	Tank Mounted Quadruplex	5	4	86	40	72	AS500-T4-DD
48.9	16.3	Stack Mounted Quadruplex	5	4	75	52	80	AS500-ST4-DD
96	32	Stack Mounted Quadruplex	10	4	88	77	80	AS1000-ST4-DD
65.2	16.3	Stack Mounted Pentaplex	5	5	83	79	80	AS500-ST5-DD
81.5	16.3	Stack Mounted Hexaplex	5	6	84	88	74	AS500-ST6-DD
97.8	16.3	Stack Mounted Heptaplex	5	7	84	93	75	AS500-ST7-DD
114.1	16.3	Stack Mounted Octoplex	5	8	89	88	78	AS500-ST8-DD
130.4	16.3	Stack Mounted Enneaplex	5	9	89	85	78	AS500-ST9-DD
146.7	16.3	Stack Mounted Decaplex	5	10	125	89	82	AS500-ST10-DD
163	16.3	Stack Mounted Hendecaplex	5	11	125	89	82	AS500-ST11-DD
179.3	16.3	Stack Mounted Dodecaplex	5	12	125	89	82	AS500-ST12-DD

Category 3

- Oil-Less Air Compressors
- NFPA 99 compliant
- UL Listed Electrical Control panel
- Available in Simplex, Duplex, Triplex and Quadruplex
- Configurations: Tank, Base or Stack Mounted
- Medical and Laboratory Configurations
- Warranty: 30/24 months

Model Number	hp	SCFM @ 50 PSIG	SCFM @ 100 PSIG
A300	3	11	9.8
A500	5	23	19.5
A750	7.5	31.2	25.9
A1000	10	38	33.5
A1500	15	60	57
A2000	20	75	62
A2500	25	90	76
A3000	30	106	92



Full Load Amps for Oil-Less Air Compressors Systems

Simplex Systems				
Model Number	hp	System Full Load Amps		
		208	230	460
A300B	3	12.7	11.5	5.8
A500B	5	18.8	17.1	8.6
A750B	7.5	26.3	23.9	12
A1000B	10	32.9	29.9	15
A1500B	15	48.3	43.9	22

Duplex Systems				
Model Number	hp	System Full Load Amps		
		208	230	460
A300B	3	25.4	23	11.6
A500B	5	37.6	34.2	17.2
A750B	7.5	52.6	47.8	24
A1000B	10	65.8	59.8	30
A1500B	15	96.6	87.8	44
A2000B	20	123	111.8	56
A2500B	25	153.8	139.8	70
A3000B	30	180.2	163.8	82

Triplex Systems				
Model Number	hp	System Full Load Amps		
		208	230	460
A500B	5	58.5	53.2	26.8
A750B	7.5	81	73.6	37
A1000B	10	100.8	91.6	46
A1500B	15	147	133.6	67
A2000B	20	186.6	169.6	85
A2500B	25	232.8	211.6	106
A3000B	30	272.4	247.6	124

Reciprocating Oil-Less Continuous On Demand Compressed Air System with Desiccant Dryers

Ohio Medical® reciprocating NFPA 99 compliant air compressor system shall consist of electric motor driven oil-less air compressor(s), an Underwriters Laboratories listed electrical control mounted in a NEMA 12 enclosure, ASME air receiver, air cooled aftercooler(s) with individual drain(s), inline intake air filter(s) and an air treatment module. The components shall be modularly assembled to accommodate most existing doorways. The system shall include interconnecting copper/brass piping and wiring to provide a functional operating package with applicable electrical and plumbing connections at the installation site. The packaged unit shall be factory tested prior to shipment and warranted for a period of (30) months from date of shipment or (24) months from date of start-up.

Compressor Modules

The compressor(s) shall consist of a crankcase, connecting rods, integral counterweights for smooth operation, and cylinders and heads designed for efficient heat dissipation. Piston rings shall be provided to reduce wear and have a life span of 10,000 hours. Each compressor cylinder is protected by a temperature switch, which will stop the drive motor and provide an alarm signal in the event of abnormal discharge air temperature. Each belt driven compressor module shall include an inline filter with a particle retention of 10 microns, inlet isolation valve discharge isolation valve, and ASME safety pressure relief valve.

Air Receiver

The corrosion resistant coated receiver is equipped with an ASME safety pressure relief valve, sight glass pressure gauge, automatic drain, three-valve by-pass and source isolation valve.

Air Treatment Module (on units with Desiccant Dryers)

The air treatment module shall include dual dryers, dual filtration system, and a CO and Dew Point monitoring device with local audible and visual signals and dry contacts for remote monitoring. The components shall be mounted on a common base with interconnecting copper/brass piping and upstream and downstream isolation valves. The isolation valves shall allow either set of components to be serviced without shutting down the system.

The dryer system shall be duplexed and provide a pressure dew point of 10°F. Dryers shall be heatless desiccant design selected and sized to provide for the peak-calculated demand. The desiccant dryer shall be equipped with a Dew point Dependent Switching feature to minimize the need for purge air.

The dual filtration system is designed to remove liquids and particulate matter, and consists of one micron coalescing filters with differential pressure indicators and automatic drain, air line pressure regulators with gauges, final pressure relief valve, and sampling valve.

System Controls

The UL listed electrical motor control system shall be of a fuseless design in a NEMA 12 enclosure. The “Continuous On Demand” feature shall stop the operation of the motor(s) during periods of low or no demand. The controls include individual self protected combination motor control(s) with short circuit, single phase and thermal overload protection, individual 120 volt control circuit transformer(s) with fuseless primary and secondary protection, pressure sensors, temperature switches with reset button, and an electronic controller to automatically change the operating sequence of the compressor(s). The cabinet door shall have an HMI (Human Machine Interface) system status display to include system pressure, dewpoint, pump operation, accumulated time, maintenance interval, fault conditions, and silence button; lighted Hand-Off-Automatic selector switch(es) and safety disconnect operating handles.

All required local alarm functions shall be integrated into the packaged system. The circuitry shall be designed so the visual indicator will remain until the fault has been cleared and the reset button actuated. Local alarm functions shall be provided for high air discharge temperature and thermal overload.

Accessories

Included for job site installation are inlet and discharge flexible connectors, vibration mounting pads, source isolation valve, and touch-up paint.

Ship Separate Items & Accessories (Field Installed) (Simplex Units)

Non-cycling refrigerated type air dryer, coalescing 1 micron filter, line pressure regulator with gauge.

Reciprocating Oil-Less Continuous On Demand Compressed Air Systems Selection Chart

Design Capacity SCFM @ 50 PSIG each	Capacity of each pump (one in re-serve on multipex systems)	hp	Tank Size (gallons)	Qty of Motors	length(A)	Width (B)	Height (C)	Weight	System model Number
Oil-Less Reciprocating, Tank Mounted Simplex									
11	Oil-Less Reciprocating	3	80	1	75	32	54	770	A300B-T1*
23	Oil-Less Reciprocating	5	80	1	75	32	54	962	A500B-T1*
31.2	Oil-Less Reciprocating	7.5	80	1	75	32	54	1045	A750B-T1*
38	Oil-Less Reciprocating	10	80	1	75	32	54	1156	A1000B-T1*
Oil-Less Reciprocating, Tank Mounted Duplex (with Desiccant Dryer)									
11	11	3	120	2	82	47	72	1300	A300B-T2-DD
23	23	5	120	2	82	47	72	1350	A500B-T2-DD
31.2	31.2	7.5	120	2	83	51	71	1400	A750B-T2-DD
38	38	10	120	2	83	51	71	1500	A1000B-T2-DD
Oil-Less Reciprocating, Stack Mounted Duplex (with Desiccant Dryer)									
60	60	15	120	2	75	61	85	2400	A1500B-ST2-DD
76	76	20	120	2	94	94	93	5900	A2000B-ST2-DD
92	92	25	120	2	94	94	93	6200	A2500B-ST2-DD
108	108	30	240	2	94	94	93	6400	A3000B-ST2-DD
Oil-Less Reciprocating, Stack Mounted Triplex (with Desiccant Dryer)									
62.4	31.2	7.5	120	3	107	56	80	2800	A750B-ST3-DD
76	38	10	120	3	114	52	80	2800	A1000B-ST3-DD
120	60	15	240	3	107	67	74	3900	A1500B-ST3-DD
152	76	20	240	3	130	94	93	6800	A2000B-ST3-DD
184	92	25	240	3	130	94	93	7000	A2500B-ST3-DD
216	108	30	240	3	130	94	93	7100	A3000B-ST3-DD
Oil-Less Reciprocating, Stack Mounted Quadruplex (with Desiccant Dryer)									
93.6	31.2	7.5	240	4	122	64	74	3200	A750B-ST4-DD
114	38	10	240	4	116	71	74	4800	A1000B-ST4-DD
180	60	15	240	4	122	64	72	5000	A1500B-ST4-DD
228	76	20	240	4	130	94	93	8500	A2000B-ST4-DD

*Category 3

The air treatment module shall include dual dryers, a dual filtration system, and a CO and Dew Point monitoring device with local audible and visual signals and dry contacts for remote monitoring. The components shall be mounted on a common base with interconnecting copper/brass piping and upstream and downstream isolation valves. The isolation valves shall allow either set of components to be serviced without shutting down the system.

The dryer system shall be duplexed and provide a pressure dew point of 10˚F. Dryers shall be heatless desiccant design selected and sized to provide for the peak-calculated demand. The desiccant dryer shall be equipped with a Dew point Dependent Switching feature to minimize the need for purge air.

The dual filtration system is designed to remove liquids and particulate matter, and consists of one micron coalescing filters with differential pressure indicators and automatic drain, air line pressure regulators with gauges, final pressure relief valve, and sampling valve.

- Ohio Medical® compressor control panel provides highly efficient purge and switching control
- Clean, dry and oil free compressed air
- Compact and lightweight design
- Perfect solution for a field upgrade on older existing air compressor systems

* These air treatment modules are designed to work in conjunction with Ohio Medical's control panel. To replace existing equipment without an original Ohio Medical panel, consult the factory for special "Stand Alone" air treatment packages.

Model* Number	SCFM @ 100 PSIG	Dimensions (LxWxH)	Replacement Elements	
			Pre-Filter	After Filter
HCTM-C-DDS-15	15	28X25X47	N/A	233580
HCTM-C-DDS-5	5	31X24X38	N/A	233580
HCTM-C-DDS-10	10	31X24X38	N/A	233580
HCTM-C-DDS-24	24	31X25X59	N/A	233580
HCTM-C-DDS-34	34	36X25X38	N/A	233585
HCTM-C-DDS-41	41	35X25X43	N/A	233585
HCTM-C-DDS-53	53	36X25X44	N/A	233585
HCTM-C-DDS-66	66	38X25X44	N/A	233585
HCTM-C-DDS-88	88	41X28X51	233575	233585
HCTM-C-DDS-106	106	38X25X56	233575	233585
HCTM-C-DDS-132	132	39X25X66	233576	233586
HCTM-C-DDS-177	177	36X25X80	233572	233582
HCTM-C-DDS-242	242	65X44X75	233573	233583
HCTM-B-DDS-276	276	65X44X75	233573	233583

Combination CO / Dewpont Monitor (-112˚F to 68˚F)	
Model Number	**Description**
233013	CO/Dewpoint Combination Monitor
233015	CO Calibration Kit
2610-001	Humidifier (for CO Monitoring)
261922	Gas Specific DISS Air Check Assembly - 1/8" NPT

Features and Benefits

- Oil-less scroll air compressor
- High-quality cabinetry with steel-insulated panels and extruded aluminum framework on a rugged steel base.
- Quiet operation as low as 49 dB(A)
- Across-the-line magnetic motor starter (UL®Listed)
- 3-phase, 208-230/460
- 10 gallon ASME air receiver with safety relief valve and drain valve
- Manual drain valve for receiver (1/2" npt)
- Pressure switch online/offline control
- Main line shut off valve (1/2" npt)
- Microprocessor controls (See details below)
- Optional integrated dryer with on/off switch and air dewpoint indicator

Low Pressure

Model	hp	Outlet Connection	dBA	Dimensions L	W	H	lbs.	Maximum Pressure (PSI)	System Capacity 100 PSIG	Tank Size (gallons)	Refrig. Dryer
AES300	3	1/2" npt	49	21.7	24.5	30.5	255	115	8.5	N/A	N/A
AES500	5	1/2" npt	50	21.7	24.5	30.5	265	115	14.5	N/A	N/A
AES300-V10	3	1/2" npt	49	27.5	29.2	42.2	272	115	8.5	10	N/A
AES500-V10	5	1/2" npt	50	27.5	29.2	42.2	331	115	14.5	10	N/A
AES300-V10-RD	3	1/2" npt	49	27.5	25.3	54.3	397	115	8.5	10	Yes
AES500-V10-RD	5	1/2" npt	50	27.5	25.3	54.3	412	115	14.5	10	Yes

High Pressure

Model	hp	Outlet Connection	dBA	Dimensions L	W	H	lbs.	Maximum Pressure (PSI)	System Capacity 140 PSIG	Tank Size (gallons)	Refrig. Dryer
AES300-HP	3	1/2" npt	49	21.7	24.5	30.5	255	140	7.2	N/A	N/A
AES500-HP	5	1/2" npt	50	21.7	24.5	30.5	265	140	12	N/A	N/A
AES300-V10-HP	3	1/2" npt	49	27.5	29.2	42.2	272	140	7.2	10	N/A
AES500-V10-HP	5	1/2" npt	50	27.5	29.2	42.2	331	140	12	10	N/A
AES300-V10-RD-HP	3	1/2' npt	49	27.5	25.3	54.3	397	140	7.2	10	Yes
AES500-V10-RD-HP	5	1/2" npt	50	27.5	25.3	54.3	412	140	12	10	Yes

Soft-Touch, Microprocessor, Control Panel

- Start / Stop control buttons
- Microprocessor logic to cascade compressors as needed
- Power on light & run light
- Pressure gauge - digital
- Hour meter - digital
- Discharge temperature reading - digital
- High discharge temperature shutdown alarm indication light (error codes)
- Time indication for alarms indication
- High air temp shutdown
- Over current shutdown
- Dry contact for remote alarm

Features and Benefits

- Oil-less scroll air compressors
- High-quality cabinetry with steel-insulated panels and extruded aluminum framework on a rugged steel base.
- Quiet operation as low as 49 dB(A)
- Across-the-line magnetic motor starter (UL® Listed)
- 3-phase, 208-230/460
- Main line shut off valve (1/2" npt)
- Microprocessor controls (See details below)
- Optional 120 gallon tank
- Optional Single desiccant dryer
- Optional CO and/or Dewpoint monitor
- Energy saving compressor sequencing - can be run as a simplex or multiplex unit in all configurations.

Low Pressure

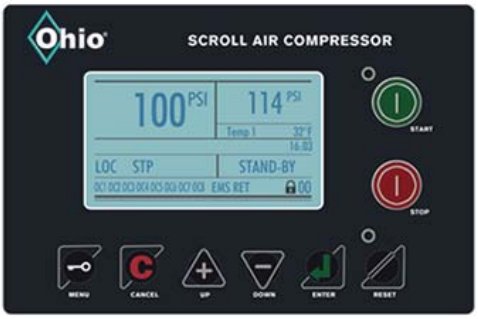
Model	hp	Outlet Connection	dBA	Dimensions L	W	H	lbs.	Maximum Pressure (PSI)	System Capacity 100 PSIG	120 Gal. Tank	Desiccant Dryer	Carbon Monoxide Monitor	Dew Point Monitor
AES800	8	1" npt	52	25.6	45.7	51.2	563	115	23.0	-T	-D	-C	-D
AES1000	10	1" npt	53	25.2	45.3	40.2	587	115	29.0	-T	-D	-C	-D
AES1500	15	1" npt	56	29.6	50.4	49.6	1,003	115	43.5	-T	-D	-C	-D
AES2000	20	1" npt	58	63.0	50.4	64.0	1,169	115	58.0	-T	-D	-C	-D
AES3000	30	1" npt	62	63.0	50.4	49.6	1,985	115	87.0	-T	-D	-C	-D
AES4000	40	1" npt	63	67.8	50.4	64.0	2,205	115	116	-T	-D	-C	-D

High Pressure

Model	hp	Outlet Connection	dBA	Dimensions L	W	H	lbs.	Maximum Pressure (PSI)	System Capacity 140 PSIG	120 Gal. Tank	Desiccant Dryer	Carbon Monoxide Monitor	Dew Point Monitor
AES800-HP	8	1" npt	52	25.6	45.7	51.2	563	140	19.2	-T	-D	-C	-D
AES1000-HP	10	1" npt	53	25.2	45.3	40.2	587	140	24.0	-T	-D	-C	-D
AES1500-HP	15	1" npt	56	29.6	50.4	49.6	1,003	140	36.0	-T	-D	-C	-D
AES2000-HP	20	1" npt	58	29.6	50.4	64.0	1,169	140	48.0	-T	-D	-C	-D
AES3000-HP	30	1" npt	62	63.0	50.4	49.6	1,985	140	72.0	-T	-D	-C	-D
AES4000-HP	40	1" npt	65	67.8	50.4	64.0	2,205	140	96.0	-T	-D	-C	-D
AES5000-HP	50	1" npt	65	63.0	50.4	80.3	2,645	140	120	-T	-D	-C	-D

System Example, AES4000-HP-TDCD / 40 Hp with 120 gallon tank option with dryer, CO monitor and Dewpoint monitor option.

Soft-Touch, Microprocessor, Control Panel



- Start / Stop control buttons
- Microprocessor logic to cascade compressors as needed
- Power on light & run light
- Pressure gauge - digital
- Hour meter - digital
- Discharge temperature reading - digital
- High discharge temperature shutdown alarm indication light (error codes)
- Time indication for alarms indication
- High air temp shutdown
- Over current shutdown
- Dry contact for remote alarm

OIL-LESS SCROLL COMPRESSORS

can be operated at either 3 hp or 5 hp. Choose between low pressure (110 psi) and high pressure (140 psi) models. Compare to Powerex® and Atlas Copco® scrolls.

Bare Compressor Air Ends (without motor)			
Part Number	**Description**	**hp**	**Max Pressure**
230074	Scroll Air End Low Pressure	3 or 5	115
230075	Scroll Air End High Pressure	3 or 5	145
Call Factory	Scroll Air End Low Pressure	7.5	120
Call Factory	Scroll Air End Low Pressure	10	116

LIQUID RING VACUUM PUMPS:

Compact, Motor Mounted (B Series)

Motor mounted SM pumps are compact, which make them ideal for laboratory and medical applications. Standard motors are 230/460 volt, 3 ph. All models feature stainless steel impellers and mechanical seals. Internal surfaces are coated with a chemically applied organic material for long term corrosion resistance.

Model Number	SM30B	SM55B	SM75B	SM100B	SM200B	SM250B
Part Number	263550	263552	263554	263556	263558	264560
hp	3	5.5	7.5	10	20	25
RPM	3500	1750	1750	1750	1750	1750
Inlet/Discharge Connection	1"	1 1/2"	1 1/2"	2 “	2 1/2"	2 1/2"
Average Service Liquid (GPM)	1.5	4.5	5	3.8	7.2	8.5
SCFM @ 25" Hg	5.2	11.3	13.3	22.7	30.2	43
ACFM @ 25" Hg	31	68	80	136	181	258

OIL-LESS SCROLL COMPRESSORS

can be operated at either 3 hp or 5 hp. Choose between low pressure (110 psi) and high pressure (140 psi) models. Compare to Powerex and Atlas Copco scrolls.

Base Mounted Modules (with motor)						
Part Number	**Description**	**hp**	**RPM**	**SCFM @ 100 PSIG**	**SCFM @ 140 PSIG**	**Max Pressure**
230072	Scroll Module Low Pressure	3	2200	8.5	-	115
230073	Scroll Module Low Pressure	5	3150	14.5	-	115
230082	Scroll Module High Pressure	3	2000	-	7.2	145
230083	Scroll Module High Pressure	5	2900	-	12	145
230145	Scroll Module Low Pressure	7.5	3180	22.0	-	120
230146	Scroll Module Low Pressure	10	3700	30.2	-	116

Oil Sealed

ROTARY VANE VACUUM PUMPS

are available in a variety of sizes from 1 to 25 hp. Compare our models to Busch®, Becker® and Rietschle® pumps on your system.

Model	S1L	S2	S3L	S3	S5L-N	S5C-N	S7L-N	S7C-N
Pump w/motor installed	262325	264370	264371	264372	264373	264374	264369	264375
Pump w/o motor	N /A	262065-LM	262066-LM	262067-LM	262068-LM	262294-LM	262297-LM	262296-LM
Motor hp	3/4	2	2	3	5	5	7.5	7.5
Motor RPM	1750	1750	1750	1750	1750	1750	1750	1750
Inlet/Discharge Connections	1”	1 1/4”	1 1/4”	1 1/4”	1 1/4”	2” / 1-1/2”	2”	2” / 1-1/2”
Oil Capacity (gallons)	0.2	0.25	0.25	0.5	0.5	1.5	1.5	1.5
ACFM @ 25”	7	21	30.8	44	70	118	130	164
SCFM @ 25”	1.2	3.5	5.1	7.3	11.7	19.7	21.7	27.3

Model	S10B-N	S12-N	S20-N	S22-N	S25-N
Pump w/motor installed	264376	262994	264377	262995	264378
Pump w/o motor	262925-LM	262994-LM	262926-LM	262995-LM	262928-LM
Motor hp	10	10	15	20	25
Motor RPM	1750	1750	1200	1200	1200
Inlet/Discharge Connections	2”	2”	3”	3”	3”
Oil Capacity (gallons)	2	2	5	5	5
ACFM @ 25”	194	211	306	353	460
SCFM @ 25”	32.3	35.2	51	58.8	76.7

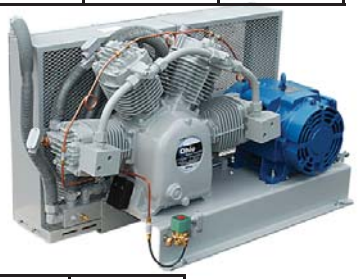
OIL-LESS ROTARY CLAW VACUUM PUMPS

from 3 to 15 hp, are available for both vacuum and compressor applications.

Model	C2	C3	C5	C7L	C7	C10	C15
Part Number	264341	264330	264331	264332	264333	264340	264334
Motor hp, 60 Hz	2	3	5	7.5	7.5	10	15
RPM 50/60 Hz	3450/2850	3450/2850	3450/285	3450/2850	3450/2850	3450/2850	3450/2850
Inlet/Discharge connection	1”	1 1/2”	1 1/2”	2”	2”	3”	3”
Gear Box Oil Capacity (quarts)	0.4	0.5	0.5	0.8	0.8	0.8	0.8
ACFM @ 25”	30	60	100	137	174	n/a	n/a
SCFM @ 19”	12	23	39	53	69	92	120
Ultimate Vacuum, Max, “Hg	27”	25”	25”	25”	25”	25”	25”
Ultimate Vacuum, Continuous, “ Hg	26”	25”	25”	24”	24”	23”	23”

OIL-LESS COMPRESSOR MODULES

are ideal for hospitals and laboratories. Ranging in size form 3 to 30 hp, the modules include the compressor, motor, belt, guard, aftercooler, temperature switches, and unloader solenoid.



Model	P3-M	P5-M	P7-M	P10-M	P15-M	P20-M	P25-M	P30-M
Part Number	100-0200	100-0221	100-0222	100-0223	100-0224	100-0225	100-0226	100-0227
Motor hp	3	5	7.5	10	15	20	25	30
Capacity @ 50 PSI(CFM)	11	23	31.2	38	60	76	92	108
Capacity @ 100 PSI(CFM)	9.8	19.5	25.9	33.5	57	62	76	93
Max Pressure (PSI	115	115	115	115	115	115	115	115
Operating Speed (RPM)	320	470	500	500	550	690	830	960

Medical/Laboratory filters remove liquids, solids, and sub-micron particles. The ULPA media complies with HTM2022 & BS3928: 1969 efficiency levels.

The clear bucket includes a brass valve and fitting for contaminated liquid release and a removable and sterilizable drain flask

Part Number	233911	233912	233913	233914
FPT Inlet/Outlet Connections	2”	2 1/2”	3”	4”
Nominal Rating SCFM	102	102	200	200
Weight	20 lbs.	19 lbs.	33 lbs.	29 lbs.

REBUILD KITS AND FILTER KITS

that are compatible with Busch rotary vane vacuum pumps

Calculated Peak Demand for a Medical Surgical Vacuum System in a Typical Short Term General Hospital

Qty	Medical Gas Vacuum Outlet Locations	Design Flow in SCFM (Free Air)			Simultaneous Use Factor %	Total
		Per Room	Per Bed	Per Outlet		
	ANESTHETIZING LOCATIONS:					
	Specialized Surgeries (Open Heart, Organ Transplant)	4.0			100	
	Major / Outpatient OR	3.5			100	
	Cystoscopy / Endoscopy	2.0			100	
	Delivery Room	1.0			100	
	Emergency Operating Room	3.0			100	
	Cardiac Catheterization	1.0			10	
	Other Anesthetizing Areas (Minor O.R., Induction Rooms, etc.)	1.0			50	
	Waste Anesthetizing Gas Evacuation (WAGD)	2.0			100	
	Post Operative Recovery Room		3.0		50	
	O.B. Recovery Room		2.0		50	
	Intensive Care Units (Except Cardiac)		2.0		75	
	Emergency Room (Trauma, Cardiac)		1.0		100	
	Cardiac Intensive Care		2.0		50	
	Neonatal I.C.U.		1.0		50	
	Special Procedure (X-Ray,Dialysis, Radiology)		1.5		25	
	Surgical Excision Room	1.0			10	
	SUBACUTE PATIENT CARE AREAS:					
	Normal Nursery			1.0	10	
	Premature Nursery		1.0		20	
	Respiratory Care			1.5	10	
	Labor/Birthing		1.0		10	
	Patient Room (Surgical)		1.5		50	
	Patient Room (Medical)		1.0		10	
	Exam & Treatment Rooms			1.0	10	
	ER (Cast Room, OB/GYN)		1.0		10	
	Pre-Op Holding		1.0		10	
	Stress Test EKG & EEG		1.0		10	
	OTHER AREAS:					
	Autopsy / Morgue			2.0	20	
	Central Supply / Sterile			1.5	10	
	Equipment Repair,Calibration & Teaching			1.5	10	
	Medical Lab / Pharmacy			1.0	10	
	Anesthesia/Workroom			1.5	10	
	Total Estimated Peak Flow (In SCFM @ 19" Hg)					
					Total Estimated Peak Flow (in SCFM @ 19" Hg)	

Calculated Peak Demand for a Medical Air System in a Typical Short Term General Hospital

Qty	Medical Air Outlet Locations	Design Flow in SCFM (Free Air)				Simultaneous Use Factor %	Totals
		Per Unit	Per Room	Per Bed	Per Outlet		
	ANESTHETIZING LOCATIONS:						
	Special Surgery (Open Heart, Organ Transplant, Ortho)		0.5			100	
	Major / Outpatient Surgery		0.5			100	
	Minor Surgery		0.5			75	
	Emergency Surgery		0.5			50	
	Cardiac Catheterization		0.5			50	
	Endoscopy / Cytoscopy		1.0			10	
	Delivery Room / C-Section		0.5			100	
	ACUTE CARE LOCATIONS:						
	Recovery Room/Surgical			2.0		50	
	Recovery Room - OB			0.5		25	
	ICU/CCU & Pediatric I.C.U.			2.0		50	
	Emergency Room (Trauma, Cardiac)			2.0		50	
	Anesthesia Workroom		1.5			10	
	Neonatal ICU			1.5		75	
	Pre-Op Holding				1.5	10	
	Dialysis Unit, Radiology				0.5	10	
	Ventilators Adult*	3.5				50	
	Ventilators Infants*	3.5				50	
	SUBACUTE CARE LOCATIONS:						
	Pediatric Croup Tents**	2.0				50	
	Nursery Full Term & Isolation				0.5	25	
	ER (Cast Room, OB/GYN)		1.0			10	
	Patient Rooms (Medical & Surgical)			0.5		10	
	EEG & EKG				1.0	50	
	Exam & Treatment		1.0			10	
	Respiratory Care			1.0		50	
	Pulmonary Function Lab				1.0	50	
	Birthing & LDRP			1.0		50	
	OTHER:						
	Respiratory Care Workroom		1.5			10	
	Autopsy / Morgue		1.5			10	
	Equipment Repair				1.5	10	
					Total Estimated Peak Flow (In SCFM @ 50 PSIG)		

* Important! You must consult with respiratory therapy personnel concerning the maximum number of ventilators that could be used at one time and the average flow rates for each ventilator. DO NOT CALCULATE your total peak requirements without this information.

** If powered by Medical Air

Medical Air Manifold:

Cylinders Per Bank	=	400 Ft^3 (cubic ft of gas used per month per bed)	x	No. of beds	x	12 (months per year)	÷	52 (# of weeks per year)	÷	234 (Cubic ft per cylinder)	÷	2 (Cylinders per bank)

Surgery Center Oxygen Cylinder Manifolds:
Where usage is not known

Cylinders Per Bank	=	400 Ft^3 (cubic ft of gas used per month per bed)	x	No. of beds	x	12 (months per year)	÷	52 (# of weeks per year)	÷	244 (Cubic ft per cylinder)	÷	2 (Cylinders per bank)

Hospital Oxygen Cylinder Manifolds:
Where usage is not known

Cylinders Per Bank	=	700 Ft^3 (cubic ft of gas used per month per bed)	x	No. of beds	x	12 (months per year)	÷	52 (# of weeks per year)	÷	244 (Cubic ft per cylinder)	÷	2 (Cylinders per bank)

*With a monthly demand of 30,000 ft, bulk O_2 should be used.

Where usage is known:

Usage, Ft^3 per Month	Duplex Manifold Size Divide by 2 for each Bank
5850	6
9750	10
13650	14
17600	18
21500	22
25350	26
29250	30

N_2O Cylinder Manifold:

Divide total by 2 for each Bank

No. of Operating Rooms	Total No. of Cylinders
1 to 4	4
5 to 8	8
9 to 12	12
13 to 16	16
17 to 20	20

N_2 Cylinder Manifold:

Divide total by 2 for each Bank

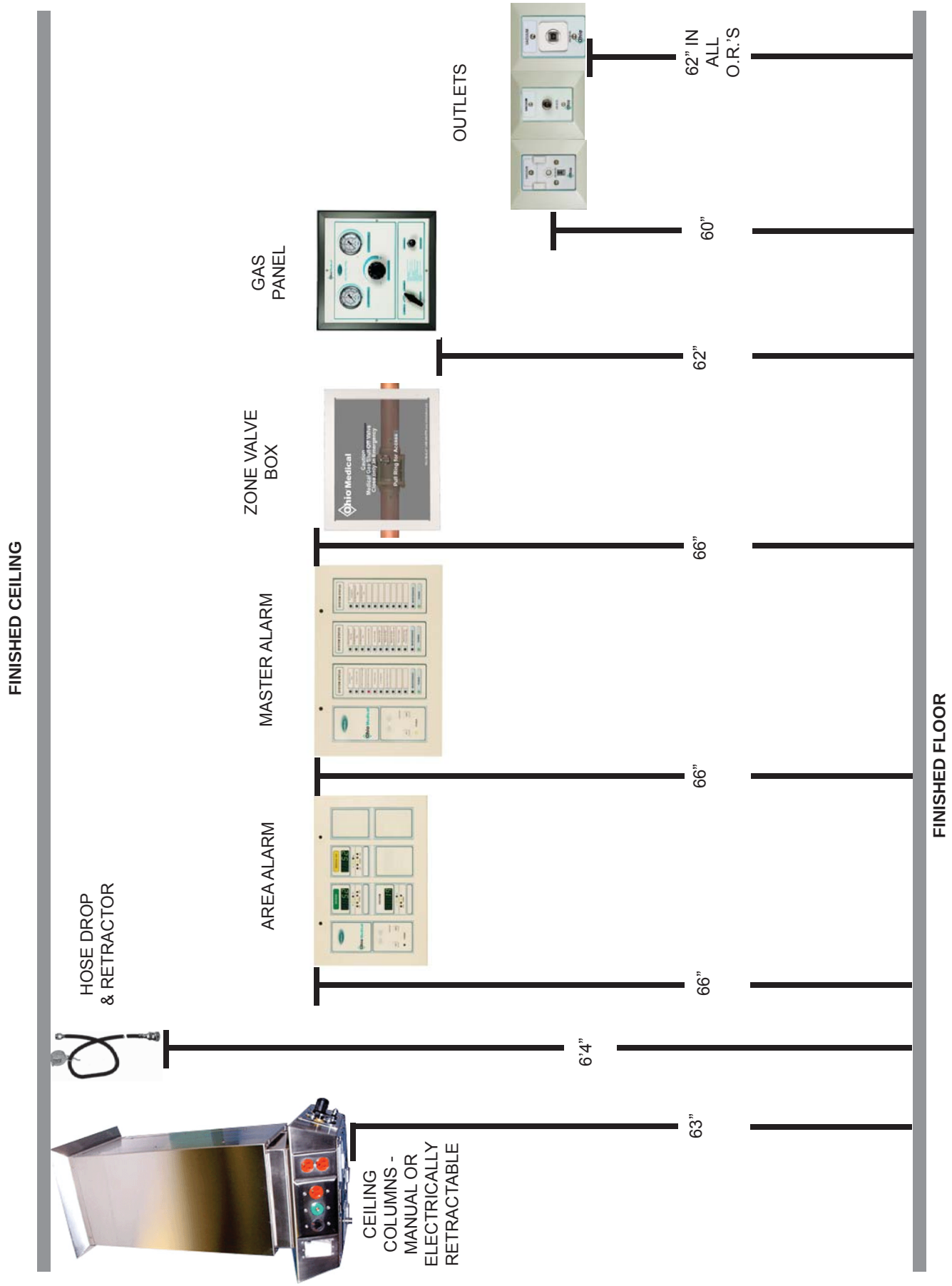
No. of Operating Rooms	Total No. of Cylinders
1 to 2	4
3 to 4	8
5 to 6	12
7 to 8	16
9 to 10	20
11 to 12	24
13 to 14	28

CO_2 Cylinder Manifold:

Divide total by 2 for each Bank

No. of Operating Rooms	Total No. of Cylinders
1 to 8	4
9 to 16	8
17 to 32	12

Medical Gas Equipment Mounting Height Detail



Mechanical Room

MASTER ALARM #1
MAY BE LOCATED IN SECURITY
(Requires 24 Hour / 7 Day Surveillance)

SUGGESTED ALARM POINTS FOR:
MEDICAL/SURGICAL VACUUM PUMPS

RESERVE VACUUM PUMP RUNNING
5.1.3.6.8 / 5.1.9.2.4(9) / 5.1.9.5.2 / 5.1.9.5.4(4)
(Termination point located in vacuum control panel)

MAIN LINE VACUUM LOW
5.1.9.2.4(8)
(Terminal point from main line vacuum switch)

WASTE ANESTHETIC GAS VACUUM PUMPS

RESERVE VACUUM PUMP RUNNING
5.1.9.5.2 / 5.1.3.7.4.1 / 5.1.9.2.4(9) / 5.1.9.5.4(5)
(Termination point located in vacuum control panel)

MAINLINE WAGD LOW
5.1.9.2.4(8)
(Termination point from main line vacuum switch)

SUGGESTED ALARM POINTS FOR:
MEDICAL AIR COMPRESSOR (All Types)

RESERVE COMPRESSOR RUNNING 5.1.9.5.4(1) / 5.1.3.5.14.5
(Termination point located in compressor control panel)
MAINLINE PRESSURE HIGH 5.1.9.2.4(7)
(Termination point from mainline pressure switch)
MAINLINE PRESSURE LOW 5.1.9.2.4(7)
(Termination point from mainline pressure switch)
CARBON MONOXIDE HIGH 5.1.9.4.5(2) / 5.1.3.5.15(2)
(Termination point from CO monitor)
DEW POINT HIGH 5.1.9.2.4(10) / 5.1.3.5.15(1)
(Termination point located in compressor control panel)

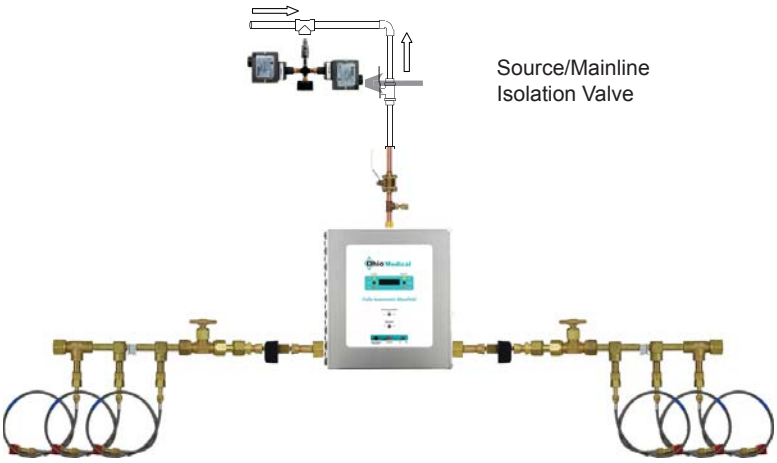
Also, For Reciprocating (Piston type) Compressors

HIGH TEMPERATURE 5.1.3.5.14.3 / 5.1.9.5.4(9) / 5.1.3.5.14.4(1)
(Termination point located in compressor control panel)
RECEIVER FLOODED (see note #1) 5.1.3.5.14.1 / 5.1.9.5.4(7)
(Termination point located in compressor control panel)

Also, For Liquid Ring Compressors:

RECEIVER FLOODED 5.1.3.5.14.1 / 5.1.9.5.4(7)
(Termination point located in compressor control panel)
HIGH WATER SEPARATOR 5.1.3.5.14.2 / 5.1.9.5.4(8)
(Termination point located in compressor control panel)

Typical Nitrogen (N2) Installation

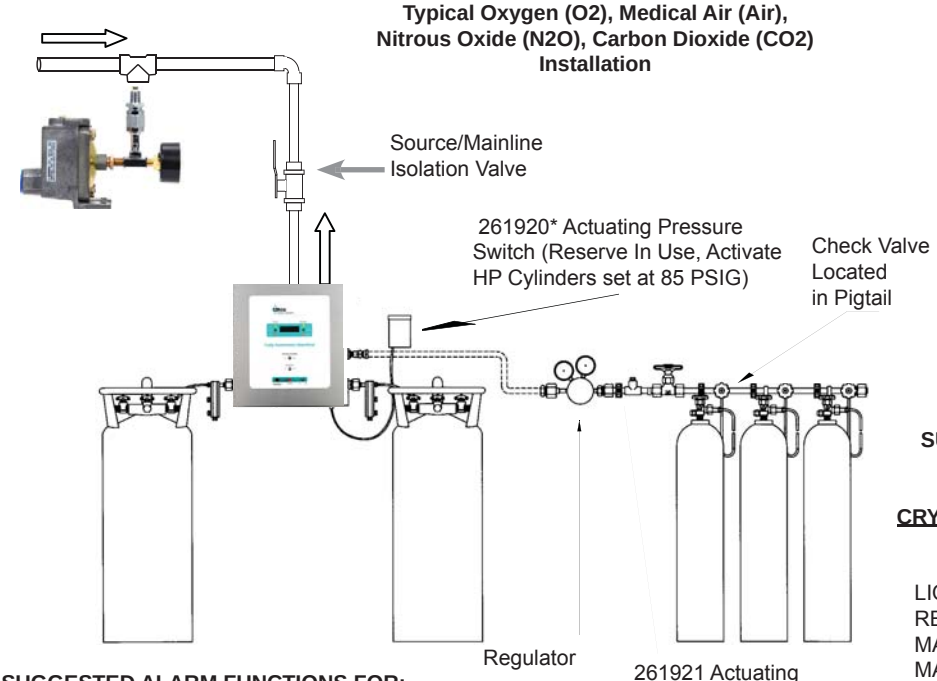


Medical Gas Room

MASTER ALARM #2
MAY BE LOCATED IN ENGINEERING
DEPARTMENT/AREA

SUGGESTED ALARM FUNCTIONS FOR:
MANIFOLDS WITHOUT RESERVE
CYLINDER BANK CHANGEOVER 5.1.9.2.4(1) / 5.1.3.4.10.6
(Termination point located in power supply)
MAINLINE PRESSURE HIGH 5.1.9.2.4(7)
(Termination point from mainline pressure switch)
MAINLINE PRESSURE LOW 5.1.9.2.4(7)
(Termination point from mainline pressure switch)

Typical Oxygen (O2), Medical Air (Air), Nitrous Oxide (N2O), Carbon Dioxide (CO2) Installation



SUGGESTED ALARM FUNCTIONS FOR:

MANIFOLDS WITH RESERVE
CYLINDER BANK CHANGEOVER 5.1.9.2.4(1) / 5.1.3.4.12.9(1)
(Termination point located in power supply)
RESERVE IN USE 5.1.9.2.4(3) / 5.1.3.4.15.5 / 5.1.3.4.12.9(3)
(Terminal point from actuating pressure switch 261920)
RESERVE LOW 5.1.3.4.12.9(4) / 5.1.9.2.4(5)
(Terminal point from actuating pressure switch 261921)
MAINLINE PRESSURE HIGH 5.1.9.2.4(7)
(Termination point from mainline pressure switch)
MAINLINE PRESSURE LOW 5.1.9.2.4(7)
(Termination point from mainline pressure switch)

SUGGESTED ALARM FUNCTIONS FOR BULK OXYGEN SYSTEM

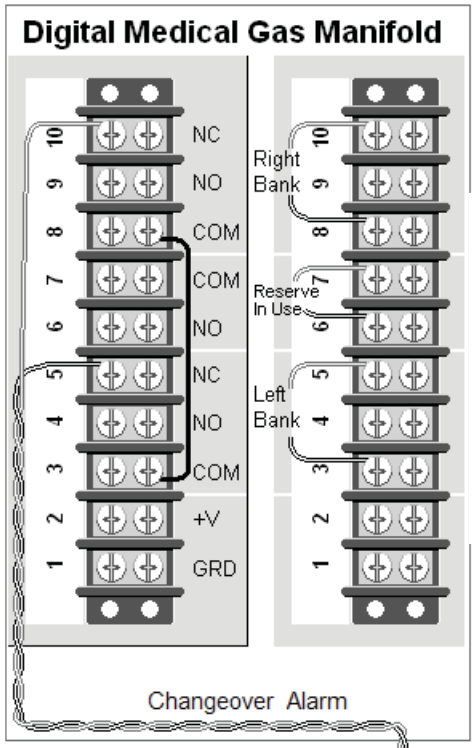
CRYOGENIC BULK GAS UNITS WITH CRYOGENIC RESERVE

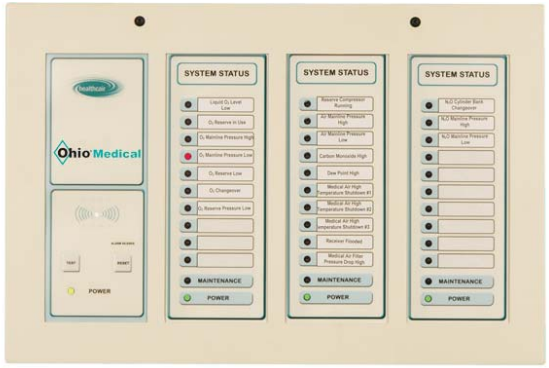
LIQUID LEVEL LOW 5.1.9.2.4(2) / 5.1.3.4.13.6(1)
RESERVE IN USE 5.1.9.2.4(3) / 5.1.3.4.13.6(2)
MAIN LINE PRESSURE HIGH 5.1.9.2.4(7)
MAIN LINE PRESSURE LOW 5.1.9.2.4(7)
RESERVE LOW 5.1.9.2.4(5) / 5.1.3.4.11.6(3)
CHANGEOVER 5.1.9.2.4(1) / 5.1.3.4.13.6(5)
RESERVE PRESSURE LOW 5.1.9.2.4(6) /
5.1.3.4.11.6(4) (Not Functional)

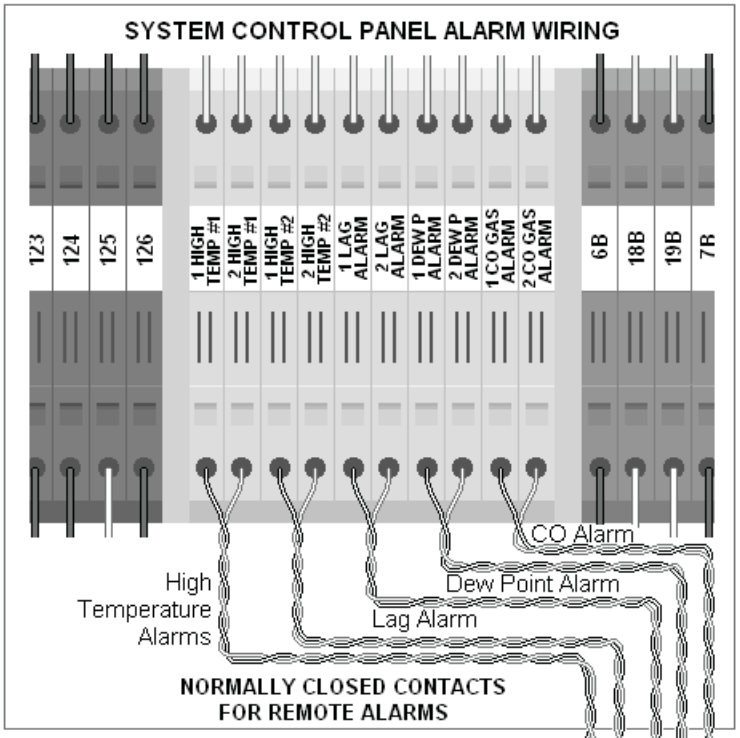
CRYOGENIC BULK GAS UNITS WITH CYLINDER RESERVE

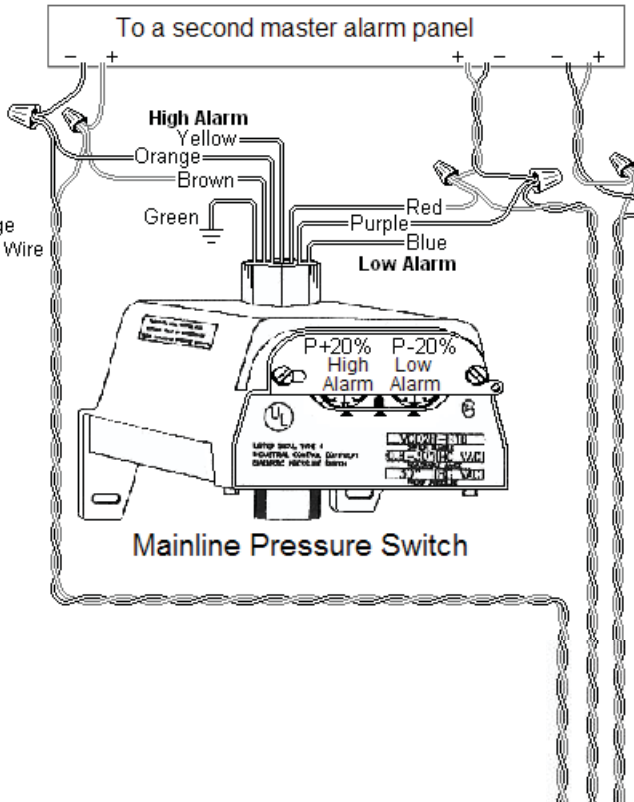
LIQUID LEVEL LOW 5.1.3.4.13.6(1) / 5.1.9.2.4(2)
RESERVE IN USE 5.1.9.2.4(3) / 5.1.3.4.13.6(2) /
5.1.3.4.13.5
MAIN LINE PRESSURE HIGH 5.1.9.2.4(7)
MAIN LINE PRESSURE LOW 5.1.9.2.4(7)
CHANGEOVER 5.1.9.2.4(1) / 5.1.3.4.13.6(5)

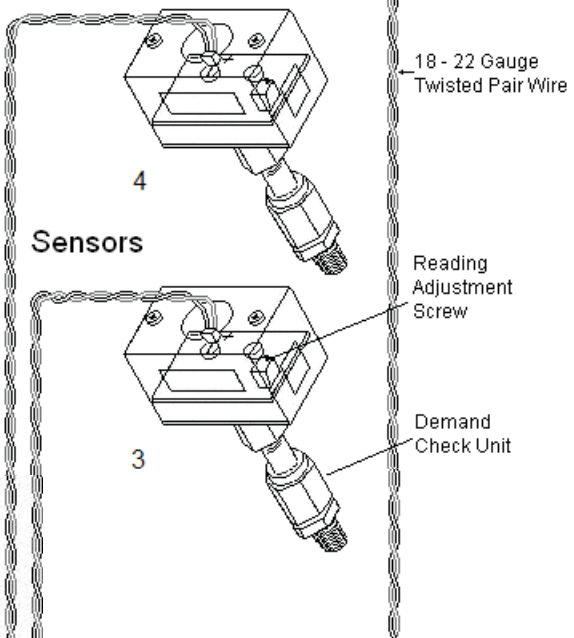
MEDICAL ALARM PANEL WIRING

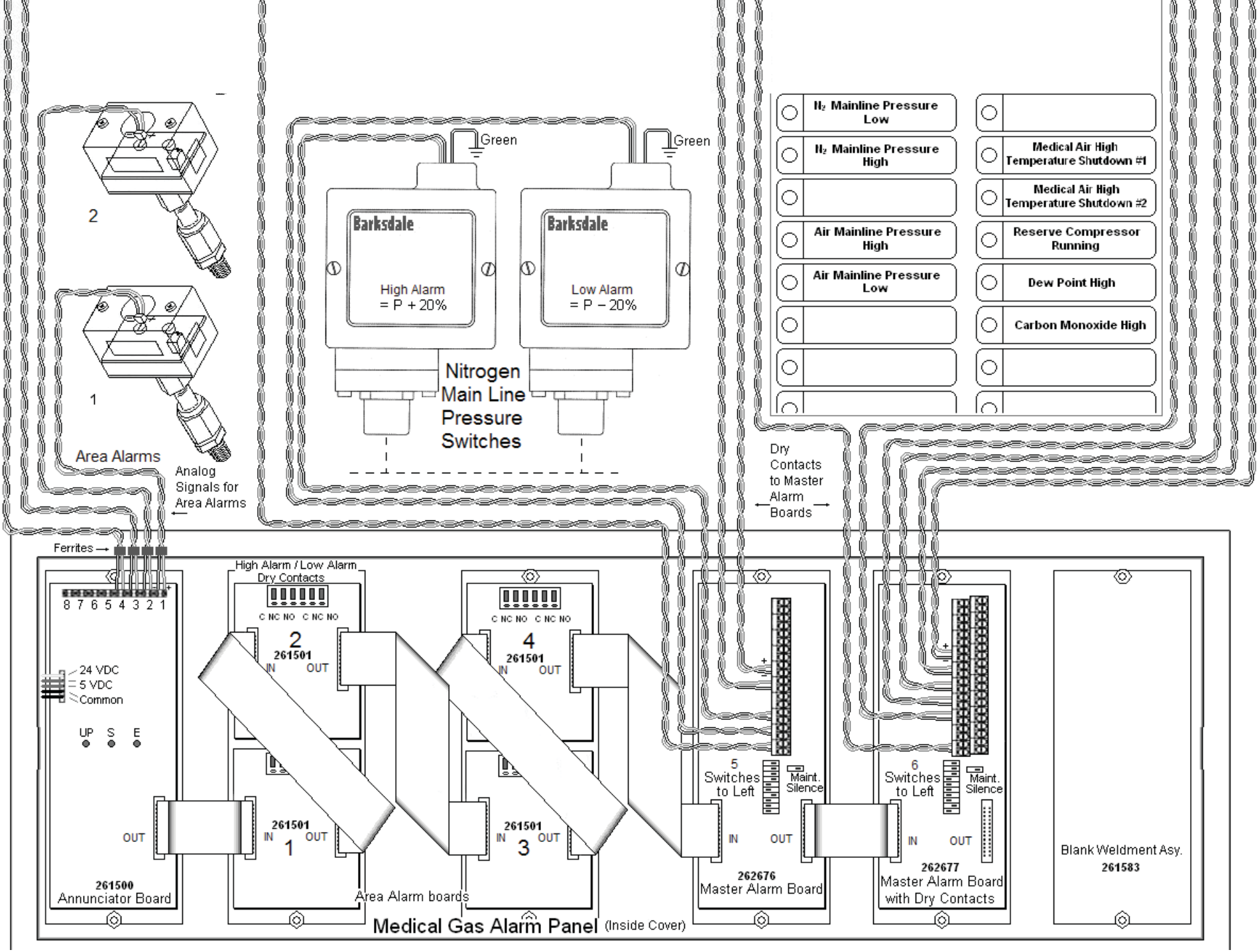












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