MEDICAL VACUUM SYSTEM

Lubricated Rotary Vane Vacuum Pump

Rev.3

VAC
PUMPS

VANE
OIL LUBE

PRODUCT SPECIFICATION

General Description

NOVAIR USA's industry leading medical vacuum system is designed and manufactured to meet all NFPA 99 standard last edition. The system shall include multiple lubricated rotary vane vacuum pumps coupled to a direct drive electric motor for continuous duty. Each pump is equipped with an intake filter with threaded connections, check valve, flex hoses and shutoff valve for system isolation to allow maintenance tasks. A.S.M.E. stamp air receiver with gauge and manual drain valve. The system shall include a 3-way tank bypass with pipes and ball valves in bronze or stainless steel. UL certified electrical control panel mounted and wired, controlled by PLC and HMI (electronic screen or touch screen). The entire system is 100% tested before leaving the factory.
According to the NFPA 99 standard, it is required to keep one module in reserve, therefore, the capacity of the system is equivalent to the sum of the flow of the total number of modules, minus 1.

Lubricated rotary vane vacuum pump, electric motor & air receiver

Oil-lubricated rotary vane vacuum pump, air cooled with no water requirements and direct driven by a C-flange, TEFC electric motor. Integral fully recirculating oil supply to provide lubrication with automotive spin-on oil filter for oil filtration and multi-stage oil separation and smoke particulates elimination process capable of removing 99.9+ percent of all oil and oil mist from the exhaust gas stream. Non-metallic vanes with minimum life of 30,000 hours. Each pump shall include a quiet operation check valve to prevent backflow, heavy duty inlet filter, inlet and discharge flex connector, independent anti-vibration bases and shutoff isolation valve. Continuous duty capability with and end (ultimate) vacuum of 29.3" Hg (at sea level).
High efficiency NEMA rated motor, C-flange TEFC, 1.15 service factor, suitable for electrical service of 208-230/380*/400*/460V, 3 ph, 60 Hz & 190/380 V, 3 ph, 50 Hz. (*optional voltage)
Air receiver A.S.M.E. code stamp, rated for 200 PSIG design pressure, equipped with gauge and manual drain. The receiver comes with a 3-valve by-pass with all pipes and fittings in bronze or stainless steel, as required per NFPA.

Control Panel UL

The system include a UL listed centralized control panel wired and tested in a NEMA 4 enclosure, through the door disconnect switch, full voltage starter with motor circuit protector and contactor for each motor. Dual control transformer (@ 120 Vac and 24 Vac) Programming Logic Controller (PLC) with Electronic HMI 3.6" resolution 240 x 80 pixel or full color 7" Touch screen HMI resolution 800 x 400 pixel (optional) for system control. Operation mode Manual-Off-Auto and rotation test function. Automatic alternation based on first-on/first-off principle, provision for simultaneous operation or reserve back-up pump if its required. Minimum run-time operation function, with adjustable value to avoid frequent start-stop. Hour meters, run indicator, overload failure indicator and high temperature indicator (optional) for each pump. Back-up transformer failure indicator. Pressure value, audible and visual alarm with dry contact for remote alarms. Back-up vacuum switch for eventual vacuum sensor failure.

- Control Panel (NE) **see picture 1**

The control panel includes a 3.6" electronic screen (resolution 240 x 80) with keyboard for system control. It shows the hour meters run indicator and failure indicator, pressure values. Back-up pressure switch for eventual pressure sensor failure.

- Control Panel (NT) (Optional) **see picture 2**

The control panel includes a full color 7" touch screen (resolution 800 x 400) for system control. It shows the hour meters run indicator and failure indicator, pressure values with graphics trends and high alarms indicator. Back-up pressure switch for eventual pressure sensor failure. Datalogger directs to USB memory to file parameters.

- Control Panel (NTW) with Web Communication (Optional) s**ee picture 2**

It has all the components of control panel (NT) and additionally has Web communication to allow remote internet connectivity to monitoring the system on web-site platform with protected and personalized user and password, accessible from any computer or mobile device for full monitoring.

MADE IN USA

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NFPA MEMBER

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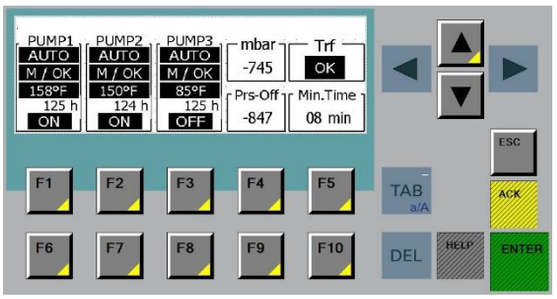
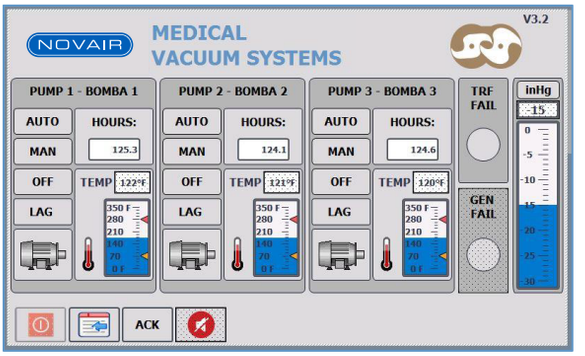
Types of control interfaces

Picture.1 Control Panel NE



Picture 2. Control Panel NT



Additional options available:

- Discharge temperature sensors with screen display value and high discharge air temperature shutdown alarm.
- Two-component epoxy internal coating for corrosion resistance.

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