BeaconMedæs®

Rugged reliability when you need it most

Oil-Lubricated Rotary Vane Vacuum Systems

A reliable source **of medical vacuum**

The BeaconMedaes Lifeline Oil-Lubricated Rotary Vane Vacuum Systems are designed for rugged reliability.

The vacuum systems consist of two to four air-cooled, oil-lubricated type vacuum pumps as well as a central controller with smart graphical touch user interface. The pumps can work independently to satisfy the required vacuum flow.

The Oil-Lubricated systems are suitable for both continuous and frequent start/stop operation. They help keep the vacuum level at the point of connection as low and lower than -870 mbar at all times. The vacuum system offers multiple backup supply in case of individual functional components failure.

The systems provide a highly reliable medical vacuum (suction) for a variety of applications, mainly in operating theatres and intensive care, emergency and respirology units.

Specific applications include:

- Wound drainage
- Assisted wound closure
- Chest and lung drainage
- Collection of other bodily fluids
- Gastric emptying
- Cleaning endotracheal tubes
- Liposuction (lipoplasty)
- Removal of excess blood during surgery

Compact design

These modular packages are designed to meet the needs of today's space conscious healthcare facilities. The single point connection (SPC) base mount packages can be disassembled prior to installation to accommodate standard doorways. Reassembly requires only a mistake-free few steps for reconnection, ensuring your system is wired exactly as it was intended.

Ease to install

The BeaconMedaes Oil-Lubricated Rotary Vane Vacuum System comes completely pre-piped, prewired on one common base. With its single point connections, installation is simple and trouble-free.

Simple design, **proven reliability**

The Oil-lubricated Rotary Vane Vacuum Pumps are single stage and air-cooled. The compact, simple design allows for low maintenance, quiet operation, and long-lasting operation.

- Oil mist eliminator for 99.9% oil-free exhaust, ensuring that oil does not escape into the discharge piping
- Deep vacuum makes the lubricated vane the right technology for high altitudes
- 4 sizes available from 7HP through 25HP in multiple configurations for maximum sizing flexibility

Maintenance **made simple**

The efficient operation and service friendly design of the Oil-lubricated Rotary Vane Vacuum Systems keeps maintenance interventions to a minimum in both frequency and time. On-site maintenance and repair can easily take place with a minimal usage of specific tools and equipment.

- Low level of consumable parts
- Direct access to all service points
- Designs allows for possible future expansion of your system (option)
- BeaconMedæs Planned Preventive Maintenance Program available

Innovative vacuum **pumps**

Designed especially for medical applications, our oil-lubricated rotary vane vacuum pumps offer high flow capacities. They are simple and economical to install and operate, and are quiet and inherently vibration-free.

Longer machine **life**

They provide smooth, pulse-free vacuum and have low starting and running torque. The vanes are constructed from composite material providing a long lifetime of your vacuum systems (up to ten years under normal operating conditions).

Reduced **noise and heat**

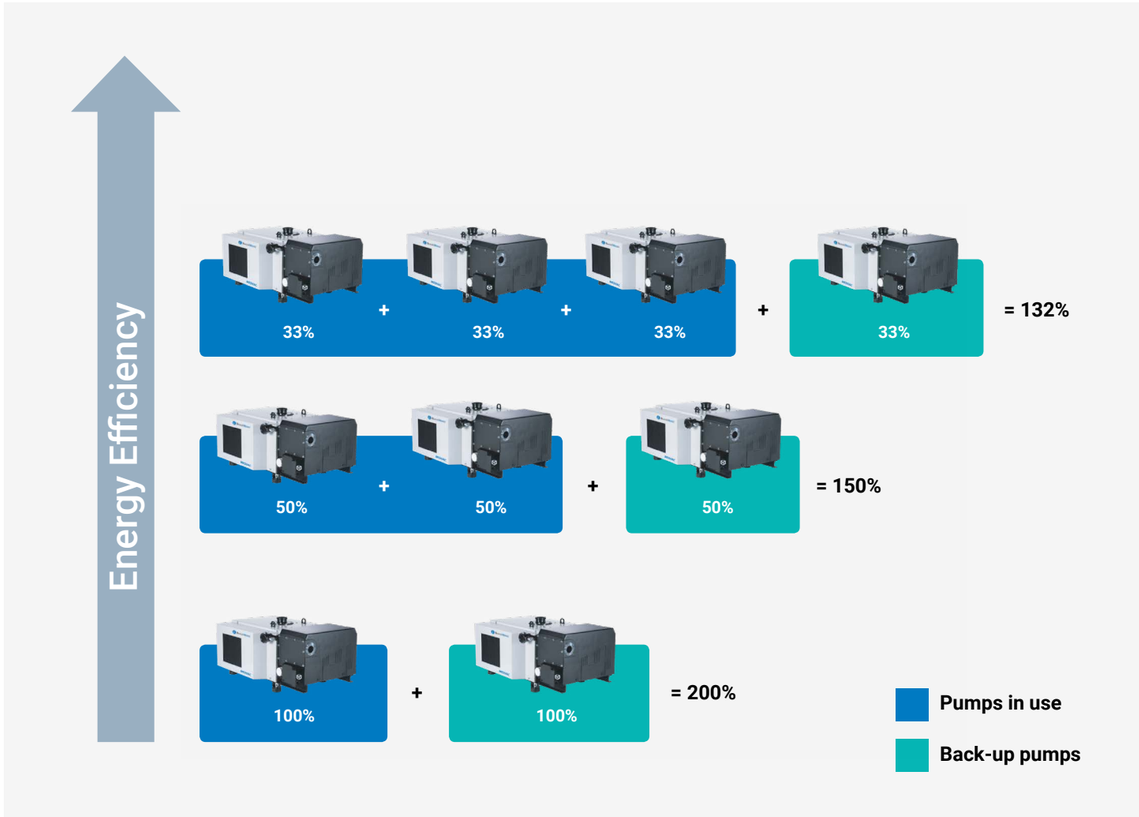
With higher working pressure and frequent start stop, our multi oil injection within the core element helps us to maintain ideal and homogenous temperature to emit noise and heat into the equipment room, creating a better working environment for your staff.

Frequent **start stop**

Optimally sized to suit the demands of frequent starts found in medical applications, each motor is air-cooled by an integral fan and protected by an overload fitted within its pump control panel. Operating with low starting currents and slower pump rates decreases your machine and component wear, resulting in lower maintenance costs. Motor direction phase sequence protection is now available as standard.

Pump redundancy

Oil-lubricated Vane Vacuum Systems complying with NFPA are provided with at least two sources of supply.



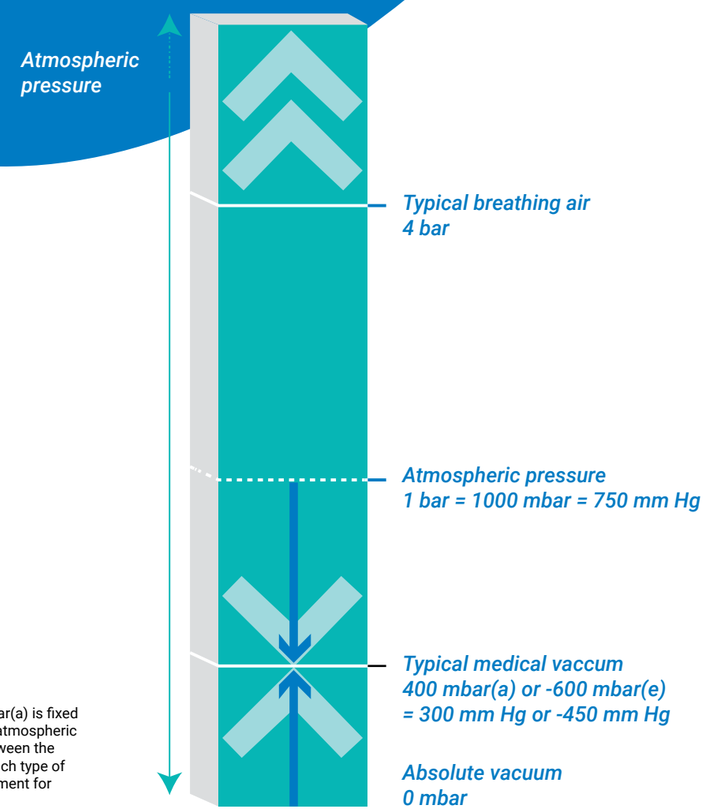
Measuring **vacuum pressure**

A vacuum is any pressure in a system that is less than the ambient atmospheric pressure. For medical applications the degree of vacuum is not very high. However, there are two ways of measuring a vacuum pressure:

- Bar(e) – the effective or gauge pressure – denotes how much the pressure is below local atmospheric pressure
- Bar(a) – absolute pressure – denotes how much the pressure is above absolute zero vacuum

Atmospheric pressure at sea level is approximately 1 bar or 1000 mbar. For typical medical applications a vacuum of 600 mbar below atmospheric pressure is required, which is denoted as -600 mbar(e).

From the illustration it can be seen clearly that this value is also equivalent to 400 mbar above absolute zero vacuum. It can therefore also be denoted as 400 mbar(a).



Note that because the measuring reference point for bar(a) is fixed (absolute zero vacuum) while for bar(e) it is variable (atmospheric air pressure), a slight discrepancy can be obtained between the two values. It is therefore important to understand which type of reference is required beforeselecting a pressure instrument for measuring the vacuum.

Advanced Control and Monitoring **of the Complete Vacuum System**

Get the most out of your Medical Vacuum System with our MK5 control and monitoring system, an intelligent microprocessor-based control system dedicated to controlling up to four vacuum pumps in your system.

- Equipped with HMI and color touch screen display
- Manually or automatically switch between two setpoints to achieve increased energy efficiency when facingfluctuating levels of demands
- Internet-based pump visualization using a simple ethernet connection. Optional solution of external antenna available for areas experiencing network difficulties
- Remote monitoring and connectivity functions
- NTC sensor built-in the cubicle to ensure protection of the panel

Real-time monitoring with **SMARTLINK**

Collecting data and knowing the status of all the pumps in your Vacuum System has never been easier. Through a website integrated within the MK5 module, all data is visualized in real time, offering you immediate clarification.

As these real-time visualization pages are accessed through the hospital's Ethernet, total data security is assured. SMARTLINK is capable of sending you early warnings through an e-mail or text message, avoiding breakdowns and acting proactive in the maintenance scheduling of your equipment.

Life is in the details.®

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