Magnis MSV Oil-Sealed Rotary Screw Vacuum

BeaconMedæs®

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The BeaconMedæs Magnis MSV Vacuum System is the complete medical vacuum solution. The packages feature an all-inclusive, fully engineered modular oil-sealed rotary screw vacuum system with variable speed drive designed in accordance to all NFPA 99, HTM02-01, and ISO 7396 code requirements for medical vacuum. The vacuum modules integrate seamlessly and guarantee your facility a medical vacuum system with all safety features included.

- *Variable speed drive vacuum pumps in multiple sizes available in duplex, triplex, and quadruplex configurations*
- *Master controller for the vacuum system that meets NFPA 99, HTM02-01, and ISO 7396 requirements for medical vacuum*

Innovative, Intelligent Vacuum Pumps

A new range of oil-sealed rotary screw vacuum pumps with variable speed drive (VSD), the Magnis series offer peak performance at your operating conditions. These unique pumps offer:

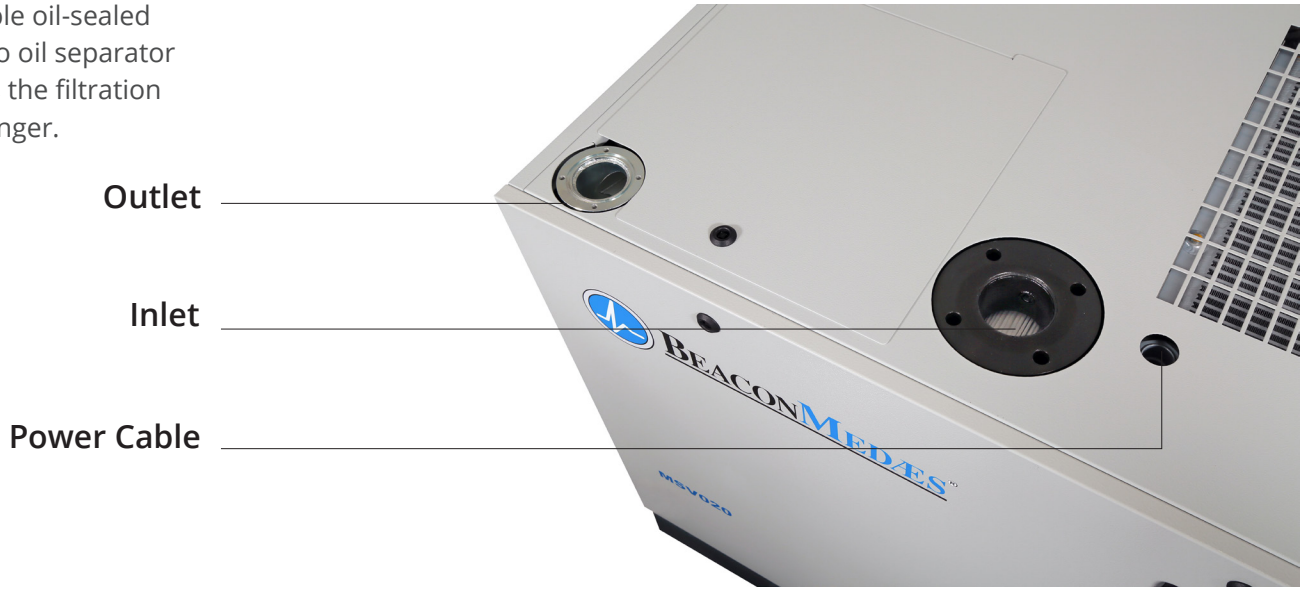
- *Superior performance against benchmarked oil-sealed and dry vane vacuum pump technologies.*
- *Increased efficiency – State-of-the-art screw technology, Variable Speed Drive (VSD) and innovative motor design combine to produce a leap forward in efficiency.*
- *Quiet operation – Noise levels are around half that of comparable technologies.*
- *Sustainable productivity thanks to built-in efficiency.*
- *Reduced environmental impact due to ultra-high oil retention at all operating pressures.*

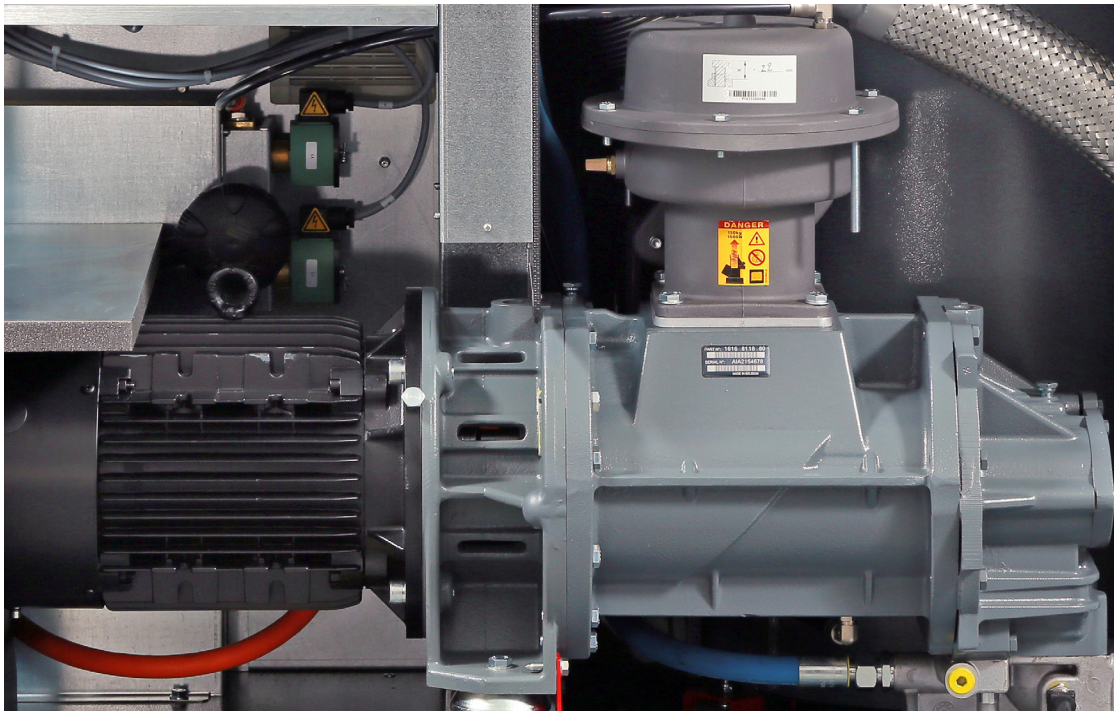
High Efficiency Cuts Costs

The MSV vacuum pumps consume approximately 50% less energy than alternative technologies. Among the most energy-efficient oil-lubricated vacuum pumps on the market in the capacity range, the VSD and set-point control lead to significant energy savings. Set-point control allows you to optimize the energy you use to maintain your vacuum level and thereby optimize your efficiency and performance. The lowest possible flow will be delivered to match your required vacuum level or speed – nothing is wasted!

Low Costs and Long-Lasting Components

Designed for easy and infrequent maintenance with no vanes, no vane chatter, and no vane wear, the mean time between maintenance (MTBM) rates are extremely long. The oil separator is designed for highly efficient oil coalescing with ultra-low back pressure, which means less energy consumption. This contributes to a long oil separator life that is double that of comparable oil-sealed vane vacuum pumps. Another contribution to oil separator life is the patented design which never allows the filtration media to be overloaded, so they last much longer.





The Innovative Technology That Makes It Work

Element

- *Highly efficient oil-sealed rotary screw.*
- *Outstanding performance.*
- *Robust design.*

Inlet Control Valve

Provides modulating vacuum control in conjunction with the VSD drive to minimize energy consumption.

Guaranteed Oil Retention

- *Optimum design for maximum oil retention.*
- *Longer life because of managed performance means the vacuum pump never overloads the separators.*
- *Innovative and patented design retains oil at <3 mg/m3 even when under the greatest load. In conventional fixed speed vacuum pumps, overloaded oil separators lead to oil carryover.*

Sophisticated Monitoring System

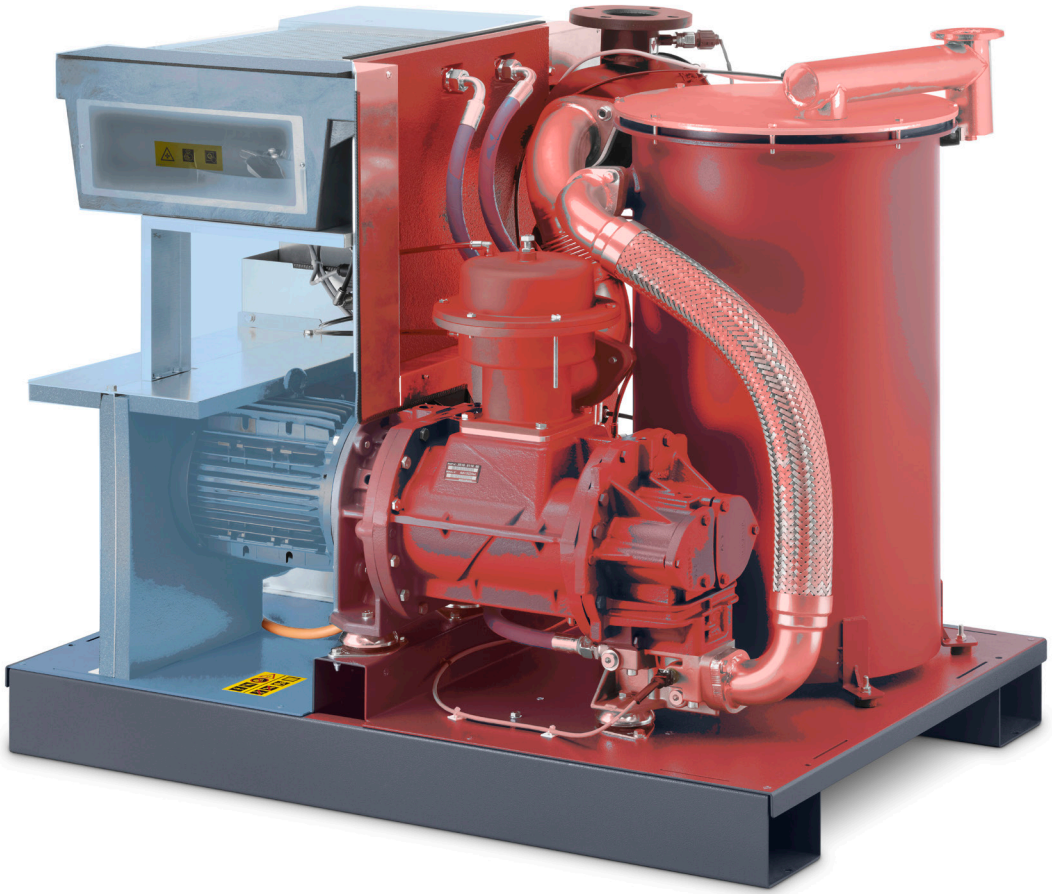
A state-of-the-art monitoring system on each vacuum pump. It is simple and comprehensive, and leads to energy savings. You get all the information for the everyday management of your vacuum pumps, as well as the alarms, safety shutdowns, and maintenance.

Canopy With Hot-Cool Zones

A canopy with a hot-cool design isolates all heat producing and temperature critical components (oil separator and element) from all other components. As cool running means higher reliability, this feature extends the lifetime of electronic components and leads to a longer Mean Time Between Maintenance (MTBM).

Easy To Use, Simple To Maintain

- *The top cover of the oil separator has a unique hinge mechanism. It slips the cover to the side, allowing the oil separator filter to be changed easily and quickly.*
- *A cleverly designed exhaust pipe enables the condensates to be collected in the discharge pipework at the outlet.*



Medical Vacuum Master Control

A properly managed centralized vacuum system saves energy, reduces maintenance, decreases downtime and improves product performance. The BeaconMedaes MSV Central Controllers provide the most efficient method to control and monitor the medical vacuum pumps, ensuring safe and efficient operation of the system.

Thanks to smart control, the MSV Central Controllers give you the most suitable vacuum mix at all times. By reacting quickly to vacuum demand and operating within a narrow pressure band, the system maximizes energy savings, reduces costs, and increases the stability of the vacuum level.

- *Precise Vacuum control for optimal efficiency*
- *Control of multiple variable speed drive (VSD) pumps*
- *Lead/Lag sequencing*
- *Reserve pump activation*
- *System restarts after voltage failure with simultaneous start prevention*
- *Equalization of running hours*
- *Visual and audible alarms*

VSD+ For 50% Average Energy Savings*

In almost every hospital or laboratory environment, the need for vacuum fluctuates throughout every day. Variable speed drive technology provides the right amount of vacuum at all times, resulting in maximum efficiency of the vacuum system.

Why Variable Speed Drive+ Technology?

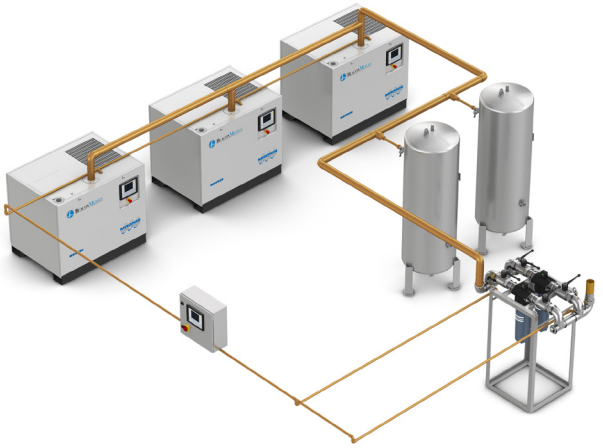
- *On average 50% energy savings with an extensive flow range (10-100%).*
- *Reduced electrical installation costs (fuse and cable size). Integrated controller controls the motor speed and high efficiency frequency inverter.*
- *Eliminates peak current penalty during start-up experienced with stop-start machines.*

Laboratory Applications

A great choice for laboratory applications, the Magnis MSV vacuum system features a Humid version. With different control programming from the standard medical version, the Humid version features a purge cycle that operates before and after the vacuum operation. The purge prevents condensate from forming within the vacuum pump by closing the vacuum pump from the process and flowing ambient air through the pump.

Technical Specifications -HTM/ISO

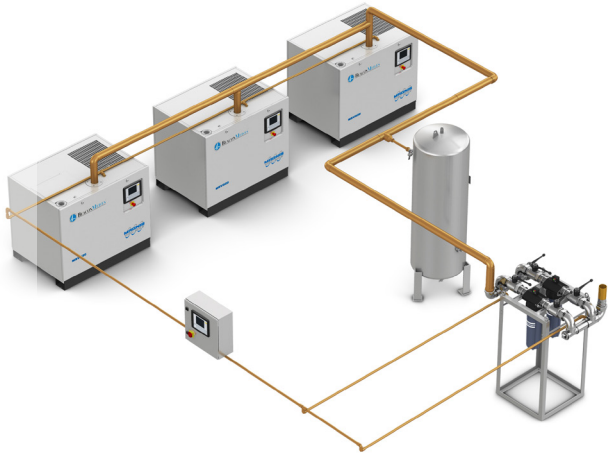
Model Number	Plant Output @ 300 mbar(a)		Total Quantity of Pumps	Quantity of Standby Pumps	Pump Type	Each Pump Flow, lpm	Filter Type	Central Controller Type	Number of Receivers	Total Receiver Volume (L)	Receiver Connections (mm)
	L/M	M3/H									
MVAC-007TD-MSV	1400	84	3	2	MSV 007	1520	Duplex Vacuum Filter Set, MV Based, Frame Mounted	ES-VAC Medical	2	4000	76
MVAC-010TD-MSV	1810	109	3	2	MSV 010	2010			2	4000	76
MVAC-015TD-MSV	2430	146	3	2	MSV 015	2700			2	4000	76
MVAC-020TD-MSV	2950	177	3	2	MSV 020	3280			2	4000	76
MVAC-030TD-MSV	5000	300	3	2	MSV 030	5550			2	4000	76
MVAC-040TD-MSV	5920	355	3	2	MSV 040	6580			2	4000	76
MVAC-050TD-MSV	6710	403	3	2	MSV 050	7450			2	4000	76
MVAC-030QD-MSV	9990	599	4	2	MSV 030	5550			2	4000	76
MVAC-050QD-MSV	13410	805	4	2	MSV 050	7410			2	4000	76



HTM/ISO Standard

Technical Specifications - NFPA

Model Number	Plant Output @19" Hg	Total Quantity of Pumps	Quantity of Standby Pumps	Pump Type	Each Pump Flow, SCFM	Filter Type (Optional)	Central Controller Type	Number of Receivers	Total Receiver Volume (gal.)	Receiver Connections (inches)	Noise Level (Per Pump)
	SCFM										
MSV007D-240V-HCV	56	2	1	MSV 007	56	Vacuum Filter Set, MV Based, Frame Mounted	ES-VAC Medical	1	240	4	65
MSV007T-240V-HCV	112	3	1	MSV 007	56			1	240	4	65
MSV007Q-240V-HCV	168	4	1	MSV 007	56			1	240	4	65
MSV010D-240V-HCV	72	2	1	MSV 010	72			1	240	4	68
MSV010T-240V-HCV	144	3	1	MSV 010	72			1	240	4	68
MSV010Q-240V-HCV	216	4	1	MSV 010	72			1	240	4	68
MSV015D-240V-HCV	89	2	1	MSV 015	89			1	240	4	73
MSV015T-240V-HCV	178	3	1	MSV 015	89			1	240	4	73
MSV015Q-240V-HCV	267	4	1	MSV 015	89			1	240	4	73
MSV020D-240V-HCV	124	2	1	MSV 020	124			1	240	4	78
MSV020T-240V-HCV	248	3	1	MSV 020	124			1	240	4	78
MSV020Q-240V-HCV	372	4	1	MSV 020	124			1	240	4	78
MSV030D-400V-HCV	231	2	1	MSV 030	231			1	400	6	75
MSV030T-400V-HCV	462	3	1	MSV 030	231			1	400	6	75
MSV030Q-400V-HCV	693	4	1	MSV 030	231			1	400	6	75
MSV040D-400V-HCV	273	2	1	MSV 040	273			1	400	6	79
MSV040T-400V-HCV	546	3	1	MSV 040	273			1	400	6	79
MSV040Q-400V-HCV	819	4	1	MSV 040	273			1	400	6	79
MSV050D-400V-HCV	309	2	1	MSV 050	309			1	400	6	80
MSV050T-400V-HCV	618	3	1	MSV 050	309			1	400	6	80
MSV050Q-400V-HCV	927	4	1	MSV 050	309			1	400	6	80



NFPA Standard

1. All HTM/ISO capacities are shown as system capacities (two reserve vacuum pumps on standby), measured at 300mbar(a). All NFPA capacities are shown as system capacities (one reserve vacuum pump on standby), measured at 19" Hg.
2. Normal operating conditions at a maximum ambient of 40 degree C (105 degree F).

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Life is in the details.®