



# Enclosed Vacuum Systems



### WhisperVAC<sup>™</sup> Enclosure Cabinet



Powerex's trademarked sound enclosure systems offer the lowest noise levels in the industry. Each system is packaged in a rigid steel frame with powder coated panels and lined with sound-deadening insulation.

- Claw vacuum pumps are enclosed within soundreducing panels – **an industry first!**
- Sound intensity is reduced by an average of 14 dBA over comparable open frame systems – 4x sound reduction
  - All systems are well within NIOSH limits of 8
    hour exposure
  - Helps protect the hearing of healthcare facility employees
  - Improves working environment near the medical vacuum system
  - Helps avoid disturbing patients and/or hospital employees
- Ultimate sound reduction achieved when packaged with Powerex WhisperAir™ enclosed scroll medical air systems the quietest source equipment in the industry!

#### Hearing Loss Prevention

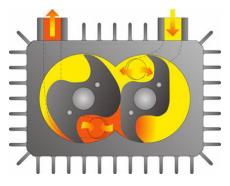
Occupational hearing loss is the most commonly recorded occupational illness, accounting for 1 in 9 recordable illnesses. Powerex WhisperVAC™ technology provides a real solution for workers operating in loud mechanical rooms, as well as any facility employees who are ever in close proximity to the compressor system.

#### Hearing loss is a significant cost that is preventable!



# **Oil-free Claw Technology**

### Dry Claw Pump



Inside the pump housing, two claw shaped rotors take in air as they rotate in opposite directions. The air is compressed by the rotors, then discharged through a silencer to atmosphere. The pumping chamber is dry. There is no contact between the rotors or the cylinder wall, eliminating internal wear and parts to replace. The rotors are synchronized by gears requiring a small amount of oil in the gear housing. Gear oil change requirements are minimal at approximately 20,000 hours.



### System Configuration



## Enclosed Claw Vacuum Systems Specifications

Medical Vacuum Enclosed Claw - MVEC*					
Model	System HP	SCFM @ 19" Hg	Tank (gal)	dB(A) Level	
Duplex					
MVECD0203	2 (2)	16	80	64	
MVECD0303	3 (2)	21	80	64	
MVECD0404	4 (2)	29	120	68	
MVECD0504	5 (2)	38	120	68	
MVECD0604	6 (2)	52	120	68	
MVECD0754	7.5 (2)	65	120	68	
MVECD1005	10 (2)	87	200	70	
MVECD1505	15 (2)	129	200	72	
Triplex					
MVECT0404	4 (3)	58	120	70	
MVECT0504	5 (3)	76	120	70	
MVECT0605	6 (3)	104	200	70	
MVECT0755	7.5 (3)	130	200	70	
MVECT1005	10 (3)	174	200	72	
MVECT1505	15 (3)	258	200	74	
Quadplex					
MVECQ0405	4 (4)	87	200	72	
MVECQ0505	5 (4)	114	200	72	
MVECQ0605	6 (4)	156	200	72	
MVECQ0755	7.5 (4)	195	200	72	
MVECQ1005	7.5 (4)	261	200	74	
MVECQ1505	15 (4)	387	200	76	
Pentaplex	1				
MVECP0505	5 (5)	152	200	73	
MVECP0755	7.5 (5)	260	200	73	
MVECP1505	15 (5)	516	200	77	
Hexaplex	Hexaplex				
MVECH0505	5 (6)	190	200	74	
MVECH0755	7.5 (6)	325	200	74	
MVECH1505	15 (6)	645	200	78	

\*Table specifications are defined at sea level conditions with reserve pump(s) on standby per NFPA 99.

Laboratory Vacuum Enclosed Claw - LVEC <sup>†</sup>					
Model	System HP	SCFM @ 19" Hg	Tank (gal)	dB(A) Level	
Duplex					
LVECD0203	2 (2)	32	80	64	
LVECD0303	3 (2)	42	80	64	
LVECD0404	4 (2)	58	120	70	
LVECD0504	5 (2)	76	120	70	
LVECD0604	6 (2)	104	120	70	
LVECD0754	7.5 (2)	130	120	70	
LVECD1005	10 (2)	174	200	72	
LVECD1505	15 (2)	258	200	74	
Triplex					
LVECT0405	4 (3)	87	200	72	
LVECT0505	5 (3)	114	200	72	
LVECT0605	6 (3)	156	200	72	
LVECT0755	7.5 (3)	195	200	72	
LVECT1005	10 (3)	261	200	72	
LVECT1505	15 (3)	387	200	72	
Quadplex					
LVECQ0405	4 (4)	116	200	73	
LVECQ0505	5 (4)	152	200	73	
LVECQ0605	6 (4)	208	200	73	
LVECQ0755	7.5 (4)	260	200	73	
LVECQ1005	7.5 (4)	348	200	75	
LVECQ1505	15 (4)	516	200	77	
Pentaplex					
LVECP0505	5 (5)	190	200	74	
LVECP0755	7.5 (5)	325	200	74	
LVECP1505	15 (5)	645	200	78	
Hexaplex					
LVECH0505	5 (6)	228	200	75	
LVECH0755	7.5 (6)	390	200	78	
LVECH1505	15 (6)	774	200	79	

<sup>+</sup>Table specifications are defined at sea level conditions with all pumps in operation.

# **Enclosed Claw Vacuum Systems**

#### System Controls

- Robust Primary-Subordinate controls logic
- Auto fail-safe & auto reconnect
- UL508A listed and labeled, NEMA 4/12 enclosure
- PLC Controller and 6" color HMI touchscreen displays the operating status of the system
- Easily expandable up to 6 pumps
- · Building automation gateway with BacNet® protocol
- Visual and audible alarms for:
  - System overload trip
  - High temperature conditions
  - Service intervals
- Panel door includes:
  - Audible and visual alarms
  - HOA switch for each pump



#### Benefits

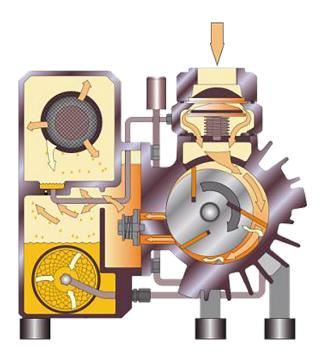
- Fits through a standard 36" door
- Lowest noise level on the market
- No need for a separate room for vacuum system due to noise
- Most energy efficient technology
- Oil-free compression chamber
- Extremely low maintenance
- Suitable for WAGD applications
- Air cooled
- Standard outlet muffler provided
- Maintenance friendly
  - Easy to remove latched panels
  - Isolator bolt elevator rail for lower pump removal

#### **Options & Accessories**

- Premium Warranty
- Variable Frequency Drive (VFD) Controls
  - Saves up to 40% in energy costs vs. standard Load/Unload



## Lubricated Rotary Vane Pump



A rotor is mounted eccentrically in the pump cylinder and contains several sliding vanes. As the rotor turns, centrifugal force causes the vanes to slide outward against the cylinder wall, forming chambers between themselves and the housing. Oil is trapped inside these chambers, creating a seal between the vanes and the cylinder wall and lubricating the vanes for reduced wear. Air is pulled into the pump inlet which is then compressed and discharged into the exhaust box. The oil mixed with the air is then passed through several stages of internal oil-and-mist eliminators to remove 99.9% of the lubricating oil before the exhaust is released to atmosphere. The separated oil is then returned to the oil reservoir.

- 30,000 hour vane life
- Semi-synthetic oil-flooded for lubrication and heat dissipation
- Highest ultimate vacuum levels 29.3" Hg
- No water and sewage costs
- Most suitable for high ambient temperatures

### System Configuration



## Enclosed Lubricated Vane Vacuum Systems Specifications

Medical Vacuum Enclosed Vane - MVEV				
Model	System HP	SCFM @ 19" Hg	Tank (gal)	dB(A) Level
Duplex				
MVEVD0404	4.6 (2)	25	120	60
MVEVD0504	5 (2)	37	120	62
MVEVD0754	7.5 (2)	52	120	64
Triplex				
MVEVT0504	5 (3)	74	200	64
MVEVT0755	7.5 (3)	104	200	66
Quadplex				
MVEVQ0505	5 (4)	111	200	66
MVEVQ0755	7.5 (4)	156	200	68

\*Table specifications are defined at sea level conditions with reserve pump(s) on standby per NFPA 99

Laboratory Vacuum Enclosed Vane - LVEV <sup>†</sup>				
Model	System HP	SCFM @ 19" Hg	Tank (gal)	dB(A) Level
Duplex				
LVEVD0404	4.6 (2)	50	120	62
LVEVD0504	5 (2)	74	120	64
LVEVD0754	7.5 (2)	104	120	66
Triplex				
LVEVT0504	5 (3)	111	200	66
LVEVT0755	7.5 (3)	156	200	68
Quadplex				
LVEVQ0505	5 (4)	148	200	67
LVEVQ0755	7.5 (4)	208	200	69

<sup>†</sup>Table specifications are defined at sea level conditions with all pumps in operation

## Enclosed Lubricated Vane Vacuum Systems

#### System Controls

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- System overload trip
- High temperature conditions
- Service intervals
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P-€	≽were	ΞX°	
HOURS	SETPOINT	VFD	
12345	12. 3"Hg 12. 3"Hg	RTC	
ALARM SYSTEM STATUS	ALARM SERVICE TRENDS	ENABLED	



#### Benefits

- Fits through a standard 36" door
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- Air cooled
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