MAQPOWER
COMPRESSED AIR SYSTEMS

Atlas Copco
Vacuum
Solutions

Intelligent Liquid Ring Vacuum Pump

LRP 700-1000 VSD +

LRP VSD+ - Intelligent liquid ring vacuum pump

New breakthroughs in proven technology

Liquid ring vacuum technology is perfectly suited to wet, humid and dirty applications across many industries. In these applications the pump will face high temperatures, extreme vapor loads and even liquid and solid carry over from the process. The LRP VSD+ offers superior vacuum performance and connectivity. It provides optimum energy efficiency along with low operational and maintenance costs. Its ease of use, integration into existing processes and centralization capabilities make this a truly unique liquid ring vacuum pump.

Cleverly engineered in a smart design

Plug and play

Enclosed under a strong canopy offering a sleek and ergonomic look with the HMI, inlet, outlet and main cable connections located on top of the canopy.

Twin Variable Speed Drives

The first VSD takes care of vacuum set point control to maintain and match required vacuum levels. The second VSD regulates the water circulation pump, offering you optimized water flow and stable vacuum levels.

Anti-seizure prevention algorithm

A safe operation that prevents the LRP VSD+ vacuum pump from seizure after a prolonged period of inactivity resulting in maximized lifetime and less maintenance.

Ease of service

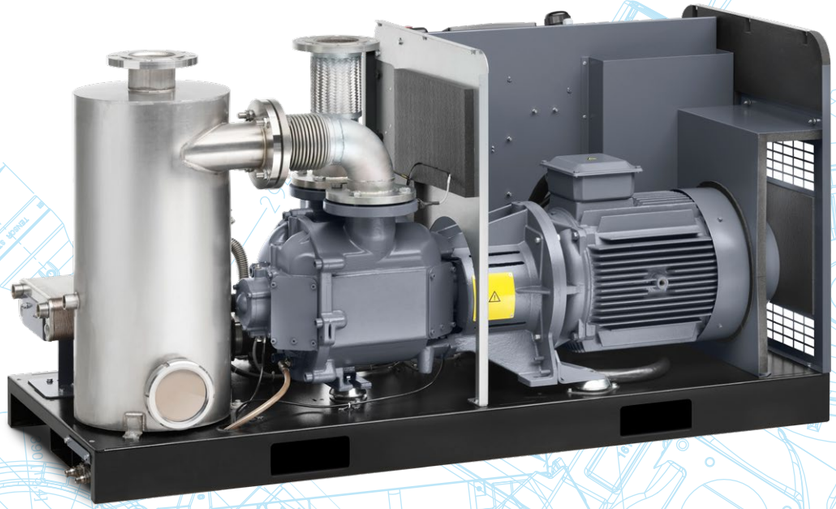
IP54 rated cubicle, horizontal serviceability, mechanical seals, lantern flange arrangement with automatic alignment of the motor, the removable heat exchanger and the convenient access port all enable ease of cleaning and service.

Smart monitoring and remote controllability

Equipped with Atlas Copco's MkV Elektronikon® controller as standard, the LRP VSD+ has a comprehensive in-built vacuum management system. Key information such as pump status, operating conditions, warning alarms and maintenance information are readily available.

Reduced noise levels

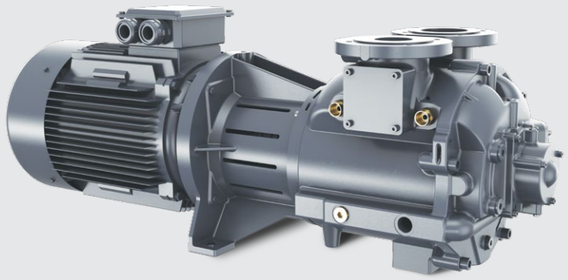
Noise containing canopy significantly reduces noise pollution in the immediate working environment with an operating noise level in the range of 65 dB(a).



Twin Variable Speed Drives for energy and water savings

VSD for set point control

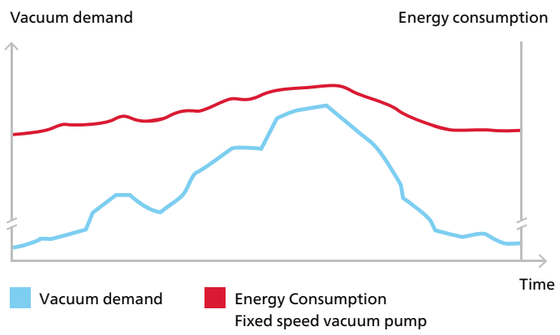
The VSD for vacuum set point control helps maintain and match required vacuum levels. This allows for optimized energy consumption by accurately maintaining the required vacuum level to suit your process. The LRP 700-1000 VSD+ delivers vacuum as needed to the process demand and consumes only for what is required.

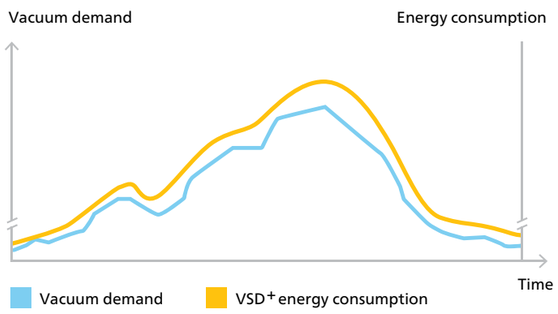


VSD for water control

The second VSD regulates the water circulation pump optimizing water flow and maintaining stable vacuum levels throughout the operating range and pump running speeds. Coupled with the integrated inlet spray nozzles, the inverter driven circulation pump safeguards pump performance even at lower inlet pressures.

A patented algorithm balances the operation of the water pump with the speed of the main motor. This helps the pump maintain optimal performance and offers increased energy savings.





Smart monitoring and remote controllability

Elektronikon®

The Atlas Copco MkV Elektronikon® controller is a standard feature of the LRP VSD+ series. Elektronikon® is a user-friendly monitoring system that can integrate to your plant management system for full pump and vacuum process control.

Elektronikon® also provides feedback on pump operating status, operating history, set point control and inlet conditions plus more. Access all the information for everyday management of your vacuum system such as warning alarms, safety shutdowns and maintenance information.

Central Controllers

Atlas Copco's HEX@GRID central controller allows you to monitor, control and optimize the performance of multiple LRP VSD+ vacuum pumps simultaneously. Thanks to the advanced control algorithms of HEX@GRID, your multi-pump system works in perfect harmony to bring you vacuum performance to suit your priority. Whether you want to prioritize pure vacuum performance, energy consumption or pump lifetime, HEX@GRID delivers. Maintain equal running hours across your installed vacuum pumps to keep service requirements to a minimum. HEX@GRID also allows you to run your vacuum net within a narrow, predefined pressure band. This increases the stability of the process and optimizes overall energy consumption.

Genius INSTANT INSIGHTS

Fully compatible with the Atlas Copco GENIUS platform, the LRP VSD+ can be connected and remotely monitored by customers almost anywhere.

Additionally, where HEX@GRID central controllers are used, connecting by LAN will bring many customer benefits including remote monitoring and control, software downloads and remote support.

Applications

The Atlas Copco LRP VSD+ series is ideally suited for humid, wet and harsh applications or where liquid and solid carry over are seen by the pump. Designed for continuous duty, high reliability, efficient operation and high vacuum uptime.

- Food processing
  - Cheese
  - Milk evaporation
  - Bottling
  - Fruit processing
  - Poultry and meat evisceration
- Plastic extrusion
- Rubber vulcanization and forming
- Drying
- Sterilization
- Evaporation
- Expanded polystyrene forming
- Filtration
- Conveying





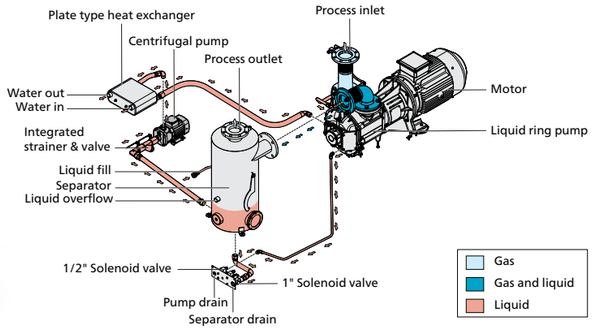



LRP VSD+ Variants

Standard - Total Recovery

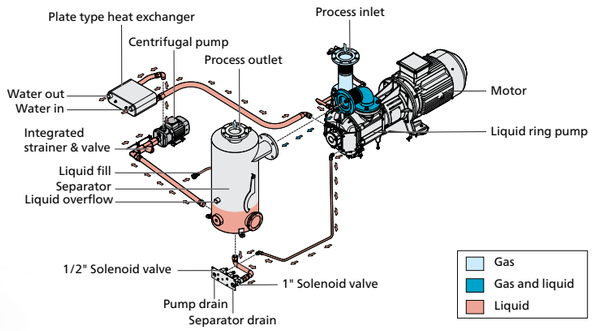
As the core of the LRP VSD+ range, this configuration offers maximum energy saving and water saving possibilities in applications and installations that allow it. It is a closed loop system that can also be of benefit when the seal fluid is in short supply or when contamination may be a problem. To enable total recirculation of the seal liquid, the recovered liquid must be cooled prior to re-use.

In this case, a plate style heat exchanger is utilized between the discharge separator and the pump. Reducing environmental impact like no other liquid ring vacuum pump on the market. It offers typical water savings of 95% compared to traditional once-through systems.



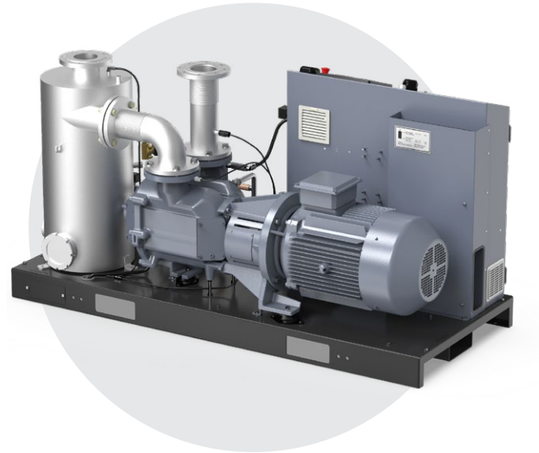
Fully Stainless Steel - Total Recovery

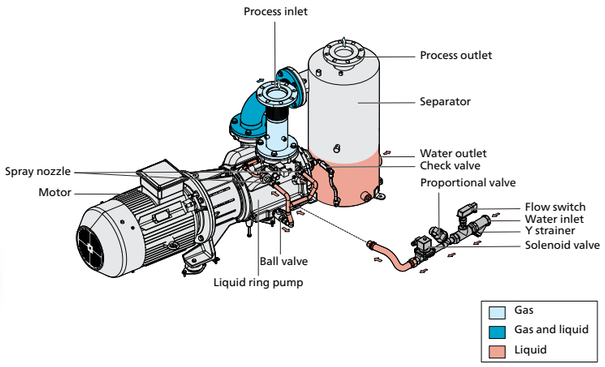
Our fully stainless steel LRP VSD+ units are ideal for customers with harsher applications where corrosion resistance, process compatibility and pump longevity are the paramount driver. Suitable for applications involving chemicals or more corrosive agents, this heavy-duty configuration does not compromise on performance, energy efficiency or vacuum intelligence.



Once-through with Proportional Valve

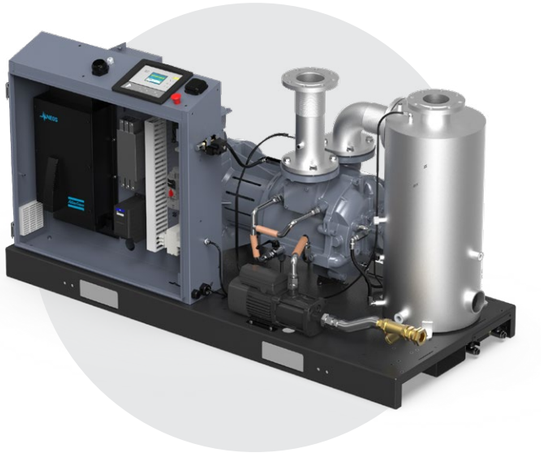
Compared with total recovery, the service liquid once-through system will discharge to drain through the discharge line directly. This system brings an optimum flow performance by using proportional valve controls the service liquid flow. The addition of this proportional valve allows the service liquid supply to be perfectly matched to the process with minimum service liquid consumption.

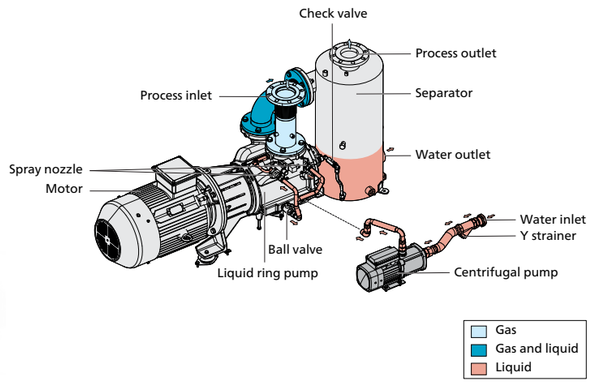




Once-through with Centrifugal Pump

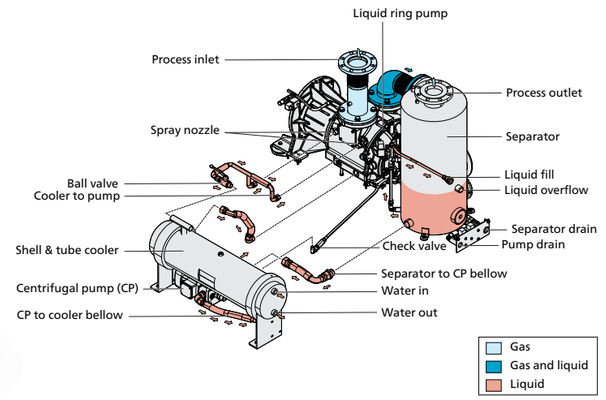
The additional centrifugal pump with VSD control brings suitable, economical, and reliable supply of sealing water flow under required service liquid pressure without extra pressure from external piping system and optimized power requirement.





Shell & Tube

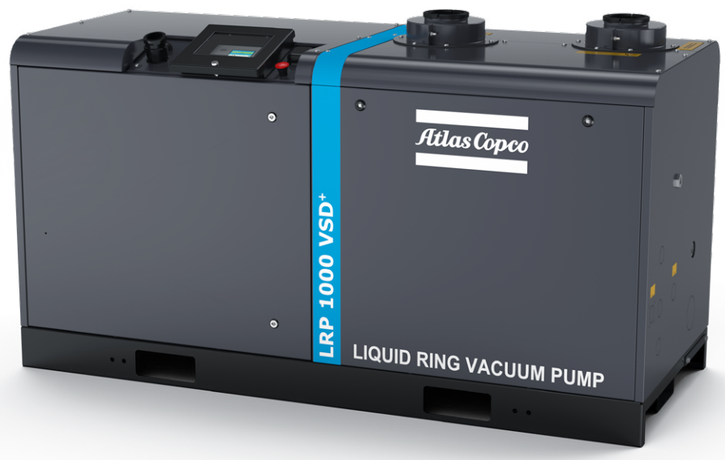
Where customers want to enjoy energy and water savings but suffer from poor water quality, our Shell & Tube variant can be the ideal choice. More resilient against contamination and allowing your vacuum system to operate in more challenging conditions, this variant brings lower maintenance requirements too.



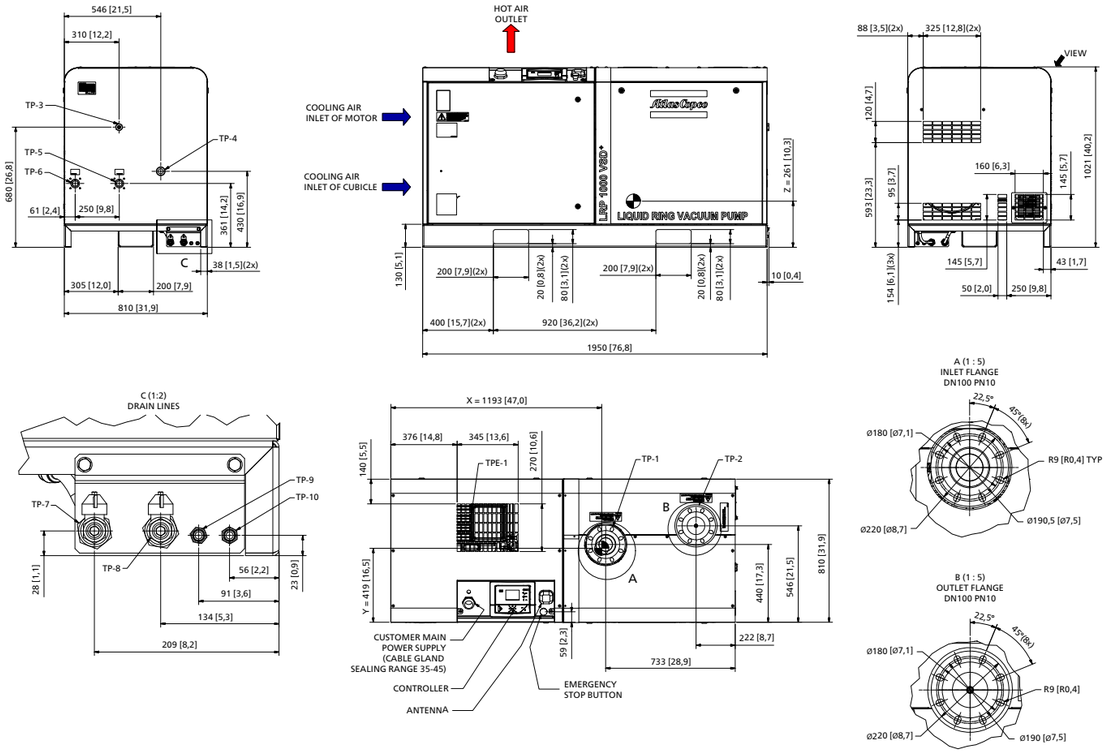
Weather Resistant

Intended for use in outdoor and semi-outdoor installations, the weather resistant variant offers higher pump protection against moisture and rainwater.

With a re-engineered air cooling flow, the canopy brings louvered vents, reduced ingress and also ensures that all electrical connection points are to IP56.

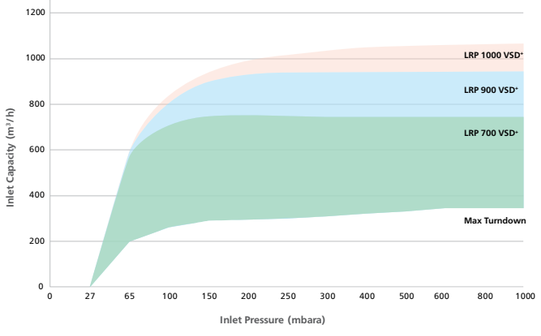


Dimension drawings

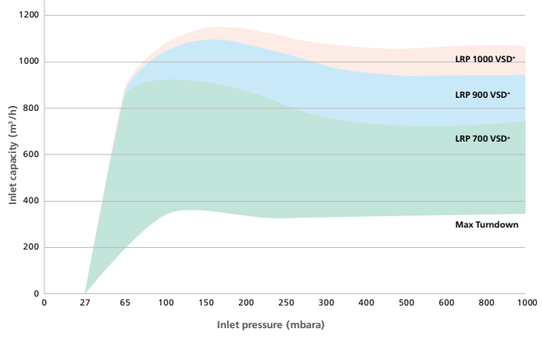


Performance curves

Dry



Saturated



Technical specifications

		LRP 700 VSD+	LRP 900 VSD+	LRP 1000 VSD+
Nominal capacity	Dry-m³/h	740	940	1050
	Dry-cfm	436	553	618
	Saturated-m³/h	910	1090	1140
	Saturated-cfm	536	642	671
Ultimate pressure(Absolute)	mbar	25		
	inch Hg	0.7		
Nominal installed motor	kW	18.5	26	37
	hp	24.8	34.9	49.6
Footprint	mm	1950 x 810 x 1020		
(WxDxH)	inch	76.8 x 31.9 x 40.2		
	Inlet/Outlet	EN1092-1/01/B1/DN100/PN10		
Connection	Liquid fill/Manual drain	G 1/2" BSP(F)		
	Overflow	G 1" BSP(F)		
	Cooler inlet/ Outlet	ISO 228/1-G1"		
Dry weight	kg	820	885	900
	lbs	1808	1951	1984

Service support and maintenance

Complete service with our Preventive Care plan

We take over the maintenance planning and responsibility for servicing your vacuum pump on a regular basis. Our Preventive Care plan is tailored to your pump's needs. As your pump is serviced with the latest technology, high levels of energy efficiency are achieved. We will also optimize service events to reduce your total cost of ownership and increase your productivity. This allows you to focus fully on your production.

Maximize lifetime of your vacuum pumps

Our vacuum specialists are well-trained and experts in the field. They will help you to improve uptime and protect your processes. Regular maintenance conducted by one of our vacuum specialists reduces the risk of deterioration. Damaged or worn parts will be replaced with genuine Atlas Copco spare parts to protect your investment and increase the lifespan of your vacuum pumps.

Cost-effective approach

Regular scheduled maintenance can identify potential problems before they occur and plans can be structured around your individual production situation. Preventive Care enables cost management as you can plan your maintenance costs in advance. In this way, expenses associated with unplanned downtime are minimized.

Reliability meets non-stop productivity

We use genuine Atlas Copco spare parts and oil and our services are conducted by vacuum specialists according to manufacturer's recommendations. This enhances your vacuum pump performance, reducing the risk of downtime and enabling your production to run more smoothly.

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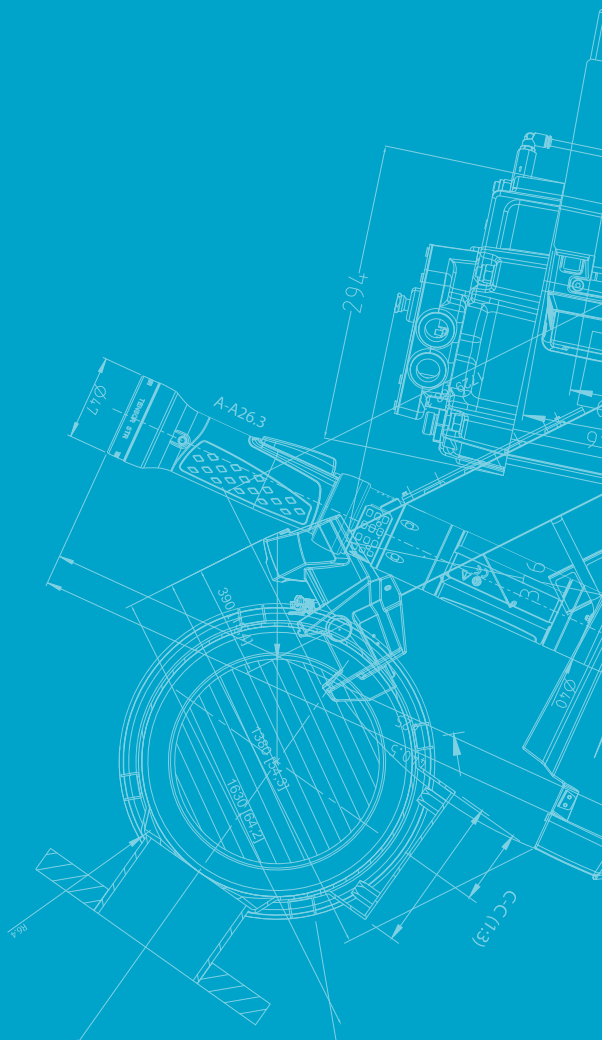

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