


OIL-SEALED ROTARY SCREW VACUUM PUMPS

GHS 1200-4800, 1126-4778 m³/h, 662-2812 cfm



Atlas Copco



The image shows a close-up of the control panel and internal wiring of an Atlas Copco vacuum pump. The control panel is black with a blue digital display showing 'www.atlascopco.com' and several buttons. Below the panel is a large orange emergency stop button. The internal wiring is organized on a white terminal block, with various colored wires (red, blue, green, yellow) connected to the terminals. A label on the wiring reads 'CE POWER TRANS.' and 'KINDHA INDIA ELECTRICITY CO. LTD'.

RELIABLE GENERAL VACUUM FOR CRITICAL APPLICATIONS

Atlas Copco, the industry leader in compressed air solutions, has transferred its highly efficient and ultra-reliable screw compression technology to vacuum applications. The result is the GHS 1200-4800 series of oil-sealed rotary screw vacuum pumps. Providing around 4,000 m³/h of vacuum pumping performance across six models, the GHS series is ideal for critical applications in printing, electronics, plastics, packaging, woodworking, bottling, canning and similar exacting industries.



Robust technology

The GHS 1200-4800 combine a technologically advanced screw design with robust and highly regarded oil-sealed rotary technology to produce a state-of-the-art, market-leading product.

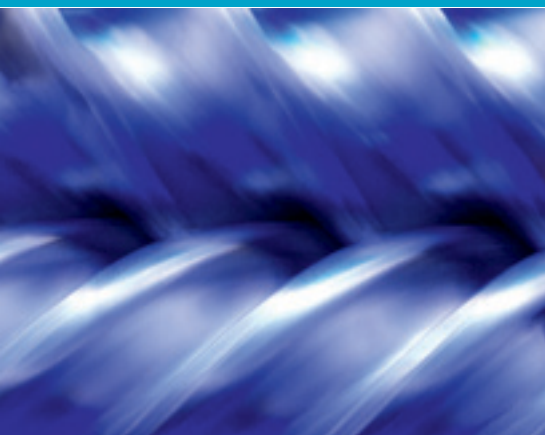
High reliability

In the GHS 1200-4800 range of vacuum pumps, industry-leading screw technology meets many years of vacuum know-how. Add a conservative approach to machine speed and you have all the benefits of Atlas Copco's screw element, including inherent reliability, optimal efficiency and life cycle costs.

Outstanding efficiency & ease of use

GHS rotary screw vacuum pumps outperform many other vacuum technologies in their operating pressure range. They are available ready to use, with all the options you need, and supported by the best know-how.

STATE-OF-THE-ART, RELIABLE VACUUM TECHNOLOGY



1

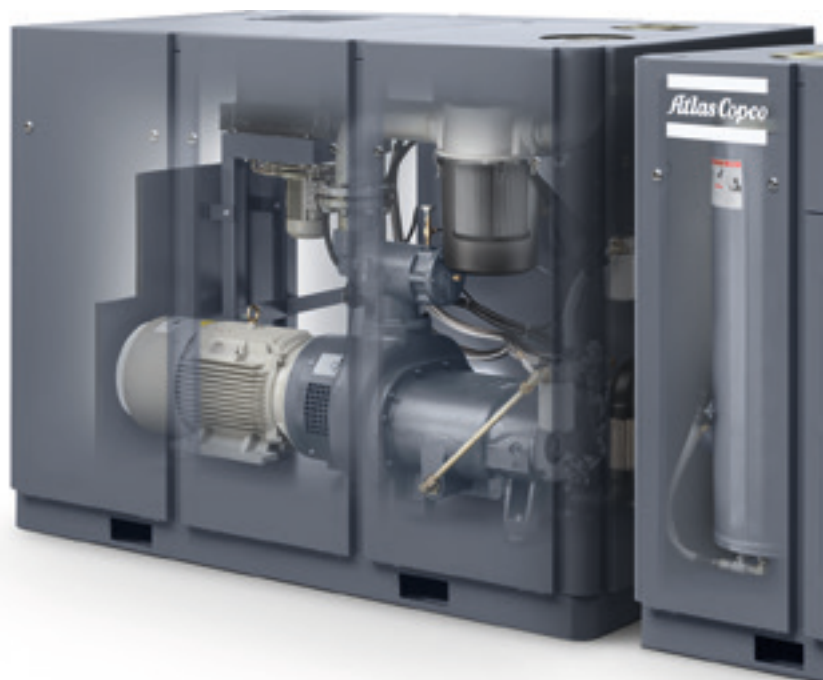
Slow rotor speed

- Ensuring that GHS 1200-4800 vacuum pumps are quiet – from 82 dB(A) – so they can be located alongside your machine in areas where people work.
- Guaranteeing high reliability and extreme durability.

2

Lift-out panels

Eliminating the need for swing-out doors, saving valuable space.



3

Innovative porting

- Optimizing performance when cycling from atmospheric pressure to the operating vacuum level.
- Preventing internal and efficiency sapping back-pressures during operation close to atmospheric pressure. The result is fast response to process changes.

4

Sound-insulated canopy

- Reduced sound levels.
- Enhancing the appearance of the vacuum pump.





5

Modulating valve fitted directly to pump inlet

- Allowing delivered performance to be matched to actual demand.
- Minimizing fluctuations in system vacuum level.
- Reducing wear and maintenance, as a result of fewer stops/starts.

8

Highly efficient oil mist separators

- Easily replaceable cartridge type elements sized to minimize back-pressure and optimizing the delivered performance.
- Ensuring long operating life with a minimum number of service interventions.
- Allowing operation close to atmospheric pressure, without the consequences often found when excessive optimization takes place.



7

Generously matched motors

GHS 1200-4800 vacuum pumps are durable, highly reliable and fitted with generously rated motors making them last a lifetime.

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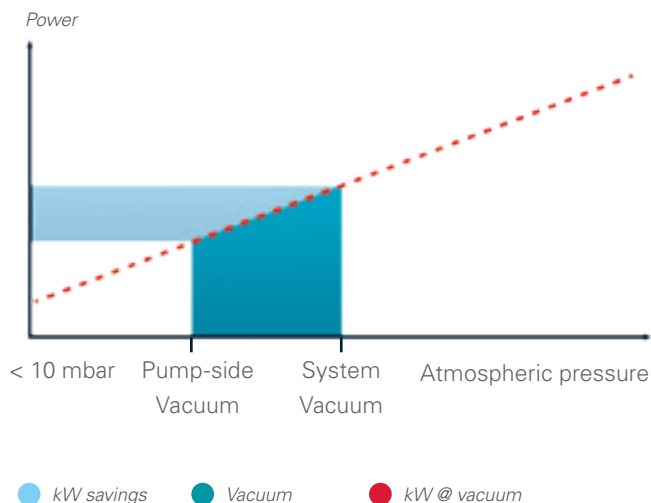
Adjustable oil thermostat

- Preventing condensed water vapor from contaminating the oil reservoir, even in demanding conditions.
- Consistent and continuous performance during humid duties with minimal impact on component lifetime within the oil circuit.



OPTIMUM VACUUM CONTROL FOR FIXED SPEED OPERATION

All GHS 1200-4800 fixed speed vacuum pumps are fitted with a modulating vacuum control valve at the pump inlet as standard. An additional vacuum control device is therefore unnecessary, unless the vacuum levels at particular points of use need to be varied. Many other common vacuum technologies utilize 'air bleed' to control vacuum level with the additional function of maintaining mechanical integrity in low flow conditions. This is not necessary with Atlas Copco's fixed speed screw technology, leading to optimum energy savings.



Modulating valve fitted directly to pump inlet

The valve's position is controlled by Atlas Copco's unique PLC controller to provide accurate set point control within an adjustable pressure band, which can be narrow or wide.

The main benefits include:

- Precise matching of delivered capacity to the actual demand.
- Minimized fluctuations in system vacuum level.
- Reduced wear and maintenance, as a result of fewer stops/starts.

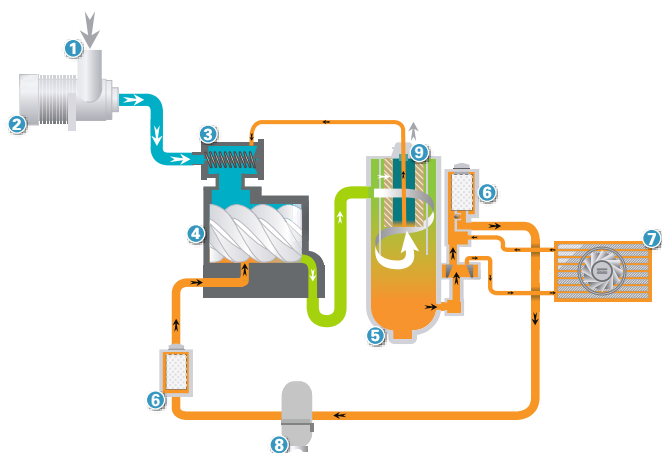


Significant energy savings

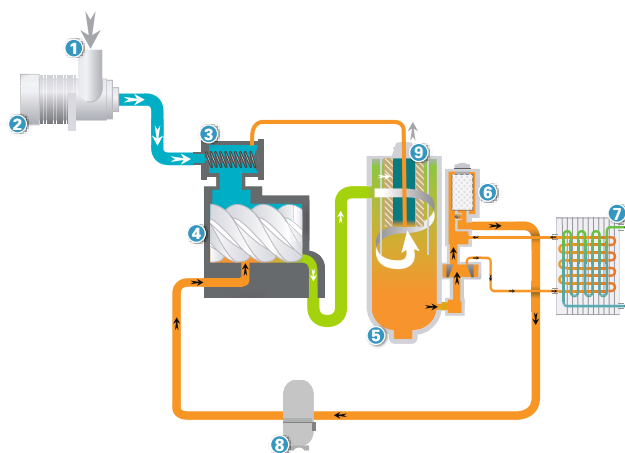
When the GHS 1200-4800 vacuum pump is delivering performance greater than that required by the process, significant energy savings can be achieved. With other technologies, this excess capacity is normally wasted by 'bleeding off' or running at a slightly higher vacuum level than is needed. The GHS 1200-4800 save energy in falling demand conditions by progressively lowering the pressure level at the pump inlet to below that experienced at the process. This happens automatically without the need to adjust machine settings. It also suppresses unnecessary stops/starts whilst catering for continuous fluctuations in demand, thereby minimizing wear. The result is longer life and less maintenance.

FLOW CHARTS

GHS air-cooled



GHS water-cooled



Air Flow

1. Inlet
2. Inlet filter

3. Modulating control valve
4. Vacuum stage = screw element

5. Oil mist separator
6. Oil filters

7. Oil cooler
8. Oil pump

9. Vent

Intake air

Air/oil mixture

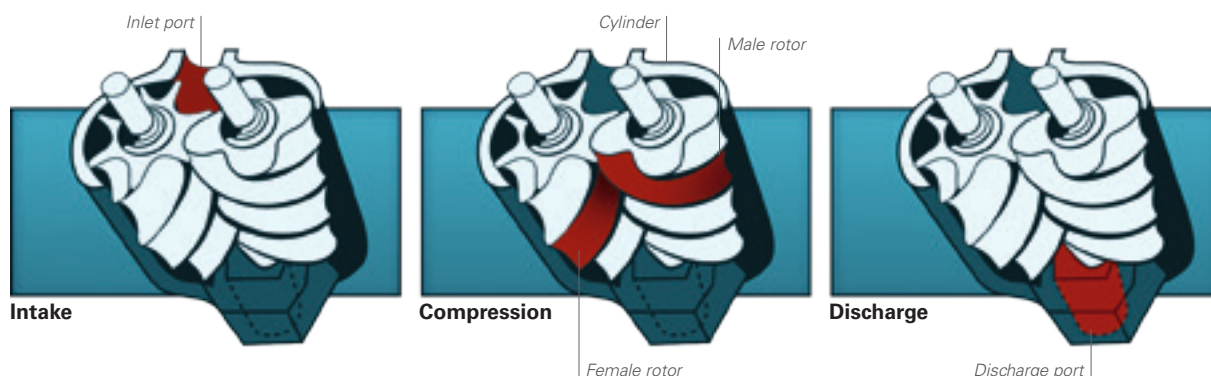
Oil

Water

Vent

Working principle

As the rotors turn, air is drawn into the rotor housing through the inlet port. Air is then trapped as the inlet port is closed off. As rotation continues, the air is conveyed to the discharge side and forced out of the discharge port. Oil is present within the twin screw stage to lubricate, seal and cool the wetted parts. This oil is separated from the air within the oil mist separator before being discharged to the atmosphere. The compression cycle of a rotary vacuum pump is a continuous process and is therefore relatively pulsation free.

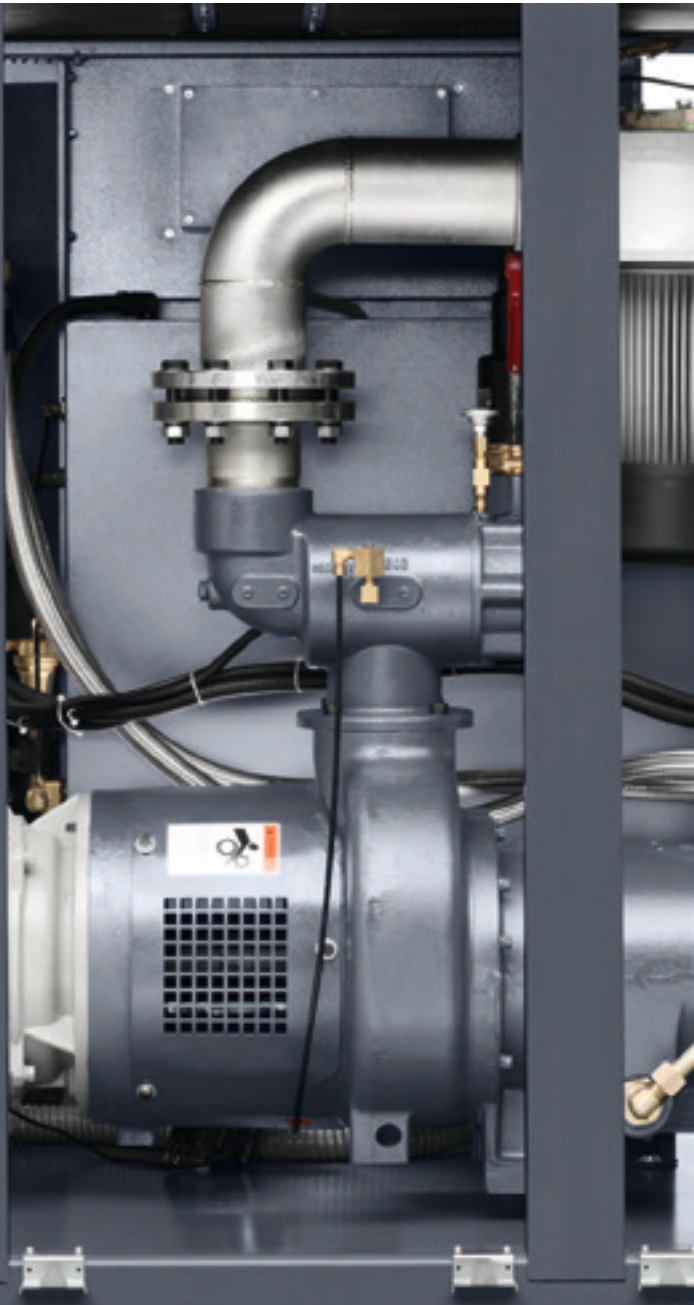


The oil mist separator (eliminator) has the function of retaining oil within the vacuum pump oil reservoir and allowing the evacuated air to be cleanly and safely discharged to the atmosphere. The process takes place in a number of stages which firstly separate out the 'heavier' oil components, by cyclonic separation, then pre-filtration and finally coalescence. Here small droplets and mists are combined into large droplets which fall by gravity back to the oil reservoir.

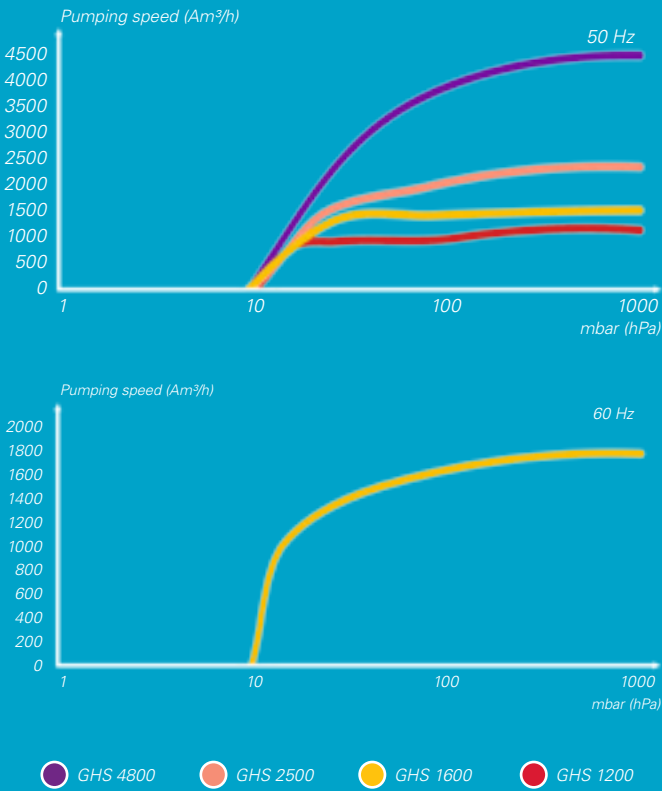
AVAILABLE ACCESSORIES & OPTIONS

	GHS 1200	GHS 1600	GHS 2500	GHS 4800
Liquid separators	•	•	•	•
Inlet filters	✓	✓	•	•
Vacuum tanks	•	•	•	•
Check valves & isolation valves	•	•	•	•
Vacuum gauges	•	•	•	•
Multiple pump controllers	•	•	•	•
Air-cooled	✓	✓	✓	✓
Water-cooled	•	•	•	•
Phase sequence protection	•	•	•	•
Vacuum oil PG plus for extended duty	•	•	•	•
Food grade oil	•	•	•	•

✓ : Standard • : Optional - : Not available



Performance curves



Pump performance measured at the inlet pressure and 20°C. Accuracy is +/- 10%.

TECHNICAL SPECIFICATIONS GHS 1200-4800

MODEL 50 Hz version	Maximum shaft power				Pumping speed		Ultimate pressure		Inlet connector	Dimensions (L x W x H)	Weight	
	Air-cooled		Water-cooled		m³/h	cfm	mbar (hPa)	torr		mm	kg	lbs
	kW	hp	kW	hp								
GHS 1200	23.9	32	24.03	32.2	1126	662	10	7.5	DN 125	2040 x 1280 x 1480	1439	3164
GHS 1600	42.7	57.3	41.45	55.6	1601	942	10	7.5	DN 125	2560 x 1710 x 1970	2471	5434
GHS 2500	56.1	75.2	54.85	73.5	2432	1431	10	7.5	DN 200	2560 x 1710 x 1970	2707	5953
GHS 4800	121.2	162.5	118.87	159.4	4778	2812	10	7.5	DN 200	2990 x 1990 x 2000	4277	9405

MODEL 60 Hz version	Maximum shaft power				Pumping speed		Ultimate pressure		Inlet connector	Dimensions (L x W x H)	Weight	
	Air-cooled		Water-cooled		m³/h	cfm	mbar (hPa)	torr		mm	kg	lbs
	kW	hp	kW	hp								
GHS 1600	51.65	69.2	50.4	67.6	1665	980	10	7.5	DN 125	2560 x 1710 x 1970	2471	5434







COMMITTED TO SUSTAINABLE PRODUCTIVITY

We stand by our responsibilities towards our customers, towards the environment and the people around us. We make performance stand the test of time. This is what we call – Sustainable Productivity.

www.atlascopco.com/vacuum

