

# Atlas Copco

Oil-sealed rotary screw vacuum pumps

GV 630-4800, 557-5734 m<sup>3</sup>/h, 328-3377 cfm



*Sustainable Productivity*

**Atlas Copco**



# 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 GV 630-4800 series of oil-sealed rotary screw vacuum pumps. Providing around 5000 m<sup>3</sup>/h of vacuum pumping performance across six models, the GV series is ideal for critical applications in printing, electronics, plastics, packaging, woodworking, bottling, canning and similar exacting industries.

## Robust technology

The GV 630-4800 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 GV 630-4800 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

GV 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.



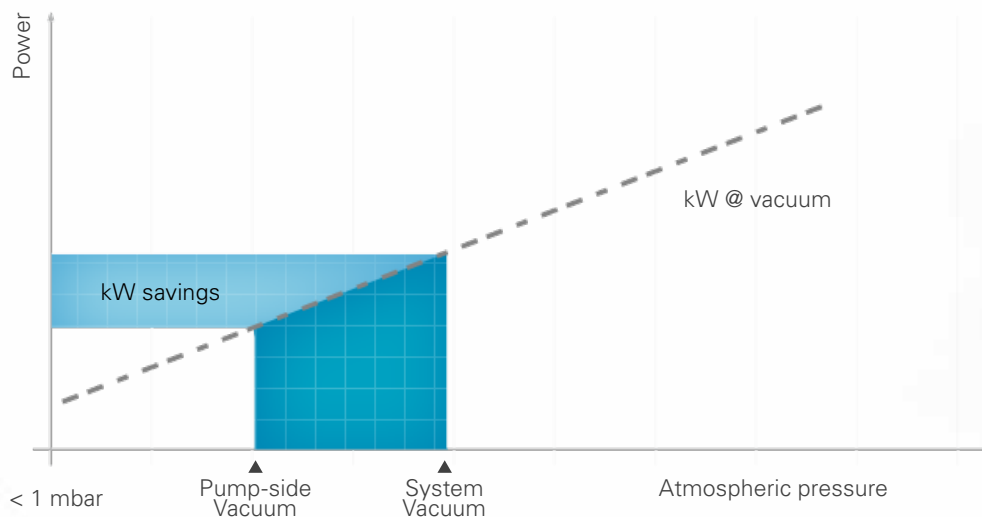
# Optimum vacuum control

All GV 630-4800 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 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.
- Minimal fluctuations in system vacuum level.
- Reduced wear and maintenance, as a result of fewer stops/starts.



## SIGNIFICANT ENERGY SAVINGS

When the GV 630-4800 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 GV 630-4800 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.



Control valve



Controller

# State-of-the-art, reliable vacuum technology

1



## Slow screw speed

- Ensuring that GV 630-4800 vacuum pumps are extremely quiet – from 69 dB(A) – so can be located alongside your machine in areas where people work.
- Guaranteeing high reliability and extreme durability.

2



## Generously matched motors

GV 630-4800 vacuum pumps are durable, highly reliable and fitted with generously rated motors making them last a lifetime.

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

## Lift-out panels

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



5



## Sound-insulated canopy

- Reducing sound levels to as low as 69 dB(A).
- Enhancing the appearance of the vacuum pump.

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.



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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.

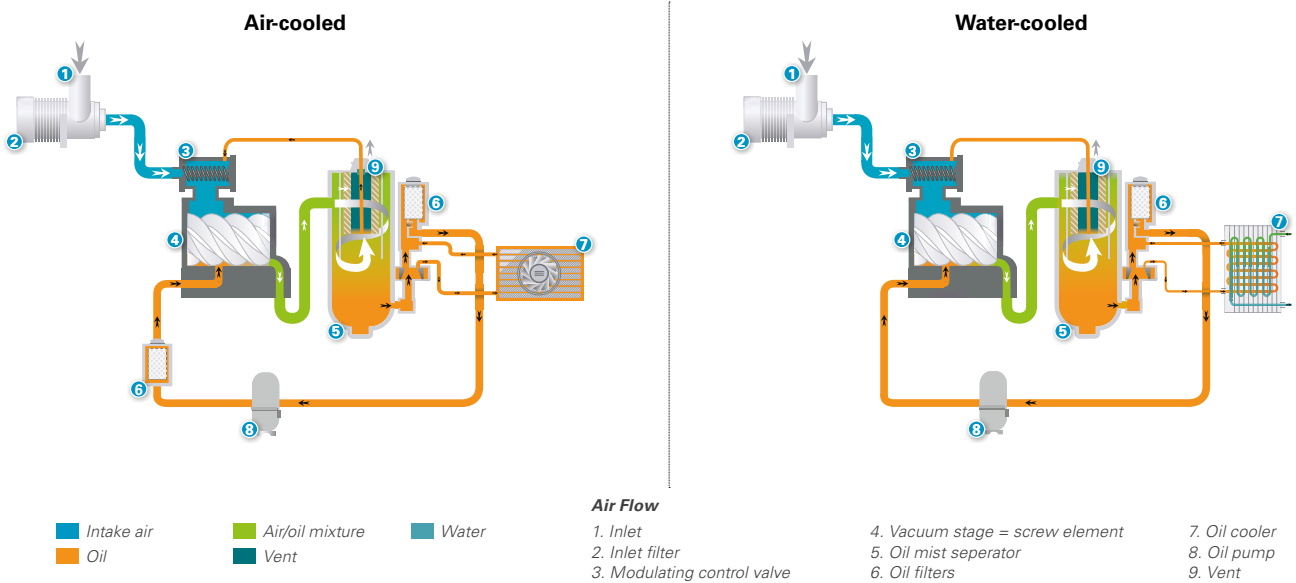
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### Modulating valve fitted directly to pump inlet

- 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.

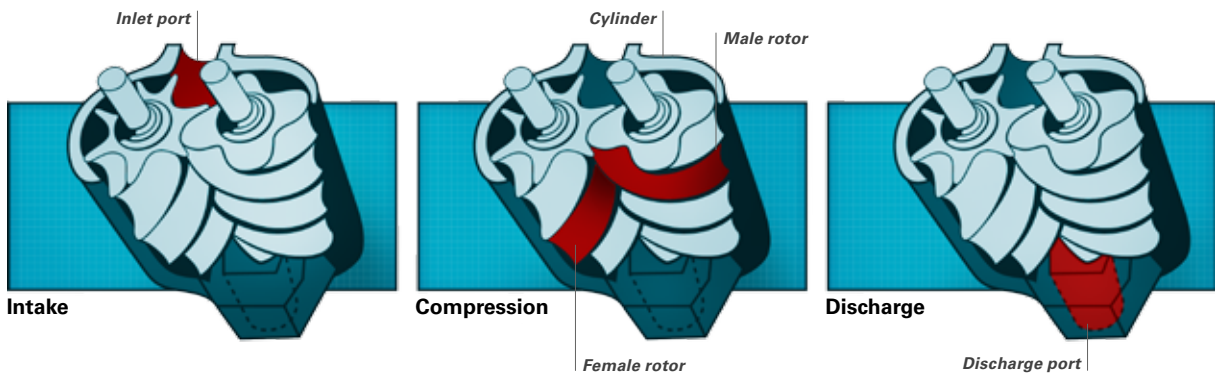
# Flow charts (air-cooled / water-cooled)



## 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.

# TECHNICAL SPECIFICATIONS GV 630-4800

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								
GV 630	10.1	13.5	9.8	13.1	557	328	0.7	0.5	DN100	2040 x 1280 x 1480	1070	2355
GV 1000	20.4	27.4	20.2	27.1	863	508	0.7	0.5	DN100	2040 x 1280 x 1480	1105	2430
GV 1200	30.8	41.3	30.5	40.9	1126	663	0.7	0.5	DN125	2040 x 1280 x 1480	1105	2430
GV 1600	41.4	55.5	39.8	53.4	1601	942	0.7	0.5	DN125	2560 x 1710 x 1970	1805	3970
GV 2500	58.2	78.1	56.5	75.8	2432	1432	0.7	0.5	DN200	2560 x 1710 x 1970	2860	6290
GV 4800	118.5	159.9	115.8	155.3	4778	2814	0.7	0.5	DN200	2990 x 1990 x 2000	3680	8100

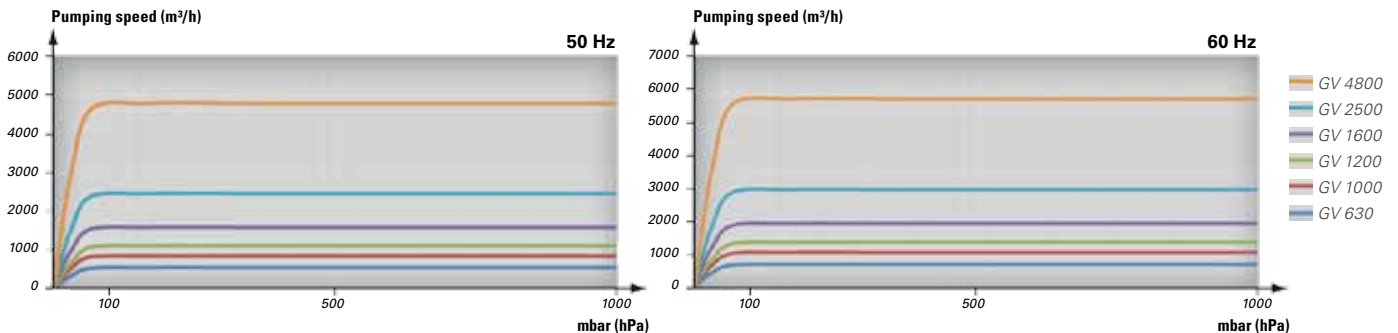
MODEL 60 Hz version	Maximum shaft power				Pumping speed		Ultimate pressure		Inlet connector	Dimensions (L x W x H)	Weight	
	Air-cooled		Water-cooled		m³/h	cfm	mbar (hPa)	torr		mm	kg	lbs
	kW	hp	kW	hp								
GV 630	11.7	15.7	11.3	15.2	668	393	0.7	0.5	DN100	2040 x 1280 x 1480	1080	2370
GV 1000	22.1	29.6	21.7	29.1	1036	610	0.7	0.5	DN100	2040 x 1280 x 1480	1115	2450
GV 1200	37.4	50.1	36.0	48.3	1351	796	0.7	0.5	DN125	2040 x 1280 x 1480	1130	2480
GV 1600	49.5	66.4	48.6	65.2	1921	1131	0.7	0.5	DN125	2560 x 1710 x 1970	1820	4000
GV 2500	69.1	92.7	67.5	90.5	2918	1719	0.7	0.5	DN200	2560 x 1710 x 1970	2885	6350
GV 4800	142.6	191.2	140.3	188.2	5734	3377	0.7	0.5	DN200	2990 x 1990 x 2000	3680	8100

## AVAILABLE ACCESSORIES & OPTIONS

		GV 630	GV 1000	GV 1200	GV 1600	GV 2500	GV 4800
Accessories	Liquid separators	○	○	○	○	○	○
	Inlet filters	✓	✓	✓	✓	○	○
	Vacuum tank/receivers	○	○	○	○	○	○
	Check valves & pump isolation valves	○	○	○	○	○	○
	Vacuum gauges (various types & ranges)	○	○	○	○	○	○
	Multiple pump controllers	○	○	○	○	○	○
Options	Air-cooled	○	○	○	○	○	○
	Water-cooled	○	○	○	○	○	○
	Phase sequence protection	○	○	○	○	○	○
	Increased water handling capability	○	○	○	○	○	○
	Vacuum oil PG	✓	✓	✓	✓	✓	✓
	Vacuum oil PG plus for extended duty	○	○	○	○	○	○
	Food grade oil	○	○	○	○	○	○

✓: Standard    ○: Optional

## PERFORMANCE CURVES



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



### **Driven by innovation**

With more than 135 years of innovation and experience, Atlas Copco will deliver the products and services to help maximize your company's efficiency and productivity. As an industry leader, we are dedicated to offering high air quality at the lowest possible cost of ownership. Through continuous innovation, we strive to safeguard your bottom line and bring you peace of mind.



### **Building on interaction**

As part of our long-term relationship with our customers, we have accumulated extensive knowledge of a wide diversity of processes, needs and objectives. This gives us the flexibility to adapt and efficiently produce customized compressed air solutions that meet and exceed your expectations.



### **A committed business partner**

With a presence in over 170 countries, we will deliver high-quality customer service anywhere, anytime. Our highly skilled technicians are available 24/7 and are supported by an efficient logistics organization, ensuring fast delivery of genuine spare parts when you need them. We are committed to providing the best possible know-how and technology to help your company produce, grow, and succeed. With Atlas Copco you can rest assured that your superior productivity is our first concern!



[www.atlascopco.com/vacuum](http://www.atlascopco.com/vacuum)