Oil-injected rotary screw compressors

GA 5-37 VSD^{S} (5-37 kW/7-50 hp)

Innovating for a sustainable future

At Atlas Copco, we have always looked ahead. Which products and services will make our customers more successful? Your future drives the Atlas Copco team every day. It is the reason why we devote so much time and so many resources to innovation. If there are technologies that will advance your productivity, we will find them. That is what we have been doing for almost 150 years now, setting new standards in compressed air reliability, efficiency, connectivity, and sustainability.

It's that last principle that now comes first. Sustainability is no longer something we should strive for, but something we must achieve. Productivity and growth will have to be built on sustainability. Atlas Copco – our products, our services, and our people – will help you get there, as we always have.

The technology that drives sustainability

FASR motor

The VSD^{S} Ferrite-Assisted Synchronous Reluctance motor is a compressor exclusive: IE5 efficiency and built without rare earth materials.

Neos Next

The inverter that is crucial in generating up to 60% energy savings and a significantly smaller environmental footprint.

Energy recovery

Developed in-house, the VSD^{S} energy recovery system gives you additional energy savings by recovering and re-using up to 80% of the heat the compressor produces.

GA 5-37 VSD^S
The compressor for a new generation

Atlas Copco's first-generation Variable Speed Drive compressors gave you up to 35% energy savings. Our VSD$^+$ achieved 50%. Now, the GA VSD^S raises the bar once again with energy savings of up to 60%. This is the new GA 5-37 VSD^S, developed and built for a generation that wants it all.

VSD^S

Sustainability

- Double-digit reductions in energy use lower your emissions considerably.
- Limited use of rare earth materials.

Savings

- Reduced energy consumption by up to 60% (compared to our GA fixed-speed models).
- Additional energy savings with up to 80% heat recovery.
- Advanced connectivity features maximize efficiency.

Strong performance

- **20% Free Air Delivery (FAD) increase** on average compared to our GA fixed-speed units.
- FASR motor equals **IE5** standards.
- Inverter and motor exceed IES2 (EN 50598) requirements, matching the highest ratings.

Smart features

- Smart Temperature Control System ensures optimal oil temperature and injection.
- Boost Flow Mode allows you to temporarily exceed maximum compressor capacity.
- Intelligent drains limit energy use and service intervals.

Superior connectivity

- Advanced Elektronikon® Touch controller.
- **SMART**LINK real-time, remote monitoring and optimization.
- EQ2i multiple compressor control.
- OPC UA available for production system integration.

Small & silent

- Sound levels as low as 62 dB allow for placement on your production floor.
- Extremely small footprint ensures easy, flexible installation.
- An innovative side-mounted 200l vessel provides air storage while keeping the compressor's footprint very compact (GA 5-11 VSD^S).

VSD^{S}

The compressor re-invented

1 New drive train

- Designed according to IP66.
- New high-efficiency element.
- Ferrite-Assisted Synchronous Reluctance motor equals IE5 standards.
- Oil-cooled for maximum efficiency.
- No gears or belts means no transmission losses.

2 Neos Next inverter

- Combines the functionality of an entire electrical cubicle in one compact unit.
- IP54-protected from dust and dirt.
- Inverter and FASR motor exceed IES2 (EN 50598) requirements for power drive efficiency.

3 VSD fan

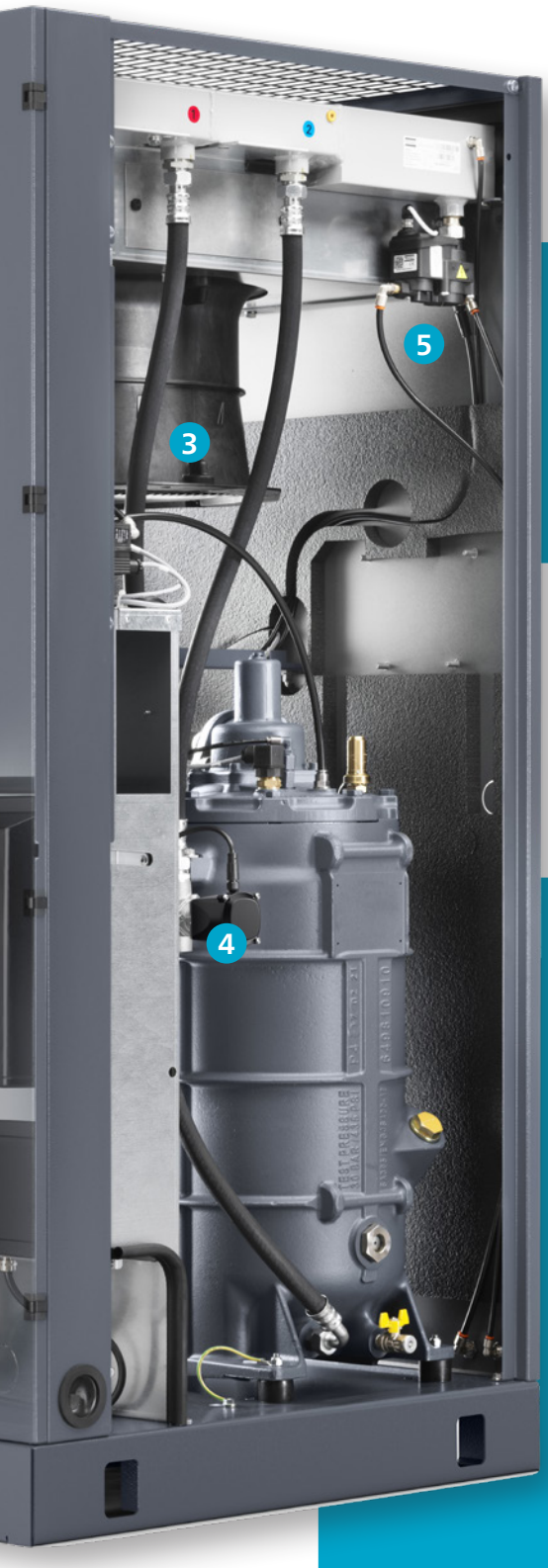
- Variable speed.
- Low vibrations and noise.
- Reduced cooling needs.
- Meets ERP2020.

4 Smart Thermostatic Control Valve

- Maintenance-free.
- Routes the oil via the coolers to achieve the ideal injection temperature.

5 Intelligent no-loss drain

- Ensures the automatic removal of condensate to minimize loss of compressed air.
- Tracks drain cycles and maintenance schedule.
- Detects potential issues and transmits warnings to controller.



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Elektronikon Touch controller

- High-tech controller with warning indications, compressor shutdown and maintenance scheduling.
- Easy to use and designed to perform in the toughest conditions.
- Standard **SMART**LINK remote monitoring to maximize air system performance and energy savings.

Energy recovery

As much as 90% of the electrical energy used by a compressed air system is converted into heat. Don't let that heat go to waste. A specifically developed energy recovery system can be built into your GA VSD^{S}, allowing you to recover up to 80% of that power input as hot water (e.g.: changing room showers).

7

EQ2i

Multiple compressor control integrated as standard.

8

Inlet filter

- Developed especially for VSD^{S}.
- Enhanced filtration efficiency.
- Ensures lower pressure drop.

Exclusive features that make a difference

Smart Temperature Control System

Thanks to its Smart Temperature Control System, the GA VSD^{S} is the first compressor to offer full injection control to eliminate the risk of condensation and maximize compression efficiency. An advanced algorithm in the Elektronikon controller combines multiple operational parameters to calculate the optimal oil temperature, which the Neos Next implements by regulating the VSD fan and the STC valve.

Boost Flow Mode

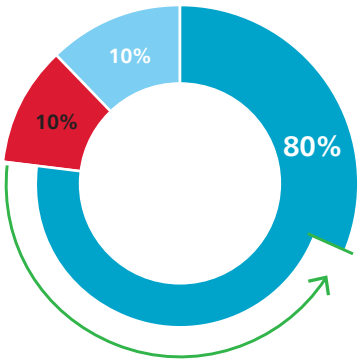
With other compressors, exceeding the maximum capacity means loss of pressure and equipment operation, and possibly a production shutdown. The GA VSD^{S} comes with Boost Flow Mode, allowing you to temporarily stretch the limit of your compressor without negative operational or reliability consequences.

A new generation of savings and sustainability

VSD^S is the third generation of Atlas Copco's VSD technology. It continues a proud tradition of ground-breaking energy savings with up to 60% lower energy use compared to GA fixed-speed models. But the VSD^S is more than the most energy-efficient compressor on the market today. It is a comprehensive re-invention of VSD technology that allows for true production sustainability.

Energy matters

The true cost of owning a compressor – both financially and in terms of sustainability – lies in its energy use. After all, energy takes up 80% of the lifetime cost of a compressor. That makes efficiency the number one requirement to reduce your operational costs and environmental footprint in a meaningful way.



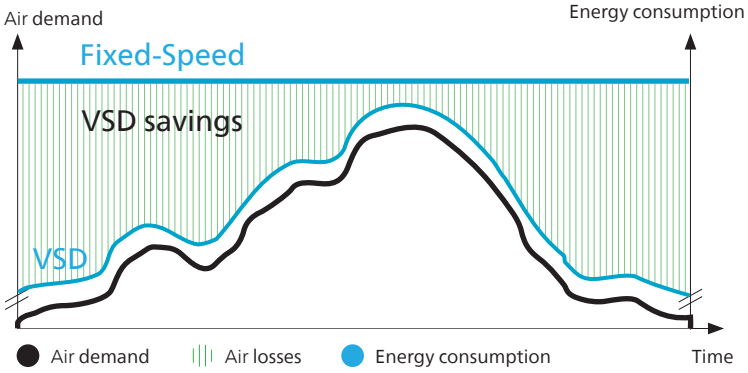
up to
60%
energy savings

Total compressor lifecycle cost

- Energy
- Energy savings with VSD^S
- Investment
- Maintenance

Fixed-speed: unadaptable energy use

Traditional fixed-speed compressors only have one speed, 100% on. The result is a lot of wasted energy when your demand is lower.



VSD: energy use follows fluctuating demand

Atlas Copco Variable Speed Drive compressors have an inverter that allows them to adjust their motor speed to match the air demand to give you unprecedented energy savings:

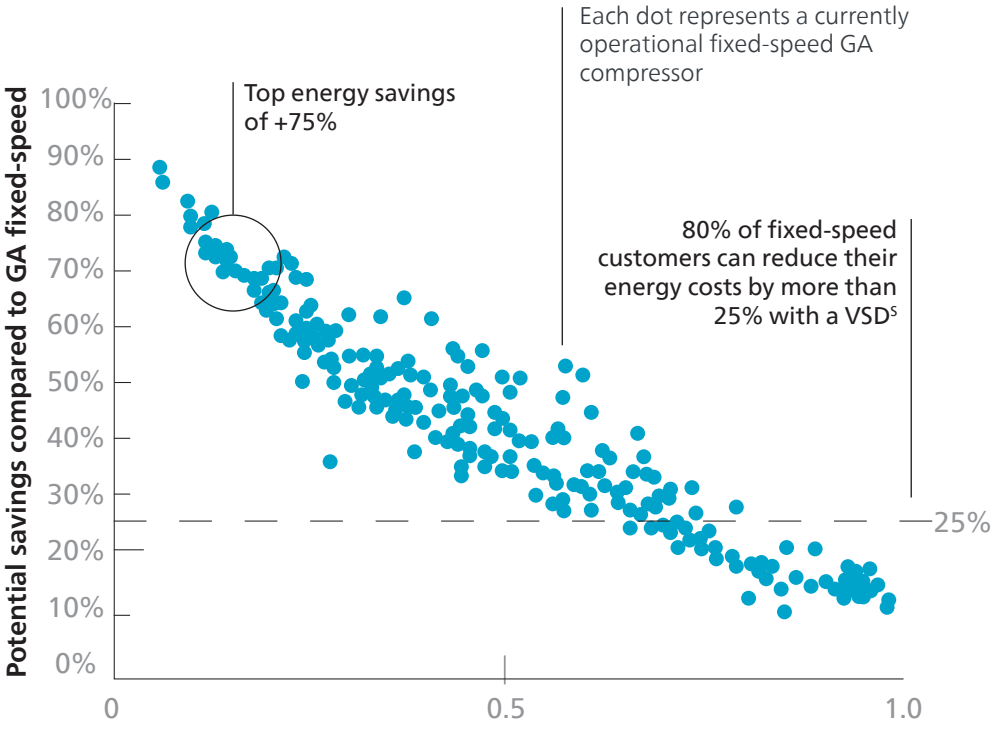
- Elektronikon Touch controls the high-efficiency Neos Next inverter and the motor speed to lower energy use.
- No wasted idling time or blow-off losses during operation.
- Compressor can start/stop under system pressure without the need to unload.
- Eliminates peak current penalty during start-up.
- Minimizes system leakage due to a lower system pressure.
- EMC compliance to directives (2004/108/EG).

VSD^S

Real-life savings

How much can you save with VSD^S? We took real-life customer data and compared the energy use of their gear-driven fixed-speed models with the performance a GA VSD^S could give them.

The vertical axis shows how much each fixed-speed GA customer could save by switching to a GA VSD^S



Potential savings compared to GA fixed-speed

22 kW, 7 bar example based on real customer data

What is your load ratio?

The load ratio used in this graph reflects how much, out of its total time running, the compressor is actually producing air at full speed. If you have a fixed-speed compressor, a low load ratio indicates significant energy waste: the machine spends a lot of time using energy without producing air at maximum capacity. As a result, customers operating a fixed-speed unit with a lower load ratio can save even more on energy costs with a VSD^S.

The power of numbers

So the GA VSD^S offers double-digit energy savings. What does that mean, really? Take the GA 22 VSD^S versus a fixed-speed GA 22 with the same fluctuating load profile, running 16 hours a day/5 days per week/48 weeks a year:

4161 €*

Yearly energy savings

13.9 tonnes CO_2

Yearly emissions savings

* With cost of energy 0.15 cent/kWh. CO_2 factor of 0.5kg CO_2/kWh.

AIRchitect

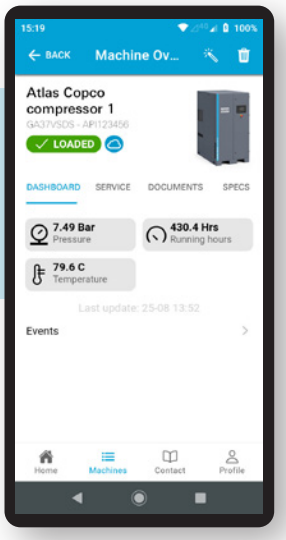
Calculate your own savings

Want to find out how much you can save? Your Atlas Copco representative can calculate your savings for you with AIRchitect. Or simply use our online simulation tool on the Atlas Copco web site.

As connected as you will be

When it comes to connectivity, manufacturing equipment has long lagged behind. Not Atlas Copco. Our compressed air systems helped pave the way for Industry 4.0. We never stopped developing innovative features and introducing new options to help our customers meet their operational goals.

SMART LINK



Connect

SMARTLINK

- Real-time monitoring of your compressor's operational parameters on your computer or mobile device.
- Performance data and insights identify opportunities for optimization.
- Service timeline.
- Maintenance and service alerts.
- Online resource center with manuals, documentation and technical information.

Control

Elektronikon Touch

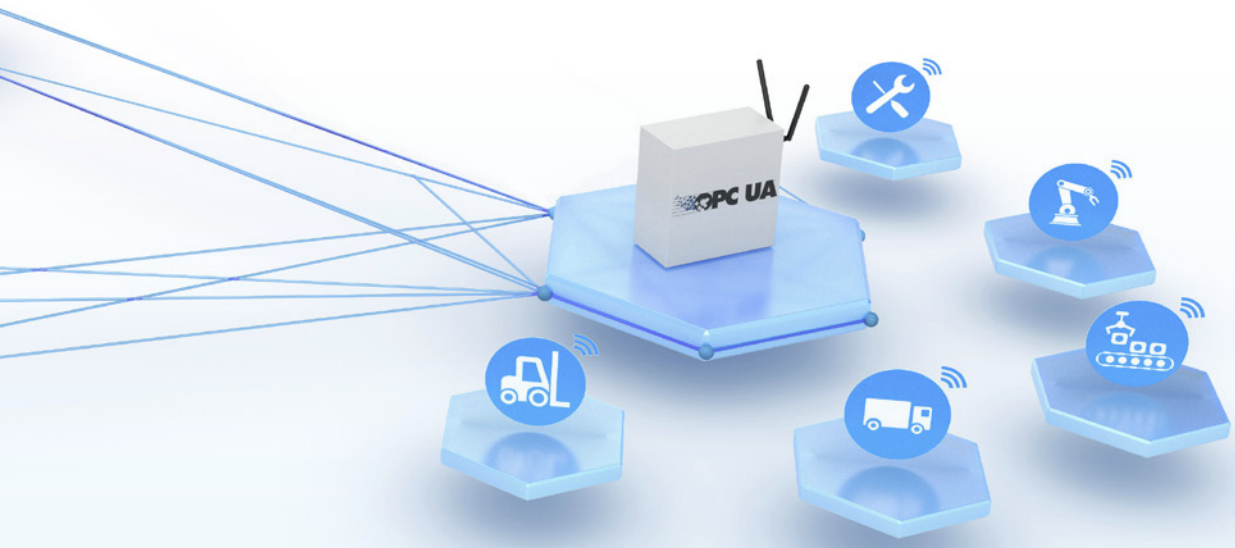
The Elektronikon Touch features a 4.3-inch user-friendly, multilingual display with clear pictograms and a service indicator. The operating system offers a host of control and monitoring options and smart algorithms to optimize your compressor performance. Customized timers and efficiency controls are just a few examples.

Manage

Equalizer 4.0

Manage up to 6 compressors in one air network with the Equalizer 4.0 (integrated in your compressor or as a standalone unit):

- **Reduced pressure band:** Create a narrow, predefined pressure band to save energy.
- **Optimal system performance:** Program all compressors to have equal running hours to reduce service intervals.
- **Improve reliability and efficiency:** With actionable performance reports, service warnings, and energy efficiency data.
- **Standard multiple compressor control:** VSD^{S} units come as standard with a built-in EQ2i, allowing the control of a second compressor.



Optimize

OPC UA enabled

Atlas Copco was the first compressor manufacturer to offer OPC UA, the machine-to-machine communication protocol that was developed especially for industrial automation. That means you can integrate your Atlas Copco compressor seamlessly in your production network:

- Standardization of production equipment communication.
- Insight into production system performance and optimization options on your production floor.
- Network security thanks to various encryption levels, authentication, auditing, and user control to ensure security.

Built-in quality air

Untreated compressed air contains moisture, aerosols and dirt that increase the risk of corrosion and compressed air system leaks. This can result in a damaged air system and contaminated end products. The GA 5-37 VSD^S comes in a Full Feature version with a built-in refrigerant dryer. It provides the clean, dry air that improves your system's reliability, avoids costly downtime, and safeguards the quality of your products.

- Pressure dewpoint of 3°C/37.4°F (100% relative humidity at 20°C/68°F).
- Heat exchanger cross-flow technology with low pressure drop.
- Zero waste of compressed air thanks to no-loss condensate drain.
- Zero ozone depletion.
- Global warming potential has been lowered by an average of 50% by reducing the amount of refrigerant.

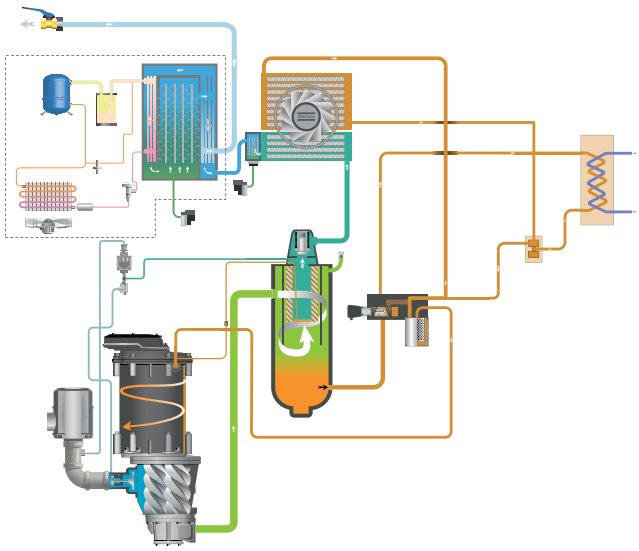
The GA 5-37 VSD^S with built-in dryer and UD+ filter meets ISO 8573-1 Quality Class 1.4.2.

Purity class	Solid particles			Water		Total oil*
	Number of particles per m³			Pressure dewpoint		Concentration
	0.1 < d ≤ 0.5 µm**	0.5 < d ≤ 1.0 µm**	1.0 < d ≤ 5.0 µm**	°C	°F	mg/m³
0	As specified by the equipment user or supplier and more stringent than Class 1.					
1	≤ 20000	≤ 400	≤ 10	≤ -70	≤ -94	≤ 0.01
2	≤ 400000	≤ 6000	≤ 100	≤ -40	≤ -40	≤ 0.1
3	-	≤ 90000	≤ 1000	≤ -20	≤ -4	≤ 1
4	-	-	≤ 10000	≤ 3	≤ 37.4	≤ 5
5	-	-	≤ 100000	≤ 7	≤ 44.6	-
6		≤ 5 mg/m³		≤ 10	≤ 50	-

* Liquid, aerosol and vapor. ** d= diameter of the particle.

Flow chart

- Compressed air without free water
- Wet compressed air
- Condensate
- Dry compressed air
- Intake air
- Air/oil mixture
- Oil



Technical specifications GA 5-37 VSD^S

Compressor type	Max. working pressure		Capacity FAD* min-max			Installed motor power		Noise level**	Weight (kg)	
	bar(e)	psig	l/s	m³/h	cfm	kW	hp	dB(A)	Pack	Full Feature
GA 5 VSD^S	4	58	6.9-19.1	24.8-68.8	14.6-40.5	5.5	7.5	62	240	330
	7	102	6.6-19.1	23.8-68.8	14.0-40.5	5.5	7.5	62	240	330
	10	147	6.1-15.3	22.0-55.1	12.9-32.4	5.5	7.5	62	240	330
	13	191	6.0-11.6	21.6-41.8	12.7-24.6	5.5	7.5	62	240	330
GA 7 VSD^S	4	58	6.7-23.0	24.1-82.8	14.2-48.7	7.5	10	62	241	331
	7	102	6.4-22.6	23.0-81.4	13.6-47.9	7.5	10	62	241	331
	10	147	5.9-18.6	21.2-67.0	12.5-39.4	7.5	10	62	241	331
	13	191	5.8-14.7	20.9-52.9	12.3-31.1	7.5	10	62	241	331
GA 11 VSD^S	4	58	15.3-38.8	55.1-139.7	32.4-82.2	11	15	67	318	408
	7	102	13.8-38.2	49.7-137.5	29.2-80.9	11	15	67	318	408
	10	147	6.4-32.3	23.0-116.3	13.6-68.4	11	15	67	253	343
	13	191	6.3-26.6	22.7-95.8	13.3-56.4	11	15	67	253	343
GA 15 VSD^S	4	58	15.3-50.3	55.1-181.1	32.4-106.6	15	20	69	319	442
	7	102	13.8-49.9	49.7-179.6	29.2-105.7	15	20	69	319	442
	10	147	12.5-41.1	45.0-148.0	26.5-87.1	15	20	69	319	442
	13	191	6.3-32.4	22.7-116.6	13.3-68.7	15	20	69	252	376
GA 18 VSD^S	4	58	15.3-67.0	55.1-241.2	32.4-142.0	18	25	69	328	452
	7	102	13.8-65.2	49.7-234.7	29.2-138.2	18	25	69	328	452
	10	147	12.5-55.4	45.0-199.4	26.5-117.4	18	25	69	328	452
	13	191	11.3-46.4	40.7-167.0	23.9-98.3	18	25	69	328	452
GA 22 VSD^S	4	58	15.9-84.5	57.3-304.0	33.7-178.9	22	30	63	458	587
	7	102	16.2-83.3	58.2-299.7	34.3-176.4	22	30	63	458	587
	10	147	16.2-65.9	58.2-237.2	34.3-139.6	22	30	63	458	587
	13	191	15.7-56.3	56.4-202.5	33.2-119.2	22	30	63	458	587
GA 26 VSD^S	4	58	15.9-98.1	57.3-353.1	33.7-207.8	26	35	66	463	604
	7	102	16.2-96.8	58.2-348.6	34.3-205.2	26	35	66	463	604
	10	147	16.2-81.3	58.2-292.6	34.3-172.2	26	35	66	463	604
	13	191	15.8-68.2	57.0-245.3	33.5-144.4	26	35	66	463	604
GA 30 VSD^S	4	58	15.9-110.5	57.3-397.7	33.7-234.1	30	40	67	476	616
	7	102	16.2-109.2	58.2-393.1	34.3-231.4	30	40	67	476	616
	10	147	16.2-88.1	58.2-317.1	34.3-186.6	30	40	67	476	616
	13	191	15.8-74.2	57.0-267.1	33.5-157.2	30	40	67	476	616
GA 37 VSD^S	4	58	15.7-130.8	56.5-470.7	33.2-277.0	37	50	71	480	621
	7	102	15.7-129.4	56.4-465.7	33.2-274.1	37	50	71	480	621
	10	147	15.7-110.8	56.4-398.8	33.2-234.8	37	50	71	480	621
	13	191	16.0-94.2	57.7-338.9	34.0-199.5	37	50	71	480	621

* Unit performance measured according ISO 1217 ed. 4 2009, annex E, latest edition.
** Mean noise level measured at a distance of 1 m at max. working pressure according to ISO 2151: 2004 using ISO 9614/2 (sound intensity method); tolerance 3 dB(A).

FAD is measured at the following effective working pressures:
4 bar(e), 7 bar(e), 10 bar(e), 13 bar(e)

Maximum working pressure:
10 bar(e) (147 psig) or 13 bar(e) (191 psig)

Reference conditions:
- Absolute inlet pressure 1 bar (14.5 psi)
- Intake air temperature 20°C/68°F

Dimensions

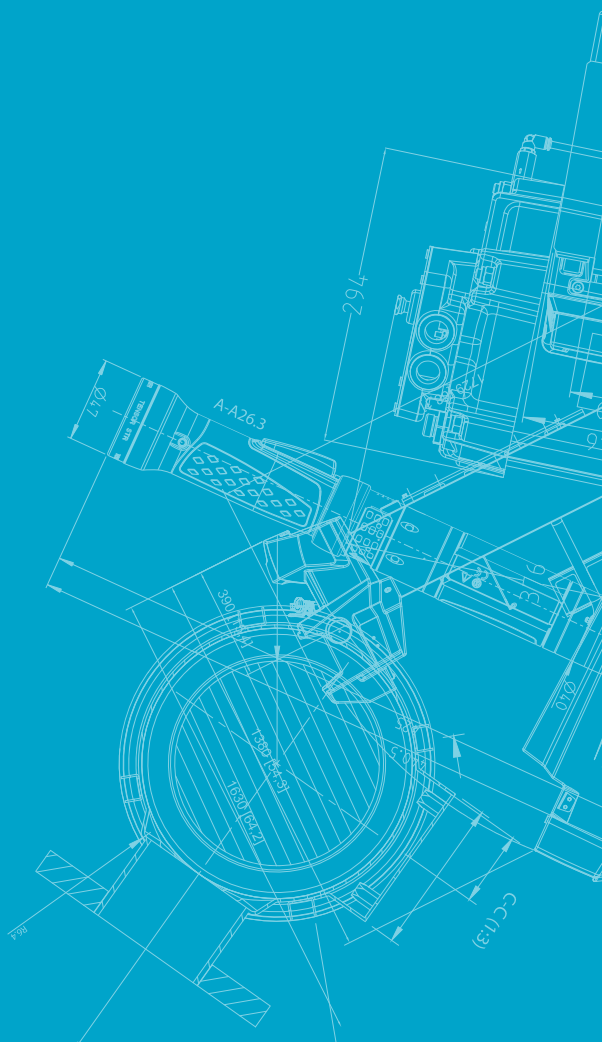
Pack	Dimensions (A x B x C)	
	mm	in
GA 5-11 VSD^S TM	700 x 1200 x 1630	27.56 x 47.24 x 64.17
GA 5-18 VSD^S	700 x 700 x 1495	27.56 x 27.56 x 58.86
GA 22-37 VSD^S	870 x 844 x 1725	34.25 x 33.22 x 67.91

Full Feature	Dimensions (A x B x C)	
	mm	in
GA 5-11 VSD^S TM	700 x 1595 x 1630	27.56 x 62.80 x 64.17
GA 5-11 VSD^S	700 x 1095 x 1495	27.56 x 43.11 x 58.86
GA 15-18 VSD^S	700 x 1200 x 1495	27.56 x 47.24 x 58.86
GA 37 VSD^S FF	870 x 1330 x 1725	34.25 x 52.36 x 67.91

A= Width, B= Depth, C= Height

Options

- Energy recovery
- Dryer bypass
- Main switch
- Freeze protection
- Heavy duty inlet filter
- Pre-filter
- IT ancillaries
- DD filter
- FoodGrade oil
- UD+ filter
- Roto Synthetic Xtend oil
- EQ4i, EQ6i
- OPC UA gateway
- Power duct fan
- High ambient version



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