# **Atlas Copco**

# Oil-injected Rotary Screw Compressors



**GA 90<sup>+</sup>-160<sup>+</sup> / GA 132-160 VSD** 90-160 kW / 125-200 hp







# Total capability, total responsibility

Right at the heart of your business, Atlas Copco delivers quality compressed air for superior operational capacity. From compressed air generation to point of use, you can choose from our wide range of products to create a complete compressed air system tailored to your specific needs. All Atlas Copco products are engineered to integrate seamlessly, ensuring the highest level of reliability and energy efficiency. As a result, Atlas Copco can take full responsibility for your compressed air infrastructure with a guarantee of best-in-class quality. With a global presence in over 150 countries, we can provide an unrivalled service to maintain and continually improve your compressed air system performance.

Backed by 100 years at the forefront of compressed air, Atlas Copco products offer the finest quality and efficiency. Our goal is to be First in Mind—First in Choice®. That is why Atlas Copco's pursuit of innovation never ceases, driven by the dedication to meet and exceed your demands. Always working with you, we are committed to providing the customized air solution that is the driving force behind your business.

We are committed to your superior productivity through interaction and innovation.

# Powerful efficiency



### **CHOICE**

Atlas Copco masters every principle of your air system and offers the most energy-efficient solution for each application.



### **TAILORING**

At Atlas Copco we offer the industry's broadest portfolio of offerings to help you achieve the most efficient compressed air system for your needs, and optimize your production process at the same time.



### **FOLLOW-UP**

Tailored service contracts and state-of-the-art add-ons make sure you get the right maintenance, immediate response and genuine spare parts – anywhere in the world.



### **BUILT TO LAST**

Every GA is designed, manufactured and tested to comply with ISO 9001, ISO 14001 and ISO 1217 stipulations. It uses the latest generation of Atlas Copco's patented oil-injected screw element, ensuring a long and trouble-free life at the lowest possible operating cost. Engineered for reliable service, even in ambient temperatures up to 55°C/131°F and very harsh environmental circumstances, the GA takes reliability to a new level.



### **DRIVING DOWN ENERGY COSTS**

The cost of compressed air can represent over 40% of your total electrical costs. The GA compressor range achieves a new standard in energy efficiency, helping you spend less. With the addition of VSD (Variable Speed Drive) you can reduce costs by an additional average of 35%. By tuning compressor capacity to fluctuating air demand we can also reduce overall compressor lifecycle costs (LCC) by an average of 22%. The impact on the environment is considerable, reflecting Atlas Copco's commitment to a safe, healthy world for future generations.



### **EASY INSTALLATION AND MAINTENANCE**

GA compressors are delivered ready to use and designed for trouble-free maintenance. The oil and air filters are easily accessible and cooler cleaning procedures are simple. The GA Full Feature (FF) compressor range with its integrated air treatment equipment reduces your installation costs even further, and leaves you the space you need for your application to run.



### PROTECTING YOUR PRODUCTION

Clean dry air expands the lifetime of your equipment and protects your investment. The new built-in refrigerant dryer ensures a lower dew point, which is reflected in higher efficiency.



### **TOTAL CONTROL**

From the Elektronikon® compressor controller to the ES compressor room controller, Atlas Copco uses the most advanced algorithms designed to reduce your energy costs and ensure your peace of mind by keeping reliability at the maximum level.



# Beyond a superior screw element

Efficient, reliable and built to last, the GA 90+-160+ / GA 132-160 VSD compressors are designed to provide high quality compressed air even under harsh conditions. Thanks to Atlas Copco's

### **BUILT TO LAST**

- The GA series' superior screw element's patented asymmetric rotor profile and meticulous bearing selection ensure low wear and tear and increased reliability.
- All compressors feature TEFC IP55 motors designed for continuous operation under severe ambient temperature conditions up to 55°C / 131°F\*.
- The heavy duty air inlet filter works with a 2-step dust separation system, which protects the compressor components from wear, even in the dustiest environments.
- The GAVSD (Variable Speed Drive) motors have been designed specifically to operate ideally during flexible air demands. The special motor design includes protection against bearing currents and optimizes motor cooling at lower speeds.
- The GA VSD frequency converters feature epoxy coated electronic cards, and a heavy duty cooling air filtration is available as an option for operation under the dustiest environments.
- \* Standard up to  $46^{\circ}$ C /  $115^{\circ}$ F. (Optional up to  $55^{\circ}$ C /  $131^{\circ}$ F)

### PROTECTING YOUR PRODUCTION

- The aftercooler with integrated water separator immediately removes 100% of the condensate, delivering a higher quality of air than conventional external separators with typically low efficiencies (40-90%). This protects the downstream equipment from corrosion and water damage.
- Thanks to Elektronikon-controlled drains, there is no risk of condensate building up and no risk of water suspended in the compressed air.
- The GA's integrated compressed air treatment (refrigerant dryer and compressed air filter) increases the quality of your end product by removing moisture, aerosols and dirt particles.

### **DRIVING DOWN ENERGY COSTS**

- The GA Series' superior screw elements are designed to give the optimum combination of maximum free air delivery for low energy consumption.
- The state-of-the-art compressor element is powered by Efficiency
   1 class / NEMA EPAct electric motors, contributing to maximum compressor package efficiency.
- GA VSD (Variable Speed Drive) compressors automatically adjust the compressed air supply to the demand. Thus the considerable waste of energy caused by no load operation and oil vessel blowoff losses can be avoided.
- The VSD-driven radial cooling fans deliver optimum cooling flow and reduced energy consumption in any conditions, through precise fan speed regulation.
- The optional Energy Recovery system can recover up to 94% of the compressor shaft power as hot water.
- GA 90\*-160\* / GA 132-160 VSD compressors feature no-loss drains, which eliminate the waste of compressed air that conventional drains create.
- The integrated compressed air treatment includes a refrigerant dryer with the built-in Atlas Copco Patented Saver Cycle Control mode that reduces energy consumption in light load conditions.



# A state-of-the-art integrated solution

long-standing experience and pioneering innovations there's a GA compressor available to cut costs and enable smooth, continuous operation right across your production processes.

### LOW MAINTENANCE COSTS

- The heavy duty air inlet filter features a pre-separation cyclone which reduces the dust load in the fine filter doubling the filter element lifetime without reducing filter efficiency.
- The high efficiency air/oil separation system consists of a 2-step separation system providing low residual oil content in the compressed air. Low oil consumption ensures low maintenance costs and longer up time.
- The VSD radial cooling fans are maintenance-free with bearings greased for life.
- · Condensate is constantly removed from the water drains. A large diameter drain port removes the potential for clogging, providing trouble-free operation and minimal maintenance.
- Replacement of the heavy duty oil filter is simple and quick.
- For extended service intervals 8,000-hour oil filters are included as standard.
- A mobile phone messaging option facilitates easy planning of routine maintenance activities. Efficient maintenance practices reduce the maintenance costs and ensure optimal compressor performance.

### **ENVIRONMENTALLY RESPONSIBLE**

- The VSD radial cooling fans and strong sound insulation reduce noise emissions to less than 71 db (A).
- The Variable Speed Drive automation and instrumentation comply with 89/336/EEC directives and operate without any risk of electromagnetic interference.
- VSD reduces electricity consumption by an average of 35%, enabling companies to become more independent of electricity supplies and reducing harmful CO, emissions.
- The Energy Recovery system recycles energy back into hot water and air which can be used elsewhere in the production

### LOWERED INSTALLATION COSTS

- Totally assembled compressor package. No need to assemble loose shipped components. Simply connect a power supply, compressed air piping, and cooling water piping (for the water cooled version) and the compressor is ready to work.
- The Full Feature concept comprises the total compressed air system compressor and air treatment equipment. It is all integrated inside the compressor canopy, limiting both installation costs and space requirements.



# Protecting your production

Untreated compressed air contains moisture, aerosols and dirt particles that can damage your air system and contaminate your end product. Resulting maintenance costs can far exceed air treatment costs. We believe in effective prevention.



### INCREASE YOUR PRODUCTION RELIABILITY

Low quality air heightens the risk of corrosion in your system, which can lower the life span of your air tools and production equipment. The GA's filtration process produces clean air that enhances your system's reliability, avoiding costly downtime and production delays.



### **SAFEGUARD YOUR PRODUCT QUALITY**

Compressed air coming into contact with your final products should not affect their quality. The GA provides the clean, dry air that will protect your product's reputation in the marketplace.



### **DRIVING DOWN ENERGY COSTS**

Clean, treated air reduces the risk of corrosion and leaks in your compressed air system. A 3 mm leak could easily add up to €1800 to your energy bill annually.



### PROTECT THE ENVIRONMENT

With leaks and energy waste minimized and the unsafe disposal of untreated condensate eliminated, you can safeguard the environment and comply with stringent international regulations.



### **INTEGRATED PURITY**

The filters and integrated refrigerant-type air dryer (IFD) efficiently remove moisture, aerosols and dirt particles to protect your investment. This quality air expands the life of equipment, increasing efficiency and ensuring quality in your final product.

GURE YOUR GA VSD IR QUALITY YOU NEED	ISO QUALITY CLASS	DIRT PARTICLE SIZE	WATER PRESSURE DEW POINT	OIL CONCENTRATION
GA	34	3 microns	-	3 ppm
GA FF with ID	3.4.4	3 microns	+3°C, 37°F	3 ppm
GA FF with ID & general purpose coalescing filter	2.4.2	1 micron	+3°C, 37°F	0.1 ppm

# FEATURES OF THE EXTREME DUTY INTEGRATED REFRIGERANT DRYER

- The unique and patented Saver Cycle Control stops the dryer when the compressor is stopped or in unload mode, drastically reducing the power consumption. The dew point is continuously monitored and the dryer is started again when the dew point starts to increase.
- By adjusting the speed of the refrigerant compressor, the integrated VSD dryer control\* provides maximum energy saving in low load conditions.
- The dryers can perform at ambient conditions of up to 46°C / 115°F. High ambient temperature version available for temperatures up to 50°C as an option.
- Compressor and dryer are designed to work optimally together to perform smoothly under the most critical conditions.

<sup>\*</sup> GA VSD Full Feature only

# Total control, assured efficiency

The Elektronikon® operating system provides control and monitoring to increase your compressor's efficiency and reliability. Easily expandable with extra sensors, digital inputs and internet communication functions, the Elektronikon can be adapted to your specific needs – offering simple, central monitoring and control of up to four compressors. For optimal ease of use,

the display can be set to 27 different languages. To maximize energy efficiency, the Elektronikon controls the main drive motor and regulates system pressure within a predefined and narrow pressure band. With a simple push of a button, you can remote start and stop, load and unload the compressor.

1

### **FULLY OPTIMIZED SYSTEM**

The ES Multiple Compressor Control manages up to 30 compressors simultaneously. The result is a substantial reduction in system pressure and energy consumption, in addition to minimal compressed air leakage and a more stable pressure across the network.





2

### DUAL PRESSURE SET POINT

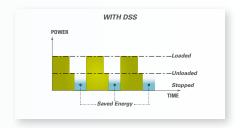
The production process creates fluctuating levels of demand which can create energy waste in low use periods. The Elektronikon can manually or automatically create two different system pressure bands to optimize energy use and reduce costs at low use times.

3

### **DELAYED SECOND STOP**

The sophisticated Delayed Second Stop (DSS) runs the drive motor only when needed. Because the Elektronikon maintains the desired system pressure while minimizing the drive motor run time, energy consumption is kept at a minimum.





4

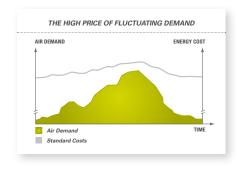
### **SAVER CYCLE**

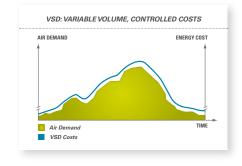
Saver cycle technology reduces the energy consumption of the integrated refrigerant dryers in light load applications. Using an ambient sensor to monitor the required dew point suppression, the Elektronikon starts and stops the dryer when the compressor has stopped – minimizing energy use and protecting the air system from corrosion.

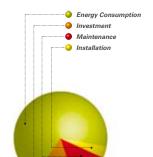
# Driving down energy costs

Energy costs can constitute up to 80% of the lifecycle costs (LCC) of a compressor. The generation of compressed air can account for more than 40% of a plant's total electricity costs. In almost every production environment air demand fluctuates depending

on the time of day, week or even month of the year. With Atlas Copco's VSD technology, air production mirrors air requirement, meaning that fluctuating demand no longer results in high energy costs.

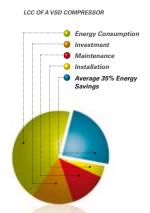






LCC OF A STANDARD COMPRESSOR

Traditional compressors working with a full load, no load control operate between two set pressure points. When maximum pressure is reached the compressor goes off load. During periods of medium to low air demand, the no load power consumption can be excessive – wasting large amounts of energy.



Because there is no unnecessary power generated, the GAVSD can reduce energy costs by 35% or more. Lifecycle costs (LCC) of the compressor can be reduced by an average of 22%. In general, the extra cost of a VSD compressor compared to a fixed speed one can be earned back after just one to two years.

# VSD: Adapt to the flow, control your costs

With VSD (Variable Speed Drive) technology, air supply mirrors air usage – automatically adjusting the motor speed depending on demand. Lowered system pressure minimizes energy

use across all production processes to reduce energy costs. With VSD technology, Atlas Copco has made major energy savings a reality.

### THE GA VSD REDUCES ENERGY COSTS BY:

- Eliminating the inefficient transition period from full to no load power.
- Avoiding excessive off load power consumption.
- Maintaining the net pressure band within 0.10 bar, 1.5 psi.
- Reducing overall average working pressure.

- Minimizing system leakage due to a lower system pressure.
- Increasing flexibility with soft starting gradual motor ramp-up to avoid electricity surges.
- Offering flexible pressure selection from 3,5 to 14 bar with electronic gearing to ensure lowered electricity costs.

### **JUST HOW MUCH CAN YOU SAVE?**

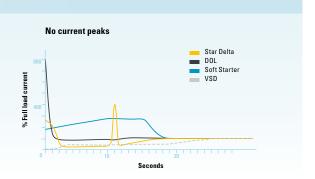
Using innovative analysis technology, Atlas Copco engineers can map the fluctuations in demand in your current compressed air system and simulate the energy savings a VSD compressor

could bring to your production process. Ask your Atlas Copco representative for more information.

# Economy + Efficiency = VSD

### **ADDITIONAL VSD BENEFITS**

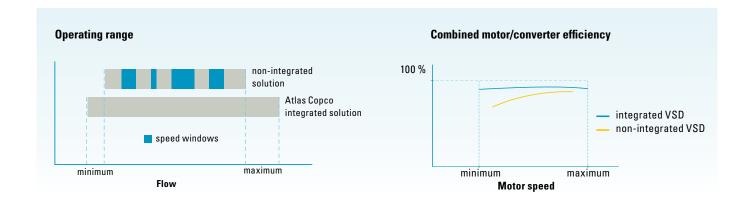
- The constant net pressure provides stability for all processes that use compressed air.
- Current peaks during start-up are eliminated.
  - VSD compressors can be started and stopped without limitation.
- Frequent start-ups no longer lead to current peak penalties.
- -The electrical installation can often be rated for a lower current.





### **INTEGRATED VSD - THE SMART CHOICE**

- The Elektronikon® system controls both the compressor and the integrated converter; thus ensuring maximum machine safety as well as easy networking of the compressor.
- ② All Atlas Copco VSD compressors are EMC tested and certified. External sources do not influence the compressor operation, nor does the compressor affect the operation of other instruments via emissions or via the power supply line.
- Mechanical enhancements ensure that all the components operate below critical vibration levels within the complete compressor speed range.
- 4) The frequency converter, low consumption, cooling fan ensures stable operation even in high ambient temperatures up to 50°C / 122°F\*



- The machine is tested for the complete speed range to eliminate any 'speed windows' that could jeopardize the energy savings and the stable net pressure. (Turndown capability of the compressor is maximized to 80-85%.)
- Special attention is given to the electric motor, which is specifically designed for VSD operation (inverter duty motor).
   Bearings are protected against induced bearing currents and both motor and converter are perfectly tuned to obtain the highest possible efficiency over the entire speed range.

# Maximize your savings...

### WHY RECOVER ENERGY?

Energy costs can constitute 80% of the total costs of compressed air production. With rising energy prices, saving energy also means a **substantial cost saving**.

With global warming, Kyoto directives and the gradual depletion of traditional energy sources, every business has a duty to contribute as much as possible to overall energy conservation.

### **Evolution of the fuel oil prices (example from a European country)**





### WHAT ENERGY?

Air compression creates heat that is normally wasted in the coolers. Atlas Copco-designed energy recovery systems enable the recovery of most of this heat. Recovery of energy from the shaft input of the compressor can be up to 94% of the compressor shaft power.

# Radiant losses 2 % Remaining heat in compressed air 4 %

94 %

### **HOW IS THE ENERGY RECOVERED?**

Energy recovery systems are **integrated modules** that recover heat which is otherwise wasted. The heat in the form of hot water (85-90 °C) is directly usable as a source of energy. The main module of the recovery system is built into the compressor.



## ...recover energy



### **HOW CANTHE RECOVERED ENERGY BE USED?**

The hot water generated can be put to several uses in the industry:

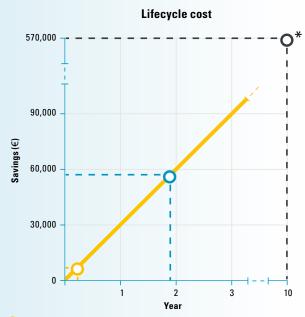
- as preheated boiler feed water for industrial processes
- for space heating by circulation in radiators or for showers
- for other industrial applications like dyeing textiles, operation of absorption chillers, etc.

The hot water produced should be used as an auxiliary source of energy, as the load of the compressor and thus the amount of heat produced may vary.

### **HOW DO I BENEFIT?**

You save energy wherever you add the recovered energy as an auxiliary source to reduce your operating costs.

The investment needed to link the hot oil circuit from the compressor to the existing water circuit is relatively modest and the time needed before seeing payback from your investment is generally very short.

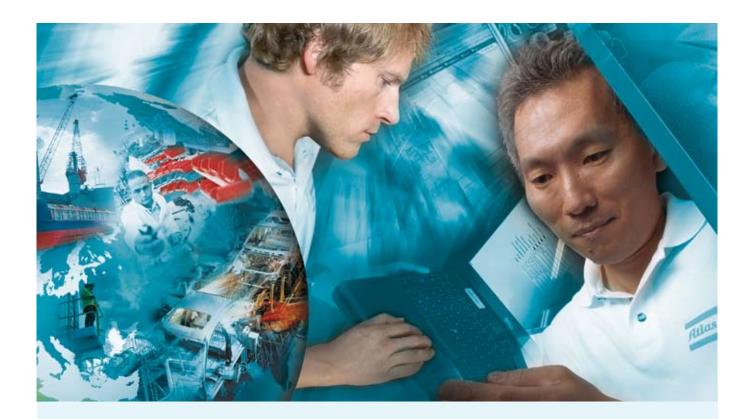


- O Investment in energy recovery system is recovered in less than 2 months
- O Compressor is paid back in less than 2 years
- O Net gain of €570,000 in 10 years\*
- Calculation only includes energy costs as maintenance will remain approximately the same as for a standard compressor.

### **ASSUMPTIONS**

- example chosen is a 160 kW GA compressor
- 8,000 running hours/year at full load and full energy recovery
- cost of fuel oil: €0.55/l
- figures shown are an example. Price calculations can be made case by case.

# Peace of mind



At Atlas Copco, our responsibility doesn't stop when the product is delivered. An extensive portfolio of exclusive Aftermarket products and services is designed to add maximum value for our customers – no hidden costs, no surprises and minimized risk to your processes. Guaranteed serviceability within 24 hours ensures optimum availability and reliability of your compressed air systems with the lowest possible operating costs. We deliver this complete service guarantee through our extensive Aftermarket organization, maintaining our position as the leader in compressed air.

ACTIVITY	PRODUCT*
Genuine parts	Atlas Copco Service kits & oils
Extended warranties	AIRXtend
Service contracts	ServicePlan
System audits	AIR <i>Scan</i> ™
Remote monitoring	AIRConnect™
Energy saving	AIR <i>Optimizer</i> ™
Product improvements	Upgrade programs

<sup>\*</sup> More information is available from your local Atlas Copco customer center.

# Complete scope suiting all needs

Included as Standard	
Heavy duty Air inlet filter	TEFC IP55 Class F electric motor
Air intake flexible	Starters
Air intake valve (not on VSD units)	Pre mounted electrical and VSD cubicles
Compressed air aftercooler and oil cooler	Flexible vibration dumpers
VSD cooling fans for air cooled units	Air / oil separator
Integrated water separator	Elektronikon control system
Electronic water drains with no loss of compressed air	Full load / no load regulation system (not for VSD)
Heavy duty oil filters	Silencing canopy
Complete air, oil, water circuit	Supression of emissions / harmonic distortions
Oil containing structural skid with no need for foundations	Stainless steel tube and Shell coolers for water cooled units

Available options / Model	GA 90 <sup>+</sup> - 160 <sup>+</sup>	GA 110 - 160	GA 132 - 160 VSD
Full Feature: integrated ID refrigerant dryer	x	х	x
Integrated DD pre-filter (only with integrated dryer)	x	х	x
Integrated energy recovery system	x	х	x
Separate air intake	x	х	x
Modulation Control	x	x	N.A.
High Ambient Version (up to 55 °C / 131 °F * )	x	x	x
Phase sequence relay	x	х	standard**
PT1000Thermal protection in the main motor windings and bearings	x	x	standard**
Oversized main motor	x	N.A.	N.A.
Anti-condensation Heater in the main motor	x	x	N.A.
VSD cabinet heavy duty filtration (Applicable for VSDs)	N.A.	N.A.	x
Nema 4 Cubicle	x	x	N.A.
Roto-Xtend Duty fluid 8000h	x	x	x
NPT connections	x	x	x
Anchor Pads	x	x	x
Performance test certificate	x	x	x
Witnessed performance test	x	x	x
Material Certificates	x	x	x
Seaworthy packaging	x	x	x
Rain Protection Kit	x	x	N.A.
IT / NT network system	x	x	х
SPM vibration monitoring system	x	x	х
GSM alarm messaging system	x	x	х
Automatic water shut-off valve for water cooler units	x	x	x
Thermostatic water regulating valve	N.A.	N.A.	х

GA Full feature 50 °C / 122 °F; GA VSD 50 °C / 122 °F; GA fix speed Pack 55 °C / 131 °F Functionalities integrated in the frequency converter protections

	<b>Dimensions</b>																				
			Aircool	ed Pack	(			Aircooled Full Feature							Watercooled Pack & Full Feature						
Compressor type	L		W		H	Н		L		W H		1	L		V	V	Н				
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			
GA 90+-160+	2600	102	2000	79	2000	79	3200	126	2000	79	2000	79	2600	102	1630	64	2000	79			
GA 110-160	2600	102	2000	79	2000	79	3200	126	2000	79	2000	79	2600	102	1632	64	2000	79			
GA 132-160 VSD	3200	126	2000	79	2000	79	3800	150	2002	79	2347	92	3200	126	1630	64	2347	92			



# Technical specifications GA 90+-160+ / GA 110-160 / GA 132-160 VSD - 50Hz

	Maxi	imum wo	orking pres	sure			Cap:					d motor wer	Noise Level (2)	Weight				
COMPRESSOR TYPE	Pack		Full Feature (3)		Pack			Full Feature						Pa	ıck		ull ture	
	bar (e)	psig	bar (e)	psig	I/s	m³/min	cfm	I/s	m³/min	cfm	kW	HP	dB(A)	kg	lb	kg	lb	
GA 50Hz																		
GA 90+ - 5.5	5.5	80	5.3	77	330	19.8	699	333	20.0	706	90	125	68	2917	6417	3310	7282	
GA 90+ - 7.5	7.5	109	7.3	106	292	17.5	619	293	17.6	621	90	125	68	2917	6417	3310	7282	
GA 90+ - 8.5	8.5	123	8.3	120	274	16.4	581	275	16.5	583	90	125	68	2897	6373	3290	7238	
GA 90+ - 10	10	145	9.8	142	244	14.6	517	244	14.6	517	90	125	68	2709	5960	3102	6824	
GA 90+ - 14	14	203	13.8	200	196	11.8	415	204	12.2	432	90	125	68	2709	5960	3102	6824	
GA 110 - 7.5	7.5	109	7.3	106	342	20.5	725	343	20.6	727	110	150	69	2779	6114	3172	6978	
GA 110 - 8.5	8.5	123	8.3	120	324	19.4	687	326	19.6	691	110	150	69	2779	6114	3172	6978	
GA 110 - 10	10	145	9.8	142	297	17.8	629	297	17.8	630	110	150	69	2759	6070	3152	6934	
GA 110+ - 5.5	5.5	80	5.3	77	401	24.1	850	404	24.2	856	110	150	69	2967	6527	3360	7392	
GA 110+ - 7.5	7.5	109	7.3	106	356	21.4	754	357	21.4	756	110	150	69	2967	6527	3360	7392	
GA 110+ - 8.5	8.5	123	8.3	120	337	20.2	714	338	20.3	716	110	150	69	2967	6527	3360	7392	
GA 110+ - 10	10	145	9.8	142	306	18.4	649	306	18.4	648	110	150	69	2947	6483	3340	7348	
GA 110+ - 14	14	203	13.8	200	245	14.7	519	252	15.1	534	110	150	69	2759	6070	3152	6934	
GA 132 - 7.5	7.5	109	7.3	106	405	24.3	858	406	24.4	860	132	175	70	3134	6895	3527	7759	
GA 132 - 8.5	8.5	123	8.3	120	385	23.1	816	386	23.2	818	132	175	70	3134	6895	3527	7759	
GA 132 - 10	10	145	9.8	142	356	21.4	754	356	21.4	754	132	175	70	3114	6851	3507	7715	
GA 132+ - 5.5	5.5	80	5.3	77	471	28.3	998	475	28.5	1006	132	175	70	3271	7196	3644	8017	
GA 132+ - 7.5	7.5	109	7.3	106	424	25.4	898	425	25.5	901	132	175	70	3251	7152	3644	8017	
GA 132+ - 8.5	8.5	123	8.3	120	401	24.1	850	402	24.1	852	132	175	70	3251	7152	3644	8017	
GA 132+ - 10	10	145	9.8	142	368	22.1	780	368	22.1	780	132	175	70	3237	7121	3630	7986	
GA 132+ - 14	14	203	13.8	200	295	17.7	625	301	18.1	638	132	175	70	3049	6708	3442	7572	
GA 160 - 7.5	7.5	109	7.3	106	505	30.3	1070	506	30.4	1072	160	215	71	3361	7394	3754	8259	
GA 160 - 8.5	8.5	123	8.3	120	480	28.8	1017	481	28.9	1019	160	215	71	3341	7350	3734	8215	
GA 160 - 10	10	145	9.8	142	443	26.6	939	443	26.6	939	160	215	71	3341	7350	3734	8215	
GA 160+ - 10	10	145	9.8	142	443	26.6	939	443	26.6	939	160	215	71	3341	7350	3734	8215	
GA 160+ - 14	14	203	13.8	200	362	21.7	767	369	22.1	782	160	215	71	3327	7319	3720	8184	

		Working p	oressure (4)			Capacity FAD (1)			d motor wer	Noise Level (2)	Weight				
COMPRESSOR TYPE	Pack		Full Feature		Р	ack / Full Featu	re				Pack		Full Feature		
	bar (e)	psig	bar (e)	psig	I/s	m³/min	cfm	kW	HP	dB(A)	kg	lb	kg	lb	
GA VSD 50Hz															
GA 132 VSD - 8.5	3.5	51	3.5	51	97 - 539	5.8 - 32.3	206 - 1142	132	175	68	3930	8646	4248	9346	
	7	102	7	102	93 - 457	5.6 - 27.4	197 - 968	132	175	68	3930	8646	4248	9346	
	8	116	8	116	91 - 435	5.5 - 26.1	193 - 922	132	175	68	3930	8646	4248	9346	
GA 132 VSD - 10	6	87	6	87	94 - 481	5.6 - 28.9	199 - 1019	132	175	68	3930	8646	4248	9346	
	8	116	8	116	91 - 435	5.5 - 26.1	193 - 922	132	175	68	3930	8646	4248	9346	
	9.5	138	9.5	138	89 - 403	5.3 - 24.2	189 - 854	132	175	68	3930	8646	4248	9346	
GA 132 VSD - 14	9	131	9	131	90 - 412	5.4 - 24.7	191 - 873	132	175	68	3930	8646	4248	9346	
	10	145	10	145	88 - 391	5.3 - 23.5	186 - 828	132	175	68	3930	8646	4248	9346	
	13.5	196	13.5	196	81 - 325	4.9 - 19.5	172 - 689	132	175	68	3930	8646	4248	9346	
GA 160 VSD - 8.5	3.5	51	3.5	51	97 - 527	5.8 - 34.3	206 - 1212	160	215	69	3930	8646	4248	9346	
	7	102	7	102	93 - 540	5.6 - 32.4	197 - 1144	160	215	69	3930	8646	4248	9346	
	8	116	8	116	91 - 515	5.5 - 30.9	193 - 1091	160	215	69	3930	8646	4248	9346	
GA 160 VSD - 10	6	87	6	87	94 - 566	5.5 - 34.0	199 - 1199	160	215	69	3930	8646	4248	9346	
	8	116	8	116	91 - 515	5.5 - 30.9	193 - 1091	160	215	69	3930	8646	4248	9346	
	9.5	138	9.5	138	89 - 480	5.3 - 28.8	189 - 1017	160	215	69	3930	8646	4248	9346	
GA 160 VSD - 14	9	131	9	131	90 - 492	5.4 - 29.5	191 - 1042	160	215	69	3930	8646	4248	9346	
	10	145	10	145	88 - 469	5.3 - 28.1	186 - 994	160	215	69	3930	8646	4248	9346	
	13.5	196	13.5	196	82 - 394	4.9 - 23.6	174 - 835	160	215	69	3930	8646	4248	9346	

(1) Unit Performace Measured according to ISO 1217, Ed. 3, Annex C - 1996

- Absolute inlet pressure 1 bar (14,5 psi) Intake air temperature 20  $^{\circ}$ C (68  $^{\circ}$ F)
- Cooling medium temperature 20 °C (68 °F)

FAD is measured at the following working pressures

- 5.5 bar variants at 5 bar 7.5 bar variants at 7 bar
- 8.5 bar variants at 8 bar
- 10 bar variants at 9.5 bar
- 14 bar variants at 13.5 bar

(2) **Noise Level**: Measured according to ISO 2151: 2004 using ISO 9614/2

(3) Max working pressure is reduced by 0.2 bar when integrated DD filter option is selected

(4) **Maximum working pressure** for GA VSD - 8.5; 10; 14 bar (e) / GA VSD FF - 8.3; 9.8; 13.8 bar

Integrated dryer compressed air pressure dewpoint at dryer reference conditions 3 °C

Integrated DD filter Particle removal down to 1 micron and maxium remaining aerosol 0.1mg/m³

# Technical specifications GA 90+-160+ / GA 110-160 / GA 132-160 VSD - 60Hz

	Maxi	mum wo	orking pres	sure			Capa FAD	acity ) (1)				d motor wer	Noise Level (2)	Weight				
COMPRESSOR TYPE	Pack		Full Feature (3)		Pack			Full Feature						Pa	ck		ull ture	
	bar (e)	psig	bar (e)	psig	I/s	m³/min	cfm	l/s	m³/ min	cfm	kW	HP	dB(A)	kg	lb	kg	lb	
GA 60Hz																		
GA 90+ - 75	5.5	80	5.3	77	343	20.6	727	346	20.8	733	90	125	68	2917	6417	3310	7282	
GA 90+ - 100	7.4	107	7.2	104	302	18.1	640	303	18.2	642	90	125	68	2917	6417	3310	7282	
GA 90+ - 125	9.1	132	8.9	129	274	16.4	581	275	16.5	583	90	125	68	2897	6373	3290	7238	
GA 90+ - 150	10.9	158	10.7	155	239	14.3	506	239	14.3	506	90	125	68	2709	5960	3102	6824	
GA 90+ - 200	14	203	13.5	196	205	12.3	434	213	12.8	451	90	125	68	2709	5960	3102	6824	
GA 110 - 100	7.4	107	7.2	104	350	21.0	742	352	21.1	746	110	150	69	2779	6114	3172	6978	
GA 110 - 125	9.1	132	8.9	129	320	19.2	678	322	19.3	682	110	150	69	2779	6114	3172	6978	
GA 110 - 150	10.9	158	10.7	155	286	17.2	606	286	17.2	606	110	150	69	2759	6070	3152	6934	
GA 110+ - 75	5.5	80	5.3	77	406	24.4	860	409	24.5	867	110	150	69	2967	6527	3360	7392	
GA 110+ - 100	7.4	107	7.2	104	363	21.8	769	364	21.8	771	110	150	69	2967	6527	3360	7392	
GA 110+ - 125	9.1	132	8.9	129	331	19.9	701	332	19.9	703	110	150	69	2967	6527	3360	7392	
GA 110+ - 150	10.9	158	10.7	155	295	17.7	625	295	17.7	625	110	150	69	2947	6483	3340	7348	
GA 110+ - 200	14	203	13.5	196	248	14.9	525	255	15.3	540	110	150	69	2759	6070	3152	6934	
GA 132 - 100	7.4	107	7.2	104	403	24.2	854	405	24.3	858	132	175	70	3134	6895	3527	7759	
GA 132 - 125	9.1	132	8.9	129	370	22.2	784	371	22.3	786	132	175	70	3134	6895	3527	7759	
GA 132 - 150	10.9	158	10.7	155	336	20.2	712	336	20.2	712	132	175	70	3114	6851	3507	7715	
GA 132+ - 75	5.5	80	5.3	77	467	28.0	990	471	28.3	998	132	175	70	3271	7196	3644	8017	
GA 132+ - 100	7.4	107	7.2	104	421	25.3	892	422	25.3	894	132	175	70	3251	7152	3644	8017	
GA 132+ - 125	9.1	132	8.9	129	385	23.1	816	386	23.2	818	132	175	70	3251	7152	3644	8017	
GA 132+ - 150	10.9	158	10.7	155	346	20.8	733	346	20.8	733	132	175	70	3237	7121	3630	7986	
GA 132+ - 200	14	203	13.5	196	290	17.4	614	296	17.8	627	132	175	70	3049	6708	3442	7572	
GA 160 - 100	7.4	107	7.2	104	475	28.5	1006	477	28.6	1011	150	200	71	3361	7394	3754	8259	
GA 160 - 125	9.1	132	8.9	129	437	26.2	926	438	26.3	928	150	200	71	3341	7350	3734	8215	
GA 160 - 150	10.9	158	10.7	155	397	23.8	841	397	23.8	841	150	200	71	3341	7350	3734	8215	
GA 160+ - 150	10.9	158	10.7	155	397	23.8	841	397	23.8	841	150	200	71	3341	7350	3734	8215	
GA 160+ - 200	14	203	13.5	196	337	20.2	714	345	20.7	731	150	200	71	3327	7319	3720	8184	

		Working p	ressure (4)			Capacity FAD (1)			d motor wer	Noise Level (2)				ht	
COMPRESSOR TYPE	Pa	ck	Full Fe	eature	P	ack / Full Featu	re				Pack		Full Feature		
	bar (e)	psig	bar (e)	psig	l/s	m³/min	cfm	kW	HP	dB(A)	kg	lb	kg	lb	
GAVSD 60Hz															
GA 132 VSD -125	3.5	51	3.5	51	97 - 539	5.8 - 32.3	206 -1142	132	175	68	3930	8464	4248	9346	
	6.9	100	6.9	100	93 - 459	5.6 - 27.5	197 - 973	132	175	68	3930	8464	4248	9346	
	8.6	125	8.6	125	90 -420	5.4 - 25.2	191 - 890	132	175	68	3930	8464	4248	9346	
GA 132 VSD - 150	6	87	6	87	94 - 481	5.4 - 25.2	191 - 890	132	175	68	3930	8646	4248	9346	
	8.6	125	8.6	125	90 - 420	5.4 - 25.2	191 - 890	132	175	68	3930	8646	4248	9346	
	10.4	151	10.4	151	87 - 383	5.2 - 23.0	184 - 812	132	175	68	3930	8646	4248	9346	
GA 132 VSD - 200	9	131	9	131	90 - 412	5.4 - 24.7	191 - 873	132	175	68	3930	8646	4248	9346	
	10.4	151	10.4	151	87 - 383	5.2 - 23. 0	184 - 812	132	175	68	3930	8646	4248	9346	
	13.5	196	13.5	196	81 - 325	4.9 - 19.5	172 - 689	132	175	68	3930	8646	4248	9346	
GA 160 VSD - 125	3.5	51	3.5	51	97 - 572	5.8 - 34.3	206 - 1212	160	215	69	3930	8646	4248	9346	
	6.9	100	6.9	100	93 - 543	5.6 - 32.6	197 - 1151	160	215	69	3930	8646	4248	9346	
	8.6	125	8.6	125	90 - 501	5.4 - 30.1	191 - 1062	160	215	69	3930	8646	4248	9346	
GA 160 VSD - 150	6	87	6	87	94 - 566	5.6 - 34.0	199 - 1199	160	215	69	3930	8646	4248	9346	
	8.6	125	8.6	125	90 - 501	5.4 - 30.1	191 - 1062	160	215	69	3930	8646	4248	9346	
	10.4	151	10.4	151	87 - 461	5.2 - 27.7	184 - 977	160	215	69	3930	8646	4248	9346	
GA 160 VSD - 200	9	131	9	131	90 - 492	5.4 - 29.5	191 - 1042	160	215	69	3930	8646	4248	9346	
	10.4	151	10.4	151	87 - 461	5.2 - 27.7	184 - 977	160	215	69	3930	8646	4248	9346	
	13.5	196	13.5	196	82 - 394	4.9 - 23.6	174 - 835	160	215	69	3930	8646	4248	9346	

(1) Unit Performace Measured according to ISO 1217, Ed. 3, Annex C - 1996

### Reference conditions:

- Absolute inlet pressure 1 bar (14,5 psi) Intake air temperature 20  $^{\circ}$ C (68  $^{\circ}$ F)
- Cooling medium temperature 20 °C (68 °F)

FAD is measured at the following working pressures

- 75 psi variants at 73 psi 100 psi variants at 100 psi
- 125 psi variants at 125 psi 150 psi variants at 150 psi
- 200 psi variants at 200 psi

(2) **Noise Level**: Measured according to ISO 2151: 2004 using ISO 9614/2

(3) Max working pressure is reduced by 0.2 bar when integrated DD filter option is selected

(4) **Maximum working pressure** for GA VSD - 8.5; 10; 14 bar (e) / GA VSD FF - 8.3; 9.8; 13.8 bar

Integrated dryer compressed air pressure dewpoint at dryer reference conditions 3 °C

Integrated DD filter Particle removal down to 1 micron and maxium remaining aerosol 0.1mg/m³



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