

# Atlas Copco Air Compressors

**GA 90-315-FF & GA180/315 VSD-FF**

**GR 110-200-FF two-stage high pressure  
oil-injected rotary screw compressor series**



ALL-IN-ONE  
PACKAGE



# Customer satisfaction through interaction



## ISO 14001

Atlas Copco's Environmental Management System forms an integral part of each business process.



## ISO 9001

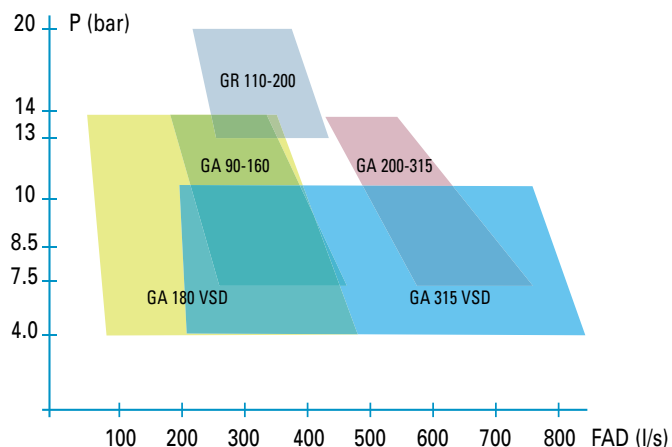
From design to production and delivery, Atlas Copco compressors adhere to the ISO 9001 quality standard.

From listening closely to the market and through interaction with customers just like you, Atlas Copco has walked the thin line between continuous improvement and radical innovation. Yet, every new concept will survive only if it clearly benefits the customer.

It is this commitment that yielded a new range of oil-injected rotary screw compressors, combining a smart design, innovative technology and the lowest cost compressed air: the Atlas Copco G-range.

- ▶ An **intelligent package** that does all the thinking for your peace-of-mind.
- ▶ An **all-in-one package** – a fully integrated installation
- ▶ An **environment friendly package**, complying in all aspects to current and future environmental regulations.
- ▶ An **economic and versatile package**, a proven favourite within its scope, for all industry applications.

## GA 90-315 / GA 180 & 315 VSD / GR 110-200 Operating range (50 & 60 Hz)



VSD: Variable Speed Drive  
See data pages for range details.

# G 90-315 series – a unique spectrum of commitments

## G Compressor 'Facts'

- Standard G compressor packages and Full Feature (FF) units – all vital components and standard options integrated, for a complete 'all-in-one' installation
- Complete, ready-to-use compressor package
- Easy, low cost installation – no foundations
- True performance according to ISO 1217, Annex C, ed. 3
- Cost-effective and reliable Elektronikon® monitoring and control system
- Single-stage, Twin-element and high pressure two-stage versions
- Proven reliability
- Straightforward and minimum maintenance
- Operator and service-friendly
- Silenced package - comfortable and environmentally friendly
- Optional energy recovery system
- Water and aircooled versions
- A wide range of pressure and capacity variants
- Backed by a global sales and service organisation



✓ The oil-injected G 90-315 compressor range gives you all this, and much more.

The back-up of an organisation that truly understands what air compression is about. After all, we have over a century of learning behind us.

Close interaction, innovation and commitment – the benchmarks that earned Atlas Copco the industry leadership and a high customer loyalty.

## GA VSD

*Variable Speed Drive variants for the lowest possible cost compressed air. The perfect match between air delivery and air demand.*



η-drive

# Complete Scope suiting all needs

## As standard included

✓ Air intake filter	✓ Built-in electrical starters
✓ Air intake valve (not on VSD units)	✓ Flexible vibration dampers
✓ Aftercooler/Oilcooler (air or watercooled)	✓ Air/oil separator
✓ Cooling fan for aircooled units	✓ Elektronikon® control system
✓ Ventilation fan for watercooled units	✓ Full load/no load regulation system (not on VSD units)
✓ Water separators	✓ Silencing canopy
✓ Oil filters	✓ Single point inlet and outlet connections
✓ Complete air/oil/water circuit	✓ Structural steel skid - no foundations needed
✓ IP 55, Class F drive motor	

## Options for your standard choice

	GA 90-315	GR 110-200	GA 180 VSD	GA 315 VSD
Full Feature: Integrated Dryer	•	•	•	(1)
Integrated DD pre-filter (only with integrated dryer)	•	(2)	•	•
Energy recovery	•	•	na	•
Modulation control	•	•	na	na
OSD Oil separator (for Pack/FF units) (3)	•	•	•	•
Oil containing frame	•	•	•	na
Electronic water drain (EWD)	•	(2)	•	(4)
Heavy duty air intake filter	•	•	•	•
HAT version (50°C ambient temperature)	(5)	na	na	na
COM 1 communication module	•	•	•	(6)
COM 2 MODBUS / PROFIBUS interface	•	•	•	(6)
Phase sequence relay	•	•	na	na
PT 1000 thermal protection for main motor	•	•	na	na
Anti condensation heater for main motor	•	•	na	na
HD oil - 8000 h oil (instead of RIF oil)	•	(4)	•	•
NPT Connections	(7)	•	•	na
ANSI flanged Connections	(8)	na	na	•
Anchor pads	•	•	•	•
Performance test certificate	•	•	•	•
Witnessed performance test certificate	•	•	•	•
Material test certificate for pressure vessel approvals	•	•	•	•
Sea-worthy packaging	•	•	•	•
Rain protection	•	•	na	na
IT/NT System	(9)	(9)	•	•

(1) Integrated VSD refrigeration dryer

(2) Only for GR 13 bar

(3) Effluent purity of 10 mg oil/liter

(4) Standard

(5) Not available for 13 bar versions and FF units

(6) Mark IV Elektronikon® installed

(7) Applies only to GA 90-160

(8) Applies only to GA 200-315

(9) Applies only to VSD units

na: not applicable



GA 110 FF  
Single-stage version



GA 250 FF  
Twin element version



GR 200 FF  
Two-stage high pressure version



GA 180 VSD FF  
Variable Speed Drive version



GA 315 VSD FF  
Variable Speed Drive version



### G-range compressors care for the environment

- ▶ Silenced package - quiet operation
- ▶ Recyclable components
- ▶ Energy saving regulation system
- ▶ Energy recovery possible
- ▶ Variable Speed Drive variants (VSD) – optimum energy savings
- ▶ Condensate treatment devices available

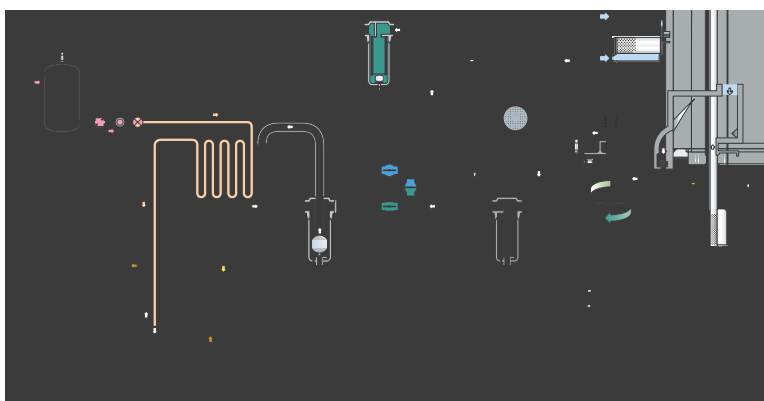
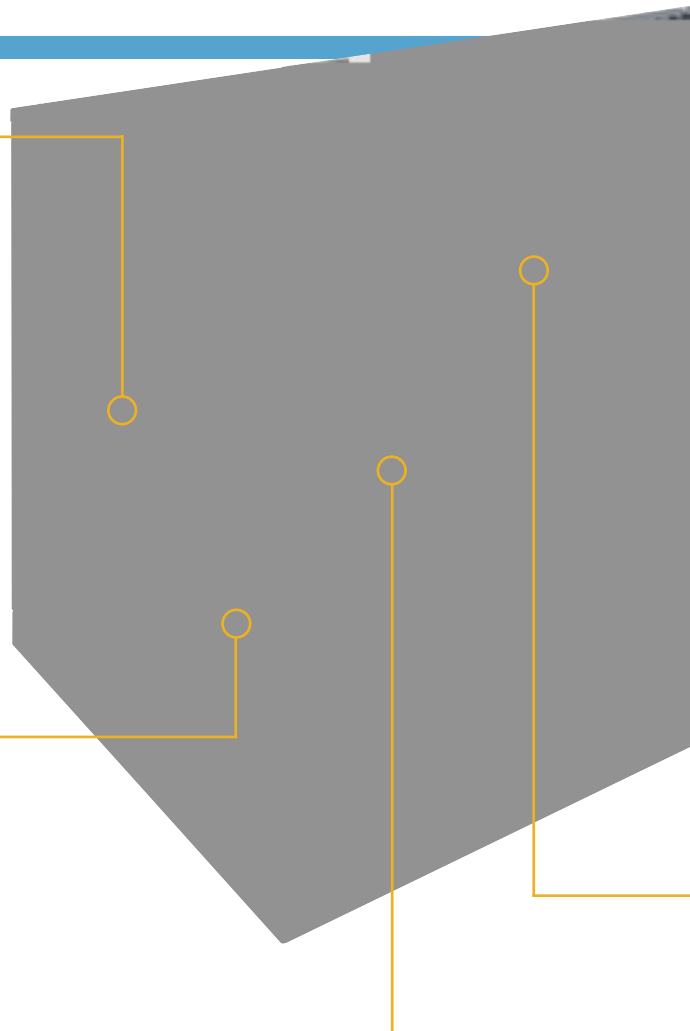


### Global Presence Local Service

- ▶ Service available worldwide
- ▶ Service contracts for peace-of-mind
- ▶ Service indications on Elektronikon® monitoring display
- ▶ Service friendly
  - Easy access to components
  - Low number of service points

### Excellence by design

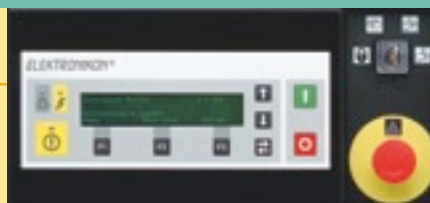
- ▶ Quality air with low oil content
- ▶ Protective air filtration
- ▶ Compact, complete, skid mounted units for easy and low cost installation
- ▶ Big on integration – small in footprint
- ▶ ‘All-in-one’ Full Feature units with ID dryer and incorporating all vital components and options
- ▶ Reliable Elektronikon® control and monitoring



# ... Big on Integration - Small in Footprint

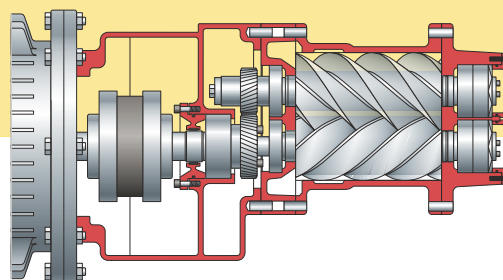
## Total supervision and monitoring

- ▶ Advanced Elektronikon® control, regulation and monitoring system
- ▶ Multi-language selectable display
- ▶ Overall system performance status for optimum efficiency, reliability and protection
- ▶ Automatic control for cost effective operation
- ▶ Anticipated idling time is reduced by shutting down the motor to save on energy



## Dry air as standard option with integrated ID dryer

- ▶ 'All-in-one' Full Feature package installation
- ▶ by-pass system included as standard
- ▶ R404A refrigerant meets environmental regulations
- ▶ quality end product and system protection



## Motor and compressor permanently aligned

- ▶ Unlike belt-driven compressors, the GA compressors incorporate a flanged motor/coupling housing - gearbox/element offering permanent alignment during transport, installation and operation of the unit.
- ▶ Highly efficient, totally enclosed fan-cooled electric motor (IP55, Class F)

## Moisture separator as standard

A cyclonic moisture separator, with automatic and manual drain, as standard mounted after the cooler bloc

## Designed for optimal performance

Split positioning of components in the cool or warm half for ultimate efficiency and maximum capacity



# GA200-315 FF – Twin element series...



## Practical cooler cleaning

- ▶ Twin fans for optimal cooling
- ▶ Fans, fan motors and cowls are hinged for easy cleaning of coolers.
- ▶ Axial cooling fans driven by separate TEFC electric motors (IP55 protection).



## Easy oil filter exchange

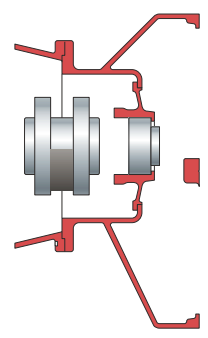
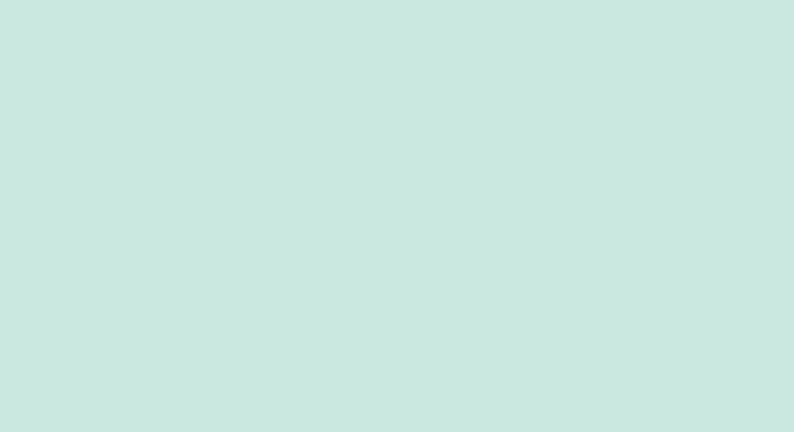
The position of the spin on/off cartridge type oil filters allows for clean and easy exchange, without leakage of oil.



## Twin element design

- ▶ Larger volume of air delivered using less power compared to equivalent compressor sizes
- ▶ Atlas Copco guaranteed production, quality control and service





# GR 110-200-FF

## Two-stage High Pressure Compressor Series

For high pressure applications requiring a reliable air supply of 13 and 20 bar, the Atlas Copco GR 110-200-FF oil-injected screw compressors are the right choice. Not only do these workhorses offer every feature and benefit the GA series is renowned for, but the two-stage design also guarantees the most efficient operation at higher pressure.

### The GR Selection

- ▶ GR 110 and GR 200 – available in 20 bar version
- ▶ GR 110, GR 132, GR 160 and GR 200 – available in 13 bar version
- ▶ GR-FF – Full Feature versions with Integrated ID Dryer

### The GR Commitment

- ▶ Designed to the same stringent criteria as the proven GA 90-315 series
- ▶ Built for high pressure applications
- ▶ Standard options available as a very complete pack unit
- ▶ Available as air or water cooled version



### Two-stage compression elements

- ▶ Increased efficiency and reliability
- ▶ Extended element lifetime due to reduced load on bearings, rotors and gears

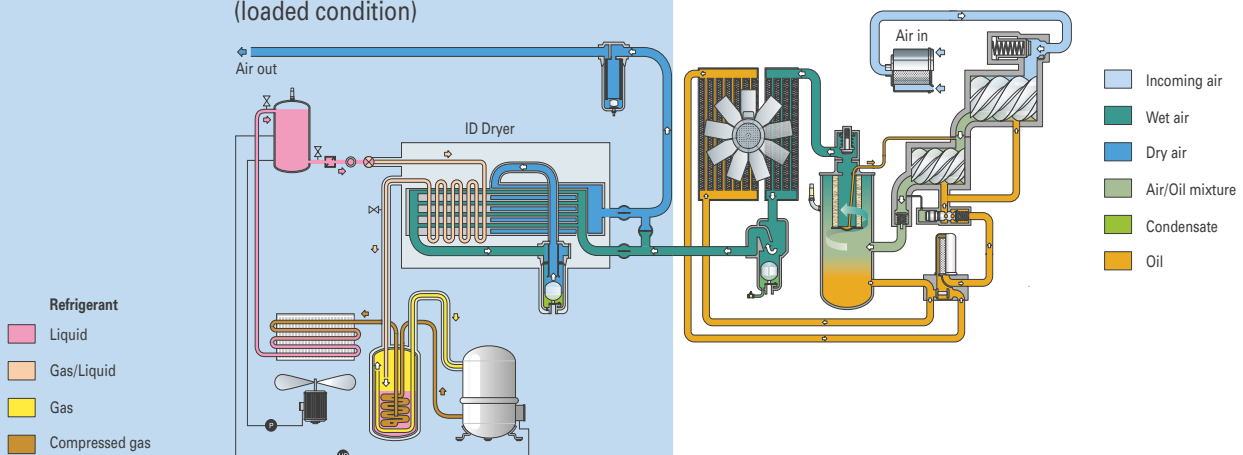
# 13 bar and 20 bar Versions



## GR full feature: compact 'all-in-one' package

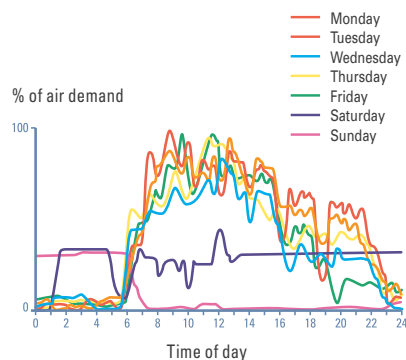
- ▶ Dry quality air as standard option with integrated ID dryer and filters
- ▶ By-pass system included as standard
- ▶ R404A refrigerant, meets environmental regulations
- ▶ Quality end product and system protection
- ▶ As standard equipped with moisture separator
- ▶ A complete scope with many standard options

Flow diagram GR 110-200 FF (loaded condition)



# GA 180 /315 VSD – Variable Speed Drive for the lowest cost compressed air

Most production facilities show a characteristic air demand profile, with fluctuations in air demand according to the hour of the day or the day of the week. Compressors with a traditional regulation system cannot precisely follow these varying demand patterns. Result: energy goes to waste. It shouldn't have to. From the day you install the **GA VSD – Variable Speed Drive** – compressor, your energy bill and the stability of your process will show a major difference.



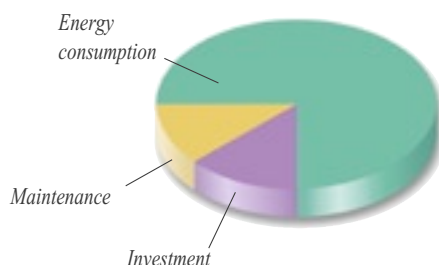
A typical air demand profile, measured over one week.



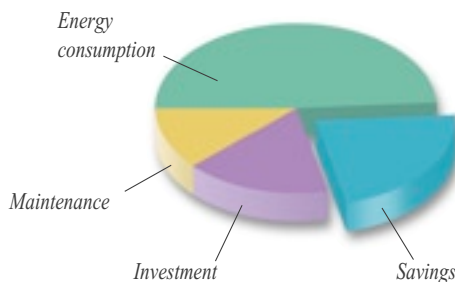
Call upon the expertise of Atlas Copco to assess your process and analyse the air demand and energy consumption in your plant. Based on the results, the implementation of a VSD compressor in a typical installation can be simulated by software. Future energy savings can be estimated.

## Life cycle cost comparison – over a period of five years

### Cost structure of a fixed speed compressor



### Cost structure of a GA VSD compressor

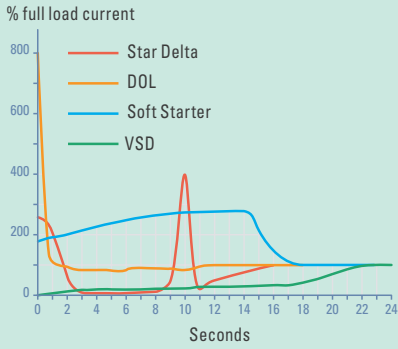


## VSD – Savings and Payback

With a fixed speed compressor, energy consumption represents over 70% of the total life cycle cost. The integrated frequency converter of the GA VSD will vary the speed of the compressor to closely follow the air demand, thereby saving enough energy to payback the additional investment in possibly one to two years depending on the energy tariffs and the demand patterns. Slashing power consumption by installing a VSD compressor results in a life cycle cost saving of 20 to 30 %.

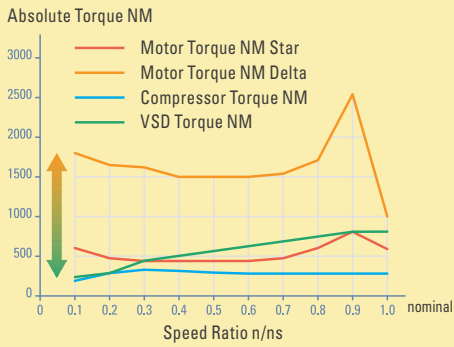
VSD – a Very Smart Decision





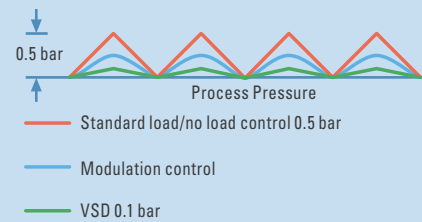
**No current peaks**

Compressor starts are even smoother than with so called “soft starters”. This greatly simplifies the electrical installation. No current peaks. No risk of penalties from the utility company. Investment in the electrical system can be reduced.



**No torque peaks**

The “Super Soft” start and load/unload transition ensure a long lifetime of all moving parts: coupling, bearings, valves.



**Constant pressure**

The output pressure is virtually constant over a wide capacity range (narrow pressure band within 0.1 bar). Unlike traditional regulation systems, it optimizes energy consumption and ensures high process stability.

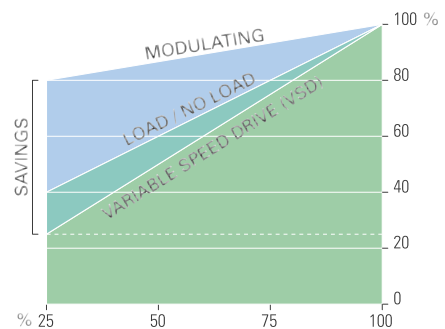
VSD  
= caring for energy  
= caring for nature



GA 180 VSD

**Built-in VSD converter**

- ▶ Unique integration
- ▶ Allows for single point electrical connections
- ▶ Complies with EMC standards
- ▶ No energy loss associated with emissions
- ▶ Highest possible efficiency in combination with VSD motor



**Maximize energy savings**

A VSD driven compressor continuously adapts motor speed to air demand. Hence, no need for throttling or for a full load / no load regulation system. A clear comparison on further power savings possible with the GA VSD.

# GA 315 VSD-FF with Integrated VSD Dryer



The new **GA 315 VSD** builds on the features of the well established **GA 180 VSD**, incorporating a VSD regulated ID refrigeration dryer as a unique design feature.

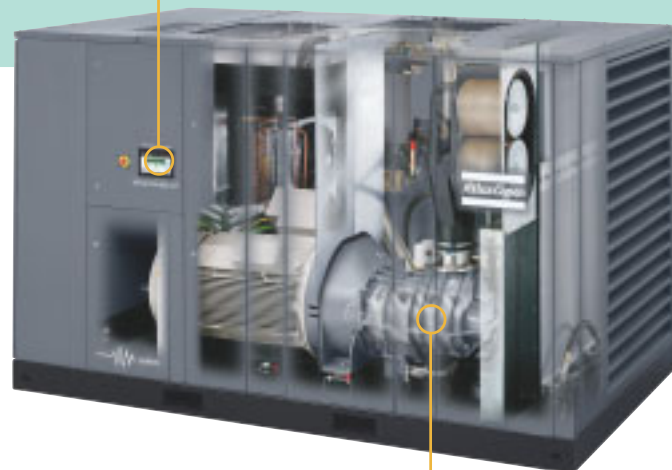
## Advanced Elektronikon® Control

- ▶ Overall system performance status
  - pro-active service indications
  - alarms for malfunctions
  - safety shutdowns
  - web integrated functions
- ▶ Multi-language selectable display
- ▶ Built-in central control unit for multiple compressor installations
- ▶ Variety of expansion modules can be mounted.

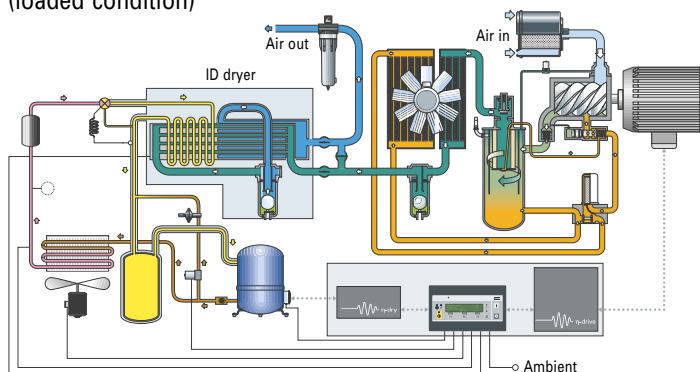


## ID – Integrated VSD Dryer

- ▶ generates additional savings of up to 25 % compared to a fixed speed refrigerant dryer
- ▶ designed for high ambient humidity conditions



## Flow diagram GA 315 VSD-FF (loaded condition)



### Refrigerant

<span style="color: pink;">■</span> Liquid	<span style="color: lightblue;">■</span> Incoming air	<span style="color: green;">■</span> Condensate
<span style="color: orange;">■</span> Gas/Liquid	<span style="color: darkblue;">■</span> Wet air	<span style="color: yellow;">■</span> Oil
<span style="color: yellow;">■</span> Gas	<span style="color: blue;">■</span> Dry air	
<span style="color: brown;">■</span> Compressed gas	<span style="color: grey;">■</span> Air/Oil mixture	



## Most efficient element performance

- ▶ Longer active rotor length allows larger air volume to be compressed.
- ▶ Higher built-in pressure ratio for higher efficiency



# Technical data G compressor range

50 Hz

Compressor Type	Maximum Working Pressure				Capacity FAD (1)			Installed Motor		Noise level (2)	Weight		Weight		
	Pack		Full Feature		Pack / Full Feature			kW	hp		Pack		Full Feature		
	bar(e)	psig	bar(e)	psig	l/s	m³/ min	cfm					dB(A)	kg	lb	kg
<b>GA 90-160 Single-stage</b>															
GA 90 - 7.5	7.5	109	7.25	105	277	16.6	587	90	125	72	2515	5545	2825	6228	
GA 90 - 8.5	8.5	123	8.25	120	260	15.6	551	90	125	72	2515	5545	2825	6228	
GA 90 - 10	10	145	9.75	141	232	13.9	492	90	125	72	2515	5545	2825	6228	
GA 90 - 13	13	189	12.75	185	185	11.1	392	90	125	72	2515	5545	2825	6228	
GA 110 - 7.5	7.5	109	7.25	105	334	20.0	708	110	150	72	2515	5545	2825	6228	
GA 110 - 8.5	8.5	123	8.25	120	313	18.8	663	110	150	72	2515	5545	2825	6228	
GA 110 - 10	10	145	9.75	141	285	17.1	604	110	150	72	2515	5545	2825	6228	
GA 110 - 13	13	189	12.75	185	225	13.5	477	110	150	72	2515	5545	2825	6228	
GA 132 - 7.5	7.5	109	7.25	105	401	24.1	850	132	175	74	3025	6669	3355	7397	
GA 132 - 8.5	8.5	123	8.25	120	381	22.9	807	132	175	74	3025	6669	3355	7397	
GA 132 - 10	10	145	9.75	141	345	20.7	731	132	175	74	3025	6669	3355	7397	
GA 132 - 13	13	189	12.75	185	280	16.8	593	132	175	74	3025	6669	3355	7397	
GA 160 - 7.5	7.5	109	7.25	105	472	28.3	1000	160	215	74	3025	6669	3355	7397	
GA 160 - 8.5	8.5	123	8.25	120	450	27.0	953	160	215	74	3025	6669	3355	7397	
GA 160 - 10	10	145	9.75	141	410	24.6	869	160	215	74	3025	6669	3355	7397	
GA 160 - 13	13	189	12.75	185	342	20.5	725	160	215	74	3025	6669	3355	7397	
<b>GA 200-250 Twin</b>															
GA 200 - 7.5	7.5	109	7.25	105	603	36.1	1278	200	270	75	4727	10421	5127	11303	
GA 200 - 8.5	8.5	123	8.25	120	568	34.0	1204	200	270	75	4727	10421	5127	11303	
GA 200 - 10	10	145	9.75	141	513	30.7	1087	200	270	75	4727	10421	5127	11303	
GA 200 - 13	13	189	12.75	185	436	26.1	924	200	270	75	4727	10421	5127	11303	
GA 250 - 7.5	7.5	109	7.25	105	730	43.7	1548	250	335	75	5017	11060	5417	11942	
GA 250 - 8.5	8.5	123	8.25	120	697	41.7	1477	250	335	75	5017	11060	5417	11942	
GA 250 - 10	10	145	9.75	141	631	37.8	1338	250	335	75	5017	11060	5417	11942	
GA 250 - 13	13	189	12.75	185	530	31.7	1124	250	335	75	5017	11060	5417	11942	
<b>GA 180 / GA 315 - VSD</b>															
GA 180 VSD - 4	4	58	-	-	482	28.9	1021	180	250	75	3870	8533	4200	9261	
GA 180 VSD - 7	7	109	-	-	478	28.7	1013	180	250	75	3870	8533	4200	9261	
GA 180 VSD - 10	10	145	-	-	418	25.1	886	180	250	75	3870	8533	4200	9261	
GA 180 VSD - 13	13	200	-	-	352	21.1	746	180	250	73	3870	8533	4200	9261	
GA 315 VSD - 4	4	58	-	-	854	51.2	1810	290	390	75	6165	13563	6615	14553	
GA 315 VSD - 7	7	109	-	-	847	50.8	1795	290	390	75	6165	13563	6615	14553	
GA 315 VSD - 10	10	145	-	-	710	42.6	1505	290	390	75	6165	13563	6615	14553	
<b>GR 110-200 Two-stage 13 bar</b>															
GR 110-13	13	189	12.75	185	255	15.3	541	110	150	72	3140	6908	3470	7634	
GR 132-13	13	189	12.75	185	308	18.5	653	132	175	75	3140	6908	3470	7634	
GR 160-13	13	189	12.75	185	369	22.1	782	160	215	75	3547	7803	3877	8529	
GR 200-13	13	189	12.75	185	437	26.2	926	200	270	76	3547	7803	3877	8529	
<b>GR 110-200 Two-stage 20 bar</b>															
GR 110-20	20	290	19.75	286	211	12.6	447	110	150	72	3140	6908	3470	7634	
GR 200-20	20	290	19.75	286	385	23.1	816	200	270	75	3547	7803	3877	8529	

(1) **Unit performance** measured according to ISO 1217, Ed.3, Annex C-1996  
Reference conditions:  
• absolute inlet pressure 1 bar (14.5 psi)  
• intake air temperature 20°C (68°F)

FAD is measured at the following working pressures:  
- 7.5 bar variants at 7 bar  
- 8.5 bar variants at 8 bar  
- 10 bar variants at 9.5 bar  
- 13 bar variants at 12.5 bar  
- 20 bar variants at 19 bar

- 100 psi variants at 100 psi  
- 125 psi variants at 125 psi  
- 150 psi variants at 150 psi  
- 200 psi variants at 193 psi  
- 290 psi variants at 276 psi

(2) **Noise level** measured according to Pneurop / Cagi PN8NTC2.2 test code; tolerance ±3 dB(A)

**Integrated dryer:** pressure dewpoint of integrated refrigerant dryer at reference conditions: 3 to 4°C

**Integrated filter:** particle removal down to 1 micron and maximum remaining oil aerosol of 0.1 mg/m³

Type	Dimensions (mm)			Dimensions (in)		
	A	B	C	A	B	C
GA 90 - 110	2779	1600	1990	109.4	63.0	78.3
GA 132 - 160	2779	1886	1990	109.4	74.3	78.3
GA 200 - 315	3386	2120	2400	133.3	83.4	94.4
GA 180 VSD	3386	1886	2010	133.3	74.2	79.1
GA 315 VSD	4000	2120	2400	157.4	83.4	94.4
GR 110-200	2779	1886	1990	109.4	74.3	78.3





# Technical data G compressor range

60 Hz

Compressor Type	Maximum Working Pressure				Capacity FAD (1)			Installed Motor		Noise level (2)	Weight			
	Pack		Full Feature		Pack / Full Feature			kW	hp		Pack		Full Feature	
	bar(e)	psig	bar(e)	psig	l/s	m³/ min	cfm					dB(A)	kg	lb
<b>GA 90-160 Single-stage</b>														
GA 90 - 100	7.4	107	7.15	104	298	17.9	631	90	125	76	2515	5545	2825	6228
GA 90 - 125	9.1	132	8.85	128	264	15.8	559	90	125	76	2515	5545	2825	6228
GA 90 - 150	10.8	157	10.55	153	239	14.3	506	90	125	76	2515	5545	2825	6228
GA 90 - 200	13.8	200	13.55	196	191	11.5	405	90	125	76	2515	5545	2825	6228
<b>GA 110 - 150</b>														
GA 110 - 100	7.4	107	7.15	104	353	21.2	748	110	150	76	2515	5545	2825	6228
GA 110 - 125	9.1	132	8.85	128	314	18.8	665	110	150	76	2515	5545	2825	6228
GA 110 - 150	10.8	157	10.55	153	289	17.3	612	110	150	76	2515	5545	2825	6228
GA 110 - 200	13.8	200	13.55	196	231	13.9	489	110	150	76	2515	5545	2825	6228
<b>GA 160 - 200</b>														
GA 160 - 100	7.4	107	7.15	104	467	28.0	989	150	200	76	3025	6669	3355	7397
GA 160 - 125	9.1	132	8.85	128	420	25.2	890	150	200	76	3025	6669	3355	7397
GA 160 - 150	10.8	157	10.55	153	390	23.4	826	150	200	76	3025	6669	3355	7397
GA 160 - 200	13.8	200	13.55	196	320	19.2	678	150	200	76	3025	6669	3355	7397
<b>GA 200-315 Twin</b>														
GA 200 - 100	7.4	107	7.15	104	586	35.1	1242	185	250	76	4957	10928	5357	11810
GA 200 - 125	9.1	132	8.85	128	532	32.0	1128	185	250	76	4957	10928	5357	11810
GA 200 - 150	10.8	157	10.55	153	483	29.0	1024	185	250	76	4957	10928	5357	11810
<b>GA 250 - 315</b>														
GA 250 - 100	7.4	107	7.15	104	683	41.0	1448	225	300	76	5057	11149	5457	12030
GA 250 - 125	9.1	132	8.85	128	620	37.1	1314	225	300	76	5057	11149	5457	12030
GA 250 - 150	10.8	157	10.55	153	569	34.1	1206	225	300	76	5057	11149	5457	12030
GA 250 - 200	13.8	200	13.55	196	477	28.6	1011	225	300	76	5057	11149	5457	12030
<b>GA 315 - 400</b>														
GA 315 - 100	7.4	107	7.15	104	777	46.5	1647	260	350	76	5257	11590	5657	12470
GA 315 - 125	9.1	132	8.85	128	707	42.3	1499	260	350	76	5257	11590	5657	12470
GA 315 - 150	10.8	157	10.55	153	660	39.5	1399	260	350	76	5257	11590	5657	12470
GA 315 - 200	13.8	200	13.55	196	555	33.2	1177	260	350	76	5257	11590	5657	12470
<b>GA 180 / GA 315 - VSD</b>														
GA 180 VSD - 4	4	58	-	-	482	28.9	1021	180	250	75	3870	8533	4200	9261
GA 180 VSD - 7	7	109	-	-	478	28.7	1013	180	250	75	3870	8533	4200	9261
GA 180 VSD - 10	10	145	-	-	418	25.1	886	180	250	75	3870	8533	4200	9261
GA 180 VSD - 13	13	200	-	-	352	21.1	746	180	250	73	3870	8533	4200	9261
GA 315 VSD - 4	4	58	-	-	854	51.2	1810	290	390	75	6165	13563	6615	14553
GA 315 VSD - 7	7	109	-	-	847	50.8	1795	290	390	75	6165	13563	6615	14553
GA 315 VSD - 10	10	145	-	-	710	42.6	1505	290	390	75	6165	13563	6615	14553
<b>GR 110-200 Two-stage 13 bar - 200 psig</b>														
GR 110-200	13.8	200	13.55	196	261	15.6	553	110	150	72	3140	6908	3470	7634
GR 160-200	13.8	200	13.55	196	350	21.0	742	150	200	75	3547	7803	3877	8529
GR 200-200	13.8	200	13.55	196	442	26.5	937	185	250	78	3547	7803	3877	8529
<b>GR 110-200 Two-stage 20 bar - 290 psig</b>														
GR 110-290	20	290	19.75	286	224	13.4	475	110	150	72	3140	6908	3470	7634
GR 200-290	20	290	19.75	286	384	23.0	814	185	250	78	3547	7803	3877	8529

(1) **Unit performance** measured according to ISO 1217, Ed.3, Annex C-1996  
Reference conditions:  
• absolute inlet pressure 1 bar (14.5 psi)  
• intake air temperature 20°C (68°F)

FAD is measured at the following working pressures:  
- 7.5 bar variants at 7 bar  
- 8.5 bar variants at 8 bar  
- 10 bar variants at 9.5 bar  
- 13 bar variants at 12.5 bar  
- 20 bar variants at 19 bar

- 100 psi variants at 100 psi  
- 125 psi variants at 125 psi  
- 150 psi variants at 150 psi  
- 200 psi variants at 193 psi  
- 290 psi variants at 276 psi

(2) **Noise level** measured according to Pneurop / Cagi PN8NTC.2.2 test code; tolerance ±3 dB(A)

**Integrated dryer:** pressure dewpoint of integrated refrigerant dryer at reference conditions: 3 to 4°C

**Integrated filter:** particle removal down to 1 micron and maximum remaining oil aerosol of 0.1 mg/m³

Type	Dimensions (mm)			Dimensions (in)		
	A	B	C	A	B	C
GA 90 - 110	2779	1600	1990	109.4	63.0	78.3
GA 132 - 160	2779	1886	1990	109.4	74.3	78.3
GA 200 - 315	3386	2120	2400	133.3	83.4	94.4
GA 180 VSD	3386	1886	2010	133.3	74.2	79.1
GA 315 VSD	4000	2120	2400	157.4	83.4	94.4
GR 110-200	2779	1886	1990	109.4	74.3	78.3

