



Atlas Copco



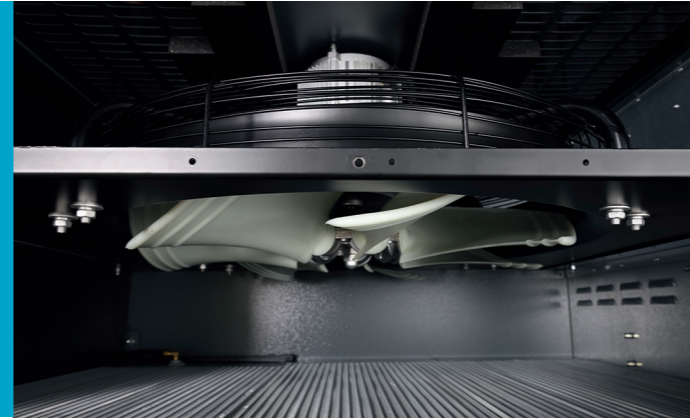
## Oil-injected rotary screw compressors

GA7-22 VSD (7-22kW / 10-30hp)

# Inside the intelligent, smart GA7-22VSD

## A new standard in compressor efficiency

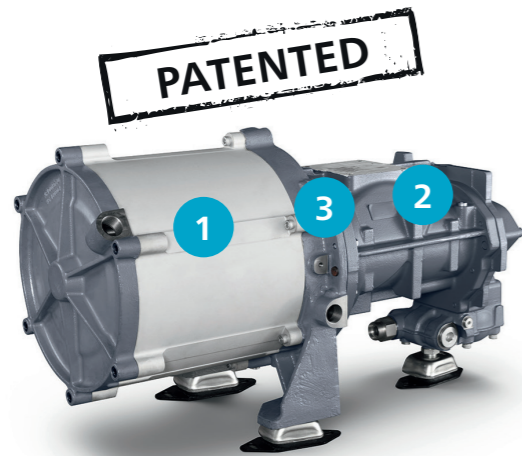
Atlas Copco's GA7-22VSD compressors feature smart drive and intelligent control for unprecedented reliability and efficiency. We integrate Variable Speed Drive as standard, along with an Integrated Permanent Magnet motor and a unique air compressor inverter. As a result, the GA7-22VSD reduces energy consumption by an average of at least 35%, setting a new benchmark for cost savings and sustainable performance in the compressor industry.



### 1 DRIVE TRAIN

#### Interior Permanent Magnet (IPM) motor

- Very high efficiency: equalizing IE4
- Compact, customized design for optimal cooling by oil
- IP55 (GA7-22 VSD)
- No cooling air flow required
- Oil-lubricated motor



### 2 Element

#### Element

- Made by Atlas Copco
- Robust and silent
- High efficiency

### 3 Direct drive

#### Direct drive

- No gear or belt efficiency loss
- Compact: footprint down 30%



#### Efficient

- On average, 10% lower Specific Energy Requirement (SER) than fixed-speed compressors. Energy consumption is typically reduced by at least 35% compared to an idling compressor



- Minimized efficiency losses through a direct drive with an permanent magnet motor equalizing IE4
- Optimized inlet flow at air-end through use of sentinel Valve to minimize pressure and air loss



#### Innovative

- (GA7-22 VSD) compressors are equipped with a leakage-free drivetrain designed by Atlas Copco



#### Smart and intelligent

- Unique inverter for air compressors
- Advance controller, developed by Atlas Copco, with control logic adapted to fit different operating conditions
- Modular design with proven performance and efficient material usage



#### Reliable

- Proven durability with modular design to ensure maximum use of parts
- W-fin cooler for dependable performance in harsh environments



### 4

#### W-fin cooling system

- W-fin cooler is dependable in harsh conditions
- Axial fan enhances cooler performance

### 5

#### Robust oil filter/separator

- Integrated bypass valve with the oil filter
- Easy maintenance

### 6

#### Advanced controller

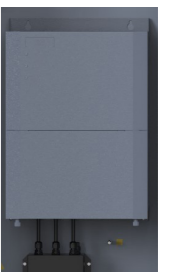
- The MKV Touch controller with SMARTLink connectivity making compressor suitable for Industry 4.0
- Automatic restart after voltage failure
- Dual pressure setpoint
- Delayed Second Stop function



### 7

#### Unique inverter

- Unique inverter design for air compressors
- Self-adjusting control in abnormal conditions
- EMC Filter (C2 Compliant)



### 8

#### Full Feature (FF)

- Integrated refrigerant air dryer
- Wet vessel ensures lower load on the dryer
- Space-saving - Ensures moisture free air

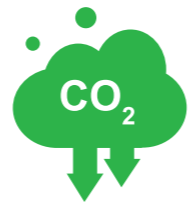


## VSD upto 35% energy savings

Atlas Copco's GA Variable Speed Drive technology closely matches the air demand by automatically adjusting the motor speed. This results in energy savings of on average 35% compared to load/unload machines

### Why choose Atlas Copco Variable Speed Drive technology?

- Integrated Elektronikon<sup>®</sup> Touch controller controls the motor speed
- Unique inverter design
- Oil cooled iPM motor means the compressor can start/stop under full system pressure without the need to unload
- Eliminates peak current penalty during start-up



26 Ton per year reduction of CO<sub>2</sub><sup>#</sup>

## Technical specifications GA7-22 VSD

Compressor Type	Max. Working pressure		Capacity FAD* (min-max)			Installed motor power		Noise level**	Weight	
	bar(e)	psig	l/s	m <sup>3</sup> /h	cfm	kW	hp		Work Place	Work Place Full Feature
50/60 Hz version										
GA7 VSD	4	58	7-21	25-76	15-45	7	10	67	265	331
	7	102	7-21	25-76	15-45	7	10	67	265	331
	10	146	7-17	25-61	15-36	7	10	67	265	331
	13	181	8-14	29-50	17-30	7	10	67	265	331
GA11 VSD	4	58	7-31	25-112	15-66	11	15	67	265	331
	7	102	7-30	25-108	15-64	11	15	67	265	331
	10	146	7-26	25-94	15-55	11	15	67	265	331
	13	181	8-22	29-79	17-47	11	15	67	265	331
GA15 VSD	4	58	7-38	25-137	15-81	15	20	67	279	345
	7	102	7-37	25-133	15-78	15	20	67	279	345
	10	146	7-31	25-112	15-66	15	20	67	279	345
	13	181	8-25	29-90	17-53	15	20	67	279	345
GA18 VSD	4	58	12-57	43-205	25-121	19	25	70	425	560
	7	102	12-57	43-204	25-120	19	25	70	425	560
	10	146	10-49	38-175	22-103	19	25	70	425	560
	13	181	12-43	45-153	26-90	19	25	70	425	560
GA22VSD	4	58	12-67	43-240	25-141	22	30	70	450	590
	7	102	12-67	43-239	25-141	22	30	70	450	590
	10	146	10-57	38-203	22-120	22	30	70	450	590
	13	181	12-50	45-180	26-106	22	30	70	450	590

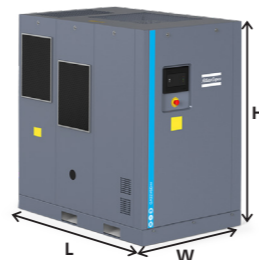
\* Unit performance measured according ISO 1217 ed. 4 2009, annex E, latest edition.  
 \*\* Mean noise level measured at a distance of 1 m according to ISO 2151: 2004 using ISO 9614/2 (sound intensity method); tolerance 3 dB(A).  
 # Specific operating parameters (v/s fixed speed)

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

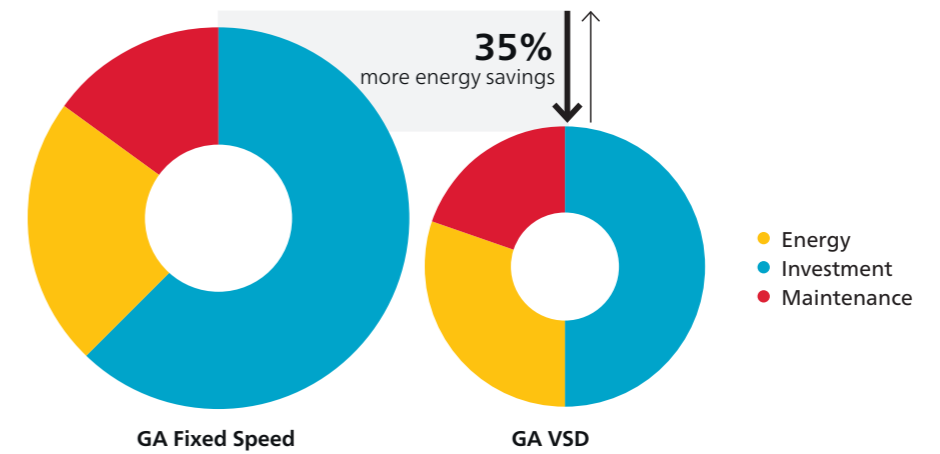
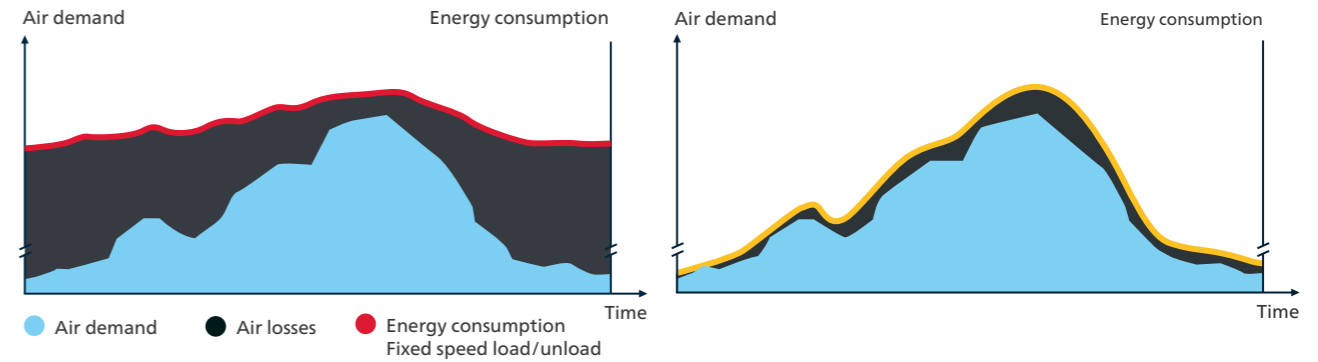
FAD is measured at the following effective working pressures:  
 - 4 bar(e)  
 - 7 bar(e)  
 - 10 bar(e)  
 - 12.5 bar(e)

Maximum working pressure: 13 bar(e) (188 psig)

Dimensions	Standard		
	L (mm)	W (mm)	H (mm)
GA 7-15 VSD Pack	765	1132	1420
GA 7-15 VSD FF	770	1510	1420
GA 18-22 VSD Pack	1080	1000	1590
GA18-22 VSD FF	1550	1000	1590



In almost every production environment, air demand fluctuates depending on different factors such as the time of the day, week, or even month. Extensive measurements and studies of compressed air demand profiles show that many compressors have substantial variations in air demand.



## Flow chart GA7-22 VSD

- Wet compressed air
  - Dry compressed air
  - Intake air
  - Air/oil mixture
  - Oil
- 1 Inlet filter
  - 2 Spring inlet valve
  - 3 Screw element
  - 4 Air/oil vessel separator
  - 5 Oil separator
  - 6 Minimum pressure valve
  - 7 Thermostatic bypass valve
  - 8 Oil filter
  - 9 Motor
  - 10 Oil cooler
  - 11 After cooler
  - 12 Fan
  - 13 Solenoid valve
  - 14 WSD

