Atlas Copco Stationary air compressors

GA 30-90C WorkPlace Air System series - 50/60 Hz

30-90 kW / 40 -125 hp oil injected rotary screw compressors

THE "WORKPLACE"
COMPRESSED AIR
SYSTEM

Atlas Copco

"WorkPlace": A unique "All-in-One" compressed air system that can be placed anywhere

The combination of features which distinguish Atlas Copco's compressors has lead to a new quantum leap in customer value : The "WorkPlace" air compressor system.

Moving the compressor out of the conventional compressor room to the point-of-use has been made possible thanks to the extremely low noise levels and the integration of optional ancillaries such as air and condensate treatment equipment.

The "WorkPlace" air compressor system contributes to improvements in installation and has much more impact on customer value than traditional products.

Lower installation cost

The GA 30-90C units are delivered to the site equipped with oil and are ready to go. To start the operation, just plug in the compressor to its power source.

- Minimal floor-space required
- Single point connection for power supply of compressor and ancillaries
- Single point monitoring of compressor and ancillaries
- No piping to connect all ancillaries
- No piping to the point of use to the highest extend
- No compressor room.

Lower running cost

Maintaining a pipe network is cumbersome and costly. Besides the pressure drop over the pipe network, experience shows that leakages of up to 10 % of the total compressor capacity are not unusual. The "WorkPlace" concept offers the possibility to eliminate this unnecessary power consumption and save money.

The GA 30-90C series are available as:

- Air- or water-cooled versions
- WorkPlace or WorkPlace Full Feature (including dryer) versions
- High ambient versions (up to 50 °C, 145 °F).

“WorkPlace” compressed air system: The benefits of advanced technology

✓ **Absolute reliability**	Designed and manufactured in accordance with ISO 9001 and ISO 14001 certification, the GA 30-90 C range meets the industry’s expectations of the highest quality standards. All units are conform with the ISO 1217, ed.3, Annex C – 1996 test code.
✓ **High efficiency**	The compressor is equipped with the unique Atlas Copco‘s patented screw element, a high efficiency drive system and an intelligent control system resulting in a superior performance.
✓ **Low maintenance costs**	The compressor has been designed to be service friendly with direct and easy access to all components. Wear and the need for spare parts are reduced to a minimum.
✓ **Low noise level**	The use of a radial low speed fan and modern techniques of vibro-acoustic optimization has resulted in extremely low noise levels.
✓ **Elektronikon® control**	This advanced control, monitoring and communication system maximizes overall compressor efficiency and reliability and minimizes maintenance cost. At the same time all worldwide interfaces for remote control and communication are available.
✓ **All-in-One packages**	All air and condensate treatment equipment can be integrated in the compressor package reducing the installation cost and floor-space requirement to the full.
✓ **Global sales and service organization**	From concept to installation, from advice to preventive maintenance and service activities, Atlas Copco is your compressed air partner helping to maintain your production process.

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

ISO 14001
Atlas Copco’s Environmental Management System forms an integral part of each business process.

GA 30-90C “WorkPlace” compressed air sy

GA 30-55C

1. Integrated refrigerant dryer
The Full Feature version includes as standard an integrated refrigerant dryer for minimum installation cost and floor-space requirement.

2. Integrated air filters
The Full Feature version can be upgraded with optional air filters for clean air according to ISO 8573-1 class 1 or 2.

3. Motor
High efficiency, totally enclosed fan-cooled (TEFC), IP55, class F electrical motor for continuous trouble-free operation.
Permanent alignment to the compressor element.

4. Coolers
Compact coolers dimensioned to ensure ideal running temperatures under all conditions – easy to clean.

5. Element
Atlas Copco’s patented screw element for optimal energy efficiency and outstanding reliability.

6. Drive arrangement
Direct or gear drive for optimal energy efficiency and minimal maintenance.
Flexible coupling for reduction of starting torque.

ystem: reliability, efficiency and integration

GA 55-90C

7. Fan
Low speed radial fan providing a high cooling air flow at extremely low noise levels.

8. Oil-separator
Multi-stage oil separator yields a 2 ppm oil-carry over for minimum contamination and maintenance.

9. Air inlet filter
Heavy-duty, multi-stage inlet filter with particle removal down to 1 micron.
Large element surface for long life time and minimal pressure drop.

10. Elektronikon
Automatic electronic control and monitoring of the compressor optimizes the operation for efficiency and reliability

11. Integrated oil-water separator
The fully automatic optional oil-water separator separates the oil-water flow without the use of costly activated carbon.
Condensate quality with less than 10 ppm residual oil content.

Elektronikon® : A superior electronic control, monitoring and communication system

Atlas Copco's patented Elektronikon is an advanced microprocessor based, real time operating system with an ergonomic alphanumeric user interface.

Reliability

- Protects pro-active by the compressor by means of service and warning indications
- Shuts down safely the compressor in case vital errors occur

Energy efficiency

- Precise pressure control for optimal efficiency
- As standard the control mode DSS is programmed, eliminating the unloaded power consumption to the highest extent, resulting in energy savings up to 10 %

User friendliness

- Can be programmed in 2 languages out of a selection of 23 languages
- Setting of operating parameters (password protected)
  - Working pressure
  - Warning levels
  - Service levels
  - Week timer
- Historical and actual data read-out via the easy-to-read display
  - Working pressure, operating temperatures , number of motor starts, operating hours, service information
  - Status data during the 5 last shutdowns and emergency stops

Service friendliness

- Automatic indication when service is required, minimizing downtime and simplifying maintenance planning

Digital remote control and monitoring

- Possibility to start/stop-load/unload the compressor from a remote area
- Remote indication of automatic operation, general warning and shutdown

Communication

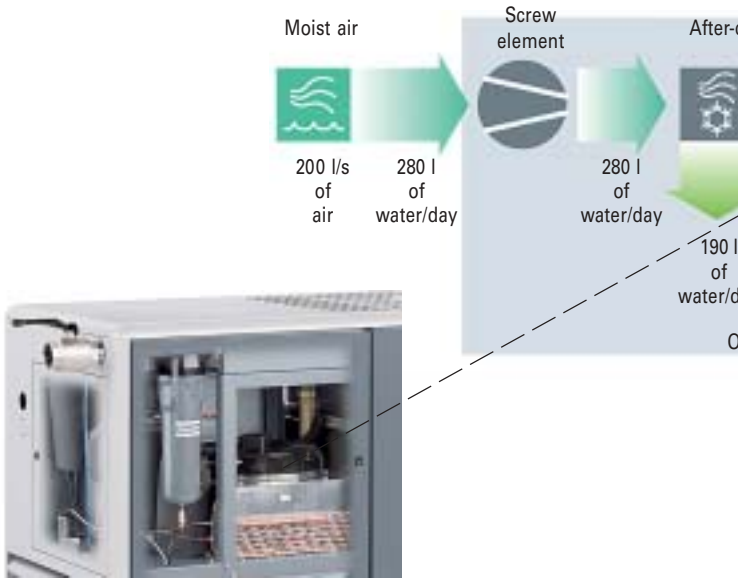
- CAN connection (standard)
- ModBUS/ProfiBUS interface (option)
- E-box interface to world wide web (option)

Compressor room control and monitoring

Multiple compressor installations can benefit from a centralised control system, which coordinates the operation of the individual compressors and ancillaries. From simple sequencing to complete compressor room monitoring, Atlas Copco can offer it all - using the latest state of the art communication technology.

Optional equipment: The best value proposal.

Moisture, dirt particles and aerosols in plant air can damage pneumatic equipment and contaminate products. Dry and clean compressed air keeps production operations running smoothly. The GA 30-90C Full Feature units incorporate an integrated dryer using an environmental friendly refrigerant R404a.
When adding the optional filter kits (DD-PD) these units will deliver clean and dry compressed air according to ISO 8573-1 class 1.4.1 or 2.4.2.



Condensate quality mus
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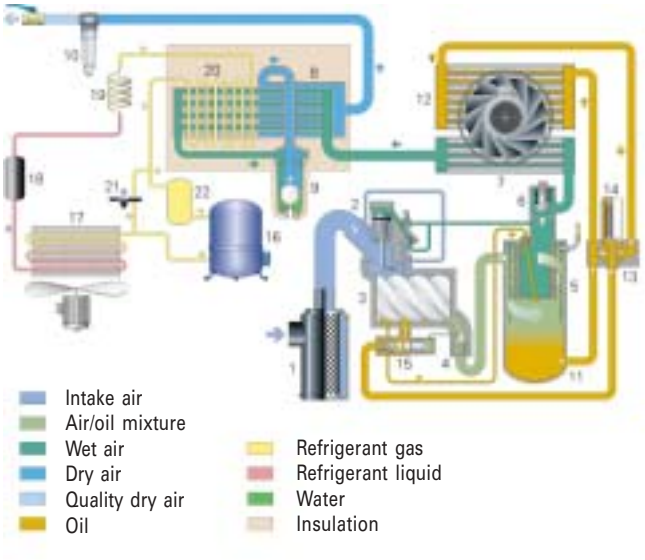
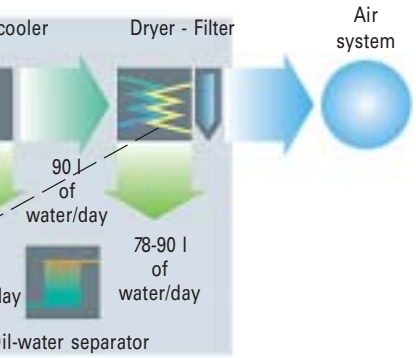
Standard options	GA 30-55C	GA 55-90C
Class 1 filter kit (only Full Feature version)		•
Class 2 filter kit (only Full Feature version)	•	•
Dryer bypass	•	•
Oil/water separator	•	•
Electronic water drain	•	•
Oil containing frame	•	•
Energy recovery	•	•
Modulating control	•	•
Synthetic PAO oil	•	•
Food grade oil	•	•
Lifting device	•	•
Rain protection	•	•
Freeze protection (-10 °C)	•	•
Main motor		
Anti condensate heater + thermistor protection	•	•
Phase sequence relay	•	•
Main power isolator switch	•	•
Special colours	•	•
E-box world wide web interface	•	•
ModBUS interface	•	•
ProfiBUS interface	•	•
Cooling water shutt off valve	•	•
High ambient version (HAV, 50 °C)	•	•

Flow diagram



GA VSD: The compressor genius that can save up to 35 % of energy



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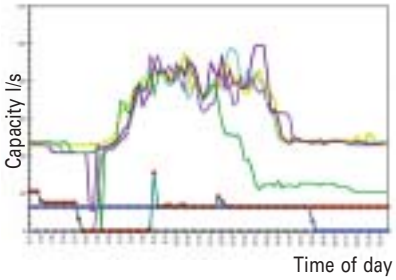


A typical air demand profile, measured over one week.

A measurement box which is used for analysis of air energy consumption. Based on these readings, the implementation of a VSD compressor in a typical installation can be simulated by software. Future energy savings can be estimated prior to any capital investment commitment.

Most production facilities show an air demand profile with fluctuations according to the hour of the day, the day of the week or the period in an economical cycle. Traditional compressors can not follow precisely the air demand.

Atlas Copco pioneered the **GA V**(ariable) **S**(peed) **D**(rive) compressors, offering the capability to match perfectly compressor capacity to air demand.

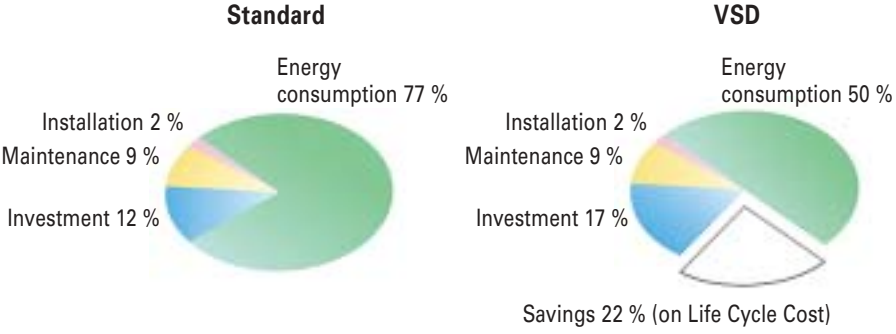
A GA VSD compressor is able to follow the fluctuating demand by varying the speed of its drive motor. This is the key feature of the GA VSD compressor. They reduce the energy consumption to a minimum by avoiding completely unloaded power consumption and so save up to 22 % on the total life cycle cost.

Air flow
1. Air intake filter
2. Air intake valve
3. Compression element
4. Non return valve
5. Oil separator element
6. Minimum pressure valve
7. After cooler
8. Air-air heat exchanger
9. Water separator with drain
10. DD filter (optional)

Oil flow
11. Oil reservoir
12. Oil cooler
13. Thermostatic bypass valve
14. Oil filter
15. Oil stop valve

Refrigeration flow
16. Refrigerant compressor
17. Condenser
18. Liquid refrigerant dryer/filter
19. Capillary tube
20. Evaporator
21. Hot gas bypass valve
22. Accumulator

Life cycle cost comparison (LCC) over a period of 5 years.



35 % savings of energy consumption

Technical data

Compressor type	Max. working pressure WorkPlace bar(e)	WorkPlace psig	WorkPlace Full Feature bar(e)	WorkPlace Full Feature psig	Capacity FAD(*) l/s	Capacity FAD(*) m³/h	Capacity FAD(*) cfm	Motor power kW	Motor power hp	Noise level(**) dB(A)	Weight (kg) Work-Place	Weight (kg) Work-Place Full Feature
50 Hz version												
GA 30 - 7.5	7.5	109	7.3	105	93	335	197	30	40	65	830	920
- 8	8	116	7.75	112	89	320	189					
- 10	10	145	9.8	141	78	281	165					
- 13	13	189	12.8	185	64	230	136					
GA 37 - 7.5	7.5	109	7.3	105	115	414	244	37	50	66	970	1080
- 8	8	116	7.75	112	110	396	233					
- 10	10	145	9.8	141	98	353	208					
- 13	13	189	12.8	185	78	281	165					
GA 45 - 7.5	7.5	109	7.3	105	134	482	284	45	60	67	970	1080
- 8	8	116	7.75	112	122	439	259					
- 10	10	145	9.8	141	120	432	254					
- 13	13	189	12.8	185	100	360	212					
GA 55C - 7.5	7.5	109	7.3	105	158	569	335	55	75	70	1035	1150
- 10	10	145	9.8	141	141	508	299					
- 13	13	189	12.8	185	121	436	256					
GA 55 - 7.5	7.5	109	7.3	105	172	619	364	55	75	66	1350	1500
- 8	8	116	7.75	112	166	598	352					
- 10	10	145	9.8	141	145	522	307					
GA 75 - 7.5	7.5	109	7.3	105	236	850	500	75	100	68	1450	1600
- 8	8	116	7.75	112	224	806	475					
- 10	10	145	9.8	141	197	709	417					
- 13	13	189	12.8	185	169	608	358					
GA 90C - 7.5	7.5	109	7.3	105	254	914	538	90	125	73	1550	1700
- 8	8	116	7.75	112	252	907	534					
- 10	10	145	9.8	141	222	799	470					
- 13	13	189	12.8	185	190	684	403					
60 Hz version												
GA 30 - 100	7.4	107	7.2	104	93	335	197	30	40	65	830	920
- 125	9.1	132	8.9	128	85	306	180					
- 150	10.8	157	10.6	153	72	259	153					
- 175	12.5	181	12.3	178	66	238	140					
GA 37 - 100	7.4	107	7.2	104	117	421	248	37	50	66	970	1080
- 125	9.1	132	8.9	128	104	374	220					
- 150	10.8	157	10.6	153	93	335	197					
- 175	12.5	181	12.3	178	83	299	176					
GA 45 - 100	7.4	107	7.2	104	140	504	297	45	60	67	970	1080
- 125	9.1	132	8.9	128	126	454	267					
- 150	10.8	157	10.6	153	114	410	242					
- 175	12.5	181	12.3	178	101	364	214					
GA 55C - 100	7.4	107	7.2	104	158	569	335	55	75	73	1035	1150
- 125	9.1	132	8.9	128	144	518	305					
- 150	10.8	157	10.6	153	132	475	280					
- 175	12.5	181	12.3	178	125	450	265					
GA 55 - 100	7.4	107	7.2	104	173	623	367	55	75	67	1350	1500
- 125	9.1	132	8.9	128	153	551	324					
GA 75 - 100	7.4	107	7.2	104	233	839	494	75	100	69	1450	1600
- 125	9.1	132	8.9	128	209	752	443					
- 150	10.8	157	10.6	153	190	684	403					
- 175	12.5	181	12.3	178	172	619	364					
GA 90C - 100	7.4	107	7.2	104	254	914	538	90	125	74	1550	1700
- 125	9.1	132	8.9	128	235	846	498					
- 150	10.8	157	10.6	153	216	778	458					
- 175	12.5	181	12.3	178	196	706	415					

(*) 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 versions at 7 bar
- 10 bar versions at 9.5 bar
- 13 bar versions at 12.5 bar

(**) Mean noise level measured according to Pneurop/Cagi PN8NTC2 test code; tolerance 2 dB(A).

Pressure dew point of integrated refrigerant dryer at reference conditions: 2 °C to 3 °C.

GA 30-55C Pack version: weight -30 kg, noise level +3 dB(A).