

# COMBI 4-in-1 Compressed Air Stations 7.5 to 22 kW



**Compact and Cost Effective**





# QUALITY AND INNOVATIONS MADE IN GERMANY.

## Decades of experience and excellent performance

ALMiG is one of the leading compressed air technology system providers and has decades of experience delivering premium products in the compressed air sector. Companies all around the world trust in our customer focused solutions, our quality, innovation and flexibility. Our advanced compressor technologies combine excellence with the quietest possible running performance, optimal energy efficiency and particularly careful conservation of resources.

## Ongoing development and comprehensive industry knowledge

Constant research and development form the essential foundation for the efficiency of every system manufactured by ALMiG. Only these constant enhancements and improvements enable us to react quickly and flexibly to individual customer wishes. This attitude is complemented by a comprehensive understanding of the sector: we understand the challenges that our customers are faced with and the requirements that arise as a consequence. ALMiG offers effective solutions for a wide range of applications – from small craft workshops to medium-sized companies to big industry.

## Complete service and maximum availability

The highest quality technological solutions deserve an equally high level of service. The ALMiG service provisions offer our customers a complete service programme: from providing comprehensive advice to ensuring availability, improving cost-effectiveness and developing energy-saving potential. As an expert partner, ALMiG offers its customers advice and support on all issues. Our goal is to contribute to your economic success with our service offerings.

### **ALMiG: Compressor Systems Made in Germany**

Piston compressors

Screw compressors

Turbo compressors

Scroll compressors

Special installations

Controllers

Compressed air treatment

Services

# COMBI

## The cost-effective 4-in-1 compact system

Our COMBI screw compressors are a highly cost-effective 4-in-1 solution: The compressed air station combines

- a compressor,
- compressed air receiver (with manual shut-off, and also with an automatic condensate drain as an option),
- refrigeration dryer and
- pre- and after-filters

in one housing as standard. The series thus fulfils the high quality requirements for compressed air for pneumatic applications specified by DIN ISO 8573-1.

Requiring the smallest possible space and emitting very low noise levels, the machines of the COMBI series can be installed exactly where the compressed air is needed, saving your company major investments in expensive pressure lines. The belt-driven systems of the COMBI series are used in applications ranging from practical trades to heavy-duty industry.

In small-scale workshops, the compressors guarantee a reliable supply of compressed air while, in industry, the COMBI products serve as an individual decentralized compressed air solution.

Other benefits of these compact systems include their low weight and therefore the ease of transport. All it takes is a lifting truck or a fork-lift truck to install the ready-to-connect and ready-to-use compressed air station on site.

### The product range

2 different system sizes:

- COMBI 6–15: 270 l standard / 500 l optional
- COMBI 16–22: 500 l standard

All the compressors in the series are available:

- with/without receiver
- with/without refrigeration dryer
- with/without compressed air filter
- with various controllers to suit your needs

### Application

Trade, small-scale industry

### Power output

5.5 - 22 kW

### Volume flow acc. to ISO 1217

(Annex C-2009):

8 bar: 0.82 - 3.24 m<sup>3</sup>/min

10 bar: 0.72 - 2.75 m<sup>3</sup>/min

13 bar: 0.62 - 2.54 m<sup>3</sup>/min

### Operating pressure

5 - 13 bar

### Cooling

Air-cooled

### Drive

V-belt

### Motor

Energy efficiency class IE 3;

IP 55 protection,

protection class F



- + 4-in-1: compressor, compressed air receiver, refrigeration dryer, pre-/after-filter
- + Fulfils quality requirements for compressed air according to DIN ISO 8573-1
- + Small space requirements
- + Low noise level
- + Easy to transport due to low weight



**Compressor stage**  
with low speeds

**Maintenance-friendly design**

**Air Control**

Smart controller that monitors, visualises and documents

**Drive motor**  
Energy efficiency class IE 3

**Receiver**

**Treatment**

Suitable controllers:

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**AIR CONTROL MINI**



Standard

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**AIR CONTROL B**



Optional

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**AIR CONTROL P**



Optional

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**AIR CONTROL HE**



Optional

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# COMBI



COMBI 6 – 15

50 Hz								
COMBI	Volume flow acc. to ISO 1217 (Annex C-2009)			Rated motor power	Length	Width	Height	Weight
	8 bar	10 bar	13 bar					
Model	m <sup>3</sup> /min	m <sup>3</sup> /min	m <sup>3</sup> /min	kW	mm	mm	mm	kg
6	0.82	0.72	0.62	5.5	1180	770	1128	305
8	1.09	1.02	0.85	7.5	1180	770	1128	310
11	1.61	1.43	1.22	11	1180	770	1128	315
15	1.96	1.86	1.61	15	1180	770	1128	325
16	2.35	2.02	1.88	15	1480	780	1375	454
18	2.75	2.44	2.25	18.5	1480	780	1375	473
22	3.24	2.75	2.54	22	1480	780	1375	519

60 Hz									
Model	100 psig	125 psig	150 psig	190 psig	HP	inch	inch	inch	lbs
	acfm	acfm	acfm	acfm					
6 / 8	30	28	25	21	7.5	44.1	27.0	44.4	628
8 / 10	37	37	35	29	10	44.1	27.0	44.4	639
11 / 15	59	55	48	42	15	44.1	27.0	44.4	650
15 / 20	72	68	63	56	20	44.1	27.0	44.4	672
16 / 21	86	81	72	64	20	58.3	70.1	54.1	1001
18 / 25	104	98	90	83	25	58.3	70.1	54.1	1043
22 / 30	124	113	102	97	30	58.3	70.1	54.1	1144



COMBI 16 – 22

**Compressor + dryer**

COMBI Model	Dimensions		Weight	
	mm	inch	kg	lbs
8	1180 x 770 x 1128	44.1 x 27.0 x 44.4	345	717
11	1180 x 770 x 1128	44.1 x 27.0 x 44.4	350	728
15	1180 x 770 x 1128	44.1 x 27.0 x 44.4	360	750
16	1480 x 780 x 1375	58.3 x 70.1 x 54.1	494	1098
18	1480 x 780 x 1375	58.3 x 70.1 x 54.1	513	1131
22	1480 x 780 x 1375	58.3 x 70.1 x 54.1	559	1232

**Compressor + receiver (270 litres / 71 gal)**

Model	mm	inch	without dryer		with dryer	
			kg	lbs	kg	lbs
6	1180 x 770 x 1680	44.1 x 27.0 x 66.1	420	882	455	959
8	1180 x 770 x 1680	44.1 x 27.0 x 66.1	425	893	460	970
11	1180 x 770 x 1680	44.1 x 27.0 x 66.1	430	904	465	981
15	1180 x 770 x 1680	44.1 x 27.0 x 66.1	440	926	475	1003

**Compressor + receiver (500 litres / 132 gal)**

6	1900 x 770 x 1680	74.8 x 27.0 x 66.1	485	1025	520	1102
8	1900 x 770 x 1680	74.8 x 27.0 x 66.1	490	1036	525	1113
11	1900 x 770 x 1680	74.8 x 27.0 x 66.1	495	1047	530	1124
15	1900 x 770 x 1680	74.8 x 27.0 x 66.1	505	1069	540	1146
16	1900 x 780 x 1950	74.8 x 30.7 x 76.8	639	1409	679	1497
18	1900 x 780 x 1950	74.8 x 30.7 x 76.8	658	1451	698	1539
22	1900 x 780 x 1950	74.8 x 30.7 x 76.8	704	1552	744	1640

# AIR CONTROL

Monitored. Visualised. Documented.



Air Control Mini



Air Control B

Using the ALMiG AIR CONTROL family of controllers you can control, manage and monitor your entire compressed air supply system in the best possible way.

The smart, integrated compressor controllers offer you optimum operating convenience and outstanding cost-effectiveness. They deliver maximum reliability in the supply of compressed air and plan maintenance ahead of time.

The very latest microprocessor and communications technology is used, guaranteeing you seamless integration of all compressor models as well as the entire range of accessories. And all that as standard via the RS-485 data bus. The optional connectivity to a web server enables monitoring of your compressor station from anywhere in the world.

## Further functionality and benefits:

- Huge potential savings by reducing idling levels and lowering pressure levels
- Transparency when it comes to the compressors and accessories, at all times
- Reductions in maintenance time and downtimes

## AIR CONTROL MINI

- Icon display for the most important operating states, such as compression temperature, dew point and operating pressure
- Programmable automatic restart
- On-site operation – Remote on/off
- Fault memory (no. of positions)
- Refrigeration dryer activation

## AIR CONTROL B

- Microprocessor controller
- Illuminated colour LCD display
- Navigation using number keys
- Icon display for all the important operating states, such as mains pressure, final oil and compression temperature
- Maintenance interval indicator
- Fault memory
- Link to superordinate control systems
- Refrigeration dryer activation



Air Control P



Air Control HE

## AIR CONTROL P

- Microprocessor controller with colour touch screen and illuminated graphic display menu
- Supported user guidance
- Simple connection to all accessory components
- Can be integrated into the customer's own management systems
- Timer programming for optimum adaptation to operational requirements
- "System pass" – the compressor's identity card
- Various language variants available
- Various graphical depictions can be accessed, e.g. volume flow produced as daily and weekly profile
- Basic load cycle switching: another 4 additional compressors (slaves) can be added as master control device
- Fault memory
- Programmable automatic restart
- Extensive statistics with data logging
- System parameters can be saved to a data medium to reduce programming effort

## AIR CONTROL HE

### Version: Compressor and global control system

- Can be used as a consumption-dependent global control system for up to 10 compressors
- Excellent optical display and simplest possible operation using a 7" TFT colour touch screen
- Flexible installation into the compressor or into a separate control cabinet possible
- Extremely user-friendly thanks to simple configuration and start-up wizard
- Parameter settings can be saved to a data medium
- Comprehensive statistics can be accessed using the data-logging functionality

### Version: Global control system

- Quick access to information about the operating state of the connected compressors
- Graphical display of power and consumption profiles
- Split screen: compressor data and information about the network can be displayed in parallel
- Leaks can be identified and displayed
- Priorities can be allocated
- Energy-saving – all the compressors operate in one pressure tolerance range
- Speed-controlled compressors can be integrated seamlessly into the system
- Can be connected to higher-level control systems or a web server

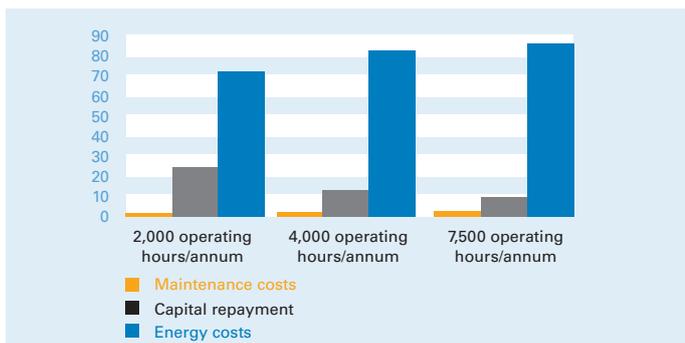
# INTELLIGENT SYSTEMS YOU CAN RELY ON

## Speed-controlled screw compressors

### Cost-effective and sustainable: Kind to your wallet and the environment.

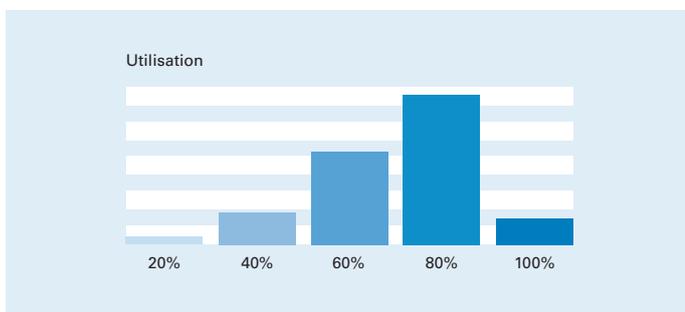
According to a study, approx. 80 billion kWh of electricity is used in compressed air systems in the EU each year, more than 10% of the electricity required in industry. So the cost-effectiveness of a compressed air system isn't about how much it costs to buy, but how much it costs to run on a day-to-day basis. And this is where speed-controlled screw compressors from ALMiG really come into their own:

- Precise adaptation of delivery volumes
- Fewer idle times
- Less load shedding
- Constant line pressure
- Direct drive
- Fewer leakages



### Capacity utilisation of the compressor: Flexible tolerance for greater cost-effectiveness.

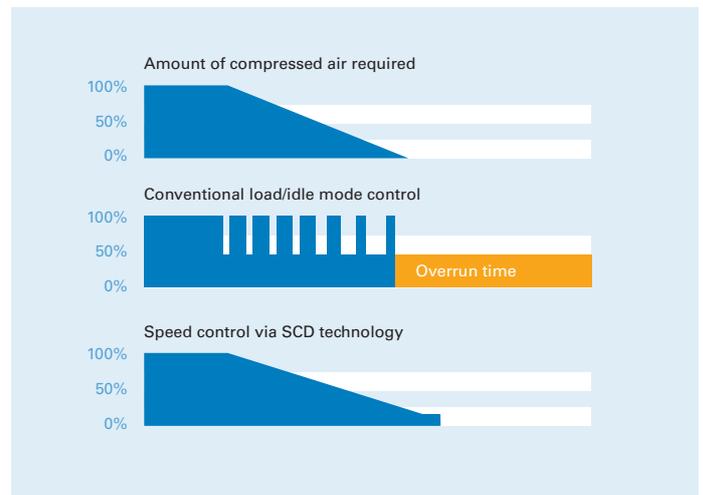
From experience, we know that most compressors are only used at between 50 and 70% of capacity. The maximum delivery volume is in most cases only used during peak times.



### Speed control: The key component of your compressed air system.

By varying the system's motor speed, you automatically and sensitively adapt its delivery volume to its variable air consumption.

- If you require more compressed air, you need simply increase the motor speed and therefore the compressor speed. The delivery volume increases.
- If you require less compressed air, you need simply decrease the motor speed and therefore the compressor speed. The delivery volume decreases.



### Precise adaptation of delivery volumes: No more annoying switching times.

If you're exploiting your system at 100% capacity, all compressors work at full load. If, however, you require less compressed air, the conventional compressor changes to loaded/idle mode, causing the drive motor to switch. In this situation, you have to take into account the pre-set over-run time. This has a negative impact on your energy bill.

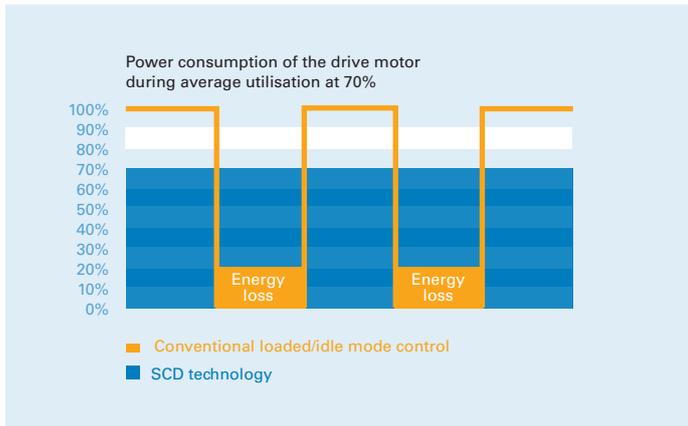
The Variable and V-Drive series vary their power by gently and continually changing speeds, not by abruptly switching on and off.

Delivery volumes are continually adapted to your present requirements, so the process is kind to both your components and your wallet:

- No expensive idle mode, which consumes at least 25 – 30% of the energy consumed at full load.
- No more switching times which place a heavy mechanical load on the components.

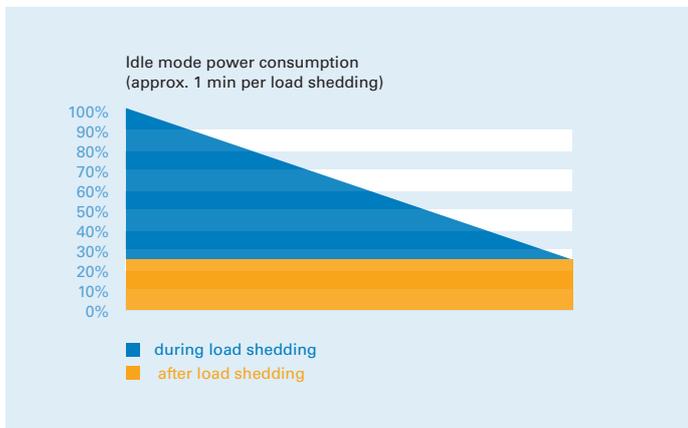
### Productivity without idle mode: the ALMiG efficiency programme

In idle mode, a compressor consumes around 25 to 30% of the energy consumed at full load. Variable compressors adjust the speed of the compression element automatically and exactly to the value needed for the volume flow required. SCD (Speed Control Direct drive) technology also ensures that only the power that corresponds to the speed is used. So compressors can considerably cut energy costs even when loaded at 70% of capacity.



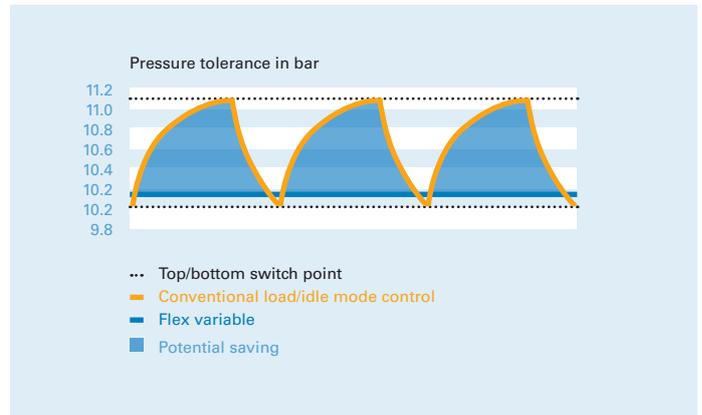
### Less load shedding in fluctuating networks

Fluctuating networks cause the compressor to constantly change from loaded to idle mode (and back again). Each time the compressor changes mode, it sheds its load for around one minute.



### A constant line pressure allows you to save a huge amount of energy

Speed-controlled compressors run at a constant operating pressure ( $p \sim 0.1$  bar). Because high pressure always involves consuming greater amounts of energy, speed-controlled compressors allow you to make huge energy savings (1 bar higher pressure = 6 – 8% greater energy consumption).



### ALMiG direct drive: The frictional connection

The compressor block is directly driven by the drive motor – and without any transmission loss.

#### This brings major benefits with it:

- Maximum power transfer
- Constant high efficiency of up to 99.9% over its entire working life
- Less noise and less maintenance effort than with V-belt and gear drives
- Excellent reliability.

#### Direct drive vs V-belt drive savings:

- V-belt drive (up to 96 – 97%)
- Direct drive (up to 99.9%) 4,000 h/year, 60 kW motor, 2.4 kW x 4,000 = 9,600 kWh

### Fewer leakages thanks to reduced pressure: Speed control provides the answer

Almost all compressed air lines have leakages. The amount they leak depends on the pressure in the piping, among other things. The average leakage rate of a compressed air station is around 20 – 30%. By decreasing the pressure by just 1 bar (e.g. by controlling the speed), these leakages drop by approx. 10%.

In addition, speed-controlled compressors with direct drive are very energy-efficient (no current peaks) and are also much quieter than comparable models with a V-belt drive.

**COMPRESSOR SYSTEMS  
MADE IN GERMANY**



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