

# SCREW COMPRESSORS







# 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



# SCREW COMPRESSORS

From 3 kW to 500 kW

- + Maximum reliability in continuous operation
- + Minimise your operating costs with energy-efficient compressors
- + ALMiG probably has the most comprehensive range of screw compressors on the market
- + The right drive concept for any application

Compact and cost-effective

**COMBI series**  
5,5 – 22 kW

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High performance with direct drive

**DIRECT series**  
37 – 315 kW

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Compact, quiet and powerful

**FLEX series**  
5,5 – 30 kW

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Oil-free compressed air of outstanding quality

**LENTO series**  
15 – 130 kW

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Compressor output with endurance

**G-DRIVE and V-DRIVE**  
30 – 37 kW

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Best efficiency in class

**G-DRIVE T**  
90 – 250 kW

S. 10

Powerful and versatile

**BELT series**  
4 – 37 kW

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High delivery volume that packs a punch

**GEAR series**  
30 – 500 kW

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Energy savings with SCD technology

**VARIABLE series**  
16 – 355 kW

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# G-/V-DRIVE

## Compressor output with high endurance

The G-DRIVE and V-DRIVE series offer consistently high performance as well as numerous features for particularly reliable, energy-efficient operation and convenient maintenance. There are various useful extensions available for the latest generation of ALMiG screw compressors: an efficient heat recovery system with a constant temperature, an integrated refrigeration dryer which is precisely designed for the delivery volume of the system, as well as the latest controllers to network your entire compressed air station. The system extensions do not affect the footprint of the compressor at all.

### Optional integrated refrigeration dryer

In this version, the refrigeration dryer is integrated in the system to save space. The compressor is used to supply the dryer with power, control it and protect it against freezing if operated at "underload". The parameters of the refrigeration dryer are exactly tailored to the respective kW class and the dryer cannot be "bypassed".

### Energy-saving speed control

All variants are also optionally available with energy-saving speed control.

This is where the highly efficient direct drive comes into play: the high-frequency drive motor operates with outstanding efficiency over the entire speed range.

The operating pressure can be adjusted steplessly from 5 to 13 bar. The high-quality frequency inverter is easy to access in the control cubicle – an optimised cooling air guide provides optimum ventilation. Inverters and cables are electro-magnetically shielded.

### Heat recovery system

All our systems are designed so that an integrated heat recovery system can be fitted into them – either directly at the factory or as a subsequent retrofit. With this system, the energy consumed for the generation of compressed air can be converted almost entirely to usable heat; for example, as hot water for feeding into heating systems or for heating process water or industrial water. The constant temperature of the heat recovery system ensures reliability.

### Reduced service costs

The G-DRIVE and V-DRIVE screw compressors are very easy to maintain: all components are easily accessible from one side and the large sound-insulating doors are easy to remove. This reduces the maintenance and down-times to a minimum, and ensures that the service costs are completely manageable.

#### Application

Industry

#### Power output

30 kW; 37 kW

Volume flow acc. to ISO 1217  
(Annex C-1996)

G-Drive: 3.91 – 6.52 m³/min

V-Drive: 1.76 – 6.12 m³/min

#### Operating pressure

5 – 13 bar; stepless settable

#### Cooling

Air-cooled (standard)

Water-cooled (option)

#### Drive

V-Drive: Direct and speed-controlled

G-Drive: Gearbox

#### Motor

Energy efficiency class IE 3; IP 55  
protection, protection class F



- + The latest controllers are used to network the entire compressed air station
- + Modular system concept developed for maximum energy efficiency
- + An efficient heat recovery system with a constant temperature
- + An integrated refrigeration dryer which is precisely designed for the delivery volume of the system



Suitable controllers:

### AIR CONTROL B



Standard

### AIR CONTROL P



Optional

### AIR CONTROL HE



Optional

Controllers starting on p.42

# G-DRIVE/V-DRIVE



G-DRIVE 30/37

| G-Drive |   |        |        |                             |
|---------|---|--------|--------|-----------------------------|
| Model   | Volume flow<br><small>acc. to ISO 1217 (Annex C-1996)</small> |        |        | Rated motor power<br><br>kW |
|         | 8 bar   | 10 bar | 13 bar |                             |
|         | m³/min  | m³/min | m³/min |                             |
| 30      | 5.46  | 4.86   | 3.91   | 30                          |
| 37      | 6.54  | 5.72   | 5.04   | 37                          |



V-DRIVE 30/37

| V-Drive |   |             |             |                             |
|---------|---|-------------|-------------|-----------------------------|
| Model   | Volume flow<br><small>acc. to ISO 1217 (Annex C-1996)</small> |             |             | Rated motor power<br><br>kW |
|         | 8 bar   | 10 bar      | 13 bar      |                             |
|         | m³/min  | m³/min      | m³/min      |                             |
| 30      | 1.84 – 5.16   | 1.81 – 4.62 | 1.76 – 3.87 | 30                          |
| 37      | 1.84 – 6.12   | 1.81 – 5.41 | 1.76 – 4.74 | 37                          |



# G-DRIVE T

## Highest efficiency in class

With the two stage G-Drive T series ALMiG sets new standards in energy efficiency. By compressing air in two stages they achieve a specific performance which is at the highest level. Therefore, the G-Drive T compressor series offers a higher volume flow with a lower input power consumption, in comparison to an equivalent single stage compressor. Low rotational speeds and lower internal compression ratios within the compressor stages increase the efficiency, reliability and lifetime of the compressor elements. State of the art efficiency, coupled with a low sound level and low service costs, makes the 2-stage technology very interesting for industrial compressed air users.

The G-Drive T offers all these benefits, plus a compact footprint due to its well-thought-out design. With a look to Industry 4.0, the controller of the compressor has all the required functionalities to communicate with common industrial company systems. Or simply use the cloud service to monitor the compressor from anywhere.

### Advantages:

- Due to the high efficiency of the compressor maximum energy savings can be achieved and the life cycle costs of the machine can be reduced
- Up to 15% greater energy savings in comparison to a single stage compressor
- Durable and reliable
- Low differential pressures
- Reduced heat load
- Easy maintenance and service

The unique design of the airend integrates the first and second stage into one compressor element. The rotors of both air ends achieve the optimal speed due to the gear drive.

An efficient compression is achieved by using a cooling oil mist for interstage cooling. This controlled amount of oil enables at the same time to avoid condensate in the second stage. A complicated and expensive separate interstage cooling is not necessary and reliability increases.

### Application

#### Industry

### Power output

90 – 250 kW

### Volume flow acc. to ISO 1217 (Annex C-1996)

14,6 – 51,5 m<sup>3</sup>/min

### Operating pressure

5 – 13 bar

### Cooling

Air-cooled

### Drive

Gearbox

### Motor

Energy efficiency class IE 3; IP 55 protection, protection class F

### Oil lubricated two stage compression

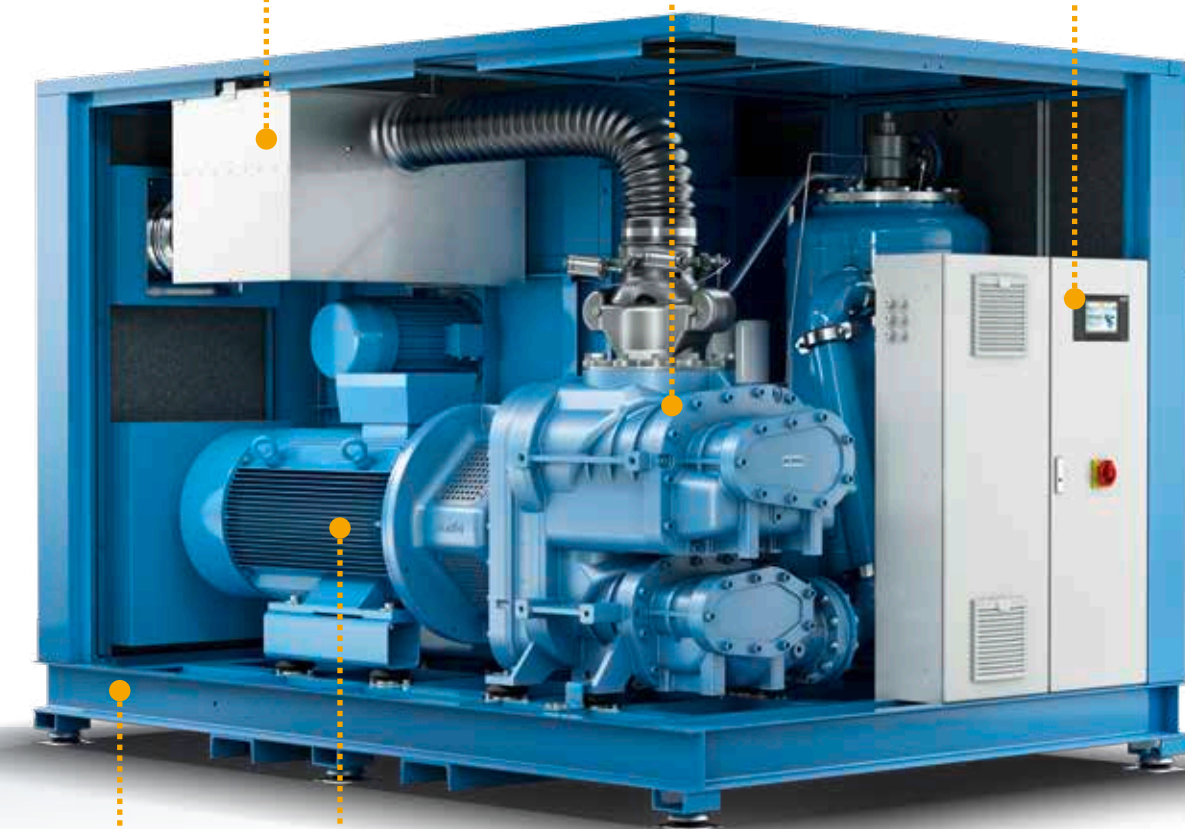
best possible efficiency, integrated gear drive and robust durable design

### Heavy duty suction filter

best possible filtration and easy maintenance

### Industry 4.0

Smart controller that monitors, visualises and documents



**Energy-efficient IE3 Motor**  
with long bearing life

**Stable base frame**  
sealed against leaks, with vibration dampeners

- + efficient screw compressor technology
- + Low rotational speeds together with lower internal pressure ratios ensure a long durability
- + Efficiency and ease of maintenance made for lower life cycle costs



### AIR CONTROL HE



Standard

Controllers starting on p. 42

# G-DRIVE T



G-DRIVE T

| 50 Hz     |  |        |        |                      |        |       |        |        |
|-----------|--|--------|--------|----------------------|--------|-------|--------|--------|
| G-DRIVE T | Volume flow<br>acc. to ISO 1217 (Annex C-1996) |        |        | Rated<br>motor power | Length | Width | Height | Weight |
|           | 8 bar  | 10 bar | 13 bar |                      |        |       |        |        |
| Modell    | m³/min   | m³/min | m³/min | kW                   | mm     | mm    | mm     | kg     |
| 90        | 18,2   | 16,3   | 14,6   | 90                   | 2900   | 1860  | 1945   | 4000   |
| 110       | 22,0   | 19,2   | 17,8   | 110                  | 2900   | 1860  | 1945   | 4100   |
| 132       | 26,1   | 23,2   | 21,5   | 132                  | 2900   | 1860  | 1945   | 4200   |
| 160       | 32,3   | 28,6   | 26,5   | 160                  | 3520   | 2290  | 2030   | 5500   |

| 50 Hz     |  |        |        |                      |        |       |        |        |
|-----------|--|--------|--------|----------------------|--------|-------|--------|--------|
| G-DRIVE T | Volume flow<br>acc. to ISO 1217 (Annex C-1996) |        |        | Rated<br>motor power | Length | Width | Height | Weight |
|           | 8 bar  | 10 bar | 13 bar |                      |        |       |        |        |
| Modell    | m³/min   | m³/min | m³/min | kW                   | mm     | mm    | mm     | kg     |
| 200       | 40,5   | 35,0   | 31,0   | 200                  | 3350   | 2350  | 2400   | 7000   |
| 220       | 44,5   | 38,7   | 34,2   | 220                  | 3350   | 2350  | 2400   | 7000   |
| 250       | 51,5   | 45,3   | 40,0   | 250                  | 3350   | 2350  | 2400   | 7000   |

# 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

COMBI II: 5.5 – 15 kW

COMBI III: 15 – 22 kW

### Volume flow acc. to ISO 1217

(Annex C-1996):

8 bar: 0.82–3.24 m³/min

10 bar: 0.72–2.75 m³/min

13 bar: 0.62–2.54 m³/min

### Operating pressure

5 – 13 bar

### Cooling

Air-cooled (standard)

### 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



Suitable controllers:

### AIR CONTROL MINI



Standard (6 – 22 kW)

### AIR CONTROL B



Optional (6 – 22 kW)

### AIR CONTROL P



Optional (6 – 22 kW)

### AIR CONTROL HE



Optional (6 – 22 kW)

Controllers starting on p. 42



# COMBI

16 Screw compressors



COMBI 6 – 15

| 50 Hz |  |        |        |                   |        |       |        |        |
|-------|--|--------|--------|-------------------|--------|-------|--------|--------|
| COMBI | Volume flow<br>acc. to ISO 1217 (Annex C-1996) |        |        | Rated motor power | Length | Width | Height | Weight |
|       | 8 bar  | 10 bar | 13 bar |                   |        |       |        |        |
| Model | m³/min   | m³/min | m³/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 |

17 Screw compressors



COMBI 16 – 22

| Compressor + dryer                           |            |                   |                    |     |      |          |
|--|------------|-------------------|--------------------|-----|------|----------|
| COMBI  | Dimensions |                   | Weight             |     |      |          |
|  | Model      | mm                | inch               | kg  |      |          |
|  | 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)  |            |                   |                    |     |      |          |
|  | 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 |

# BELT

## Powerful for versatile applications

The unique design concept of the BELT series makes it cost-effective in every kW class and therefore highly suitable for versatile applications.

With its robust and proven components, the series ensures a high compressor output and reliability around the clock. The tenacious compressors are fitted with a low-maintenance V-belt drive, which transfers the 4 to 200 kW of power with virtually no losses.

The BELT series enables very cost-effective and reliable usage in a volume flow range of up to 5.78 m³/min. The fixed speed concept of the series also delivers long service lives and low maintenance costs, making the screw compressors especially well suited for use as base load compressors in continuous operation.

### The product range

3 variants with various outputs and volume flows:

- BELT 4–37
- BELT 4–37 "PLUS"
- BELT 4–37 "O"

\* "PLUS" variant with attached compressed air refrigeration dryer, can also be retrofitted.

\*\* "O" variant with attached compressed air refrigeration dryer and filter system comprising 1x depth filter and 2x active carbon filter for generating technically oil-free compressed air.

### Application

Industry

### Power output

BELT I: 4 – 37 kW

Volume flow acc. to ISO 1217  
(Annex C-1996):

8 bar: 0.65–5.78 m³/min

10 bar: 0.54–5.15 m³/min

13 bar: 0.43–4.42 m³/min

### Operating pressure

5 – 13 bar

### Cooling

Air-cooled (standard)

Water-cooled  
(option as of 11 kW)

### Drive

V-belt

### Motor

Energy efficiency class IE 3; IP 55  
protection, protection class F



- + Versatile use thanks to numerous possible extension options
- + Proven V-belt drive
- + Low maintenance costs due to long service lives



Maintenance-friendly design

Efficient cooling air guide

### Air Control

Smart controller that monitors, visualises and documents

Suitable controllers:

### AIR CONTROL B



Standard

### AIR CONTROL P



Optional

### AIR CONTROL HE



Optional

Controllers starting on p. 42

Horizontal separating tank

With external fine separator cartridges

### Base frame

Torsion-resistant, liquid-tight design



BELT



BELT 4–37

| 50 Hz |  |        |        |                      |        |       |        |        |
|-------|--|--------|--------|----------------------|--------|-------|--------|--------|
| BELT  | Volume flow<br>acc. to ISO 1217 (Annex C-1996) |        |        | Rated<br>motor power | Length | Width | Height | Weight |
|       | 8 bar  | 10 bar | 13 bar |                      |        |       |        |        |
| Model | m³/min   | m³/min | m³/min | kW                   | mm     | mm    | mm     | kg     |
| 4     | 0.65   | 0.54   | 0.43   | 4                    | 1020   | 700   | 930    | 200    |
| 5     | 0.88   | 0.78   | 0.65   | 5.5                  | 1020   | 700   | 930    | 200    |
| 7     | 1.20   | 1.07   | 0.87   | 7.5                  | 1020   | 700   | 930    | 230    |
| 11    | 1.70   | 1.50   | 1.32   | 11                   | 1270   | 890   | 1190   | 250    |
| 15    | 2.24   | 1.98   | 1.63   | 15                   | 1270   | 890   | 1190   | 250    |
| 16    | 2.52   | 2.17   | 1.75   | 15                   | 1270   | 890   | 1190   | 400    |
| 18    | 2.97   | 2.62   | 2.27   | 18.5                 | 1270   | 890   | 1190   | 410    |
| 22    | 3.54   | 3.12   | 2.67   | 22                   | 1270   | 890   | 1190   | 470    |
| 30    | 4.60   | 4.12   | 3.40   | 30                   | 1270   | 890   | 1190   | 560    |
| 37    | 5.78   | 5.15   | 4.42   | 37                   | 1270   | 890   | 1190   | 590    |



BELT 4–37 "PLUS"

| 60 Hz   |  |          |          |          |                      |        |       |        |        |
|---------|--|----------|----------|----------|----------------------|--------|-------|--------|--------|
| BELT    | Volume flow<br>acc. to ISO 1217 (Annex C-1996) |          |          |          | Rated<br>motor power | Length | Width | Height | Weight |
|         | 100 psig                                       | 125 psig | 150 psig | 190 psig |                      |        |       |        |        |
| Model   | acfm   | acfm     | acfm     | acfm     | HP                   | inch   | inch  | inch   | lbs    |
| 4 / 5   | 25   | 23       | 20       | -        | 5.5                  | 40.2   | 27.6  | 36.6   | 419    |
| 5 / 7   | 32   | 30       | 26       | 24       | 7.5                  | 40.2   | 27.6  | 36.6   | 419    |
| 7 / 10  | 43   | 41       | 37       | 30       | 10                   | 40.2   | 27.6  | 36.6   | 452    |
| 11 / 15 | 64   | 60       | 53       | 46       | 15                   | 40.2   | 27.6  | 36.6   | 485    |
| 15 / 20 | 87   | 78       | 72       | 62       | 20                   | 40.2   | 27.6  | 36.6   | 518    |
| 16 / 21 | 97   | 91       | 83       | 62       | 20                   | 50     | 35    | 46.9   | 959    |
| 18 / 25 | 113  | 101      | 94       | 78       | 25                   | 50     | 35    | 46.9   | 992    |
| 22 / 30 | 127  | 120      | 112      | 98       | 30                   | 50     | 35    | 46.9   | 1069   |
| 30 / 40 | 174  | 156      | 148      | 122      | 40                   | 50     | 35    | 46.9   | 1279   |
| 37 / 50 | 203  | 182      | 176      | 160      | 50                   | 50     | 35    | 46.9   | 1312   |

# DIRECT

## High performance with direct drive

ALMiG's DIRECT series is setting standards in the world of compressed air systems with direct drives: the motor's output is transferred directly to the compressor stage, i.e. without the loss experienced with a V-belt or gear drive.

This type of drive is around 99.9% efficient and is therefore much more efficient than standard drives.

The unique design concept of the DIRECT series makes it incredibly cost-effective in every kW class and therefore highly versatile. It ensures that your company benefits from compressed air generation at minimum operating costs around the clock.

When these compressors with direct drive are combined with the VARIABLE and V-Drive series, they form an unbeatable energy-saving duo.

### Advantages when combined with VARIABLE:

- Same system design
- Same components
- Same supply of spare parts
- Same handling
- Outstanding cost-effectiveness

#### Application

Industry

#### Power output

DIRECT II: 37 – 55 kW

DIRECT III: 75 – 160 kW

DIRECT IV: 280 – 315 kW

Volume flow acc. to ISO 1217  
(Annex C-1996):

6.80 – 48 m³/min

#### Operating pressure

5 – 13 bar

#### Cooling

Air (standard)

Water (option as of 37 kW)

DIRECT 315 only water-cooled

#### Drive

Direct

#### Motor

Energy efficiency class IE 3; IP 55  
protection, protection class F



- + Loss-free transmission of the drive power to the compressor stage – nearly 100% efficient!
- + Highly versatile due to unique design concept
- + High performance and reliability at minimum operating costs
- + Unbeatable energy efficiency in combination with VARIABLE and V-Drive

### Separation system

Outstanding compressed air quality from proven multi-stage separation

### Air Control

Smart controller that monitors, visualises and documents

### Drive system

Highly efficient, loss-free direct drive



### Cooling unit

Large cooler for minimum compressed air outlet temperatures and optimum coolant temperatures

### Compressor

High-performance, excellent efficiency

Suitable controllers:

### AIR CONTROL P



Standard

### AIR CONTROL HE



Optional

Controllers starting on p.42



# DIRECT



DIRECT 37–55

| 50 Hz  |                        |  |                   |        |       |        |        |
|--------|------------------------|--|-------------------|--------|-------|--------|--------|
| DIRECT | Operating overpressure | Volume flow<br>acc. to ISO 1217 (Annex C-1996) | Rated motor power | Length | Width | Height | Weight |
| Model  | bar                    | m³/min   | kW                | mm     | mm    | mm     | kg     |
| 37     | 7.5                    | 6.80   | 37                | 1750   | 1080  | 1600   | 1000   |
| 45     | 10                     | 6.72   | 45                | 1750   | 1080  | 1600   | 1100   |
| 75     | 11                     | 11.58  | 75                | 2300   | 1400  | 1860   | 1970   |
| 90     | 13                     | 11.47  | 90                | 2300   | 1400  | 1860   | 2200   |
| 132    | 8                      | 23.90  | 132               | 2700   | 1686  | 1888   | 3500   |
| 160    | 11.5                   | 23.37  | 160               | 2700   | 1686  | 1888   | 3900   |
| 280    | 8                      | 48.30  | 315               | 3400   | 1650  | 2025   | 4300   |
| 315    | 10                     | 48   | 315               | 3400   | 1650  | 2025   | 4400   |



DIRECT 280–315

| 60 Hz   |                        |  |                   |        |       |        |        |
|---------|------------------------|--|-------------------|--------|-------|--------|--------|
| DIRECT  | Operating overpressure | Volume flow<br>acc. to ISO 1217 (Annex C-1996) | Rated motor power | Length | Width | Height | Weight |
| Model   | psig                   | acfm   | HP                | in     | in    | in     | lbs    |
| 18/25   | 100                    | 126  | 25                | 60.8   | 35    | 46.9   | 1091   |
| 22/30   | 145                    | 125  | 30                | 60.8   | 35    | 46.9   | 1157   |
| 45/60   | 110                    | 288  | 60                | 68.9   | 42.5  | 63     | 2359   |
| 55/75   | 145                    | 285  | 75                | 68.9   | 42.5  | 63     | 2557   |
| 75/100  | 110                    | 499  | 100               | 90.6   | 55.1  | 73.2   | 4299   |
| 90/125  | 145                    | 493  | 125               | 90.6   | 55.1  | 73.2   | 4519   |
| 160/215 | 125                    | 1009   | 215               | 90.6   | 55.1  | 79.7   | 7606   |
| 315/425 | 110                    | 2049   | 425               | 134    | 65    | 79.7   | 9700   |

Systems are air-cooled as standard / water-cooled as an option, DIRECT 315 (DIRECT 315/425) only available as water-cooled variant; heat recovery systems available for all models

# GEAR

## High delivery volume that packs a punch

The screw compressors of the GEAR series are particularly suitable for very high compressed air requirements. The product range offers delivery volumes of 3.58 to 71.15 m³/min at max. operating pressures of 8, 10 and 13 bar.

The maintenance- and service-friendly drive concept of the GEAR compressors includes a robust drive motor with high power reserves.

The highly efficient gearbox delivers minimum slip, high reliability, is virtually free of losses with an efficiency of >98% and is gentle on the drive. What's more, highly efficient separation of the cooling medium enables a minimum residual oil content of just 2 – 3 mg/m³.

Due to the enclosed design of the gear set, these systems are suitable for use under the toughest operating conditions.

### Application

### Industry

### Power output

GEAR I: 30 – 75 kW  
GEAR II: 90 – 200 kW  
GEAR III: 200 – 500 kW

### Volume flow acc. to ISO 1217 (Annex C-1996):

8 bar: 5.01 – 71.15 m³/min  
10 bar: 4.32 – 64 m³/min  
13 bar: 3.58 – 33.31 m³/min

### Operating pressure

5 – 13 bar

### Cooling

Air (standard);  
water (option);  
GEAR 315 – 500  
only water-cooled

### Drive

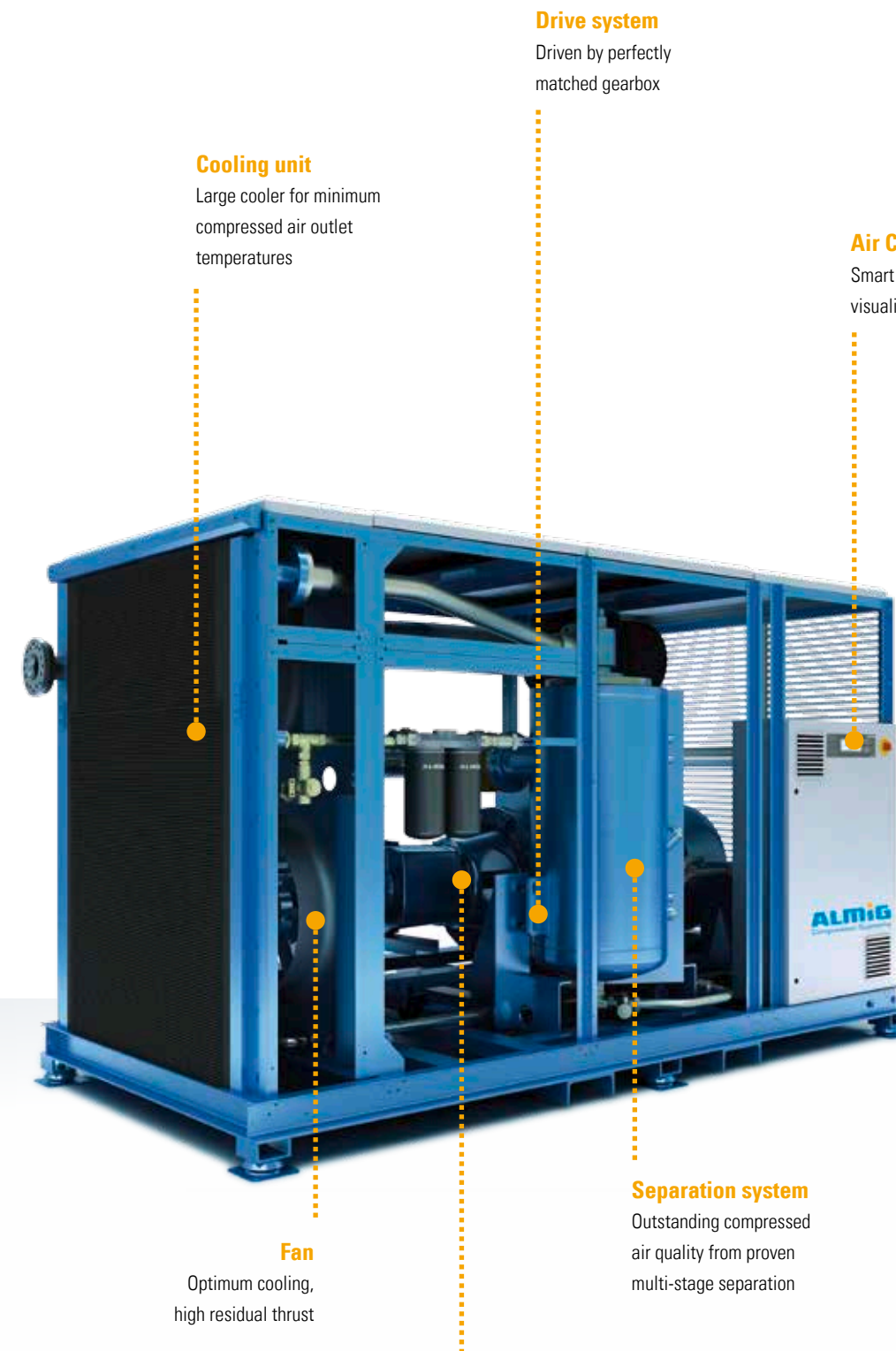
Gearbox

### Motor

Energy efficiency class IE 3; IP 55  
protection, protection class F



- + Ideal for very high compressed air requirements
- + Robust drive unit with high power reserves
- + Virtually free of losses with an efficiency of >98%
- + Maintenance- and service-friendly drive concept



### Drive system

Driven by perfectly matched gearbox

### Cooling unit

Large cooler for minimum compressed air outlet temperatures

### Air Control

Smart controller that monitors, visualises and documents

### Fan

Optimum cooling, high residual thrust

### Separation system

Outstanding compressed air quality from proven multi-stage separation

### Compressor stage

State-of-the-art stage technology, with integrated gear set

Suitable controllers:

### AIR CONTROL B



Standard (30 – 75 kW)

### AIR CONTROL P



Optional (30 – 75 kW)  
Standard (90 – 450 kW)

### AIR CONTROL HE



Optional

Controllers starting on p.42



GEAR



GEAR 30–75



GEAR 90–200

| 50 Hz |  |        |        |                      |        |       |        |        |
|-------|--|--------|--------|----------------------|--------|-------|--------|--------|
| GEAR  | Volume flow<br>acc. to ISO 1217 (Annex C-1996) |        |        | Rated<br>motor power | Length | Width | Height | Weight |
|       | 8 bar  | 10 bar | 13 bar |                      |        |       |        |        |
| Model | m³/min   | m³/min | m³/min | kW                   | mm     | mm    | mm     | kg     |
| 30    | 5.01   | 4.32   | 3.58   | 30                   | 1850   | 1080  | 1600   | 920    |
| 37    | 5.81   | 5.19   | 4.25   | 37                   | 1850   | 1080  | 1600   | 980    |
| 45    | 6.96   | 6.38   | 5.35   | 45                   | 1850   | 1080  | 1600   | 1100   |
| 55    | 9.37   | 8.16   | 6.67   | 55                   | 1950   | 1080  | 1600   | 1250   |
| 75    | 11.69  | 10.35  | 8.94   | 75                   | 1950   | 1080  | 1600   | 1270   |
| 90    | 15.30  | 13.25  | 10.34  | 90                   | 2600   | 1400  | 1860   | 2700   |
| 110   | 19.10  | 16.46  | 13.10  | 110                  | 2600   | 1400  | 1860   | 2950   |
| 132   | 22.99  | 19.94  | 16.58  | 132                  | 2800   | 1400  | 2025   | 3830   |
| 160   | 27.38  | 24.49  | 19.89  | 160                  | 2800   | 1400  | 2025   | 3900   |
| 200   | 29.65  | 29.46  | 24     | 200                  | 2800   | 1400  | 2025   | 4150   |



GEAR 201–500

| 50 Hz |  |        |            |                      |        |       |        |        |
|-------|--|--------|------------|----------------------|--------|-------|--------|--------|
| GEAR  | Volume flow<br>acc. to ISO 1217 (Annex C-1996) |        |            | Rated<br>motor power | Length | Width | Height | Weight |
|       | 8 bar  | 10 bar | 13 bar     |                      |        |       |        |        |
| Model | m³/min   | m³/min | m³/min     | kW                   | mm     | mm    | mm     | kg     |
| 201   | 36.41  | 32.44  | 25.60      | 200                  | 3400   | 1650  | 2025   | 4200   |
| 250   | 44.15  | 39.24  | 33.31      | 250                  | 3400   | 1650  | 2025   | 4300   |
| 315   | 53.21  | 45.71  | on request | 315                  | 3400   | 1650  | 2025   | 5700   |
| 355   | 61.66  | 52.74  | on request | 355                  | 3600   | 2100  | 2200   | 5750   |
| 400   | 65.94  | 58.41  | on request | 400                  | 3600   | 2100  | 2200   | 5900   |
| 450   | -  | 64.10  | on request | 450                  | 3600   | 2100  | 2200   | 6200   |
| 500   | 71.15  | 64     | on request | 500                  | 3600   | 2100  | 2200   | 6800   |

Systems are air-cooled as standard / water-cooled as an option, GEAR 315–500 only water-cooled; GEAR 315–500: 13 bar on request; heat recovery systems available for all models

# FLEX

## Compact, quiet and powerful

The speed-controlled, directly driven compressors of the FLEX series are used wherever compressed air is to be generated by a small, compact and extremely quiet system.

With the vertical alignment of the motor-compressor unit in the FLEX series, ALMiG has developed one of the most compact screw compressor systems on the market. The sound level of these small screw compressors is only around 60 dB(A). If required, they can be used directly at the workstation.

The FLEX series also provides you with a significant cost reduction: market analyses show that on average compressors only have a utilisation rate of around 50 – 70%. The maximum delivery volume is, however, only needed during peak times. The integrated ALMiG SCD technology, the benefits of which come to the fore in partial load applications, allows you to achieve an energy saving of up to 35%. The holistic SCD technology drive concept stands for **S**peed **C**ontrolled and **D**irect drive.

The speed-controlled version of the direct drive offers additional benefits. For example, a speed-controlled FLEX can instantly make an entire compressed air station more cost-effective in the smart ALMiG "master-slave network".

### Achieve an energy saving of up to 35% through:

- Speed control
- Constant mains pressure, stepless from 5 to 13 bar
- Extremely good system efficiency
- No start-up changeover power peaks
- No expensive idle times

#### Application

Industry

#### Power output

FLEX II: 5.5 – 15 kW

FLEX III: 15 – 30 kW

Volume flow acc. to ISO 1217  
(Annex C-1996)

0,53 – 3,47 m³/min

#### Operating pressure

5 – 13 bar

#### Cooling

Air-cooled

#### Drive

Direct and speed-controlled

#### Motor

Energy efficiency class IE 3; IP 55  
protection,  
protection class F



- + Volume flow can be adapted exactly to meet compressed air requirements
- + No switching cycles or expensive idle times
- + Energy-saving soft start without current peaks
- + Operating pressure can be freely selected between pmin – pmax in 0.1 bar/ 1.5 psig increments
- + The reduction in pressure can save money

### Air Control

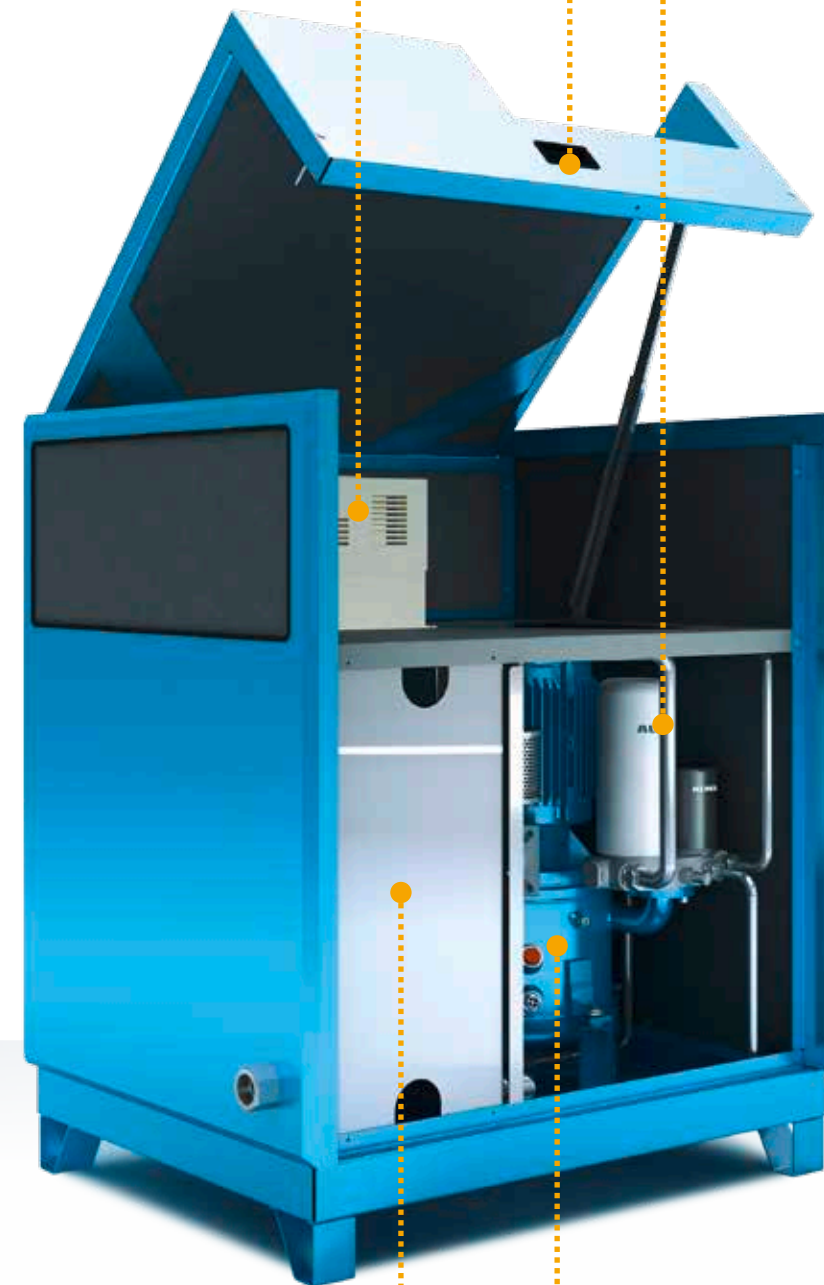
Smart controller that monitors, visualises and documents

### SCD frequency converter

The integrated power pack; meets EMC guidelines

### Maintenance-friendly design

Accessible from one side



### Unit cooler

Efficient cooler for minimum coolant/ compressed air outlet temperatures

### Motor-compressor unit

Highly efficient, vertically aligned drive system

Suitable controllers:

### AIR CONTROL B



Standard

### AIR CONTROL P



Optional

### AIR CONTROL HE



Optional

Controllers starting on p. 42



# FLEX



FLEX  
Standard variant



FLEX  
Receiver variant



FLEX "PLUS"  
Variant with sub-mounted refrigeration dryer



FLEX "O"\*\*\*  
Variant with refrigeration dryer and filter system



FLEX "PLUS"  
Variant with receiver



FLEX "O"  
Variant with receiver

| 50 Hz |                        |  |        |                   |        |       |        |        |
|-------|------------------------|--|--------|-------------------|--------|-------|--------|--------|
| FLEX  | Operating overpressure | Volume flow acc. to ISO 1217 (Annex C-1996)* |        | Rated motor power | Length | Width | Height | Weight |
|       |                        | min.   | max.   |                   |        |       |        |        |
|       | bar                    | m³/min                                       | m³/min | kW                | mm     | mm    | mm     | kg     |
| 6     | 5–13                   | 0.53   | 0.85   | 5.5               | 870    | 590   | 990    | 165    |
| 7     | 5–13                   | 0.53   | 1.19   | 7.5               | 870    | 590   | 990    | 165    |
| 11    | 5–13                   | 0.53   | 1.70   | 11                | 870    | 590   | 990    | 180    |
| 15    | 5–13                   | 0.53   | 2.10   | 15                | 870    | 590   | 990    | 190    |
| 16    | 5–13                   | 1.39   | 2.79   | 15                | 1140   | 890   | 1315   | 285    |
| 18    | 5–13                   | 1.06   | 3.16   | 18.5              | 1140   | 890   | 1315   | 295    |
| 22    | 5–13                   | 1.06   | 3.47   | 22                | 1140   | 890   | 1315   | 325    |

| 60 Hz |                        |  |      |                   |        |       |        |        |
|-------|------------------------|--|------|-------------------|--------|-------|--------|--------|
| FLEX  | Operating overpressure | Volume flow acc. to ISO 1217 (Annex C-1996)* |      | Rated motor power | Length | Width | Height | Weight |
|       |                        | min.   | max. |                   |        |       |        |        |
|       | psig                   | acfm   | acfm | HP                | inch   | inch  | inch   | lbs    |
| 6/7   | 75-190                 | 17   | 30   | 7.5               | 34.3   | 23.2  | 39     | 364    |
| 7/10  | 75-190                 | 22   | 42   | 10                | 34.3   | 23.2  | 39     | 364    |
| 11/15 | 75-190                 | 17   | 61   | 15                | 34.3   | 23.2  | 39     | 397    |
| 15/20 | 75-190                 | 26   | 76   | 20                | 34.3   | 23.2  | 39     | 419    |
| 16/21 | 75-190                 | 49   | 100  | 20                | 44.9   | 35    | 51.8   | 628    |
| 18/25 | 75-190                 | 37   | 113  | 25                | 44.9   | 35    | 51.8   | 650    |
| 22/30 | 75-190                 | 37   | 126  | 30                | 44.9   | 35    | 51.8   | 717    |
| 30/40 | 75-190                 | 37   | 143  | 40                | 44.9   | 35    | 51.8   | 805    |

\* V relates to an operating overpressure of 7 bar at 50 Hz / 100 psig at 60 Hz; heat recovery systems available

\*\* as "O" variant with sub-mounted refrigeration dryer and filter system for generating "oil-free" compressed air

# VARIABLE

## Compressors for maximum cost-effectiveness

The speed-controlled screw compressors of the VARIABLE series are the result of decades of experience in the field of energy-efficient solutions. They are designed for use under the toughest operating conditions and for applications with variable compressed air requirements. The system is therefore the right solution for high operational readiness and efficient compressed air supply.

Market analyses show that on average compressors only have a utilisation rate of around 50 – 70%. The maximum delivery volume is, however, only needed during peak times. The integrated ALMiG SCD technology, the benefits of which come to the fore in partial load applications, allows you to achieve an energy saving of up to 35%. The holistic SCD technology drive concept stands for **S**peed **C**ontrolled and **D**irect drive.



The directly driven, speed-controlled VARIABLE is unbeatable when coupled with the DIRECT series, which is also directly driven, as an "energy-saving duo".

### Achieve an energy saving of up to 35% through:

- Speed control
- Constant mains pressure, stepless from 5 to 13 bar
- Extremely good system efficiency
- No start-up changeover power peaks
- No expensive idle times

#### Application

#### Industry

#### Power output

|               |              |
|---------------|--------------|
| VARIABLE I:   | 16 – 38 kW   |
| VARIABLE II:  | 40 – 85 kW   |
| VARIABLE III: | 100 – 210 kW |
| VARIABLE IV:  | 260 – 355 kW |

#### Volume flow acc. to ISO 1217 (Annex C-1996):

1.07 – 55.55 m³/min

#### Operating pressure

5 – 13 bar (stepless)

#### Cooling

Air-cooled (standard)  
Water-cooled (option as of 35 kW,  
only water-cooled as of 355 kW)

#### Drive

Direct and speed-controlled

#### Motor

Energy efficiency class IE 3; IP 55  
protection, protection class F

- + Efficient ALMiG SCD technology
- + Designed for use under the toughest operating conditions
- + Unbeatable energy efficiency in combination with the DIRECT series
- + Versatile use thanks to numerous possible extension options



**Base frame**  
Torsion-resistant,  
liquid-tight design

**Horizontal separating tank**  
With external fine  
separator cartridges

**Maintenance-friendly  
design**

**Air Control**  
Smart controller that monitors, visualises  
and documents

**Control cabinet**  
Large with integrated  
frequency converter

Suitable controllers:

### AIR CONTROL B



Standard (16 – 34 kW)

### AIR CONTROL P



Optional (16 – 34 kW)  
Standard (35 – 355 kW)

### AIR CONTROL HE



Optional

Controllers starting on p. 42



VARIABLE



VARIABLE 16 – 34



VARIABLE 35 – 70

| 50 Hz    |                        |  |        |                   |        |       |        |        |
|----------|------------------------|--|--------|-------------------|--------|-------|--------|--------|
| VARIABLE | Operating overpressure | Volume flow acc. to ISO 1217 (Annex C-1996)* |        | Rated motor power | Length | Width | Height | Weight |
|          |                        | min.   | max.   |                   |        |       |        |        |
| Model    | bar                    | m³/min                                       | m³/min | kW                | mm     | mm    | mm     | kg     |
| 16       | 5 – 13                 | 1.17   | 2.68   | 16                | 1270   | 890   | 1190   | 387    |
| 20       | 5 – 13                 | 1.17   | 3.22   | 20                | 1270   | 890   | 1190   | 387    |
| 24       | 5 – 13                 | 1.17   | 3.62   | 24                | 1545   | 890   | 1190   | 405    |
| 28       | 5 – 13                 | 1.17   | 4.14   | 28                | 1545   | 890   | 1190   | 405    |
| 32       | 5 – 13                 | 1.96   | 4.93   | 32                | 1545   | 890   | 1190   | 545    |
| 34       | 5 – 13                 | 1.96   | 5.65   | 38                | 1545   | 890   | 1190   | 555    |
| 35       | 5 – 13                 | 1.07   | 6.02   | 40                | 2090   | 1080  | 1600   | 940    |
| 37       | 5 – 13                 | 1.07   | 6.52   | 50                | 2090   | 1080  | 1600   | 980    |
| 55       | 5 – 13                 | 2.22   | 9.98   | 60                | 2090   | 1080  | 1600   | 1160   |
| 65       | 5 – 13                 | 2.23   | 10.73  | 80                | 2090   | 1080  | 1600   | 1240   |
| 70       | 5 – 13                 | 2.81   | 12.84  | 85                | 2090   | 1080  | 1600   | 1270   |
| 90       | 5 – 13                 | 4.30   | 16.85  | 100               | 2300   | 1400  | 1860   | 2050   |
| 115      | 5 – 13                 | 4.30   | 18.28  | 115               | 2300   | 1400  | 1860   | 2200   |
| 130      | 5 – 13                 | 4.30   | 20.00  | 130               | 2300   | 1400  | 1860   | 2200   |
| 150      | 5 – 13                 | 9.40   | 27.25  | 150               | 2700   | 1686  | 1888   | 3500   |
| 210      | 5 – 13                 | 9.40   | 30.14  | 210               | 2700   | 1686  | 1888   | 3600   |
| 260      | 5 – 13                 | 15.70  | 41.80  | 260               | 3950   | 1650  | 2025   | 4300   |
| 315      | 5 – 13                 | 15.70  | 53.00  | 315               | 3950   | 1650  | 2025   | 4450   |
| 355      | 5 – 10                 | 15.70  | 55.55  | 355               | 3950   | 1650  | 2025   | 4900   |



VARIABLE 90 – 201

| 60 Hz    |                        |  |      |                   |        |       |        |        |
|----------|------------------------|--|------|-------------------|--------|-------|--------|--------|
| VARIABLE | Operating overpressure | Volume flow acc. to ISO 1217 (Annex C-1996)* |      | Rated motor power | Length | Width | Height | Weight |
|          |                        | min.   | max. |                   |        |       |        |        |
|          | psig                   | acfm   | acfm | HP                | inch   | inch  | inch   | lbs    |
| 16/20    | 75 – 190               | 41   | 95   | 20                | 50     | 35    | 46.9   | 853    |
| 20/25    | 75 – 190               | 41   | 115  | 25                | 50     | 35    | 46.9   | 853    |
| 24/30    | 75 – 190               | 41   | 130  | 30                | 60.8   | 35    | 46.1   | 892    |
| 28/40    | 75 – 190               | 41   | 148  | 40                | 60.8   | 35    | 46.1   | 892    |
| 32/45    | 75 – 190               | 69   | 176  | 45                | 60.8   | 35    | 46.9   | 1201   |
| 34/50    | 75 – 190               | 69   | 203  | 50                | 60.8   | 35    | 46.9   | 1223   |
| 35/51    | 75 – 190               | 38   | 216  | 50                | 82.3   | 42.6  | 63     | 2072   |
| 37/55    | 75 – 190               | 38   | 234  | 55                | 82.3   | 42.6  | 63     | 2160   |
| 55/80    | 75 – 190               | 78   | 356  | 80                | 82.3   | 42.6  | 63     | 2557   |
| 65/90    | 75 – 190               | 79   | 385  | 90                | 82.3   | 42.6  | 63     | 2734   |
| 70/95    | 75 – 190               | 99   | 461  | 95                | 82.3   | 42.6  | 63     | 2799   |
| 90/125   | 75 – 190               | 152  | 602  | 125               | 90.6   | 55.1  | 73.2   | 4519   |
| 115/155  | 75 – 190               | 152  | 652  | 155               | 90.6   | 55.1  | 73.2   | 4850   |
| 130/175  | 75 – 190               | 152  | 713  | 175               | 90.6   | 55.1  | 73.2   | 4850   |
| 150/200  | 75 – 190               | 332  | 976  | 200               | 106.3  | 66.4  | 74.3   | 7716   |
| 210/280  | 75 – 190               | 332  | 1078 | 280               | 106.3  | 66.4  | 74.3   | 7937   |
| 260/350  | 75 – 190               | 554  | 1476 | 350               | 155.5  | 65    | 79.7   | 9480   |
| 315/430  | 75 – 190               | 554  | 1901 | 430               | 155.5  | 65    | 79.7   | 10580  |
| 355/480  | 75 – 145               | 554  | 1990 | 480               | 155.5  | 65    | 79.7   | 10802  |

\* V relates to an operating overpressure of 7 bar at 50 Hz / 100 psig at 60 Hz; systems are air-cooled as standard / water-cooled as an option as of VARIABLE 35 model (VARIABLE 35 / 51), as of

# LENTO

## Oil-free compressed air of outstanding quality

Not only is there demand for high-quality, 100% oil-free compressed air in the pharmaceutical, foodstuffs, electrical engineering and medical industries, but wherever products of the highest quality are produced. Therefore, ALMiG delivers maximum compressed air quality in highly sensitive areas of use with the oil-free compressors of the LENTO series. Only water, the most natural of all raw materials, is used in the compression process.

The speed-controlled direct drive of the LENTO series delivers maximum cost-effectiveness by precisely matching the volume flow to the respective compressed air requirement. The integrated refrigeration dryer ensures a low pressure dew point. Therefore, under certain circumstances, the customer doesn't need a separate refrigeration dryer. This avoids costs for the fresh water supply and water processing and minimises service and maintenance costs compared with other oil-free compression systems.

### Clean and ecological solution:

- Clean, environmentally friendly oil-free compressed air
- ISO class 0, certified in accordance with DIN ISO 8573-1:2010
- Dust particles that are drawn in are washed out by the water
- Clean condensate – pure water – can be discharged directly into the sewer system
- Very low temperatures during compression thanks to excellent heat transfer via the water. Reduced amounts of energy are therefore used to generate the compressed air

### Application

100% oil-free compressed air for industrial use (pharmaceutical, food, chemical, etc.)

### Power output

LENTO I: 15 – 30 kW  
LENTO II: 30 – 55 kW  
LENTO III: 45 – 80 kW  
LENTO IV: 80 – 130 kW

### Volume flow acc. to ISO 1217 (Annex C-1996)

1.01 – 18.03 m³/min

### Operating pressure

LENTO I & II: 5 – 10 bar  
LENTO III & IV: 5 – 13 bar

### Cooling

Water-cooled: (standard)  
Air-cooled: (option)  
Only water-cooled available as of LENTO 80

### Drive

Direct and speed-controlled

### Motor

Energy efficiency class IE 3;  
IP 55 protection, protection class F

- + 100% oil-free compressed air generation
- + Volume flow can be adapted exactly to meet compressed air requirements
- + No switching cycles or expensive idle times
- + Energy-saving soft start without current peaks
- + Operating pressure can be freely selected between pmin – pmax in 0.1 bar/1.5 psig increments
- + The reduction in pressure can save money



Suitable controllers:

### AIR CONTROL P



Standard

### AIR CONTROL HE



Optional

Controllers starting on p.42



LENTO



LENTO 15–30, air-cooled



LENTO 80, water-cooled

| 50 Hz speed-controlled |                        |  |        |                   |        |       |        |        |
|------------------------|------------------------|--|--------|-------------------|--------|-------|--------|--------|
| LENTO                  | Operating overpressure | Volume flow acc. to ISO 1217 (Annex C-1996)* |        | Rated motor power | Length | Width | Height | Weight |
|                        |                        | min.   | max.   |                   |        |       |        |        |
|                        | bar                    | m³/min                                       | m³/min | kW                | mm     | mm    | mm     | kg     |
| 15                     | 5–10                   | 1.01   | 2.34   | 15                | 1880   | 850   | 1660   | 850    |
| 18                     | 5–10                   | 1.01   | 2.87   | 18.5              | 1880   | 850   | 1660   | 860    |
| 22                     | 5–10                   | 1.01   | 3.38   | 22                | 1880   | 850   | 1660   | 870    |
| 30                     | 5–10                   | 1.01   | 4.30   | 30                | 1880   | 850   | 1660   | 920    |
| 31                     | 5–10                   | 2.04   | 5.08   | 30                | 2300   | 1400  | 1560   | 1470   |
| 37                     | 5–10                   | 2.04   | 6.14   | 37                | 2300   | 1400  | 1560   | 1520   |
| 45                     | 5–10                   | 2.04   | 7.13   | 45                | 2300   | 1400  | 1560   | 1550   |
| 55                     | 5–10                   | 2.04   | 8.19   | 55                | 2300   | 1400  | 1560   | 1590   |
| 46                     | 5–13                   | 2.51   | 8.58   | 45                | 2300   | 1400  | 1560   | 1700   |
| 56                     | 5–13                   | 2.51   | 9.97   | 55                | 2300   | 1400  | 1560   | 1750   |
| 70                     | 5–13                   | 2.51   | 11.56  | 70                | 2300   | 1400  | 1560   | 1800   |
| 80                     | 5–13                   | 2.51   | 12.28  | 80                | 2300   | 1400  | 1560   | 1850   |
| 81                     | 5–13                   | 4.57   | 15.50  | 80                | 2800   | 1400  | 1910   | 2150   |
| 90                     | 5–13                   | 4.57   | 17.23  | 90                | 2800   | 1400  | 1910   | 2280   |
| 110                    | 5–13                   | 4.57   | 18.03  | 130               | 2800   | 1400  | 1910   | 2280   |

| 60 Hz speed-controlled |                        |  |      |                   |        |       |        |        |
|------------------------|------------------------|--|------|-------------------|--------|-------|--------|--------|
| LENTO                  | Operating overpressure | Volume flow acc. to ISO 1217 (Annex C-1996)* |      | Rated motor power | Length | Width | Height | Weight |
|                        |                        | min.   | max. |                   |        |       |        |        |
|                        | psig                   | acfm   | acfm | HP                | inch   | inch  | inch   | lbs    |
| 15/20                  | 75–145                 | 36   | 83   | 20                | 74     | 33.5  | 65.4   | 1875   |
| 18/25                  | 75–145                 | 36   | 103  | 25                | 74     | 33.5  | 65.4   | 1895   |
| 22/30                  | 75–145                 | 36   | 121  | 30                | 74     | 33.5  | 65.4   | 1920   |
| 30/40                  | 75–145                 | 36   | 153  | 40                | 74     | 33.5  | 65.4   | 2030   |
| 31/41                  | 75–145                 | 72   | 182  | 40                | 90.6   | 55.1  | 61.4   | 3240   |
| 37/50                  | 75–145                 | 72   | 220  | 50                | 90.6   | 55.1  | 61.4   | 3350   |
| 45/60                  | 75–145                 | 72   | 255  | 60                | 90.6   | 55.1  | 61.4   | 3420   |
| 55/75                  | 75–145                 | 72   | 292  | 75                | 90.6   | 55.1  | 61.4   | 3510   |
| 46/61                  | 75–190                 | 89   | 306  | 60                | 90.6   | 55.1  | 61.4   | 3750   |
| 56/76                  | 75–190                 | 89   | 355  | 75                | 90.6   | 55.1  | 61.4   | 3860   |
| 70/95                  | 75–190                 | 89   | 412  | 95                | 90.6   | 55.1  | 61.4   | 3970   |
| 80/105                 | 75–190                 | 89   | 440  | 105               | 90.6   | 55.1  | 61.4   | 4080   |
| 81/106                 | 75–190                 | 161  | 554  | 105               | 110.2  | 55.1  | 75.2   | 4740   |
| 90/125                 | 75–190                 | 161  | 615  | 125               | 110.2  | 55.1  | 75.2   | 5030   |
| 110/150                | 75–190                 | 161  | 637  | 175               | 110.2  | 55.1  | 75.2   | 5030   |

\* V relates to an operating overpressure of 7 bar at 50 Hz / 100 psig at 60 Hz; LENTO 15–70 (15 / 20–70 / 95) water-cooled as standard, air-cooled as an option; LENTO 75 D (75 / 100 D) and LENTO 80–110 (LENTO 80 / 105–110 / 150) only available as water-cooled



# CONTROLLERS

Smart monitoring,  
reliable documentation





# NETWORKING WITH AIR CONTROL

## Internet-based remote monitoring

In the future it will be even easier to remotely monitor your compressed air generation thanks to visualisation via the ALMiG web server – regardless of where you happen to be at the time. The system ensures high reliability with convenient access to various parameters, prompt messages and comprehensive facts.

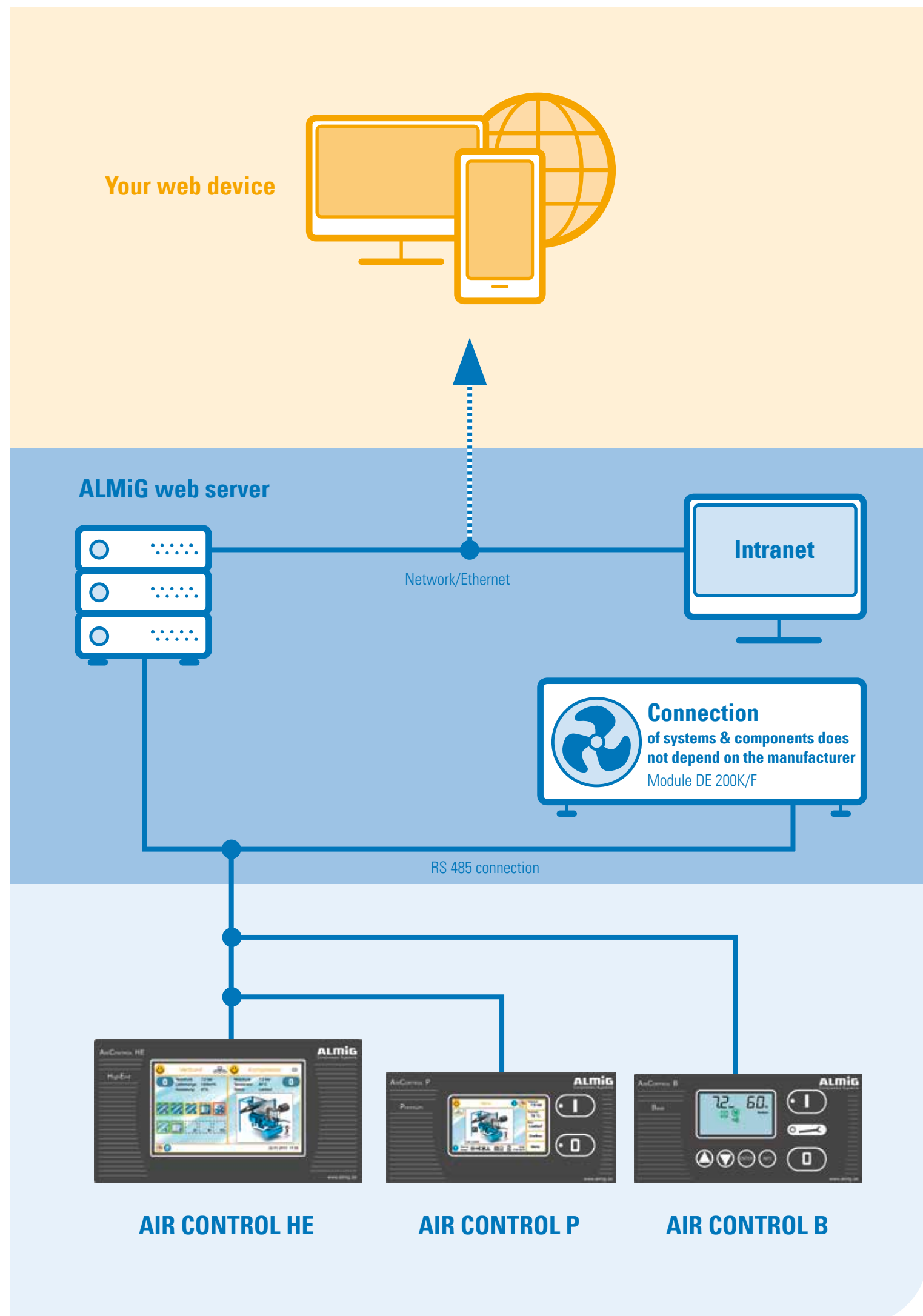
Up to ten compressors can be monitored in this way – regardless of the compressor type. The system works with both piston and screw or turbo compressors. The only prerequisite is that the web server is connected via an AIR CONTROL HE. State-of-the-art bus technology is used for the installation.

### Accessible parameters:

- Energy and compressed air balance, also available to download
- Overview of the compressor station with the operating statuses of each individual compressor
- Loaded / idle mode statistics of compressors
- Data on delivery volumes, volume flows and motor starts
- Detailed information about utilisation, network pressure and specific performance data
- Data on energy efficiency and maintenance

### The most important benefits:

- Easy to operate via standard Internet browser
- Can be accessed via company's own network or anywhere in the world via the Internet
- Dial-in protected by user ID
- Various parameters are depicted either in tables or graphs
- Continuous monitoring of all parameters of relevance to operation
- Active e-mail notification to up to 5 e-mail addresses in the event of warnings, maintenance work or faults
- Convenient transfer of all relevant data into Office programs such as MS Excel
- The parameters are displayed in a visually appealing way
- CSV files for further processing





# 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 business 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



# HEAT RECOVERY

Optimum energy use





# HEAT RECOVERY: REDUCE COSTS

Save energy easily and enjoy financial benefits quickly

The energy consumed for the generation of compressed air is converted almost entirely to heat. This is a high potential for savings since one compressed air station with a power requirement of 75 kW during 4000 operating hours, for example, will need approximately 300,000 kWh of power every year. Use this energy in the form of:

- Warm air to supplement space heating
- Warm water to support central heating
- Warm water for industrial water

## Heat energy at no additional cost to you!

The cost of fuel oil, gas, and other forms of energy continues to rise. As a result, the use of energy will increasingly influence the competitiveness of many companies. But the recovery of heat energy can boost overall energy efficiency and contribute to the company's profitability.

At the same time, the required investment is small: On average, related expenses pay for themselves in just a few months. This is an excellent opportunity to reclaim a portion of your operating costs!

## Heat recovery: determine your individualised benefits

How can your company specifically benefit from heat recovery? Perform custom calculations for clarity on your investment and payback period. This will give you a solid foundation for making decisions and provide detailed information on why you should take advantage of this opportunity.

## Saving money and protecting the environment can be easy

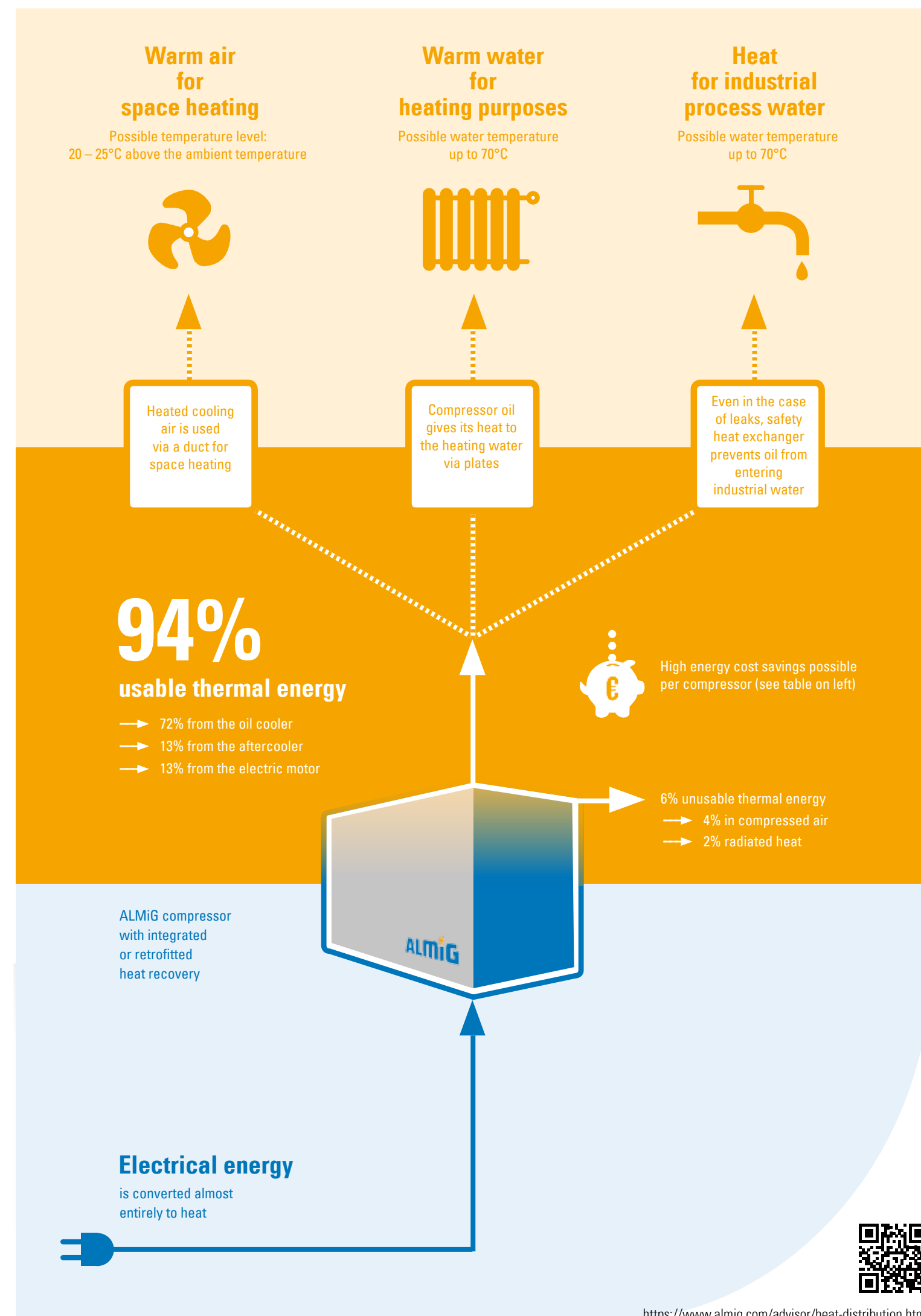
Every litre of fuel oil that you save reduces your CO<sub>2</sub> emissions by approximately 2.8 kg. Heat recovery systems pay for themselves after one-half to one year on average, depending on capacity utilisation and the level of energy costs.

## Examples of potential energy savings

| Compressor rated output | Usable heat | Fuel oil savings/year <sup>1</sup> | Fuel oil cost savings/year <sup>1</sup> |
|-------------------------|-------------|------------------------------------|---|
| From 6 kW               | 2.8 kW      | 700 l                              | €490.00                                 |
| 37 kW                   | 27 kW       | 6,720 l                            | €4,704.00                               |
| 45 kW                   | 32 kW       | 8,170 l                            | €5,719.00                               |
| 55 kW                   | 40 kW       | 9,990 l                            | €6,993.00                               |
| 75 kW                   | 54 kW       | 13,620 l                           | €9,534.00                               |
| 90 kW                   | 65 kW       | 16,350 l                           | €11,445.00                              |
| 110 kW                  | 80 kW       | 19,980 l                           | €13,986.00                              |
| 132 kW                  | 95 kW       | 23,980 l                           | €16,786.00                              |
| 160 kW                  | 115 kW      | 29,060 l                           | €20,342.00                              |
| Up to 400 kW            | 288 kW      | 72,660 l                           | €50,870.00                              |

<sup>1</sup> At 2,000 hours heat recovery/year

<sup>2</sup> At a fuel oil price of 0.70 €/litre and 2,000 hours heat recovery/year





# SPEED CONTROL

Needs-based adaptation of delivery volumes





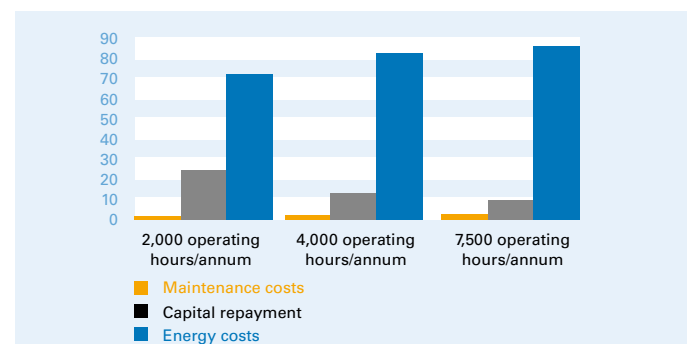
# INTELLIGENT SYSTEMS YOU CAN RELY ON

## Speed-controlled screw compressors

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

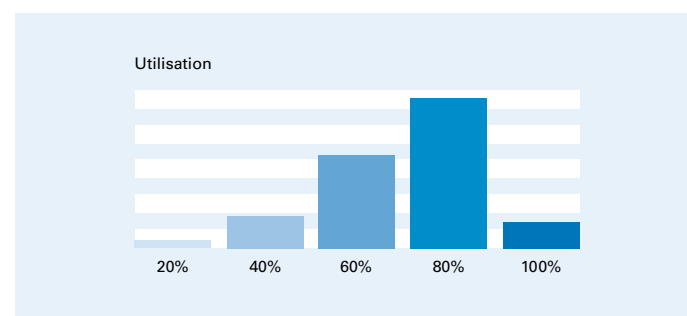
According to a study, approx. 80 billion kWh of electricity is used in compressed air systems in the EU each year, more than 10% of the electricity required in industry. So the cost-effectiveness of a compressed air system isn't about how much it costs to buy, but how much it costs to run on a day-to-day 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.

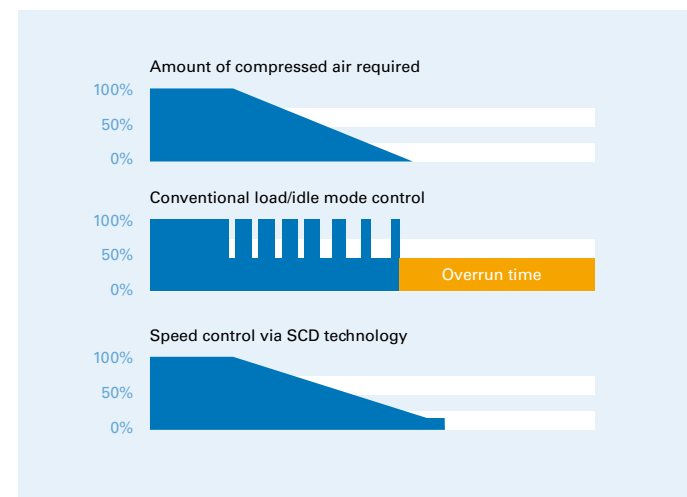
From experience, we know that most compressors are only used at between 50 and 70% of capacity. The maximum delivery volume is in most cases only used during peak times.



### 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.

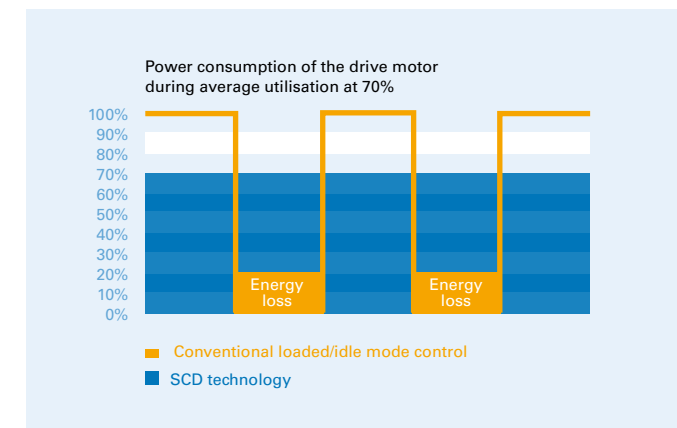
The Variable and V-Drive series vary their power by gently and continually changing speeds, not by abruptly switching on and off.

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.

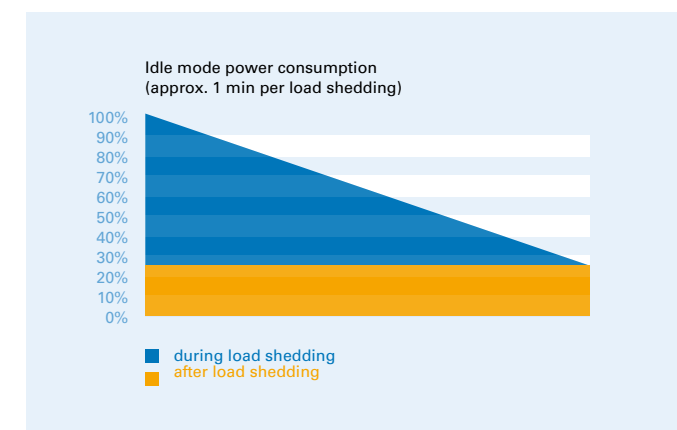
### Productivity without idle mode: the ALMiG efficiency programme

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.



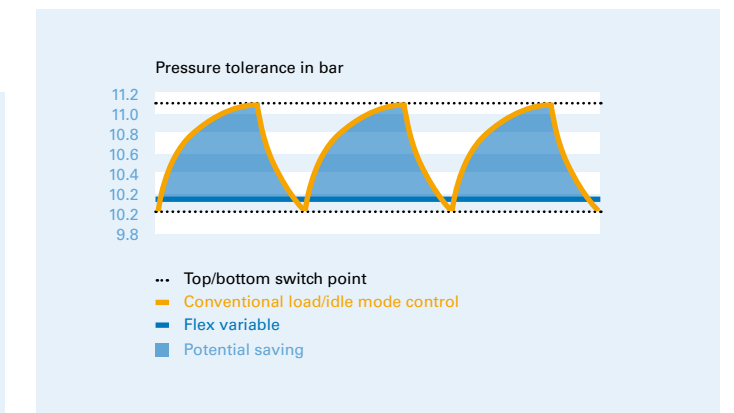
### Less load shedding in fluctuating networks

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.

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