

# SCREW COMPRESSORS



**5**  
YEARS

**AirCare**  
CERTIFIED WARRANTY  
COVERED BY ALMIG  
TERMS & CONDITIONS APPLY





# 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 4 kW to 315 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

Highest efficiency in class

**G-Drive T series**  
90 - 315 kW

p. 22



Compact and cost-effective

**COMBI series**  
5,5 - 22 kW

p. 6



Robust and reliable

**BELT XP series**  
4 - 37 kW

p. 10



High compressor performance and operational reliability

**GEAR XP series**  
22 - 200 kW

p. 14



Compressor output with endurance

**G-Drive series**  
30 - 75 kW

p. 18



**Vertical efficiency for the smallest footprint**

**F-Drive series**  
5.5 - 37 kW

p. 30

**Compressor output with endurance and speed control**

**V-Drive series**  
30 - 75 kW

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**Oil-free compressed air of outstanding quality**

**LENTO series**  
15 - 130 kW

p. 46



**Compact, quiet and powerful**

**FLEX series**  
5.5 - 30 kW

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**High efficiency with SCD speed control**

**VARIABLE XP series**  
22 - 200 kW

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**Highest efficiency with speed control**

**V-Drive T series**  
90 - 315 kW

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# 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



Suitable controllers:

**AIR CONTROL MINI**



Standard

**AIR CONTROL B**



Optional

**AIR CONTROL P**



Optional

**AIR CONTROL HE**



Optional

Controllers starting on p. 50

# 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									
COMBI	Volume flow acc. to ISO 1217 (Annex C-2009)				Rated motor power	Length	Width	Height	Weight
	100 psig	125 psig	150 psig	190 psig					
Model	acfm	acfm	acfm	acfm	HP	inch	inch	inch	lbs
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

50 Hz								
COMBI SC	Volume flow acc. to ISO 1217 (Annex C-2009) *		Rated motor power	Length	Width	Height	Weight	
	min.	max.						
Model	m <sup>3</sup> /min	m <sup>3</sup> /min	kW	mm	mm	mm	kg	
11	0,62	1,56	11	1120	685	1128	300	
22	1,23	3,23	22	1480	780	1375	535	

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





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

# BELT XP

## Robust and reliable

Stable air pressure, consistent volume flow and quiet continuous operation are just a few of the advantages that benefit you with the ALMiG BELT XP series. These sophisticated, compact units, unlike conventional reciprocating compressors, offer reduced noise levels and improved compressed air quality through a much lower residual oil content.

With its robust and proven components, the BELT XP compact system reliably ensures high compressor performance and operational reliability around the clock. The long-lasting compressors are equipped with a low-maintenance V-belt drive, which transmits drive power from 4 to 37 kW virtually loss-free.

The BELT XP series enables particularly economical and reliable operation in the volume flow range up to 6.30 m<sup>3</sup>/min.

In addition, the concept of the fixed-speed series aims at long service life and low maintenance costs, making the screw compressors particularly suitable for use as base-load compressors in continuous operation.

The intuitive ALMiG controls make the BELT XP series easy to operate. Due to the maintenance-friendly design, the service costs remain completely manageable.

### Application

Industry

### Power output

4 - 37 kW

Volume flow acc. to ISO 1217  
(Annex C-2009):

8 bar: 0.56 - 6.30 m<sup>3</sup>/min

10 bar: 0.48 - 5.84 m<sup>3</sup>/min

13 bar: 0.58 - 4.70 m<sup>3</sup>/min

### Operating pressure

8 - 13 bar

### Cooling

Air-cooled

### 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 intervals

**ALMiG XP Series:**

The standard compressors for demanding applications:

- Xtra Performance
- Efficient cooling
- Proven reliability
- Robust and long-lasting components



**Integral compressor stage**

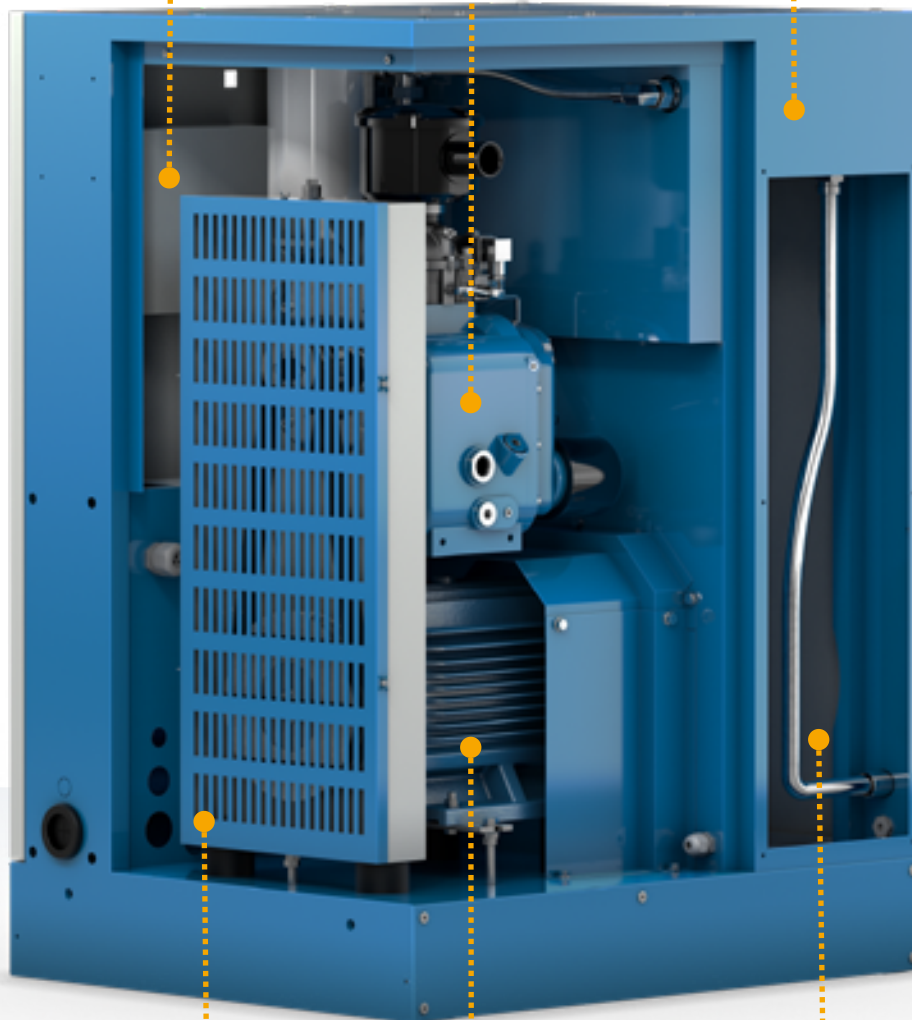
Combines compressor stage and receiver in one component to significantly reduce internal pressure losses

**Air Control**

Smart controller that monitors, visualises and documents

**Side-mounted compressed air cooler**

Enables suction of the coldest possible air



**Service-friendly construction**

**High-efficient IE3-Motor**

**Efficient, noise-reducing cooling air flow**

Suitable controllers:

**AIR CONTROL B**



Standard

**AIR CONTROL P**



Optional

Controllers starting on p. 50

# BELT XP



BELT XP 4-6



BELT XP 8-15

50 Hz								
BELT XP	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
4	0,56	0,48	-	4	750	600	955	201
6	0,78	0,68	0,58	5,5	750	600	955	217
8	1,18	1,00	0,76	7,5	800	670	1100	275
11	1,70	1,49	1,30	11	800	670	1100	285
15	2,21	1,95	1,68	15	800	670	1100	370



BELT XP 16-22



BELT XP 30-37

50 Hz

BELT XP	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
16	2,40	2,13	1,66	15	1250	880	1515	610
18	3,00	2,77	2,20	18,5	1250	880	1515	653
22	3,70	3,34	2,62	22	1250	880	1515	681
30	5,20	4,62	3,86	30	1350	940	1680	857
37	6,30	5,84	4,70	37	1350	940	1680	895

# GEAR XP

## High compressor performance and operational reliability

The GEAR XP range of screw compressors has been designed to deliver maximum reliability with low operating and service costs. They are especially suitable for constantly high compressed air requirements. The product range offers delivery quantities of 2.62 - 33.00 m<sup>3</sup>/min at maximum operating pressures of 5 - 13 bar.

The sophisticated system design and the careful selection of components optimize the flow rate. This improves energy efficiency, increases reliability and extends the life of the motor, electrical components, bearings, hoses and seals by up to 50%.

The new GEAR XP series is characterized by an encapsulated gearbox and the motor speed perfectly matching to the compressor stage.

In conjunction with comparatively low rotational speeds and excellent noise insulation, they achieve a very low noise level. Thus, the system can also be installed where the noise level is critical.

The maintenance and service-friendly system concept of the GEAR XP compressors includes a robust drive motor with strong power reserves, generously dimensioned heat exchangers and an intelligent cooling air duct.

All components have been designed with energy efficiency in mind. Starting with the engine, through the compressor stage to the almost lossless gearbox, each component has been optimized. You benefit as a customer and operator of the system over the entire product life cycle.

### Application

Industry

### Power output

22 - 200 kW

Volume flow acc. to ISO 1217  
(Annex C-2009)

8 bar: 3.70 - 33.00 m<sup>3</sup>/min

10 bar: 3.20 - 30.20 m<sup>3</sup>/min

13 bar: 2.62 - 25.05 m<sup>3</sup>/min

### Operating pressure

5 - 13 bar

### Cooling

Air-cooled (standard)

Water-cooled (option)

### Drive

Gearbox

### Motor

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



- + Ideal for constantly high compressed air requirements under harsh conditions
- + Robust drive unit with strong power reserves
- + Maintenance and service-friendly drive concept

**ALMiG XP Series:**

The standard compressors for demanding applications:

- Xtra Performance
- Efficient cooling
- Proven reliability
- Robust and long-lasting components



**Cooler Unit**

Large-area radiators for lowest compressed air outlet temperatures

**High performance suction filter**

**Air Control**

Smart controller that monitors, visualises and documents



**Compressor stage**

Latest airend technology with integrated gear set

**High-efficient IE3-Motor**

Suitable controllers:

**AIR CONTROL P**



Standard

**AIR CONTROL HE**



Optional

Controllers starting on p.50

# GEAR XP



GEAR XP 22



GEAR XP 30 - 37



GEAR XP 45 - 55

50 Hz								
GEAR XP	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
22	3.70	3.20	2.62	22	1250	880	1515	670
30	5.20	4.50	3.86	30	1350	940	1680	820
37	6.30	5.60	4.70	37	1350	940	1680	860
45	7.70	7.02	5.92	45	2000	1250	1750	1555
55	9.60	8.40	7.19	55	2000	1250	1750	1640
75	12.80	11.80	10.20	75	2180	1330	1850	2025
90	15.30	13.80	11.80	90	2180	1330	1850	2120





GEAR XP 75 - 90



GEAR XP 100 - 200

50 Hz								
GEAR XP	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
110	20.00	17.00	14.70	110	2940	1710	1825	3000
132	23.20	21.00	17.36	132	2940	1710	1825	3500
160	27.90	24.60	21.00	160	3300	1860	2145	3700
200	33.00	30.20	25.05	200	3300	1860	2145	3750

# G-DRIVE

## Compressor output with high endurance

The G-Drive series offers 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".

### 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 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 downtimes to a minimum, and ensures that the service costs are completely manageable.

Application

Industry

Power output

30 kW - 75 kW

Volume flow acc. to ISO 1217  
(Annex C-2009)

3.92 - 13.54 m<sup>3</sup>/min

Operating pressure

5 - 13 bar; stepless settable

Cooling

Air-cooled (standard)

Water-cooled (option)

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 (G-Drive 30 - 37)

**AIR CONTROL P**



Optional (G-Drive 30 - 37)  
Standard (G-Drive 38 - 75)

**AIR CONTROL HE**



Optional

Controllers starting on **p.50**

# G-DRIVE



G-DRIVE 30/37

50 Hz								
G-DRIVE	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
30	5.46	4.86	3.92	30	1681	959	1635	860
37	6.54	5.72	5.04	37	1681	959	1635	885
38	6.76	5.89	4.94	37	1900	1100	1725	1100
45	7.90	6.98	5.91	45	1900	1100	1725	1250
56	9.79	8.95	7.75	55	2300	1380	1950	2120
75	13.54	11.95	10.51	75	2300	1380	1950	2241



G-DRIVE 38-75

60 Hz									
G-DRIVE	Volume flow acc. to ISO 1217 (Annex C-2009)				Rated motor power	Length	Width	Height	Weight
	100 psig	125 psig	150 psig	190 psig					
Model	acfm	acfm	acfm	acfm	hp	inch	inch	inch	lbs
30	193.8	185.5	174.1	135.7	40	67	37.8	64.4	1896
37	244.9	217.8	202.7	188.8	50	67	37.8	64.4	1952
38	260.98	226.42	202.37	181.26	50	75	43	68	2425
45	319.24	265.74	246.50	209.38	60	75	43	68	2755
56	373.98	345.38	316.07	269.61	75	91	54	77	4672
75	509.59	458.03	422.01	360.62	100	91	54	77	4939

# 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 two-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 web server 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 - 315 kW

Volume flow acc. to ISO 1217  
(Annex C-2009)

14.9 - 62.7 m<sup>3</sup>/min

### Operating pressure

5- 13 bar

### Cooling

Air-cooled

### Drive

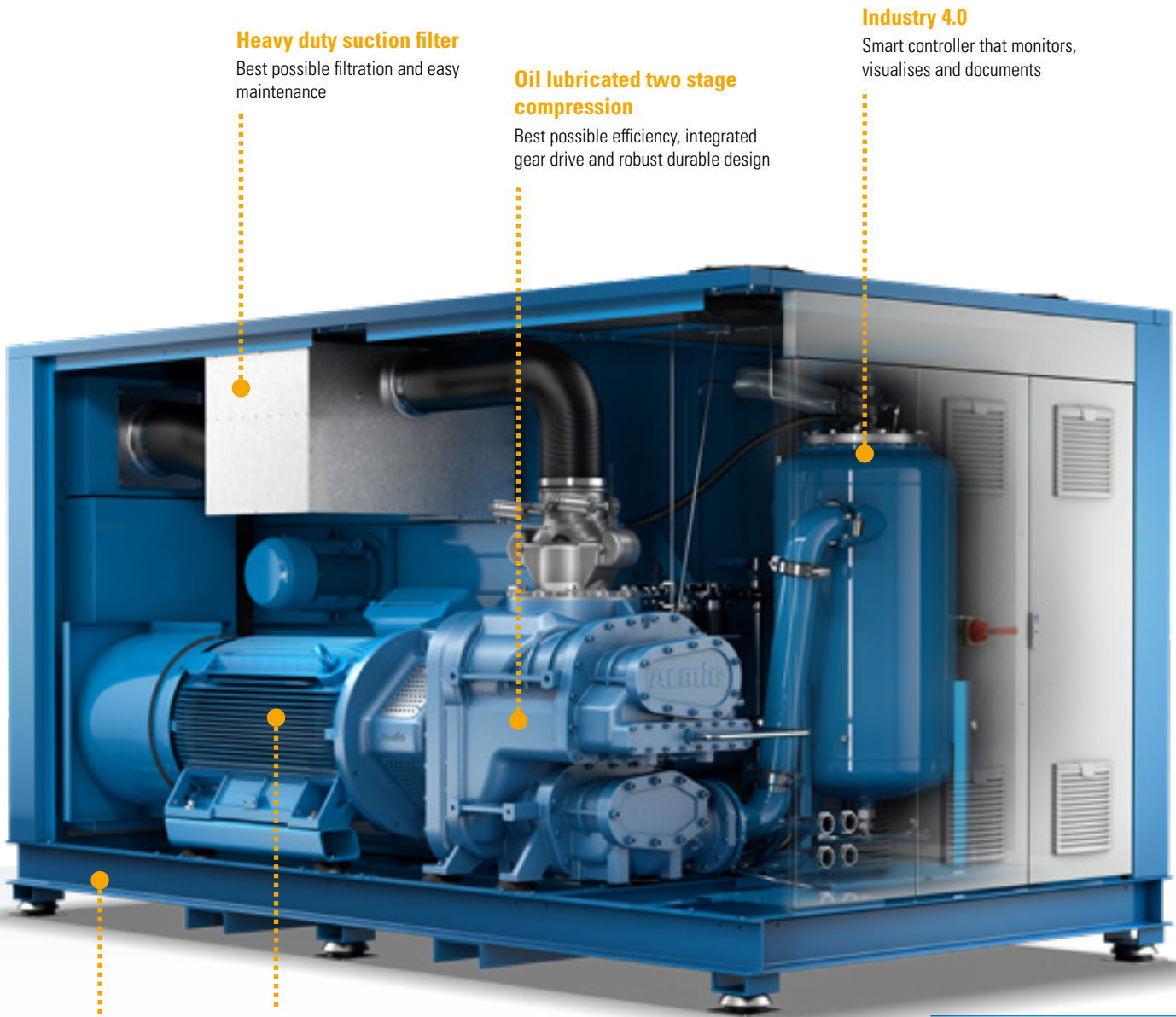
Gear

### Motor

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



- + 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



**Heavy duty suction filter**  
Best possible filtration and easy maintenance

**Oil lubricated two stage compression**  
Best possible efficiency, integrated gear drive and robust durable design

**Industry 4.0**  
Smart controller that monitors, visualises and documents

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

**Stable base frame**  
With vibration dampeners

**AIR CONTROL HE**



Standard

Controllers starting on p.50

# G-DRIVE T



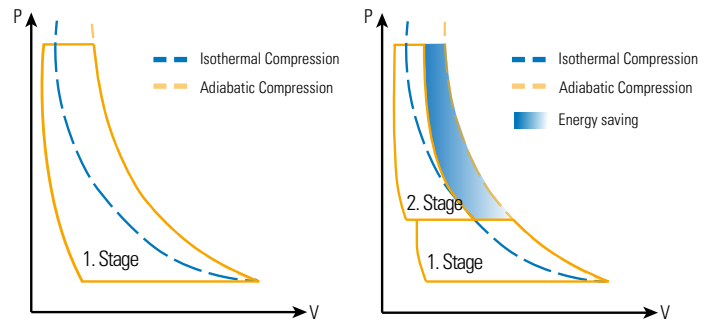
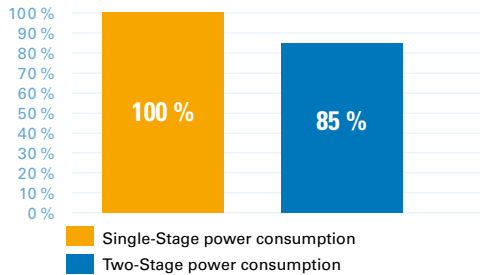
G-DRIVE T

50 Hz								
G-DRIVE T	Volume flow acc. to ISO 1217 (Annex C-2009)			Rated motor power	Length	Width	Height	Weight
	8 bar	10 bar	13 bar					
Modell	m <sup>3</sup> /min	m <sup>3</sup> /min	m <sup>3</sup> /min	kW	mm	mm	mm	kg
20	18.9	16.8	14.9	90	3250	1800	1868	5600
24	22.7	19.9	16.8	110	3250	1800	1868	5600
28	27.2	23.3	21.8	132	3881	2250	2438	5900
34	33.0	29.3	26.3	160	3881	2250	2438	5950
42	41.1	36.2	31.0	200	4531	2250	2438	8500
52	51.5	45.5	40.2	250	4531	2250	2438	9300
64	62.7	55.4	50.2	315	4531	2250	2438	9800



# Setting standards in enAIRgy efficiency

The two-stage compression is almost isothermal and requires up to 15% less power consumption than single-stage compression.



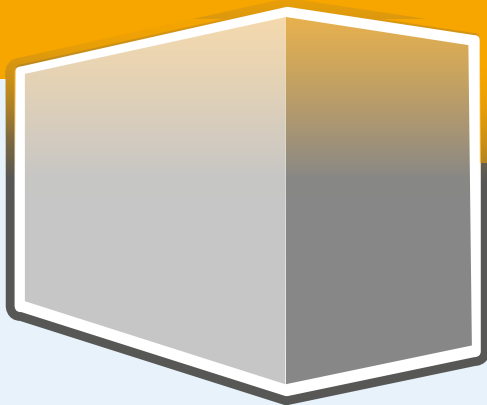
## Single-Stage Compressor

FAD @8,0bar	46.50 m <sup>3</sup> /min
Input Power	300 kW
P <sub>spec.</sub>	6.45 kW/(m <sup>3</sup> /min)
Air demand/Year*	22 320 000 m <sup>3</sup>
„Load“ h/Year	8 000 h
Energy costs	0.10 €
„Load“c/Year	240 000 €
Ø Net Price	70 000 €



## G-DRIVE T 52

FAD @8,0bar	51.50 m <sup>3</sup> /min
Input Power	300.50 kW
P <sub>spec.</sub>	5.83 kW/(m <sup>3</sup> /min)
Air demand/Year*	22 320 000 m <sup>3</sup>
„Load“ h/Year	<b>7 223 h</b>
Energy costs	0.10 €
„Load“c/Year	217 060 €
„Load“ savings/Year	<b>22 940 €</b>
„Load“ savings/Month	<b>1 912 €</b>
„Load“ savings/Day	<b>64 €</b>
Ø Net Price	90 000 €
Price Balance	20 000 €
<b>Payback Time</b>	<b>0.87 years / 10 months</b>



**Two-stage compression**



- High efficient IE3 Motor
- Smart controller 4.0
- Variable Speed cooling fan
- Low service and maintenance costs
- Optional heat recovery



\*8000 operating hours per year, starting from the compressor with the lower delivery quantity.

# 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

5.5 - 30 kW

Volume flow acc. to ISO 1217  
(Annex C-2009)

0.53 - 4.05 m<sup>3</sup>/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  $p_{min}$  –  $p_{max}$  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.50

# FLEX



FLEX  
Standard variant



FLEX  
Receiver variant



FLEX "PLUS"  
Variant with sub-mounted refrigeration dryer

50 Hz								
FLEX	Operating overpressure	Volume flow acc. to ISO 1217 (Annex C-2009)*		Rated motor power	Length	Width	Height	Weight
		min.	max.					
	bar	m <sup>3</sup> /min	m <sup>3</sup> /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
30	5–13	1.06	4.05	30	1140	890	1315	365

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

\*\* as "0" variant with sub-mounted refrigeration dryer and filter system for generating "oil-free" compressed air



FLEX "0"\*\*\*  
Variant with refrigeration dryer and filter system



FLEX "PLUS"  
Variant with receiver



FLEX "0"  
Variant with receiver

60 Hz								
FLEX	Operating overpressure	Volume flow acc. to ISO 1217 (Annex C-2009)*		Rated motor power	Length	Width	Height	Weight
		min.	max.					
	psig	acfm	acfm	HP	inch	inch	inch	lbs
6	75-190	17	30	7.5	34.3	23.2	39	364
7	75-190	22	42	10	34.3	23.2	39	364
11	75-190	17	61	15	34.3	23.2	39	397
15	75-190	26	76	20	34.3	23.2	39	419
16	75-190	49	100	20	44.9	35	51.8	628
18	75-190	37	113	25	44.9	35	51.8	650
22	75-190	37	126	30	44.9	35	51.8	717
30	75-190	37	143	40	44.9	35	51.8	805

# F-DRIVE

## Vertical efficiency for the smallest footprint

Energy- and space-saving at the same time, that doesn't have to be a contradiction in terms. Quite the opposite. We at ALMiG have been proving for more than ten years that the concept of a vertical arrangement of motor and compressor unit is the key to success, both in terms of energy efficiency and installation space.

Energy-saving speed control by means of an oil-cooled permanent magnet motor, a highly efficient compressor stage combined with the most intelligent control technology and the lowest possible noise level are our response to the increasingly demanding requirements of the future.

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

The oil-cooled permanent magnet motor has decisive advantages over standard motors:

- the energy efficiency is comparable to IE4 or better,
- the motor cooling is independent of the speed,
- the waste heat can be recovered via heat recovery.

As an option (from F-Drive 18), integrated plate heat exchangers are used in so-called heat or energy recovery to recover the heat energy generated by compression. This can then be used to heat e. g. service or process water. Existing oil or gas heating systems can be supported or even partially replaced. For the F-Drive, this means that previously unattainable values can now be achieved in energy recovery!

### With ALMiG SCD technology you achieve energy savings of up to 35% through:

- Speed control
- constant mains pressure, infinitely variable from 5 to 13 bar
- extremely good system efficiency
- no start-up changeover power peaks
- no expensive downtimes

Application

Industry

Power output

5.5 - 37 kW

Volume flow acc. to ISO 1217  
(Annex C-2009)

0.33 - 6.98 m<sup>3</sup>/min

Operating pressure

5 - 13 bar

Cooling

Air-cooled

Drive

Direct and speed-controlled

Motor

Permanent magnet motor



- + Motor efficiency corresponds to IE4 or better
- + Heat recovery optionally available incl. use of engine waste heat!
- + Air Control P as standard compressor control system
- + Smallest footprint
- + Easy access and maintenance



**SCD frequency converter**  
for the exact adjustment of the delivery quantity

**Direct drive**  
for loss-free power transmission

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

**Oil check valve**  
prevents recirculated oil from getting into the filtered compressed air when switching off, incl. sight glass

**Easily accessible coolers**

Suitable controllers:

**AIR CONTROL P**



Standard

**AIR CONTROL HE**



Optional

Controllers starting on p. 50

**Space-saving design**  
for a small footprint

**Vibration damper**  
for decoupling the motor/airend unit

**Additional internal system pressure display**

**High efficient permanent magnet motor**  
Optimally cooled at any speed by oil cooling

**Sight glass for easy filling quantity control**

# F-DRIVE



F-Drive

50 Hz							
F-Drive	Operating overpressure	Volume flow acc. to ISO 1217 (Annex C-2009)*		Rated motor power	Length	Width	Height
		min.	max.				
Model	bar	m <sup>3</sup> /min	m <sup>3</sup> /min	kW	mm	mm	mm
6	5 - 13	0.33	0.94	5.5	660	690	1626
8	5 - 13	0.23	1.21	7.5	660	690	1626
11	5 - 13	0.23	1.84	11	660	690	1626
15	5 - 13	0.23	2.38	15	660	690	1626
18	5 - 13	0.42	3.52	18.5	790	800	1802
22	5 - 13	0.42	4.11	22	790	800	1802
30	5 - 13	0.93	6.00	30	940	850	1850
37	5 - 13	0.93	6.98	37	940	850	1850

\* related to operating overpressure 7 bar at 50 Hz; status 08/2020; subject to alterations and errors.



## F-Drive: Efficient and well thought-out in every detail

### Intelligent control systems

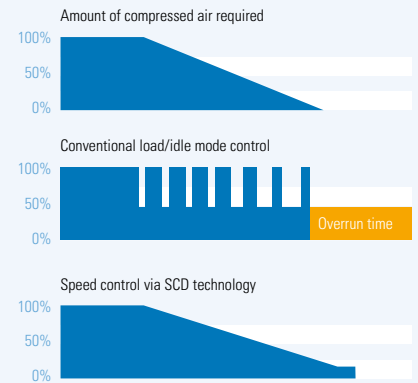
- Optimal control, management and monitoring of your entire compressed air supply.
- Maximum reliability in the supply of compressed air and maintenance planning ahead of time.
- Optimum operating convenience and outstanding cost-effectiveness.



### Speed control

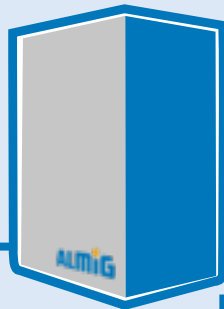
#### Saving costs through:

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



### Heat recovery

ALMiG compressor with integrated or retrofitted heat recovery



up to **96%** usable thermal energy

- ▶ 76% from the oil cooler    4% unusable thermal energy
- ▶ 14% from the aftercooler    ---▶ 2% in compressed air
- ▶ 6% from the electric motor    ---▶ 2% radiated heat

**Electrical energy**

is converted almost entirely to heat

Via exhaust air ducting systems up to **96%** usable thermal energy with ALMiG F-Drive

**Warm air for space heating**

Possible temperature level: 20 – 25°C above the ambient temperature

**Warm water for heating purposes**

Possible water temperature up to 70°C

**Heat for industrial process water**

Possible water temperature up to 70°C

Via heat exchangers up to **82%\*** usable thermal energy with ALMiG F-Drive

\*The ALMiG F-Drive not only uses energy from the oil cooling circuit, but thanks to the oil cooling of the electric motor this energy can also be recovered.



**High energy cost savings per compressor possible!**

# VARIABLE XP

## High efficiency with SCD speed control

The VARIABLE XP screw compressors are the optimal solution to provide the right amount of compressed air when the demand for compressed air fluctuates. With the integrated frequency converter, the specially designed motor only runs as fast as necessary to generate the required amount of compressed air. Expensive idle times and over-compression are now a thing of the past. Thus, the plant is the right solution for a highly efficient compressed air supply. The product range offers delivery quantities of 0.89 - 35 m<sup>3</sup>/min at maximum operating pressures of 5 - 13 bar.

In the development of the new VARIABLE XP series, the optimization of the cooling air flow has further improved the reliability and service life of the components. With the extra thick sound insulation, the system can also be installed where the noise level is critical.

### ALMiG SCD-Technology

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.

### 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

22 - 200 kW

Volume flow acc. to ISO 1217  
(Annex C-2009):

0.89 - 35 m<sup>3</sup>/min

### Operating pressure

5 - 13 bar (stepless)

### Cooling

Air-cooled (standard)

Water-cooled (option)

### Drive

Direct and speed-controlled

### Motor

Energy efficiency class IE 3; IP 55;  
insulation class F

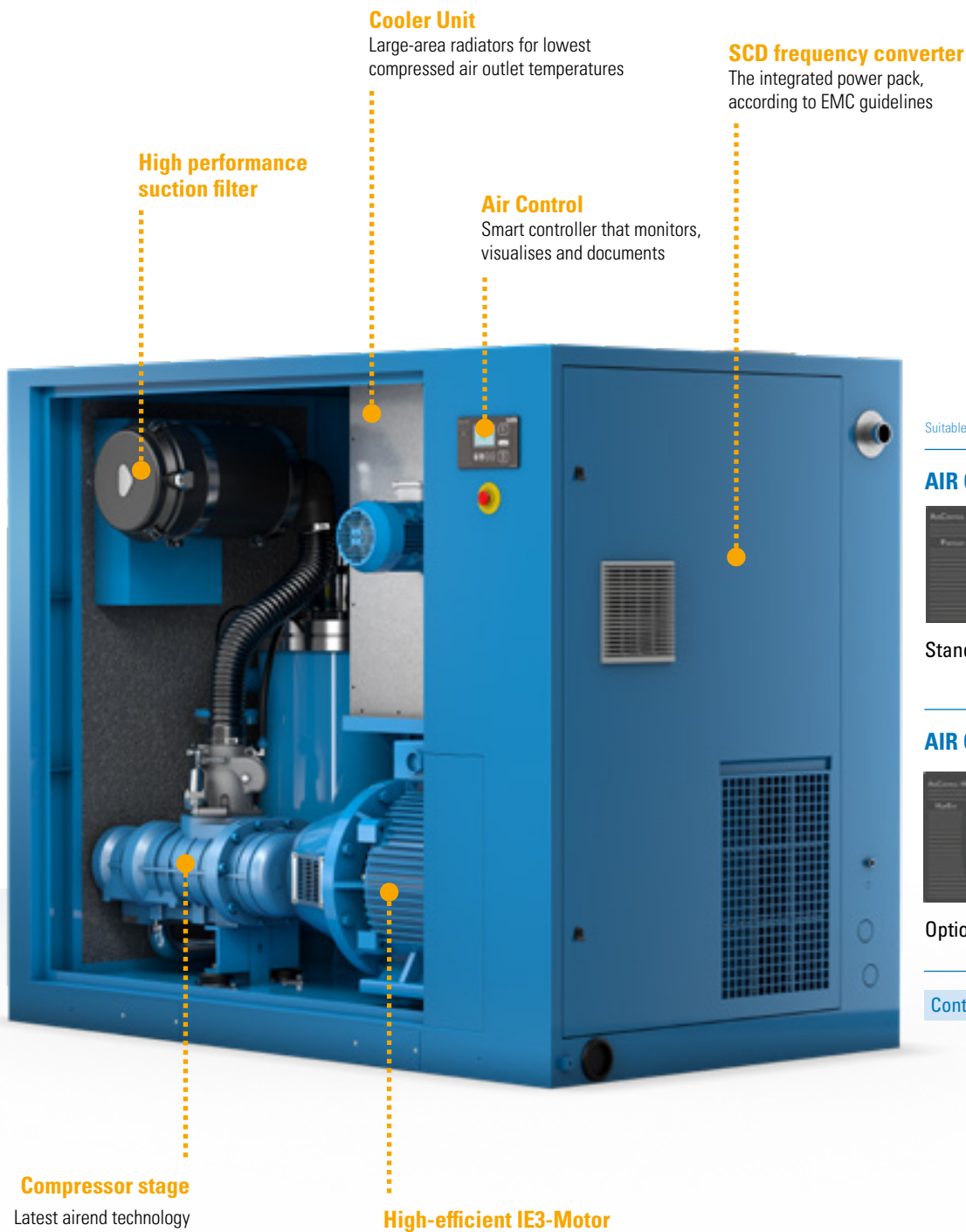


- + Efficient ALMiG SCD technology
- + Designed for use under the toughest operating conditions
- + Versatile use thanks to numerous possible extension options

**ALMiG XP Series:**

The standard compressors for demanding applications:

- Xtra Performance
- Efficient cooling
- Proven reliability
- Robust and long-lasting components



Suitable controllers:

**AIR CONTROL P**



Standard

**AIR CONTROL HE**



Optional

Controllers starting on p.50

# VARIABLE XP



VARIABLE XP 22



VARIABLE XP 30 - 37



VARIABLE XP 45 - 55

50 Hz								
VARIABLE XP	Operating overpressure	Volume flow acc. to ISO 1217 (Annex C-2009)*		Rated motor power	Length	Width	Height	Weight
		min.	max.					
Model	bar	m <sup>3</sup> /min	m <sup>3</sup> /min	kW	mm	mm	mm	kg
22	5-13	0.89	3.90	22	1250	880	1515	560
30	5-13	1.54	5.50	30	1350	940	1680	830
37	5-13	1.54	6.60	37	1350	940	1680	855
45	5-13	3.18	8.30	45	2000	1250	1750	1555
55	5-13	3.18	10.30	55	2000	1250	1750	1640
75	5-13	3.93	14.00	75	2180	1330	1850	2025
90	5-13	3.93	16.40	90	2180	1330	1850	2120

\* 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 XP 30, heat recovery systems available for all models



VARIABLE XP 75 - 90



VARIABLE XP 110 - 200

50 Hz								
VARIABLE XP	Operating overpressure bar	Volume flow acc. to ISO 1217 (Annex C-2009)*		Rated motor power kW	Length mm	Width mm	Height mm	Weight kg
		min. m <sup>3</sup> /min	max. m <sup>3</sup> /min					
110	5–13	6.50	21.00	110	2940	1710	1825	3000
132	5–13	9.92	25.20	132	2940	1710	1825	3500
160	5–13	9.92	29.20	160	3300	1860	2145	3700
200	5–13	9.92	35.00	200	3300	1860	2145	3750

# V-DRIVE

## Compressor output with high endurance

The V-Drive series offers 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 (up to 37 kW)

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 equipped 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 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 downtimes to a minimum, and ensures that the service costs are completely manageable.

#### Application

Industry

#### Power output

30 kW - 75 kW

Volume flow acc. to ISO 1217  
(Annex C-2009)

1.77 - 13.00 m<sup>3</sup>/min

#### Operating pressure

5 - 13 bar; stepless settable

#### Cooling

Air-cooled (standard)

Water-cooled (option)

#### Drive

Direct and speed-controlled

#### 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



**Optional heat recovery system**

**Maintenance-friendly design**

**Air Control**

Smart controller that monitors, visualises and documents

**Frequency converters**

Energy-saving speed control

**Highly efficient motor-compressor unit**

Energy efficiency class IE 3

**Base frame**

Torsion-resistant

Suitable controllers:

**AIR CONTROL B**



Standard (V-Drive 30 - 37)

**AIR CONTROL P**



Optional (V-Drive 30 - 37)  
Standard (V-Drive 38 - 75)

**AIR CONTROL HE**



Optional

Controllers starting on **p. 50**

# V-DRIVE



V-DRIVE 30/37

50 Hz								
V-DRIVE	Operating overpressure	Volume flow acc. to ISO 1217 (Annex C-2009)		Rated motor power	Length	Width	Height	Weight
		min.	max.					
Model	bar	m <sup>3</sup> /min	m <sup>3</sup> /min	kW	mm	mm	mm	kg
30	5 - 13	1.86	5.53	30	1702	959	1635	720
37	5 - 13	1.86	6.95	37	1702	959	1635	740
38	5 - 13	2.45	7.39	37	1900	1100	1725	1050
45	5 - 13	2.46	8.67	45	1900	1100	1725	1200
56	5 - 13	4.04	10.95	55	2300	1380	1950	1941
75	5 - 13	4.00	14.18	75	2300	1380	1950	2041

\* V relates to an operating overpressure of 7 bar at 50 Hz / 100 psig at 60 Hz





V-DRIVE 38-75

60 Hz								
V-DRIVE	Operating overpressure	Volume flow acc. to ISO 1217 (Annex C-2009)		Rated motor power	Length	Width	Height	Weight
		min.	max.					
Model	psi	acfm	acfm	hp	inch	inch	inch	lbs
38	75 - 190	86.43	260.98	50	75	43	68	2315
45	75 - 190	88.08	319.24	60	75	43	68	2646
56	75 - 190	140.59	373.98	75	91	54	77	4279
75	75 - 190	146.86	509.59	100	91	54	77	4500

V-Drive 30 & 37 in 60 Hz version on request

# V-DRIVE T

## Two-stage and speed-controlled - It couldn't be more efficient

How can the most enAlRgy-efficient screw compressor in the world be made even more efficient? By combining highly efficient two-stage compression with speed control. ALMiG combines exactly this in the new V-Drive T!

The unique stage design integrates the first and second stage in one compressor unit. The rotors of each compressor stage achieve optimum speed thanks 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.

The speed control and variable motor speed automatically and sensitively adjust the delivery volume to the fluctuating air consumption. This reduces costly and energy-intensive idle times to a minimum. In addition to efficiency, low speeds and a lower internal pressure difference increase the service life and reliability of the compressor unit.

With regard to Industry 4.0, the control of the compressor has all the prerequisites to participate in internal company communication or to be monitored externally via a web server.

### Advantages:

The high efficiency of the compressor allows high energy savings to be achieved and the life cycle costs of the plant to be reduced.

- Partly far more than 10 % energy savings compared to single-stage compression
- No expensive idle times due to speed control of the compressor
- Consistent and reliable
- Low differential pressures
- Low thermal load
- Easy maintenance and service

### Application

Industry

### Power output

90 kW - 315 kW

Volume flow acc. to ISO 1217  
(Annex C-2009)

9.7 - 62.0 m<sup>3</sup>/min

### Operating pressure

5 - 13 bar

### Cooling

Air-cooled

### Drive

Gear with speed control

### Motor

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



- + Highest efficiency through two-stage compression and speed control
- + Low speeds in combination with low internal pressure differences ensure a long service life.
- + Efficiency and ease of maintenance ensure low life cycle costs



**Heavy duty suction filter**

Best possible filtration and easy maintenance

**Oil lubricated two stage compression**

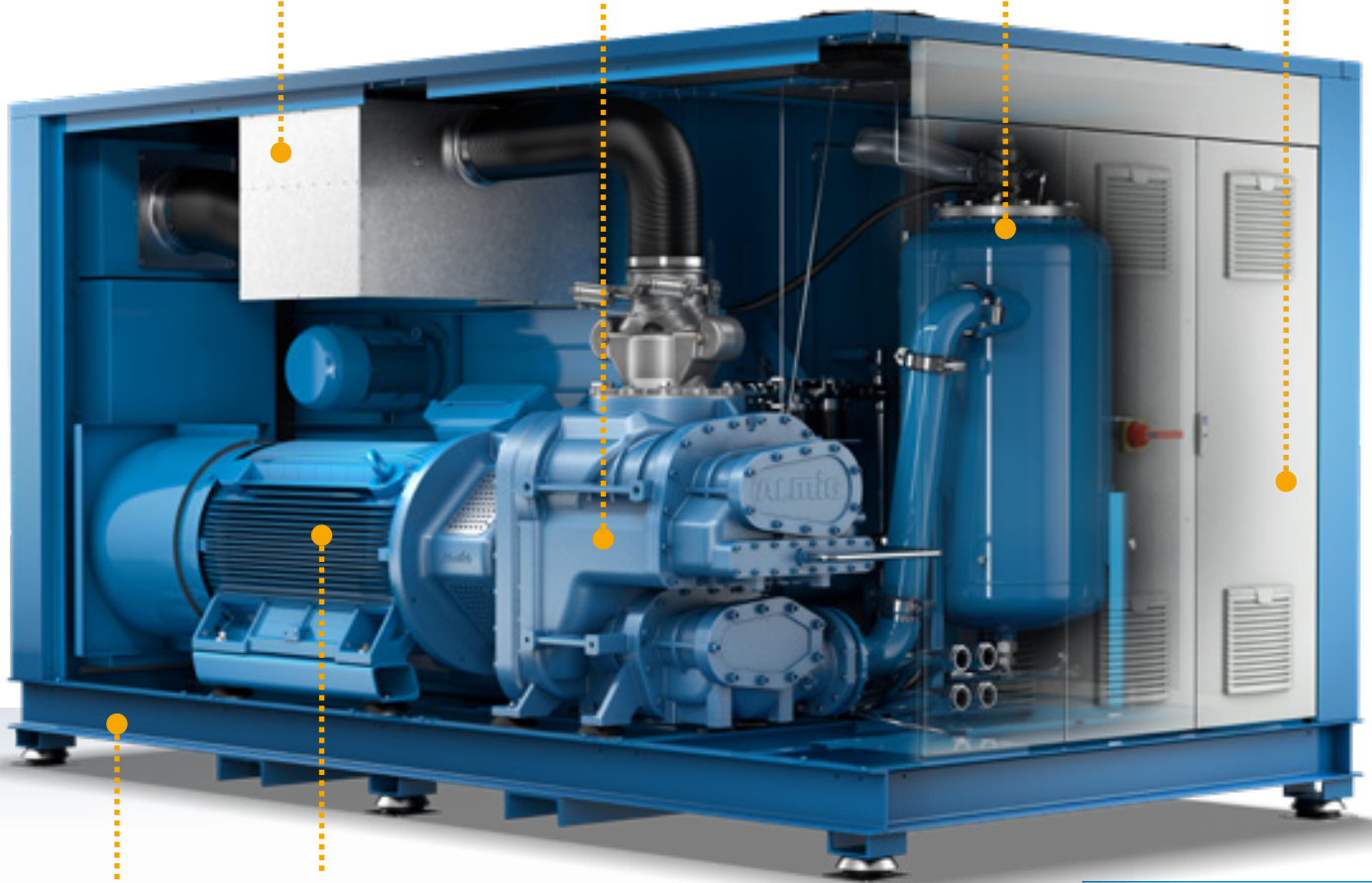
Best possible efficiency, integrated gear drive and robust durable design

**Industry 4.0**

Smart controller that monitors, visualises and documents

**Frequency converters**

Energy-saving speed control



**Energy-efficient IE3 Motor**

with long bearing life

**Stable base frame**

With vibration dampeners

**AIR CONTROL HE**



Standard

Controllers starting on p.50

# V-DRIVE T



V-DRIVE T

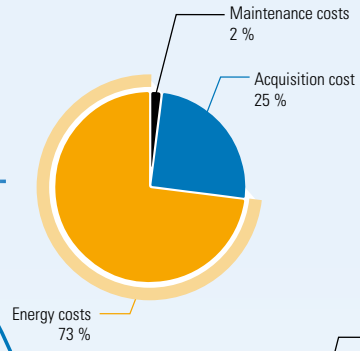
50 Hz								
V-DRIVE T	Operating overpressure	Volume flow acc. to ISO 1217 (Annex C-2009)		Rated motor power	Length	Width	Height	Weight
		min	max					
Model	bar	m <sup>3</sup> /min	m <sup>3</sup> /min	kW	mm	mm	mm	kg
20	5 - 10	9.7	19.5	90	3250	1800	1868	5650
24	5 - 12	9.7	23.5	110	3250	1800	1868	5900
28	5 - 13	9.7	27.7	132	3881	2250	2438	5950
34	5 - 13	12.5	34.6	160	3881	2250	2438	6200
42	5 - 13	13.1	42.1	200	4531	2250	2438	8500
52	5 - 13	14.4	53.1	250	4531	2250	2438	9300
64	5 - 13	12.5	62.0	315	4531	2250	2438	9800

\* V referred to operating overpressure 7 bar at 50 Hz

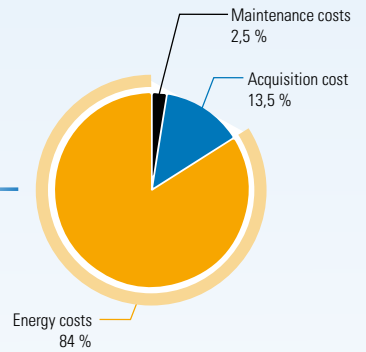
Average total cost of a compressed air station using three runtime models as an example



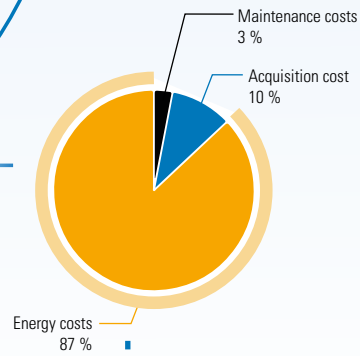
2.000 operating hours per year



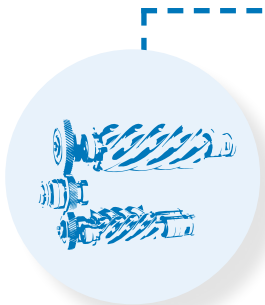
4.000 operating hours per year



8.000 operating hours per year



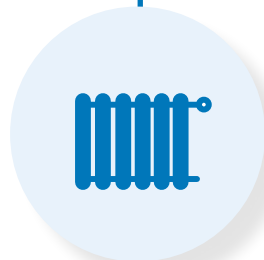
save energy



Two-stage compression



Speed control



Optional heat recovery system



Save energy costs



Protecting the environment

Energy costs account for the largest share of a compressor's life-cycle costs. In order to keep energy costs as low as possible, ALMiG continuously develops its systems with regard to energy efficiency.

Thanks to the two-stage compression in combination with the energy-saving speed control, the V-Drive T achieves a specific performance which is at the highest level. By using a heat recovery system, you can easily use the waste heat from the compressor for heating purposes and save even more energy costs.

# LENTO

## Oil-free compressed air of outstanding quality

Our LENTO series generates 100% oil-free compressed air for all applications, where products of the highest quality are produced. Given that only water, the most natural of all raw materials, is used in the compression process, LENTO delivers maximum compressed air quality for highly sensitive areas e. g. the pharmaceutical, foodstuffs, electrical engineering and medical industries.

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

15 - 110 kW

Volume flow acc. to ISO 1217  
(Annex C-2009)

1.01 - 19.60 m<sup>3</sup>/min

### Operating pressure

5 - 10 bar

### Cooling

Water-cooled (standard)

Air-cooled (option)

Only water-cooled available as of LENTO 76

### 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  $p_{\min}$  –  $p_{\max}$  in 0.1 bar/1.5 psig increments
- + The reduction in pressure can save money



**SCD direct drive**

Zero-loss power transfer

**Compressor**

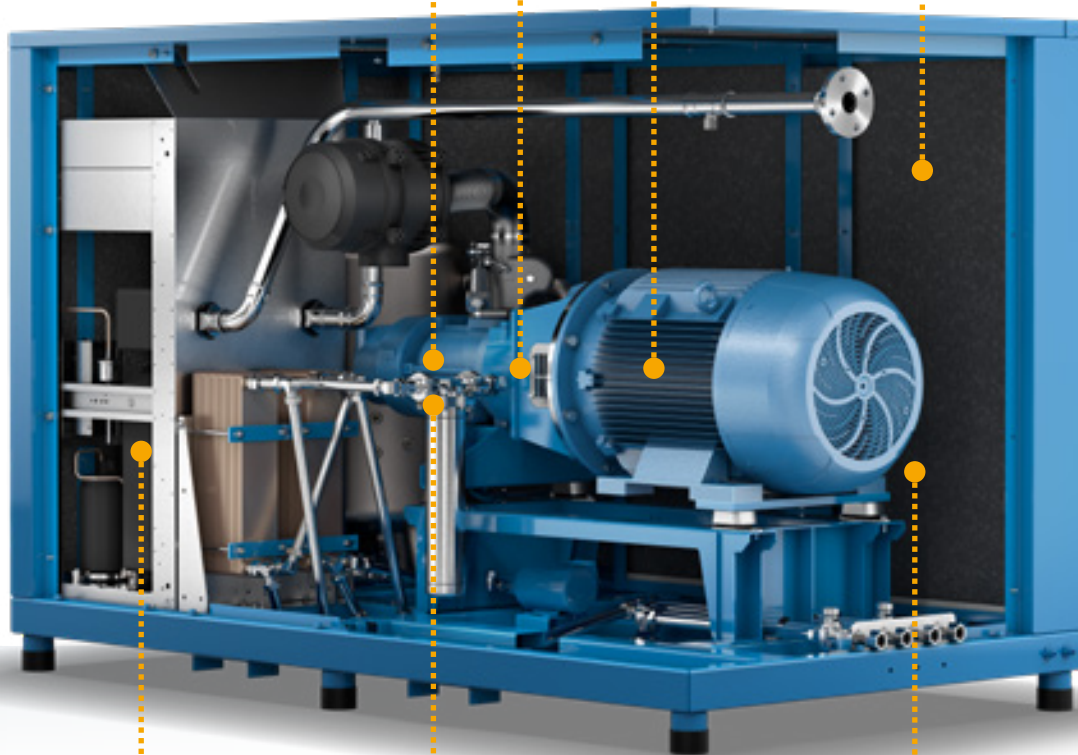
Single-stage, water-injected; very low compression temperatures of <math><60^{\circ}\text{C}</math>, close to isothermic, economical compression

**Air Control**

Smart controller that monitors, visualises and documents

**SCD motor**

Highly efficient drive motor, IP 55 protection class ISO F; compact, powerful, reliable



**Stainless steel piping**

**Integrated refrigeration dryer**

Permanent generation and exchange of the required coolant, optimum biological and chemical water quality, for dry compressed air at the compressed air outlet

**SCD frequency converter**

The integrated power pack, according to EMC guidelines

Suitable controllers:

**AIR CONTROL P**



Standard

**AIR CONTROL HE**



Optional

Controllers starting on p. 50

# LENTO



LENTO 15 - 55, air-cooled

50 Hz speed-controlled							
LENTO	Operating overpressure	Volume flow acc. to ISO 1217 (Annex C-2009)*		Rated motor power	Length	Width	Height
		min.	max.				
	bar	m <sup>3</sup> /min	m <sup>3</sup> /min	kW	mm	mm	mm
15	5-10	1.01	2.34	15	1880	850	1660
18	5-10	1.01	2.87	18.5	1880	850	1660
22	5-10	1.01	3.38	22	1880	850	1660
30	5-10	1.01	4.30	30	1880	850	1660
31	5-10	2.04	5.08	30	2300	1400	1560
37	5-10	2.04	6.14	37	2300	1400	1560
45	5-10	2.04	7.13	45	2300	1400	1560
55	5-10	2.04	8.19	55	2300	1400	1560
46	5-10	2.49	8.18	45	2674	1400	1769
56	5-10	2.49	9.86	55	2674	1400	1769
75	5-10	2.49	12.46	75	2674	1400	1769
76	5-10	4.06	13.82	75	3448	1500	1927
90	5-10	4.06	16.43	90	3448	1500	1927
110	5-10	4.06	19.60	110	3448	1500	1927

\* 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





LENTO 46 - 110

60 Hz speed-controlled							
LENTO	Operating overpressure psig	Volume flow acc. to ISO 1217 (Annex C-2009)* acfm		Rated motor power HP	Length inch	Width inch	Height inch
		min.	max.				
15	75-145	36	83	20	74	33.5	65.4
18	75-145	36	103	25	74	33.5	65.4
22	75-145	36	121	30	74	33.5	65.4
30	75-145	36	153	40	74	33.5	65.4
31	75-145	72	182	40	90.6	55.1	61.4
37	75-145	72	220	50	90.6	55.1	61.4
45	75-145	72	255	60	90.6	55.1	61.4
55	75-145	72	292	75	90.6	55.1	61.4

LENTO 46 - 110 in 60 Hz Version on request

# CONTROLLERS

Smart monitoring,  
reliable documentation





**ALMIG**  
Compressor Systems



[www.almig.de](http://www.almig.de)

status



Last/Lastlauf

Netzdruck 7,6 bar

Temperatur 76 °C

Status Lastlauf

Grafiken

Menü

1942  
17.01.2013

Remote Restart



# 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:

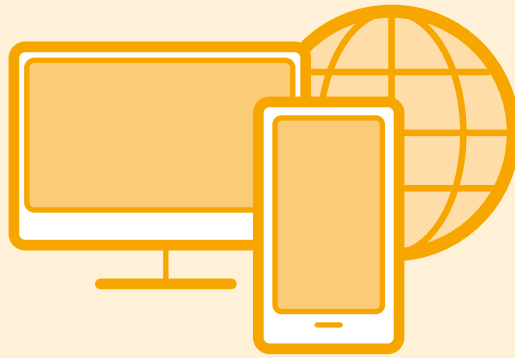
- Energy and compressed air balance, also available to download
- Overview of the compressor station with the operating statuses of each individual compressor
- Loaded / idle mode statistics of compressors
- Data on delivery volumes, volume flows and motor starts
- Detailed information about utilisation,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

### The most important benefits:

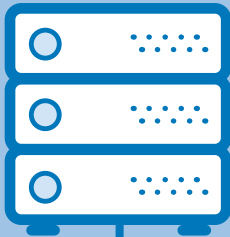
- Easy to operate via standard internet browser
- Can be accessed via company's own network or anywhere in the world via the Internet
- Dial-in protected by user ID
- Various parameters are depicted either in tables or graphs
- Continuous monitoring of all parameters of relevance to operation
- Active 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



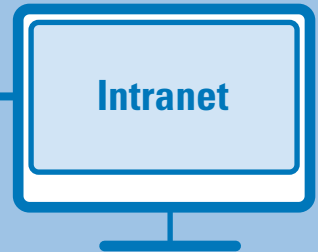
Your web device



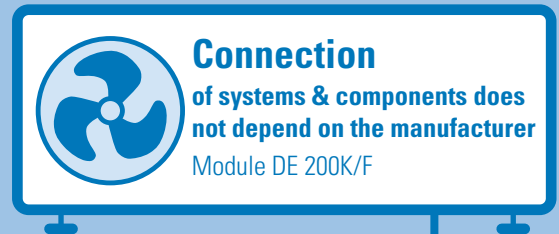
ALMiG web server



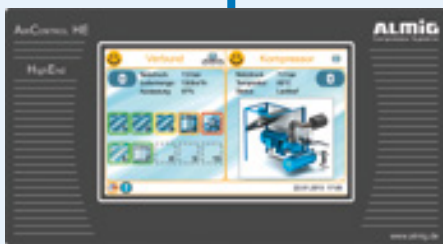
Network/Ethernet



Intranet



RS 485 connection



AIR CONTROL HE



AIR CONTROL P



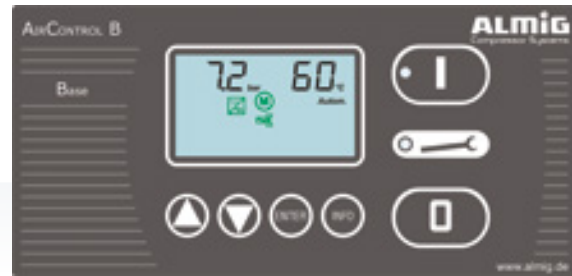
AIR CONTROL B

# 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:

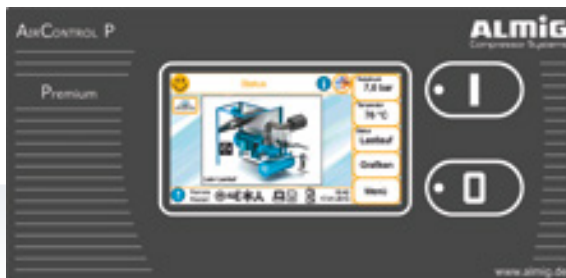
- Huge potential savings by reducing idling levels and lowering pressure levels
- Transparency when it comes to the compressors and accessories, at all times
- Reductions in maintenance time and downtimes

## 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

- Integrated web server
- 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

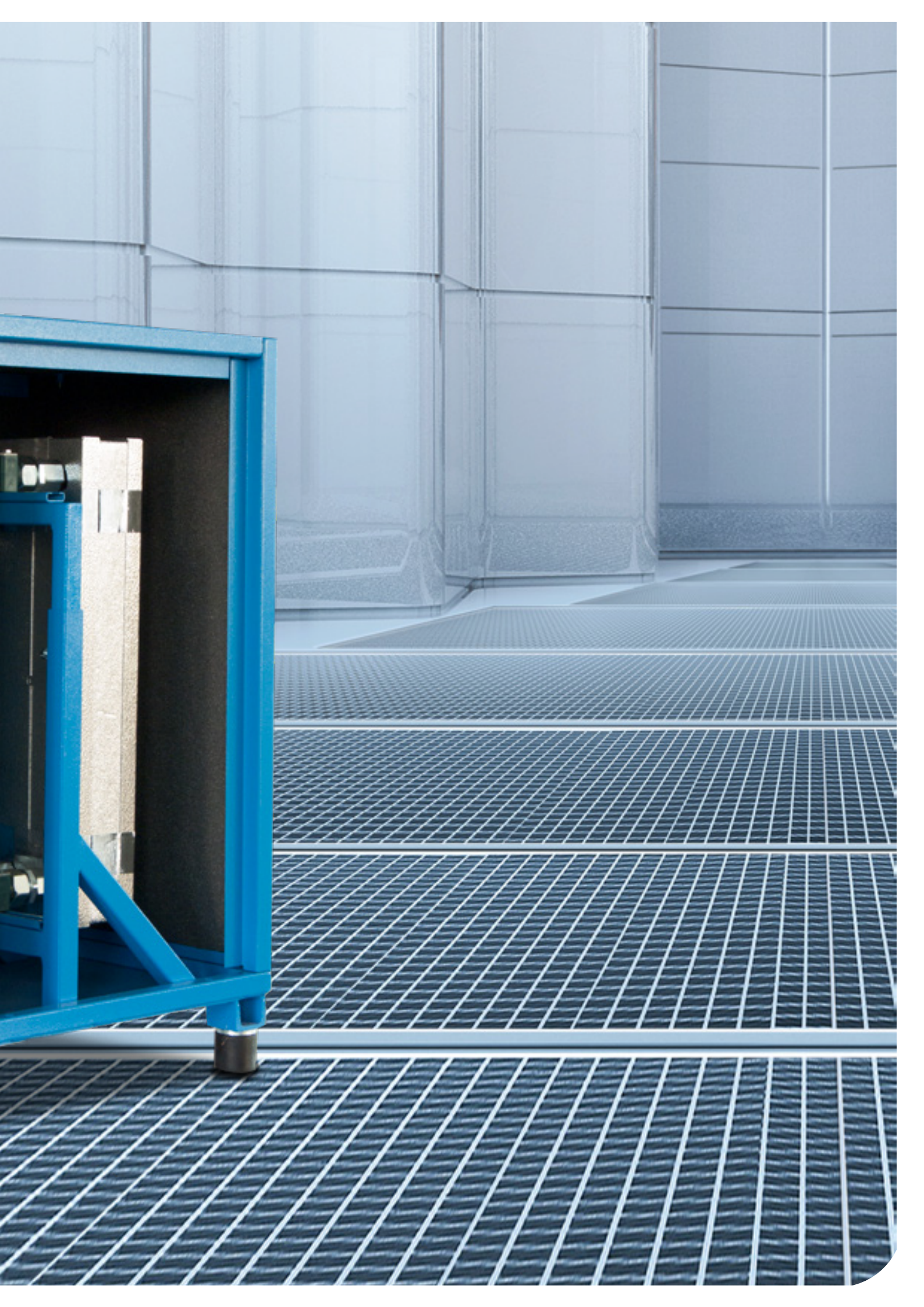
- Quick access to information about the operating state of the connected compressors
- Graphical display of power and consumption profiles
- Split screen: compressor data and information about the network can be displayed in parallel
- Leaks can be identified and displayed
- Priorities can be allocated
- 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

## Warm air for space heating

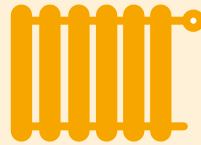
Possible temperature level:  
20 – 25°C above the ambient temperature



Heated cooling air is used via a duct for space heating

## Warm water for heating purposes

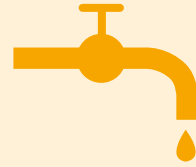
Possible water temperature up to 70°C



Compressor oil gives its heat to the heating water via plates

## Heat for industrial process water

Possible water temperature up to 70°C



Even in the case of leaks, safety heat exchanger prevents oil from entering industrial water

up to **96%**  
usable thermal energy

- 76% from the oil cooler
- 14% from the aftercooler
- 6% from the electric motor



High energy cost savings possible per compressor (see table on left)

- 4% unusable thermal energy
- 2% in compressed air
  - 2% radiated heat

ALMiG compressor with integrated or retrofitted heat recovery



## Electrical energy

is converted almost entirely to heat



# SPEED CONTROL

Needs-based adaptation of delivery volumes





ALMIG  
Control Panel



Made in Germany

**ALMIG**  
Compressor Systems



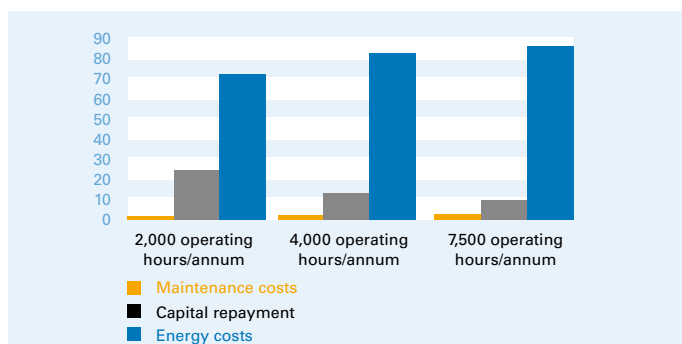
# INTELLIGENT SYSTEMS YOU CAN RELY ON

## Speed-controlled screw compressors

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

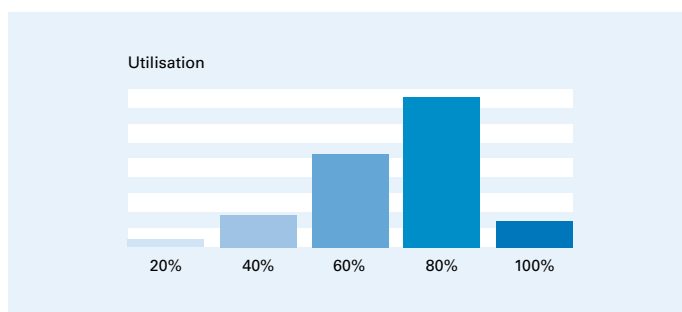
According to a study, approx. 80 billion kWh of electricity is used in compressed air systems in the EU each year, more than 10% of the electricity required in industry. So the cost-effectiveness of a compressed air system isn't about how much it costs to buy, but how much it costs to run on a day-to-day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

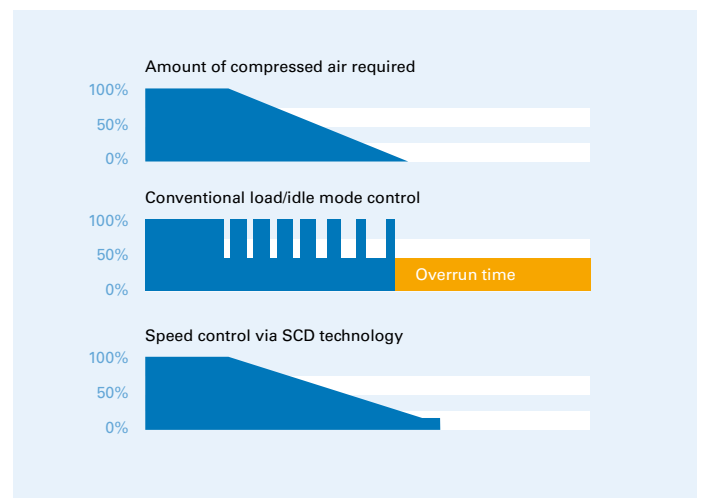
From experience, we know that most compressors are only used at between 50 and 70% of capacity. The maximum delivery volume is in most cases only used during peak times.



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

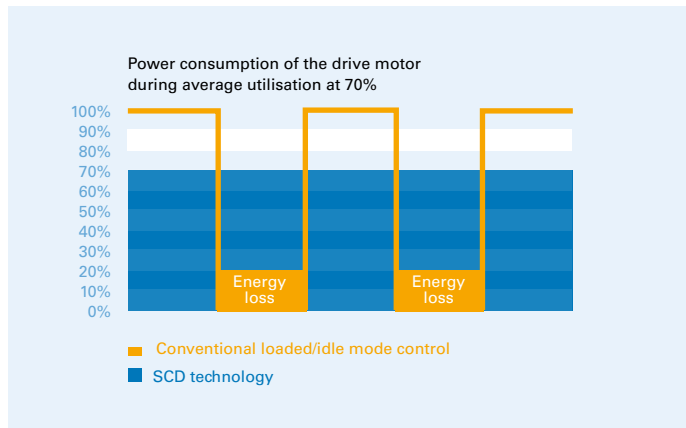
The VARIABLE and V-Drive series vary their power by gently and continually changing speeds, not by abruptly switching on and off.

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.

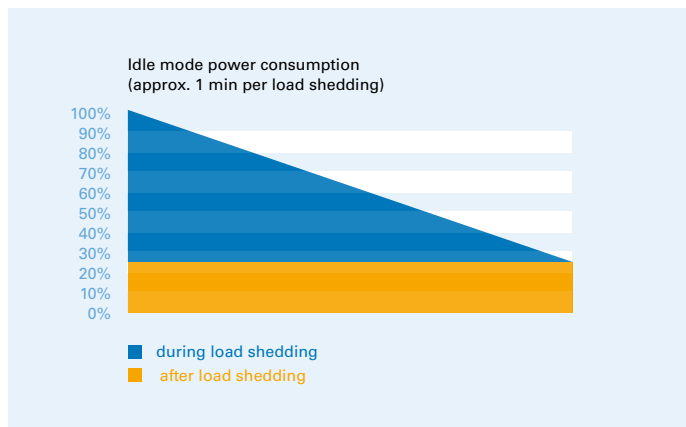
## Productivity without idle mode: the ALMiG efficiency programme

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.



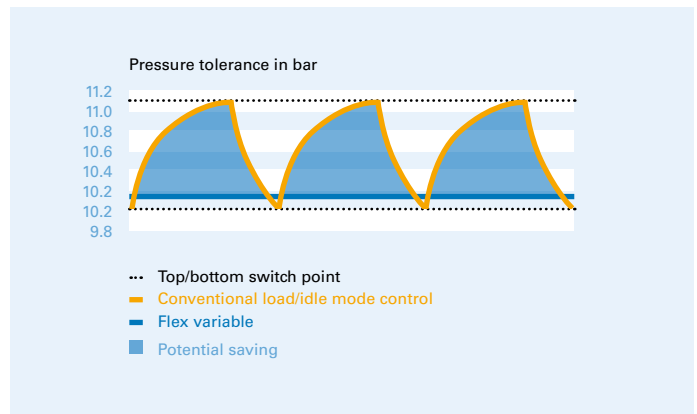
## Less load shedding in fluctuating networks

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,  $2.4 \text{ kW} \times 4,000 = 9,600 \text{ kWh}$

## 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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Subject to errors and modifications

