COMPRESSOR SYSTEMS
MADE IN GERMANY

ALMiG
Compressor Systems

GEAR XP & VARIABLE XP

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

GEAR XP

High compressor performance and operational reliabilty

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 m³/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 motor, 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 m³/min
10 bar: 3.20 - 30.20 m³/min
13 bar: 2.62 - 25.05 m³/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-efficiency IE3-Motor

Suitable controllers:

AIR CONTROL B

Standard

AIR CONTROL P

Optional

AIR CONTROL HE

Optional

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	m³/min	m³/min	m³/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

* Heat recovery systems available for all models

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	m³/min	m³/min	m³/min	kW	mm	mm	mm	kg
100	15.40	14.10	11.18	90	2940	1710	1825	2700
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
185	30.40	27.60	22.97	185	3300	1860	2145	3750
200	33.00	30.20	25.05	200	3300	1860	2145	3750

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 - 35.00 m³/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 - 35.00 m³/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

Cooler Unit
Large-area radiators for lowest compressed air outlet temperatures

SCD frequency converter
The integrated power pack, according to EMC guidelines

High performance suction filter

Air Control
Smart controller that monitors, visualises and documents

Compressor stage
Latest airend technology

High-efficiency IE3-Motor

Suitable controllers:

AIR CONTROL B

Standard

AIR CONTROL P

Optional

AIR CONTROL HE

Optional

Picture similar

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	m³/min	m³/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 100 - 200

50 Hz

VARIABLE XP	Operating overpressure	Volume flow acc. to ISO 1217 (Annex C-2009)*		Rated motor power	Length	Width	Height	Weight
		min.	max.					
	bar	m³/min	m³/min	kW	mm	mm	mm	kg
100	5 – 13	6.50	16.40	90	2940	1710	1825	2700
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
185	5 – 13	9.92	32.60	185	3300	1860	2145	3750
200	5 – 13	9.92	35.00	200	3300	1860	2145	3750

CONTROLLERS

Smart monitoring,
reliable documentation


ALMiG
Compressor Systems
Netzdruck
7,6 bar
Temperatur
76 °C
Status
Lastlauf
Grafiken
Menü
10:42
17.01.2013
Last-/ Leerlauf
Remote
Restart
www.almig.de

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.

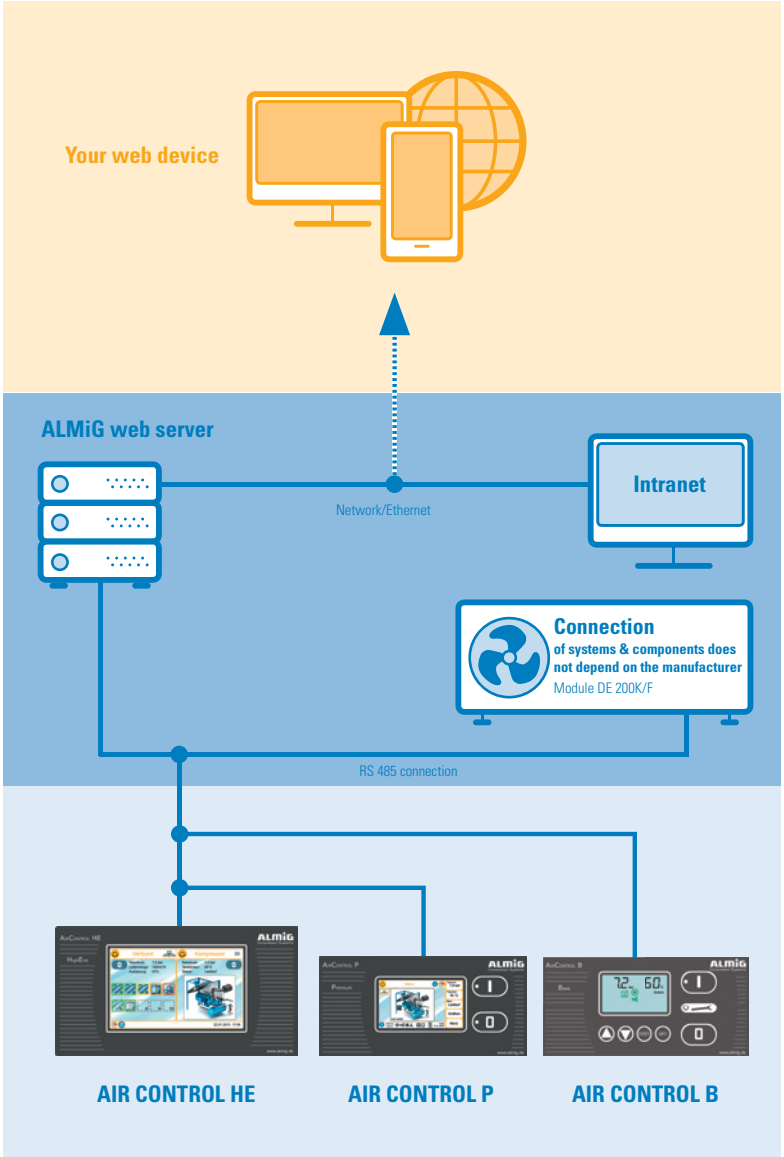
Up to ten compressors can be monitored in this way – regardless of the compressor type. The system works with both piston and screw or turbo compressors. The only prerequisite is that the web server is connected via an AIR CONTROL HE. State-of-the-art bus technology is used for the installation.

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

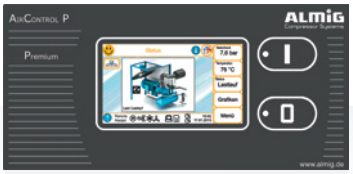


AIR CONTROL

Monitored. Visualised. Documented.


Air Control Mini


Air Control B


Air Control P


Air Control HE

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.

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 contro systems
- Refrigeration dryer activation

AIR CONTROL P

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

AIR CONTROL HE

Version: Compressor and global control system

- Can be used as a consumption-dependent global control system for up to 10 compressors
- Excellent optical display and simplest possible operation using a 7" TFT colour touch screen
- Flexible installation into the compressor or into a separate control cabinet possible
- 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
- Leaks can be identified and displayed
- Priorities can be allocated
- Energy-saving – all the compressors operate in one pressure tolerance range
- Can be connected to higher-level control systems or a web server

Further functionality and benefits:

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

SPEED CONTROL

Needs-based adaptation of delivery volumes

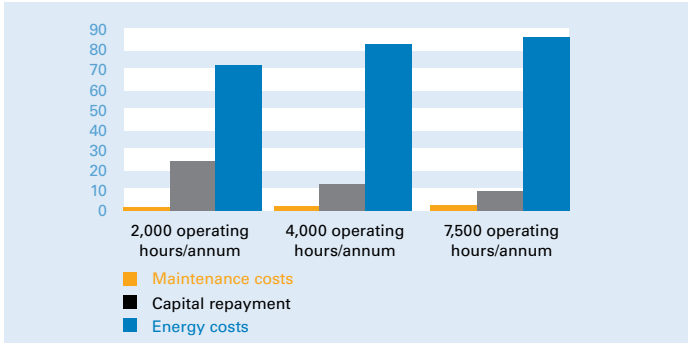
INTELLIGENT SYSTEMS YOU CAN RELY ON

Speed-controlled screw compressors

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

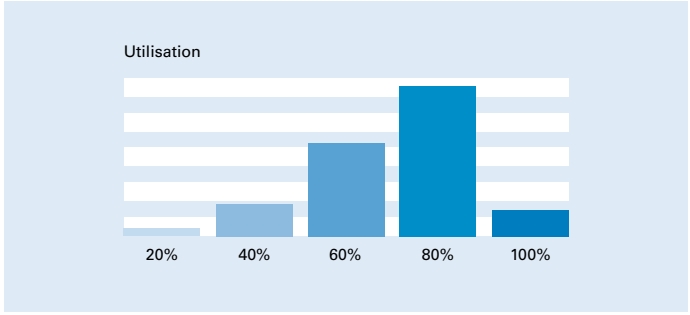
According to a study, approx. 80 billion kWh of electricity is used in compressed air systems in the EU each year, more than 10% of the electricity required in industry. So the cost-effectiveness of a compressed air system isn't about how much it costs to buy, but how much it costs to run on a day-to-day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

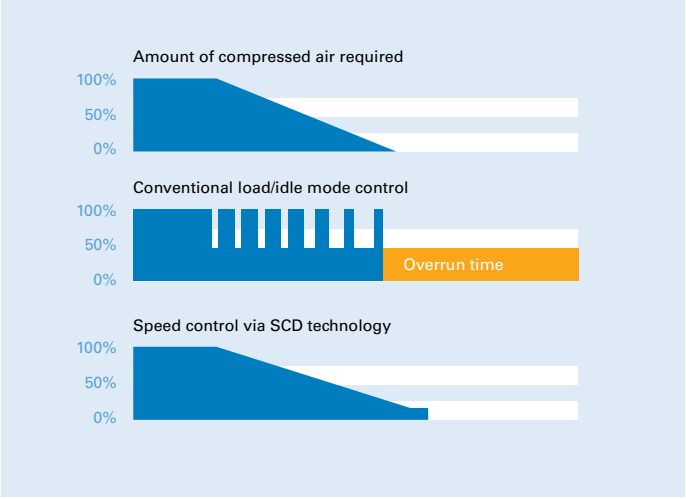
From experience, we know that most compressors are only used at between 50 and 70% of capacity. The maximum delivery volume is in most cases only used during peak times.



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.

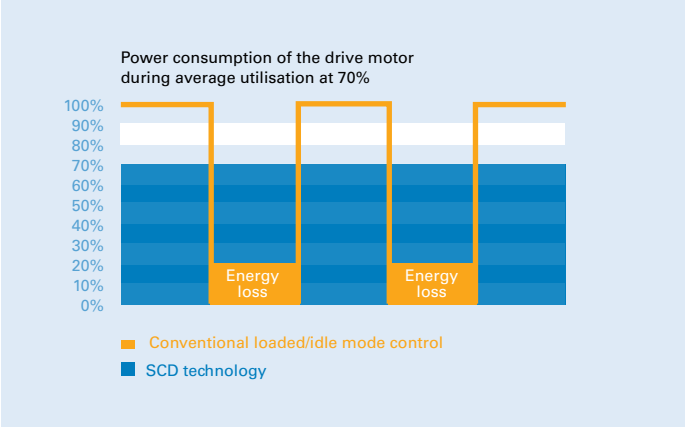
The VARIABLE and V-Drive series vary their power by gently and continually changing speeds, not by abruptly switching on and off.

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.

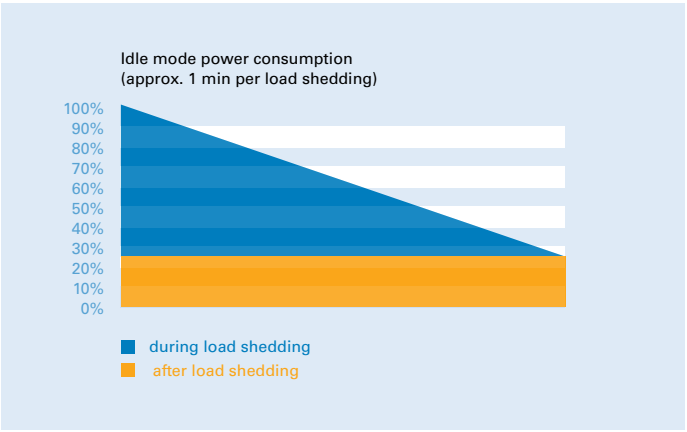
Productivity without idle mode: the ALMiG efficiency programme

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.



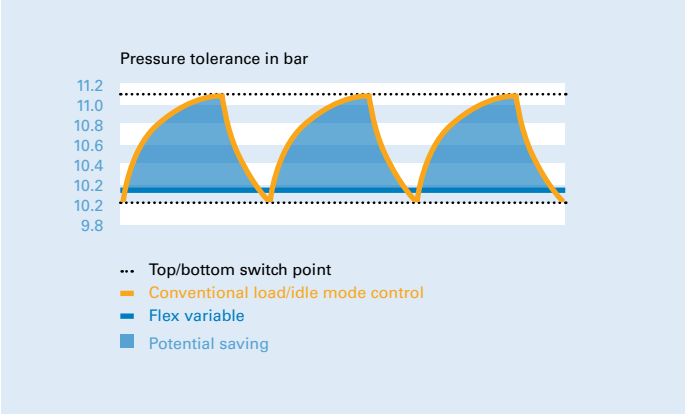
Less load shedding in fluctuating networks

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 ~ 0.1 bar). Because high pressure always involves consuming greater amounts of energy, speed-controlled compressors allow you to make huge energy savings (1 bar higher pressure = 6 – 8% greater energy consumption).



ALMiG direct drive: The frictional connection

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

This brings major benefits with it:

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

Direct drive vs V-belt drive savings:

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

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

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

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

COMPRESSOR SYSTEMS
MADE IN GERMANY

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Air & Power

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