1. **ALMiG Screw Compressor COMBI 22** 1 Stk

Beschreibung

ALMiG screw compressor COMBI series

Benefit / Function

Oil-injected, air-cooled screw compressor for air compression, made in Germany.

Description

The ALMiG COMBI series is a belt driven compressor inside an enclosure with electrical cabinet and pressure switch control. The system is designed for belt drive between the motor and compressor for almost zero-loss power transfer and the greatest possible efficiency.

The air compressor is being delivered ready to connect and ready for operation with all cooling, control and monitoring systems. The compact compressor is already pre piped and connected electrically for fast, easy installation and commissioning. The COMBI is the ALMiG plug and play solution. Before delivery, each system is subjected to an extensive test by ALMiG.

- Compressor manufactured in accordance with the requirements for the CE marking in Germany
- Colours: light grey (RAL 7035) & sky blue (RAL 5015)
- Compact design for installation near a wall – even in corners – and requiring very little space
- Includes acoustic insulation and dirt-resistant covers
- Cooling-air ducting system for an extremely low level of noise
- The electrical control cabinet integrated in the system panelling, protection class IP 54, was manufactured in accordance with the German DIN and VDE standards and contains all the important electrical and electronic components, all of which are clearly arranged and easy to access
- Main switch must be installed on site
- Emergency stop switch

Features

- Efficiency class IE 3 High-performance 3-phase motor
- The newly developed ALMiG ALM air end has a large rotor diameter and therefore operates at low speed. It also features quality bearings and multi-lip shaft seals. This enables the ALM compressor to provide high performance with low power consumption, coupled with a long service life and therefore maximum reliability
- Belt drive – low-maintenance, overload protected, flexible and extremely performant
- ALMiG intake regulator with intake filter for reliable, load-free start-up and cost-effective operation
- Oil receiver vertical tank with large oil surface for optimum pre-filtering
- Oil drain via ball valve – easy-to-access filler and inspection plug
- Spin On Oil separator cartridge for high compressed air quality with low oil carry over. Positioned in an easy-to-maintain location
- Optimized oil temperature control via a thermo-controlled bypass enables the system to heat up to the operating temperature quickly and increases the life of the oil
- Aluminum air coolers for oil and compressed air cooling which ensures low temperatures and cool running compressor
- Fail-safe fan mounted on main motor shaft
- Housing with easily removable service covers, primed and painted

Advantages

- Developed and produced in Germany
- Highly efficient ALMiG ALM compressor stage
- Outstanding system efficiency
- Excellent reliability
- Long life expectancy
- Low operating & maintenance costs
- Low noise & and vibration level
- Low dimensions & weight

Air treatment system

- Internal refrigerated air dryer
- Dew point of 3 - 5 °C
- Integrated pre and micro filter for particle separation up to 1 µm and residual oil content of 0,1 mg/m³
- Internal condensate train for automatic discharge of condensate water

Air Receiver Tank

Air Receiver Tank

- 500 Liter air receiver / vertical
- Compressor mounted on receiver, pre piped
- Safety Valve
- Complete documentation according standards

Air Reciever Tank according AD 2000 rules

- Production and Testing according
  - DGRL 97/23/EG-AD2000, Modul: H1
  - Corrosion adder. 1,0mm
- Complete Documentation

Air Reciever Tank according ASME rules

- Production and Testing according ASME
- Complete Documentation

Air Reciever Tank according CE

- Production and Testing according CE
- Complete Documentation

Technical Datasheet Screw Compressor COMBI Series

Model number	**COMBI 22**	
Operating pressure (max)	13	bar(g)
Rated capacity at operating pressure		m³/h
Air Receiver Volume (if applicable)		Liter

Operating pressure	Capacity*	Package power
	m³/min	kW
8 bar(g)	3,24	26,61
10 bar(g)	2,75	24,67
13 bar(g)	2,54	25,86

* Acc. ISO 1217 Annex C

Drive motor nominal rating	22,0	kW
Efficiency class	IE 3	
Voltage	400	V
Frequency	50	Hz
Protection class	IP 55/F	

Cooling air capacity	3300	m³/h
Air outlet temperature above ambient	15	K

Noise level – standard**	71	db(A)
Air outlet connection	1	G
Residual oil content of air	2-4	mg/m³

** Acc. DIN 45635 T.13

	Length	Width	Height	Weight
	mm	mm	mm	kg
Standard	1480	780	1375	519
“D” with air treatment	1480	780	1375	559
On 500l receiver	1900	780	1950	704
“D” on 500l receiver	1900	780	1950	744

ALMiG AIR CONTROL MINI microprocessor control

Benefit / Function

The compressor control is responsible for operating your compressor efficiently. It controls your compressor and provides you with information at any time concerning its current operating state.

Description

The microprocessor control from the AIR CONTROL MINI series meets the highest requirements for a compact electronic compressor control.

Features

- All components designed for use in industrial conditions
- Powerful hardware
- Electrical connections are plugged and maintenance-free
- Optimized full load / idling control (taking permissible motor switching cycles into account)
- Automatic selection of the most cost-effective operating mode
- Display of all relevant operating states and influencing parameters (pressure / temperature)
- Extensive self-protection with early warning and fault diagnosis for excellent reliability and availability
- Minimum pressure monitoring in basic load cycle mode
- Monitoring and safety system with cut-off function when permitted final compression temperature is exceeded, in the event of drive motor faults and excess system pressure
- Service display for air filter, oil, oil filter and oil separator cartridge
- Restart after power outage can be programmed
- Protection against incorrect input
- Monitoring of cable and sensor faults
- Dust and splash-water protection in the control cabinet
- Star-delta contactor combination
- Transformer control
- Emergency stop button

Advantages

- Easy to operate
- Reliable and maintenance-free
- Can be extended or upgraded

Options

- 2 free, programmable inputs (e.g. for basic load cycle mode)
- 1 free, programmable output

ALMiG AIR CONTROL B microprocessor control

Benefit / Function

The compressor control is responsible for operating your compressor efficiently. It controls your compressed air generator and provides you with information at any time concerning its current operating state.

Description

The microprocessor control from the AIR CONTROL B series meets the highest requirements for a comprehensive electronic compressor control

- 16 Bit Microprocessor
- Power fail detection (Power loss > 30 ms),
- 256 Kbyte Flash-EPROM,
- 8 Byte EEPROM (Storage),
- 20 Kbyte RAM
- Keyboard / 6 Buttons
- LCD Display approx. 76mm * 43mm
- Analog Inputs (1x 4-20mA / 2x PT1000)
- Digital Input (7x 24Vdc / 1x PTC)
- Digital Outputs (6 normal / 1 change over type)
- RS-485 and optional MK200 Bus

Features

- All components designed for use in industrial conditions
- Powerful hardware
- Illuminated colour display (76 mm x 43 mm)
- Input via function keys
- All electrical connections are plugged and maintenance-free
- Optimized full load / idling control taking permissible motor switching cycles into account
- Programming of all parameters by means of numerical code
- Code-protected for maximum system security
- Display showing percentage utilization of the speed-controlled screw compressors and all relevant operating states and influencing parameters
- Extensive self-protection with early warning and fault diagnosis for excellent reliability and availability
- Monitoring and safety system with cut-off function when permitted final compression temperature is exceeded, in the event of drive motor faults and excess system pressure

- Message memory / history with up to 20 spaces
- Display showing remaining service life for air filter, oil, oil filter and oil separator cartridge
- Restart after power outage can be programmed
- Protection from incorrect input and monitoring for cable defects

Advantages

- Easy to operate
- Reliable and maintenance-free
- Energy-efficient compressor operation

Options

- Prepared for global operation (basic load cycle operation in slave mode) via bus system

ALMiG AIR CONTROL P microprocessor control

Benefit / Function

The compressor control is responsible for operating your compressor efficiently. It controls your compressed air generator and provides you with information at any time concerning its current operating state.

Description

The microprocessor control from the AIR CONTROL P series meets the highest requirements for a comprehensive electronic compressor control. Integrated global control for regulating up to 5 compressors in master / slave mode or basic load cycle mode with state-of-the-art bus technology.

- State of the art Microprocessor
- Industrial grade Flash-EPROM & EEPROM (Storage)
- RAM
- Ruggedized Keyboard and Touchscreen
- Clear view LCD Display
- Analog Inputs
- Digital Inputs
- Digital Outputs
- Customized interfacing

Features

- All components designed for use in industrial conditions
- Powerful hardware
- Very easy to operate via touch screen and 2 function keys
- The illuminated colour touch screen display (95 x 54 mm) provides a clear view of all important operating parameters:
  - System in operation
  - System in standby
  - System in on-load
  - Utilization status with speed-controlled screw compressors
  - Date / real-time clock
  - Remote activation active
  - Automatic restart after power outage
  - Operating pressure
  - Compression temperature
  - Warning and fault messages
- In addition to operating parameters, other very useful and informative operating data can be called up as diagrams, e.g.:
  - Capacity utilization of the compressor

- Total operating hours
- Full load hours
- Idle periods
- Downtimes
- Including the percentage utilization with speed-controlled compressors
- Display showing pressure trends as a diagram
- Display showing final compression temperature as a diagram
- Compressed air volume produced as
  - Daily diagram
  - Weekly diagram
- Service intervals in the form of bar charts

- The following parameters can be stored on the SD card:
  - All system parameter settings
  - Permanent time data (data logger) for:
    - System status
    - Mains pressure
    - Final temperature (compression)
    - Oil temperature
    - Delivery volume
    - Statuses of all connected compressors (with basic load cycle switching)
- Menu-guided parameter input
- Continuous monitoring of all parameters relevant to operation
- 8 timer channels for the compressor on/off times
- 8 timer channels for reducing pressure (e.g. during shift operation)

Advantages

- Easy to operate
- Reliable and maintenance-free
- Energy-efficient compressor control
- Can be upgraded and extended

Options

- Can be extended with additional modules

ALMiG AIR CONTROL HE microprocessor control

Benefit / Function

The compressor control is responsible for operating your compressor efficiently. It controls your compressed air generator and provides you with information at any time concerning its current operating state.

The compressors are activated and deactivated depending on consumption such that the entire network runs permanently in the most energy-efficient range. The user only uses as much power as is absolutely necessary for the amount of compressed air required.

Description

The microprocessor control from the AIR CONTROL HE series meets the highest requirements for a comprehensive electronic compressor control. Integrated global control for regulating up to 10 compressors in master / slave mode or basic load cycle mode with state-of-the-art bus technology.

- State of the art Microprocessor
- Industrial grade Flash-EPROM & EEPROM (Storage)
- RAM
- Ruggedized Keyboard an Touchscreen
- Clear view LCD Display
- Analog Inputs
- Digital Inputs
- Digital Outputs
- Customized interfacing

Can be used as an integrated compressor or as an external higher-level control system.

Features

- Continuous monitoring of all parameters relevant to operation
- Illuminated colour touch screen (format 152 x 92 mm)
- Split or full-screen mode (optional)
- Clear overview of all important operating parameters of the compressors or the entire station:
    - Compressors running, in standby or loaded
    - Compression temperature of individual compressors
    - Capacity utilization with speed-controlled compressors
    - Date / real-time clock
    - Remote control on / off (status)

- Automatic restart after power outage
- Operating pressure for single compressor or network
- Operating messages (maintenance / notes / etc.)

- Operating data recorded as diagrams:
  - Capacity utilization of the single compressors or network
  - Operating hours, load, idling, downtime
  - The percentage utilization with SCD compressors
  - Pressure trend (diagram)
  - Final compression temperature (diagram)
  - Compressed air production in a freely selectable time scale
  - Service intervals in the form of bar charts

- All parameters saved on an SD card (parameter settings)
- Permanent data logging on an SD card:
  - Status, mains pressure, delivery volume
  - Statuses of all connected compressors
- 8 timer channels for compressor on/off times
- 8 timer channels for reducing pressure (e.g. during shift operation)

Advantages

- Easy to operate via touch screen
- Reliable and maintenance-free
- Energy-efficient compressor station control
- Extendibility / connectivity

Options

- Sensors – pressure sensors, dew point, etc.
- Web server connection – system information can be accessed via a browser in the network

1. **ALMiG Remote monitoring via WEBSERVER** 1 Stk

ALMiG Industry 4.0 remote monitoring solution via „WEBSERVER“

Benefit / Function

The visualization via the ALMiG Webserver enables the remote monitoring of the complete compressed air generation system on one or multiple computers via LAN or WAN. The webserver can be used with the ACP and ACHE microprocessor control systems. Up to 10 compressors can be monitored including air treatment and accessories no matter which technology or brand (Piston, Scroll, Screw or Centrifugal compressors.

Description

- Control via standard internet browser
- Access possible via the company-internal network
- Depending on the IT policy, also worldwide via Internet
    - Password protection on access
- Display of all relevant parameters and data of the compressors optionally as table or graph
- Continuous monitoring of the compressed air station
- Active notifications via email
- Acquisition of all relevant data in MS Office
- Multilanguage support

Features

- Overview of the compressor station with operating states of the individual compressors
- Load / idle statistics of the compressors
- Flowrate, capacity and engine starts
- Detailed information on utilization, network pressure and specific performance data
- Energy efficiency or maintenance data
- Energy consumption of the whole station or per compressor
- Cost of compressed air production
- Potential determination of heat recovery
- Maintenance intervals with the remaining running times until the next maintenance
- On and reading out the message memory

Advantages

- CSV files can be downloaded for statistical processing
- Intuitive operation
- Easy installation using state-of-the-art bus technology
- Full transparency of the compressor station

Note

- The following requirements must be observed:
  - Web server must be connected via AIR CONTROL P or HE
  - Third-party compressors can only be displayed to a limited extent