

High Pressure Air Compressor unit

365 bar, 475 l/min

Model PE 12.2-5.5-VE

PE-VE Industry

These easy-to-operate systems are ideal for air and nitrogen compression at lower delivery volumes. They are equipped with the fully automatic B-CONTROL MICRO compressor control unit as standard.

In addition, their ultra-compact dimensions ensure fast installation and operation, saving time and money.



PE-VE Industrie – Super Silent version

TECHNICAL DATA COMPRESSOR BLOCK

Parameter	Data
Medium	Air & Nitrogen
Intake Condition	Free of pollutions
Intake Pressure	5-11 barg
Intake Temperature	+5°C...+45°C
Ambient Temperature	+5°C...+45°C
Nominal Pressure max.	365 bar adjusted by safety valve
Working Pressure	90-350 bar
Capacity	475 l/min
	Volume flow rate according to 1217
Speed approx.	1230 rpm
Number of Compression Stages	2
Number of Cylinders	3
Stroke	40 mm
Mean Piston Speed	1.6 m/s
Power Consumption at max. Pressure approx.	5.1 kW
Drive	V-belt
Cooling Airflow, min required.	1650 m³/h

Model	Capacity			Inlet Pressure [bar]	Operating Pressure		Motor [kW]	Power consumption [kW]
	[l/min]	[m³/h]	[cfm]		min [bar]	max [bar]		
PE 12.2-5.5-VE	200	12	7	5	90	350	5.5	3.3
	295	17	10	7	90	350	5.5	4.0
	390	23	13	9	90	350	5.5	4.6
	475	28	16	11	90	350	5.5	5.1

TECHNICAL DATA MOTOR

Parameters	Data
Type	three phase electric motor
Power	5.5 kW
Speed approx.	2850 1/min
Enclosure	IP55
Operating voltage	400 V
Frequency	50 Hz
Energy efficiency	IE 3

Prices for other voltages and frequencies are available on request.

STANDARD SCOPE OF SUPPLY

› INTAKE LINE

- Gas connection (12.2) female thread G ¾
- Particle filter
- Intake pressure gauge
- Intake pressure monitoring by pressure switch
- Shut-off solenoid valve

› COMPRESSOR BLOCK

- Oil pump for force feed lubrication with oil filter
- Oil sump content: 2.8 litre
- Interstage coolers, air cooled after each stage
- Aftercooler, air cooled, outlet temperature approx. 10-15 K above ambient temperature
- Intermediate oil/water separators from 2nd stage
- Final oil/water separator
- Safety valves after each stage
- Final pressure safety valve
- Pressure maintaining and check valve before compressor outlet
- Crankcase venting into the condensate collector
- Final pressure gauge
- First fill of oil

› AUTOMATIC CONDENSATE DRAIN DEVICE – B-DRAIN

The innovative design enables condensate to be drained in a gentle, controlled manner while minimising the pressure drop. This saves energy and helps to increase the efficiency of the compressor unit. At the same time, the new B-DRAIN is much quieter than conventional solutions.

- Drains regularly the all oil/water separators during compressor operation and during shut-down of the unit
- Each separator is equipped with its own drain valve with solenoid valve.
- Draining interval is adjustable according to local situation

- Unloaded start integrated
- The condensate will be collected in an condensate collecting tank

› CONFIGURATION AND STYLE OF UNIT

- Vertical arrangement of the compressor unit on solid frame
- Open version
- Shock absorbers for free standing installation
- V-belt tension is adjusted automatically by the weight of the motor
- Control panel and display integrated in compressor housing
- Condensate reservoir with 10 litre capacity
- Electrical connection: Cable length 5 m; CEE-plug; only for 400V/50Hz, max 11 kW
- High pressure outlet: fitting 8S (DIN EN ISO 8434) for pipe \varnothing 8mm
- The compressor can be loaded using a lift truck and forklift
- Colour:
 - Compressor block: Silver
 - Base frame: RAL 7024 graphite grey
 - Compressor housing: RAL 9006 white aluminium / RAL 1028
- Powder coating for indoor installation in accordance with corrosivity category C2-C3



PE-VE Industry

➤ **COMPRESSOR CONTROL B-CONTROL MICRO**

The B-CONTROL MICRO is a modern, easy-to-use control system with colour display, which controls and monitors all basic functions of the compressor.

- Fully automatic monitoring of all relevant compressor data
- 3.5" TFT colour monitor with clear text display
- Maintenance management: Maintenance information is displayed.
- The system log stores incident history
- Password protection for various menu levels



Technical Data	
Ambient temperature range:	-10°C to + 60°C (5-90% humidity; non-condensing)
Control voltage (internal):	24 VDC
Protection class display:	IP 65

FEATURES

- Indication of actual pressure, working hours and operation mode
- Semi and fully automatic operation selectable
- Common SI-units can be chosen for pressure and temperature
- Intuitive menu navigation (new user interface design)
- Service/maintenance interval indication
- Logbook to record incidents
- Easy software update and upload by SD card
- For software upload no B-Manager required

- Cycle counter & hour meter
 - Safety: information for the operator when to exchange the final separator
- Language selection option (German, English, French, Chinese, Czech, Danish, Dutch, Finnish, Flemish, French, Italian, Norwegian, Polish, Portuguese, Russian, Spanish, Swedish, Taiwanese, Turkish)

SUPERVISION OR CONTROL OF

- Compressor start/stop by final pressure
- Operation via signal (digital/analogue) from level indicator gas balloon (only applicable with rare gas recovery systems; please specify in case of order: digital or analogue 4-20 mA fill level signal (source or sink))
- Operation based on intake pressure (booster only, w/o inlet pressure reduction)
- Oil pressure monitoring
 - Protection from wrong rotation
- B-SECURUS monitoring (via CAN Bus)
 - Safety: compressor switch off possible in case of saturated filter cartridge
- Temperature monitoring
 - Security of too high/low temperatures (last stage)
- Intake pressure (gas version only)
 - To prevent the compressor from too high or low inlet pressure
- Motor over-current (indirect by PTC)

EXCHANGE CONNECTION FOR

- CAN bus included (for internal use)
- Remote start/stop (dry contact)
- External "emergency switch"
- Collective fault message (dry contact)
- External connections for: B-SECURUS, SECCANT, B-KOOL, B-DETECTION, external display, external operating panel, gas balloon fill level, des point sensor, gas measurement system, filling level integrated condensate vessel
- Ethernet connection (for connection with local LAN/WLAN – for communication with B-APP)

OPERATING MODE

- Fully automatic operation / semi automatic operation
- Operation via digital signal from level indicator gas balloon (only applicable with rare gas recovery systems)
- Leakage test / final safety valve test

SCOPE OF SUPPLY

- Star-delta contactor combination
- Regulated power supply
- Switchbox with all necessary auxiliary relays and terminal boards
- Combined main switch / emergency off switch
- Main circuit breaker
- B-CONTRO MICRO with 3.5" colour display and with key pad

OPTION

- External Display

OPTIONS

› PURIFICATION SYSTEM P 61

For flow rate up to 770 l/min (FAD)

Filter system built onto compressor unit:

SCOPE OF DELIVERY

- Check valve
- Bleed valve with pressure gauge
- 1x filter housing with long-life-filter cartridge 27" (filling MS-AC)
- Pressure maintaining- and check valve

- Key for filter housing
- Air quality acc. to DIN/EN 12021
- Filling of filter cartridges (AC, MS) according to customer requirement

GAS QUALITY

Values refer to ambient temperature: 20°C		Quality class according to ISO8573-1:2010
Pressure dew point (90 bar – 350 bar):	-20°C	3
Oil content (droplets, aerosols, moisture):	< 0.1 mg/Nm ³	2

Different gas quality upon request

VERSIONS

- P61/350: working pressure 90 – 330 bar; safety valve max. 350 bar
- P61/420: working pressure 330 – 400 bar; safety valve max. 420 bar
- P61/550: working pressure 400 – 500 bar; safety valve max. 550 bar
- P61/ -He: gas-version with gas tight twin ferrule compression fittings

All filter housings are designed, manufactured and tested in accordance with AD 2000-Data Sheets and PED 2014/68/EU. Other housing standard certification can be provided upon request against at additional costs.

› SUPER SILENT HOUSING

- Recommended for locations requiring a reduced sound level.
- Closed version enables a managed cooling air throughput.
- Large doors (removable) enable easy access for maintenance purposes.
- Exhaust air duct is easily connected.
- Reduction of the sound pressure level to approx.:
 - 69 dB(A) ± 2 dB(A) (ISO 3744) up to 4 kW
 - 70 dB(A) ± 2 dB(A) (ISO 3744) 5.5 kW
 - 71 dB(A) ± 2 dB(A) (ISO 3744) 7,5 kW

Industrial Compressor Unit

PE 12.2-5.5-VE

- 73 dB(A) ± 2 dB(A) (ISO 3744) 11 kW
- 75 dB(A) ± 2 dB(A) (ISO 3744) 15 kW
- 77 dB(A) ± 2 dB(A) (ISO 3744) 15 kW (PE 18.1-15-VE)
- Color: base frame RAL 7024, housing RAL 9006 and RAL 1028



Compressor unit range PE-VE with Super Silent housing

SERVICE MATERIAL

Maintenance kits	For compressor block	
	Compression of Air	
Maintenance kit 1000 hours	I-12.2II-F7-a1	Maintenance kit hours
Maintenance kit 2000 hours	I-12.2II-F7-ab1	Maintenance kit hours
Maintenance kit 4000 hours	I-12.2II-F7-abc1	Maintenance kit hours

DIMENSIONS / WEIGHT (approx.)

COMPRESSOR STANDARD VERSION

Length	x	Width	x	Height	Weight
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1140 mm	x	830 mm	x	1520 mm	290 kg
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SUPER SILENT-VERSION

Length	x	Width	x	Height	Weight
1480 mm	x	830 mm	x	1520 mm	380 kg

See diagram for details

Regulations und Standards

Relevant EC Directives (where applicable)

- EC Machinery Directive
- EC Pressure Equipment Directive
- EC Low Voltage Directive
- EC Electromagnetic Compatibility (EMC) Directive

Documentation:

Standard units:

- 1 x Instruction Manual (EC languages) and parts list with exploded drawings
- 1 x Declaration of conformity (CE)* resp. EC manufacturer's declaration
- 1 x Pressure vessel documentation

Standards:

Manufacturing according to German Regulations and Standards

Testing:

Bauer Standard according to DIN EN 10204-3.1

Any further tests and/or technical documentation will be quoted upon request.

***CE Mark (Declaration of Conformity)**

BAUER Compressors, both as standard models and with optional features, undergo CE testing as whole units before shipping and are then shipped with CE certification. Where compressor systems or components need to be partially dismantled for shipping, they must be installed on site by specialist personnel in line with the operating instructions (piping schematic and circuit diagram) and inspected by specialists for fulfilment of their intended

function (CE function). Assembly and inspection can be performed by BAUER Kompressoren specialists on request if required, and if the requisite conditions and specialist personnel are unavailable on site.

Otherwise, improper, non-professional or incorrect installation and operation startup will invalidate the CE declaration of conformity.

This applies to BAUER large-scale systems in the BK23-BK52 series and may also extend to other series depending on their configuration or model. BAUER KOMPRESSOREN will be happy to supply further information on request after clarifying the order.

TECHNICAL INFORMATION

Flow rates

The flow rates given are defined and specified in accordance with ISO 1217. In applications requiring continuous volume flow, please note that when condensate is drained at regular intervals, air / gas is released with the condensate and does not arrive at the compressor outlet. The actual flow rate is thus reduced by approx. 1-2% per stage or separator.

Intake pressure

Unless otherwise specified, the compressors are designed for atmospheric intake pressure. In gas compression or where intake pressure reduction is used, the intake pressure is set at a low number of mbarg. If higher intake pressure is required, please contact BAUER KOMPRESSOREN for support (where necessary, larger motor / limitation of intake pressure depending on the block, unit configuration and gas involved).

Power consumption

The power consumption of the compressors [kW] is given for atmospheric primary pressure and maximum final pressure. In gas compression (intake pressure reduction) primary pressure is several mbar higher, increasing power consumption. Energy consumption also increases at low temperatures, which may require a more powerful motor to be used.

Installation

The compressors are designed for an installation location at a maximum of 2000m above sea level. Higher locations are possible on request depending on the compressor.

Further important information on installation and location is given in the Installation Manual.

Weight specifications

Weight specifications are given for standard versions without optional features. The weight of the units will increase if optional extras, different voltages etc. are selected or if motors from different manufacturers are used.

Systems at 60 Hz - Applications

BAUER Compressors are designed for 50 Hz as standard.

V-belt drive: Different V-belt pulleys are used for operation at 60 Hz. This may result in deviations in FAD and power consumption.

Direct coupling: A frequency inverter is required for operation at 60 Hz to limit the speed to a maximum of 1485 rpm.

Dimensioning

For optimum lay-out of the complete system all components (compressor, purification, storage cylinders, etc.) shall be matched in the best possible way. The number of starting cycles (4 per hour up to 15 kW, 2 per hour from 18.5 kW) shall not be exceeded. Effective running time per cycle shall be min. 15 minutes (up to 15 kW) resp. 30 minutes (from 18.5 kW) in order to reach an optimum between exploitation of the unit and actual life time.

GENERAL INFORMATION

Please, consider our advice regarding the installation of the compressor unit which is available as download from our webpage or follow this link: http://www.baugroup.com/pdf/produkte/installationshandbuch_e.pdf. Furthermore, our staff will most gladly assist in case of questions and/or required support.

Our General Terms and Conditions (AGB) apply in their latest version at date of order entry. Our actual valid AGB are available on our homepage for download in the footer at www.baugroup.com; upon request we can forward by other means.

We reserve the right to modify without further notice.

Best Regards

BAUER KOMPRESSOREN GmbH