

Mobile High Pressure Compressor for Compressing Breathing Air and Nitrox

Type:

MARINER320-E-OX



Mariner 320-OX (picture similar)

General	
Medium	Air/ Nitrox up to 40% O ₂
Intake Pressure	atmospheric
Filling pressure	PN200
Nominal pressure	225 bar
Working pressure	220 bar
Permissible ambient temperature range	+5...+40°C
Permissible altitude ¹	0...1000 m AMSL
Max. permissible tilt	15°
System design	Open
Operating voltage, standard	400 V; 50 Hz
Other operating voltage	On demand
Compressor oil standard	Synthetic
Oil change interval	Synthetic: 1x per year / 1000 h
Finish	CYAN, RAL 9006

¹ Operating compressors in altitudes > 1000 m AMSL on request

Compressor system	Mariner 320-E-OX
Charging rate ¹	320 l/min (19 m ³ /h)
Purification system	P41/350
Power draw	6.5 kW
Cooling air flow, min.	2.250 m ³ /h
Sound pressure level	ca. 88 dB(A)
Weight in kg ²	ca. 180 kg
Dimensions (LxWxH) ²	1,320 x 650 x 810 mm

1 Measured during cylinder filling from 0-200 bar tolerance +/- 5% at + 20°C ambient temperature.

2 Standard model. Weight and dimensions may vary depending on accessories.

Prime Mover (Three-phase)	Mariner 320-OX
Power	7,5 kW
Model	A132S
Type of construction	B3
Type	Three-phase Squirrel-Cage-Motor 400 V, 50/60 Hz ¹
Rated current	14,2 A (at 400 V/50 Hz)
Speed approx.	2,815 1/min
Protection class	IP55 (TEFC)

1 Different voltage / different frequency available at extra charge on request

➤ **Compressor block with following features**

STANDARD SCOPE OF SUPPLY:

- Oil pump for forced-feed lubrication
- Micronic intake filter: 10 µm
- Intermediate coolers, air cooled
- Aftercooler, air cooled, outlet temperature approx. 10-15 °C above cooling air temperature
- Intermediate separators after each stage (except 1st stage)
- Final separator for oil and water condensate after last stage
- Sealed safety valves after each stage
- TÜV approved final pressure safety valve
- Pressure maintaining and check valve after the final stage

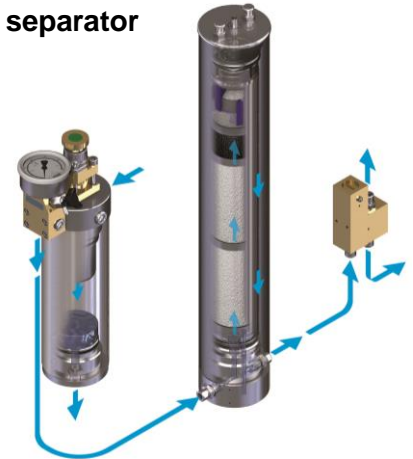
Compressor block	IK12.14
Charging rate ¹	320 l/min
Speed approx.	1,450 1/min
Number of stages	4
Number of cylinder	3
Cylinder bore 1st stage	105 mm
Cylinder bore 2nd stage	88 mm
Cylinder bore 3rd stage	28 mm
Cylinder bore 4th stage	12 mm
Stroke	40 mm
Direction of rotation (from flywheel side)	Left
Drive type	V-belt
Intermediate pressure 1st stage	3.4 – 3.7 bar
Intermediate pressure 2nd stage	14.1 – 15.5 bar
Intermediate pressure 3rd stage	76.6 – 84.2 bar
Amount of oil	2.8 l
Oil pressure	4.5 bar ± 1.5 bar
Intake pressure	1.0 – 1.1 bar _a

1 Measured during cylinder filling from 0-200 bar tolerance +/- 5% at + 20°C ambient temperature.

➤ **Purification System P41/350 - Filter with separate oil and water separator**

SCOPE OF DELIVERY:

- 1x filter housing with long-life filter cartridge
- Separator unit with final pressure safety valve
- Check valve between separator and micro filter
- Micro filter
- Air bleeder valve with manometer
- Pressurizer / check valve
- Filter key for cartridge renewal



P41/350 purification system (picture similar)

With BAUER purification systems, breathing air quality in accordance with the requirements of DIN EN 12021:2014 is achieved. CO removal is carried out only with special filter cartridges with hopcalite and only up to 25 ppm in the intake air. If the maximum allowable content of CO₂ according to DIN EN 12021:2014 is exceeded in the intake air, the use of BAUER AERO-GUARD system for CO₂ removal is highly recommended!

Purification System	P41/350
Operating pressure (Standard)	PN200 / PN300
Operating pressure max (PS)	350 bar
Pressure dew point	< -20 °C, equals 3 mg/m ³ at 300 bar
Pipe connection	G 3/8" (condensate drain G 1/4")
Filter housing volume	2.1 l
DGRL 2014/68/EU	Container category II
Air purification capacity (at ambient temperature 20°C and 300 bar) ¹	1,595 m ³

¹ When using a BAUER P41/350 filter cartridge without hopcalite. When using a cartridge with CO-removal, the air purification capacity is reduced by ca. 15 %. Different values for SECURUS cartridges.

➤ **B-CONTROL II compressor control unit**

BAUER B-CONTROL II is the advanced version of the B-CONTROL MICRO basic compressor control unit. It features a touch screen display:

- Fully automatic operation in line with customer-specific parameters
- Monitors all relevant operating data
- Shuts down the system in the case of deviation from defined operating parameters
- Displays operating data, maintenance information, fault messages and trends



B-CONTROL II display

Compressor control unit	B-CONTROL II
Motor drive	Star delta starter
Output	7.5 kW
Control voltage	24 V DC
Type	Semi-automatic
Operating elements	5.7" TFT colour display 240 x 320 pixels; touch screen plus 10 function buttons, clear text display
Standard features	<ul style="list-style-type: none"> ▪ 5.7" TFT colour touch screen display with clear text ▪ Fully automatic monitoring of relevant parameters; compressor shutdown if values exceed permissible ranges ▪ Choice of languages ▪ Oil pressure monitoring protects against incorrect rotation direction ▪ Maintenance information shown in display ▪ Log stores incident history ▪ Password protection for various menu levels ▪ Base load cycle and interconnected operation for up to 4 connected compressors ▪ Integrated data logger ▪ Cycle counter records load cycles of final separator stage ▪ Interface: USB 2.0, Ethernet 10/100, CAN bus Layer 2, Modbus RTU RS485, Profibus DP slave (optional) ▪ Remote On/Off (galvanically isolated) ▪ Centralised alarm (galvanically isolated) ▪ Simple software update via CF card or USB ▪ External connections for: B-SECURUS, SECCANT, B-KOOL, external display, external operating panel, fill level, gas balloon, gas measurement systems ▪ Measurement and control of O₂ content in the intake air (mixing section)

➤ **Automatic condensate drain system**

The automatic condensate drain removes water from the intermediate separator and the final separator automatically during both operation (every 15 minutes) and shutdown.

SCOPE OF SUPPLY:

- Timer for automatic condensate drain device
- Unloaded start integrated (automatically draining at every shut-down of the unit)
- Condensate collecting tank with silencer; for the environmentally friendly disposal of the condensate

Automatic condensate drain system	
Control voltage	24 V DC
Interval operation (closed / open)	15 min / 6 sec
Solenoid valve	normally open (NO)
Condensate collector capacity	approx. 10 l

➤ **ON/OFF switch with motor protection**

consisting of:

- On/off switch
- Cable, length 5 m
- CEE – plug (only with operating voltage 400 V / 50 Hz)

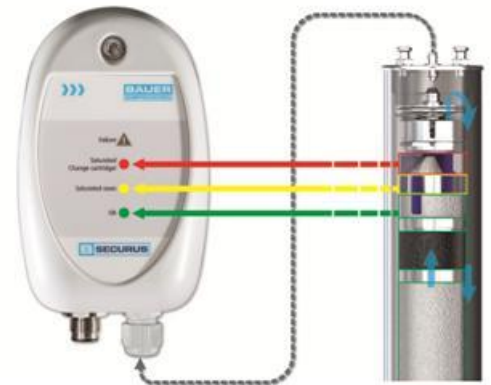
➤ **PN200 filling device for nitrox**

Filling Device	4xPN200 (Nitrox)
Nominal pressure (PN)	200 bar
Valve type	4 filling valves with integrated manometer
Filling hose	4 Unimam high pressure filling hose, 1 m length
Threaded connection	M26x2

OPTIONS:

➤ **B-SECURUS filter cartridge monitoring system**

The B-SECURUS System continuously monitors filter cartridge saturation levels by measuring the moisture in the molecular filter and showing a warning in the display of the B-CONTROL when it is time to change the cartridge. When the dryer cartridge is 100% saturated the B-SECURUS automatically shuts down the system.



B-SECURUS Filter Cartridge Monitoring System

The following messages are shown on the B-CONTROL display:

- Green segment: Filter cartridge OK
- Yellow segment: Cartridge nearing saturation
- Red segment: Cartridge saturated or contact fault. Compressor is shut down

Filter cartridge monitoring unit	B-SECURUS
Supply voltage	24 VDC
Power consumption	35 mA at 24 VDC
Protection class	IP 65

➤ **Trolley**

The trolley provides an easy and convenient mode of transport for mobile compressor units. Fitted with pneumatic tyres, the trolley maximises mobility



MARINER-E with trolley

➤ **Additional intermediate separator after the first stage**

In the case of operation in locations where air humidity is high (tropical regions, for example), we recommend installing a separator downstream of the first compressor stage. This can extend the service life of the unit and reduce maintenance costs.

➤ **External filling panel with filling devices for nitrox**

These external filling panels can be wall-mounted as separate panels and are suitable for remote operation for installation in a separate room.

Relevant EU Directives (where applicable)

- › EC Machinery Directive (2006/42/EC)
- › EU Pressure Equipment Directive (2014/68/EU)
- › EU Low Voltage Directive 2014/35/EU
- › EU Electromagnetic Compatibility (EMV) 2014/30/EU

Applied national standards and technical specifications, in particular

- › Betriebssicherheitsverordnung - BetrSichV (German Industrial Safety Regulation) of 1 June 2015
- › AD 2000
- › Technische Regeln Druckgase (TRG; **Technical Regulations for Compressed Gases**): TRG 400, 401, 402 (w/o permanent premises) and TRG 790
- › Unfallverhütungsvorschrift (BGR; German Accident Prevention Regulations) BGR 500
- › All BAUER filter housings are designed, manufactured and tested in line with Accident Prevention Regulations and regulations under AD-2000 provisions and DGRL2014/68EU.

Documentation: 1x operating manual and parts list with exploded view drawing on DVD

Design: In line with the state of the art according to DIN, VDE, TÜV and Accident Prevention regulations

Testing: In line with Bauer Standard as per DIN EN 10204 - 3.1

Otherwise the **General Terms and Conditions of BAUER KOMPRESSOREN (AGB)** in the version valid at the time of contract conclusion apply. These Terms & Conditions can be viewed and downloaded at the website www.bauer-kompressoren.com, or sent by BAUER on request.

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