BAUER
MARINER 320
MOBILE HIGH PRESSURE COMPRESSOR

SYNERGY
INNOVATIVE DIVING EQUIPMENT TRADING LLC
INSPIRING • ENGINEERING • INNOVATION

AUTHORIZED DEALER

Mobile High Pressure Compressor for Compressing Air and Breathing Air
Types: MARINER320-E | MARINER320-B, 350 bar and 420 bar version

General	
Medium	Air
Intake pressure	atmospheric
Filling pressure	PN200 / PN300 or PN400
Nominal pressure	225 bar / 330 bar / 350 bar or 420 bar
Working pressure	220 bar / 320 bar / 340 bar or 400 bar
Permissible ambient temperature range	+5...+45°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 request
Compressor oil, standard	Synthetic
Oil change interval	Every 2 years / 1,000 h
Finish	CYAN (Front) / RAL 9006 (Crash frame)

[1] Operating compressors in altitudes > 1000 m AMSL on request



TECHNICAL SPECIFICATIONS:

Compressor System	MARINER320-E	MARINER320-B
Charging rate [1]	320 l/min	
Purification system	P31/350 (350 bar version) or P41/420 (420 bar version)	
Power draw	6.5 kW (350 bar version) 6.9 kW (420 bar version)	
Cooling air flow, min.	2,250 m³/h	2,250 m³/h
Sound pressure level	88 dB[A]	92 dB[A]
Weight in kg [2]	154 kg	138 kg
Dimensions (L×W×H)[2] - 350 bar	1313 × 647 × 693 mm	1312 × 675 × 693 mm
Dimensions (L×W×H)[2] - 420 bar	1313 × 647 × 718 mm	1312 × 675 × 708 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.

STANDARD SCOPE OF SUPPLY:

Compressor block with following features
- 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

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)
- Direct start

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Drive System	MARINER320-E	MARINER320-B
Motor	Three-phase	Petrol
Power	7.5 kW	8.8 kW
Fuel consumption [2]	-	approx. 3.5 l/h
Tank volume	-	6.5 l
Model	132 S	GX390
Type of construction	B3	B3
Type	Three-phase Squirrel-Cage-Motor	4-stroke petrol engine
Operating voltage/frequency [1]	400 V, 50 Hz	-
Rated current	15.3 A	-
Speed approx.	2,910 1/min	3,600 1/min
Protection class	IP55	-

[1] Different voltage / different frequency available at extra charge on request.
[2] Valid for 200 bar final pressure. 300 bar final pressure adds about 10% to consumption. Fuel consumption dependent on fuel quality, altitude, ambient temperature, speed setting and maintenance condition amongst other things.

Compressor Block	IK12.14
Charging rate [1]	320 l/min
Speed approx.	1,450 U/min
Number of stages	4
Number of cylinders	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
Oil quantity	2.8 l
Oil pressure	4.5 bar ± 1.5 bar

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

Purification System P31/350 - Filter with integrated final oil and water separator – for MARINER 350 bar version

Scope of Delivery

- Final mechanical separator for the removal of oil-/ water condensate
- TRIPLEX long-life filter cartridge for drying & de-oiling, optional CO-removal (standard for combustion engine driven versions)
- Final safety valve, fitted to filter housing
- Pressure maintaining / non return valve, fitted to filter housing



Purification System P31/350

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Air quality as per DIN/EN 12021:2014

Contamination with	Maximum content as per DIN EN 12021:2014	Air quality by BAUER
H_2O	25 mg/m³	≤ 10 mg/m³
CO	5 ppm(v)	Depends on cartridge [1]
CO_2	500 ppm(v)	Depends on intake air [2]
Oil	0.5 mg/m³	≤ 0.1 mg/m³

[1] Only with BAUER special filter cartridge with hopcalite up to a maximum concentration of 25 ppm CO in intake air. The compressed clean breathing air then contains a maximum of 5 ppm CO.
[2] The level of CO2 in the intake air must not exceed the maximum level of CO2 as per DIN EN 12021:2014.

Purification System	P31/350
Operating pressure (Standard)	PN200 / PN300
Operating pressure max (PS)	330 bar
Pressure dew point	< -20 °C, equivalent to 3 mg/m³ at 300 bar
Pipe connection	G 3/8“ (condensate drain G ¼“)
Filter housing volume	1.3 l
DGRL 2014/68/EU (PED)	Vessel category II
Air purification capacity (at ambient temperature 20°C and 300 bar)[1]	615 m³

[1] When using a BAUER P31/350 filter cartridge without hopcalite. When using a cartridge with CO-removal, the air purification capacity is reduced by ca. 26 %. Different values for SECURUS cartridges.

P41/420 Purification System - Filter with separate final oil and water separator – for MARINER 420 bar version

Scope of Delivery

- 1 × 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 purification system (picture similar)

Air quality as per DIN/EN 12021:2014

(see purification system in standard scope of delivery)

Purification System	P41/420
Operating pressure (Standard)	PS420
Operating pressure max	420 bar
Pressure dew point	< -20 °C, equivalent to 3 mg/m³ at 300 bar
Pipe connection	G 3/8“ (condensate drain G ¼“)
Filter housing volume	2.1 l
DGRL 2014/68/EU (PED)	Vessel category II
Air purification capacity (at ambient temperature 20°C and 300 bar)[1]	1,595 m³

[1] When using a BAUER P41 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.

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Filling Devices

Filling Device	PN200
Nominal pressure (PN)	200 bar
Valve type	1 filling valve with integrated ventilation, with German cylinder connector G 5/8" according to DIN EN 144-2 and DIN 477 and manometer, PN200
Filling hose	1 Unimam high pressure filling hose, 1 m length
International cylinder connector	1 international cylinder connection

or

Filling Device	PN300
Nominal pressure (PN)	300 bar
Valve type	1 filling valve with integrated ventilation, with German cylinder connector G 5/8" according to DIN EN 144-2 and DIN 477 and manometer, PN300
Filling hose	1 Unimam high pressure filling hose, 1 m length

High-quality high-pressure filling hoses made from food-safe and long-life hose material make for flexible and safe handling. Swivel hose connections enable the filling valve to be connected to the breathing air cylinder quickly, easily and safely.

Filling devices not available for MARINER 420 bar version



International filling connector



Filling device PN200 (black) and PN300 (red)

Crash frame incl. handles

The corrosion-resistant crash frame provides additional protection for the unit and can accommodate additional accessories such as a compressor control or a larger filter system. The handles make moving the unit easy and convenient.



Crash frame incl. handles

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OPTIONS
Purification System P41/350 - Filter with separate final oil and water separator – for MARINER 350 bar version

Scope of Delivery
- 1 × 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



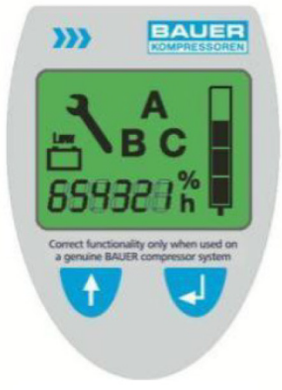
P41 purification system (picture similar)

Air quality as per DIN/EN 12021:2014
(see purification system in standard scope of delivery)

Purification System	P41/350
Operating pressure (Standard)	PN200 / PN300
Operating pressure max (PS)	330 bar
Pressure dew point	< -20 °C, equivalent to 3 mg/m³ at 300 bar
Pipe connection	G 3/8“ (condensate drain G ¼“)
Filter housing volume	2.1 l
DGRL 2014/68/EU (PED)	Vessel category II
Air purification capacity (at ambient temperature 20°C and 300 bar)[1]	1,595 m³

[1] When using a BAUER P41 filter cartridge without Hopcalite. When using a cartridge with CO-removal the air purification capacity is reduced. Different values for SECURUS cartridges.

B-TIMER
The mini-computer counts the operating hours and measures accurately the cartridge saturation.
On the four-part segment display the status of saturation of the cartridge can be followed up. If a cartridge change is required, the B-TIMER is flashing conspicuously and the order number of the cartridge is indicated.
The key symbol indicates that maintenance is due. The letters A to C inform about the necessary maintenance kit.
The robust housing resists sand, salt, sea water, high humidity and strong UV-radiation. Start/stop automatic and power save mode make operation comfortable and save the lithium cell.
Only in scope of supply if SECURUS is not ordered.
Not available for MARINER320 420 bar version.



B-TIMER Display

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SECURUS filter cartridge monitoring system

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

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



Only available with P41 and only for MARINER320-E.

Filter cartridge monitoring	SECURUS
Supply voltage (internal)	24 V DC
Protection class	IP 65

Compressor control incl. B-DRAIN automatic condensate drain system

Compressor control including automatic condensate drain system and automatic switch off at final pressure

Scope of Supply

- ON/OFF Switch with protective motor switch and signal-lamp operation
- Star-Delta contactor
- Transformer
- Pressure switch stops the compressor unit at final pressure
- Drainage of all separators between the individual stages and also the final separator during compressor operation (standard draining interval every 15 minutes for a 6 second period)
- Timer for automatic condensate drain device
- Unloaded start integrated (automatically draining at every shut-down of the unit)
- Condensate collecting tank 10 liter, with silencer; about 5 liter capacity, for the environmentally friendly disposal of the condensate



Compressor control



B-DRAIN Automatic condensate drain system

Compressor control	
Supply voltage	12 VAC
Protection class cabinet	IP 54

For petrol version, the automatic condensate drain system is supplied without control

Switch-over device PN 300 / PN 200

The switch-over device enables breathing air cylinders to be filled with both 200 bar and 300 bar. For optimum limiting of the maximum operating pressure, each of the two pressure ranges is protected with a type-tested final pressure safety valve.

Fully automatic operation: is possible with P21, P31, P41 (whatever is selectable). SOD only in combination with
semi-automatic operation (independent from filter system type).



Switch-over device for MARINER 320

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Trolley
The trolley provides an easy and convenient mode of transport for mobile compressor units. Fitted with pneumatic tires, the trolley maximizes 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.

B-KOOL Refrigeration Dryer
The B-KOOL Refrigeration Dryer cools the compressed air and thus extends the service life of filter cartridges many times over.
The B-KOOL cools the hot saturated air in the compressor to approx. +3 °C, enabling the final separator to extract significantly higher volumes of condensate and thus extending the service life of the downstream filter cartridges. Depending on the ambient temperature, the life of the filter cartridges can be extended by up to 11 times. The higher the ambient temperature, the longer the lifespan of the filter cartridges when the B-KOOL is used.



B-KOOL stand-alone

B-KOOL Version for MARINER
The B-KOOL 680s will be installed next to the compressor. Only possible for MARINER-E with purification system P41

Model	B-KOOL 680s
Medium	Pressurised air
Ambient temperature	+5 to +45°C
Refrigerant	R 134 a
Inlet temperature compressed air	max. 60°C
Max. operating pressure	350 bar / 500 bar
Min. operating pressure	100 bar
Allowed charging rate of the compressor	200 – 700 l/min (10 l cylinder filling from 0-200 bar)
Voltage supply	100 – 127 VAC 50 Hz or 200 – 240 VAC 50/60 Hz
Power consumption	max. 550 W at 50 Hz, 610 W at 60 Hz

Dimensions, Weight and Connections

Model	B-KOOL 680s
Dimensions (L ×W × H)	386 × 695 × 565 mm
Weight approx.	48 kg

Assembly Kits

Compressor	Filter system	B-KOOL 680s
MARINER 200/250/320-E	P41	129021

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Rules, Standards and General Information

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)
- AD 2000
- 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 DGRL2014/68/EU.

Documentation: 1 × 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.
All information is given without assumption of liability and subject to technical changes.

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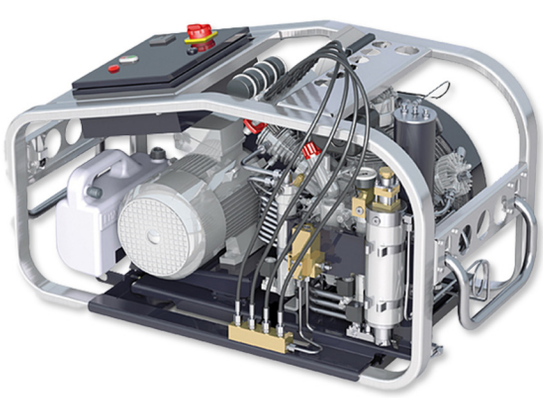
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