

**Compact. Efficient. Quiet.**

## **BOGE screw compressor C 12-2 LFDR 500 air-cooled**

### **EFFIZIENTE COMPRESSED AIR SYSTEM IN THE SMALLEST OF SPACES**

For many years, BOGE screw compressors have been recognised in the industry for their reliability in the generation of compressed air and ensure that you always have the air that you need to work. The revolutionised and expanded C-2 series lives up to this reputation more than ever – with increased efficiency, greater flexibility and perfect ergonomics, as well as audibly lower noise emissions and much easier maintenance. Your compressed air station can be tailored exactly to your needs – individually configured, yet uniformly compact.

### **Most important characteristics:**

#### **BOGE COMPACT MODULE**

The optimised rotor profile of the BOGE compact compressor with oil-injection cooling guarantees optimal operation and high energy efficiency thanks to its components. The intelligent design of the overall unit results in extremely low internal pressure losses and particularly smooth running. The C-2 guarantees the perfect airend for every performance class.

#### **INNOVATIVE COOLING AIR AND SOUNDPROOFING CONCEPT**

All models benefit from the standard soundhood, which successfully minimises operating noise and vibrations. Furthermore, the targeted flow of cooling air through the soundhood, combined with the compressed air aftercooler, ensures minimum compressed air outlet temperatures, as well as optimum cooling of all built-in components. In addition, numerous options can be fully integrated in the compact housing.

#### **INTEGRATED FREQUENCY CONTROL WITH DIRECT DRIVE**

Integrated frequency control pays off, particularly when the demand for compressed air fluctuates. This allows the compressor speed and delivery rates to be easily adjusted to the relevant requirement. In addition, machine efficiency is increased by avoiding idling and soft starts. With all C-2 models this option always features direct coupling.

#### **MAINTENANCE FRIENDLY BY PRINCIPLE**

To ensure the most user-friendly maintenance possible, all of the components have been arranged to allow quick access. For this, all sound-insulation panels can be effortlessly removed, and filters can be changed with minimal downtime.

## TECHNICAL DATA

Effective free air delivery of complete unit (minimum).....	<b>0,523 m<sup>3</sup>/min</b>
Effective free air delivery of the complete system (maximum).....	<b>1,760 m<sup>3</sup>/min</b>
according to ISO 1217 Annex F, at positive compressor operating pressure .....	<b>10,0 bar</b>
Rated capacity of main drive motor.....	<b>11,0 kW</b>
Protection type / insulation class of the motor.....	<b>IP 55 / F</b>
Operating voltage (compressor).....	<b>400 V / 50 Hz</b>
Control voltage (compressor).....	<b>230 V AC / 24 V AC</b>
Cooling air flow volume (compressor).....	<b>4.400 m<sup>3</sup>/h</b>
Suction or ambient temperature (min to max).....	<b>+5...+46 °C</b>
Compressed air outlet temperature above ambient temperature (on compressor) .....	<b>7 K</b>
Pressure dew point at inlet conditions according to DIN ISO 7183.....	<b>+3 °C</b>
Residual oil content in compressed air.....	<b>&lt; 3 mg/m<sup>3</sup></b>
Receiver volume.....	<b>500 l</b>
Permissible maximum receiver pressure .....	<b>11,0 bar</b>

## DIMENSIONS AND WEIGHT

according to dimensional drawing.....	<b>M 1200.1222</b>
Unit sound pressure level (standard in accordance with DIN EN ISO 2151).....	<b>68 dB(A)</b>
Width .....	<b>2.036 mm</b>
Depth.....	<b>915 mm</b>
Height.....	<b>1.915 mm</b>
Compressed air connection (ball valve).....	<b>G 1</b>
Weight.....	<b>770 kg</b>

### **Characteristics of the BOGE C 12-2 LFDR 500:**

- **COMPRESSOR CONTROL SYSTEM** – The comprehensive control, operation and monitoring concept found as part of the BOGE compressed air management system will help you choose the most cost-efficient operating mode. This ensures intrinsically safe operation of the compressor. In our frequency-controlled devices, you get focus control 2.0 as standard: a next-generation control system for up to four rigid/frequency-controlled compressors in a network. A simple toggle between system and compressor-based display and RFID access control are offered here as standard.
- **INTAKE REGULATION** – BOGE intake regulation ensures fully-balanced start-up and gentle, intrinsically-safe operation of all moving parts. Upon shut-down of the unit, it seals hermetically.
- **ELASTIC "SILENTMOUNT" SUSPENSION** – as an effective form of vibration isolation, which consequently also lowers the noise level, is to attach the drive motor and the airend flexibly to the base frame.

### **BOGE REFRIGERANT COMPRESSED AIR DRYER**

#### **How to save energy when drying!**

Thanks to their generously designed components, integrated BOGE energy-saving refrigerant compressed air dryers can achieve extremely low differential pressures with the highest reliability. Unnecessary over-compression is avoided meaning energy costs are lowered considerably.

- The refrigerant used is environmentally responsible: in addition to having a low GWP (global warming potential), the use of recyclable materials and high Energy efficiency ensures maximum conservation of resources and environmentally friendly, modern refrigerant dryer operation.
- The refrigerant compressed air dryer is built-in ready for use into the compressor but is thermally separated from it in order to reliably separate the heat resulting from the compression process from the refrigerant dryer.
- An electronically level-controlled condensate drain comes installed as standard. It prevents the loss of valuable compressed air and, as a result, saves energy costs.
- Thanks to the optional bypass, compression can also be achieved without a dryer without any problems.

## OPTIONS LISTED FOR THIS SERIES

Please note that equipment in this list may be contradictory or may not be available for individual models of the series. For the correct selection, please refer to the current product price list.

### RECOMMENDED OPTIONS:

- **IE 4 MOTORS** With the help of the optional IE 4 motors, the C-2 screw compressors can achieve the highest levels of efficiency in the generation of compressed air.
- **HEAT RECOVERY** BOGE duotherm offers huge potential for savings: up to 94 percent of the energy used to operate the compressor can be recovered and used for other applications – for example, space heating, domestic water heating or as process water.
- **FREQUENCY-REGULATED FAN** A frequency control is particularly recommended for fans in the partial load operational range and at low ambient temperatures because it significantly reduces both noise and power consumption. Available as an extra from 7.5 kW.
- **SUPER-SILENCED VERSION** The optional super sound insulation reduces the emission sound pressure level by a few more dB(A) and is completely integrated into the soundhood.
- **WATER-COOLED VERSION** Water-cooled heat exchangers for oil and compressed air are used to extract heat.

Subject to technical modifications.

The identified performance values refer to compressors with standard features.

## Continuous profit:

### BOGE duotherm for heat recovery

- FULL INTEGRATION INTO SCREW COMPRESSOR
- STAINLESS STEEL PLATE HEAT EXCHANGERS
- OPTIMAL HEAT TRANSFER
- THERMOSTATICALLY CONTROLLED OIL VALVE

#### USE YOUR COMPRESSOR TO SAVE COSTS!

Whether with or without pre-treatment, screw compressors convert the majority of the energy used into heat. Thanks to the BOGE duotherm system, around 72% of this energy can be recovered by using the compressor heat to warm your heating or domestic water. The complete system is integrated in the housing of the screw compressor – including the internal piping. As a result, you can give your compressor a 'licence to save energy' for very little effort!

#### TECHNICAL DATA

Quantity of water .....	0,310 m <sup>3</sup> /h
at maximum water inlet temperature .....	40 °C
and max. water outlet temperature.....	65 °C
Quantity of water .....	0,150 m <sup>3</sup> /h
at maximum water inlet temperature .....	20 °C
and max. water outlet temperature.....	70 °C
Pressure loss, water side .....	< 0,1 bar
Max. operating pressure.....	16,0 bar
Connection, water side.....	G 1/2

#### REQUIRED WATER QUALITY

Electrical conductivity (at pH values of 7-9) .....	50...500 µS/cm
Ammonia (NH <sub>3</sub> ) .....	2 mg/l
Chloride (Cl) < 70°C .....	100 mg/l
Iron (Fe) dissolved.....	0,2 mg/l
Free aggressive carbonic acid (CO <sub>2</sub> ) .....	20 mg/l
Manganese (Mn) dissolved .....	0,1 mg/l
Oxygen (O <sub>2</sub> ) .....	2 mg/l
Sulphate (SO <sub>4</sub> ) .....	60 mg/l
Sulphite, free chlorides (Cl).....	1 mg/l
Pore size of on-site pre-filter .....	0,6 mm

The heat exchangers are made out of stainless steel (1.4401) and copper as standard. In order to prevent damage to these components and to guarantee long-lasting reliable function, the contents must not exceed the values stated.

**WHAT MAKES THE BOGE duotherm SYSTEM STAND OUT?:**

The core of our energy-saving technology is the plate heat exchanger made out of a series of thin, stacked profiled stainless steel plates. In this design they create a dual-channel system. In order to ensure optimum heat transfer, the individual plates are hard-soldered together in a specially process which means no need for seals which can lead to leaks.

The system integrated completely into the screw compressor casing includes a thermostatic oil control valve in addition to the internal pipework. This ensures constant oil temperature in all conditions.

**PLEASE ALSO NOTE:**

- If the set limit levels are exceeded, coolers made from other materials must be used instead.
- If the water figures change, the coolers may need to be re-designed.
- Incorrectly arranged coolers can lead to malfunctions and to shutdown of the compressor.

Subject to technical modifications.

The identified performance values refer to components with standard features.

## focus control 2.0

Discover the next generation BOGE control unit: with the **focus** control 2.0, it's simple to keep everything under control – with the emphasis on 'simple'. Up to four rigid or frequency-controlled compressors can be managed. They are self-authorized by RFID chip and control the numerous functions intuitively. Just how easy modern compressor management can be is proven by the rapid switchover between the two main displays: the system-based display shows an overview of all the connected compressors (base load switching), or alternatively the compressor-based display can be used to show the individual status of each connected compressor.

### Most important characteristics:

#### **SIMPLY EASY**

The multicolour LCD display with backlight is setting new standards in operator comfort: thanks to its 5" screen and the excellent resolution, it is extremely easy to read and operate using the capacitive keys on the touchscreen. A clear structure with machine symbols makes operating the device particularly easy.

#### **SIMPLY VERSATILE**

Up to four rigid or frequency-controlled compressors can be controlled by the **focus** control 2.0. You can choose between two main displays: a system-based display for an overview of all connected compressors (base load switching) or compressor-based display for individual monitoring of each connected compressor.

#### **SIMPLY MODERN**

Authorized operators can log in hands-free to the device quickly and easily with an RFID chip. In addition, the RFID interface allows the cairpac 3000 maintenance pack to be identified as an original spare part thanks to the chip in it. The maintenance documentation for the bestair warranty program can also be called up at any moment via the interface.

#### **SIMPLE UPDATING**

All updates and upgrades can be saved directly into the control unit using a USB stick or notebook (notebook not strictly required).

Subject to technical modifications.

**Total investment security? Under warranty:**  
**BOGE bestcair 5-year warranty program**

To ensure optimum running safety of your BOGE screw compressor, we recommend joining the free BOGE bestcair warranty program. BOGE bestcair offers a five-year warranty on all category A exchanged parts of your oil-lubricated screw compressors.

**Certified service**

All service tasks are carried out by BOGE certified service technicians. Only original spare parts and operating materials are used. With BOGE bestcair, the efficiency of your system will remain the same as day 1 for a period of five years!

**Optimum investment security**

The BOGE bestcair warranty is valid for all category A\* exchanged parts required for operation. This covers all relevant parts – in case of any issues, replacements can be made quickly and easily. No limit to operating hours and without hidden acquisition costs.

**Controlled sequence**

Compressors are set up by BOGE certified service technicians. For every maintenance check, an original cairpac maintenance pack and original BOGE Syprem oil are used. Nothing more is required for the 5-year BOGE warranty.

Subject to technical modifications.



## **BOGE commissioning:**

Commissioning is carried out by a qualified BOGE service technician according to the manufacturer's specification. BOGE commissioning comprises the following work:

### **BOGE performance:**

- Check the electrical fuse rating according to BOGE specification
- Oil level check
- Checking of direction of rotation of the compressor unit and the fan
- Commissioning according to manufacturer's specification
- Setting the pressure values to the conditions of use
- Issue of BOGE commissioning certificate (see IBN certificate / bestcair IBN certificate at myBoge)
- Instruction of operating personnel (one-off, unless otherwise agreed) on the day of commissioning

The system must be fully equipped with pipework and be electrically connected ready for operation. Fuses of suitable strength must be provided for commissioning and be used by the in-house electrician.

Additional work not included in the agreed scope can be carried out against a separate order and invoice at the current BOGE hourly rates and spare part prices. and spare part prices.

### **Exclusions:**

If not mentioned explicitly in our offer the following goods and services do not form part of our scope of delivery (services on site):

- All construction work on site
- Unloading and attachment of components
- Field assembly and installation of system components
- Power input and power supply on site
- Power and control cabling outside compressor and system components
- Piping between separately supplied compressors and system components or accessories
- Connection of delivered compressors and components or accessories to existing system on site
- Air ducts, heat insulation
- Fittings, valves etc. beyond offered components
- Factory acceptance test in the presence of customers or third parties
- Tools, consumables, lifting and mounting equipment for assembly
- Disposal of packaging materials

Additional work, overtime hours and overnight accommodation costs as well as waiting times not attributable to us will be invoiced separately.