

Air-cooled and with integrated frequency control:
BOGE screw compressor SLF 51-3

- BOGE AIREND MADE IN GERMANY
- ENERGY-SAVING
- ADAPTS TO COMPRESSED AIR DEMAND
- SIMPLE TO MAINTAIN

If you need continuous compressed air, then BOGE screw compressors are just what you are looking for. With good reason the S.-3 series from BOGE has got itself a good name in both industry and trade thanks to its quiet, efficient and reliable generation of compressed air – one of the most important auxiliary supplies. And as varied as the different applications might be, thanks to their long-lasting technology, minimal need for maintenance and their outstanding efficiency during operation, BOGE airends are ideal for use in situations with the highest demands for reliable compressed air supply.

Most important characteristics:

1:1 DIRECT DRIVE

Thanks to their direct drive, screw compressors in the BOGE SLF series are ideal for use in more challenging conditions. This highly-efficient, maintenance-free power transmission increases service lives and optimises power demands.

BOGE FREQUENCY CONVERTER

With the help of frequency control, you can adjust the compressor speed and therefore free air delivery variably despite wildly varying compressed air requirements reliably when you need the highest possible compressor and system efficiency. The system pressure is reduced and idling times are reduced, despite constant network pressure. BOGE frequency converters guarantee soft start-up without starting current peaks. prevents hot spots in case of machine breakdown.

BOGE AIREND

The core of the SLF range, the BOGE airend with oil-injection cooling with optimised screw profile together with its large components provides optimal performance ranges, maximum volumetric efficiencies, lowest internal pressure losses and maximum efficiency.

BOGE COOLING AIR

The ducted cooling air flow through the soundhood with dirt-resistant cladding provides the lowest compressed air outlet temperatures and optimal cooling of all the integrated components in the cooling air flow together with highly efficient aftercoolers. Targeted use of the stack effect ensures perfect flow conditions and prevents hot spots in case of machine breakdown.

TECHNICAL DATA

Effective free air delivery of complete unit (minimum).....	2,36 m³/min
Effective free air delivery of the complete system (maximum).....	7,16 m³/min
according to ISO 1217 Annex F, at positive compressor operating pressure	8,00 bar
Rated capacity of main drive motor.....	37,0 kW
Rated capacity of fan motor	1,10 kW
Protection type / insulation class of the motor.....	IP 55 / F
Operating voltage (compressor).....	400 V / 50 Hz
Control voltage (compressor).....	230 V AC / 24 V DC
Suction or ambient temperature (min to max).....	+5...+40 °C
Compressed air outlet temperature above ambient temperature (on compressor)	12 K
Cooling air flow volume (if connected to ducting).....	5.500 m³/h
Residual oil content in compressed air.....	< 3 mg/m³

DIMENSIONS AND WEIGHT

silenced version (acc. to dimensional drawing):	M 3200.0974
Sound pressure level standard (acc. to DIN EN ISO 2151)	79 dB(A)
Width	2.040 mm
Depth.....	1.090 mm
Height.....	1.450 mm
Compressed air connection (ball valve)	G 1½
Weight	1.250 kg

Characteristics of the BOGE SLF 51-3:

MAINTENANCE FRIENDLY BY PRINCIPLE

Reduce your maintenance and service costs. The interior is easy to access for routine inspection and maintenance tasks thanks to the generously sized doors and removable panels in the cover. Simple maintenance due to external micro oil separator cartridge, high-performance oil filter and valveless oil circulation.

BOGE SUCTION REGULATOR

In order to ensure gentle, intrinsically safe operation of all moving parts, these compressors have an suction regulator which permits a fully-balanced and low-wear start-up. Upon shutdown of the unit, it seals hermetically..

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.

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- **Supply air filter** fitted at the cooling air inlet of the compressor, effective for extremely dusty environments
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- **Fan speed adjustment** for extract air duct connection
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- Frequency-regulated fan motor
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- **Mains disconnecting device (EMERGENCY STOP switch)** 3-phase 400-690 V integrated into switch cabinet
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- **quick-acting valve** installed as standard
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- **Cyclone separator** with Bekomat including fitting kit
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- **High-pressure hose 500 mm** for vibration-free compressed air connection to the mains or downstream components
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- **Heat recovery** prepared for external heat exchanger
 - **BOGE duotherm BPT**, Δt 50K, $t_{\max Out} = 70^{\circ}\text{C}$ integrated
 - **BOGE duotherm BSW**, Δt 35K, $t_{\max Out} = 55^{\circ}\text{C}$ supplied loose
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- **Water-cooled version** plate heat exchanger max. water inlet temperature $+30^{\circ}\text{C}$
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- **Proportional regulation**
 - Optimised adjustment of free air delivery to meet the actual compressed air demand. Idling times reduced to a minimum. No unnecessarily high compression. Avoidance of unnecessary motor starts/stops. Reduced start-up current. This results in reduced energy and service costs.
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- Idling operation for extremely short cycle times
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- **Automatic lubrication** of drive motor lifetime of cartridges: 1 year in 3-shift operation
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- First fill BOGE 3000plus
 - First fill BOGE Syprem SX
 - First fill BOGE HighLub 6000
 - First fill BOGE FoodLub-H1 SX for use in the food and pharmaceutical industries
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- Transport preservation
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- Oil separation tank manufactured in accordance with AS 1210
 - Oil separation tank with China stamp
 - Combi-receiver with single TÜV-approval
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- **BOGE connect** Thanks to the BOGE connect smart service and monitoring tool, your compressor is optimally equipped for intelligent compressed air management. Not only do the fast, paper-free commissioning, continuous monitoring of the most important operating parameters and the individual alarms (e.g. for upcoming maintenance) ensure a full service package providing efficient compressed air monitoring, but thanks to the digital machine file, the required information can be called up from anywhere. BOGE connect can be used in combination with compressors throughout their entire life cycle, ensuring reduced operating costs right from the start, lowering administrative costs and minimising the risk of failure and downtime.
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- Master control trinity, installed at delivery
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- Connection for trinity master control system, comes as standard
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- Connection for **airtelligence** master control system, comes as standard
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- Connection for **airtelligence** PROVIS master control system, comes as standard
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- Mounted condensate drain (230 V / 50 Hz) connected electrically
 - Connection with fuse protection for separate refrigerant dryer 230 VAC, at a supply voltage of 400 V +N +PE
 - Load separation switch for integrated refrigerant compressed air dryer
 - Internal connection with fuse protection for heatless adsorption dryer 230 VAC, at a supply voltage of 400 V +N +PE
 - Internal connection with fuse protection for heatless adsorption dryer 230 VAC, only active in the loading phase of the compressor, at a supply voltage of 400 V +N +PE
 - Connection for heatless adsorption dryer 230 VAC, with synchronisation control at a supply voltage of 400 V +N +PE
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- Connection for external control contact for remote On/Off switching, with coupling relay (other voltages upon request)
 - Preselection local/remote via key-switch instead of preselection via parameters
 - serial interface RS485 (Modbus RTU) for connection to the remote diagnostics tool airstatus or integration into client visual display system insofar as the internal interface is occupied
 - Profibus interface in separate casing for wall mounting
 - Automatic (load-free) restart following loss of voltage (programmable)
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- Relay module for connection to base load change control or isolated contacts
 - 2 relay modules for connection of base load change control or isolated contacts
 - 3 relay modules for connection of base load change control or isolated contacts
 - 4 relay modules for connection of base load change control or isolated contacts
 - 5 relay modules for connection of base load change control or isolated contacts
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- Intake filter monitoring (display/maintenance message)
 - Oil filter monitoring (display/maintenance message)
 - Direction of rotation monitoring (display/fault message)
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- **Commissioning** by certified BOGE service technician
- **Commissioning** by certified BOGE service technician excluding travel

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- **BOGE bestcair** Five-year warranty on all category A exchanged parts (compressor airends up to 36,000 operating hours), cf. bestcair warranty conditions at the end of this document
Only for compressors installed in Germany

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	1,030 m ³ /h
at maximum water inlet temperature	40 °C
and max. water outlet temperature.....	65 °C
Quantity of water	0,510 m ³ /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

REQUIRED WATER QUALITY

Electrical conductivity (at pH values of 7-9)	50...500 µS/cm
Ammonia (NH ₃)	2 mg/l
Chloride (Cl) < 70°C	100 mg/l
Iron (Fe) dissolved.....	0,2 mg/l
Free aggressive carbonic acid (CO ₂)	20 mg/l
Manganese (Mn) dissolved	0,1 mg/l
Oxygen (O ₂)	2 mg/l
Sulphate (SO ₄)	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.