

BOGE AIR. THE AIR TO WORK.



# SCREW COMPRESSORS

OIL-FREE COMPRESSING



# Clean compressed air, clean results:

## Oil-free compressing screw compressors from BOGE.



### OIL-FREE COMPRESSED AIR FOR SENSITIVE AREAS OF APPLICATION

Our innovative oil-free compressing screw compressors are used in sensitive production areas in particular. They are indispensable for the pharmaceutical, food and semiconductor industries, as well as for hospitals. As no oil is used at the compression stage, the compressed air produced is completely oil-free – without the need for costly filters. They also work safely and reliably with large batches too– in intermittent operation as well as with a base load. A clean principle that also assures you of clean operations in terms of economy.

**Clean air from the outset:** oil-free compressing screw compressors from BOGE are based on a principle whereby the cooling and lubricating role of the oil is replaced by innovative functional principles. Central to this are the special compression stage and the BOGE cooling concept. Both are designed to offer the highest safety level with the maximum efficiency.

## THINKING ON A LARGER SCALE - DOWN TO THE SMALLEST DETAIL



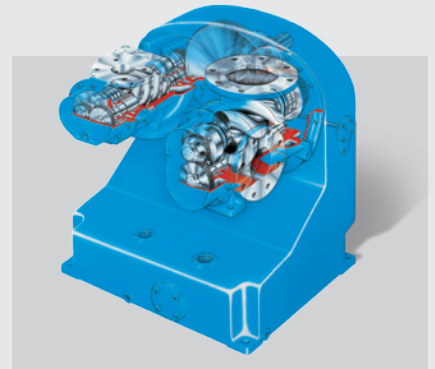
### OIL-FREE FOR SAFETY AND CERTAINTY

Absolutely safe thanks to innovative technology: 100% oil-free compression for sensitive industrial areas of application, from the pharmaceutical industry to the food industry. Oil-free pressure chambers with a guarantee.



### ECONOMICAL AND COST-SAVING

The highest level of economy and sustainability: the special compression stage, developed and designed exclusively in Germany ensures efficiency gains on a large scale.



### DEMANDING TECHNOLOGY

The two-stage operation of the compressors with a low pressure and high pressure stage leads to very low specific power consumption. The electric motor drives the compression stage via central gearing, with the option of frequency control too.



### INTELLIGENT COOLING CONCEPT

Efficient management of the cooling air: all components are placed intelligently along the cooling air flow. This enables longer service life and high compressed air availability.



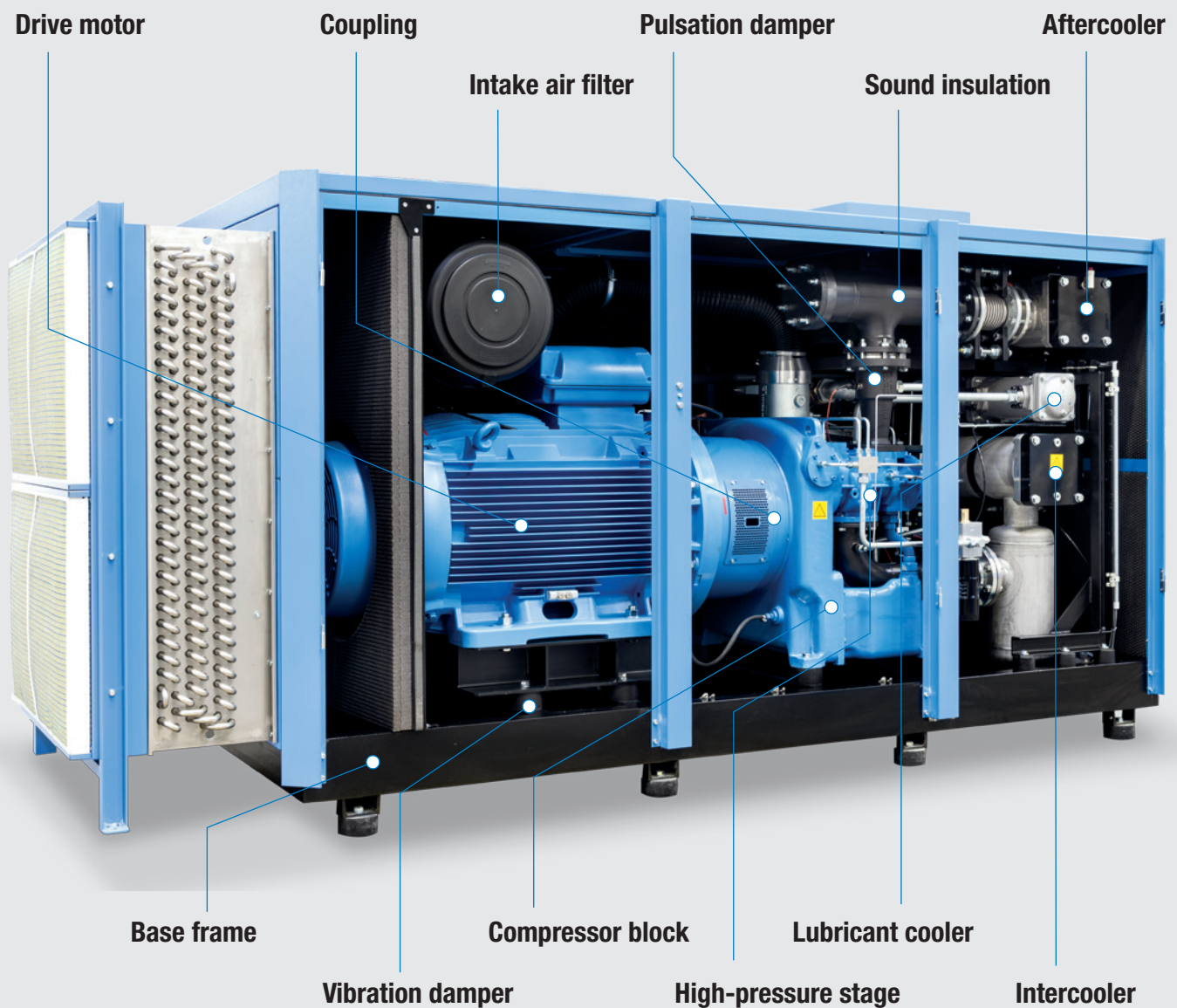
### CLEVERLY BUILT AND COOLLY CALCULATED

Efficiency gain through clever used air and supply air cooling: this optional cooling concept from BOGE screw compressors does not require any used air conduits and thereby ensures a noticeable efficiency gain, as the air intake increases the amount delivered with the same electrical power consumption.



# The safe way to oil-free compressed air: The design advantages of the SO range.

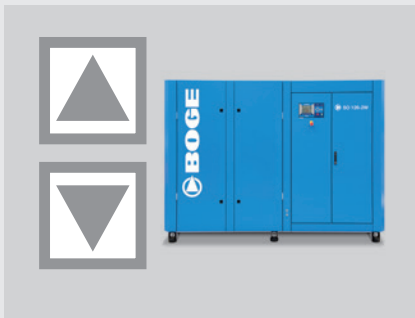
## THE DESIGN PRINCIPLE



(Example shows water-cooled system.)

**Precise engineering for clean results:** the SO range is convincing due to its intelligent design, high-quality processing and innovative functioning principle. Its technologically sophisticated and maintenance-free design make the production of oil-free compressed air safe, reliable and economical. Depending on the preconditions on-site, you can choose from variable drives and an air-cooled or water-cooled version.

## DESIGNED FOR THE HIGHEST DEMANDS – MADE BY BOGE



### OPTIMALLY ADAPTED

Frequency regulation is available for all SO models and ensures optimum adaptation of the compressed air output to individual requirements. The compressor of the standalone machine is therefore also suitable to cover peak load in a multiple compressor system.



### INNOVATIVE DESIGN

The compressor stages are specially equipped for hard compressed air operation with generously dimensioned roller bearings. The permanent compound coating of the rotors ensures wear-free corrosion protection of the rotors and housing.



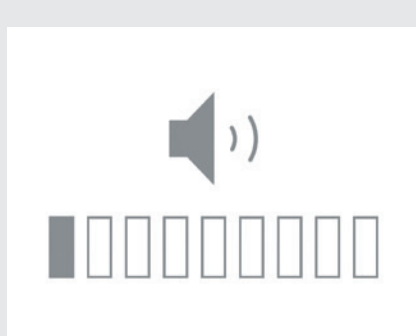
### EASILY ACCESSIBLE COMPONENTS

Ease of maintenance is an important criterion in everyday operation. Correspondingly, all components are easily accessible. A choice of high-quality materials and parts with further wear-reduction ensures low maintenance requirements.



### MADE IN GERMANY

The proven BOGE expertise, with which industrial and craft customers worldwide are familiar, is also there in the innovative oil-free compressing screw compressors. Safety and engineering - made in Germany.



### AUDIBLY LOW SOUND PRESSURE LEVEL

The SO-2 machines combine a silencer with a pulsation damper. Thanks to an intelligent design concept and the use of high-performance sound insulation material, the series is quiet as never before. In addition, there is the vibration isolation of the compressor and cooling area.



### INTELLIGENT, SIMPLE CONTROL

With PRIME, the BOGE efficiency control, you have all functions in view straight away. A spacious backlit LC display with clear text presentation reports all operating parameters clearly. And optional displays are also simple to set up.

# Save smarter with heat recovery:

## Your BOGE compressor becomes an energy-saving machine.

IT IS WORTH CALCULATING: UP TO 94% KICKBACK ON YOUR ENERGY COSTS

|                                      | Version 1          | Version 2            |
|--------------------------------------|--------------------|----------------------|
| Compressor                           | S0 126 W           | S0 431 W             |
| Installed power                      | 90 kW              | 315 kW               |
| Usable energy                        | 94%                | 94%                  |
| Capacity of the compressor           | 70%                | 70%                  |
| Usable power                         | 59.22 kW           | 207.27 kW            |
| Current gas price                    | €0.065/kWh         | €0.065/kWh           |
| Fuel value of the gases              | 13.98 kWh/kg       | 13.98 kWh/kg         |
| Degree of efficiency of the heating  | 75%                | 75%                  |
| <b>Amount of heat saved per year</b> | <b>631.680 kWh</b> | <b>2.210.880 kWh</b> |
| <b>Heating cost savings per year</b> | <b>€41.060</b>     | <b>€143.710</b>      |

Example calculations based on energy costs and investment costs

### SIMPLE PRINCIPLE, GREAT EFFECT

If it is about lowering the primary energy requirement, nothing works better than the principle of heat recovery. With the intelligent system that we have built into our screw compressors, you can recover up to 94% of the energy used and deploy it for other purposes.

### MANY APPLICATION OPTIONS

Heat recovery from compressed air production can be used for many industrial processes – from heating and hot water systems to highly specialist industry applications: in the area of the food industry, for example, it supports processes such as drying, pasteurisation and cooking; all energy-intensive processes, the cost of which you can clearly reduce with the help of heat recovery.

**A major gain both economically and ecologically:** even if the energy efficiency of the BOGE screw compressor achieves the best values per se, huge savings can also be made through external heat recovery. Your energy costs are reduced considerably – and your ecological footprint is also something to be proud of.

## CONVINCING: THE ADVANTAGES OF HEAT RECOVERY



### UNIVERSALLY DEPLOYABLE

Irrespective of whether heat generated from the compression procedure is used for the production process or for other purposes: with heat exchangers you can heat up waste water, heating or process water. Heat recovery can be used universally.

### INNOVATIVE AND ECONOMICAL

In the version for operating an energy-free adsorption dryer (HOC) – using the hot compression temperature after the second compressor stage regenerates the drying agent. Result: no other energy costs for the drying process.

### GOVERNMENT-SUBSIDISED

Investments in heat recovery are subsidised by the Federal Office of Economics and Export Control (BAFA). Central to the BAFA programme is the reduction and use of industrial waste heat.



### ECOLOGICALLY SOPHISTICATED

Harmful emissions and thermal environmental pollution are reduced through heat recovery – directly and indirectly through lower energy consumption. The sustainability of this concept is proven.

### FOR EVERY REQUIREMENT

Naturally we also offer you individual solutions, which we develop based on your specific individual circumstances. Special features for international customers (e.g. with regard to power supply voltage or special certificates) are also included in our special solutions.

### CONSISTENTLY CUSTOMER-ORIENTATED

The expertise of our engineers is one thing. The service concept is another thing. Not only do we offer you your own compressed air service but also specialist seminars at the BOGE compressed air academy, where experts provide you with market-specific specialist content

# Screw compressors, **SO 61** to **SO 126** (air-cooled and water-cooled)



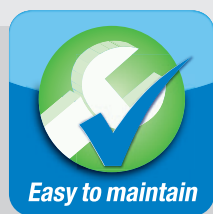
Amount delivered: 5.25 – 13.01 m<sup>3</sup>/min, 185 – 459 cfm  
Pressure range: 8 – 10 bar, 115 – 150 psig  
Drive power 45 – 90 kW, 60 – 125 PS

**Oil-free compressed air of the highest quality** – with maximum efficiency and service life.



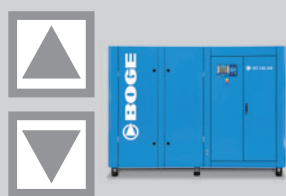
## SUSTAINABLE COOLING

A radial fan is used to ventilate the hood. It ensures powerful intake air, which enables connection to longer exhaust air ducts. In comparison with traditional axial fans, the radial fan saves a great deal of energy and furthermore it is convincing due to its quiet and pleasantly gentle running.



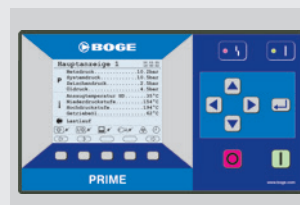
## SIMPLE MAINTENANCE

A core principle of BOGE screw compressors is their ease of maintenance in everyday operation. All components requiring maintenance are easily accessible. Apart from this, we have reduced the number of wearing parts once again.



## EFFICIENT OPERATION

All machines in the range are available in frequency-controlled design. The compressor output is thereby continuously adapted to the relevant requirement – for maximum energy-efficient operation. Stepless partial load control is achieved due to the dynamic speed change.



## CLEAR CONTROL

A spacious backlit LC display with clear text presentation reports fault / maintenance messages, operational conditions and all operational parameters clearly on three main displays. With many other options.



**Oil-free compressed air with an efficiency guarantee: the screw compressors**  
**in these ranges produce oil-free compressed air safely and economically.**  
**Cooling takes place according to the area of application via water or air.**  
**16 models in 30 versions ensure targeted adaptation of the compressed air**  
**system to your requirements.**

| BOGE type | Max. pressure |      | Actual amount delivered* |           |                     |           | Rated output |     |           |     | Dimensions with sound insulation<br>W x D x H<br>mm | Dimensions with super sound insulation<br>W x D x H<br>mm | Weight with sound insulation<br>kg | Weight with super sound insulation<br>kg |
|-----------|---------------|------|--------------------------|-----------|---------------------|-----------|--------------|-----|-----------|-----|---|---|------------------------------------|--|
|           |               |      | (50 Hz)                  |           | (60 Hz)             |           | Main drive   |     | Fan motor |     |   |   |                                    |  |
|           | bar           | psig | m <sup>3</sup> /min      | cfm       | m <sup>3</sup> /min | cfm       | kW           | HP  | kW        | HP  |   |   |                                    |  |
| SO 61 A   | 8             | 115  | 6.65                     | 235       | 6.65                | 234       | 45           | 60  | 4.77      | 6.4 | 2906x1295x1886                                      | 3312x1295x3385  | 2654                               | 2934                                     |
|           | 10            | 150  | 5.25                     | 185       | 5.25                | 181       | 45           | 60  | 4.77      | 6.4 | 2906x1295x1886                                      | 3312x1295x3385  | 2654                               | 2934                                     |
| SO 76 A   | 8             | 115  | 8.86                     | 313       | 8.86                | 298       | 55           | 75  | 4.77      | 6.4 | 2906x1295x1886                                      | 3312x1295x3385  | 2804                               | 3084                                     |
|           | 10            | 150  | 7.70                     | 272       | 7.70                | 270       | 55           | 75  | 4.77      | 6.4 | 2906x1295x1886                                      | 3312x1295x3385  | 2804                               | 3084                                     |
| SO 101 A  | 8             | 115  | 12.06                    | 426       | 12.06               | 424       | 75           | 100 | 4.77      | 6.4 | 2906x1295x1886                                      | 3312x1295x3385  | 2934                               | 3214                                     |
|           | 10            | 150  | 10.46                    | 369       | 10.46               | 349       | 75           | 100 | 4.77      | 6.4 | 2906x1295x1886                                      | 3312x1295x3385  | 2934                               | 3214                                     |
| SO 126 A  | 8             | 115  | 13.01                    | 459       | 13.01               | 462       | 90           | 125 | 4.77      | 6.4 | 2906x1295x1959                                      | 3312x1295x2459  | 3046                               | 3326                                     |
|           | 10            | 150  | 13.01                    | 459       | 13.01               | 435       | 90           | 125 | 4.77      | 6.4 | 2906x1295x1959                                      | 3312x1295x2459  | 3046                               | 3326                                     |
| SO 61 FA  | 8             | 115  | 3.98...6.65              | 96...235  | 3.98...6.65         | 96...235  | 45           | 60  | 4.77      | 6.4 | 2906x1295x1886                                      | 3312x1295x3385  | 2854                               | 3134                                     |
|           | 10            | 150  | 3.85...7.70              | 119...272 | 3.85...7.70         | 119...272 | 55           | 75  | 4.77      | 6.4 | 2906x1295x1886                                      | 3312x1295x3385  | 3054                               | 3334                                     |
| SO 76 FA  | 8             | 115  | 4.12...8.86              | 104...313 | 4.12...8.86         | 104...313 | 55           | 75  | 4.77      | 6.4 | 2906x1295x1886                                      | 3312x1295x3385  | 3054                               | 3334                                     |
|           | 10            | 150  | 3.85...7.70              | 119...272 | 3.85...7.70         | 119...272 | 55           | 75  | 4.77      | 6.4 | 2906x1295x1886                                      | 3312x1295x3385  | 3054                               | 3334                                     |
| SO 101 FA | 8             | 115  | 4.56...12.06             | 134...426 | 4.56...12.06        | 134...426 | 75           | 100 | 4.77      | 6.4 | 2906x1295x1886                                      | 3312x1295x3385  | 3074                               | 3354                                     |
|           | 10            | 150  | 4.41...10.46             | 144...369 | 4.41...10.46        | 144...369 | 75           | 100 | 4.77      | 6.4 | 2906x1295x1886                                      | 3312x1295x3385  | 3074                               | 3354                                     |
| SO 126 FA | 8             | 115  | 4.51...13.01             | 133...459 | 4.51...13.01        | 133...459 | 90           | 125 | 4.77      | 6.4 | 2906x1295x1959                                      | 3312x1295x2459  | 3336                               | 3616                                     |
|           | 10            | 150  | 4.45...13.01             | 147...459 | 4.45...13.01        | 147...459 | 90           | 125 | 4.77      | 6.4 | 2906x1295x1959                                      | 3312x1295x2459  | 3336                               | 3616                                     |

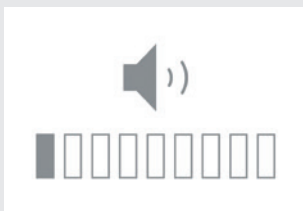
| BOGE type   | Max. pressure |      | Actual amount delivered* |           |                     |           | Rated output |     |           |      | Dimensions with sound insulation<br>W x D x H<br>mm | Weight with sound insulation<br>kg |
|-------------|---------------|------|--------------------------|-----------|---------------------|-----------|--------------|-----|-----------|------|---|------------------------------------|
|             |               |      | (50 Hz)                  |           | (60 Hz)             |           | Main drive   |     | Fan motor |      |   |                                    |
|             | bar           | psig | m <sup>3</sup> /min      | cfm       | m <sup>3</sup> /min | cfm       | kW           | HP  | kW        | HP   |   |                                    |
| SO 61-2 W   | 8             | 115  | 7.05                     | 249       | 7.02                | 248       | 45           | 60  | 0.55      | 0.75 | 2810x1314x2000                                      | 2218                               |
|             | 10            | 150  | 5.57                     | 197       | 5.40                | 191       | 45           | 60  | 0.55      | 0.75 | 2810x1314x2000                                      | 2218                               |
| SO 76-2 W   | 8             | 115  | 9.13                     | 323       | 8.68                | 307       | 55           | 75  | 0.55      | 0.75 | 2810x1314x2000                                      | 2328                               |
|             | 10            | 150  | 7.84                     | 277       | 7.92                | 280       | 55           | 75  | 0.55      | 0.75 | 2810x1314x2000                                      | 2328                               |
| SO 101-2 W  | 8             | 115  | 12.30                    | 435       | 12.23               | 432       | 75           | 100 | 0.55      | 0.75 | 2810x1314x2000                                      | 2539                               |
|             | 10            | 150  | 10.67                    | 377       | 10.09               | 357       | 75           | 100 | 0.55      | 0.75 | 2810x1314x2000                                      | 2539                               |
| SO 126-2 W  | 8             | 115  | 13.27                    | 469       | 13.18               | 466       | 90           | 125 | 0.55      | 0.75 | 2810x1314x2000                                      | 2621                               |
|             | 10            | 150  | 13.14                    | 464       | 12.31               | 435       | 90           | 125 | 0.55      | 0.75 | 2810x1314x2000                                      | 2621                               |
| SO 61-2 FW  | 8             | 115  | 3.98...7.05              | 93...249  | 3.98...7.05         | 93...249  | 45           | 60  | 0.55      | 0.75 | 2810x1314x2000                                      | 2376                               |
| SO 76-2 FW  | 8             | 115  | 4.12...9.13              | 100...323 | 4.12...9.13         | 100...323 | 55           | 75  | 0.55      | 0.75 | 2810x1314x2000                                      | 2617                               |
|             | 10            | 150  | 3.85...7.84              | 114...277 | 3.85...7.84         | 114...277 | 55           | 75  | 0.55      | 0.75 | 2810x1314x2000                                      | 2617                               |
| SO 101-2 FW | 8             | 115  | 4.56...12.30             | 129...435 | 4.56...12.30        | 129...435 | 75           | 100 | 0.55      | 0.75 | 2810x1314x2000                                      | 2697                               |
|             | 10            | 150  | 4.41...10.67             | 142...377 | 4.41...10.67        | 142...377 | 75           | 100 | 0.55      | 0.75 | 2810x1314x2000                                      | 2697                               |
| SO 126-2 FW | 8             | 115  | 4.52...13.27             | 136...469 | 4.52...13.27        | 136...469 | 90           | 125 | 0.55      | 0.75 | 2810x1314x2000                                      | 2712                               |
|             | 10            | 150  | 4.45...13.14             | 142...464 | 4.45...13.14        | 142...464 | 90           | 125 | 0.55      | 0.75 | 2810x1314x2000                                      | 2712                               |

\* Amount delivered from the entire plant as per ISO 1217, Annex C, at 20°C ambient temperature at maximum pressure. Emission noise pressure level according to PN8NTC2.3 from 76 dB(A).  
The technical data are set out for international use: maximum ambient temperature +40°C, maximum cooling water temperature +40°C.  
Other layouts upon request. Subject to changes in dimension and design.

# Screw compressors, **SO 150 -2** to **SO 480 -2** (water-cooled)



Amount delivered: 16.20 – 51.49 m<sup>3</sup>/min, 572 – 1818 cfm  
Pressure range: 8 – 10 bar, 115 – 150 psig  
Drive power 110 – 355 kW, 150 – 480 PS



## **SURPRISINGLY QUIET**

You have to hear it for yourself: the operational noise of the BOGE compressor is puzzlingly quiet for an oil-free compressor. Thanks to the elastic "Silentmount" bracket and the powerful insulating material, the noise pressure level is kept within close limits.



## **HIGHEST ENERGY EFFICIENCY**

The cooling air power supply of the SO-2 machines is being continuously optimised. The air intake from the cold area and the minimisation of pressure losses also contribute to an improved delivered amount for lower specific power consumption.



## **SAFE AND SERVICE-FRIENDLY**

With the design of the SO-2 machines, attention has been paid to optimum accessibility for maintenance-intensive components (e.g. the cooler and oil-cooler). An additional separator improves the interim separation – for completely safe operation.



## **CAN BE EXTENDED FLEXIBLY**

The higher compressed air outlet position enables problem-free connection of other components, e.g. external aftercooler, cyclone separator, filter and dryer, without using risers. Heat recovery, frequency control and hood ventilation are also available as options.

**Oil-free compressed air at the highest stage of development:** the oil-free air compressors of the SO-2 generation are setting standards in the power class from 110 to 355 kW. High delivery amounts at low specific power consumption, very quiet operation and a service-friendly design are the hallmarks of this range – for oil-free compressed air production at the highest level.

| BOGE type  | Maximum pressure |      | Actual amount delivered |      |                     |      | Rated output   |     |           |     | Dimensions with super sound insulation<br>W x D x H<br>mm | Weight with super sound insulation<br>kg |
|------------|------------------|------|-------------------------|------|---------------------|------|----------------|-----|-----------|-----|---|--|
|            |                  |      | (50 Hz)                 |      | (60 Hz)             |      | Main operation |     | Fan motor |     |   |  |
|            | bar              | psig | m <sup>3</sup> /min     | cfm  | m <sup>3</sup> /min | cfm  | kW             | HP  | kW        | hp  |   |  |
| SO 150-2 W | 8                | 115  | 18.57                   | 656  | 17.03               | 601  | 110            | 150 | 0.75      | 1.0 | 3230x1520x1820  | 3300                                     |
|            | 10               | 150  | 16.20                   | 572  | 16.93               | 598  | 110            | 150 | 0.75      | 1.0 |   |  |
| SO 180-2 W | 8                | 115  | 21.60                   | 763  | 22.33               | 789  | 132            | 180 | 0.75      | 1.0 | 3230x1520x1820  | 3350                                     |
|            | 10               | 150  | 19.60                   | 692  | 19.86               | 701  | 132            | 180 | 0.75      | 1.0 |   |  |
| SO 220-2 W | 8                | 115  | 26.30                   | 929  | 26.29               | 928  | 160            | 220 | 0.75      | 1.0 | 3230x1520x1820  | 3400                                     |
|            | 10               | 150  | 23.20                   | 819  | 23.89               | 844  | 160            | 220 | 0.75      | 1.0 |   |  |
| SO 269-2 W | 10               | 150  | 26.18                   | 925  | 26.17               | 924  | 200            | 270 | 0.75      | 1.0 | 3230x1520x1820  | 3600                                     |
| SO 270-2 W | 8                | 115  | 34.90                   | 1232 | 33.43               | 1181 | 200            | 270 | 1.1       | 1.5 | 3780x1800x2150  | 5200                                     |
|            | 10               | 150  | 28.40                   | 1003 | 29.40               | 1038 | 200            | 270 | 1.1       | 1.5 |   |  |
| SO 340-2 W | 8                | 115  | 42.36                   | 1496 | 43.13               | 1523 | 250            | 340 | 1.1       | 1.5 | 3780x1800x2150  | 5400                                     |
|            | 10               | 150  | 35.92                   | 1269 | 36.27               | 1281 | 250            | 340 | 1.1       | 1.5 |   |  |
| SO 430-2 W | 8                | 115  | 47.22                   | 1668 | 46.03               | 1626 | 315            | 430 | 1.1       | 1.5 | 3780x1800x2150  | 5550                                     |
|            | 10               | 150  | 46.89                   | 1656 | 45.95               | 1623 | 315            | 430 | 1.1       | 1.5 |   |  |
| SO 431-2 W | 8                | 115  | 51.49                   | 1818 | 50.96               | 1800 | 315            | 430 | 1.1       | 1.5 | 3780x1800x2150  | 5550                                     |
| SO 480-2 W | 10               | 150  | 51.41                   | 1816 | 50.89               | 1797 | 355            | 480 | 1.1       | 1.5 | 3780x1800x2150  | 5700                                     |

\* Amount delivered from the entire plant as per ISO 1217, Annex C, at 20°C ambient temperature at maximum pressure. Emission noise pressure level according to PN8NTC2.3 from 76 dB(A).

The technical data are set out for international use: maximum ambient temperature +40°C, maximum cooling water temperature +40°C.

Other layouts upon request. Subject to changes in dimension and design.

**BOGE Druckluftsysteme GmbH & Co. KG**

PO Box 10 07 13 · 33507 Bielefeld

Otto-Boge-Strasse 1-7 · 33739 Bielefeld

Tel. +49 5206 601-0 · Fax +49 5206 601-200

info@boge.de · [www.boge.de](http://www.boge.de)

**B**est  
**O**f  
**G**erman  
**E**ngineering

In more than 120 countries worldwide, customers from plant engineering, industry and craft trust BOGE expertise in the planning, development and production of high-quality compressed air systems. Already in its fourth generation, the family-run company deploys all its experience in the development of innovative solutions and excellent efficient products for the compressed air industry.

The surname of the founder Otto Boge therefore rightly stands for the “Best Of German Engineering” today. Those who place importance on German engineering, the highest safety standards, reliable service and the best energy-efficiency, select quality products from BOGE, for they have been delivering “air for working” for more than 100 years.

**Our services:**

- Development of efficiency
- Planning and engineering
- Industry 4.0 solutions, plant control and visualisation
- High speed turbo-compressors
- Oil-free compressing piston, screw and scroll compressors
- Screw compressors with oil-injection cooling and oil-lubricated piston compressors
- Preparation of compressed air
- Compressed air conduction and storage
- Compressed air accessories
- Compressed air service
- Nitrogen and oxygen generators

