COMMERCIAL SHIPPING

Dependable up to 500 bar – anywhere, anytime, anygas.

Sauer Compressors
International commercial shipping with its stringent requirements for quality and reliability is Sauer’s traditional area of activity. Our starting- and working-air compressors have proven their reliability in this demanding market. They are among the most modern and most economic compressors available today.

In particular the low maintenance 3-stage air-cooled starting-air compressors have established themselves as benchmark for modern and cost effective starting-air compressors due to

- less temperature
- less maintenance cost
- less installation cost

As Sauer Compressors’ latest machine exclusively developed for commercial shipping, the Levante series has quickly established itself as a go-to for the maritime industry. In its latest incarnation, the 3-stage air-cooled compressor comes with a fill-up capacity of up to 460 m³/h at a pressure of 30 barg. Due to its robust and compact construction, the low-maintenance compressor can fit into any engine room without taking up much valuable space. To improve inter-cooling efficiency, the air flow has been optimised by installing the newly developed and patented Sauer CubeCooler between the motor and the compressor – enabling the recooling temperatures to be reduced by a third. For maximum usability and comfort, the Levante comes with an integrated gauge panel and an operator-friendly HMI.

The electronic compressor control MLC 4.0 presents a new high-end addition to Sauer Compressors’ range of controls. With its 7" touchscreen and its intuitive operation it provides excellent usability. Given its easy integration into higher-level systems, the new control enables the high connectivity required to meet the demands of tomorrow’s vessels.
Our product range

3-stage air-cooled!

3-stage air-cooled starting-air compressors up to 270 m³/h

Your advantages by using 3-stage air-cooled compressors

3-stage air-cooled starting-air compressors up to 460 m³/h

Your advantages by using 3-stage air-cooled compressors

2-stage air-cooled starting-air compressors up to 80 m³/h

Control- and working-air compressors up to 700 m³/h

2-stage water-cooled starting-air compressors up to 440 m³/h

SCR compressors for NOx reduction

Compressor controls and accessories

Sauer Service for Commercial Shipping
The 3-stage air-cooled compressors of the PASSAT series feature among the best-sellers in Sauer’s product range. By combining 3-stage compression with air cooling, they offer low compression temperatures together with unmatched reliability, efficiency and ease of maintenance.

### PASSAT WP 81 L Marine

- High performance valves for long maintenance intervals
- Compression in 3 cylinders arranged in W-shape ensure lowest vibration
- Monitoring: Safety valves, traditional thermometer, and pressure gauges for all stages. Monitoring of lubrication oil pressure and outlet temperature of the compressed air are standard features
- Integrated flexible coupling, safe and low-maintenance
- Integrated condensate filter after the 2nd stage
- Attached final separator with automatic drainage and flexible mounting is included in the standard scope of delivery
- Reliable pressure oil lubrication by a directly driven gearwheel pump, which can be accessed from the outside

### PASSAT WP 101 L Marine
## Technical data

**PASSAT series** | Technical data for a final pressure of 30 barg

<table>
<thead>
<tr>
<th>Type</th>
<th>Final pressure barg</th>
<th>Stages</th>
<th>Cylinder</th>
<th>Speed rpm</th>
<th>Charging capacity m³/h</th>
<th>Power consumption kW</th>
<th>Heat dissipation kJ/sec</th>
<th>Weight kg</th>
<th>Length mm</th>
<th>Width mm</th>
<th>Height mm</th>
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<td>3</td>
<td>3</td>
<td>1,180 1,480 1,780</td>
<td>63 80 95</td>
<td>13.0 15.6 19.6</td>
<td>20 21 24</td>
<td>440</td>
<td>1,345</td>
<td>965</td>
<td>900</td>
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<td>3</td>
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<td>1,180 1,480 1,780</td>
<td>80 100 120</td>
<td>16.0 20.0 24.4</td>
<td>18 23 28</td>
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<td>940</td>
<td>1,765</td>
<td>1,068</td>
<td>1,097</td>
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</table>

Performance data with 5% tolerance, referred to 20°C and an air pressure of 1,013 mbar. Charging capacity according to ship building regulations.
Performance data on final pressure deviating from 30 barg upon request. Weights and dimensions for standard units with three-phase A.C. motor, IP 54, and flexible mounting.
BIGGER
- Extended capacity range from 360 to 460 m³/h
- Enhanced safety
- Improved cost benefit due to more simple engine room outfitting

BETTER
- Advanced high efficiency cooling arrangement
- Lowest vibration due to superior mass balance
- State-of-the-art Human Machine Interface

BUT STILL BASIC
- Classical, robust design of running gear and technical layout
- Fits into every engine room with a minimum of interfaces
- Easy access, easy inspection and maintenance-friendly design
- All known benefits of Sauer Easy Care available

Sauer CubeCooler
- Advanced high efficiency cooling arrangement reducing re-cooling temperatures by one-third
- Easy access for regular watch-going and maintenance tasks

State-of-the-art Human Machine Interface with integrated gauge panel
- Optimized cooling air flow, coolers arranged between motor and compressor

LEVANTE WP 320L Marine
LEVANTE WP 460L Marine
Performance data with 5% tolerance, referred to 20 °C and an air pressure of 1,013 mbar. Charging capacity according to ship building regulations.

CMA CGM Benjamin Franklin
4 x Passat WP 311 L Marine

MSC Gülsün – the world’s largest container ship with 23,756 TEU
4 x Levante WP 320 L Marine

Technical data

LEVANTE series | Technical data for a final pressure of 30 barg

<table>
<thead>
<tr>
<th>Type</th>
<th>Final pressure barg</th>
<th>Stages</th>
<th>Cylinder</th>
<th>Speed rpm</th>
<th>Charging capacity m³/h</th>
<th>Power consumption kW</th>
<th>Heat dissipation kJ/sec</th>
<th>Weight kg</th>
<th>Length mm</th>
<th>Width mm</th>
<th>Height mm</th>
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<td>1,400</td>
<td>1,500</td>
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<td></td>
<td></td>
<td>980</td>
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<td>37.0</td>
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<td>950</td>
<td>1,900</td>
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<td>1,500</td>
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<td>1,350</td>
<td>1,900</td>
<td>1,400</td>
<td>1,500</td>
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<tr>
<td>Marine</td>
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<td></td>
<td></td>
<td>980</td>
<td>330</td>
<td>57.0</td>
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<td></td>
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<td>WP 460 L</td>
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<td>4</td>
<td>1,780</td>
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<td>71.0</td>
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<td>1,900</td>
<td>1,400</td>
<td>1,500</td>
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Performance data with 5% tolerance, referred to 20 °C and an air pressure of 1,013 mbar. Charging capacity according to ship building regulations. Performance data on final pressure deviating from 30 barg upon request. Weights and dimensions for standard units with three-phase A. C. motor, IP 54, and flexible mounting.
Advantages of Sauer 3-stage air-cooled compressors

Today the Sauer Passat 3-stage air-cooled design is the leading starting air compressor in the world of shipping. Used by all major shipyards and shipowners as a standard – well known for its high quality and competiveness.

Less temperature due to lower stage pressure ratio!

In former times air-cooled compressors were limited to 80 m³/h due to the high compression temperatures (above 250 °C). With the development of the 3-stage air-cooled compressors more than 30 years ago, a new generation of compressors appeared in the market. The 3 stages are the reason for the lower temperatures (less than 170 °C) and make satisfactory cooling by air possible.

Due to the laws of physics air is heated during compression. The final compression temperature depends on the compression-ratio in each stage. By dividing up the total compression-ratio into 3 stages, lower compression temperatures in the cylinders and valves can be achieved compared to 2-stage water-cooled compressors.

Sauer 3-stage air-cooled compressors – standard for international shipping.

Temperature rise of air during compression

Temperatures rise so far during compression. Temperatures calculated based on the laws of physics and technical regulations. Above mentioned temperatures occur in the cylinders/valves and cannot be compared with temperatures displayed on compressors by standard thermometers.
Less maintenance cost due to longer maintenance intervals!

Due to the lower compression temperatures the thermal cracking of the lubricating oil will not be reached and consequently the compressor valves will not be soiled by oil coke. Thus Sauer Compressors can guarantee maintenance intervals up to 4,000 hours for the valves which reduce the maintenance costs compared to 2-stage water-cooled compressors. The reduced compression temperatures allow the use of standard mineral oil SAE 30 as it is used e.g. in 2- and 4-stroke diesel engines. The use of expensive synthetic oil is not required for proper performance.

Sauer 3-stage air-cooled compressors – for lowest operation costs of your ship.

- Extended life time of the valves (up to 4,000 hours) with less maintenance costs due to lowest compression temperatures
- Reduced crew costs due to easy maintenance
- Designed for use with standard mineral oil SAE30
- No corrosion or water leakages
- Operation of air-cooled compressors independent from central CW system, as emergency compressor

Less installation cost due to no cooling water system!

By abolishing the cooling water circuit with its flanges, packings, fittings and cooling water pumps, a higher reliability and an easier control and supervision of the compressors is achieved.

The simple way of cooling is also the reason for more and more shipyards to prefer air-cooled compressors. In addition to the fact that an auxiliary with less interfaces is installed, the weight and space is smaller thus enabling lighter and less expensive foundations. In total, cost savings of up to 7,500 USD per ship are possible during installation. The ventilation of the engine room has not to be increased, the compressors just need to be taken into consideration in the arrangement of the ventilation.

Sauer 3-stage air-cooled compressors – the most competitive option also for shipyard and shipowner.

- Available from 60 up to 460 m³/h capacity
- Final pressure up to 45 barg
- More than 15,000 units sold since 1970
- Suitable for continuous running 24/7
- Separator mounted after each stage
- Reliable and safe operation up to 60 °C

Fits in every engine room.

<table>
<thead>
<tr>
<th>No additional air duct</th>
<th>Self-regulating cooling</th>
</tr>
</thead>
<tbody>
<tr>
<td>No cooling water</td>
<td>Any place</td>
</tr>
</tbody>
</table>

3-stage air-cooled compressors

- 3rd stage air-cooled valve after 2,500 hours
- 2nd stage water-cooled valve after 800 hours
Sauer Compressors for Commercial Shipping

### Mistral

#### 2-stage air-cooled starting-air compressors

Today, Sauer’s 2-stage air-cooled starting-air compressors are among the most modern and low maintenance compressors available worldwide. More than a thousand of these dependable compressors are delivered to our customers every year.

**General advantages**

- Low installation cost due to absence of cooling water circuit
- Light-weight and less space required for installation
- Reliable and safe to operate, even at ambient temperatures up to 60 °C
- Suitable for even the most difficult ambient conditions

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**Compression in 2 cylinders, arranged in V-shape, with plunger piston**

**Fan wheel directly installed on the crankshaft**

**Low recooling temperatures due to sufficiently dimensioned intermediate and aftercoolers and generous cylinder cooling**

**Reliable and failsafe splash lubrication**

**High performance valves, friction-free operation for long maintenance intervals**

**Integrated flexible coupling, low-maintenance and safe**

**Monitoring: Safety valves and pressure gauges for all stages. Optional: Monitoring of the lubrication oil circuit as well as of the outlet temperature of the compressed air**

**Attached separator after the 1st and the 2nd stage with automatic drainage and flexible mounting is included in the standard scope of delivery**

**MISTRAL WP 45L Marine**

**MISTRAL WP 65L Marine**

**High-performance three-phase A.C. motors. Optional: Diesel motor drive**

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**Mistral MarineDiesel**

- Diesel driven for Black-Start and Emergency
- Hand- or electric start
- Available as Mistral WP 15L, WP 22L, WP 45L and WP 65L
### Technical data

**MISTRAL series | Technical data for a final pressure of 30 barg**

<table>
<thead>
<tr>
<th>Type</th>
<th>Final pressure barg</th>
<th>Stages</th>
<th>Cylinder</th>
<th>Speed rpm</th>
<th>Charging capacity m³/h</th>
<th>Power consumption kW</th>
<th>Heat dissipation kJ/sec</th>
<th>Weight kg</th>
<th>Length mm</th>
<th>Width mm</th>
<th>Height mm</th>
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<tr>
<td>H 25</td>
<td>30</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>50 double-strokes/ min</td>
<td>1.8</td>
<td>Hand air compressor</td>
<td>28</td>
<td>312</td>
<td>230</td>
<td>200</td>
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<td>WP 15 L Marine</td>
<td>30</td>
<td>2</td>
<td>2</td>
<td>1,180</td>
<td>1,480 1,780 15.0</td>
<td>2.7</td>
<td>3</td>
<td>135</td>
<td>855</td>
<td>600</td>
<td>630</td>
</tr>
<tr>
<td>WP 22 L Marine</td>
<td>30</td>
<td>2</td>
<td>2</td>
<td>1,180</td>
<td>1,480 1,780 18.0</td>
<td>3.4</td>
<td>4</td>
<td>135</td>
<td>855</td>
<td>600</td>
<td>630</td>
</tr>
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<td>WP 33 L Marine</td>
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<td>2</td>
<td>1,180</td>
<td>1,480 1,780 21.0</td>
<td>4.1</td>
<td>5</td>
<td>145</td>
<td>890</td>
<td>600</td>
<td>630</td>
</tr>
<tr>
<td>WP 45 L Marine</td>
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<td>2</td>
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<td>6</td>
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<td>820</td>
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<td>WP 65 L Marine</td>
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<td>7</td>
<td>328</td>
<td>1,254</td>
<td>742</td>
<td>820</td>
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</table>

Performance data with 5% tolerance, referred to 20°C and an air pressure of 1,013 mbar. Charging capacity according to ship building regulations. Performance data on final pressure deviating from 30 barg upon request. Weights and dimensions for standard units with three-phase A.C. motor, IP54, and flexible mounting. H25 is also available with 30 and 63 l vessel.
The 2-stage water-cooled compressors of the TYPHOON series offer a proven alternative for cases in which air-cooled compressors are not suitable. Decades of experience and continuous further development of these robust machines ensure maximum reliability and efficiency.
## Technical data

**TYPHOON series | Technical data for a final pressure of 30 barg**

<table>
<thead>
<tr>
<th>Type</th>
<th>Final pressure max. barg</th>
<th>Stages</th>
<th>Cylinder</th>
<th>Speed rpm</th>
<th>Charging capacity m³/h</th>
<th>Power consumption kW</th>
<th>Heat dissipation kJ/sec</th>
<th>Weight kg</th>
<th>Length mm</th>
<th>Width mm</th>
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<td>1,340</td>
<td>700</td>
<td>850</td>
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<td>Marine</td>
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<td>WP 200</td>
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<td>2</td>
<td>1,180 1,480 1,780</td>
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<td>26.0 33.7 39.6</td>
<td>28 37 43</td>
<td>770</td>
<td>800</td>
<td>800</td>
<td>1,025</td>
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<td>35 45 54</td>
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<td>1,535</td>
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<td>WP 400</td>
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<td>52.2 72.5 81.5</td>
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<td>1,810</td>
<td>1,165</td>
<td>1,095</td>
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<tr>
<td>Marine</td>
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</table>

Performance data with 5% tolerance, referred to 20°C and an air pressure of 1,013 mbar. Charging capacity according to shipbuilding regulations. Performance data on final pressure deviating from 30 barg upon request. Weights and dimensions for standard units with three-phase A.C. motor, IP 54, and flexible mounting. Cooling water requirement referred to \( \Delta t = 10 \) K.

**OOCL Hong Kong**

5 x Typhoon WP 400 Marine
Control- and working-air compressors

**Sauer SC screw compressors**, unlike piston compressors, compress air in rotating screws, and operate without valves.

Sauer SC screw compressors offer much more than industry compressors since they are the synthesis of thousands of industry compressors and of our fundamental knowledge of the requirements of international shipping. The particular design features of Sauer’s SC screw compressors ensure trouble-free operation on the seven seas.

As an alternative to the screw compressor, Sauer is able to deliver reciprocating **piston compressors** based on the well-known range of starting-air compressors. Compared with screw compressors, these types are more suitable for shorter operation intervals due to their lower energy consumption as they are start-stop controlled.

The distinct advantages of piston compressors are the standardised parts and the similarity in terms of design with air-cooled starting-air compressors. If you choose your ship compressors carefully, your starting-, control- and working-air compressors will all have the same wearing parts.

**Our recommendation**
Sauer delivers both types of compressors. For requirements under 100 m$^3$/h, we recommend that you use piston compressors and for performance requirements over 300 m$^3$/h, we recommend screw compressors. For the 100 m$^3$/h to 300 m$^3$/h range we also recommend screw compressors, provided that the annual operation time is higher than 4,000 hours.

For more information or references please do not hesitate to contact us at sales@sauercompressors.de
Technical data

**SC series | Screw compressor, air-cooled | Technical data for a final pressure of 8 barg**

<table>
<thead>
<tr>
<th>Type</th>
<th>Version</th>
<th>Final pressure max. barg</th>
<th>Motor rpm</th>
<th>Capacity m³/h</th>
<th>Power consumption kW</th>
<th>Heat dissipation kJ/sec</th>
<th>Weight kg</th>
<th>Length mm</th>
<th>Width mm</th>
<th>Height mm</th>
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<td>80</td>
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<td>14.4</td>
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<td>106</td>
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<td>15.5</td>
<td>17.8</td>
<td>450</td>
<td>1,275</td>
<td>810</td>
</tr>
<tr>
<td>SC 22</td>
<td>MA 60</td>
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<td>3,600</td>
<td>117</td>
<td>15.5</td>
<td>15.9</td>
<td>21.1</td>
<td>485</td>
<td>1,275</td>
<td>810</td>
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<td>SC 26</td>
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<td>3,000</td>
<td>150</td>
<td>18.0</td>
<td>21.1</td>
<td>25.4</td>
<td>580</td>
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<td>810</td>
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<tr>
<td>SC 26</td>
<td>MA 60</td>
<td>12</td>
<td>3,600</td>
<td>170</td>
<td>19.0</td>
<td>25.0</td>
<td>30.6</td>
<td>585</td>
<td>1,275</td>
<td>810</td>
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<tr>
<td>SC 31</td>
<td>MA 50</td>
<td>12</td>
<td>3,000</td>
<td>170</td>
<td>21.0</td>
<td>21.1</td>
<td>485</td>
<td>1,275</td>
<td>810</td>
<td>1,175</td>
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<tr>
<td>SC 31</td>
<td>MA 60</td>
<td>12</td>
<td>3,600</td>
<td>200</td>
<td>25.0</td>
<td>25.4</td>
<td>580</td>
<td>1,275</td>
<td>810</td>
<td>1,175</td>
</tr>
<tr>
<td>SC 32</td>
<td>MA 50</td>
<td>12</td>
<td>3,000</td>
<td>235</td>
<td>27.5</td>
<td>27.6</td>
<td>580</td>
<td>1,275</td>
<td>810</td>
<td>1,175</td>
</tr>
<tr>
<td>SC 32</td>
<td>MA 60</td>
<td>12</td>
<td>3,600</td>
<td>270</td>
<td>30.5</td>
<td>30.6</td>
<td>585</td>
<td>1,275</td>
<td>810</td>
<td>1,175</td>
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<tr>
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<td>MA 50</td>
<td>12</td>
<td>3,000</td>
<td>280</td>
<td>35.0</td>
<td>35.4</td>
<td>43.2</td>
<td>995</td>
<td>1,520</td>
<td>850</td>
</tr>
<tr>
<td>SC 41</td>
<td>MA 60</td>
<td>12</td>
<td>3,600</td>
<td>310</td>
<td>37.5</td>
<td>38.9</td>
<td>48.7</td>
<td>1,095</td>
<td>1,610</td>
<td>850</td>
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<tr>
<td>SC 76</td>
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<td>3,000</td>
<td>390</td>
<td>44.0</td>
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<td>995</td>
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<td>850</td>
<td>1,400</td>
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<tr>
<td>SC 76</td>
<td>MA 60</td>
<td>12</td>
<td>3,600</td>
<td>420</td>
<td>51.0</td>
<td>49.7</td>
<td>1,095</td>
<td>1,610</td>
<td>850</td>
<td>1,400</td>
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<tr>
<td>SC 85</td>
<td>MA 50</td>
<td>12</td>
<td>3,000</td>
<td>460</td>
<td>53.8</td>
<td>52.8</td>
<td>1,095</td>
<td>1,610</td>
<td>850</td>
<td>1,400</td>
</tr>
<tr>
<td>SC 85</td>
<td>MA 60</td>
<td>12</td>
<td>3,600</td>
<td>520</td>
<td>63.4</td>
<td>60.9</td>
<td>1,095</td>
<td>1,610</td>
<td>850</td>
<td>1,400</td>
</tr>
<tr>
<td>SC 99</td>
<td>MA 50</td>
<td>12</td>
<td>3,000</td>
<td>670</td>
<td>75.0</td>
<td>95.0</td>
<td>approx.</td>
<td>1,450</td>
<td>approx.</td>
<td>approx.</td>
</tr>
<tr>
<td>SC 99</td>
<td>MA 60</td>
<td>12</td>
<td>3,600</td>
<td>740</td>
<td>90.0</td>
<td>114.0</td>
<td>approx.</td>
<td>1,450</td>
<td>approx.</td>
<td>approx.</td>
</tr>
</tbody>
</table>

Note: Higher capacity available – please ask for a quote.

**MISTRAL series | Piston compressor, air-cooled | Technical data for a final pressure of 10 barg**

<table>
<thead>
<tr>
<th>Type</th>
<th>Final pressure max. barg</th>
<th>Stages</th>
<th>Cylinder</th>
<th>Speed rpm</th>
<th>Capacity m³/h</th>
<th>Power consumption kW</th>
<th>Heat dissipation kJ/sec</th>
<th>Weight kg</th>
<th>Length mm</th>
<th>Width mm</th>
<th>Height mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>WP 33 L Marine</td>
<td>20</td>
<td>2</td>
<td>2</td>
<td>1,180</td>
<td>25</td>
<td>4.6</td>
<td>6.0</td>
<td>145</td>
<td>890</td>
<td>600</td>
<td>630</td>
</tr>
<tr>
<td>WP 33 L Marine</td>
<td>1,480</td>
<td>32</td>
<td>5.9</td>
<td>9.0</td>
<td>10.0</td>
<td>328</td>
<td>1,254</td>
<td>742</td>
<td>820</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WP 146 L Marine</td>
<td>10</td>
<td>2</td>
<td>2</td>
<td>1,180</td>
<td>58</td>
<td>8.7</td>
<td>15.0</td>
<td>19.0</td>
<td>approx.</td>
<td>approx.</td>
<td>approx.</td>
</tr>
<tr>
<td>WP 226 L Marine</td>
<td>10</td>
<td>2</td>
<td>3</td>
<td>1,180</td>
<td>220</td>
<td>24.6</td>
<td>27.0</td>
<td>27.0</td>
<td>720</td>
<td>1,720</td>
<td>1,028</td>
</tr>
</tbody>
</table>

**TYPOON series | Piston compressor, water-cooled | Technical data for a final pressure of 10 barg**

<table>
<thead>
<tr>
<th>Type</th>
<th>Final pressure max. barg</th>
<th>Stages</th>
<th>Cylinder</th>
<th>Speed rpm</th>
<th>Capacity m³/h</th>
<th>Power consumption kW</th>
<th>Heat dissipation kJ/sec</th>
<th>Weight kg</th>
<th>Length mm</th>
<th>Width mm</th>
<th>Height mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>WP 100 Marine</td>
<td>12</td>
<td>2</td>
<td>2</td>
<td>1,180</td>
<td>85</td>
<td>14.3</td>
<td>17.6</td>
<td>17</td>
<td>500</td>
<td>1,340</td>
<td>700</td>
</tr>
<tr>
<td>WP 200 Marine</td>
<td>12</td>
<td>2</td>
<td>2</td>
<td>1,180</td>
<td>107</td>
<td>17.6</td>
<td>21.3</td>
<td>21</td>
<td>770</td>
<td>1,459</td>
<td>1,025</td>
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<tr>
<td>WP 240 Marine</td>
<td>12</td>
<td>2</td>
<td>2</td>
<td>1,180</td>
<td>145</td>
<td>23.4</td>
<td>35.6</td>
<td>35</td>
<td>850</td>
<td>1,535</td>
<td>1,025</td>
</tr>
<tr>
<td>WP 400 Marine</td>
<td>12</td>
<td>2</td>
<td>3</td>
<td>1,180</td>
<td>312</td>
<td>47.0</td>
<td>65.3</td>
<td>57</td>
<td>1,350</td>
<td>1,818</td>
<td>1,165</td>
</tr>
</tbody>
</table>

Performance data with 5% tolerance, referred to 20 °C and an air pressure of 1,013 mbar. Capacity of screw compressors according to ISO 1217 Annex C. Weights and dimensions for standard units with three-phase A.C. motor, IP54, and flexible mounting. Water-cooled screw compressors upon request. *Larger capacity up to 2,000 m³/h or capacity for other final pressures upon request.
Sauer Compressors for SCR systems

SCR system for NO\textsubscript{x} reduction

Exhaust gas purification is crucial. To supply state-of-the-art SCR systems for the reduction of nitrogen oxides with compressed air, the Sauer SC85 and SC99 screw compressors deliver a volume flow of up to 700 m\textsuperscript{3}/h with a maximum power of 99 kW.

### Technical data

<table>
<thead>
<tr>
<th>Type</th>
<th>Version</th>
<th>Final pressure max. barg</th>
<th>Motor rpm</th>
<th>Capacity m\textsuperscript{3}/h</th>
<th>Power consumption kW</th>
<th>Heat dissipation kJ/sec</th>
<th>Weight kg</th>
<th>Length mm</th>
<th>Width mm</th>
<th>Height mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC 85</td>
<td>MA 50</td>
<td>12</td>
<td>3,000</td>
<td>670</td>
<td>75.0</td>
<td>95.0</td>
<td>approx.</td>
<td>approx.</td>
<td>approx.</td>
<td>approx.</td>
</tr>
<tr>
<td></td>
<td>MA 60</td>
<td></td>
<td>3,600</td>
<td>740</td>
<td>90.0</td>
<td>114.0</td>
<td>approx.</td>
<td>approx.</td>
<td>approx.</td>
<td>approx.</td>
</tr>
<tr>
<td>SC 99</td>
<td>MA 50</td>
<td>12</td>
<td>3,000</td>
<td>760</td>
<td>90.0</td>
<td>115.0</td>
<td>approx.</td>
<td>approx.</td>
<td>approx.</td>
<td>approx.</td>
</tr>
<tr>
<td></td>
<td>MA 60</td>
<td></td>
<td>3,600</td>
<td>780</td>
<td>99.0</td>
<td>125.0</td>
<td>approx.</td>
<td>approx.</td>
<td>approx.</td>
<td>approx.</td>
</tr>
</tbody>
</table>

Note: Higher capacity available – please ask for a quote.
Controls

Sauer Marine Logic Control (MLC)
- State-of-the-art electronic compressors controls
- Robust design for marine ambient conditions
- In compliance with all classification requirements

MLC
The established standard
- Fully automatic compressor control
- 3.2” LCD display
- All relevant information at a glance
- Simple and easy operation
- Integrated lead-lag control
- Eco+ Sea and Maneuver mode
- 19 supported languages
- Standard modbus connection

MLC 4.0
Ready for tomorrow’s vessels
- Fully automatic compressor control
- 7” TFT touchscreen display
- Intuitive interface design according to DIN EN ISO 9241-110:2006
- Embedded guides for fast parameter setting and safe updates
- Intelligent maintenance instructor
- Advanced lead-lag control
- Eco+ Sea and Maneuver mode
- 30+ supported languages
- Extended connectivity features, compatible with all standard protocols

Sauer Relay Compressor Control (RCC)
- Relay compressor control
- Robust design for marine ambient conditions
- In compliance with classification requirements
- Optional Sauer EcoBox available for lead / lag control and selection of starting sequence of compressors
Accessories

Air and gas treatment

Sauer Compressors provides a range of downstream equipment, such as filters for air as well as refrigerant and adsorption type dryers. These solutions are available for pressures ranging from 8 to 40 barg.

Condensate management

To prevent traces of oil and other contaminants from being released into the environment, we provide a variety of condensate collection pots for use with our oil-lubricated compressors.

Starting- and working-air receivers

When it comes to storing the compressed air, Sauer customers can choose from a variety of options. The portfolio includes both vertical and horizontal receivers for pressures up to 40 barg.

Any other accessories needed? Please let us know.

sales@sauercompressors.de
Sauer Service – immediate action

“A product is only as good as the support provided by the company who sold it.”

If you have ever had to wait for a spare part or a service technician to get your system up and running, you will fully agree with this statement. When you select Sauer Compressors you are not only choosing the most reliable and low maintenance products, you are choosing outstanding customer service.

Our product support includes, but is not limited to:
- World wide service organizations
- Maintenance and service schedules
- Inspection and service contracts
- Supply of Genuine Sauer Spare Parts
- Technical support and troubleshooting
- Training
- High quality spare part production

Technical service
- Commissioning, repairs and maintenance
- Investigation of damages, recommendation for repair and avoidance of such damages in the future
- Close contact between the service department and the design and quality department at Sauer
- Well trained engineers are available for any service worldwide
- 24/7 service support

Worldwide service
- Subsidiaries and service organizations located in more than 60 countries worldwide including the USA, Germany, France, UK, China, Czech Republic, Italy, Brazil, India, Singapore, Switzerland, Mexico and Russia.
- Service stations and service engineers on all continents and major ports
- Fast delivery of the Genuine Sauer Spares from Sauer Service stations
- In 36 hours to nearly any place in the world

service@sauercompressors.de
Find your local Sauer Partner: www.sauercompressors.com
Sauer Compressors for Commercial Shipping

Sauer Service – as individual as your needs

The Sauer Service products

Always state-of-the-art

Genuine Sauer Spare Parts

Use Genuine Sauer Spare Parts and open the door to all advantages of the Sauer Service.

- Guaranteed lifetime for all spare parts
- Highest available quality
- Maintenance kits available
- No general overhaul
- All spare parts ex stock
- Guaranteed availability for at least 35 years
- Free technical support and bulletins by Sauer Service
- 100 % quality control – all parts packed and marked individually
- Delivery with Sauer Certificate of Conformity and Authenticity

Sauer Certificate of Conformity and Authenticity

With this Sauer Certificate of Conformity and Authenticity, we certify that the item, serial number ___________ and only those items which have been delivered with attached original Sauer Shipping Note number ___________ are genuine Sauer Spare Parts.

Genuine Sauer Spare Parts

With proven, guaranteed and assessable quality. Any change in the original Sauer Shipping Note or this Certificate, or in the destruction of either, cancels this Certificate invalid.

If you want to be informed about your advantages when using Genuine Sauer Spare Parts or in case of any doubt, please contact our Service Department at:

E-mail: service@sauercompressors.de

Find your local Sauer Partner:
www.sauercompressors.com

service@sauercompressors.de
Sauer Easy Care is a simple and easy maintenance concept with guaranteed maintenance intervals for highest operational reliability at lowest costs.

- Based on three maintenance kits only
- Established in 2009 it convinced hundreds of chiefs and superintendents
- Up to 25% maintenance cost reduction
- Clear maintenance routines result in less downtime
- Reduced overhead in purchase and logistics
- No more general overhaul necessary – never
- Competitive and reliable operating costs per running hour

Sauer Fix Budget is your trouble-free package without surprises for the budget. All parts to keep your compressors in perfect condition are covered by fixed annual fees per vessel.

- It is a life time warranty for your compressors
- Projectable budgets can be planned for years, no surprising “peaks” will occur
- More than 75 ship owners/managers around the world are satisfied users of Sauer Fix Budget since 2001
- More than 1,500 vessels with 5,000 compressors are under contract

### Maintenance Schedule

<table>
<thead>
<tr>
<th>Interval (Operating hours)</th>
<th>MAINTENANCE WORK</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 h after commissioning</td>
<td>✓</td>
</tr>
<tr>
<td>50 h after 4,000 h</td>
<td>✓</td>
</tr>
<tr>
<td>Maintenance or repair</td>
<td>✓</td>
</tr>
<tr>
<td>1,000 h or after one year of operation at the latest</td>
<td>✓</td>
</tr>
<tr>
<td>2,000 h or after two years of operation at the latest</td>
<td>✓</td>
</tr>
<tr>
<td>3,000 h or after three years of operation at the latest</td>
<td>✓</td>
</tr>
<tr>
<td>4,000 h or after four years of operation at the latest</td>
<td>✓</td>
</tr>
</tbody>
</table>

- Changing the air filter insert
- Changing the oil
- Cleaning the oil separator
- Changing 1st stage valve
- Changing 2nd stage valve
- Changing 3rd stage valve
- Replacing piston rings, gudgeon pins and piston gudgeon pin bearings of all stages
- Replacing the flexible coupling element
- Servicing the solenoid drain valves (order-related)
Sauer Training

To keep your technical knowledge up-to-date, Sauer offers numerous comprehensive and practical training courses. The courses can take place either in one of our worldwide training centres or on-site with your own compressor. Divided into various categories, the training provides users, operators, maintenance personnel and service technicians with the knowledge they need – all tailored to your specific requirements.

Training options

- In-house training
- On-site training
- Repair and depot level training
- On-the-job training
- Train the trainer seminars
- Sauer training container

service@sauercompressors.de

Find your local Sauer Partner:
www.sauercompressors.com
Anywhere, anytime, anygas – anything else?

In addition to high-quality compressors, control systems, accessories and services, Sauer Compressors customers benefit from:

**Engineering assistance**
Through our local representations we can assist engineering teams locally and offer support with regard to integrating our products. In this way, we ensure our customers make the most of their installation.

**Special painting and coating**
Customers can choose any colour for their yacht’s compressors as we are able to provide special painting and coating to the highest quality regardless of the colour selected. Our state-of-the-art in-house paint shop fulfills the latest requirements of commercial shipping and the offshore industry. In our facility we are capable of painting and coating surfaces up to protection level C5M according to ISO 12944, the highest standard in the offshore industry. We provide complete documentation for all processes. Customers also benefit from the experience of our specialised personnel, including a FROSIO Inspector Level III.

**Factory acceptance tests and third-party inspection**
For Sauer Compressors, quality is not a promise – it’s a fact! All our compressors are subjected to a 12-hour endurance test at final pressure and issued a high level 3.1 inspection certificate after the final inspection. Upon request, third-party inspections can be performed. For our helium compressors, we have devised an extensive 16-hour test procedure that is unprecedented in the industry. Both static and dynamic leak rates are tested with the noble gas itself. As a result, operators benefit from ‘true’ helium compressors providing unparalleled leak tightness.

**Installation and commissioning**
Even the best product’s performance will suffer if the installation is faulty. Upon request, our expertly trained service technicians will set up the newly acquired Sauer product and integrate it into established systems at our customer’s facility. Thanks to our local representations, this service is available anywhere in the world. After the initial setup, the installation is thoroughly tested and finally commissioned. To ensure maximum performance, low operating costs and a long service life, we offer in-house trainings for the operating staff.

**Exchange/FastLane option**
In case of an emergency or breakdown of your compressor, we hold at least one unit of our most common piston compressor types in stock. So we are able to help you within 48 hours and deliver to almost every location worldwide.

**Certifications**