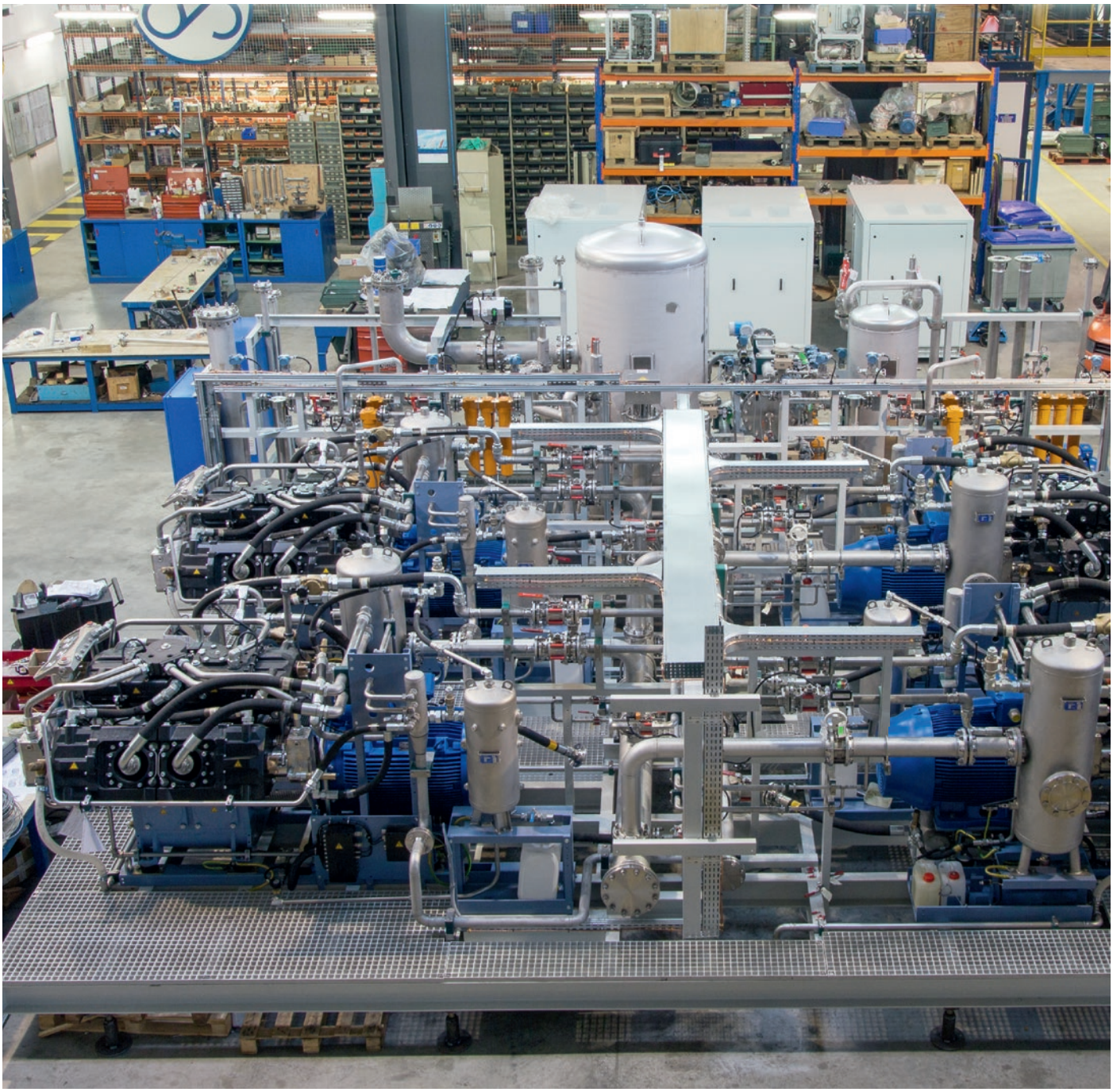
Sauer Compressors

INDUSTRY

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

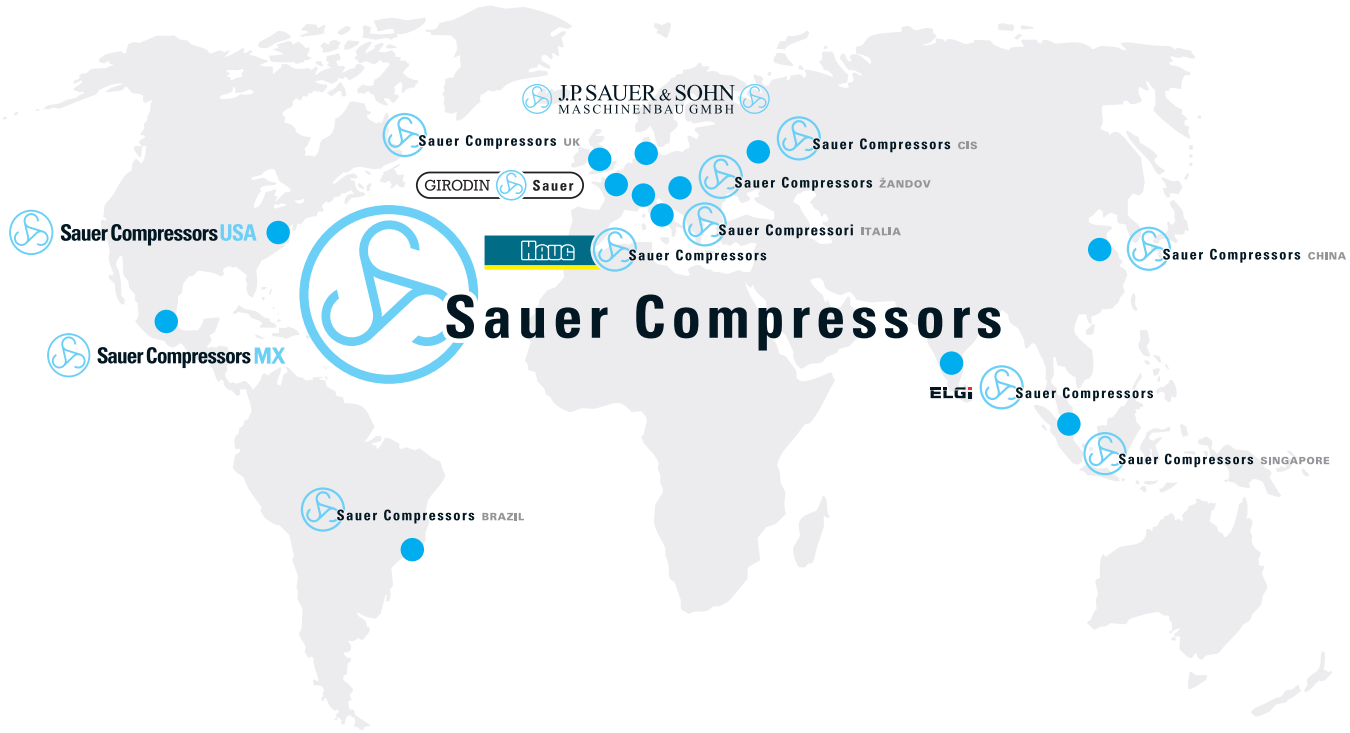


Content

SAUER Quality made in Germany

HAUG Quality made in Switzerland

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



For your local contact please visit our website
www.sauercompressors.com

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

Comprehensive industry expertise

With over 80 years of experience in compressed air technology, we know the challenges our customers are facing all over the world. As a global company we keep local requirements in mind: Our companies and partners around the globe know the particular demands in each area and provide exactly the right solutions and services to meet them. Our support knows neither business hours nor time zones – we are available whenever we are needed.

Sauer – High-pressure know-how made in Germany
Our headquarters J.P. Sauer & Sohn in Kiel, Germany, serves as the centre of excellence for our renowned SAUER-range of piston compressors. The oil-lubricated machines are available for pressures up to 500 barg and designed for continuous operation. The reciprocating models allow compression in up to five stages. A total of up to six cylinders are mounted in a star, V or W arrangement. The compressors are the ideal solution for operation at atmospheric suction pressure or to be used as gas-tight boosters with pre-pressures up to 25 barg.

HAUG – world's leading brand for oil-free piston compressors
HAUG compressors are the first choice when it comes to demanding applications that require maximum process purity and safety. The dry-running machines are entirely oil-free to prevent contamination and to provide hermetic gas-tightness. The modular and customisable design helps to achieve pressures from 1 to 450 barg. High-tech innovations, such as a non-contact magnetic coupling (up to 110 kW) and the high-pressure piston design "NanoLoc", add to the compressors' outstanding performance.

Sauer Compressors for the Industry

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

Our “anygas”-commitment

You name the gas – we provide the solution! Through the comprehensive know-how of renowned brands like SAUER and HAUG, we are able to meet the requirements of virtually any gas. Even if a particular medium is not listed in the overview, customers are welcome to contact us – if there is no “off-the-shelf”-product to suit their needs, we provide individual custom solutions.

	HAUG					SAUER							
Series / Gas	HAUG.Pluto	HAUG.Mercure	HAUG.Neptune	HAUG.Sirius	HAUG.Titan	Mistral	Passat	Breeze	Typhoon	Tornado	Hurricane	5000 series	6000 series
Air	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CDA (clean dry air)	✓	✓	✓	✓	✓	–	–	–	–	–	–	–	–
Nitrogen N_2	✓	✓	✓	✓	✓	✓	✓	–	✓	✓	✓	✓	✓
Oxygen O_2	✓	✓	✓	✓	–	–	–	–	–	–	–	–	–
Helium He	✓	✓	✓	✓	✓	✓	✓	–	✓	✓	✓	✓	✓
Argon Ar	✓	✓	✓	✓	✓	✓	✓	–	✓	✓	✓	✓	✓
Hydrogen H_2	–	–	✓	✓	✓	–	–	–	–	✓	✓	–	✓
Sythesis Gases	–	–	✓	✓	✓	–	–	–	–	–	–	–	–
Natural Gas CH_4	–	–	✓	✓	✓	–	✓	–	–	✓	✓	–	✓
SF_6	✓	✓	✓	✓	✓	–	–	–	–	–	–	–	–
Refrigerant gases	✓	✓	✓	✓	✓	–	–	–	–	–	–	–	–
Carbon Monoxide CO	–	–	✓	✓	✓	–	–	–	–	–	–	–	–
Carbon Dioxide CO_2	✓	✓	✓	✓	✓	–	–	–	–	–	–	–	–
Gas mixtures	✓	✓	✓	✓	✓	–	–	–	–	–	–	–	–

Products – Performance Overview

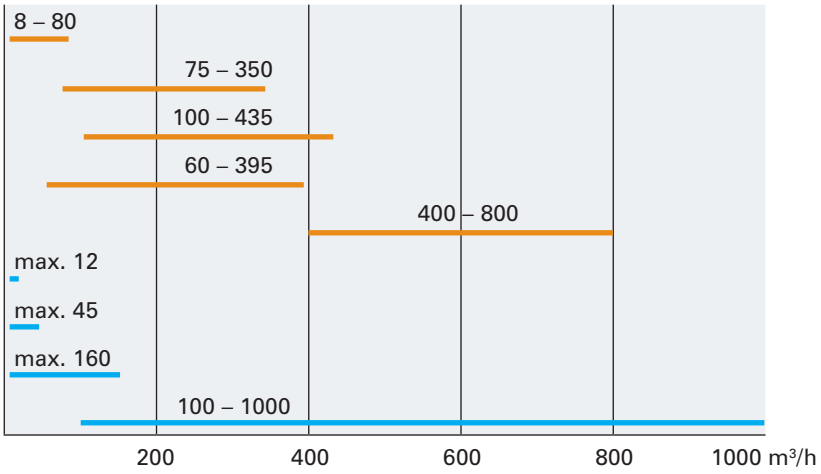
Our compressors are as diverse as our customers' requirements. We provide high-quality compressed air and gas solutions in various capacities and pressure ranges to meet the particular demands of a great number of industries and applications.

Air Compressor Range

Low and Medium Pressure

	Final Pressure [barg]	Max. Power [kW]
Mistral	10 – 40	3 – 18.5
Passat	10 – 80	15 – 55.0
Breeze	10 – 40	37 – 90.0
Typhoon	10 – 100	15 – 90.0
6000 series	10 – 100	90 – 250.0
HAUG.Cygnus	5 – 30	0.37 – 2.2
HAUG.Taurus	5 – 60	4 – 11.0
HAUG.Orion	5 – 60	11 – 30.0
HAUG.Sirius	10 – 100	7.5 – 30.0

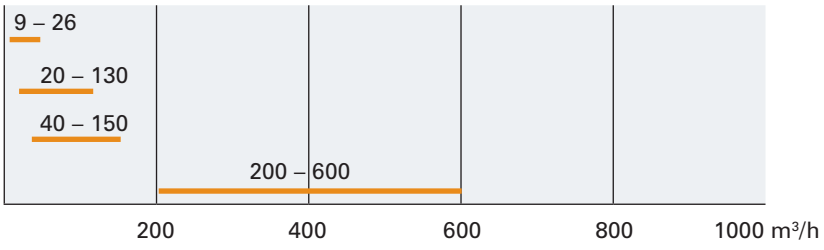
Volume Flow Range [m³/h]



High and Highest Pressure

	Final Pressure [barg]	Max. Power [kW]
Tornado	150 – 400	5.5 – 15.0
Hurricane	150 – 400	11 – 55.0
5000 series	150 – 350	20 – 75.0
6000 series	100 – 500	90 – 250.0

Volume Flow Range [m³/h]



oil-lubricated
oil-free

SAUER Quality made in Germany

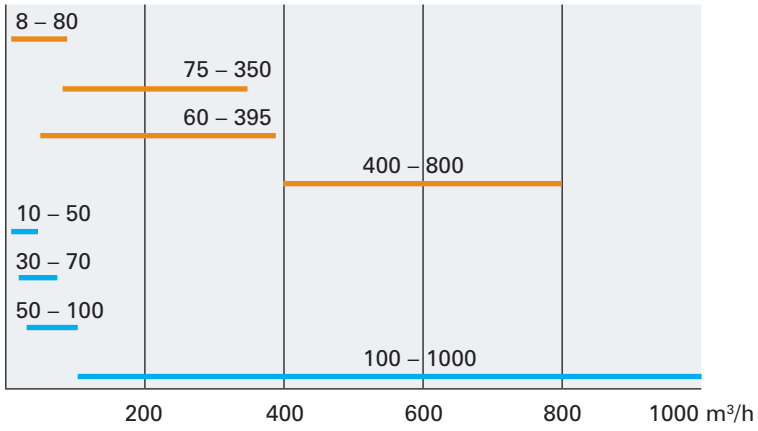
HAUG Quality made in Switzerland

Air and Nitrogen Booster Range

Low and Medium Pressure

	Inlet Pressure [barg]	Final Pressure [barg]	Max. Power [kW]
Mistral	4 – 10	10 – 40	3 – 18.5
Passat	4 – 10	10 – 80	15 – 55.0
Typhoon	4 – 10	10 – 100	15 – 90.0
6000 series	4 – 16	10 – 100	90 – 250.0
HAUG.Pluto	max. 20	10 – 60	0.55 – 2.2
HAUG.Mercure	max. 20	10 – 100	3 – 4.0
HAUG.Neptune	max. 16	10 – 100	2.2 – 7.5
HAUG.Sirius	max. 16	10 – 100	7.5 – 30.0

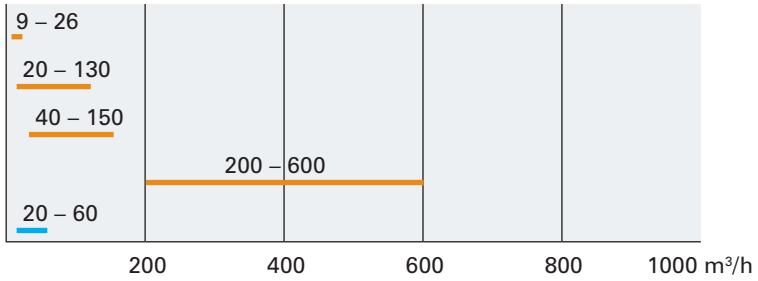
Volume Flow Range [m³/h]



High and Highest Pressure

	Inlet Pressure [barg]	Final Pressure [barg]	Max. Power [kW]
Tornado	4 – 10	150 – 400	5.5 – 15.0
Hurricane	4 – 10	150 – 400	11 – 55.0
5000 series	4 – 10	150 – 350	20 – 75.0
6000 series	4 – 10	100 – 500	90 – 250.0
HAUG.Sirius	max. 16	100 – 450	7.5 – 30.0

Volume Flow Range [m³/h]



oil-lubricated

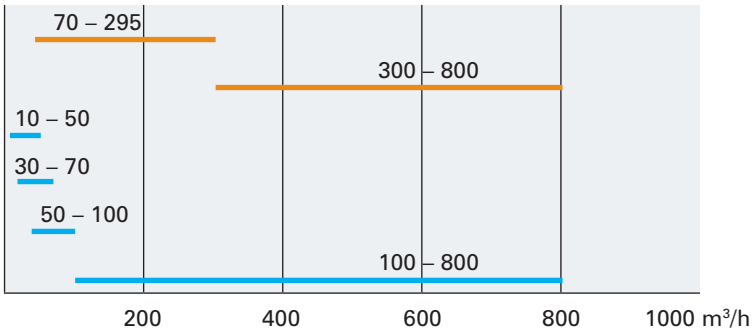
oil-free

Helium Compressor Range

Low and Medium Pressure

	Inlet Pressure [barg]	Final Pressure [barg]	Max. Power [kW]
Passat	0.05	10 – 40	15 – 55.0
6000 series	0.05 – 16	10 – 350	90 – 250.0
HAUG.Pluto	max. 20	10 – 50	0.55 – 2.2
HAUG.Mercure	max. 20	10 – 80	3 – 4.0
HAUG.Neptune	max. 16	10 – 100	2.2 – 7.5
HAUG.Sirius	max. 16	10 – 100	7.5 – 30.0

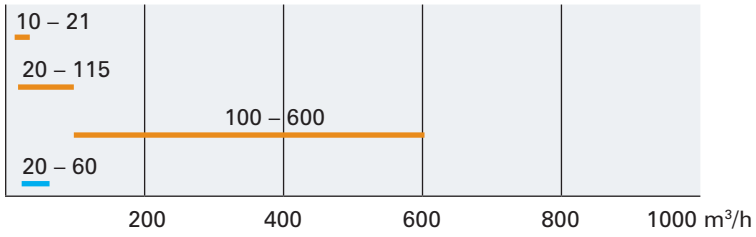
Volume Flow Range [m³/h]



High and Highest Pressure

	Inlet Pressure [barg]	Final Pressure [barg]	Max. Power [kW]
Tornado	0.05	150 – 230	5.5 – 15.0
Hurricane	0.05	150 – 230	11 – 55.0
6000 series	0.05 – 16	100 – 350	90 – 250.0
HAUG.Sirius	max. 16	100 – 230	7.5 – 30.0

Volume Flow Range [m³/h]

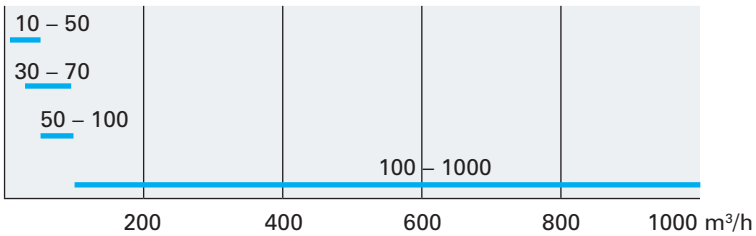


Oxygen Compressor Range

Low and Medium Pressure

	Inlet Pressure [barg]	Final Pressure [barg]	Max. Power [kW]
HAUG.Pluto	max. 20	10 – 30	0.55 – 2.2
HAUG.Mercure	max. 20	10 – 30	3 – 4.0
HAUG.Neptune	max. 16	10 – 30	2.2 – 7.5
HAUG.Sirius	max. 16	10 – 30	37 – 110.0

Volume Flow Range [m³/h]



oil-lubricated

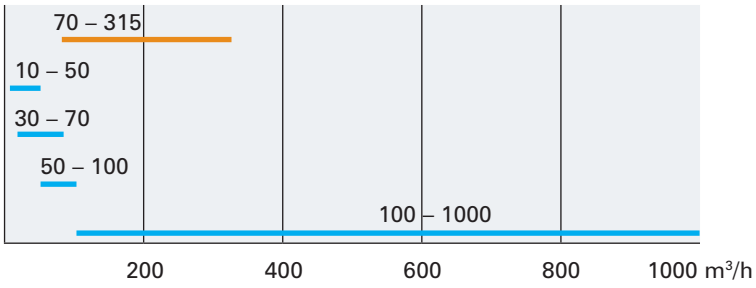
oil-free

CNG Compressor Range

Low and Medium Pressure

	Inlet Pressure [barg]	Final Pressure [barg]	Max. Power [kW]
////Passat	0.05	10 – 40	15 – 55.0
HAUG.Pluto	max. 20	10 – 60	0.55 – 2.2
HAUG.Mercure	max. 20	10 – 100	3 – 4.0
HAUG.Neptune	max. 16	10 – 100	2.2 – 7.5
HAUG.Sirius	max. 16	10 – 100	7.5 – 30.0

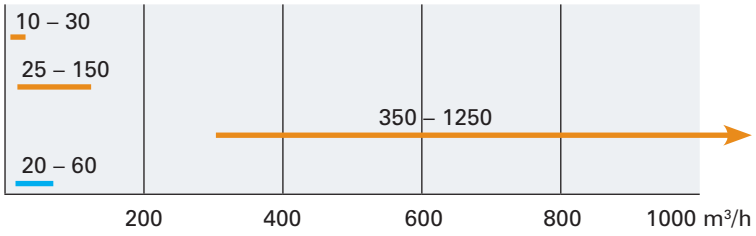
Volume Flow Range [m³/h]



High and Highest Pressure

	Inlet Pressure [barg]	Final Pressure [barg]	Max. Power [kW]
////Tornado	0.05	150 – 350	5.5 – 15.0
////Hurricane	0.05	150 – 350	11 – 55.0
////6000 series	0.05 – 25	100 – 350	90 – 250.0
HAUG.Sirius	max. 16	100 – 350	7.5 – 30.0

Volume Flow Range [m³/h]

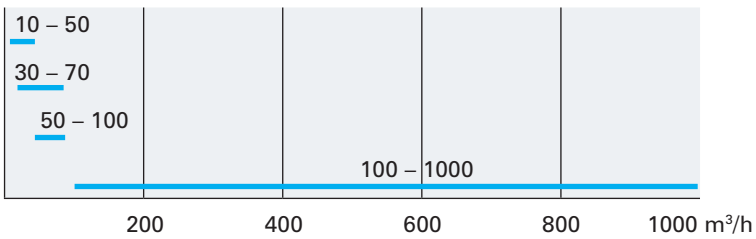


"Anygas" Compressor Range

Low and Medium Pressure

	Inlet Pressure [barg]	Final Pressure [barg]	Max. Power [kW]
HAUG.Pluto	max. 20	10 – 60	0.55 – 2.2
HAUG.Mercure	max. 20	10 – 100	3 – 4.0
HAUG.Neptune	max. 16	10 – 100	2.2 – 7.5
HAUG.Sirius	max. 16	10 – 100	7.5 – 30.0

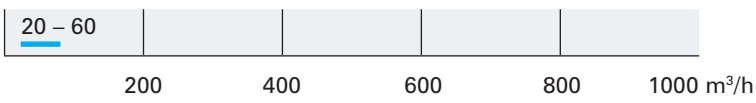
Volume Flow Range [m³/h]



High and Highest Pressure

	Inlet Pressure [barg]	Final Pressure [barg]	Max. Power [kW]
HAUG.Sirius	max. 16	100 – 450	7.5 – 30.0

Volume Flow Range [m³/h]



Modular Design for maximum Versatility

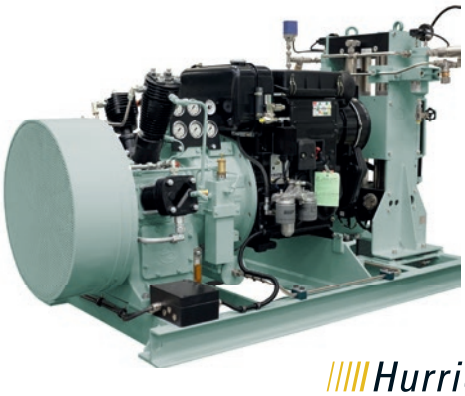
Due to their modular design, our Sauer compressors can easily be expanded to accommodate specific requirements – from the affordable "Basic"-variants to complete systems, consisting of a sound-proof canopy, an integrated Sauer compressor control, a condensate management and an integrated high-pressure adsorption dryer.

SAUER **Bas**ic Variants

Series / Variants	*Mistral*	*Passat*	*Breeze*	*Hurricane*	*Tornado*	*Harmattan*	*Typhoon*	*5000 series*	*6000 series*
Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓
BasDiesel (E/FA)	✓	✓	–	✓	–	–	–	–	–
BasBooster	✓	✓	–	✓	✓	–	✓	✓	–
BasSeal^{He}	–	✓	–	✓	–	–	–	–	✓
BasSeal^{CNG}	–	✓	–	✓	–	–	–	–	✓

Hurricane

WP 4351 BasSeal^{CNG}



Hurricane

WP 4331 BasDiesel

Basic Air Compressor with E-Motor
BasDiesel Air Compressor with Diesel Engine
E: Electric Start, Manual Operation | **FA:** Full Automatic Start and Operation
BasBooster Nitrogen Booster with E-Motor
BasSeal^{He} Gas-tight Helium Compressor with E-Motor
BasSeal^{CNG} Gas-tight CNG Compressor with E-Motor

FactSheets available

SAUER **Com**plete Variants

Series / Variants	Mistral	Passat	Breeze	Hurricane	Tornado	Harmattan	Typhoon	5000 series	6000 series
ComSilent	✓	✓	–	✓	✓	–	–	–	–
ComDry	✓	✓	–	✓	✓	–	–	–	–
ComBooster	✓	✓	–	✓	✓	–	–	–	–
ComSeal^{He}	–	✓	–	✓	✓	–	–	–	–

Hurricane

WP 4351 ComSeal

Tornado

WP 3251 ComBooster

ComSilent Air Compressor with E-Motor in Sound Proof Canopy incl. Sauer electronic compressors control

ComDry Air Compressors with E-Motor in Sound Proof Canopy incl. Sauer electronic compressors control and integrated adsorption dryer

ComBooster Nitrogen Booster with E-Motor in Sound Proof Canopy incl. Sauer electronic compressors control

ComSeal^{He} Gas-tight Helium Compressor with E-Motor in Sound Proof Canopy incl. Sauer electronic compressors control

Basic Variants

Series / Variants	*HAUG.Pluto*	*HAUG.Mercure*	*HAUG.Neptune*	*HAUG.Sirius*	*HAUG.Titan*
Basic	✓	✓	✓	✓	–

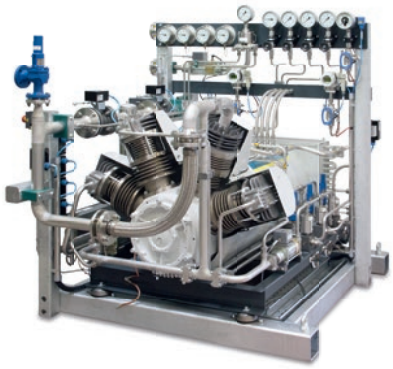
Basic

Air or Gas Compressor with E-Motor

HAUG.Mercure

HAUG.Neptune

HAUG.Sirius



HAUG.Sirius

Complete Variants

Series / Variants	HAUG.Pluto	HAUG.Mercure	HAUG.Neptune	HAUG.Sirius	HAUG.Titan
ComControl	✓	✓	✓	✓	–
Package	–	–	–	✓	–

ComControl
Air or Gas Compressor with E-Motor incl. Electronic compressors control

HAUG.Pluto

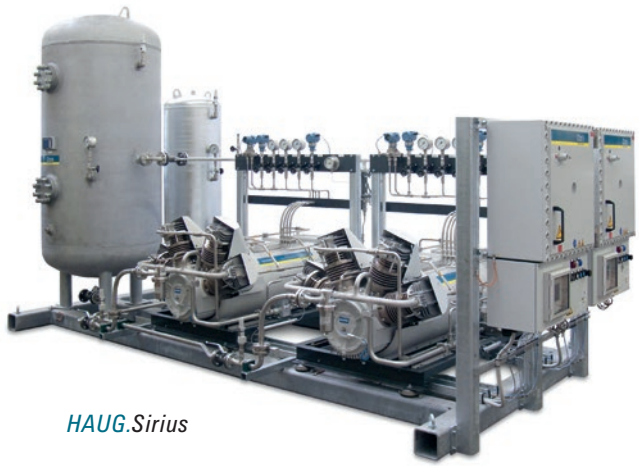
HAUG.Mercure

HAUG.Neptune

HAUG.Sirius

Package
Individual compressor package, e.g. including sound proof canopy, container installation, pressure vessels ... and many more options.

HAUG.Sirius



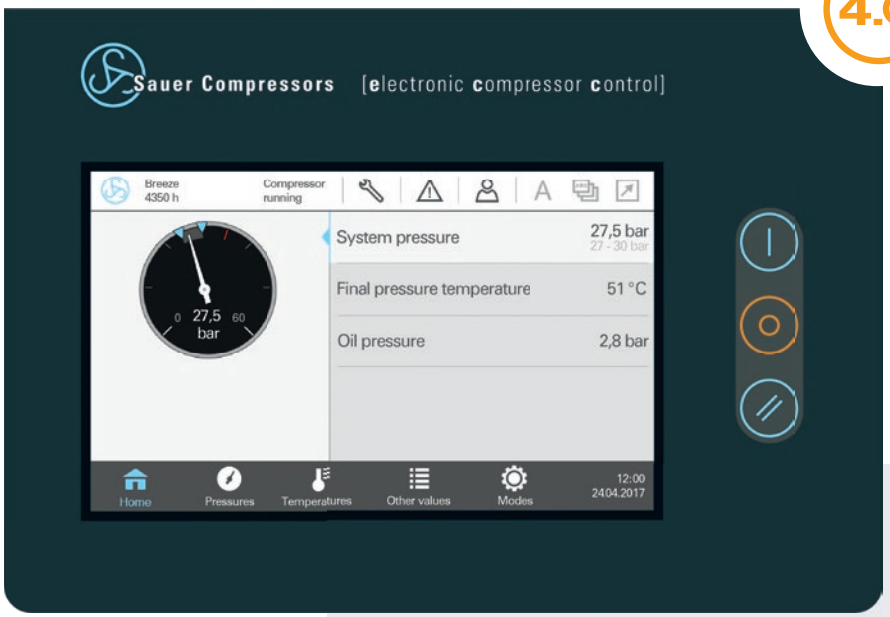
HAUG.Sirius

Controls

Sauer ecc 4.0: Intelligent control for outstanding performance

We pride ourselves on being a single-source manufacturer of both the compressor and the control unit. Even the software is developed in-house. This allows for the best possible performance, maximum compatibility and easy integration. Equipped with state-of-the-art microprocessors and communication technology, our intelligent controls enable highly accurate monitoring and control of compressed air and gas generation and supply. In this way, operators can rest assured that the system is running at maximum efficiency at all times.

- Compressor, control and software from a single source
- Compatible with all standard interfaces
- Easy integration and operation



- ✓ Fully automatic compressor control
- ✓ PPLC (pre-programmed logic control) for simple operation
- ✓ Modular system with easy extensibility
- ✓ 7" resistive, industrial touch display
- ✓ Intuitive interface design based acc. to DIN EN ISO 9241-110:2006
- ✓ Intelligent maintenance instructor
- ✓ Embedded guides for fast parameter setting and safe updates

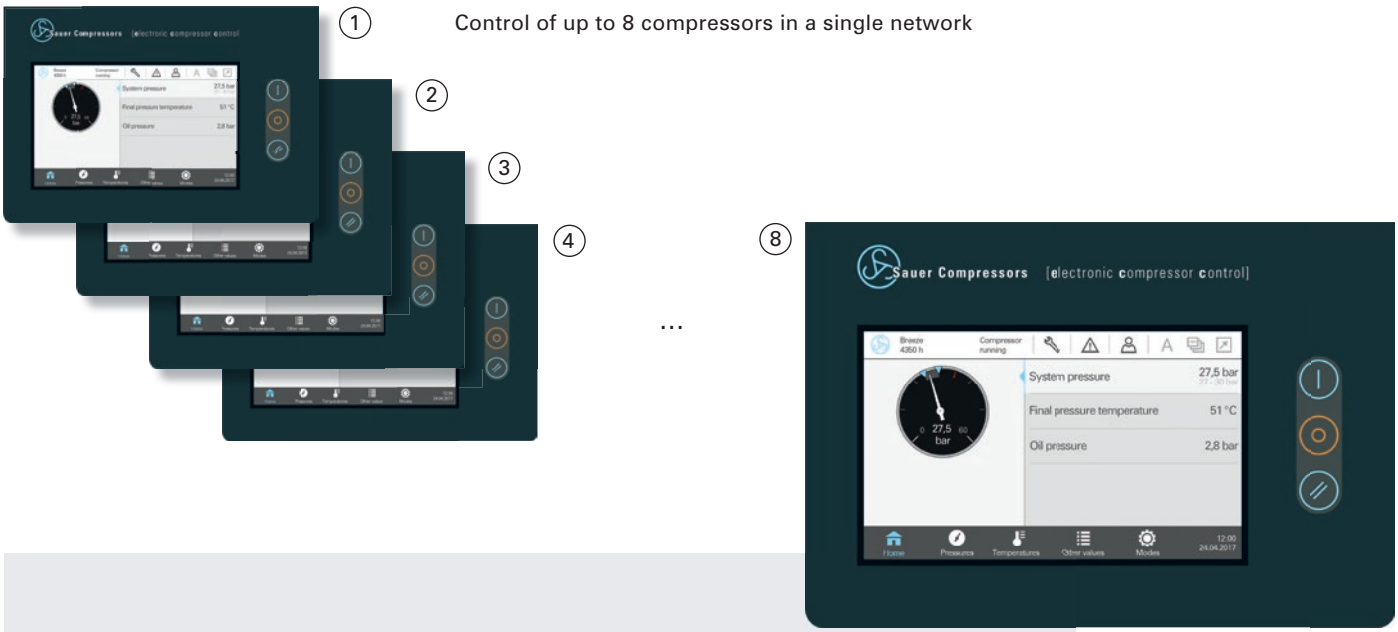
Maximum connectivity

- Compatible with all state-of-the-art bus technologies, e.g. Profibus and Modbus
- Standard potential-free contacts like Running, Off and Master Fault
- Easy integration into higher level controls, e.g. plant controls
- Complete monitoring ensures outstanding performance and minimum down time

Master Controls

Connectivity: Control management of up to eight compressors in a single network

With the Sauer ecc 4.0 it is possible to connect a total of eight Sauer compressors via the intergrated Modbus protocol. In this case, a single controller takes over the master function so that no separate master control is needed. Overall optimisation of the system can be achieved via lead-lag control, by priority setting or through operation within a pressure band. To create detailed schedules, the control comes with an easy-to-use table function.



- ✓ No separate master control needed
- ✓ Lead/Lag Control to optimize running hours for better service intervals
- ✓ Easy connection with all common interfaces (e.g. Modbus, Profibus, etc.)
- ✓ Integrated table schedule – different load/unload settings possible
- ✓ Wizard assistant for easy parameter settings
- ✓ Flexible integration into higher level systems

Connectivity: Connection to an external SCADA system

Sauer ecc 4.0 units can be connected to an external master control, e.g. SCADA, via common communications protocols. The controller comes with an integrated Modbus gateway. Other protocols such as Profibus or DeviceNet are also available. This type of protocol enables all important data, such as pressure and temperature, to be displayed on the SCADA system. This ensures the network's safe operation and helps to optimise costs and availability.

Accessories

Air and gas treatment

In addition to our compressors, we offer a wide range of downstream equipment, such as filters for air and gas purification as well as refrigerant and adsorption type dryers. These solutions are available for pressures ranging from 40 to 400 barg.

Condensate management

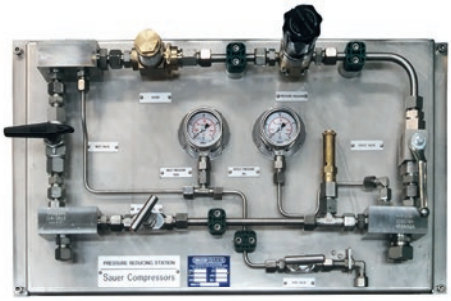
We like to keep things clean! To prevent traces of oil and other contaminants from being released into the environment, we provide a variety of condensate collection pots for use with our oil-lubricated compressors.

Air and gas storage

When it comes to storing the compressed media, Sauer customers can choose from a variety of options. The portfolio includes both vertical and horizontal pressure vessels for pressures up to 40 barg as well as high-pressure bottle racks with capacities of up to 600 l for pressures up to 350 barg.

Air and gas distribution

To ensure optimal air and gas distribution, the right pressure is essential. Our efficient Reduflex pressure reducing stations offer maximum reliability and present the ideal addition to any compressor station.



Water to water heat exchanger

When using fresh water cooled compressors, it can be necessary to protect the cooling circuit from harmful cooling water. The heat exchanger from Sauer Compressors separate the primary water circuit from the secondary circuit, resulting in highest operational reliability regardless of water conditions.

Sauer Compressors Projects

In addition to offering a wide range of turnkey solutions, Sauer Compressors is ideally equipped to meet highly individual demands. We achieve this by either customising our standard products or by literally going back to the drawing board to design the required specification. We provide explosion proof designs or options that are in accordance with NORSOK, ASME and many other standards.

- Completely new customer specific designs
- Specifications in accordance with international standards
- Standard products easily adapted to customers' needs

Sauer ComBox Container Solutions:

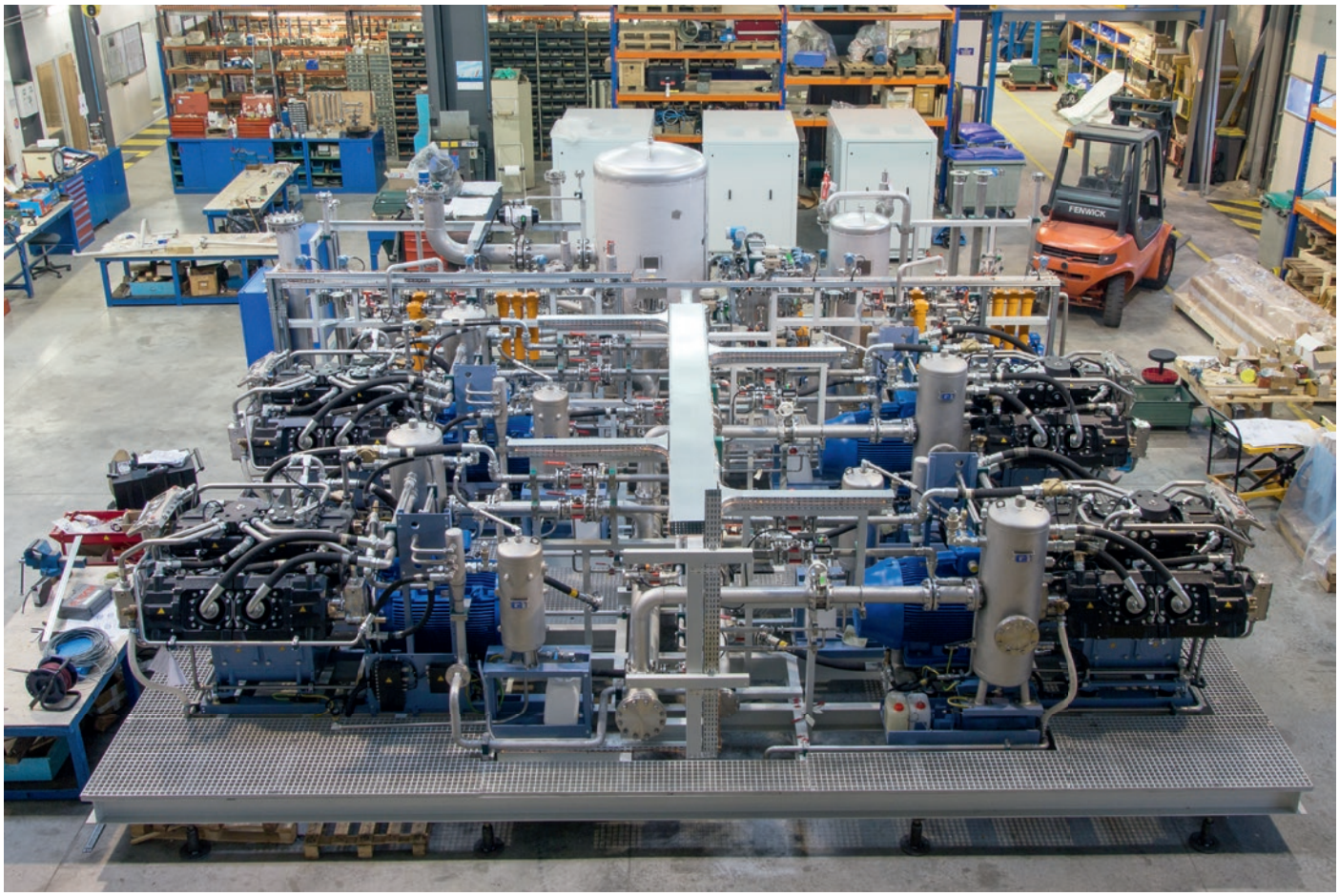
With our ComBox Container toolkit we can provide individual high-end container solutions in the shortest time. As Basic, Plus or Offshore version with CSC certification in 10" or 20".

SAUER

Replicating the sun's fusion energy: The ITER project

A spectacular vision is gradually becoming reality in Cadarache in the south of France. Modelled on the sun, the ITER (International Thermonuclear Experimental Reactor) fusion system uses nuclear fusion to generate energy in order to secure humanity's supply of electricity. One of the biggest challenges is the high temperature inside the reactor. Technology by Sauer Compressors is a key factor in cooling the reactor: we supplied the world's largest system for helium recovery.

A total of four WP 6305 BasSeal^{He}-type helium compressors ensure recompression of the helium used for cooling. The contract included all the components of the recovery plant, including buffer tanks, filtration system and controls. A further PASSAT WP 156L BasSeal^{He}-type helium compressor is used to recompress any leaks occurring at mechanical seals in the helium circuit.

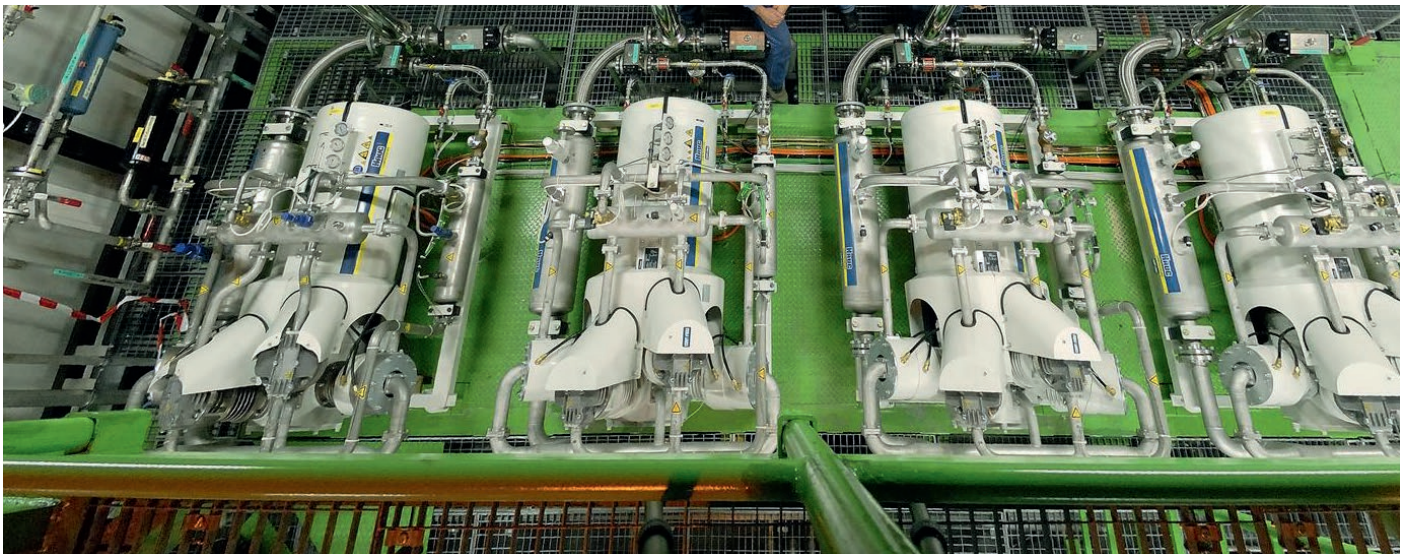


Circuit compressors for refrigerant C3F8 for fundamental research at CERN in Geneva

CERN, the European Organization for Nuclear Research, is a major research organization based in the canton of Geneva in Switzerland. It conducts fundamental research and operates the largest particle physics laboratory in the world with particle accelerators and other infrastructure needed for high-energy physics research. With the Large Hadron Collider (LHC) it operates the world's largest and most powerful particle collider which is the largest machine in the world.

Detectors investigate the energetic collisions of the LHC and analyse them in different experiments. One of these detectors is ATLAS (A Toroidal LHC ApparatuS), focussing on high-energy proton-proton-collisions. It studies the Higgs boson particle and looks for signs of new physics, including the origins of mass and extra dimensions.

The inner detector of ATLAS needs to be cooled down to -20 °C. Seven 2-stage HAUG.Sirius compressors with combined water- and air-cooling assure the compression of the perfluoropropane (C3F8) in the refrigerantion circuit providing the cooling of the detector.



Our Service – As individual as your needs!

We are in it for the long haul! At Sauer Compressors, our commitment to our customers does not stop at delivery. Our support spans our products' entire operating life. In this way, we make sure our customers get the most out of their compressed air system – low running costs and maximum reliability. Our highly skilled service technicians, representatives and servicing stations in over 60 countries guarantee an efficient, expert customer service wherever and whenever it is required.


Sauer Certificate
of Conformity and Authenticity

Sauer Compressors

With this Sauer Certificate of Conformity and Authenticity we certify that the items, total quantity _____ and only these items which have been delivered with attached original **Sauer Shipping Note** number _____ are

Genuine Sauer Spare Parts

with proven, guaranteed and traceable quality. Any change to the original **Sauer Shipping Note** or this **Certificate**, or the attachment of other non-original Shipping Notes, will make 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:

Int. +49 431 3940-0,
E-mail: service@sauercompressors.de

Kiel, _____ _____

Genuine Spare Parts

- Extensive central warehouse (all maintenance and regular spare parts in stock)
- Global warehouses strategically located for short delivery times
- High quality genuine spare parts to ensure proper operation and performance of your compressor
- Interchangeability is guaranteed even if technical changes have been made due to technical developments
- Spare parts are guaranteed for at least 35 years after the delivery of your compressor
- All parts come with a "Sauer Certificate of Conformity and Authenticity"

Technical After Sales Services:

- Full service contracts
- Maintenance contracts
- Inspection contracts
- Maintenance at client's facility or in our workshop
- Complete compressor overhauls at our workshop
- Support and advice while changing from third party to our product range

Rental Solutions

Sauer Compressors offers an efficient, straightforward compressor hire service for customers who require compressed air or gas immediately or over a fixed period. From standard compressors to customised modules, no matter if you need to handle temporary orders, unforeseen outages or simply to bridge waiting times, with our worldwide network we have the right solution for virtually every application. All compressors are immediately available, easy to set up and can be pre-set in our factory according to our customers' needs. You receive a flexible all-inclusive package with individual monthly rates.

for rent

By choosing Sauer Rental Solutions, customers benefit from:

- Worldwide rental fleet
- Compressors ranging from 20–500 barg immediately available
- All-inclusive package – no maintenance, no extra cost
- Most up-to-date compressor technology without long delivery times
- Attractive buying option throughout the entire rental time

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 world-wide 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
- On-the-job training
- Train the trainer seminars
- Sauer Training Container

service@sauercompressors.de

Sauer Service-Stations:
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.

Documentation – Integrated Logistics Support (ILS)

High-value products and solutions require high-quality documentation. This includes the whole range of Integrated Logistics Support (ILS).

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.

Certifications

ISO 9001:2015
BS OHSAS 18001:2007

Your local partner:

J.P. Sauer & Sohn Maschinenbau GmbH
P.O. Box 92 13, 24157 Kiel/Germany

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10/2018 [suw | s+k], pictures: Lukas Pellech; Martin Junghanns; flashpics, Werner Weber, Pawel Klisiewicz, Digishooter, Peter Llewellyn, Ikan Leonid, Thomas Sztanek, Victor Cap, Benjamin Nolte, efired, Alterfalter, Luca Flor – alle Fotolia.com; Avatar _ 023, industrieblick, Kadmy – stock.adobe.com