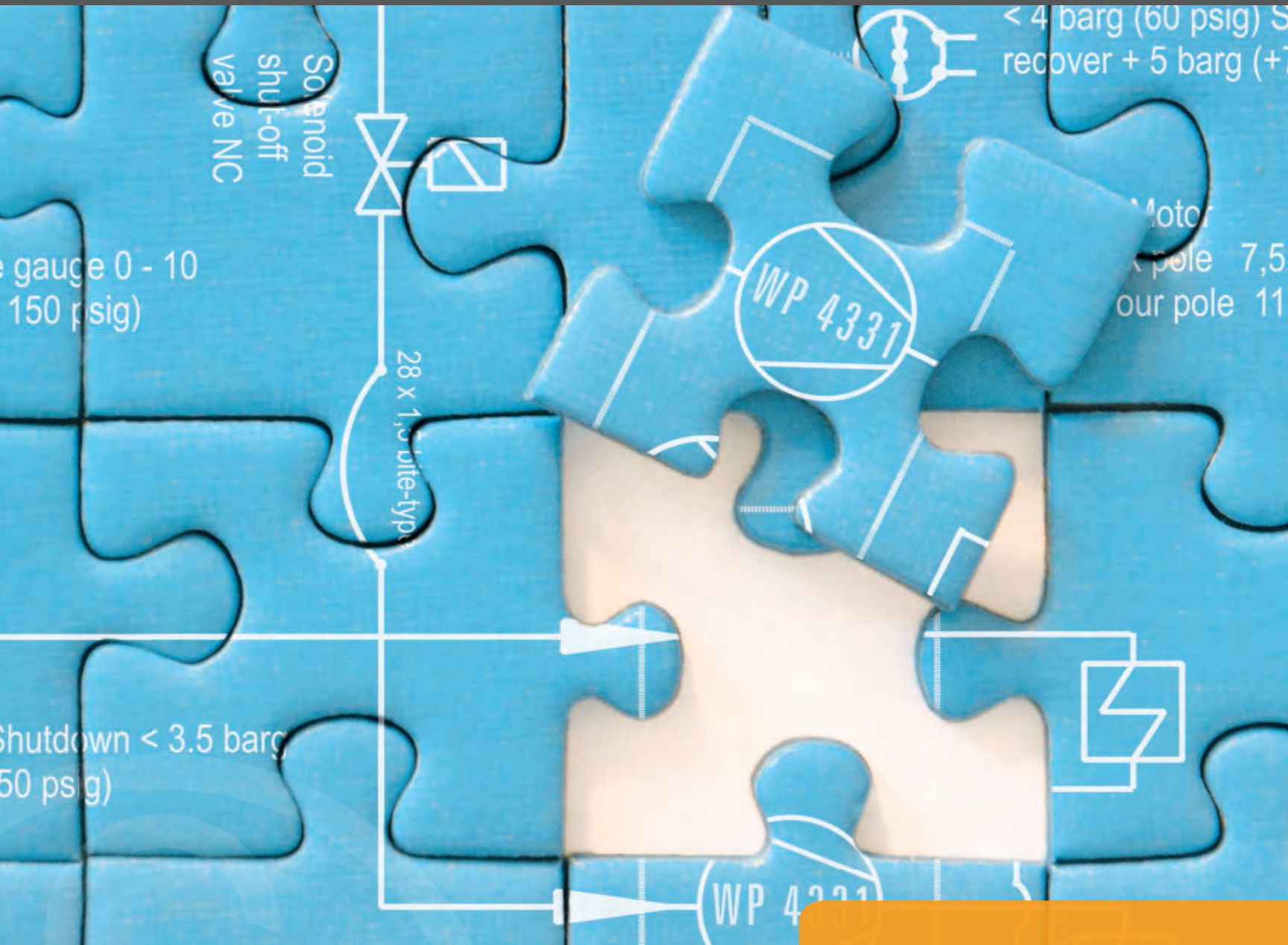




# Sauer Compressors USA



Specialist for the missing pieces...

## THE COMPLETE SOLUTION

High Quality. High Performance. High Pressure.

## Kiel, Germany – Home of Sauer Compressors

The first compressor designed and manufactured by Sauer left our factory in Kiel, Germany – a city 60 miles north of Hamburg and well-known for its shipbuilding and naval traditions – back in the 1930s. Initially called Poppe, then later Sauer Compressors, the company rapidly gained a reputation for producing high quality, high performance piston compressors designed for demanding applications in shipping, naval equipment, industry and offshore activities.

The Kiel office is still the international headquarters and the largest site of the privately owned Sauer Compressors Group, which has global sales of over \$100 million and employs 500 people worldwide.

We are committed to supplying our customers with state-of-the-art, affordable premium products and services. We focus on quality and reliability, with regard to our products as well as our services.

**Sauer Kiel – German Engineering since 1884!**



**Engineering  
since 1884**

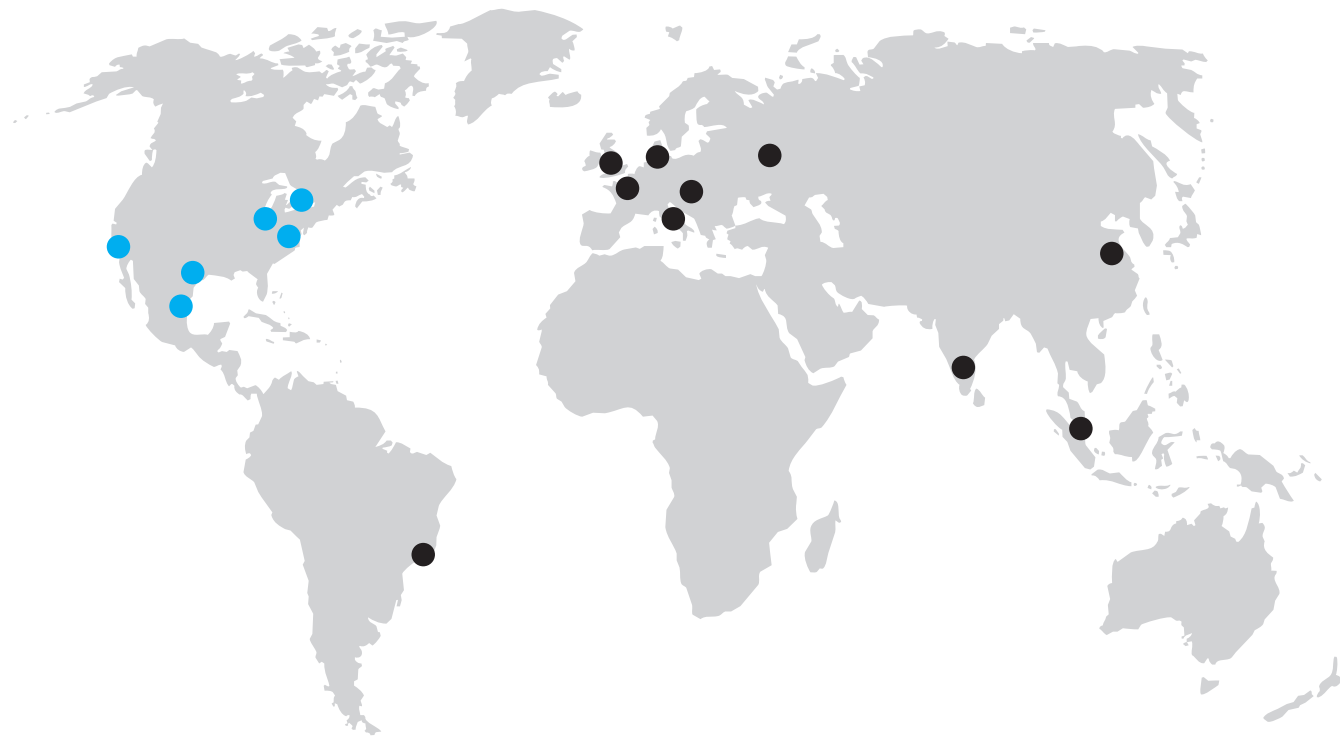
**KIEL**

Every region in the world has its own culture and local technical demands.

Our subsidiaries, agents and dealers speak the local language and provide solutions adapted to the local needs for high quality compressors produced by **J. P. Sauer & Sohn Maschinenbau GmbH** in Germany and **Sauer Žandov A. s.** in the Czech Republic.

Sauer's own companies **Sauer Compressors USA Inc.** in the United States, **Girodin-Sauer SAS** in France, **Sauer do Brasil – Serviços para Compressores Ltda.** in Brazil, **Sauer Compressors UK Ltd.** in the United Kingdom, **Sauer Compressori S. u. r. l.** in Italy and the joint venture **ELGI Sauer Compressors Ltd.** in India provide optimum solutions when it comes to application engineering and customer service.

Our sales and service offices **Sauer Compressors China**, **Sauer Compressors CIS** in Russia and **Sauer Compressors Singapore** provide local support and fully understand our customers' needs.



### Sauer Compressors USA, Inc.

**North American  
Corporate Headquarters**  
Stevensville, Maryland

**Midwest Regional Office**  
Toledo, Ohio

**Pacific Coast Regional Office**  
San Diego, California

**Gulf Coast Regional Office**  
Houston, Texas

**Canada Regional Office**  
Toronto, Ontario

**Mexico Regional Office**  
Monterrey, Nuevo Leon

## Specialist for the missing pieces...

Industries worldwide rely on Sauer piston compressors for pressures of up to 7,250 PSI to control process and production using high-pressure air or gas. Our starting and working air compressors have proved highly successful in a variety of demanding markets and are among the most modern and efficient in the world.

We place great importance on comprehensive and proficient customer support. We assist our customers from the initial project phase through after-sales service with specialist consultation for the complete solution while ensuring the best possible efficiency over the entire life-cycle of the compressor.

By complementing the supply of compressors with added value accessories, engineering services and assembly, Sauer makes entire solutions possible, ranging from modules to complete turnkey plants.

**Sauer – High Quality. High Performance. High Pressure.**



## //// Mistral

Pressure: 110 - 580 psig  
Variants: Basic, Booster, ComSilent, Custom  
Medium: Air, Nitrogen



## //// Passat

Pressure: 200 - 1150 psig  
Variants: Basic, Booster, BasSeal, ComSilent, Custom  
Medium: Air, Nitrogen, Helium, Natural Gas, Biomethane, Hydrogen, Carbon Dioxide



## //// Typhoon

Pressure: 150 - 1450 psig  
Variants: Basic, Booster, Custom  
Medium: Air, Nitrogen



## //// Hurricane

Pressure: 1750 - 6000 psig  
Variants: Basic, Booster, BasSeal, ComSilent, Custom  
Medium: Air, Nitrogen, Helium, Natural Gas, Biomethane Hydrogen



## //// Tornado

Pressure: 2000-6000 psig  
Variants: Basic, Booster, ComSilent, Custom  
Medium: Air, Nitrogen, Helium, Natural Gas, Biomethane



## //// 5000 Series

Pressure: 1500 - 5000 psig  
Variants: Basic, Booster, Custom  
Medium: Air, Nitrogen



## //// 6000 Series

Pressure: 125 - 7250 psig  
Variants: Basic, Booster, BasSeal, ComSilent, Custom  
Medium: Air, Nitrogen, Helium, Natural Gas, Biomethane Carbon Dioxide



## //// Harmattan

Pressure: 75 - 215 psig  
Variants: Basic, Booster, Custom  
Medium: Air, Nitrogen



## Naval know-how for the world market



More than 53 of the world's navies rely on Sauer Compressors in their aircraft carriers, destroyers, frigates, corvettes, patrol boats, submarines and mine hunters.

In the naval sector, Sauer is an established name as it is the world market leader for high-pressure compressors. However, the company's compressors impress not only on water but also on land. They are used in a variety of defense contexts such as naval ports, air-force bases and by ground troops. Highly flexible, Sauer compressors are available with a range of design options, whether you are simply looking for a particular color scheme or require certification in accordance with military standards.



WP5000

Navies appreciate special design features such as:

- easy maintenance and accessibility
- low noise signature
- high reliability
- low-weight, compact design

Based on the feedback of navies' experience, Sauer's know-how results in a steady stream of innovations, e. g. the WP 5000 HP air compressor with its 100% balanced free inertial forces.



More than 115 Destroyers and Frigates, e.g. the US Navy DDG 1000 equipped with 2 x WP 4331 and 2 x WP 65 L

More than 18 Aircraft Carriers, e.g. the USS Dwight D. Eisenhower equipped with 4 x WP 5000

More than 730 Corvettes and Fast Attack Crafts, e. g. the Brazilian Inhauma equipped with 2 x WP 4262



Sauer compressors for the Navy are developed on the basis of the philosophy that for the maritime market and especially for the navy market special demands exist. This is the reason that maritime and navy users require different solutions compared to industrial applications.

Sauer compressors incorporate all special features which are vital for naval applications. Constant innovation, such as the development of the WP 5000 range with 100% balanced free inertial forces, ensures the technical leadership necessary for future naval applications.

**What are Sauer compressors used for?**

- Sea ports - dockside air e.g. submarines
- Air bases - automatic operation systems e.g. weapon systems for F15, F16, CASA C-295, Hercules, MiG 29
- Ground support - nitrogen service for rocket control

**Which Sauer product ranges are used?**

- |           |   |
|-----------|---|
| Product:  | MISTRAL, PASSAT, HURRICANE, TORNADO, 5000, 6000 |
| Flow :    | 18 - 1100 scfm                                  |
| Pressure: | 230 - 6000 psig                                 |
| Medium:   | Air, Nitrogen                                   |

**Who are Sauer Compressors' customers?**

- Naval surface ships
- Naval submarines
- Naval air forces
- Naval ground troops

**OUR CUSTOMERS ARE OUR BEST REFERENCES...**



**2,500**  
COMPRESSORS  
IN OPERATION



**1,200**  
SHIPS



**60 NAVIES**  
WORLDWIDE

NAVY

More than 200 submarines, e.g. Astute Class of the Royal British Navy equipped with 2 x WP 5000 and 1 x WP 3232

More than 140 MCMV, e.g. the German MJ 332 equipped with 2 x WP 3232 - 600

More than 220 Miscellaneous Vessels, e. g. the Royal British Navy Wave Knight with 2 x WP 200 and 2 x WP 4330

## Every ship should have one

International shipping often has stringent requirements when it comes to quality and reliability - Sauer's traditional area of activity.

Our starting and working air compressors have more than proven their reliability in this demanding market. Thanks to ongoing development, they are among the most modern and most economic compressors in the world.

In particular, the 3-stage air-cooled starting air compressors provide a significant contribution to the modern shipping concept compared to the traditional 2-stage water-cooled compressors. Offering easy installation and safe and reliable operation, Sauer has become one of the leading suppliers of compressors for shipping and offshore technology.

Our quality sets the standard throughout the world.



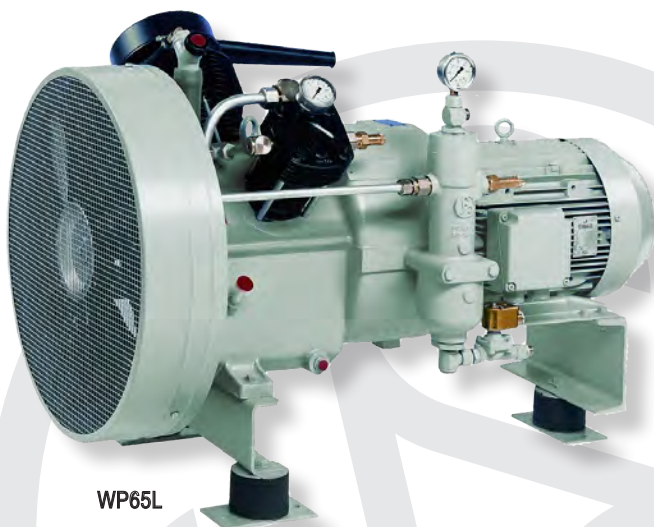
## 2 STAGE AIR-COOLED STARTING AIR COMPRESSORS

The principle of air cooling is an international shipbuilding standard when it comes to starting air compressors of less than 50 scfm. Back in the 50s, Sauer had already started the development of air-cooled compressors in this capacity range as an alternative to water-cooled units which are in general high maintenance and more prone to failure.

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 each year.

### General advantages include:

- Low installation costs due to absence of cooling water circuit
- Light-weight and less space required for installation
- High performance valves, friction-free operation for long maintenance intervals
- Integrated flexible coupling, low-maintenance and safe
- Reliable and safe to operate in ambient temperatures of up to 130° F
- Suitable for even the most extreme ambient conditions





# 3 STAGE AIR-COOLED STARTING AIR COMPRESSORS

Today the 3-stage air-cooled compressors have established themselves as a benchmark for modern and cost effective starting-air compressors.

By dividing total compression into 3 stages and 3 cylinders the general advantages of air-cooled compressors could also be used for capacities above 50 scfm.



WP81L

## Less temperature due to lower stage pressure ratio!

- Compression ratio divided into 3 stages
- Lower compression temperatures in cylinders and valves
- Standard for international shipping

## Less maintenance cost due to longer maintenance intervals!

- Extended life of valves (up to 4,000 hours) due to lower compression temperatures
- Reduced labor costs due to simple, uncomplicated maintenance
- No corrosion or water leakages

## Less installation cost due to no cooling water system!

- No cooling water lines, fittings or control system
- No interface for cooling water required
- Higher reliability and easier control and supervision of the compressor



On stand-by –  
for your safety!



## OIL & GAS APPLICATIONS

Whether onshore or offshore - Sauer compressors are used in a wide variety of applications in the oil and gas sector. **Designed for 24/7 operation**, their robust construction allows them to be used (virtually) anywhere and under the most extreme environmental conditions.



### Upstream

Exploration and production in the oil & gas industry. Includes everything from the search for potential reserves of oil and gas, exploration of promising sources to the final extraction of the resources.



### Downstream

Refining and processing of oil & gas products into usable products such as petrol, diesel oil, jet fuel, fuel oils, LPG, propane, natural gas, lubricants, plastics and pharmaceuticals.



### Midstream

All means of transportation, storage, support systems and marketing of oil & gas products.



### Auxiliaries

Applications aside from the usual oil & gas processes.



## Motion Compensation for Semi-submersible Rigs

Deep water drilling requires a rigid connection between the platform/drill-ship and the seabed. In order to keep on drilling in rough weather conditions, the movement of the derrick on the platform needs to be compensated. This compensation is done by wire-line or direct tensioning systems using hydraulic systems. In order to keep the hydraulic pressure stable in the system, high pressure air or gas is used.

### What are Sauer compressors used for?

- Supplying an air or gas cushion on top of the hydraulic liquid

### Who are Sauer Compressors' customers?

- OEM companies
- Drilling operators
- Shipyards
- Packagers

### Which Sauer product ranges are used?

Product: HURRICANE, 5000, 6000  
 Flow : 82 scfm  
 Pressure: 3000 - 4600 psig  
 Medium: Air, Nitrogen



## Seismic Exploration

Seismic air guns are used to find oil and gas beneath the seabed. Towed behind a vessel, air guns release high pressure air underwater generating seismic waves that reach the seabed. The reflections from these waves are received by a 'streamer' which then provides detailed information about the structure of the seabed and possible oil and gas fields.



### What are Sauer compressors used for?

- Supplying high pressure air for air gun

### Who are Sauer Compressors' customers?

- Seismic operators
- Research industries
- Shipyards
- Packagers

### Which Sauer product ranges are used?

Product: HURRICANE, 5000, 6000  
 Flow : 70 - 420 scfm  
 Pressure: 1700 - 3000 psig  
 Medium: Air



## Underwater Hammering

Deep water ramming is still the most common method for securing platforms to the seabed. The hydro-hammer works under atmospheric conditions and compressed air is needed to evacuate the hammer underwater for proper operation. The high pressure air is guided to the hammer by umbilicals.



### What are Sauer compressors used for?

- Supplying air to displace water from submersible equipment

### Who are Sauer Compressors' customers?

- Subsea operators
- Drilling operators
- Packagers

### Which Sauer product ranges are used?

Product: HURRICANE, 5000  
Flow : 70 - 210 scfm  
Pressure: 1800 - 5000 psig  
Medium: Air



## High Pressure Nitrogen Boosting

Many applications in the offshore world require nitrogen which is mostly used for blanketing in order to prevent an explosive ambient. Sauer offers a wide variety of boosters for these type of applications, such as the storing of the gases produced by membranes or PSA systems at higher pressures.

### What are Sauer compressors used for?

- Boosting nitrogen to a higher pressure level

### Who are Sauer Compressors' customers?

- OEM companies
- Shipping companies
- Drilling companies
- Packagers

### Which Sauer product ranges are used?

Product: All  
Flow : 12 - 230 scfm  
Pressure: 580 - 7250 psig  
Medium: Nitrogen





In situations where safety depends on high product reliability, robust high-pressure compressors are imperative. This is precisely why Sauer compressors are used for applications such as supplying breathing air for deep divers, diving chambers and/or fire-extinguishing systems. Rather than making compromises customers rely on the certified quality of Sauer.

### What are Sauer compressors used for?

- Stationary fire-extinguishing systems
- Supplying breathing air
- Supplying Nitrox
- Supplying Heliox

### Who are Sauer Compressors' customers?

- Manufacturers of fire systems
- Platform equipment suppliers
- Manufacturers of diving chambers

### Which Sauer product ranges are used?

Product: PASSAT, HURRICANE, TORNADO, 6000

Flow : 6 - 1200 scfm

Pressure: 80 - 6000 psig

Medium: Air, Nitrogen, Argon, Heliox, Nitrox



## Cold Start Compressors

Compressors for starting air have been Sauer's bread and butter for more than 80 years. As the leading manufacturer in the Shipping and Navy industry Sauer knows exactly what it takes to build dependable compressors for starting large diesel engines, no matter if they are onshore or offshore.



### What are Sauer compressors used for?

- Starting air

### Who are Sauer Compressors' customers?

- OEM companies
- Packagers
- Diesel engine manufacturers

### Which Sauer product ranges are used?

Product: MISTRAL, PASSAT, TYPHOON

Flow : 6 - 280 scfm

Pressure: 290 - 520 psig

Medium: Air



## Pipeline-related Services

Sauer compressors are not limited to searching for and producing oil and gas – they are involved in transporting these substances via pipelines too. Mobile compressor solutions (e.g. installed in a 20' container) are used during the construction and subsequent operation of these supply lines. Available as customized solutions for nearly every environment, Sauer compressors offer important advantages that make them a popular choice.

### What are Sauer compressors used for?

- Cleaning pipelines
- Checking pipelines

### Who are Sauer Compressors' customers?

- Petrochemical industry
- Oilfield suppliers

### Which Sauer product ranges are used?

Product:	PASSAT, HURRICANE, 6000
Flow :	18 - 1180 scfm
Pressure:	435 - 6000 psig
Medium:	Air





Compressed Natural Gas (CNG) has the potential to fuel millions of vehicles throughout the world, with significant economic, safety and environmental benefits. High pressure CNG boosters from Sauer are specially equipped for CNG compression. From single units for OEMs to customized solutions, Sauer CNG boosters represent a reliable, safe solution for CNG filling stations.

### What are Sauer compressors used for?

- Vehicle filling stations
- Pipeline gas injection
- Natural gas engine testing

### Who are Sauer Compressors' customers?

- OEM companies
- Packagers

### Which Sauer product ranges are used?

Product: PASSAT, HURRICANE  
TORNADO, 6000

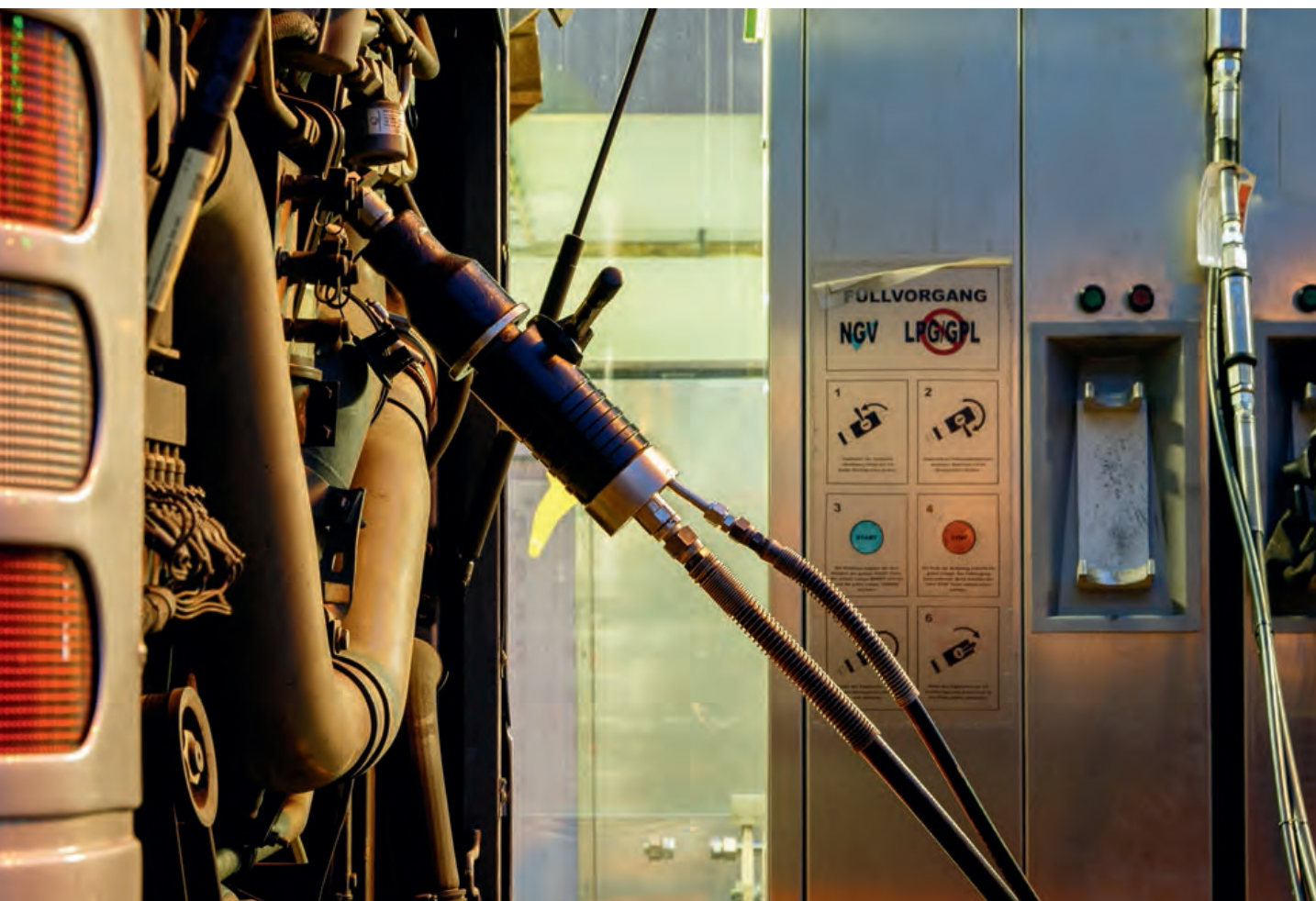
Flow : 13 - 210 scfm

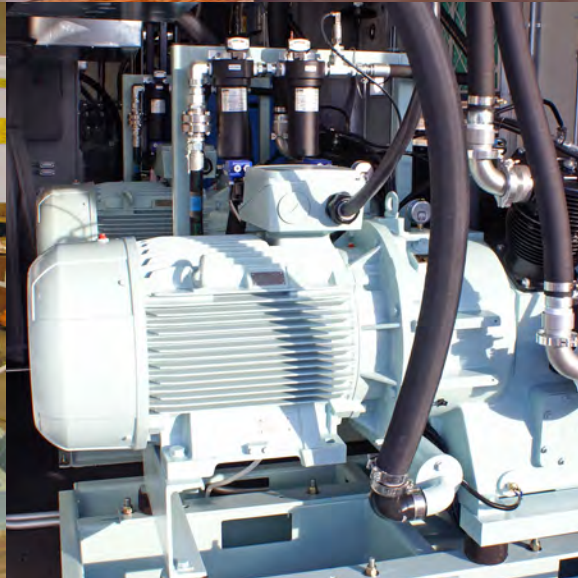
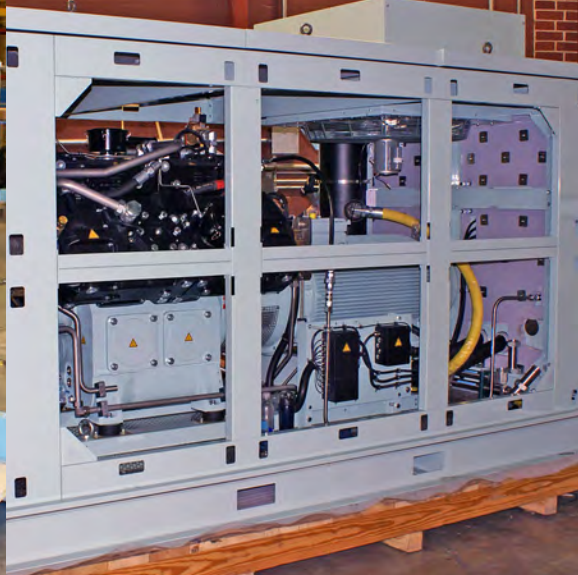
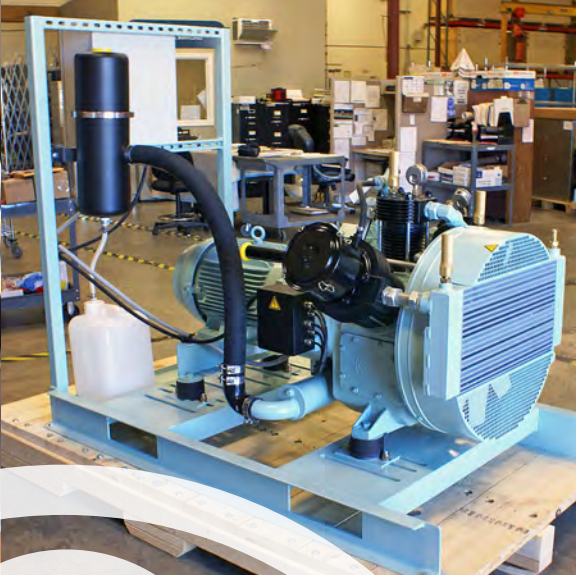
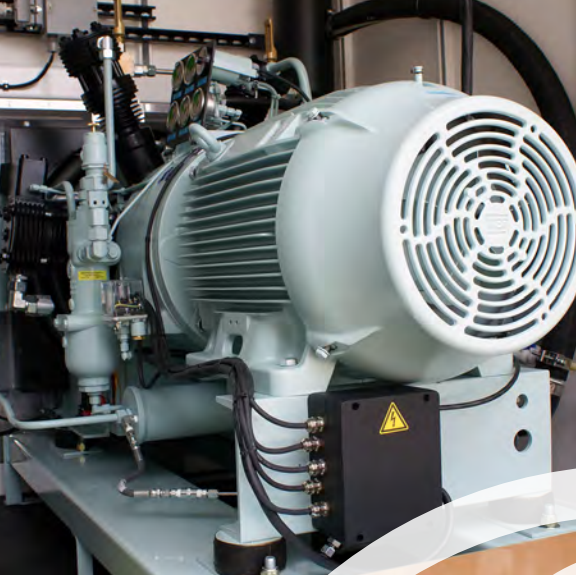
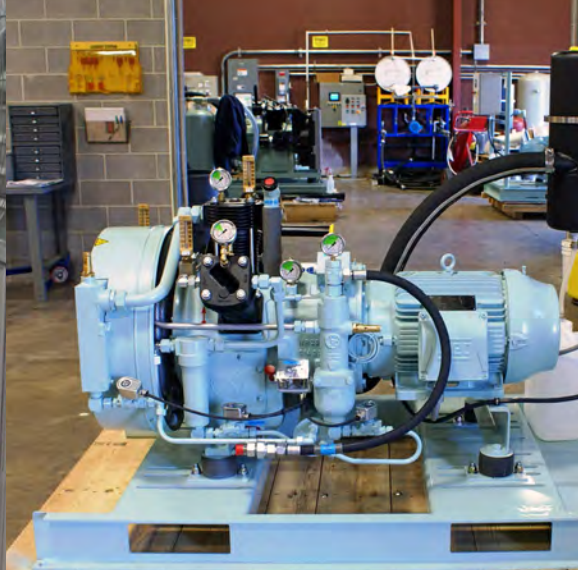
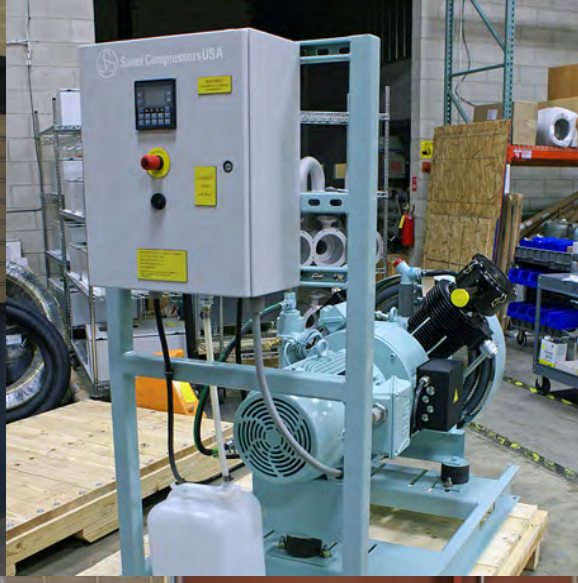
Pressure: 580 - 5000 psig

Medium: Natural Gas

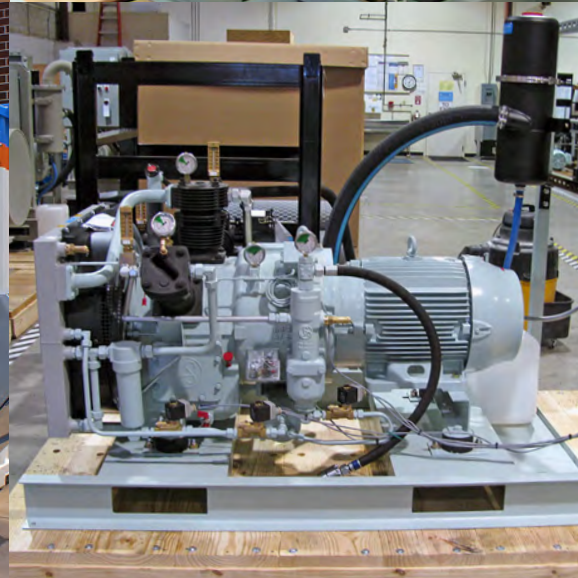
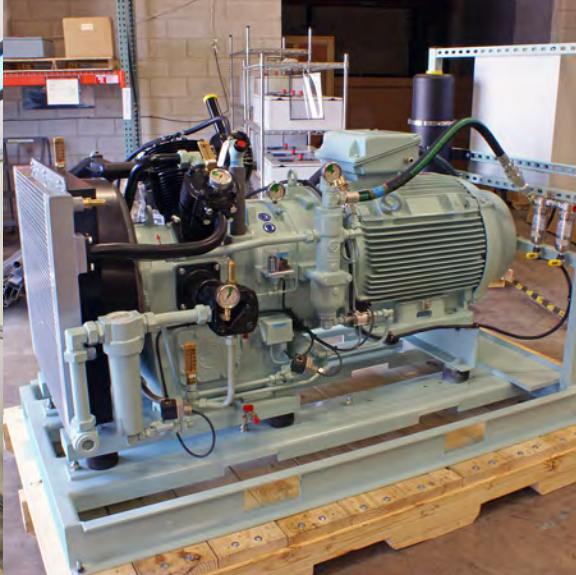
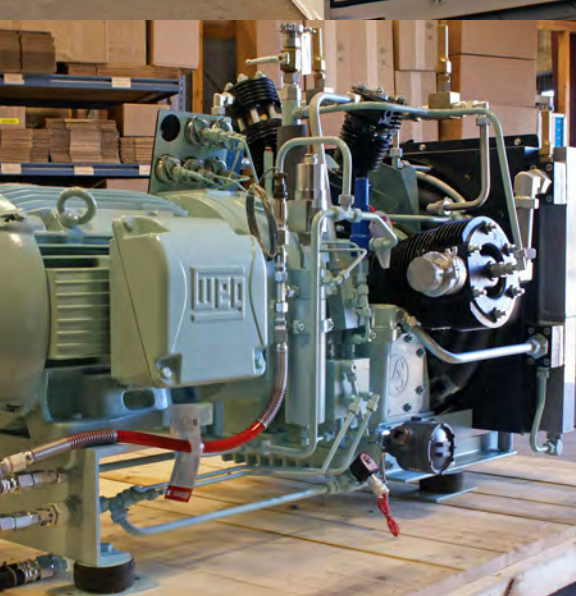
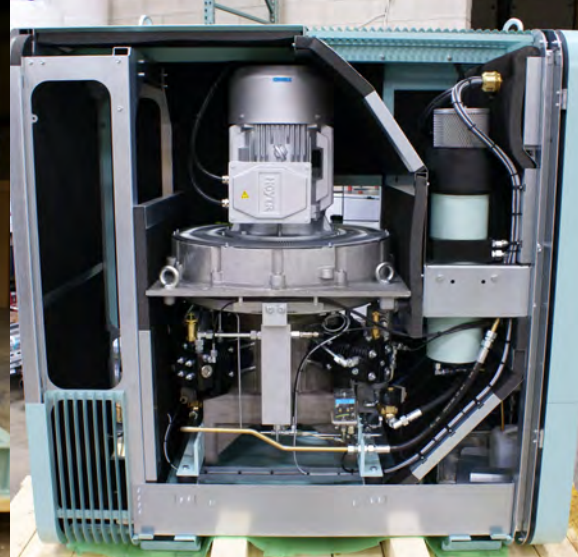


//// Hurricane WP4351 BasSeal









## POWER GENERATION



### Diesel-engine generators

Diesel-engine generators (also known as gen-sets) consist of a diesel engine and a generator. Gen-sets provide an independent means of generating electricity, they are a popular choice on production sites in remote areas or as emergency power supplies for major banks, hospitals, airports and even entire towns or cities. Also, a number of countries and island states produce the majority of their electricity using diesel-engine generators.

#### What are Sauer compressors used for?

- Starting air
- DENOX treatment

#### Who are Sauer Compressors' customers?

- Power-plant operators
- Diesel-engine manufacturers
- Engineering offices
- Contractors

#### Which Sauer product ranges are used?

Product: MISTRAL, PASSAT, 6000  
Flow : 6 - 285 scfm  
Pressure: 215 - 725 psig  
Medium: Air



### Gas-turbine power plants, combined heat power plants

In gas-turbine power plants, flammable gases are used to drive turbines connected to generators which in turn produce electricity. In gas and steam combination power plants, the heat generated by the gas turbines is also used to produce steam for the steam turbines. Small gas power plants (combined heat power plants) use an internal combustion engine instead of a turbine to drive the generator. These smaller plants are frequently used in order to cover periods of peak demand within the electricity network.

#### What are Sauer compressors used for?

- Starting air
- Purging air
- Sealing gas (nitrogen)
- Feeding gas

#### Who are Sauer Compressors' customers?

- Power-plant operators
- Turbine manufacturers
- Engineering offices
- Contractors

#### Which Sauer product ranges are used?

Product:	MISTRAL, PASSAT, TYPHOON, 6000
Flow :	55 - 585 scfm
Pressure:	215 - 725 psig
Medium:	Air, Nitrogen

### Steam power plants, coal-fired power plants, waste incineration facilities

In steam power plants, the thermal energy contained in water vapor is used to power a steam turbine which in turn drives the generator. In the process, conventional fuels such as oil, natural gas, hard coal or brown coal are used to fire the steam boiler. In coal-fired power plants, coal is the only fuel used, whereas waste incineration facilities can also use treated waste in order to generate electricity.

#### What are Sauer compressors used for?

- Desulphurisation
- Removing fuel residues (soot blowing)
- DENOX treatment
- Cooling turbines (hydrogen)

#### Who are Sauer Compressors' customers?

- Power-plant operators
- Turbine manufacturers
- Engineering offices
- Contractors

#### Which Sauer product ranges are used?

Product:	MISTRAL, PASSAT, HURRICANE, 6000
Flow :	55 - 585 scfm
Pressure:	215 - 3600 psig
Medium:	Air, Hydrogen

# POWER GENERATION

## Hydroelectric power plants and other hydroelectric facilities

In hydroelectric power plants, the mechanical energy of the water is converted into electrical current using turbines and generators. Given that the effective head varies, a distinction is made between low, medium and high-pressure power plants. Similarly, there are run-of-river plants as well as storage plants (including pumped-storage plants) depending on the way in which the available water is used.

### Which Sauer product ranges are used?

Product: MISTRAL, PASSAT,  
TYPHOON, 6000  
Flow : 30 - 350 scfm  
Pressure: 435 - 1450 psig  
Medium: Air, Nitrogen



### What are Sauer compressors used for?

- Braking air for pneumatic brakes
- Adjusting turbine blades and valves
- Blowing air
- Preventing pulsation and cavitation

### Who are Sauer Compressors' customers?

- Power-plant operators
- Turbine manufacturers
- Engineering offices
- Contractors



## Nuclear power plants, atomic power plants

Although they belong to the group of steam power plants, nuclear power plants are mentioned here separately as they obtain the energy they need to heat steam through splitting atoms rather than through burning fossil fuels. This often results in a very unique high pressure requirement that becomes difficult for most to meet.

### What are Sauer compressors used for?

- Starting air for emergency power
- Cooling turbines (hydrogen)
- Cooling reactor core (hydrogen)

### Who are Sauer Compressors' customers?

- Power-plant operators
- Turbine manufacturers
- Engineering offices
- Contractors

### Which Sauer product ranges are used?

Product: MISTRAL, PASSAT,  
HURRICANE, TORNADO  
Flow : 5 - 155 scfm  
Pressure: 435 - 3600 psig  
Medium: Air, Hydrogen

## POWER DISTRIBUTION

### Electrical substations

Sauer is one of the best-known suppliers for electrical substations – an application requiring safe and reliable operation given the extreme conditions encountered.

#### What are Sauer compressors used for?

- Extinguishing electrical arcs
- Actuating open power switches

#### Who are Sauer Compressors' customers?

- Energy supply companies
- Major industrial companies which have their own electrical substations
- Local operators of electrical substations
- Engineering offices

#### Which Sauer product ranges are used?

Product: MISTRAL, PASSAT, HURRICANE, TORNADO

Flow : 5 - 175 scfm

Pressure: 435 - 1450 psig

Medium: Air

### Air and gas distribution

Sauer deals not only with local compressed air networks and natural-gas networks but also with renewable energies. With expertise and understanding of customers requirements, Sauer is able to provide the optimum solution to almost any requirement. Customer-specific solutions with gastight compressors, turn-key systems and container stations are all among our typical range of product offerings.

#### What are Sauer compressors used for?

- Starting air
- Desulphurisation
- Biomethane feed
- Gas recovery
- Natural gas/air feed

#### Who are Sauer Compressors' customers?

- Energy supply companies
- Gas station manufacturers
- Gas treatment companies
- Engineering offices

#### Which Sauer product ranges are used?

Product: MISTRAL, PASSAT, HURRICANE, TORNADO

Flow : 5 - 175 scfm

Pressure: 435 - 1450 psig

Medium: Air





### Checking and testing

All products which are to be used under a certain pressure must undergo initial testing at a pressure which is many times greater than that required. If necessary, their gastightness must also be checked when using highly volatile gases. Although water was previously used to carry out pressure checks, an improved procedure involving air, nitrogen or helium is now used instead. During leakage checks, Sauer compressors help recycle the gas which escapes, e. g. helium, and then return it to the process. Not only do Sauer compressors reduce and/ or entirely rid the number of steps in an individual process, the loss of expensive gases can be avoided.

#### What are Sauer compressors used for?

- Checking brakes, airbags and other components
- Checking injection systems
- Checking gastightness (helium)
- Checking valves and other fittings
- Checking coolant containers and heat exchangers

#### Who are Sauer Compressors' customers?

- Automotive manufacturers
- Automotive suppliers
- Valve/fitting manufacturers
- Pressurized container manufacturers

#### Which Sauer product ranges are used?

Product:	PASSAT, HURRICANE, 6000
Flow :	30 - 1150 scfm
Pressure:	290 - 7250 psig
Medium:	Air, Nitrogen, Helium



**Laser metal cutting**

The cutting of metals with the help of a laser has replaced traditional mechanical methods and offers clear advantages. The laser environment must be free from ambient air if an optimum cut is to be achieved. To ensure that this is the case, nitrogen is used. Nitrogen is preferably produced on site using the pressure swing adsorption (PSA) process. This allows companies to eliminate their dependence of gas suppliers. Following the PSA process, Sauer compressors are used to boost the nitrogen to pressures of up to 6,000 psig.

The higher pressure offers particular advantages as it enables large amounts of gas which are normally sufficient for a number of days to be stored quickly. Not only do users benefit from greater operational reliability, they do not need to operate their compressor for such long periods, reducing energy costs. In addition, far less equipment is required upstream when higher pressures are used.

**What are Sauer compressors used for?**

- Creating inert atmosphere surrounding laser

**Who are Sauer Compressors' customers?**

- Metal treatment companies
- Manufacturers of machine tools
- Manufacturers of nitrogen generators

**Which Sauer product ranges are used?**

- Product: MISTRAL, HURRICANE, TORNADO
- Flow : 5 - 60 scfm
- Pressure: 290 - 6000 psig
- Medium: Air, Nitrogen

**Metal treatment**

The fact that modern manufacturing procedures speed up processes and are therefore more efficient and less expensive, means that they offer an important competitive advantage. Working together with our customers, we develop innovative, integrated system solutions, e. g. systems which allow you not only to supply a process with gases but also to remove them again and store them for use in the next step. Users also benefit from the particularly low leakage rates of our gas compressors and the flexibility of our turn-key installations.

**What are Sauer compressors used for?**

- Hardening materials

**Who are Sauer Compressors' customers?**

- Automotive suppliers
- Aviation suppliers
- Manufacturers of hardening furnaces
- Autoclave manufacturers

**Which Sauer product ranges are used?**

- Product: PASSAT, HURRICANE
- Flow : 30 - 115 scfm
- Pressure: 290 - 6000 psig
- Medium: Air, Nitrogen, Helium

## PROCESSING INDUSTRY

### Plastic forming

In the field of plastic forming, more and more customers are relying on Sauer compressors given their reliability and the simple, uncomplicated maintenance. In this sector, it is particularly important to have a continuous supply of compressed air available in order to avoid production downtime. For mass production (where many of our customers operate), failure to produce the required number of units can ultimately decide whether or not a company can continue to exist. With its 24/7 design, the Sauer compressor is able to operate even in the most extreme environmental conditions and is therefore the ideal compressor to meet the requirements of customers in this industry.

#### What are Sauer compressors used for?

- Internal gas pressure procedures
- Isostatic forming
- Manufacturing PET bottles/canisters

#### Who are Sauer Compressors' customers?

- Manufacturers of mobile telephones
- Manufacturers of housings for electronics
- Manufacturers of plastic bottles
- Manufacturers of internal gas pressure systems

#### Which Sauer product ranges are used?

Product: PASSAT, HURRICANE,  
TORNADO, 6000

Flow : 5 - 350 scfm

Pressure: 580 - 5000 psig

Medium: Air, Nitrogen



### Manufacturing composite materials

The manufacturing of composite materials is also part of the processing industry. In both the wooden materials and plastics industry, different materials are pressed together under the influence of pressure and heat in order to produce materials with special characteristics. In plastic production, autoclaves (special pressurised containers which can be sealed to be gastight) are used. Sauer ensures the necessary pressure is available for these processes.

#### What are Sauer compressors used for?

- Filling and generating pressure for autoclaves
- Raising pressure for wood presses

#### Who are Sauer Compressors' customers?

- Producers of wood fiber composite material
- Producers of plastic composite systems
- Manufacturers of autoclaves

#### Which Sauer product ranges are used?

Product: PASSAT, HURRICANE,  
6000

Flow : 115 - 350 scfm

Pressure: 580 - 7250 psig

Medium: Air





## PROCESSING INDUSTRY

### Nitrogen – generation and storage

Nitrogen plays an essential role in many other applications as well. Sauer is a popular choice when it comes to storing large amounts of gas so that it is available quickly and in sufficient quantities when carrying out the desired processes. Each Sauer gas compressor is engineered to offer the high level of flexibility required to satisfy an extremely wide range of requirements such as different suction pressures, final pressures and gas quality.

#### What are Sauer compressors used for?

- Creating an inert atmosphere
- Inflating aircraft tires
- Filling fire-extinguishing systems
- Transporting

#### Who are Sauer Compressors' customers?

- Chemical or gas manufacturers
- Tire manufacturers
- Manufacturers of fire-extinguishing systems
- Manufacturers of nitrogen generators
- Service companies to the aircraft industry

#### Which Sauer product ranges are used?

Product: PASSAT, HURRICANE, TORNADO, 6000  
 Flow : 5 - 1175 scfm  
 Pressure: 290 - 7250 psig  
 Medium: Nitrogen

### Urea plants

Urea is recognized as an integral part of many industrial processes and the number of production plants is constantly increasing. The fertilizer industry uses the largest share of urea. The application of fertilizers is a crucial prerequisite to be able to increase the amount of food produced to match the ever-growing worldwide demand.

#### What are Sauer compressors used for?

- Forming a very resistant  $\text{CrO}_3$

#### Who are Sauer Compressors' customers?

- Production plants for Urea (e.g. Fertilizer Plants)

#### Which Sauer product ranges are used?

Product: MISTRAL, PASSAT, HURRICANE, TORNADO  
 Flow : 5 - 175 scfm  
 Pressure: 435 - 6000 psig  
 Medium: Air



## RESEARCH AND DEVELOPMENT

### Research institutions and universities

Many universities as well as state and private research institutions carry out extremely demanding work that relies on top-quality components in order to achieve highly accurate results. Downtime and extended experimental periods reduce competitiveness and waste funds which have been allocated for research purposes. In the field of helium recovery and liquefaction, Sauer compressors are able to optimize the process – with a maximum leakage rate of just 0.1 mbar x l / s. Their economical design is ideal for supersonic and hypersonic tests in wind tunnels and/ or vehicle crash tests – two applications which require high volumes in an extremely short period. Sauer saves time and reduces costs, making it possible to carry out more tests at shorter intervals.

#### What are Sauer compressors used for?

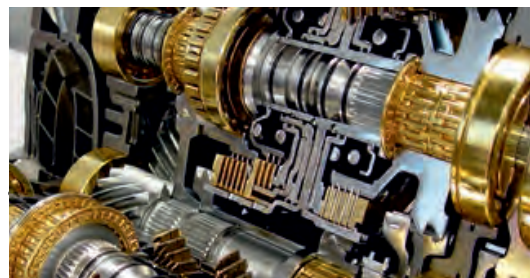
- Metrology
- Helium recovery
- Wind tunnels
- Nano-coatings
- Crash tests - vehicle development

#### Which Sauer product ranges are used?

Product: PASSAT, HURRICANE, TORNADO, 6000  
 Flow : 30 - 1175 scfm  
 Pressure: 290 - 7250 psig  
 Medium: Air, Helium

#### Who are Sauer Compressors' customers?

- Universities
- Research centers
- Metrological institutions
- Automotive research institutions



### Combustion engine testing

Many customers are familiar with Sauer compressors through their role in shipping. However, many people do not realize that Sauer compressors also play an important role in testing these engines and developing new ones. They are therefore widely used on engine test beds. In addition, Sauer compressors play a role in the development of gas engines.

#### What are Sauer compressors used for?

- Starting air
- Natural gas storage

#### Which Sauer product ranges are used?

Product: MISTRAL, PASSAT, HURRICANE, 6000  
 Flow : 30 - 1175 scfm  
 Pressure: 435 - 7250 psig  
 Medium: Air, Natural Gas

#### Who are Sauer Compressors' customers?

- Automotive manufacturers
- Engine manufacturers

## METALLURGY

### Producing and forming steel

Medium and high-pressure compressors for air and gas play an essential role in steel mills. They are used to not only produce the steel itself and alter the carbon content in the blast furnace but also to press the steel into slabs and treat them. Often essential components within the overall system, the compressors themselves must be produced to the highest quality standards and be durable enough to withstand the extreme temperature conditions and dust levels.

#### What are Sauer compressors used for?

- Descalers - descaling
- Raising pressure for steel presses
- Argon and nitrogen for carbon treatment

#### Who are Sauer Compressors' customers?

- Steelworks operators
- Manufacturers of machinery used on steel production lines
- Manufacturers of steel presses
- Engineering offices

#### Which Sauer product ranges are used?

Product: HURRICANE, 5000, 6000  
 Flow : 15 - 1175 scfm  
 Pressure: 230 - 7250 psig  
 Medium: Air, Nitrogen, Argon

## MINING



With their robust construction and straightforward operation, Sauer compressors are able to perform in the most demanding situations encountered in the underground mining business. Regardless of the compliance specification or scope of supply, this is not a problem for Sauer's medium and high-pressure compressors. And if you require a more mobile design, Sauer compressors are also available with a diesel engine and a container unit for use anywhere in the world.

#### What are Sauer compressors used for?

- Drilling deep boreholes

#### Who are Sauer Compressors' customers?

- Mines/mining companies
- Drilling companies

#### Which Sauer product ranges are used?

Product: MISTRAL, PASSAT, HURRICANE, 6000  
 Flow : 45 - 1175 scfm  
 Pressure: 230 - 7250 psig  
 Medium: Air, Nitrogen

## AVIATION



The aviation industry is under considerable pressure to keep costs down yet at the same time meet ever-increasing safety demands. Thankfully, the use of Sauer's medium and high-pressure compressors can help in both of these areas. The costs of running aircraft fleets can be minimized by using nitrogen to inflate aircraft tires, whilst the compressors' long maintenance intervals enhance this effect. The option of different drive systems in addition to the units' compact design allow the compressors to be moved around and used on airport runways.

### What are Sauer compressors used for?

- Inflating aircraft tires using nitrogen
- Starting turbines
- Supplying aircraft systems

### Who are Sauer Compressors' customers?

- Aircraft operators
- Air force bases
- Engineering offices

### Which Sauer product ranges are used?

Product: MISTRAL, PASSAT, HURRICANE  
Flow : 45 - 70 scfm  
Pressure: 580 - 6000 psig  
Medium: Air, Nitrogen

## SAFETY



In situations where safety depends on high product availability, robust high-pressure compressors are needed. This is precisely why Sauer compressors are used for applications such as supplying breathing air or for fire extinguishing systems, where they may be required to operate permanently under the most extreme conditions. Rather than choosing cheap alternatives, customers from the safety sector rely on compressors with the "Made in Germany" seal of quality.

### What are Sauer compressors used for?

- Stationary fire extinguishing systems
- Supplying breathing air

### Who are Sauer Compressors' customers?

- Manufacturers of fire systems
- Large diving centers
- Public fire stations and company fire brigades

### Which Sauer product ranges are used?

Product: PASSAT, HURRICANE, TORNADO, 6000  
Flow : 5 - 1175 scfm  
Pressure: 580 - 7250 psig  
Medium: Air, Nitrogen, Argon, Carbon Dioxide

When a typical compressor package will not meet your needs we design a fully customized solution for your application. From modules on a skid to weather proof containers that include dryers, receiver tanks, air management and advanced controls, we offer dependable turnkey solutions designed specifically to withstand some of the most extreme environments.

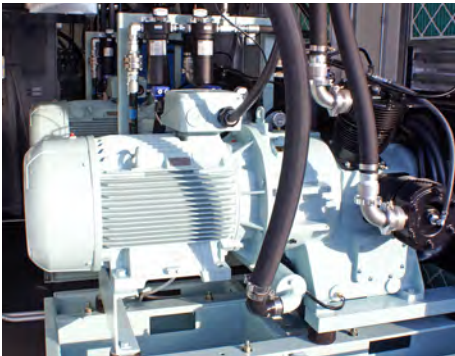
**Example #1**

**Custom Weather Proof Container for PET blowing**

- Equipped with Passat series - WP311Ls (4)
- 40' ISO Container
- All stainless steel piping

**Technical Data**

Volumetric flow: 736 scfm  
 Max. Pressure: 640 psig



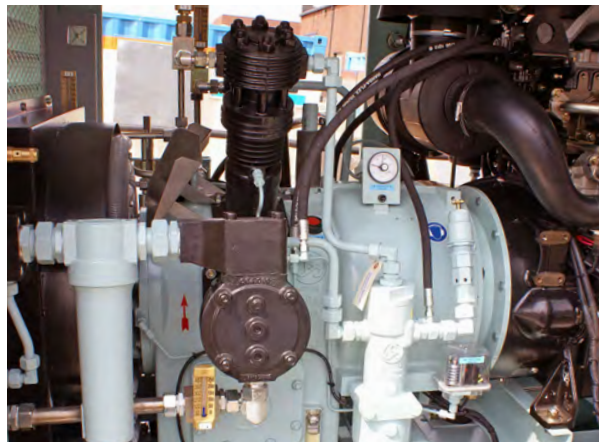
**Example #2**

**WP4351 Diesel Rental Package for Seismic Surveying**

- Equipped with Hurricane series - WP4351
  - Weather resistant canopy

**Technical Data**

Volumetric flow: 70 scfm  
 Max. Pressure: 5000 psig



## After Sales Support – Immediate Action



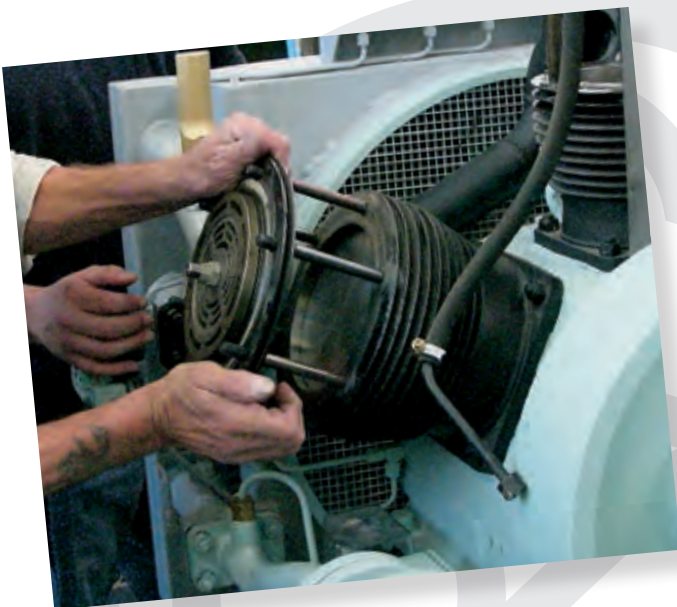
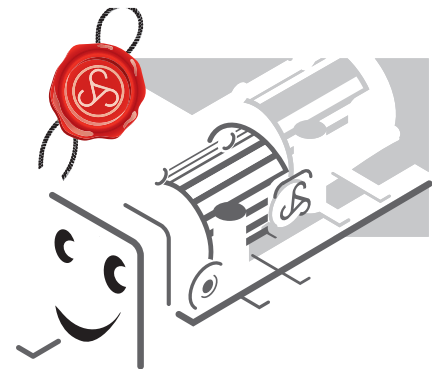
**“A product is only as good as the support provided by the company who sold it.”**

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:

- Worldwide service organizations
- Maintenance and service schedules
- Inspection and service contracts
- Supply of genuine Sauer spare parts
- Technical support - troubleshooting
- High quality spare part production
- Training



### Worldwide service organizations

Subsidiaries and service organizations located in more than 50 countries worldwide including the US, Germany, France, UK, China, Czech Republic, Italy, Brazil and India ...

- Service stations and service engineers on all continents and major ports
- Fast delivery of genuine Sauer spare parts from Sauer service stations within 36 hours to nearly any place in the world!



(115)

Safety Valve @ 8 barg (115 psig)

TANK

> 5 barg (70 psig) READY - auto re

< 4 barg (60 psig) STOP - standby  
recover + 5 barg (+70 psig)

Solenoid  
shut-off  
valve NC

Motor  
2 pole 7,5 KW 160M 10  
four pole 11 KW 160M 15

WP 4331

28 x 1,5 bite-type

WP 4331

Low Oil  
Level  
switch

PSV 63 barg

Pressure gaug

2 x 1,5 bite-type

**Sauer Compressors USA**  
245 Log Canoe Circle  
Stevensville, MD 21666

PHONE 410-604-3142  
FAX 410-604-3209  
EMAIL [sales@sauerusa.com](mailto:sales@sauerusa.com)  
WEB [www.sauerusa.com](http://www.sauerusa.com)

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Please visit [www.sauerusa.com](http://www.sauerusa.com) for the latest version on the brochure.

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