HIGH PRESSURE SOLUTIONS
From the Air and Gas Experts
The fine art of high pressure
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BAUER is especially capable of working with clients on a worldwide basis because of our vast network of sales and service centers around the globe. BAUER’S U.S. operations include branch offices in Michigan, California and Florida. We specialize in all high pressure market segments including breathing air, plastics technology, industry, helium recovery, natural gas and nitrogen generation in addition to many other common and unique applications.

EXPERIENCE FOR YOUR BENEFIT

BAUER compressors are field-proven in a multitude of diverse high pressure applications worldwide. More than 60 years of experience and research and development are available to you to help solve your high pressure air or gas requirement no matter if it is a common or unique application. We are world renowned for reliability and durability, and BAUER as a company is recognized as the world’s foremost innovative designer and manufacturer of high pressure compressors of the very highest quality.
DEDICATION TO YOU

BAUER is committed to the philosophy that customer satisfaction is achieved through a strategy of continuous improvement using in-house research and development, engineering, manufacturing and support services. Our ISO 9001 registered quality management system is testament to our commitment to quality and customer satisfaction.

CUSTOMER SATISFACTION

Begin with expert system evaluation and continues with the design, installation, training and support services to ensure the highest quality and optimum performance of the product.
Heart of the system

COMPRESSORS AND BOOSTERS

- 100 and 120.x
- Booster 12.x
- 15.x and 18.x
- Booster 15.x
BAUER ADVANTAGES...

Wide range of capacity and pressure in both compressor and booster configuration allows tailoring a solution to meet specific requirements.

Proven air-cooled design is economical, reliable and environmentally friendly. An external power source is not required and no coolant.

Large surface area and fine ribbing on cylinders provides efficient heat dissipation for lower operating temperatures.

Aftercooler provides low discharge temperature. Supplemental cooling at the outlet is not required.

Pressurized lubrication ensures reliable lubrication of all internal components for extended compressor life. Oil filter protects the lubrication system.

Roller or needle bearing used at each bearing surface for reduced friction and optimum mechanical efficiency. Compressor runs cooler, oil life is extended and maintenance is reduced.

Heavy-duty roller bearings to support the crankshaft. 30,000 hours design life.

Aluminum alloy crankcase used through 30 hp enables compact dimensions because of rapid heat dissipation. Cast iron crankcase used on 40 hp and greater to support greater forces. High capacity cooling fan(s) provide efficient cooling.

Encapsulated crankcase to protect the environment from oil laden mist.

High efficiency intake filter to protect the compressor from damaging particles.

Safety valve after each stage of compression to protect the compressor from overpressure and to safeguard the operator. Gas compressors and boosters also include a safety valve at the inlet.

Balanced flywheel and counterbalanced crankshaft results in nearly vibration-free operation. BAUER compressors and boosters do not require special foundations which reduces installation cost.

Readily accessible valves do not require disassembly of compressor piping for easy accessibility and reduced maintenance cost and downtime.

Corrosion resistant materials used for coolers, separators and valves for longer life and reduced maintenance.

Genuine spare parts at affordable prices.

Operation and maintenance manual with illustrated parts lists.

...FOR YOUR BENEFIT
Solutions for industry

HORIZONTAL

VERTICAL

CUSTOM PACKAGING

NITROGEN GENERATORS

NATURAL GAS

OFFSHORE
## Our Product Range

### Compressors

| Model | Motor | Available Series | Capacity 15 scfm | 30 | 45 | 60 | 75 | 90 | 105 | 120 | 135 | 150 | 165 |
|-------|-------|------------------|------------------|----|----|----|----|----|------|------|------|------|------|------|
|       | hp    | kw   | A | G | C | 850 | 1275 | 1700 | 2120 | 2550 | 2970 | 3400 | 3820 | 4245 | 4670 |
| 1000 psig (69 bar) | 12.4 | 5 | 3.5 | • | | | | | | | | | | |
|       | 22.5 | 15-20 | 11-15 | • | | | | | | | | | | |
|       | 23.4 | 30-40 | 22-30 | • | | | | | | | | | | |
|       | 25.4 | 50 | 37 | • | | | | | | | | | | |
|       | 28.2 | 60-75 | 45-55 | • | | | | | | | | | | |
|       | 25.5 | 100 | 75 | • | | | | | | | | | | |
|       | 28.3 | 125-150 | 90-110 | • | | | | | | | | | | |
| 100 psig (69 bar) | 100 | 5 | 3.5 | • | • | • | | | | | | | | | |
|       | 120 | 7.5 | 5.5 | • | • | • | | | | | | | | | |
|       | 15.1 | 7.5-15 | 5.5-11 | • | • | • | | | | | | | | | |
|       | 150 | 15 | 11 | • | | | | | | | | | | |
|       | 180 | 20 | 15 | • | | | | | | | | | | |
|       | 15.2 | 20 | 15 | • | | | | | | | | | | |
|       | 220 | 25-30 | 18-22 | • | • | • | | | | | | | | | |
|       | 23.1 | 40 | 30 | • | • | • | | | | | | | | | |
|       | 230 | 40 | 30 | • | | | | | | | | | | |
|       | 250 | 50-60 | 37-45 | • | • | • | | | | | | | | | |
|       | 280 | 75-100 | 55-75 | • | • | • | | | | | | | | | |
| 5000 psig (345 bar) | 100H | 5 | 3.5 | • | | | | | | | | | | |
|       | 12.14 | 7.5-10 | 5.5-7.5 | • | | | | | | | | | | |
|       | 15.11 | 15 | 11 | • | | | | | | | | | | |
|       | 22.42 | 25-30 | 18-22 | • | • | • | | | | | | | | | |
|       | 18.1 | 20 | 15 | • | • | • | | | | | | | | | |
|       | 25.9 | 60 | 45 | • | • | • | | | | | | | | | |
|       | 25.18 | 75 | 55 | • | | | | | | | | | | |
| 6000 psig (414 bar) | 12.3 | 5-10 | 3.5-7.5 | • | | | | | | | | | | |
|       | 12.2 | 5-7.5 | 3.5-5.5 | • | | | | | | | | | | |
|       | 15.3 | 10-15 | 7.5-11 | • | | | | | | | | | | |
|       | 15.4 | 15 | 11 | • | | | | | | | | | | |

1) 900 psig (62 bar)  2) 725 psig (50 bar)  3) 5000 psig (345 bar)  *Available for 7000 psig (483 bar)  A = Air / Nitrogen  G = Helium / Argon  C = Natural Gas
Nitrogen generation

BAUER NITROGEN GENERATION PROCESS

Air
Feed Air Compressor
Aftercooler
Filters (auto drains)
Check Valve
Heat Exchanger
Mixing Valve
Motor
Permeate O2, CO2, H2O Vent
Membrane Air Separator
Oxygen Monitor Metering Valve
Oxygen Sensor
Inlet Proportional Valve
Motor
Inlet Dome Load Regulator
High Pressure Compressor
Final Separator
Processing
Check Valve
Pressure Maintaining Valve
N2
WHY BUY NITROGEN WHEN YOU CAN MAKE YOUR OWN?
The BAUER SNG Series II Nitrogen Generator is a self-contained, fully integrated, modular system that eliminates the hazards involved with the handling of high pressure cylinders as well as the burden of merchant supplied nitrogen gas.
The BAUER SNG Series II Nitrogen Generator is a complete system designed for the on-demand supply of nitrogen gas at purities up to 99.5%.

SEPARATION MODULE
The BAUER SNG Series II Nitrogen Generator generates nitrogen gas through membrane separation which allows for the rapid production of low cost, high purity nitrogen gas on demand at the point of use. Ambient air is compressed and supplied to the separator where water vapor, various gases such as O₂, CO₂, and hydrocarbons are released to atmosphere leaving high purity nitrogen gas.

STANDARD FEATURES
- High durability membrane air separators
- Purity up to 99.5% Nitrogen
- Feed air compressor, if required
- High pressure booster, if required
- Electric motor drive
- UL® master control panel with interactive touch screen interface for operation, maintenance and troubleshooting.
- Single-point power supply connection
- On-line percent oxygen monitor
- Pressure sensors for oil and final product pressure
- Emergency stop push button
- Visible alarm annunciation
- Sound attenuated enclosures for compressors and membrane module

AVAILABLE ACCESSORIES
- CE-complaint electrical assembly
- Second language for controls / documentation
- Distribution panel
- Storage
THE RIGHT FILTER SYSTEM FOR THE RIGHT APPLICATION

Processing of the compressed medium is essential for trouble-free operation of a high pressure system, and the selection of the correct method of processing is essential to meet the gas quality requirements for the application. BAUER is an international leader in the design and manufacture of high pressure processing systems ranging from moisture separators to regenerative dryers and their accessories. And since BAUER is the manufacturer of the compressor and processing system, you have the assurance that these two important components are perfectly matched to meet specific requirements.
FINAL SEPARATOR
All BAUER high pressure compressors / boosters include a final separator. The final separator removes the condensed oil and water droplets from the compressed medium following its exit from the aftercooler.

AIR-KOOL
AIR KOOL is a refrigerated, counter-flow heat exchanger that increases the amount of condensed oil and water droplets in the compressed medium for removal by the final separator. AIR KOOL increases the efficiency of the final separator and reduces operating costs by extending the life of the available filter cartridges. AIR KOOL is available for BAUER high pressure compressors / boosters up to 22 scfm with operating pressures between 1800 and 7000 psig.

P-FILTER
A P-FILTER system, if required, can be installed downstream of the final separator and available AIR KOOL. P-FILTER systems can be tailored to remove specific or a variety of contaminants, and can achieve an atmospheric dew point of -94 ºF. These systems work by the process of adsorption which is safe, effective, efficient and economical. P-FILTER systems use replaceable cartridge(s) that makes operation and maintenance clean, safe and simple. P-FILTER systems have no moving parts, do not require power or lose any of the compressed medium for purging. The only required maintenance is to replace the cartridge(s) after their service life has expired. P-FILTER Systems are available for BAUER high pressure compressors and boosters up to 40 scfm with operating pressures from 1300 to 7000 psig.

SECCANT
SECCANT is the ideal, cost-effective regenerative dryer for heavy duty or continuous duty applications. These heatless, regenerative dryers require only a small portion – maximum 5% – of the compressed medium for the regeneration process. SECCANT dryers use replaceable cartridges that makes operation and maintenance clean, safe and simple. SECCANT dryers can achieve an atmospheric dew point of -94 ºF. SECCANT is available for all BAUER high pressure compressors up to 125 scfm with operating pressures from 1300 to 6000 psig. A P-FILTER purifier can be added downstream for additional purification requirements.

SECURUS
SECURUS is a low-cost accessory for the P-FILTER systems and SECCANT dryers that uses patented technology to reduce the operating cost of the drying system by ensuring 100% utilization of the dryer cartridge(s). SECURUS is unique in that the sensing device is embedded in the cartridge, thus ensuring a highly accurate measurement of the cartridge’s life.

ADVANTAGES
All BAUER cartridges process the compressed medium to comply with the quality requirements for industrial air and gases according DIN ISO 8573-1 Class 2 for oil content and Class 3 for moisture content.

All separator and filter chambers are made of a high-strength, fatigue and corrosion-resistant material. All machining is done in-house to assure the closest tolerances and highest quality. The final product is stamped with material lot and production numbering for traceability. The entire process and the final product is supervised and approved by TÜV, an internationally recognized independent inspection agency.
ENERGY IN RESERVE

Storage is a reservoir from which a compressed medium can be used to meet the demands of an application while protecting the compressor from the direct demand of the application and preventing short-cycling of the compressor and motor. In its simplest form, storage and a pressure regulator can be used to provide the compressed medium at a constant pressure, but storage can also satisfy unpredictable demands of the application which the compressor cannot meet. Storage can be in the form of a single bank (buffer) or arranged in multiple banks. The compressor and storage must be sized and configured as an engineered system for optimum efficiency and cost savings. BAUER recommends that the compressor does not start more than 4 times per hour.

The volume of storage required for a specific application depends upon:
A. Consumption rate of the system
B. Capacity of the compressor/booster
C. Deadband of the final pressure switch

BAUER is knowledgeable in the application of storage to medium and high pressure applications. We offer storage systems that meet the code requirements of the American Society of Mechanical Engineers (ASME) and the Department of Transportation (DOT). Additional information can be found in our brochure for Storage Systems and Accessories.
### TECHNICAL DATA FOR GASES AT PRESSURE

The table below lists the volume of different gases that can be compressed into one (1) cubic foot water volume at the given pressure. The information is based on 70 °F and accounts for the compressibility of the gas. The table can be used to calculate the volume of air or gas that can be stored in a cylinder of known water volume. Likewise, the water volume of a cylinder can be calculated if the capacity of air or gas stored in the cylinder is known.

<table>
<thead>
<tr>
<th>Gauge pressure</th>
<th>Air</th>
<th>Nitrogen</th>
<th>Argon</th>
<th>Helium</th>
</tr>
</thead>
<tbody>
<tr>
<td>psig</td>
<td>scf</td>
<td>scf</td>
<td>scf</td>
<td>scf</td>
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<td>1000</td>
<td>70.29</td>
<td>69.30</td>
<td>71.79</td>
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<td>6000</td>
<td>334.06</td>
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<td>343.37</td>
</tr>
</tbody>
</table>

#### COMPRESSOR WITH STORAGE

![Compressor with Storage](image1.png)

#### CUSTOM DESIGNS

![Custom Designs](image2.png)
SAFETY AND RELIABILITY

High pressure gas is used in a multitude of industrial applications. The design of a safe, efficient distribution system for a high pressure gas is critical to the successful use of that gas for a particular application. BAUER has over 60 years experience in the design and manufacture of distribution systems for high pressure. We have a reputation for providing safe, reliable, user-friendly distribution systems ranging from simple panels to complex systems controlled by a PLC and with touch-screen operator interface. Standard and custom designed systems are available.

BAUER uses only quality components that are specifically designed for high pressure. All components are applied within their design parameters and include a safety factor of up to 4 to 1.

For permanent installations, BAUER recommends the use of seamless stainless steel tubing. All tube runs are supported to prevent the transmission of vibration through the tubing and to the rest of the system. High pressure hose is used for non-permanent installations or where flexibility is required.
All panel mounted pressure regulators are supplied with pressure gauges for inlet and outlet pressures and a safety valve for overpressure protection of downstream components.

Each high pressure distribution system is carefully designed to include pressure indicating devices and safety, isolation, vent and drain valves as required. All panel mounted devices are clearly identified with labeling. More complex systems include a schematic diagram as part of the labeling for operator reference.

BAUER manufactures industry-leading distribution systems for several markets including SCBA cylinder refilling and gas-assist injection molding.
AUTOMOTIVE INDUSTRY
- Test sleds
- Wind tunnel
- Testing
- Natural gas vehicle refueling

AVIATION
- Engine starting
- Aircraft maintenance
- Testing

CHEMICAL INDUSTRY
- Compressors with explosion proof controls for various applications
- Emergency shutdown

COMPONENT TESTING AND CALIBRATION
- Pressure gauges
- Relief valves
- Valves and valve actuator
- Tubing and hose
- Pipe and transducers

CYLINDER REFILLING
- Storage
- Air rifle
- Less lethal weapons and paintball

ELECTRIC POWER PLANTS
- Turbine starting
- Circuit breaking

ELECTRONICS
- Nitrogen Blanketing

EXPLORATION
- Seismographic - land and offshore
- Well revitalization - oil, gas and water

FIRE FIGHTING
- Aircraft dispersed foam
- Water mist fire suppression

HYDRAULICS
- Air-oil accumulator

HYDROPOWER PLANTS
- Governor control
- Wicket gate control

NITROGEN GENERATION
- Blanketing
- Testing
- Purging
- Parts cleaning

OIL AND GAS
- Pipeline pressure testing
- Rig stabilization

APPLICATIONS
- Nitrogen Blanketing
- Seismographic - land and offshore
- Well revitalization - oil, gas and water
- Aircraft dispersed foam
- Water mist fire suppression
- Air-oil accumulator
- Governor control
- Wicket gate control
- Blanketing
- Testing
- Purging
- Parts cleaning
- Pipeline pressure testing
- Rig stabilization
PAINTBALL
LAW ENFORCEMENT
– High pressure air supply for fields, stores and tournaments
– Less lethal weapons
– Training simulators

RESEARCH
– Industry
– Educational
– Aviation

SHIPBOARD
– Cable compensation
– Air guns for seismographic exploration
– Engine starting

SPECIAL TECHNOLOGIES
– Propriety designs for commercial and military use