

# BAUER MOBILE PIPELINE BLOWDOWN AND CROSS COMPRESSION SOLUTIONS



WORLDWIDE

QUALITY

INNOVATION

RELIABILITY

# BAUER GRU® XL and XXL Mobile Compressor Systems

Designed for large volume pipeline blowdown applications down to 0 psig in record time.

The revolutionary BAUER GRU® Mobile Compressor Systems has been designed to help pipeline operators meet their ESG goals by allowing time efficient blowdown of large sections of Natural Gas transmission pipelines all the way to 0 psig. Venting methane in the pipeline at 100, 50 or even 25 psig to the atmosphere during repairs and inspections is no longer acceptable practice. The BAUER GRU® XL and XXL Mobile Compressor Systems are capable of maintaining steady high flow during the blowdown cycle within a suction pressure range of 100 psig down to 0 psig while feeding existing reciprocating booster compressors at their optimal suction pressure. The BAUER GRU®'s trailer-mounted mobile design allows it to be moved efficiently from site to site where pipeline repairs and maintenance are needed.

## BAUER offers two models of these high-performance compressor systems.

- › **The BAUER BAUER GRU® XL System:** Capable of evacuating a 36 in, 20 mile long pipeline from 100 psig down to zero psig in 6 days, 18 hrs.
- › **The BAUER BAUER GRU® XXL System:** Capable of blowing down a 36 in, 20 mile long pipeline down from 100 psig to zero psig in 3 days, 11 hrs.

## SYSTEM CONFIGURATION

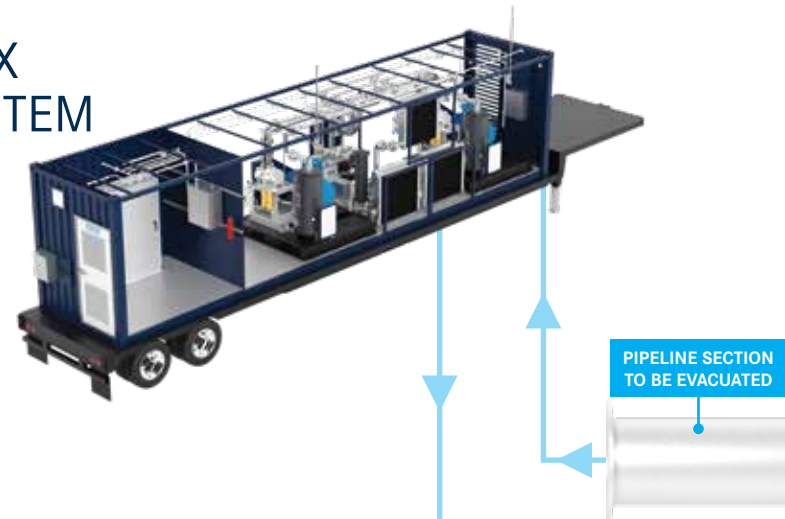
### BAUER GRU® XL OR XXL DUPLEX BLOWDOWN COMPRESSOR SYSTEM

#### Typical Suction Pressure Range:

- › 100-0 psig

#### Outlet Pressure Range:

- › 20 to 110 to 250 psig



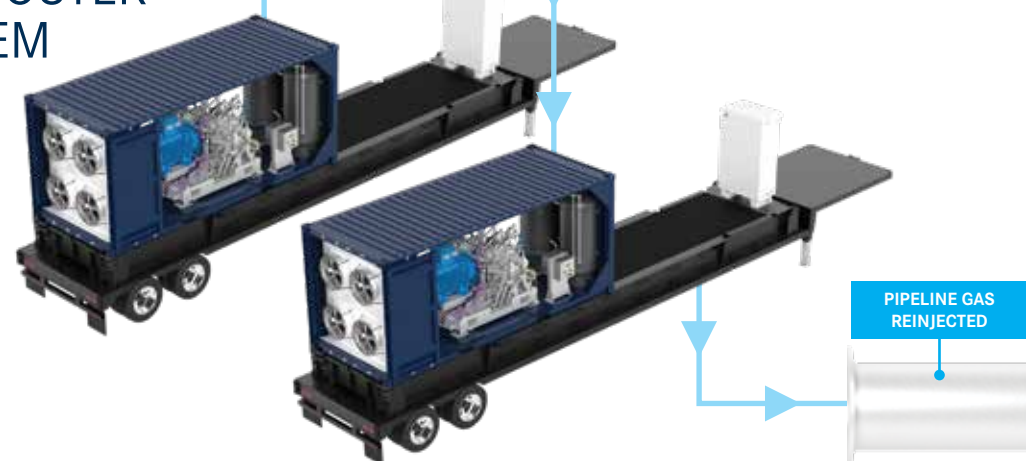
### CUSTOMER SUPPLIED OR BAUER SUPPLIED BOOSTER COMPRESSOR SYSTEM

#### Typical Suction Pressure Range:

- › 60 - 145 psig to 100-250 psig

#### Outlet Pressure Range:

- › 500 - 1400 psig



## BAUER GRU® XL AND XXL SYSTEM OPERATION:

Most reciprocating booster compressors currently used for pipeline blowdown and re-injection are designed to operate efficiently at their optimal flow between a suction pressure range of 100 to 250 psig. As efficient as these systems are, at high inlet pressures (suction pressure into the compressor), their performance declines exponentially as the pipeline residual pressure drops to below 100 psig.

The BAUER GRU® Rotary Screw Blow-down Compressor System is designed to efficiently take pipeline residual pressure from 100 psig down to 0 - 5 psig while feeding high-pressure reciprocating booster compressors at their optimal suction pressure to maintain their maximum flow performance. This allows the pipeline blowdown operator to not only take residual pipeline pressure close to zero to meet their customers' ESG requirements, but to also significantly reduce blow down time in order to satisfy their customers' tight time-line requirements.

## SYSTEM SPECIFICATIONS:

#### Application:

- › High volume pipeline or vessel blowdown down to zero residual pressure.

#### Medium:

- › Methane (Natural Gas).

#### Technology:

- › The secret behind the BAUER GRU®'s exceptional performance at low suction pressures is BAUER's rotary screw gas compressor technology, which allows the compressor to work efficiently at very low inlet (compressor suction) pressures.
- › The BAUER GRU® systems are electric drive via VFD so that the speed of the compressor can be precisely modulated based on inlet and outlet conditions. This function is fully automatic. The systems adjust motor speed based on the desired outlet pressure settings and available inlet (suction) pressure during the blowdown process.
- › In mobile field applications, the electric drive BAUER GRU® blowdown compressor systems can be powered by a standard mobile Natural Gas generator set.

#### Build Standard:

- › Hazardous area classification: Class 1, Div II.
- › The BAUER GRU® XL duplex compressor system is built in a 40-foot custom built ISO container with integrated gas-tight electrical room that houses the VFD's.
- › The BAUER GRU® XXL duplex is built in a 40-foot custom built ISO container. Due to the size of the system, the VFDs are off skid.
- › The BAUER GRU® XL and XXL compressor systems are built for mobility and can be mounted and operated on top of a standard 40-foot trailer chassis.
- › All systems are equipped with inlet and outlet gas flanges at skid edge for ease and expediency of making the gas connections to the system.
- › For remote field operation, a separate mobile generator set is required to operate the BAUER GRU® systems. All systems are equipped with a handshake relay for generator power.

#### Motor Power:

1 x BAUER GRU® Duplex System:

- › **BAUER GRU® XL:** 2 x 250 HP TEFC motors (500 HP combined)
- › **BAUER GRU® XXL:** 2 x 350 HP TEFC motor (700 HP combined)

#### BAUER CONNECT® IOT

All BAUER GRU® systems are equipped with BAUER CONNECT® IOT/Remote Telemetry.

This includes the following functionalities:

- › Remote operation of the equipment through our Remote HMI feature.
- › Remote monitoring of the equipment.
- › SCADA systems that present a dynamic visual overview of the system.
- › Historical reporting of critical performance parameters Customizable per customer wishes.
- › Text and e-mail notifications
- › Predictive analytics

#### System Warranty:

- › 2-Years parts and labor backed by BAUER's lifetime support warranty.

All systems are designed and built by BAUER COMPRESSORS, Inc. in Norfolk Virginia, USA.



## BAUER GRU® 28 DUPLEX XL

### PIPELINE BLOWDOWN COMPRESSOR SYSTEM

The GRU® 28 XL system contains two BAUER ROTORCOMP® 250 HP rotary screw compressors for a combined 500 HP. Both compressors are controlled by a common PLC-based control system and individual variable frequency electric drives capable of lead-lag or full duplex operation as well as automatically maintaining constant compressor outlet pressure while the residual pressure in the pipeline drops from 100 psig to 0 psig. The system is plug and play with quick disconnect electrical connections at the electrical room entrance and skid edge flange connections for gas inlet and outlet hook-up.



## BAUER GRU® 42 DUPLEX XXL

### PIPELINE BLOWDOWN COMPRESSOR SYSTEM

The GRU® 42 XXL system contains two BAUER ROTORCOMP® 350 HP rotary screw compressors for a combined 700 HP. Both compressors are controlled by a common PLC based control system and individual variable frequency electric drives capable of lead-lag or full duplex operation as well as automatically maintaining constant compressor outlet pressure while the residual pressure in the pipeline drops from 100 psig to 0 psig. The system is equipped with skid edge flange connections for quick gas inlet and outlet hook-up. Due to the size of the compressor system, the VFD drives for the electric motors are mounted off-skid with quick connect hookups for the motor cables as well as control power and wiring.



### BAUER GRU®28 XL DUPLEX PERFORMANCE

Inlet Pressure	Outlet Pressure	Compressor	System Performance		
			Actual Used Power	Flow Rate	Combined FlowRate
PSIG	PSIG	RPM	HP	SCFM	MMFCD
100-30	120	3159	429.4	4014	5.8
20	120	3380	429.4	3319	4.8
10	120	3633	429.4	2500	3.6
5	120	3920	429.4	2125	3.1
1	120	4000	406.0	1711	2.5
0	120	4000	398.0	1583	2.3

### EXAMPLE: PIPELINE BLOWDOWN TIMES (20 MILE, 36 INCH PIPELINE)

Pipeline Diameter	Pipeline Length	Pipeline Starting Pressure	Pipeline Residual Pressure	Draw-down Time	Draw-down Time
INCHES	MILES	PSIG	PSIG	HOURS	DAYS
36	20	100	30	98	4d, 2h
36	20	100	15	130	5d, 20h
36	20	100	5	151	6d, 7h
36	20	100	0	162	6d, 18h

Note: 1) All performance data for compressed gas inlet (suction conditions) is stated at Standard Conditions: Suction Pressure as Indicated, Gas Temperature of 68° F (20°C) and RH of 0% 2) All performance data for compressed gas outlet is stated at ISO 1217 Reference Conditions: Absolute Pressure at 364 ft (111m) elevation = 14.5 PSIG ( 1 Bar), Gas Temperature of 68° F (20°C) and RH of 0% 3) All performance data are based on a typical well gas composition based on the following Mol percentages: Methane 97%, Nitrogen 1.0%, Carbon Dioxide 2%

### BAUER GRU®42 XXL DUPLEX PERFORMANCE

Inlet Pressure	Outlet Pressure	Compressor	System Performance		
			Actual Used Power	Flow Rate	Combined FlowRate
PSIG	PSIG	RPM	HP	SCFM	MMFCD
100-30	110	3207	652.0	6193	8.9
20	110	3420	652.0	5071	7.3
10	110	3600	634.0	3740	5.4
5	110	3600	586.0	2950	4.2
1	110	3600	539.4	2318	3.3
0	110	3600	528.4	2161	3.1

### EXAMPLE: PIPELINE BLOWDOWN TIMES (20 MILE, 36 INCH PIPELINE)

Pipeline Diameter	Pipeline Length	Pipeline Starting Pressure	Pipeline Residual Pressure	Draw-down Time	Draw-down Time
INCHES	MILES	PSIG	PSIG	HOURS	DAYS
36	20	100	30	52	2d, 4h
36	20	100	15	67	2d, 19h
36	20	100	5	78	3d, 6h
36	20	100	0	83	3d, 11h

Note: 1) All performance data for compressed gas inlet (suction conditions) is stated at Standard Conditions: Suction Pressure as Indicated, Gas Temperature of 68° F (20°C) and RH of 0% 2) All performance data for compressed gas outlet is stated at ISO 1217 Reference Conditions: Absolute Pressure at 364 ft (111m) elevation = 14.5 PSIG ( 1 Bar), Gas Temperature of 68° F (20°C) and RH of 0% 3) All performance data are based on a typical well gas composition based on the following Mol percentages: Methane 97%, Nitrogen 1.0%, Carbon Dioxide 2%

# BAUER HIGH-PRESSURE PIPELINE INJECTION MOBILE BOOSTER SYSTEMS

## BAUER C52.7 X-FILL

### HIGH-PRESSURE RECIPROCATING PIPELINE INJECTION BOOSTER COMPRESSOR SYSTEM

The BAUER C52 X-Fill contains a the legendary 350 HP BAUER BK Series reciprocating booster compressor system designed for an optimal inlet pressure range of 60 - 145 psig and outlet pressure range between 600 and 1450 psig, ideally suited for pipeline re-injection. The compressor system is PLC controlled while the variable frequency electric drive maintains optimal power consumption and constant outlet pressure into the pipeline with varying inlet pressure ranges into the compressor. The system is designed for mobility with quick disconnect electrical connections at the VFD as well as skid-edge flange connections for quick gas inlet and outlet hook-up.



### BAUER C52.7 X-FILL PERFORMANCE (EACH SIMPLEX COMPRESSOR SYSTEM)

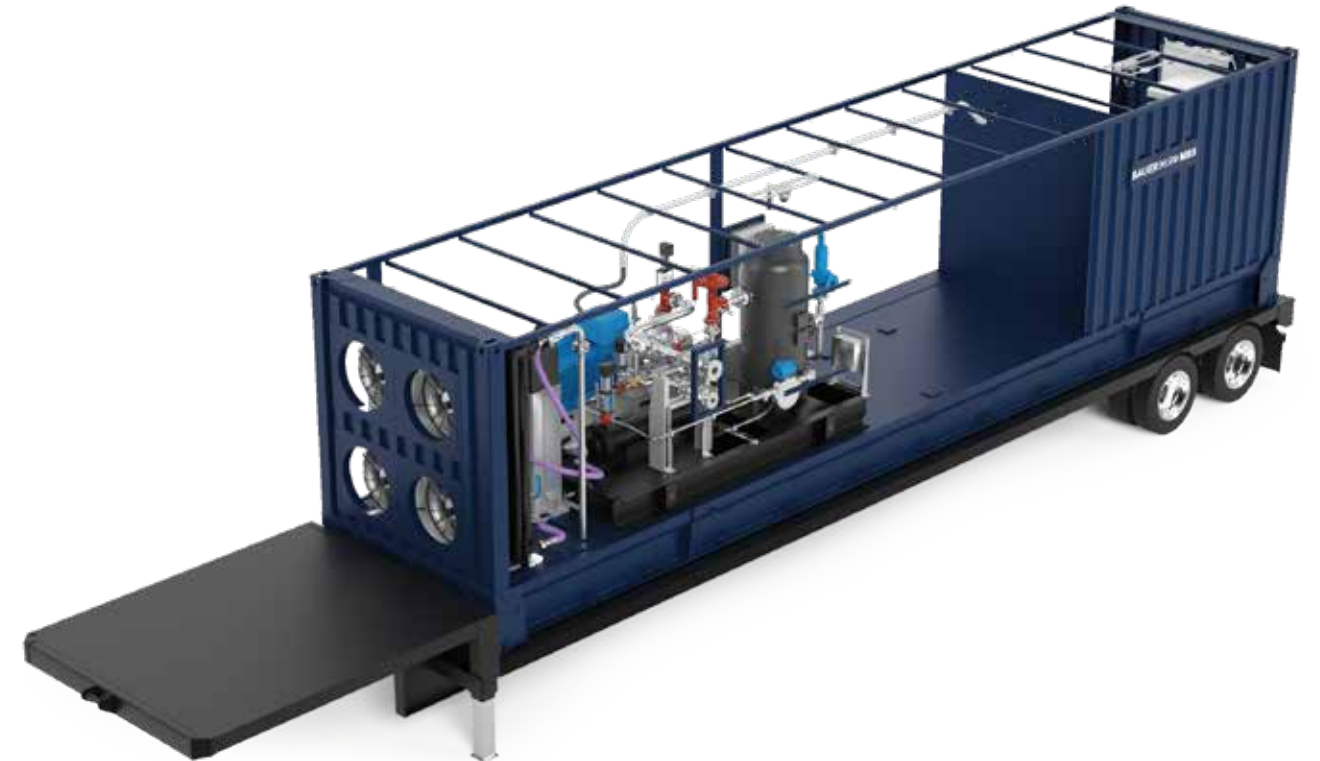
Compressor Inlet Pressure	Compressor Outlet Pressure	Compressor	Actual Used Power	Compressor Flow Rate	
PSIG	PSIG	RPM	HP	SCFM	MMCFD
145	1450	1425	293	867	1.25
110	1450	1425	249	668	0.96
90	1450	1425	230	496	0.71
60	1450	1425	185	286	0.56

Note: **1)** All performance data for compressed gas inlet (suction conditions) is stated at Standard Conditions: Suction Pressure as Indicated, Gas Temperature of 68° F (20°C) and RH of 0% **2)** All performance data for compressed gas outlet is stated at ISO 1217 Reference Conditions: Absolute Pressure at 364 ft (111m) elevation = 14.5 PSIG ( 1 Bar), Gas Temperature of 68° F (20°C) and RH of 0% **3)** All performance data are based on a typical well gas composition based on the following Mol percentages: Methane 97%, Nitrogen 1.0%, Carbon Dioxide 2%

## BAUER MB-5

### HIGH-PRESSURE ROTARY SCREW PIPELINE INJECTION BOOSTER COMPRESSOR SYSTEM

The BAUER MB-5 pipeline injection booster compressor system is based on BAUER ROTORCOMP's MB-5 rotary screw booster compressor platform. The system is able to handle compressor inlet pressures from 145 - 600 psig with outlet pressures of 400 - 1,100 psig for pipeline re-injection. The compressor system is PLC controlled while the variable frequency electric drive maintains optimal power consumption and constant outlet pressure into the pipeline with varying inlet pressure ranges into the compressor. The system is designed for mobility with quick disconnect electrical connections at the VFD as well as skid-edge flange connections for quick gas inlet and outlet hook-up.



### BAUER MB-5 PERFORMANCE (EACH SIMPLEX COMPRESSOR SYSTEM)

Model	Compressor Inlet Pressure		Compressor Outlet Pressure		Compressor Flow Rate	
	PSIG	BAR	PSIG	BAR	SCFM	MMCFD
GRUMB5-200	174	12	435	30	2052	2.95
GRUMB5-300	247	17	870	60	2117	3.0
GRUMB5-350	363	25	1088	75	2322	3.34

Note: **1)** All performance data for compressed gas inlet (suction conditions) is stated at Standard Conditions: Suction Pressure as Indicated, Gas Temperature of 68° F (20°C) and RH of 0% **2)** All performance data for compressed gas outlet is stated at ISO 1217 Reference Conditions: Absolute Pressure at 364 ft (111m) elevation = 14.5 PSIG ( 1 Bar), Gas Temperature of 68° F (20°C) and RH of 0% **3)** All performance data are based on a typical well gas composition based on the following Mol percentages: Methane 97%, Nitrogen 1.0%, Carbon Dioxide 2%



# BAUER CONNECT®

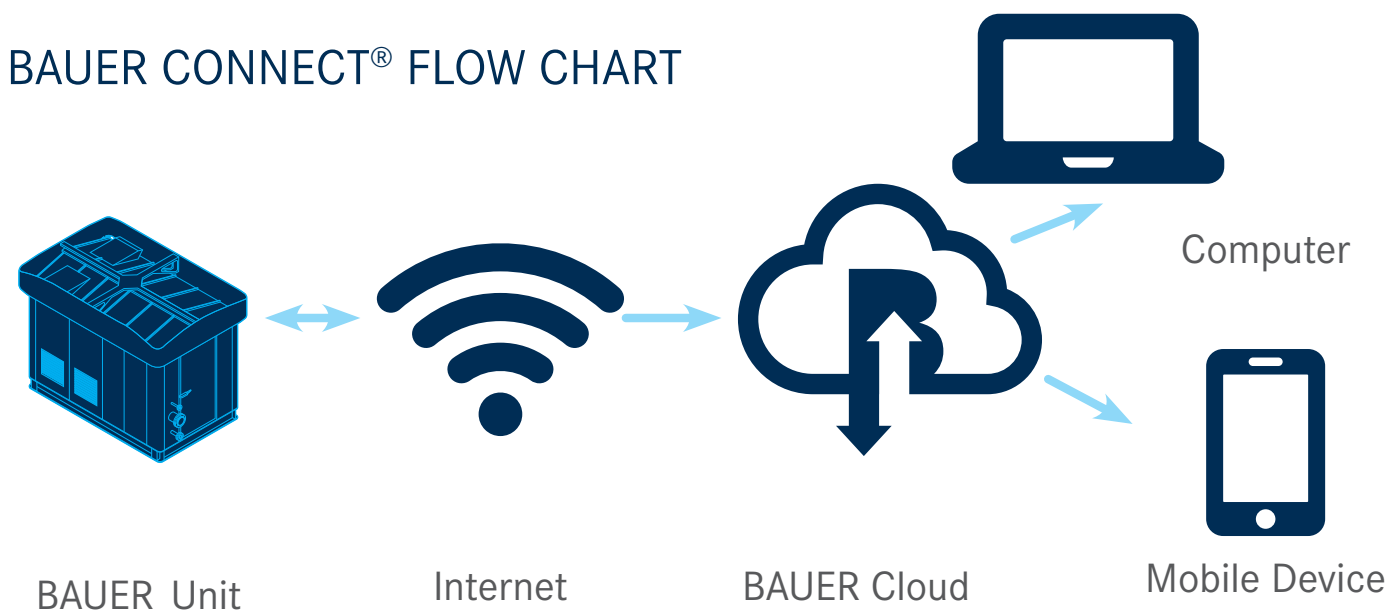
## IOT REMOTE TELEMETRY AND CONTROL

BAUER CONNECT® is an app and internet-based IoT solution that allows BAUER customers to remotely monitor - and control - the performance of the entire BAUER system through any wireless mobile device or computer; anytime, anywhere.

**Key Features:** allow customers to increase efficiency and productivity, save time, do more with fewer resources, enjoy lower operational costs, and have total flexibility with a solution tailored specifically for the end-user.

BAUER CONNECT® - Connection that matters.

### BAUER CONNECT® FLOW CHART



### BAUER REMOTE HMI

The BAUER Remote HMI function allows factory-trained technical personnel to remotely control the BAUER system via the BAUER CONNECT® App with the same functionality as if one were standing in front of the actual unit.



### BAUER REPORTS

The BAUER Reports feature is a function that generates custom reports tailored to the specific needs of the customer. Customers can have access to historical data via a multitude of standard and customized reports.



### MOBILE DASHBOARDS

BAUER CONNECT® App will also display a real-time graphical display of the entire system (SCADA view). The Mobile Dashboard feature provides information such as compressor system status, error log, critical pressures and temperatures, and volume of air dispensed in storage information, etc.



### BAUER PREDICTIVE ANALYTICS

This feature of BAUER CONNECT® provides a new pro-active dimension to perpetually maintaining customers' compressor systems at peak conditions with minimum downtime. BAUER's predictive analytics algorithm uses artificial intelligence to analyze the collected system information on the BAUER Cloud to predict upcoming maintenance requirements and preventative actions to avoid unplanned shutdowns.



### NOTIFICATIONS

The BAUER CONNECT® Mobile App will send push notifications if certain critical parameters of the BAUER system fall outside of normal operating range, or if triggered by a system alert. This ensures that essential personnel is notified immediately, thus allowing for pro-active intervention in a situation that could potentially be detrimental to the BAUER system as well as the customer's operation.

TO LEARN MORE VISIT

[bauer-connect.com](http://bauer-connect.com)

# LIFECYCLE PERFORMANCE

BAUER is committed to the lifecycle performance of its customers

## PARTS



OEM PARTS WARRANTY



RAPID DELIVERY

## QUALITY AND RELIABILITY

Our factory-original replacement parts assure you that when maintenance or repair is performed, you are restoring the unit to its original specifications and performance.

## PARTS: COMPATIBILITY

We configure our designs with interchangeability and our end user in mind. You can count on parts being available for all BAUER models.

[PartsSales@BauerComp.com](mailto:PartsSales@BauerComp.com) or +1 (844) 500-5822



- |                             |                       |
|-----------------------------|-----------------------|
| 1. Purification             | 5. Valves             |
| 2. Gaskets and Seals        | 6. Air Intake Filters |
| 3. Lubricants               | 7. All 10,000+ Parts  |
| 4. Fill Hose and Assemblies |                       |

## GLOBAL SERVICE

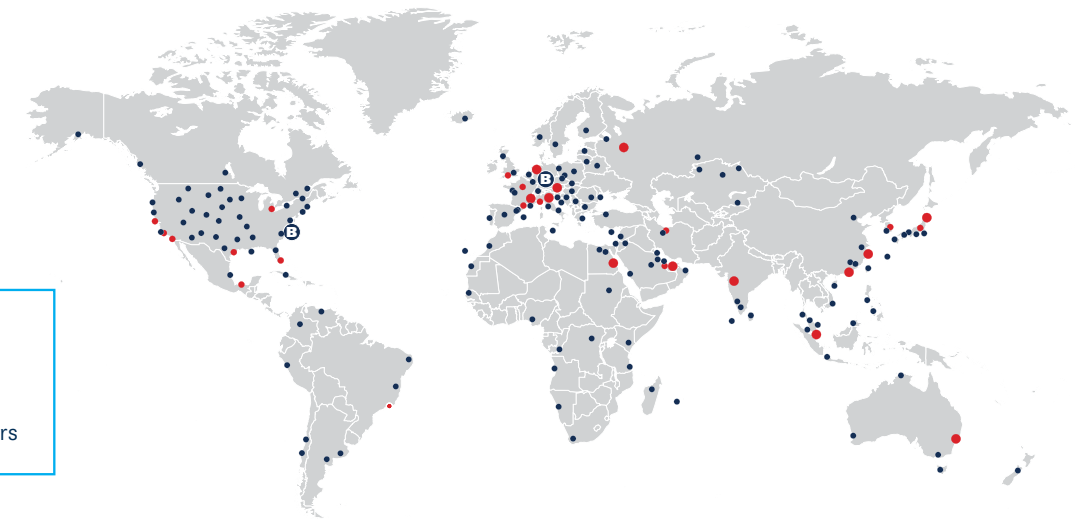


GLOBAL SERVICE REACH



FACTORY TRAINED TECHS

- BAUER Germany & BAUER Norfolk
- BAUER Branches
- BAUER Service Centers/Distributors



## SERVICE AND SUPPORT

Our compressors are designed with you in mind. Easy-to-use manuals guide you through clear, mechanically-accessible repairs. Our worldwide distribution network was developed to assist in after-sales support, along with product and maintenance parts assistance.

## FROM THE SOURCE

BAUER COMPRESSORS INC. is certified with **ISO 9001:2015** quality processes providing you with confidence that cannot be duplicated by sub-standard after-market parts and service.

## TRAINING



ON-SITE/OFF-SITE TRAINING



FACTORY TRAINED TECHS

BAUER COMPRESSORS INC. offers a variety of on-site and off-site Training Schools. Our on-site classes are held at our BAUER Training Facility and are taught by the same people who help manufacture, test, and service our products. From electrical systems to hands-on breakdowns, we cover all areas of compressor operation.

## TRAINING TOPICS

Basic mechanical theory and control system theory (electric and pneumatic), along with troubleshooting for all BAUER systems.

Class schedule and course registration at:

[www.BauerCustomerTraining.com](http://www.BauerCustomerTraining.com)



## BAUER HELPDESK



24/7 PHONE TECH SUPPORT

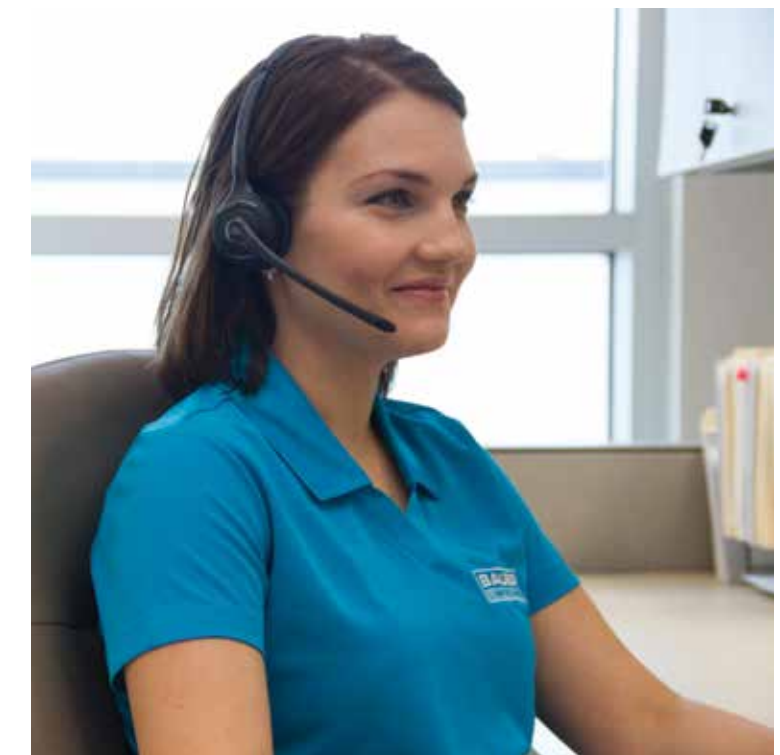


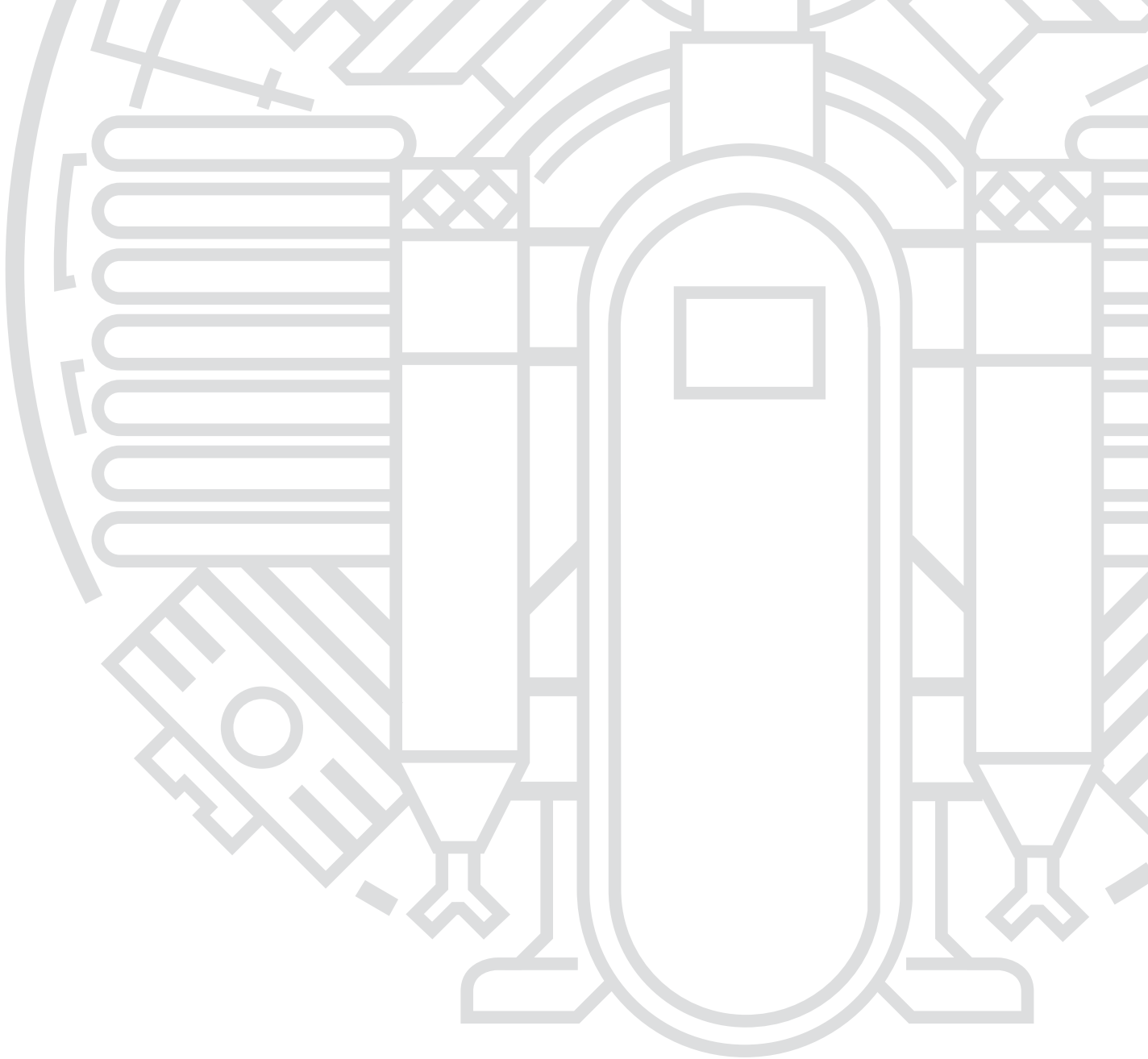
LIFECYCLE PERFORMANCE

## TRAINING TOPICS

Total customer satisfaction is our top priority. BAUER provides 24/7 phone tech and troubleshooting support at our BAUER Helpdesk. Our support continues throughout our warranty period and beyond.

»»» For BAUER Helpdesk please email:  
[CustomerService@BauerComp.com](mailto:CustomerService@BauerComp.com)  
or call at:  
**+1(844)500-5822**





**U.S. HEADQUARTERS:**  
**BAUER COMPRESSORS, INC.**  
1328 Azalea Garden Road  
Norfolk, VA 23502  
Tel. +1 (757) 855-6006  
Fax +1 (757) 857-1041  
[CNG@bauercomp.com](mailto:CNG@bauercomp.com)  
[www.BauerComp.com](http://www.BauerComp.com)



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