

# HAUG



## Sauer Compressors



### HAUG.Pluto

#### Oil-free piston compressor

- 0,5–2,2 kW
- Suction pressure max. 20 barg
- Final pressure max. 60 barg
- 10–50 Nm<sup>3</sup>/h
- Gas-tight with built-in motor

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

## Oil-free booster compression of oxygen

HAUG oxygen compressors are used as boosters for an on-site gas production plant. Oxygen is generated using a PSA-, VPSA- or membrane system. Depending on the process, the pressure from the gas generation plant is either at atmospheric pressure (VPSA) or at around 4 bar (PSA). Depending on the application for which the oxygen is being used, the pressure has to be increased. This is achieved using a booster compressor.

The oxygen compatibility is ensured by high quality materials and a completely oil-free compression. The compressor components that come into contact with the medium are specially selected and cleaned for operation with oxygen.



## Oil-free booster compression of nitrogen and air (CDA = Clean Dry Air)

HAUG nitrogen compressors are used as boosters for an on-site gas production plant or for a pressure increase from an existing pressurized nitrogen network. As a result of the oil-free and gas-tight construction, contamination of the gas by oil or ambient air is prevented.

Oil-free compressed air booster compressors are used for a local pressure increase at the workplace. Raising the pressure locally saves energy and money. The central compressed air supply is operated at a lower pressure. Only a partial compressed air flow is compressed to the higher final discharge pressure by the booster compressor.

HAUG.Pluto compressors for oxygen compression

	min. suction pressure in bar(abs)		average suction pressure in bar(abs)		max. suction pressure in bar(abs)		max. final discharge pressure in bar(abs)		Flow rate in Nm <sup>3</sup> /h at average suction pressure and motor speed of 1450 rpm		Flow rate in Nm <sup>3</sup> /h at average suction pressure and motor speed of 1740 rpm		Motor power in kW
HAUG.Pluto 11E 26	4.0	5.0	6.0	11	3.2	3.9	0.55						
HAUG.Pluto 11E 26	5.0	6.0	7.0	16	3.6	4.3	0.55						
HAUG.Pluto 11E 50	4.0	5.0	6.0	11	12.7	15.2	1.5						
HAUG.Pluto 11E 50	5.0	6.0	7.0	16	14.6	17.5	1.5						
HAUG.Pluto 11E 75	4.0	5.0	6.0	11	29.6	35.6	2.2						

HAUG.Pluto compressors for compression of nitrogen and air

	min. suction pressure in bar(abs)		average suction pressure in bar(abs)		max. suction pressure in bar(abs)		max. final discharge pressure in bar(abs)		Flow rate in Nm <sup>3</sup> /h at average suction pressure and motor speed of 1450 rpm		Flow rate in Nm <sup>3</sup> /h at average suction pressure and motor speed of 1740 rpm		Motor power in kW
HAUG.Pluto 11E 26	6.0	8.0	10.0	16	5.3	6.3	0.55						
HAUG.Pluto 11E 50	6.0	8.0	10.0	16	20.5	24.6	1.5						
HAUG.Pluto 11E 75	6.0	8.0	10.0	15	48.0	57.6	2.2						



## Oil-free recovery and compression of SF<sub>6</sub> gas

SF<sub>6</sub> gas is a halogen compound which has a very negative impact on the environment. The greenhouse effect of SF<sub>6</sub> is 23,900 times greater as for the same quantity of CO<sub>2</sub>. SF<sub>6</sub> gas is one of the six greenhouse gases which are prohibited from freely escaping into the atmosphere. The harmful effect on the environment makes the safe and gas-tight use of SF<sub>6</sub> an important issue for the whole society. It is absolutely essential to use gas-tight equipment and gas-tight processes in connection with SF<sub>6</sub>.

HAUG SF<sub>6</sub> compressors are used throughout the world by leading manufacturers of SF<sub>6</sub> recovery plants for gas-tight and oil-free compression.

## Helium recovery and booster compression

Helium is often being used for pressure tests, as well as an inert gas atmosphere at heat treatments or in spray coating process on metal surfaces. For this kind of process gas it is necessary to have a leakage free compression of the high volatile gas.

The HAUG.Pluto compressors fulfil the highest requirements for oil-free and gas-tight compression. A contamination of the environment or process gas is almost impossible.



HAUG.Pluto compressors for compression of SF <sub>6</sub> gas							
	min. suction pressure in bar(abs)	average suction pressure in bar(abs)	max. suction pressure in bar(abs)	max. final discharge pressure in bar(abs)	Flow rate in Nm <sup>3</sup> /h at average suction pressure and motor speed of 1450 rpm	Flow rate in Nm <sup>3</sup> /h at average suction pressure and motor speed of 1740 rpm	Motor power in kW
HAUG.Pluto 22E 45-26	1.0	2.0	3.0	51	3.3*	4.0*	2 x 0.55
HAUG.Pluto 22E 50-30	1.0	4.0	7.0	51	8.8	10.5	2 x 1.5
HAUG.Pluto 11E 75	1.0	3.0	5.0	9	16.0	19.2	2.2

\* theoretical flow rate

HAUG.Pluto compressors for booster compression of helium							
	min. suction pressure in bar(abs)	average suction pressure in bar(abs)	max. suction pressure in bar(abs)	max. final discharge pressure in bar(abs)	Flow rate in Nm <sup>3</sup> /h at average suction pressure and motor speed of 1450 rpm	Flow rate in Nm <sup>3</sup> /h at average suction pressure and motor speed of 1740 rpm	Motor power in kW
HAUG.Pluto 11E 50	6.0	8.0	10.0	20	20.0	24.0	1.5
HAUG.Pluto 11E 30	17.0	18.5	20.0	55	14.5	17.5	1.5
HAUG.Pluto 22E 50-30	6.5	7.0	7.5	55	16.4	19.7	2 x 1.5

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## HAUG.Pluto compressors oil-free and gas-tight Power range 0.5 – 2.2 kW

The HAUG.Pluto range is used for gas recovery and booster compression of gases such as helium, SF<sub>6</sub>, oxygen and nitrogen, as well as for booster compression (boosting) of compressed air.

HAUG.Pluto compressors have the electric motor in the gas compartment. Power is supplied to the electric motor through a gas-tight connection in the crankcase. This design has been developed in-house by HAUG Sauer. This hermetically sealed and completely wear-free drive was first employed in the HAUG.Pluto compressor in 1990 and can be used for suction pressures up to 20 bar.

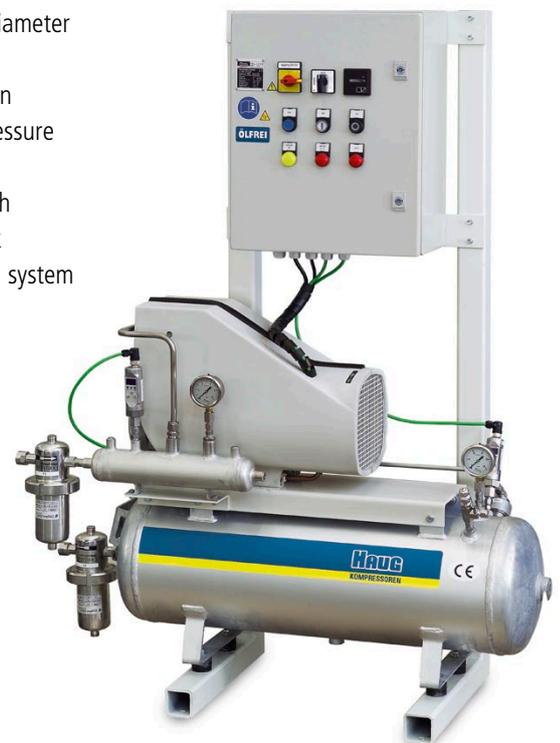
There are also block versions of the HAUG.Pluto compressor for OEM applications available, without pipework or instrumentation, for integration into an OEM system.

The modular HAUG.Pluto compressor concept allows highly individual and cost-effective adaptation of the compressor configuration to the customer's requirements. This allows the development of technically, commercially and energetically optimum solutions.

The HAUG.Pluto compressor cannot be used for applications in potentially explosive atmospheres, e.g., according to the ATEX directive.

### Features

- Completely Oil-free piston compressor
- Gas-tight design with integrated motor
- Compressor block leak rate < 0.0001 mbar l/s
- Air-cooled
- Motor powers from 0.5 to 2.2 kW
- Rotary speed range 970 to 1740 1/min
- Suction pressure max. 20 bar
- Final discharge pressure max. 60 bar
- Modular cylinder configuration with cylinder diameter up to 75 mm
- Version with 1 cylinder for 1-stage compression
- Maximum flow rate at atmospheric suction pressure approx. 10 m<sup>3</sup>/h
- Booster-version flow rate max. approx. 50 m<sup>3</sup>/h
- OEM block version available without pipework and instrumentation for integration in an OEM system
- Very robust and long-lasting construction
- Compact and foundation-free installation
- Very quiet and hence suitable for installation directly at the workplace



HAUG provides customized  
 solutions for special plant  
 constructions.