

AG series
DRY-RUNNING PISTON COMPRESSOR



CLEAN - SAFE - RELIABLE

AG series

DRY-RUNNING PISTON COMPRESSOR

sera piston compressors of the AG series series find diverse applications in areas such as residential areas, neighbourhoods and industrial energy solutions. In autonomous energy systems, the piston compressor plays an important role by compressing hydrogen to make it suitable for long-term storage. This dry-running, two-stage piston compressor is air-cooled and has been specially developed for operation with hydrogen 5.0. The easy installation and user-friendly design make the piston compressor the ideal choice for your systems. These aspects were already considered and implemented during the development of the Piston compressor.

FIELDS OF APPLICATION

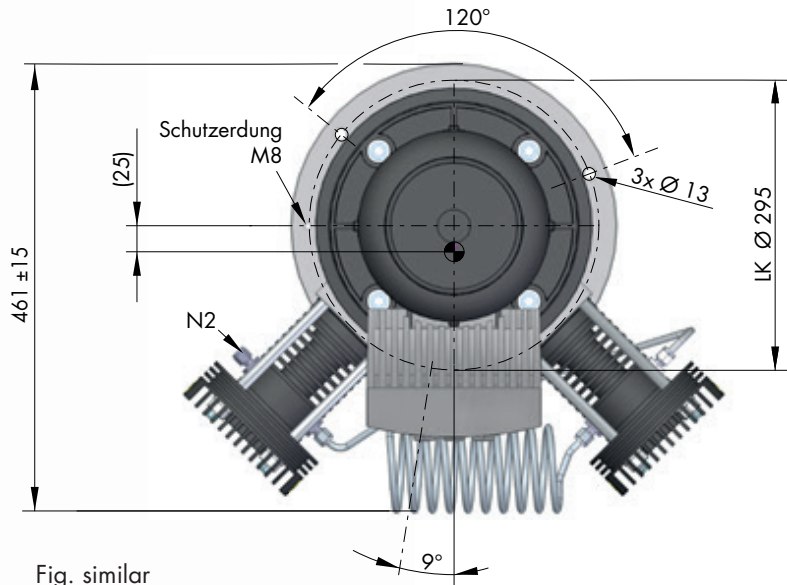
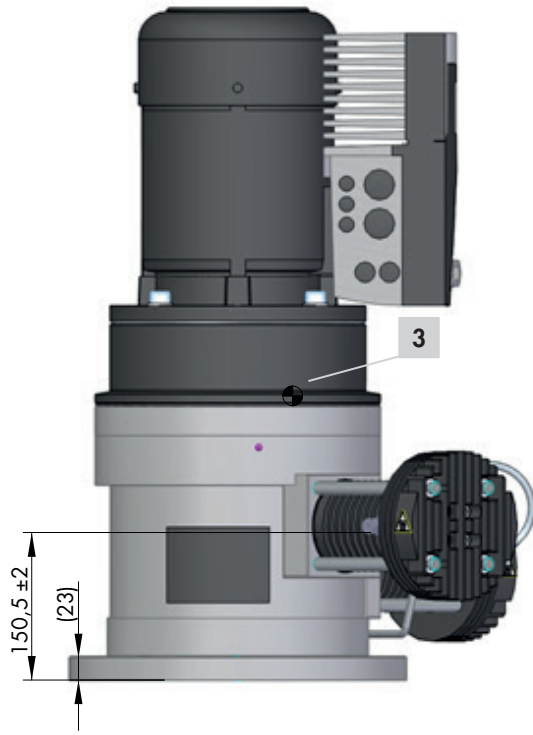
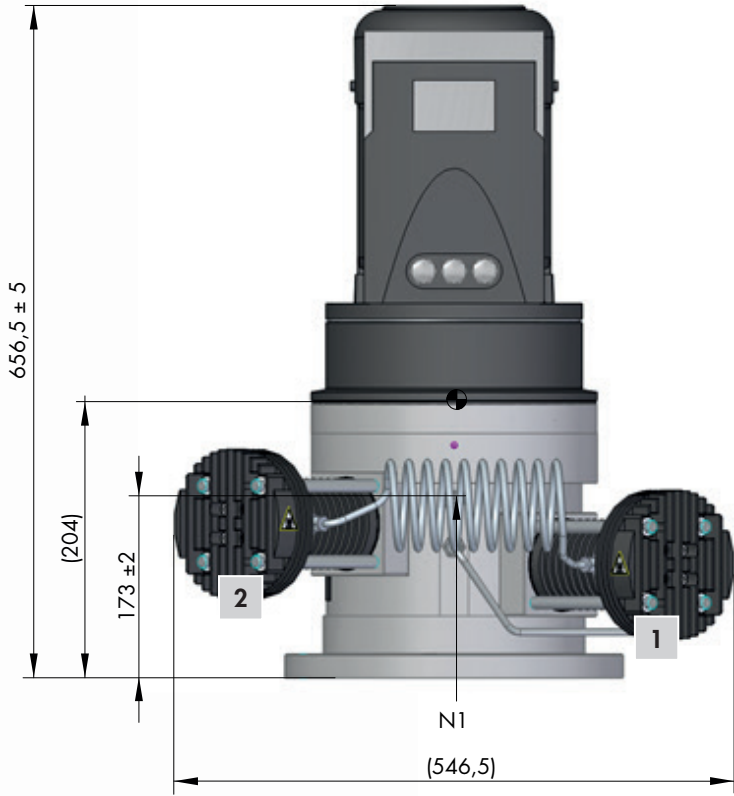
- Home Power Applications
- District and quarter supply
- Power and heat applications
- Series Production

TECHNICAL DATA

- Gas: H₂, dry, free of solids
- Inlet pressure: 25-30 bar(g)
- Outlet pressure: max. 300 bar(g)
- Ambient temperature: -10°C to +40°C
- Delivery rate: $\geq 2.0 \text{ Nm}^3/\text{h}$ from 30 to 300 bar(g) Ultimate pressure
- Air-cooled
- Protection class: IP55



AG series DIMENSIONS



Connections	
N1	Gas inlet Pipe fitting d=6 mm
N2	Gas outlet Pipe fitting d=6 mm
1	Stage 1
2	Stage 2
3	Centre of gravity

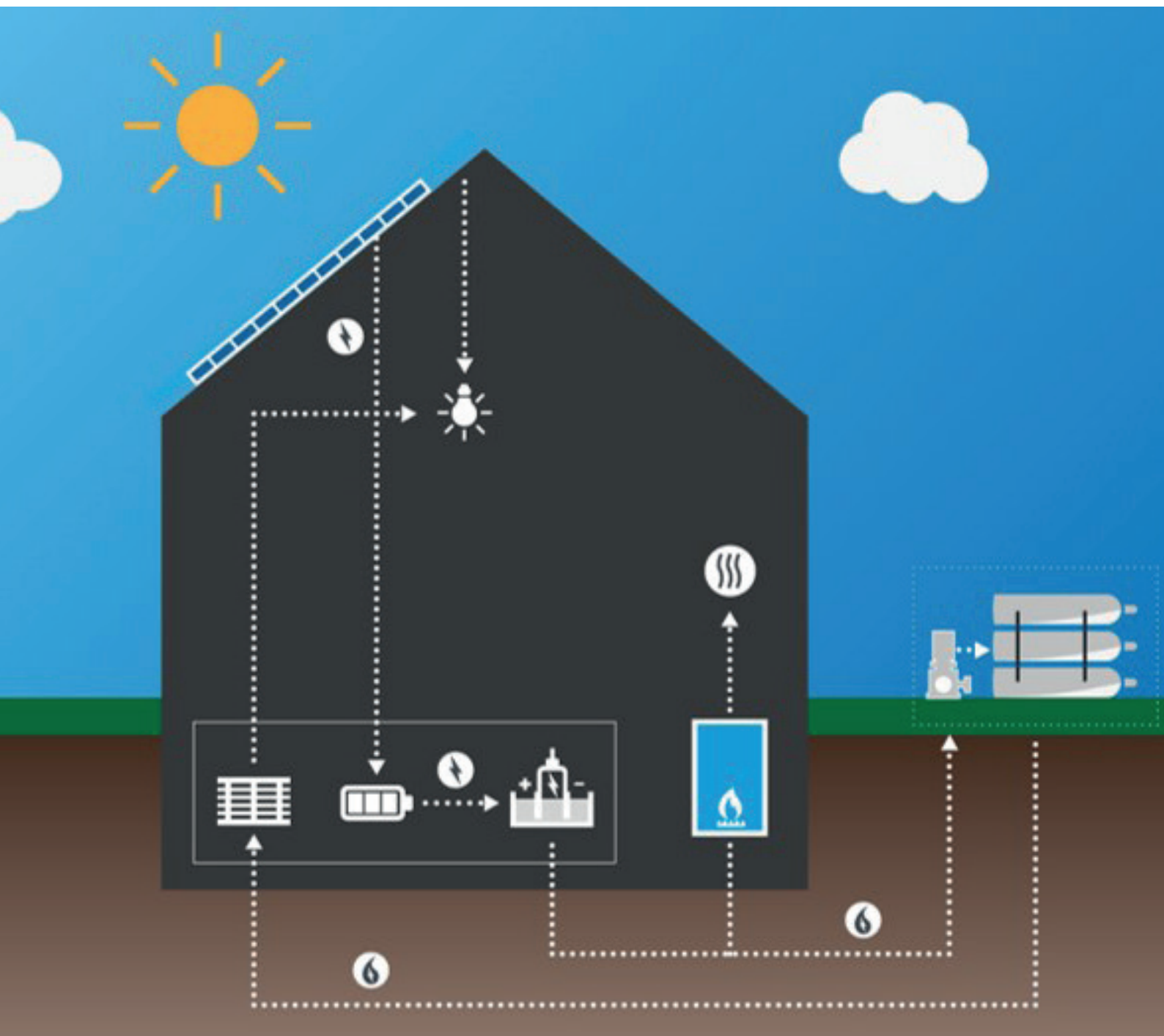
Fig. similar



AG series DRY-RUNNING PISTON COMPRESSOR

HOME POWER APPLICATION

- Independent and emission-free energy supply - all year round, even in winter
- Clean and self-sufficient energy
- Significant growth market in new construction and modernisation of buildings



AG series DRY-RUNNING PISTON COMPRESSOR

MODULAR ENERGY SYSTEM

- Compact design
- Reuse of leakage gas
- Hermetically sealed
- Low power consumption
- Low noise emission



COMPRESSOR DATA

COMPRESSOR TYPE		KV 100 7 II L
sera Article-No.		45000455
Level of maturity		D1.3

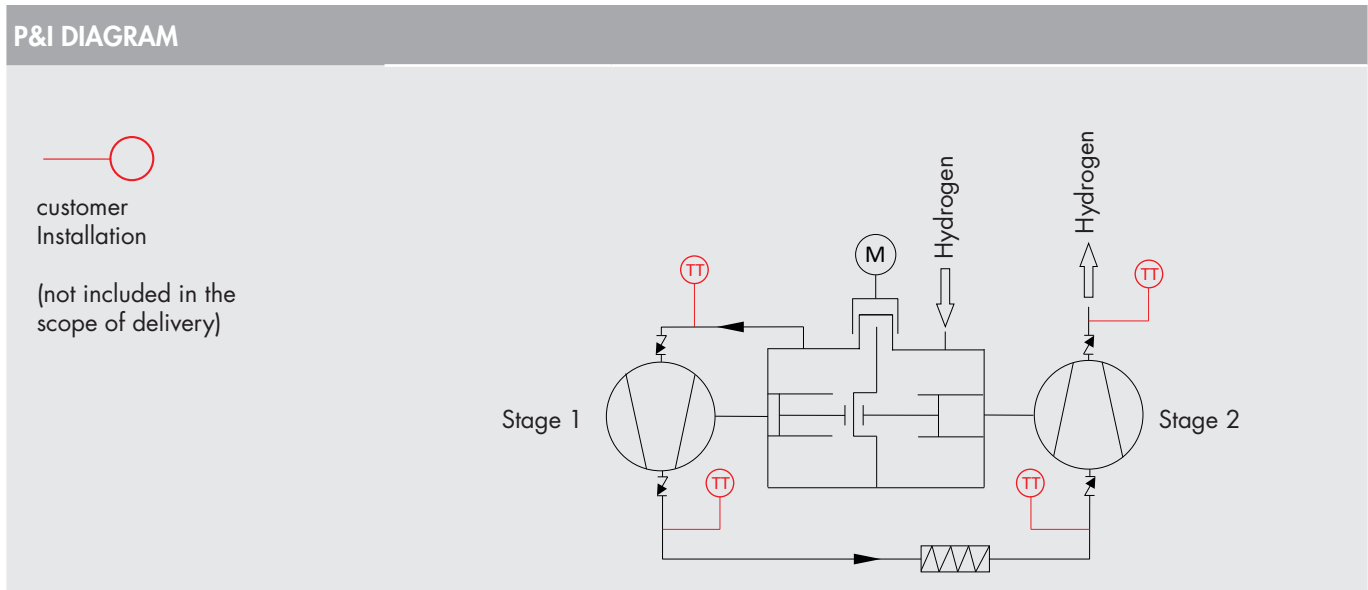
TECHNICAL DATA		
Inlet pressure (PS)		Short-term min. 10 bar(g) Operation 25 - 30 bar(g) Casing pressure max. 40 bar(g)
Outlet pressure		max. 300 bar(g)
Delivery rate with test gas helium at 30 bar(g) inlet pressure		≥ 2,0 Nm ³ /h at 300 bar(g) final pressure (BOL)* ≥ 3,0 Nm ³ /h at 150 bar(g) final pressure (BOL)*
max. duty cycle		2x per hour
max. switch-on duration		alternating operation 30 minutes ON, followed by a 15-minute break
Number of stages		two, horizontal cylinders
Leakage rate	per measuring point with helium	1x10 ⁻⁵ mbar l/s
Protection class		IP 55
(Laboratory measurement according to DIN EN ISO 3744:2011-02 and DIN EN ISO 2151:2009-01)	L'pA	< 60 dB(A) (BOL)*
Weight		< 95 kg
Corrosion protection		Painting C2 according to DIN EN ISO 12944-2
Colour scheme		Deep black RAL 9005 matt, dust grey RAL 7037 matt

ENVIRONMENTAL CONDITIONS	
Max. Installation height	1,000 m above sea level, higher installation with de-rating
Ambient temperature	-15 °C - +40 °C

CONVEYING MEDIUM	
Gas type	Hydrogen 5.0, dry, solids-free (if lower qualities are used, but at least 3.5, the wear behaviour may change)
Inlet temperature	max. 30 °C
Dew point Hydrogen	- 50°C at 1 bar
Compressor impurities	Abrasion by seals, initial lubricant

COMPRESSOR DATA

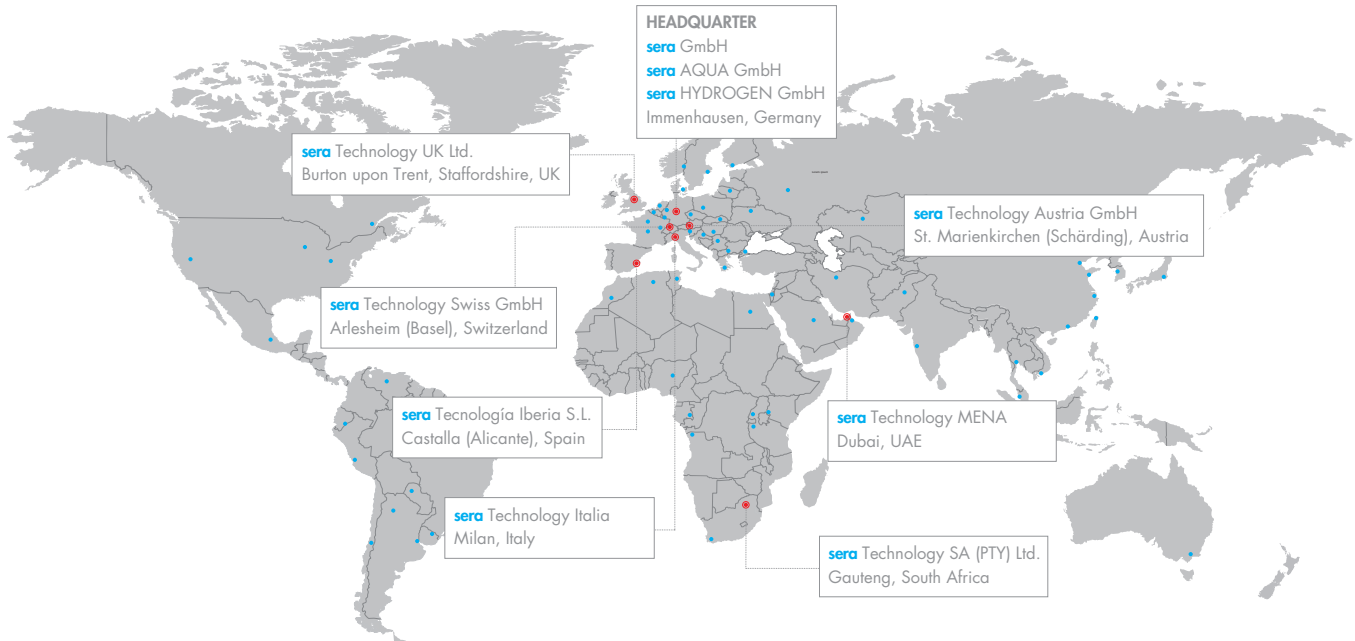
DRIVE / MOTOR	
Motor type	Asynchronous motor, 4-pole
Speed	approx. 540 rpm (18Hz) and 750 rpm (25Hz)
Electrical voltage	220 VAC (Y)
Drive power (de-rating of the electric drive is to be expected above 40°C)	2.200 W; 750 W (at 16Hz)
Continuous power consumption	approx. 650 W
Connection	via frequency converter
Switching/frequencies	25 Hz up to 100 bar(g), max. 200 bar(g)
	18 Hz up to max. 300 bar(g)
Switch-off, automatic	100 °C at the gas inlets and outlets of the cylinders, at the pipe connection. (to be ensured by signal of the external control, Consideration of max $\Delta T=100$ K)



MATERIALS	
Drive housing, cylinder head	Aluminium
Cylinder	Steel
Seals	C-seals (metallic)
Piston seal	PTFE
Piston guide	Plastic / Bronze / Steel
Pipe connections	Clamping ring 6mm stainless steel

* BOL = begin of life

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