REJOOL®

EMPOWERING TOMORROW

Compact, safe, efficient.
Reshaping the way of hydrogen compression.

PIONYR P 202

100% oil-less, robust design and long lifetime.

CHANGE YOUR COMPRESSOR.
CHANGE YOUR STORY.

WITH REJOOL HYDROGEN COMPRESSORS

REJOOL is a young start-up located in central Germany. We focus on the development, production and commercialization of innovative hydrogen compressors for small and decentralized hydrogen energy systems.

CONTENT

REJOOL®

PIONYR COMPRESSOR SOLUTION

A COMPRESSOR TO DELIVER EVEN THE SMALLEST AMOUNTS OF HYDROGEN

As the world moves toward sustainable energy, green hydrogen is taking center stage. Emission-free and highly versatile, it enables a substantial reduction in carbon emissions while offering efficient ways to store excess energy and deliver clean heat and power.

REJOOL supplies the oil-free compressors that make safe and reliable green hydrogen storage possible.

MARKETS AND APPLICATIONS

Our expertise lies in the development, production and commercialization of compact and efficient hydrogen compressors, specifically designed for decentralized hydrogen projects.

Digital working at REJOOL:
https://www.youtube.com/watch?v=XvXOLkYRO-8

Small commercial applications
Hydrogen is playing an increasingly important role in the commercial sector.
As a clean energy source for a wide range of industrial and commercial applications, it is becoming indispensable.
The efficiency and reliability of these processes largely depend on high-performance hydrogen compressors.

Hydrogen refueling
Hydrogen is increasingly being used to power small-scale mobility solutions such as drones, scooters, and other light vehicles. These applications require fast, safe, and efficient refueling solutions to ensure continuous operation and maximum uptime .

Backup power supply
Hydrogen compressors, in combination with fuel cells, can serve as backup power sources in remote or critical areas where a reliable energy supply is essential.

Research & Development
In research laboratories and educational institutions, small hydrogen compressors can be used to supply hydrogen for experiments, analysis, or educational purposes.

REJOOL COMPRESSOR DESIGN

OPTIMIZED SOLUTION FOR COMPACTNESS, HIGHEST SAFETY AND EFFICIENCY

01

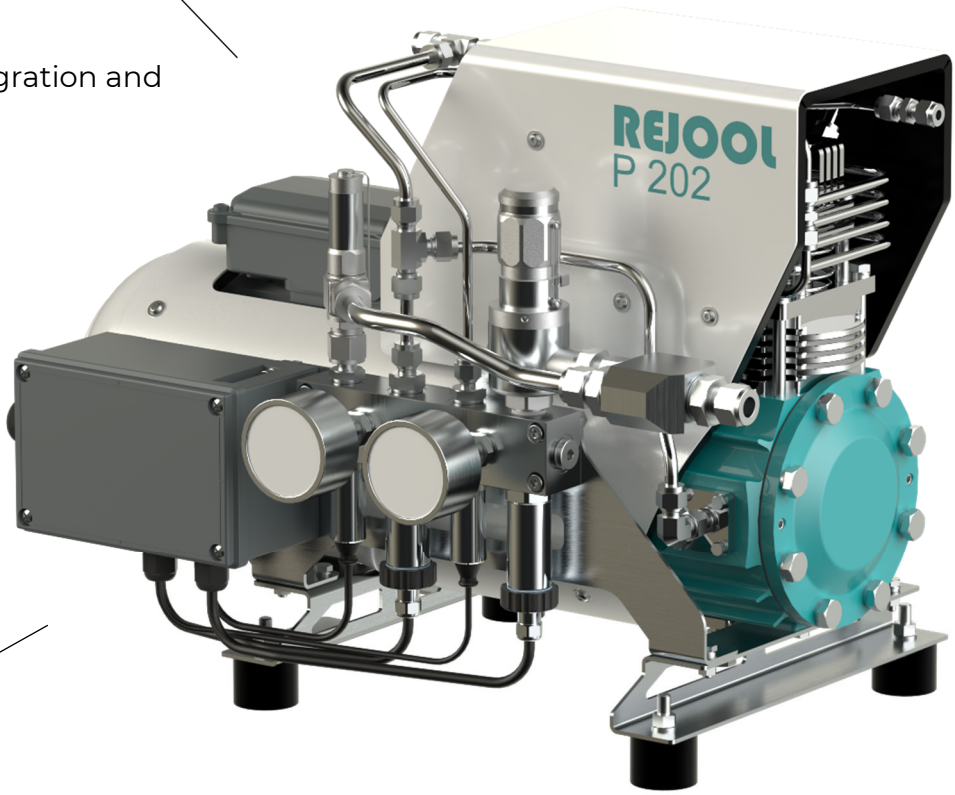
HERMETIC AND GAS-TIGHT

for 0% leakages

02

COMPACT AND RELIABLE DESIGN

for easy system integration and safe operation



03

100% OIL-LESS

for clean hydrogen compression

04

INTEGRATED ACCESSORIES

for plug-and-play and machine protection

01

HERMETIC AND GAS-TIGHT

for 0% leakages

Magnet coupling

- contactless motor coupling
- no wear of rotary sealing elements

Static sealings

- specially designed static metal sealing elements

02

COMPACT AND RELIABLE DESIGN

for easy system integration and safe operation

Dimensions

- small footprint
- little installation space
- low weight

Pressure devices

- safety valve compressor inlet
- safety valve compressor outlet

ATEX

- inside compressor no ATEX zone
- suitable for installation in ATEX zone 2

03

100% OIL-LESS

for clean hydrogen compression

Guide rings and dynamic sealings

- without initial lubrication
- no contamination risk by out-gassed lubricants
- no glueing of valves

Crank drive

- robust closed main and piston rod bearings
- without oil lubrication
- no contamination risks of oil vapour

04

INTEGRATED ACCESSORIES

for plug-and-play and machine protection

Instrumentation block

- central unit for devices and instrumentation
- stainless steel piping
- various configurations

Equipment

- pressure sensors
- pressure switches
- pressure gauges
- particle filter in suction line
- intercooler between 1st and 2nd stage

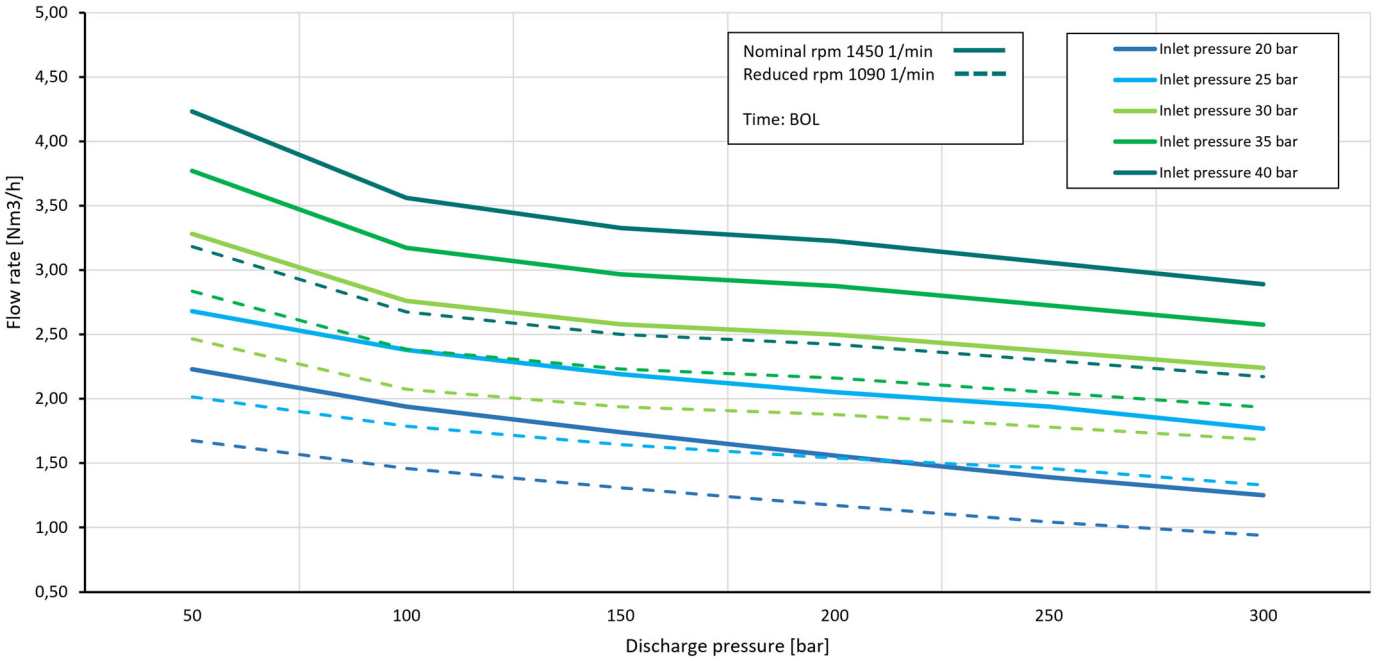
REJOOL COMPRESSOR DESIGN

FLOW RATE AND DIMENSIONS

FLOW RATE

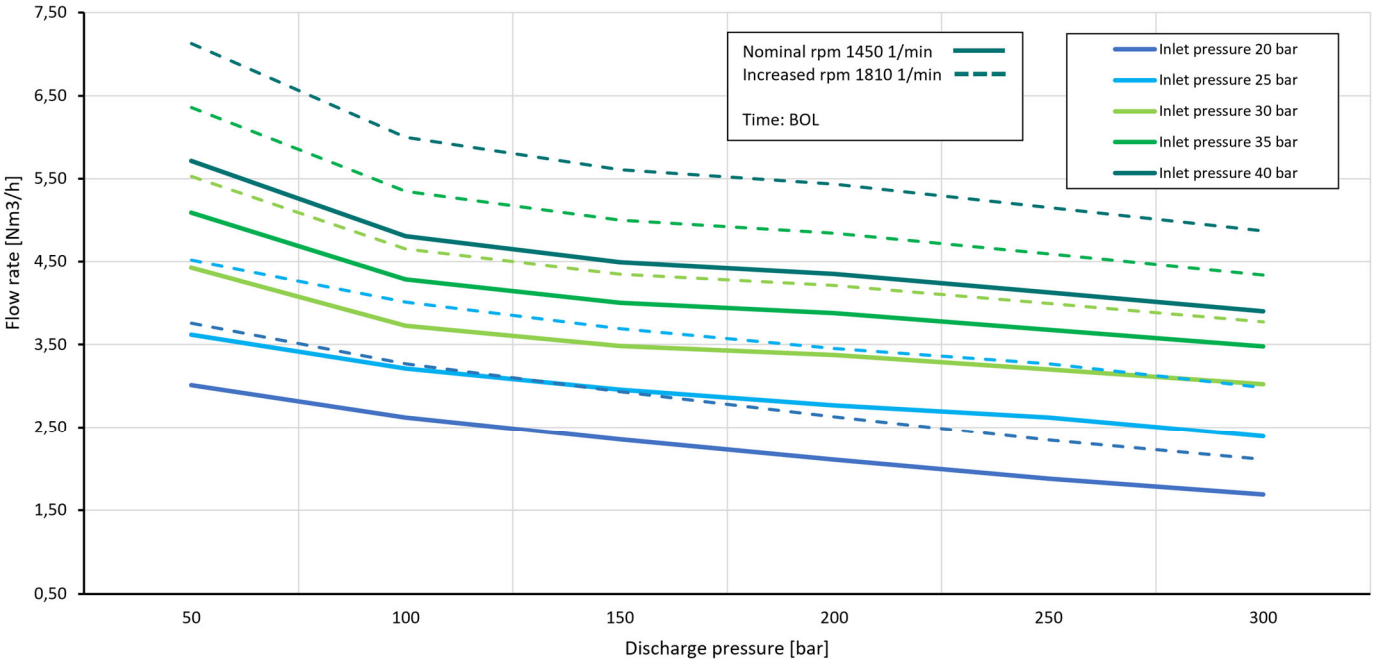
The following figure shows the P 202 in its standard version. In this configuration, a flow rate range of approximately 1.3 Nm^3/h at 20 bar inlet pressure and 300 bar outlet pressure, up to about 2.9 Nm^3/h at 40 bar inlet pressure and 300 bar outlet pressure, is achieved at a motor speed of 1,450 rpm.

P 202



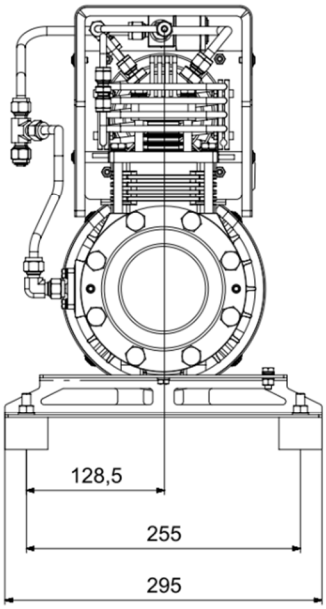
The flow rate of the P 202 High Performance (HP) is generally higher due to another piston configuration. It should also be noted that increasing the motor speed to a maximum of 1,810 rpm results in a flow rate of approximately 5 Nm^3/h at an inlet pressure of 40 bar and an outlet pressure of 300 bar .

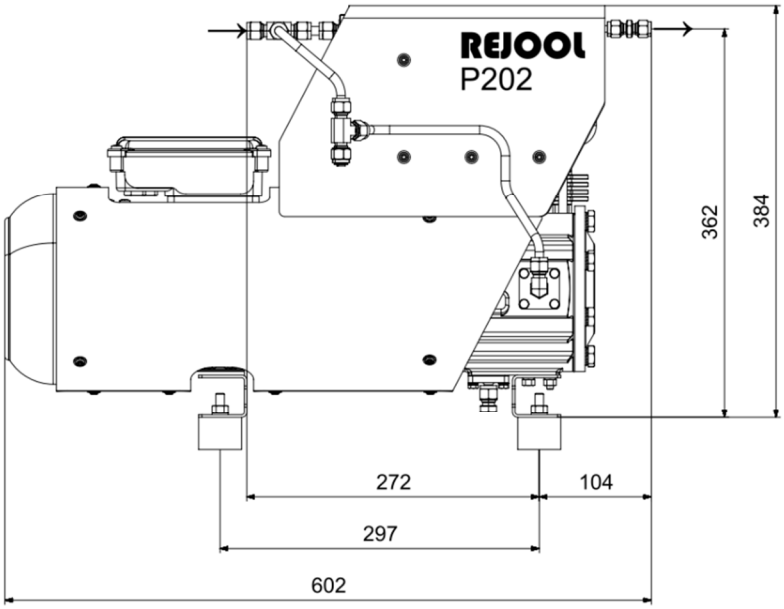
P 202 HP



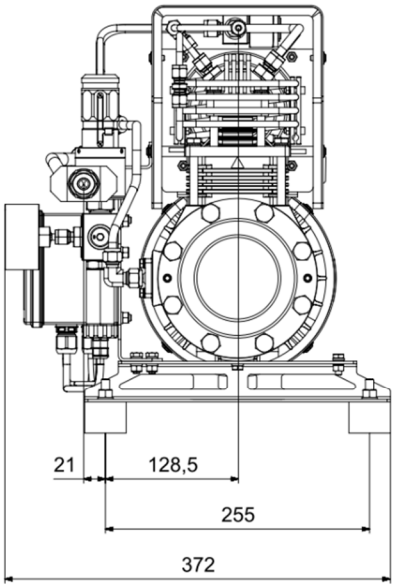
DIMENSIONAL DRAWINGS

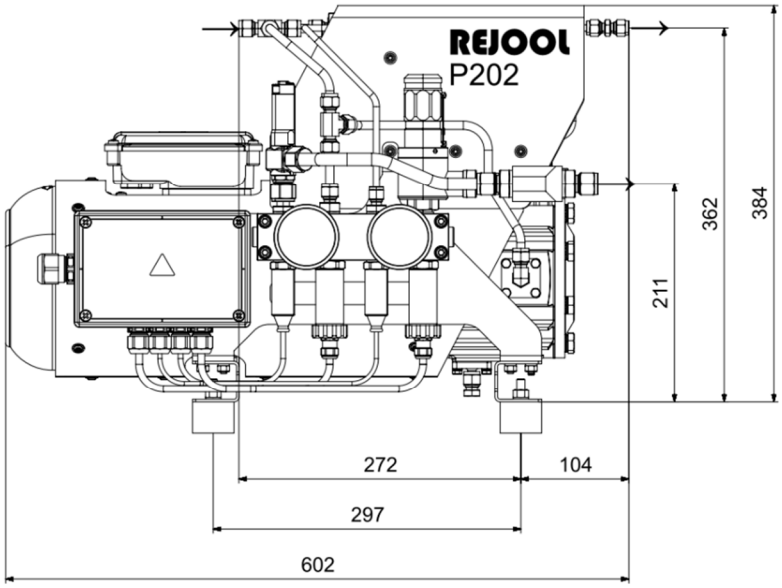
P 202 without equipment





P 202 with equipment





REJOOL COMPRESSOR DESIGN

TECHNICAL SPECIFICATIONS, MAINTENANCE AND DECLARATIONS

TECHNICAL DATA

PIONYR compressor		P 202		
Max. discharge pressure	[MPa] [psig]		35 (4350)	
Min. inlet pressure	[MPa] [psig]		2 (290)	
Max. inlet temperature	[°C]		40	
Inlet (Union)	[-]		D8	
Outlet (Union)	[-]		D6	
Blow-off pipe (Union)	[-]		D12	
Weight	[kg]		45-55	
Supply voltage	[V]	230 AC 50 Hz	230 AC 50 Hz	400 AC 50 Hz
Rated power 50 Hz	[kW] [HP]	0.9 (1.22)	0.9 (1.22)	0.9 (1.22)
Rated speed 50 Hz	[1/min]	1450	1450	1450
Motor typ	[-]	1-ph	3-ph	3-ph
Protection class	[-]	IP54	IP54	IP54
Motor protection			Thermistor (PTC)	
Supply voltage devices	[V]	24 DC	24 DC	24 DC
Leakage rate	[mbar l/s]		<0.001	
Cooling	[-]		Active air cooling	
Ambient temperature	[°C]		-15 bis +40	

MAINTENANCE CONCEPT

The PIONYR compressors feature a maintenance concept that excels in both simplicity and user convenience. With easy access to all wear parts, regular maintenance is straightforward and hassle-free.

The maintenance program includes an inspection and four service levels, scheduled at regular intervals based on the compressor's operating hours. Except for the general overhaul, all maintenance tasks can be performed by the customer, provided they have completed the necessary training.

The exact maintenance intervals can be found in the maintenance program, available upon request.

SERVICE SETS

Service-Set No.	Service-Set Name	ID	Spare parts
Service-Set 1 a/b	Piston set	00001416/ 00001417	♦ Piston sealings ♦ Piston guide rings ♦ Static sealings ♦ Hexagon bolts and screws washers
Service-Set 2 a/b	Valve set	00001235/ 00001237	♦ Suction valves ♦ Pressure valves
Service-Set 3	Filter	00001238	♦ Suction filter
Service-Set 4	Crosshead set	00001429	♦ Crosshead-kit ♦ Static sealings ♦ Hexagon bolts and screw washers
Service-Set 5	General overhaul	00001430	♦ General overhaul

RELEVANT EU DECLARATIONS (if applicable)

EU Declarations of Conformity	2014/34/EU, ATEX Directive
Declaration of Incorporation	2006/42/EC, Machinary Directive
Manufacturers Declarations	2014/68/EU, Pressure Equipment Directive “SEP”
	2014/35/EU, Low Voltage Directive
	2014/30/EU, Electromagnetic Compatibility
	1907/2006/EU, REACH-Chemical Regulations
	2011/65/EU, RoHS-Directive

- Medium: 100% hydrogen, dry
- Maximum installation altitude: 1,000 meters, with derating for higher altitudes
- Installation and commissioning must be carried out exclusively in accordance with the currently valid operating instructions.

Efficient compression of
green hydrogen
Talk to us.

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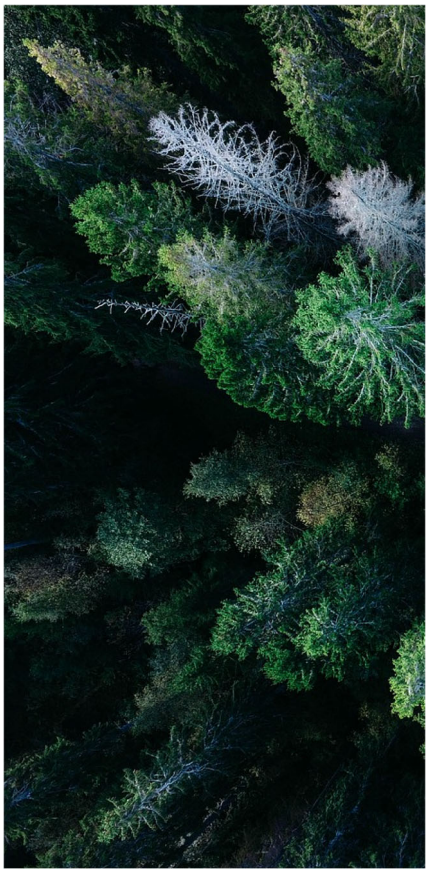

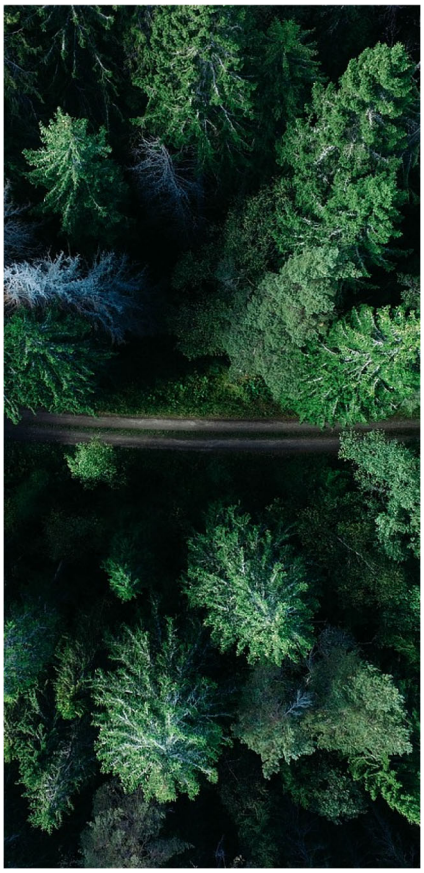

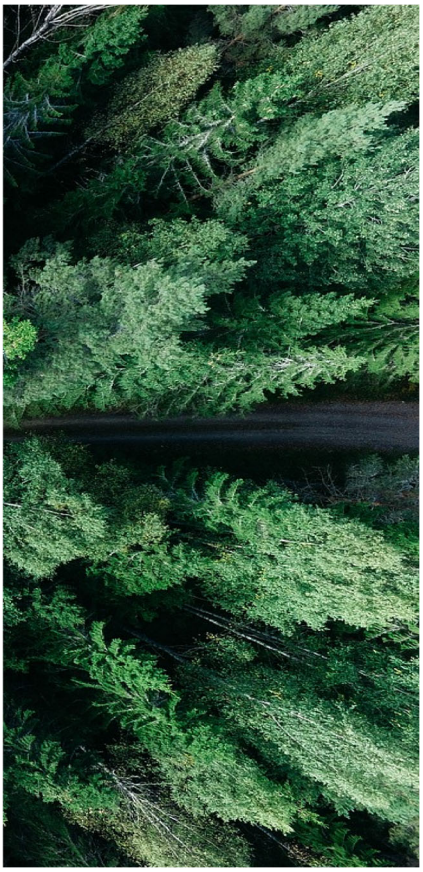

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