Airpol

PRZEDSIĘBIORSTWO PRODUKCJI
SPRĘŻAREK AIRPOL Sp. z o.o.

Airpol KTPR

screw compressors

from 5.5 kW up to 15 kW motor power

- energy-efficient solution
- high-quality compressed air
- controller compliant with cybersecurity standards

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Airpol

The expert in compressor industry

POLISH MANUFACTURER

Airpol Sp. z o. o. is the largest Polish manufacturer of compressors.
We have been a specialist in the pneumatic industry for over 60 years. Our goal is to provide innovative and energy-efficient solutions, individually tailored for a given application. We advise, design, manufacture and provide extensive service support.
Our product range includes various types of air and other gas compressors, boosters, compressed air treatment equipment, tanks, blowers, nitrogen generators, containerized compressor stations.
We proudly emphasize that we are the only company in Poland that also manufactures screw stages. All this is carried out in our headquarters in Poznań and sales branches in Gliwice and Rzeszów thanks to the cooperation of a team of nearly 150 employees.

DURABILITY AND RELIABILITY

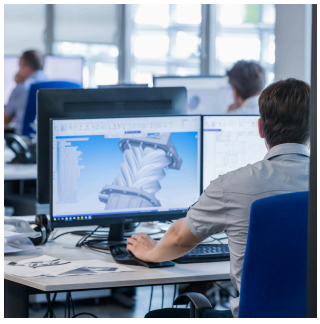
The use of a high-quality screw air end with optimised rotor profile, which was designed and manufactured in-house at Airpol, is a guarantee of reliability and high compressor performance throughout its service life.

MORE THAN 60 YEARS OF EXPERIENCE IN THE COMPRESSOR INDUSTRY

Airpol screw compressors combine durability and reliability resulting from excellent design and high quality components.
Airpol, using its vast experience in compressor manufacturing gained over 60 years of operation in the pneumatics industry, has developed optimal solutions that combine the highest quality with low operating costs.

FULL SERVICE AND ACCESS TO SPARE PARTS

From the first compressor start-up to periodic maintenance, the customer is assured of full service care, carried out by the factory service department or authorised service representatives.
Original spare parts are a key factor that significantly influences the safety of the compressor in use, its reliability and high efficiency throughout the entire operation period.
As a manufacturer, Airpol ensures that spare parts and consumables can be purchased for many years of compressor use.





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Airpol

Przedsiębiorstwo Produkcji Sprężarek Airpol Sp. z o.o.

Technical specifications

Screw compressor

- with inverter and Ultra Speed function
- with dryer and filters

Type		**Airpol KTPR 5**
Max overpressure	MPa	1,0
Capacity min - max [0,65 MPa]	m³/h	10 - 54
Capacity min - max [0,75 MPa]	m³/h	10 - 52
Capacity min - max [0,8 MPa]	m³/h	10 - 50
Capacity min - max [0,9 MPa]	m³/h	10 - 45
Capacity min - max [1,0 MPa]	m³/h	10 - 40
Overall dimensions (L x W x H)	mm	1912x660x1560
Air receiver volume	l	500
Compressed air connection		G ¾
Weight	kg	415
Ambient temperature	°C	from +5 to +40
Cooling air demand	m³/h	1200
Compressed air temperature	°C	approx. 10° above ambient temperature
Sound level	dB(A)	72
Power transmission system		belt drive
Nominal motor power	kW	5,5
Motor energy efficiency class		IE3
Motor IP Code		IP55
Power supply	V/Ph/Hz	400/3/50
Recommended power feed cable	mm²	5x2,5
Protection fuse	A	20
Microprocessor controller		MS-286 Airpol Power Control
Dryer pressure dew point	°C	+3
Quality class in accordance with ISO 8573.1		2.4.2

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Airpol

Przedsiębiorstwo Produkcji Sprężarek Airpol Sp. z o.o.

Technical specifications

Screw compressor		• with inverter and Ultra Speed function • with dryer and filters
Type		**Airpol KTPR 7**
Max overpressure	MPa	1,0
Capacity min - max [0,65 MPa]	m^3/h	17 - 73
Capacity min - max [0,75 MPa]	m^3/h	17 - 70
Capacity min - max [0,8 MPa]	m^3/h	17 - 68
Capacity min - max [0,9 MPa]	m^3/h	17 - 63
Capacity min - max [1,0 MPa]	m^3/h	17 - 57
Overall dimensions (L x W x H)	mm	1912x660x1560
Air receiver volume	l	500
Compressed air connection		G ¾
Weight	kg	425
Ambient temperature	°C	from +5 to +40
Cooling air demand	m^3/h	1200
Compressed air temperature	°C	approx. 10° above ambient temperature
Sound level	dB(A)	72
Power transmission system		belt drive
Nominal motor power	kW	7,5
Motor energy efficiency class		IE3
Motor IP Code		IP55
Power supply	V/Ph/Hz	400/3/50
Recommended power feed cable	mm^2	5x4
Protection fuse	A	25
Microprocessor controller		MS-286 Airpol Power Control
Dryer pressure dew point	°C	+3
Quality class in accordance with ISO 8573.1		2.4.2

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Screw compressor	• with inverter and Ultra Speed function • with dryer and filters

Type		**Airpol KTPR 11**
Max overpressure	MPa	1,0
Capacity min - max [0,65 MPa]	m³/h	17 - 117
Capacity min - max [0,75 MPa]	m³/h	17 - 114
Capacity min - max [0,8 MPa]	m³/h	17 - 108
Capacity min - max [0,9 MPa]	m³/h	17 - 98
Capacity min - max [1,0 MPa]	m³/h	17 - 90
Overall dimensions (L x W x H)	mm	1912x660x1560
Air receiver volume	l	500
Compressed air connection		G ¾
Weight	kg	445
Ambient temperature	°C	from +5 to +40
Cooling air demand	m³/h	1800
Compressd air temperature	°C	approx. 10° above ambient temperature
Sound level	dB(A)	72
Power transmission system		belt drive
Nominal motor power	kW	11
Motor energy efficiency class		IE3
Motor IP Code		IP55
Power supply	V/Ph/Hz	400/3/50
Recommended power feed cable	mm²	5x4
Protection fuse	A	32
Microprocessor controller		MS-286 Airpol Power Control
Dryer pressure dew point	°C	+3
Quality class in accordance with ISO 8573.1		2.4.2

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Screw compressor	• with inverter and Ultra Speed function • with dryer and filters

Type		**Airpol KTPR 15**
Max overpressure	MPa	1,0
Capacity min - max [0,65 MPa]	m³/h	52 - 162
Capacity min - max [0,75 MPa]	m³/h	52 - 156
Capacity min - max [0,8 MPa]	m³/h	52 - 150
Capacity min - max [0,9 MPa]	m³/h	52 - 135
Capacity min - max [1,0 MPa]	m³/h	52 - 120
Overall dimensions (L x W x H)	mm	1912x660x1640
Air receiver volume	l	500
Compressed air connection		G ¾
Weight	kg	535
Ambient temperature	°C	from +5 to +40
Cooling air demand	m³/h	3500
Compressed air temperature	°C	approx. 10° above ambient temperature
Sound level	dB(A)	72
Power transmission system		belt drive
Nominal motor power	kW	15
Motor energy efficiency class		IE3
Motor IP Code		IP55
Power supply	V/Ph/Hz	400/3/50
Recommended power feed cable	mm²	5x6
Protection fuse	A	40
Microprocessor controller		MS-286 Airpol Power Control
Dryer pressure dew point	°C	+3
Quality class in accordance with ISO 8573.1		2.4.2

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Frequency Inverter

infinitely variable speed control

INFINITELY VARIABLE SPEED CONTROL RANGE APPROX. 25% - 100%

Airpol screw compressors of the “KPR”, “KTPR” series are equipped with a frequency converter (inverter), which smoothly changes the frequency of the power supply to the connected motor, and thus the speed of the coupled motor-screw stage system.

EFFICIENT AND ECONOMICAL OPERATION

Variable-speed compressors are particularly suitable for applications with varying compressed air consumption. The unit adapts its performance to the current compressed air demand, thus avoiding idling and reducing electricity consumption.

MATCHING THE CAPACITY COMPRESSOR TO THE ACTUAL DEMAND FOR COMPRESSED AIR

The inverter makes it possible to change the speed of the electric motor, adapting the speed of the drive motor to the conditions resulting from the demand for compressed air. When the pressure in the network decreases, the inverter increases the speed of the electric motor, resulting in an increase in compressor capacity, while when the pressure increases, the speed of the motor decreases.

SMOOTH START-UP

LIMIT THE NUMBER OF STARTS

LIMITATION OF INDLING TIME

GREATER RELIABILITY AND DURABILITY

CONSTANT NETWORK PRESSURE

The inverter-based control system keeps the speed of the compressor's electric motor at such a level as to provide the compressed air system with a constant pressure, with a set value.

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Airpol

Frequency Inverter

- *energy saving*

ENERGY SAVING

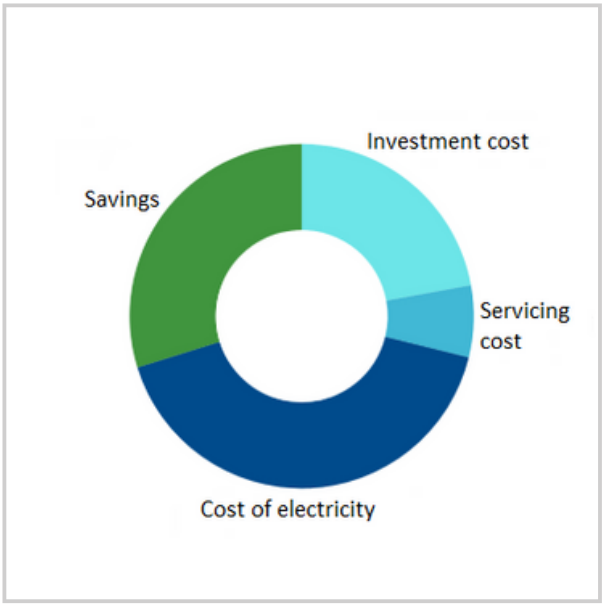
Airpol KPR and Airpol KTPR screw compressors equipped with an inverter guarantee almost 30% electricity savings, compared to compressors with traditional control.

ULTRA SPEED FUNCTION

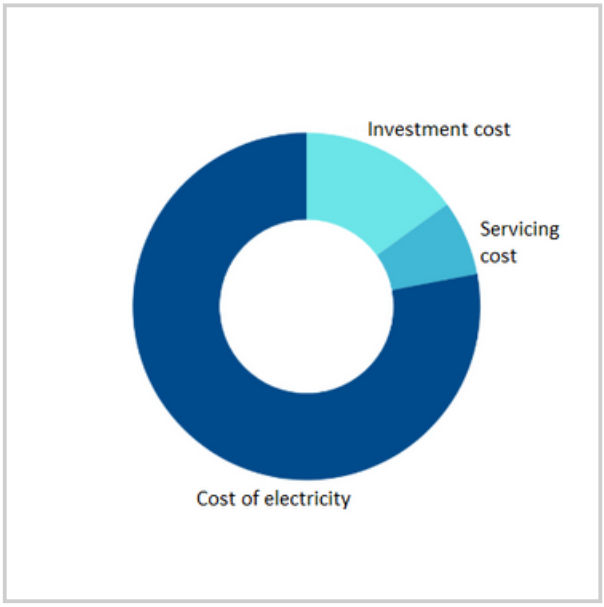
The Ultra Speed function makes it possible to vary the operating pressure setting between 0.65 and 1.0 MPa and thereby achieve the compressor performance appropriate for the pressure. With this function, even greater energy savings are possible.

Ultra Speed provides the maximum possible compressor capacity for a given operating pressure, while regulating the speed in such a way that the actual power consumed is close to the motor's nominal power.

Ultra Speed is particularly useful at times of excessive compressed air demand. With this function, the customer has complete freedom to adjust the pressure/capacity of the unit within the manufacturer's approved range.



Screw compressor with frequency inverter



Screw compressor without frequency inverter

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MS-286 Controller

easy operation & safe remote control

EASY TO USE

The MS-286 Airpol Power Control is designed with a focus on data security and system integrity.

It ensures the effective and safe operation of the entire system, while continuously monitoring key compressor operating parameters.

INTUITIVE INTERFACE

for easy and clear operation.

THE USER CAN, AMONG OTHER THINGS, PERFORM THE FOLLOWING ACTIONS:

- select the operating mode (including network operation),
- modify the basic parameters of compressor operation,
- schedule compressor activity using a calendar, with options for both recurring and one-time events,
- choose one of four available interface languages,
- update the software via the usb port,
- remotely monitor compressor status in a secure manner, without the risk of exposure to cyberattacks.

SAFE REMOTE MONITORING

The controller complies with cybersecurity standards that eliminate the need for external servers, which could otherwise serve as potential entry points for attacks on critical production infrastructure.

- A local web server is hosted directly from the controller, with no reliance on cloud services, regardless of Internet availability.
- There is no need to transmit data outside the local area network (LAN) structure, ensuring full control and data security within the internal infrastructure.
- This approach significantly reduces the risk of unauthorized access, industrial espionage, and cyberattacks.

CONTROL OF SYSTEM OPERATING PARAMETERS INCLUDING:

oil temperature, motor temperature, compressor outlet air temperature, ambient temperature, network pressure, oil pressure and much more.

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BUILT-IN AIR TREATMENT SYSTEM

- *drying and filtration*

WHAT CONSTITUTES THE COMPRESSED AIR TREATMENT SYSTEM IN AIRPOL COMPRESSORS SERIES: KT, KTPR ?

The refrigeration dryer and two compressed air filters are housed in a single housing along with the entire compressor unit.

Pre-filter - provides high dust elimination capacity (removes 99% of solid and liquid particles larger than 3 µm).

Refrigeration dryer - removes moisture from the compressed air to the required dew point of +3°C.

Fine filter - its cartridge is made of multilayer dense microfiber (removes 99% of solid particles larger than 1 µm and ensures that the residual oil content behind the filter does not exceed 0.1 mg/m^3.

WHY TREAT COMPRESSED AIR?

Increased compressed air purity class means:

- longer life of pneumatic tools,
- reduced corrosion of the installation,
- uninterrupted process flow,
- minimizing the risk of damage to the final product, such as paint coating.
- reliable operation of tools and machines powered by compressed air.
- elimination of unexpected downtime in production.

COMPRESSED AIR OF INCREASED PURITY CLASS

The integrated compressed air treatment system in Airpol compressors removes moisture to the required dew point of +3°C and ensures residual oil content in the compressed air, guaranteeing air quality at the level of 2.4.2 cleanliness class (according to ISO 8573-1).

COMPACT DESIGN - SAVINGS OF SPACE AND REDUCING EXPENSES ON INSTALLATION COMPONENTS

Maximally reduced footprint, integrated dryer with filters is a solution that saves the user valuable installation space, has easier operational and service access, and does not incur additional costs for the installation of compressed air treatment equipment. Thus, the choice of a compressor in such a design is supported primarily by economic considerations, but also by aesthetic qualities.

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We care about components quality assurance

PRESSURE VESSELS MANUFACTURED BY AIRPOL

Airpol screw compressors are equipped with pressure vessels manufactured in-house, which serve as compressed air storage or oil vessels/oil separators. These pressure vessels meet the highest strength standards in compliance with Directive 2014/68/EU. They are made of high-strength structural steel, offering enhanced durability and increased corrosion resistance. Each Airpol pressure vessel is delievered with the required documentation and approvals issued by the Technical Inspection Office.

ELECTRIC MOTOR OF PROVEN EUROPEAN MANUFACTURERS

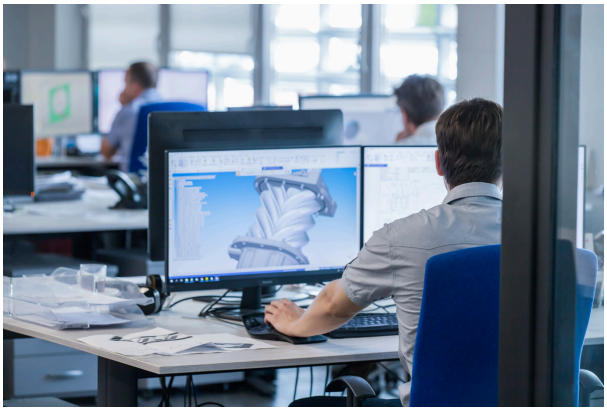
Airpol screw compressors are equipped with high-quality electric motors of IE3 or IE4 energy efficiency class, supplied by leading European manufacturers.

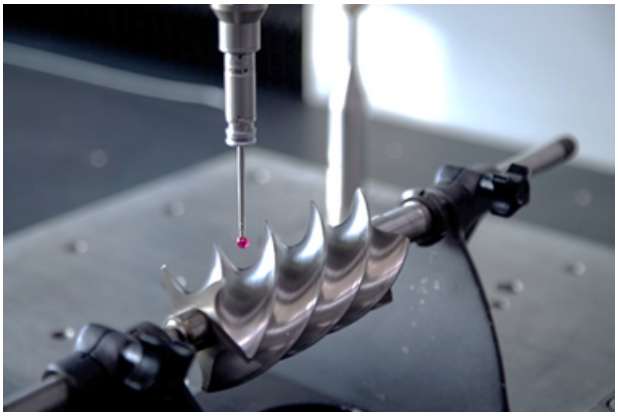
SCREW AIR-ENDS OF AIRPOL PRODUCTION

The ASU screw air end, featuring an optimized rotor profile and designed and manufactured in-house at Airpol, ensures high reliability and excellent compressor performance throughout its entire service life. Carefully selected bearings with increased load-carrying capacity and durability, along with strict quality control at every stage of the screw element production process, guarantee high quality and long-lasting operation — making the Airpol screw compressor a long-term investment.

MICROPROCESSOR CONTROLLER OF AIRPOL POWER CONTROL FAMILY

The MS-286 intelligent controller was specifically designed for Airpol's variable- and fixed-speed screw compressor applications. The involvement of our automation and development department in the design process resulted in a solution that ensures user-friendly operation, safe remote monitoring, and efficient, cost-effective performance of the entire compressor system.





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