



Screw compressors

SCR-PM

power range 22-75 kW

SCR - innovative and quality compressors



For more than 20 years, the SCR brand has been one of the world's leading screw compressor manufacturers thanks to its in-house development and design, the use of advanced technologies and, above all, unique design solutions that are appreciated by customers worldwide who are looking for machines with a modern concept and high energy efficiency.

Since 2018, SCR has been part of the Japanese concern ANEST IWATA, which brings to the SCR screw compressor portfolio the traditional Japanese emphasis on production organization, a strict management system and quality assurance. The result of the synthesis of the concepts of both companies is top-designed machines with unique benefits and uncompromising reliability.

MAJOR BENEFITS

- ✓ energy-saving machines
- ✓ robust airend
- ✓ lossless direct drive 1 : 1
- ✓ PM motor with IE4 efficiency
- ✓ variable speed control
- ✓ 7" touch screen PLC controller
- ✓ effective oil separation < 3 ppm
- ✓ fan with speed control
- ✓ minimal maintenance
- ✓ 5-year extended warranty option

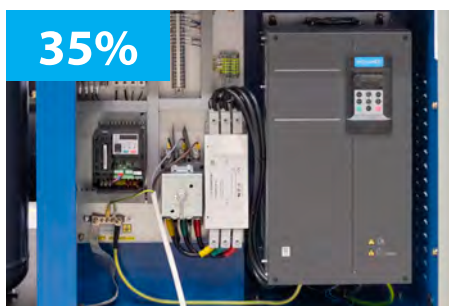


How much does electricity cost?

With rising electricity prices, the demand for energy efficiency in compressors for compressed air production in industrial plants is increasing. The following table shows the informative annual costs for the operation of the electrical equipment for power consumption from 22 to 75 kW:

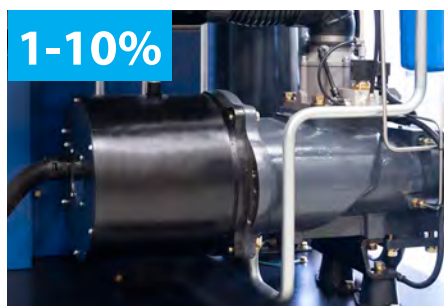
EUR/ kWh	4 000 MH		6 000 MH		8 000 MH	
	0,08	0,11	0,08	0,11	0,08	0,11
22 kW	7 040 €	9 680 €	10 560 €	14 520 €	14 080 €	19 360 €
30 kW	9 600 €	13 200 €	14 400 €	19 800 €	19 200 €	26 400 €
37 kW	11 840 €	16 280 €	17 760 €	24 420 €	23 680 €	32 560 €
45 kW	14 400 €	19 800 €	21 600 €	29 700 €	28 800 €	39 600 €
55 kW	17 600 €	24 200 €	26 400 €	36 300 €	35 200 €	48 400 €
75 kW	24 000 €	33 000 €	36 000 €	49 500 €	48 000 €	66 000 €

SCR-PM series energy saving solutions



No idling

A wide speed control range of 75% using a frequency converter prevents unnecessary power consumption for no-load operation.



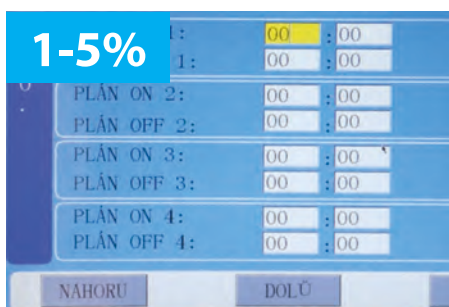
Lossless direct drive

The direct connection between the airend and the motor has none of the losses found in varying degrees in other types of gears.



No unnecessary pressure

The SCR9000 control unit allows you to set only the pressure you need. 1 bar of unnecessarily high pressure corresponds to about 7% of the energy.



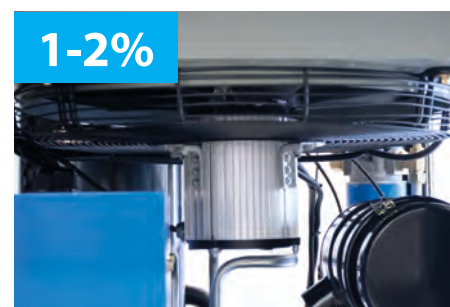
Elimination of consumption leaks

The machine's software allows you to set a precise weekly schedule with scheduled downtime to avoid producing air to cover leaks, e.g. at the weekend, and 4 pressure bands for precise adjustment of output pressure.



IE4 efficient motors

The latest generation of permanent magnet electric motors reduces energy costs by several percent compared to IE2 standards.



Modern cooling

The cooling fan is also continuously controlled for even greater savings. If it is not needed, the fan is not running and does not consume any extra energy.

Design arrangement



- | | | |
|------------------|--------------------------|---------------------------|
| 1 airoend | 5 oil receiver | 9 PLC controller |
| 2 electric motor | 6 air and oil cooler | 10 frequency converter |
| 3 air filter | 7 fan | 11 electrical switchboard |
| 4 inlet flap | 8 minimum pressure valve | 12 air outlet |

Machine versions

The SCR-PM series compressors are available with a total of six electric motor power ratings, covering the range 22 - 75 kW. All sizes can be supplied in three modifications, differing in maximum outlet pressure of 7, 8 or 10 bar. In the SCR-PM series, you will find the optimal compressed air solution with a consumption of 200 to 800 Nm³/h



power input 22-30 kW



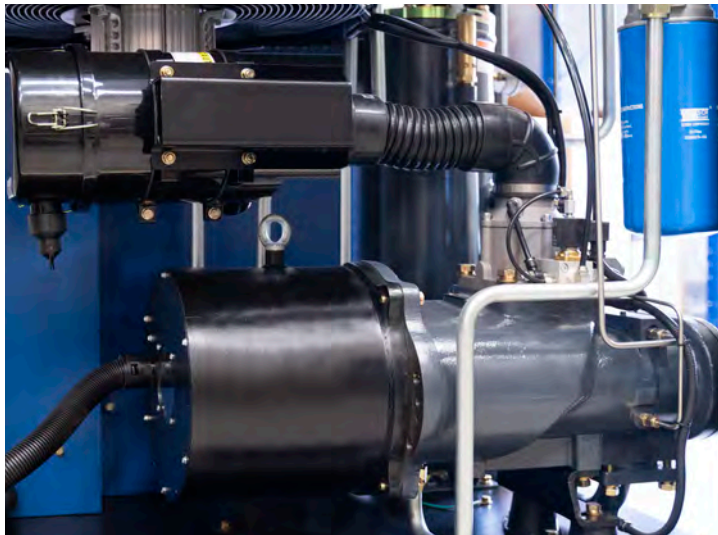
power input 37-45 kW



power input 55-75 kW

Lossless direct drive 1:1

Thanks to the direct connection of the airend to the electric motor, the SCR-PM series compressors operate without any energy loss in the transmission unit. Compared to compressors with V-belts, coupling or gearbox, this eliminates any maintenance and, in addition to energy savings, the user also saves on machine servicing.



Quality airends

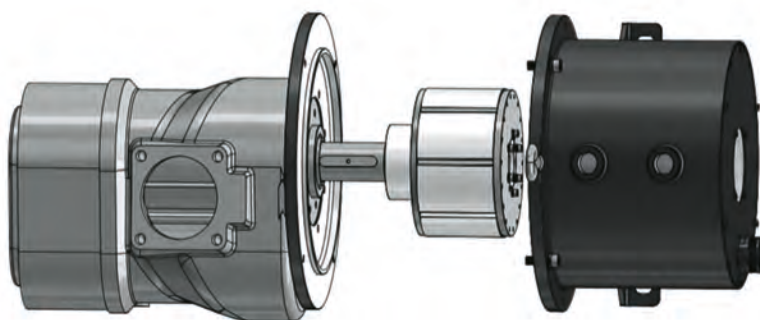
- ✓ ALLYWIN technology developed in Germany
- ✓ top quality branded bearings
- ✓ robust dimensions
- ✓ long service life
- ✓ high air compression efficiency

**saving
3% of energy**

PM motor with IE4 efficiency

The SCR-PM compressor series uses state-of-the-art oil-lubricated permanent magnet motor technology, which, due to its design, has an extreme efficiency that exceeds the IE4 efficiency requirements of IEC EN 60034 and exceeds the conventional IE2 efficiency motors used as a standard solution for variable speed compressors by an average of 3%.

- ✓ high efficiency IE4
- ✓ compact dimensions
- ✓ without bearings
- ✓ oil cooling
- ✓ electrical protection
IP65 - dust proof
- ✓ PTC temperature protection



Power kW	SCR-PM main motor	Efficiency IE4	Efficiency IE3	Efficiency IE2
22	96.0%	94.5%	93.0%	91.6%
30	95.8%	94.9%	93.6%	92.3%
37	95.6%	95.2%	93.9%	92.7%
45	95.8%	95.4%	94.2%	93.1%
55	96.0%	95.7%	94.6%	93.5%
75	96.1%	96.0%	95.0%	94.0%

Modern electronic controller

The SCR-PM series compressors are controlled by the modern SCR9000 electronic controller with simple operation via a 7" colour touch screen or eight navigation buttons. The SCR9000 unit has many useful features for monitoring compressor status, operating and service settings and necessary alarms.



SCR9000 benefits

- ✓ colour touch screen
- ✓ screen size 7"
- ✓ Czech and 5 other languages
- ✓ energy consumption metering
- ✓ network control of up to 16 compressors
- ✓ Modbus RS485 communication
- ✓ 4 pressure zones
- ✓ weekly scheduling
- ✓ automatic restart

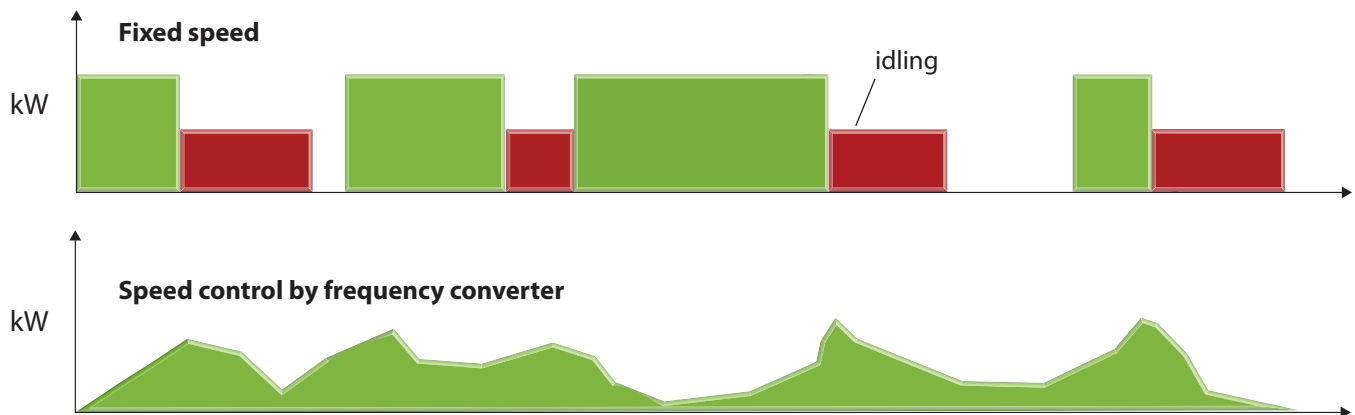
Compressor network control

If several SCR screw compressors are installed in a compressor room, their SCR9000 controllers can be easily connected via cables to provide comprehensive control of the entire network with minimal installation costs. The software in the SCR9000 unit allows for mutual network control with up to 16 machines based on a master-slave control system, regardless of how the individual machines are controlled.



Speed control by frequency converter

Traditional fixed-speed compressors are controlled in duty cycles, where the compressor alternates between running under load, idling or stopped. Immediately after start-up, air compression is initiated and the main engine is under load. When the required pressure is reached, the compressor switches to idle mode, where the compressor does not produce air, but the motor is still idling the airend and needs power. Idling on one side makes it easier to start the machine again, but for a few tens of seconds, unnecessary energy consumption occurs, which usually reaches tens of percent of the total energy consumed. The lower the air consumption, the more the idle ratio increases, opening up the possibility of achieving significant savings on the cost of the produced air and the operating costs associated with the compressor.



Frequency converters on SCR-PM compressors

The SCR-PM compressors are equipped with state-of-the-art INOVANCE frequency converters, which allow them to maintain the required output pressure and adapt the speed of the drive unit to the immediate needs of the compressed air supply. Thanks to this modern compressor control system, idling is significantly eliminated and energy savings of tens of percent are achieved. Further cost reductions can easily be achieved by quickly changing the output pressure setting and the control pressure band.

In addition to the continuous speed control of the main motor, the SCR-PM compressors have a second frequency converter to control the speed of the cooling fan motor. This system provides additional energy savings when less or no cooling of the oil and discharge air is required.

- 1 Frequency converter for main motor
- 2 Fan Motor Frequency Converter



Efficient technical solutions

Efficient oil separation

SCR-PM series screw compressors are equipped with a highly efficient oil separation system that ensures perfect compressed air output quality with a peak oil content of < 3 ppm. The oil is separated by a three-stage separation system using centrifugal force, gravity effect in a vertically oriented oil receiver and a high-quality separation filter.

Pipes instead of hoses

All necessary fluid connections are made with metal tubing instead of traditional rubber hoses. Thanks to this design change, there is no need to worry about any oil leaks, no risk of downtime due to hose bursting and, in addition, the internal pressure gradient is reduced due to the better flow of the medium through the smoother surface.

Generous machine cooling

A generously sized combined cooler is used to cool the oil and the outlet air, perfectly cooled by an efficient fan with infinitely variable speed control. Thanks to the cooling system used, the compressor can be operated at very high temperatures of up to +45°C. The cooling solution is also responsible for the very low outlet air temperature, which is only up to 10°C above the compressor inlet air temperature.



Quality original parts & affordable service

To ensure that the compressor achieves continuous peak performance and to minimise the risk of failure throughout the lifetime of the machine, the compressor must be maintained at prescribed intervals and only with genuine spare parts and lubricants.

All necessary spare parts are available for each SCR-PM compressor and can be easily selected according to the documentation provided or by their marking directly on the part inside the machine.

SCR-PM compressors are maintained and serviced by an extensive network of service partners to ensure that all necessary services are readily and quickly available without unnecessary technician call-out costs.



Low maintenance costs

The concept of SCR-PM compressors allows a significant reduction in the cost of regular maintenance. Compared to traditional compressors on the market, many service tasks such as replacing and tensioning V-belts, replacing rubber hoses, maintaining bearings on the main electric motor or the entire gear train are eliminated.

This eliminates the cost of unnecessary replacement parts, and when you add less technician work to the overall low cost of SCO parts and oils, you get really significant savings on SCR-PM compressor maintenance.

CHEAPER MAINTENANCE

- ✓ eliminates replacements and tensioning of V-belts
- ✓ without cracked and leaking hoses
- ✓ no motor bearing replacements
- ✓ without coupling or gearbox maintenance

Extended 5-year warranty

We are confident in the quality of the technical design of the SCR-PM series compressors, the components used and our quality system of production. We therefore offer all customers the option of extending the standard warranty period to 5 years as a surcharge for the machine. Our extended warranty concept is not limited by the number of operating hours, does not require signing service contracts or shortening preventive maintenance intervals.



Technical data

Order No.	Power	Max. pressure	FAD output (Nm ³ /h)		Output	Air ventilation	Noise level
	(kW)	(bar)	min.	max.		(m ³ /h)	dB(A)
SCR-22/7PM	22	7	51	222	1"	5 400	66
SCR-22/8PM		8	49,8	216			
SCR-22/10PM		10	42	192			
SCR-30/7PM	30	7	72	312	1"	6 400	68
SCR-30/8PM		8	66	300			
SCR-30/10PM		10	60	252			
SCR-37/7PM	37	7	90	384	1 1/2"	7 000	72
SCR-37/8PM		8	84	378			
SCR-37/10PM		10	78	336			
SCR-45/7PM	45	7	105	438	1 1/2"	9 000	73
SCR-45/8PM		8	102	432			
SCR-45/10PM		10	96	426			
SCR-55/7PM	55	7	150	612	2"	15 600	75
SCR-55/8PM		8	144	606			
SCR-55/10PM		10	120	504			
SCR-75/7PM	75	7	192	798	2"	15 600	77
SCR-75/8PM		8	186	774			
SCR-75/10PM		10	168	708			

FAD performance is measured according to ISO 1217 and is listed for the maximum pressure of the model; additional FAD performance values at different frequencies and pressures can be found in the technical data sheets on request.

The noise level is indicated at a distance of 1 m from the machine.



Dimensions and weights

Power (kW)	Length (mm)	Depth (mm)	Height (mm)	Weight (kg)
22	1 280	800	1 100	450
30	1 280	800	1 100	480
37	1 400	900	1 270	610
45	1 400	950	1 370	650
55	1 800	1 200	1 550	1 230
75	1 800	1 200	1 550	1 280



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