



**INNOVATIVE  
ENERGY SAVING  
SCREW COMPRESSOR**

**SHANGHAI SCREW COMPRESSOR CO., LTD.**

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SUPER EFFICIENCY AIR COMPRESSOR

# EPM/EPM2 SERIES

INNOVATIVE | EFFICIENT  
RELIABLE | SMART



SHANGHAI SCREW COMPRESSOR CO., LTD.

ABOUT SCR



■ CHINA HEADQUARTER

SHANGHAI SCREW COMPRESSOR CO.,LTD is a high tech Japanese joint venture with independent intellectual property, founded in 2000. SCR together with Anest Iwata focus on air compressor research and development, covering all aspects from manufacturing through to sales, service and technical support. SCR supply a complete range of products such as high efficiency permanent magnet variable speed air compressors, oil free screw compressors, oil free scroll compressors, bearing free and magnetic centrifugal blowers. The global sales and service network provide our customers with high-quality, energy efficient and environmentally friendly compressed air solutions.

SCR's statement of "Inspire Infinite Power" signifies the close relationship with their global partners, and suppliers. SCR is committed to building an industrial world with continuous improvement for both its customers, the environment and its employees.



■ JAPAN YOKOHAMA HEADQUARTERS

 **100000m<sup>2</sup>**  
Square meters factory

 **83**  
Country exported

 **50000**  
Global customers

 **91**  
National patents

 **35**  
Professional certifications

 **500**  
Global sales and service agents

 **8%**  
Annual sales re-invested into R&D

 **10**  
Industry standards

 **140000**  
Production volume from 2000



■ JAPAN FUKUSHIMA FACTORY



01-Permanent magnet (PM) motor

- Exceed IE4 standards
- Lubricant-cooled motor
- VSD: variable speed drive
- IP65 protection

02-New compressor airend

- New improved rotor profile
- R&D in japan
- Designed to give many years of reliable operation

03-Inlet filter

- Nano scale Heavy duty
- Filtration accuracy upto 99.9%
- Dust particles below 0.3 micron
- Pressure drop indicator
- 2,000 hours service intervals
- Make the main rotor bearing from attrition
- Extend the service life fo the lubricating oil and oil filter

04-Cooling fan

- VSD control
- Compact
- Low noise level
- High capacity for optimized cooling
- Low power consumption

05-Classic cooler design

- Separate oil/air cooler
- Easy access for maintenance
- Paint anti-corrosion coating on surface
- 30% oversized cooler design

06-Innovative flux vector inverter

- CE/UL/CUL certification
- Wide voltage design
- Meets C3 and C3 EMC requirements
- Built-in DC reactor
- Independent cooling air duct design
- Robust enclosure to trouble-free operation even in the harshest of conditions

07-SCR 9000 touch controller

- 7.0 inch full color touch screen
- Real-time operation/ maintenance/ alarm information
- Full graphical Flow diagram
- Operation record/ chart display
- Multiple languages
- Weekly and daily scheduling, service history and planning
- RS485 interface,modbus rtu Protocol

08-Inlet valve

- Optimizes the inlet flow of the air end
- No blow down losses
- Full aluminum maintenance free design
- High vaccum degree:700mmhg
- Large suction area
- Low load energy consumption in unloaded operation
- Fast check: prevent unloading and shut-down oil injection
- Fluoro rubber for improved valve seal

09-Oil filter

- High efficiency oil filter removes reliably contaminants from the oil
- Oil particles can be controlled at 0.1 micron
- Ensures a smooth and well-lubricated oil system

10-Oil tank

- Oversized air and oil tank improves the cyclone effect maximising the seperation process
- The high efficiency oil seperator ensures that the oil carry over is less than 3ppm
- System pressure loss:less than 0.02mpa
- The rotating oil tank lid makes maintenance convenient and straight forward reducing maintenance down time

11-Electrical control cabinet

- Siemens core electrical components are used to further enhance reliability

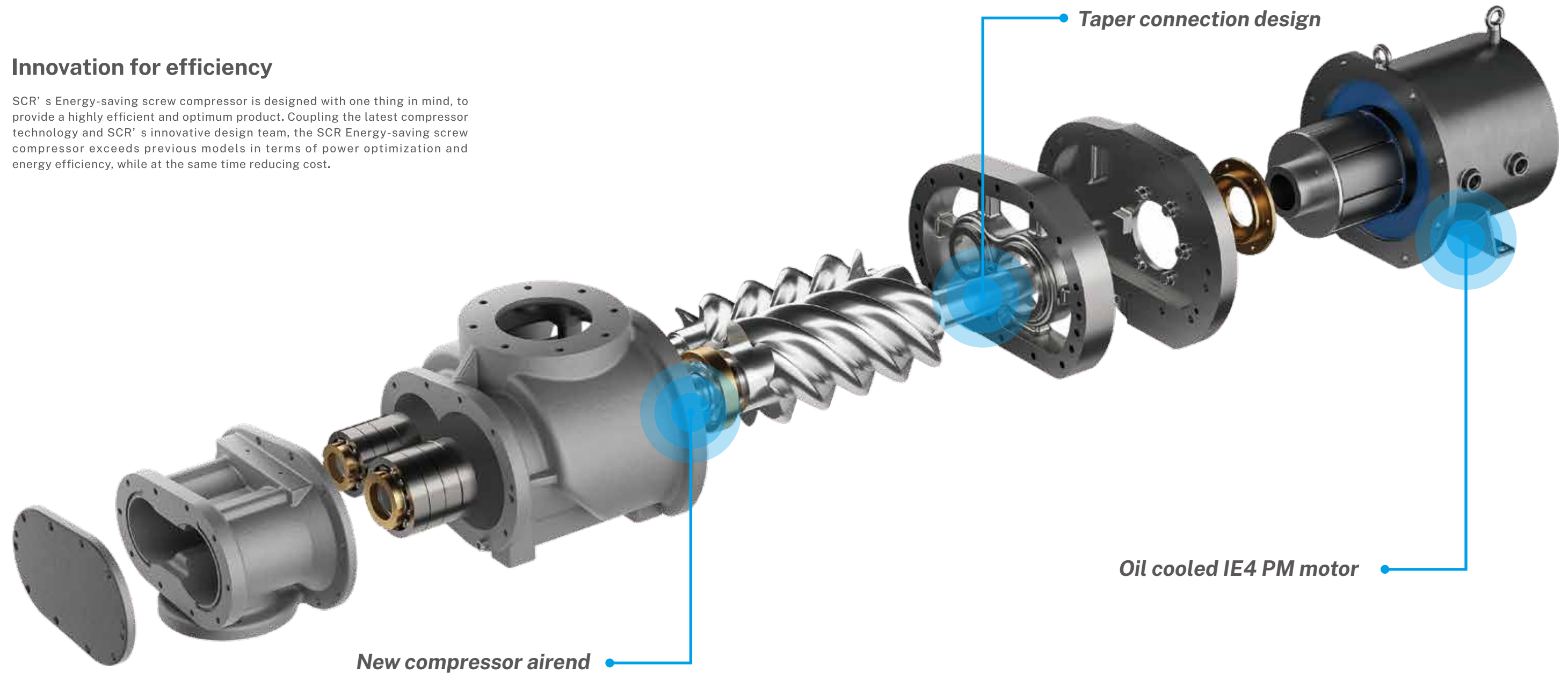
12-All-steel internal pipe system

- All steel internal pipe work and compression joints are used to prevents leakage and pre-mature ageing often seen with flexible pipes
- Less pipe friction loss

## INNOVATIVE SCREW COMPRESSOR TECHNOLOGIES

### Innovation for efficiency

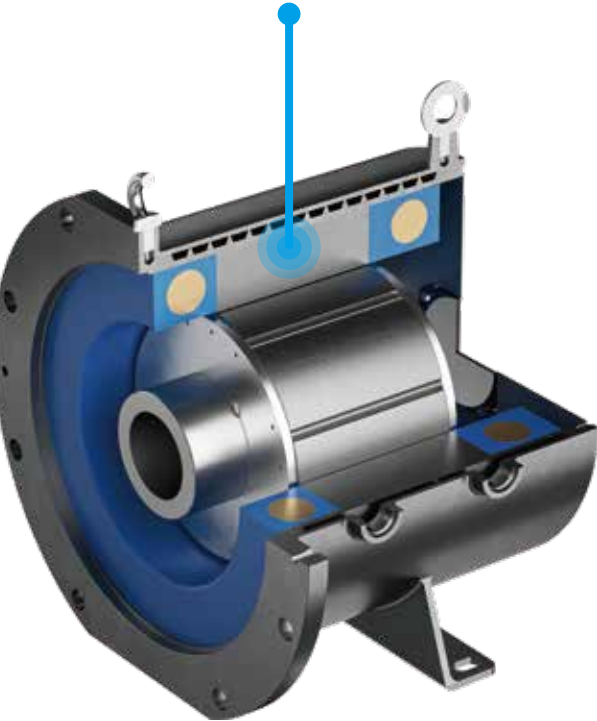
SCR' s Energy-saving screw compressor is designed with one thing in mind, to provide a highly efficient and optimum product. Coupling the latest compressor technology and SCR' s innovative design team, the SCR Energy-saving screw compressor exceeds previous models in terms of power optimization and energy efficiency, while at the same time reducing cost.



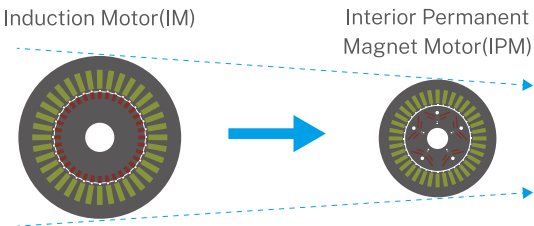
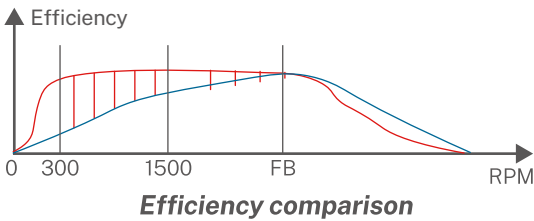
HIGH PERFORMANCE

Super premium efficiency EPM motor (IE4 equivalent)

Dual layer design for optimum lubricant cooling



93.3%~**94.5%**  
Growth of 1.2%



Example: 75KW 380V | Volume 37% | Weight 26%

|                                                       |                                                            |
|-------------------------------------------------------|------------------------------------------------------------|
| Exceed IE4 standards                                  | Lubricant-cooled motor                                     |
| VSD: variable speed drive                             | Bearing free motor requires zero maintenance               |
| UH series Permanent magnets resist to 180 °C          | Fully enclosed IP65 protection                             |
| Optimal cooling for all speeds and ambient conditions | F grade insulation and B grade temperature rise assessment |
| High temperature design prevents demagnetization      |                                                            |

Special taper connection

- Motor rotor is taper connection with airend male rotor
- No gears or belts, no shaft seal, no coupling
- Zero transmission loss
- Easy for installation and maintenance
- No need to make alignment adjustment
- Better protection for inner parts of PM motor
- Reduce maintenance cost



State-of-the-art airends

- New improved rotor profile
- R&D in Japan
- Isothermal compression
- Multi point atomization injection technology
- Reduced pressure losses
- Optimized in and outlet portals
- Designed for 20 years\* of reliable operation
- Flow-optimized for impressive performance
- All-new, state-of-the-art airend improves Efficiency as much as 16%



Innovative motor liquid cooling technology

- Closed loop cooling system
- Oil cooling pm motor



EPM models (20-60HP)

- Motor and motor liquid cooling system
- Independent closed loop cooling
- Special coolant
- Independent cooling fan



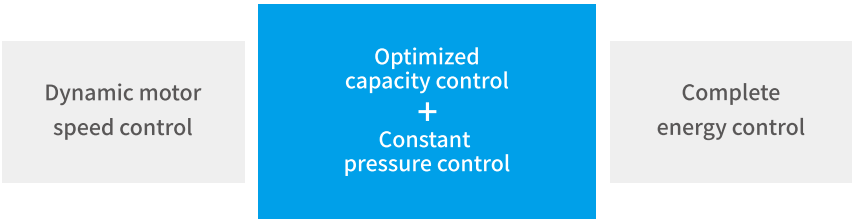
EPM2 models (75-220HP)

# ENERGY SAVING TECHNOLOGY

## Double inverter design

### > Inverter control

SCR EPM2 compressors have a wide operating speed range leading to stable constant pressure control further reducing power consumption. SCR' s exclusive inverter and Energy Saving Logic control can get optimized energy savings, regardless of the load condition. They can react to pressure changes quickly maintaining pressure fluctuation to  $\pm 0.01$  MPa.



### Seven major characteristics

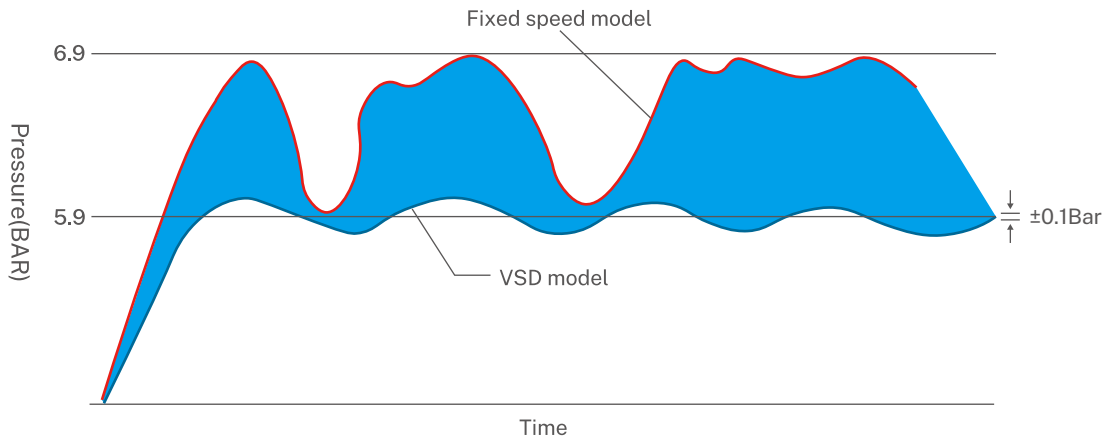
- On board RS485 communication
- Intelligent PID flow regulation mode
- Accurate torque control
- Fast response speed for system pressure
- Fast acceleration and deceleration characteristics
- Closed loop dynamic control and high precision control
- Constant pressure control avoids over generating site air pressure



### > Constant pressure output

Significant energy-savings can be achieved by constant pressure control avoiding pressure fluctuations controlled to within  $\pm 0.01$  MPa.

#### Energy-saving model



### > Stable constant temperature

Constant temperature setting ensures the best lubrication performance avoiding high temperature trips.

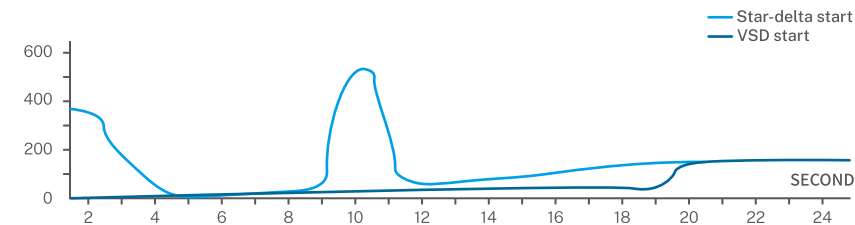


# ENERGY SAVING TECHNOLOGY

## Pure soft-start system as standard

### Soft start system reduces the electric current during start up

SCR EPM2 Series adopts a soft start system for its start-up. The Inovance VSD maintains full load current on start up to 1.5 times FLC-Traditional motor starters such as direct on line starters and star delta starters burden the power supply due to the high peak start up current which can typically be 8-10 times FLC. With variable speed soft start system, the starting current never exceeds the rated value.



## Meticulous assembly



### Magnetic panel filters

Reduce the ingress of foreign matter preventing the cooler from blocking  
Extend the service life of the compressor

### Air cooling system

The electrical enclosure design has an external cool air path ensuring that all electrical components operate at their optimum temperature  
The heat inside of the electrical enclosure is removed by cooling fans, ensuring good cooling air flow for the inverter  
The air inlet is located at the rear of the machine to help reduce noise levels leading to an enhanced ergonomic design

### Low noise

Large rotor low speed effectively reduces airend vibration and noise  
VSD air compressor starts and runs steadily without frequent loading and unloading of normal screw compressor  
Double VSD control (main motor and fan motor double VSD) can reduce the noise of airend and coling fan  
Acoustic sound deadening and new cooling system decreases overall noise level  
Low noise operation means conversations can take place right beside the running compressor



## State-f-the-art touch controller

- Improved user friendly design
- 7.0 inch full color touch LCD screen
- Real-time Operation/ Maintenance/ Alarm information
- Graphical flow diagram
- Operation record/ Chart display
- Multiple languages
- Weekly timer/Service history and planning
- On board RS485 interface



SUPPORTS UP TO 16 MACHINES

## Increased reliability

- Energy saving logic
- Overload/ Over current/ phase loss/ unbalance protection
- Pre-alarm system to avoid sudden failure
- Remote monitoring capability
- programmable start stop schedules
- Multiple compressor sequencing capability

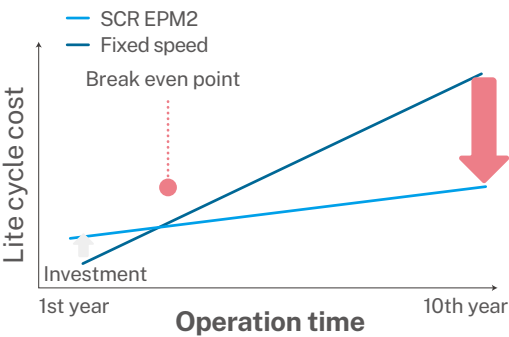
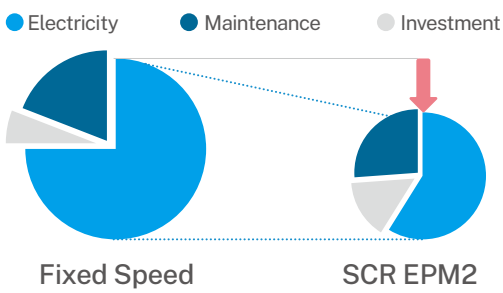
## Compressor group control

Up to 16 compressors can be automatically operated without a group control panel

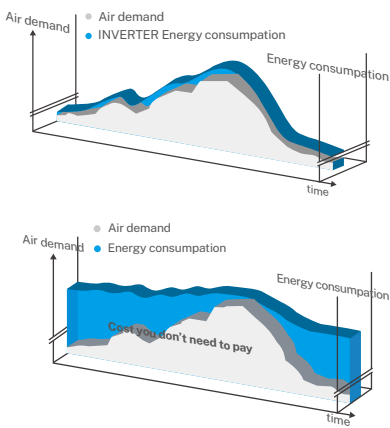
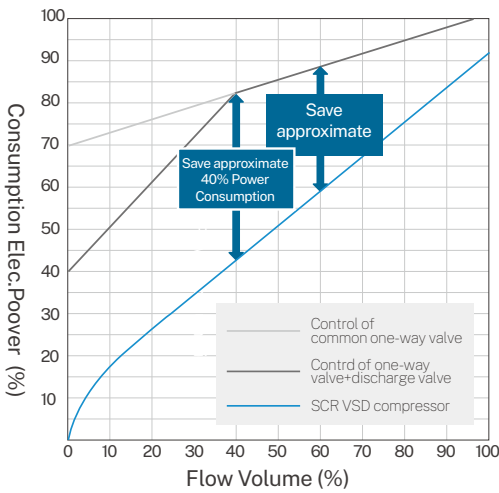
DOWN-TO-EARTH INVESTMENT FOR THE FUTURE

What's important is not the initial cost but life cycle cost . Variable speed compressors may look more expensive than fixed speed models, but many customers choose them because they know importance of life cycle cost & return on investment when it comes to choosing the right compressor.

Can Save approx **35%** of life cycle cost(LCC)



Only pay for the air you use



SCR's EPM2 series of compressors adjust compressor's rotating speed depending on the demand, which can change from moment to moment. Thus, it can provide exact volume and pressure what customer needs and achieve maximum energy saving potential. Maximizing energy-saving under any load operation through wide-range inverter control. Wide-range control and Emergency stop function.

SCR'S CLOUD SERVICE OPTION

New air solution program with advanced IOT technology

Anytime, Anywhere

Customers can monitor the live running conditions of SCR compressors anytime, anywhere and can be accessed through a Cloud service in real time. Moreover, alarm notifications will help prevent any unplanned down time.



Reliable security

VPN (Virtual private network) ensures the same reliable security level as the private network. User friendly cloud service.

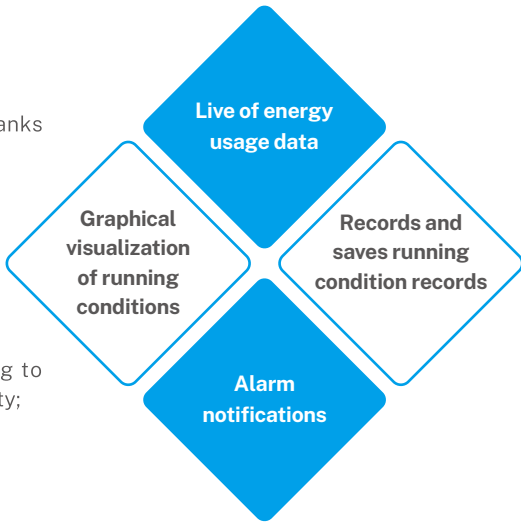
Practical use of cloud service

Easy maintenance

Maintenance will become easier thanks to remote monitoring system.

Stable-operation

Preventive maintenance according to alarm notifications increases reliability; Live of energy usage data.



Energy saving

Monitoring the compressors actual conditions will help to improve energy use.

Trouble shooting

Remote monitoring prevents any unexpected maintenance issues reduces unplanned downtime.

PREMIUM QUALITY , PRECISION MACHINED

Meticulous assembly

All airends and compressor packages are assembled to the highest standards by SCR ' s qualified specialists in accordance with Japanese Quality Management System.



Performance testing

Each air compressor must undergo an operational inspection before leaving the factory to verify the performance of the compressor.



Precision milling and grinding

The new profiles rotors are machined on CNC profile grinders to micron accuracy.



Flexible machining centres

Rotors and casings for SCR airends are produced in a state of the art, climate controlled machining centres. Japanese quality management ensures unrivalled product quality.



- QUALITY CERTIFICATE -



CE certificate



EMC certificate



UL certificate



ISO certificate

| Model         | KW   | HP  | Capacity (m³/min) | Pressure (BAR) | Dimension (mm) | Weight (KG) | Size   |
|---------------|------|-----|-------------------|----------------|----------------|-------------|--------|
| SCR20EPM-7    | 15   | 20  | 0.75-3.0          | 7              | 1400×820×1150  | 480         | R1     |
| SCR20EPM-8    |      |     | 0.73-2.9          | 8              |                |             |        |
| SCR20EPM-10   |      |     | 0.58-2.3          | 10             |                |             |        |
| SCR25EPM-7    | 18.5 | 25  | 1.3-3.7           | 7              | 1400×820×1150  | 480         | R1     |
| SCR25EPM-8    |      |     | 1.1-3.5           | 8              |                |             |        |
| SCR25EPM-10   |      |     | 1.0-2.9           | 10             |                |             |        |
| SCR30EPM-7    | 22   | 30  | 1.1-4.1           | 7              | 1400×820×1150  | 560         | R1     |
| SCR30EPM-8    |      |     | 1.2-4             | 8              |                |             |        |
| SCR30EPM-10   |      |     | 1.1-3.5           | 10             |                |             |        |
| SCR40EPM-7    | 30   | 40  | 1.7-6.2           | 7              | 1530×1100×1500 | 830         | R1 1/2 |
| SCR40EPM-8    |      |     | 1.6-6.1           | 8              |                |             |        |
| SCR40EPM-10   |      |     | 1.3-5.2           | 10             |                |             |        |
| SCR50EPM-7    | 37   | 50  | 1.65-7.4          | 7              | 1530×1100×1500 | 850         | R1 1/2 |
| SCR50EPM-8    |      |     | 1.6-7.35          | 8              |                |             |        |
| SCR50EPM-10   |      |     | 2.3-6.5           | 10             |                |             |        |
| SCR60EPM-7    | 45   | 60  | 2.5-9.5           | 7              | 1530×1100×1500 | 890         | R1 1/2 |
| SCR60EPM-8    |      |     | 2.4-9.4           | 8              |                |             |        |
| SCR60EPM-10   |      |     | 3.0-8.0           | 10             |                |             |        |
| SCR75EPM2-7   | 55   | 75  | 3.5-12.5          | 7              | 1900×1350×1720 | 1550        | DN50   |
| SCR75EPM2-8   |      |     | 3-11.5            | 8              |                |             |        |
| SCR75EPM2-10  |      |     | 2.6-10.5          | 10             |                |             |        |
| SCR90EPM2-7   | 63   | 90  | 4-14              | 7              | 1900×1350×1720 | 1650        | DN50   |
| SCR90EPM2-8   |      |     | 3.6-13            | 8              |                |             |        |
| SCR90EPM2-10  |      |     | 3.2-12            | 10             |                |             |        |
| SCR100EPM2-7  | 75   | 100 | 3.8-16.3          | 7              | 2280×1500×1950 | 2010        | DN65   |
| SCR100EPM2-8  |      |     | 3.6-16            | 8              |                |             |        |
| SCR100EPM2-10 |      |     | 2.9-13.7          | 10             |                |             |        |
| SCR125EPM2-7  | 90   | 125 | 5.1-20            | 7              | 2280×1500×1950 | 2050        | DN65   |
| SCR125EPM2-8  |      |     | 5-19              | 8              |                |             |        |
| SCR125EPM2-10 |      |     | 4-16.5            | 10             |                |             |        |
| SCR150EPM2-7  | 110  | 150 | 7.4-24.5          | 7              | 2600×1650×2050 | 2900        | DN80   |
| SCR150EPM2-8  |      |     | 7.2-24            | 8              |                |             |        |
| SCR150EPM2-10 |      |     | 6.3-21            | 10             |                |             |        |
| SCR180EPM2-7  | 132  | 180 | 8.3-30            | 7              | 2700×1700×2150 | 3050        | DN80   |
| SCR180EPM2-8  |      |     | 7.5-28            | 8              |                |             |        |
| SCR180EPM2-10 |      |     | 6.5-23            | 10             |                |             |        |
| SCR220EPM2-7  | 160  | 220 | 9.3-33.5          | 7              | 2700×1700×2150 | 3150        | DN80   |
| SCR220EPM2-8  |      |     | 8.8-31            | 8              |                |             |        |
| SCR220EPM2-10 |      |     | 7.6-27            | 10             |                |             |        |

NOTE:

The capacity is measured as GB3853 standard.(equivalent to ISO1217 Annex C)  
Standard voltage is 380V/50HZ/3P, other voltage is available.  
The recommended best capacity range is 60%-100%.  
Alpine/high altitude, high temperature, high humidity, high dust loads or other adverse working conditions will require specialized custom designs. These are available on special request.  
We reserve the right to make changes and improvements to the design and appearance. Specifications may change without prior notice.



WORLDWIDE DISTRIBUTION CHANNELS

- LEGEND:
- Headquarters
  - Major global sales outlets

