

H P C P L U S A I R

Rotary Screw Compressors



CONTROLLING THE FUTURE
MORE EFFICIENTLY

□□ Designed for the present, engineered for the future...

HPC compressed air equipment is designed and engineered with the quality and forethought required to meet the demands of today's rigorous manufacturing, industrial and automotive applications. The SX, SM and SK Series comprise models from 2.2kW to 15kW and is a range of compact, yet highly efficient and reliable rotary screw compressors. Each model is also available in a variety of package options including skid mounted pre-installed packages or modular Airtower units.

As well as the unique SIGMA profile airend design all HPC PLUSAIR compressors have built in design features that combine to provide exceptional reliability and performance. Now even quieter in operation and lower in running and maintenance costs, they are designed to operate at full load, 24 hours a day, 7 days a week with a life expectancy in excess of ten years

SX SX SERIES

2.2-4kW

SM SM SERIES

5.5-7.5kW

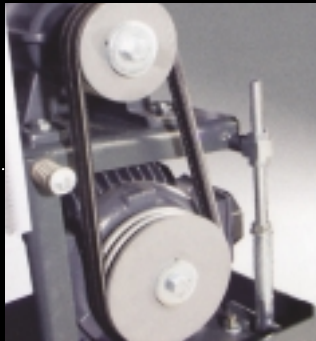
SK SK SERIES

11-15kW

Engineered For The Future

Efficient Belt Drive System

The SX/SM/SK series is a range of V-belt driven compressors featuring an automatic tensioning device that ensures constant, efficient power transmission for the entire lifetime of the compressor and significantly reduces maintenance.



■ ■ The HPC V-Belt Drive and Automatic Belt Tensioning Device

Another advantage inherent of the V-belt drive design is the flexibility of exact pressure selection from as low as 3.5 bar and up to 15 bar. This enables output and system pressure to be tailored for each individual compressor installation and is especially flexible should a change in working pressure become necessary.

SX/SM/SK Specification Includes:

- SIGMA Control panel indicating and monitoring all primary compressor control functions and operating conditions
- Automatic belt tensioning
- Cabinet door safety interlock switches (SK only)
- Cabinet filter mat for long life internal protection
- CEMEP EFF1* Motors as standard
- Choice of package options

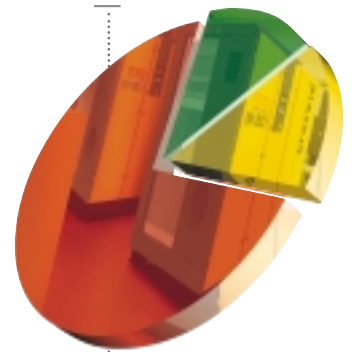
*EFF1 Motors meet or exceed the energy efficiency criteria required to be eligible for Enhanced Capital Allowances (ECA's)

The SX/SM/SK series is a proven and reliable range of compact screw compressors that have been sensibly designed and built to last. All models feature high quality, durable components that are positioned logically and contribute to the outstanding reliability of these compressor packages. Component accessibility is optimised through wide opening doors and removable panels that greatly simplify maintenance providing you with triple savings:

- Efficient power transmission
- Improved power consumption
- Reduced servicing and related downtime costs

Total Life Costs

By selecting an HPC PLUSAIR compressor you are investing in the future. Energy costs taken over the lifetime of any compressor will add up to a multiple of the initial capital cost potentially making any price difference a false economy. That is why efficiency and reliability are vital in the production of compressed air and this is achieved with quality, durable components and a design that is built to last.



- Electricity
- Purchase Cost
- Total Care Servicing



Fitted to all HPC models as standard the Sigma Control manages your compressed air system automatically and is capable of precisely matching the performance and condition of the compressor to the actual air demand

Key Features

- A real time clock can be set to switch the compressor system on and off according to the working day.
- Service reminders/indicators ensure that routine maintenance is not overlooked
- A diagnostic memory chip logs all historical events with a date and time
- Open architecture for future upgrade

Decisive Advantages

Rotary Screw Compressor Features

Across the range of HPC compressors innovation and technology are coupled with a continuity and simplicity of design that ensures exceptional reliability.

The HPC SIGMA Profile Airend

The HPC SIGMA Profile developed by Kaeser Compressors in 1975 set new standards of performance and saved up to 15% in energy consumption compared with conventional rotor profiles.

Since then the SIGMA Profile has evolved further and new airends have been developed for use in the SX/SM/SK range that optimise compressed air output to the total power consumed (Specific Power).

Premium Efficiency EFF1 Electric Motor

High efficiency CEMEP EFF1* motors consume less power for greater output and are standard throughout the range of HPC compressors. The motors are protected to IP54 and conform to insulation Class F for greater power reserve.

V-Belt Drive & Automatic Belt Tensioning

High efficiency - positive drive transmission belts allow pressure variations of 0.5bar increments. Accurate belt tensioning is achieved automatically by a device that ensures constant transmission efficiency and results in extended belt life and high reliability of the entire drive system.

High Flow, Multi-Stage Effective Separation

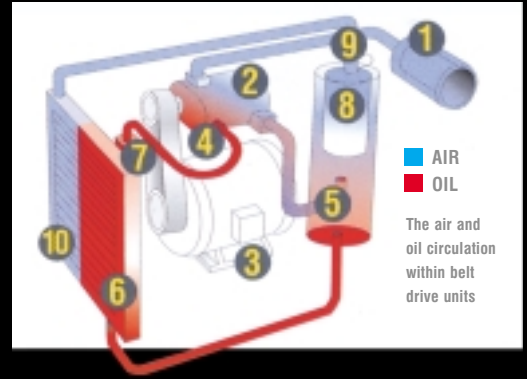
A generously sized air/oil separator and the combination of flow optimised initial centrifugal and gravitational separation through a special cartridge ensures an oil carry over of typically 1-3ppm*. Maintenance requirements are minimal and simple to carry out due to the sensible design and excellent accessibility.

* ppm =parts per million

Cabinet Filter Mats

The robust compressor cabinet design features cooling air filter mats to prevent premature clogging of the fluid/air cooler and two stage air intake filter by effective filtration of contaminated ambient air that is drawn into and through the cabinet for compression and cooling.

OPERATING SEQUENCE



Air is drawn through a filter mat and two stage heavy duty air intake filter **1** and compressed within the air end **2** that is driven by a high efficiency EFF1 electric motor **3** oil is injected **4** and mixed with air to absorb heat generated by the compression process, lubricate and to seal the rotors.

After compression the air/oil mixture enters the oil separator **5** where a three stage separation process is carried out. The separated oil is recycled through the oil cooler **6** through a micro oil filter **7** and re-injected into the air end. Oil circulation is achieved by utilising the air pressure.

The compressed air passes through a two stage oil separation system **8 (5)** after which it is virtually oil free, containing typically 1-3 ppm*. It then passes through a minimum pressure/non return valve **9** which creates the back pressure needed to maintain the oil flow to the airend and then back to the aftercooler. **10**



□ □ SIGMA Profile Airend



□ □ Electric Motor



□ □ V-Belt Drive



□ □ Separation System



□ □ Cabinet Filter Mats

SX/SM Package Options

RM Models

The SX and SM series are available free standing with a separate vertical air receiver or receiver mounted (RM) where the compressor is mounted onto a horizontal air receiver.



Prepared Air Systems

Pre-Connected Packaged Solutions

When it comes to providing high quality compressed air, the HPC range of compressed air packages complete with dryers and filters will purify the air in line with the most stringent standards. HPC Prepared Air Systems bring together all the component parts of a compressed air installation into a single package unit. The systems incorporate an SX or SM series Plusair screw compressor complete with the appropriate energy saving Secotec refrigerant air dryer and associated filtration all pre-connected and skid mounted.

Specification includes:

- Package is skid mounted for ease of handling & installation.
- Bypass system fitted to allow servicing of dryer without interruption to the compressed air supply.
- Thermal Mass Dryer fitted with electronic auto drain.
- Condensate Manifold fitted for ease of connection to an oil/water separator



Skid mounted Prepared Air Systems

Please refer to HPC Prepared Air Systems leaflet for full details and technical specifications.

SX/SM/SK Package Options

Airtowers

Minimum space requirement - maximum system flexibility

HPC AIRTOWERS incorporate an SX/SM or SK rotary screw compressor with the energy saving SIGMA profile airend and a refrigerant air dryer. Modular in design the compressor is mounted directly above the dryer. The units require a minimal floor space and are therefore ideal for factories, workshops and bodyshops where space is at a premium. Working quietly and efficiently an HPC AIRTOWER will provide clean, dry, quality compressed air.



Internal illustration of an HPC Airtower

A major design feature of the HPC AIRTOWER range is that the compressor and dryer are both completely separate, independently functioning modules. This means that each can be operated individually making it possible to isolate and service the dryer whilst the compressor is operating.

An energy efficient and environmentally safe system would include a vertical air receiver, compressed air filtration, condensate drains and oil/water separators.

Please refer to HPC Airtowers leaflet for full details and technical specifications.

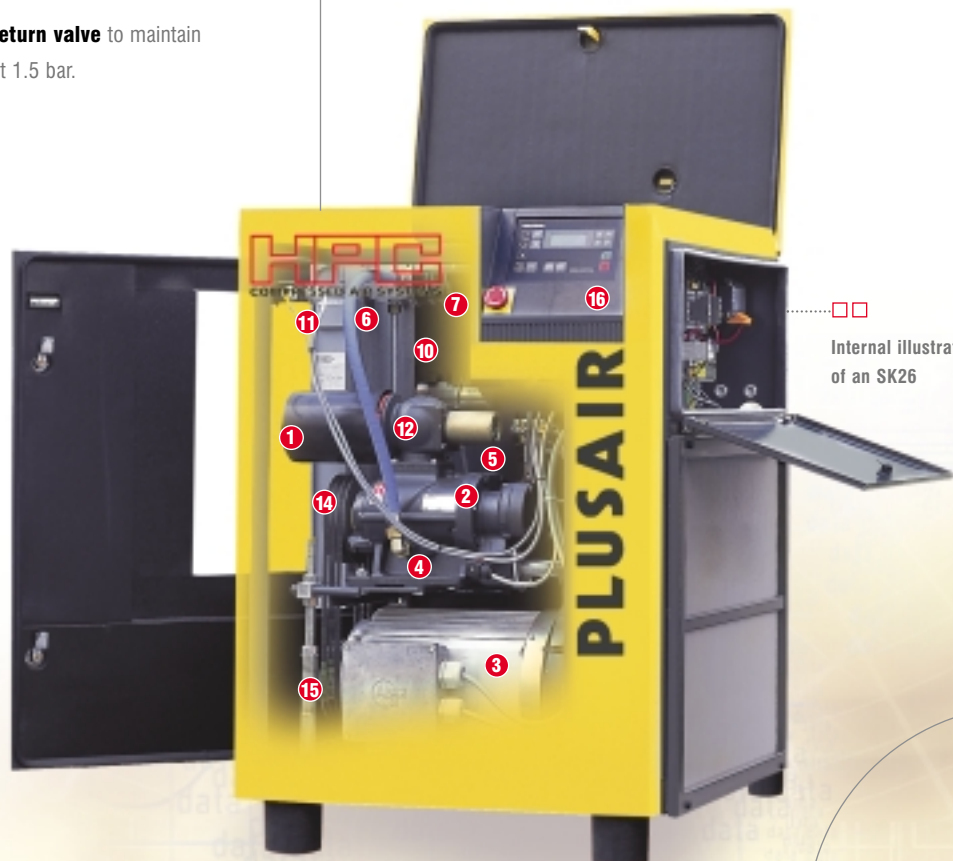
Design Features & Unrivalled Build Quality

- 1 **Two stage air intake filter** to ensure the air for compression is clean and dust free to 3 micron.
- 2 **SIGMA Profile airend** dynamically balanced for quiet running and a pressure range of 3.5 - 15 bar.
- 3 **High efficiency CEMEP EFF1* electric motor** with thermal overload protection.
- 4 **SIGMA Fluid injection port** for the sealing, cooling and lubrication within the airend.
- 5 **Air/Oil separator** with min/max oil level sight glasses, safety valve and pressure gauge.
- 6 **Oil cooler** designed for up to 15bar working pressure
- 7 **Micro oil filter** designed specifically for higher pressure heavy duty operation.
- 8 **Oil separation cartridge.** High flow, multi-stage high efficiency separation. Oil carry-over typically 1-3ppm[±].
- 9 **Minimum pressure non return valve** to maintain internal off load pressure at 1.5 bar.
- 10 **Aftercooler** typically provides compressed air discharge temperatures of 6°C above ambient this means that less energy is required to dry the air downstream.
- 11 **Thermostatic valve** ensures rapid warm up and minimises condensate accumulation.
- 12 **Air inlet valve** controls the air intake of the compressor.
- 13 **Control and Separator Vent Valve** linked to operating pressure to ensure and maintain off-load running.
- 14 **Belt Drive** High efficiency positive drive allowing pressure flexibility of 0.5bar increments.
- 15 **Automatic belt** tensioning device maintains optimum transmission adjustment.
- 16 **SIGMA Control** an industrial PC with Intel microprocessor that manages and displays system operating parameters.

Items 8,9,13 are concealed from view



Quieter than Quiet
SX/SM/SK models feature exceptionally low sound levels both on-load and off-load



Internal illustration of an SK26

Rotary Screw Compressors

Technical Specification

MODEL	FAD @ working pressure*		Working pressure bar	Motor power kW	Sound level** dB(A)	Dimensions L x W x H mm	Weight kg
	m ³ /min	cfm					
SX3 (RM)	0.313	11.1	7.5	2.2	65	624 x 669 x 807 (RM 1210 x 785 x 1410)	160 (RM 250)
	0.233	8.2	10				
	-	-	-				
SX6 (RM)	0.583	20.6	7.5	4	66	624 x 669 x 807 (RM 1210 x 785 x 1410)	165 (RM 255)
	0.466	16.5	10				
	0.360	12.7	13				
SM8 (RM)	0.816	28.8	7.5	5.5	68	624 x 669 x 807 (RM 1210 x 785 x 1410)	170 (RM 260)
	0.684	24.2	10				
	0.551	19.5	13				
SM11 (RM)	1.145	40.4	7.5	7.5	69	624 x 669 x 807 (RM 1210 x 785 x 1410)	180 (RM 270)
	0.975	34.4	10				
	0.795	28.1	13				
SK19	1.855	65.5	7.5	11	67	785 x 820 x 1017	270
	1.590	56.2	10				
	1.219	43.0	13				
SK26	2.544	89.8	7.5	15	67	785 x 820 x 1017	290
	2.205	77.9	10				
	1.781	62.9	13				

'RM' denotes 'Receiver Mounted', an option available where the compressor is mounted onto a horizontal air receiver.

* Capacity to ISO 1217, 1996 Annex C, measured at outlet of package.

** Sound level to PN8NTC2.3 at 1m distance, free field measurement.

Complete solutions from HPC

HPC offer complete solutions for your compressed air system with equipment specifically designed to match the compressor. An energy efficient and environmentally safe system includes HPC compressors, management control systems, dryers, filters, receivers, condensate drains and oil/water separators all installed, commissioned and maintained in accordance with industry regulations.

A combination of PLUSAIR compressors, refrigerant or desiccant dryer and a series of external filters remove potentially harmful contaminants such as water, oil and dirt providing air to ISO quality standards. For breathing air applications a variety of special purpose filters and purifiers are available for the removal of noxious gases.



□□ Dryers



□□ Receivers



□□ Filters



□□ Condensate Management



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HPC AUTHORISED DISTRIBUTORS



HPC is part of a global operation and places a high priority on professional customer support through its UK team of skilled, professional and dedicated Authorised Distributors.

Having worked in partnership with HPC for many years our distributors have a reputation for excellence in all fields of compressed air generation and offer expert, professional advice.

Providing practical solutions whilst tailoring packages to each individual requirement you will benefit directly from their investment in specialised training and have a guarantee of workmanship.

You can be assured therefore of extremely good service from your first point of contact until years beyond.



ISO9001:2000
Certificate No: Q10128



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Issue No. 102003 / 98001002 / IE