

SMC 180 single-stage reciprocating compressors



SMC 186 reciprocating compressor block with Unisab II

Sabroe SMC 180 compressors are ideal for use in large industrial and marine refrigeration installations. They are the most reliable and economical option for many heavy-duty applications of this particular size.

Two different Sabroe SMC 180 models are available, providing capacities of 1283 and 1710 m³/h swept volume at 1000 rpm maximum speed.

Compatible and upgradable

Sabroe SMC 180 compressors are future-compatible because ongoing changes and improvements are designed so that they can also be implemented on earlier SMC 180 models. This makes it easy to upgrade and retrofit older compressors to the latest standard.

Significant advantages

The advantages of the Sabroe SMC 180 compressor design include

- High coefficient of performance (COP), with excellent part-load characteristics.
- Excellent accessibility and few requirements for spare parts.
- Any necessary repairs can normally be undertaken without having to remove the compressor.
- Chromium piston rings, gas-dampened discharge valves and hardened cylinder liner surfaces.
- Spring-loaded safety heads, balanced refrigerant-tight shaft seal, asbestos-free gaskets and an internal bypass valve to prevent excessive pressure.

Customer benefits

For the customer, the benefits of the Sabroe SMC 180 compressor design include

- • Lower power consumption, especially when operating at part load. This greatly reduces operating costs.
- • Easy maintenance, resulting in low service costs and minimal downtime.
- • All repairs can be carried out on site at the customer's own premises, reducing both repair costs and downtime.
- • Extended service life for all moving parts.
- • The special design ensures low noise and low vibration levels, with safe, environmentally friendly operation.



Standard equipment

Sabroe SMC 180 compressors are supplied with the following equipment as standard

- compressor block with oil pump and oil filter
- solenoid valves for capacity control
- suction and discharge stop valves
- safety valve
- oil-charging valve
- suction filter
- oil-level sight glass
- electric immersion heater in crankcase
- evacuation valve
- pre-lubrication valve.



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Optional equipment

A wide range of optional equipment is also available for Sabroe SMC 180 compressors. This includes

- gauges, thermometers and temperature/pressure control switches
- Sabroe Unisab II microprocessor control with temperature/pressure sensors
- oil level regulator for parallel systems
- explosion-proof equipment
- base frame with coupling and guard for direct-drive unit
- base frame with pulleys, belts and guard for V-belt drive unit
- motors
- oil separators with solenoid valve for oil return
- oil charging pump
- vibration dampers and foundation bolts
- tool sets
- sets of genuine Sabroe spare parts.

Compressor and oil cooling

Depending on specific refrigerant and operating conditions, it can be necessary to supplement basic air convection cooling with one of the following options to make sure that the compressor and the lubricating oil are cooled efficiently

- water-cooled head covers
- water-cooled side covers for oil cooling.

Technical data

Model	Number of cylinders	Bore x stroke mm	Max. rpm	Swept volume at max. rpm m ³ /h	Nominal capacities kW					Dimensions Direct-coupled unit mm			Weight excl. motor kg	Sound pressure level dB(A)
					R717			R22		L	W	H		
					Single/high stage		Booster	Single/high stage						
					-10/+35°C	0/+35°C	-40/-10°C	0/+35°C	-10/+35°C					
SMC 186	6	180 x 140	1000	1283	779	1224	215	855	576	2800-3400	1705	1700	3300	84
SMC 188	8	180 x 140	1000	1710	1039	1632	288	1140	768	2800-3400	1730	1700	3600	85

Nominal capacities are based on 1000 rpm for R717 and 750 rpm for R22. 5°C subcooling and 2°C superheat

All information is subject to change without previous notice.