

CMO single-stage reciprocating compressors

Sabroe CMO compressors are ideal for use in smaller industrial and marine refrigeration installations in which reliability is a crucial concern. The CMO range provides users with the most reliable and economical solution for a wide range of smaller-scale, heavy-duty applications.

Six different models are available to provide capacities between 116 and 273 m³/h swept volume at 1800 rpm maximum speed.

Compatible and upgradable

Sabroe CMO compressor units are designed to be future-compatible. Ongoing changes and improvements are configured to make sure they can also be implemented on earlier CMO models.

This makes it easy to upgrade and retrofit older compressors to the latest standard.



CMO 24 reciprocating compressor unit with Unisab III compressor control

Significant advantages

The advantages of the Sabroe CMO 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 CMO 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 key wearing parts.
- ▶ The special design ensures low noise and low vibration levels, with safe, environmentally friendly operation. Faster, safer start-up and commissioning reduce overall costs significantly.

Sabroe product description

Standard equipment

Sabroe CMO 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.



CMO 28 with gauges

Optional equipment

A wide range of optional equipment is available for use with Sabroe CMO compressors. This includes

- gauges, thermometers and temperature/pressure control switches
- additional external suction filter
- Sabroe Unisab III 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 to make sure the compressor and the lubricating oil are cooled efficiently.

This can be done with one of the following options

- water-cooled head covers
- water-cooled side covers for oil cooling
- refrigerant-based oil cooling
- thermo-pump system (for use with R717 only).

Model	Number of cylinders	Bore x stroke mm	Swept volume at max. 1500 rpm m ³ /h	Swept volume at max. 1800 rpm m ³ /h	Normal capacities kW at 1500 rpm					Dimensions Direct coupled unit mm			Weight excl. motor kg	Sound pressure level dB(A)
					R717		R404A			L	W	H		
					Single/high stage -10/+35°C	Booster 0/+35°C	Single/high stage 0/+35°C	Booster -10/+35°C	Single/high stage -10/+35°C					
CMO 24	4	70 x 70	97	116	53	85	14	85	54	1400-2150	800	900	480	69
CMO 26	6	70 x 70	145	175	79	127	21	127	81	1450-2175	800	900	520	71
CMO 28	8	70 x 70	194	233	105	170	28	169	108	1475-2200	800	900	550	72
CMO 34	4	70 x 82	114	136	62	100	17	99	63	1400-2150	800	900	480	70
CMO 36	6	70 x 82	170	204	93	149	25	149	95	1450-2175	800	900	520	72
CMO 38	8	70 x 82	227	273	123	199	33	198	127	1475-2200	800	900	550	73

Normal capacities are based on 1500 rpm and 5°C liquid subcooling

All information is subject to change without previous notice