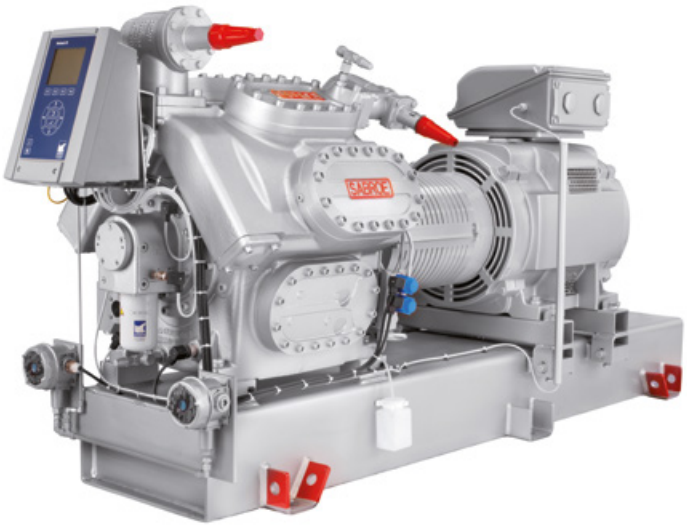
Sabroe HPO/HPC/HPX high-pressure reciprocating compressor units

High-pressure hybrids of CMO and SMC reciprocating compressors, with swept volumes of 100–1100 m^3/h

The blocks of the compressor units in the HPO/HPC/HPX range are cast in high-strength ductile iron, making them particularly strong and capable of operating under exceptionally high pressures.

This results in condensing temperatures of up to 90°C, and makes HPX and HPO/HPC compressors ideal for use in conjunction with heat pumps and hot water applications, and as an extra "supercharge" stage in traditional ammonia plants. The renowned Sabroe high-pressure compressors are ideal for use with either ammonia or CO_2 as refrigerant.

Sabroe high-pressure compressors provide exceptional reliability and big savings on operating costs, because they are based on the high-volume CMO and SMC compressors, and they share the majority of castings and parts. Our three-year warranty covers the complete unit, including compressor block, UniSAB, motor and coupling – for all refrigerants.

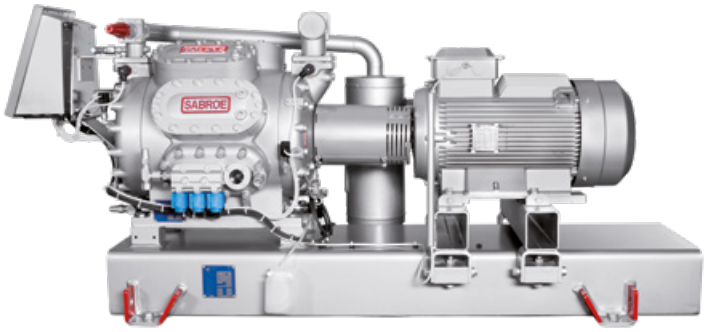


HPC 108 single-stage reciprocating compressor unit (50 bar) with UniSAB systems controller

	Advantages	Benefits
	High coefficient of performance (COP), with excellent performance under part-load conditions	Low power consumption, especially under part-load conditions. This greatly reduces operating costs
	Variable-speed drive (optional) provides stepless capacity control over the entire operating range	Power consumption and operating costs kept to a minimum
	Provides exceptionally high condensing temperatures – up to 90°C	Matches radiator temperature in most domestic/ commercial heating systems, making HPO/ HPC/HPX units ideal in district heating, etc.
	Designed for easy service access, and repairs can be undertaken in situ, without removing the compressor	Lower repair and maintenance costs, and less downtime
	Special oil separator design based on coalescer technology	Low oil carry-over, which cuts back on oil costs

Range

Thirteen different models are available to provide swept volumes of between 100 and 1100 m^3/h.



Options

- Variable-speed drive line
- Gauges, thermometers and temperature/pressure control switches
- Extended cylinder capacity control
- ATEX-compliant configuration
- Special vibration dampening.

Model	Number of cylinders	Swept volume at 1500 rpm m^3/h	Swept volume at 1800 rpm m^3/h	Nominal capacities in kW at 1800 rpm Heating R717 +35/+73°C	Heating R717 +35/+90°C	Cooling R717 0/+55°C	Cooling R744 -50/-10°C	Unit dimensions in mm L	W	H	Weight excluding motor kg	Sound pressure level at 1800 rpm dB(A)
HPO 24	4	97	116	332	N/A	83	116	1580–1930	835	985	510	77
HPO 26	6	146	175	497	N/A	125	174	1600–1950	940	985	550	78
HPO 28	8	194	233	663	N/A	167	232	1620–1970	940	985	580	80
HPC 104 S	4	226	271	786	N/A	198	214*	2261-2865	1305	1214	1340	83
HPC 106 S	6	339	407	1177	N/A	297	321*	2286-2890	1345	1260	1580	84
HPC 108 S	8	452	543	1569	N/A	396	428*	2311-2915	1486	1247	1660	85
HPC 112 S	12	679	814	2351	N/A	594	642*	3279-3687	1525	1448	2520	86
HPC 116 S	16	905	1086	N/A	N/A	792	856*	3329-3757	1525	1448	2600	87
HPX 704	4	111	133	380	356	95	133	2261-2865	1213	1214	1220	82
HPX 706	6	166	200	570	535	143	200	2286-2890	1267	1260	1440	84
HPX 708	8	222	266	760	713	190	266	2311-2915	1278	1260	1510	85
HPX 712	12	333	399	1140	1069	286	400	3279-3687	1345	1448	2430	86
HPX 716	16	443	532	1520	1426	381	533	3329–3737	1356	1445	2600	87

* at 1500 rpm

For HPO
Design pressure, HP side: 50 bar
Design pressure, LP side: 26 bar
Differential pressure: 25 bar.

For HPC
Design pressure, HP side: 50 bar
Design pressure, LP side: 26 bar
Differential pressure: 25 bar.

For HPX
Design pressure, HP side: 60 bar
Design pressure, LP side: 26 bar
Differential pressure: 40 bar.

Nominal capacities are based on:
1500 rpm at 50 Hz.
1800 rpm at 60 Hz or VSD.

For R717
2 K liquid subcooling and 0.5 K non-usable suction superheat.

For R744
2 K liquid subcooling and 10 K usable suction superheat for R744.

Sound pressure levels measured in free field, over reflecting plane and one metre distance from the compressor block.

Min./max. speed	R717	R744
HPO 20	700-1800 rpm	700-1800 rpm
HPC 100	500-1800 rpm	500-1500 rpm
HPX 700	500-1800 rpm	500-1800 rpm