

Sabroe SAB screw compressor units

Large single-stage compressors with swept volumes of 850–11000 m³/h

The bigger models of Sabroe SAB screw compressors are specifically engineered to deal with larger-scale industrial refrigeration installations in which requirements prioritise exceptional reliability, high performance and low operating costs. All the components are designed and configured to ensure low maintenance costs as a result of good accessibility and ease of service.

Like their smaller counterparts, these large-capacity compressor units can be used with all common refrigerants and process gases.

Range

Thirteen different models are available to provide swept volumes of 850–11000 m³/h.



SAB 233 screw compressor unit with UniSAB systems controller

| Advantages | Benefits |
|---|--|
| Variable-speed drive and stepless capacity control ensure that capacity is always adjusted to suit requirements | Maximum part-load efficiency and lowest possible operating costs |
| SAB screw compressor units are all equipped with a UniSAB systems controller | More efficient operating profile, less downtime and longer service life |
| Cold Start valve lubricates the compressor, with no oil pump needed | Lower operating costs and less maintenance |
| SuperFilter II oil filter captures 99% of all particles larger than 5 microns | Longer bearing life, providing maximum reliability and savings on both maintenance and replacement |
| Space-saving design with small footprint | Significant reductions in space requirements |
| Compact oil separator | Highly efficient oil carry-over as a result of two-stage separation |



Options

- Variable-speed drive
- Thermosyphon and water-cooled oil coolers, with 3-way oil temperature control valve
- Liquid injection oil cooling (EZ Cool)
- Dual external oil filters (SuperFilter II type)
- Complete economiser systems
- Demand oil pump – controlled by UniSAB systems controller
- Sensors and transmitters for control by external PLC systems.

| Model | Swept volume at 3000 rpm m ³ /h | Swept volume at 3600 rpm m ³ /h | Nominal capacities in kW at 3600 rpm | | | Unit dimensions in mm L x W x H | Weight excluding motor/oil kg | Sound pressure level at 3000 rpm dB(A) | Sound pressure level at 3600 rpm dB(A) |
|-----------|---|---|--------------------------------------|----------------------|--------------------------------------|---|--|---|---|
| | | | R717 | | With economiser R717 -40/+35°C | | | | |
| | | | High stage -10/+35°C | Booster -40/-10°C | | | | | |
| SAB 193 S | 848 | 1018 | 653 | 194 | 193 | 3150 x 1500 x 1800 | 2700 | 84 | 86 |
| SAB 193 L | 1131 | 1358 | 872 | 260 | 258 | 3250 x 1500 x 1900 | 2800 | 84 | 86 |
| SAB 233 S | 1494 | 1792 | 1172 | 344 | 334 | 3700 x 1700 x 2100 | 4600 | 86 | 88 |
| SAB 233 L | 1880 | 2257 | 1477 | 484 | 421 | 3700 x 1800 x 2200 | 4750 | 86 | 88 |
| SAB 233 E | 2323 | 2788 | 1826 | 537 | 520 | 3700 x 1800 x 2200 | 4800 | 86 | 88 |
| SAB 283 S | 2676 | 3211 | 2096 | 616 | 597 | 3700 x 1800 x 2250 | 5500 | 88 | 90 |
| SAB 283 L | 3370 | 4044 | 2638 | 776 | 752 | 4150 x 1900 x 2650 | 5850 | 88 | 90 |
| SAB 283 E | 4055 | 4865 | 3159 | 929 | 901 | 4450 x 2100 x 2850 | 7650 | 88 | 90 |
| SAB 355 S | 4192 | 5031 | 3236 | 963 | 917 | 4550 x 2350 x 3500 | 10000 | 89 | 91 |
| SAB 283 X | 4580 | 5496 | 3592 | 1056 | 1025 | 4600 x 2100 x 2850 | 8950 | 88 | 90 |
| SAB 355 L | 5716 | 6860 | 4369 | 1299 | 1240 | 4700 x 2350 x 3500 | 10000 | 89 | 91 |
| SAB 355 E | 7275 | 8730 | 5550 | 1630 | 1576 | 4850 x 2350 x 3500 | 10200 | 89 | 91 |
| SAB 355 X | 9180 | 11016 | NA | 2053 | 1966 | 5000 x 2350 x 3500 | 10400 | 89 | 91 |

2-pole motor:

3000 rpm at 50 Hz.
3600 rpm at 60 Hz or VSD.
4200 rpm at 70 Hz or VSD.

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

For R717:

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

28 bar design pressure:

SAB 193, SAB 233, SAB 283 and SAB 355

| Min./max. speed | R717 |
|-----------------|-----------|
| SAB 193 | 1000-4200 |
| SAB 233 | 1000-3800 |
| SAB 283 | 1000-3600 |
| SAB 355 | 1000-3600 |