



# Sabroe products – engineered to perfection

Our line of high-performance products is specifically engineered to deal with large-scale industrial refrigeration installations. Each unit is designed and built to be reliable with low operating costs. Each component is configured to ensure low maintenance costs as a result of good accessibility and ease of service.

<b>Compressors</b>	<b>Chillers</b>	<b>Heat pumps</b>	<b>Chiller and Heat Pump Plant Controller</b> Puts the parameters to maximise uptime and efficiency and minimise the total cost of ownership of total industrial chiller and heat pump plants at your fingertips.	<b>OWSG Shell-and-Tube Oil Cooler</b> <ul style="list-style-type: none"> <li>Capacity range is tailored to fit Sabroe screw compressors</li> <li>Operation between 120°C and 0°C</li> <li>Designed for cooling of oil in screw compressors</li> </ul>
<b>CMO Reciprocating Compressor Units</b> Excellent for small-scale installations. <ul style="list-style-type: none"> <li>Cooling capacity: 50-190kW</li> <li>Swept volume range: 100-270m<sup>3</sup>/h</li> <li>Refrigerants: Ammonia, carbon dioxide, hydrocarbons (HCs) and others</li> <li>Available as fixed or variable speed (700-1,800rpm)</li> <li>Max. condensing temp. is 55°C</li> </ul>	<b>ChillPAC Chillers</b> Ultra compact and with a unique vibration-resistant design. Ideal for places with limited space. <ul style="list-style-type: none"> <li>Cooling capacity: 100-1,400kW</li> <li>Reciprocating compressor, fixed or variable speed, R717 (ammonia, &lt;50kg charge)</li> </ul>	<b>HeatPAC Heat Pumps</b> Extremely compact design based on ultra-reliable Sabroe HPO / HPC / HPX compressors. <ul style="list-style-type: none"> <li>Water up to 95°C</li> <li>Heating capacity: 100-2,700kW</li> <li>Reciprocating compressor, variable speed only, R717 (ammonia, &lt;50kg charge)</li> </ul>	<b>CP Optimiser</b> The shortcut to obtain full control of uptime, efficiency and lifecycle cost for: <ul style="list-style-type: none"> <li>Pure chiller plants with a conventional heat rejection side</li> <li>Pure water-to-water heat pump plants</li> <li>Combination plants where the heat pumps are also serving cooling purposes on the cold side</li> </ul>	<b>EOSE Spiral Flash Economiser</b> <ul style="list-style-type: none"> <li>Closed flash economiser with an integrated separator</li> <li>Capacity range is tailored to fit Sabroe screw compressor range</li> <li>Operation between 50°C and -40°C</li> </ul>
<b>SMC Reciprocating Compressor Units</b> Excellent for medium-sized installations. <ul style="list-style-type: none"> <li>Cooling capacity: 130-1,225kW</li> <li>Swept volume range: 100-1,350m<sup>3</sup>/h</li> <li>Refrigerants: Ammonia, carbon dioxide, hydrocarbons (HCs) and others</li> <li>Available as fixed or variable speed (500/700-1,800rpm)</li> <li>Max. condensing temp. is 55°C</li> </ul>	<b>ComPAC Chillers</b> Distinctive for their compact design based on plate-and-shell heat exchangers and the comprehensive Sabroe screw compressor programme. <ul style="list-style-type: none"> <li>Cooling capacity: 200-2,200kW</li> <li>Screw compressor, fixed or variable speed, R717 (low charge)</li> </ul>	<b>DualPAC Heat Pumps</b> Combining ChillPAC and HeatPAC into one single heat pump. <ul style="list-style-type: none"> <li>Modular system enabled</li> <li>High temperature lifts</li> <li>Low operating costs</li> <li>Water up to 95°C</li> <li>Heating capacity: 400-3,000kW</li> <li>Variable speed, R717</li> </ul>	<b>Sabroe Integrated Standard Automation Concept (ISAC)</b> A unique Sabroe software toolbox for designing and configuring all sorts of refrigeration control and monitoring setups. <ul style="list-style-type: none"> <li>Efficient integration of SCADA graphics with PLC functionality</li> <li>Ensures effective and reliable monitoring and control of both large and small industrial refrigeration installations</li> </ul>	<b>SVOR Open Flash Economiser</b> <ul style="list-style-type: none"> <li>Capacity range tailored to fit the Sabroe screw compressor range</li> <li>Designed to sub-cool liquid refrigerant from condenser to improve cooling capacity and efficiency of a system</li> <li>Integrated liquid separator</li> </ul>
<b>HPO / HPC / HPX High-Pressure Reciprocating Compressor Units</b> Excellent for high-pressure operations. <ul style="list-style-type: none"> <li>Heating capacity: 330-3,200kW</li> <li>Swept volume range: 100-1,100m<sup>3</sup>/h</li> <li>Refrigerants: Ammonia, carbon dioxide, hydrocarbons (HCs) and others</li> <li>Available as fixed or variable speed (500/700-1,800rpm)</li> <li>Max. HPO / HPC condensing temp. is 77°C HPO / HPC</li> <li>Max. HPX condensing temp. is 95°C HPX</li> </ul>	<b>PAC Chillers – Reciprocating Compressor</b> Fully integrated packaged units, based on reciprocating compressors. <ul style="list-style-type: none"> <li>Cooling capacity: 100-6,200kW</li> <li>Screw or Reciprocating compressor, fixed or variable speed, R717</li> <li>Wide range of standard sizes</li> <li>Easy to customise to meet specific requirements</li> </ul>	<b>HicaHP Heat Pumps</b> High-capacity heat pumps developed for large-scale heat pump installations, such as district heating. <ul style="list-style-type: none"> <li>Optimised at 40 bar or 63 bar design pressure</li> <li>Temperature up to 72°C or 95°C</li> <li>Capacities from 2MW to 25MW</li> </ul>	<b>Heat exchangers and vessels</b>	<b>ECSQ Shell-and-Tube Cascade Cooler</b> <ul style="list-style-type: none"> <li>Capacity: 75-2,000kW</li> <li>Designed for R717 (ammonia) / R744 (carbon dioxide) operation and can also be used as an intermediate cooler in refrigerant circuits</li> <li>Integrated liquid separator</li> <li>Economical design made for increased efficiency, reduced charge and increased compressor protection</li> </ul>
<b>TCMO / TSMC Two-Stage Reciprocating Compressor Units</b> Used for high temperature lift in refrigeration systems. <ul style="list-style-type: none"> <li>Cooling capacity: 20-165kW</li> <li>Swept volume range: 150-1,000m<sup>3</sup>/h</li> <li>Refrigerants: Ammonia, carbon dioxide, hydrocarbons (HCs) and others</li> <li>Available as fixed or variable speed (700-1,800rpm)</li> <li>Max. condensing temp. is 55°C</li> </ul>	<b>PAC Chillers – Screw Compressor</b> Fully integrated packaged units, based on screw compressors. <ul style="list-style-type: none"> <li>Cooling capacity: 100-6,200kW</li> <li>Screw or Reciprocating compressor, fixed or variable speed, R717</li> <li>Wide range of standard sizes</li> <li>Easy to customise to meet specific requirements</li> </ul>	<b>Controls</b>	<b>HXSG Suction Gas Superheater</b> <ul style="list-style-type: none"> <li>Capacity range tailored to fit customer application</li> <li>Suction gas superheater designed to protect the liquid migration to compressor</li> </ul>	<b>DISS Shell-and-Tube Desuperheater</b> <ul style="list-style-type: none"> <li>Capacity: 50-10,000kW</li> <li>Designed for desuperheating of discharge gas in tubes</li> <li>Operation between 120°C and 0°C</li> <li>Provides low pressure drop on refrigerant side</li> </ul>
<b>SAB Screw XJF Compressor Units</b> For small-scale installations that require high performance and exceptional reliability at low operating costs. <ul style="list-style-type: none"> <li>Cooling capacity: 145-680kW</li> <li>Swept volume range 200-1,000m<sup>3</sup>/h</li> <li>Refrigerants: Ammonia, carbon dioxide, hydrocarbons (HCs) and others</li> <li>Available as fixed or variable speed (1,000-3,600rpm)</li> <li>Max. condensing temp. is 55°C</li> </ul>	<b>ChillPAC Air Chillers</b> A factory-assembled unit for outdoor installation. Based on Sabroe reciprocating compressors. Avoid adding expensive machine room. <ul style="list-style-type: none"> <li>Cooling capacity: 300-1,400kW</li> <li>Reciprocating compressor, fixed or variable speed, R717</li> </ul>	<b>UniSAB 4</b> Proven, efficient compressor protection and capacity regulation. <ul style="list-style-type: none"> <li>Intelligent limiter system for maximum compressor uptime</li> <li>Multisab++ load distribution system for minimum total cost of plant ownership</li> <li>Industrial communication protocols and secure web connectivity</li> <li>Also available for retrofit</li> </ul>	<b>ESRB Shell-and-Tube Evaporator</b> <ul style="list-style-type: none"> <li>Capacity: 100-4,250kW</li> <li>Designed for flooded evaporation, with built-in integrated liquid separator</li> <li>Economical design made with stainless steel tubes</li> </ul>	<b>Receivers and Oil Vessels</b> Tailor-made vessels and heat exchanger ranges with both vertical and horizontal receivers for on-site installation. Also available for oil drain vessels in both vertical and horizontal layout.
<b>SAB Screw SGC Compressor Units</b> Specifically engineered to deal with large-scale industrial refrigeration installations, while prioritising exceptional reliability, high performance and low operating costs. <ul style="list-style-type: none"> <li>Cooling capacity: 650-5,550kW</li> <li>Swept volume range 850-11,000m<sup>3</sup>/h</li> <li>Refrigerants: Ammonia, carbon dioxide, hydrocarbons (HCs) and others</li> <li>Available as fixed or variable speed (1,000-3,600rpm)</li> <li>Max. condensing temp. is 55°C</li> </ul>	<b>Enclosure for ChillPAC and HeatPAC Units</b> Specifically developed to fit the compact designs of ChillPAC and HeatPAC. Equally suitable for outdoor installation and as sound enclosure in a machine room (sound reduction: 17dB(A) +/- 3dB).	<b>Sabroe Vibration Monitoring System (SVM)</b> For accurate, continuous monitoring of the bearing vibration levels in Sabroe screw compressors and their motors. <ul style="list-style-type: none"> <li>Adding additional safety margin to normal compressor services schemes</li> <li>Fit for condition-based service paradigms</li> </ul>	<b>ESSB Shell-and-Tube Evaporator</b> <ul style="list-style-type: none"> <li>Capacity: 100-4,250kW</li> <li>Designed for flooded evaporation, with integrated liquid separator</li> <li>Standard design is the optimal choice for most applications made with carbon steel tubes</li> </ul>	<b>AP1000 Air Purger</b> Designed to maintain the efficiency of an R717-based (ammonia-based) refrigeration setup by removing any air present in the refrigerant charge.
<b>SAB High-Pressure Screw Compressor Units</b> Ideal for large heat pumps or low temperature two-stage freezer installation (CO <sub>2</sub> and ammonia system) <ul style="list-style-type: none"> <li>Heating capacity: 50-190kW</li> <li>Swept volume range: 1,000-7,350m<sup>3</sup>/h</li> <li>Refrigerants: Ammonia, carbon dioxide, hydrocarbons (HCs) and others</li> <li>Available as fixed or variable speed (1,000-3,600rpm)</li> <li>Max. SGC HP condensing temp. is 72°C SGC HP</li> <li>Max. HPS condensing temp. is 93°C HPS</li> </ul>	<b>CAFP CO<sub>2</sub> / NH<sub>3</sub> Low-Temperature Chiller</b> Highly customisable freezer systems using R744 and R717. The best of both worlds on low- and high-temperature sides. <ul style="list-style-type: none"> <li>Capacity: 85-790kW</li> <li>Fixed or variable speed, R717 and R744 (carbon dioxide)</li> </ul>	<b>VSD and FSD motor drive panels</b> Electrical panel solutions for refrigeration compressor units with variable-speed drive (VSD) and fixed-speed drive (FSD). Integrates the unique Sabroe know-how with electrical and controls technologies. <ul style="list-style-type: none"> <li>Optimised operation of compressor units</li> <li>Low cost of ownership now and in the future</li> </ul>	<b>ESTO Shell-and-Tube Evaporator</b> <ul style="list-style-type: none"> <li>Capacity: 100-4,250kW</li> <li>Designed for flooded evaporation, with integrated liquid separator</li> <li>Robust design with titanium tubes suitable for corrosive media</li> </ul>	<b>AP1200 + WDO1200 Purging System</b> A combined air and water purging system that can handle all sizes of industrial refrigeration systems that use R717 as refrigerant. It ensures that no air, water or other impurities are left in the system.
		<b>A-Frame VSD Panel</b> Separate VSD and control panel for Sabroe A-frame screw compressor units where a small footprint is key. Integrates the unique Sabroe know-how with electrical and controls technologies.	<b>CORB Shell-and-Tube Condenser</b> <ul style="list-style-type: none"> <li>Capacity: 50-10,000kW</li> <li>Shell-and-tube heat exchanger designed for condensation</li> <li>Economical design made with stainless steel tubes</li> </ul>	<b>AP100 + Mini WDO Combined Air and Water Purger</b> A combined air and water purging system that can handle all sizes of industrial refrigeration systems using R717 as refrigerant. It ensures that no air, water or other impurities are left in the system.

Visit [www.sabroe.com](http://www.sabroe.com) for more information.

The power behind your mission

