

# Built to last - Built to Perform Sauer Compressors for the Naval Marine

## BENEFITS

- small space requirements
- light weight
- reduction of noise and vibration
- high shock resistance
- high reliability
- long maintenance intervals
- easy service

Constant innovation, such as the development of the 5000 range with 100% balanced free inertial forces, ensures the technical leadership necessary for future naval applications.

More than 18 Aircraft Carriers, e. g. the USS Dwight D. Eisenhower equipped with 4 x WP 5000

More than 200 submarines, e. g. Astute Class of the Royal British Navy equipped with 2 x WP 5000 and 1 x WP 3232

WP5000 High Pressure 4 Stage - Water Cooled

Sauer High-Pressure Compressors –  
water-cooled up to 400 bar

The Sauer Navy compressors of the have been specially designed for the use on combat ships, destroyers, frigates or submarines. They are available with AC- or DC-motor and can be delivered for surface ships

or special highly sophisticated submarine versions. Their special feature is the vertical crankshaft with the 4 cylinders

## Technical Data

Water-cooled compressors ■ radial/star type ■ WP 5000/5500

Type	Stages	Cylinder	Speed rpm	Charging Capacity m <sup>3</sup> /h (FAD)	Power required kW	Weight kg	Length mm	Width mm	Height mm	Frequency Hz
<b>WP 5000</b> @ 250 barg	4	4	1,170	115	34.4	1,650	1,215	1,095	1,570	50
			1,470	145	43.2					60
			1,770	175	52.0					50
<b>WP 5000</b> @ 400 barg	4	4	1,170	120	43.0	1,650	1,215	1,095	1,700	50
			1,470	150	53.0					60
			1,770	180	62.0					50

**WP 5000 with AC motor and IMD**  
(integrated membrane dryers)

**DAMPERS**

Special suction and delivery dampers available for lowest air borne and pipe noise.

**IMD**

If requested the compressor can be equipped with a low maintenance Interstage Membrane Dehydrator (IMD) or traditional desiccant dryer in a module.

**CRANKSHAFT**

Vertical arrangement of the crankshaft with cylinders radial round it ensures lowest vibration and structure borne noise values.



**MATERIAL SELECTION**

Material selection for cooling water circuit suitable for most aggressive seawater conditions. Avoidance of dissimilar material combination in all parts of the circuit.

**CYLINDER LINERS**

Dry cylinder liners and hermetic separation of the water circuits from the oil – and air circuits for highest reliability.

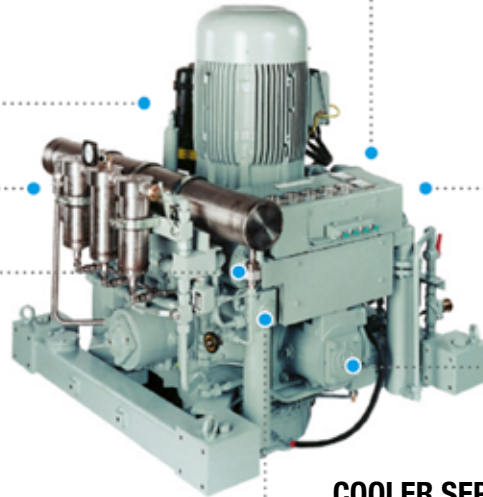


**COOLER TUBES**

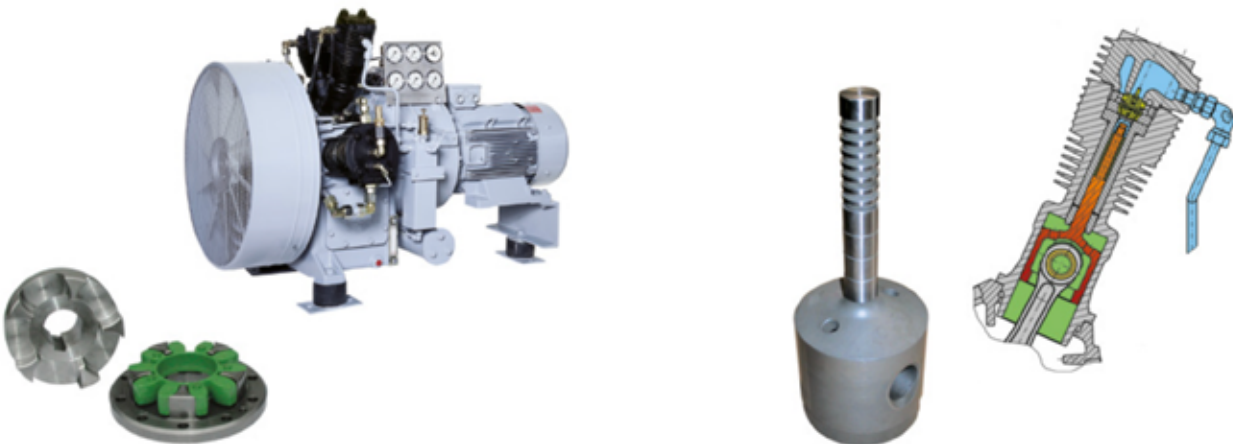
Straight cooler tubes, drawable to both sides of the cooler for easy cleaning and installation. The floating design prevent heat stress in the bundle and consequential damages.

**COOLER SEPERATORS**

High-efficient separators after each cooler for best air quality. Oil content in the high-pressure air of less than 3 ppm.



**The well-known Sauer quality**  
– some details



All Sauer Compressors are of direct-drive design. Advantages vs. v-belt drive:

- less maintenance
- higher reliability
- higher efficiency
- less noise
- Simple maintenance due to piston and cylinder each made in one piece
- Low blow-by due to use of multiple classic piston rings
- Best clearance between piston and liner for high reliability and high temperatures



**Sauer Compressors**

