

Dependable Compressors for the Navy











A reliable companion for generations



For many people, the small yellow rubber duck is a loyal companion from their childhood days. Some of these ducks have even been passed on from generation to generation, as they are indestructible and timeless.

The same applies to Elgi Sauer's naval compressors. In an ever-changing world, they have been extremely dependable companions to different navies, for over 50 years. They are just as much at home in aircraft carriers, destroyers, frigates and submarines as they are in small combat ships like MCMVs, OPVs or fast attack crafts.

Elgi Sauer compressors were developed especially for use on submarines and naval combat ships. This development was based upon established expertise in the production of navy compressors as well as long experience in the production of commercial compressors.

The main requirements of development are:

- Small space requirements
- Light weight
- Reduction of noise and vibration
- High shock resistance
- Long maintenance intervals
- Easy service



Elgi Sauer compressors for the Navy are the answer to these requirements as they incorporate all special features which are vital for naval applications

Elgi Sauer now brings to Indian Navy, the compressors from both Sauer & Elgi range along with a completely focused team, to cater to the comprehensive requirement of the Navy. Our state-of-theart designs like WP5000, coupled with the after-sales service that is in tune with: "Think Long Run" ideology is indeed a potent combination for becoming a reliable companion for generations.









More than 16 Aircraft Carriers, e.g. the USS Dwight D. Eisenhower equipped with 4 x WP 5000



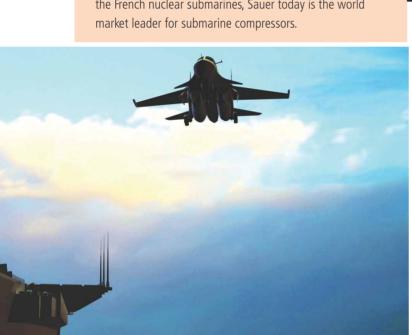
More than 104 Destroyers and Frigates, e.g, the Italian Francesco Mimbelli equipped with 2 x WP 4262

J P Sauer & Sohn Maschienbau Gmbh have been building special compressors for Navies for over 50 years.

The reasons for this success are:

- Reliability of the compressors
- Knowledge of the special naval demands
- Credibility of the company

Together with the company Girodin-Sauer, belonging to the Sauer Group since 1989, and its specialist knowledge in the design of swash plate compressors, eg. in use with the French nuclear submarines, Sauer today is the world market leader for submarine compressors.







OUR RANGE

up to 350 bar

4-stage water-cooled high-pressure compressors



up to 350 bar

2- to 4-stage air-cooled high-pressure compressors



up to 420 bar

Breathing-air compressors air-cooled



up to 150 bar

2-to 3-stage air-cooled and water-cooled compressors





More than 191 submarines, e.g, the German U 212 equipped with 1 x WP 5000 and 1 x WP 3232



More than 638 Corvettes and Fast Attack Crafts, e.g, the Brazilian Inhauma equipped with 2 x WP 4262



More than 130 MCMV, e.g, the German MJ 332 equipped with $2 \times WP$ 3232-600



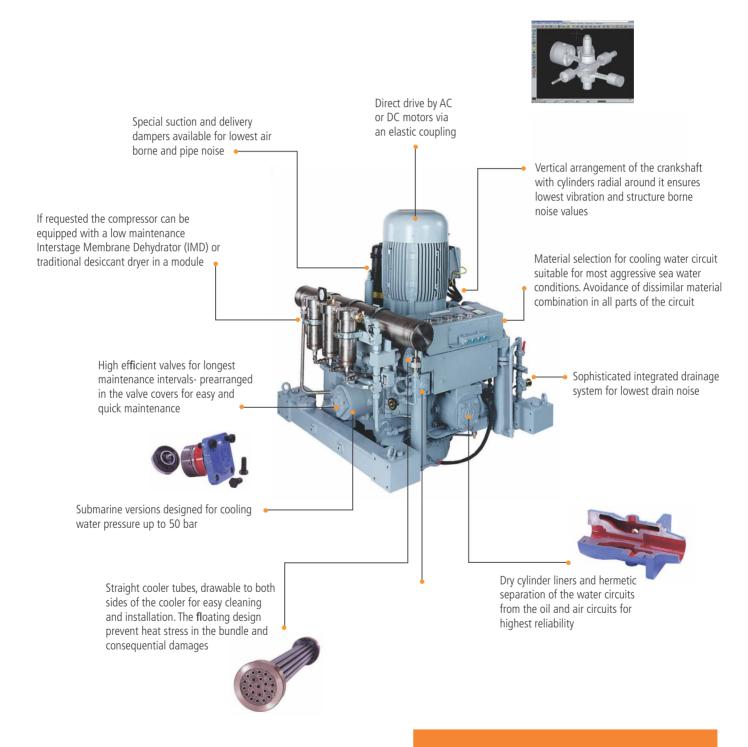
More than 182 Miscellaneous Vessels, e.g, the Royal British Navy Wave Knight with 2 x WP 200 and 2 x WP 4330

Elgi Sauer HP Compressors Water-Cooled Series up to 350 bar.

The Sauer Navy compressors of the series WP 5000 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 radially arranged around it with the motor direct coupled on top of the compressors.

As an alternative for submarine applications, Elgi Sauer offers the unique axial swash type compressor of the TGM design with low space requirement and noise emission.



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

Technical data

Water-coole	d compresso	rs series WP	5000							
Final pressu	re 250 bar									
Туре	Stages	Cylinder	Speed rpm	Charging Capacity m³/h (FAD)	Power required kW	Weight kg	Length mm	Width mm	Height mm	Frequenzy Hz
WP 5500	4	4	1170 1470 1770	53 66 81	14,2 21,6 26,0	930	970	810	1325	60 50 60
WP 5000	4	4	1170 1470 1770	105 133 162	28,5 43,2 52,0	1650	1215	1095	1570	50 60 50
Final pressu	re 350 bar									
Туре	Stages	Cylinder	Speed rpm	Charging Capacity m³/h (FAD)	Power required kW	Weight kg	Length mm	Width mm	Height mm	Frequenzy Hz
WP 5500	4	4	1170 1470 1770	52 65 80	15,3 23,3 28,0	930	970	810	1325	60 50 60
WP 5000	4	4	1170 1470	100 130	39,7 46,5	1650	1215	1095	1570	50 60

Water-cooled & axial swash plate type comprossors series TGM (Girodin-Sauer)										
Final pressure 250 bar										
Туре	Stages	Cylinder	Speed rpm	Charging Capacity m³/h (FAD)	Power required kW	Weight kg	Length mm	Width mm	Height mm	Frequenzy Hz
TGM 15/30	4	4	1070	15	6,5	360	1000	650	780	50/60
TGM 60/100	4	4	620 850	60 80	20 28	1100 1100	1135 1135	940 940	1300 1300	50/60 50/60
TGM 150/250	4	4	680	150	45	2000	1800	940	1500	50/60

Performance data with 5% tolerance, referred to 20°C and an air pressure of 1013 mbar. Charging capacity according to international navy standards.

Elgi Sauer HP Compressors Air-Cooled up to 350 bar.

Elgi Sauer has delivered more than 1000 air-cooled HP compressors for navy applications which due to their special design , work to full satisfaction of the users.

Main features of Elgi Sauer air-cooled HP compressors are:



- Light weight
- Robust design
- Low and easy maintenance
- Maximum pressure -350 bar
- To be delivered in non-magnetic version upon request
- Suitable for breathing air supply
- Drive by AC, DC or diesel engine
- Available in semi-or non-magnetic design
- Suitable for ambient temperatures up to +60° C

WP 3232 in non-magnetic version for use in MCMV

Technical data

Air-cooled compressors											
Final pressure 40 bar											
Туре	Stages	Cylinder	Speed rpm	Charging Capacity m³/h (FAD)	Power required kW	Weight kg	Length mm	Width mm	Height mm	Frequenzy Hz	
WP 22 L	2	2	1150 1450 1750	15,9 20,0 24,0	3,7 4,6 5,7	120	812	600	630	60 50 60	
WP 45 L	2	2	1170 1450 1750	38,0 48,0 58,0	8,0 10,0 12,0	310	1210	745	820	60 50 60	
WP 65 L	2	2	1170 1450 1770	52,0 66,0 80,0	10,2 12,8 15,4	320	1250	745	820	60 50 60	
WP 81 L	3	3	1170 1470 1770	63,0 79,0 96,0	13,7 15,8 18,9	415	1345	945	900	60 50 60	

Final pressure 250 bar										
Туре	Stages	Cylinder	Speed rpm	Charging Capacity m³/h (FAD)	Power required kW	Weight kg	Length mm	Width mm	Height mm	Frequenzy Hz
WP 3232	3	3	1170 1470	11,0 14,2	5,3 6,8	291	920	710	970	60 50
WP 4331	4	4	1470 1770	30,0 36,0	14,2 17,2	480	1350	720	930	50 60
WP4341	4	4	1470 1770	54,0 65,0	20,5 24,1	530	1350	860	860	50 60

Performance data with 5% tolerance, referred to 20°C and an air pressure of 1013 mbar. Charging capacity according to international navy standards. Performance data on final pressure deviating from above pressures upon request. Maximum pressure 350 bar.

Elgi Sauer Breathing Air Compressors Air-Cooled up to 420 bar.

Elgi Sauer's breathing air compressors used by the navy can be delivered according to several shock and vibration standards from simple LRoS rules to highest naval standards like US Mil Std 901 or German BV0432 and 044.

The heart of each breathing air station is the very robust compressor block - a block which is designed to withstand highest demands as they occur for naval applications such as inclination, shock, vibration, high temperatures and continuous operation. The vertical arrangement of the running gear of the 'Tornado' models WP 3215 and WP 4325 has been adopted from the water-cooled WP 5000 compressors, which are used in submarines, frigates and aircraft carriers. It ensures lowest noise emission and structure borne noise.

Elgi Sauer's breathing air compressor for navy has everything required for a complete installation: fully automatic electronic control, noise insulation down to 72 dB (A), integrated filter, demistor and condensate collecting tank. Filtration can be delivered according to all international standards such as DIN EN 12021, BS 4275 and BS 4001or US CGA Grade D+E and naval standard FS Grade A+B.



Basic Comsilent



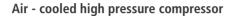


Technical data

Tornado	Tornado										
Final pressure 420 bar											
Туре	Stages	Cylinder	Speed rpm	Charging Capacity m³/h (FAD)	Power required kW	Weight kg	Length mm	Width mm	Height mm	Frequenzy Hz	
WP 3215 Tornado	3	3	1170 1470 1770	275 340 390	5,4 6,7 8,4	525	1580	775	1525	60 50 60	
WP 4325 Tornado	4	4	1170 1470 1770	390 500 570	8,4 10,0 12,0	595	1580	775	1525	50 60 50	
WP 4331	4	4	1470 1770	625 600	14,0 17,0	650	1600	900	1500	50 60	

Performance data with 5% tolerance, referred to 20° C and an air pressure of 1013 mbar. Capacity measured at charging rate up to a final pressure of 300 bar.







Water - cooled high pressure compressor

Model	Сара	acity	Working pressure	Motor rating	Weight	Overall dimension				
	m³/h	cfm	(bar)	(HP)	(Kg.)	l x b x h (mm)				
Single stage air	-cooled									
LG01100	3.9	4.2	07	1.0	-	1270 x 400 x 860				
Two stage air-cooled										
TS03070	15.0	8.9	07	3.0	135	1245 x 500 x 700				
HP05300	12.4	7.3	30	5.0	150	1500 x 588 x 750				
HP05301	12.4	7.3	30	6.3	220	1230 x 660 x 700				
HP07300	12.7	11.5	30	7.5	250	1580 x 580 x 728				
HP10300	25.2	14.9	30	10.0	260	1580 x 680 x 765				
HP10301	25.2	14.9	30	10.0	260	1580 x 680 x 765				
HP12300	32.6	19.2	30	12.5	380	1590 x 700 x 765				
HP15300	49.9	29.4	30	15.0	380	1885 x 707 x 860				
HP20300	49.9	29.4	30	20.0	460	1885 x 707 x 860				
HP20301	37.0	21.8	30	23.3	700	2351 x 1040 x 1350				
Three stage air-	cooled									
SP12350	39.0	22.9	35	12.5	475	1900 x 800 x 1040				
SP15401	40.2	23.5	40	19.0	640	2235 x 1372 x 1060				
SP20400	57.0	33.5	40	20.0	503	1945 x 800 x 1225				
Three stage wa	ter-cooled									
EK2 A2 150	15.0	8.9	120	10	370	1150 x 640 x 700				

Notes: Select models are also available in diesel powered version for emergency air applications

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