HCP S.A. - CORE BUSINESS

- Marine Diesel Engines
- Diesel stationary power plants
- Complete biogas plants
- Power stations for biogas plants
- Blowers
- Air compressors
- Offshore constructions and devices
- Spare parts
- Components
- Services
HCP S.A. – MAIN PRODUCTS

High – speed diesel engines manufactured under licenses of Wärtsilä Switzerland Ltd and MAN Diesel & Turbo SE supplied for marine and stationary applications.

HCP SA is the only producer of two stroke engines in the European Union.
## Marine Diesel Engines

**MAN**
- Engines: 312
- Power (kW): 3,412,669

**Wärtsilä**
- Engines: 1,009
- Power (kW): 8,710,640
COGENERATION – STATIONARY POWER PLANTS

LINOPERAMATA
CRETE
49 MW
PPC - GREECE

DPS CHIOS II
12,28 MW
PPC - GREECE
<table>
<thead>
<tr>
<th>Engine power</th>
<th>Rotor speed</th>
<th>Place of insulation</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>kW</td>
<td>kW</td>
<td>rpm</td>
<td>kW</td>
</tr>
<tr>
<td>4.520</td>
<td>6.147</td>
<td>214.3</td>
<td>Germany</td>
</tr>
<tr>
<td>Brake</td>
<td>1 engines</td>
<td></td>
<td></td>
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</tbody>
</table>
HCP S.A. is producer parts and devices for offshore business.

Our experience in this subject:
- production of lifting equipments
- production of oil & gas drilling devices
- production of cranes, winches, drums
- production of gear boxes for winches
- production of chain fairleads
- production of steal constructions
- other
EXAMPLES OF OFFSHORE PRODUCTS

Column of crane after painting
(Norwegian client)

Pedestal ø5m
(Norwegian client)
EXAMPLES OF OFFSHORE PRODUCTS

Hydraulic device of chain transmission gear
(Norway)

Part of gear box
(Norway)
EXAMPLES OF OFFSHORE PRODUCTS

Element of crane
(Norwegian client)
EXAMPLES OF OFFSHORE PRODUCTS

Lifting elements
EXAMPLES OF OFFSHORE PRODUCTS

Main shaft and Generator frame for wind turbines
Components of suspension bridge, manufactured for Norwegian client
OTHER PRODUCTS MANUFACTURED IN HCP S.A.

BIG WATER VALVES
(for Italian client)
OTHER PRODUCTS MANUFACTURED IN HCP S.A.

Frame box
OTHER PRODUCTS MANUFACTURED IN HCP S.A.

Element of central spire
for National Stadium in Warsaw
OTHER PRODUCTS MANUFACTURED IN HCP S.A.

Element of central spire for National Stadium in Warsaw
Element of central spire
for National Stadium in Warsaw
OTHER PRODUCTS MANUFACTURED IN HCP S.A.

Foundation frame
OTHER PRODUCTS MANUFACTURED IN HCP S.A.

Turbine shaft
**Radial air blowers**

DA type with a capacity from 2000 to 100 000 m3/h with overpressure up to 190 kPa, variable capacity from 100% to 40% at a constant rotational speed of the impeller.

**Multi-stage blowers**

DW type with a capacity from 200 to 1600 m3/h and overpressure up to 60 kPa. An automatic capacity regulation from 100 to 50%.

**Multi-stage compressors**

Between 2 and 4 stages at working pressure up to 20 bar with capacities between 2500 and 50000 m3/h

**Water-cooled reciprocating compressors**

VC-type with a capacity between 115 and 215 m3/h manufactured in a 2-cylinder V-arrangement version with working pressure up to 30 bar.
SPARE PARTS AND COMPONENTS

- Spare parts for the following HCP S.A. products:
  - For two-stroke engines: cylinder liners, cylinder heads, piston crowns, piston skirts, water jackets, piston rods, fixed pipes, moving pipes, fuel equipment, including: pump blocks, injectors, atomizers, pumping units, valves and other small parts,
  - For four-stroke engines: crankshafts, shaft segments, link rods, pistons, cylinder heads, fuel equipment, including: pump blocks, injectors, atomizers, pumping units, valves and other small parts.
SPARE PARTS AND COMPONENTS

- Spare parts for the following HCP S.A. products:
  - two-stroke diesel engines,
  - four-stroke diesel engines,
  - air compressors
  - radial blowers
SPARE PARTS AND COMPONENTS

- CYLINDER HEADS
- PUMP BLOCKS, INJECTORS, ATOMIZERS
- GAUGES
- SPECIAL DEVICES AND INSTRUMENTATION
- INJECTION MOULDS
- STAMPING DIES
- EQUIPMENT FOR MACHINE TOOLS
- SPECIAL CUTTING TOOLS
- SAFETY AND INDICATOR VALVES
SPARE PARTS AND COMPONENTS
HCP renders the services in various fields, namely:
- Welding and cutting
- Machining
- Comprehensive gear wheel machining
- Heat and chemical treatment
- Assembly
- Other services
SERVICES

Milling CNC center – Coburg I

Milling CNC center – Coburg III
SERVICES

Machining

Large workpiece machining on WALDRICH COBURG NC slabbing machines
max. width: 4.500 mm
max. length: 22.000 mm
max. height: 4.250 mm
max. workpiece weight: 100 ton

Machining on the MANDELLI M14U boring and milling centre
pallet size: 1.600 x 2.000 mm
max. work piece diagonal: 3.970 mm
travel in the X, Y, Z axes: 4.000 x 2.000 x 2.340 mm

Cylinder liner machining
max. inner diameter: 900 mm
max. outer diameter: 1.400 mm
max. length: 3.500 mm

Cam machining on a milling and grinding centre
max. work piece diameter: 1.000 mm
max. work piece height: 750 mm
SERVICES

Welding and cutting

Steel weldments of constructional steel, carbon steel, lowalloy steel; Group 1 and 3 as per EN 288-3.
The following welding technologies are available:
semi-automatic gas-shielded welding 135, 136
automatic flux welding 121
shielded electrode welding 111
manual TIG welding 141
The welding shop is certified to work with these welding technologies, according to EN 288-3.
The welders hold the relevant licences as per EN 287-1 and EN 1418

1. on mounting and welding plate 21.000 x 9.000 mm
   max. construction weight              150 ton
   max. construction width              5.500 mm
   max. construction height             5.000 mm

2. on mounting and welding plate 27.900 x 4.500 mm

3. on mounting and welding plate 12.300 x 4.500 mm
   max. construction weight             40 ton
SERVICES

Welding and cutting

4. on mounting and welding plate 14.000 x 4.500 mm
5. on mounting and welding plate 3.500 x 4.500 mm
6. on mounting and welding plate 3.500 x 7.000 mm
   max. construction weight 12,5 ton

Carbon plate oxygen cutting on NC piercing machines
max. workpiece dimensions 6.000 x 22.000 mm
max. thickness 160 mm

Manual plasma arc cutting
max. thickness: 45 mm

Manual piercing and shear chamfering
as agreed with the Customer
Overlay welding and reconditioning
as agreed with the Customer
SERVICES

Stress relief annealing in resistance furnace

Furnace dimensions:
- length: 12,3 m
- width: 4,7 m
- height: 4,3 m
SERVICES

Stand for surface sand blasting
(surface roughness SA 2 ½)

Painting