



PLEUGER

INDUSTRIES



Solutions for the Oil
and Gas Industry



RELIABLE CUSTOM ENGINEERING IN UP-, MID- AND DOWNSTREAM APPLICATIONS

Since 1929, Pleuger has offered its clients in the oil & gas industry the best in design, manufacturing and service. Our 90+ years of experience in producing electric submersible motors coupled with our Centre of Excellence and 24/7 support make Pleuger a name you can trust.

With a suite of tailor-made solutions fit to your specifications, we always put your needs first.

- 90+ years of experience
- Worldwide reach
- Quality engineering from Germany
- Sustainable, durable and maintenance-free solutions
- 3,500 kW (4,694 HP) subsea motor design
- 6 MW (8,046 HP) design capability
- Committed aftercare

ENGINEER

PLEUGER'S COMMITMENT TO ENGINEERING AND DESIGN

Located in Hamburg, Germany, with global outreach, all our customers benefit from reduced costs, attention to health and safety, and responsibility to the environment, wherever they are based.

Integrity, respect and teamwork drive our offer at every stage of development. Our insistence on smart investments into research and personnel makes us dependable business partners for any and every project demand. Pleuger's Centre of Excellence at our Hamburg headquarters devotes time to all divisions of the company, fostering an atmosphere of collaboration. Such communication ensures that our end-to-end offer keeps lifecycle costs low and value high. Pleuger guarantees a thorough after-sales service with our network of global partners from Moscow to Miami, meaning we can always come to you.



UPSTREAM



MIDSTREAM



DOWNSTREAM

OIL & GAS APPLICATIONS

Pleuger's range of industry applications offers bespoke designs to fit every project need.

- Offshore and onshore applications
- Seawater lift pumps
- Ballast and de-ballast pumps
- Fire extinguishing systems
- Emergency drainage
- Booster systems
- Process pumps
- Service water and bilge pumps
- Crude oil extraction
- Cavern storage of crude oil and refinery

OFFSHORE UPSTREAM APPLICATIONS

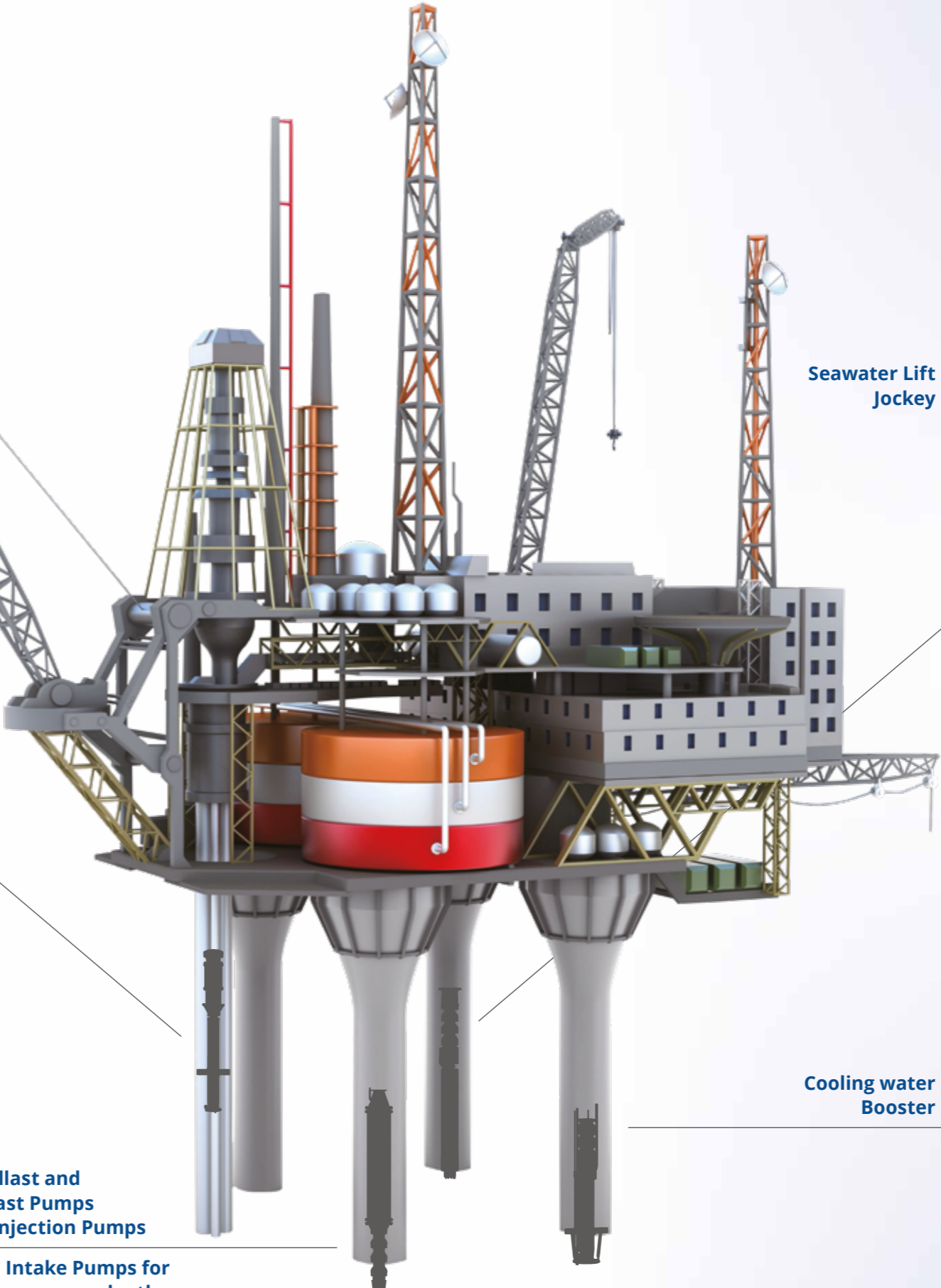


Firefighting & Drain Caisson Pumps



**Hull-ballast and de-ballast Pumps
Water Injection Pumps**

Bottom Intake Pumps for low submergence depth



**Seawater Lift Pumps
Jockey Pumps**



**Cooling water Pumps
Booster Pumps**



Water is essential to rigs and platforms, whether they are used for drilling or production, jack-up or semi-submersible, concrete or steel. Our durable pumps, designed for immediate use and multiple applications, have made us a leading manufacturer of submersible pumps for the industry, making Pleuger the best solution for offshore upstream applications.

INSTALLATION EQUIPMENT

Pleuger Industries offers a range of installation, piping, control and monitoring equipment in high-grade materials including super duplex stainless steel. These materials safeguard operations and increase performance, even under severe conditions, while ensuring you maintain full control of the pumping equipment.

Installation

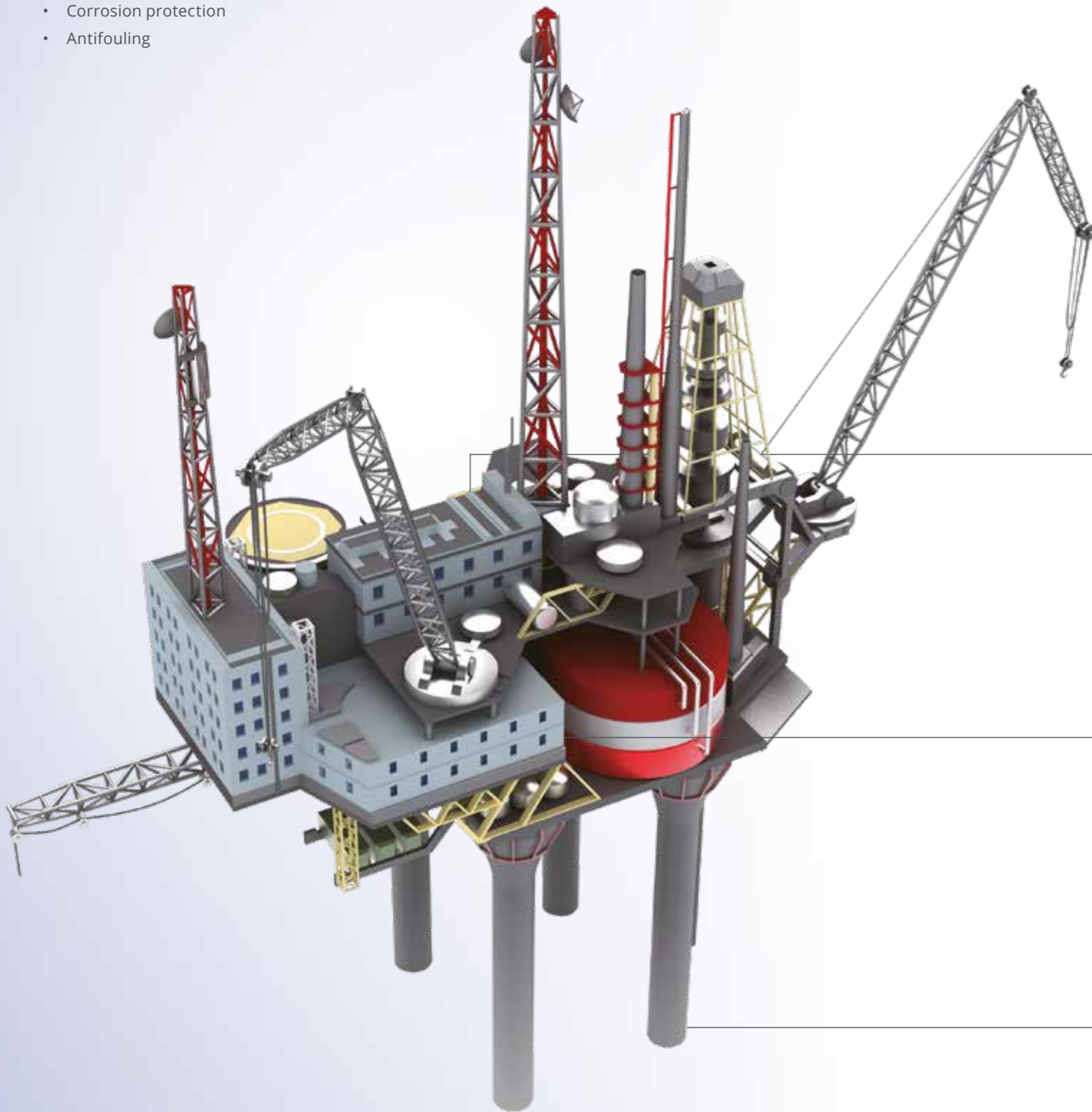
- Tools
- Piping
- Valves
- Service
- Protection system
- Corrosion protection
- Antifouling

Monitoring

- Temperature
- Vibration
- Leakage detection

Power control

- Starting and control systems



Fully equipped discharge head



Corrosion protection system



EXCELLENCE IN MOTOR TECHNOLOGY

Customized, engineered motor solutions

Our motors are developed, manufactured and optimized at our headquarters in Hamburg, Germany.

Highly efficient, resistant to corrosion, and robust: Pleuger is a recognized manufacturer of submersible motors, offering tailor-made solutions to German-quality standards.

Technical data

- Water-filled motors (standard)
- Oil-filled motors (optional)
- Motor sizes from 4" to 50"
- Power output from 0.37 kW to 5 MW (0.5 HP to 6,700 HP)
- 230V to 6.6kV (11kV on request)
- 3PH - 50Hz & 60Hz
- 2-pole (standard) to 12-pole motors available
- Suitable for VFD operation
- -25°C to +100°C (-13°F to +212°F)

Standards

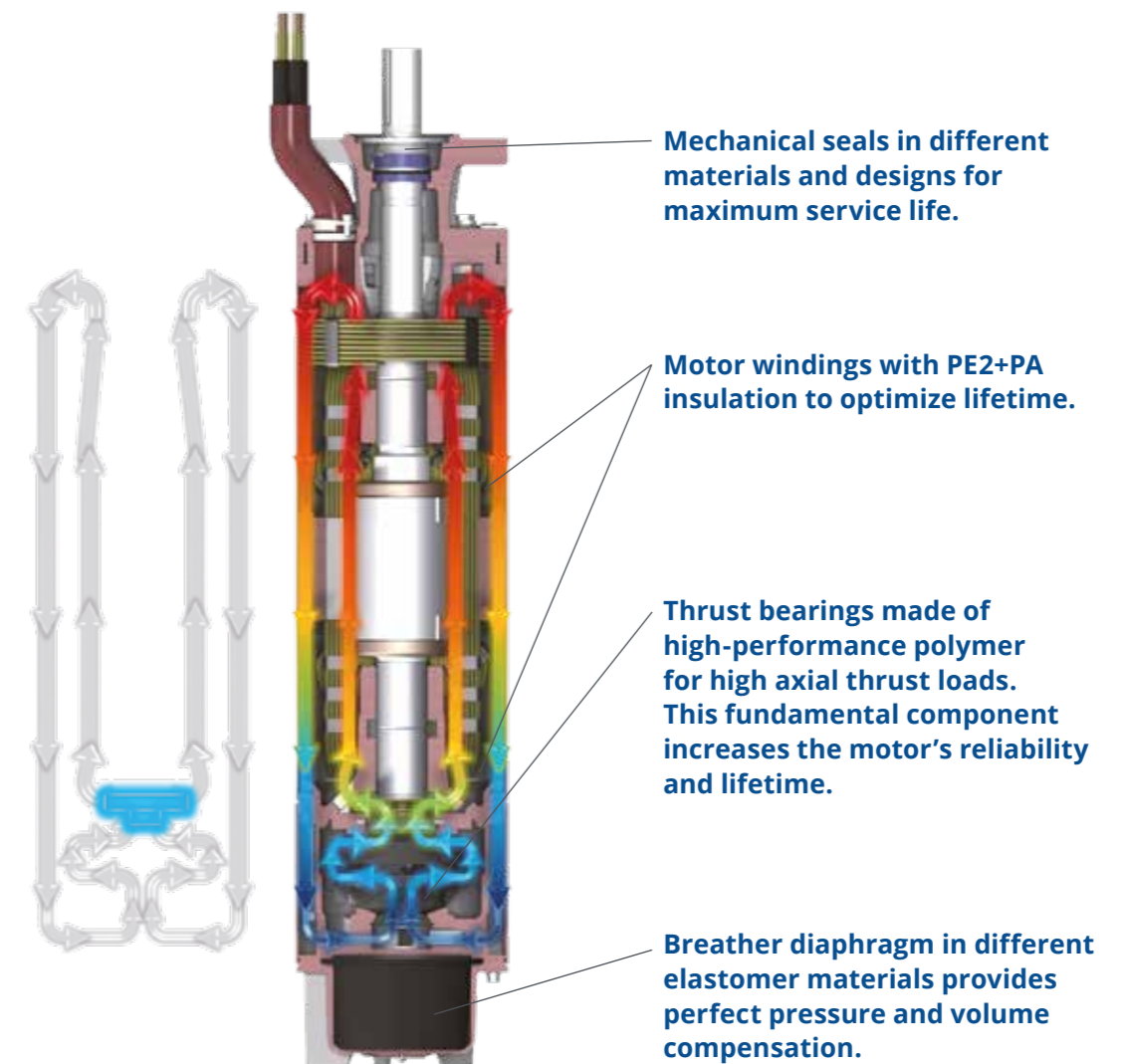
- Design: ANSI / ASTM / DIN / ISO / Hydraulic Institute / CE marking / API 610
- Hydraulic: ANSI/HI / EN ISO / API610 / NFPA20
- Electrical: NEMA / IEC / IEEE
- Certifications: DNV GL / ABS / CSA / ATEX
- Approvals: ISO 9001



MOTOR FEATURES AND BENEFITS

Submersible motors with internal forced cooling systems (I - Design)

Our internal system uses an efficient cooling impeller, which provides excellent circulation, customized for each motor size. The smart Pleuger design maintains thermal motor reserves and minimizes energy losses, even under extreme operating conditions.





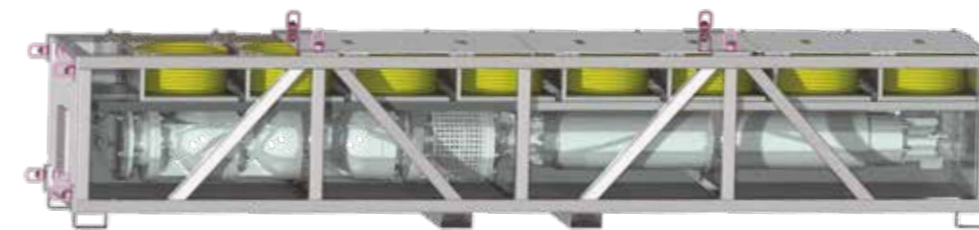
ENGINEERED WITH SAFETY IN MIND

From Malaysia to Mexico, Pleuger has the perfect solution for offshore applications across the world. To ensure our motors are as safe as possible to operate, whatever the terrain, we manufacture special equipment and installation cases to handle challenging transport and work conditions.



We also offer additional protective shrouds for heavy-duty applications, suction/ cooling shrouds to improve application temperatures, water level management, and special fluids.

For maximum safety while handling our equipment, we make custom skids for easy transportation, installation and storage.



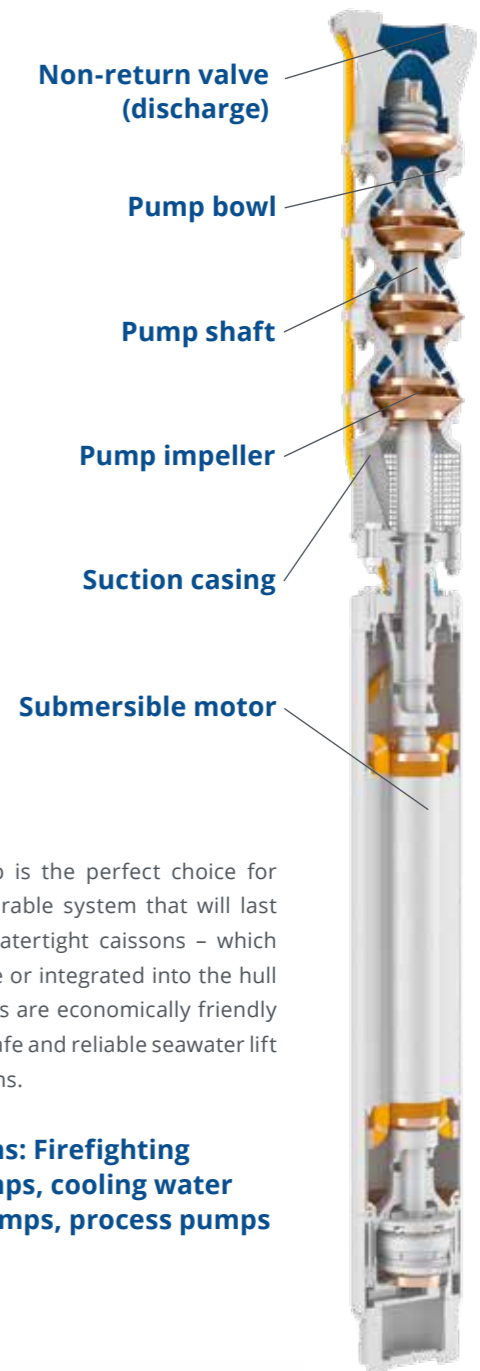


MIDSTREAM & FPSO APPLICATIONS

Major application: Seawater Lift Pumps

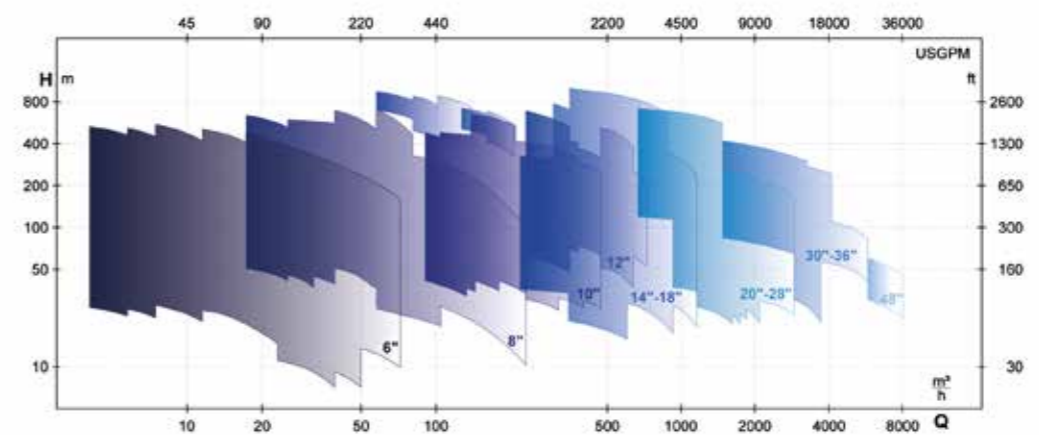
Pleuger's electrical submersible pumps offer significant advantages to vertical line shaft pumps (VLP):

- Low maintenance and reliable
- Cost-effective lifecycle
- Explosion-proof (ATEX certificate available)
- Installation in caissons to economize space
- Flood- and freezeproof
- Low noise and vibrations



A Pleuger caisson pump is the perfect choice for anyone who wants a durable system that will last for years. Installed in watertight caissons – which are either placed outside or integrated into the hull – our submersible pumps are economically friendly options that guarantee safe and reliable seawater lift and fire water applications.

Further applications: Firefighting pumps, jockey pumps, cooling water pumps, booster pumps, process pumps



Total flow-head chart (60 Hz) of Pleuger submersible pumps

DOWNSTREAM APPLICATIONS: UNDERGROUND CAVERN STORAGE

Pleuger makes high-quality custom pump systems for the underground storage of hydrocarbon liquids.



Reliable, ATEX-certified cavern pumps ensure the safe and secure handling of critical liquids that are stored underground. Pleuger's submersible pumps can handle liquids from crude oil to LPG, LNG, butane, propane, diesel, and gasoline.

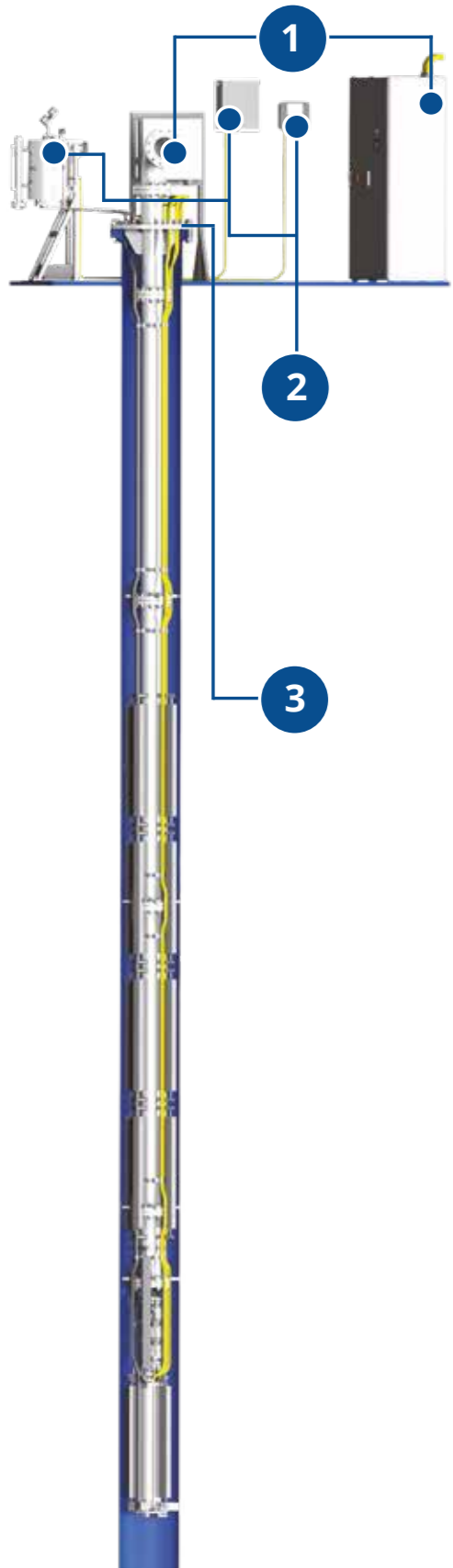
In addition to their lift and transport applications, Pleuger's cavern pump units are also ideal for removing unwanted water that settles below the stored petroleum product. All leaks are collected and then periodically pumped to the top of the cavern.



Technical data

- Discharge flow: 5 m³/h - 4500 m³/h (22 - 19,813 USGPM)
- Discharge head: 7 m - 700 m (23 ft - 2,297 ft)
- Water-filled motors (standard)
- Oil-filled motors (optional)
- Power output: 0.37 kW - 5 MW (0.5 HP - 6,700 HP)
- 2-pole (standard) to 12-pole motor designs for 50 Hz and 60 Hz

A TYPICAL PLEUGER INSTALLATION



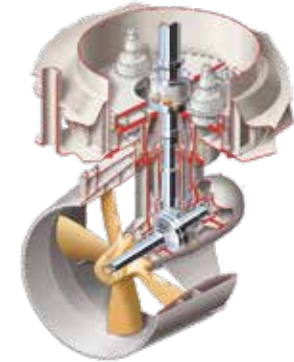
1. Power Control	Junction boxes	Junction boxes on stands or wall-mounts for signal and power cable connections. These can be customized for use in hazardous zones.
	Starting systems	Various electrical systems for starting and operating the motor: Frequency converter, soft starter, etc.
2. Monitoring	Temperature Monitoring	Temperature sensors inside the motor monitor its internal temperature.
	Vibration monitoring	Submerged sensors monitor the vibration behavior of the motor and pump.
	Leakage Detection	A liquid reservoir monitors levels and detects leakage through conductivity sensors inside the motor.
3. Installation	Riser Pipes	Full riser pipe systems with cable clamps, centralizer, installation tools
	Wellhead	Customized wellhead designs with cable penetration, back-flow connection, air-release connection, elbow, etc.
	Valves	Air valves, vacuum breaker, multiple check and ball valve types.
	Centralizer	Various designs for submersible units and riser pipe protection during installation.
	Corrosion Control and Antifouling	Isolating equipment, active anode or passive anode systems for submersible units, riser pipe and caisson protection.
	Anti-fouling equipment	Anti-fouling system to protect the units against marine growth.
	Installation Tools	Supporting clamp, horseshoe, mounting flanges, slings, shackles.
	Transportation Skids	Tailormade skids for easy transportation and storing of submersible pump equipment.
	Service	24/7 support for installation, commissioning and maintenance, as well as technical consulting services from the design phase to its operation.

COMPLEMENTARY PLEUGER PRODUCTS

Thruster

Pleuger's thrusters help maneuver offshore vessels. Many of our offshore thrusters are used in semisubmersible platforms (SEMISUB). Nevertheless, we also supply propulsion devices for multipurpose and supply vessels.

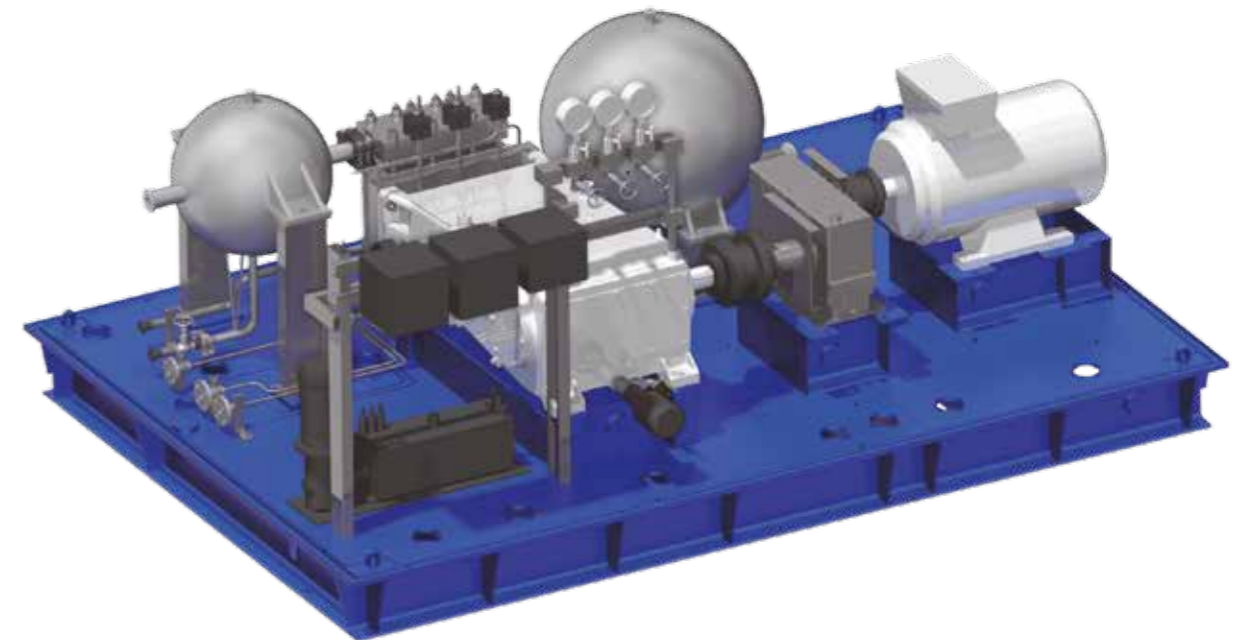
Our standard thruster is an L-type configuration of the drivetrain combined with a fixed-pitch propeller (FPP). We also make Z-drives and controllable pitch propellers (CPP) on request.



Plunger (reciprocating) pump

Our vertical and horizontal reciprocating pumps (also known as plunger pumps) can be used in various applications:

- LPG/ NGL
- MEG/ TEG gas drying
- Methanol injection
- Water injection
- Condensation
- Slop oil transfer
- Boiler feed
- Reverse osmosis
- Hydrotesting, pipeline testing & flushing
- Water jetting/ Descaling
- Fatty acids/ Detergents
- Ammonia/ Carbamates
- Various metal ore slurries



For more details and local contact information, visit our website at pleugerindustries.com.



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