

EUREKA PROCESS PUMPS



Keep going. Keep safe.

EUREKA

RELIABILITY THROUGH **EXPERIENCE**

FPSO, Fixed Platforms, Semisubs, Onshore



ORMEN LANGE, SHELL



SKARV, BP



GJØA, STATOIL



KRISTIN, STATOIL



ÅSGARD, STATOIL



TROLL FIELD, STATOIL



KVITSEID, STATOIL



GRANE, STATOIL



GUDRUN, STATOIL

MORE THAN 1500 EUREKA PUMP UNITS
delivered to the oil & gas market in 40 years

EUREKA PROCESS PUMPS

- A wide range of applications

EUREKA PUMPS has a wide range of centrifugal pumps for the oil & gas industry. These centrifugal pumps make a fine range, covering numerous applications for offshore installations, FPSO's and oil refineries.

The EUREKA series contains medium duty centrifugal pumps, and heavy duty construction, all in accordance with the latest edition of API 610.

Applications for our process pumps:

Utility Pumps
Miscellaneous Pumps
Process Pumps
Cooling Medium Pumps
Heating Medium Pumps
Condensate Pumps
Crude Oil Transfer Pumps
Reject Pumps
Ballast Pumps
Drain Pumps
Bilge Pumps
Sump Pumps

The various applications require different pump solutions, so tailor made designs can be provided to meet clients needs. Our application engineers select the best pump for the duty in line with clients process data and layout requirements.

All process pumps are CE marked and ATEX certified. For the Norwegian Continental Shelf the pumps are delivered to NORSOK specifications. For other geographical areas the clients specifications will be governing.



EUREKA BB2

Heavy duty, between bearings pump in double suction, double volute design - API 610, latest edition



DESCRIPTION: The EUREKA BB2 type centrifugal pumps comply with the latest edition of API 610 and are a range of double suction, double volute, between bearing units. They can be delivered in vertical or horizontal executions. It is designed for continuous duty and is particularly suitable for offshore applications and oil refineries, pumping fluids under a wide range of temperatures and pressures.

In general the pump materials comply with the grades listed in API 610 and NORSOK M630/M650. Standard material is 25% Cr super duplex (API 610 D2) for sea water applications and carbon steel (API 610 S6) for crude oil applications. The pump is also available in 22% Cr duplex (API 610 D1) and in AISI 316 SS (API 610 A8).

CONSTRUCTION

Case and cover

The pump is radially split with double volute design. The drive end cover contains the seal chamber while the non drive end cover contains the journal bearing.

Suction and discharge nozzles

For the vertical version, the nozzles are arranged as either in-line, or side by side. For the horizontal version, the nozzles are arranged as top top or side side.

Seal chamber and shaft sleeve

The EUREKA BB2 pumps have only one seal chamber, as the non drive shaft end does not penetrate the cover. The seal

chamber is extra deep to provide ample space for installation of a dual mechanical seal. The shaft sleeves are keyed to prevent rotation and are axially secured between impeller and impeller lock nut.

Impeller and wear rings

The impeller is double suction and designed with a large eye area to ensure low NPSHR.

The impeller wear rings are mounted on the impeller with a slight shrink fit and pinned in position. The case wear rings and cover wear rings are inserted in the case and cover with a slight interference fit and secured with a hollow head set screw.

Bearings

The pump is equipped with oil-lubricated anti-friction bearings to take thrust and radial forces at the drive end. At the non-drive end the shaft is equipped with a journal bearing, flushed and lubricated by the pumped medium.

Coupling

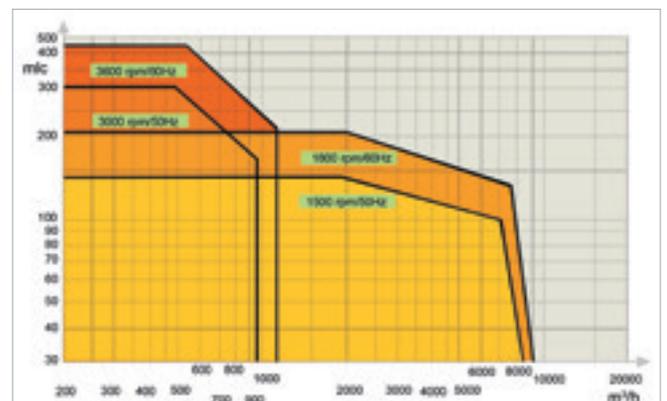
Each pump is furnished with a spacer type flexible coupling and designed for easy mounting/dismounting. The bearing and mechanical seal may be changed at site without dismantling the electric motor.

Baseplate

The baseplate on horizontal pumps is constructed from fabricated steel with a drain pan extended under the driver.

HYDRAULIC RANGE

Capacity: 200 – 10.000.m³/h
 Differential pressure: 2 - 40 bar
 Design pressure: 50 bar
 Temperature: -46°C - 425°C



EUREKA VS4

Vertical medium duty sump pump
in accordance with API 610, latest edition

DESCRIPTION:

The EUREKA VS4 model is a centrifugal sump pump in vertical execution, designed in accordance with API 610. It is available as a compact construction or with bearing bracket and spacer coupling.

The design of the mounting flange and the length of columns can be adapted to the size of the pump pit or tank.

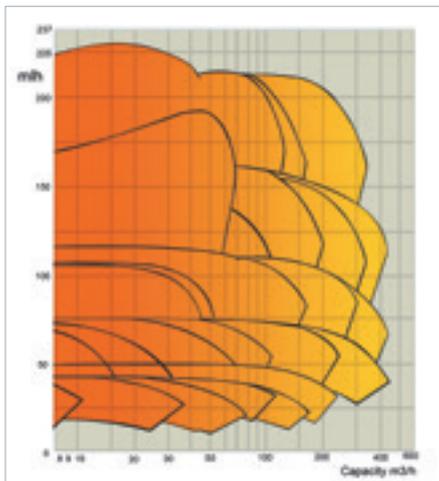
Depending upon the pumped liquid, the intermediate bearings have alternatives for internal or external flushing. Furthermore the flushing system can be welded, piped, or executed with hydraulic piping which gives more flexibility and sturdiness.

The pump is designed for handling clean or contaminated liquids.

The pump can be delivered in various materials from S6 to D2 in API 610 Table H2, and can comply with all NORSOK requirements.

EUREKA sump pumps are used in the petrochemical industry, refineries and for offshore applications, typically for miscellaneous and utility pump packages.

The whole range is ATEX certified.



HYDRAULIC RANGE

Capacity:	5 - 500 m ³ /h
Differential pressure:	0 - 35 bar
Design pressure:	50 bar
Temperature:	-46°C - 160°C

EUREKA OH2

Horizontal heavy duty centrifugal pump
in accordance with API 610, latest edition

DESCRIPTION: The EUREKA OH2 type centrifugal pumps comply with the latest edition of API 610 and are a range of overhung, centre-line mounted units with robust bearing housings. It is designed for continuous duty and is especially suitable for oil & gas installations, oil refineries and chemical plants pumping a wide range of temperatures and pressures.

The EUREKA OH2 range is also available for high suction pressure duties.

In general, the pump materials comply with the grades listed in API 610 and Norsok M630/M650. Standard material is 25% Cr super duplex (API 610 D2) for sea water applications and carbon steel (API 610 S6) for crude oil applications. The pump is also available in 22% Cr duplex (API 610 D1) and in AISI 316 SS (API 610 A8).

CONSTRUCTION

Casing

The pump is centre line mounted, radially split, double volute case with tangential discharge design. The pump can be delivered in top-top or end suction-top discharge executions.

Suction and discharge nozzles

Standard suction, discharge, drain and vent flanges are ANSI B 16.5 300# RF flanges.

Seal chamber and shaft sleeve

The shaft is fitted with a secured shaft sleeve. The seal chamber is according to API 682, and is designed to use either a single or dual mechanical seals.

Impeller and wear rings

The impeller is of a closed type, single suction design fitted with wear rings on both sides. The case wear ring, cover wear ring and the throat bushing are fitted into the casing and cover with a slight interference fit and secured with a hollow head set screw.

Bearing bracket and bearings

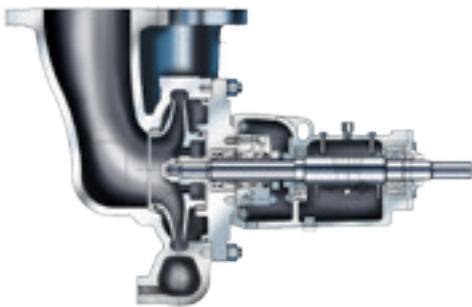
The bearing bracket is securely bolted to the pump cover. The bearings are ball bearings and are flood and ring lubricated for all pumps. Double row thrust and single row radial bearings are provided. The bearing bracket has a large oil reservoir and is provided with a constant level oiler.

Coupling

Each pump is provided with a spacer type flexible coupling which allows for a back pull-out rotor design.

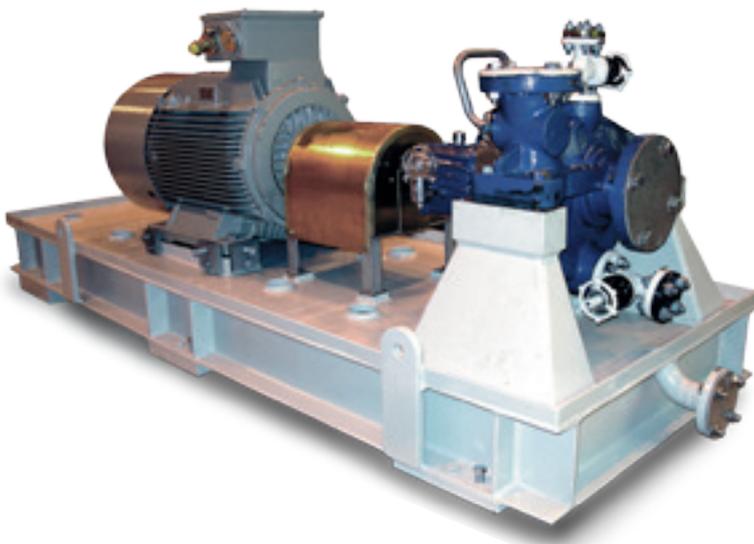
Base Plate

The base plate is constructed from fabricated steel. It is designed with a drain pan and is extended under the driver.



HYDRAULIC RANGE

Capacity:	5 – 1200 m ³ /h
Differential pressure:	0 – 35 bar
Design pressure:	50 bar
Temperature:	-46°C – 400°C



EUREKA OH3

Vertical medium duty process pump
in accordance with API 610, latest edition

DESCRIPTION: The EUREKA OH3 pump range are single stage, single suction, single/double volute, vertical in-line pumps and in compliance with the latest edition of API 610. Well suited for installation in layout-restricted areas. They are designed for continuous duty and particularly suitable for offshore applications, oil refineries and chemical plants pumping fluids over a wide range of pressures and temperatures. The rotor, cover, bearing house and motor can, as a complete unit, be removed from the pump casing without disturbing the piping.

The pump materials complies with the grades listed in API 610 annex H and NORSOK M-630/M-650. Standard materials are 25% Cr. super duplex (API 610 D-2) for seawater applications and carbon steel (API 610 S-6) for crude oil applications. The pumps are also available in 22% Cr. duplex (API 610 D-1) and AISI 316 stainless steel (API 610 A-8).

CONSTRUCTION

Case and cover

The pump casing is of radially split design with the casing and nozzles integrally casted. The casing cover contains the seal chamber according to API 682, bearing house and designed to carry the motor pedestal.

Flanges

Suction and discharge nozzles are furnished with flanges in 300# RF according to ANSI B16.5 as standard.

Shaft sleeve and mechanical seals

The shaft sleeve is keyed to prevent rotation and is axially secured between the impeller and a recess on the shaft. The seal chamber is designed to accommodate both single and double mechanical seals according to API 682. The seal shaft sleeve is secured to the shaft by a shrink disc.

Impeller and wear rings

The impeller is single suction and axially hydraulically balanced. It is designed with a large eye area to ensure low NPSH requirements, and thus reduce the possibility of cavitation.

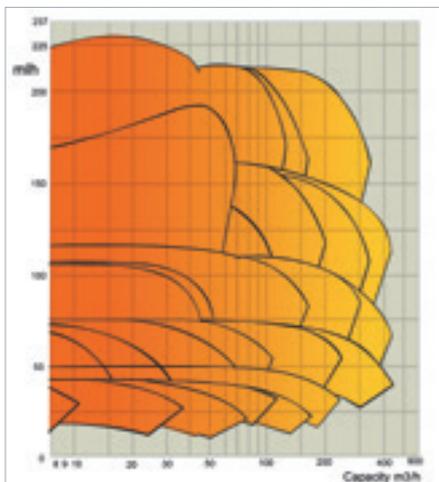
The impeller wear rings are mounted on the impeller with a slight shrink fit and pinned in position. The casing and pump cover wear rings are inserted with a slight interference fit and secured with a hollow head set screw.

Bearings

The bearing house mounted on the pump cover and is equipped with radial- and axial bearings designed to handle both static and dynamic loads from the rotor. Oil lubricated and equipped with constant level oiler.

Electric motor

The motor is equipped with standard shaft and connected to pump with a flexible spacer type coupling. It is mounted on a pedestal that are resting on the pump cover.



HYDRAULIC RANGE

Capacity:	5 - 800 m ³ /h
Differential pressure:	0 - 35 bar
Design pressure:	50 bar
Temperature:	-46°C - +250°C

EUREKA OH4

Vertical heavy duty process pump
in accordance with API 610, latest edition



DESCRIPTION: The EUREKA OH4 pump is a single stage, single suction, vertical in-line pump in compliance with the latest edition of API 610 and are well suited for layout restricted areas. It is designed for continuous duty and is particularly suitable for offshore applications, oil refineries and chemical plants pumping fluids over a wide range of temperatures and pressures. The rotor, motor and cover can be removed from the pump casing as a complete unit without disturbing the piping.

In general the pump materials comply with the grades listed in API 610 and NORSOK M630/M650. The standard materials are 25% Cr super duplex (API 610 D2) for seawater applications and carbon steel (API 610 S6) for crude oil applications. The pump is also available in 22% Cr duplex (API 610 D1) and in AISI 316 SS (API 610 A8).

CONSTRUCTION

Case and cover

The pump is radially split with the casing and nozzles integrally casted. The cover contains the seal chamber and is designed to carry the motor pedestal.

Flanges

Suction and discharge nozzles are furnished with 300 lbs ANSI B16.5 RF flanges as standard.

Shaft sleeve, coupling and mechanical seals

The shaft sleeve is keyed to prevent rotation and is axially secured between the impeller and a recess on the shaft. The pump is furnished with a rigid coupling and it is designed to use either a single or dual seal. The seal shaft sleeve is secured to the shaft by a shrink disc.

Impeller and wear rings

The impeller is single suction and axially balanced. It is designed with a large eye area to ensure low NPSH requirements, and thus reduce the possibility of cavitation.

The impeller wear rings are mounted on the impeller with a slight shrink fit and pinned in position. The case wear ring and cover wear ring are inserted in the case and cover with a slight interference fit and secured with a hollow head set screw.

Bearings

There is no bearing in the pump. The bearings in the motor are carrying the pump rotor.

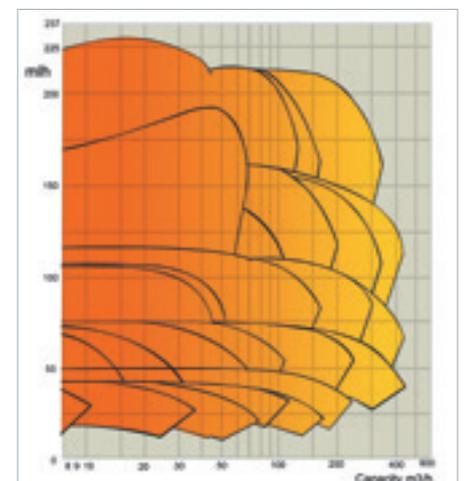
Electric motor

The driver is resting on the cover by a pedestal. The Eureka OH4 pumps can be delivered with both dry and wet electric motors.



HYDRAULIC RANGE

Capacity:	5 – 800 m ³ /h
Differential pressure:	0 - 35 bar
Design pressure:	50 bar
Temperature:	-46 °C - 250 °C



EUREKA OH5

A horizontal medium duty centrifugal pump in accordance with API 610, latest edition

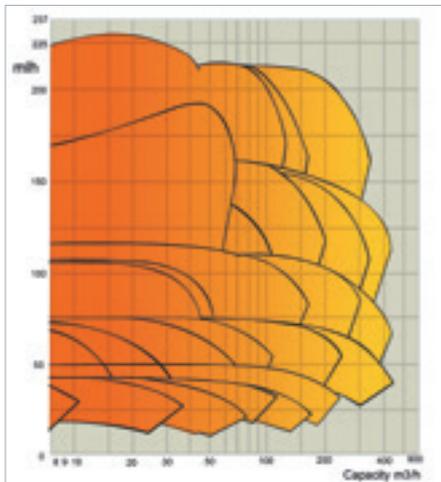
DESCRIPTION: The EUREKA OH5 pump range are single stage, single suction, single/double volute, vertical in-line pumps and in compliance with the latest edition of API 610. Well suited for installation in layout-restricted areas. They are designed for continuous duty and particularly suitable for offshore applications, oil refineries and chemical plants pumping fluids over a wide range of pressures and temperatures. The rotor, cover and motor can, as a complete unit, be removed from the pump casing without disturbing the piping.

The pump materials comply with the grades listed in API 610 annex H and NORSOK M-630/M-650. Standard materials are 25% Cr. super duplex (API 610 D-2) for seawater applications and carbon steel (API 610 S-6) for crude oil applications. The pumps are also available in 22% Cr. duplex (API 610 D-1) and AISI 316 stainless steel (API 610 A-8).

CONSTRUCTION

Case and cover

The pump casing is of radially split design with the casing and nozzles integrally casted. The casing cover contains the seal chamber according to API 682 and is designed to carry the motor pedestal.



Flanges

Suction and discharge nozzles are furnished with flanges in 300# RF according to ANSI B16.5 as standard.

Shaft sleeve and mechanical seals
The shaft sleeve is keyed to prevent rotation and is axially secured between the impeller and a recess on the shaft. The seal chamber is designed to accommodate both single and double mechanical seals according to API 682. The seal shaft sleeve is secured to the shaft by a shrink disc.

Impeller and wear rings

The impeller is single suction and axially hydraulically balanced. It is designed with a large eye area to ensure low NPSH requirements, and thus reduce the possibility of cavitation.

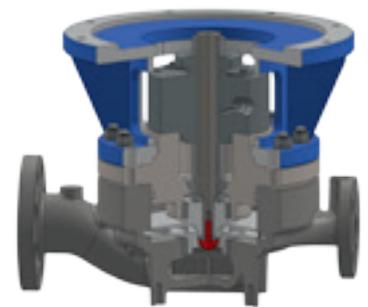
The impeller wear rings are mounted on the impeller with a slight shrink fit and pinned in position. The casing and pump cover wear rings are inserted with a slight interference fit and secured with a hollow head set screw.

Bearings

There are no bearings in the pump. The bearings in the motor are carrying the static and dynamic loads from the pump rotor.

Electric motor

The motor is equipped with an extended shaft in order to accommodate the mechanical seal and impeller. It is mounted on a pedestal which rests on the pump cover. The Eureka OH5 pumps can be delivered with both dry mounted motors and motors suitable for submerged installation.



HYDRAULIC RANGE

Capacity:	5 - 500 m ³ /h
Differential pressure:	0 - 35 bar
Design pressure:	50 bar
Temperature:	-46 - +350°C

PUMP ACCESSORIES

The EUREKA™ centrifugal pump series can be fitted with various accessories



MECHANICAL SEAL SYSTEMS:

For dual seal hydrocarbon duties, the pumps are normally fitted with API plan 53 B seal system. The local seal panel is located close the pump, while the central buffer fluid reservoirs can be located elsewhere to feed several applications. Large seal fluid reservoirs are useful for unmanned installations or where frequent inspections and refilling shall be kept to a minimum.



EJECTOR PANELS

Where self priming capabilities are required the pumps can be fitted with air driven ejector panels.

VARIABLE SPEED DRIVE

EUREKA PUMPS provides frequency inverters or mechanical fluid couplings where variable speed drive is required.

INSTRUMENTATION

Our process pumps can be fitted with various types of instruments like vibration monitoring and temperature monitoring.



NOISE ENCLOSURES

The stringent noise level requirements in the oil & gas industry sometimes re-quires noise insulation. Our noise engineers will calculate the needed noise reduction measures and propose solutions together with the client. The pump can be fitted with a noise jacket or a skid noise enclosure can be provided.



ELECTRIC MOTORS

Our process pumps are normally delivered as complete skids including electric motors. Electric motors for hazardous areas are provided.

EUREKA PROCESS PUMPS

Operations Support Services

EUREKA PUMPS has more than 40 years of experience with pump systems, including: engineering, production, maintenance, upgrading, testing, optimization programs and operational services (international and for the Norwegian Continental Shelf). The Operations Support Services Department has engineering capabilities focused specifically at providing Clients with added value solutions to pumping problems. This is an objective borne out of an overall strategy to reduce pump life cycle costs (LCC).

It is our experience that forms our working methods and our capability to cost optimize clients operation. The purpose built service and test centre in Stavanger will service the large installed base on the Norwegian Continental Shelf – which consist of more than 1000 pump units divided between the EUREKA and the EPTEC pumps.

All pumps are serviced with original spare parts and can be witnessed tested at site or online prior to shipment.

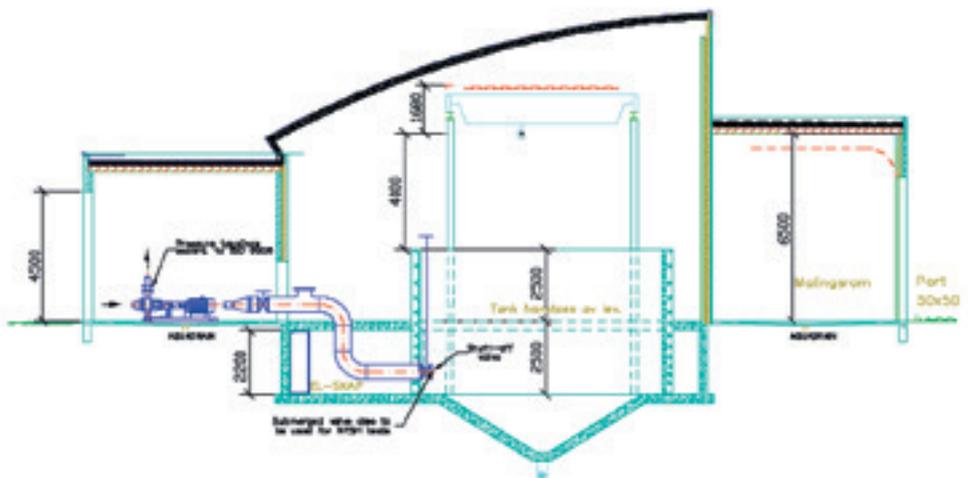
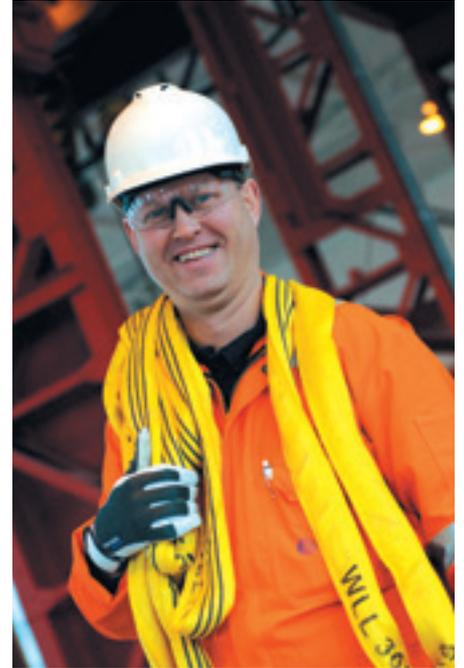
The Test Station

In connection with the service centre, EUREKA PUMPS has a test station specially designed to test centrifugal pumps according to ISO 9906 and API 610.

All the pumps delivered by EUREKA PUMPS is hydrostatic and performance tested prior to shipment. Witnessed string testing is provided, including NPSH test and functional acceptance testing.

EUREKA PUMPS use a newly developed measuring – and analysing system based on Norconsult's well established "Impuls". This system has been used over many years for verification of water power plant and pump systems. The system will simultaneously measure, analyse and report pump curves and vibration data. A total of 16 general channels/measuring points are available under testing. This utility also allows for measurement of other parameters, such as temperature, strain, etc.

The testing can also be witnessed on-line via internet from the customer's office.



The EUREKA PUMPS test facility in Stavanger, Norway.

EUREKA PUMPS AS is a Norwegian pump supplier with more than 40 years of experience in the oil & gas and marine industry, offering a range of pumps and generator sets that covers a majority of applications. EUREKA PUMPS supplies to new builds and offers services for upgrading, modification, equipment testing, installation and commissioning.

EUREKA PUMPS is a market leader among companies operating on the Norwegian Continental shelf, and it is also present in International markets with selected applications, based on own technology. EUREKA PUMPS main office is in Oslo (Lysaker), Norway, and has offices and advanced service facilities along the Norwegian coast. EUREKA PUMPS also has offices in Houston St. Johns, Busan and Kuala Lumpur.

EUREKA PUMPS is one of five companies in the ALIGN group, a leading supplier of production equipment and safety critical products and solutions. ALIGN offers services ensuring continuous production, a perspective that safeguards optimal operations and lower life-cycle costs. The ALIGN group is owned by Convento Capital and HitecVision.

■ EUREKA PUMPS AS

■ Agent

