HUNGER

Hydraulics Korea

A MEMBER OF THE HUNGER-GROUP

Hunger Hydraulics Korea Ltd.

흥가하이드로릭스코리아

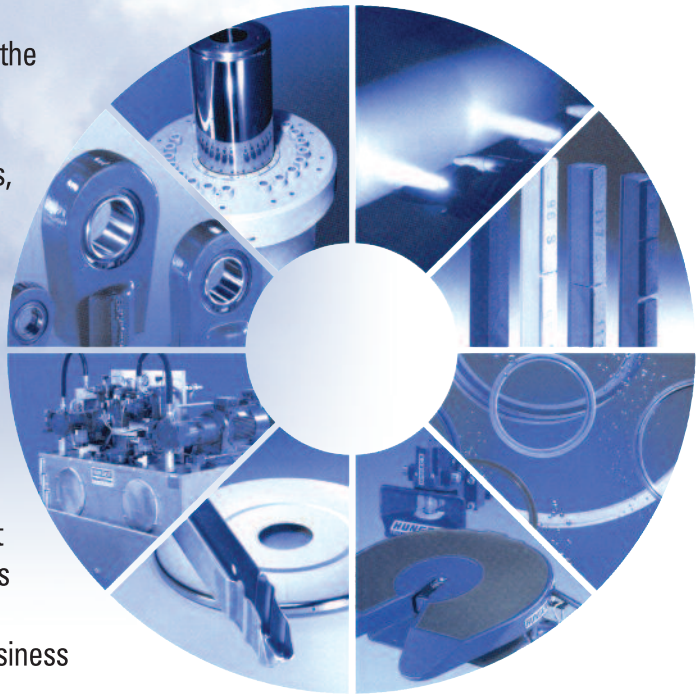
Your Partner for Complete Solutions

Advantage through experience

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Hunger Hydraulics Korea has diversified its services in recent years to meet the needs of a wide-ranging customer base. Business activities today focus on bespoke clients problem solutions in the hydraulics and automotive engineering sectors. The hydraulic business is divided into cylinders, seals, abrasives, machines and power units, Oil & Gas package system, Sampling, WHCP, TUTU, Chemical injection system, High press valves for Hydrogen and Tubing-piping without welding along with commissioning, servicing and repairs and project management for Defense, Offshore / Marine, Oil & Gas, Civil Engineering, Power Plant, Steel Mill, Aerospace, Petrochemical and Hydrogen energy, General industry fields.

Hydraulic engineering is the predominant business area of the Hunger Group.
The components and systems manufactured by Hunger Hydraulics are universally recognized as leading their class, meeting the highest standards and requirements and employed in applications around the globe. Many years of experience in all fields of hydraulic engineering helped the company to develop extensive know-how, targeted to meet the demands of varying customer specific problems. The experience and acquired production know-how provides the cornerstone for component and system manufacture, ensuring the highest quality standards in the industry. The combination of experience, utilization of latest technologies and the ability to address client specific needs when integrating components and systems into customer applications makes Hunger Hydraulics unrivalled in this business sector.



Hunger Group





Hunger Hydraulics Korea
Main Product & Application

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Major Products

- Hydraulic Cylinder (Ceramic / Ultraplate / Stainless Steel Rod Coated)
- Electro-Hydraulic Drive System Cylinder
- Rotary Actuators / Distributor
- Hunger Seal / Spherical Bearing, Valves
- Hydraulic Power Unit (HPU), Components
- Pump, Motor, Valves, Ball Valves, Gauges
- Hydraulic Filter, Elements, Sensors
- Hydraulic Accumulator
- Particle Counter, Filter carter, Measurements
- Gear Box, Swivel Flanges, Fittings
- CRA Pipe, Alloy Tube / Pipe
- Deep Sea, Underwater Lighting Camera System
- Oil & Gas, Offshore Package
- WHCP, HIPPS, TUTU, Sampling System
- Heli-Refueling, Chemical Injection System
- Non-Welding Tubing (with VOSS System)
- Flushing Service and Site Installation
- Hydrogen High Pressure Valve / System
- Hyperbaric Oxygen Chamber

Main Application

- Offshore/Marine, Oil & Gas, Sub Sea/Ship Construction
- Naval, Defense, Deep sea
- Civil Engineering, Water Level Control & Flood Protection
- Press Construction / Machine Tool
- Steel Mill & Aluminum Casting
- Material Handling & Mobile Hydraulics
- Aerospace, Power Plant, Offshore, Nuclear Decommissioning
- Alternative Energy / Environmental Technology
- Petrochemical / General Industry
- Hydrogen & LNG, Renewable Energy
- Nuclear Power Station (SMR)







Hunger Hydraulics Korea manufactures & provides a variety of products used in general industries such as hydraulic cylinders, hydraulic components and systems, machine tools, piping, and fittings.

We provide a Total Solution for customer satisfaction from engineering, design, production, installation, commissioning, and after-sales service, and we are responding quickly to customer inquiries based on our experiences.

Hunger Hydraulics Korea provides customer service through Total Project Management, focusing on high technology, customer customization and project optimization.

Hunger Hydraulics Technology

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In the Offshore, Oil & Gas Industry, Hunger Hydraulic Group N-line Tensioner Cylinder helps to maintain a stable facility by protecting oil drilling piping from waves.

Our special coated cylinders do not cause rust at all even when there is direct or indirect contact with seawater, and are widely applied to offshore projects such as knuckle boom cylinders and hydraulic fire extinguishing masts of marine cranes.

Not only Hunger Hydraulic Group Cylinder, but also the equipment necessary for Oil and Gas drilling such as WHCP, TUTU, HIPPS, Sampling Panel, and Chemical Injection. We provide total solutions such as supply, installation, and commissioning.

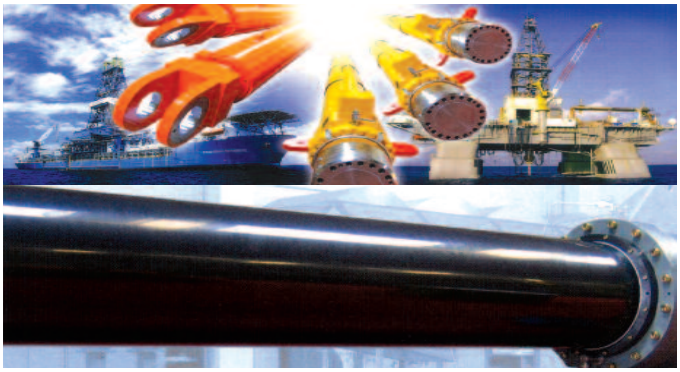
Major Products of Hunger Technology

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Ceraplate & Ultraplate Rod Coating Cylinders with Seals & Spherical Bearings; HPU, Rotary Actuator and Distributor with High-end Quality.

Special Coated Hydraulic Cylinder

Hunger Hydraulics Cylinders are used in special application (Marine & Offshore, Underwater Operation, Synchronize System etc.) of cylinder from small stroke up to 24,000mm based on Rod surface treatment to Ceramic / Ultraplate Coating.



Hydraulic Power Unit & System

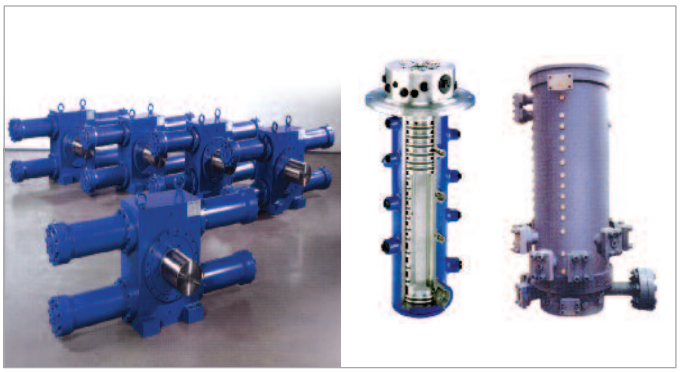
We supplies complete system solutions for all cases of application in the hydraulic field. The range of products offered covers pressures from 50 to 700 bar and a flow rate of up to 5000. We design and manufacture hydraulic systems according to customer's specification of any size and application

- Design / Production
- Hydraulic Manifolds
- Control System & Engineering



Rotary Actuators / Rotary Distributor

Up to 44 channels nominal width 100mm up to over 400bar And High torques up to 200,000 Nm swivel angle up to 720°C for special slideway lining for maintenance free operation



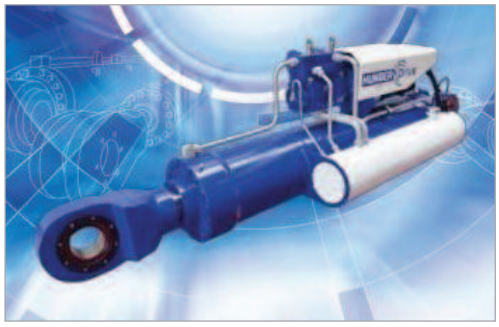
Spherical Bearing

Produced as standard are steel / steeland maintenance-free spherical plain bearings in a range of diameters from 20 - 1000 mm. Special bearings can be obtained in all types, sizes and material qualities to suit the application.



Major Porducts of Hunger Technology

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Electro-Hydraulic Drive System

- Electro hydraulic drive system with cylinder control through a variable speed pump
- Designed as a compact unit with top mounted components or with decentralized components
- For applications with high dynamic and accuracy requirements
- High energy efficiency
- No hydraulic interfaces during installation
- Integrated position and pressure / load controller



Special Coating Rod

Hunger Hydraulics Korea offers highly specialized rod coatings to meet the need for every environment and budget.

In addition to the classic hard chrome and chrome-nickel plating, Hunger offers plastic coatings, Ceraplate, a metaloxide ceramic coating, as well as Ultraplate, a Plasma Transferred Arc (PTA) welded coating.

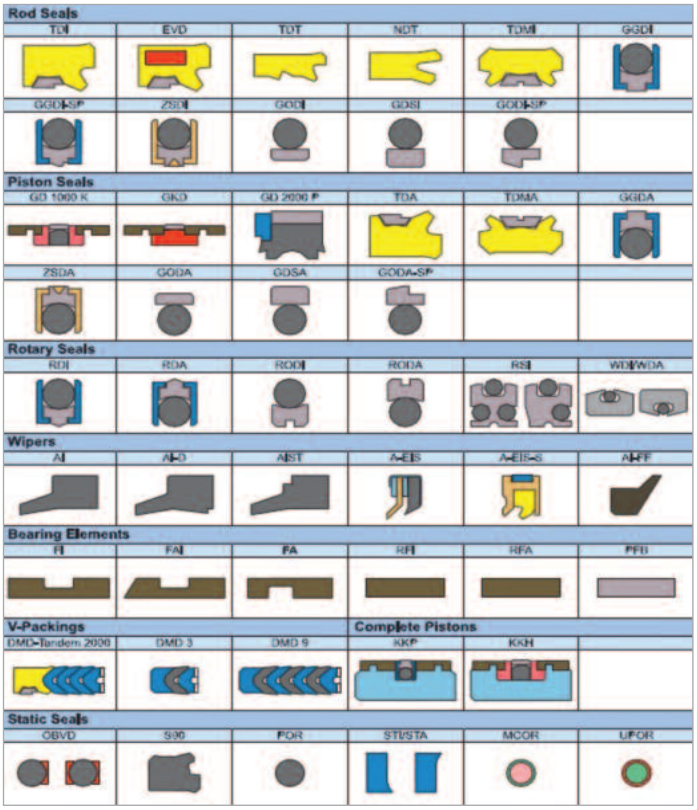
- Hard chrome plating
- Chrome composite coating
- Ceraplate coating
- Ultraplate coating
- Others

Hunger Seal

Ever greater demands are placed on modern sealing elements in terms of their sealing capability and service life. Rod seals in particular have to fulfil the requirements of environmental protection with the lowest possible leakage rate. Besides the leakage rate, the positioning accuracy of the cylinder also plays a significant role in the design of a modern hydraulic seal. Properties such as stick-slip-free running have become standard today. Modern sealing and bearing elements can guarantee this smooth, quiet movement even at lowest speeds

- Full functionality in an unpressurised state due to the pretension of the sealing lips
- Long service life of the sealing system
- Permanent stick-slip-free running.
- High seal in static and dynamic application
- Simple snap-in installation
- Low & High temperature

Hunger Seal's technologies provide special solution who are looking for customized and big size with requested unique design and system from applications.



Hunger Technology
With Special Coating Cylinder Engineering

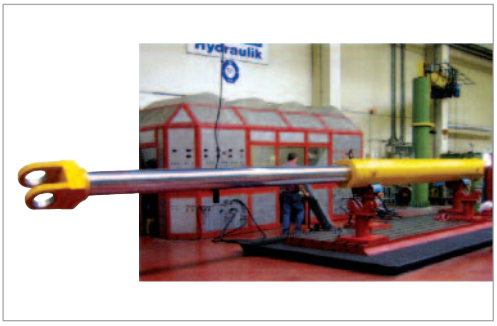
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N-line Tensioner Cylinder

The modern N-line tensioner design is used to ensure a pre-defined tension to the marine riser and to compensate any rig motions like heave, roll or pitch.
Even if cylinder submerged in the sea directly but no matters any crossing.

- Bore diameter : 560mm
- Stroke 15,240mm
  Certification according to DNV lifting appliances 2008, DNV standard for certification No. 2.9 hydraulic cylinders and DNV offshore standard E10 /D101
- Ultra Plate Coating



Knuckle Boom Crane Cylinders

Safe, lifting and handling of goods on drill ships and other offshore rigs.
With this solution of knuckle boom cranes the risk of swinging loads especially under rough weather conditions will become minimized.

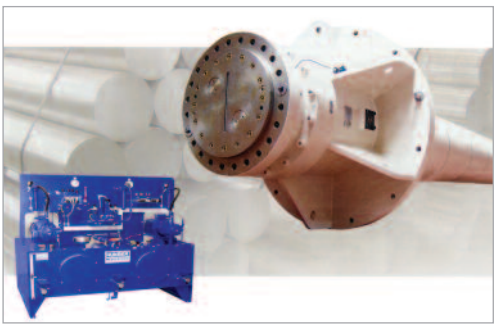
- Different corrosion resistant rod coatings are available, exactly adjusted to the application in question (Ni/Cr layer, thermic sprayed Carbides and Oxides or Ultra plate coating)
- Cylinder components, critical regarding corrosion, are special treated to optimize corrosion resistance
- Cylinders designed for high working pressure over 400bar



Pilling Barge Cylinders

Piling barge cylinders are used for operating ram-cranes on working barges.
With these barges, concrete-steel pillars with lengths up to 100m get rammed in the sea ground used for construction of bridges, quay walls or harbor walls.

- Bore diameter : 800~1,150mm
- Rod diameter : 500~750mm
- Stroke : 12,000~14,500mm
- Load capacity : up to 1,600t
- Cylinder weight : up to 100t



Aluminum Casting Cylinder

The vertical casting cylinders, furnace tilting, door, locking and pouring spout cylinders, the appropriate hydraulic power packs and controls

- Casting weight : up to 250t
- Casting stroke : up to 15,000
- Max. plunger diameter : > 1,000mm
- Anti-rotation accurancy over total stroke: > ± 4 min for plunger cylinder
- Piston rod coating : Ceraplate
- Hydraulic fluid : Mineral oils, synthetic esters, water-glycols etc.
  (For example HLP32, Shelllrus D46, Quintolubric)

Hunger Technology
With Special Coating Cylinder Engineering

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CMCE / DAPC System
(Crown Mounted Compensation & Equalization)

The CMCE-(Crown Mounted Compensation and Equalization) cylinders are installed in the top of the derrick where they compensate vertical movements of the drilling rig relative to the ground fixed and standing still drilling rod. Two main and two equalizing cylinders are always working parallel which requires identical friction behavior of each cylinder couple. Depending on the wave run the maximum moving speed of these cylinders can go up to 2m/sec.

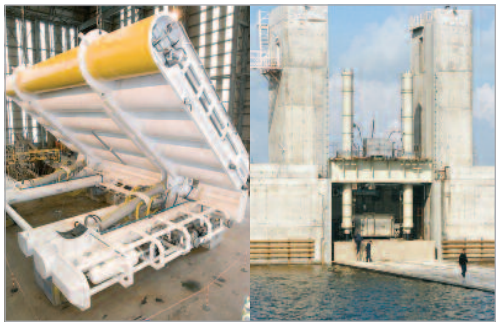
- CMCE main Cylinder (example)
- Bore diameter : 480mm
- Rod diameter : 420mm
- Stroke : 8,890mm



Fire Fighting System

Hunger hydraulic cylinders as well as hydraulic drive and control systems are used for mobile fire fighting plants on ships and in vehicles since many years.
Hunger supplying total solution and entire system by package.

- Can be designed in five staged sizes and as one, two or three staged hydraulic cylinder
- Stroke heights of up to 15m
- Extinguishing agent of up to 20,000l/min



Wave Energy / Dam System

Cylinders to operate the largest slide gates in the world.
Cylinders with piston rod coating Hunger Ceraplate and spherical bearings in plastic compound design piston rods are submerged in seawater for approx.
11 month between the operation periods fully submerged cylinders with piston rod coating Hunger Ultraplate, with Maintenance free spherical bearings and designed to work with water fluid.

- Size : ∅800×320×11800mm
- Coating : UltraPlate, Ceraplate
- Dam : Cylinder, HPU, Control System, Electronic Control System.



Wire Rope Spooling System

The LEBUS Grooving System involves a product made specifically for use on any or all types of hoisting drums requiring the use of wire rope or electro-mechanical cable. The LEBUS grooves are made for the purpose of properly seating a specified size of wire rope and the proper movement of and spacing of the cable from flange to flange. Especially LEBUS is Top and performance with over 3 Layer spooling System.

- Material – Cylindrical, Steel, Fiberglass, Aluminum
- Size Range – 3Inch to over 18 feet in diameter and 4 to 144 inches (or more) in width.
- Cooperation with Lebus

Hunger Technology

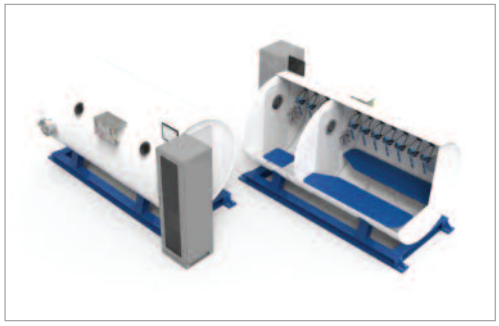
Lubrication, Hyper Oxygen Chamber & H2 Special Valves

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Lubrication Unit

- Supplies lubricating oil to the scale of turbines and generators
- Supply lubricating oil to turbine bearings and store discharged lubricating oil
- Purifying lubricants such as removing foreign substances and releasing air
- Features such as providing installation locations for various devices
- Engineering, Design, Manufacturing
- Commissioning and Installation



HyperBaric Oxygen Chamber

- Chamber equipment that treats divers who have performed high-level tasks for a long time with diving
- Used in the medical, military, and beauty industries
- For applications with high dynamic and accuracy requirements
- High energy efficiency
- Supply small equipment for one or two people to large equipment that can accommodate up to 12 people
- Cooperation with Drass



Hydrogen Valve

- Designed to meet specific requirements for supplying high-pressure fuel with hydrogen
- The Direct- & Internally Piloted Operating Valve can be used not only for injection devices but also for compressors and storage systems for HRS
- The pressure range is up to a maximum of 1000 bar and is designed according to the highest quality and safety standards
- The compact design of the valve, along with avoiding airline installation like in pneumatic systems, enables space, investment, and maintenance cost savings in fuel supply system applications
- Cooperation with Seitz



Pressure Intensifers

Increase in HPU Pressure (Pressure Range: 50-100 bar -> Increase to 150-500 bar)

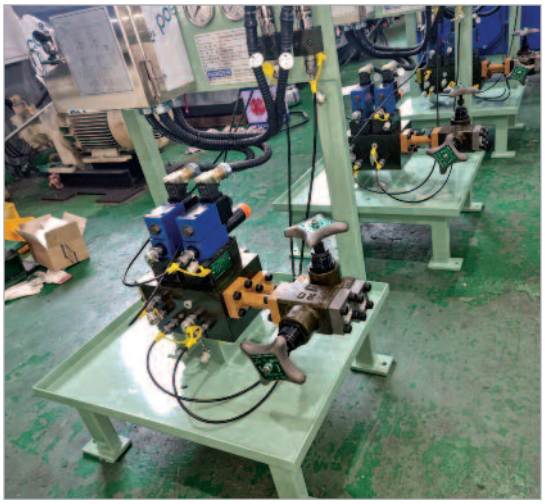
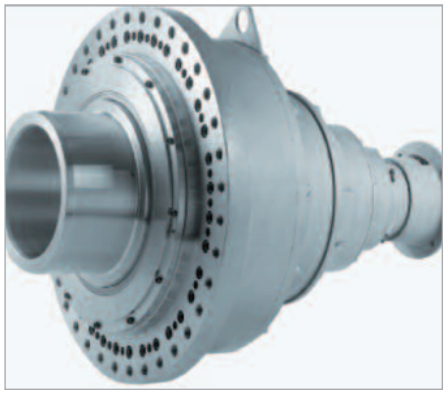
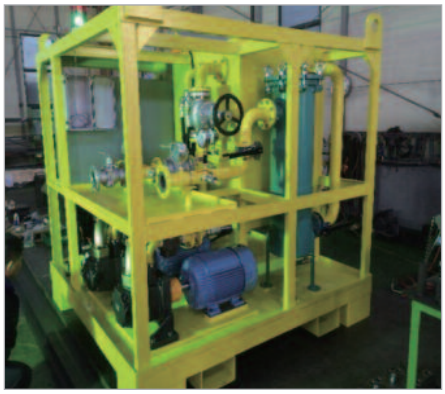
- Additional power supply to the core pulling cylinder to prevent air pockets
- Providing test pressure for hydraulic components (500-800 bar) and tubes & hoses for diesel engines (2000 bar and above)
- Pressure increase for clamping of filter elements
- Increase in Crane Cylinder Pressure (End Pressure: 250-350 bar)
- Cooperation with Scanwill

Hunger Hydraulics Drive & Control

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Hunger Hydraulics Korea is capable of supplying hydraulic power units and hydraulic electric control devices, and is suitable for all components of hydraulic systems and equipment. Our system solutions and parts have been supplied to customers all over the world for decades, and they have good reputation in quality and performance. All components and services of hydraulic system such as Valve, Filter, Special Gauge, Accumulator, large gear box, Slewing gear and Rotary Distributor have been provided.

Hunger Offshore & Marine Package System

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Incinerators


Sewago Treatment Plants


Oily Water Separators


Shredder-compactor


Food Waste Treatment


SH2 Detectors


AFFF Stations


AFFF Hose Reels


Flight Deck Safety Nets


Hydrophores


Potable Water Heaters


Fuel Heaters


Heat Exchangers


Cooling Modules


Shore Connection Reels

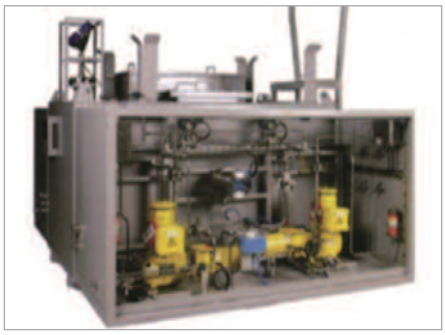

HP/LP Air Flasks


RCS Gun Protection


ATAS Cable Guide


Helicopter Refuelling Systems







Hunger Hydraulics Korea supplies skid package system such as WHCP, TUTU System, Chemical Injection, HIPPS, Heli Refueling System, Sampling / Branding System and Marine Incinerator, Oily Water Separator, Sewage Treatment, Hydrophore groups products and many other systems for Winch Drum Spooling system with LEBUS technology are available to be supplied.

Water & Waste management
Package for Navy, Marine / Offshore

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Marine Incinerator

The purpose of a shipboard incinerator is to get rid of solid and/or sludge waste generated on board as an environmentally friendly approach, whereas complying with the latest IMO regulations.

- Wide range of capacities from 100.000 to 1.000.000kcal/h
- Non-flareback sluice for solid
- Waste continuous feeding available
- Solid waste and sludge can be burned simultaneously
- Fully automatic control
- Reliability and simplicity in operation.



Oily Water Separator

The main purpose of the oily water separator is to separate the hydrocarbons from oily water coming from the bilge of a ship and deliver a cleaner effluent that can be discharged overboard according to IMO MEPC 107(49) regulation.

- Wide range of capacities. From 0,5m3/h to 12.5m3/h
- Suction type pump to avoid emulsions.
- No high speed moving parts which result in less maintenance and lower costs
- Customized designs for Offshore and Military applications



Sewage Treatment

While providing equipment with long life expectancy, Detegasa is always on top of the sewage treatment regulations and strictest notations to deliver the most effective solution to the different markets.

- Simple operation and low maintenance
- Low price of spare parts and consumables
- Higher life expectance of the sewage treatment plant in operation
- Fully automatic system designed for low maintenance
- Can perform satisfactorily with waste water collected either by gravity or vacuum
- No odor emissions due to biological process



Hydrophore Groups

High Quality Pressure Sets for Merchant, Navy and Offshore applications Many decades supplying Hydrophore Groups and Water Heaters for Merchant, Offshore and Navy vessels are the best proof of Detegasa's quality products. Thanks to a highly diversified team of engineers, the company is able to customize its products considering different capacities, voltages, ambient conditions and many other constraints and requirement

- Fully customizable design, with option for skid mounted equipment, modular solutions or single units.
- Taylor made solutions, to comply with several requirements such as ATEX, shock, noise, vibration, etc.
- Stainless steel AISI 316L or hot dip galvanized steel shell
- First Class components

Package for Oil / Gas

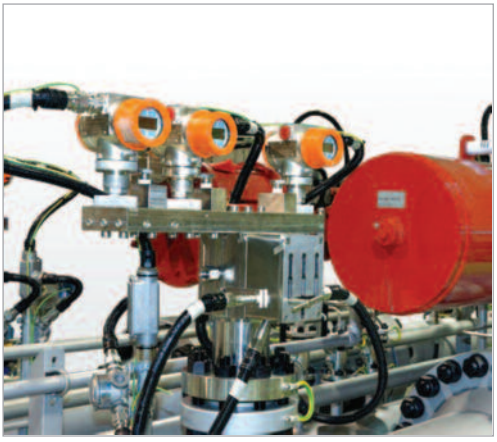
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TUTU (Topside Umbilical Termination Unit)

Topside Umbilical Termination Units (TUTU)

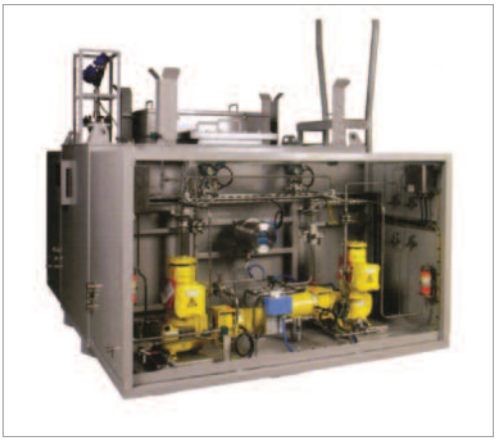
provide a reliable and robust interface between the main umbilical and the topside utility equipment on a platform or a FPSO. The units can be used for hydraulic fluids such as water / glycol or mineral oil, electric signals, fiber-optic communication, but also for a wide range of chemical fluids.



HIPPS

HIPPS (High Integrity Pressure Protection Systems)

for oil and gas installations. Rated SIL 1-4, We are designed and built in accordance with IEC 61508 and IEC61511 safety instrumented systems (SIS) standards and provide a dual electronic and mechanical redundancy solution.



Chemical Injection

Injecting chemicals into the stream

is sometimes recommended to keep a well or chemical system up and running. But in order to make those injections accurately and exactly as planned, you have to take into account important variables like flow rate and injection pressure.

Package for Oil / Gas

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WHCP

WHCP (Wellhead Control Panel)

A wellhead control panel (WHCP) is the main part of a safety system on a production platform or production location. The panels enable safe and reliable operation of the Xmas tree valves by providing hydraulic power and controls, and in some cases pneumatic controls. The Xmas tree valves are in most cases on-off valves with a hydraulic or pneumatic actuator.



Helicopter Refueling System

Helicopter Refueling System

The aim of a Helicopterrefueling system is to store the fuel in the portable aviation refueling tanks and supply it to an aircraft free from waterfree thanks to the filtration elements.

- Compliance with the requirements of the mostrecognized Classification Societies.
- Suitable for JET A-1, JP5, JP8, AVCAT, TR1 and other different kind of military fuels.
- Explosion-proof components.
- Re-fueling system available.



Sampling System

Sampling System

To accurately determine the quality of your oil (water content, density and composition of oil) forfiscal calculations and allocations, automatic sampling is the established method to representatively sample pipeline transfers. We can design sampling systems for different applications, such as the sampling of crude oil, condensate,refined liquids (diesel, gasoline, aviation fuel, etc.), gas and LPG, butane and propane. All sampling systems are built to internationally accepted standards e.g. ISO 3171, ISO 4257, ISO 10715, ASTM D 4177, API 8.2, API 14.1, Norsok and Gost. These standards give clearinformation on the various steps required in order to ensure representative sampling.