



## INDUSTRY

Value-added Liquid Transport Solutions

PROVEN TECHNOLOGY

**DESMI**

# INDUSTRY

The key factors in all areas of the process industry are reliability, productivity and performance of the production plant.

These are precisely the parameters addressed by the DESMI range of products, systems and services for the industry segment.





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# CHOCOLATE

Pumping products like jam, dissolved sugar, dark, milk or white chocolate with whole nuts or other ingredients, DESMI can provide the solution to transport various liquids.

As one of the leading chocolate pump manufacturers, we have a variety of pumping options to suit the needs of the chocolate industry.

The product itself, application know-how and most importantly customer understanding, relationship and production demands are our leading stars when selecting the best solution for our customers.

ROTAN® pumps from DESMI are designed for pumping media with high viscosity such as cocoa mass, cocoa liquor, cocoa butter, liquid chocolate, dissolved sugar, caramel, and other sugar products. Pumps are equipped with a heating jacket on the front and rear end. Rotors, idlers and idler bushings have special clearances.



DESMI designed chocolate pump



Half a century of experience in the production of pumps for the chocolate industry and close collaboration with some of the leading producers of plants have resulted in unique pumps which meet the high demand for the careful treatment of chocolate products

From cocoa mass and cocoa butter process, and liquid chocolate to the finished chocolate product, DESMI has the right answer.

We offer stationary chocolate pumps suitable for feeding tempering machines, coaters, enrobers and supply tanks, feeding ring conduits and for filling and emptying bulk tankers and conches.

We place great emphasis on a design which is reliable and well tested at all known chocolate producers and is easy to maintain.



Chocolate pump at  
chocolate factory

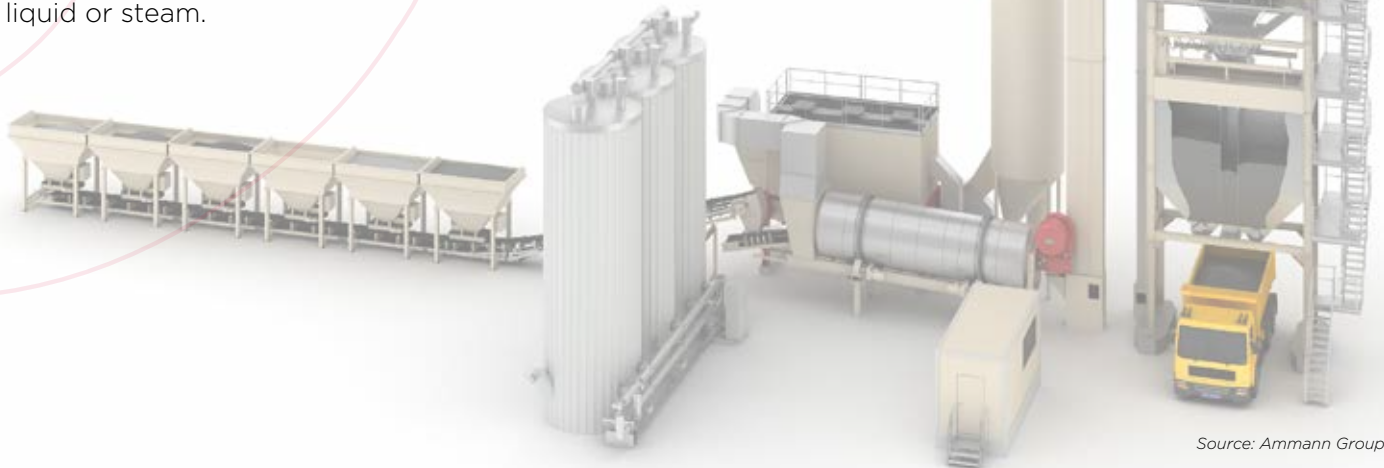


Chocolate pump at  
chocolate factory

# ASPHALT & BITUMEN

DESMI has a full range of pumps and matching equipment providing solutions for the handling of bitumen products including unique features suited for today's needs and new polymer based formulations.

For certain applications, we can offer proven sealing options. Also available is a patented zero-leakage pump with a state of the art magnetic coupling. This pump offers total protection against spillage and vapour, which may create environmental hazards. Electrical heating is an alternative to heating by liquid or steam.



Source: Ammann Group

Applications tend to fall into four categories: Production (refining), distribution (terminals), hot mix (paving mixtures), and roofing (filled asphalts). Refineries and terminals often use steel pumps, while hot mix asphalt plants use mainly cast iron pumps with a heating jacket and either packing or mechanical seals. Roofing plants are generally pumping highly abrasive, filled asphalts for shingle manufacturing. These require special hardened parts, slower operating speeds and other means of minimizing wear.



We are one of the world's leading manufacturers of internal gear pumps

Reclaimed oil burner feed pumps are "Hard Fitted" - specially designed for continuous delivery to the burner.

Clean oil burner feed and heat transfer pumps provide efficient positive delivery of clean oil and heat transfer liquids.

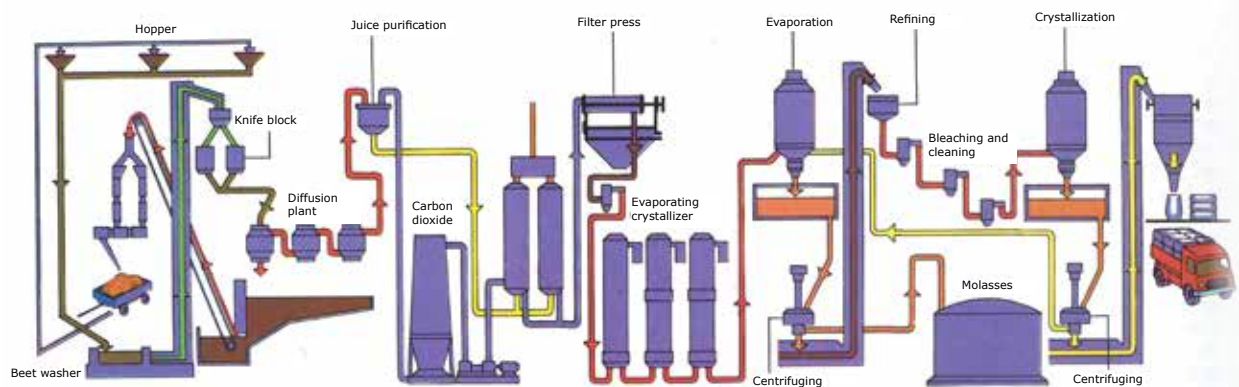
Cast iron fuel pumps deliver truck unloading flow rates of 170 m<sup>3</sup>/h / 748 gpm and include construction options based on clean and reclaimed burner fuels.



Asphalt pump



Asphalt pump





# SUGAR & MOLASSES

DESMI ROTAN® pumps are used for pumping different sugar products from cane and beet juice to molasses and finished sugar solutions.

Sugar products supplied directly from sugar mills are chemically neutral, whereas imported sugar products may contain small amounts of formic or sulphuric acid in order to prevent fermentation during transportation. Sugar products containing acid may cause corrosion in cast iron pumps so in some cases stainless steel pumps should be used.

Sugar products have to be considered as an

abrasive liquid, which is why the pump has to be constructed in a wear resistant material. Viscosity of sugar products lies between 500 and 20,000cSt dependent on temperature and dry matter (BRIX). Therefore, we recommend that special attention will be paid to the viscosity in relation to temperature when selecting a pump.

Sealless pumps have been successfully used, and to prevent bearing problems the pumps should be limited to approximately 30 per cent of maximum speed.



HD standard  
pump unit



ED standard  
pump unit

# ISOCYANATE

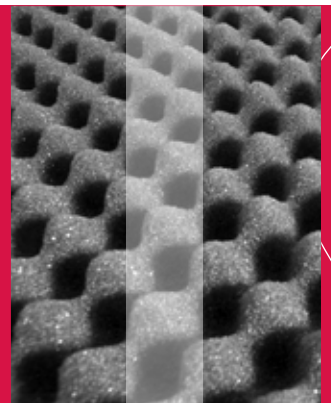
Isocyanate is one of the components in foam products such as foam mattresses, inner linings in cars, cushioning in car seats, chairs and sofas. The hard qualities make it suitable for insulation of houses, machines, pipes, etc.

There are various types of isocyanate, but common to all of them is that they react to the humidity of the air by forming very hard crystals, which wear out both pumps and mechanical seals (where fitted).

For MDI (Isocyanate) we recommend the use of positive displacement pumps and the leading MDI producers are recommending the DESMI ROTAN® series (mag drive pumps). They have been successfully used for a long periods of time in many different applications.



The ED pump is a self-priming pump, useful and well suited for unloading of MDI tankers. We recommend to place the pump on a centre line in order to make handling and draining much easier.



The field of application is one of the focus areas for DESMI ROTAN® pumps around the globe

DESMI has worked with customers to develop new innovations in pump technology. Whether it is solving individual application problems or developing new industry leading ideas, we are always looking for ways to do things better.

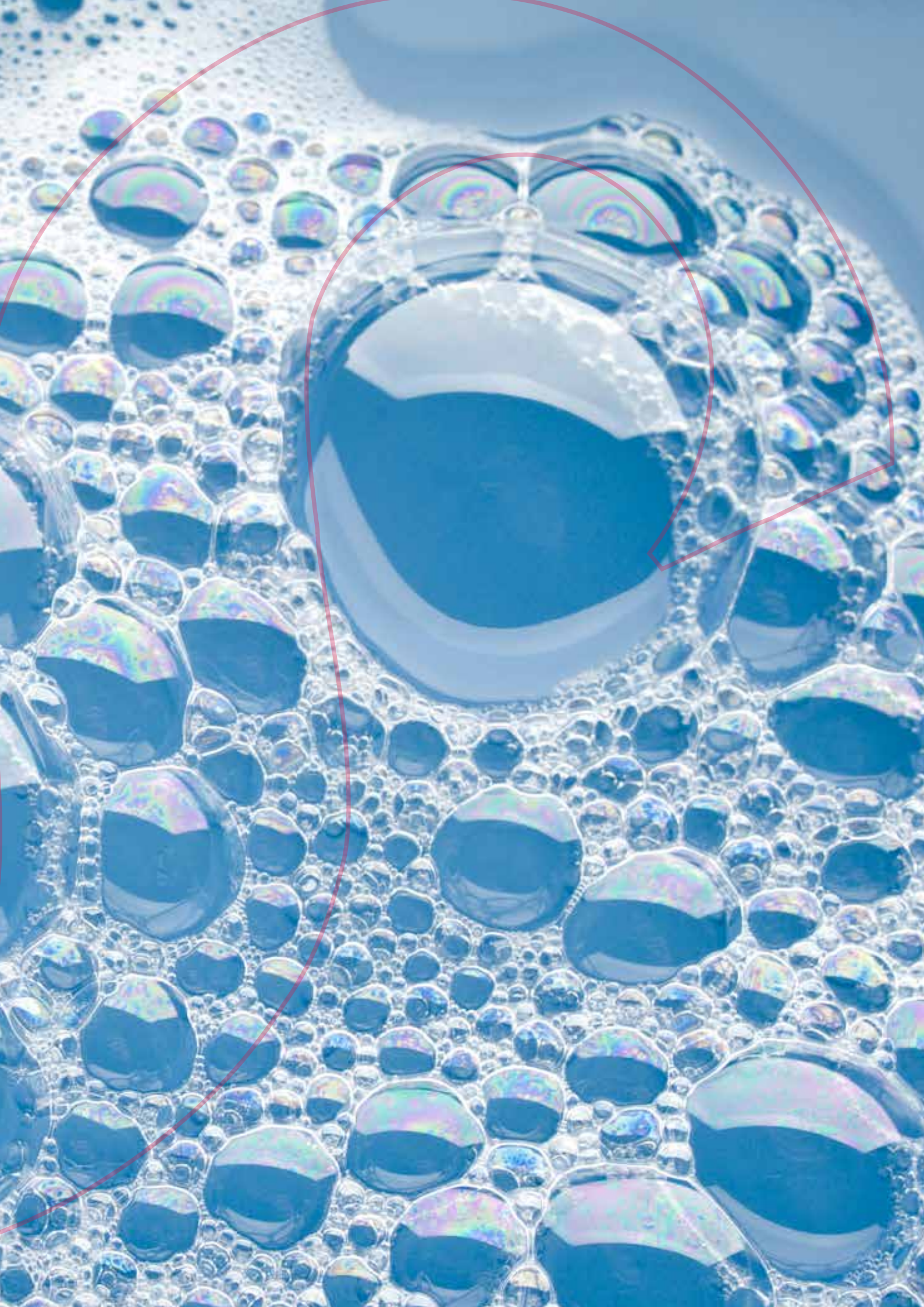


Mag drive pump  
inline



Mag drive pump  
inline







# SOAP & DETERGENT

While most manufacturers of detergent and soap products are medium-size companies mixing various chemicals according to their own recipes, the chemicals are produced by world-wide chemical companies. DESMI is a well-respected supplier of pumps for these applications.

Special features and understanding product demands are necessary for being a supplier in this field. DESMI has the products required and has a large number of ROTAN® pumps in operation.

For instance the ingredient list of liquid hand soap is typically water, sodium laureth sulphate, sodium chloride, cocamide dea, glycerin, cocamidopropyl betaine, coco-glucoside, glycol

disterate, glycerol oleate, PEG-7 glycerol cocoate, citric acid, perfume, isopropyl myristate, glycerol stearate, tetrasodium iminodisuccinate, methylchloroisothiazolinone, and benzoic acid.

A large part of these products can be pumped by a stainless steel pump with hard metal bearings but some prefer using magnetically coupled pumps in order to minimize maintenance.

In order to be able to find the best solution for a specific application and production procedures we sometimes have to be flexible and add steam-flushing channels, mechanical seals with specific material specifications or other features to find the best possible solution for our customers.



CD standard  
pump unit



ED mag drive standard  
pump unit

# OIL BLENDING

Operations like oil blending, additive mixing and filling of the finished lube oils are fully automatic batching processes. Performed within parallel lines, each consisting of one blender and one weigh hopper. The process requires quality pumps and around the world DESMI has been a reliable partner for many years as our ROTAN® GP and HD series are designed for giving an accurate and constant flow to support this process.

Our stainless steel pumps, ROTAN® CD, are frequently used when special additives demand a higher material standard to give the best possible life cycle cost solution.

Maintaining the weight ratios of the lube oil components is ensured by their precise weighing and is program-controlled by remote opening and closing of dedicated valves. Basic feeds to the blending process are the base lube oil stocks. The different base product tanks, mixing agitators and finished product tanks require compact distribution pumps, normally of close-coupled cast iron construction, for an effective flow in the production process.

DESMI has a selection of pumps tailormade for this process.



DESMI ROTAN® pumps are used by all major oil product manufacturers around the world. With a strong focus on the customers' needs we aim to be the best application provider in the market.





Pumps are used for field gathering, tank circulating, crude oil treating and high-capacity terminal applications

We aim to develop new innovations in pump technology. Therefore we cooperate closely with customers in order to solve individual application problems as well as develop new leading ideas for the industry. We are always looking for ways of doing things better.



GP close-coupled  
pump unit



HD pumps

# PAINT & INK

Coloured and protected surfaces provide added value as paints and enamels help to make products both more interesting and increase their life. That is why they are important finishing materials where care, environmental friendliness and reliability are needed in their supply and correct dosage.

The DESMI ROTAN® gear pumps are commonly used for paints, resins and coatings. For ink manufacturing and printing press applications, the HD series and specially fitted PD and ED mag drive pumps are being used.

A leading paint factory manager states:

*"ROTAN® pumps have for decades been used in many of our plants. The ED model was chosen due to its magnetic coupling. A magnetically coupled design, which has no rotating seals, ensures less downtime and lower operating costs. Every pump in our new facility is magnetically coupled, and thus we have eliminated the problems associated with packed glands and mechanical seals."*

Companies all over the world use reliable, high quality, DESMI ROTAN® pumps to minimize costly production stops.



HD pump



ED pump







Gear pumps are used in high demand applications where a reliable and constant flow is required. High capacity and external lubrication on slide bearings are advantages important for a good process and a reliable pump solution.





# PULP & PAPER

For decades DESMI ROTAN® gear pumps have been used throughout the world, successfully pumping a variety of liquids such as sulphate soap, tall oil, pitch fuel/oil, caustic soda, lignin, turpentine, resin, starch, and slurries in the pulp and paper industry.

We have the products, the knowhow and the field experience to be the first choice supplier for positive displacement pumps within heavy industry.



HD pump



HD pump

# AQUACULTURE (FISH FARMING)

## **Durable, reliable & easy to maintain**

It is no secret that DESMI pumps are reliable, easy to maintain and durable (robust). That is why our pumps are well-suited to the sometimes harsh environment they are exposed to.

Pumps from DESMI have been used for fish farming for more than 30 years and our knowledge of materials for both fresh and seawater means that we are able to deliver highly efficient pumps which

can help to reduce production costs throughout the process regardless of whether they are on a flow-through or recirculation system.

We have pumps that can be used throughout the entire process, from "Hatchery tanks" to "Growout tanks", for transport to and from the oxidation, to transport to the degassing plant. Whether you need small or large pumps, we have the solution.





With DESMI's pumps, you are assured of an energy-efficient and service-friendly choice

DESMI centrifugal pumps are a service friendly alternative to submersible pumps.

Both NSL and DSL require minimal space, and there is easy access for maintenance of the pump's rotating parts, with replaceable wear ring in the pump housing,

NSL and DSL pumps have very high efficiency levels and low NPSHr values.

The pumps are available in materials for both freshwater and seawater.



Centrifugal pumps



NSL

Centrifugal pumps



DSL

### Our dedicated global DESMI Service Team delivering local service



The efficient and reliable operation of DESMI products is a requirement of both the customer and DESMI. In this regard, the DESMI Service Team can support and enhance these operations on a global scale.

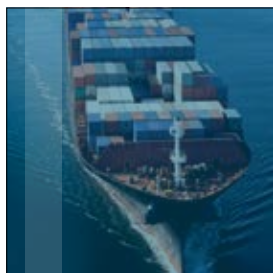
The DESMI Service Team are all factory-trained and available to answer both your technical and practical demands.

The DESMI Service Team can also offer customized programmes to meet specific client requirements and be your partner of choice. In case of emergency breakdowns, we can send over pumps and equipment within 48 working hours or access our global parts database and have the equipment operational in the shortest possible time.

DESMI Service Team supports a working culture based on an appropriate respect for health, safety and environmental issues.

DESMI is a global company specialising in the development and manufacture of pump solutions for marine, industry, oil spill combating, defence & fuel and utility both locally and globally. Our product range - supplemented with agency products from other leading world-class manufacturers - is complemented by related services such as the design and installation of pumping systems, oil spill recovery packages, and a first class after-sales service which can include full technical support, commissioning and product training.

DESMI equipment is sold to more than 100 countries via a network of subsidiaries and distributors on six continents.



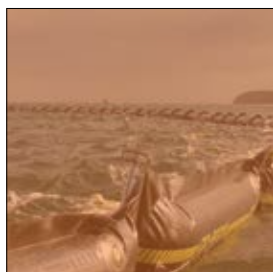
## MARINE & OFFSHORE

Thousands of DESMI pumps are at work on the seven seas, and these pumping solutions are living proof that our customers are satisfied with the performance of our products. For more than 50 years we have supplied marine pumps to the world's fleet - from the largest container ships to the smallest fishing vessels. Regardless the size of the ship we know the owners' demands for many years of trouble-free operation. In recent years we have also taken on the supply for offshore installations worldwide.



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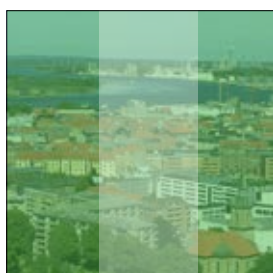
## OIL SPILL RESPONSE

The oil spill response solutions from DESMI are trusted in the industry. Whether your requirement is for offshore or the shoreline area; the Arctic or Equatorial environment, we continue to deliver proven solutions for all spill conditions - and we offer the very best life cycle costs.



## DEFENCE & FUEL

Utilising products from other world class equipment suppliers to compliment the extensive DESMI pump range, DESMI design and build liquid handling solutions used by military forces around the globe. Based on many years experience with systems suitable for working in austere conditions and environments we provide total liquid management - from project management and systems integration to procurement and logistics planning.



## UTILITY

DESMI provide pumps and pump solutions for the supply of domestic water, district heating/cooling and waste water. Operational reliability, energy optimization and service-friendliness are essential headlines for a business that services cities, buildings and not least, people.



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INDUSTRY

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