



# Solutions for Industrial Pumping



**Kolmek's is the leading Finnish pump manufacturer in the industry and owned by the family company Brandt Group Oy Ltd. We offer reliable pump solutions for a wide range of applications.**

We have been engineering and manufacturing pumps for over 75 years and developing a portfolio of industry driven and reliable pumping equipment. Pump technology and application know-how are our core competencies. We provide our customers with high-quality tailor-made pumping and HVAC solutions, as well as versatile maintenance services.

Kolmek's pumps are typically used in process industries, for example in pulp and paper, marine and offshore, power plants and district heating/cooling systems. Kolmek's In-line speed-controlled pumps with motor-integrated or wall mounted frequency converter are used in the heating and cooling systems of industrial and building technology.

The pumps and their motors are designed and manufactured with the highest Finnish know-how, and they exceed the requirements of the European EcoDesign directive. Kolmek's was also among the first Finnish companies to receive the ISO 9001 Quality Certificate and ISO 14001 Environmental Certificate.

We provide solutions to helping our customers succeed by offering efficient, reliable and sustainable products and services. We are proud of our world-class after sales services, including maintenance and commissioning.

# The best solutions for industrial applications

Kolmeks pumps are centrifugal pumps where the pump and the electric motor form a compact and space-saving package.

## Kolmeks pumps are identified by:

- High efficiency
- Low running noise level
- Reliability
- Durability
- Serviceable and recyclable
- Robust construction

## Motor options

- IEC standard motor
- Kolmeks pump motor

Kolmeks pumps are available with either the IEC standard motor or the Kolmeks pump motor. In the case of Kolmeks motors, the shaft of the electric motor is directly in the pump. The shaft is made of two parts. The shaft part in contact with the pumped liquid is made out of stainless steel and the part inside the electric motor is made out of normal black machine steel to ensure optimum magnetic properties of the motor.

## Versatile material options

The requirements of the industry demand different characteristics and requirements for the wetted materials of the pumps. Kolmeks offers different material options for the pumps for different applications.

## Industrial Processes

Stainless steel AISI 304, PN10, PN16, PN25  
 Stainless steel AISI 316, PN16, PN25, PN40  
 Stainless steel SS 2378 – 254 SMO, PN16  
 Duplex, ASTM A890 Grade 3A, PN16  
 Super Duplex, ASTM A890 Grade 5A, PN16  
 Other wetted materials available by request

## Cooling and Heating

Grey cast iron EN-GJL-200, PN10  
 Ductile cast iron EN-GJS-400, PN16

## Power Plants and District Heating Systems

Ductile cast iron EN-GJS-400, PN16

## Marine, Offshore and Spas

Bronze CuSn10Zn2, PN10  
 NiAlBr, PN10

## Benefits of Kolmeks inline industrial pumps

- Small floor requirement
- Reliable and simple design
- Simple mechanical construction
- Competitive purchase price
- Quick and easy motor power modification on site
- Easy maintenance
- Compact design
- No motor alignment during installation or maintenance
- Wide range of accessories according to the customer's requirements
- Savings on piping and installation costs



# Kolmeks guarantees reliability

The pulp industry is one of Finland's most important industrial sectors and one of the cornerstones of exports. Global market demand and quality requirements of the pulp industry have increased during the last decades. There are many innovative stages in the pulp production process, in which Kolmeks is also involved.

## CASE: ANDRITZ

The production of pulp starts from chips, which are boiled and softened. Lignin, a brown-yellow binder of wood fibres, is then removed from the mix. It is done in stages by adding oxygen as well as by performing several whitening steps. The resulting chlorine compounds and reaction products are washed with a special pulp washer. The Andritz Drum Displacer represents the state-of-the-art in the industry.

Washing is an important part of the pulp production process. In a lightly pressurized washroom, the dirty and clean side is separated by the principle of displacement: the impurities are effectively pushed away by water. The water on the clean side is then partially reused.

The purpose of the pumps is to enable an optimal washing process and to provide efficiency,

energy savings and environmental friendliness. It adds value to the pulp making process. Kolmeks provides selection of industrial in-line pumps which can be installed into the piping system without the need of a large floor space. The pump saves piping, offers material savings and takes up as little space as possible.

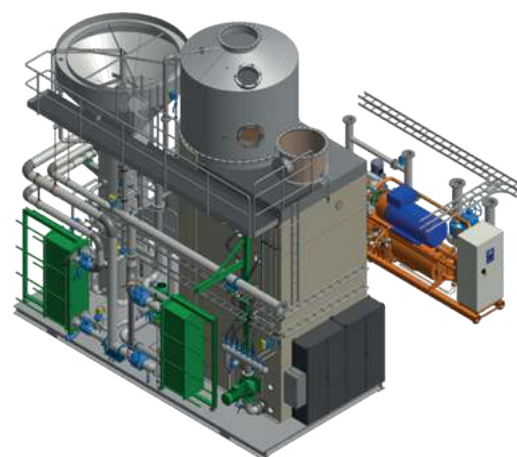
## A product developed in cooperation

The Kolmeks industrial pumps have been developed in cooperation with various industry leading users to suit the needs of the industry. This maximizes the efficiency of the pumps. For example, Kolmeks filtrate pumps integrated in Andritz pulp washers, optimize the washing process and are an elegant part of the washer. Pumps have been equipped with double mechanical seals, which are connected to the factory's pressurized sealing water system. They are very resistant against medium's high temperature, impurities and crystallization.





Caligo Industria manufactures high quality flue gas scrubbers and industrial heat recovery units using world-class heat pump technology. A pump from Kolmek is a perfect part of an efficient and compact Caligo system.



#### CASE: CALIGO INDUSTRIA

The key function of flue gas scrubbers is to recover heat from combustion processes and industrial processes. This is achieved by cooling flue gases or industrial process vapours below the dew point, thereby releasing energy and condensed water in the process.

In addition, a flue gas scrubber removes impurities from industrial flue gases, thus reducing particulate emissions. The cleaning of flue gas

ses therefore significantly reduces particulate emissions, especially in boilers using biofuels. The treatment also enables efficient removal of other pollutants and sulphur from the gases.

The energy from the processes is recovered and used efficiently by means of a heat pump, to be utilized for example in district heating. Caligo has developed a patented heat pump connection to flue gas scrubbers, enabling fuel savings of more than 30%.

A Caligo flue gas scrubber consists of a scrubber module and a condensate treatment module. Pumps are used in flue gas scrubbers for example in the process water, in the heat recovery and on the district heating water circulation. In total, one flue gas scrubber system can include 2 to 6 pumps.

#### Durable and easy installation

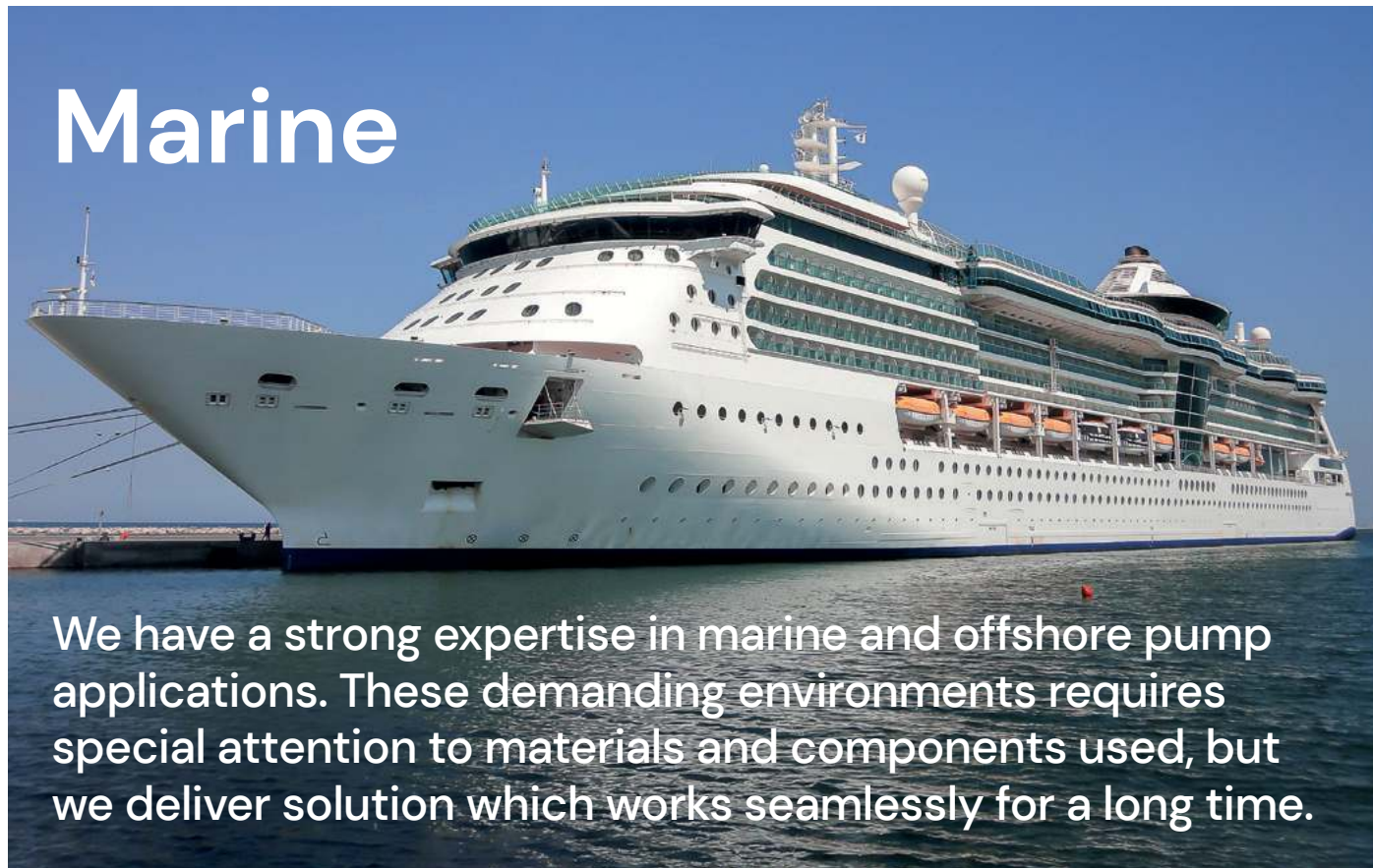
The scrubbing process places high requirements on the pump. Solids, chlorine, and sulphur concentrations can be high, so acid resistance is one of the key requirements placed on the pump. Therefore, Kolmeks pumps are ideal for flue gas scrubbers.

In addition to stainless steel material, Kolmeks pumps excel in easy installation and compact size. The pump requires only a small floor space and can be conveniently installed without a separate concrete bed. In addition, the pump can be delivered in a customer-specific colour and accessories. This facilitates the perfect adaptation of the pump into the customer's system.

*In the picture, Kolmeks pumps in Caligo colours and accessories.*



# Marine



We have a strong expertise in marine and offshore pump applications. These demanding environments requires special attention to materials and components used, but we deliver solution which works seamlessly for a long time.

## Application examples

- Scrubbers & Scrubber water treatment
- Ballast & Ballast water treatment
- Heating, cooling and air conditioning
- Cooling pumps for diesel engine
- EVAC
- Water supply
- Cruise ship spas
- Water treatment & filtration
- Pressure boosting



SD-series



L/AL-series

## Operational details

<b>Inlet/ Outlet:</b>	DN 25... DN 400
<b>Flow:</b>	1700 m3/h max
<b>Head:</b>	400 mwc max
<b>RPM:</b>	2, 4 and 6 poles/ 50 and 60 Hz
<b>Temperature:</b>	-30 °C to +180 °C
<b>Nominal Pressure</b>	PN10... PN40
<b>Materials:</b>	Cast iron, Bronze and Stainless steel
<b>Shaft seals:</b>	Versatile arrangements with several material options

# Life cycle and energy efficiency

Optimized operations save money. It is equally important to take care of the environment. Our goal is to reduce energy and water consumption as well as increase waste material utilization.

Kolmeks factories located in Finland, Estonia, China and India ensure the quick availability and the shortest supply chain for pumps and spare parts in global market

## We take care of recycling and environmental issues on behalf of the customer

- We use recycled metal for castings
- We recycle 95% of returned pumps in domestic market

## Better performance

Kolmeks industrial pumps meet commission regulation no. 547/2012 which implement the EcoDesign Directive.

The EcoDesign 2009/125/EC Directive provides a single set of European rules for developing the environmental performance of energy consuming and energy related products.



## EU STANDARDS FOR ELECTRIC MOTORS SUPPORTING ECOLOGICAL DESIGN

The IE (International Efficiency) classes are characterizing motor efficiency.

They are based on the IEC 60034-30:2008 standard published by the IEC (International Electrotechnical Commission), which defines efficiency classes and motor requirements.

**IE3** | Premium Efficiency | Premium Efficiency Motors | 0.75 kW to 1000 kW motors Kolmeks standard

**IE4** | Super Premium Efficiency | Super Premium Efficiency Motors | 75–200 kW motors | Mandatory from 1st July 2023 Available for 5.5–250 kW motors

**IE5** | Ultra Premium Efficiency | Ultra Premium Efficiency Motors | Available for 5.5–250 kW motors





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