

KRÜGER KALDNES

COMPACT, EFFICIENT
PARTICLE SEPARATION



Unique separation equipment

The MUSLING® flotation equipment was developed during the 1980's originally for removing fat and oil from fish-processing sewage outlets. Now, after more than 20 years experience, the MUSLING® has become synonymous with the treatment for both industrial and communal sewage systems.

MUSLING® continually separates particles from all types of flowing liquids. Its unique hydraulic design produces a maximum flotation effect.

The MUSLING® flotation efficiency is the result of a hydraulic action that influences the velocity and direction of the liquid so that particle matter becomes separated at the surface.

High capacity

One of the many advantages of the MUSLING® is that it can handle a large flow of liquid in a relatively small space. It can separate particle matter at surface speeds of up to 15 m/h. The result - equipment that is compact, efficient and extremely cost-effective



The MUSLING® can be used for the treatment of all forms of liquid-flow systems including traditional sewage cleaning, drinking water treatment, industrial outlet separation and recycling plants where products can be extracted and returned to the production process.

An environmental advantage

The MUSLING® can be used as a pure mechanical plant for the removal of fat and oils. On the other hand it can be part of a chemical cleaning system or a biological treatment process. The common factor here is that the MUSLING® is always the particle-removal element.

An outside influence on the separation process

The flotation particle separation process is often dependent on what is called “dispersion”. This is the process of creating micro-bubbles of air by introducing air-saturated dispersion water into the process.

These micro-bubbles attach themselves to high-density particles that normally would be too heavy to remove in a standard flotation process, and lifts them to the surface for separation. The MUSLING® can float off particles that have a density that is 100% higher than the surrounding liquid.

Separation is also often dependent on surface tension and the electrical polarity of the particles involved. These are the factors that produce the desired particle coherence so that separation is possible. To achieve this precipitation effect chemical coagulants and flocculants are introduced into the process. Used in conjunction with MUSLING® equipment the resulting cleansing effect will be dramatically higher.

Separation occurs naturally when the particles have a density lower than that of the surrounding liquid or by physically or chemically altering the density of the heavier particles

Throughout Scandinavia

Selection of references:

Alvdal RA, Alvdal Municipality
 Heistad RA, Porsgrunn Municipality
 Holtnes RA, Holtnes Brygge
 Bortelid RA, Åseral Municipality
 The Ormen Lange-field
 Kragerø golf-course, Kragerø
 Byrkjelo RA, Byrkjelo
 Ytre Enebakk treatment plant, Enebakk Municipality
 Bykle treatment plant, Bykle Municipality
 "The World" - cruise ship
 Ryfoss treatment plant, Vang Municipality
 Langgangen treatment plant, Porsgrunn Municipality
 Skarnes treatment plant, Sør Odal Municipality
 Fjellfoten treatment plant, Nes Municipality
 Vike treatment plant, Hof Municipality
 Narestø Treatment plant, Arendal Municipality
 Gol treatment plant, Gol Municipality
 Århus treatment plant, Århus Municipality
 Öckerö treatment plant, Öckerö Municipality
 Trøim treatment plant, Hemsedal Municipality
 Vårnes treatment plant, Stokke Municipality
 Flateby treatment plant, Enebakk Municipality
 Innbygda treatment plant, Trysil Municipality
 Kristiansand County Eng.Dept, Kr.sand Municipality



Application

quantity

Public authorities	28
Fish-processing	23
Food industry	16
Workshops	13
Slaughterhouses	6
Pilot plants	6
Dairies	6
Petrochemical	6
Boring	3
Chemical	2
Car-wash	2
Paper industry	2
Laundries	1
Septic collection units	1
Cruise ships	5

Over the last 20 years MUSLING® equipment has been installed at 120 different sites in Scandinavia or on board ships. The largest plant in Norway – produced and delivered incidentally by Krüger Kaldnes - is situated at Heistad in the municipality of Porsgrunn, Norway. The photos on the first three pages of this brochure show this plant that consists of 4 MUSLING's each with a flotation area of 10 m2. The photos on this page show the splendid new treatment plant at Bortelid, Aaseral municipality, Norway

KRÜGER KALDNES

Krüger Kaldnes AS
 Hegnasletta 11 NO-3217 Sandefjord, Norway
 phone: +47 91 60 80 00 | fax +47 33 48 50 01
 e-mail: post@krugerkaldnes.no * www.krugerkaldnes.no