SILO AND TANK SOLUTIONS
FISH FARMING
FOOD STORAGE
FEED PRODUCTION
BIOGAS

ROBUST DESIGN
RELIABLE TECHNIQUE
INNOVATION
ModulRAS

• An innovative, eco-friendly concept for efficient production of fish on land.

• A closed system with effective, built-in cleaning system.

The tank is equipped with movable gates, which ensure optimum use of the water in the tank. With fish in 3 or 4 stages the fish tank is extended as the fish grow – until harvesting, where the section is reduced and primed to receive new fish.

The tank is built on a flat concrete bottom with embedded pipework. The tank is made in stainless steel sections and is thus much easier to transport to the building site rather than, for example, concrete elements.

• Closed system reduces disease
• The water is cleaned continuously
• Movable gates ensure that the fish tank "grows" with the fish
• Newly developed dead fish collector
• Harvesting the fish
• Optimum working conditions
• Compact tank design ensures efficient transportation to the assembly site
• Made of acid-resistant stainless steel
• Efficient assembly.

ModulRas is developed and produced in collaboration with:
Inter Aqua Advance – IAA A/S, Egå, Denmark.
Sales is managed by:
Inter Aqua Advance – IAA A/S, Egå, Denmark.
BOLTED TANKS

Competent advice
Assentoft Silo has extensive experience in the construction of tanks for various industrial purposes. Depending on the content of the tank we give advice about the proper surface treatment and choice of material.

A broad field of application;
• Tanks for smolt production
• Tanks for purification of waste water
• Tanks for fish silage

Individual customisations
A tank from Assentoft is customised according to your wishes and needs. Cuttings, brackets, etc. are carried out as per request, just as we can supply a wide selection of technical equipment for monitoring.
Means of access are made as ladders, stairs and gangways, typically in hot-dip galvanized steel.

Static documentation
Along with the tank we provide a complete static documentation carried out according to Eurocode. Our calculation takes current wind conditions, snow load, etc. into account.
Assentoft Silo supplies insulated biogas tanks in sizes from 500 - 9500 m³ in galvanized, stainless steel, vitreous enamelled or mild steel - or a combination of these materials. As design and manufacturing of the tanks, nozzles and any other equipment takes place centrally in Assentoft, we are able to provide a quality product at a very competitive price. The tanks are designed according to Eurocodes - and come with a comprehensive statistical report.

We advise our customers about design of the tanks - and prepare 3D drawings according to customer's wish (including demands re. dimensions of tanks, pressure, temperature, snow load, wind load, location of nozzles etc.)

By choosing Assentoft Silo as you biogas tank supplier, you benefit from our more than 25 years of experience within the biogas industry. Our first reactor tank was supplied in 1988.

The tanks are suitable for centre stirrer, side fitted stirrer and Gas mix. The tanks are supplied with the requested equipment to suit the desired stirring system. A total of 60 digesters are produced and installed by Assentoft Silo.

The most recent installations are:

- 2016 England 1 * 802 m³
- 2016 England 1 * 2164 m³
- 2016 England 1 * 2192 m³
- 2016 Denmark 1 * 2669 m³
- 2016 Denmark, Sdr. Vium 2 * 3900 m³
- 2017 France 1 * 1142 m³
- 2017 Denmark, Kerteminde 1 * 2821 m³
- 2017 Denmark, Videbæk 5 * 9506 m³
Six 79 m³ silos for fish feed,  
RaumaGruppen AS, Norway

In 2010, Assentoft Silo has projected, produced, and assembled six hot galvanized steel silos for fish feed.  These silos are made of bolted steel plates, making an extremely sturdy structure. All components – bolts, profiles, ladders, and plates – are hot-dip galvanized for long durability in the aggressive marine environment in which the silos are set up.

On these silos, the items below are mounted:
- side access door  
- coupling for placing of empty/full silo signalling unit  
- overfill sensor with rotor lamp for indication of full silo  
- electrically controlled top door. Available with radio controlled remote control  
- ladder for silo top  
- outlet with manual shutter

**Technical data**

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<table>
<thead>
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<tbody>
<tr>
<td>Diameter</td>
<td>4,420 mm</td>
</tr>
<tr>
<td>Height</td>
<td>7.43 m</td>
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<tr>
<td>Volume, per silo</td>
<td>79 m³</td>
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<tr>
<td>Clearance under outlet</td>
<td>0.5 m</td>
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**Benefits**

- the silos are provided as assembly sets – for easy freighting up to the site  
- various sizes  
- short erection time  
- fully waterproof silos  
- allowing for silos to be dismantled and moved
BOLTED FEED SILOS

Bolted silo, 60° cone

Hot-dip galvanised, bolted silo in robust quality. The silo is made with a 60° cone, which ensures the feed flow.

The silo is delivered in sections and is assembled by a professional assembly team in a matter of days. The silo can be equipped with injection pipes, hot-galvanised ladder and aluminium top hatch at your request.

Technical data:

| Diameter  | 3,860 mm |
| Height   | 10.51 m  |
| Volume   | 89 m³    |
| Outlet   | ø200 mm  |
| Clearance under outlet: | 500 mm |
Assentoft Silo has in the summer and autumn 2013 for Marine Harvest designed, supplied and erected 16 pcs. raw material silos for a new fish feed factory at Valsneset, Norway.

The silos are made from galvanised steel and fitted on to an all-welded, painted steel sub-structure.

The scope of supply includes complete design, manufacturing, delivery and erection of the silo plant.
Incl. on the silos

- Built-in machine deck in level 31 m
- 60° outlet cone
- Access door in the sub-structure
- Explosion reliefs according to applicable standards

The silos are bolted together in hot-dip galvanised segments - securing a very high standard of corrosion protection and quick erection on site.
Assentoft Silo supplies complete tank installations for fish oil and other fluids. The tanks are produced in-house according to quality system 1090-2.

The products are completed in-house, incl. equipment such as:
- Insulation
- Electric tracing
- Means of access
- Ladder systems
- Pump equipment

On-site Assentoft Silo amongst others handles:
- Mounting of the tanks
- Pipeworks
- Final assembly

The tanks are made in sizes from 10 m³ to 270 m³
Assentoft Silo also has an in-house production of material silos and tanks with legs or skirt, manufactured in steel types up to steel S355 or equivalent - as an all-welded construction. Standard material silos are supplied in sizes up to 200 m³. Special silos are manufactured specifically according to customer requirements. The silos are used for easy-sliding material with a density up to 1700 kg/m³ - such as cement, lime, sand, gravel, asphalt, filter dust, fly ash, meat-and-bone meal.

The silos may e.g. be used as:
- accumulation silos on combined heat and power plants
- sludge silos for waste water treatment and incineration plants
- reactor tanks for biogas plants

The production, which is certified according to DS/EN1090, takes place after the following standards:
- galvanizing: EN/ISO 1461
- blasting and cleaning: EN/ISO 8501
- painting: EN/ISO 12944. We can also offer painting with food grade paint.

Our silos are available with the following equipment:
- safety ladder and shift landing along silo wall
- roof rail
- gangway systems
- silo filter
- pneumatic cone air supply system
- augers
- top door and access door
Assentoft Silo has a long tradition of innovative and robust projects. Our knowledge and expertise are concentrated on silos and tanks.

Assentoft Silo has extensive experience with
- Design
- Construction
- Manufacturing
- Assembly
- Service and commissioning

Assentoft Silo was established in 1940, and today the company has 60 dedicated employees, who work with tank and silo projects within the agriculture and various other industries – including fish farming.

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