

Baggerød trevare

Baggerød Horten

Norac Baggerød

Baggerød



1943



1989



2001



2015

Manufacturer of marine doors and windows since 1943

# Safe at sea



**B**AGGERØD

[www.baggerod.no](http://www.baggerod.no)

# Manufacturer of marine doors and windows since 1943

Since the beginning, the company have supplied offshore installations and ships worldwide.

Baggerød offer doors, windows and escape hatches. Quality is key for the products that are built to last with a minimal amount of maintenance. High quality engineering and installation minimizes the danger of expensive shutdowns for maintenance. Through rigorous training and vigilant supervision of local crews, the company ensures that installation are made according to project spesifications.

Baggerød products are certified towards the highest international standards.

Considering design, installation, fire protection, and sound reduction, Baggerød is continuously developing products to meet new needs and requirements.

Tapping into this experience, the result is high-tech, high-quality unified design, simplifying the process and the long-term results for the client.

Baggerød offers, fireproof, anti-glaring, and non-distorting window glass

These windows have been showcased on the North Sea "Ekofisk" platform hotel in the largest glass installation on an ocean platform, with a central window measuring 8x9 meters.

Most of their worldwide projects are handled directly from Norway, but has partners in Europe and Asia.



Adriatic LNG Terminal





Illustration: Conoco Philips 2/4L  
3D Illustration, where we have had a  
large installation of doors, windows  
and glazed partitions

**Baggerød are now  
ISO 90001 certified**



# Experience is the key

Our experienced sales team are available to help you find the right solutions and products for your project.

There are many aspects to consider when choosing doors and windows for an offshore installation. In addition to our basic product line, there are many options and adaptation possibilities to choose from.

We have the tools to help you find the right solutions.



# Follow up and control

Our project managers will follow your projects through, and use our engineering team to fit the products, documentation, and delivery to your specifications.

If for some reason any details are not solved in the project phase, our project managers have the necessary skills to find a quick and solid solution.

# Its all in the details

As a mechanical manufacturer for many years we have the expertise and tools necessary to produce high quality products. We are currently also updating the production facilities, to increase accuracy and production speed.

We have production in Norway and Lithuania.

With a turnover that has more than doubled in size the last period, we are in a position to expand and develop the products for the future.



# Leave it to the Professionals!

The advantages of using Baggerøds service crew for installation and implementation of the products are many.

The savings made by installation done by local personnel are often much smaller than the costs of malfunctions and problems after a failed installation.

Our team can help you save money by doing it correctly.



# From the large and complex heavy duty doors, to the light inner doors

In our door range you will find the most used door types. From the large and complex heavy duty doors, to the light inner doors.

We have doors in all the NORSOK classes, light, medium and Heavy duty.

We have good and durable pneumatic solutions for our doors. They are flexible, reliant and durable.

Pre-installed pneumatic solutions has become popular, as they save time at the site.

We constantly pay attention to the market, to find new possibilities. Our engineering team develop new doors and features to the range to better meet the needs.

To have the best quality in the market, we choose only the best suppliers for door parts. Every part goes through a careful evaluation and test period, before it is used in a product.

Pneumatic operation are available for most door types, both for hinged and sliding doors.



## Options (door type dependant):

- NORSOK threshold solution
- Jet fire resistance
- Blast pressure resistance
- Glazing
- Vision panel
- Pneumatic operation
- Electric operation
- Panic bars
- Kick out panel
- Hose port
- Extra locking features
- Drop-down threshold (door-stopper)



Rules and Regulations: NMD, **NORSOK**, PSA and UK-HSE  
Classification: LR, DNV, BV, ABS and Others.

Fire Rating: B-0, B-15, B-30, A-0, A-30, A-60, H-0, H-60 and H-120  
Sound Reduction: 30~54dB



A Door in a door.  
Baggerød can deliver extra large doors  
with personnel door integrated.  
Both for hinged and sliding doors.

# A window that works like a door

To have more than one way out of a room can be crucial in a fire situation. The escape window do not use much more space than a normal window, but will open and close like a door. It combines the technology from fire rated windows and doors.

This product open up the possibility to increase safety in many spaces.

We also have seen a use for sliding hatches, and that will also be an option.

All hatches can be made to project specifications.



Visualization of the HB-5000 Hatch, completed with panic bar for a quick escape.



A Glazed escape hatch let the light in, and the protection grid protects the glass.

## Options (type dependant):

- Glazing
- Protection grid
- Pneumatic operation
- Panic bar



# Safe behind glass

With Baggerøds specially designed glazing you can build large yet safe glazed partitions. This opens up the possibility to let in the wonderful scenery that the ocean can be. Even in the most hazardous zones there are windows available. has developed fire rated windows with fire class from B-30 up to H-90 in various sizes. The solutions offers optimum safety and comfort with an on site tested sound reduction of 60dB. The window system includes a telescopic internal frame for accurate and flexible installation.



## Options

- Roller blinds
- Venetian blinds
- El. Heated glass
- Self cleaning glass (Clear Shield)
- Hinged internal sound glass
- Custom RAL colors

# Lead the light in!

With a window box (Niche) you can increase the possibilities to let in the daylight. Window boxes are also an advantage when installing the windows. The boxes can be made according to project specifications.



Window boxes can be made in simple standard shapes, or as a niche like the one in the picture above.





# Light weight Fire rated doors

Baggerød represent Pocadel in the offshore market. Pocadel supplies top quality B0, B15 and A60 glass doors, sliding doors and walls/partitions/windows for marine and offshore use. All structures are made of aluminum, replacing the traditional steel frames. The fire glass is safety glass with good soundproofing qualities. The structures are light in weight as well as appearance.



# Hinged doors

Baggerød hinged doors with the highest quality components. All of the doors can be delivered with pneumatic operation, glazing and other features. We also have lighter interior doors, you find them on page 10.

## HB-H, A-60 (single door, internal/external)

A solid door for internal or external use. The door leaf are delivered in 1.5mm painted mild steel or in stainless steel. Reinforced hinge arrangement. Door closer and panic device (option) are welded on inside of the door leaf. Bolted or welded frame. Adjustable gasket for gas-tight or sound-reduction.

**NORSOK** version available.

Fire class:	A-0 / A-30 / A-60
Sound reduction:	40 dB (with gasket)
Gas tightness:	0.2 m3/hm2 at 50 Pa



## HB-HH, A-60 (double, internal/external)

A solid door for internal or external use. The door leaf are delivered in 1.5mm painted mild steel or in stainless steel. Reinforced hinge arrangement. Door closer and panic device (option) are welded on inside of the door leaf. Bolted or welded frame. Adjustable gasket for gas-tight or sound-reduction.

**NORSOK** version available.



## HB-5000 (single door, external, heavy duty)

A door for the harshest environments. Door leaf with reinforcements. Door closer and panic device (option) are welded on the inside of the door leaf. L-shaped frame in mild or stainless steel. Double gasket and adjustable frame for the gasket. Bolted or welded frame.

**NORSOK** version available.

**NEW!** Can now be delivered weather-thight

Fire class:	A-60
Sound reduction:	44dB (with gasket)
Gas tightness:	0,4 m³/hm² at 50 Pa



## HB-5000DD (double d, ext., Heavy duty)

A door for the harshest environments. Door leaf with reinforcements. Door closer and panic device (option) are welded on the inside of the door leaf. L-shaped frame in mild or stainless steel. Adjustable frame for the gasket. Bolted or welded frame.

**NORSOK** version available.

Fire class:	A-60
Sound reduction:	44dB (with gasket)



## H-120H (single door, external)

This very solid door gives good protection against hydrocarbon fires and explosions. Also approved for jet fire. Reinforced door leaf and hinge arrangement. Door closer (option) are welded on the inside of the door leaf.

The profile of the frame is shaped to give maximum tightness. Bolted or welded frame.

**NORSOK** version available

Fire class:	H-120
Sound reduction:	R <sub>w</sub> =54dB (with gasket)
Gas tightness:	0.4 m3/hm2 at 50 Pa



## 120HH (double door, external)

This very solid door gives good protection against hydrocarbon fires and explosions. Also approved for jet fire. Reinforced door leaf and hinge arrangement. Door closer (option) are welded on the inside of the door leaf.

The profile of the frame is shaped to give maximum tightness. Bolted or welded frame.

**NORSOK** version available

Fire class:	H-120
Sound reduction:	R <sub>w</sub> =54dB (with gasket)



## H-0H (single door, external)

External hinged doors for offshore constructions as protection against hydrocarbon fires and explosions. Reinforced door leaf and hinge arrangement. Door closer (option) are welded on the inside of the door leaf. The profile of the frame is shaped to give maximum tightness.

**NORSOK** version available

Fire class:	H-0
Sound reduction:	R <sub>w</sub> =44dB (with gasket)
Gas tightness:	0.4 m³/hm² at 50 Pa



## H-0HH (double door, external)

External hinged doors for offshore constructions as protection against hydrocarbon fires and explosions. Reinforced door leaf and hinge arrangement. Door closer (option) are welded on the inside of the door leaf. The profile of the frame is shaped to give maximum tightness.

**NORSOK** version available

Fire class:	H-0
Sound reduction:	R <sub>w</sub> =44dB (with gasket)





# Sliding, special purpose and extra large doors

Baggerød have a full range of sliding doors. From the large and complex to the elegant interior solutions. All of the doors can be delivered with pneumatic operation (except weather- and spray tight), glazing and other features. The largest doors can also have an integrated access door.

## HB-S (Internal or external)

A-Rated sliding door. Door leaf delivered in painted mild steel or in stainless steel finish. Bolted or welded frame. Manual, electric or pneumatic operation. The door can be delivered as "Semi watertight" Water pressure tested up to 4.5m. Higher water pressure can be calculated.

**NORSOK** version available.

**NEW!** Can now be delivered weather-tight

Fire class: A-60  
Sound reduction: 40 dB (with gasket)  
Gas tightness: 01m³/hm² at 50 PA



## Extra Large hinged Doors

Baggerød can deliver large hinged doors in sizes up to 3000mm x 4500mm. It can also be supplied with access door integrated. The large doors can be equipped with pneumatic operation on the main door and on the access door.

Fire class: A-60  
Sound reduction: 40 dB (with gasket)



## H-120S (External)

High quality sliding door for offshore construction. Suitable as protection Against hydrocarbon fires and explosions. Manual or pneumatic operation. Bolted or welded frame. Can be delivered in large sizes (Extra large doors).

**NORSOK** version available

Fire class: H-120  
Sound reduction: 40 dB (with gasket)  
Gas tightness: 01m³/hm² at 50 PA



## Extra Large sliding Doors

Baggerød can deliver large sliding doors in sizes up to 3000mm x 4500mm. It can also be supplied with access door integrated. The large doors can be equipped with pneumatic operation on the main door and on the access door.

Fire class: A-60  
Sound reduction: 40 dB (with gasket)



## HB-SB (Internal)

Interior sliding door. Manual or electric operation. Door-leaf in 1mm PVC foiled steel plate, with mineral wool core. Can also be delivered with painted mild-steel or stainless steel surface. Clamping frame is standard. Bolted frame is an option. Surface with primed, painted or stainless steel surface.

Fire class: B-15  
Sound reduction: NA



## NS 6090, Weather-tight

Weather-tight door in steel or aluminium. NS6090 are made according to international standards and regulations. Weather-tight in closed position. Watertight from the outside.

Fire class: NS 6090  
Gas tightness: Yes



## Pneumatic system (Option)

The pneumatic system can be made in a complete cassette as shown or as parts for a custom installation. The cassette solution are easy to install and are space efficient. There are pneumatic systems for both sliding and hinged doors.



## NS 6091, Spray-tight

Spray-tight door in steel or aluminium door. This door is used where the International convention on Load Lines 1966 makes no requirements to the closing appliances.

Fire class: NS 6091  
Gas tightness: Yes



# Light weight Fire rated doors

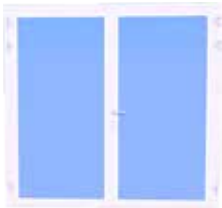
Baggerød as represent Pocadel in the offshore market. Pocadel supplies top quality B0, B15 and A60 glass doors, sliding doors for marine and offshore use. All structures are made of aluminum, replacing the traditional steel frames. The fire glass is safety glass with good soundproofing qualities. The structures are light in weight as well as appearance.



## 1. Glazed hinged door Single or double B-15

Light weight glass door

Fire class	B-15
Operation	Manual/Automatic
Glass type	Fireglass 10mm. (Option: UV protection)
Weight (800x2000)	50kg
Sound reduction Rw	(30db)
Max element Size	Single 1084x2125 Double 220x2125
Certificate number	BV 14433/C0 EC



## 6. Glazed hinged door Single or double A-60

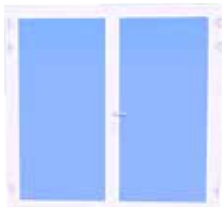
Fire class	A-60
Operation	Manual/Automatic
Glass type	Fireglass 23mm. (Option: UV protection)
Weight (800x2000)	95kg
Sound reduction Rw	(30db)
Max element Size	Single 1058x2100 Double 2000x2100
Certificate number	BV 12553/B0 EC



## 2. Glazed hinged door Single or double B-15

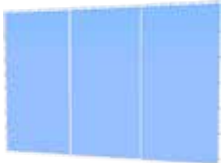
High sound insulation

Fire class	B-15
Operation	Manual/Automatic
Glass type	Sound insulated fire glass (Option: UV protection)
Weight (800x2000)	103kg
Sound reduction Rw	42db
Max element Size	Single 1580x2875 Double 3045x2875
Certificate number	VTT-C-11173-15-14



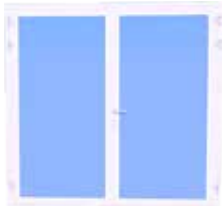
## 7. Tandem sliding door B-15

Fire class	B-15
Operation	Manual/Automatic
Glass type	Fire glass 15mm
Weight (800x2000)	65kg
Sound reduction Rw	(30db)
Max element Size	W unlimited x H 2640
Certificate number	VTT-C11174-15-14



## 3. Glazed sliding door Single or double B-15

Fire class	B-15
Operation	Manual/Automatic
Glass type	Fire glass
Weight (800x2000)	60kg
Sound reduction Rw	(30db)
Max element Size	2550x2640
Certificate number	BV 08226/D0 EC



## 11. Glazed hinged door - single or double B-15

Fire class	B-15
Operation	Manual/Automatic
Glass type	Fireglass 10mm
Weight (800x2000)	50kg
Sound reduction Rw	(30db)
Max element Size	Single 1090x2091 Double 2180x2125
Certificate number	BV 08229/D0 EC BV08227/D0 EC



# Windows, glazed partitions and escape hatches

Baggerød has developed fire rated windows with fire class from B-30 up to H-90 in various sizes. The solutions offers optimum safety and comfort with an on site tested sound reduction of 62dB. Using the same technology we also produce glazed escape hatches.

## A-60 Rated, Glazed

now offers a combined fire rated window and escape hatch. Our new A-60 Glazed Escape Hatch gives both in one solution! The installation will of course be more cost effective than a conventional installation using a fire-rated Window and a separate escape hatch or door.



Fire class:	A-60
Sound reduction:	40 dB (with gasket)
Gas tightness:	Yes

## HB-5000 hatch (heavy duty)

The escape hatch for hazardous areas. Using the technology from our popular HB-5000 door, we have made a fully functioning door in a small size. The hatch can also be delivered with a small window.



Fire class:	A-60
Sound reduction:	40 dB (with gasket)
Gas tightness:	Yes

## HB-S Hatch (under development)

In some areas a swinging door leaf can be a problem. Therefor we are developing a sliding hatch. Based on the HB-S door technology we already have a well functioning solution. This hatch will also have the option of pneumatic operation.



Fire class:	A-60
Sound reduction:	40 dB (with gasket)

## Window box

Being able to see around corners could be a smart ability. With an angled window box, you can bring light into a room from different angles. If you also put a The window box can be made in many shapes and can be a great help in difficult installation cases.



Fire class:	A-60 / B-30
Sound reduction:	$R_w = 41$ dB
Gas tightness:	Yes

## Window A-0 / A-30 / A-60

The windows offers optimum safety and comfort with an on site tested sound reduction of 62dB. The window unit consist of the main frame, made in 4mm or 6mm coated mild steel or stainless steel (welded or bolted). A sealed condensation free glass panel. A fixing frame, and an adjustable internal frame.



Fire class:	A-0 to A-60
Sound reduction:	62 dB
Gas tightness:	Yes

## Window H-60

The windows offers optimum safety and comfort with an on site tested sound reduction of 62dB. The window unit consist of the main frame, made in 4mm or 6mm coated mild steel or stainless steel (welded or bolted). A sealed condensation free glass panel. A fixing frame, and an adjustable internal frame.



Fire class:	H-60
Sound reduction:	52 dB
Gas tightness:	Yes

## Window B-30

The windows offers optimum safety and comfort with an on site tested sound reduction of 62dB. The window unit consist of the main frame, made in 4mm or 6mm coated mild steel or stainless steel (welded or bolted). A sealed condensation free glass panel. A fixing frame, and an adjustable internal frame.



Fire class:	B-30
Sound reduction:	40 dB
Gas tightness:	Yes

## Glazed partition A-60 / B-30

Using the window technology, we have developed an effective frame system for combining several windows into a large partition. The profiles are developed as a "clip on" system to minimize visible bolts or rivets.





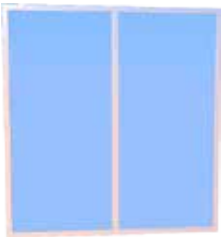
# Light weight Fire rated partitions and windows

Baggerød as represent Pocadel in the offshore market. Pocadel supplies top quality B0, B15 and A60 glass walls, partitions and windows for marine and offshore use. All structures are made of aluminum, replacing the traditional steel frames. The fire glass is safety glass with good soundproofing qualities. The structures are light in weight as well as appearance.



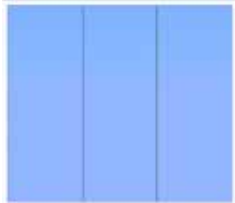
## 4. Glazed partition/ window B-15

Fire class	B-15
Operation	
Glass type	Fire glass (Option: UV protection)
Weight (800x2000)	47kg
Sound reduction Rw	(34db)
Max element Size	1055x2030
Certificate number	BV 08228/C1 EC



## 9. Glass wall (Butt joint)

Fire class	B-15
Operation	
Glass type	Fire glass 16mm
Weight (800x2000)	64kg
Sound reduction Rw	39db
Max element Size	W3120xH2760
Certificate number	VTT-C11206-15-14



## 5. Glazed partition/ window A-60

Fire class	A-60
Operation	
Glass type	23mm internal, 27mm exterior, 39mm SPA/sauna
Weight (800x2000)	92, 108, 120kg
Sound reduction Rw	(40db)
Max element Size	1050x2210
Certificate number	BV 12324/D0 EC



## 10. Glazed partition/ window B-15

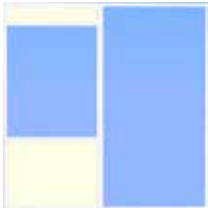
Fire class	B-15
Operation	
Glass type	Fireglass 10mm (Option: UV protection)
Weight (800x2000)	47kg
Sound reduction Rw	(34db)
Max element Size	2270x2303
Certificate number	BV 16490/C0 EC



## 8. Glazed Bulkhead, High sound insulation

Offshore solution

Fire class	B-15
Operation	
Glass type	43mm sound insulated Fireglass or 50mm sandwich panel
Weight (800x2000)	99kg
Sound reduction Rw	46db
Max element Size	1500x2730
Certificate number	VTT-C-11172-15-14



# Interior systems

Baggerød have a long experience delivering high quality interior products. Together with our associates we supply fire-rated walls, ceiling systems, doors, prefabricated wet units, floating floors, windows and furniture.

## HB-H, A-30 (single door, internal)

A simple and elegant lightweight interior door, rated and approved as A-30. The standard door-leaf is made of 1 mm PVC foiled steel plate with mineral wool core. It can also be delivered in painted mild-steel or stainless steel surface.

Flexible door frame solutions.

**NORSOK** version available.

Fire class: A-0 / A-30  
Sound reduction: 40 dB (with gasket)  
Gas tightness: Yes (with gasket)



## G007, B-30/B-15 (single door, internal)

These doors are delivered as standard or with sound reduction quality up to 37 dB with a soft insulation core.

Colours and patterns according to available and approved PVC marine designs as well as painted surfaces.

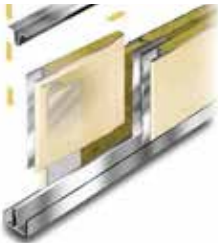
**NORSOK** version available.

Fire class: B-15/B-30  
Sound reduction: 37 dB



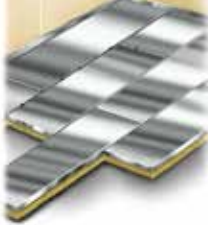
## Wall systems

Norac designs wall systems designed to meet the following criteria: quality, flexibility, fire, sound, weight and ease of installation. Based on new requirements for improved acoustic insulation, Norac has developed a series of acoustic walls, which offer documented sound reduction properties of up to 54 dB RW.



## Floating Floor systems

Norac manufactures and supplies floating floor systems designed for strength, safety, ease of installation and sound reduction properties. The floor system is constructed of galvanized steel cassettes of 3 mm thickness, but is easy to transport and install.



## Ceilings systems

Norac manufactures and supplies both suspended and self suspended ceiling solutions. The ceiling systems are recognized throughout the industry for both their superior acoustic properties and ease of installation. The self-suspended ceiling modules have been designed to avoid structural borne noise and to reduce safety risks associated with loose fire insulation.



## Wet units (pre-fabricated bathrooms)

Building on decades of experience and specialized competence, Norac offers fully fitted wet units. The Norac modular wet units are ideal for marine accommodations from cruise ships to offshore installations.



## Prefabricated Cabins

Building on Noracs knowledge and experience of building wet units, we have taken it a bit further, and can now deliver fully functional cabins and rooms. We have developed a frame system for building larger compartments. The cabins are ready for use after fixing and the connection of water and electrify. The fixing system will curb vibration from the rig and reduce noise.





# Installation and Lifecycle services

## Installation and supervision

Baggerøds service team are there to make sure your products work properly. They can help you before, during and after the installation.

## Better to be ahead

The best way to keep a product healthy is to maintain it regularly. Make arrangements with our contact to have a service agreement for your project.

## Service, maintenance and spare-parts

The Service team are ready to help you when you get a problem. We have experienced technicians to help you by phone/e-mail or they will travel out to the site were this is necessary. Our purchase department are there to make sure you get parts as quick as possible.



## The team offers the following services:

- Supervision of customer's installation. Expert coaching and supervision on site during installation
- Installation of products and accessories by Baggerød experts
- Commissioning
- Pre-assessment of retrofit projects. Measurements on site, for purpose of tailored manufacturing
- Retrofit Installation On Site
- On Site Service of products. Service and adjustments on site by expert Baggerød personnel
- Inspection services. On Site Inspection followed by an Inspection Report with recommendations
- Service agreements. Long-term agreements for scheduled inspection & service of products
- Training courses

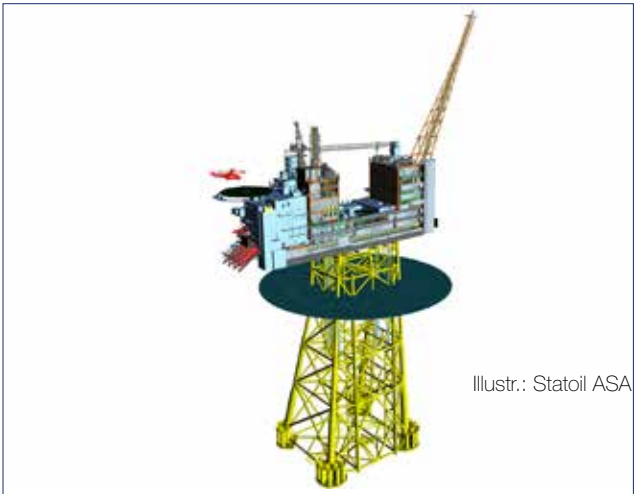




# Apply Leirvik MT (Statoil)

## Gina Krog LQ / Ivar Aasen LQ

- External H doors
- Internal H and A doors
- Cabin windows, A-60
- Public room windows, A-60
- Internal B-doors
- External A-doors
- Ceiling- and wall panels



# Conoco Phillips (Aker Kværner)

## Ekofisk Field, Production unit 2/4m

Constructed at Aker Kværner yard, Norway

- External + internal pneumatic operated, blast rated A-60 and H-120 sliding doors
- External + internal hinged A-60 doors
- Jet fire shielding/flange deflectors



# CIMC Yantai Raffles

## North Dragon Semi. Drilling Rig

- Internal A class doors
- External A class doors



# Sevan Marine ASA

## FPSO Hummingbird

Constructed at CIMC Yantai Raffles yard, China

- Hinged A60 Doors
- Sliding A60 Doors
- Sliding H120 Doors





### **Baggerød AS**

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