



Craft your own motion compensation solution.◆

Decreasing downtime is never a one-size-fits all strategy. Different problems, different sea states: often your workability challenge deserves a bespoke solution.



Unique projects, with unique objectives, have unique challenges. We understand that facing these challenges often needs a little bit more: a tailored solution.

Craft your own solution. ♦

For more than 15 years, Barge Master has been dedicated to increasing uptime and offshore efficiency. Historically, we have achieved this through renting out standalone systems, like our gangways and T700 motion compensating platform, to provide workability in areas such as the North Sea, the North Atlantic Ocean, and the Baltic Sea. But sometimes your offshore workability challenges require a tailored solution.

We believe that motion compensation can make a real difference to your projects, as long as we're willing to get creative with the solution. We want to use our components and our knowledge of offshore motion technology, alongside our track record of successful systems, to produce high-tech motion compensation solutions to increase your offshore uptime.

To do this, we have created our very own component rental fleet, consisting of HPUs, cylinders, accumulators, winches, and control rooms. When combined with tailored software and mechanical designs, together we can tackle your offshore challenges using our custom solutions.

In fact, we're already doing this. Our motion compensated feeders for Vineyard Wind were tailored specifically to meet project needs and increase lifting workability in the North Atlantic Ocean. Having done this, we quickly realised that there were other ways of utilising our equipment to provide motion compensation solutions. This insight evolved into the Secondary Steel Installation Vessel (SSIV); designed to solve the problem of costly Secondary Steel Installation. The positive reception of the SSIV signalled a broader need within the industry – a need for custom motion compensation solutions to match specific project requirements.

To support you in tackling your offshore opportunities, we have compiled this catalogue. Inside, you will find a detailed overview of the main components that we own, intended to help design a solution to your workability challenge. If you are interested in exploring further, we would be keen to support you in crafting your motion compensation solutions. From workability studies to complete system designs, feasibility studies, and, finally, the actual assembly and rental of custom motion compensation solutions, Barge Master can provide support across the entire process.

So, please explore the systems and components outlined here, and let us help you to engineer the motion compensation solution that fits your project.



Berend Hoogendijk
Managing Director



Our Process .



Contact us



Feasibility
Studies



Solution
Design



Assembly



Rental

How to **craft** your own solution. ♦

Choose your **components**

- 1 HPU
- 2 Control Room
- 3 Accumulators
- 4 Cylinders
- 5 Software
- 6 Mechanical Frame



Designing supported by **Barge Master**

From workability studies to complete system designs, feasibility studies, and, finally, the assembly and rental of custom motion compensation solutions, Barge Master provides support across the entire crafting process.

Existing Solutions.



Drilling

Barge Master components have been utilised to create innovative drilling solutions for geographical areas that cannot be reached by SEPs or Jack-ups.



The T700

Barge Master's T700, the motion compensated platform has been used as a feeding solution in various parts of the world.



The T40

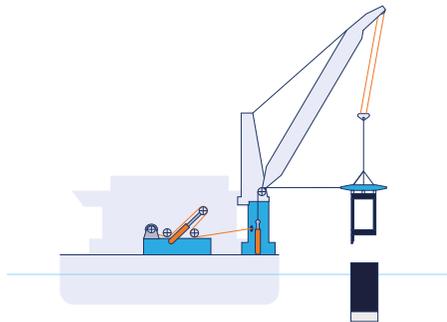
The T40 Crane is used to enable controlled lifting operations with a high crane capacity, making it possible to work at sea almost year-round.

Solution Inspiration.



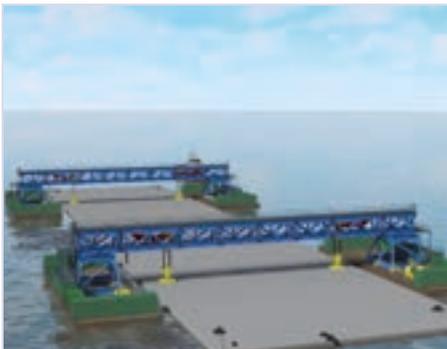
The Monopile Feeder

Designed to counteract the jack-up limitations involved in offshore wind turbine installation, this solution improves workability and time-efficiency offshore.



Motion Compensated Winch Wire

Using a skid and hydraulic cylinder from our motion compensation platform, this solution can be retrofit to any crane for all offshore lifts.



The Immersion Pontoon

Using four of the modular heavy compensators, this solution allows for the safe and accurate immersion of underwater tunnel elements.

Custom Solutions ♦



The Vineyard Project

Our motion compensated feeders, currently in use on Vineyard 1, were custom-designed to meet DEME's needs.



Motion Compensated Spreader Beam

With an active quick-lift functionality, this solution provides heave compensation when lifting future generation monopiles from a feeder barge.



The PSFeeder

Need to feeder something, but have limited deck space? The PSFeeder is a fun-sized version of our T700, designed to ensure safe lifting offshore.





GOLIATH

BARGE MASTER

HPUs.



1500 kW HPU

<i>Description</i>	Containerized constant pressure system HPU with 6 pumps and integrated seawater-based cooling & filter circuit
<i>Max Flow</i>	2675 lpm
<i>Pressure</i>	315 bar
<i>Electrical Power Requirement</i>	1500 kW
<i>Housing</i>	2 × 40ft stacked

HPUs continued.

400 kW HPU

<i>Description</i>	Containerized constant pressure system HPU with 2 independently powered motor pump groups and integrated seawater-based cooling & filter circuit
<i>Max Flow</i>	2 × 392 lpm
<i>Pressure</i>	260 bar
<i>Electrical Power Requirement</i>	2 × 200 kW
<i>Housing</i>	20 ft container

1500 kW HPU

<i>Description</i>	Containerized constant pressure system HPU with 6 pumps and integrated seawater-based cooling & filter circuit
<i>Max Flow</i>	2675 lpm
<i>Pressure</i>	315 bar
<i>Electrical Power Requirement</i>	1500 kW
<i>Housing</i>	45 ft container

Cylinders.



Double acting cylinder with spherical ends

<i>Max. active pull</i>	170 kN
<i>Max. active push</i>	1582 kN
<i>Max. passive push</i>	n.a.
<i>Max. velocity</i>	156 mm/s
<i>Min. length (eye-to-eye)</i>	3141 mm
<i>Max. length (eye-to-eye)</i>	4650 mm
<i>Stroke</i>	1509 mm
<i>Bore</i>	300 mm
<i>Rod</i>	210 mm

Cylinders continued



Double acting cylinder with spherical ends

<i>Max. active pull</i>	1855 kN
<i>Max. active push</i>	1858 kN
<i>Max. passive push</i>	2500 kN
<i>Max. velocity</i>	820 mm/s
<i>Min. length (eye-to-eye)</i>	4665 mm
<i>Max. length (eye-to-eye)</i>	7245 mm
<i>Stroke</i>	2580 mm
<i>Bore</i>	420 mm
<i>Rod</i>	330 mm



Double acting cylinder with spherical ends

<i>Max. active pull</i>	5516 kN
<i>Max. active push</i>	5913 kN
<i>Max. passive push</i>	n.a.
<i>Max. velocity</i>	455 mm/s
<i>Min. length (eye-to-eye)</i>	3854 mm
<i>Max. length (eye-to-eye)</i>	5324 mm
<i>Stroke</i>	1470 mm
<i>Bore</i>	470 mm
<i>Rod</i>	230 mm

Accumulators



Piston type accumulator with external nitrogen volume

External Nitrogen Volume 2 × 2000 L

Piston type accumulator volume 250 L

Piston type accumulator with external nitrogen volume

External Nitrogen Volume 400 L

Piston type accumulator volume 100 L

Piston type accumulator with external nitrogen volume

External Nitrogen Volume 675 L

Piston type accumulator volume 102 L

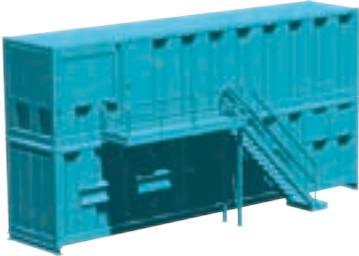


Standard piston type hydraulic accumulator

External Nitrogen Volume n.a

Piston type accumulator volume 250 L

Control Rooms.



40 ft Control Room

<i>Description</i>	40 ft container with 40% of space dedicated to Control Console and Electrical Cabinets for CPU and control hardware
<i>CPU</i>	Redundant 400 series Siemens CPU with dedicated Hydraulic axis controllers
<i>HMI</i>	Redundant (2) touch screen HMI panels and desk with buttons
<i>Outfitting</i>	<ul style="list-style-type: none"> Airconditioned Insulated Windscreen wipers Heated windows CCTV System Remote Access system DNV 2.7-1 certified Data Logging

20 ft Control Room

<i>Description</i>	20 ft container with Control Console and Electrical Cabinets for CPU and control hardware
--------------------	---

<i>CPU</i>	Redundant 1500 series CPU
------------	---------------------------

<i>HMI</i>	Redundant (2) touch screen HMI Panels and desk with buttons
------------	---

<i>Outfitting</i>	Airconditioned Insulated CCTV System Remote Access system Data Logging
-------------------	--

Winches

3.5t Winch

<i>Wire Diameter</i>	14 mm
<i>Wire Force</i>	34.1 kN
<i>Wire Speed</i>	0 - 94 m/min
<i>Torque</i>	5.96 kNm
<i>Rotational Speed</i>	0 - 85 rpm
<i>Brake Holding Force</i>	150 kN
<i>Hydraulic Motor</i>	Hagglunds CA 50 40
<i>Displacement</i>	2512 cc/rev
<i>Nominal Flow</i>	220 l/min
<i>Nominal Pressure</i>	160 bar
<i>Weight excluding motor</i>	435 kg



1t Winch

<i>Wire Diameter</i>	10 mm
<i>Wire Force, 1st layer</i>	10.9 kN
<i>Wire Speed</i>	36 m/min
<i>Torque</i>	1.43 kNm
<i>Rotational Speed</i>	43.7 rpm
<i>Brake Holding Force</i>	19.6 kN
<i>Hydraulic Motor</i>	Bosch Rexroth A2FE28
<i>Displacement</i>	28.1 cc/rev
<i>Nominal Flow</i>	36 l/min
<i>Nominal Pressure</i>	135 bar
<i>Weight excluding motor</i>	170 kg

Tower Locking Systems.

Locking & Quick-Retract Cylinder Systems

<i>Description</i>	Locking systems currently used to seafasten tower sections. Can be retrofitted to secure nacelles or blade racks, and can be installed directly onto barges.
<i>Functionality</i>	Cylinders mechanically lock during transit. During component transfer, they can retract within 5 seconds, ensuring fast and safe release.
<i>Available sets of Heavy Feeder cylinders</i>	2 sets of 8 cylinders (16 total)
<i>Available sets of Standard Feeder cylinders</i>	2 sets of 3 cylinders (6 total)
<i>Control stations</i>	4

Standard Feeder Locking Cylinder

<i>Cylinder Stroke</i>	420 mm
<i>Cylinder Pushing Force</i>	600 kN
<i>Cylinder Retracting Force</i>	485 kN
<i>Number Available</i>	6



Heavy Feeder Locking Cylinder

<i>Cylinder Stroke</i>	500 mm
------------------------	--------

<i>Cylinder Pushing Force</i>	1080 kN
-------------------------------	---------

<i>Cylinder Retracting Force</i>	720 kN
----------------------------------	--------

<i>Number Available</i>	16
-------------------------	----



Ready to craft **your** solution?



Bart Savalle
Business Development Manager

☎ +31(0)10490060

✉ info@barge-master.com

