



DualDocker[®]
Docking securely

**GENERAL INSTALLATION & OPERATING
INSTRUCTIONS**

Index K 14.04.2020

Introduction

- DualDocker Systems are 100% energy-self-sufficient. No hydraulics, no oil, no gas, no electricity used. The damping units operate 100% mechanically.
- These Installation Instructions are only valid for DualDocker Systems with permanent connection.
- The project related installation plan according to the specific offer as well as the installation instructions issued by the manufacturer must strictly be followed.
- The instructions for correct alignment and set-up of arms and diagonal lines must strictly be followed.
- The installation must be carried out or supervised by authorised specialists.

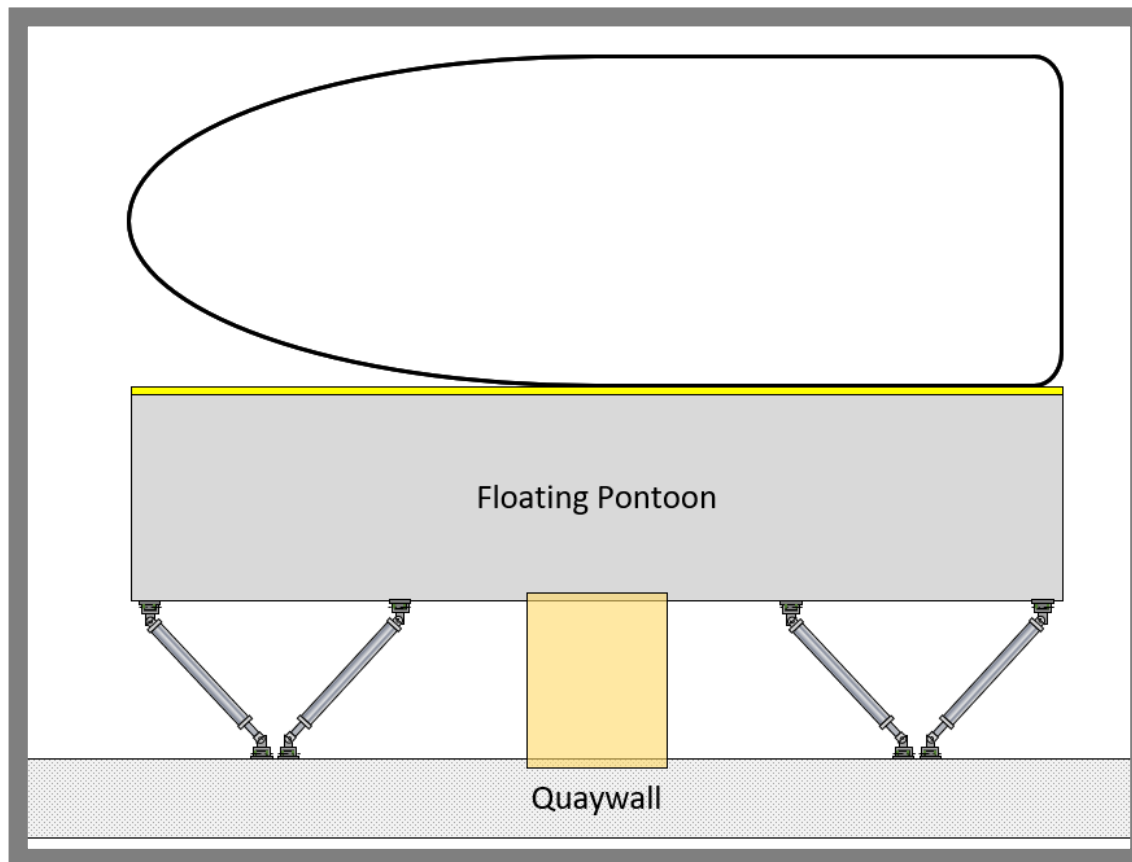
DualDocker and Icing (operation in freezing conditions)

- The operation of DualDocker in icy conditions is critical.
- When fixing point is a floating pontoon, it is usually less critical.
- The manufacturer or an authorised DualDocker distribution partner has to be consulted before any planned installation in ice-prone areas.
- If ice formation is likely, install the DualDocker System either completely above or completely below the water level.
- If there is a danger of moving sheets of ice, the floating structure and the DualDocker Systems must be taken out of the water without delay.
- Please also consider and follow the DualDocker Securing Instructions.

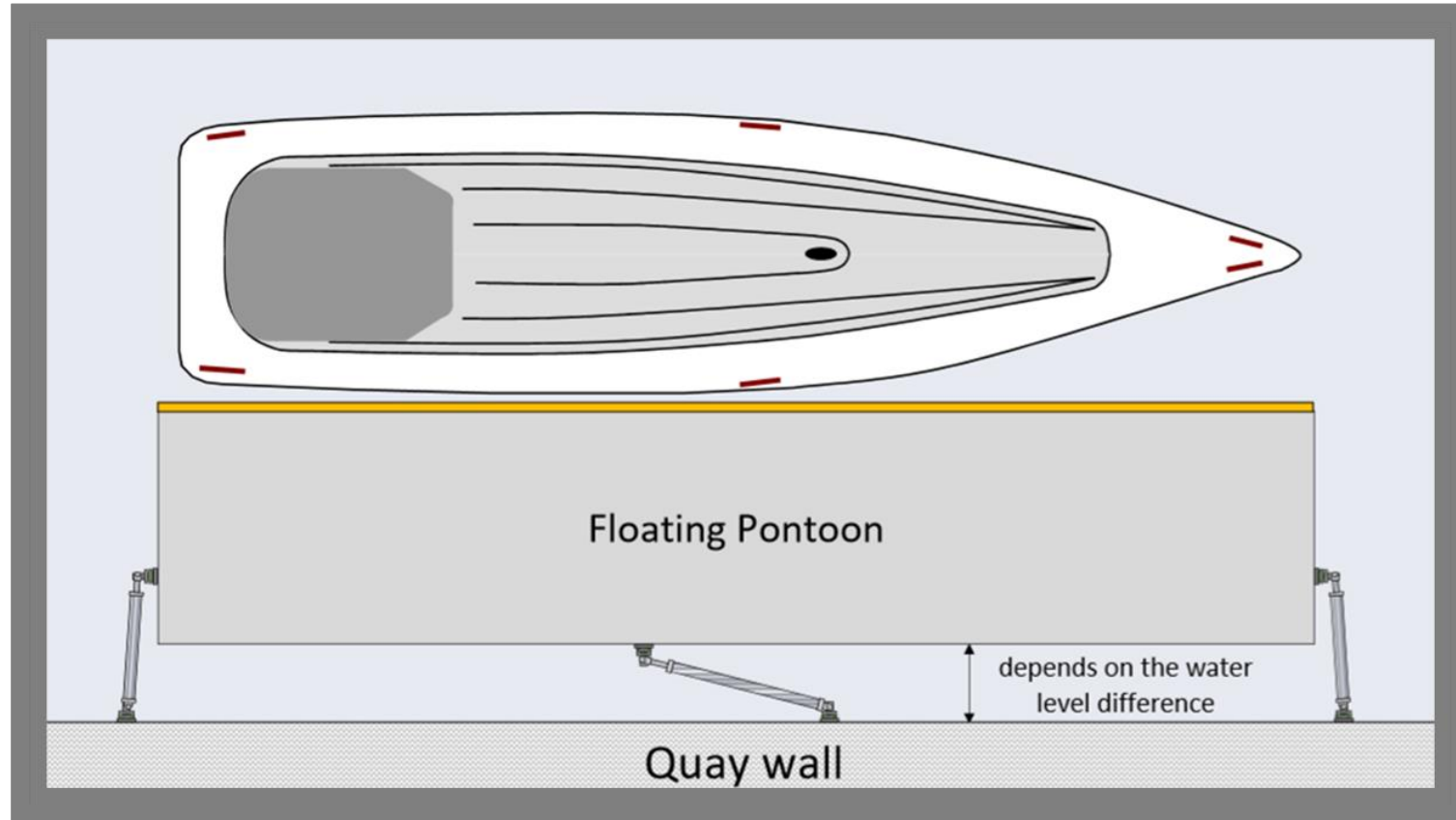
Installation of DualDocker arms

- DualDocker systems must always be installed either completely above water or completely under water. If DD are installed in the area of the waterline, there are changing conditions. Salt water in particular is critical; the water evaporates again and again. The salt remains on the surface and the sun causes the anodized surface to be attacked. This can then quickly lead to corrosion. Therefore, mount the DualDocker completely above water or completely under water.
- Arms must be installed without preload.
- Distances between pier and floating pontoon must be the same at all installation points. Max. tolerance ± 2 cm ! Use spacer plates if necessary. plates if necessary.
- Avoid collisions (arms and pontoon, arms and pier) at different water levels.
- Max. motion range of universal joint connectors: All Models: 60°
- Make sure every part of the installation can handle the max. tolerated forces.
- Note: Prevent the DualDocker System from damage. The surface is anodised which prevents corrosion. Secondary / consequential damage (based on surface damage) is not covered by product warranty !

Installation of DualDocker arms: V-Setup



Installation of DualDocker arms: Tri-Docker



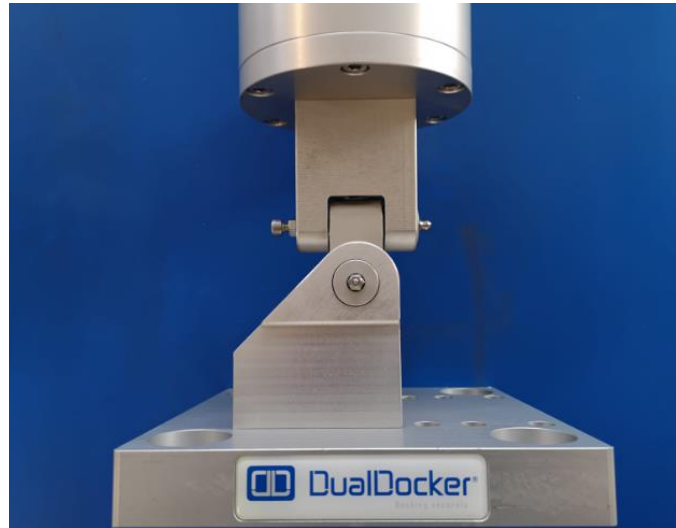
Installation of DualDock adapter

- Installation according to individual project plan.
- Make sure the quay/pier and the floating structure can permanently handle the max. tolerated forces.
- Make sure the adapters are fitted tightly without play.
- Fixing bolts are not part of the consignment.
- Use conical washers for a tight fit of bolts.
- Tighten bolts with correct torque.
- Also use professional bolt /screw lock to secure bolts.

Installation of DualDocker adapters



Adapter 20 kN
Pontoon side
-45° up to +90°



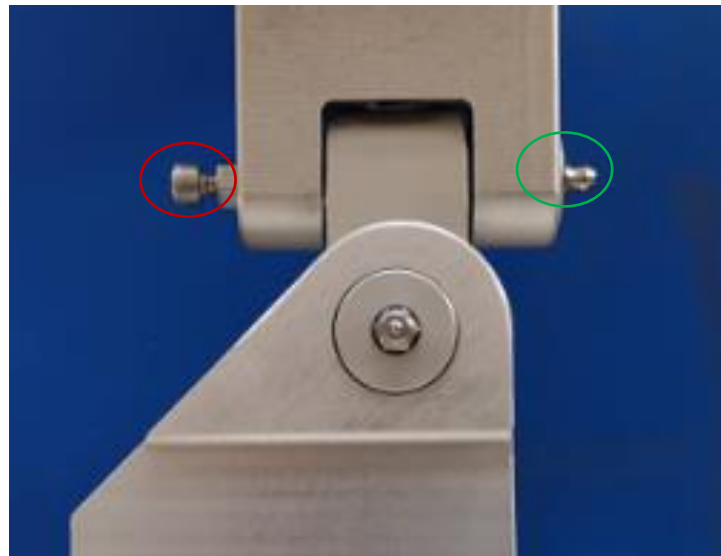
Adapter 20 kN
Quayside
-45° up to +90°



Adapter 150 kN
Quayside
-45° up to +90°

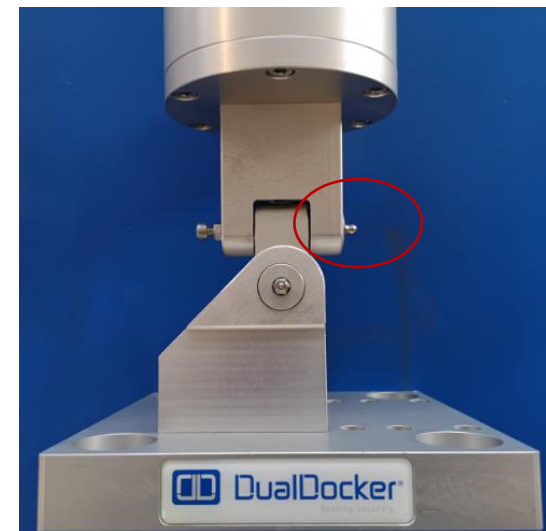
Screw Lock

- On the one hand, there can be seen a **grease nipple**. This one is glued in with “Loctite 290”.
- On the other hand, there can be seen an **Allen screw with a locknut**. The Allen screw is glued in with “Loctite 243”. The nut is countered tightly. If required (e. g. changing of sliding glides) this side can be opened. When reassembling, the Allen screw has to be glued in with “Loctite 243” and the locknut has to be countered tightly.



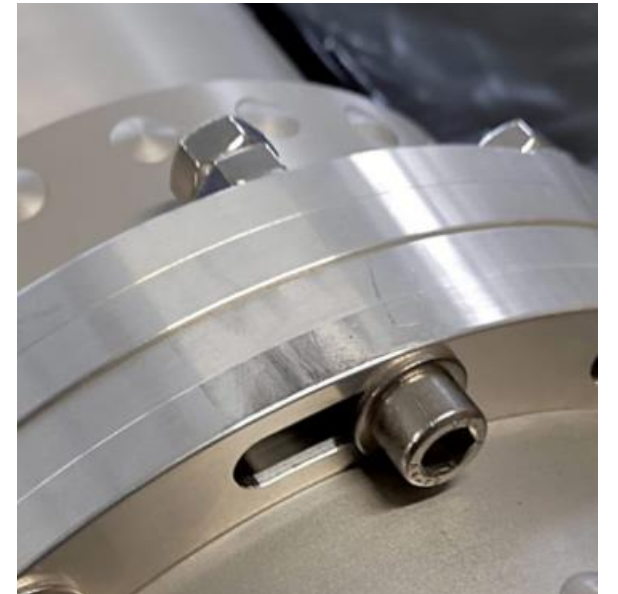
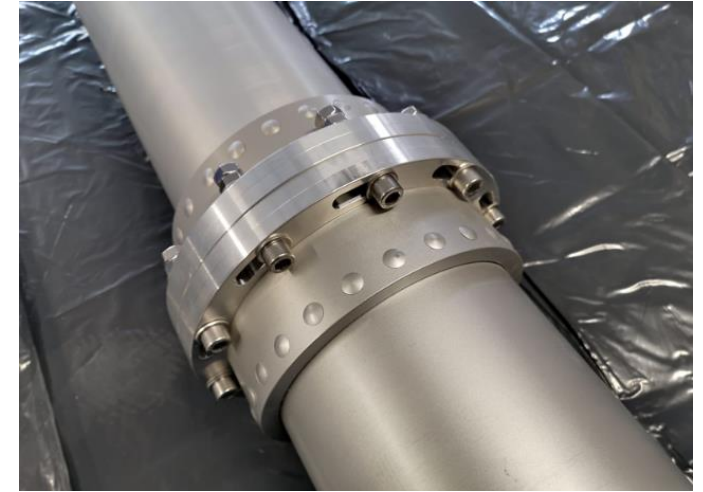
Lubrication

- All slide bearings are lubricated with biological lubricant.
- All slide bearings do not have to be lubricated in succession. The slide bearings can run dry. If needed, they can be re-lubricated, which decreases wear and increases lifetime of the wear parts.
- Only this Lubricate must be used: “Klüberbio AM 12-501”
- This Lubricate is available at
 - *DualDocker GmbH www.dualdocker.com*
 - *Klüber Lubrication www.klueber.at*
- Lubricating interval:
 - *Individual requirements*
 - *Nonbinding recommendation:
1x in spring, 1x in autumn*



Extensions

- DualDockers are available in any length.
- If they need to be longer than 6m, we have to work with extensions.



Start-up Operation

- Before initial operation the operator must be instructed by authorised professionals.
- The operation, the handling and the supervision of the DualDock System and the entire overall project must be carried out by trained, mentally and physically able professionals only.
- After installation of the entire DualDock System make sure everything works smoothly and without play.
- 24 hours after installation, retighten all bolts with torque key and check system again.

Operation & Supervision of DualDock system and the entire project

- The operation and the supervision of the DualDock System and the entire overall project must be carried out by trained, mentally and physically able people only. People under the influence of alcohol or drugs must not operate or supervise the system. Neither must children.
- After exceptionally high stress (wind, waves, collisions) the entire DualDock System must be checked.
 - *Check all bolts with torque key.*
 - *No play*
 - *Obvious damages ?*
 - *Noises ?*
 - *Other specific conditions*

Spare Parts and Replacement DualDocker Arm

- Installation is not part of our scope of services. In a warranty case DualDocker supplies either spare parts or a replacement DualDocker arm (Attention: long delivery times!)

DualDocker mooring solutions must not be opened!

- DualDocker Mooring solutions are strongly preloaded and must not be opened.
- **DANGER !! HIGH TENSION !! HIGH RISK OF INJURY !!**

Disclaimer

- The manufacturer is not liable for damages as a result of overload / overstressing. Tolerated forces: See project related technical data sheet and load displacement diagram.
- Please consider and follow the Securing and Maintenance Instructions.
- Contact the manufacturer or an authorised distribution partner for further information or assistance.