Pontoon Install Manual

1. How to Install the cubes .......................................................... P.2
2. How to install the short pin ......................................................... P.2
3. How to install the long pin ....................................................... P.3
4. How to install the short screw & nut ........................................ P.4
5. How to install the long screw & nut for double layers ............ P.4
6. How to install the cleats .......................................................... P.5
7. How to install the HDPE railings ............................................. P.5
8. How to fill the cubes with water ............................................. P.6
9. How to install the stainless steel bollards/cleats/railings .......... P.7
10. How to install the stainless steel chain connectors .................. P.7
11. How to fix the pontoon by anchors and chain(Anchoring Plan) P.8
12. How to fix the pontoon by piles(Piling Plan) ............................. P.8
13. How to install the jet ski dock (small cube) ............................. P.10
14. Remark ................................................................................. P.12

Guangzhou ACRDOCK Company Limited

Edited by: Yannick Hoo

2010-05-25
The main features of the Modular Float System (plastic pontoon) are the four fixing lugs around the cube and the short pin in the middle which holds the four lugs coming together when we assemble 4 cubes. In this module system way, we can expand the assembled surfaces to any form, any size as we wish. The Modular Float System can also be used for 2 or 3 layers of pontoon fixing with long pin.

Please note the lugs no.1 to 4 as below:

1. How to Install the cubes:

Please note the lugs No. 1 to 4 as below, install the cubes according to 1,2,3,4 lugs, then we can get the cubes coming together and expand the cubes to the size as we wish.

2. How to install the short pin:

Please put the short pin in the middle and through the 4 lugs, use the stainless steel torque wrench turn 45° to lock the short pin:

Step 1: Put the short pin into the lugs.
Step 2: Please note the holes of the pin, unlock.
Step 3: Put the torque wrench into the holes.
Step 4: Turn 45° to lock the short pin.
Step 5: Take the torque wrench out.
Step 6: Please note the holes of the pin, locked.

3. How to install the long pin:

Please put the long pin in the middle of the double layers and through the 4 lugs, use the stainless steel torque wrench to lock the short pin. It’s almost the same as the steps of the short pin installation.
4. How to install the short screw & nut:

Please put the **screw** through the lugs on sides and lock the **nut** with stainless steel **nut wrench**, please note there is space between No.1 and No.4 lugs, put 2 pieces of washers to fill the space; it doesn’t need washers for lugs if there is no space between them.

5. How to install the long screw & nut for double layers:

Please put the **long screw** through the lugs of the double layers cubes on ides and lock the **nut** with stainless steel **nut wrench**. It’s almost the same as the short crew and nut’s installation.
6. How to install the cleats:

Please put the cleat through the lugs on sides and lock the nut with stainless steel nut wrench. It's almost the same as the short crew & nut's installation.

7. How to install the HDPE railings:

7.1 On sides: please put the railing through the lugs on sides and lock the nut with stainless steel nut wrench, please note each railing should get 3 pieces of washers according to the lugs' number then we can lock the railing tighten; please note the rings of the railings should be on the same line.

7.2 In middle: Please put the railing through the lugs of cubes and lock the nut from the bottom of the cubes. We may need to use steel sleeve to lock the nuts. Please note we need put 1 piece of washer before lock the nut; and please note the rings of the railings should be on the same line.
8. How to fill the cubes with water:
Please find the **hole** of the cube, on the side of the **Lug 1 and 4**, open the **cover** with the stainless steel **flooding key**, fill water into the cube.
9. How to install the stainless steel bollards/cleats/railings:
Please put the stainless steel bollard/cleat/railing through the lugs of cubes and lock the stainless steel nut from the bottom of the cubes. We may need to use steel sleeve to lock the nuts.

10. How to install the stainless steel chain connectors:

10.1 Outside Chain Connector: Please put the outside chain connector through the lugs of cubes and lock the stainless steel washer and bolt from the top. Please note we need 2 pieces of HDPE washers to fill the space between the outside chain connector and lugs.

10.2 Inside Chain Connector: Please put the inside chain connector through the lugs of cubes from the bottom, and locks it with stainless steel washer and bolts 1, cover the short pin on it and lock with stainless steel bolt 2.
11. How to fix the pontoon by anchors and chain (Anchoring Plan):

11.1. Please note anchoring plan is good for the site location where gets waves.

11.2. The anchors could be heavy concrete blocks or steel anchors, which should get suggestion from local fishing men as they know the site location very well and good at anchoring work.

11.3. The diameter of the chain should be more than 10mm, or we can get suggestion from local fishing men too.

11.4. The length of the chain should match with the water depth and tide data on the site location which should get suggestion from local fishing men.

11.5. Please note there is one inside chain connector with one chain, and two outside chain connectors with one chain.

11.6. If we need use concrete anchors, we would fabricate them on site location, and pre-set stainless steel connectors in the blocks which are for anchoring shackles.

11.7. If we need use concrete anchors, we would make the heave concrete block to be at least 500kg/pc, and the size could be 1x1x0.5m; we would make the small concrete block to be more than 80kg/pc, which the size could be 0.4x0.4x0.3m.

11.8. Please note the total weight of the heavy concrete blocks should be at least 2 times than the total weight of all the pontoons.

11.9. Please note that we need anchors on both sides of the pontoon, at least each 10m needs one couples of heavy concrete blocks (or other kinds of anchors such as steel anchors.)

12. How to fix the pontoon by piles (Piling Plan):

12.1 Please note piling plan is good for the site location where there is almost no wave.

12.2 Please note the small piles are good for small docks and the highest water depth should be less than 3m. Our small pile is stainless steel grade 316 pile, length is 6m, diameter is 44.5mm, and thickness is 3mm.

12.2.1 Please note the small piles should be into the sand at least 2m, and extend about 1m above the mean tide level to prevent floats from floating over the pile tops during wave conditions.

12.2.2 Please note we need at least a couple of small piles for each 8m to fix the pontoon/dock.

12.3 Please note the large piles are good for large project such as yacht club or dock for big boats. Normally our projects used 400mm to 600mm diameter piles.

12.3.1 Please note the piles could be wooden piles, PHC (concrete) piles or steel tube piles, which should get suggestion from marine engineering company.
12.3.2 Please note as an engineering project, you need considering the site soil conditions, water depths, pile spacing and applicable lateral loads, which should get suggestion from marine engineering company too.

12.3.3 Please note the length of piles depending on the site location: means should long enough for the highest high water level, and also into the rock at least 1m which means you need have a specific geotechnical report for the site location. The pilings shall extend a minimum of 1.5m above the mean tide level to prevent floats from floating over the pile tops during storm surge conditions.

12.3.4 Please note the size of the pile guides should be match with the diameter of piles. The size could be customized.

12.4 Please note if the waves are higher than 0.5m then it’s not good to use piling plan to fix the dock. For some yacht clubs we need breakwater to protect the docks and boats.
13. How to install the jet ski dock (small cube):
Here we’d like to introduce the Jet Ski dock of small cube’s installation, take a 4x2m Jet Ski dock for example as below:

13.1 Fill the 2 lines of cubes with water, please note the first line of cubes should be filled with about 70 litres water (about 28cm of the cubes), and second line of cubes should be filled with about 35 litres of water (about 14cm of the cubes).

13.2 Put all the cubes together according to the plan; please note the numbers of lugs.

<table>
<thead>
<tr>
<th>LEGEND &amp; Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEGEND</td>
</tr>
<tr>
<td>□</td>
</tr>
<tr>
<td>□</td>
</tr>
<tr>
<td>●</td>
</tr>
<tr>
<td>●</td>
</tr>
<tr>
<td>●</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Install Tool</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

13.3 Lock all the short pins.

13.4 Put the long screws & nuts for the ramps at the right points; please note the lugs of the ramps, the right lug is higher than the left lug of each ramp; please note the washers’ quantity, we need the washers to make the ramps on the same level.
13.5 Lock all the long screws & nuts with stainless steel nut wrench. Please note how to put the washers in order to keep all the ramps on the same level. Photos for reference as below:

13.6 Lock all the short screws & nuts and cleats on sides. One Jet Ski dock done.
13.7 If you need install several Jet Ski docks together as one pontoon dock, you can install each Jet Ski dock on shore at first, and then push into water and connect all the docks together.

14. Remark:

14.1 Please note this manual is a guideline for the pontoon’s installation, sometimes maybe different which should get suggestion from us in advance.

14.2 Please note for easier installation, we would like to install the small docks on shore at first, then push into the water and connect them together on water, it’s similar with the 13.7.

14.3 This manual was edited by Mr. Yannick Hoo from ACRDOCK, if have any question please contact via yannickhe@yahoo.cn or yannickhe@acrdock.com, and mobile number 0086-159-0202-5660.

14.4 Guangzhou ACRDOCK Company Limited all right reserved, without our permission please do not copy or edit it.

14.5 ACRDOCK can offer the best quality and technical support of plastic pontoon of Made In China, please visit our website http://www.acrdock.com to get more information about us, and feel no hesitate to contact us for any question.

Guangzhou ACRDOCK Company Limited
2010-05-25