



# floPV® Floating System Installation Manual

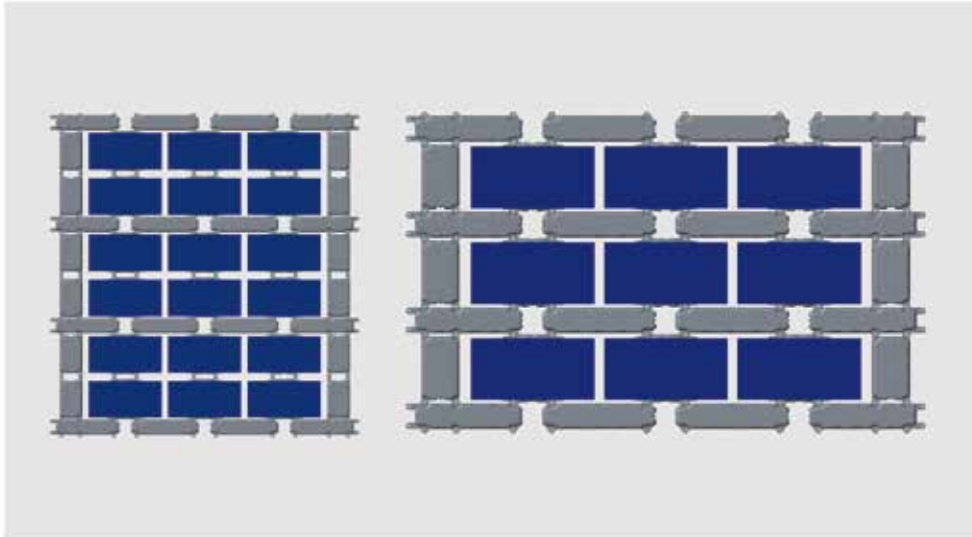
## 光伏浮體 floPV® 安裝手冊





# 目錄

<b>一、產品介紹</b> Product introduction .....	03
產品簡介 Product profile .....	03
產品優點 Product advantages .....	03
<b>二、產品要求</b> Installation requirements .....	04
安裝施工場地要求 Installation site requirement .....	04
施工人員要求 Workers requirement .....	05
施工工具要求 Tools requirement .....	05
浮體安裝工具介紹 Tools introduction .....	05
<b>三、光浮浮體部件介紹</b> Introduction floatert .....	07
<b>四、光浮浮體安裝步驟</b> floater installation .....	14
<b>五、光浮浮體部件介紹</b> Introduction floatert .....	21
<b>六、光浮浮體安裝步驟</b> floater installation .....	29
<b>七、流程圖</b> Installation flow chart .....	35



## PRODUCT INTRODUCTION

### 產品介紹

#### PRODUCT PROFILE

##### 產品簡介

水面漂浮光伏電站的漂浮平台主要由主平台、通道平台、連接螺栓、光伏組件連接構成，如圖所示。漂浮平台各個部件的設計均申請了專利，所用材料均採取特殊配方，具有抗老化、耐腐蝕、材料可回收等特點，使用壽命較常規漂浮平台長，可達25年以上。

serial floating system, as shown in the figure, is mainly composed of main solar module floater, walkway floater, connecting parts and solar module mounting parts. The design of each component has been patented. The special patented formulation materials are used with the characteristics of anti-aging, anti-corrosion and material recyclability. This floating system can satisfy the needs of 25 years service life in solar industry.

#### PRODUCT ADVANTAGES

##### 產品優點

##### 安裝簡便

對其系統結構進行優化設計，便於模塊化安裝。

##### Simple & fast installation

The system structure is optimized to facilitate fast and convenient modular installation.

##### 使用壽命長

升級優化漂浮平台材料的特性，抗老化、耐腐蝕效果更為顯著，提高了整個水面漂浮電站的使用壽命，使用壽命可達25年。

##### Long service life

With upgraded and optimized material characteristics and structural design, the anti-aging and anti-corrosion effect is more remarkable, which improves the service life of the whole floating solar power plant.

##### 高機械強度

添加功能性母料HDPE比普通材料機械性能強度增加20%-30%

##### High mechanical strength

With doped patented functional masterbatch, the mechanical strength of our modified HOPE increases by 20%-30% comparing with common HOPE materials.

### 組件固定結構材質環保，性能卓越

支撐件使用浮體同材質HDPE，組件固定金屬件耐腐蝕，滿足光伏電站25年使用壽命要求。

#### **Strong corrosion resistance of metal accessories**

The supporters are also made of floater-use HOPE material; solar module fixing parts are made of strong corrosion resistance metal, all these guarantee the 25-year service life.

### 維護成本低

依托水面，方便清洗，降低施工及維護成本。

#### **Low maintenance cost**

The floating system is built on water surface, easy to clean, reduce installation and maintenance costs.

### 提高發電效率

同等工況下水的冷卻效果可比其他電站獲得更多發電量。

#### **Improving Power Generation Efficiency**

Under the same conditions, the natural cooling effect of water can help floating solar power plant to generate more power.

### 有效保持水體環境

水面漂浮光伏電站，可阻隔藻類生長所需的陽光，降低水溫，從而抑制藻類的生長，有助於水域水質的改善。

#### **Effective maintenance of water environment**

Floating solar power plants can shade partial sunlight needed for algae growth, reduce water temperature, inhibit the growth of algae; all these contribute to the improvement of water quality.

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## ■ INSTALLATION REQUIREMENTS

### 施工要求

#### **INSTALLATION SITE REQUIREMENTS**

#### 安裝施工場地要求

- 具備水面近距離（建議1m範圍內）進行浮台搭建，用於單個方陣入水平台。
- 安裝場地與水面坡度應在5° ~30° 範圍內。
- 安裝浮體場地面積應大於20m\*25m並鋪設毛毯，便於單個方陣的組裝以及人員施工。
- 施工場地庫存面積應具備5000平方米以上，保證各類配件以及浮體的存放。
- 逆變器及其他墊子設備相關防雨防護措施應完全具備。

- The selected installation site should be near the shore (within the recommended 1 m range) to deploy an assembly platform to assemble floater array.
- In principle assembly platform slope should be in the range of 5° - 30° .
- The installation site area should be larger than 20m\*25m and ground should be smooth to facilitate the installation of floater array and engineering.
- Construction site surface area should be over 5000 square meters to store all kinds of parts and fittings.
- Rain protection and other necessary protection measures must be taken to protect solar modules, inverters and other electrical equipment.

**REQUIREMENTS FOR CONSTRUCTION TOOLS****施工工具要求**

- 一般一個安裝點需備一艘拖船，便於單個方陣拖拽入水，可根據施工進度需求進行調整。
- In general, one tugboat is needed at an installation site to facilitate the dragging of an assembled floater array into the water. The tugboat quantity can be adjusted according to the construction schedule.

**CONSTRUCTION PERSONNEL REQUIREMENTS****施工人員要求**

- 根據施工安全制度要求進行崗位設置。如有特殊需求施工單位必須具備施工相關資質。
- 施工小隊基本人員配置(建議一個安裝點不超過30人，特殊情況除外)每日安裝進度約0.5-0.8MW左右(視人員熟練度以及安裝需求定)。
- Please set the job functions according to the requirements of construction safety system. If there are special needs, construction personnel must have construction-related qualifications.
- The basic staffing of the installation team (it is suggested that at one installation site there should be no more than 30 workers) and the daily installation capacity is about 0.5- 0.8MW (depending on the proficiency of personnel and project requirements)

**TOOLS REQUIREMENT****浮體安裝工具介紹**

內六角扳手 / Inner hexagon spanner

外六角扳手 / Hex

力矩扳手 / Torque wrench

電動扳手 / Electric wrench

專用套筒扳手 / Special socket wrench





**INTRODUCTION OF BOLTS**

配套螺栓介紹



內六角螺栓M8 / Inner Hexagon bolt

外六角螺栓M8 / Hex bolt



彈墊M8 / Spring pad

平墊M8 / Flat pad



螺母M8 / Nut

注塑螺栓M30 / Plastic bolt



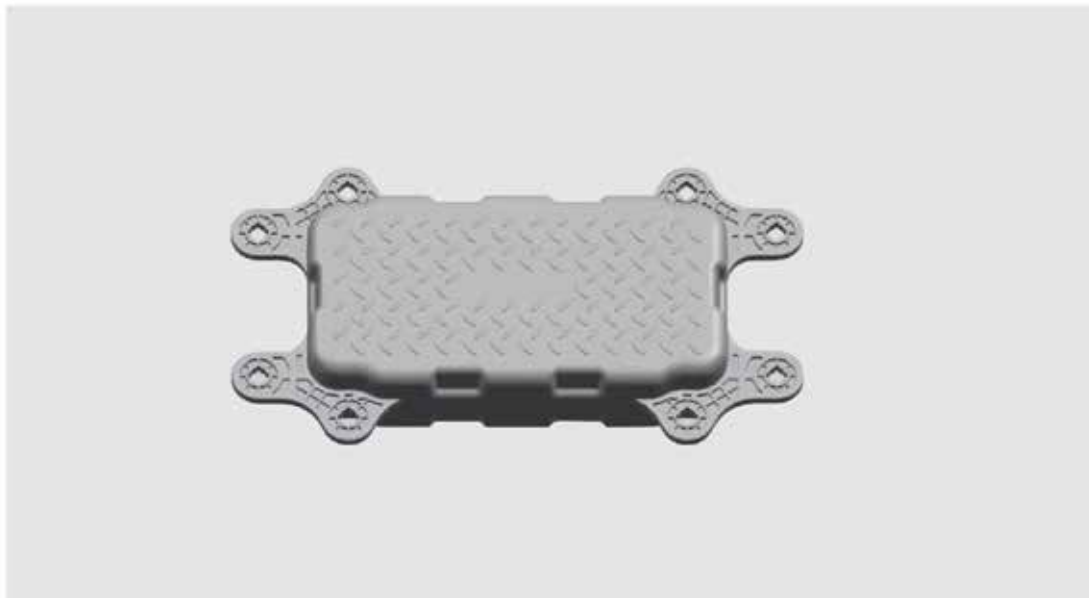
■ INTRODUCTION FLOATERS

光伏浮體部件介紹



主浮體 / Solar module floater

產品代碼 / Product Code	ZN-ZJ-101
抱耳中心距/長 / Centre distance between connecting pin (L)	1090mm
抱耳中心距/寬 / Centre distance between connecting pin (W)	626mm
螺栓距/長 / Bolt distance(L)	890mm
螺栓距/寬 / Bolt distance(W)	448mm
外形尺寸 / Dimension	1104*1177*204mm
吹口尺寸 / Blowing mouth size	26mm
吹口螺紋長度 / Blowing mouth thread length	3.4mm



主走道浮體 / Main walkway floater

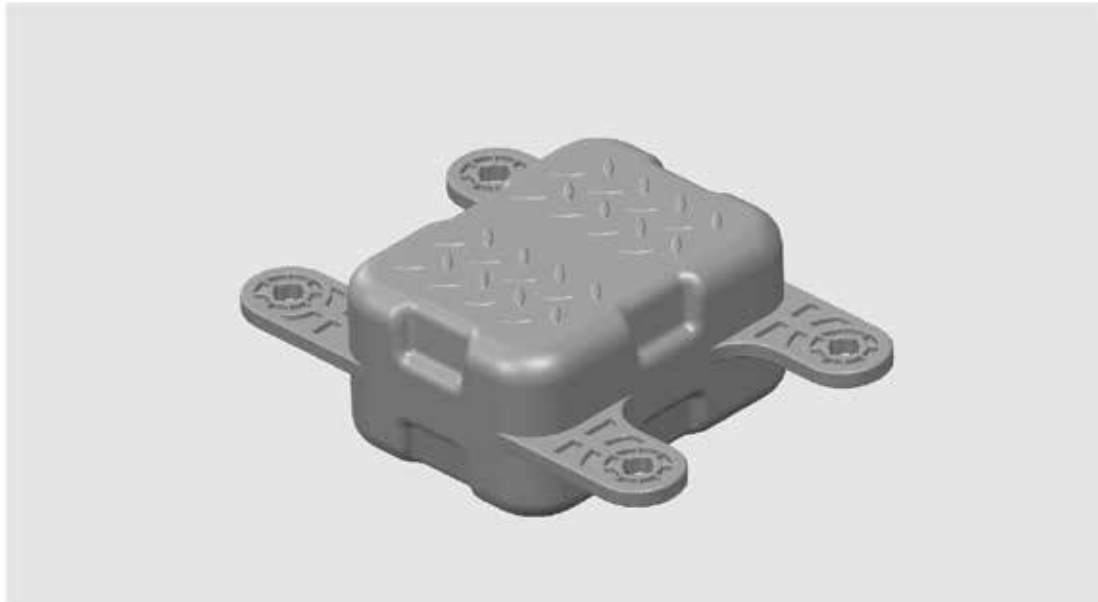
產品代碼 / Product Code	ZN-ZD-101
抱耳中心距/長 / Centre distance between connecting pin (L)	950mm
抱耳中心距/寬 / Centre distance between connecting pin (W)	300mm
螺栓距/長 / Bolt distance(L)	613mm
螺栓距/寬 / Bolt distance(W)	475mm
外形尺寸 / Dimension	1050*574*202mm
吹口尺寸 / Blowing mouth size	26mm
吹口螺紋長度 / Blowing mouth thread length	3.4mm





次走道浮體 / Secondary walkway floater

產品代碼 / Product Code	ZN-ZD-102
抱耳中心距/長 / Centre distance between connecting pin (L)	1140mm
抱耳中心距/寬 / Centre distance between connecting pin (W)	300mm
外形尺寸 / Dimension	1230*400*202mm
吹口尺寸 / Blowing mouth size	26mm
吹口螺紋長度 / Blowing mouth thread length	3.4mm



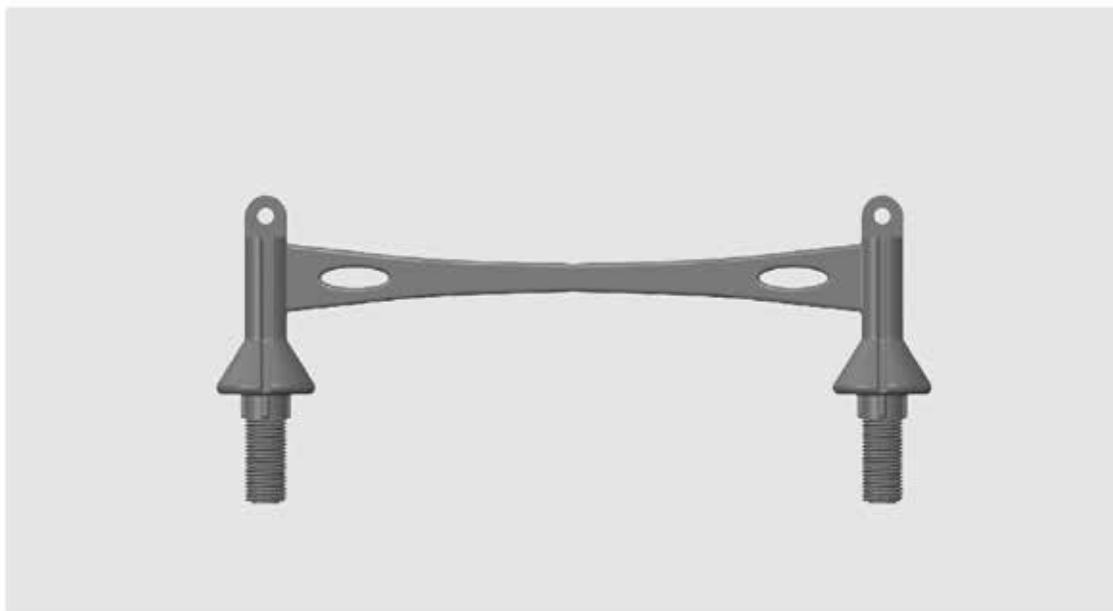
小走道浮體 / Small walkway floater

產品代碼 / Product Code	ZN-ZD-103
抱耳中心距/長 / Centre distance between connecting pin (L)	600mm
抱耳中心距/寬 / Centre distance between connecting pin (W)	400mm
外形尺寸 / Dimension	600*400*202mm
吹口尺寸 / Blowing mouth size	26mm
吹口螺紋長度 / Blowing mouth thread length	3.4mm



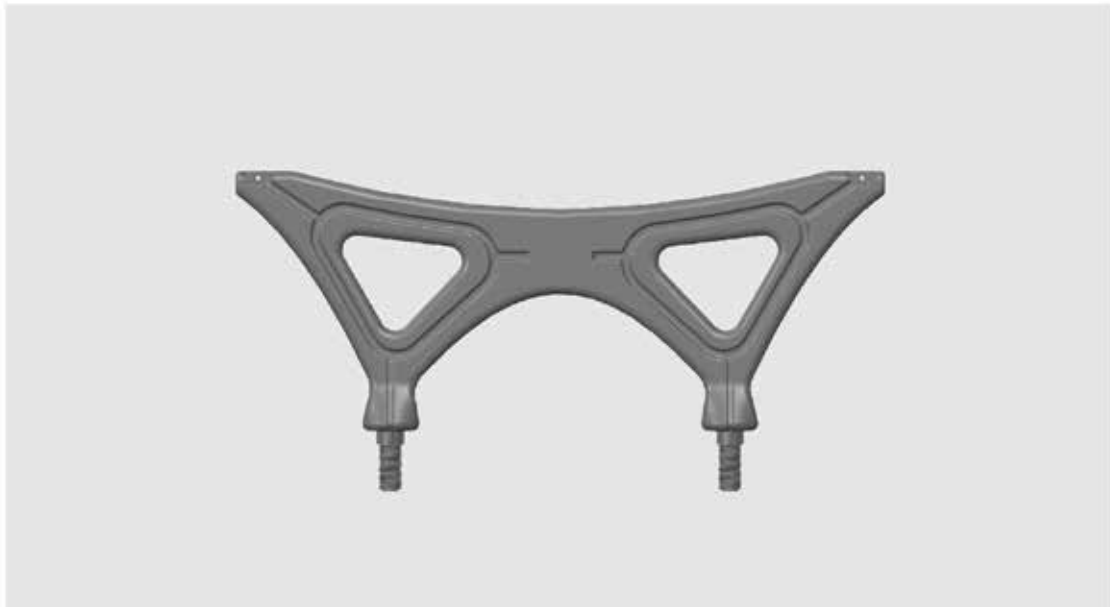
設備浮體蓋板 / Cover board

產品代碼 / Product Code	ZN-GB-101
抱耳中心距/長 / Centre distance between connecting pin (L)	900mm
抱耳中心距/寬 / Centre distance between connecting pin (W)	450mm
外形尺寸 / Dimension	690*946*92mm



前支架浮體 / Front supporter

產品代碼 / Product Code	ZN-ZC-101
外形尺寸 / Dimension	522*225*72mm
吹口尺寸 / Blowing mouth size	29.5mm
吹口螺紋長度 / Blowing mouth thread length	3.4mm



后支架浮體 / Rear supporter

產品代碼 / Product Code	ZN-ZC-102
抱耳中心距/長 / Centre distance between connecting pin (L)	810mm
抱耳中心距/寬 / Centre distance between connecting pin (W)	445mm
外形尺寸 / Dimension	860*424*70mm
吹口尺寸 / Blowing mouth size	29.5mm
吹口螺紋長度 / Blowing mouth thread length	3.4mm

## ■ FLOATER INSTALLATION

### 光伏浮體安裝步驟

#### 1. 浮體封蓋安裝

##### 1. Installation of sealing cover



每只預裝浮體吹口位置，使用34號板手把注塑封蓋旋緊 (扭矩5.5N.m)，防止浮筒進水。

For each solar module floater, tighten the sealing cover with No.34 wrench (torque 5.5N · m) to prevent water penetrating.

#### 2. 主浮體與設備浮體改版安裝

##### 2. Installation of solar module floater and equipment floater cover board



主浮體立於地面上，將設備浮體蓋板凹面裝於主浮體中間位置，並對齊四個螺栓孔。使用M30注塑螺栓由下向上穿入螺栓孔，並用42號板手將螺母旋緊(扭矩15N.m)。

Put the solar module floater on the ground vertically. The concave surface of the cover board of the equipment floater is installed in the middle position of the solar module floater, and four bolt holes are aligned. M30 plastic bolt is inserted into the bolt hole from bottom to top, and fasten the nut with wrench No.42 (torque 15N · m).



### 3. 主浮體與主走到浮體安裝

#### 3. Installation of solar module floater and main walkway floater

裝有蓋板的主浮體水平置於地面，將主浮體北側抱耳螺栓孔與主走道浮體南側抱耳螺栓孔對齊，由下向上插入M30注塑螺栓，並用42號扳手將上部螺母旋緊(扭矩15N.m)。此安裝了蓋板的主浮體和主走道浮體均作為邊走道使用。

Put the solar module floater on the ground vertically. Adjust and align the north side connecting pin's bolt hole of the solar module floater with the north side connecting pins' bolt holes of the main walkway floater. Insert the M30 plastic bolt into bolt hole from bottom to top, and fasten the nut with wrench No.42(torque 15N · m).



### 4. 主走道浮體與小走道浮體安裝

#### 4. Installation of main walkway floater and small walkway floater



將主走道浮體東側兩隻抱耳螺栓孔與小走道浮體西側螺栓孔，由下向上插入M30注塑螺栓，並用42號扳手將上部螺母旋緊（扭矩15N· m）。

Adjust and align the two bolt holes on the east side of the main walkway floater with the bolt holes on the west side of the small aisle, insert the M30 plastic bolt from the bottom to the top, and fasten the upper nut (torque 15N · m) with the wrench No.42(torque 15N · m)

### 5. 小走道浮體與主走道浮體安裝

#### 5. Installation of small walkway floater and main walkway floater



將小走道浮體東側螺栓孔與另一只主走道浮體西側兩只抱耳螺栓孔對齊，由下向上插入M30 注塑螺栓，並用42號板手將上部螺母旋緊(扭矩15N.m)。

Adjust and align the bolt holes on the east side of the small walkway floater with two bolt holes on the west side of the main walkway floater. Insert the M30 plastic bolt from the bottom to the top, and fasten the upper nut with wrench No.42 (torque 15N · m).

### 6. 主浮體與前支架浮體安裝

#### 6. Installation of solar module floater and front supporter



主浮體立於地面上，將前支架浮體插入主浮體南側螺栓孔。使用M30注塑螺母由底部緊固，並用42號板手將螺母旋緊(扭矩15N.m)。

Put the solar module floater on the ground vertically, insert the front supporter into the bolt hole on the south side of the solar module floater. Use M30 injection nut to tighten from the bottom, and use No.42 wrench to tighten the nut (torque 15N · m).

### 7. 主浮體與後支架浮體安裝

#### 7. Installation of Solar module floater and rear supporter



主浮體立於地面上，將後支架浮體插入主浮體南側螺栓孔。使用M30注塑螺母由底部緊固，並用42號扳手將螺母旋緊(扭鉅15N.m)。

Put the solar module floater on the ground vertically, insert the rear supporter into the bolt hole on the north side of the solar module floater. Use M30 injection nut to tighten from the bottom, and use No.42 wrench to tighten the nut (torque 15N· m)

### 8. 主浮體與走道浮體安裝

#### 8. Installation of solar module floater and main walkway floater



將裝有前後支架浮體的主浮體北側抱耳螺栓孔與走道浮體南側抱耳螺栓孔對齊，由下向上插入M30注塑螺栓，並用42號扳手將上部螺母旋緊(扭鉅15N.m)

When front and rear supporters are installed on the solar module floater, adjust and align the bolt holes on the north side of the solar module floater with the bolt holes on the south side of the main walkway floater. Insert the M30 plastic bolt from the bottom to the top, and fasten the upper nuts with wrench No.42 (torque 15N· m)

9. 主走道浮體與次走道浮體安裝

9. Installation of main walkway floater and secondary walkway floater



主浮體立於地面上，將後支架浮體插入主浮體南側螺栓孔。使用M30注塑螺母由底部緊固，並用42號扳手將螺母旋緊(扭矩15N.m)。

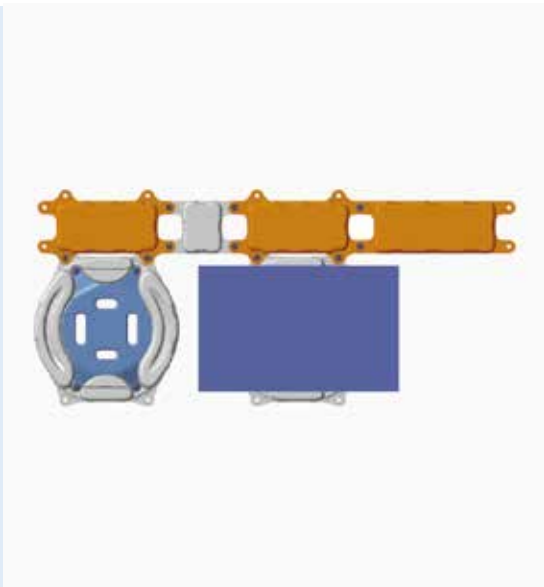
Put the solar module floater on the ground vertically, insert the rear supporter into the bolt hole on the north side of the solar module floater. Use M30 injection nut to tighten from the bottom, and use No.42 wrench to tighten the nut (torque 15N· m)

10. 矩陣東南側錨固結構件安裝

10. Installation of anchoring structures on the east and west sides of floater array

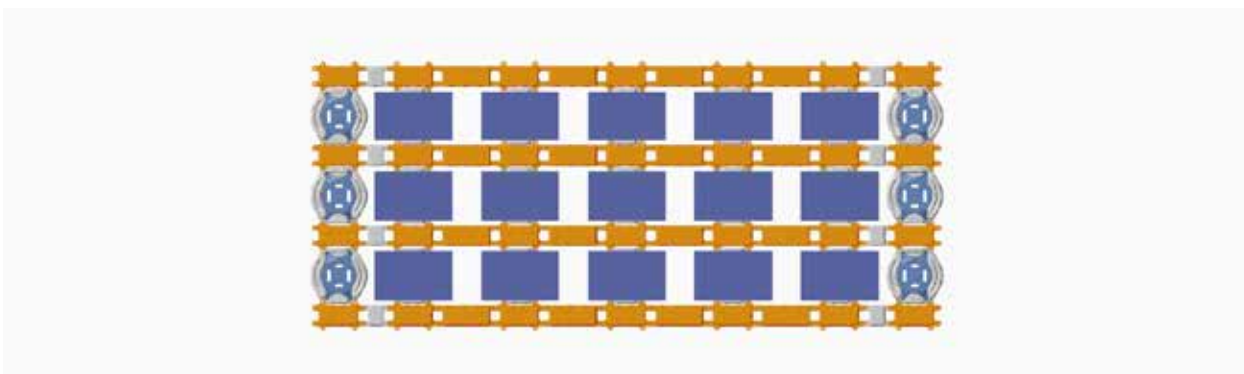
將主走道浮體東側兩邊抱耳螺栓孔與次走道浮體西側螺栓孔對齊，由下向上插入M30注塑螺栓，並用42號扳手將上部螺母旋緊(扭矩15N.m)。

Adjust and align the two bolt holes on the east side of the main walkway floater with the bolt holes on the west side of the secondary walkway floater, insert the M30 plastic bolt from the bottom to the top, and fasten the upper nut with the No.42 wrench (torque 15N· m)



### 11. 浮體排布及矩陣安裝

#### 11. Floater arrangement and floater array installation

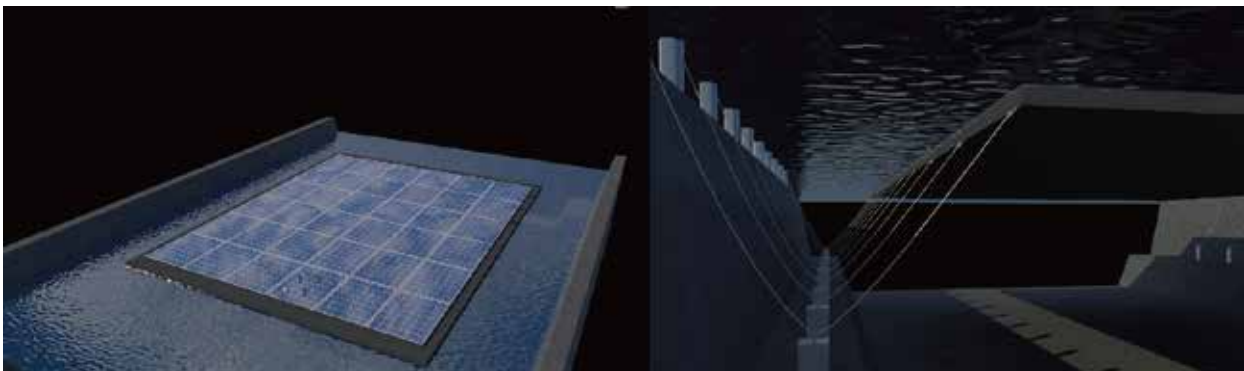


按設計要求連接各浮體呈一排，以此類推安裝第二排，並將第一排推入水中形成矩陣。

According to the design and construction requirements, several floaters are connected in first row, then several rows in same way. And then the assembled floater rows can be pushed into the water to form a floater array.

### 12. 錨固結構件安裝

#### 12. Installation of anchoring structure

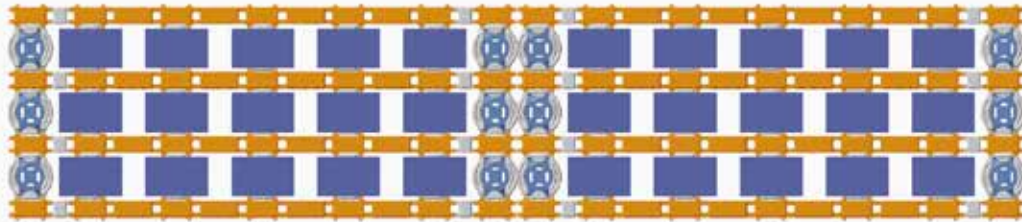


按設計要求將錨固結構件置於兩走道浮體之間，通過M30螺栓緊固安裝於矩陣四周，並使用12mm包塑鋼絲繩與水下錨塊連接。

Put the anchoring structure at the gap of the two walkway floaters, use the M30 plastic bolt to install the anchoring structure, use the 12mm plastic coated anchoring rope to connect the anchoring structure and underwater anchoring block.

### 13. 子方陣之間連接安裝

### 13. Installation of floater arrays



按設計要求將各子方陣邊緣主走道浮體一側抱耳對齊，使用M30注塑螺栓由底部向上穿入螺孔，並用42號扳手旋緊(扭矩15N.m)

According to the design requirements, adjust and align the connecting pins of the main walkway floater at the edge of each sub-array. Insert the M30 plastic bolt into bolt hole from the bottom to top and fasten with the wrench No.42 (torque 15N· m)





■ INTRODUCTION FLOATERS

光伏浮體部件介紹



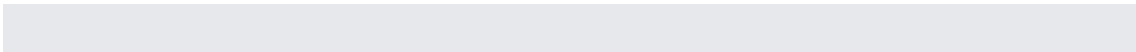
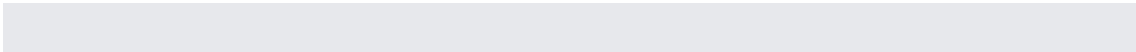
組件浮體 / Solar module floater

英語名稱 / Name	Solar module floater
外銷產品代碼 / Export code	ZN-ZJ-101
外銷產品代碼 / Export code	MF101
抱耳中心距/長 / Centre distance between connecting pin (L)	1060mm
抱耳中心距/寬 / Centre distance between connecting pin (W)	880mm
螺栓距/長 / Bolt distance(L)	850mm
螺栓距/寬 / Bolt distance(W)	612mm
吹口尺寸 / Blowing mouth size	20mm
吹口螺紋長度 / Blowing mouth thread length	2mm



走道浮體 / Walkway floater

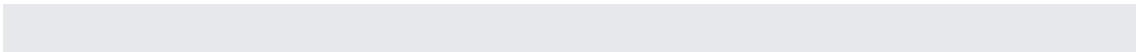
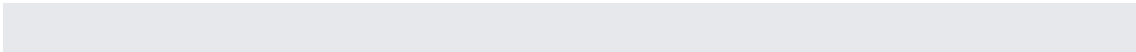
英語名稱 / Name	Walkway floater
產品代碼 / Product code	ZN-ZD-101A
外銷產品代碼 / Export code	WF101A
抱耳中心距/長 / Centre distance between connecting pin (L)	1500mm
抱耳中心距/寬 / Centre distance between connecting pin (W)	440mm
吹口尺寸 / Blowing mouth size	20mm
吹口螺紋長度 / Blowing mouth thread length	2mm





走道浮體 / Walkway floater

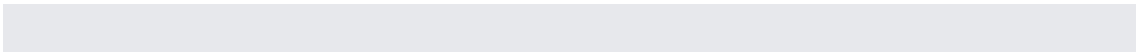
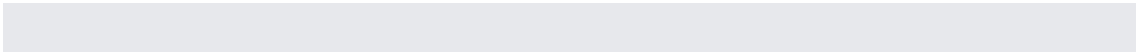
英語名稱 / Name	Walkway floater
產品代碼 / Product code	ZN-ZD-101B
外銷產品代碼 / Export code	WF101B
抱耳中心距/長 / Centre distance between connecting pin (L)	1200mm
抱耳中心距/寬 / Centre distance between connecting pin (W)	440mm
吹口尺寸 / Blowing mouth size	20mm
吹口螺紋長度 / Blowing mouth thread length	2mm

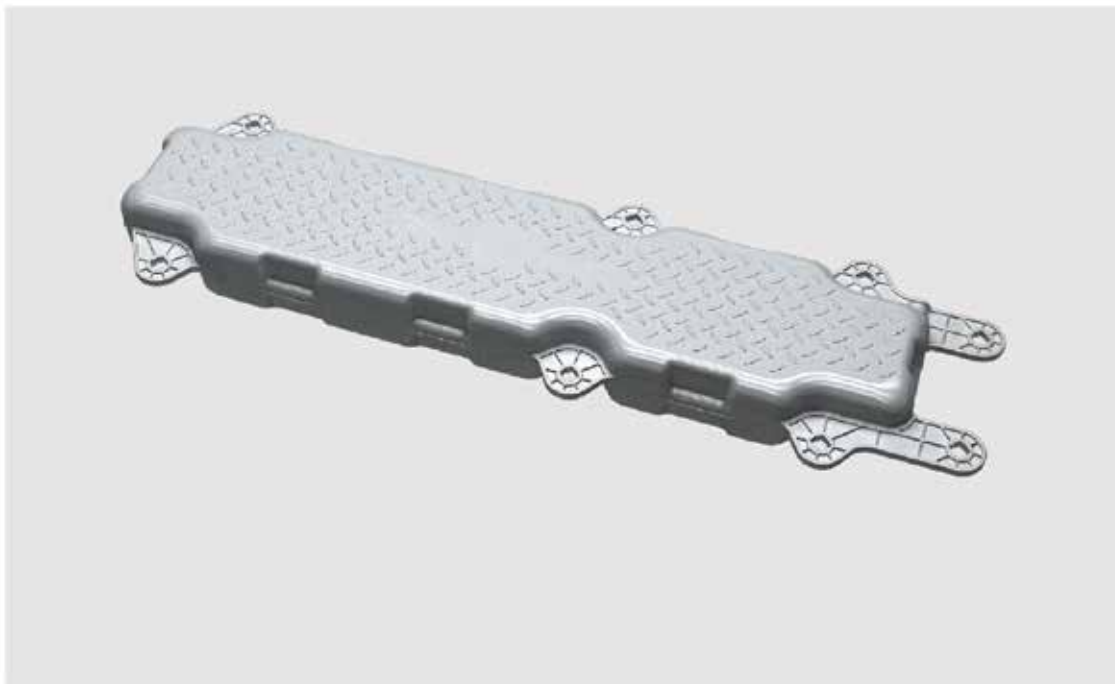




設備浮體 / Equipment floater

英語名稱 / Name	Equipment floater
產品代碼 / Product code	ZN-ZD-102
外銷產品代碼 / Export code	EF102
抱耳中心距/長 / Centre distance between connecting pin (L)	1060mm
抱耳中心距/寬 / Centre distance between connecting pin (W)	500mm
吹口尺寸 / Blowing mouth size	20mm
吹口螺紋長度 / Blowing mouth thread length	2mm





連接浮體 / Connecting floater

英語名稱 / Name	Connecting floater
產品代碼 / Product code	ZN-ZD-103
外銷產品代碼 / Export code	CF103
抱耳中心距/長 / Centre distance between connecting pin (L)	1650mm
抱耳中心距/寬 / Centre distance between connecting pin (W)	440mm
螺栓距/長 / Bolt distance(L)	900mm/500mm
螺栓距/寬 / Bolt distance(W)	300mm
吹口尺寸 / Blowing mouth size	20mm
吹口螺紋長度 / Blowing mouth thread length	2mm



### 連接板 / Connecting board

英語名稱 / Name	Connecting board
產品代碼 / Product code	ZN-LJ-101
外銷產品代碼 / Export code	CB101
抱耳中心距/長 / Centre distance between connecting pin (L)	440mm
抱耳中心距/寬 / Centre distance between connecting pin (W)	100mm



### 前支撐架 / Front supporter

英語名稱 / Name	Front supporter
產品代碼 / Product code	ZN-ZC-101A
外銷產品代碼 / Export code	FS101A
螺孔直徑 / Screw hole diameter	Φ30mm
螺紋長度 / Thread length	3.5mm





後支撐架 / Rear supporter

英語名稱 / Name	Rear supporter
產品代碼 / Product code	ZN-ZC-102A
外銷產品代碼 / Export code	BS102A
螺孔直徑 / Screw hole diameter	Φ30mm
螺紋長度 / Thread length	3.5mm



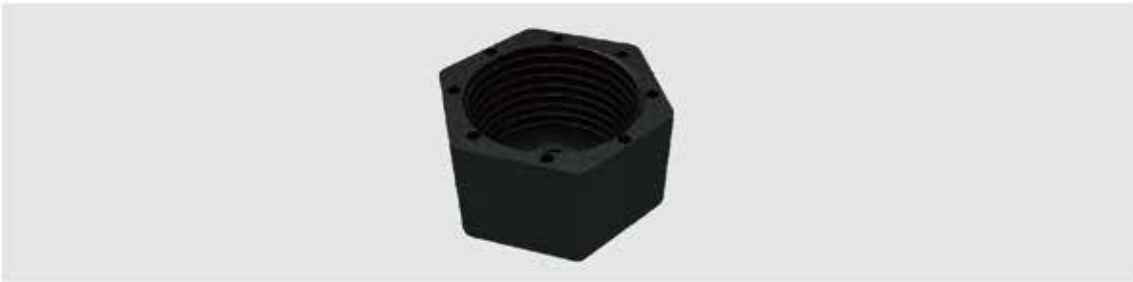
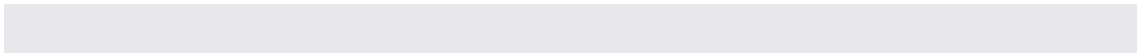
螺桿 / Screw

英語名稱 / Name	Screw
產品代碼 / Product code	ZN-LS-101
外銷產品代碼 / Export code	SB101
螺孔直徑 / Screw hole diameter	Φ30mm
螺紋長度 / Thread length	3.5mm



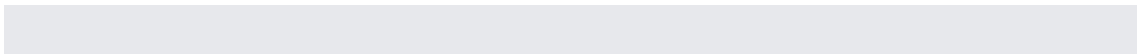
螺帽 / Screw cap

英語名稱 / Name	Screw cap
產品代碼 / Product code	ZN-LS-102
外銷產品代碼 / Export code	SC102
螺孔直徑 / Screw hole diameter	Φ30mm
螺紋長度 / Thread length	3.5mm



封蓋 / Sealing cover

英語名稱 / Name	Sealing cover
產品代碼 / Product code	ZN-FG-103
外銷產品代碼 / Export code	SC103
螺孔直徑 / Screw hole diameter	Φ25mm
螺紋長度 / Thread length	2mm



## ■ FLOATER INSTALLATION

### 光伏浮體安裝步驟

#### 1. 浮體封蓋安裝

#### 1. Installation of sealing cover

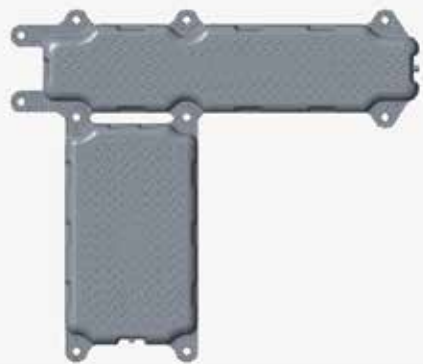


每只預裝浮體吹口位置，使用34號板手把注塑封蓋旋緊(扭矩5.5N.m)，防止浮筒進水。

For each prefabricated blowing mouth, fasten the sealing cover onto it with No.34 wrench (torque 5.5N · m) to prevent the water penetrating.

#### 2. 設備浮體與連接浮體安裝

#### 2. Installation of equipment floater and connecting floater



將設備浮體北側兩只抱耳螺栓孔與連接浮體南側兩只抱耳螺栓孔對齊，由下向上插入M30注塑螺栓，並用42號板手將上部螺母旋緊(扭矩15N.m)。

Adjust and align the two bolt holes on the north side of the equipment floater with the two bolt holes on the south side of the connecting floater. Insert the M30 plastic bolt from the bottom to the top, and fasten the upper nut with the wrench No.42 (torque 15N · m).

### 3. 前支撐架安裝

#### 3. Installation of front supporters

組件浮體立於地面上，將兩只前支撐架浮體插入組件浮體南外側兩只抱耳螺栓孔，前支撐架水平夾角方向朝南。使用M30注塑螺母由底部緊固，並用42號扳手將螺母旋緊(扭矩15N.m)。

Put the solar module floater on the ground vertically. Insert the two front supporters into two bolt holes on the south side of the solar module floater. The horizontal angle of the front support faces south. Insert the M30 plastic bolt from the bottom and use No.42 wrench to fasten it (torque 15N · m).



### 4. 後支撐架安裝

#### 4. Installation of rear supporters

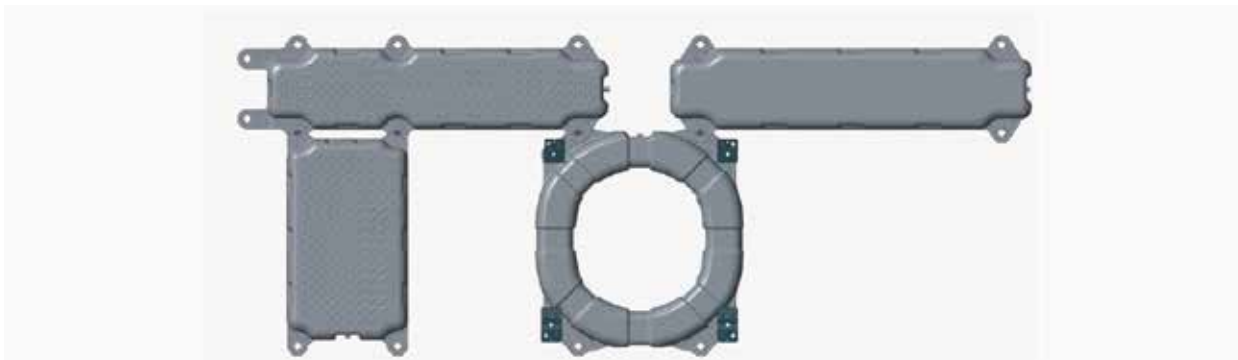


將設備浮體北側兩只抱耳螺栓孔與連接浮體南側兩只抱耳螺栓孔對齊，由下向上插入M30注塑螺栓，並用42號扳手將上部螺母旋緊(扭矩15N.m)。

Put the solar module floater on the ground vertically. Insert the two rear supporters into two bolt holes on the north side of the solar module floater. The horizontal angle of the rear support faces south. Insert the M30 plastic bolt from the bottom and use No. 42 wrench to fasten the upper nut (torque 15N · m).

5. 組件浮體與連接浮體安裝

5. Installation of solar module floater and connecting floater

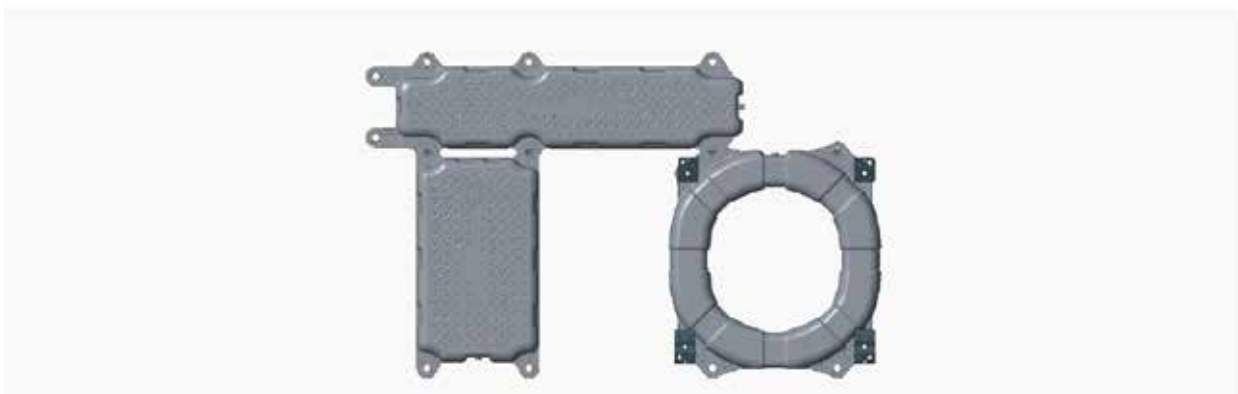


將組件浮體西北角內側抱耳螺栓孔與連接浮體南側單只抱耳螺栓孔對齊，由下向上插入M30 注塑螺栓，並用42號板手將上部螺母旋緊(扭矩15N.m)。

Adjust and align the inner connecting pin bolt hole in the northwest corner of the solar module floater with the single connecting pin bolt hole in the south side of the connecting floater, insert the M30 plastic bolt from the bottom to the top, fasten the upper nut with the No.42 wrench (torque 15N · m).

6. 組件浮體與走道浮體安裝

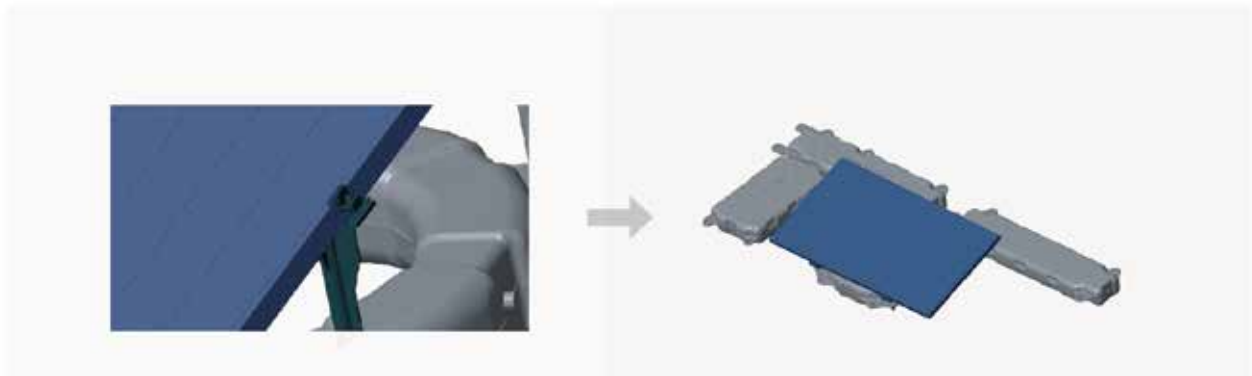
6. Installation of solar module floater and walkway floater



將組件浮體東北角內側抱耳螺栓孔與連接浮體南側單只抱耳螺栓孔對齊，由下向上插入M30 注塑螺栓，並用42號板手將上部螺母旋緊(扭矩15N.m)。

Adjust and align the inner connecting pin bolt hole in the northeast corner of the solar module floater with the single connecting pin bolt hole in the south side of the walkway floater, insert the M30 plastic bolt from the bottom to the top, fasten the upper nut with the No.42 wrench (torque 15N · m).

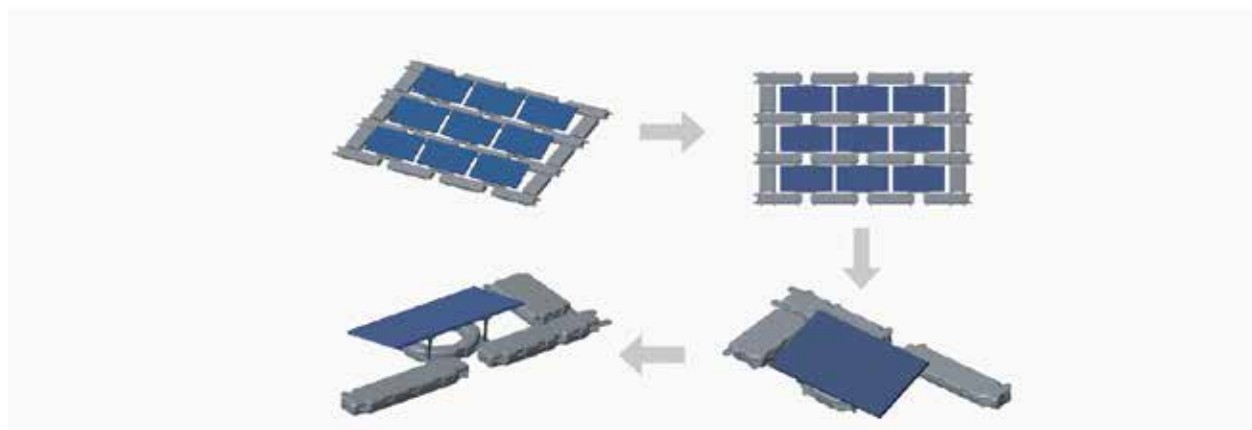
## 7. 光伏板安裝 7. Installation of solar module



將光伏板置於4只支撐架中間位置，光伏板邊緣固定，插入M8不銹鋼內六角螺栓。

Put the solar module at the middle of four supporters. Insert the M8 stainless steel hexagonal bolt to install the solar module on solar module floater.

## 8. 浮體排布及矩陣安裝 8. Floater arrangement and floater array installation



按設計要求連接各浮體呈一排，以此類推安裝第二排，並將第一排推入水中形成矩陣。

According to the design and construction requirements, connect several floaters with solar modules installed on it as first row, then several rows in same way. And then push the assembled floater rows into the water to form a floater array.

9. 矩陣南北側錨固結構件安裝

9. Installation of anchoring structures on the north and south sides of floater array

按設計要求，矩陣南北側錨固結構件安裝於組件浮體與兩只走道浮體之間形成的空隙處，將錨固件四角螺栓孔與走道浮體螺栓孔對齊，不鏽鋼吊環朝向矩陣外側，由下向上插入M30螺栓並旋緊螺母(扭矩15N.m)

According to the design requirements, the anchoring structures on the north and south sides of the floater array are installed at the gap between the solar module floater and the two walkway floater. Adjust and align the anchoring structure bolt holes and the walkway floater bolt holes, the stainless steel suspension rings face the outside of the floater array, then insert the M30 plastic bolt into the holes from the bottom to top, and fasten the upper nut. (torque 15N · m)



10. 矩陣東南側錨固結構件安裝

10. Installation of anchoring structures on the east and west sides of floater array

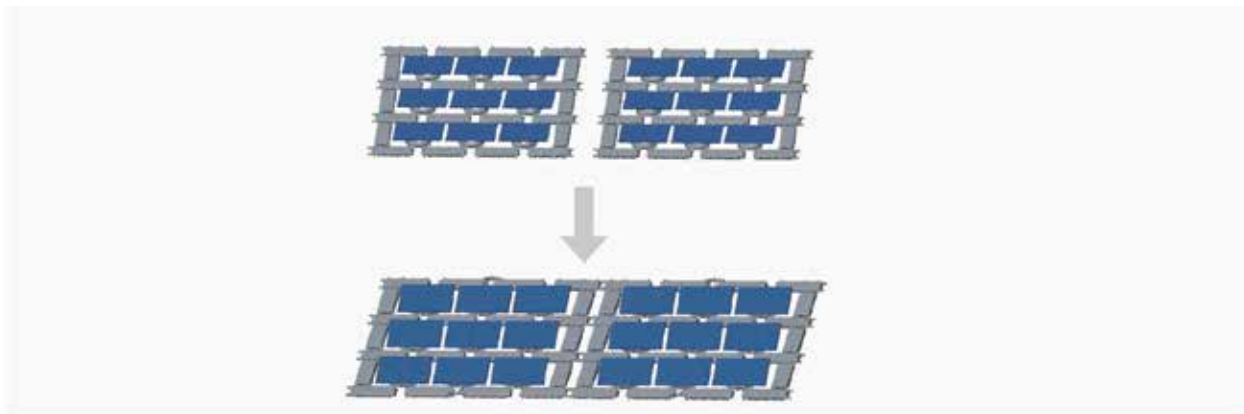


按設計要求，錨固結構件安裝於矩陣東西側邊連接浮體外沿的抱耳螺栓孔位置，將錨固件四角螺栓孔與連接浮體四只螺栓孔對齊，不銹鋼吊環朝向矩陣外側，由下向上插入M30螺栓並旋緊螺母。(扭矩15N.m)

According to the design requirements, the anchoring structures are installed on outsider connecting pin bolt holes on connecting floater on the east and west sides of the floater array. Adjust and align the anchoring structures bolt holes and the connecting floater 4 bolt holes, the stainless steel suspension rings face the outside of the floater array, then insert the M30 plastic bolt into the holes from the bottom to up and fasten it. ( torque 15N · m )



11. 子方陣之間連接安裝  
 11. Installation of floater arrays



按設計要求將各子方陣邊緣連接浮體的抱耳螺栓孔對齊，使用M30注塑螺栓由底部向上穿入螺孔，並用42號扳手旋緊(扭矩15N.m)

According to the design requirements, adjust and align the connecting pin bolt holes of each floater array, insert the M30 plastic bolt into the holes from the bottom to the top, then use the No.42 wrench to tighten the bolt (torque 15N · m).

**FLOATING ARRAY INSTALLATION FLOW CHART**  
浮體矩陣安裝流程圖

- 按設計要求搭建平台，組裝浮體方陣。
  - 將組裝完成的浮體方陣推入水中。
  - 使用拖船將浮體方陣拖拽至衛星定位後的指定位置，再用螺栓把各方陣按設計要求連接。
- Set up the installation platform and assembly the floater array.
  - Push the assembled floater array into water.
  - Use the tugboat to pull the floater array into the project site and connect the floater arrays accordingly.

▶ 主要施工技術方案及關鍵工序

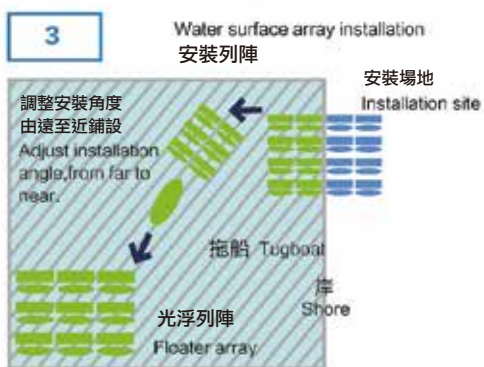
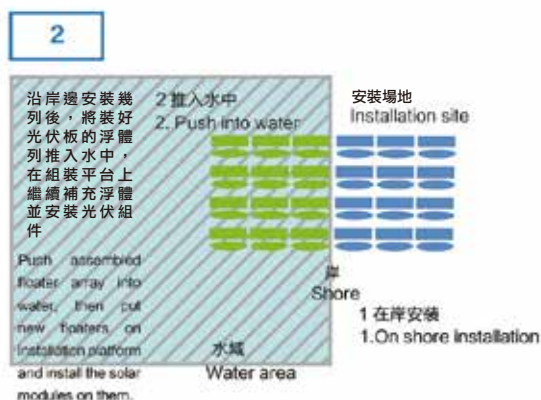
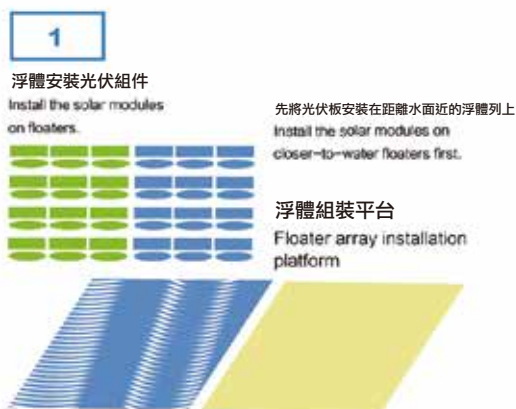
Main construction solutions and key processes

■ 浮體及組件安裝

- 浮體及組件在岸安裝
- 安裝陣列離岸拼裝

□ Solar module installation on floater


- Floater and solar module installation on shore
- Off shore floater array installation





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