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中国桥梁施工系统服务商
CHINA BRIDGE CONSTRUCTION SYSTEM SERVICE



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框架式安全楼梯
Frame Safety Stairs



桥梁施工上下通行安全解决方案

SAFETY SOLUTIONS FOR UP AND DOWN TRAFFIC IN BRIDGE CONSTRUCTION

方案概述 | Solution Overview

设计理念

DESIGN CONCEPT

传统桥梁施工登高楼梯均采用钢管或盘扣式钢管进行搭建，不但安拆繁琐，耗费大量人力、物力，安全问题还难以保证。针对这种现象，兴土股份公司着手研发设计了一款新型框架式安全楼梯。该楼梯设计根据人机工学原理，外部防护采用片状式网片，不仅美观，而且能够有效地对施工人员起到安全保护的作用。框架式楼梯单元节采用标准化设计，框架之间的连接采用螺栓连接，安装便捷，模块化拼装，转场方便，无需重复搭拆，所有杆件经工厂自动化焊接生产，焊缝饱满且经检测后出厂，可实现多次周转使用。

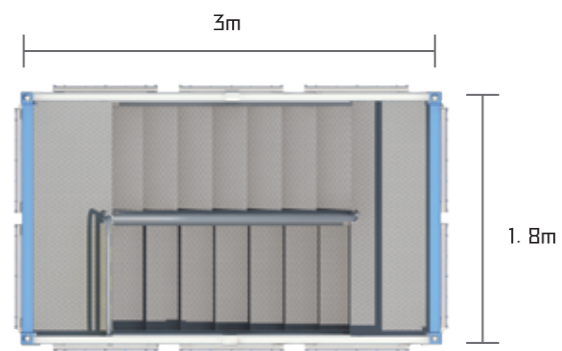
In traditional bridge construction, steel pipes or steel pipes with turnbuckle are used to build the climbing stairs. It is not only cumbersome to install and dismantle, but also consumes a lot of manpower and material resources, and it is difficult to guarantee the safety problems. In view of this phenomenon, Xingtū bridge company started to develop and design a new type of frame type safety stair. According to the principle of ergonomics, the stair design adopts sheet mesh for external protection, which is not only beautiful, but also can effectively play a role in safety protection for construction personnel. The frame type stair unit section adopts standardized design, and the connection between frames adopts bolt connection, which is convenient for installation, modular assembly, convenient for transfer, without repeated erection and disassembly; all members are automatically welded and produced in the factory, with full welds and factory inspection, which can realize multiple turnover.

方案优势

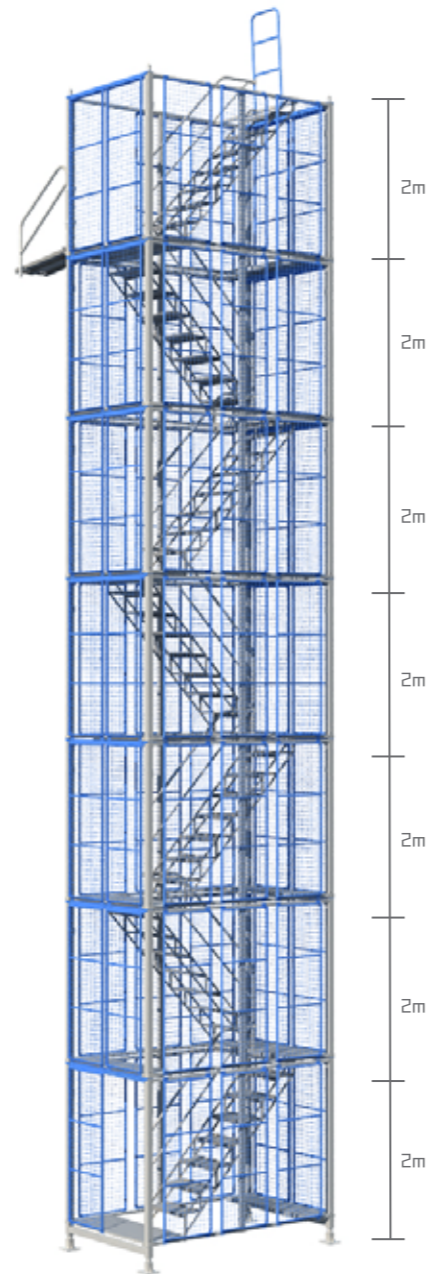
PROGRAM ADVANTAGE

兴土股份框架式安全楼梯材料选型牢固扎实，所有焊接部位均在工厂采用机器人焊接；在楼梯的进口和出口分别设计了专用的行走通道；安全围护采用片状式网片设计，安拆和更换非常方便；在施工过程中，整体结构可快速进行转场。

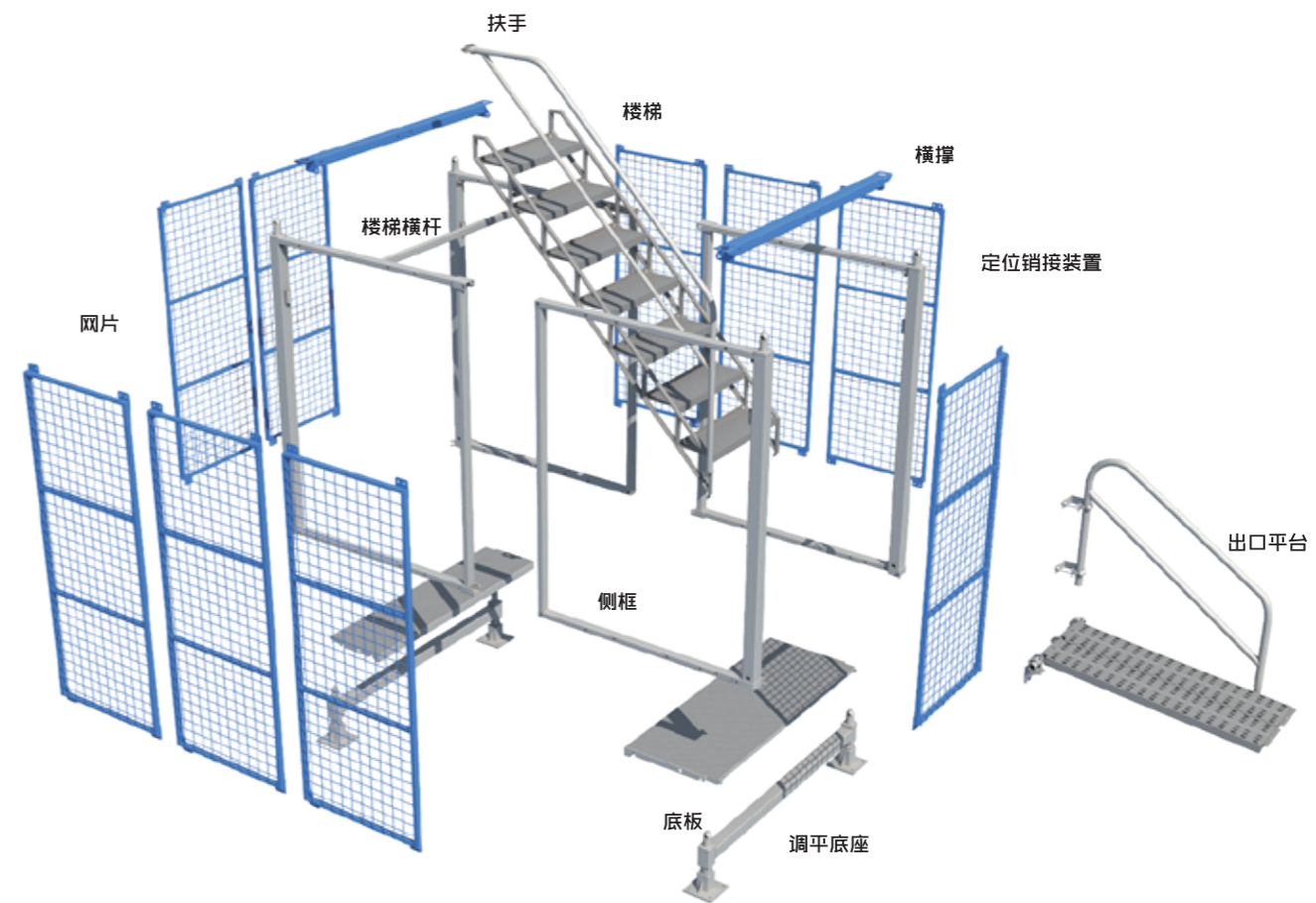
The selection of frame type safety stair materials for Xingtū bridge is firm and solid, and all welding parts are welded by robots in the factory; the entrance and exit of stairs are designed with special walking channels; the safety enclosure is designed with sheet mesh, which is very convenient for installation, removal and replacement; during the construction process, the overall structure can be transferred quickly.



平面尺寸



注: 更多工程案例和参数信息, 请扫描二维码。
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总有一点会打动你的心

There is always a little impress your heart

构件名称 | 定位销接装置

Component name | Pin-connected location device



在传统框架楼梯标准上下拼接时，由于吊机摆动的幅度没有那么精密，往往需要工人扶正和空位对准后进行栓接，使得上下对接的安装效率慢且安全事故频发。针对这一问题，我们研发了定位销接装置，在快速就位后，用销轴进行连接即可，大幅提升了安装效率并降低了操作的不安全性。

When splicing up and down the standard section of the traditional frame stair, because the swing amplitude of the crane is not so precise, workers are often required to align and bolt after aligning with the empty position, so that the installation efficiency of the up and down docking is slow and the safety accidents are frequent. To solve this problem, we have developed a positioning pin joint device, which can be connected with a pin shaft after fast positioning, greatly improving the installation efficiency and reducing the insecurity of operation.

构件名称 | 调平底座

Component name | Adjustment pedestal

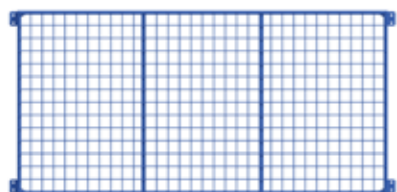


在楼梯拼装时，往往会遇到由于楼梯放置区域素砼浇筑不平整，导致螺栓孔错位而拼接不起来的现象。针对这一问题，兴土股份专门研制了调平底座装置，在楼梯安装前先用水平尺调整底座，使其在安装时能快速就位，且增加楼梯放置的稳定性。

During the assembly of stairs, it is often encountered that the plain concrete pouring in the placement area of stairs is not smooth, resulting in the dislocation of bolt holes and the splicing is not possible. In view of this problem, Xingtu bridge has specially developed a leveling base device. Before the installation of stairs, the base is adjusted with a horizontal ruler, so that it can be placed in place quickly during the installation and increase the stability of the placement of stairs.












构件名称 | 网片

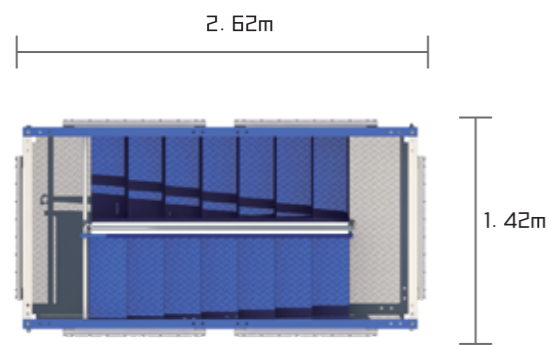
Component name | Meshes



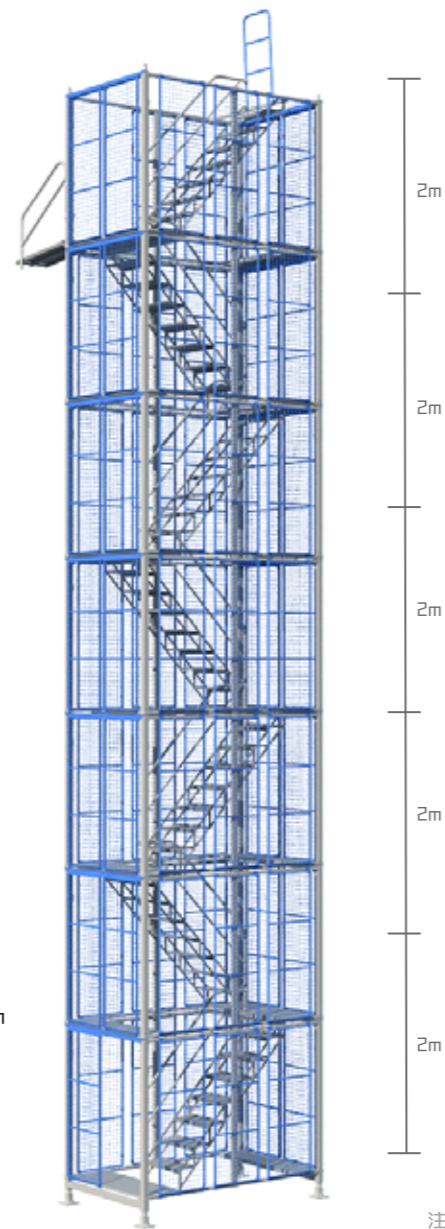
市场上常见的框架式楼梯网片，一般采用钢丝网片焊接在外框架上，在实际使用过程中若通道方向变化，只有切割外框网片或起吊转身，非常不方便；另外若钢丝网片损坏，整个外框只能当废品进行处理。针对该现象，兴土股份研发了片状式网片，在安装时采用螺栓连接，安拆非常方便且起到支撑作用；若由于网片损坏，只需更换网片即可，节约了再次投入的成本。

The common frame type stair mesh on the market is generally welded on the outer frame by steel wire mesh. In the actual use process, if the channel direction changes, it is very inconvenient to cut the outer frame mesh or lift and turn around. In addition, if the steel wire mesh is damaged, the whole outer frame can only be treated as scrap. In view of this phenomenon, Xingtu bridge has developed sheet type mesh, which is connected by bolts during installation, so it is very convenient to install and dismantle and plays a supporting role; if the mesh is damaged, it only needs to replace the mesh, saving the cost of re investment.

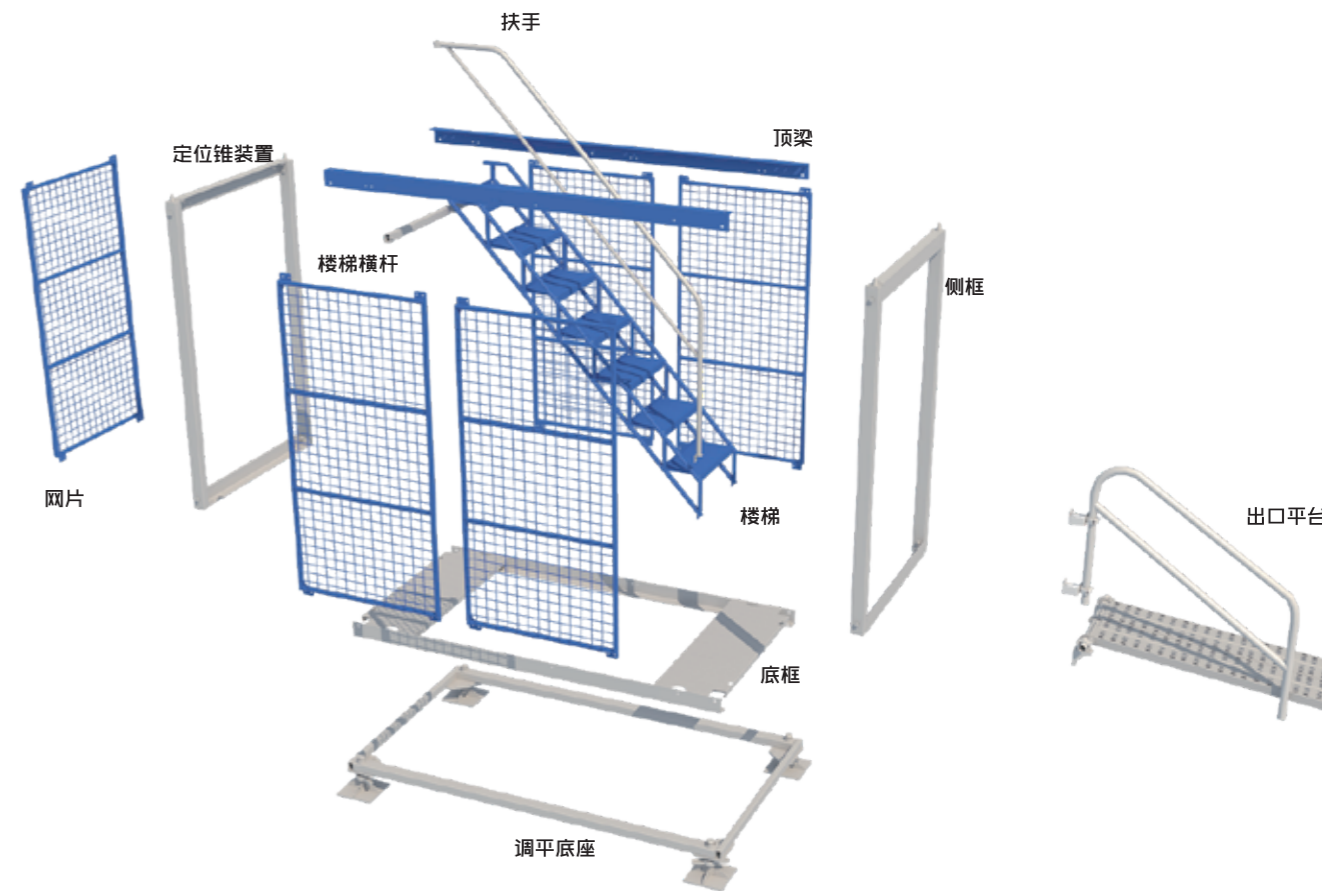
序号	构件名称	图样	规格	计量单位
1	横撑		1.8m	件
2	侧框		1.5*2m	件
3	底板1		0.65*1.68m	件
4	底板2		0.42*1.68m	件
5	网片		0.7*2m	件
6	楼梯		2*0.8m	件
7	楼梯横杆		1.68m	件
8	扶手		φ42*2.4m	件
9	调平底座(选配)		1.8*0.25m	件
10	A型附墙(选配)		φ48x3.0-(L)	件
11	过渡搭板(选配)		C250x50-(L)	件



平面尺寸

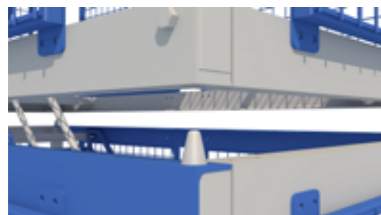


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When splicing up and down the standard section of the traditional frame stair, because the swing amplitude of the crane is not so precise, workers are often required to align and bolt after aligning with the empty position, so that the installation efficiency of the up and down docking is slow and the safety accidents are frequent. To solve this problem, we developed a positioning cone device, which can be connected by bolts after fast positioning, greatly improving the installation efficiency and reducing the insecurity of operation.

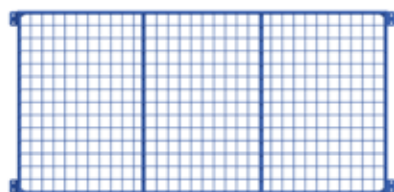
构件名称 | 调平底座
Component name | Adjustment pedestal



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During the assembly of stairs, it is often encountered that the plain concrete pouring in the placement area of stairs is not smooth, resulting in the dislocation of bolt holes and the splicing is not possible. In view of this problem, Xingtubridge has specially developed a leveling base device. Before the installation of stairs, the base is adjusted with a horizontal ruler, so that it can be placed in place quickly during the installation and increase the stability of the placement of stairs.

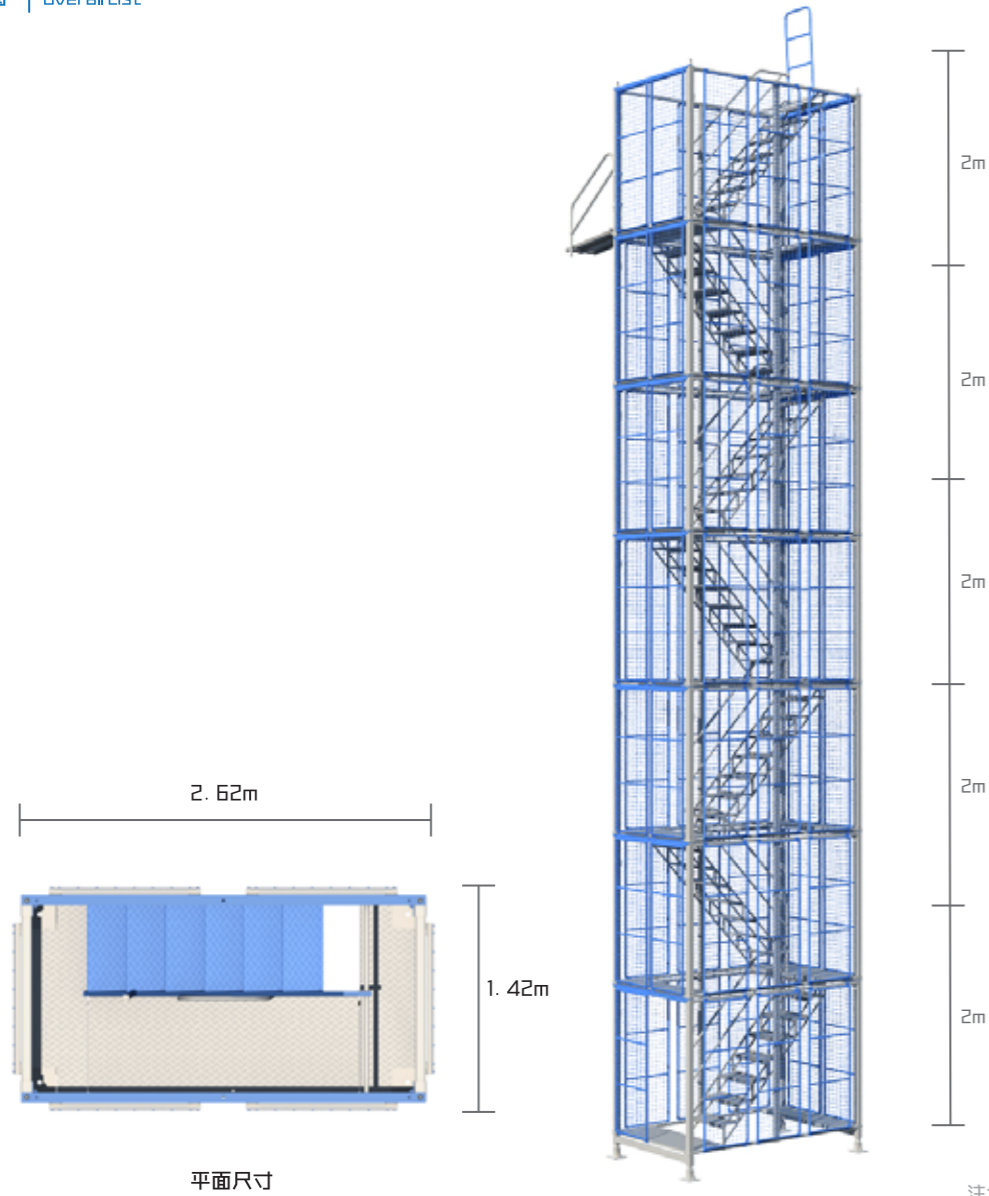
构件名称 | 网片
Component name | Meshes



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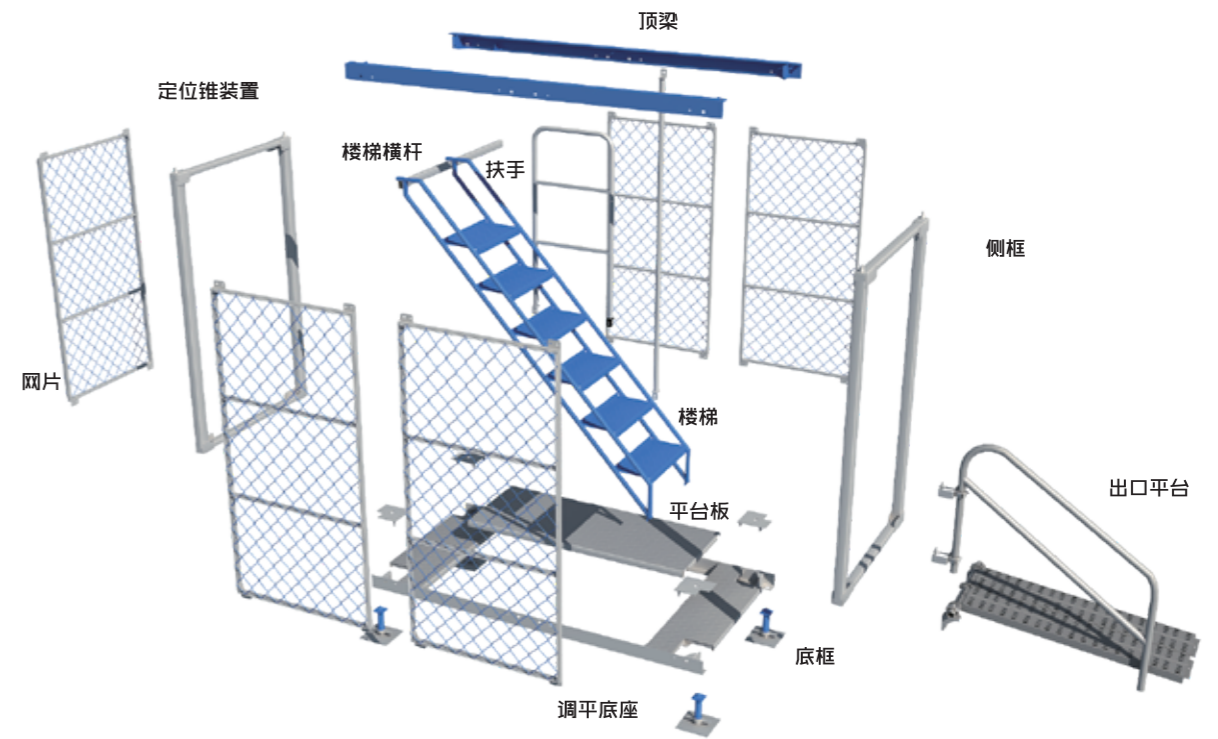
序号	构件名称	图样	规格	计量单位
1	顶梁		2.6m	件
2	侧框		1.3*2.1m	件
3	底框		1.32*2.6m	件
4	网片		0.9*2m	件
5	扶手		φ42*2.4m	件
6	楼梯		2*0.8m	件
7	楼梯横杆		1.31m	件
8	调平底座(选配)		2.79*1.69m	件
9	日型附墙(选配)		φ48*3.0-(L)	件
10	过渡搭板(选配)		C250*50-(L)	件



平面尺寸

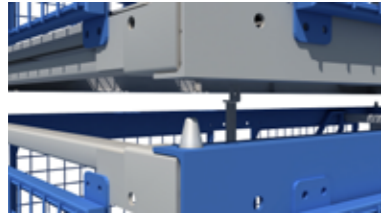


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When the standard section of traditional frame stairs is spliced up and down, because the swing amplitude of the crane is not so precise, workers often need to straighten and bolt after the vacancy alignment, which makes the installation efficiency slow and safety accidents frequent. In order to solve this problem, we developed a positioning cone device, which can be connected with bolts after rapid positioning, which greatly improves the installation efficiency and reduces the unsafe operation.

构件名称 | 调平底座
Component name | Adjustment pedestal



在楼梯拼装时，往往会遇到由于楼梯放置区域素砼浇筑不平整，导致螺栓孔错位而拼接不起来的现象。针对这一问题，兴土股份专门研制了调平底座装置，在楼梯安装前先用水平尺调整底座，使其在安装时能快速就位，且增加楼梯放置的稳定性。

When the stairs are assembled, it is often met that the bolt holes can not be spliced due to the uneven pouring of plain concrete in the stair placement area. In view of this problem, Xingtu bridge specially developed the leveling base device. Before the installation of stairs, the base should be adjusted with a level ruler, so that it can be in place quickly during installation and increase the stability of stair placement.

构件名称 | 施工平台
Component name | Construction platform



该款楼梯自带 0.66*1.69m 的小型施工平台，在盖梁、墩柱浇筑时可利用该平台进行施工作业和小型机具的放置。

The stair is equipped with a small construction platform of 0.66m * 1.69m, which can be used for construction and placement of small machines and tools during the pouring of capping beam and pier column.

序号	构件名称	图样	材料	规格	计量单位
1	顶梁		Q235	2.52m	件
2	侧框		Q235	1.3*2.1m	件
3	底框		Q235	1.3*2.52m	件
4	网片		Q235	0.9*1.95m	件
5	调平底座		Q235	2.62*1.47m	件
6	楼梯		Q235	2*0.6m	件
7	楼梯横杆		Q235	1.28m	件
8	扶手		Q235	2.14m	件
9	盖板		尼龙	0.21*0.21m	件
10	平台板		Q235	0.66*1.69m	件
11	防护栏		Q235	0.6*1.2m	件



项目名称: 绍兴市袍江马山至上虞曹娥(群贤路东延)公路三期工程I标段



项目名称: 中交一公局京杭运河浙江段三级航道整治工程杭州段7标段



项目名称: 徐州市公路工程总公司乌镇太师桥改造项目



项目名称: 中铁七局集团路桥工程有限公司定西至临洮高速项目2标