

INTERNATIONAL PROFESSIONAL FORMWORK EXPERT

VICO
Engineering



Local Presence-Global Competence

VICO ENGINEERING 公司介绍

VICO ENGINEERING 以“技术驱动基建创新，服务赋能全球工程”为核心理念，打造“重型工程 + 民建领域”协同发展模式，为全类型工程项目提供从方案研发到现场交付的全链条解决方案，致力于成为连接全球多元工程需求与前沿技术的核心力量。

VICO ENGINEERING has adhered to the core philosophy of "Driving Infrastructure Innovation with Technology, Empowering Global Projects with Services". While creating a coordinated development model of "heavy engineering + civil construction", and providing full-chain solutions from R&D to on-site delivery for all types of engineering projects, it is committed to becoming a core force connecting global diversified engineering needs with cutting-edge technologies.



在技术研发上，VICO ENGINEERING 组建跨学科团队，将 3D 建模、BIM 技术创新应用于民建模板模架研发 —— 通过 BIM 模拟施工流程实现预拼装设计，自主研发的智能模架系统可自动适配浇筑高度，提升施工效率，契合“技术创新优化流程”的理念。

In terms of technology R&D, VICO ENGINEERING has established an interdisciplinary team, applying 3D modeling and BIM technology to the R&D of civil construction formwork and scaffolding in an innovative way. It realizes pre-assembly design by simulating the construction process with BIM, and the independently developed intelligent scaffolding system can automatically adapt to the pouring height to improve construction efficiency, which is in line with the concept of "optimizing processes through technological innovation"



在生产制造上, VICO ENGINEERING 依托北京奥宇集团模块化装备核心生产基地, 工厂以 20 万平米占地、5 个现代化生产车间为硬件基础, 延续“设备设计-制造-现场应用”全流程把控逻辑, 配备适配民建模板模架生产的数控设备与全流程质检体系, 确保精度对标重型工程标准, 更针对民建施工特性实现差异化突破。

In terms of manufacturing capability, relying on Beijing Aoyu Group's profound accumulation in local engineering services, VICO ENGINEERING has built an efficient localized service network. As a core production base for modular equipment, the factory is based on the hardware foundation of 200,000 square meters of area and 5 modern production workshops, continuing the full-process control logic of "equipment design-manufacturing-on-site application". It is equipped with CNC equipment and full-process quality inspection systems suitable for civil construction formwork and scaffolding production to ensure precision meets heavy engineering standards, and achieves differentiated breakthroughs according to civil construction characteristics.



在全球化布局上, VICO ENGINEERING 已在 10 余个国家设立分支机构, 形成“研发中心+VICO ENGINEERING 生产基地+现场服务站”立体网络, 为民生项目提供 7×24 小时技术支持, 从模板模架调试到运维全程护航。

In the terms of globalization, VICO ENGINEERING has set up branches in more than 10 countries, forming a three-dimensional network of "R&D centers + VICO ENGINEERING production bases + on-site service stations", providing 24/7 technical support for civil projects and offering full support from formwork and scaffolding debugging to operation and maintenance.

截至目前, 公司服务全球超 150 家客户, 民建领域客户占比持续提升。近 400 个重点项目中, 民建模板模架以“高适配性、高性价比、高效率”赢得广泛认可, 拓宽市场版图。未来, VICO ENGINEERING 将继续以技术创新为引擎, 依托工厂在民建模板与模架领域的优势, 深化模块化技术应用, 为全球民建项目高质量发展贡献更多“VICO 方案”。

Till now, the company has served more than 150 customers worldwide, with the proportion of civil construction customers continuing to increase. With nearly 400 key projects, civil construction formwork and scaffolding have won wide recognition for their "high adaptability, high cost-effectiveness and high efficiency", expanding the market territory. In the future, VICO ENGINEERING will continue to take technological innovation as the engine, rely on the factory's advantages in the field of civil construction formwork and scaffolding, deepen the application of modular technology, and contribute more "VICO Solutions" to the high-quality development of global civil construction projects.

Content

Formwork System

Timber beam formwork	2
Steel frame formwork SF120	26
Aluminum frame Formwork	34
Aluminum Formwork	38
Steel formwork	47

Vertical Structure Support System

Pull-push Prop	54
single-side Bracket	57
Simple Single-side Bracket	61
Single-side Climbing Bracket SCB180	62
Climbing Bracket CB240 & CB210	67
Auto-climbing Bracket ACB100 & ACB50	74

Level Structure Support System

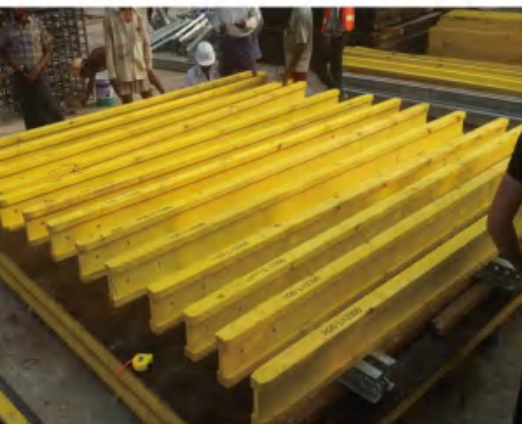
Steel Prop & Tripod & Beam Clamp	84
Ring-lock Scaffolding	91
Tower Scaffolding	98

Platform System

Climbing Platform CP190	102
Shaft Platform	104
Protection Platform PP-50	106

Structure

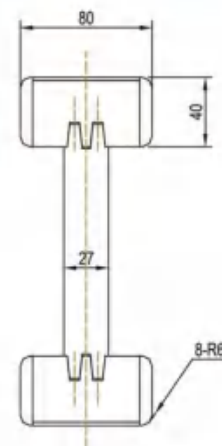
Assembly segments	113
Steel	116
Basket	121
Erecting machine	129
Mobile Scaffold	133
Trolley	137



➔ **Formwork System**

Timber-beam Formwork

(1) Timber Beam H20---cost-effective formwork girder



Wings: Spruce Wood(from Finland); Web: Cottonwood Plywood; Glue: HENKEL Glue.

Characteristics:

- ◆ Standardized production lines.

Supply capability: 3000m/day, $L_{\max} = 6600\text{mm}$.



- ◆ Finger jointing of the flange and web, the strength of timber beam is highly improved.
Max. shearing force failure load:40KN
- ◆ Well treated to prevent from water penetration or erosion, so the service life maximally extended.
Normally, timber beam H20 can be used for 4 to 5 years, the exact using time would depend on maintenance & storage.
- ◆ Robust caps at the end of the girders protect against damages.



(2) Plywood --- make perfect concrete surface

WISA-Form Birch is a coated special plywood using in the formwork systems where high requirements are set on the concrete surface and the times of reuses.



Specification: T=18mm& T=21mm
In standard thickness,
moisture content 10±2%

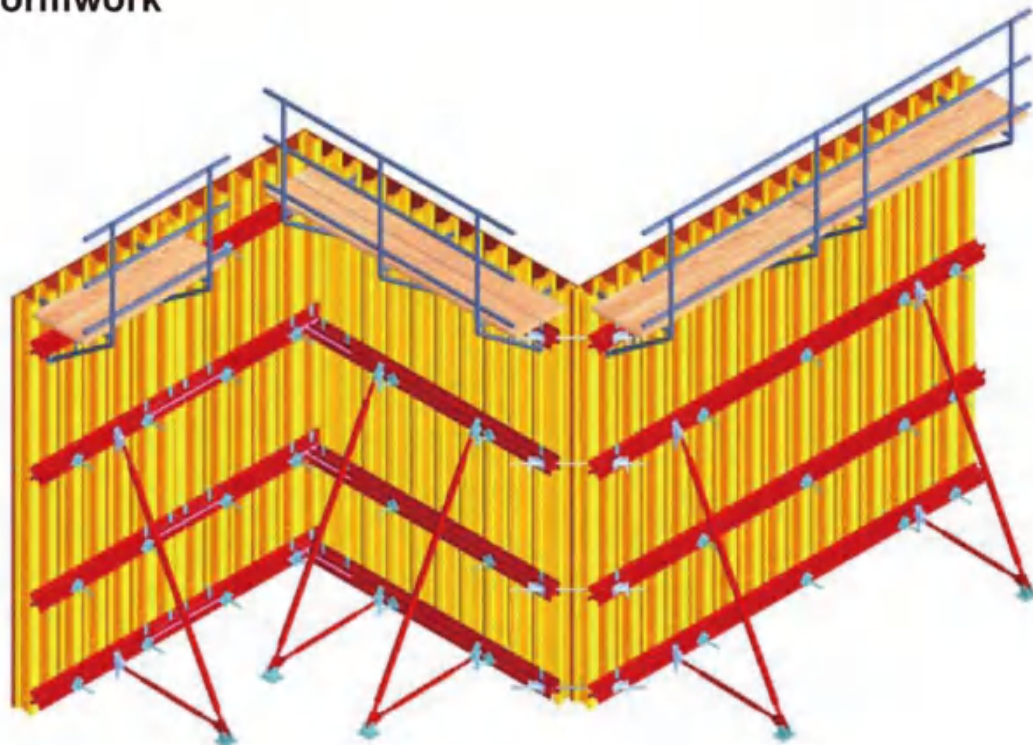


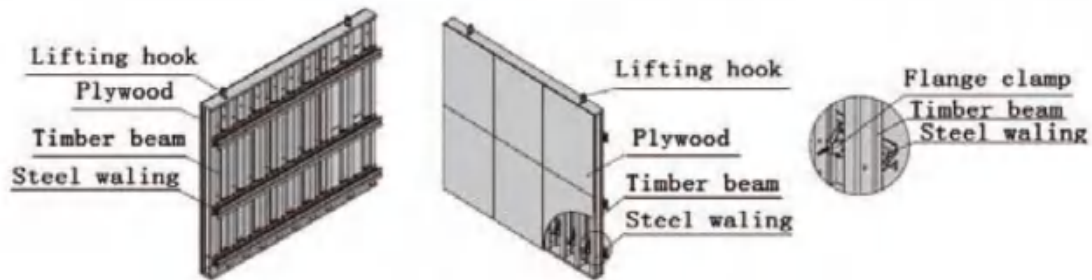
(3) Formwork

With FWK timber beam & WISA plywood, the formwork is low weight but high load capacity, it is widely used in construction.



● Flat Formwork





Flat Formwork Sketch

Characteristics:

- ◆ Component with high standardization.
- ◆ Assembling in site, flexible application.



- ◆ Light weight, easy transportation and storage.

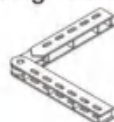


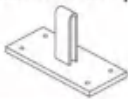
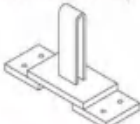
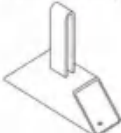
Application:

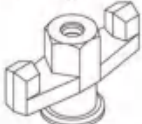
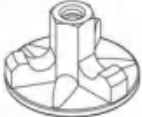


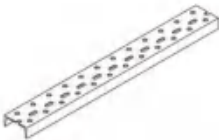
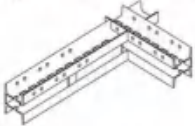
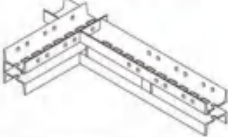
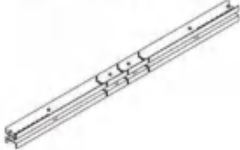


Accessories:

No.	Name & Sketch	Weight(Kg)	Spec. & Tech. Parameter	Remarks
09000081 09000082 09000083	Flange Clamp 	0.74 0.88 0.9	For steel waling [10~[12 [14 [16	For connecting timber beam to steel waling.
09000084	Lifting Hook 	4.65	H20	For lifting the formwork.
09000085	Stacking Plate 	4.84	H20	For connecting the beams.
09000086	Timber Beam Bracket 	13.58		Install on the beam.
09000121 09000131 09000134 09000141	Formwork Element Connector 	7.38 8.5 7.3 13.52	[10 [12 [12 L=820 [14	For connecting waling, length as required.
09000122 09000132 09000142	Shaft Waling Squaring Connector 	8.44 10.64 16.08	[10 [12 [14	For connecting waling, length as required.
09000123 09000133 09000143	Adjustable Shaft Waling Squaring Connector 	9.16 9.48 12.82	[10 [12 [14	For connecting waling, length as required.
09000151 09000152	Water Stop Connector 	0.62 0.80	D15 D20	For wall-through tie-rod.

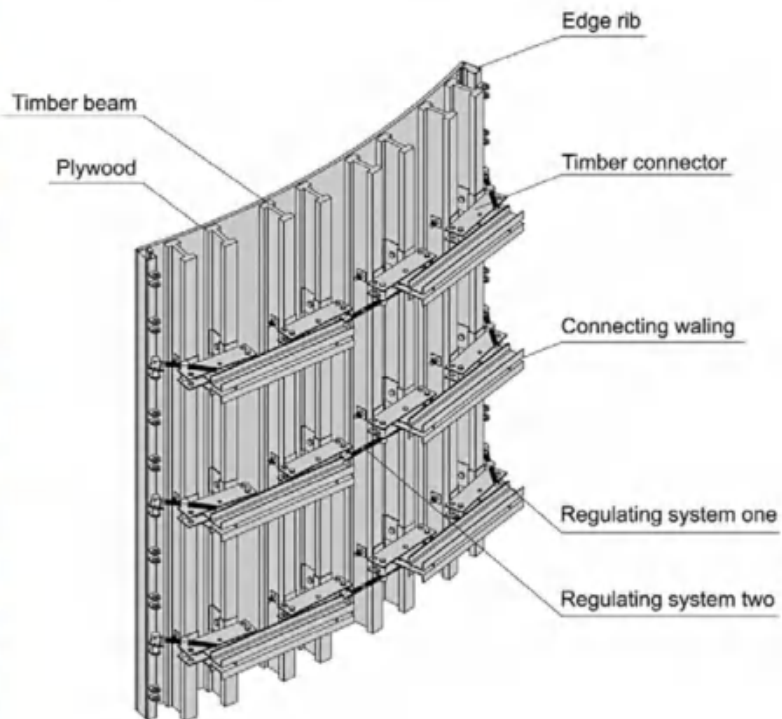
No.	Name & Sketch	Weight(Kg)	Spec. & Tech. Parameter	Remarks
09000161 09000162	Tie-yoke 	2.30 2.20	[12~[16 [10	For connecting external corner formwork.
09000163	Beam Clamp I 	1.44	[10	For connecting element connector.
09000164	Beam Clamp li 	1.47	[12	For connecting element connector.
09000165	Beam Clamp lii 	1.09	[14~[16	For connecting element connector.
09000166	Wedge 	0.59		For connecting steel waling and element connector.
09000167 09000168	Gib Head Bolt 	0.18 0.31	L=145 L=253	For connecting wood batten and steel waling.
09000171 09000172 09000173	Column Hoop 	12.01 21.76 16.28	[10 L=1200 [12L=1600 [12 L=1200	[10 For the cube with the cross section less than 80x80cm; [12 For the cube with the section less than 120x120cm.
09000221 09000224	Pvc Pipe Plug 	0.008 0.008	Φ21.5 Φ27.5	
09000222 09000225	Pvc Joint 	0.004 0.004	Φ26/Φ22 Φ31/Φ28	
09000223	Pvc Pipe Plug 	0.004	Φ26	Other size can also be supplied as required.

No.	Name & Sketch	Weight(Kg)	Spec. & Tech. Parameter	Remarks
09000233	Waling Bracket 	14.02		Install on the steel waling.
09000241	Tie Rod 	1.06	D20/L=300 Max. load:270kN Allowable load:140kN	Specially used for anchor systems.
09000242		1.94	D26.5/L=350 Max. load:400kN Allowable load:200kN	
09000052 09000062	Wing Nut 	0.35 0.62	D20 D15	For tie-rod D20, galvanized; For tie-rod D15, galvanized.
09000053 09000063	Hexagon Nut 	0.18 0.56	D15 D20	For tie-rod D15, galvanized; For tie-rod D20, galvanized;
09000054 09000064	Tri-wings Nut 	0.87 0.89	D15 D20	For tie-rod D15, galvanized; For tie-rod D20, galvanized;
09000055 09000065	Flange Nut 	0.63 0.65	D15 D20	For D15 tie-rod, galvanized; For D20 tie-rod, galvanized.
09000056 09000066	Flange Nut 	0.88 0.90	D15 D20	For D15 tie-rod, galvanized; For D20 tie-rod, galvanized.
09000057	Super Plate Nut 	1.39	D15	For the situation that tie-rods and the panels are not vertical.
09000058	Two-wings Nut 	0.70	D15	For D15 tie-rod, galvanized.

No.	Name & Sketch	Weight(Kg)	Spec. & Tech. Parameter	Remarks
09000011 09000021 09000012 09000022 09000013 09000024	Steel Waling 	10.85 17.44 14.47 34.88 28.94 66.54	[12 L=900 [14 L=1200 [12 L=1200 [14 L=2400 [12 L=2400 [14 L=4800	
09000014	Right Steel Waling 	30.02	[12	
09000015	Reversed Steel Waling 	30.02	[12	
09000025	Steel Waling (The Length Is Various) 		[14	
09000031 09000041 09000032 09000042 09000033 09000043 09000034 09000044 09000045	Tie Rod 	1.78 2.98 2.14 4.47 2.67 8.95 3.38 13.42 17.6	D15 L=1000 D20 L=1000 D15 L=1200 D20 L=1500 D15 L=1500 D20 L=3000 D15 L=1900 D20 L=4500 D20 L=5900 D20 Max. load:270kN Allowable load:140kN; D15Max. load:160kN Allowable load: 85kN.	Other length can be supplied as required.
09000071 09000072 09000073	Cast Washer Plate I 	0.37 0.74 1.32	60X120 100x100 120x120	For tie-rod D15 For tie-rod D15 For tie-rod D20
09000074	Punch Washer Plate 	0.68	120x120	For tie-rod D20

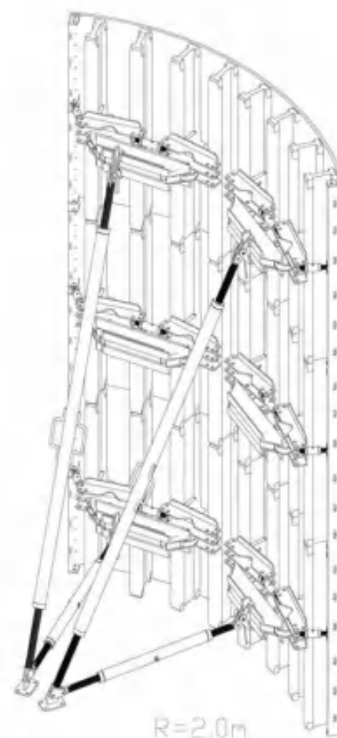
● Adjustable Arced Formwork

For pouring arced wall or column with radius more than 1m.



Characteristics:

- ◆ Adjustable radius, flexible application.



- ◆ Easy operating, economical efficiency.



Application:



Hainanjiang Bridge, China



Qianjiang Ninth Bridge, China



Nandaocun Bridge, China

● Table Formwork

Table formwork is the most typical application for slab, with timber beam, the slab formwork is light weight, fast and economic in the construction.

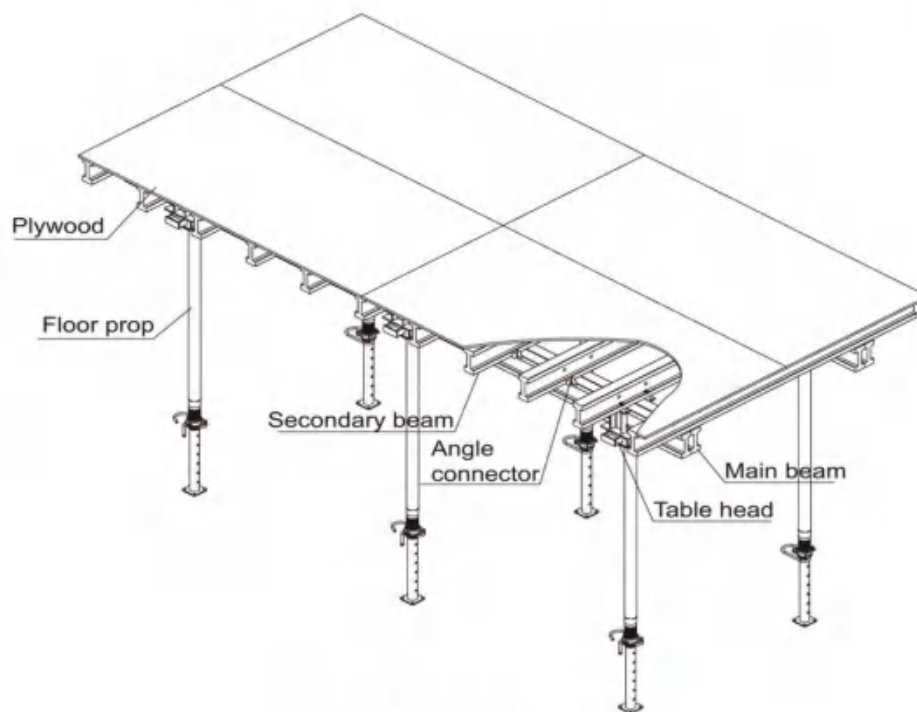
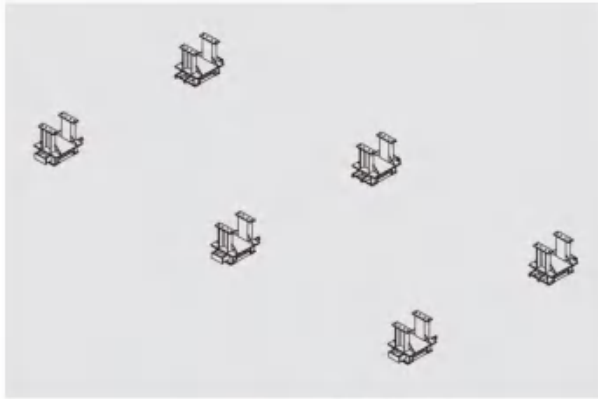


Table Formwork Sketch

Characteristics:

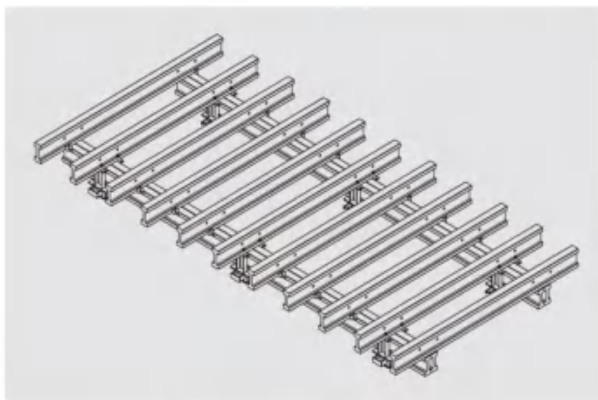
- ◆ Simple structure, easy assembly.



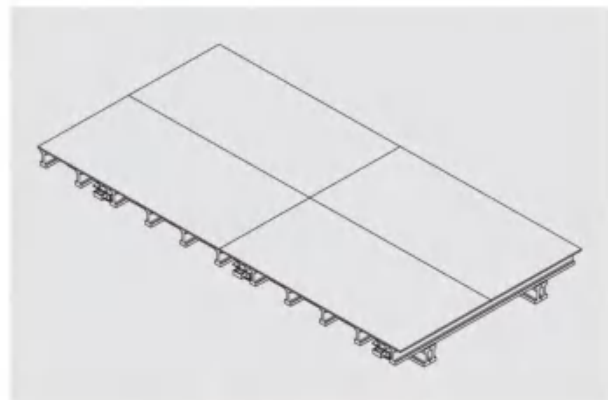
Arrange the table heads



Fix the main beams



Fix the second beams



Fix the plywood

- ◆ Flexible structure, be adapted to different support system.

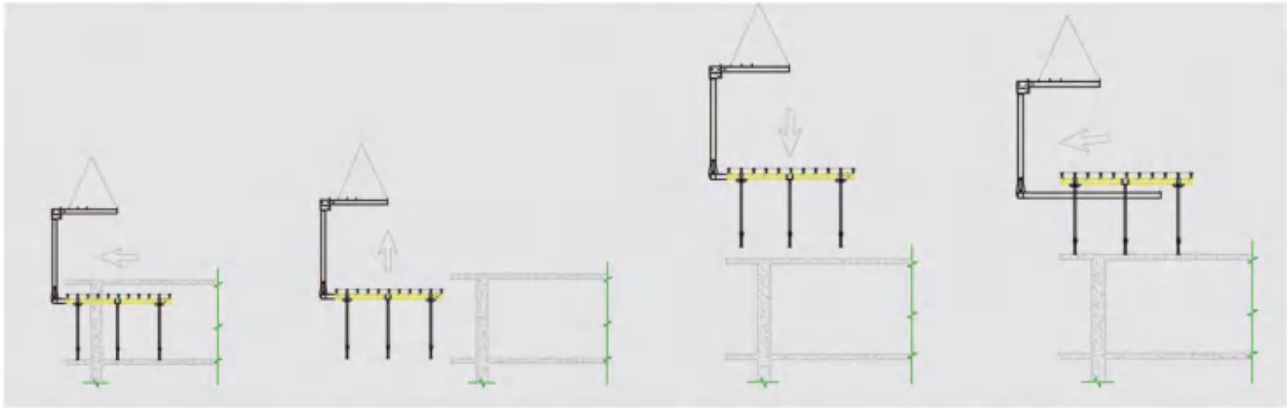


For Prop

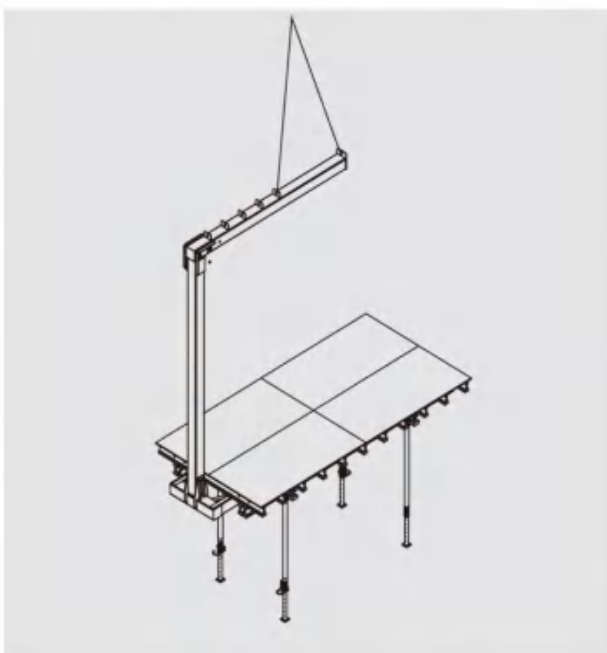


For Scaffolding

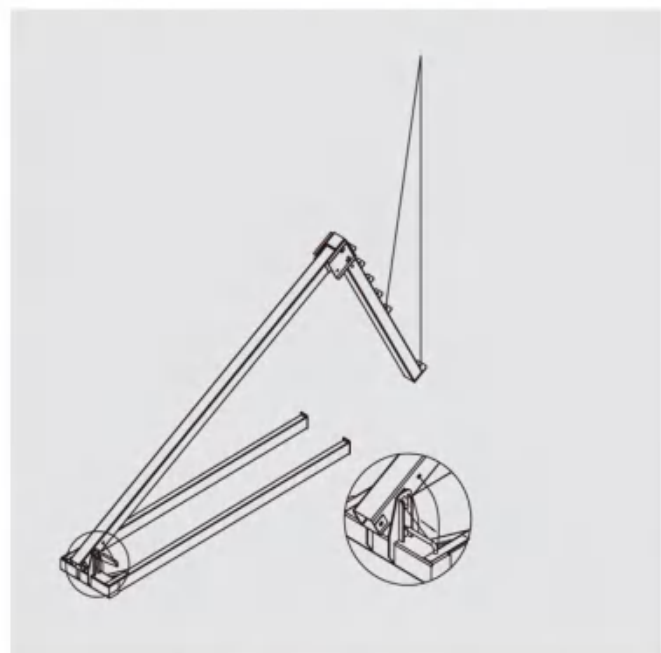
- ◆ High construction efficiency with special system tools.
- 1. Lifting fork for lifting the table formwork to upper floor.



Application Sketches

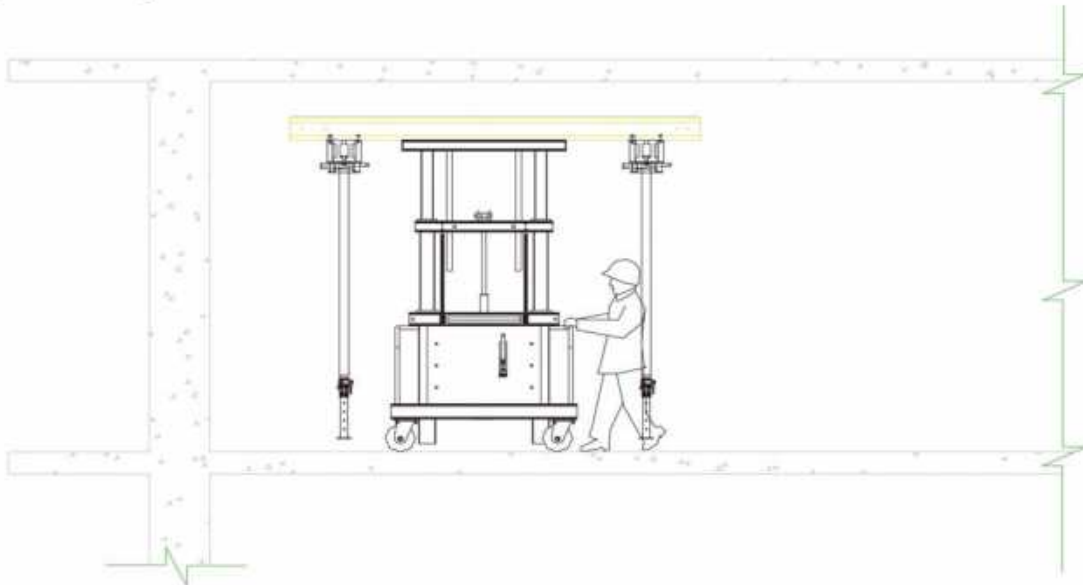


Working State



Idle State

2. Trolley for moving the table formwork on floor.



Height

Standard device:

Hmin=1750mm

Hmax=3250mm

Standard device

with an attached frame:

Hmin=2500mm

Hmax=3900mm

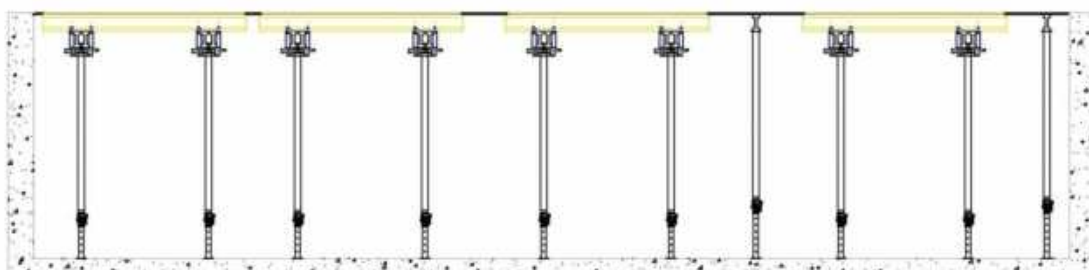
Bearing load

Standard device: 15~20KN

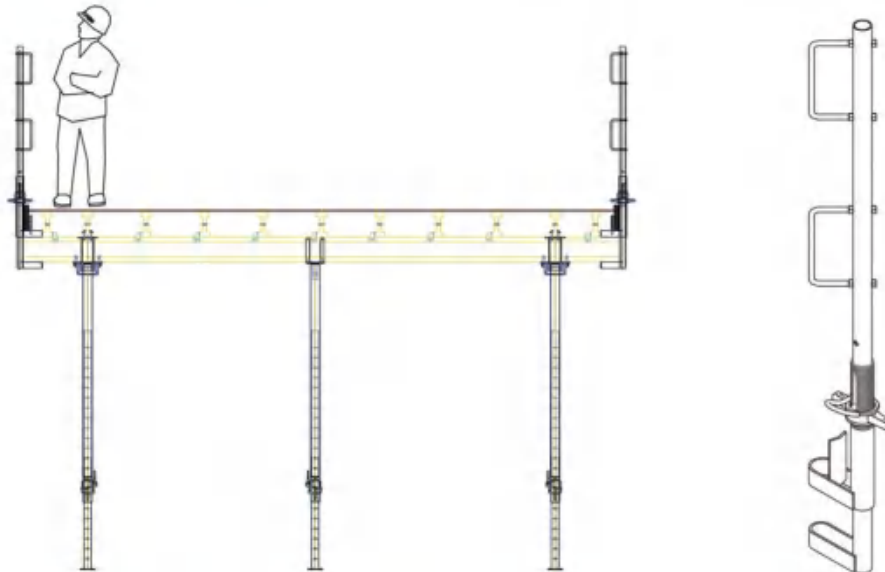
Standard device

with an attached frame: 11KN

◆ Flexible application with stand alone props.



- ◆ Safer condition with handrails.



Application:



Pearl Tower 14b, Doha, Qatar



Beach Tower, Doha, Qatar



City of Lights C15, Abu Dhabi, UAE



Paseo Los Proceres, Honduras



Murqab Tower, Doha, Qatar

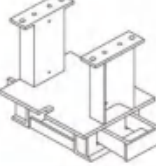
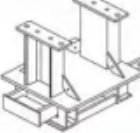


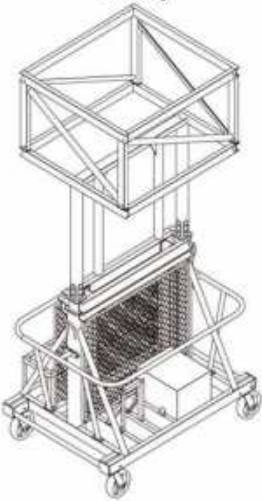
Centre Point, Medan, Indonesia



Bread Workshop, Singapore

Accessories:

No.	Name & Sketch	Weight(Kg)	Spec.	Remarks
02080100A	Lowering Head 	3.45	L=328	For supporting timber beam.
02080200A	U-head 	1.50	L=178	For supporting timber beam.
02080301 02080401	Straight Angle Jack 	3.28 3.05	Φ61 L=160mm Φ50 L=160mm	For supporting timber beam.
02080302 02080402	Quick Striking Ring 	2.28. 2.09	Φ61 L=160mm Φ50 L=160mm	Used together with straight angle jack, for taking down beams quickly.
02050500A	Early Stripping Head 	7.49	L=460mm	For taking down beams quickly.
02030201A	Tabel Head I 	19.97		For double main beam
02030101A	Tabel Head li 	16.73		For single main beam
02030102	Angle Connector 	0.09	2x67x90	For connect the beam
02030103	Timber Beam Washer 	0.01	2x31x25	For connecting second beam

No.	Name & Sketch	Weight(Kg)	Spec.	Remarks
02030104	Connection Unit 	1.13	M12	For connecting main beam
02030202	T-type Bolt 	0.33	M20	For connecting main beam
02030500	Handrail 	14.53		For safe construction
02030300	Lifting Fork 	803.68		For lifting table formwork
02030600	Trolley 	707.04		For shifting table formwork

● Other Special Formwork



Guyed Traveler Formwork



Girder Box Formwork



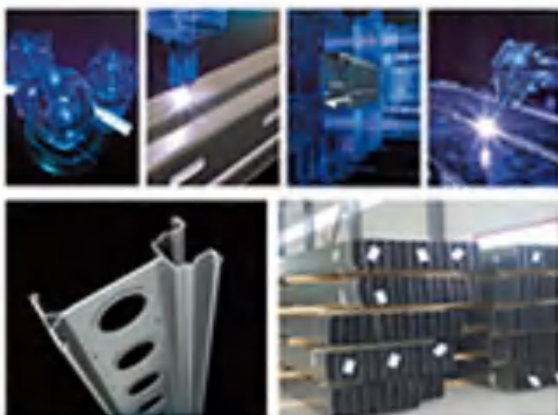
Style Design Formwork

Steel-frame Formwork SF-120



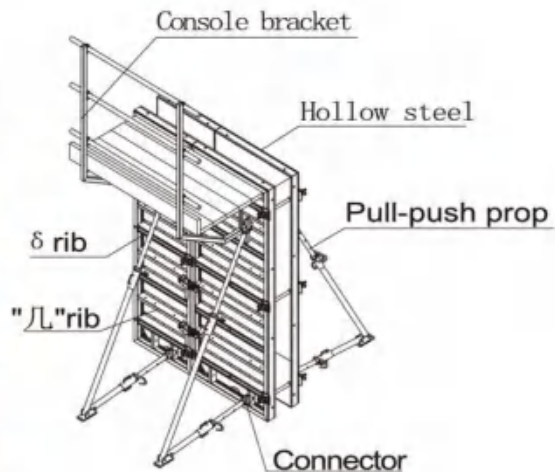
(1) Steel Frame

As the framework, it is adapted to the plywood with thickness of 18mm. High-precision production line guarantees the perfect products.



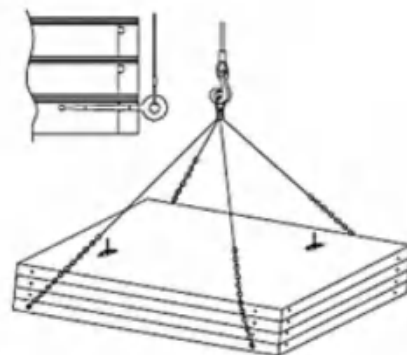
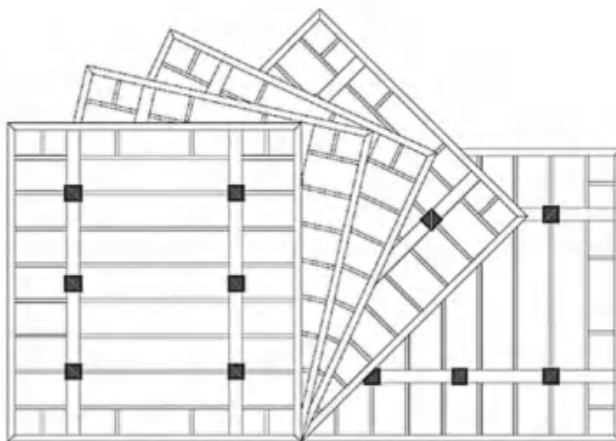
(2) Formwork

● Wall Formwork



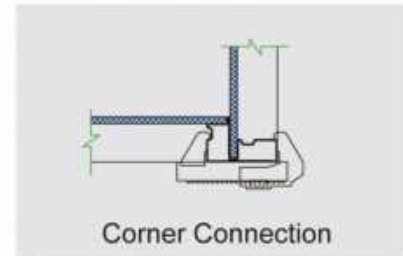
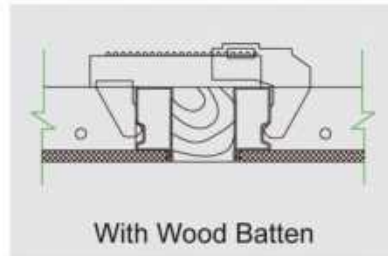
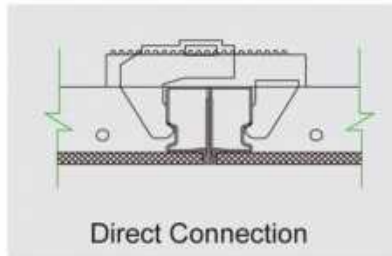
Characteristics:

- ◆ Special hollow steel frame covered with WISA-plywood, light weight but high strength. Its allowable pressure is 60KN/m^2 with the weight of 65KG/m^2 .
- ◆ High standardized system.

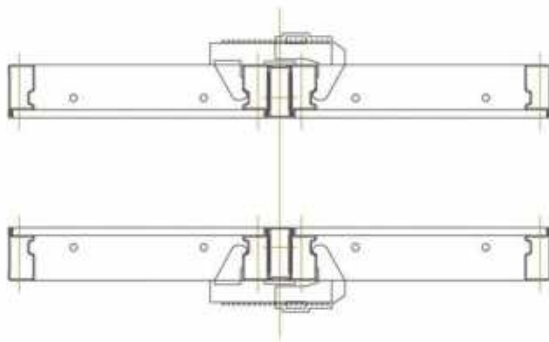


- ◆ Easy connection with adjustable steel clamp.

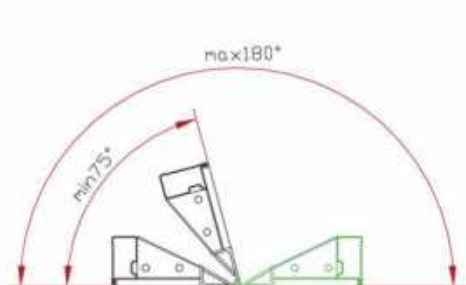
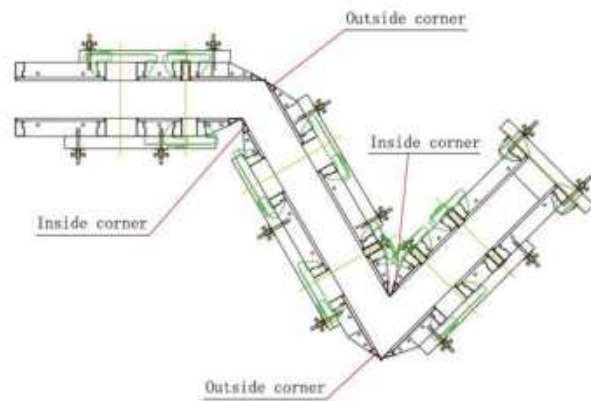
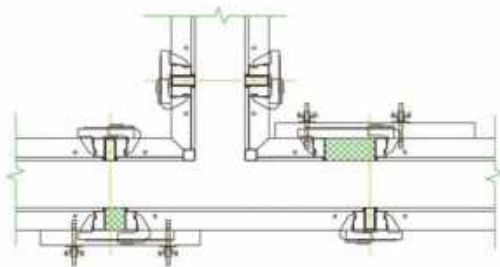




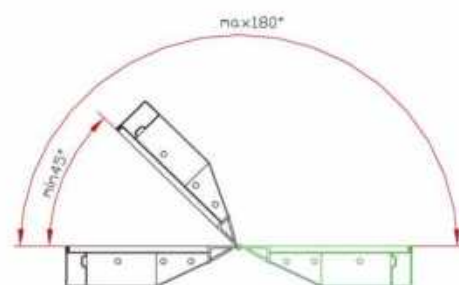
- ◆ Convenient tie arrangement with the hole in frame.



- ◆ Convenient and fast corner formwork.

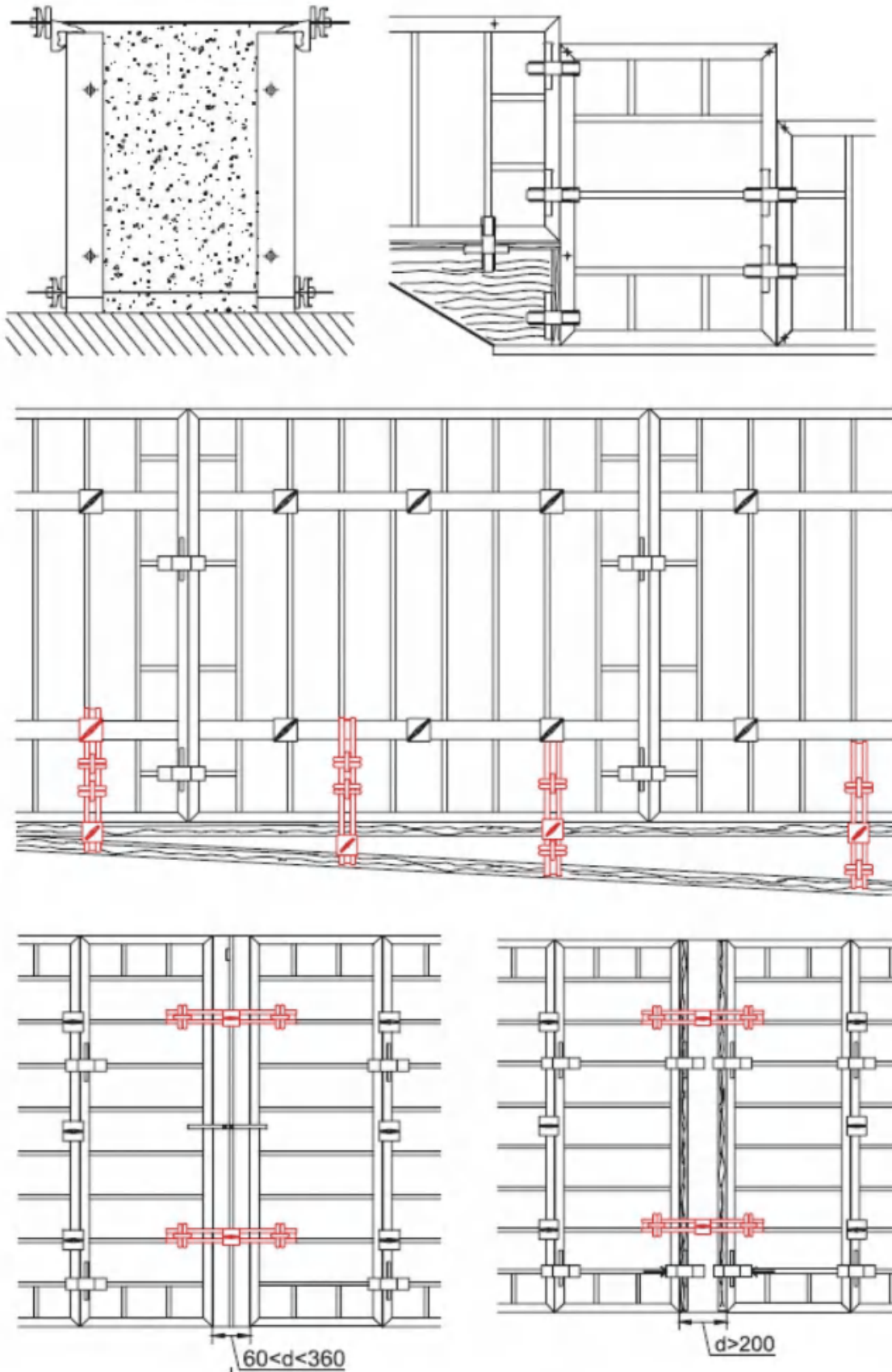


Articulated Inside Corner



Articulated Outside Corner

- ◆ Flexible to assemble and application.



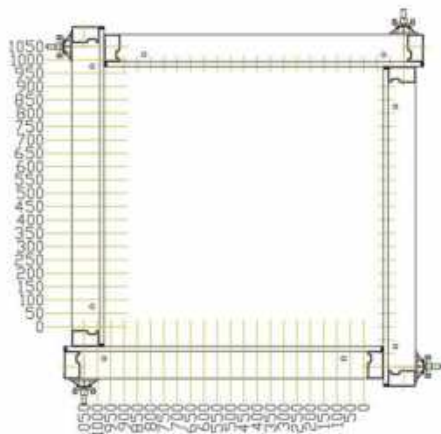
● Column Formwork



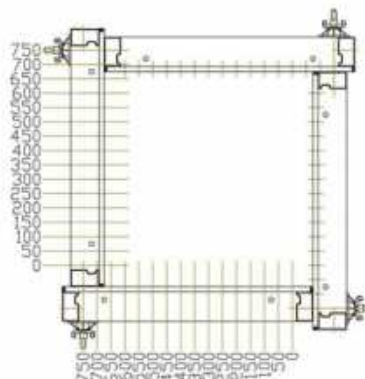
Characteristics:

- ◆ Allowable pressure is 80KN/m^2 .
- ◆ Faster and easy operation.
- ◆ The dimension for column is adjustable.

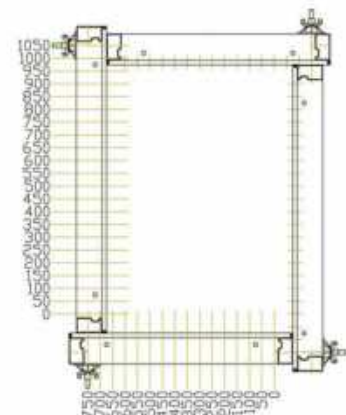
1050 Series /750 Series Adjustable Column Formwork



1050 Series



750 Series



Rectangle Column

Application:



Centre Point, Medan, Indonesia

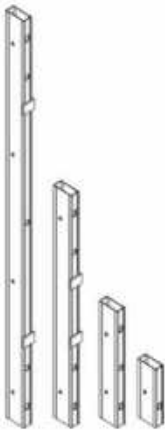
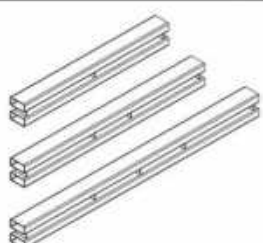


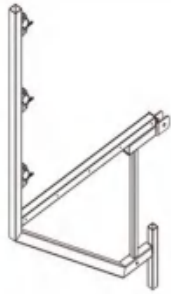
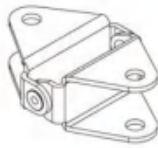
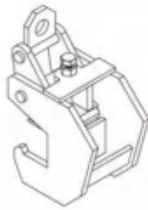
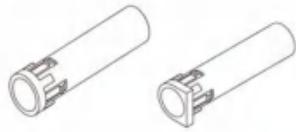
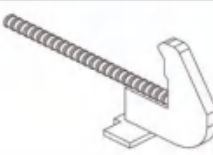
Lagula Tower, UAE



Kuwait Police College, Kuwait

Accessories:

Name & Sketch	Spec.	Weight(kg)	No.
Adjustable Filler Plate ①adjustable and Lock Set ②part 1 ③part 2 ④spring Cotter $\Phi 4$	 H=3000	120.90 1.3 79.32 38.98 0.023	03081001 03081002 03081003 09000502
Filler Tube	 L=3000 L=1200 L=600 L=300	23.65 9.68 4.59 2.31	03081101 03081102 03081103 03081104
Filler Tube Connector	 L=400	1.31	03081105
Steel Waling	 L=800 L=1000 L=1300	8.54 10.70 13.88	03081106 03081107 03081108
Corner Waling	 L=600	12.26	03081109

Name & Sketch		Spec.	Weight(kg)	No.
Console Bracket			21.59	03081110
Pull-push Prop Connector			1.13	03081112
Lifting Hook			9.27	03081113
PVC Tube				03089001 03089002
T-type Bolt		L=150 L=265 L=365 L=450	0.26 0.61 0.76 0.88	03089003 03089004 03089005 03089006
Gib Headed Bolt (Used In Outside Corner)			1.76	03089007
Cover Cap				03089008 03089009
Column Formwork Bolt			0.57	03089010
Fixer			2.30	03089011
Protection Cushion				03089012

Aluminum-frame Formwork



Characteristics:

- ◆ The complete formwork system for slab casting, easy & quick assembly.



Adjust the length of steel prop



Assemble prop head and spring bolt

Aluminum-frame Formwork



Set up the prop and tripod system



Hang in the panel as shown



Support the panel up to be horizontal



Put the other props in position



Check the elevation of formwork



Continue the rest panels

- ◆ Light panel weight, easy to carry.

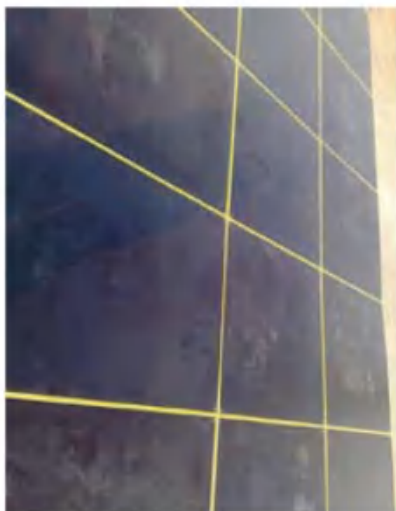


- ◆ Economical, versatile & hi-speed formwork system; comes with a permissible slab thickness of 400 mm.
- ◆ Working efficiency is greatly improved by fast erection and dismantlement.
- ◆ The panel can be supported by both props and scaffolding.



- ◆ High standardization with components.





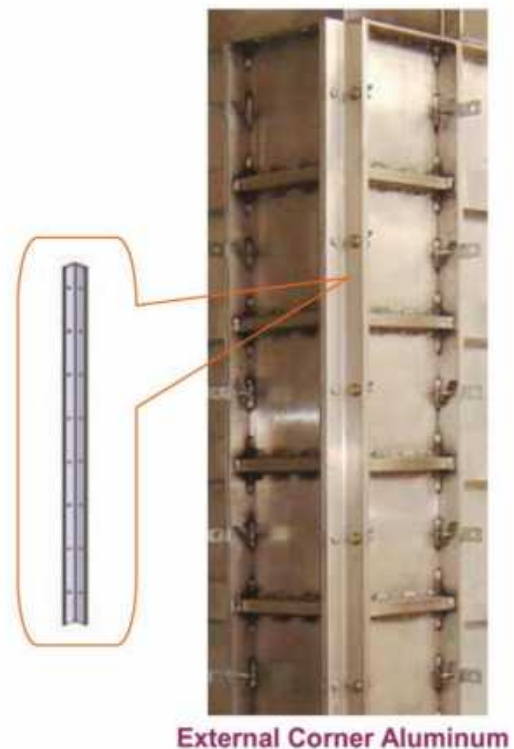
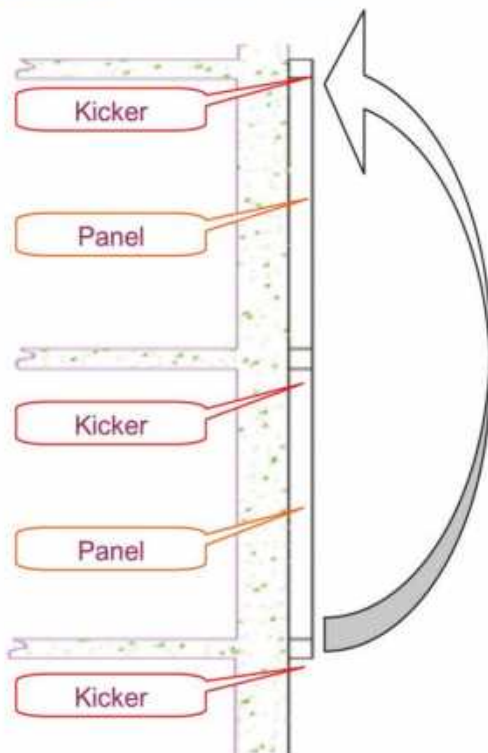
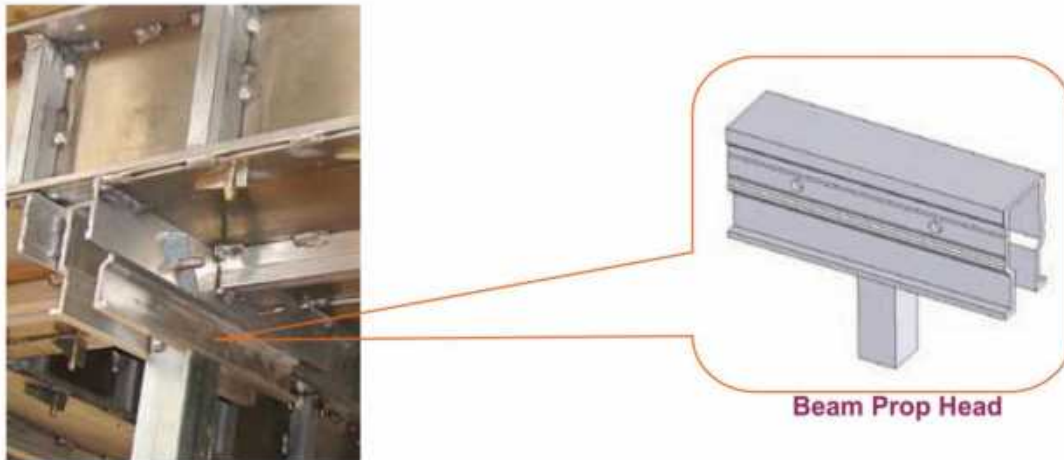
Aluminum Formwork



Characteristics:

- ◆ Lighter weight but high bearing capacity.
- ◆ Manual transportation can be achieved, greatly reduces the aggregate cost.
- ◆ Perfect design, excellent produce and well welding make sure the flatness of concrete surface.
- ◆ It is with the advantages of standard design, excellent applicability and interchangeable.
- ◆ Simple, safe and fast.
- ◆ No rust corrosion, easy maintenance, and high turnover rate.
- ◆ The formwork series are a complete system with a full set of accessories, and can be set up flexibly according to project.

System Details & Application:





Wall Tie



Internal Corner Panel

Wall Panel

Wall Tie Joint Cards



Internal Corner



Soffit Aluminum

Internal Corner

Wall Panel

Slab Panel

Soffit Aluminum

Internal Corner Transfer Panel

Wall Panel

The Connection of Slab Panel, Wall Panel, Internal Corner panels and Soffit Aluminum



Beam Side

Beam Soffit

Soffit Aluminum

Column Panel

Beam and Column



The Connection between Beam Side and Slab Panel



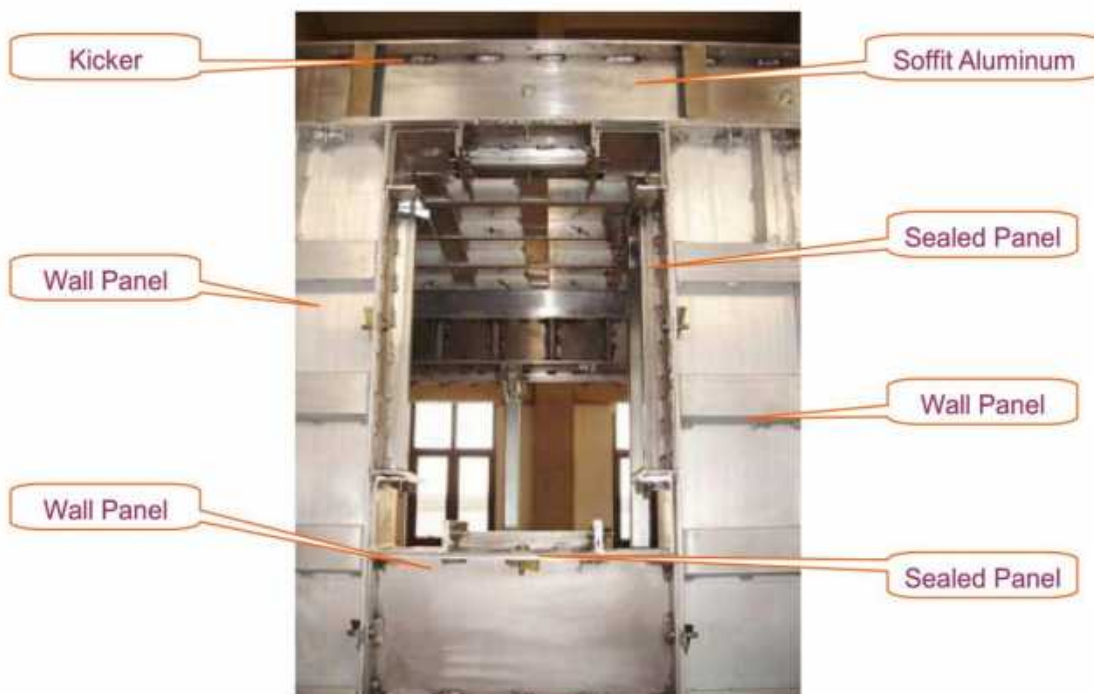
Crossed Beam



The Use of the Beam Prop Head



The Connection Way of Panel Prop Head



Window Disposal

Application:



Accessories:

Name & Sketch	Specification	Weight (KG)	No.
Standard Internal Corner 	150x150x2400	14	05010101
Standard Wall Panel 	600x2400	31.5	05010201
Standard Slab Panel 	600x1200	14.5	05010301
Standard Soffit Aluminum 	L=1800	16.5	05010302
Beam Side 	L=1200	6.5	05010303
Beam Soffit 	L=1200	11	05010304
Transitional Corner 	150x150	1.1	05010102

Name & Sketch	Specification	Weight(KG)	No.
Kicker 	L=1800	10	05010103
External Corner Aluminum 	L=2465	7.4	05010104
Internal Corner Aluminum 	L=150	0.8	05010105
Height Extension Plate 		1.2	05010106
Beam Prop Head 	L=430	2.0	05010305
Panel Prop Head 	150x75	1.0	05010306
End Beam 	L=1800	10.2	05010107
Beam Bar 	L=300	0.5	05010108
Connecting Pin 	L=57	0.1	05010109

Name & Sketch	Specification	Weight(KG)	No.
Connecting Pin 	L=117	0.2	05010110
Connecting Plate 	L=70	0.05	05010111
Wall Tie 	L=400	0.5	05010112
Wall Tie Sleeve 			05010113
Dismantling Tool For Wall Tie 			05010114
Dismantling Pole 			05010115
Plug 	Φ20		05010116
Pvc Sleeve 	Φ21		05010117
Bolt & Nut 	M20/M16		05010118

Steel Formwork



Characteristics:

- ◆ High strength and stiffness, affordable of greater concrete pressure and construction load.
- ◆ Surface flatness and dimensional deviation control is strict, so that the concrete surface can achieve high flatness and smoothness.
- ◆ It has good corrosion resistance and wear resistance, and long service life, generally turnover times can reach dozens or even more.
- ◆ The use of standardized design and manufacturing, easy to assemble and disassemble on site, improve the construction efficiency.
- ◆ The reinforcement system is perfect, with the high strength of the components. The combination stiffness is large, and the integrity of the template is well so the seismic performance is strong.
- ◆ It is commonly used in large-scale construction projects, high-rise buildings and industrial production of standard components.
- ◆ It is less affected by temperature and humidity changes, and can maintain stable size and shape under different environmental conditions, ensuring the accuracy of concrete pouring.

Production and processing equipment



Successful Projects



China National Stadium



Daxing International Airport

High-rise Apartment



Steel Formwork



● Building Tunnel Formwork

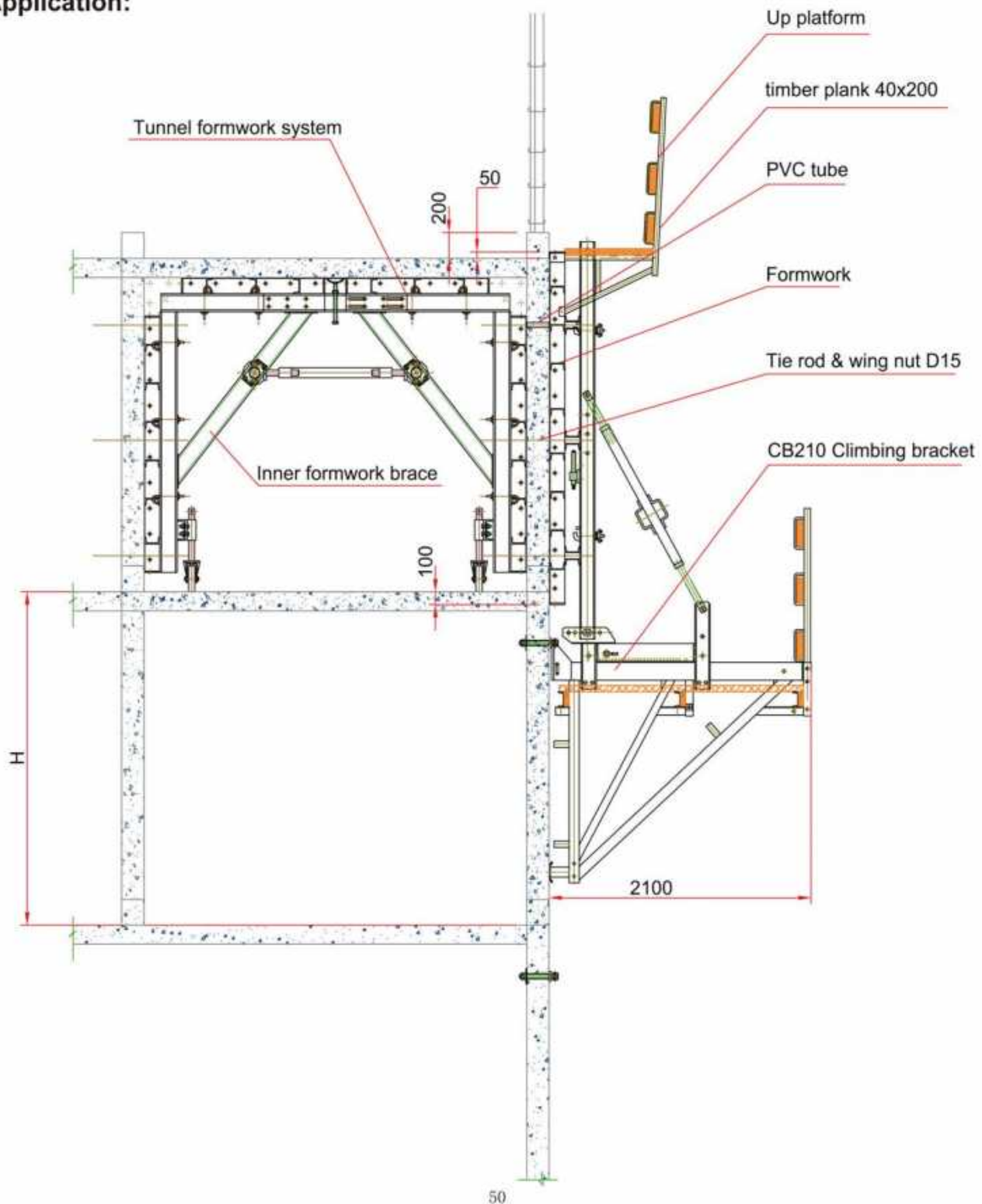
A compositional steel formwork system mainly used in the building which has regular structure without beams, the excellent formwork system can make the integral pouring for the wall & slab easil



Characteristics:

- ◆ High stiffness, make perfect shape for concrete.
- ◆ Easy operation, save labor and force.
- ◆ Fast forming, repeatedly turnover.

Application:





● Other Steel Formwork

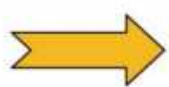
Characteristics:

- ◆ No assembling, easy operation with formed formwork.
- ◆ High stiffness, make perfect shape for concrete.
- ◆ Repeatedly turnover is available.
- ◆ Widely applied range, such as building, bridge, tunnel, etc.

Application:





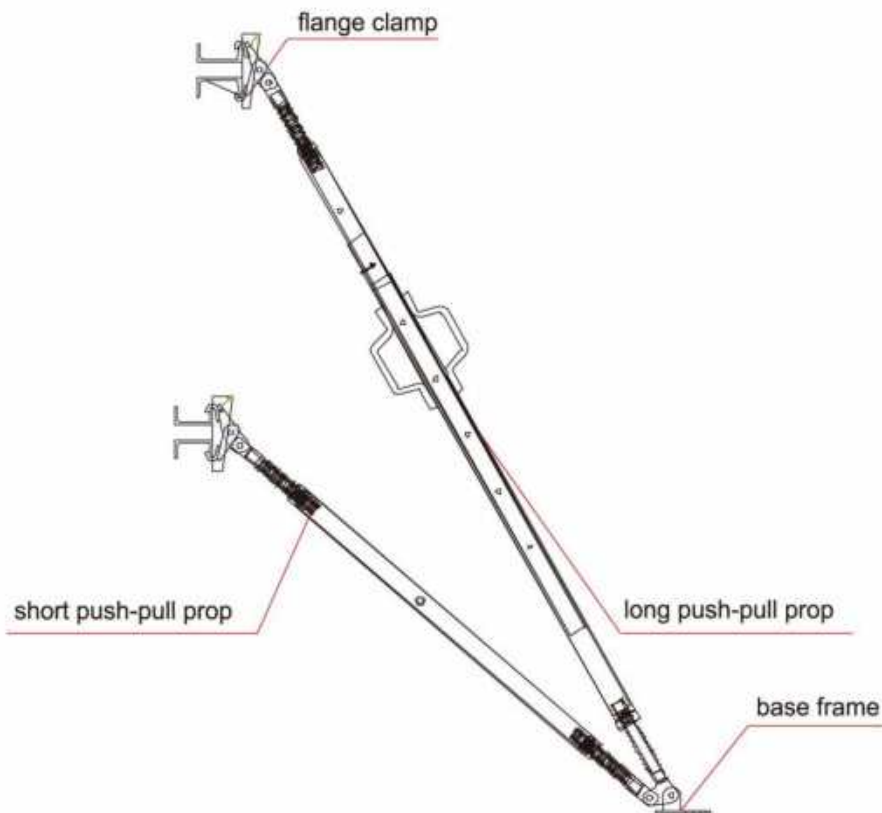


Vertical Structure Support System

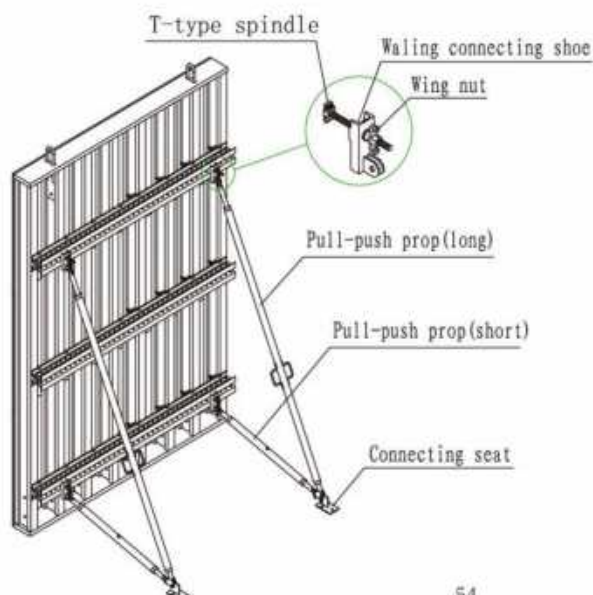
Pull-push Prop

Pull-push prop are used for supporting the wall and column formwork.

(1) For Timber Beam Formwork

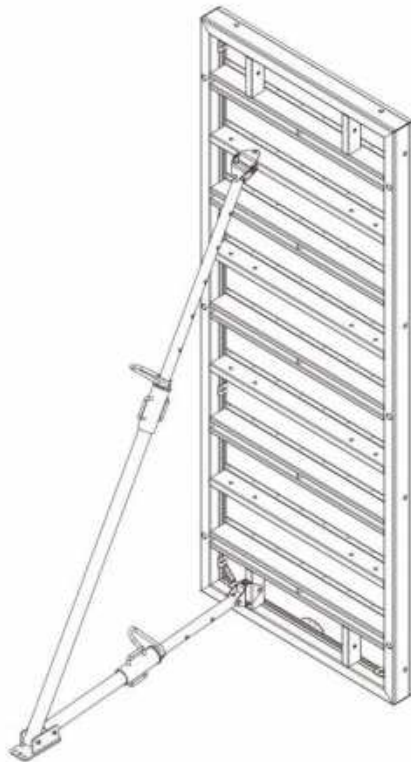


Characteristics:

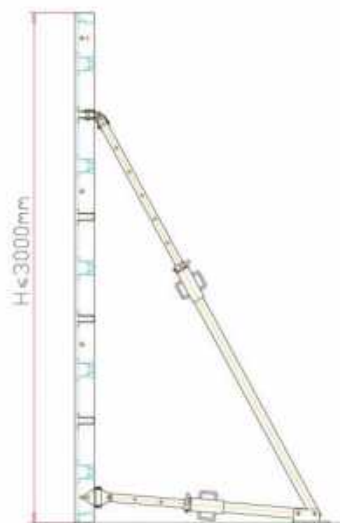


- ◆ High degree of standardization
- ◆ Simple site operations
- ◆ Quick adjustment

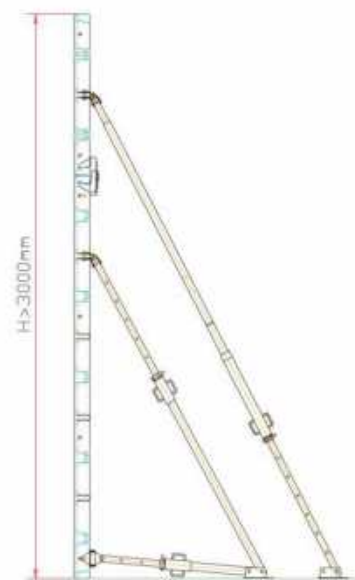
(2) For Steel Frame Formwork



There are three kinds of pull-push props, A,B,C. The A and B is suitable for the formwork not higher than 3000mm; C is suitable for the formwork higher than 3000mm as a reinforcer.

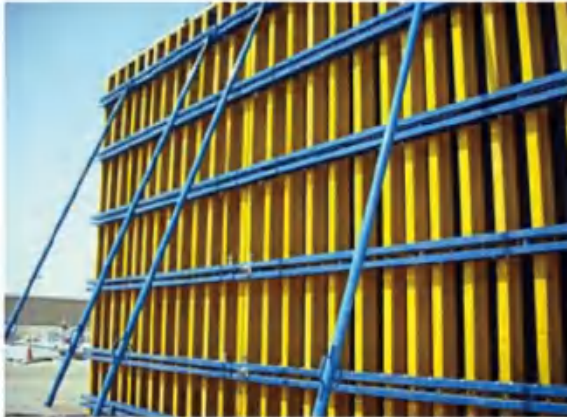


Formwork Height $\leq$ 3000mm



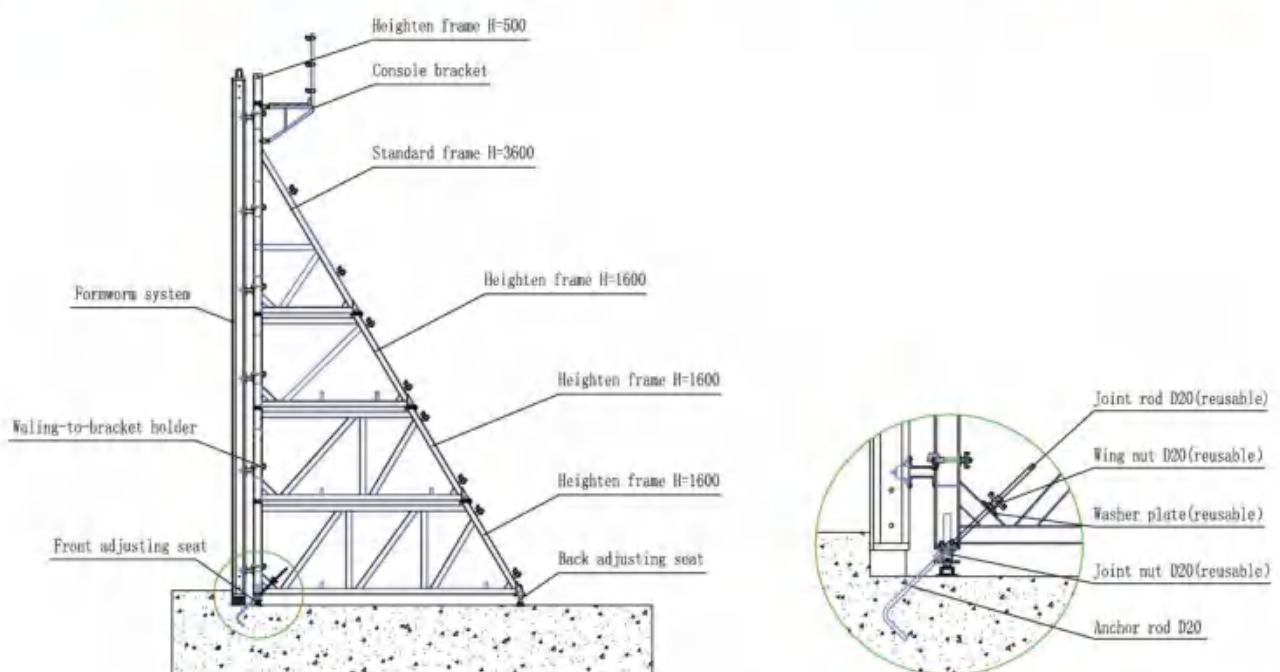
Formwork Height $>$ 3000mm

Application:



Single-side Bracket

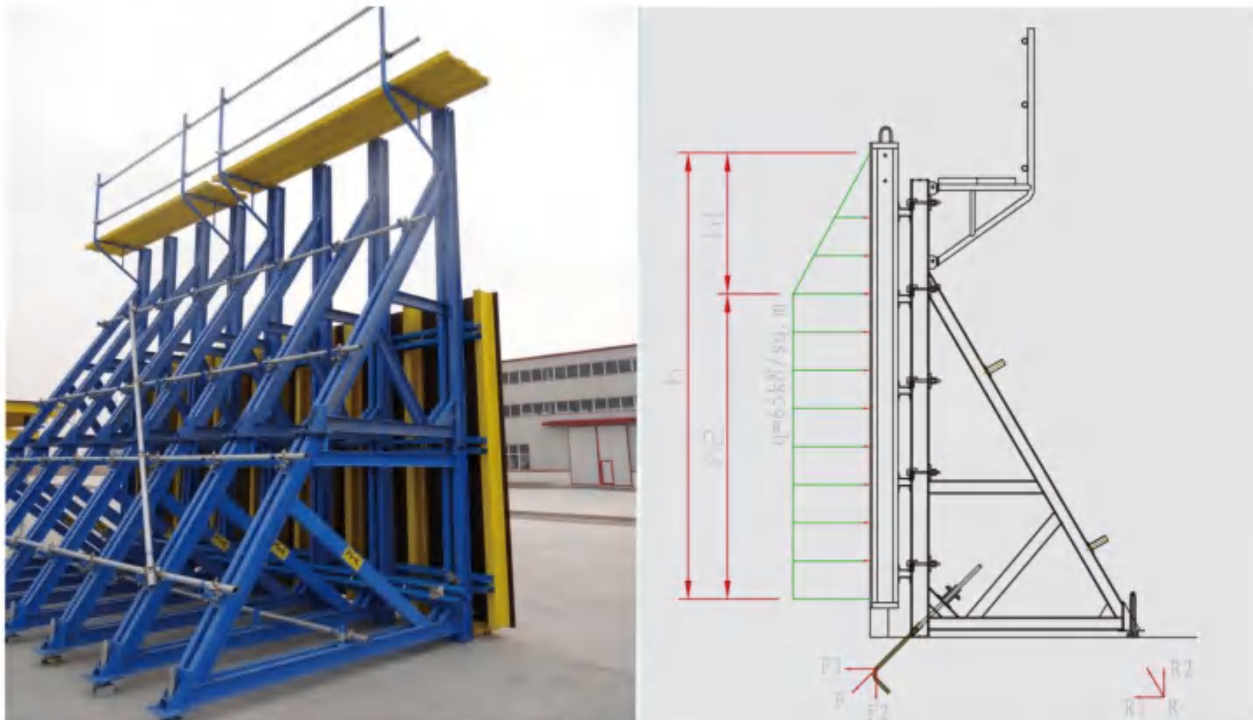
During single-sided concreting, the concrete pressure is transferred into the sub-structure by means of the single-side bracket.



Characteristics:

- ◆ For concrete heights up to 8.0m and a fresh concrete pressure up to a maximum of 60KN/m^2 .
- ◆ Good standard performance and versatility.
- ◆ Fast element coupling, all units can be quickly connected.
- ◆ The finished wall is excellent and absolutely waterproof.
- ◆ Optimized sizes for transportation.

Design Principle:



There is no wall-through tie-rod in the single-side bracket system. The whole system is adjusted by the anchor system and the regulator system.

The stress situation from the sketch above. $F1$ can resist the side pressure of the concrete and $F2$ can resist the rising force. R can not only bear the gravity force of the bracket, but also the side pressure of the concrete. This stress system is simple, reasonable and also with convenience and high safety.

Application:



Jiayuyuan Project, Beijing, China



Zoom Subway Station, Beijing, China



Beijing Commercial Building, Beijing, China



Al Maha Sofitel Hotel, Doha, Qatar



Yonghegong Subway, Beijing, China



Dongzhimen Subway, Beijing, China



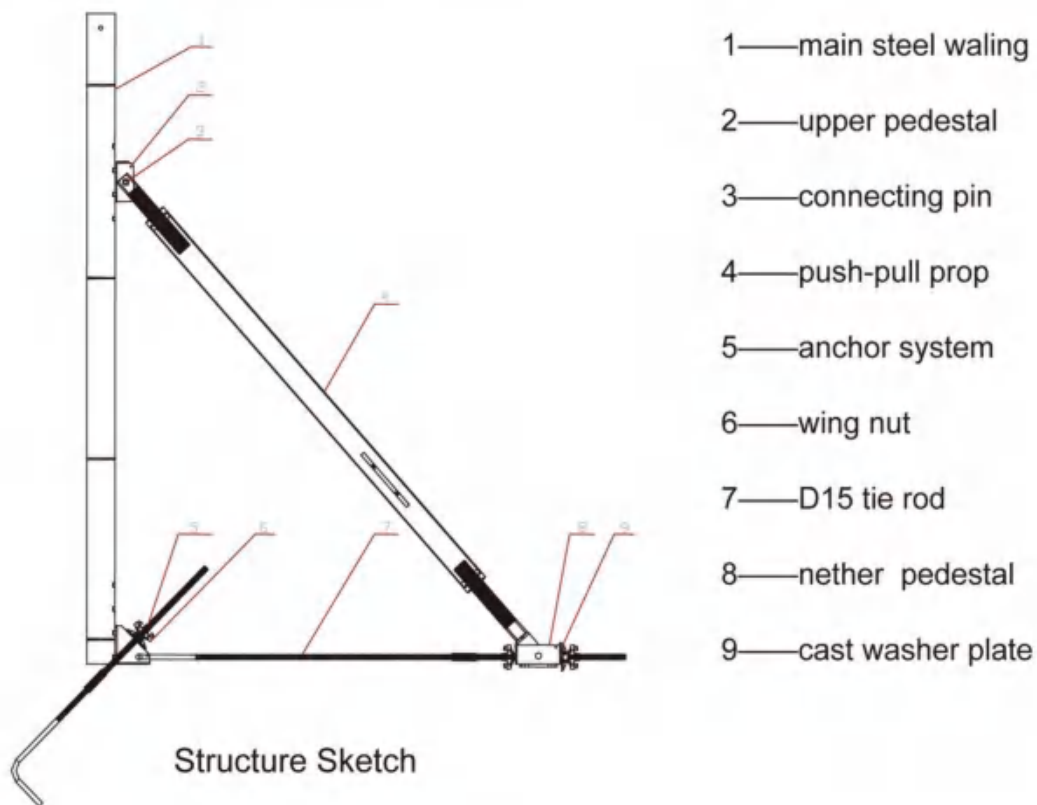
Hualian Garage, Beijing, China



Residential & Office Tower, Dubai, UAE

Simple Single-side Bracket

Compared with single-side bracket, it is small in sizes and easy to assemble & dismantlement.
 So the transportation and piling up is convenient.
 The maximal pouring height is 3.0m.



Application:



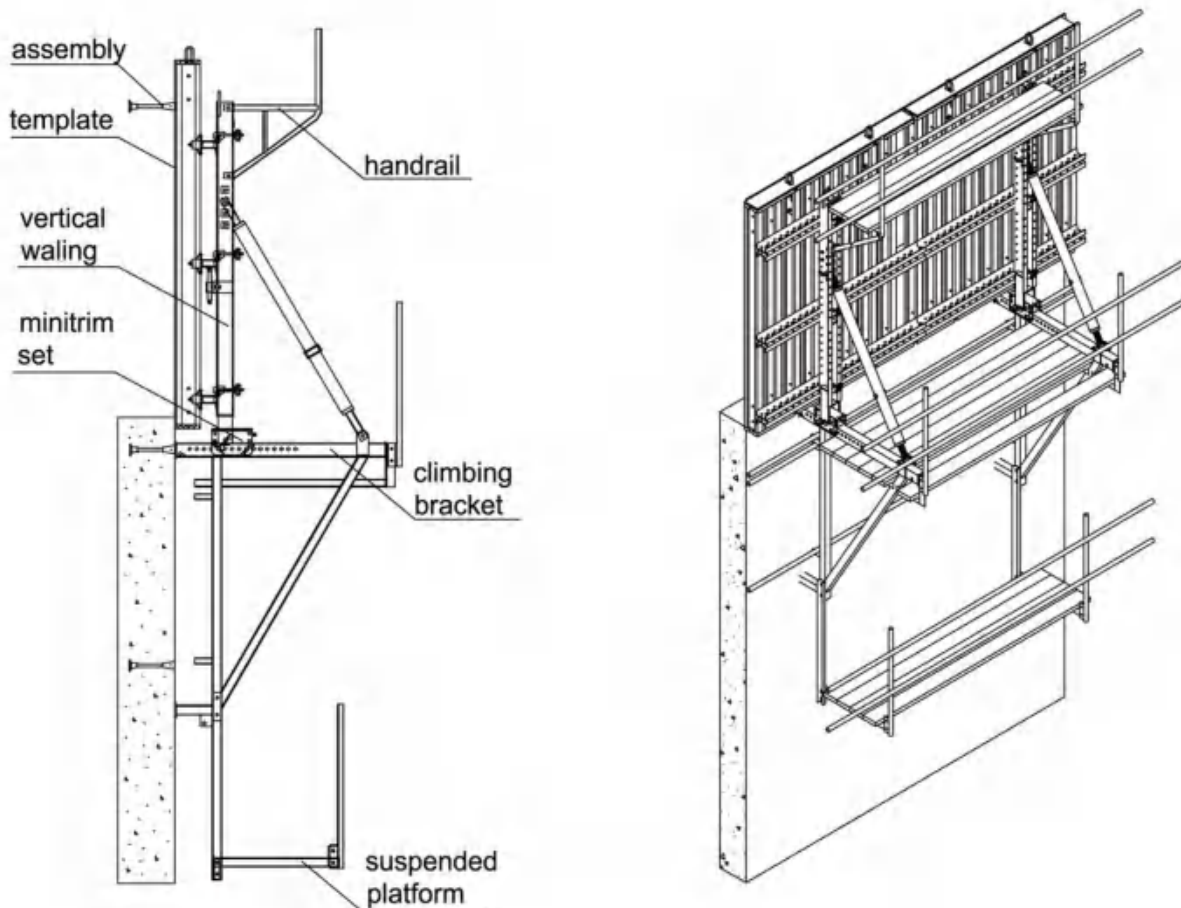
City of Lights, Abu Dhabi, UAE

Single-side Climbing Bracket SCB180

With FWK SCB 180 climbing systems, the loads from the fresh concrete pressure are transferred through the brackets by means of V-strongbacks and compression braces into the scaffold anchors.

Typical applications for the SCB 180 are dams, locks, cooling towers, pier heads, tunnels, and bank vaults.

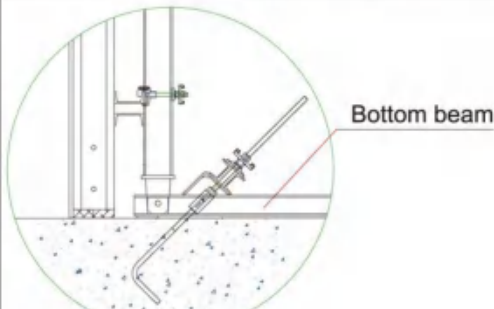
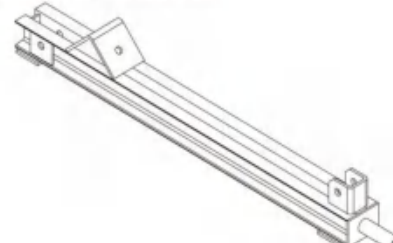
The formwork is simply tilted backwards when striking takes place. The 1.80 m wide bracket requires only a minimum of space.

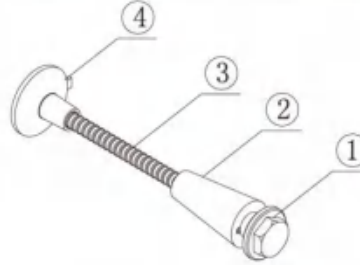


Characteristics:

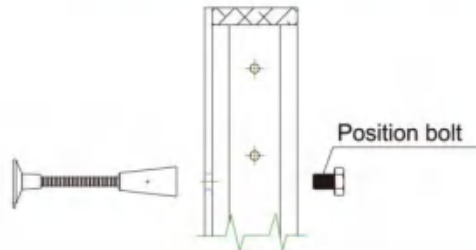
- ◆ Economical and safe anchoring

The M30/D20 climbing cones have been designed especially for single-sided concreting using SCB180 in dam construction, and to allow the transfer of high tensile and shear forces into the still fresh, unreinforced concrete. Without wall-through tie-rods, finished concrete is perfect.

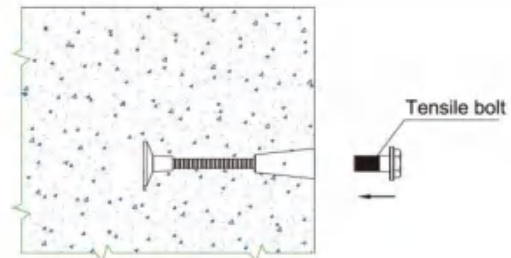
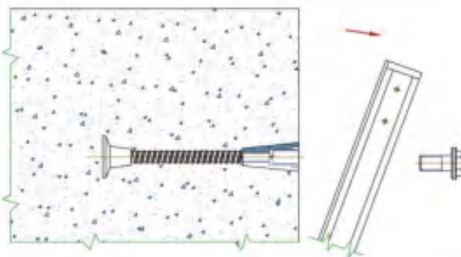
Anchor System for the First Pouring		
Bottom Beam Anchor System ① Joint Rod D20, L=700 ② Wing Nut D20 ③ Cast Washer Plate 120x120 ④ Joint Nut D20 ⑤ Anchor Rod D20 L=675 	1.90 0.67 1.26 2.00 1.95	01221600 99005062 99000073 99005061 01221500
All the Parts Can Be Reused Except Anchor Rod.		
 Application Sketch	Bottom Beam Weight : 42.01kg Item No.: 01221400 	

Anchor System for the Second and More Pouring		
 Tensile Bolt M36/L=80 V-climbing Cone M36/D20 High-strength Rod D20/L=300 Anchor Plate D20	1.22 1.77 0.81 0.65	99000190 99001203 99000241 99000102

Assembly and Application Sketches:

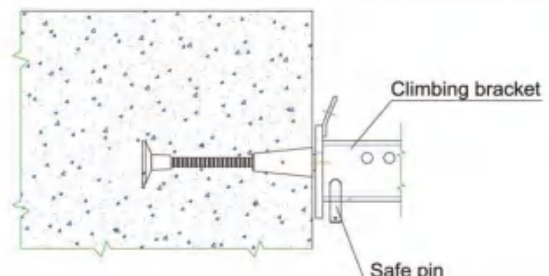
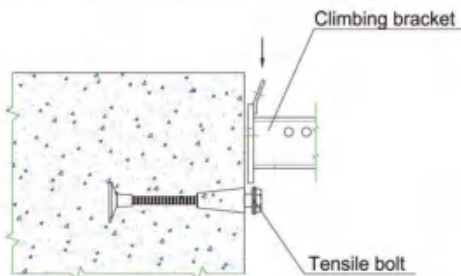


Fix anchor system on the plywood by position bolt.

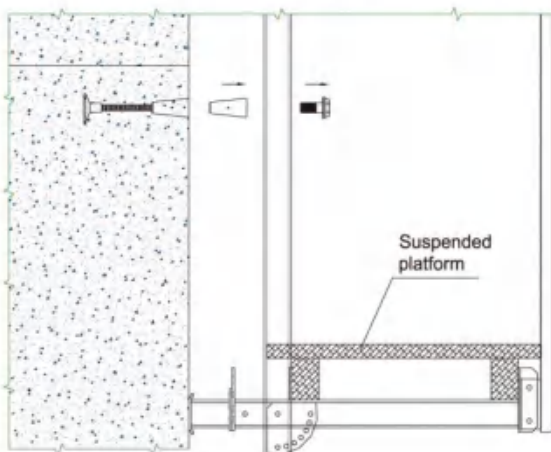


After the concrete pouring finished, take out the position bolt and remove the formwork.

Fix the tensile bolt into the V-climbing cone.



Lift the climbing bracket and hang it on the tensile bolt, then insert the safe pin. Make sure the bracket and tensile bolt are fixed firmly.



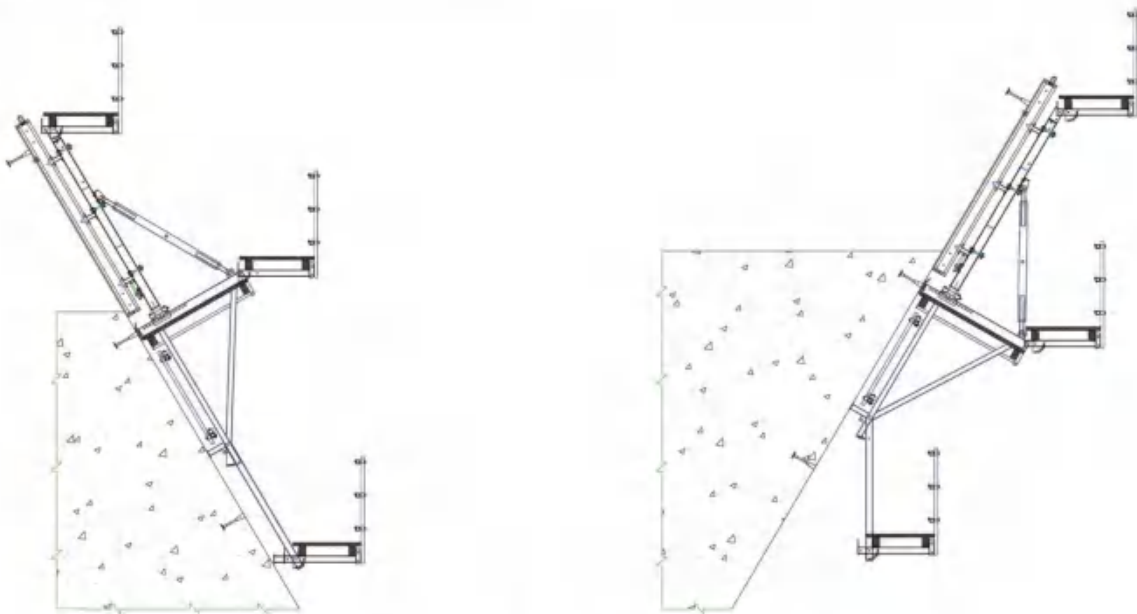
After the next lift, tensile bolt and V-climbing cone can be taken out for reusing. Then fill the holes with cement plaster.

◆ Stable and cost-effective for high loads

generous bracket spacings allow large-area formwork units with optimal utilization of the bearing capacity. This leads to extremely economical solutions.

◆ Simple and flexible planning

With SCB180 single-sided climbing formwork, circular structures can also be concreted without undergoing any large planning process. Even use on inclined walls is feasible without any special measures because additional concrete loads or lifting forces can be safely transferred into the structure.



Different Angle Application of SCB180

Application:



AL Maha Sofitel Hotel, Doha, Qatar



The Forth Qianjiang Bridge, Zhejiang, China



Xihoumen Bridge, Zhejiang, China



Runyang Bridge, Jiangsu, China

Climbing Bracket CB240 & CB210

They are framework brackets for supporting large-area wall formwork.

Typical applications for the CB240&CB210 are pier and column/shear wall/core wall/ in the building.

CB210 has smaller size than CB240, it will be cost effective in some condition.



Characteristics:

- ◆ High bearing capacity

The high loading capacity of the brackets allow very large scaffold units. This saves the number anchor points required as well as reducing climbing times.

- ◆ Simple moving procedure by crane

Through the strong connection of formwork together with the climbing scaffold, both can be moved as a single climbing unit by crane. Thus valuable time-savings can be achieved.

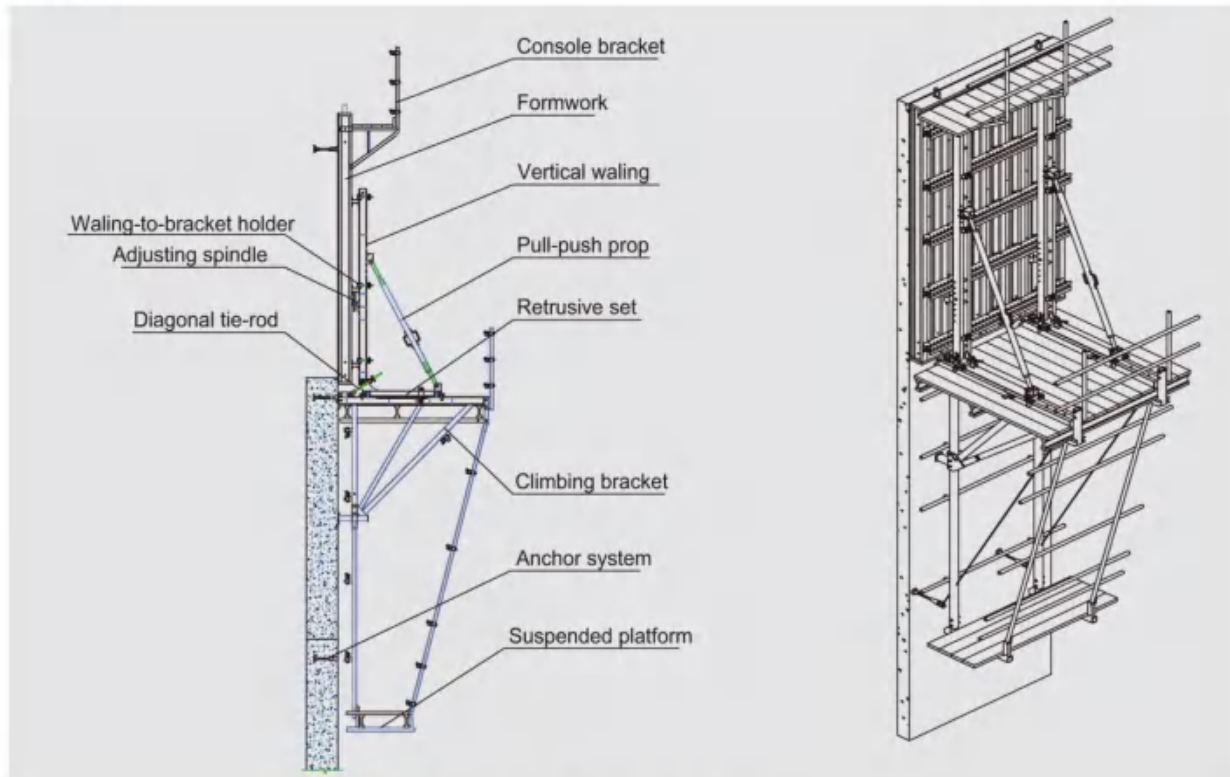
- ◆ Fast striking process without a crane

With the retrusive set, large formwork elements can also be retracted quickly and a minimum of effort.

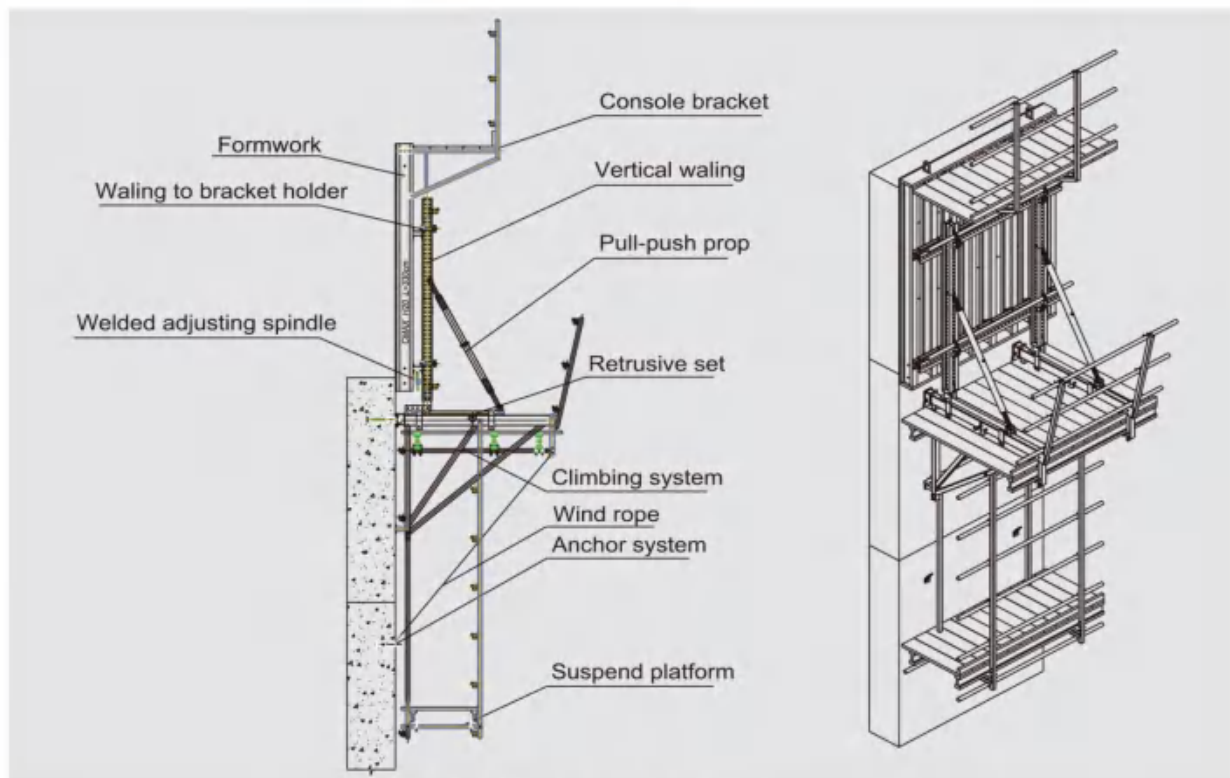
- ◆ Safe with work platform

The platforms have assembled firmly with bracket and will be climbing together, without scaffolding but can work safely in spite of your high location.

Structures:

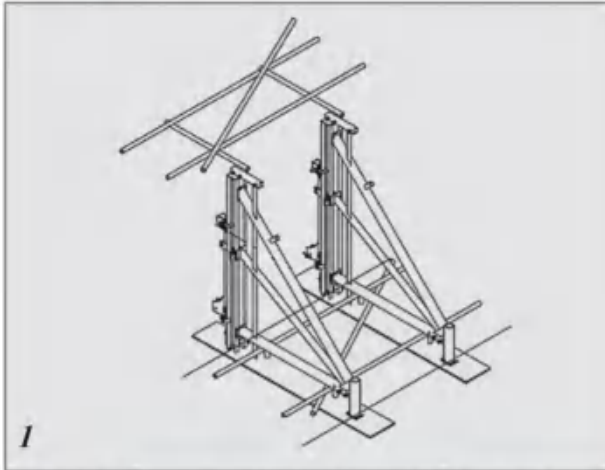


CB-240 Structure Sketch

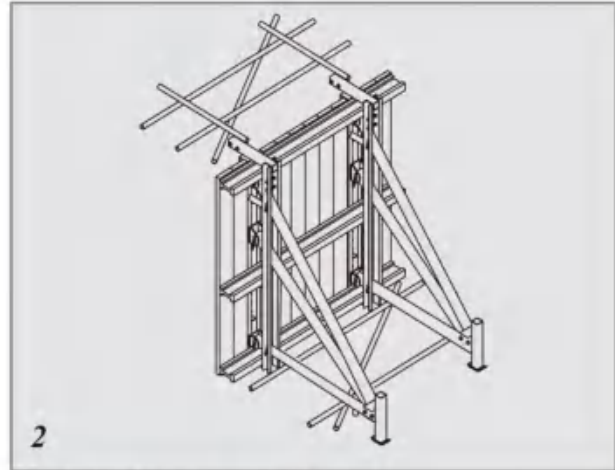


CB-210 Structure Sketch

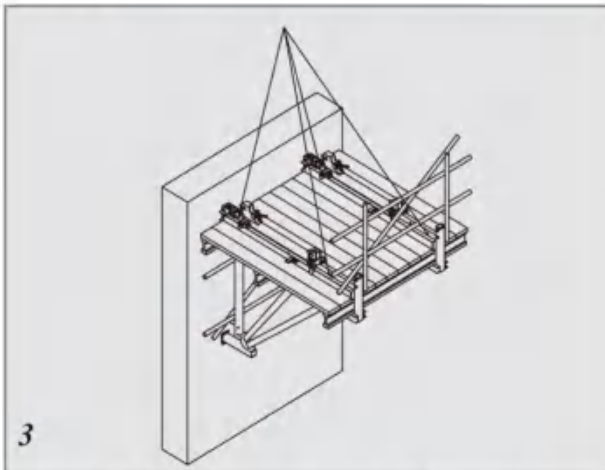
Assembly Process:



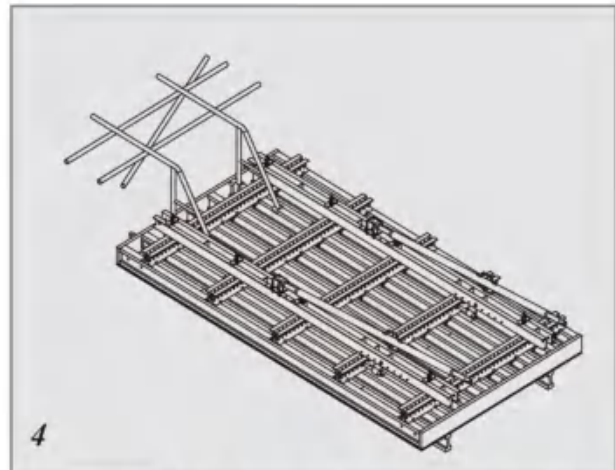
1
Install climbing bracket, fix upright for main platform.



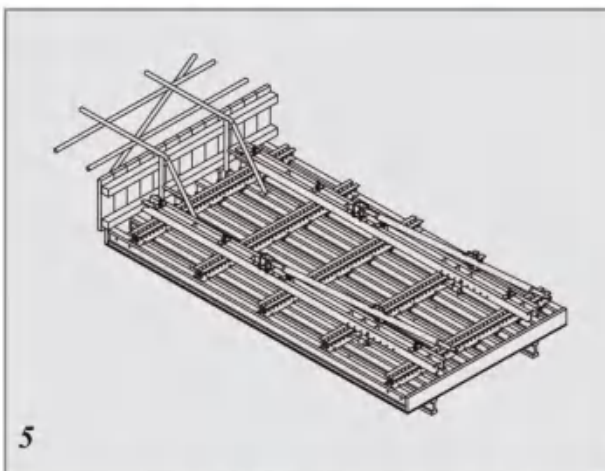
2
Fix board for main platform.



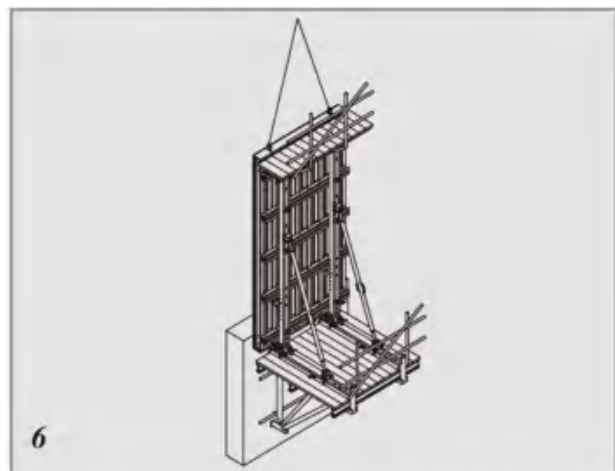
3
Hang the brackets on anchor shoes and insert the safe pins.



4
Connect pull-push props & vertical walers to the formwork system.

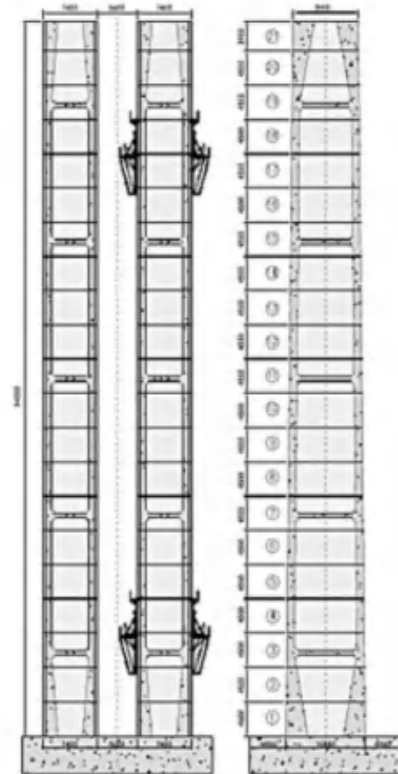


5
Connect the up platform to the formwork system.



6
Lift the whole formwork to the main platform and fix them to retractive set.

Application:



Yalu Expressway Bridge, Sichuan, China



Sutong Bridge, Jiangsu, China



Xiarong Express Way Bridge, Guizhou, China



Xinqiao Great Bridge, China



Doha Office Building, Doha, Qatar

Auto-climbing Bracket ACB100 & ACB50

The power of the auto-climbing formwork is the hydraulic system, which includes the oil cylinder and two commutators. The commutators can control the climbing of climbing rail and the bracket. The steel rail and the bracket can inter-climbing, so the whole system will climb up steadily. Cranes are not needed during the construction. It's easy to operate, highly efficient and safe. It's the best choice for the construction of high buildings and bridges.

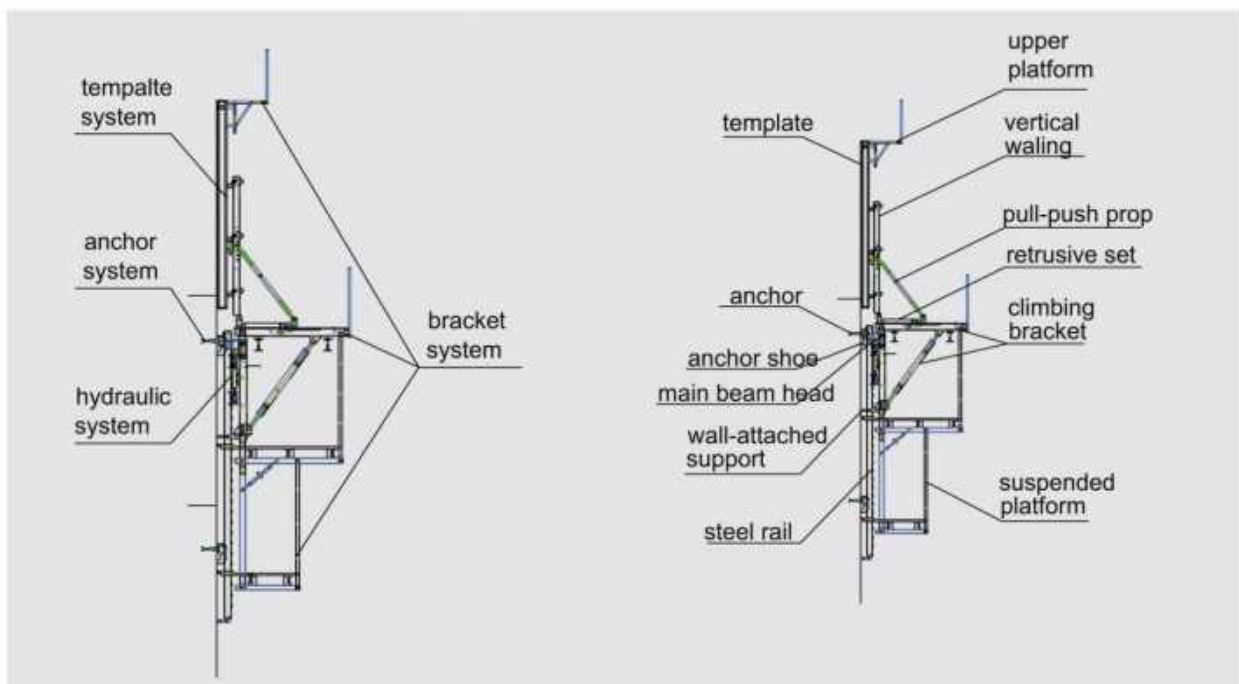
There are mainly two types of standard auto-climbing brackets, ACB-50 and ACB-100, the figure means the push power of cylinder with unit of KN.



Structures:



ACB-100 Structure Sketch

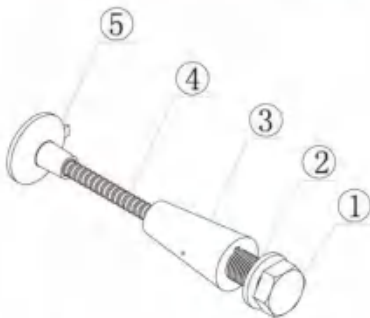


ACB-50 Structure Sketch

Characteristics:

◆ Perfect load bearing anchor system

Anchor system is the most important supporting part. The system is made of five parts shown below. Thereinto, tensile bolt, V-climbing cone and washer can be taken out for reusing after the concrete pouring finished. There are two kinds of anchor systems, A & B. A is matched with single anchor shoe and B is matched with double anchor shoe.



Anchor system assembly A (Matched with single anchor shoe)

①Tensile Bolt M42	1.60	09000194
②Washer 78/52	0.21	01091610
③V-climbing Cone M42/D20	2.78	09001204
④High-strength Rod D20/L=300	0.81	09000241
⑤Anchor Plate D20	0.65	09000102

Anchor assembly B (Matched with double anchor shoe)

①Tensile Bolt M36	1.05	09000191
②Washer 65/46	0.14	01091611
③V-climbing Cone M36/D20	1.77	09001203
④High-strength Rod D20/L=300	0.81	09000241
⑤Anchor Plate D20	0.65	09000102

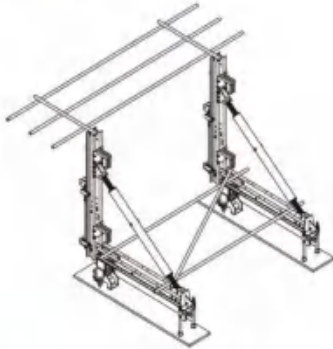
◆ Crane-independent

Crane-independent forming, striking and climbing speeds up the work procedures on the construction site and also makes them independent of each other. This means the planned sequences can be maintained along with guaranteeing high productivity levels. The crane can therefore be used for other tasks.

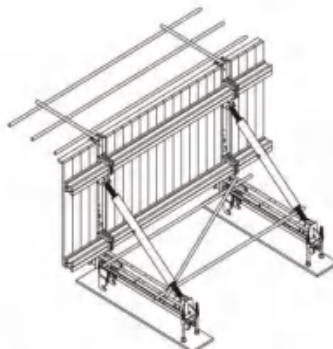


Hydraulic system is mainly made of two commutators, oil cylinder and power distribution system. The commutators can control the climbing of climbing rail and bracket.

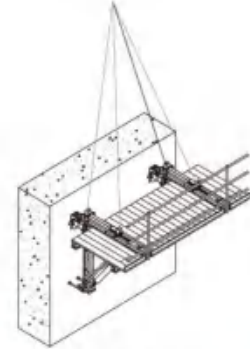
Assembly Process:



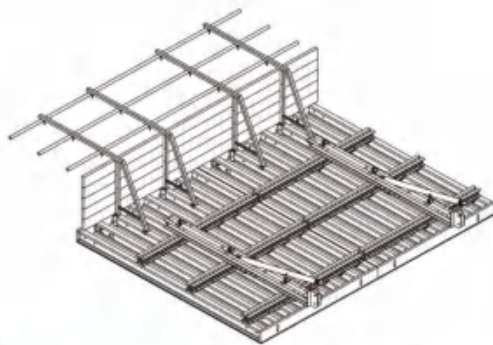
1. Assemble climbing bracket, fix upright for main platform.



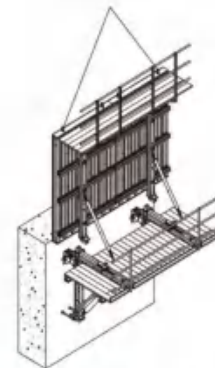
2. Fix board for main platform.



3. Lift the brackets, hang them on the anchor shoes and insert the safe pins.

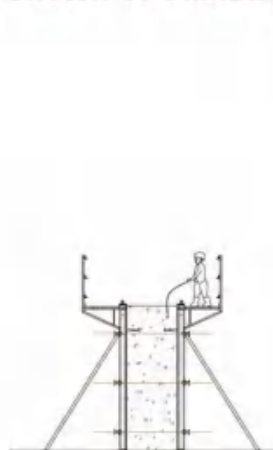


4. Connect vertical waling and pull-push prop with the formwork system, install operating platform.

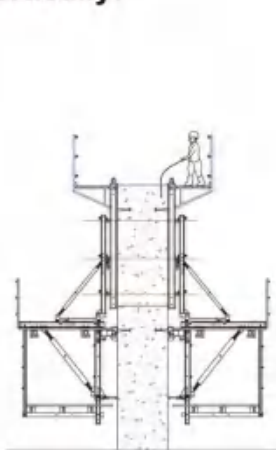


5. Lift the formwork system and put them on the retrusive set, adjust the formwork.

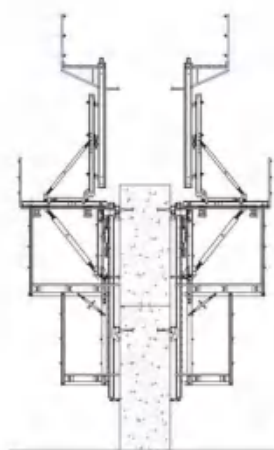
Sketch of Climbing Vertically:



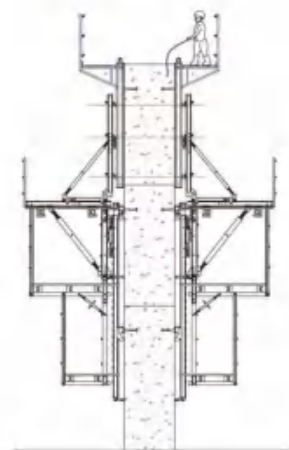
The 1st step



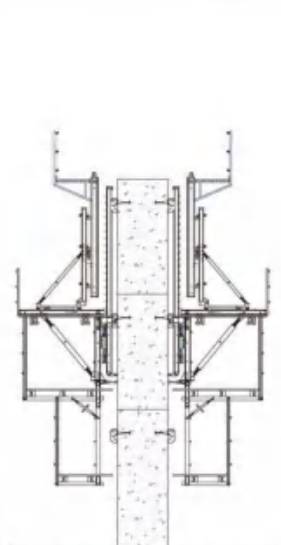
The 2nd step



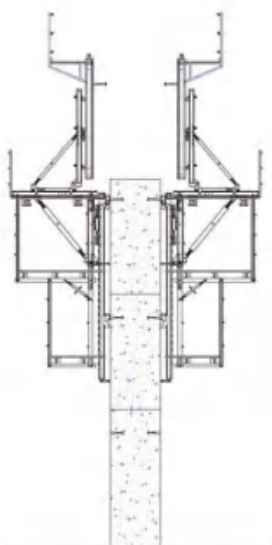
The 3rd step



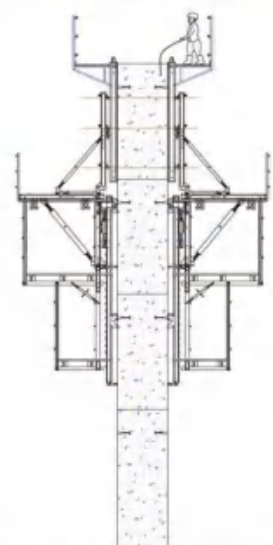
The 4th step



The 5th step



The 6th step

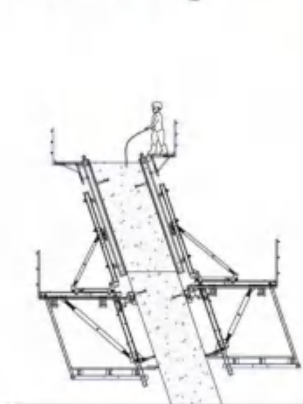


The 7th step

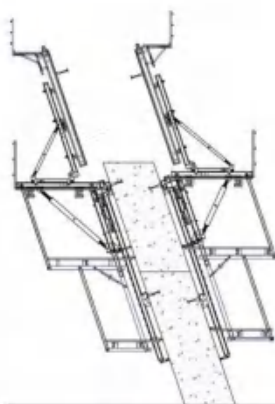
Sketches of Inclined Climbing:



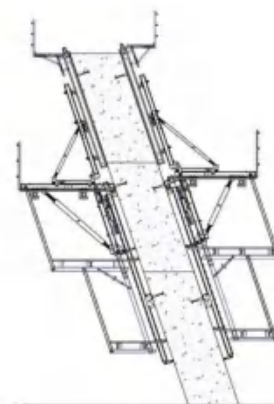
The 1st step



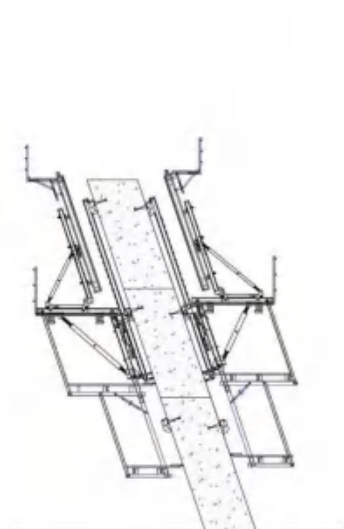
The 2nd step



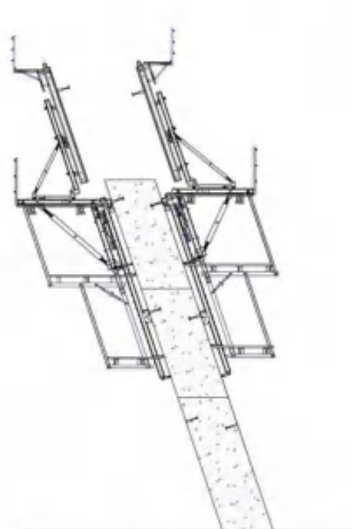
The 3rd step



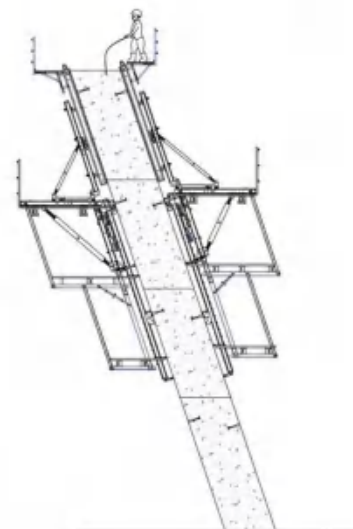
The 4th step



The 5th step



The 6th step



The 7th step

Application:



Sutong Bridge, Jiangsu, China



Jing-ao Commercial Building, Beijing, China



CRC Project, Dubai, UAE



Suramadu Bridge, Indonesia



Ganxigou Bridge, China



Tinxingzhou Bridge, China



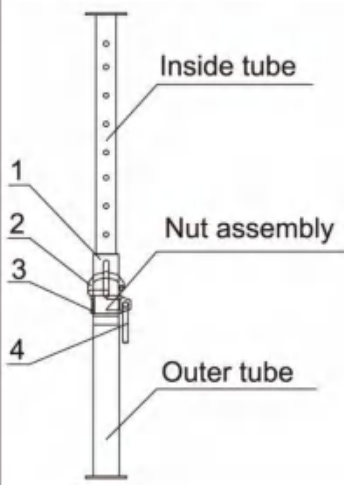
Yongjiang Bridge, China



➔ **Level Structure Support System**

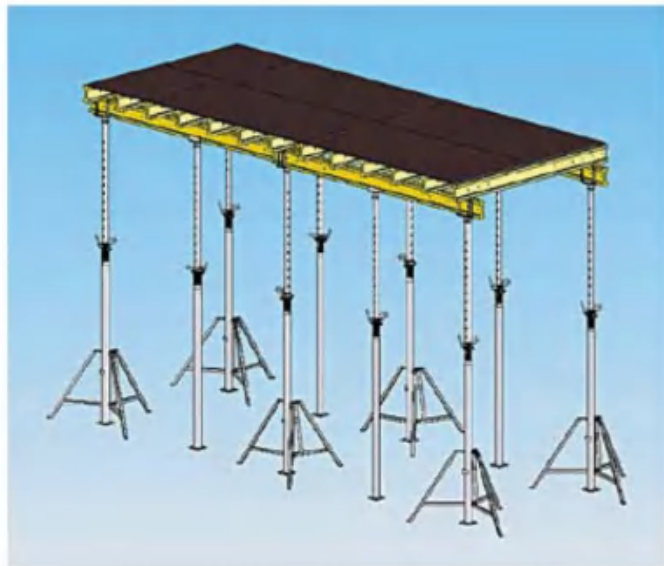
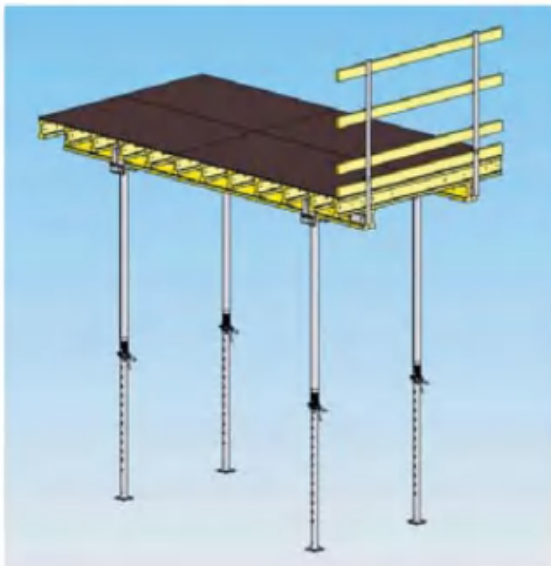
Steel Prop & Tripod & Beam Clamp

(1) Steel prop is a vertical support system widely used in construction.

Structure Sketch			
	Series	Spec.(mm)	Weight(kg)
	Φ88.5/Φ77.5	2900-5500	31.65
	Φ75/Φ60	1400-2500	14.64
		1650-3000	16.53
		1900-3500	19.90
		2150-4000	25.32
	Φ60/Φ48	1400-2500	11.5
		1650-3000	13.98
		1900-3500	17.79

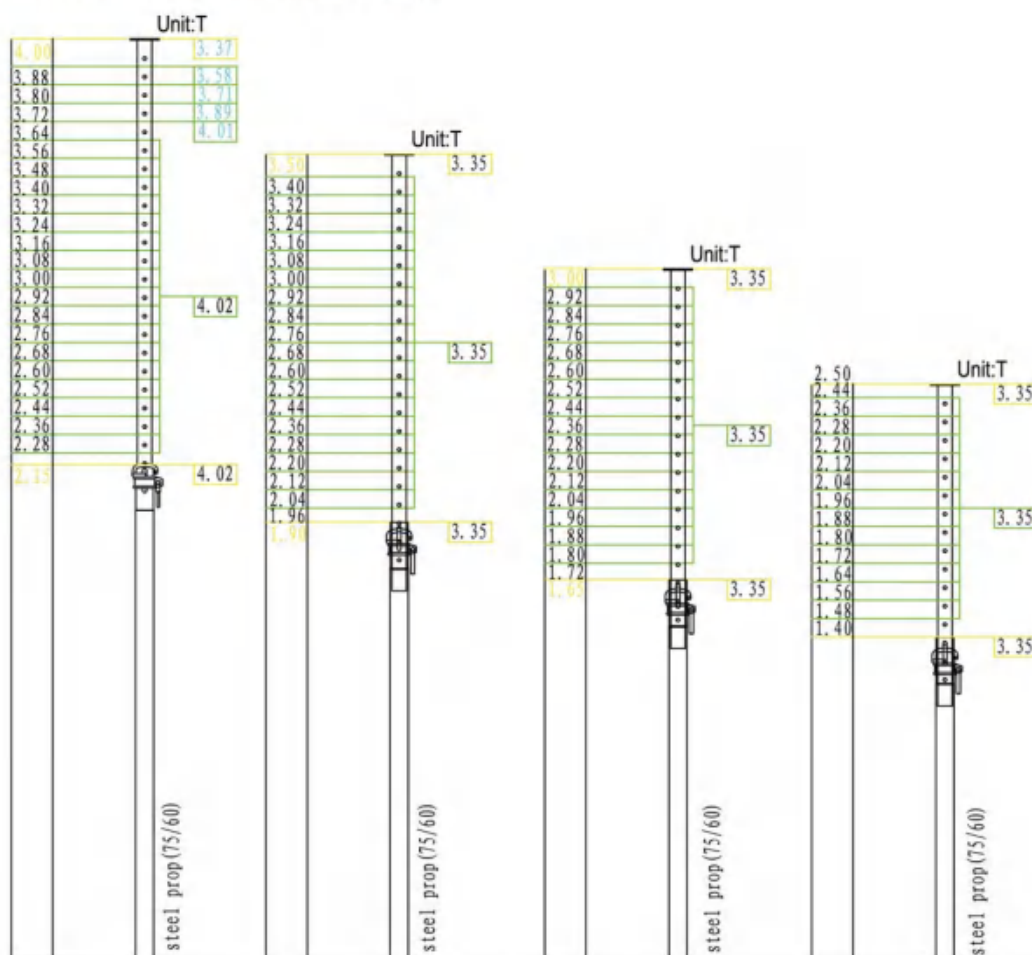
Characteristics:

- ◆ Simple & flexible structure



- ◆ Easy & fast operation
- ◆ Economical efficiency
- ◆ Easy storage and transportation

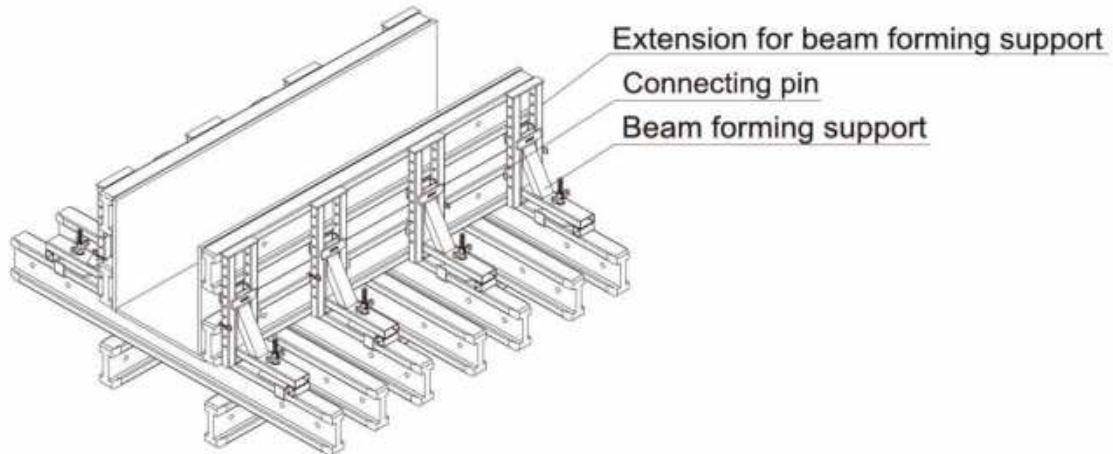
◆ Reasonable load-bearing capacity



(2) Tripod is always used as support for steel prop.

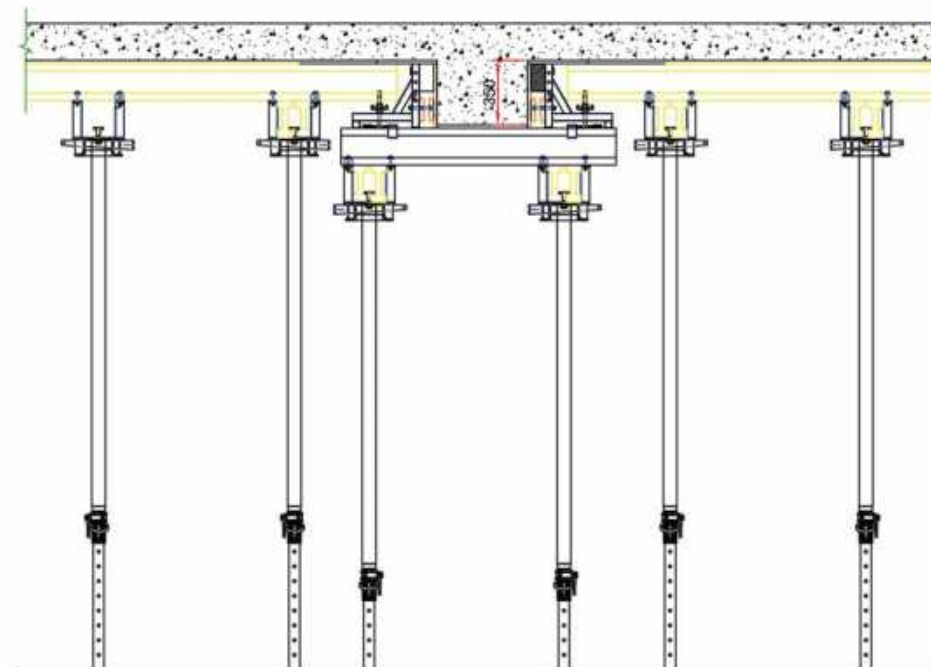
	It can be folded, that will be easy for transportation and storage.		
	Spec.	Wight(Kg)	Remark
	H=900mm	12.35	For $\Phi 75/\Phi 60$ prop
	H=700mm	10.17	For $\Phi 60/\Phi 48$ prop
			

(3) The beam clamp is a technical instrument for supporting beam formwork which makes conventional beam formwork simple, and increases the construction efficiency.

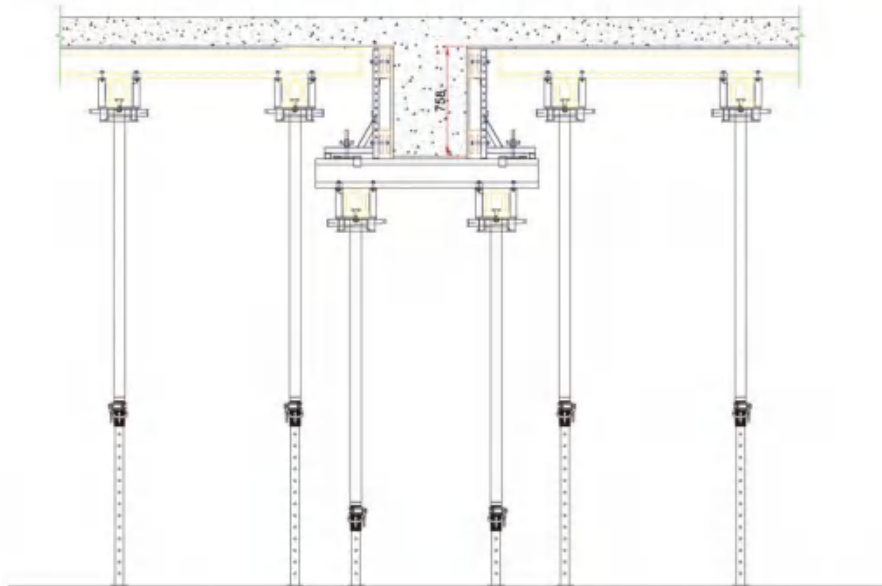


Characteristics:

- ◆ Flexible structure

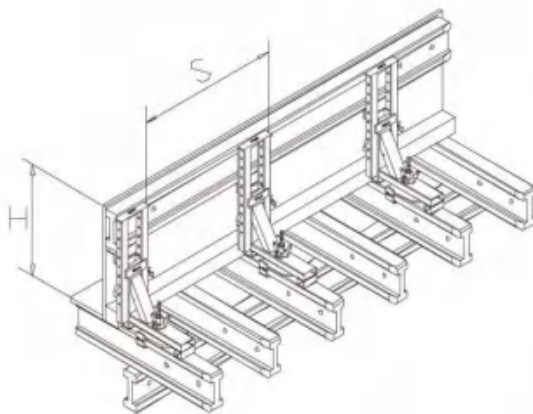


With beam forming support, the biggest pouring height can reach 350mm.



Add the extension, the biggest pouring height can reach 750mm.

◆ Optimum design proposal

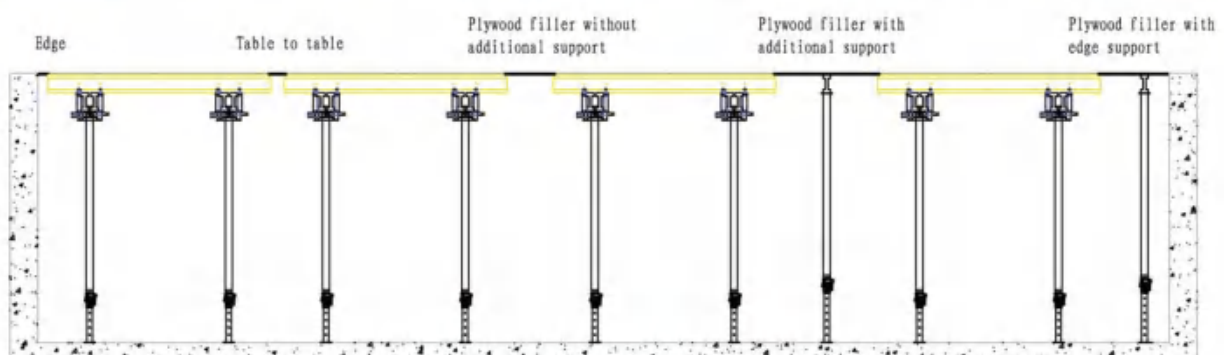


Beam height H (cm)	Space between S (m)		
	Without floor slab	Floor slab thickness D=20cm	Floor slab thickness D=30cm
30	2.25	1.50	1.25
35	2.00	1.25	1.00
40	1.75	1.05	0.90
45	1.50	0.95	0.80
50	1.25	0.85	0.70
55	1.00	0.75	0.60
60	0.75	0.65	0.50

◆ Project Application:



Beach Tower, Doha, Qatar



Paseo Los Proceres, Honduras



Murqab Tower Doha, Qatar



City of Lights C15, Abu Dhabi, UAE



Two Towers, Philippines



For Aluminum Frame Slab

Ring-lock Scaffolding

A support system for construction, owns advantages of both cup-lock scaffolding and shoring tower.

It is in the development direction of new type scaffolding.

It is widely used in buildings, bridges, tunnels etc..

CREATE TOGETHER
WIN TOGETHER



Characteristics:

- ◆ Easy to storage and transportation



- ◆ High degree of standardization

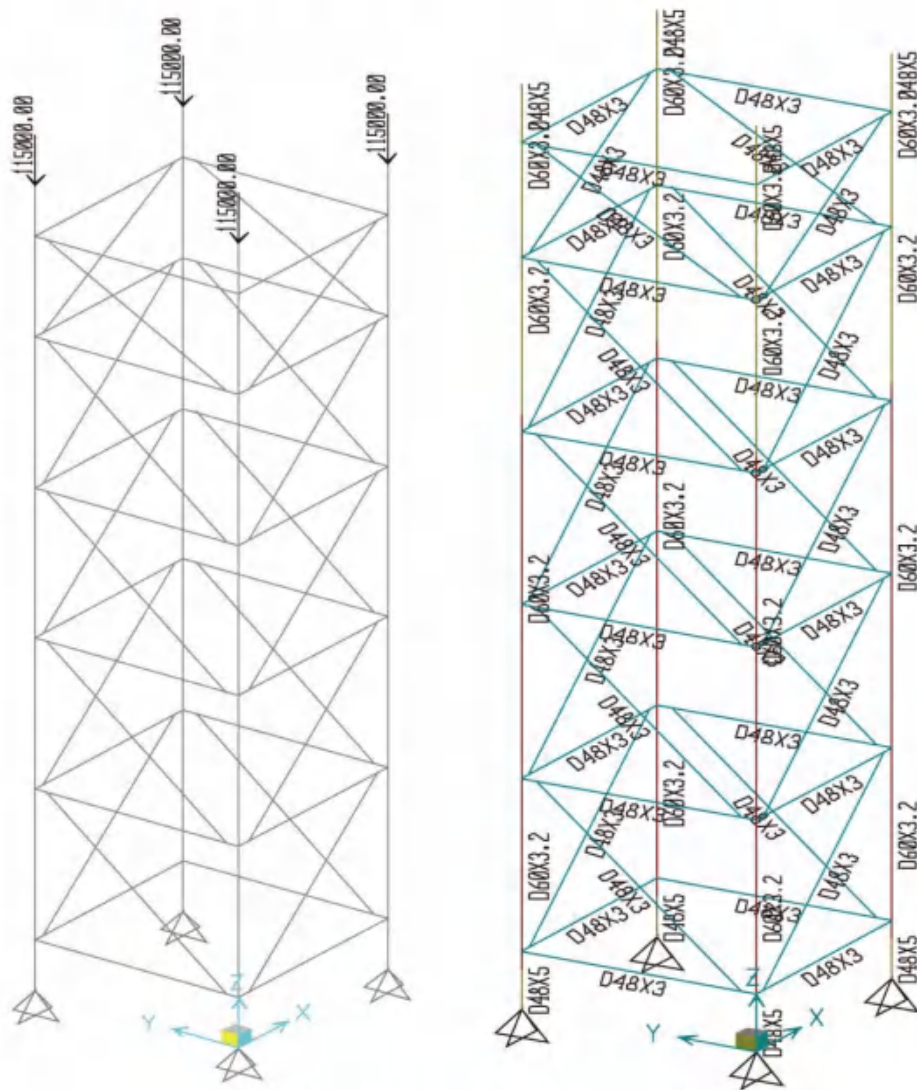


Auto-Welding the Standard

- ◆ Easy and quick erection



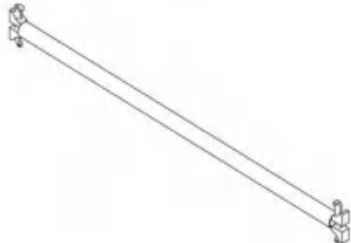
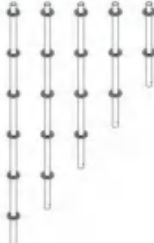
- ◆ Excellent stability and bearing capacity



Load diagram for scaffolding series, H=8m.

For safety, scaffolding designer usually take 2 times factor in their project.

♦ Standard components:

Name & Spec.	Sketches	Weight (Kg)	Item No.
Ledger (Φ48) 600 900 1200 1500 1800 2400 3000		2.64	02120101
		3.63	02120102
		4.62	02120103
		5.56	02120104
		6.53	02120105
		8.42	02120106
		10.86	02120107
Diagonal Ledger (Φ48) 600x600 600x900 600x1200 600x1500 900x900 900x1200 900x1500 1200x1200 1200x1500 1500x1500 1500x1800 1800x1800 2400x1500		3.49	02120201
		4.27	02120202
		5.13	02120203
		6.04	02120204
		4.90	02120205
		5.65	02120206
		6.49	02120207
		6.31	02120208
		7.06	02120209
		7.73	02120210
		8.46	02120211
		9.14	02120212
		10.09	02120213
Standard (Φ60) 1000 1500 2000 2500 3000		7.03	02120301
		9.65	02120302
		12.57	02120303
		16.08	02120304
		18.53	02120305
Flat Standard (Φ60) 1000 1500 2000 2500 3000		5.87	02120401
		8.90	02120402
		11.77	02120403
		16.98	02120404
		17.70	02120405

Name & Spec.	Sketches	Weight (Kg)	Item No.
Diagonal Brace (Φ48, W*H)		5.32	02120501
1000x600		5.82	02120502
1000x900		6.49	02120503
1000x1200		7.25	02120504
1000x1500		8.08	02120505
1000x1800		6.89	02120506
1500x600		7.30	02120507
1500x900		7.70	02120508
1500x1200		8.38	02120509
1500x1500		9.08	02120510
1500x1800		10.66	02120511
1500x2400		8.50	02120512
2000x600		8.78	02120513
2000x900		9.19	02120514
2000x1200		9.70	02120515
2000x1500		10.30	02120516
2000x1800		11.68	02120517
2000x2400		14.00	02120518
Aided Standard(Φ60)		2.07	02120601
250		3.26	02120602
500			
Base Standard(Φ60)		1.86	02120701
600			
Screw Jack Foot (L=600)		5.68	02120801
Screw Jack Head (L=600)		4.70	02120901

◆ Project Application:



Centre Point, Medan, Indonesia



Bread Workshop, Singapore



National Indoor Stadium, China

Ring-lock Scaffolding



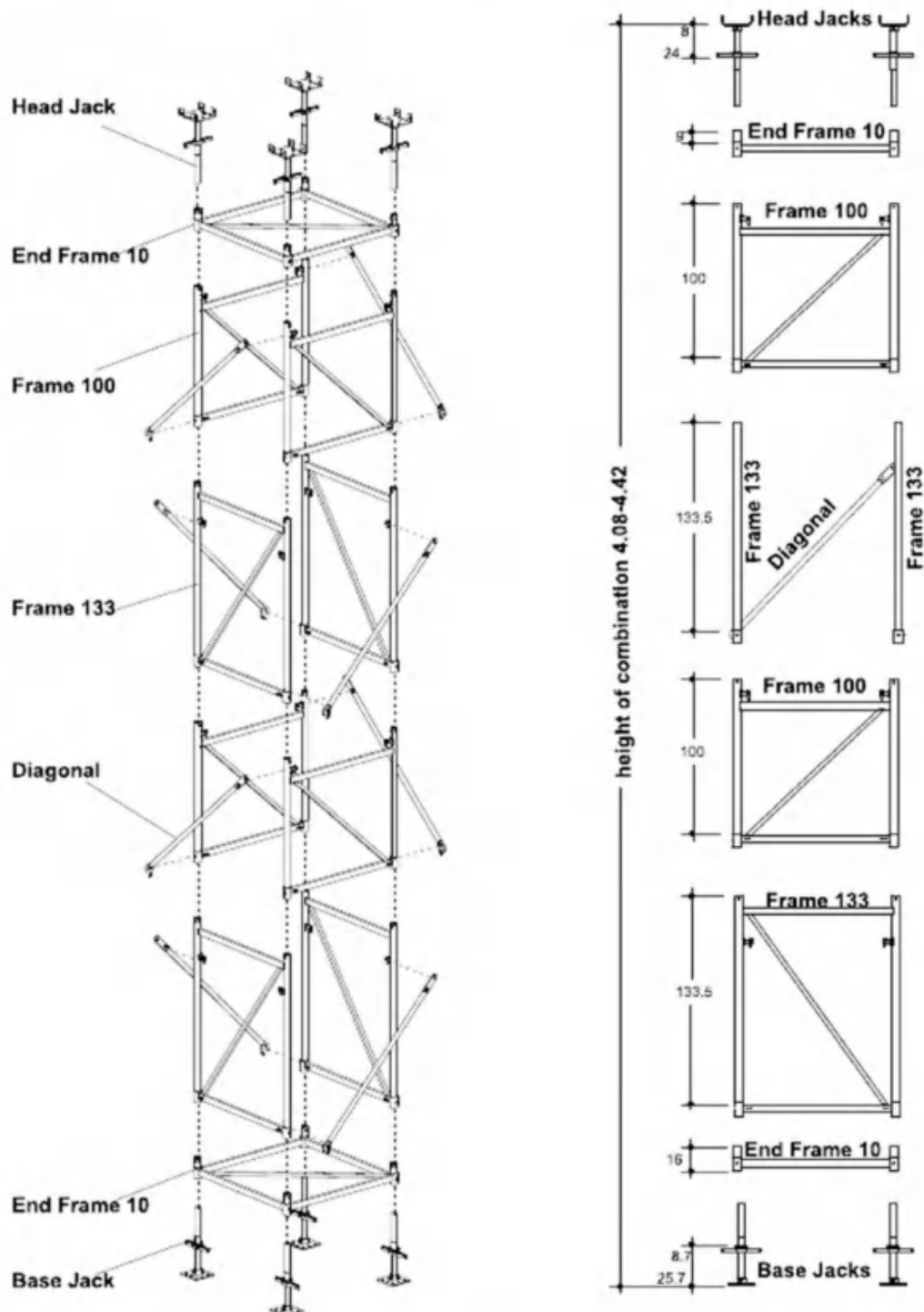
Highway Bridge, Guizhou, China

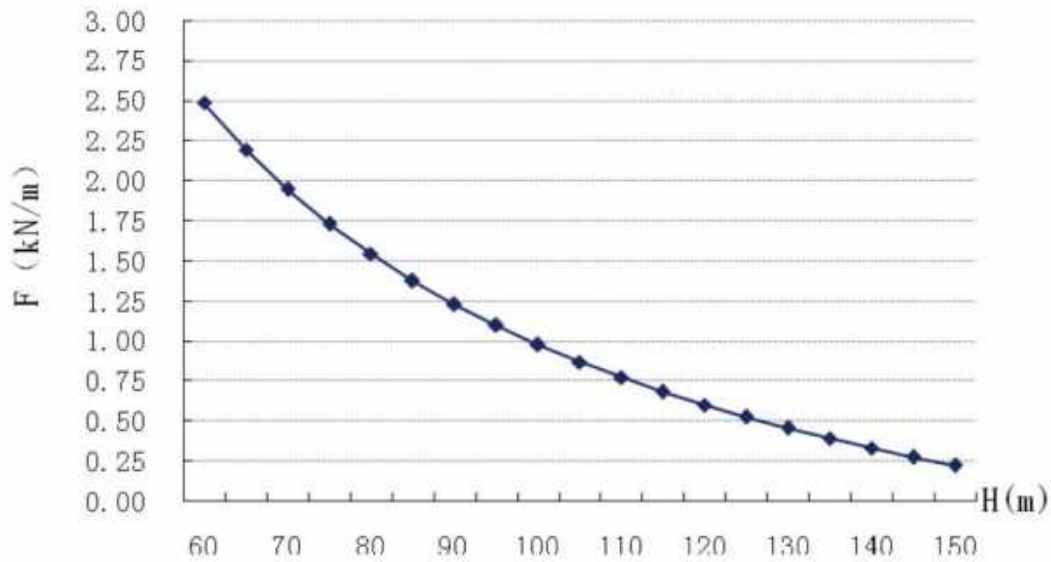


Rainbow Bridge, Beijing, China

Tower Scaffolding

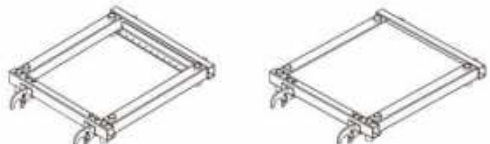
Shoring tower is an effective supporting system. It is easy to assemble and dismantlement, and has excellent stability and bearing capacity. It has been widely used in the construction of industry & residential buildings , bridges, tunnels and dam project, etc.





Line Chart of Bearing Capacity and Height

Standard Components:

Name & Spec.	Sketch	Weight (Kg)	Item No.
Stair Board		67.37 40.0	02130100
Handrail		4.78	02130200
Guardrail		4.45	02130300
Topplatform Board		15.39 5.0	02130400

◆ Project Application:



Hanjiatuo bridge, Chongqing, China



Hongyanhe Nuclear Power Station, Dalian, China

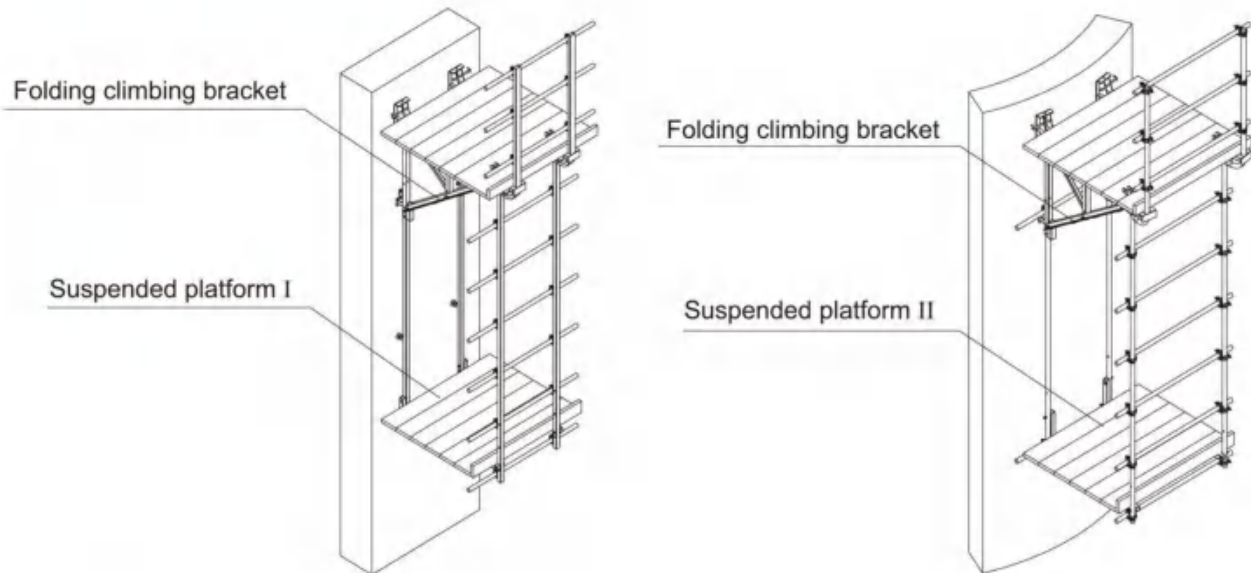


➔ **Platform System**

Climbing Platform CP190

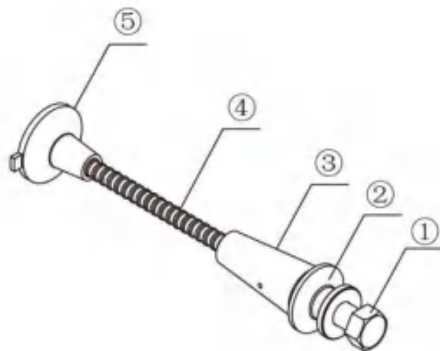
Climbing bracket CP190 is mainly used as operating platform during construction. It can be used on the vertical wall and arced wall. The bracket hang on the anchor system and all the load are supported by anchor system. It's convenient to assemble and dismantle, the construction is easy, rapid and safe.

Operating Platform Sketch



Anchor System:

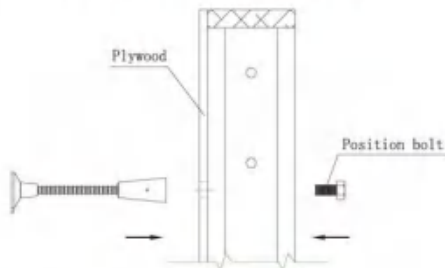
Anchor system is the most important supporting part. The system is made of five parts shown below. There into, tensile bolt, anchor shoe and V-climbing cone can be taken out for reusing.



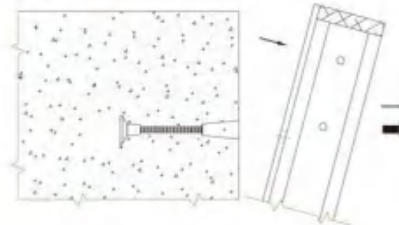
① Tensile Bolt M24/L=75	0.37	99000199
② Anchor Shoe	0.39	01121000
③ V-climbing Cone M24/D15	1.09	99001201
④ High-strength Rod D15/L=300	0.53	———
⑤ Anchor Plate	0.5	99000101

Assembly and Application Sketches:

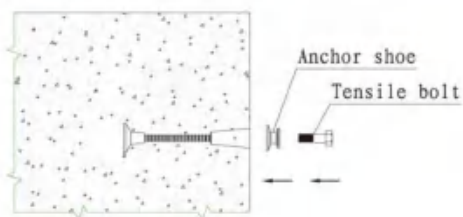
1. Fix anchor on the plywood.



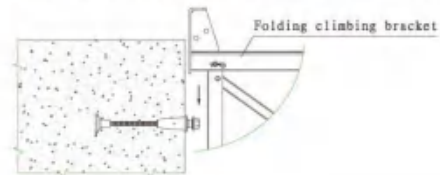
2. Take out the position bolt and remove the formwork.



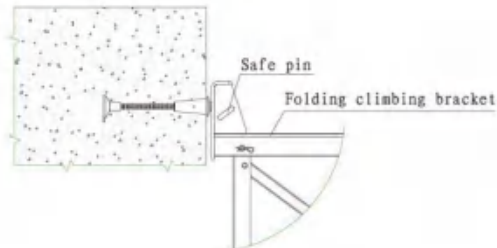
3. Fix the anchor shoe.



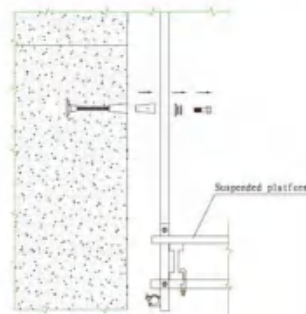
4. Lift the climbing bracket and hang it.



5. Insert the safe pin.

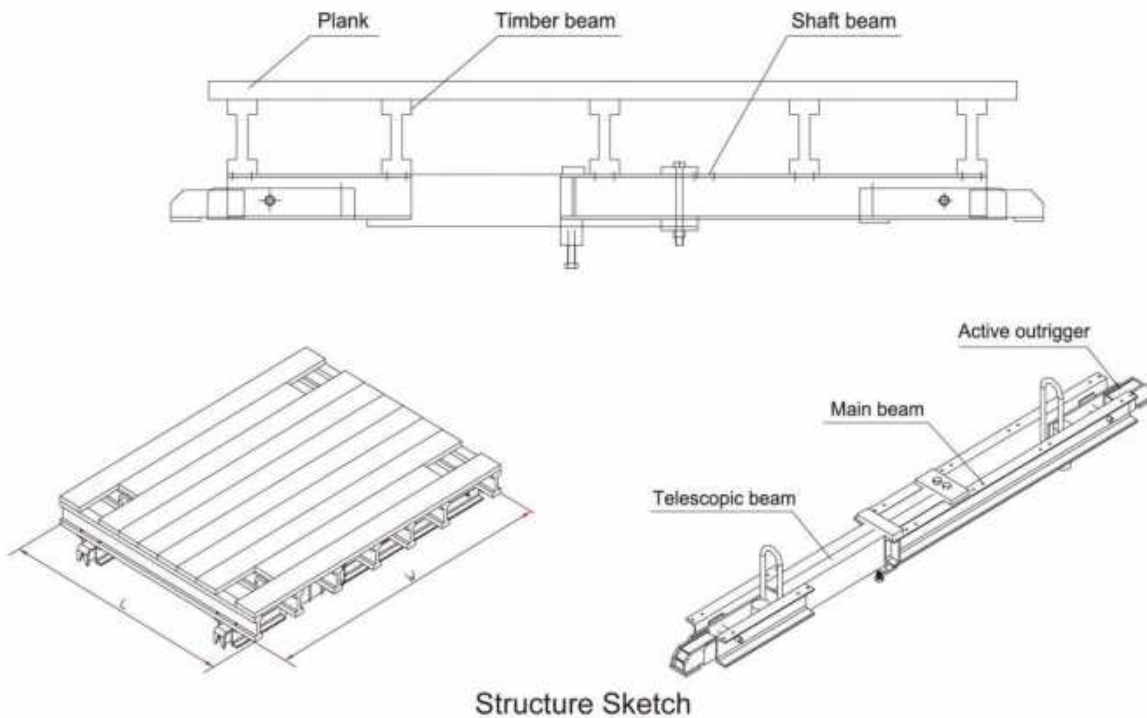


6. After the next lift, tensile bolt, anchor shoe and V-climbing cone can be taken out for reusing.



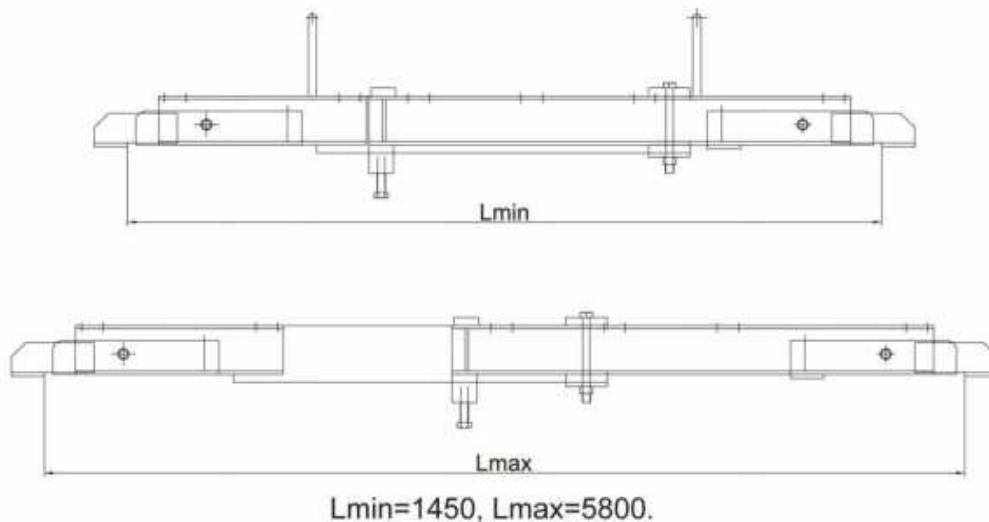
Shaft Platform

As operating platform, the shaft platform is mainly used in the concrete pouring of elevator shaft, equipment shaft, stair shaft of high-rise building and so on.

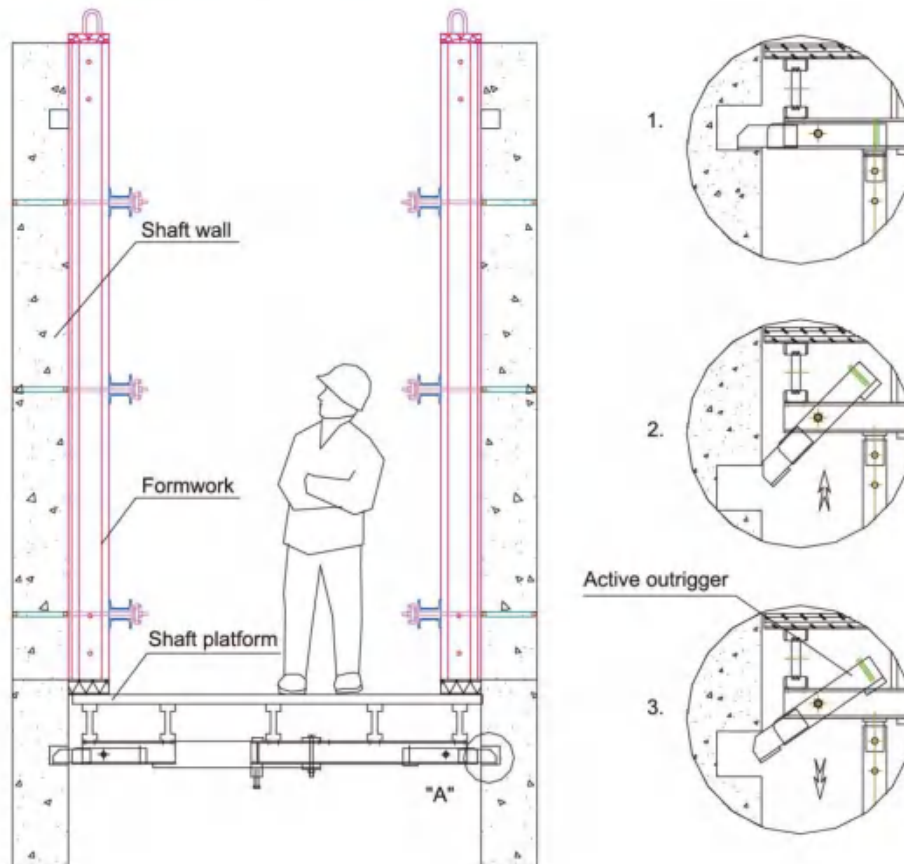


Characteristics:

- ◆ The length of shaft beam is adjustable.



- ◆ Flexible structure makes lifting easier.

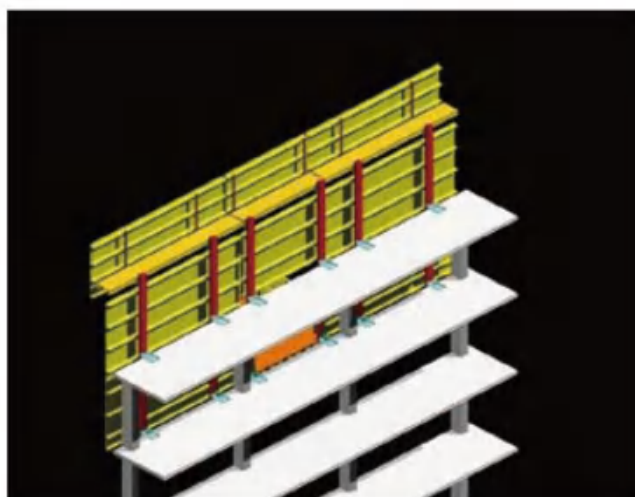
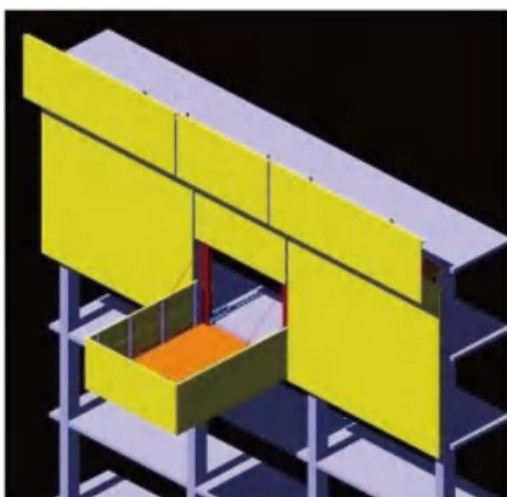
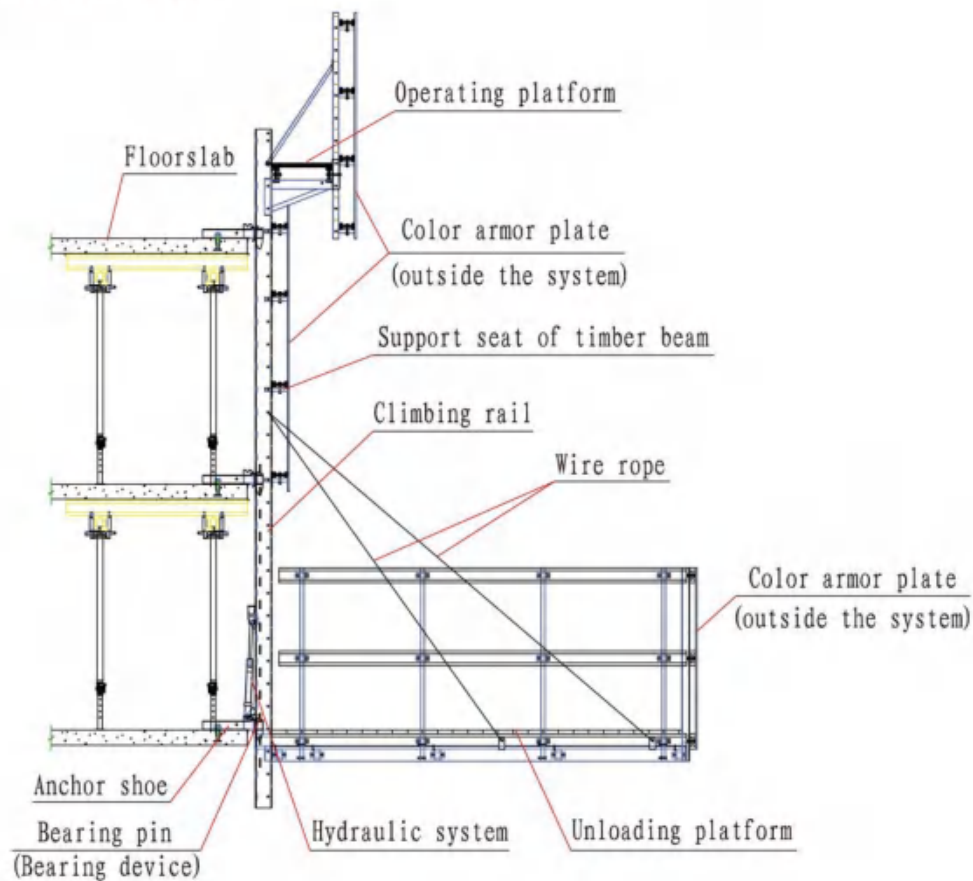


Application:



Protection Platform PP-50

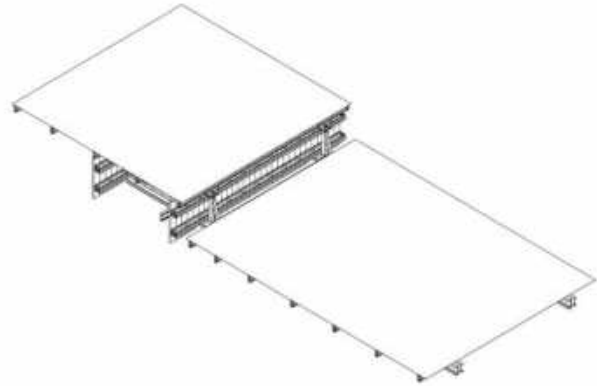
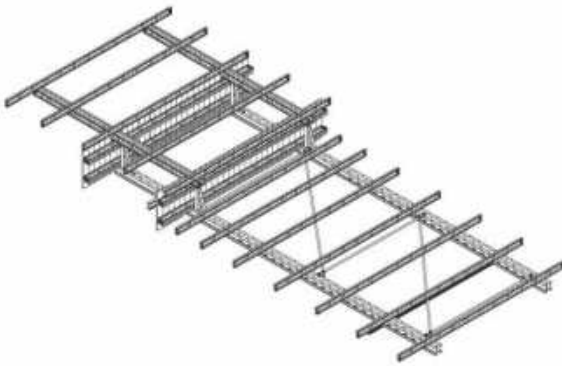
A kind of new type construction protection system, applying operating platform and safer job location for construction corps.



Structure Sketch

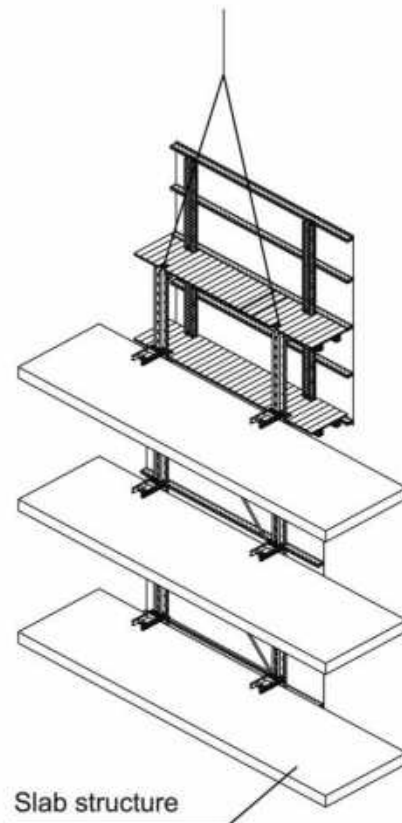
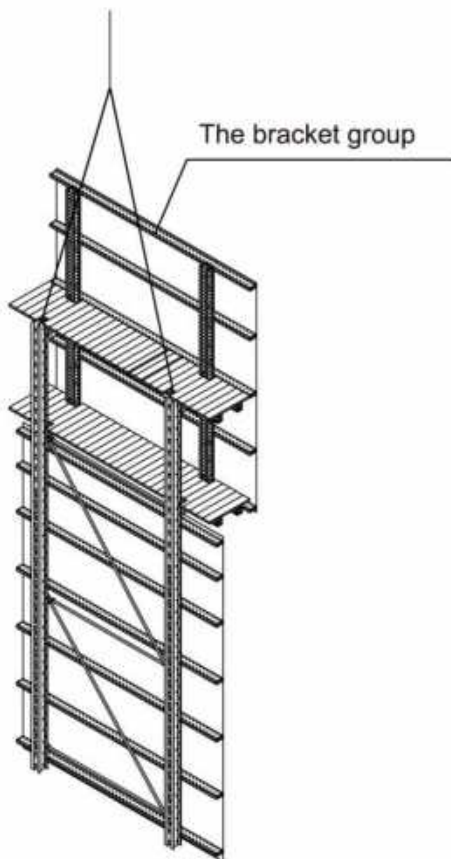
Characteristics:

- ◆ Easy and quick assembling.



The Sketch of Assembling

- ◆ Lifted as a group, it is rapid and economic.



The Sketch for Lifting Process

◆ Auto-climbing



Protection bracket can climb with the hydraulic system.

Here are some parameters:

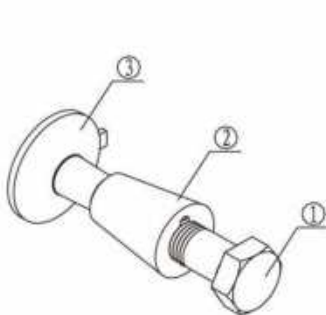
Rated pressure: 20Mpa

Climbing speed: 0.33m/min

Oil cylinder stroke: 435mm

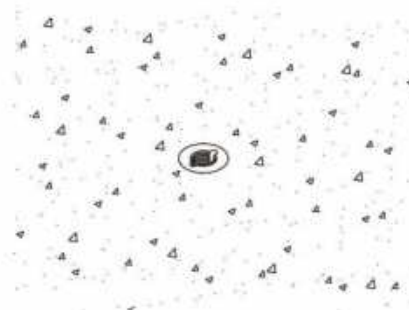
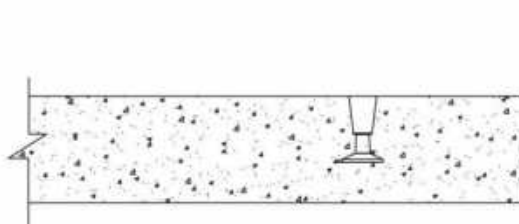
◆ A safe and reliable anchor system

1. Composition

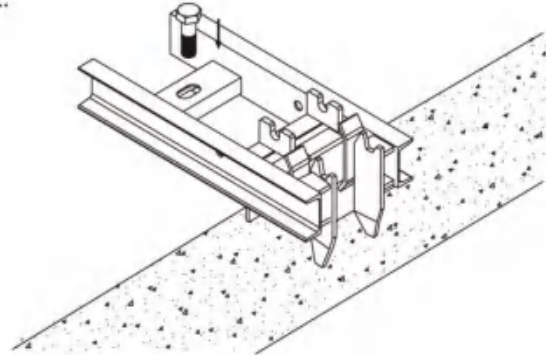
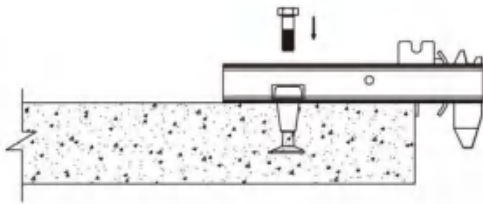


2. Assembly process of anchor system

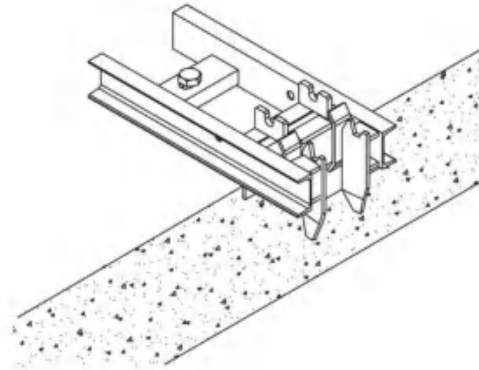
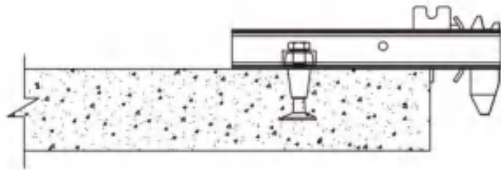
(1) Embed V-climbing cone and anchor plate into the slab.



(2) Fix anchor shoe on the slab by tensile bolt.



(3) The fixed anchor shoe.



◆ High work efficiency with work platform and unload platform



Work Platform Application



Unload Platform Application

- ◆ High light transmittance with the hollow block





AL Hikma Tower, Dubai, UAE



Service Platform for Science and Technology, Harbin, China

Project Application:



City of Lights, Abu Dhabi, UAE

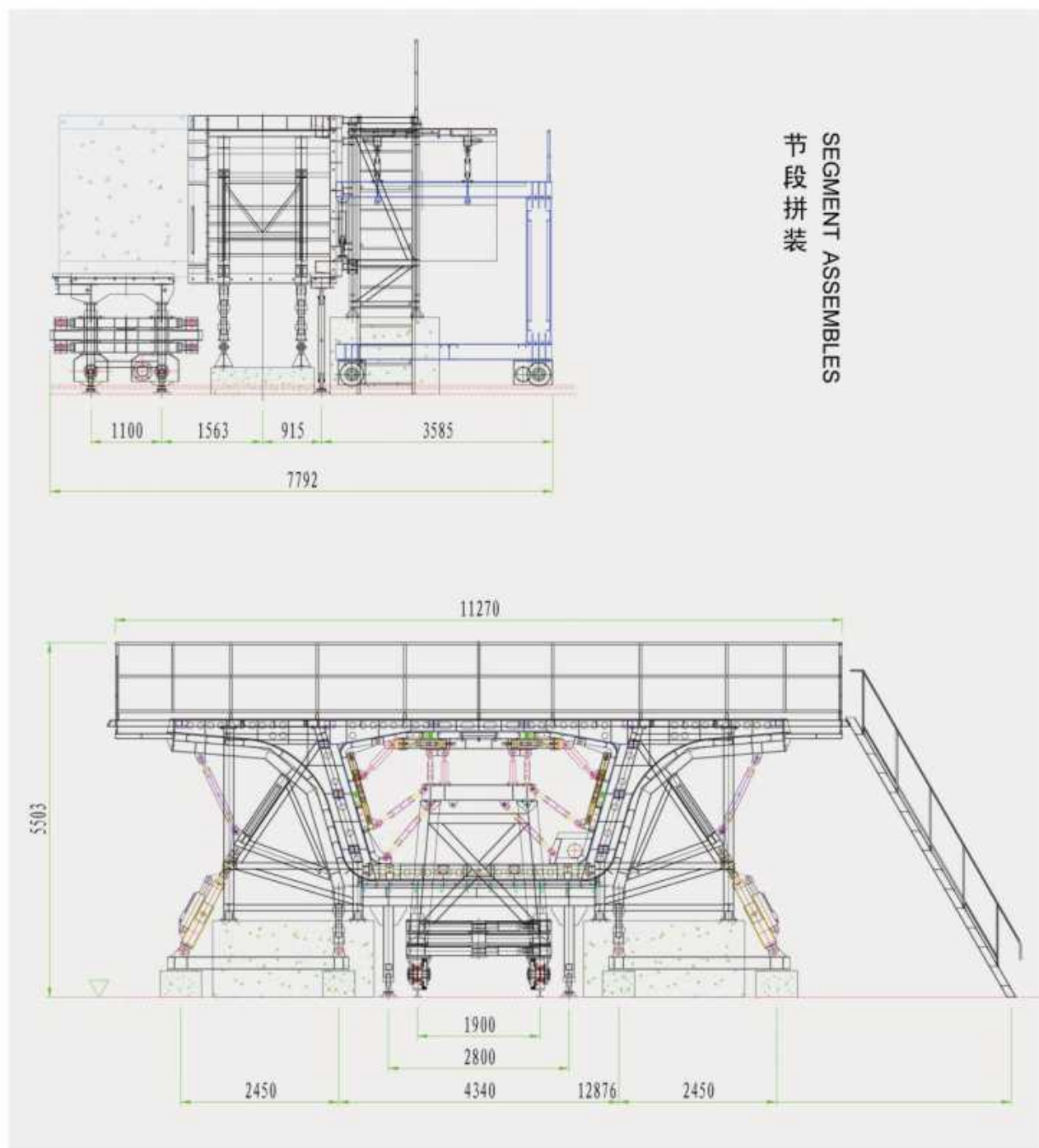
TEMS INTRODUCTION

节段拼装工程

▶ 节段拼装工程

SEGMENT ASSEMBLES
ENGINEERING





ITEMS INTRODUCTION
节段拼装工程



► 钢结构 STEEL STRUCTURE



铁路客运专线 450T 砼箱梁轮轨提梁机
450T high-speed passenger railway wheel/rail girder machine for concrete box girders



900吨架桥机的最大跨度32.7米，最大承载能力900吨，主要特点全部采用UT探伤，主要部位采用RT探伤。

- ▲ The biggest span useful experiences 900-tonne 32.7 meters, the maximum carrying capacity 900 tons, main characteristic all adopt the UT detection, the main parts adopt RT detection.

STEEL STRUCTURE
ENGINEERING
钢结构工程



中国大火箭总装车间：
聚氨酯板围护
建筑面积：28865 平米
钢构量：2277 吨
墙面板面积：16278 平米
屋面板面积：14557 平米
柱高：36 米 一根重量：51 吨
总造价：3170 万
工期：140 天



Polyurethane Board Enclosure
Area: 28,865m²
Steel Structure Quantity: 2,277ton
Wall Plate Area: 16,278m²
Roofing Plate Area: 14557m²
Column Height: 36m
Weight of Per Column: 51ton
Total Cost: 31,700,000RMB
Duration: 140days

大唐国际发电股份有限公司多伦年产46万吨煤基烯烃项目空分、煤气化装置外管廊上部钢结构工程是由大唐国际发电股份有限公司在多伦县投资的国家级能源重化工程项目，钢结构用量4500吨左右。

Datang international power generation Co., LTD of 46 million tons of coal how Aaron air base olefin project the pipe rack, gasification units upper steel structure engineering is by datang international power generation Co., LTD in the DuoLunXian investment national energy sources heavy chemical project, about 4,500 tons of steel structure dosage.



内蒙古上都电厂是内蒙古“西电东送”工程的主要电源点，工程总投资51.37亿元，钢结构用量1900吨，钢构件中钢板最大厚度60mm—75mm。

Inner Mongolia is on Inner Mongolia "power gingral" project, the project total investment DianYuanDian mainly 51.37 billion yuan, steel structure dosage, steel components in 1900, tons of steel maximum thickness 60mm - 75mm.



新建铁路动车段是我国北方地区的动车组检修基地及京沪高速铁路北段的检修中心，总建筑面积183330平方米，钢构件采用弧型钢桁架形式，最大跨度36米。

New railway car segment is moving north China train repair base and luzhou-beijing highway maintenance center of railway section, with total building area of 183330 square meters, and steel components adopt arc steel truss form, the largest span 36 meters.





ITEMS INTRODUCTION
钢结构工程



航天煤化工产业基地：
建筑面积：17000 平米
钢构量：2700 吨
彩板面积：29670 平米
柱高：32 米 一根重量：25 吨
吊车吨位：300 吨
总造价：2508 万
工期：150 天

Area: 17,000m²
Steel Structure Quantity: 2,700ton
Color-Steel Plate Area: 29,670ton
Column Height: 32m
Weight of Per Column: 25ton
Crane Tonnage: 300ton
Total Cost: 25,080,000RMB
Duration: 150days

摩洛哥水泥厂 Moroccan Cement Factory





太中银铁路永宁黄河特大桥工程是铁道部的重点控制工程，全长 3942.08m，钢结构用量 5200 吨，主要特点首次采用整体节点结构型式，要求穿孔率 100%。

Too boc railway yongning Yellow River super major bridge engineering is the key control engineering, mor stretches 3942.08 m, steel structure, main characteristics of 52 tons amount for the first time, using a whole node structure types, request perforation rate 100%.



第七届花卉博览会 (3# 展览馆地下部分箱形柱的厂内制作)

The seventh & flower expo (# 3 galleries of underground parts box column in factory production)



太中银铁路永宁黄河特大桥工程厂内预拼装

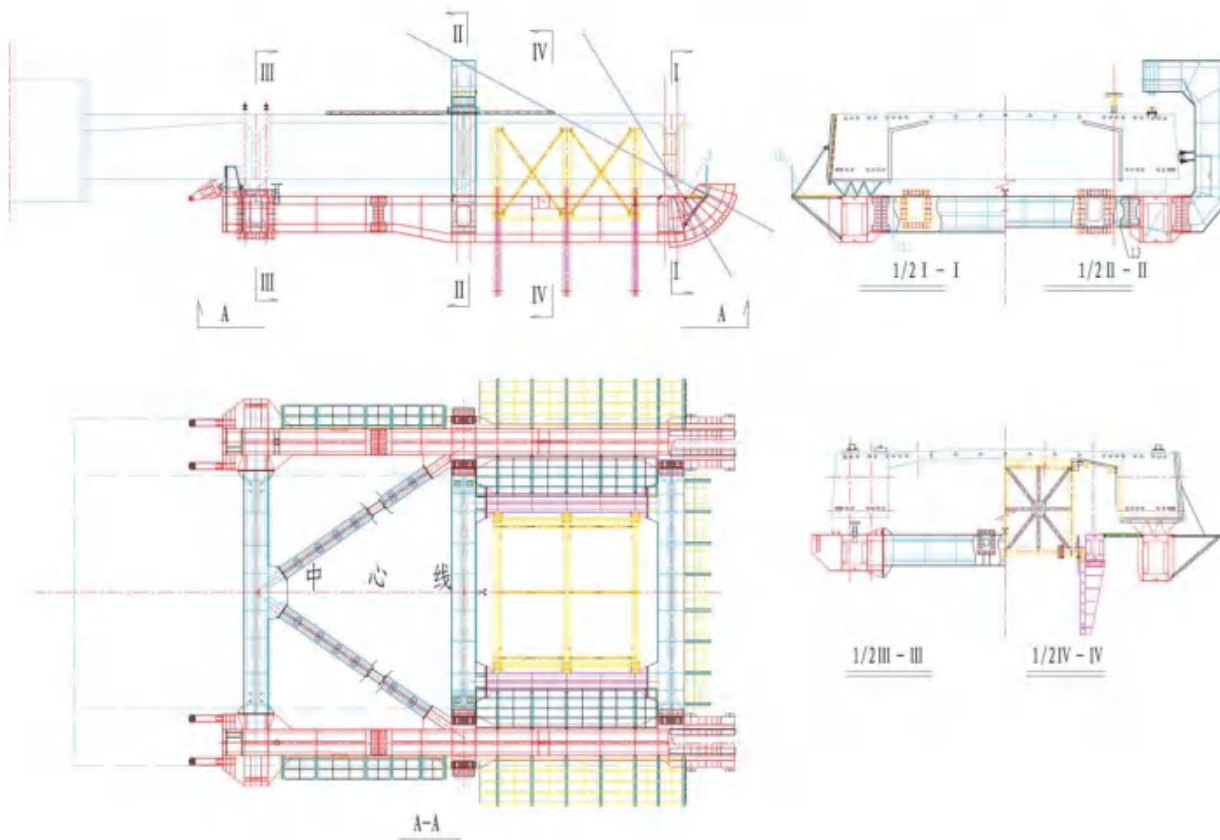
Too boc railway yongning river gets large bridge engineering factory assembled within

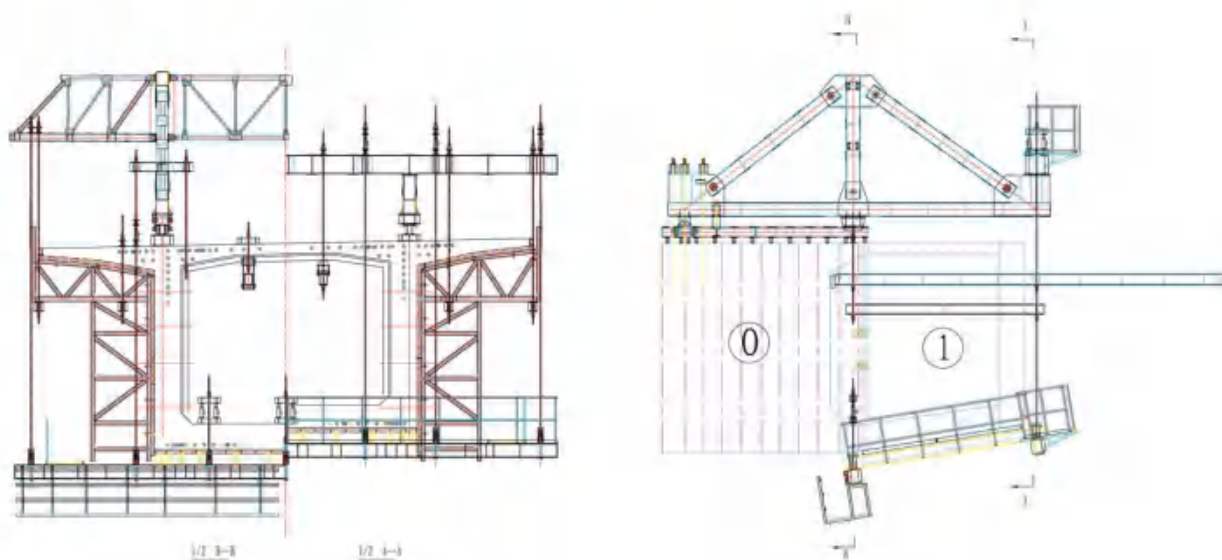


▶ 前支点挂篮 BEFORE THE PIVOT BASKET

前支点挂篮适用于桥面宽度大，节块重量重，节块长度大的大型斜拉索悬浇桥梁。挂篮的大部分构件全集中在底托系统与行走系统上，挂篮没有主构架系统，同时提吊系统也由桥梁的斜拉索承担，单支挂篮重量较其它形式挂篮重。

Hanging Basket for the former pivot bridge is wide, the weight of heavy nodal, nodal length of the large cable-stayed cantilever bridge large. Most members Basket entirely on the end of care system and the walking system, hanging basket is not the main frame system, and provide a bridge crane systems are also cable-stayed by the bear, single hanging basket hanging basket weight in weight than other forms.





▶ 三角形挂篮 TRIANGULAR HANGING BASKET

三角形挂篮具有前横梁重心低、操作安全方便、锚固简单、行走安全系数大等优点。

挂篮在设计时考虑采用液压推进、穿心千斤顶牵引、倒链牵引等牵引方式，给施工方提供充分的选择空间。挂篮设计根据施工情况的不同可分为：外滑梁形式与带倒退功能的外侧模提吊梁形式两种。当施工受现场工况的控制不能在合拢段拆除挂篮，必须倒退回0#块拆除时，可选用第二种形式。

Triangle hanging basket with former beams low gravity, safe and convenient operation, anchor simple, walking safety factor is big, etc.

Hanging basket by considerations in design of hydraulic propulsion, wear heart jack traction, pour chain traction etc drawing method, construction of the choice to provide adequate space.

According to the construction situation hanging basket design can be divided into: the slippery beam form and bring back the lateral mode function of two hang beam form Titus. When construction site conditions by the control can't fold section, must dismantle hanging basket to backward blocks 0 # dismantled, can choose the second form.



菱形挂篮

LOZENGE HANGING BASKET

菱形挂篮具有结构简捷、受力明确、主构架下部操作空间大、安装拆除方便等优点。

挂篮在行走过程中采用带轴承反扣轮，滚动摩擦前进，大大减少了挂篮行走过程中的摩擦阻力；同时轨道表面还焊接有不锈钢板，有利减少了挂篮在行走过程中滑移支座与轨道之间的摩擦阻力；以上两点措施相结合，有利减少了挂篮使用过程中的行走周期，操作快捷方便。

在安全保护方面，挂篮还设置有行走防御系统，保证了挂篮在使用中的绝对安全，充分做到了安全、快捷、实用。

Lozenge structure is simple and hanging basket, Lord structure force clear space, the lower operation convenient installation dismantled.

Hanging basket during walking in with belt buckle wheel, rolling bearing the friction forward, greatly reducing the process of hanging basket frictional resistance to walk; Meanwhile rail surface also welding have stainless steel plate, the advantageous reduced in hanging basket during walking between sliding bearing with orbit the friction; These two measures combined together, favorable reduced in the process of using hanging basket walk cycles, the operation is fast and convenient. In the security protection, hanging basket also set a walk defense system, guarantee the hanging basket in use absolute safety, fully done safe, efficient and practical.





► 变异菱形挂篮

BIAN YI LING XING GUA LAN

变异菱形挂篮前横梁重心高度介于菱形与三角形之间，既降低了重心高度，同时，主构架下部操作空间较三角形挂篮大，操作方便，还具有行走、锚固安全等优点。

Variation lozenge before hanging basket barycenter between diamond and high beams, which reduced among triangles gravity, at the same time, main frame high operating space is the big triangle hanging basket, convenient operation, also has advantages such as walking, anchor safety.



► **挂篮工程**
HANGING BASKET PROJECT





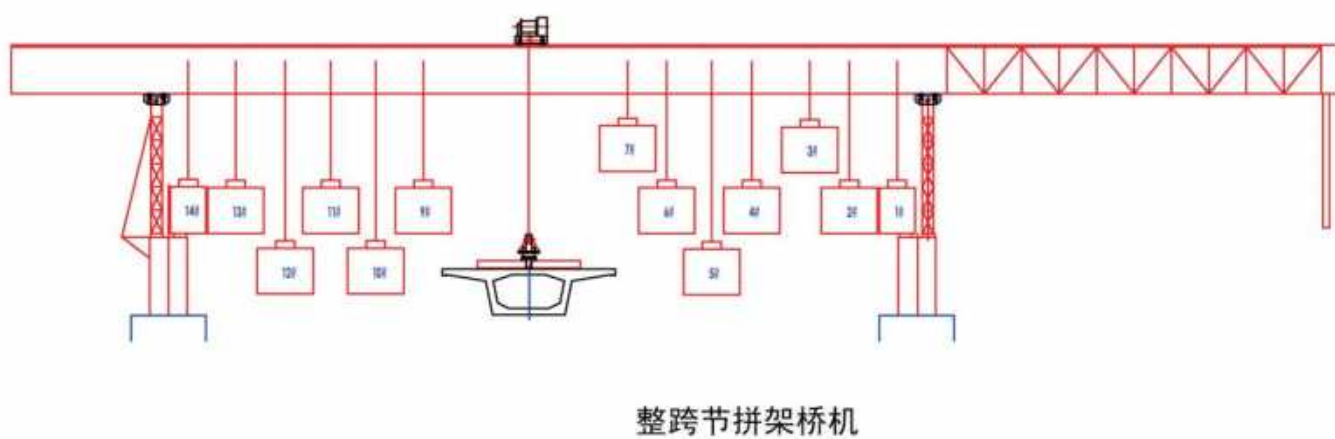
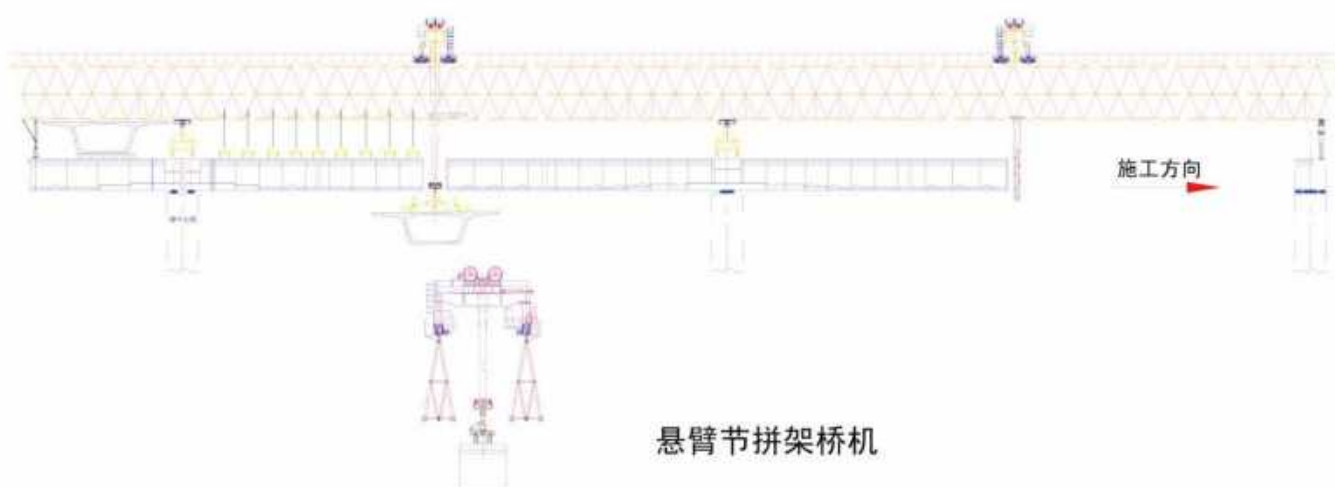


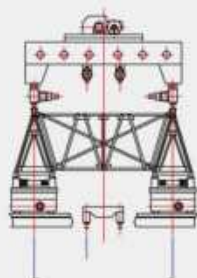
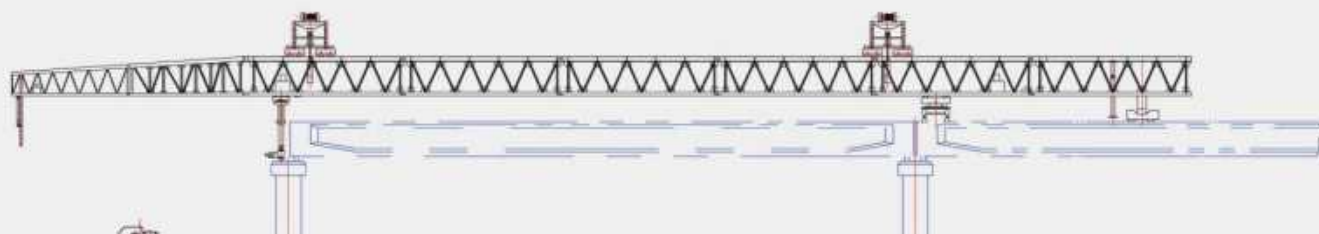


► 架桥机

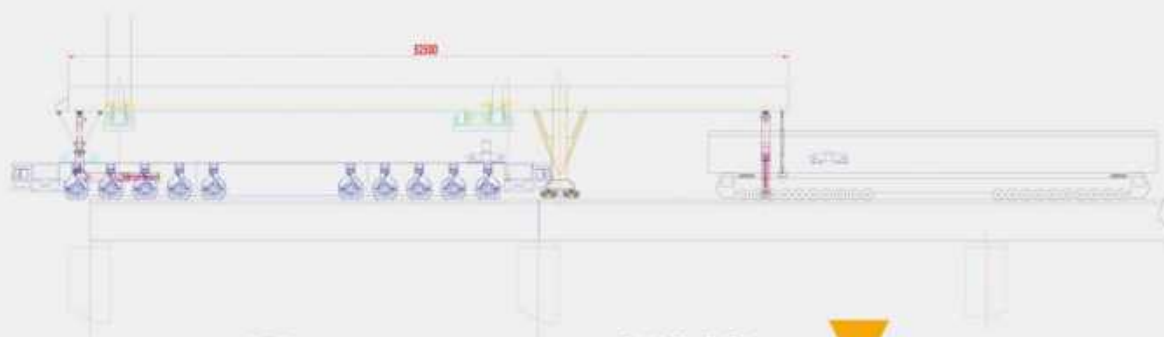
Bridge Girder Erection Machine for High Speed Railway







公路架桥机



铁路架桥机



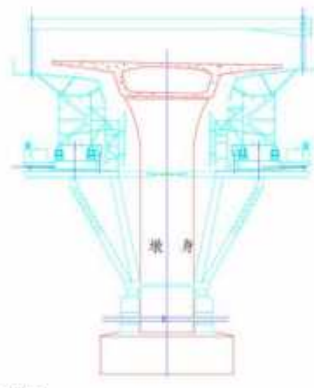
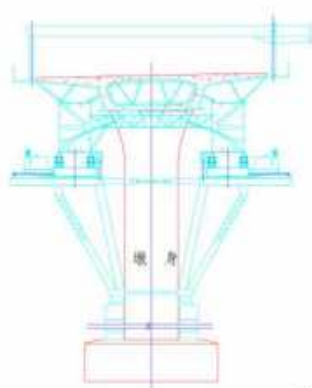
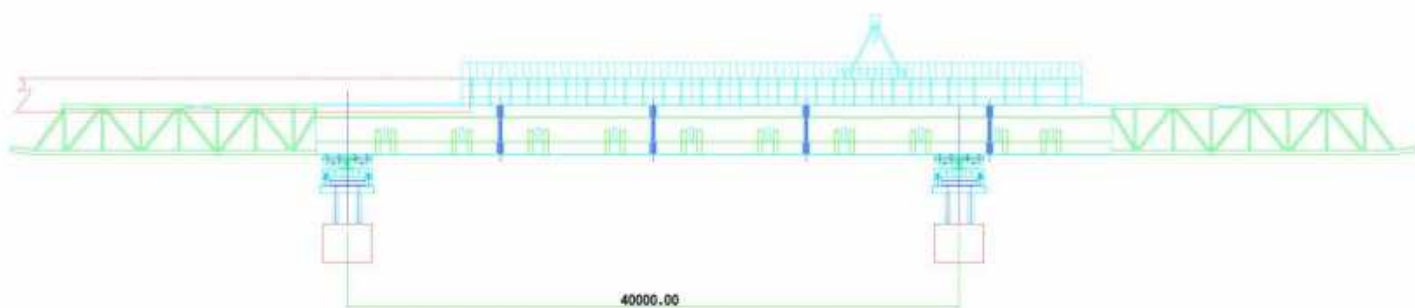
▶ LOZENGE HANGING BASKET





► **移动模架**
MOVABLE FORMWORK





移动模架造桥机



ITEMS INTRODUCTION

移动模架工程

VICO
Engineering

► **移动模架工程**
MOVABLE FORMWORK
ENGINEERING



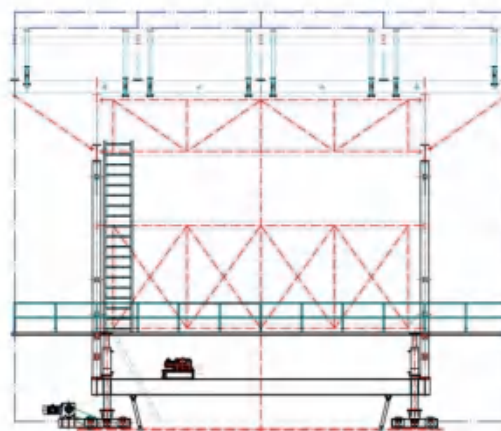
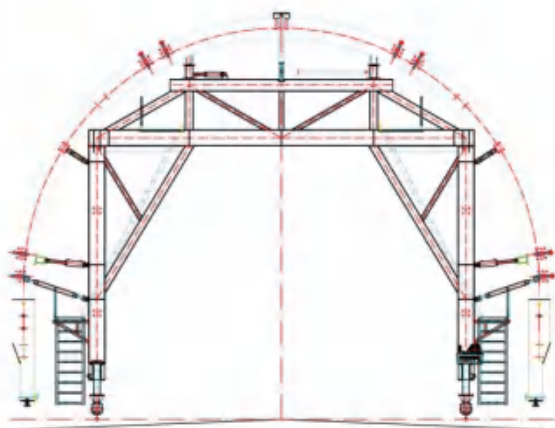




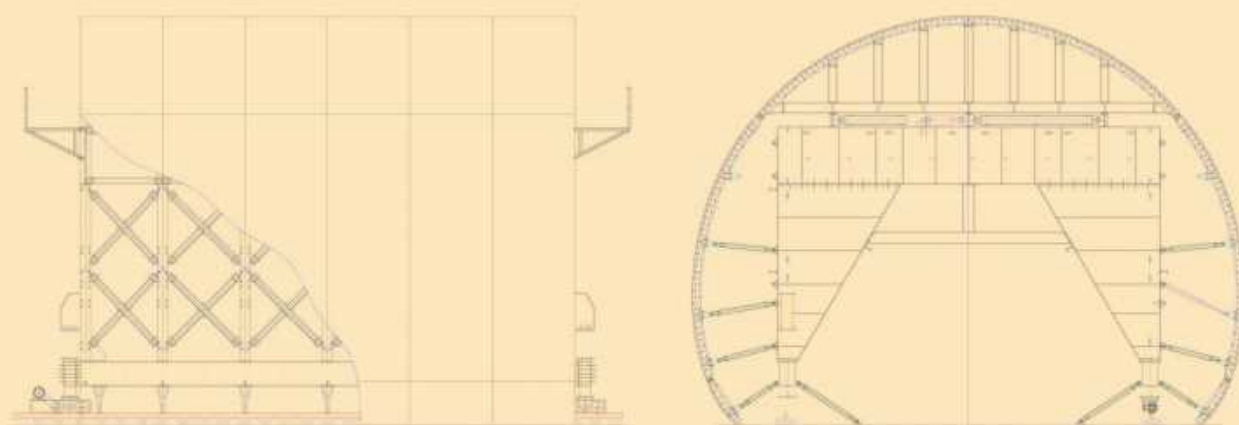
▶ 台车 TAI CHE

全自动液压衬砌台车是隧道混凝土衬砌一次成型设备，浇注质量好，装模脱模速度快，操作方便，安全可靠。其门架净空能够满足运输车辆通行，整机行走采用电机减速机驱动，模板采用全液压操作，利用液压缸支收模、机械锁定。

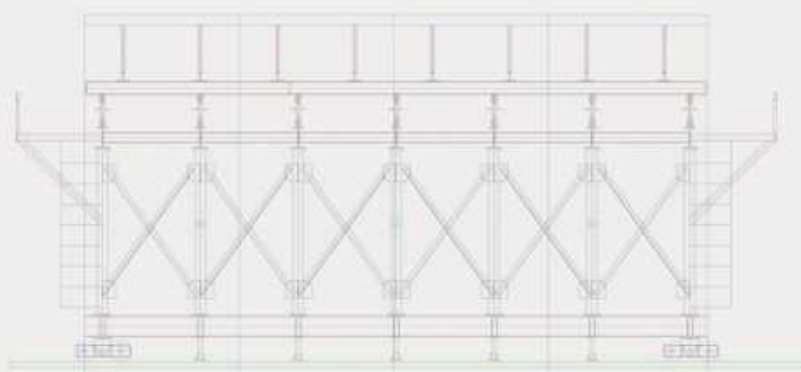
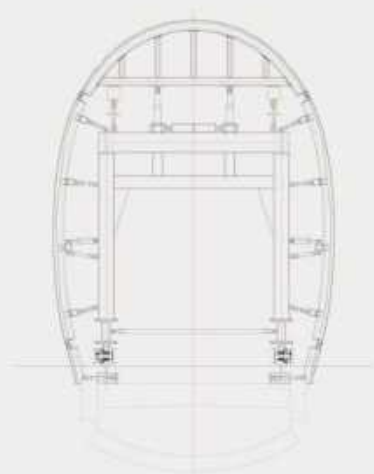
Automatic hydraulic tunnel lining shutter is a concrete lining molding equipment, good quality, outfit mould casting demoulding speed, easy in operation, safe and reliable. The door frame clearance can satisfy the transportation vehicles, the whole walking machine adopt the motor reducer drive, template adopts full hydraulic pressure operation, using the hydraulic cylinder mould, mechanical locking a charge.



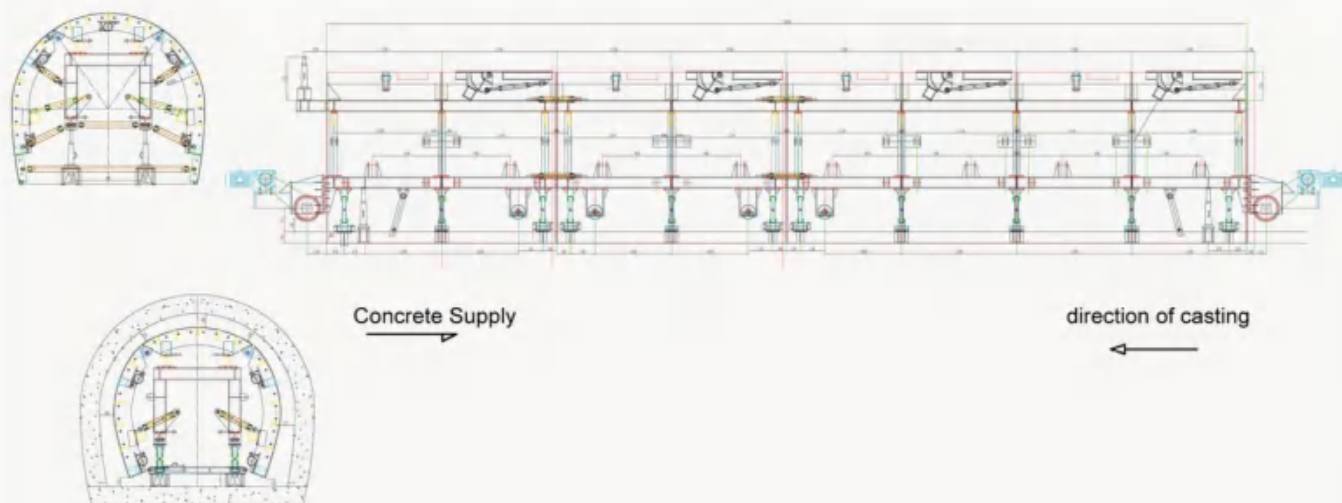
防风明洞组拼台车



双线铁路隧道衬砌台车



单线铁路隧道衬砌台车





► 台车工程
TAI CHE



Project: Datong—Xi'an
high railway
User: China Railway
2nd Bureau
Technical Data: length
9m; radii 6.7m; weight of
trolley 81.5t
Site photograph



Project: Jinzhou—
Chifeng railway
User: China Hydropower
14nd Bureau
Technical Data: length
12m; radii 4.34m; weight
of trolley 105t
Site photograph



Project: Shanxi Middle-south railway
User: China Gezhouba Group
Technical Data: length 12m; radii 4.34m; weight of trolley 105t
Site photograph



Project: Jinzhou—Chifeng railway
User: China Hydropower 14nd Bureau
Technical Data: length 12m; radii 2.5m; weight of trolley 70t
Site photograph

Project: HongKong drainage Tunnel
User: Shanghai DCW Trading Company Limited
Technical Data: length 9m; radii 1.25m; weight of trolley 17t
workshop photograph





Project: Xinjiang Water Channel
User: China Railway 11nd Bureau
Technical Data: length 12m; radii 1.85m; weight of trolley 46t
Site photograph



Project: Beijing Subway
User: China Railway 2nd Bureau
Technical Data: length 9m; radii 2.5m; weight of trolley 38t
Site photograph



Project: Beijing City Railway
User: China Railway 21nd Bureau
Technical Data: length 12m; radii 6.7m; weight of trolley 115t
Site photograph

—• Office •—



Hadquarters Adress: No12 Jinxing Road Daxing Industrial District, Beijing, China

Production Base: Jinan New District, Handan City, Hebei Province, China

TEL: 010-60211636

E-mail: VicoEngineering@163.com

Http: www.vicoengineering.com