

*Co-learning; win-win cooperation*



**廊坊助善金属制品有限公司**  
Langfang Zhushan Metal Products Co., Ltd.



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**产品宣传册**

**BPRODUCT MANUALS**

**廊坊助善金属制品有限公司**

**Langfang Zhushan Metal Products Co., Ltd.**



# A 企业篇 ENTERPRISE



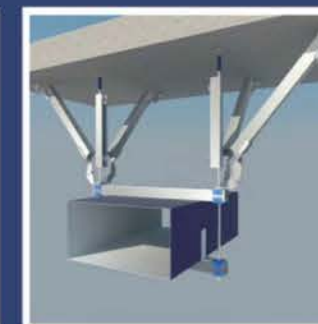
## 企业简介 ENTERPRISE PROFILE

Langfang Zhushan Metal Products Co., Ltd. specializes in architectural electromechanical seismic, with a professional team of production, sales, and technical support. It is a professional company that provides integrated services from architectural electromechanical seismic consulting and design, product production, construction and installation, on-site support to after-sales tracking. It is a leading engineering and technical product supplier in China.

At present, Langfang Zhushan Metal Products Co., Ltd. provided professional technical solutions and products for the prefabricated building installation field and photovoltaic power generation field at home and abroad. The company's products include mechanical seismic bracket system, prefabricated pipeline support system, photovoltaic bracket system, finished support system, integrated pipeline support system and other series.

The company advanced CNC processing, stamping, stretching and other equipment, and it is our purpose to provide customers with the best quality products and services.

Langfang Zhushan Products Co., Ltd. undertakes the corporate mission of "serving the people, specializing in seismic", adheres to the business service philosophy of "sincere cooperation, winwin together", insists on putting customer needs first, pursues innovation in technology, seeks safe, economical and feasible solutions, and becomes a leader in the prefabricated building field and photovoltaic power generation field. The company has passed the ISO9001:2008 quality system certification, which guarantees the consistent quality of company's products. Faced with the wave of economic globalization, Langfang Zhushan Metal Products Co., Ltd. focuses on the "industrialization, ization, and internationalization" strategy, and firmly moves towards the grand goal of "world-class manufacturing enterprise". In the coming days, we will continue to explore, difficulties, and make greater contributions to China's architectural electromechanical seismic cause.





Centered around your needs  
Dedicated to meeting your needs to the fullest

Langfang Zhushan Metal Products Co., Ltd.

## 产品目录 Product catalogue



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# 我们的工厂 OUR FACTORY



# 资质荣誉

## APTITUDE HONOR





## Seismic Bracket System Design Description

### I. Design Basis:

- 1.1, GB50981-2014-"Building Mechanical and Engineering Seismic Design Code"
- 1.2, CJ/T476-2015-"General Technical Conditions for Seismic Support and Suspension of Mechanical and Electrical Equipment"
- 1.3, CECS420:2015-"Seismic Support and Suspension Installation and Acceptance Code"
- 1.4, GB50011-2010-"Building Seismic Design Code"
- 1.5, GB50243-2002-"Ventilation and Air Conditioning Engineering Construction Quality Acceptance Code"
- 1.6, GB50017-2003-"Steel Structure Design Code"
- 1.7, 03K132-2003-"Air Duct Support and Suspension"
- 1.8 03S402-2003-"Indoor Pipe Support and Suspension"
- 1.9, 04D701-2004-"Cable Bridge Installation"
- 1.10, 03SR417-2-2003-"Prefabricated Pipe Hanging Support Installation Drawing"
- 1.11, 95R417-1-2002-"Prefabricated Pipe Hanging Support Installation Drawing"
- 1.12, GB/T3098.1-2000-"Prefabricated Pipe Hanging Support Drawing"
- 1.13, GB50235-1997-"Industrial Metal Piping Engineering Construction and Acceptance Code"
- 1.14, GB/T11716.1-1997-"Pipe Support and Suspension Part One: Technical Specifications"
- 1.15, GB/T18684-2002-"Zinc Chromate Coating Technical Conditions"
- 1.16, GB/T70-2006-"Carbon Structural Steel"
- 1.17, JG160-2004-"Concrete Exp and Expansion Hole Type Building Anchor Bolts"
- 1.18, GB/T13912-2002-"Technical Requirements and Test for Hot-Dipped Zinc Coating of Metallic Coated Steel Components"
- 1.19, GB/T9799-2011"Zinc Electroplating Layer on Steel after Treatment of Metals and Other Inorganic Coatings"
- 1.20, GB/T97992011-"Zinc Electroplating Layer on Steel after Treatment of Metals and Other Inorganic Coatings"
- 1.21, ASCE7-10-"American Building Load Code"

### III. Design Requirements:

1. According to Article 8.1.2 of GB50981-2014Code for Seismic Design of Mechanical and Electrical Engineering in Buildings": All components of the seismic support system should be prefabricated support components, and the construction of the connectingeners should be convenient for installation;
2. According to Article 5.1.4 of GB20981-2014 "Code for Se Design of Mechanical and Electrical Engineering in Buildings" and the description of Article 5.1.4: The supports and hangers of smoke exhaust ducts, emergency ventilation duct, and their equipment should strictly use supports and hangers with seismic function, and should be purchased and installed according to technical requirements;
3. The initial spacing of seismic should meet the requirements of Article 8.2.3 of GB50981-2014 "Code for Seismic Design of Mechanical and Electrical Engineering in Build", and should also meet the provisions of Table 8.2.3:

### II. Scope of seismic design pipeline:

- Building mechanical and electrical engineering in areas with seismic fortification intensity of 6 degrees or must be designed for seismic resistance.
1. Water supply and drainage:
    - (1) Indoor water supply, hot water, and fire protection pipes with a diameter than or equal to DN65;
    - (2) Pipes in the pump room.
  2. Heating, ventilation, and air conditioning:
    - (1) Pipes in the boiler room, refrigeration room, and heat exchanger station;
    - (2) Air duct systems with a rectangular cross-sectional area greater than equal to 0.38 square meters and a circular diameter greater than or equal to 0.70m;
    - (3) Smoke exhaust and ventilation duct and related equipment.
  3. Gas:
    - Gas pipes with an inner diameter greater than or equal to 25mm.
  4. Electrical:
    - (1) Electrical conduit with an inner diameter not less than 60mm;
    - (2) Cable trays, cable troughs, and bus ducts with a not less than 150N/m.
  5. Equipment:
    - Equipment with a gravity greater than 1.8kN in suspended pipes.
- Others:
- Important machine rooms of mechanical and electrical engineering, such as heat exchanger stations, distribution substations, diesel generator rooms, communication rooms, fire control rooms and security monitoring rooms, etc.

Note: All components of the seismic support should be finished products, and the construction of the connecting fasteners should be convenient for installation

4. The layout of seismic supports shall be set up strictly in accordance with the requirements of Chapter 8.3 of GB509812014 "Code for Seismic Design of Building Mechanical and Electrical Engineering";
5. The comprehensive coefficient of horizontal seismic force of pipelines shall be calculated according to requirements of GB50981-2014 "Code for Seismic Design of Building Mechanical and Electrical Engineering" Clause 8.2.4, and parameters shall be taken from Clause 3.4.5 and Table 3.4.1. When the calculation result is less than 0.5, take .5, and if it exceeds 0.5, take the actual calculation value;
6. The mechanical verification of seismic support bearing force shall include: verification of connection support and building structure (including anchor bolt and connection hardware); verification of member bearing force (including tension and compression verification); verification of seismic connection hardware bearing force of support, etc.
7. The slenderness ratio requirements of seismic support hanging rod and diagonal brace shall meet the requirements of GB50981-2014 "Code Seismic Design of Building Mechanical and Electrical Engineering" Clause 8.3.8: When the slenderness ratio of the seismic hanging rod is greater than 20, reinforcement measures shall be taken.

Pipeline category		Seismic support spacing ( m )	
		Lateral	Longitudinal
Water supply, hot water and fire-fighting pipes	New construction project rigidly connected metal pipes	12.0	24.0
	Flexible connection of new construction metal pipeline; non-metallic pipeline and composite pipeline	6.0	12.0
Gas, heating pipeline	New fuel, gas, medical gas, vacuum, compressed air, steam, high temperature hot water pipes and other harmful gas pipelines	6.0	12.0
Ventilation and smoke exhaust ducts	New project common rigid material air duct	9.0	18.0
	New project ordinary non-metallic material steel pipe	4.5	9.0
Conduit and cable tray, cable tray and cable bridge	New construction rigid material conduit, cable ladder rack, cable tray and cable trough box	12.0	24.0
	New construction non-metallic material conduit, cable ladder rack, cable tray and cable tray box	6.0	12.0

Note: The maximum seismic reinforcement spacing for the reconstruction project is half of the value in the table above.

### IV. Technical Requirements for Seismic Bracket Product System:

1. The C-shaped channel steel is a cold-pressed formed channel steel with sectional dimensions of 41mm\*21mm, 41mm\*41mm, 41mm\*62, 41mm\*72mm, etc., and the standard profile length is 3000mm or 6000mm. The steel material be Q235B or above and meet the provisions of "Carbon Structural Steel" GB/T700-2006. The wall thickness not be less than 2.0mm. The back of the channel steel shall have rectangular mounting holes to facilitate on-site installation and processing during construction, and to facilitate the, maintenance, and expansion of pipes in the future.

2. The inner edge of the seismic bracket C-shaped channel steel must have teeth, and the depth of the shall not be less than 0.9 mm. All accessories shall be installed by mechanical bite, and it is strictly prohibited to use any installation method that relies on the friction of to bear the force. All connecting accessories are not allowed to use springs that are not matched with the channel steel, so as to ensure the reliable connection of the entire system.

3. The seismic bracket C-shaped channel steel is designed with axial reinforcement ribs to strengthen the sectional stiffness, ensuring that the section of the channel steel does not deform during transportation cutting, and installation.

4. The material of the seismic connection parts and the tube bundle shall be Q235 or above and meet the provisions of "Carbon-structural Steel" GB/T700-2006. The wall thickness shall not be less than 4mm.

5. The tube bundle and gasket must be equipped with screws and have anti-loosening function, which is convenient for quick installation on the construction site, saving the construction period and materials, and there no need to cut and install screws on site.

6. Seismic brackets shall be tested according to the standard temperature curve in GB/T9978.12008 "Methods of Fire Resistance Test for Building Components" for 120 minutes.

7. The seismic bracket consists of seismic anchor bolts, screw parts, seismic connection components, and seismic diagonal braces. The assembly installation is used on site, and the surface is subject to anti-corrosion treatment according to the onsite use environment, avoiding the generation of dust or paint aging and falling off during use, so as to ensure the cleanliness and facilitate later maintenance.

### 8. Surface anticorrosion treatment:

8.1 Seismic connection components shall be treated by hot-dip galvanizing or purification galvanizing, and shall meet the galvan provisions of the national standard "Technical Requirements and Test Methods for Hot-dip Galvanized Layer of Steel Components" GB/T13912-2002 or "Zinc Electroplated Layer on Steel after Treatment of Metals and Other Inorganic Coatings" GB/T9799-201.

8.2 All specifications of single-piece finished channel steel and double-piece finished channel steel surface should adopt the national standard "Technical Requirements and Test Methods for Hotdip Galvanized Layer of Steel Components" GB/T13912-2002 or "Zinc Electroplated Layer on Steel after Treatment Metals and Other Inorganic Coatings" GB/T9799-2011 galvanizing provisions.

9. The expansion anchor bolts used comply with the national standard "Concrete Expansion Type, Expansion Hole Type Building Anchor Bolts" JG160-2004.

### 10. The seismic bracing system used shall be provided with:

- 10.1 Inspection report of anchor:
  - ETA cracked concrete OPTION1 report
  - Tensile performance inspection report for non-cracked concrete under soil
  - Shear performance inspection report for non-ed concrete
  - Tensile performance inspection report for cracked concrete
  - Fatigue load performance inspection report
  - Fire resistance bearing capacity performance inspection report
  - Corrosion performance inspection report

- Anti-seismic performance crack series test report for cracked concrete
- Repeated opening and closing performance test report for cracks
- Low cycle tensile load performance test report
- Low cycle repeated shear load performance test report

10.2 Test report for seismic connection components, column, connectors, and diagonal b:

- National-level mechanical performance inspection report
- 200,000 times repeated fatigue test report for seismic main load-bearing connectors
- Channel steel bending test report
- Channel steel compression performance test report
- Channel steel tensile performance test report
- Tubular bundle mechanical performance test report
- Mechanical performance test report connection accessories
- Salt spray test report for wear and corrosion resistance of related products

10.3 Test report for pipe clamps:

- Pipe clamp mechanical test report
- Pipe clamp fire test report

10.4 Report for connection locks:

- Rolled edge tensile performance test report for channel steel locks
- Rolled edge anti-slip performance test report for channel steel locks
- Channel steel lock 200,000 times anti-fatigue load test

10.5 The overall test report of the seismic support:

- The overall vibration performance test report [ simulation test shall not be lower than 8 degrees (.30g)Rare earthquake action case ]
- Overall fire resistance performance test report to ensure the safety of seismic support under earthquake action,In the event of fire, it has a certain fire resistance capability;

11. The seismic support supplier shall carry out the deepening design of the seismic support system in the area where the support system is used according to the comprehensive pipeline design drawing provided by the bidder, and the manufacturer shall carry out detailed calculation on the force and material selection of the seismic support, provide the load calculation book of the seismic support;

12. Complete set of documents such as "Seismic Bracing Technical Manual", "Seismic Bracing Technical Manual", "Seismic Bracing Installation Operation Guide", "Seismic Bracing Load Calculation Book", "Seismic Bracing On-site Installation Guide Manual, etc., to ensure the installation safety of the product and provide high-quality on-site service.



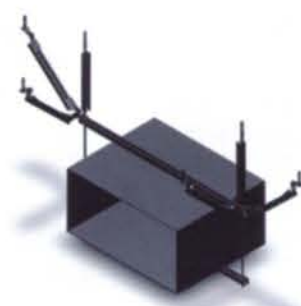
## Aseismatic support system

### 产品性能及优势:

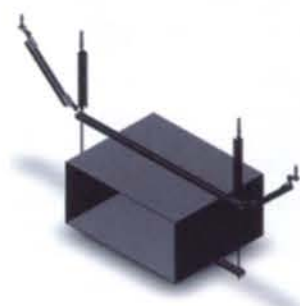
- 可广泛应用于抗震设防区的建筑机电工程安装领域;
- 混凝土结构支架系统及钢结构支架系统可满足不同工况的安装要求;
- 严格的结构计算及全面的材料测试, 保证支架系统的安全可靠;
- 良好的设计及模块化的构件确保安装及调节更为方便、快捷;
- 符合FM及UL认证要求, 符合《建筑机电工程抗震设计规范》(GB50981-2014) 要求。

### Features:

- Suitable for electrical and mechanical installation in the field of seismic zone.
- Concrete and steel structural support system can meet the installation requirements of different conditions.
- Strict structural calculation and comprehensive material tests ensure the safety and reliability of the system.
- Excellent design and modular components ensure the flexibility and convenience.
- As per FM, UL, GB50981-2014.



风管单向抗震支架系统  
Lateral seismic system for duct



风管双向抗震支架系统  
Four-way seismic system for duct



桥架单向抗震支架系统  
Lateral seismic system for cable tray



桥架双向抗震支架系统  
Four-way seismic system for cable tray

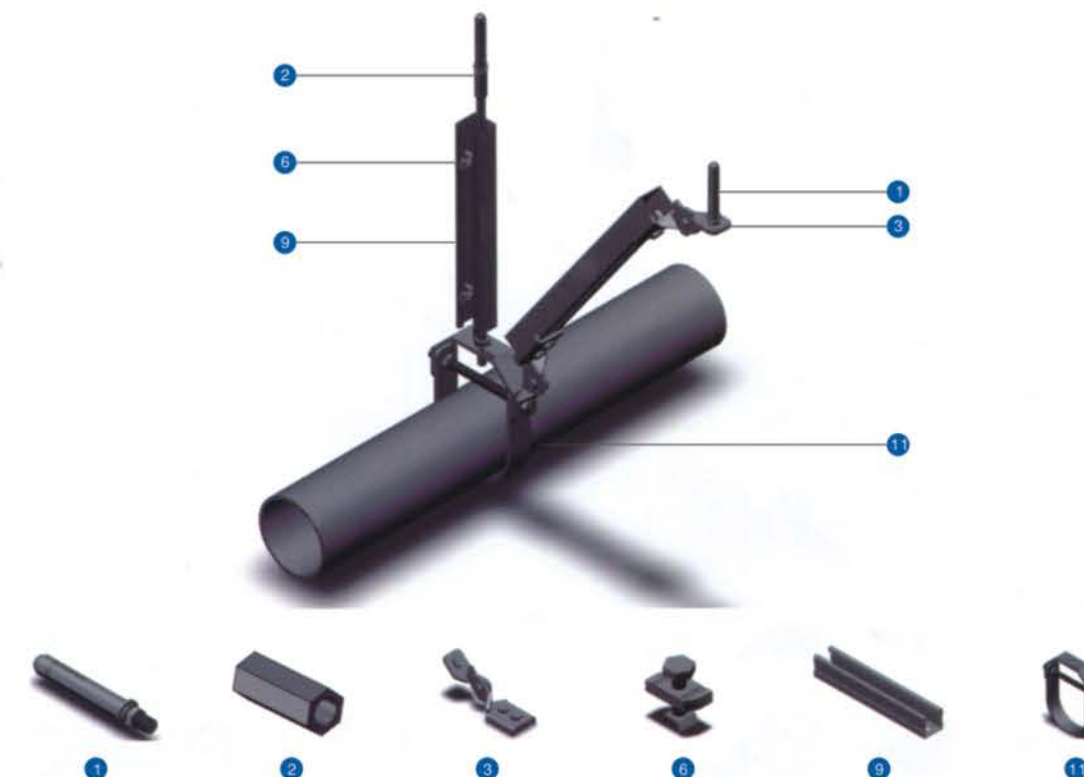


管道单向抗震支架系统  
Lateral seismic system for pipe



管道双向抗震支架系统  
Four-way seismic system for pipe

## 单管一侧向抗震支架



Anti-seismic support on one side of the pipeline (1 meter of pipeline lifting height)

No.	Encoding	Product name	Quantity	Process description	Unit
1	BSA-M12x120	Anti-seismic anchor bolt M12 x 120	2	Passivated galvanizing	PCS
2	FRC12	Screw coupling M12	1	Passivated galvanizing	PCS
3	BKZB3	Anti-seismic connectors	2	Hot dip galvanizing	PCS
4	HS1230	Hex bolt M12 x 30	4	Passivated galvanizing 8.8 grade	PCS
5	BWN-M12	Wing nut M12	4	Passivated galvan	PCS
6	BKZM12	Seismic reinforcement M12	3	Passivated galvanizing	PCS
7	FN12	Flange nut M12	3	Passivated galvanizing	PCS
8	TR12	Screw shaft M12	1	Passivated galvanizing	PCS
9	BS2000	Seismic channel steel	2	Hot dip galvanizing	PCS
10	BS1180	Steel section head	2	PVC	PCS
11	BHSC	Lateral Seismic Pipe Clamp	1	Passivated galvanizing	PCS

### Product Advantages

1. Material guarantee: high-quality carbon steel is used.
2. Surface treatment: hot-dip galvanizing 65  $\mu$  m.
3. certification: ISO9000-2008 factory certification, national seismic bracket test certification.
4. Perfect drawing design.
5. Industrialized customized products, simple and-to-use concept, ensuring safety.

单管一纵向抗震支架/Single pipe-longitudinal seismic support.



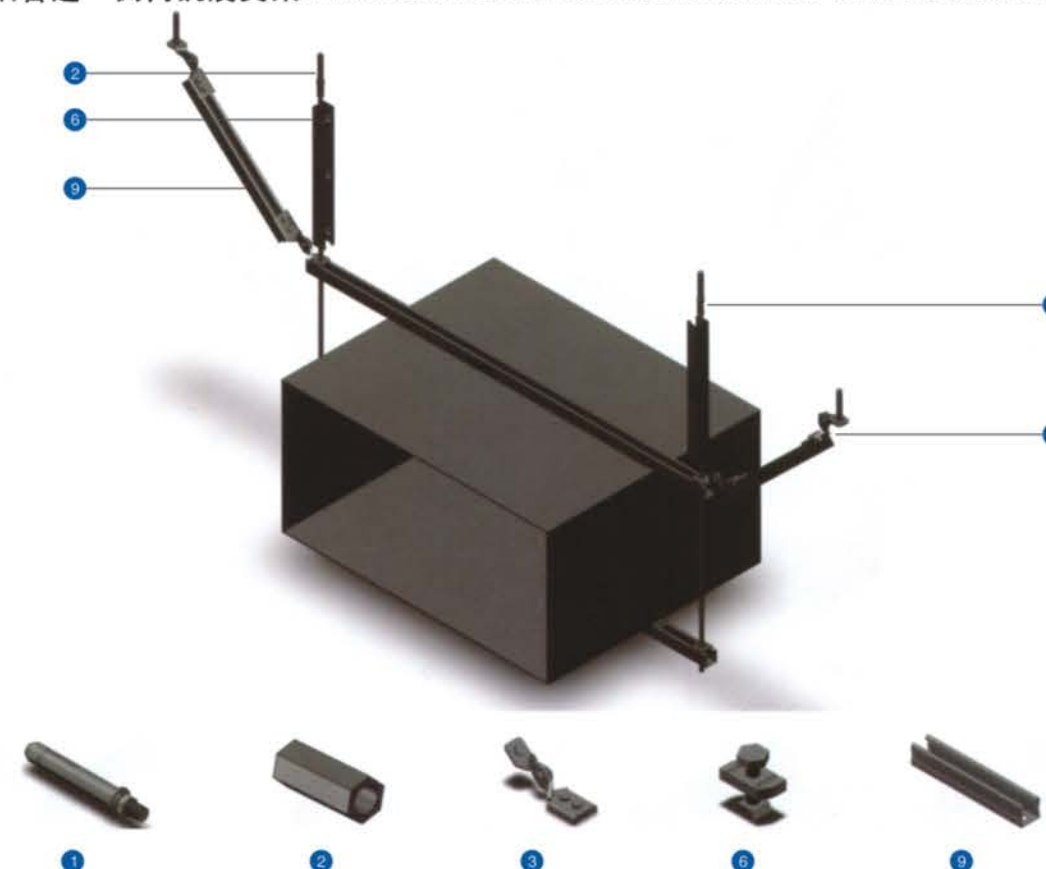
Single pipe- longitudinal seismic support. ( Pipe lifting height 1 meter )

No.	Code	Product Name	Quantity	Process Description	Unit
1	BSA-M12×120	Anti-seismic anchor bolt M12 × 120	3	Passivated galvanizing	PCS
2	FRC12	Screw coupling M12	1	Passivated galvanizing	PCS
3	BKZB3	Anti-seismic connectors	4	Hot dip galvanizing	PCS
4	HS1230	Hex bolt M12 × 30	8	Dull galvanized grade 8.8	PCS
5	BWN-M12	Wing nut M12	8	Passivated galvanizing	PCS
6	BKZM12	Seismic reinforcement M12	3	Passivated galvanizing	PCS
7	FN12	Flange nut M12	3	Passivated galvanizing	PCS
8	TR12	Screw shaft M12	1	Passivated galvanizing	PCS
9	BS2000	Seismic channel steel	3	Hot dip galvanizing	PCS
10	BS1180	Steel section head	4	PVC	PCS
11	BHSC	Lateral Seismic Pipe Clamp BHSC	1	Passivated galvanizing	PCS
12	TPPC	Longitudinal seismic pipe clamp TPPC	1	Passivated galvanizing	PCS

Product Advantages

1. Material guarantee: Adopt high-quality carbon steel
2. Surface treatment: Hot-dip galvanizing 65um
3. Test: ISO9000-2008 factory certification, National seismic support test certification
4. Perfect drawing design
5. Industrialized customized products, concise and to use concept, ensuring safety

通风排烟管道一侧向抗震支架/Ventilation and smoke exhaust duct-side seismic support bracket



Ventilation and smoke exhaust duct-side seismic support bracket ( Pipe lifting height 1.5 meters )

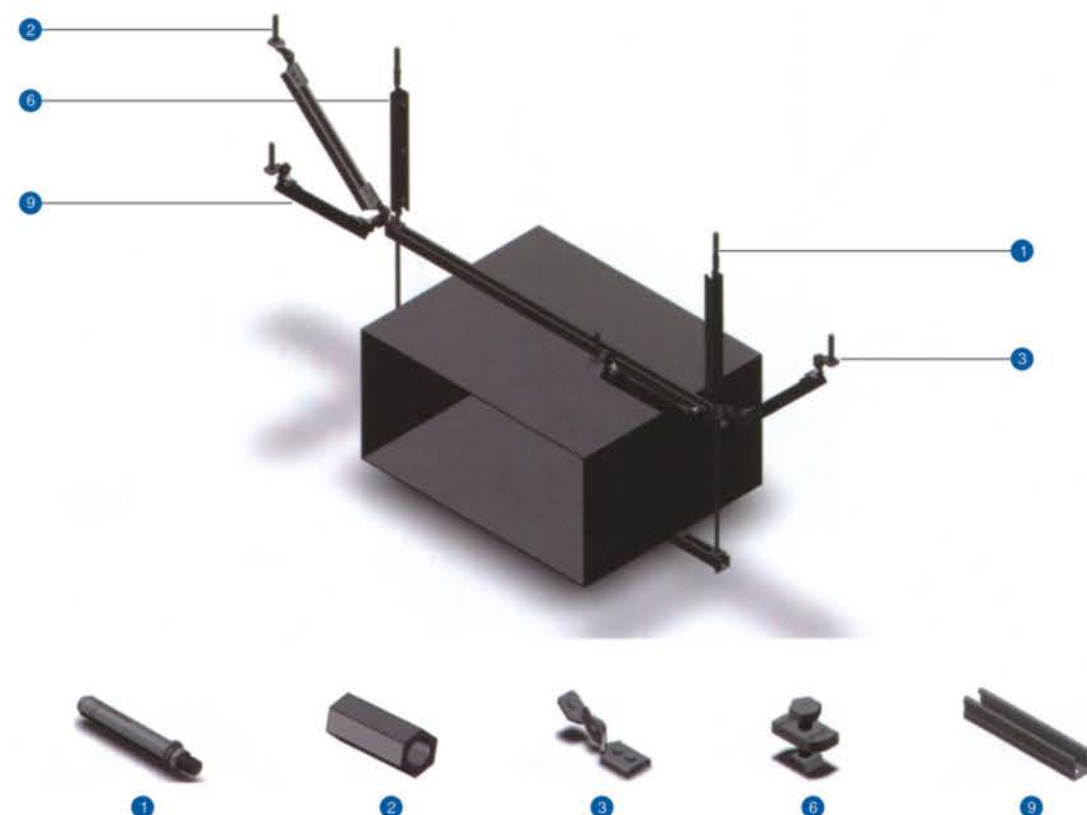
No.	Code	Product Name	Quantity	Process Description	Unit
1	BSA-M12×120	Anti-seismic anchor bolt M12 × 120	4	Passivated galvanizing	PCS
2	FRC12	Screw coupling M12	2	Passivated galvanizing	PCS
3	BKZB3	Anti-seismic connectors	4	Hot dip galvanizing	PCS
4	HS1230	Hex bolt M12 × 30	12	Dull galvanized grade 8.8	PCS
5	BWN-M12	Wing nut M12	12	Passivated galvanizing	PCS
6	BKZM12	Seismic reinforcement M12	8	Passivated galvanizing	PCS
7	FN12	Flange nut M12	10	Passivated galvanizing	PCS
8	TR12	Screw shaft M12	2	Passivated galvanizing	PCS
9	BS2000	C-shaped steel	6	Hot dip galvanizing	PCS
10	BS1180	Steel section head	8	PVC	PCS
11	B1064	Channel steel cover plate	6	Passivated galvanizing	PCS
12	B1026	Right-angle connector	4	Passivated galvanizing	PCS

Product Advantages

1. Material guarantee: Adopt high-quality carbon steel
2. Surface treatment: Hot-dip galvanizing 65um
3. Test: ISO9000-2008 factory certification, National seismic support test certification
4. Perfect drawing design
5. Industrialized customized products, concise and to use concept, ensuring safety



## 通风排烟管道-双向抗震支架/Smoke exhaust duct-bidirectional seismic support bracket



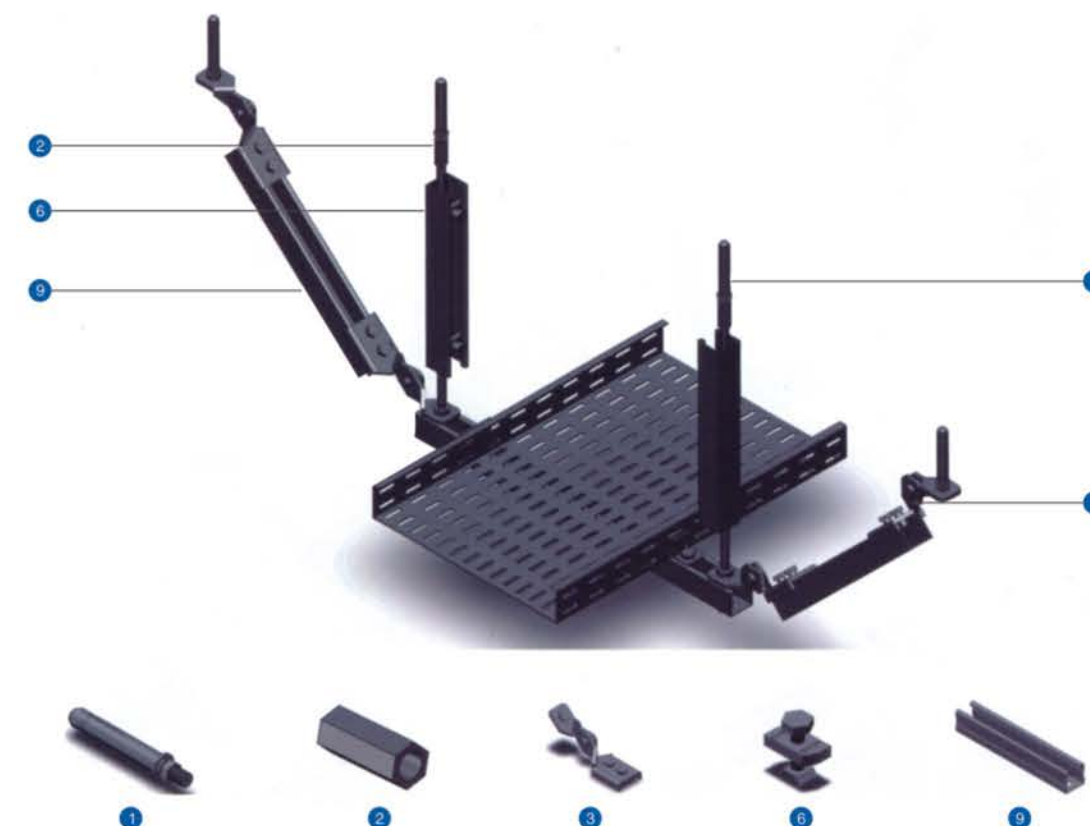
Smoke exhaust duct-bidirectional seismic support bracket ( Pipe lifting height 1.5 meters )

No.	Code	Product Name	Quantity	Process Description	Unit
1	BSA-M12×120	Anti-seismic anchor bolt M12×120	6	Passivated galvanizing	PCS
2	FRC12	Screw coupling M12	2	Passivated galvanizing	PCS
3	BKZB3	Anti-seismic connectors	8	Hot dip galvanizing	PCS
4	HS1230	Hex bolt M12×30	20	Dull galvanized grade 8.8	PCS
5	BWN-M12	Wing nut M12	20	Passivated galvanizing	PCS
6	BKZM12	Seismic reinforcement M12	8	Passivated galvanizing	PCS
7	FN12	Flange nut M12	10	Passivated galvanizing	PCS
8	TR12	Screw shaft M12	2	Passivated galvanizing	PCS
9	BS2000	C-shaped steel	8	Hot dip galvanizing	PCS
10	BS1180	Steel section head	12	PVC	PCS
11	B1064	Channel steel cover plate	6	Passivated galvanizing	PCS
12	B1026	Right-angle connector	4	Passivated galvanizing	PCS

### Product Advantages

1. Material guarantee: Adopt high-quality carbon steel
2. Surface treatment: Hot-dip galvanizing 65um
3. Test: ISO9000-2008 factory certification, National seismic support test certification
4. Perfect drawing design
5. Industrialized customized products, concise and to use concept, ensuring safety

## 电缆桥架-侧向抗震支架/Cable tray-lateral seismic support bracket



Cable tray-lateral seismic support bracket ( Bridge rack lifting height 1 meter )

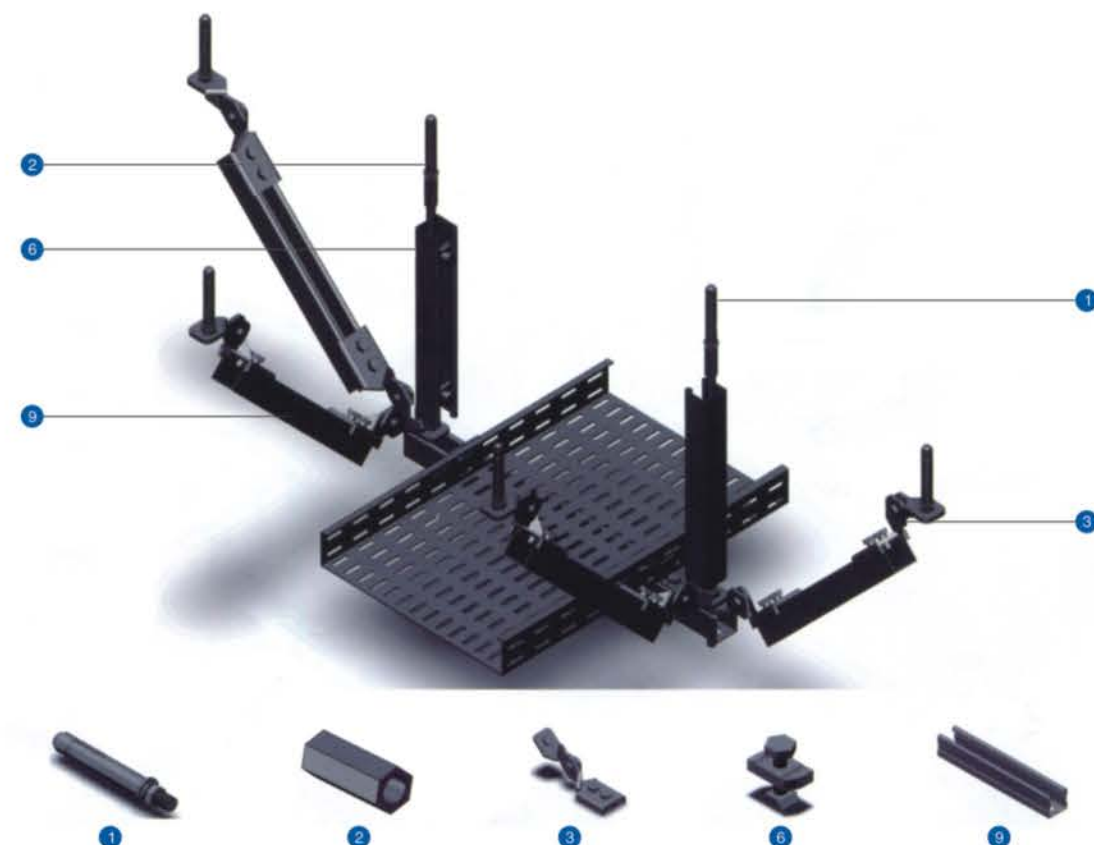
No.	Code	Product Name	Quantity	Process Description	Unit
1	BSA-M12×120	Anti-seismic anchor bolt M12×120	4	Passivated galvanizing	PCS
2	FRC12	Screw coupling M12	2	Passivated galvanizing	PCS
3	BKZB3	Anti-seismic connectors	4	Hot dip galvanizing	PCS
4	HS1230	Hex bolt M12×30	10	Dull galvanized grade 8.8	PCS
5	BWN-M12	Wing nut M12	10	Passivated galvanizing	PCS
6	BKZM12	Seismic reinforcement M12	8	Passivated galvanizing	PCS
7	FN12	Flange nut M12	10	Passivated galvanizing	PCS
8	TR12	Screw shaft M12	2	Passivated galvanizing	PCS
9	BS2000	C-shaped steel	5	Hot dip galvanizing	PCS
10	BS1180	Steel section head	6	PVC	PCS
11	B1064	Channel steel cover plate	2	Passivated galvanizing	PCS
12	B1026	Right-angle connector	2	Passivated galvanizing	PCS

### Product Advantages

1. Material guarantee: Adopt high-quality carbon steel
2. Surface treatment: Hot-dip galvanizing 65um
3. Test: ISO9000-2008 factory certification, National seismic support test certification
4. Perfect drawing design
5. Industrialized customized products, concise and to use concept, ensuring safety



## 电缆桥架—双向抗震支架/Cable tray—Bidirectional seismic support bracket



Cable tray—Bidirectional seismic support bracket ( Bridge rack lifting height 1 meter )

No.	Code	Product Name	Quantity	Process Description	Unit
1	BSA-M12×120	Anti-seismic anchor bolt M12×120	6	Passivated galvanizing	PCS
2	FRC12	Screw coupling M12	2	Passivated galvanizing	PCS
3	BKZB3	Anti-seismic connectors	8	Hot dip galvanizing	PCS
4	HS1230	Hex bolt M12×30	18	Dull galvanized grade 8.8	PCS
5	BWN-M12	Wing nut M12	18	Passivated galvanizing	PCS
6	BKZM12	Seismic reinforcement M12	8	Passivated galvanizing	PCS
7	FN12	Flange nut M12	6	Passivated galvanizing	PCS
8	TR12	Screw shaft M12	2	Passivated galvanizing	PCS
9	BS2000	Seismic channel steel	7	Hot dip galvanizing	PCS
10	BS1180	Steel section head	6	PVC	PCS
11	B1064	Channel steel cover plate	2	Passivated galvanizing	PCS
12	B1026	Right-angle connector	2	Passivated galvanizing	PCS

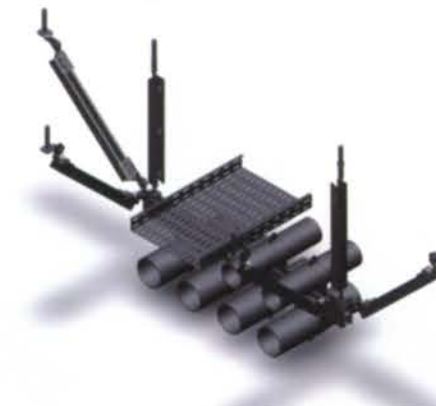
### Product Advantages

1. Material guarantee: Adopt high-quality carbon steel
2. Surface treatment: Hot-dip galvanizing 65um
3. Test: ISO9000-2008 factory certification, National seismic support test certification
4. Perfect drawing design
5. Industrialized customized products, concise and to use concept, ensuring safety

## 综合抗震支架/Comprehensive seismic support



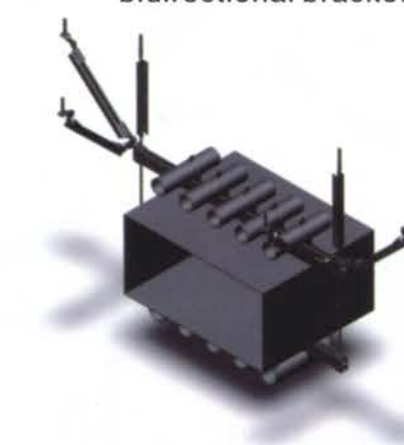
多管道侧向支架  
Multi-pipe lateral support



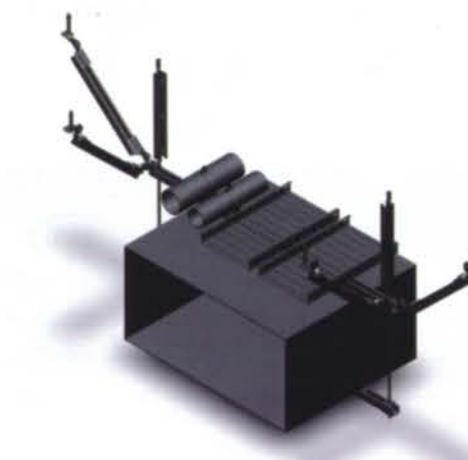
多管道桥架组合双向支架  
Multi-pipe bridge rack combination  
bidirectional bracket



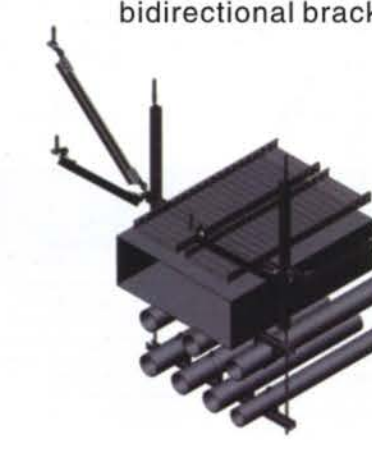
多管道组合双向支架  
Multi-pipe combination bidirectional bracket



风管管道组合双向支架  
Air duct pipeline combination  
bidirectional bracket



风管桥架组合双向支架  
Combined bidirectional support for  
air duct and bridge tray



风管桥架组合双向支架  
Combined bidirectional support  
for air duct and bridge tray



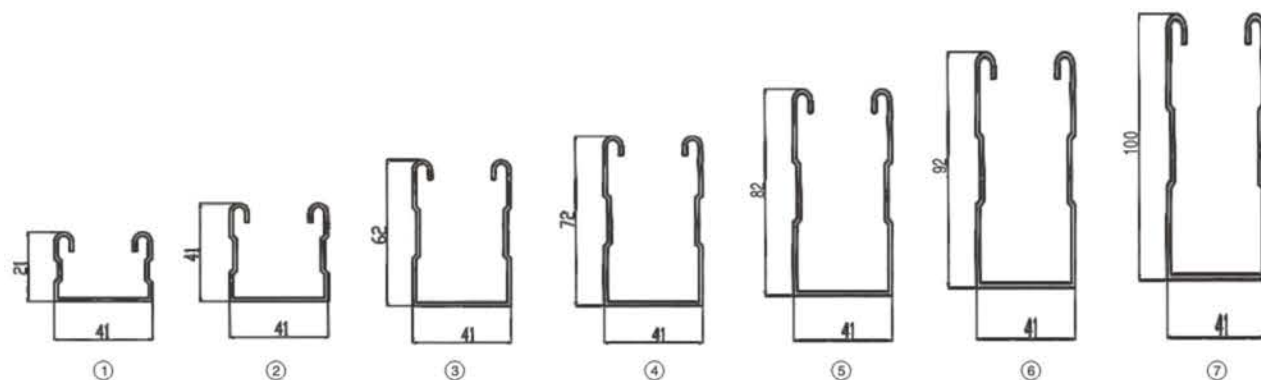
## 抗震单面槽钢系列 BESCA Slotted Channel

### 产品性能及优势:

- 材质: Q235, 符合《DIN EN 10025》标准;
- 防腐工艺: 钝化镀锌/热浸镀锌;
- 符合GB50981-2014-《建筑机电工程抗震设计规范》, 工业定制化的产品, 体现简洁易用的理念, 价值更高;
- 本公司抗震内卷边带齿槽钢, 与塑翼螺母配合使用, 可实现相互啮合, 有效抗震、抗滑、抗剪、抗疲劳荷载;
- 截面带肋设计, 外形美观, 更增强槽钢截面刚度;
- 14×28mm背孔设计, 便于调节安装;
- 多种截面选择, 满足不同荷载要求。

### Features:

- Material: Q235 as per DIN EN 10025
- Galvanising: Sendzimir galvanized/HDG
- Serrated U-section combined with the wing nut, anti-seismic
- Aesthetic appearance
- Great flexibility due to the 14\*28mm slots
- Various sections for different load



品名 Designation	品号 Item no.	截面高度 Channel height (mm)	厚度 Thickness (mm)	重量 Weight (Kg/m)	长度 Length (m)
1 Seismic single-sided channel steel 41×21	BS4000T	21	2.0	1.5	3/6
2 Seismic single-sided channel steel 41×41	BS2000T	41	2.0	2.2	3/6
3 Seismic single-sided channel steel 41×62	BS5500T	62	2.5	3.5	3/6
4 Seismic single-sided channel steel 41×72	BS7000T	72	2.75	4.3	3/6

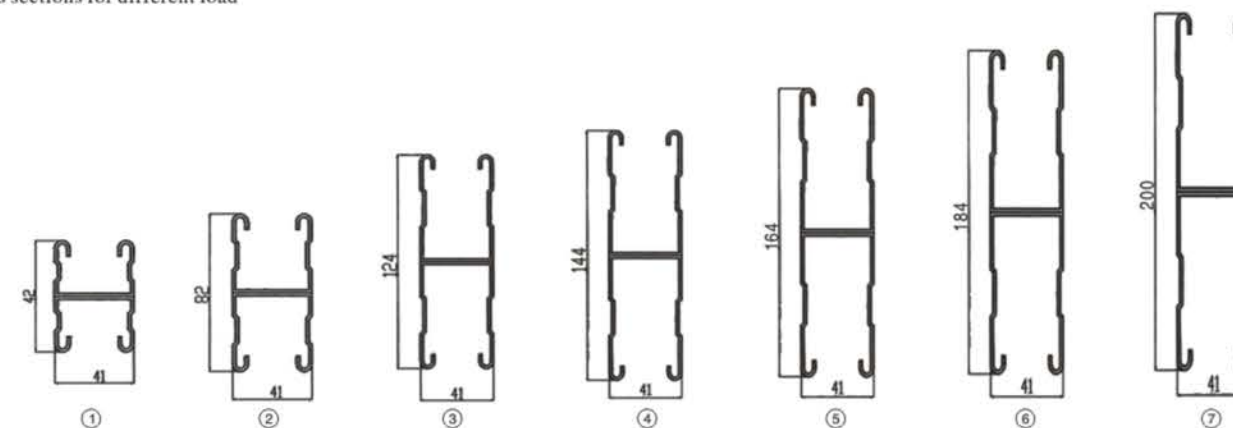
## 抗震双拼槽钢系列 BESCA Combination Channel

### 产品性能及优势:

- 材质: Q235, 符合《DIN EN 10025》标准;
- 防腐工艺: 钝化镀锌/热浸镀锌;
- 符合GB50981-2014-《建筑机电工程抗震设计规范》, 工业定制化的产品, 体现简洁易用的理念, 价值更高;
- 本公司抗震内卷边带齿槽钢, 与塑翼螺母配合使用, 可实现相互啮合, 有效抗震、抗滑、抗剪、抗疲劳荷载;
- 截面带肋设计, 外形美观, 更增强槽钢截面刚度;
- 14×28mm背孔设计, 便于调节安装;
- 本公司双拼槽钢由相互焊接工艺制作而成;
- 多种截面选择, 满足不同荷载要求。

### Features:

- Material: Q235 as per DIN EN 10025
- Galvanising: Sendzimir galvanized/HDG
- Serrated U-section combined with the wing nut, anti-seismic
- Aesthetic appearance
- Great flexibility due to the 14\*28mm slots
- Swage-welded technology
- Various sections for different load



品名 Designation	品号 Item no.	截面高度 Channel height (mm)	厚度 Thickness (mm)	重量 Weight (Kg/m)	长度 Length (m)
5 Anti-seismic double-pane channel steel 41×21	BS4001T	42	2.0	3.2	3/6
6 Anti-seismic double-pane channel steel 41×41	BS2001T	82	2.0	4.5	3/6
7 Anti-seismic double-pane channel steel 41×62	BS5501T	124	2.5	7.5	3/6
8 Anti-seismic double-pane channel steel 41×72	BS7001T	144	2.75	9.0	3/6



## 抗震单面托臂系列 BESCA Wall Bracket

### 产品性能及优势:

- 材质: Q235, 符合《DIN EN 10025》标准;
- 防腐工艺: 钝化镀锌/热浸镀锌/喷涂/VCI/达克罗;
- 符合GB50981-2014-《建筑机电工程抗震设计规范》, 工业定制化的产品, 体现简洁易用的理念, 价值更高;
- 多种规格, 适合所有支架安装要求, 内附齿牙使调节更为方便快捷;
- 与塑翼螺母配合, 抗震, 防松, 抗滑, 抗剪, 抗疲劳荷载;
- 一体化底板结构, 可靠, 安装便捷;
- 多种截面及臂长的组合, 满足不用荷载要求。



### Features:

- Material: Q235 as per DIN EN 10025
- Galvanising: Sendzimir galvanized/HDG
- Customized products, easy to use
- Serrated U-section combined with the wing nut, anti-seismic
- Aesthetic appearance
- Various sections and lengths for different requirements

品名 Item no.	品号 Item no.	截面高度 Channel height (mm)	臂长 Channel length (mm)	底板孔距 Hole distance (mm)	重量 Weight (g)
Anti-seismic single-sided cantilever beam 41/300	WB-250	41	300	100	1000
Anti-seismic single-sided cantilever beam 41/450	WB-400	41	450	100	1300
Anti-seismic single-sided cantilever beam 41/600	WB-550	41	600	100	1650
Anti-seismic single-sided cantilever beam 41/1000	WB-950	41	1000	100	2550

非标长度可定制加工/Provide customized items for special request

## 抗震双拼托臂系列 BESCA Strengthening Bracket

### 产品性能及优势:

- 材质: Q235, 符合《DIN EN 10025》标准;
- 防腐工艺: 钝化镀锌/热浸镀锌/喷涂/VCI/达克罗;
- 符合GB50981-2014-《建筑机电工程抗震设计规范》, 工业定制化的产品, 体现简洁易用的理念, 价值更高;
- 多种规格, 适合所有支架安装要求, 内附齿牙使调节更为方便快捷;
- 与塑翼螺母配合, 抗震, 防松, 抗滑, 抗剪, 抗疲劳荷载;
- 本公司双拼槽钢由焊接工艺制作而成;
- 一体化底板结构, 可靠, 安装便捷;
- 多种截面及臂长的组合, 满足不用荷载要求。



### Features:

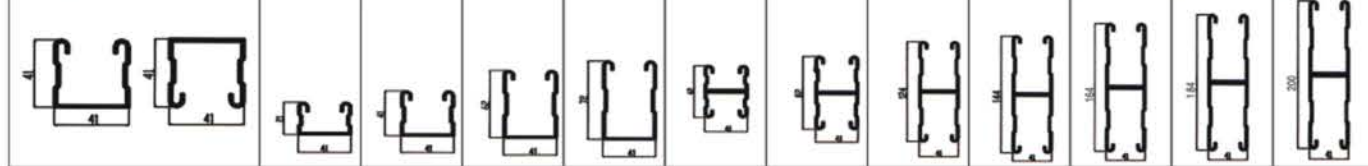
- Material: Q235 as per DIN EN 10025
- Galvanising: Sendzimir galvanized/HDG
- Customized products, easy to use
- Serrated U-section combined with the wing nut, anti-seismic
- Aesthetic appearance
- Swage-welded technology
- Various sections and lengths for different requirements

品名 Designation	品号 Item no.	截面高度 Channel height (mm)	臂长 Channel length (mm)	底板孔距 Hole distance (mm)	重量 Weight (g)
Anti-seismic single-sided cantilever beam 41/300	STNB-250	82	300	120	1950
Anti-seismic single-sided cantilever beam 41/450	STNB-400	82	450	120	2650
Anti-seismic single-sided cantilever beam 41/600	STNB-550	82	600	120	3300
Anti-seismic single-sided cantilever beam 41/1000	STNB-950	82	1000	120	5100

非标长度可定制加工/Provide customized items for special request



槽钢物理特性 Channel Section Properties

技术参数 Technical parameters	槽钢型号 Channel sections										
轴线定义 Axes definition	BS4000	BS2000	BS5500	BS7000	BS4001	BS2001	BS5501	BS7001	BS7002	BS7003	BS7004
											

物理性能 Physical Properties

壁厚 Thickness	t(mm)	2.00	2.00	2.50	2.75	2.00	2.00	2.50	2.75		
截面积 Sectional area	A(mm <sup>2</sup> )	172.60	278.40	358.80	511.60	345.20	556.80	717.60	1100.20		
重量 Weight W	W(Kg/m)	1.50	2.20	3.10	4.30	3.20	4.50	6.40	9.00		

机械性能 Mechanical Properties

屈服强度 Strenght	Yield	F(N/mm <sup>2</sup> )	340.00	340.00	340.00	340.00	340.00	340.00	340.00	340.00	340.00
容许拉应力 Per.tensile stress		(N/mm <sup>2</sup> )	188.30	175.30	181.80	175.30	188.30	175.30	181.80	175.30	175.30
容许剪应力 Per.tensile stress T(N/mm <sup>2</sup> )		T(N/mm <sup>2</sup> )	108.70	101.20	105.00	101.20	108.70	101.20	105.20	101.20	101.20
弹性模量 Modulus of Elasticity		E(N/mm <sup>2</sup> )	210000	210000	210000	210000	210000	210000	210000	210000	210000
剪切模量 Modulus of shear		G(N/mm <sup>2</sup> )	8100	8100	8100	8100	8100	8100	8100	8100	8100

截面参数 Section values

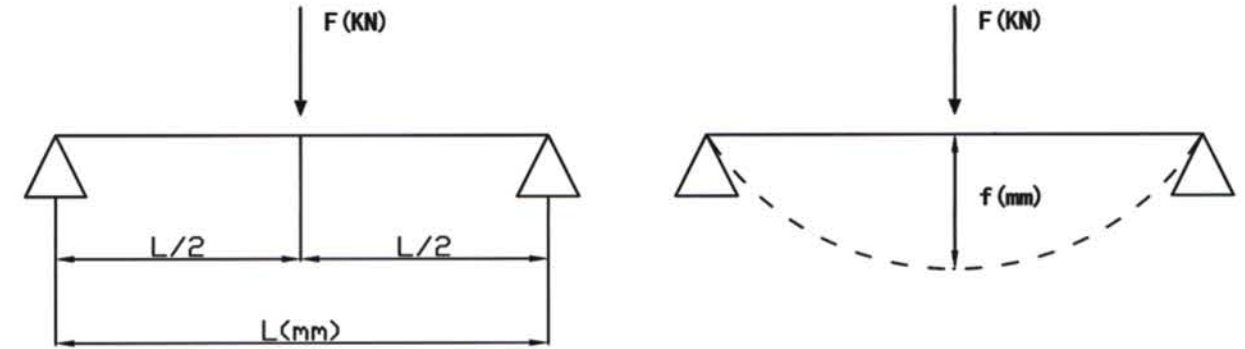
X轴 X-axis



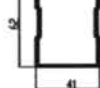


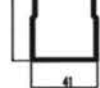



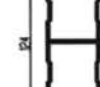




距槽口 Axis of gravity-open	(mm)	10.84	21.13	26.67	36.80	20.60	41.30	52.15	72.20		
距槽背 of gravity	e(mm)	9.76	20.17	25.33	35.20	20.60	41.30	52.15	72.20		
惯性矩 Moment of inertia	(cm)	0.92	5.37	11.45	29.24	4.98	30.69	73.36	188.50		
截面模量 (开口向上) Section modulus-open	(cm)	0.85	2.54	4.31	8.04	2.42	7.43	14.17	26.18		
截面模量 (开口向下) Section modulus	(cm)	0.94	2.66	4.50	8.15	2.42	7.43	14.17	26.18		
回转半径 Radius of gyration	(cm)	0.74	1.48	1.80	2.40	1.23	2.50	3.10	4.30		
容许弯矩 Permissible moment	(Nm)	159.00	446.00	778.00	1368.00	455.00	1303.00	2280.00	5366.90		

y轴 Y-axis

惯性矩 Moment of inertia	(cm)	4.39	5.83	10.79	15.40	8.78	14.67	22.52	31.91		
截面模量 Section modulus-open	(cm)	2.13	3.60	5.23	7.46	4.25	7.10	11.20	15.45		
回转半径 Radius of gyration	(cm)	1.63	1.73	1.75	1.77	1.63	1.73	1.74	1.76		

槽钢选用表 Channel Selection Diagram



跨度 Span L (mm)	槽钢型号 Channel sections															
	BS4000		BS2000		BS5500		BS7000		BS6997		BS6998		BS6999			
																
	BS4001		BS2001		BS5501		BS7001		BS7002		BS4003		BS2004			
																
最大允许设计荷载F(kN)及最大允许挠度f(mm)Max.loadF(kN)/Max.deflectionf(mm)																
	F(kN)	f(mm)	F(kN)	f(mm)	F(kN)	f(mm)	F(kN)	f(mm)	F(kN)	f(mm)	F(kN)	f(mm)	F(kN)	f(mm)	F(kN)	f(mm)
250	2.79	0.48	8.33	0.25	14.13	0.20	26.37	0.14	7.93	0.25	24.36	0.13	46.47	0.10	85.86	0.07
500	1.39	1.92	4.16	0.98	7.06	0.78	13.17	0.57	3.93	1.01	12.17	0.50	23.22	0.40	42.91	0.29
750	0.80	3.75	2.77	2.20	4.70	1.75	8.77	1.28	2.63	2.26	8.11	1.13	15.47	0.90	28.59	0.65
1000	0.45	5.00	2.07	3.90	3.52	3.11	6.57	2.27	1.97	4.00	6.07	2.00	11.59	1.60	21.42	1.15
1250	0.28	6.25	1.65	6.08	2.81	4.84	5.25	3.54	1.55	6.25	4.85	3.12	9.26	2.51	17.12	1.80
1500	0.19	7.50	1.16	7.50	2.33	6.95	4.36	5.09	1.07	7.50	4.03	4.48	7.70	3.61	14.25	2.59
1750	0.13	8.75	0.84	8.75	1.81	8.75	3.73	6.91	0.77	8.75	3.44	6.08	6.58	4.92	12.19	3.53
2000	0.09	10.00	0.64	10.00	1.38	10.00	3.25	9.00	0.58	10.00	3.00	7.91	5.75	6.42	10.65	4.62
2250	0.07	11.50	0.49	11.25	1.07	11.25	2.80	11.25	0.44	11.25	2.61	11.25	5.09	8.14	9.44	5.85
2500	0.05	12.50	0.39	12.50	0.86	12.50	2.25	12.50	0.35	12.50	1.99	12.50	4.57	10.05	8.48	7.22
2750	0.03	13.75	0.31	13.75	0.70	13.75	1.84	13.75	0.27	13.75	1.53	13.75	4.14	12.18	7.69	8.74
3000	0.02	15.00	0.25	15.00	0.57	15.00	1.53	15.00	0.22	15.00	1.17	15.00	3.78	14.51	7.03	10.41



槽钢轴心受压允许承载力 Permissible Buckling Load

承载力Load 长度Length (mm)	BS4000	BS2000	BS5500	BS7000	BS4001	BS2001	BS5501	BS7001
	F(kN)	F(kN)	F(kN)	F(kN)	F(kN)	F(kN)	F(kN)	F(kN)
300	27.55	40.62	63.43	86.36	58.32	84.98	116.02	143.21
450	23.47	39.75	61.09	83.57	56.25	82.60	1112.49	141.09
600	18.63	38.56	62.78	81.40	51.90	79.03	108.91	136.65
750	14.82	36.20	56.39	76.58	47.76	75.87	104.57	131.23
1000	9.56	31.65	51.26	69.75	38.45	68.90	95.53	120.34
1200	6.86	26.32	44.69	61.67	29.98	60.77	84.21	106.69
1500	4.65	21.68	38.16	53.26	22.46	51.59	72.17	91.43
1750	3.41	17.35	31.82	44.70	17.69	43.07	59.30	76.74
2000		14.01	26.25	37.36	13.68	36.51	50.26	64.39
2500		9.47	18.31	27.02	9.12	24.89	34.73	44.39
3000		8.05	13.37	18.89	6.56	18.10	25.20	32.05

抗震连接件Anti-seismic connectors ( BSD-C1 )

产品性能及优势:

- 材质保证: 高强度钢材
- 表面处理: 钝化镀锌/热浸锌65um
- 测试认证: ISO9000-2008工厂认证, 国家抗震支架测试认证
- 便于槽钢构件连接, 可与混凝土结构紧密固定
- 根据设计要求可实现任意角度控制

Features:

- Material: As per DIN EN 10025
- Galvanising: Sendzimir galvanized/HDG
- Universal angle connector for channels
- Direct connection on the building structure and channels
- Angle stepless fixable up to 180°



品名 Designation	品号 Item no	底板孔径 Hole distance (mm)	推荐荷载 Rec. load(KN) 受拉Tension	锁紧扭矩 Tightening torque (N.m)	重量 Weight (g)	包装数量 Pac.contents (pcs)
Anti-seismic connectors	BSD-C1	13	15.0	40	350	40

抗震连接件Anti-seismic connectors ( BKZ-B3 )

产品性能及优势:

- 材质保证: 高强度钢材
- 表面处理: 钝化镀锌/热浸锌65um
- 测试认证: ISO9000-2008工厂认证, 国家抗震支架测试认证
- 便于槽钢构件连接, 可与混凝土结构紧密固定
- 根据设计要求可实现任意角度控制

Features:

- Material: As per DIN EN 10025
- Galvanising: Sendzimir galvanized/HDG
- Universal angle connector for channels
- Direct connection on the building structure and channels
- Angle stepless fixable up to 180°



品名 Designation	品号 Item no	底板孔径 Hole distance (mm)	推荐荷载 Rec. load(KN) 受拉Tension	锁紧扭矩 Tightening torque (N.m)	重量 Weight (g)	包装数量 Pac.contents (pcs)
Anti-seismic connectors	BKZ-B3	13	15.0	40	250	50



## 抗震加强件Seismic reinforcement ( BKZM12 )

### 产品性能及优势:

- 材质保证: 高强钢材
- 表面处理: 钝化镀锌/热浸锌65um
- 测试认证: IS09000-2008工厂认证, 国家抗震支架测试认证
- 便于槽钢构件连接, 保证结构安全
- 根据设计要求可实现任意长度控制

### Features:

- Material: As per DIN EN 10025
- Galvanising: Sendzimir galvanized/HDG
- Fasten rod to channel



品名 Designation	品号 Item no.	锁紧扭矩 Tightening torque (N.m)	重量 Weight (g)	包装数量 Pac.contents (pcs)
Screw seismic reinforcement parts BESCA-M12	BKZM12	10	100	200

## 四孔直角连接件Four-hole right-angle connector ( BESCA90° Angle BC-L4 )

### 产品性能及优势:

- 材质: Q235B,按照DIN EN1005标准生产;
- 防腐工艺: 钝化镀锌、热浸镀锌;
- 用于槽钢90° 连接;
- 与塑翼螺母配合使用, 简单快捷

### Features:

- Material:Q235B as per DIN EN 10025
- Galvanising: Sendzimir galvanized/HDG
- For 90° angle connection
- combine with wing nut,easy to use



品名 Designation	品号 Item no.	推荐荷载 Rec.load (kN)		重量 Weight (g)	包装数量 Pac.contents (pcs)
		受拉 Tension	受压 Compression		
Angle connector	BC-L4	4.0	5.0	330	40

## 八孔直角连接件Right-angle connector with eight holes ( BESCA90° Angle BC-L8 )

### 产品性能及优势:

- 材质: Q235B,按照DIN EN1005标准生产;
- 防腐工艺: 钝化镀锌、热浸镀锌;
- 用于槽钢90° 连接;
- 与塑翼螺母配合使用, 简单快捷

### Features:

- Material:Q235B as per DIN EN 10025
- Galvanising: Sendzimir galvanized/HDG
- For 90° angle connection
- combine with wing nut,easy to use



品名 Designation	品号 Item no.	推荐荷载 Rec.load (kN)		重量 Weight (g)	包装数量 Pac.contents (pcs)
		受拉 Tension	受压 Compression		
Angle connector	BC-L8	7.5	9.0	590	20

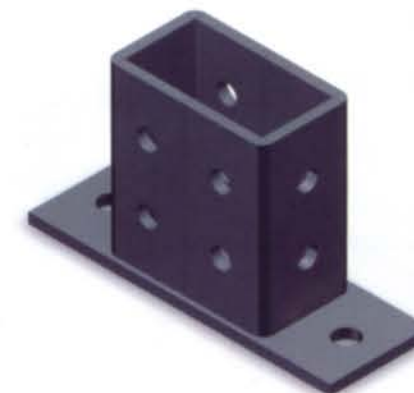
## 槽钢底座 BESCA Channel Base BCB

### 产品性能及优势:

- 材质: Q235B,按照DIN EN1005标准生产;
- 防腐工艺: 钝化镀锌、热浸镀锌;
- 一体化底座设计, 性能可靠, 使用便利;
- 适用于槽钢与各种基材的连接。

### Features:

- Material:Q235B as per DIN EN 10025
- Galvanising: Sendzimir galvanized/HDG
- Single part, simple and easy to use
- For any base material



品名 Designation	品号 Item no.	推荐荷载 Rec.load (kN)		重量 Weight (g)	包装数量 Pac.contents (pcs)
		受拉 Tension	受压 Compression		
Channel steel base	BCB-42	8.0		1050	10
Channel steel base	BCB-82	13.0		1950	10
Channel steel base	BCB-124	13.0		1950	10



## 槽钢绞连接底座Channel steel twisted connection base ( BESCA pivot Base BCB-G1 )

### 产品性能及优势:

- 材质: Q235B,按照DIN EN1005标准生产;
- 防腐工艺: 钝化镀锌、热浸镀锌;
- 适用于槽钢斜角度固定;
- 可直接固定在基材或槽钢上;
- 可实现0-180° 角度调节,

### Features:

- Material:Q235B as per DIN EN 10025
- Galvanising: Sendzimir galvanized/HDG
- Universal angle connection for channels
- Direction connection on the building structure and channels
- Angle stepless fixable up to 180°



品名 Designation	品号 Item no.	底板孔距 Hole distance (mm)	推荐荷载 Rec.load (kN)		重量 Weight (g)	包装数量 Pac.contents (pcs)
			受拉 Tension	锁紧扭矩 Tightening torque (N.m)		
Twist-lock base	BCB-G1	100	9.0	40	1250	10

## 两孔直角连接件Right-angle connector with two holes ( BESCA Angle B1026 )

### 产品性能及优势:

- 材质: Q235B,按照DIN EN1005标准生产;
- 防腐工艺: 钝化镀锌、热浸镀锌;
- 用于槽钢90° 连接;
- 与塑翼螺母配合使用, 简单快捷

### Features:

- Material:Q235B as per DIN EN 10025
- Galvanising: Sendzimir galvanized/HDG
- For 90° angle connection
- combine with wing nut,easy to use



品名 Designation	品号 Item no.	推荐荷载 Rec.load (kN)		重量 Weight (g)	包装数量 Pac.contents (pcs)
		受拉 Tension	受压 Compression		
Angle connector	1026	4.0	5.0	150	50

## 铰连接件Hinge connector ( BESCA Joint Connector BCB-U)

### 产品性能及优势:

- 材质: Q235B,按照DIN EN1005标准生产;
- 防腐工艺: 钝化镀锌、热浸镀锌;
- 适用于斜拉杆的应用;
- 可直接固定在基材或槽钢上;
- 角度可调整至90° 。

### Features:

- Material:Q235B as per DIN EN 10025
- Galvanising: Sendzimir galvanized/HDG
- Suitable for bracings
- Direction connection on the building structure and channels
- Angle stepless fixable up to 90°



品名 Designation	品号 Item no.	底板孔距 Hole distance (mm)	推荐荷载 Rec.load (kN)		重量 Weight (g)	包装数量 Pac.contents (pcs)
			受拉 Tension	锁紧扭矩 Tightening torque (N.m)		
Hinge connector	BCB-UM12	12.5	14.0	20	500	10
Hinge connector	BCB-UM16	16.5	14.0	20	450	8

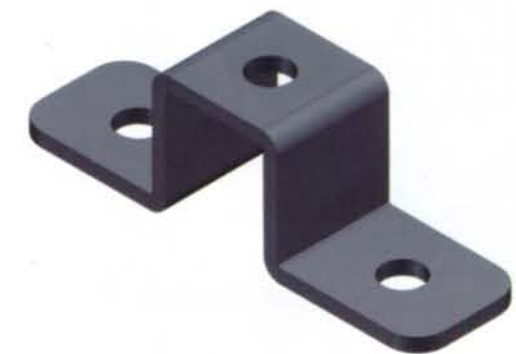
## 槽钢扣件Channel steel fastener ( BESCA Channel Clamp BCC-41 )

### 产品性能及优势:

- 材质: Q235B,按照DIN EN1005标准生产;
- 防腐工艺: 钝化镀锌、热浸镀锌;
- 适用于BS2000,BS4001槽钢的固定;
- 可直接固定在基材或槽钢上;





### Features:

- Material:Q235B as per DIN EN 10025
- Galvanising: Sendzimir galvanized/HDG
- Suitable for BS2000,BS4001
- Direct connection on the building structure and channels



品名 Designation	品号 Item no.	推荐荷载 Rec.load (kN)		重量 Weight (g)	包装数量 Pac.contents (pcs)
		受拉 Tension	锁紧扭矩 Tightening torque (N.m)		
Channel steel fastener	BCC-41	5.0	40	280	25



Product name	Wall support arm	Model	Specifications (A × B × 8)	Length(L)	Uniform load(KN)	Pattern
Model	KZ1、KZ2	KZ1-21/30	41 × 20.5 × 2.0	300mm	0.9	
Material	Q235B	KZ1-21/45	41 × 20.5 × 2.0	450mm	0.6	
Production process	Welding	KZ1-41/30	41 × 41 × 2.0	300mm	2.5	
Surface treatment	Electroplated zinc; hot dipped; new plate; hot dipped zinc	KZ1-41/45	41 × 41 × 2.0	450mm	1.7	
		KZ1-41/60	41 × 41 × 2.0	600mm	1.2	
		KZ1-62/45	41 × 62 × 2.5	450mm	3.2	
		KZ1-62/60	41 × 62 × 2.5	600mm	2.35	
		KZ2-41/30	41 × 20.5 × 2.0双拼	300mm	2.5	
		KZ2-41/45	41 × 20.5 × 2.0双拼	450mm	1.7	
		KZ2-41/60	41 × 20.5 × 2.0双拼	600mm	1.2	
		KZ2-62/60	41 × 41 × 2.0双拼	600mm	3.5	

## 槽钢封头Channel steel cap ( BESCA Channel End cap BCE )

### 产品性能及优势:

- 材质保证: 聚丙烯塑料 (pp) ;
- 用于槽钢切口端部, 避免切口直接外漏;
- 美观适用, 辨识度强;
- 多种型号, 适用于各种槽钢;
- 颜色齐全 (红、白、蓝、黄) 。

### Features:

- Material: Polypropylene (PP)
- protect the end of channels
- Aesthetic appearance
- Various and perfectly match with channels



品名 Designation	品号 Item no.	槽钢高度 Channel height (mm)	重量 Weight (g)	包装数量 Pac. contents (pcs)
Channel steel cap	BS3380	21	3	50
Channel steel cap	BS1180	41	5	50
Channel steel cap	BS5580	62	6	50

## 钢结构梁夹Steel structure beam clamp ( BESCA Beam Clamp BBC )

### 产品性能及优势:

- 材质: Q235B, 按照DIN EN1005标准生产;
- 防腐工艺: 钝化镀锌、热浸镀锌;
- 用于槽钢在钢结构上的无损固定, 安装过程不需要焊接或钻孔;
- 成对实用, 适用于各种标准的型钢梁。

### Features:

- Material: Q235B as per DIN EN 10025
- Galvanising: Sendzimir galvanized/HDG
- Connect channels to steel beams without drilling or welding
- Always used in pairs. fits all standard T-beams



品名 Designation	品号 Item no.	推荐荷载 Rec.load (kN)	锁紧扭矩 Tightening torque (N.m)	重量 Weight (g)	包装数量 Pac. contents (pcs)
		受拉 Tension			
Steel structure beam clamp	B2785	3.0	10	400	30
Steel structure beam clamp	B2786	3.0	10	400	30

## 钢结构吊夹Steel structure lifting clamp ( BESCA Beam Clamp BLP )

### 产品性能及优势:

- 材质: Q235B, 按照DIN EN1005标准生产;
- 防腐工艺: 钝化镀锌;
- 用于槽钢在钢结构上的无损固定, 安装过程不需要焊接或钻孔;
- 成对实用, 适用于各种标准的T型钢梁。

### Features:

- Material: Q235B as per DIN EN 10025
- Galvanising: Sendzimir galvanized
- Connect channels to steel beams without drilling or welding
- Fits all standard T-beams



品名 Designation	品号 Item no.	推荐荷载 Rec.load (kN)	重量 Weight (g)	包装数量 Pac. contents (pcs)
		受拉 Tension		
Steel structure lifting clamp	BLP08	1.0	90	50
Steel structure lifting clamp	BLP10	2.0	150	50
Steel structure lifting clamp	BLP12	2.5	220	50



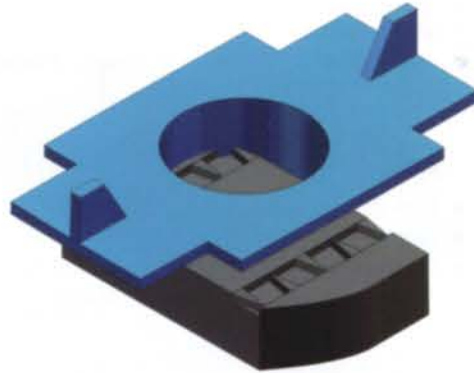
## 塑翼螺母系列Plastic wing nut series ( BESCA Wing Nut BWN )

### 产品性能及优势:

- 材质保证: Q235B;
- 防腐工艺: 钝化镀锌、热浸镀锌;
- 一体化设计, 安装简单、便捷, 易于调节;
- 自带齿牙, 与柏什佳槽钢齿牙相互啮合, 有效抗滑、抗剪, 抗疲劳载荷;
- 防呆设计, 安装简便, 安全可靠;
- 多种规格, 适合不同荷载的安装要求。

### Features:

- Material: Q235B
- Galvanising: Sendzimir galvanized/HDG
- Single part,easy to adjust,timesaving
- Serrated to combine with the channel
- Fool-proof design,easy to use
- Variety for different load



### 技术参数 Technical data:

品名 Designation	抗拉承载力 Rec.tensile load (kN)		抗剪承载力 Rec. Shear load (kN)
	I类槽钢 Channel I	II类槽钢 Channel II	
Wing nut BWN-M8	5.0	5.0	5.0
Wing nut BWN-M10	5.0	8.0	8.0
Wing nut BWN-M12	5.0	8.0	8.0

I 类槽钢 Channel I:BS4000,BS2000,BS4001,BS2001  
II 类槽钢 Channel II:BS5500,BS7000,BS5501,BS7001

品名 Designation	品号 Item no	紧固力矩 Tightening torque (N.m)	螺栓规格 Connection thread	重量 Weight (g)	包装数量 Pac.contents (pcs)
Wing nut	BWN-M8	20	M8	29	100
Wing nut	BWN-M10	40	M10	36	100
Wing nut	BWN-M12	40	M12	41	100

## 侧向抗震管夹Lateral Seismic Pipe Clamp ( BESCA Anti-seismic Pipe Hanger )

### 产品性能及优势:

- 材质: Q235B, 按照DIN EN1005标准生产;
- 表面处理: 钝化镀锌、热浸镀锌, 符合《GB50981-2014》/《BS EN ISO 1461-2009》标准;
- 单螺栓固定, 安装方便、便于调节
- 工作温度: -50° ~+180° ;
- 安装要求: 螺杆须完全插入管束接头, 以确保系统承载力。

### Features:

- Material:Q235B
- Galvanising:Sendzimir galvanized as per 《GB 50981-2014》/《BSEN ISO 1461-2009》
- Various and suitable for all heavy duty pipes
- Single boll to connect,easy to use and adjust
- Temperature resistance:-50° ~+180°
- Direded rods must be screwed in fully into the connection hole



品名 Designation	品号 Item no	抱箍范围(mm) Clamping range	接头规格 Threaded boss	推荐荷载 Rec.load (kN)	重量 Weight (g)	包装数量 Pac.contents (pcs)
Lateral Seismic Pipe Clamp	BHSC74-80	74~80	M12	10.0	500	20
Lateral Seismic Pipe Clamp	BHSC87-94	87~94	M12	10.0	550	20
Lateral Seismic Pipe Clamp	BHSC108-116	108~116	M12	10.0	600	20
Lateral Seismic Pipe Clamp	BHSC135-143	135~143	M12	10.0	750	20
Lateral Seismic Pipe Clamp	BHSC162-168	162~168	M12	10.0	900	20

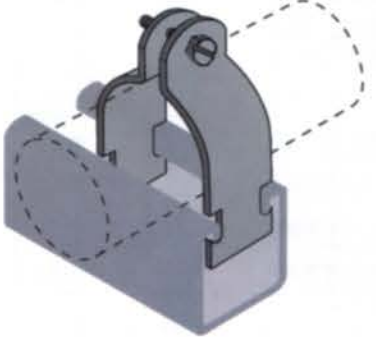
## 双片管夹Double-piece pipe clamp ( BESCA Conduit Clamp CCP )

### 产品性能及优势:

- 材质: Q235B, 按照DIN EN1005标准生产;
- 表面处理: 钝化镀锌、热浸镀锌, 符合《GB50981-2014》/《BS EN ISO 1461-2009》标准;
- 多种规格, 可广泛应用于各类机电抗震工程管道的安装 ( Φ15-Φ450 );
- 双螺栓固定, 安装方便、便于调节;
- 工作温度: -50° ~+180° ;

### Features:

- Material:Q235B
- Galvanising:Sendzimir galvanized as per 《GB 50981-2014》/《BSEN ISO 1461-2009》
- Various and suitable for all heavy duty pipes
- Double-screw pipe ring makes sure the safety easy to ues and adjust
- Temperature resistance:-50° ~+180°



品名 Designation	品号 Item no	抱箍范围(mm) Clamping range	接头规格 Threaded boss	推荐荷载 Rec.load (kN)	重量 Weight (g)	包装数量 Pac.contents (pcs)
Double-piece pipe clamp	CCP74-80	74~80	M12	5.0	300	40
Double-piece pipe clamp	CCP87-94	87~94	M12	5.0	350	40
Double-piece pipe clamp	CCP108-116	108~116	M12	6.0	400	40
Double-piece pipe clamp	CCP135-143	135~143	M12	7.0	550	40
Double-piece pipe clamp	CCP162-168	162~168	M12	7.0	700	40



## 纵向抗震管夹Longitudinal seismic pipe clamp ( BESCA Anti-seismic Pipe Hanger TPPC )

### 产品性能及优势:

- 材质: Q235B, 按照DIN EN1005标准生产;
- 表面处理: 钝化镀锌、热浸镀锌, 符合《GB50981-2014》/《BS EN ISO 1461-2009》标准;
- 多种规格, 可广泛应用于各类机电抗震工程管道的安装;
- 双螺栓固定, 安装方便、便于调节
- 工作温度:  $-50^{\circ}$   $\sim +180^{\circ}$  ;
- 安装要求: 与抗震连接件紧密安装, 确保系统承载力。



### Features:

- Material: Q235B
- Galvanising: Sendzimir galvanized as per 《GB 50981-2014》/《BSEN ISO 1461-2009》
- Various and suitable for all heavy duty pipes
- Double-screw pipe ring makes sure the safety, easy to use and adjust
- Temperature resistance:  $-50^{\circ}$   $\sim +180^{\circ}$
- Connect to seismic connector, hole to make sure safety

品名 Designation	品号 Item no.	抱箍范围(mm) Clamping range	接头规格 Threaded boss	推荐荷载 Rec.load (kN)	重量 Weight (g)	包装数量 Pac. contents (pcs)
Longitudinal seismic pipe clamp	TPPC74-80	74~80	M12	10.0	500	20
Longitudinal seismic pipe clamp	TPPC87-94	87~94	M12	10.0	550	20
Longitudinal seismic pipe clamp	TPPC108-116	108~116	M12	10.0	600	20
Longitudinal seismic pipe clamp	TPPC135-143	135~143	M12	10.0	750	20
Longitudinal seismic pipe clamp	TPPC162-168	162~168	M12	10.0	900	20
Longitudinal seismic pipe clamp	TPPC217-224	217~224	M12	10.0	1000	10
Longitudinal seismic pipe clamp	TPPC268-227	268~277	M12	12.0	1200	10

## 抗震重型管夹Anti-seismic heavy-duty pipe clamp ( BESCA Heavy Duty Pipe Ring BHDPR )

### 产品性能及优势:

- 材质: Q235B, 按照DIN EN1005标准生产;
- 表面处理: 钝化镀锌、热浸镀锌, 符合《GB50981-2014》/《BS EN ISO 1461-2009》标准;
- 多种规格, 可广泛应用于各类重型、超重型工程管道的安装;
- 双螺栓固定, 安装方便、便于调节
- 配备EPDM弹性橡胶内衬, 可有效达到绝缘、隔热、降噪及保护管线的功效;
- 工作温度:  $-40^{\circ}$   $\sim +180^{\circ}$  ;
- 降噪指数: 16dB (A) ;
- 安装要求: 与抗震连接件紧密安装, 确保系统承载力。



### Features:

- Material: Q235B
- Galvanising: Sendzimir galvanized as per 《GB/T 13912-2002》/《BSEN ISO 1461-2009》
- Various and suitable for all heavy duty pipes
- Double-screw pipe ring makes sure the safety, easy to use and adjust
- Securely fixed EPDM rubber make sure the insulation noise reduction and protection of ducts
- Temperature resistance:  $-40^{\circ}$   $\sim +110^{\circ}$
- Noise reduction: 16dB (A)
- Threaded rods must be screwed in fully into the connection boss

品名 Designation	品号 Item no.	抱箍范围(mm) Clamping range	接头规格 Threaded boss	推荐荷载 Rec.load (kN)	重量 Weight (g)	包装数量 Pac. contents (pcs)
Anti-seismic heavy-duty pipe clamp	BHDPR108-116	108~116	M10/M12	4.0	452	15
Anti-seismic heavy-duty pipe clamp	BHDPR135-143	135~143	M10/M12	4.0	551	15
Anti-seismic heavy-duty pipe clamp	BHDPR162-168	162~168	M10/M12	4.0	631	15
Anti-seismic heavy-duty pipe clamp	BHDPR217-224	217~224	M10/M12	5.0	889	10
Anti-seismic heavy-duty pipe clamp	BHDPR268-277	268~277	M16	10.0	1985	10
Anti-seismic heavy-duty pipe clamp	BHDPR316-325	316~325	M16	10.0	3267	5
Anti-seismic heavy-duty pipe clamp	BHDPR348-356	348~356	M16	10.0	3700	5
Anti-seismic heavy-duty pipe clamp	BHDPR400-409	400~409	M16	10.0	7051	5



抗震全牙螺杆Anti-seismic full tooth screw shaft ( BESCA Threaded Rod TTR )



品名 Designation	品号 Item no.	规格 Size	等级 Grade	标准长度 Length (mm)	包装数量 Pac contents (pcs)
Full tooth screw	TTR08	M8	4.8	3	5
Full tooth screw	TTR10	M10	4.8	3	5
Full tooth screw	TTR12	M12	4.8	3	5
Full tooth screw	TTR16	M16	4.8	3	5

法兰螺母Flange nut ( BESCA Hexagen Flange Nut FN )



品名 Designation	品号 Item no.	规格 Size	重量 Weight (g)	包装数量 Pac contents (pcs)
Flange nut	FN08	M8	8	100
Flange nut	FN10	M10	11	100
Flange nut	FN12	M12	15	100
Flange nut	FN16	M16	32	100

螺杆接头Screw coupling ( BESCA Hexagen Coupler FRC )



品名 Designation	品号 Item no.	规格 Size	长度 Length (mm)	重量 Weight (g)	包装数量 Pac contents (pcs)
Screw coupling	FRC08	M8	40	10	100
Screw coupling	FRC10	M10	40	26	100
Screw coupling	FRC12	M12	40	55	50
Screw coupling	FRC16	M16	50	80	50

六角螺栓Hex bolt ( BESCA Hexagen Bolt HS )



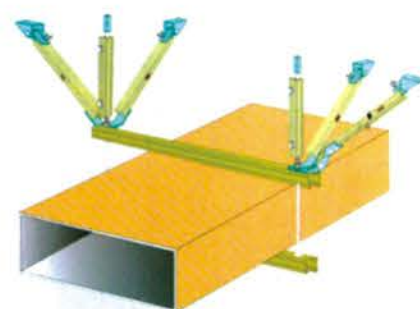
品名 Designation	品号 Item no.	等级 Grade	重量 Weight (g)	包装数量 Pac contents (pcs)
Hex bolt	HS0825	8.8	22	100
Hex bolt	HS0830	8.8	24	100
Hex bolt	HS1025	8.8	25	100
Hex bolt	HS1030	8.8	29	100
Hex bolt	HS1225	8.8	38	100
Hex bolt	HS1230	8.8	45	100
Hex bolt	HS1635	8.8	50	100



## 普通抗震支吊架 Ordinary seismic support bracket



水管抗震支吊架  
Anti-seismic support bracket for pipes



风管抗震支吊架  
Anti-seismic support bracket for air duct



电缆抗震支吊架  
Cable seismic support bracket



组合抗震支吊架  
Composite seismic support bracket

### 国家专利/National patent



建筑抗震支吊架的抗震可靠度  
设计方法  
Design method of seismic reliability of  
building seismic support bracket



建筑抗震支吊架的抗震优化设计  
方法  
Seismic optimization design method of  
building seismic support bracket



抗震支吊架耦合计算模型建立  
方法及抗震支吊架的抗震设计  
方法  
Establishment of seismic support  
coupling calculation model  
and seismic design  
method of seismic support

## 附录:

Appendix

## 抗震支吊架选型手册

HANDBOOK FOR  
SELECTION OF ANTI-  
SEISMIC SUPPORT AND  
HANGER



### 槽钢系列

Channel steel series



### 连接件系列

Connecting piece series



### 管束系列

Regulation series



### 零配件系列

Spare parts series





整体结构 Overall structure



配件 Parts

■ 螺栓  
Bolt



■ 螺母  
Nut



■ 全牙丝杆  
Full tooth screw shaft



■ 丝杆接头  
Screw shaft coupling



■ 组合膨胀  
Combined expansion



■ C型钢边盖  
C-shaped steel side cover



■ C型钢加厚垫片  
Thickened C-shaped steel gasket



■ 方块螺母  
Square nut



■ 弹簧螺母  
Spring nut



■ 白红蓝堵封  
White, red, blue blockade



■ 90U 120U 140U



■ 21马鞍卡 21 Saddle card  
41马鞍卡 41 Saddle card  
62马鞍卡 62 Saddle card





配件 Parts

■ 1孔方板  
1 hole plate



■ 外包式垫片  
Outsourced gasket



■ 3孔直板  
3-hole straight plate



■ 4孔直板  
4-hole straight plate



■ 2孔直角  
2-hole right angle



■ 3孔直角  
3-hole right angle



■ 4孔直角  
4-hole right angle



■ 4孔拉伸角  
4-hole stretch angle



■ 4孔加强角  
4-hole reinforced angle



■ 八孔护角  
Eight-hole corner guard



■ 21薄华司1.2 厚华司1.8  
21 thin plate 1.2; thick plate 1.8



■ 41薄华司1.5 厚华司2  
41 thin plate gauge 1.5  
thick plate gauge 2



配件 Parts

■ 21底座  
21 base



■ 41底座  
41Base



■ 41大底座  
41 Large base



■ 无底底座  
Base without bottom



■ 抗震免焊底座  
Anti-seismic base without welding



■ 三角连接件  
Triangular connector



■ 平面三孔  
Flat three holes



■ T型件  
T-shaped



■ U型卡  
U-shaped card



■ 十字件  
Cross-piece



■ 防滑压板  
Anti-skid pressure plate



■ 75压板  
75 pressure plate





配件 Parts

■ 铸铁老虎卡  
Cast iron tiger card



■ 铁皮老虎卡  
Iron-clad tiger card



■ 铰连接  
Hinge connection



■ 抗震双力管卡  
Anti-seismic double force pipe clamp



■ 抗震悬浮吊卡  
Anti-seismic suspension lifting card



■ 重型管卡  
Heavy-duty pipe clamp



■ 抗震绞连接  
Anti-seismic twisted connection



■ 绞连接  
Twisted connection



■ 抗震欧姆卡  
Anti-seismic Omron card



■ 方形调节器  
Square Regulator



■ 合页吊卡  
Combined hinge card



■ 锯齿压板  
Serrated pressure plate



配件 Parts

■ 加强筋  
Reinforcement



■ 连接A座  
Connect to block A



■ 连接B座  
Connect to block B



■ C型钢勾码  
C-shaped steel hook code



■ P型卡  
P-type card



■ 双拼C型钢底座  
Double-pocket C-shaped steel base



■ 直连接  
Direct connection



■ 内连接  
Inner join



■ 喷塑黑色C型钢  
Sprayed black C-shaped steel



■ 镀锌带C型钢  
Galvanized strip C-shaped steel



■ 热浸锌抗震支架  
Hot-dip galvanized seismic support



■ 塑翼螺母  
Wing nut





配件 Parts

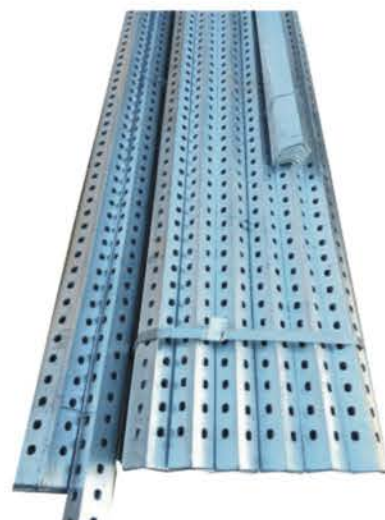
■ 不等边万能角钢  
Unequal leg universal angle steel



■ 冲孔扁钢  
Perforated flat steel



■ 对孔万能角钢  
Universal angle steel with holes



■ 抗震支架三面冲孔  
Anti-seismic support with three-sided punching holes



■ 喷塑双拼C型钢  
Spray-coated double-color C-shaped steel



■ 喷塑圆顶加筋C型钢  
Spray-coated dome-shaped reinforced C-shaped steel



配件 Parts

■ 万能单面冲孔角钢  
Universal single-sided punching angle steel



■ 万能双面冲孔角钢  
Universal double-sided punched angle steel



■ 万能角钢  
Universal angle steel



Special punching processing

Flat steel	✓
Channel steel	✓
I-beam	✓
Angle steel	✓
Square tube	✓
Round tube	✓
Various profiles	✓

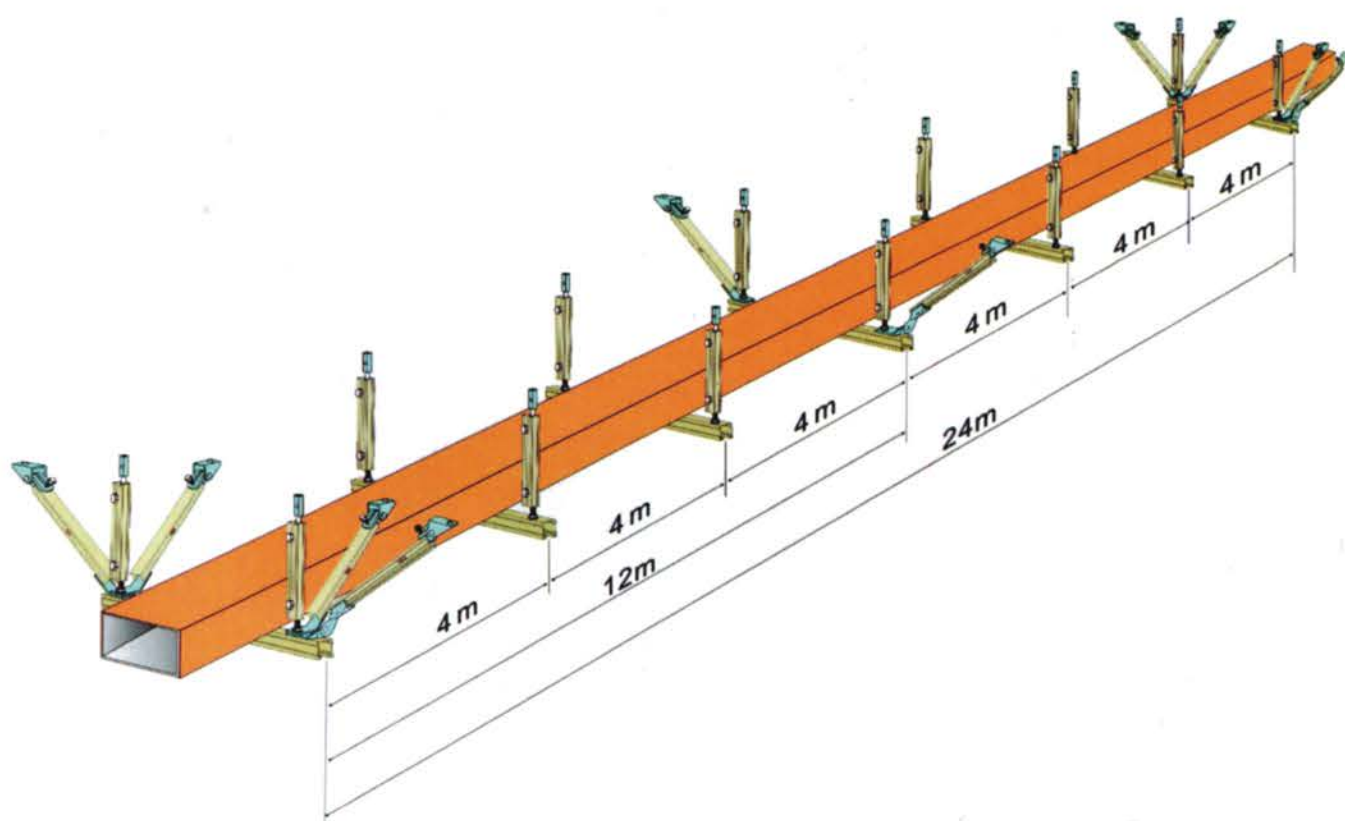
**Any hole pitch size**  
**Any hole diameter size**



## ● Seismic support load analysis

The scope of acceptance of seismic support is divided into horizontal straight pipes, and the lateral support spacing shall not exceed 12m, and the longitudinal support spacing not exceed 24m.  
The actual spacing of seismic support shall be adjusted according to the horizontal seismic action, the bearing capacity of the support, and the installation angle, until points meet the requirements of seismic load.

Load	Sub-item	Calculation results	Selection
Standard value	Gravity load representative value	$S_{GE}=56.93 \times 4.5 \times 9.8=2511\text{N}$	NA
	Horizontal seismic action standard value	$S_{Ehk}=56.93 \times 24 \times 9.8 \times 0.8=6695\text{N}$	NA
	Full threaded lifting eye bolt	$S=S_{GE}+S_{Ehk}=9206\text{N}$	Jib, anchor



## 连接件类 Connectingpiece

### ● 135° 角连接件 135° angle connector

#### 产品特点 Characteristic

- Material: S235JR quality carbon structural steel, manufactured according to DIN EN 10025 standard;
- Technique: electroplated zinc, hot-dip galvanizing, powder zinc-plating, epoxy spraying, stainless steel;
- Fixed 135° design ensures installation angle;
- Can be fixed on the channel steel, the connection system connected to the bracket arm, easy to adjust and disassemble;



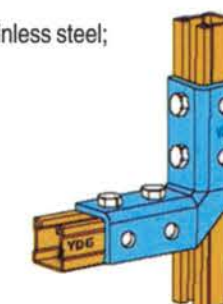
#### 产品数据 Product data

Model number	Product name	Ideal force value(kn)	Locking torque(n.m)	Weight(kg)	packaging (pieces)
20150645	YDG-L6/45°	2.5	40	0.36	20

### ● 135° 角连接件 135° angle connector

#### 产品特点 Characteristic

- Material: S235JR quality carbon structural steel, manufactured according to DIN EN 10025 standard;
- Technique: electroplated zinc, hot-dip galvanizing, powder zinc-plating, epoxy spraying, stainless steel;
- Fixed 135° design ensures installation angle;
- Can be fixed on the channel steel, the connection system connected to the bracket arm, easy to adjust and disassemble;
- Multi-directional double lock design, enhanced load-bearing capacity.



#### 产品数据 Product data

Model number	Product name	Ideal force value(kn)	Locking torque(n.m)	Weight(kg)	packaging (pieces)
20159135	YDG-L9/135°	5.0	40	0.60	10



## 连接件类 Connectingpiece

### ● 90° 角连接件 90° angle connector

#### 产品特点 Characteristic

- Material: S235JR quality carbon structural steel, manufactured according to DIN EN 10025 standard;
- Technique: electroplated zinc, hot-dip galvanizing, powder zinc-plating, epoxy spraying, stainless steel;
- Standard angle of 90°, ensuring installation angle;
- Convenient to install, easy to adjust and disassemble;
- Side stiffening plate, increasing load stability.



#### 产品数据 Product data

Model number	Product name	Ideal force value(kn)	Locking torque(n.m)	Weight(kg)	packaging (pieces)
20150490	YDG-L4/90°	4.0	40	0.35	20

### ● 90° 角连接件 90° angle connector

#### 产品特点 Characteristic

- Material: S235JR quality carbon structural steel, manufactured according to DIN EN 10025 standard;
- Technique: electroplated zinc, hot-dip galvanizing, powder zinc-plating, epoxy spraying, stainless steel;
- Standard angle of 90°, ensuring installation angle;
- Convenient to install, easy to adjust and disassemble;
- Side stiffening plate, increasing load stability.



#### 产品数据 Product data

Model number	Product name	Ideal force value(kn)	Locking torque(n.m)	Weight(kg)	packaging (pieces)
20150890	YDG-L8/90°	7.0	40	0.58	20

## 弱电走线架 Weak current traveling frame

### ■ 走线架50角连接 Cable tray 50-degree corner connection



### ■ 走线架100角连接 Cable tray 100-degree corner connection



### ■ 走线架样板图 Sample diagram of cable tray



### ■ 走线架几字架 Cable rack several- character rack



### ■ 走线架扇形架 Cable tray fan- shaped bracket



### ■ 走线架托挂件 Cable tray suspension bracket



### ■ 喷涂走线架主梁 Spraying track support main beam



### ■ 走线架成品 Wiring rack finished product



### ■ 走线架成品 Wiring rack finished product



### ■ 走线架直连接 Straight connection of the cable tray



### ■ 走线架主梁 Main beam of cable tray



### ■ 走线架横撑200mm-1000mm Cable tray cross brace 200mm-1000mm















Galvanized trough-type cable tray



Galvanized ladder type cable tray



Spray slot type bridge rack



Spray-coated ladder-type bridge rack



Fireproof trough-type cable tray



Fire ladder type bridge rack



FRP cable tray



Stainless steel cable tray



Aluminum alloy cable tray



Reinforcement strip



Reinforcement strip

