



· (2) CÔNG TY TNHH KCE HOIST & CRANE VINA

Số 140 <mark>đ</mark>ường TL15, p<mark>hư</mark>ờng Thạnh Lộ<mark>c,</mark> quận 12, HCM, Vietnam (140, TL15 street, Tha<mark>n</mark>h Loc ward, dist<mark>r</mark>ict 12, HCM, Vietnam) TEL: +84 (0)282 249 7700, 7711, 7733 www.newkce.com

(주)<mark>은</mark>창티엔씨 **EUNCHANG T&C CO., LTD.**

부산광역시 강서구 미음산단 1로 15번길 47 Mieumsandan 1-ro 15 beon-gil Gangseo-gu, Busan, Korea TEL:82-51-831-9891~4, FAX:82-51-797-8895

www.trolleybar.com

www.trolleybar.com

TROLLEY BAR & TRACK ASSEMBLY

Trolley-bar, Festoon cable system



FOSTER INDUSTRY EUNCHANG T&C

GREETINGS



President JOUNG-YOUN KIM

We promise to manufacture the best HOIST CRANE products that keeps pace with the times.

We promise to manufacture the best HOIST CRANE products that keeps pace with the times.

In 1987, we have manufactured trolley bar which is power supply unit of HOIST CRANE and since then, Eun-chang has become Eunchang T&C CO.,LTD. with customers' concern and care. Eun-chang T&C is located in Noksan industrial complex and is a manufacturing company of HOIST CRANE such as STEEL BASE COPPER HEAD RAILS, AL/CU HEAVY BAR, FESTOON CABLE SYSTEM. Eunchang which started the new age of STEEL BASE COPPER HEAD RAILS 3000A first in Korea, has competitive power with its own quality and technology and try hard to open up the overseas markets. Eun-chang participated ZPSS CRANE PROJECT of POSCO China and has already challenged to the world. All the staff will try to satisfy the customers' demand by developing productivity and high qualitied products and will be the best in Korea to be the international company.

Thank you for your care and we Eun-chang hope we will continue to share our success with you together.



COMPANY HISTORY

1987. 01. 0 1987. 01. 3 1988. 04. 2 1989. 09. 1 1991. 06. 1 1993. 03. 0

1994. 09. 1 1995. 08. 2 1996. 06. 3 1997. 08. 0

1999. 10. 20 2000. 08. 1! 2002. 06. 0

2002. 07. 30 2004. 05. 20 2005. 04. 02 2006. 07. 2

2008. 03. 15 2010. 03. 3(

2010. 04. 0 2010. 12. 0 2011. 10. 0 2012. 01. 0 2012. 03. 0 2015. 11. 0 2020. 03



- 1987. 01. 05 Establishment of Eun-chang technology (Jangrim industrial complex)
- 1987. 01. 30 Development of TROLLEY BAR 60A 90A 200A 300A 500A
- 1988. 04. 20 Development of TUMBLER RIGID-BAR 500A 800A 1000A
- 1989. 09. 10 Development of AL-HEAVY BAR 500A 1000A 1500A (INSULATED TYPE)
- 1991. 06. 13 Development of RIGID TROLLEY BAR 300A 500A 600A 800A
- 1993. 03. 05 Development of O.H.CRANE ALUMINUM TRACK for prevalent type
 - Development of 5 types of CABLE HANGER SYSTEM for I-BEAM
- 1994. 09. 15 Development of RIGID TROLLEY BAR 800A 1000A 1200A
- 1995. 08. 25 Construction of the factory and moving to Rainbow in dustrial complex
- 1996. 06. 30 Development of H-TYPE TROLLEY-BAR 500A 1000A 1500A
- 1997. 08. 05 Development of 0.H.CRANE STEEL, SUS TRACK for prevalent type Development of 10 types of CABLE HANGER SYSTEM for I-BEAM
- 1999. 10. 20 Development of CABLE HANGER for CONTAINER CRANE
- 2000. 08. 15 Development of RIGID TROLLEY BAR 1500A 1800A 2000A
- 2002. 06. 01 Conversion of a corporation into Eun-chang T&C CO.,LTD. (Moved to Noksan industrial complex)
- 2002. 07. 30 Development of RIGID TROLLEY BAR 2500A (RAIL TYPE)
- 2004. 05. 20 Development of CU HEAVY BAR 300A 500A 1000A (INSULATED TYPE)
- 2005. 04. 09 Certified of ISO 9001 : 2000/KS A 9001 : 2001
- 2006. 07. 28 Establishment the corporation in CHINA
- 2007. 01. 29 CCC (China Quality Certification Centre) Mark Trolley-Bar 300A ~1500A
- 2008. 03. 15 Development of CU Heavy bar 1800A 2000A 2500A (Insulated type)
- 2010. 03. 30 Registration of Electric Construction (Korea Electical Contractors Association)
- 2010. 04. 01 Development of RIGID Trolley-bar 3000A (Rail type)
- 2010. 12. 07 Gost-R COC (Certificate Of Conformity), Russia
- 2011. 10. 02 Registration of Plant & Mechanical Construction
- 2012. 01.02 Partner firm of Hyundai-steel Electric part
- 2012. 03. 05 Development of CABLE HANGER by Aluminum type
- 2015. 11. 02 Relocation of Company (Moved to Mieum industrial complex)2020. 03 Established Ho Chi Minh agency in Vietnam



TECHNICAL INSTITUTE

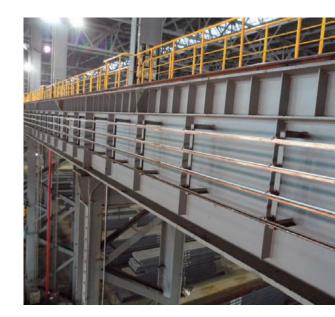
Our company manufactures the latest longitudinal and transverse current controlling equipments that are electrically safe, easy to install, easy to repair and easy to maintain.

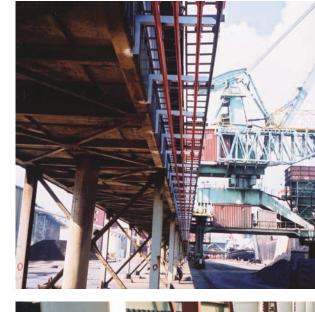
INSULATION AI HEAVY BAR is electrically safe and highly efficient. Due to its electrical safety and high efficiency it was selected and is currently used as the power supply equipment of cranes in ship building yard of prominent local ship manufacturers and DaewooChina ship building.

EUN CHANG STEEL BASE COPPER HEAD RAILS are durable and are suitable for installation and use in places exposed to high temperature. Its excellence as a power supply equipment for cranes has been tested in POSCO, INI STEEL, DKS, POSCO-China Manufacturing Plants and in other manufacturing plants.At present Eun Chang's steel base copper head rails has occupied 30% of the local market.

EUN CHANG FESTOON CABLE SYSTEM can be manufactured in different forms using different material depending on the capacity and material of the crane hoist. It may be in the form of I-beam type, H-beam type, Square bar type, rail type or track type depending on the requirement and request of the client. It can also be manufactured using different materials in the form of stainless steel, aluminum, steel and other materials. PEANUT TYPE TROLLEY BAR, H-TYPE TROLLEY BAR, COMPACT BAR are only some of our company's main products. As a company that specializes in the production of trolley bar, we will use the best technology and experience that we have gained in Korea as a background and we will do everything in our power to be to the world's best manufacturer of trolley bar through continuous development of new products and continuous technological innovation. We hope that you continuously support, guide and encourage our company in it's quest to be the world's top-ranking hoist and cranemanufacturer.



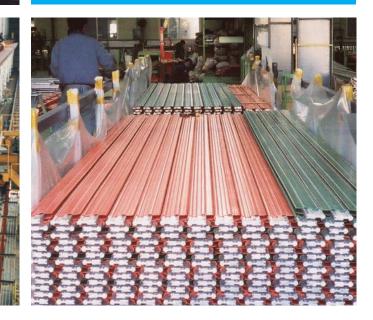




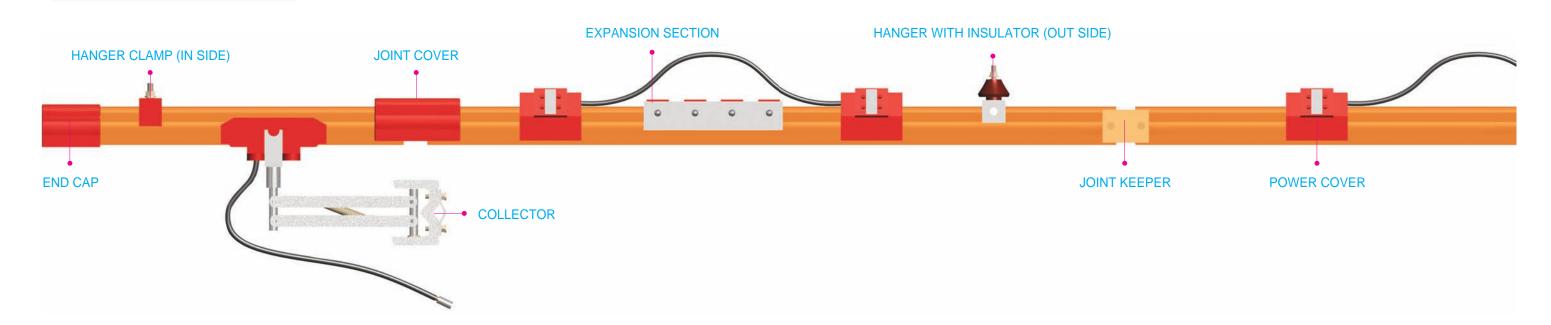




Succeed People and Technology EUNCHANG T&C



COMPONENTS OF TROLLEY-BAR



EUNCHANG T&C



END CAP A end cover to put on end of TROLLEY-BAR.

BRACKET

A hanger clamp - serves as equipment support.



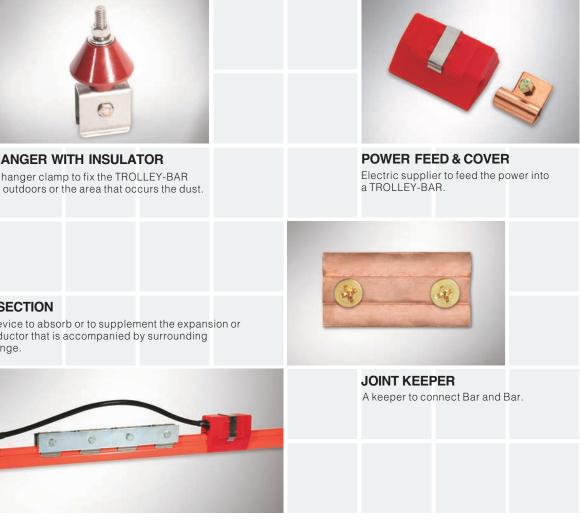
COLLECTOR A collection device to deliver the power to loaded part.

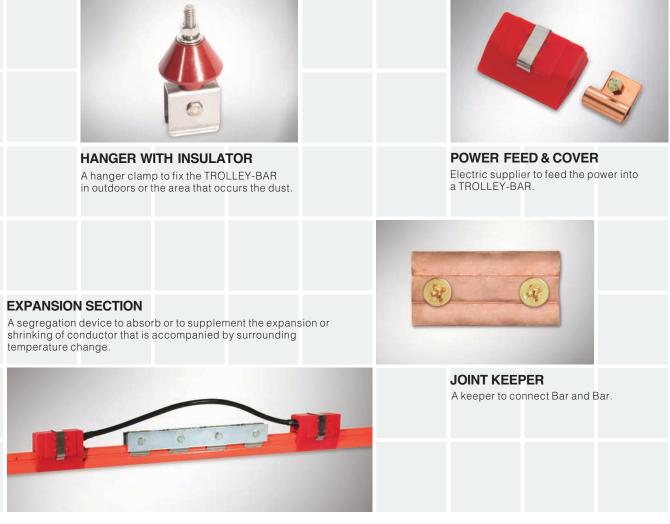


HANGER CLAMP A hanger clamp to fix the Bracket at TROLLEY-BAR.



JOINT COVER A insulated cover to insulate the exposed conductor on joint electrically.







EUNCHANG T&C CO.,LTD. **06 + 07**



· TROLLEY-BAR AMPERE KIND

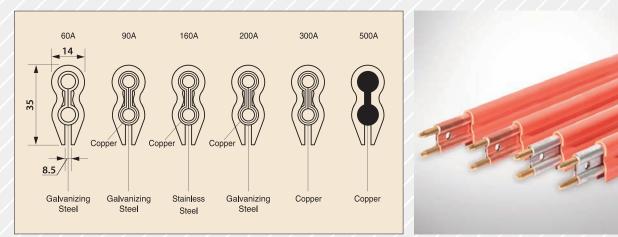
- · MATERIAL OF TROLLEY-BAR
- · JOINT TYPE OF TROLLEY-BAR · ACCESSORIES PARTS OF TROLLEY-BAR

TROLLEY- BAR AMPERE KIND

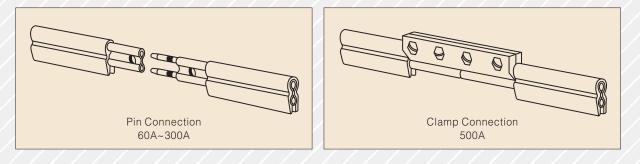
Rated Current	Longth	Weight	ltem	n No.		
(A)	Length (mm)	(g)	Standard Type (70°C Heatproof)	Special Type (110℃ Heatproof)	Material	
60	3,000	2,400	ET-1-007	ET-2-007	Galvanized Steel	
90	3,000	2,750	ET-1-001	ET-2-001	Gal. Steel (85%) Copper	
150	3,000	2,900	ET-1-008	ET-2-008	Steel (50%) Copper (50%)	
200	3,000	3,000	ET-1-003	ET-2-003	Gal. Steel (40%) Copper (60%)	
300	3,000	3,150	ET-1-005	ET-2-005	Copper	
500	3,000	5,300	ET-1-011	ET-2-011	Copper (Solid)	
			/////			
Rated Current	Length	Weight	ltem	n No.		
(A)	(mm)	(g)	Standard Type (70°C Heatproof)	Special Type (110℃ Heatproof)	Material	
100	3,000	2,500	ET-1-002	ET-2-007	STS	
160	3,000	3,000	ET-1-009	ET-2-009	STS(50%) Copper(50%)	

160A type is the acid-proof TROLLEY-BAR for special area made of Stainless Steel.

MATERIAL OF TROLLEY-BAR



JOINT TYPE OF TROLLEY - BAR

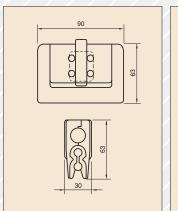


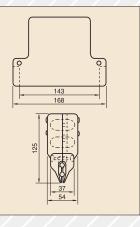


ACCESSORIES PARTS OF TROLLEY-BAR **POWER FEEDS & COVER**









Specification

			Тур	е
60,90,160,200A			Sta	ndard Type 70℃ H
300,500A				70℃ F
\mathbb{Z}		/ / /		
	Item No.	Weight(g)		Space betwe
	EP-1-001	140		60,90,160A
/	EP-1-002	1,00	00	200,300,500

Voltage dropping is necessarily occurred when traveling distance of conducting wire is lengthened. Power feeder should be possi-bly at the mid point of all conducting wires to make up for voltage dropping and extra power feeder is additionally attached in case of 3% and over voltage dropping rate.

HANGER CLAMPS



Specification

Use	Material
Indoors	Galvanized Steel
Outdoors and dust area	Galvanized Steel +Epoxy Insulator
Domestic	Stainless Steel
indoors and outdoors	PVC
	////////
Weight(g)	Item No.

Weight(g)	Item No.
/110	EH-1-001
210	EH-2-001
110	EH-3-001
110	EH-4-001

JOINT COVER



A : 50m 0A : 100m



Specification Weight(g) Item No. Туре Standard Type 70°C Heatproof 60~300A EJC-1-001 25 Standard Type 70°C Heatproof 500A 600 EJC-1-002

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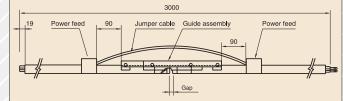
COMPONENTS OF TROLLEY-BAR

· EXPANSION SECTION

- · JOINT KEEPER
- · CARBON BRUSH · COLLECTORS
- · END CAP / MOUNTING BAR

EXPANSION SECTION



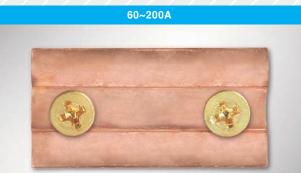


Specification

Surrounding temperature (when it is installed)	GAP Setting
30°C	13mm
20°C	19mm
10°C	25mm
TYPE	Space between lines
90A, 160A	50mm
200,300,500,1000A	35mm

A separate device to absorb and to complement the expansion and shrinking of conductor caused by surrounding temperature change as space is given on train rail and section to be installed and Gap are changed by surrounding temperature when it is installed with A capacity.

JOINT KEEPER



Specification				
Туре	Material	Item No.	Weight(g)	
60,90,160,200A	Copper	EJK-1-001	10	
300A(T/D)	Copper	EJK-1-002	20	









PANTOGRAPH 300A











Туре	Collecting capacity(A)	Item No.
	30	ECC-1-001
Single Type	60	ECC-1-002
Siligle Type	90	ECC-1-003
	200	ECC-1-005
///////	1111	1 / / /
Туре	Collecting capacity(A)	Item No.
Single Type	60	ECC-1A-002
Single Type (Aluminum)	90	ECC-1A-003
(/ ddfinitiditi)	200	ECC-1A-005
Туре	Collecting capacity(A)	Item No.
//////	120	ECT-1-001
Tandem Type	180	ECT-1-002
	400	ECT-1-003





2,000

END CAP/ MOUNTING BAR

Going straight

Туре	Item No.	Weight(g)
End Cap-Standard Type	EEC-1-001	10
Mounting Bar	EMB-1-001	850

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Steel

INSTALLATION **PROCEDURES FOR TROLLEY-BAR**

Installation and inspection of the trolley bar

1. Prepare brackets for hanger installation

- Installation of a bracket is vital factor in trolley bar installation process, thus it is essential to maintain a horizontal & vertical, top & bottom and left and right level balance. All parts with surfaces which are to be welded, should be firmly welded on the run way girder.
- Brackets should have dimensions of L40×40×4t or greater.

2. Install hanger brackets

- Brackets intervals should be under 1500 mm for linear sections, and under 750 mm for curved sections.
- All the sooted parts and sludges formed by welding process should be removed completely. To form a resistance against the rust, basic and over paint should be applied.

3. Connecting the Trolley bar sections

- (60A~300A) Insert "joint pins" into the end of one trolley bar section, then slip the end of a second trolley bar section over the "joint pins" until the two ends butt firmly together.
- In addition to the above, install joint keepers on sections.
- (60A~300A) Install the joint cover.
- (500A) Cut the respective end surfaces of trolley bar 500A products so that the two ends butt firmly together. Then clamp and bolt securely using the tool provided.
- The special joint cover for 500A trolley bar is installed by the use of screws and nuts.

4. Installation of power feeder

- Power feeder is a device component which is use to supply the current to a trolley bar.
- It should be formed with copper and should be designed to supply adequate current to a trolley bar.
- (60A~200A) Install the feed-in after cutting away about 52 mm of the insulation cover.
- (300A~500A) Cut away about 82 mm of the insulation cover before installation of the feed-in.

5. Installation of expansion joints

- (60A~200A) Use one expansion joint every 50m.
- (300A~500A) Use one expansion joint every 30m.

6. Installation of end caps

- Cut the portion where there are no joint pins.
- Deburr and smooth off the pin inlet with a file.
- Where there are no joint pins, install the end cap directly.

7. Installation of collector

- The center of the collector mounting bar should be 90 mm from the lower face of the trolley bar.
- Collector shoes must be replaced when wearing reaches the replacement line.
- 8. Inspection and test running of each section. Upon completion of the installation work, and inspection, carry out a test run to ensure the following.
- That there is no zigzag motion or torsioning of the trolley bar
- That trolley bar is installed parallel to the running rails.

- That intervals of the trolley bar sections are uniform.
- That there are no clearances between of differences in level between section of the trolley bar.
- That there is no slackening of the hanger installation, bolts, or nuts.
- That the wiring is correct.
- That there is no slackening of the electric wiring connections for the feed-in.
- That end caps are installed on all line terminals.
 - That the trolley bar conductors and collectors are connected correctly.
 - That binding to the equipment is correct.
 - That shoe wear is normal.
 - * Periodic inspections (once a year) should be made on the above items.





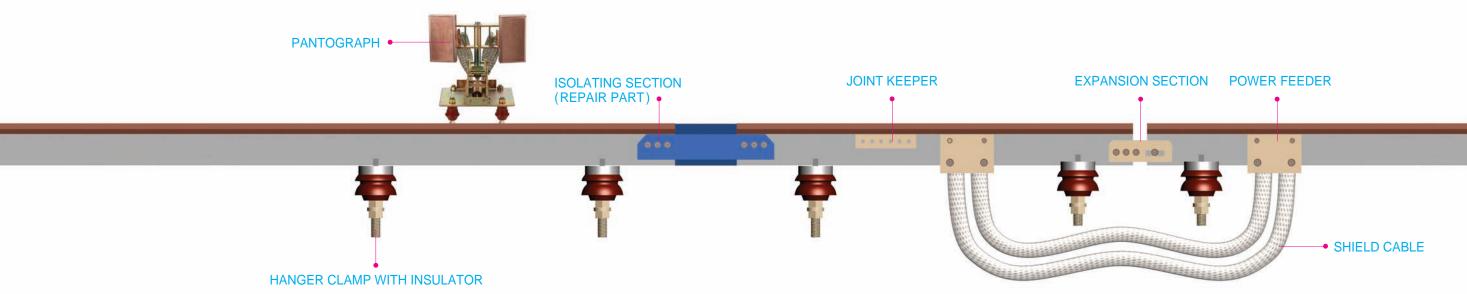


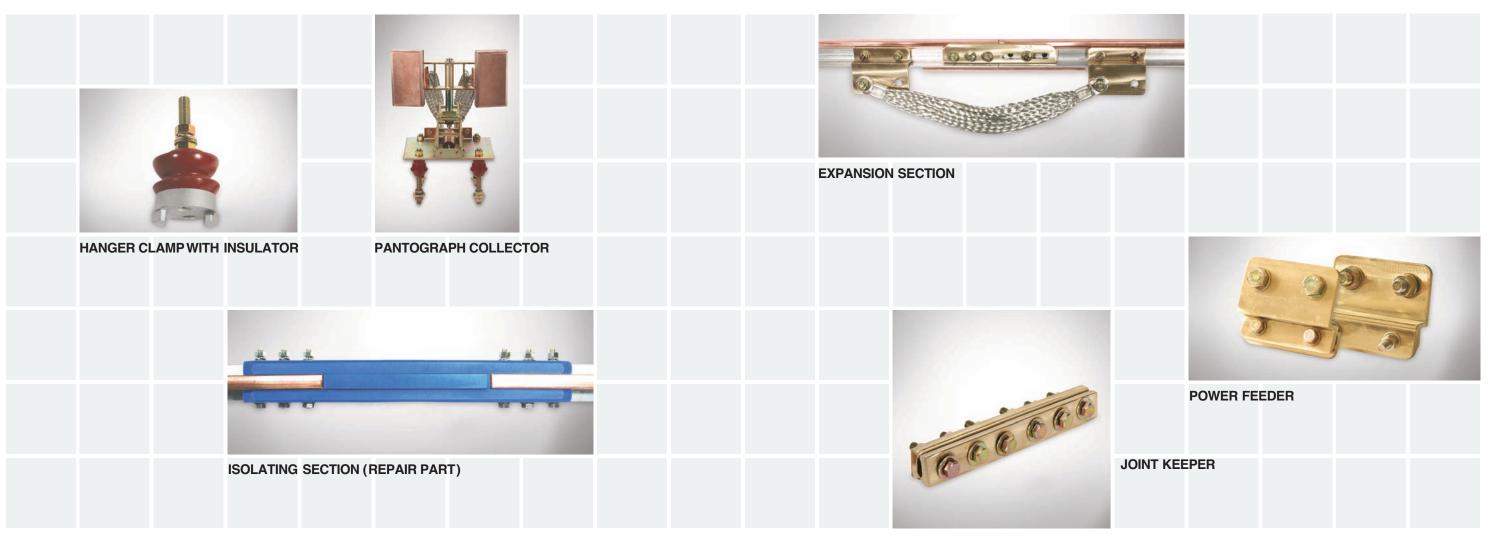


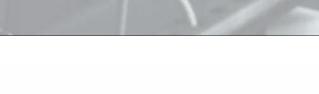


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EUNCHANG STEEL Copper head rails bar system







EUNCHANG T&C CO.,LTD. 14 + 15

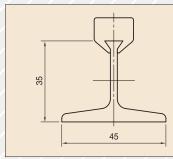
EUNCHANG STEEL COPPER HEAD RAILS BAR SYSTEM

· STEEL BASE COPPER HEAD RAILS

· JOINT KEEPER

• EXPANSION SECTION • ISOLATING SECTION (REPAIR PART)

STEEL BASE COPPER HEAD RAILS

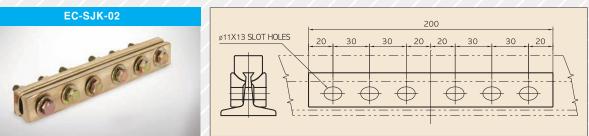






Item No.	Material	Weight(Kg)	Length(mm)	Current Rating(A)
ES-STB-03	SS400-Cu	24	6,000	,300
ES-STB-05	SS400-Cu	26	6,000	500
ES-STB-06	SS400-Cu	28	6,000	600
ES-STB-08	SS400-Cu	30	6,000	800
ES-STB-10	SS400-Cu	36	6,000	1,000
ES-STB-12	SS400-Cu	41	6,000	1,200
ES-STB-15	/SS400-Cu /	51	6,000	1,500
ES-STB-18	SS400-Cu	53	6,000	1,800
ES-STB-20	SS400-Cu	/58///	6,000	2,000

JOINT KEEPER



Specification

Item No.	Material	Current Rating(A)
EC-SJK-01	BRASS	300
EC-SJK-02	BRASS	500~600
EC-SJK-03	BRASS	800~1000
EC-SJK-04	BRASS	1200
EC-SJK-05	BRASS	1500
EC-SJK-06	BRASS	1800
EC-SJK-07	BRASS	2000





EXPANSION SECTION



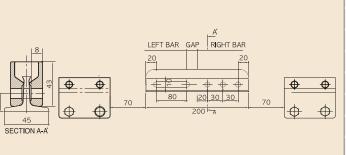
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Item No.	Material	Current Rating(A)	S		
EC-SEC-03	BRASS	300	/ /		
EC-SEC-05	BRASS	500			
EC-SEC-06	BRASS	600			
EC-SEC-08	BRASS	800			
EC-SEC-10	BRASS	1,000			
EC-SEC-12	BRASS	1,200			
EC-SEC-15	BRASS	1,500			
EC-SEC-18	BRASS	1,800			
EC-SEC-20	BRASS	2,000			

ISOLATING SECTION (REPAIR PART)

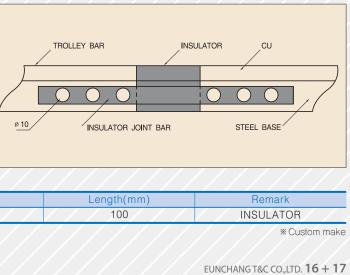
EC-SIS-0	02

Specification	
Item No.	Material
EC-SIS-002	MC NYLON





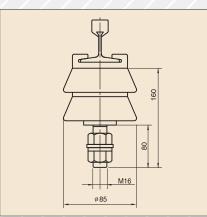
Surrounding temperature	'G' GAP to surrounding temperature during normal operation			
during installation(°C)	40°C	50℃	℃06	
- 1 0 ~ 0	33	38	43	
1~10/	28	33	38	
11~20	23	28	33	
21~30	18	23	26	
31~40	13	18	23	



EUNCHANG STEEL Copper head rails Bar system

HANGER CLAMP WITH INSULATOR POWER FEEDER LOCATING CLAMP PANTOGRAPH

HANGER CLAMP WITH INSULATOR



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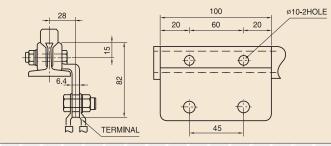
Specification

Item No.	Material (1)	Weight(g)
EC-HC-1	Porcelain	1800
EC-HC-2	Ероху	1000
EC-HC-3	Porcelain	2200

POWER FEEDER



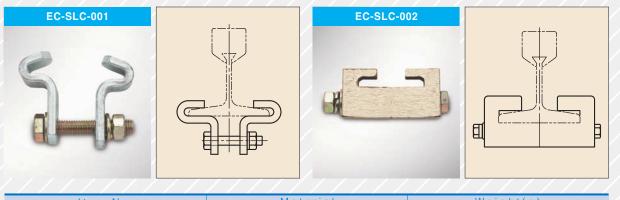
It is the device to compensate a voltage dropping that is caused by main power lengthening of main power feed or mileage.



Specification

	Item No.	Material	Current Rating(A)
/	EC-SPF-01	BRASS	300~1000
	EC-SPF-12	COPPER	1200
	EC-SPF-15	COPPER	1500
	EC-SPF-18	COPPER	1800
	EC-SPF-20	COPPER	2000

LOCATING CLAMP



ltem No.	Material	Weight(g)
EC-SLC-001	SS400	/ 190 / /
EC-SLC-002	BRASS	360



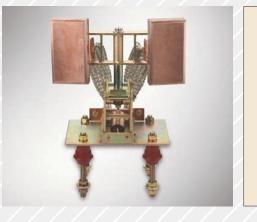
PANTOGRAPH (Single Type for side Wall)



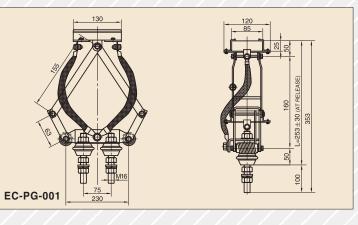
PANTOGRAPH (Double Type for side Wall)

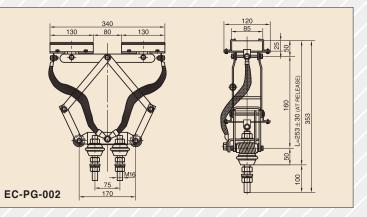


PANTOGRAPH (Type for downward pressure)

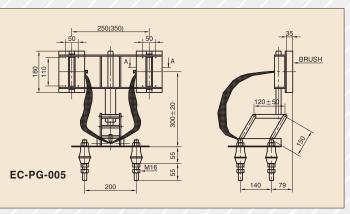












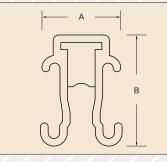
CONSTRUCTION OF UB-BAR UB-BAR consists of the

OB-BAR consists of th following parts

· UB-BAR · JOINT KEEPER · JOINT COVER

- · JOINT COVER · EXPANSION SECTION
- HANGER CLAMP
 POWER FEEDER / COVER
 COLLECTOR
 END CAP

UB-BAR





Capacity

200A - 500A

800A - 1000A

1500A - 2000A

Capacity

200A - 500A

800A - 1000A

1500A - 2000A

Specification

Item No.	Capacity	Material	A(mm)	B(mm)
		Ivialeria		
EC-U30-2	200A	Copper	21	40
EC-U30-3	300A	Copper	21	/40//
EC-U30-5	500A	Copper	/ 21/ /	40
EC-U40-8	800A	Copper	32	55
EC-U40-10	1000A	Copper	32	55
EC-U50-15	1500A	Copper	/ 37/ /	65
EC-U50-18	1800A	Copper	37	65
EC-U50-20	2000A	Copper	37	65

JOINT KEEPER

Specification

Specification

Item No.

EC-UJK-003

EC-UJK-004

EC-UJK-005

Item No.

EC-UJC-003

EC-UJC-004

EC-UJC-005

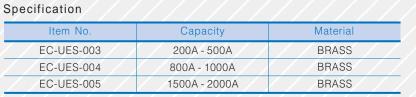
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and the tage	k

JOINT COVER



EXPANSION SECTION











Material

BRASS

BRASS

BRASS

Material

P.V.C

P.V.C

P.V.C

HANGER CLAMP



Specification

_	<u> </u>		
	Item No.	Capacity	Materia
7	EC-UHC-002	200A - 500A	P.V.C
/	EC-UHC-003	200A - 500A	STEEL + EP
5	EC-UHC-003	800A - 1000A	STEEL + EP
	EC-UHC-004	1500A - 2000A	STEEL + EP

POWER FEEDER / COVER



Specification

Item No.	Capacity	Material
EC-UDF-003	200A - 500A	BRASS
EC-UDF-004	800A - 1000A	BRASS
EC-UDF-005	1500A - 2000A	BRASS

COLLECTOR





Specification

2

Item No.	
ECCC-UC-001	
ECCC-UC-002	
ECCC-UC-003	
ECCC-UC-004	







Capacity	Material
300A S	AL
300A T/D	AL
500A S	AL
500A T/D	AL

END CAP

Specification

Item No.	Capacity	Material
EC-UEC-003	200A - 500A	RUBBER
EC-UEC-004	800A - 1000A	RUBBER
EC-UEC-005	1500A - 2000A	RUBBER

CONSTRUCTION OF H-BAR H-BAR consists of the following parts

· H-BAR · JOINT KEEPER

• EXPANSION SECTION • POWER FEEDER · JOINT COVER · COLLECTOR · HANGER CLAMP · END CAP

H-BAR



Specification

Item No.	Capacity	Material	A(mm)	B(mm)
EC-H-5	500A	AL-SUS	/ 36 / /	51
EC-H-8	800A	AL-CU	36	51
EC-H-10	1000A	AL-SUS	36	61

JOINT KEEPER



Specification

Item No.	Capacity	Material
EC-HJK-005	500A	BRASS
EC-HJK-008	800A	BRASS
EC-HJK-010	1000A	BRASS

JOINT COVER



Specification

	e suls su s v	
EC-HJC-005	500A - 800A	P.V.C
EC-HJC-090	1000A	P.V.C

Mato

HANGER CLAMP



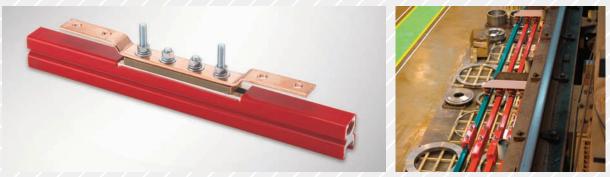
Specification				
Item No.	Capacity	Material		
EC-HHC-001	500A - 1000A	P.V.C		
EC-HHC-002	500A - 1000A	STEEL + EPOXY		







POWER FEEDER



Specification

Item No. EC-HPF-001

COLLECTOR



Specification

Item No.	Capacity	Material	Weight(kg)
EHT-001	500A	AL	1,5
EHT - 002	1000A	AL	3
nd Cap			//////
	Capacity		Material
Item No.	Capacity		Material
	Capacity 500A-800A		Material RUBBER

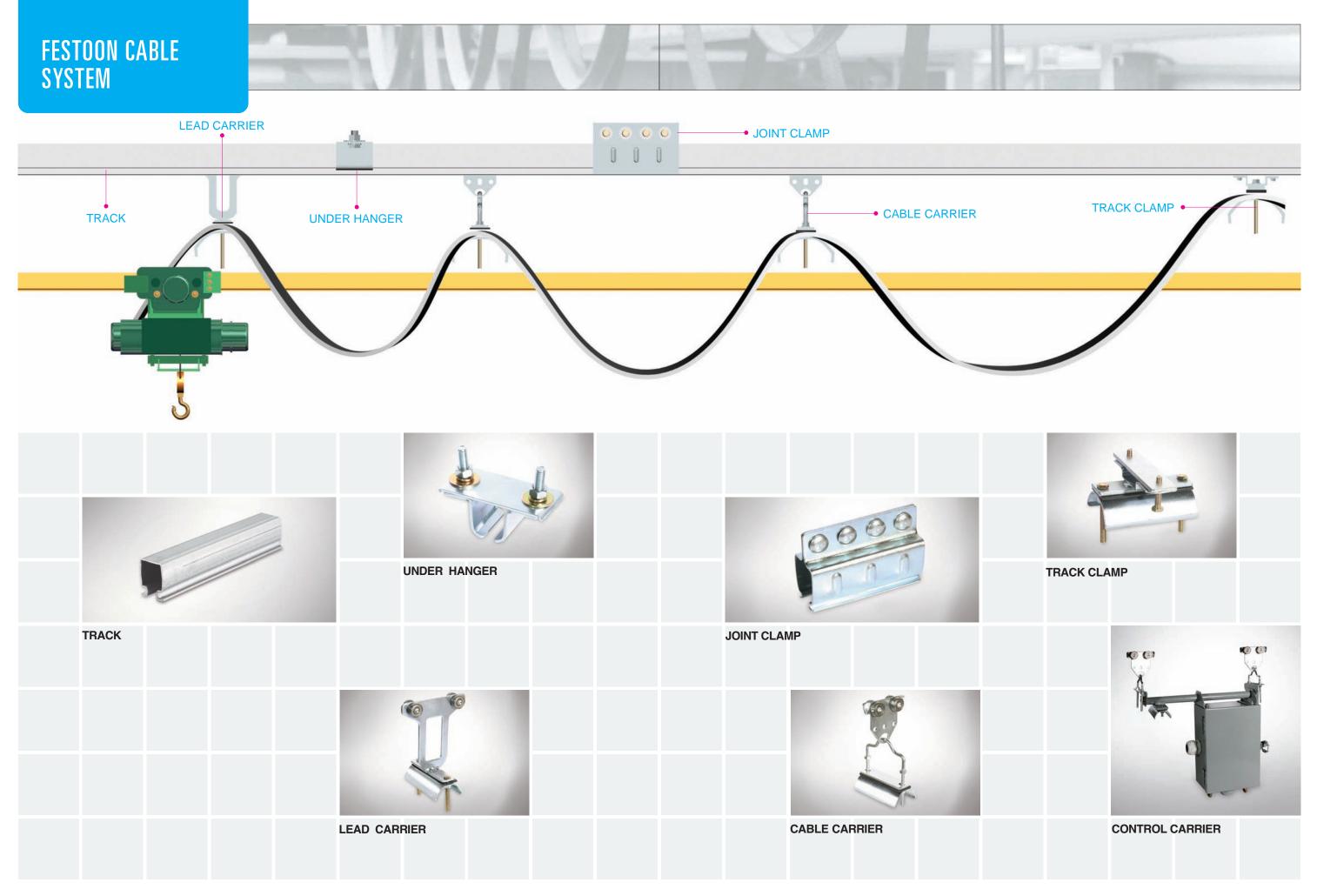
EXPANSION SECTION

em No.	Capacity	Material
-HES-005	500A	BRASS
-HES-008	800A	BRASS
-HES-010	1000A	BRASS
7 / / /	1 1 1 1 1 1 1	

Capacity	Material
common	Copper



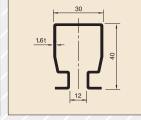
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TRACK





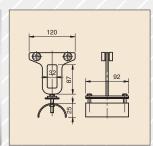
Length bracket:1.5m

• Length per piece:Max-5m

• Type:EC-SST-35 • Material:Steel,Aluminum,STS • The load of maximum section:60kg

LEAD CARRIER





• Surface treatment:Galva(Steel)

• Type:ELC-1 Material:Steel

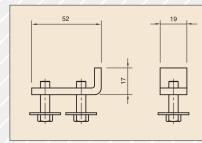
 Capacity needed:1ea/Line • The load of maximum section: 30kg

TRACK CLAMP



• Type:ETC-1 • Limited load:30kg • Material:Steel • Capacity needed:1ea/Line

STOPPER



- Type:EST-1
- Material:Steel
- Surface treatment:Galva
- Capacity needed:1ea/Line

UNDER HANGER





Surface treatment:Galva

CABLE CARRIER

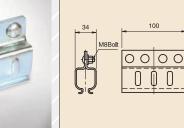


Surface treatment:Galva(Steel)

 Material:Steel · Capacity needed:1ea/2m Limited load:30kg

JOINT CLAMP





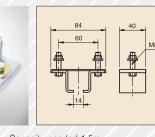
• Type:EJC-1 • Surface treatment:Galva • Material:Steel • Capacity needed:1ea/Line

CONTROL CARRIER

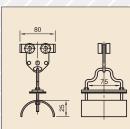




• Use : A carrier that connects the Push Botton when Pendent Push Button disjointed from Hoist is separately installed.

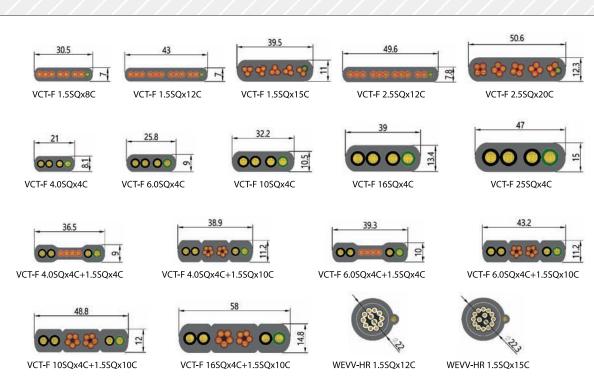


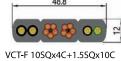
 Capacity needed:1.5m • AL Track hanger is option (EUH-1-AL)



• Type:ECC-1

















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I-BEAM Trolley



EC-CH-2

EC-CHDS-1H

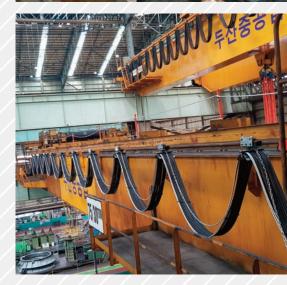














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