

General

The JDC-H conductor rail system is a modern power supply system using single –pole insulated conductor rails. It complies with the latest regulations and provides the electric energy for mobile consumers. The conductor rail is material copper (200A-5000A), aluminum (150A-3000A). The aluminum conductor rail is provided with a proven and patented stainless steel contact surface. Any numbers of poles can be installed vertically or horizontally, on straight or curved systems.

The conductor rail system can be installed indoor or outdoor. For high temperature conditions, a high temperature insulation cover up to +115°C is available, also for low temperature conditions, it could be up to -40°C. The entire conductor rail system is insulated to current safety regulations, it is entirely protected against direct contact.

Ground insulation cover is marked yellow-green on one side over the entire length of the rail.

Type-R: Curves for $R \geq 1200\text{mm}$.

Approved and listed by: CCC, ISO9001 and CE.

Insulation

Generally, the phase line is color green, the ground line is yellow-green plastic housing for H19 system, the standard length is 4.5m long. For other systems, the standard length is 6.0 m long. Other sections are available.

Joint material

Snap-in joint splices provide mechanical end electrical continuity.

They include insulated protection covers.

Feed Sets

Line feeds (any joints) or end feeds.

End caps

The open ends of conductor are closed by end caps.

Hangers

Standard bracket for conductor attachment to crane girders are available. Conductor with sliding and fixpoint hangers.

Standard distance between suspension points for indoor and outdoor installations: 1500mm to 2000mm.

Expansion section

The expansion sections are required to compensate the different expansions between copper conductor and steel or concrete structures, in varying temperatures without interrupting electrical power.

Expansion joints are used when the powerail length between feeds, curves, switches or other fix points is exceeding 200m. Install one expansion joint according to accurate installation.

Isolating section

Isolating sections are required if parts of systems or individual rails are to be de-energized within a conductor rail system. To prevent a voltage bridging by current collector two air isolating sections should be installed.

Switches

Powerail for working areas and transfer applications see H19 end cap.

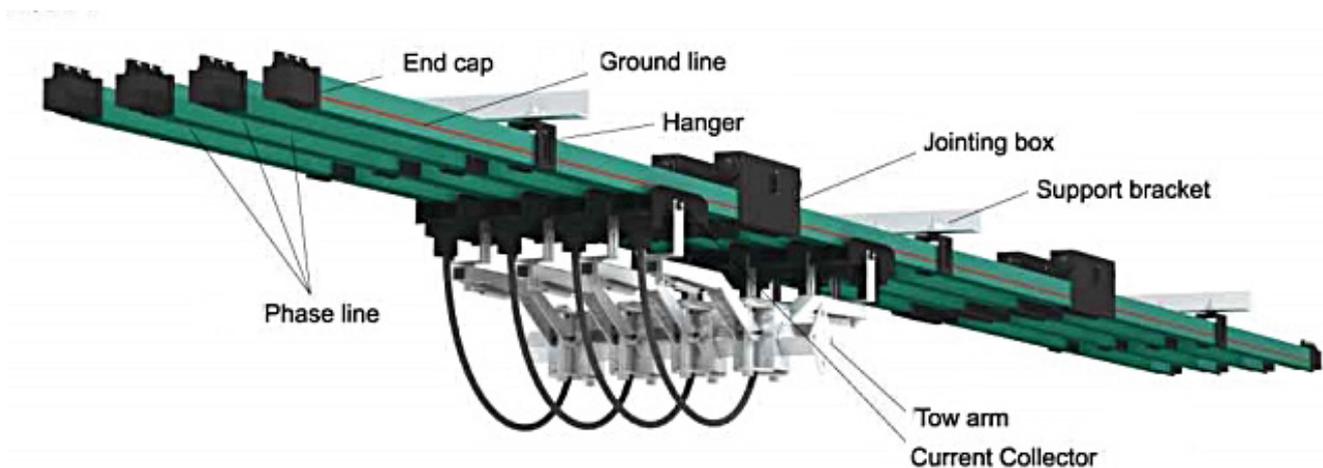
Collectors

The current collectors are made of carbon brush, re-inforced nylon and galvanized or spray-paint metal material. Spring loaded carbon brushes maintain uniform contact, connecting cable and hinged or flexible towing arms included. Double collectors for transfer applications and higher amperage.

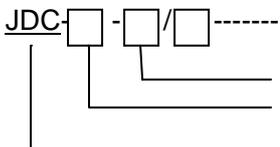
Technical data

Conductor rail system						Program JDC-H				Stainless steel
Conductor rail	Aluminum					Copper				
Type	H19	H24	H32	H35	H52	H19	H24	H32	H52	H19
Nominal current at 100°C DC and 35°C	150	250-300	320-1250	230-800	1250-3000	150-500	500-800	800-1600	1250-5000	25
D.C. resistance at 35°C [Ω /Km]	0.376	0.203-0.187	0.153-0.046	0.153-0.067	0.043-0.015	0.376-0.156	0.116-0.067	0.067-0.039	0.036-0.007	11.652
Impedance 35°C [Ω /Km]	0.381	0.209-0.195	0.155-0.048	0.155-0.069	0.044-0.017	0.377-0.158	0.118-0.069	0.069-0.040	0.038-0.008	11.663
Support spacing[m]	1.5	1.5	1.8	1.8	2.0	1.5	1.5	1.8	2.0	1.5
Rail length[m]	4.5	6.0	6.0	6.0	6.0	4.5	6.0	6.0	6.0	4.5
Housing length [m]	4.42	5.88	5.83	5.83	5.75	4.42	5.88	5.83	5.75	4.42
Max. voltage[v]	660V					Dielectric strength [kv/mm]				30-40
Traveling speed	≤ 600 m/min					Standard				Gb7251.2-2006
Expansion joint	Not required up up 200m installation length									
Flame retardant	Class B1-no flaming particles, self-extinguishing									
Permissible ambient temperature	Standard insulation					-30°C ~ +70°C				
	High temperature insulation					-20°C ~ +115°C				
	Low temperature insulation					-40°C ~ +85°C				

System photo



Introductions of Type

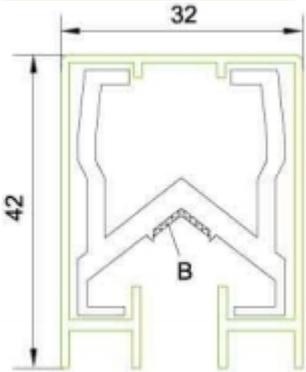


Max. current
 Conductor cross section
 Structure style
 Type of conductor

{ H Aluminum
 HT Copper
 HS stainless steel

PART OF THE CONDUCTOR RAIL SYSTEM

H32 System



Aluminum conductor

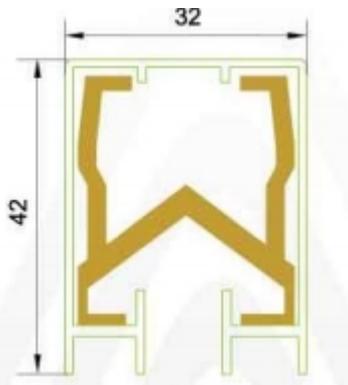
Standard Length: 6.0m, other lengths on request.

Support spacing: 1.8m or 2.0m.

Stainless steel belt

B=9.8mm

Type	Conductor material	Cross section (mm ²)	Nominal current (A)	Leakage-distance (mm)	Resistance (Ω/Km)	Weight (kg)	Order-No.
JDC-H-230/320	Aluminum	230	320	80	0.153	0.96	320126
JDC-H-285/500	Aluminum	285	500	80	0.116	1.13	320136
JDC-H-360/630	Aluminum	360	630	80	0.087	1.38	320156
JDC-H-420/800	Aluminum	450	800	80	0.067	1.50	320166
JDC-H-550/1000	Aluminum	550	1000	80	0.058	1.83	320176
JDC-H-600/1250	Aluminum	600	1250	80	0.046	2.01	320186



Copper conductor

Support spacing: 1.8m or 2.0m.

Standard Length: 6.0m, other lengths on request.

Type	Conductor material	Cross section (mm ²)	Nominal current (A)	Leakage-distance (mm)	Resistance (Ω/Km)	Weight (kg)	Order-No.
JDC-HT-230/800	Copper	230	800	80	0.067	2.43	320266
JDC-HT-300/1000	Copper	300	1000	80	0.058	3.05	320276
JDC-HT-360/1250	Copper	360	1250	80	0.046	3.56	320286
JDC-HT-450/1600	Copper	450	1600	80	0.039	4.37	320296

The ground insulation cover is marked yellow-green on one side.

Standard insulation suitable from (-30°C ~ +70°C) ambient temperature.

High temperature insulation suitable from (-20°C ~ +115°C) ambient temperature.

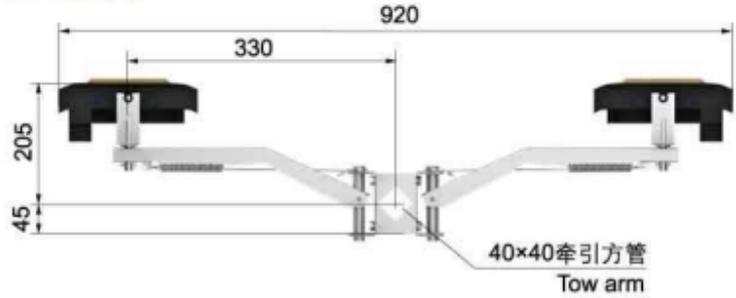
Low temperature insulation suitable from (-40°C ~ +85°C) ambient temperature.

H32 current collector

JD-400



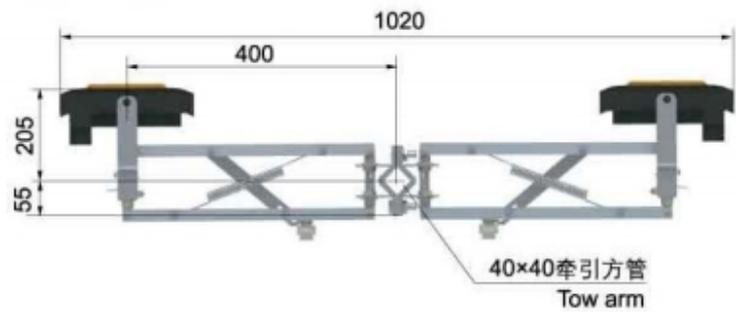
JD*2-400



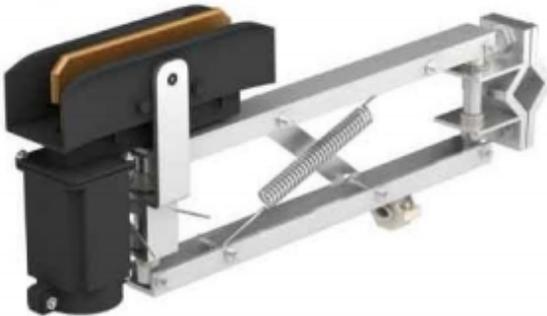
JDL-400



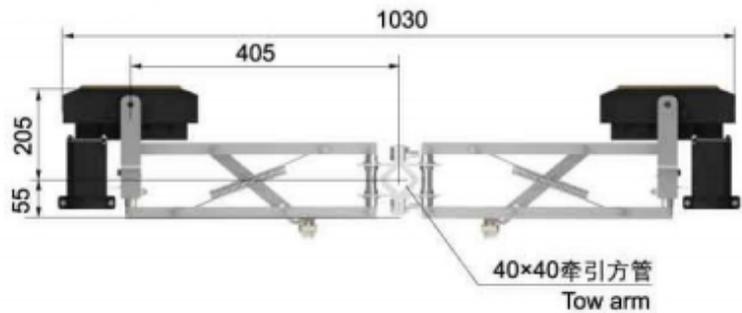
JDL*2-400



JDT-500



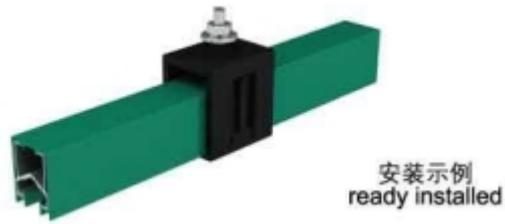
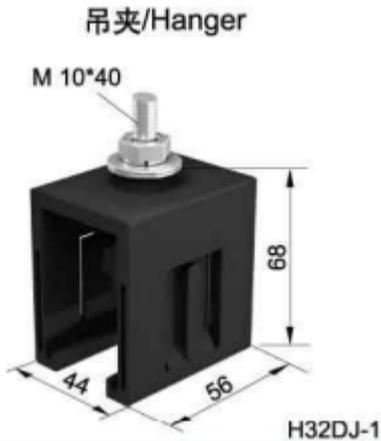
JDT*2-500



Type	Weight (kg)	Hardware	Nominal current	Order-No.
JD-400	1.75	Galvanized	400Amp	323110
JD*2-400	3.45	Galvanized	800Amp	323120
JDL-400	2.35	Aluminum	400Amp	323130
JDL*2-400	4.61	Aluminum	800Amp	323140
JDT-500	3.05	Aluminum	500Amp	323150
JDT*2-500	6.01	Aluminum	1000Amp	323160



Accessories for H32



Type	Weight (kg)	Material	Order-No.
H32 DJ-1	0.082	ABS(white)	323901
H32 DJ-2	0.083	ABS(black)	323902
H32 DJ-3	0.087	Nylon	323903
H32 DJ-5*	0.088	Polyster	323905

*be used for high temperature

Joining box

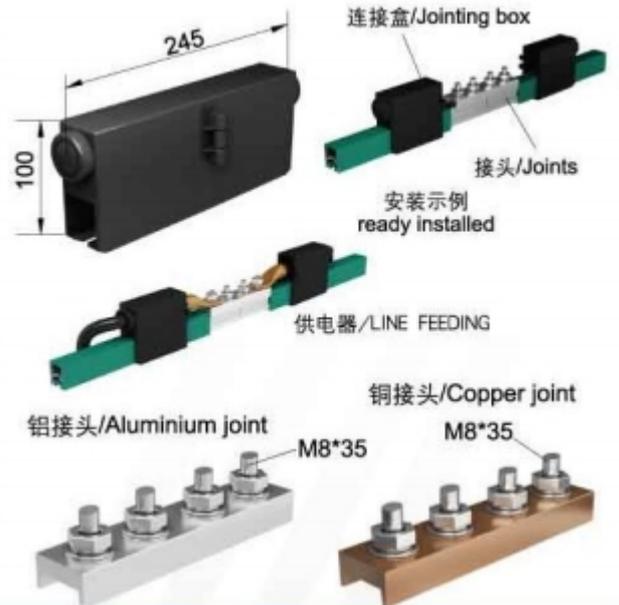
Type	Weight (kg)	Material	Order-No.
H32 LJ-1	0.210	ABS(white)	323401
H32 LJ-2	0.210	ABS(black)	323402
H32 LJ-5*	0.232	Polyster	323405

*be used for high temperature

Joints

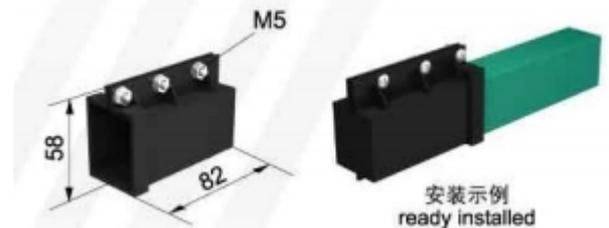
Every joint could be used for feeding joint.

Type	Weight (kg)	Material	Order-No.
H32 JT-500A	0.315	Aluminum	323422
H32 JT-800A	0.284	Copper	323423
H32 JT-1000A	0.399	Aluminum	343425
H32 JT-1250A	0.656	Copper	323427
H32JT-1600A	0.812	Copper	323429



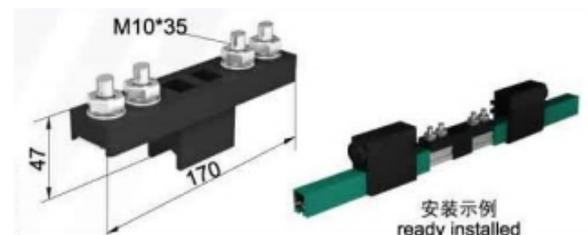
End cap

Type	Weight (kg)	Material	Order-No.
H32 DM	0.038	plastic	323701



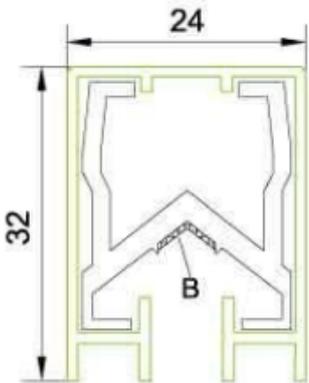
Isolating section

Type	Weight (kg)	Material	Order-No.
H32 FD	0.126	plastic	326030



PART OF THE CONDUCTOR RAIL SYSTEM

H24 system



Aluminum conductor

Standard Length: 6.0m, other lengths on request.

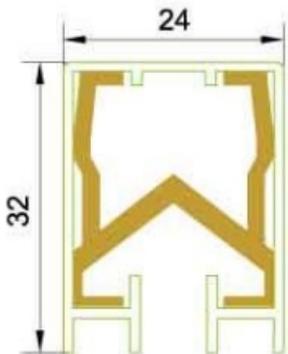
Support spacing: 1.5m

Curves: min.R=1.2m

Stainless steel belt

B=8.5mm

Type	Conductor material	Cross section(mm ²)	Nominal current (A)	Leakage-distance (mm)	Resistance (Ω/Km)	Weight (kg)	Order-No.
JDC-H-160/250	Aluminum	160	250	45 or 80	0.203	0.63	240126
JDC-H-180/300	Aluminum	180	300	45 or 80	0.187	0.71	240136



Copper conductor

Standard Length: 6.0m, other lengths on request.

Support spacing: 1.5m

Type	Conductor material	Cross section(mm ²)	Nominal current (A)	Leakage-distance (mm)	Resistance (Ω/Km)	Weight (kg)	Order-No.
JDC-HT-160/500	Copper	160	500	45 or 80	0.112	1.68	240256
JDC-HT-180/600	Copper	180	600	45 or 80	0.098	1.86	240566
JDC-HT-200/700	Copper	200	700	45 or 80	0.087	2.04	240276
JDC-HT-230/800	Copper	230	800	45 or 80	0.076	2.30	240286

The ground insulation cover is marked yellow-green on one side.

Standard insulation suitable from(-30°C~+70°C) ambient temperature.

High temperature insulation suitable from(-20°C~+115°C) ambient temperature.

Low temperature insulation suitable from(-40°C~+85°C) ambient temperature.

Current collector

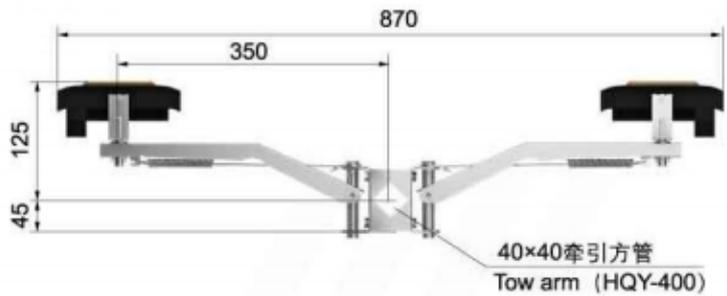
Technical data

Brush material	Copper-graphite brush
Temperature	-40℃~+115℃
Speed	≤360m/min
Voltage	ACV : ≤750V DCV: ≥1000V
Contact voltage drop	0.20-0.25V
Abrasion loss of brush	6-8mm
Contact pressure	F≤25N
Horizontal movement	±100 mm
Vertical movement	±40 mm

JD-200



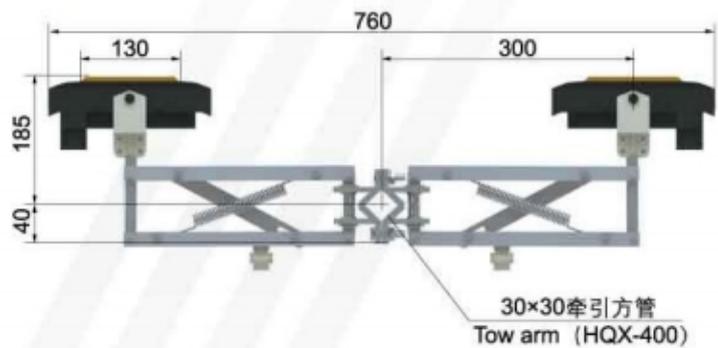
JD*2-200



JDL-200



JDL*2-200



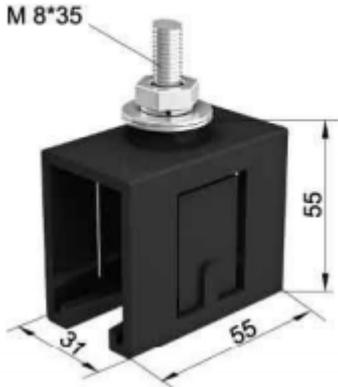
Be used for conductor rail H24 system

Type	Weight (kg)	Hardware	Nominal current	Order-No.
JD-200	1.45	Galvanized	200Amp	243110
JD*2-200	2.72	Galvanized	400Amp	243120
JDL-200	1.18	Aluminum	200Amp	243130
JDL*2-200	2.25	Aluminum	400Amp	243140



Accessories for H24

吊夹/Hanger



Type	Weight (kg)	Material	Order-No.
H24 DJ-1	0.048	ABS(white)	243901
H24 DJ-2	0.048	ABS(black)	243902
H24 DJ-3	0.051	Nylon	243903
H24 DJ-5*	0.052	Polyster	243905

*be used for high temperature

Jointing box

Type	Weight (kg)	Material	Order-No.
H24 LJ-1	0.112	ABS(white)	243401
H24 LJ-2	0.112	ABS(black)	243402
H24 LJ-5*	0.128	Polyster	243405

*be used for high temperature



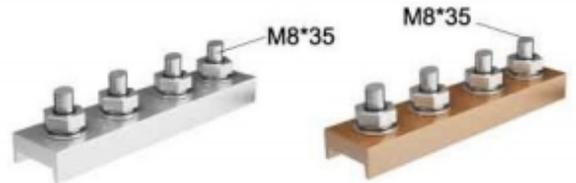
Joints

Every joint could be used for feeding joint.

Type	Weight (kg)	Material	Order-No.
H24 JT-50A	0.263	Galvanized steel	243421
H24 JT-140A	0.284	Galvanized steel	243422
H24 JT-250A	0.149	Aluminum	243425
H24 JT-500A	0.222	Copper	243426
H24 JT-800A	0.302	copper	243428

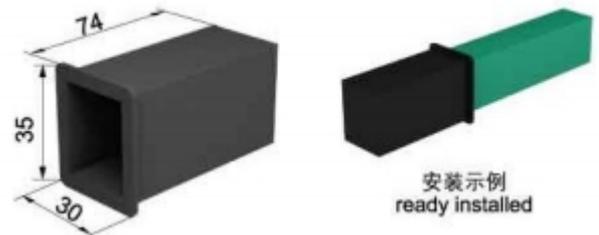
铝接头/Aluminium joint

铜接头/Copper joint



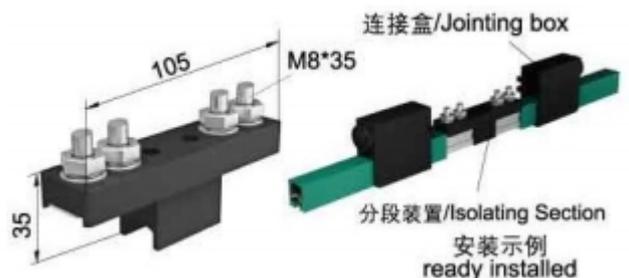
End cap

Type	Weight (kg)	Material	Order-No.
H24 DM	0.019	plastic	243701



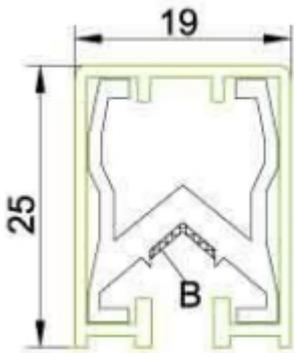
Isolating section

Type	Weight (kg)	Material	Order-No.
H24 FD	0.126	plastic	246030



PART OF THE CONDUCTOR RAIL SYSTEM

H19 system

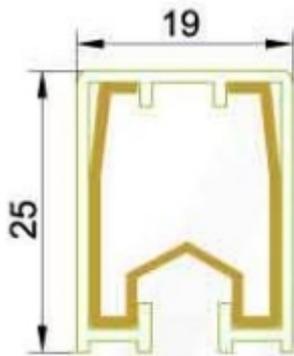


Aluminum conductor
Stainless steel belt
B=7.2mm
Standard Length: 6.0m, other lengths on request.
Support spacing: 1.5m*
Curves: min.R=0.8m

Main application: for overhead and elongated tracks for cranes, monorails, electric hoists, electric tools, stacking systems as well as many other applications for supplying power to moving power loads.

*for producing line, the support spacing is 0.5m-0.8m

Type	Conductor material	Cross section(mm ²)	Nominal current (A)	Leakage-distance (mm)	Resistance (Ω/Km)	Weight (kg)	Order-No.
JDC-HS-95/25	Stainless steel	95	25	35 or 80	11.652	0.81	190415
JDC-H-100/150	aluminum	100	150	35 or 80	0.376	0.46	190135



Copper conductor
Standard Length: 4.5m, other lengths on request.

Type	Conductor material	Cross section(mm ²)	Nominal current (A)	Leakage-distance (mm)	Resistance (Ω/Km)	Weight (kg)	Order-No.
JDC-HT-50/160	Copper	50	150	35 or 80	0.376	0.63	190255
JDC-HT-65/200	Copper	65	200	35 or 80	0.284	0.75	190265
JDC-HT-110/300	Copper	110	300	35 or 80	0.195	1.15	190275
JDC-HT-130/500	Copper	130	500	35 or 80	0.156	1.33	190285

The ground insulation cover is marked yellow-green on one side.

Standard insulation suitable from(-30°C~+70°C) ambient temperature.

High temperature insulation suitable from(-20°C~+115°C) ambient temperature.

Low temperature insulation suitable from(-40°C~+85°C) ambient temperature.

Current collector

Technical data

Brush material	Copper-graphite brush
Temperature	-40℃~+115℃
Speed	≤360m/min
Voltage	ACV : ≤750V DCV: ≥1000V
Contact voltage drop	0.15V
Abrasion loss of brush	8mm
Contact pressure	F≤18N
Horizontal movement	±80 mm
Vertical movement	±15 mm

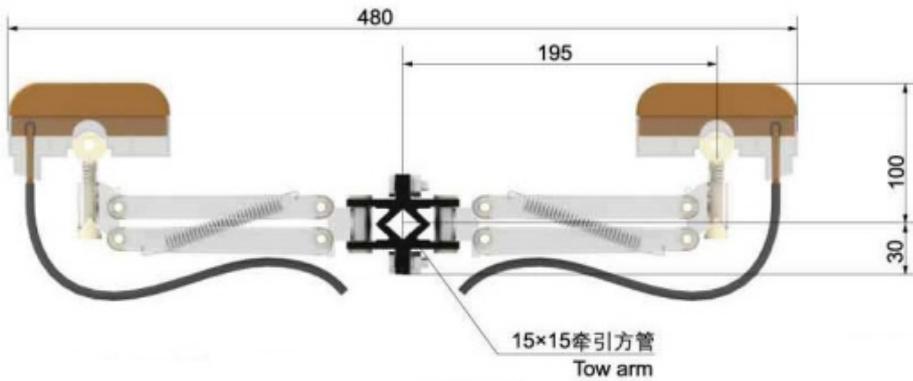
JD-100



安装示例
ready installed



JD*2-100



Be used for conductor rail H19 system, H24 system, H32 system

Type	Weight (kg)	Hardware	Nominal current	Order-No.
JD-100	0.25	polyseter	100Amp	193110
JD*2-100	0.49	polyseter	200Amp	193120

牵引器/Tow arm
HQS-350



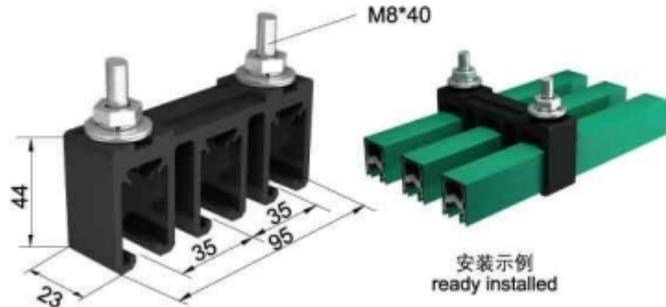
产品编码/Order-NO.
195035

Accessories for H19

单孔吊夹/Single-Pole hanger



三孔吊夹/Three-Pole hanger



Type	Weight (kg)	Material	Order-No.
H19DJ-1	0.040	ABS (black)	193901
H19DJ-5*	0.043	Polyseter	193905

Type	Weight (kg)	Material	Order-No.
H19DJ-13	0.088	ABS (black)	193913
H19DJ-35*	0.092	Polyseter	193915

*be used for high temperature

Joining box

Type	Weight (kg)	Material	Order-No.
H19 LJ-1	0.078	ABS(black)	193401
H19 LJ-5*	0..83	polyseter	193405

*be used for high temperature

Joints

Every joint could be used for feeding joint.

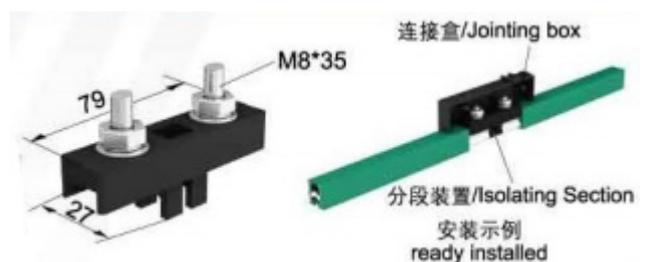
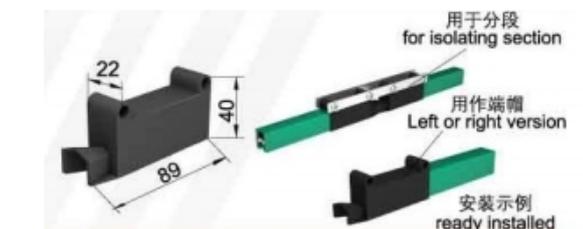
Type	Weight (kg)	Material	Order-No.
H19 JT-50A	0.110	Stainless steel	193421
H19 JT-150A	0.071	Aluminum	193423
H19 JT-200A	0.085	Copper	193425
H19 JT-300A	0.092	Copper	193426
H19 JT-500A	0.119	copper	193427

End cap

Type	Weight (kg)	Material	Order-No.
H19 DM	0.020	plastic	193701

Isolating section

Type	Weight (kg)	Material	Order-No.
H19 FD	0.063	plastic	196030



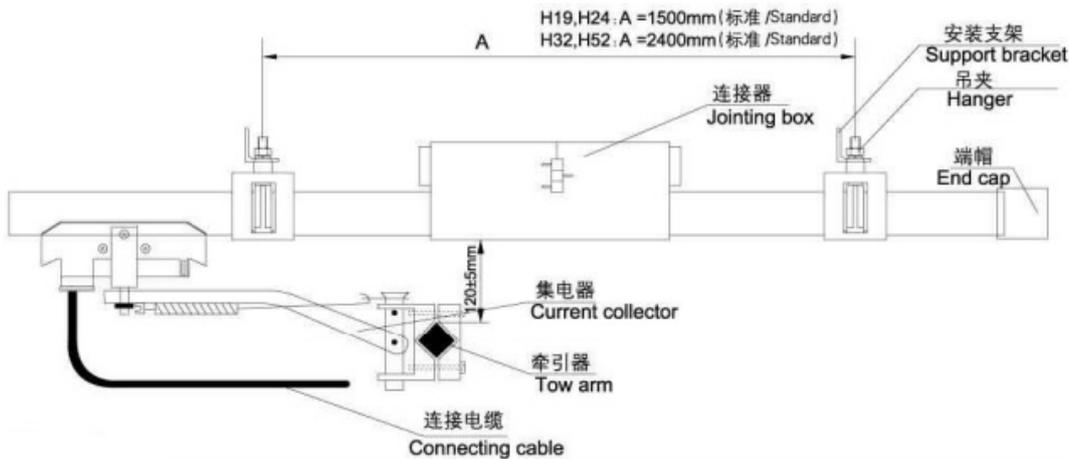
Expansion Joint



Type	Conductor material	Order-No.
H19PZJ-Al	Al	193501
H19PZJ-Cu	Cu	193502
H24PZJ-Al	Al	243501
H24PZJ-Cu	Cu	243502
H32PZJ-Al	Al	323501
H32PZJ-Cu	Cu	323502
H52PZJ-Al	Al	393501
H52PZJ-Cu	Cu	393502

Installation attention:

The expansion joint suction is supplied fully assembled in a 6m length(H19 is 4.5m length). With the exception of the rail connector installation no extra work is required on site. Please note, however, that the two air gaps in the expansion joint must be adjusted as drawing 1 corresponding to the ambient temperature during assembly. The air gaps must be rechecked after fitting the anchor clamps. Both air gaps in an expansion joint must be identical.



System arrangement

Installation Manual:

1. Support installation: fix the two supports of both sides of the guide (welding or bolt) and adjust to the horizontal state(add 1 or 2 points to meet the length of the wiring route). Take the wiring between the two supports as the benchmark, the rest supports should be installed according to the standard distance(1800mm for bolt and 2000mm for welding), to ensure the depth of parallelism of the conductor rail between the height of the guide less than 10mm/
2. The connection part of the guide and the connector should be polished with abrasive cloth to remove the oxide layer, apply the electrical conductive pastes and screw the bolt, double check if the seam of the guides is in minimum.
3. The installation of the current collector: Define the length of the tractor unit according to the amount of electrode and installation space. 12 ± 5 mm distance should be ensured in distance between the upper end and down end of the conductor rail(refer to the installation drawing of the conductor rail for more details)
4. End cap: install the end caps on both sides and tighten them with rubberized fabric.
5. Inspection: inspect the depth of parallelism between the conductor rail and operation guide of the hoisting unit and control the depth within 20mm, make a test run and check the running state of the flake passing through each nodal point, tighten all the fastening piece if some problems occurs, dry run one month without interval and tighten all fastening pieces again.