

Hardware Fittings for ADSS&OPGW&OPPC Cable

Fiber Cloud

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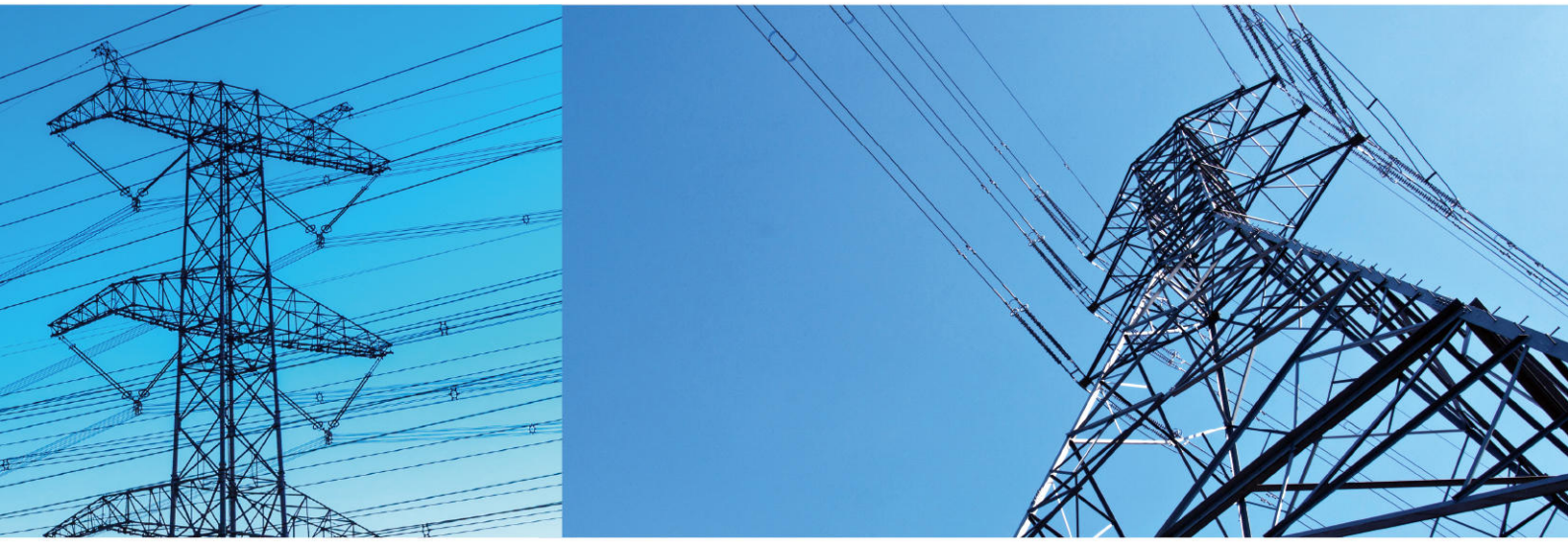
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Helical Tension Set

Helical Tension Set is mainly used in optical cable installation on strain tower, angle tower and dead-end tower. The material of Helical Tension Set is aluminum-clad steel or galvanized steel wire which has excellent mechanical and electrical performance, to insure strong electrochemical corrosion and fatigue resistance. Grip strength of the Helical Tension Set is no less than 95% Rated Tensile Strength of the cable.

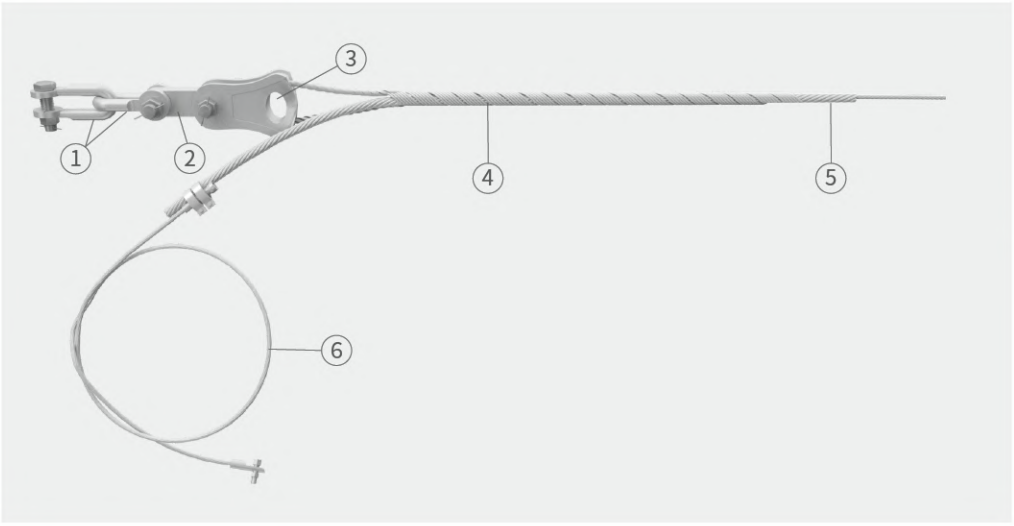
The installation of Helical Tension Set is simple, convenient and quickly, it is unnecessary to use any specialized tools, only one person can complete the operation, saving the time of construction greatly and increasing construction efficiency to reduce installation cost. The quality of installation can be examined by the naked eye, without any specialized training and special tools for installation inspection.

A complete set of Helical Tension Set is including Aluminum Alloy or Aluminum-Clad steel Dead-end, Structural Reinforcing Rods, Supporting fittings and Grounding wire Clamps etc.

OPGW Helical Tension Set

OPGW Helical Tension Set is mainly used for installation of cable with less than 160kN RTS onto tension tower/pole, corner tower/pole, and terminal tower/pole. A complete set of OPGW Helical Tension Set includes Aluminum Alloy or Aluminum-Clad steel Dead-end, Structural Reinforcing Rods, Supporting fittings and Grounding wire Clamps etc.

Reference Assembly



1. U-Shackle
2. PD-Shackle
3. Thimble Clevis
4. Dead-end Component
5. Structural Reinforcing Rods
6. Grounding wire Clamps

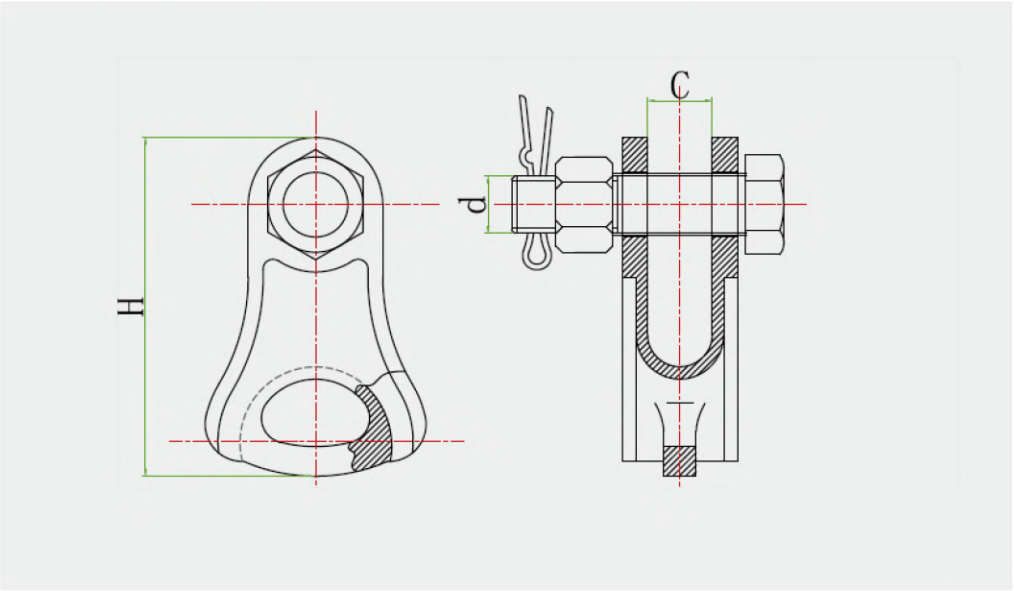
Specification

Specification of Helical Dead-end for OPGW

Type	Available Dia. of Cable		RTS of Cable(kN)
	Min.(mm)	Max.(mm)	
NJO 880/60	7.6	8.8	60
NJO 1010/60	8.9	10.1	60
NJO 1140/60	10.2	11.4	60
NJO 1270/60	11.5	12.7	60
NJO 1400/60	12.8	14.0	60
NJO 1530/60	14.1	15.3	60
NJO 880/80	7.6	8.8	80
NJO 1010/80	8.9	10.1	80
NJO 1140/80	10.2	11.4	80
NJO 1270/80	11.5	12.7	80
NJO 1400/80	12.8	14.0	80
NJO 1530/80	14.1	15.3	80
NJO 1010/100	8.9	10.1	100
NJO 1140/100	10.2	11.4	100
NJO 1270/100	11.5	12.7	100
NJO 1400/100	12.8	14.0	100
NJO 1530/100	14.1	15.3	100
NJO 1660/100	15.4	16.6	100
NJO 1140/120	10.2	11.4	120
NJO 1270/120	11.5	12.7	120
NJO 1400/120	12.8	14.0	120
NJO 1530/120	14.1	15.3	120
NJO 1660/120	15.4	16.6	120
NJO 1790/120	16.7	17.9	120
NJO 1270/140	11.5	12.7	140
NJO 1400/140	12.8	14.0	140
NJO 1530/140	14.1	15.3	140
NJO 1660/140	15.4	16.6	140
NJO 1790/140	16.7	17.9	140
NJO 1920/140	18.0	19.2	140
NJO 1400/160	12.8	14.0	160
NJO 1530/160	14.1	15.3	160
NJO 1660/160	15.4	16.6	160
NJO 1790/160	16.7	17.9	160
NJO 1920/160	18.0	19.2	160
NJO 2050/160	19.3	20.5	160

Note:
The symbols of 'NJO' are: N-tension set, J-helical rods, O-apply to OPGW cable
The products are beyond the schedule, if need more please contact our company freely.

Thimble Clevis



Specification

Specification of Thimble Clevis

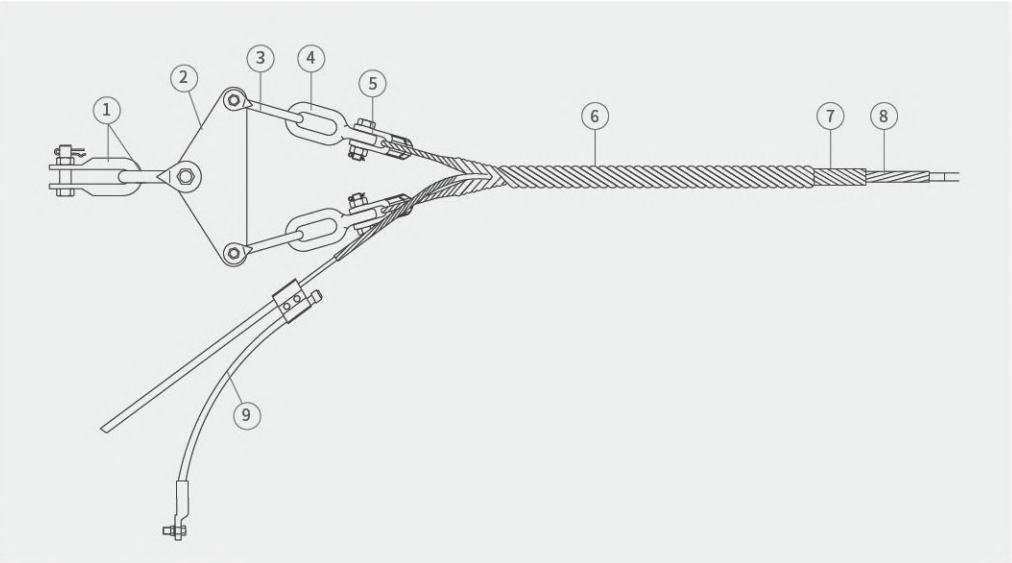
Type	Main dimensions (mm)			Devastating Load(kN)
	H	C	D	
TC 07	97	20	M 16	70
TC 10	126	26	M 16	100
TC 12	132	26	M 18	120
TC 16	136	26	M 20	160

OPGW Extra-Strength Double Helical Tension Set

OPGW Extra-Strength Double Helical Tension Set is special designed for cable installation on large span, high fall and big corner over head line, where the cable RTS is larger than 160kN.

It is composed of three layers construction, including inner reinforcing rods, structural reinforcing rods and outer layer Dead-ends. This structure improves the tensile strength of Helical Tension set, without restriction such as line turn-angle. A complete set of OPGW Extra-Strength Double Helical Tension Set includes helical rods, link fittings and Grounding Clamps etc.

Reference Assembly



1. U-Shackle
2. Yoke Plate
3. U-Shackle
4. Eye Chain Link
5. Thimble Clevis
6. Structural Reinforcing Rods
7. Middle Rods
8. Dead-end Component
9. Grounding wire Clamps

Specification

Specification Table for OPGW Extra-Strength Double Helical Tension Set

Type	Available Dia. of Cable		RTS of Cable(kN)
	Min.(mm)	Max.(mm)	
NJSO 1530/170	14.1	15.3	170
NJSO 1660/170	15.4	16.6	170
NJSO 1790/170	16.7	17.9	170
NJSO 1660/210	15.4	16.6	210
NJSO 1790/210	16.7	17.9	210
NJSO 1920/210	18.0	19.2	210
NJSO 1790/250	16.7	17.9	250
NJSO 1920/250	18.0	19.2	250
NJSO 2050/250	19.3	20.5	250
NJSO 1920/320	18.0	19.2	320
NJSO 2050/320	19.3	20.5	320
NJSO 2050/400	19.3	20.5	400
NJSO 2180/400	20.6	21.8	400

Note:
The symbols of 'NJSO' are: N-tension set, J-helical rods, S-double tension set, O-apply to OPGW cable
The products are beyond the schedule, if need more please contact our company freely.

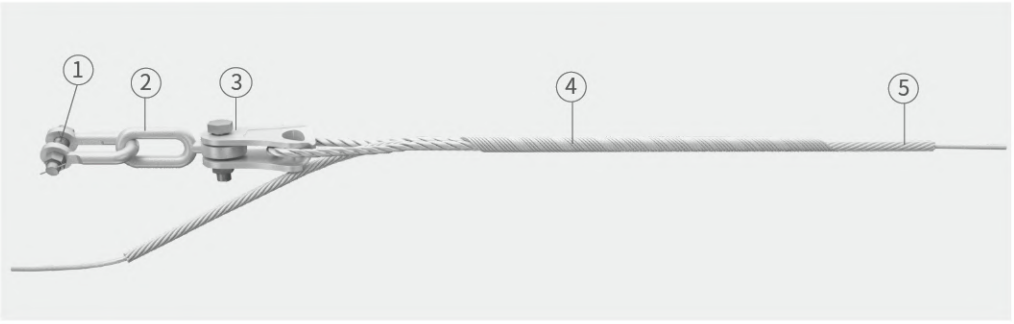
ADSS Helical Tension Set

ADSS Helical Tension Set is mainly used for ADSS installation on strain tower/pole, angle tower/pole, or dead-end tower/pole. According to span length or tensile strength of optical cable, ADSS Helical Tension Set is divided into three different kinds, which include Short Span ADSS Tension Set, Medium/Long Span ADSS Tension Set.

Medium/Long Span ADSS Tension Set

Medium/Long Span ADSS Tension Set is composed of Dead-end component and structural reinforcing rods, the materials are aluminum-clad steel and galvanized steel wire, it is mainly used for ADSS installation between strain tower/pole, corner tower/pole and terminal tower/pole which span length is larger than 200m with RTS of the cable is larger than 15kN. Medium Span ADSS Tension set is used for installation span length between 200m-400m, Long Span ADSS Tension set is used for installation span length longer than 400m.

Reference Assembly



1. U-Shackle
2. Eye Chain Link
3. Thimble Clevis
4. Dead-end Component
5. Structural Reinforcing Rods

Specification

Specification of Medium/Long Span ADSS Tension Set

Type	Available Dia. of Cable		Reference Span(m)
	Min.(mm)	Max.(mm)	
NJA 950/200	8.6	9.5	100~200
NJA 1050/200	9.6	10.5	100~200
NJA 1150/200	10.6	11.5	100~200
NJA 1250/200	11.6	12.5	100~200
NJA 1350/200	12.6	13.5	100~200
NJA 1450/200	13.6	14.5	100~200
NJA 1050/300	9.6	10.5	200~300
NJA 1150/300	10.6	11.5	200~300
NJA 1250/300	11.6	12.5	200~300
NJA 1350/300	12.6	13.5	200~300
NJA 1450/300	13.6	14.5	200~300
NJA 1150/400	10.6	11.5	300~400
NJA 1250/400	11.6	12.5	300~400
NJA 1350/400	12.6	13.5	300~400
NJA 1450/400	13.6	14.5	300~400
NJA 1550/400	14.6	15.5	300~400
NJA 1650/400	15.6	16.5	300~400
NJA 1250/500	11.6	12.5	400~500
NJA 1350/500	12.6	13.5	400~500
NJA 1450/500	13.6	14.5	400~500
NJA 1550/500	14.6	15.5	400~500
NJA 1650/500	15.6	16.5	400~500
NJA 1350/600	12.6	13.5	500~600
NJA 1450/600	13.6	14.5	500~600
NJA 1550/600	14.6	15.5	500~600
NJA 1650/600	15.6	16.5	500~600
NJA 1750/600	16.6	17.5	500~600
NJA 1350/700	12.6	13.5	600~800
NJA 1450/700	13.6	14.5	600~800
NJA 1550/700	14.6	15.5	600~800
NJA 1650/700	15.6	16.5	600~800
NJA 1750/700	16.6	17.5	600~800
NJA 1550/800	14.6	15.5	800~1000
NJA 1650/800	15.6	16.5	800~1000
NJA 1750/800	16.6	17.5	800~1000
NJA 1850/800	17.6	18.5	800~1000
NJA 1550/1000	14.6	15.5	1000
NJA 1650/1000	15.6	16.5	1000
NJA 1750/1000	16.6	17.5	1000
NJA 1850/1000	17.6	18.5	1000

Note:

The symbols of 'NJA' are: N-tension set, J-helical rods, A-apply to ADSS cable

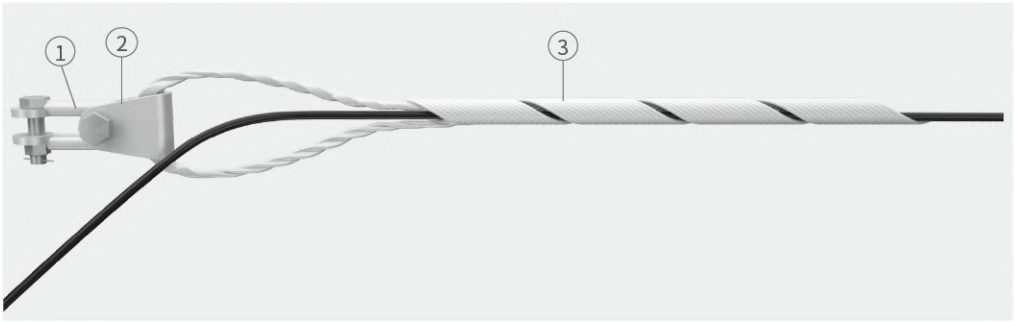
The products are beyond the schedule, if need more please contact our company freely.

·**Remarks**: to insure the installation safety,during the line design and operation, when span length is larger than 1000m, or under condition which the capacity of electrical power line is heavy, please do contact with our company, we will provide special design or consultation service in accordance with specific circumstances of the electrical power line.

Short Span ADSS Tension Set

The material for Short Span ADSS Tension Set is aluminum-clad steel and galvanized steel wire; it is mainly used for ADSS installation between strain tower/pole, corner tower/pole, mid-joint tower/pole and terminal tower/pole which span length is less than 100m.

Reference Assembly



1. U-Shackle
2. Thimble Clevis
3. Helical Dead-end

Specification

Specification of Short Span ADSS Tension Set

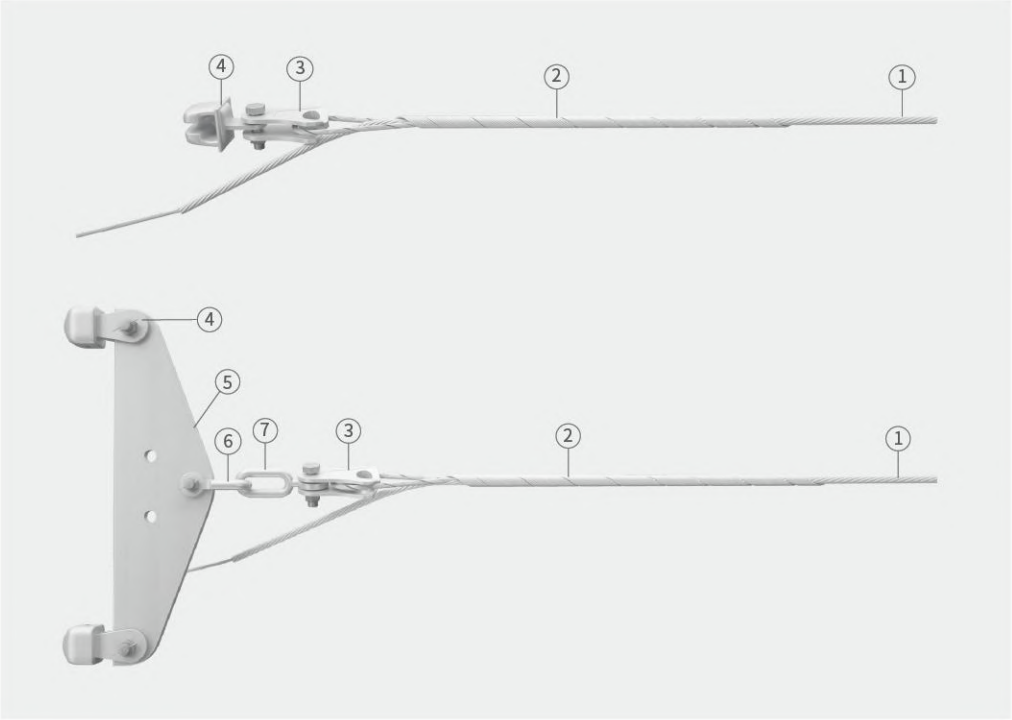
Type	Available Dia. of Cable		Reference Span
	Min.(mm)	Max.(mm)	
NJA 1050/100	9.6	10.5	Less than 100m span
NJA 1150/100	10.6	11.5	Less than 100m span
NJA 1250/100	11.6	12.5	Less than 100m span
NJA 1350/100	12.6	13.5	Less than 100m span
NJA 1450/100	13.6	14.5	Less than 100m span

Note:
The symbols of 'NJA' are: N-tension set, J-helical rods, A-apply to ADSS cable
The products are beyond the schedule, if need more please contact our company freely.

OPPC Helical Tension Set

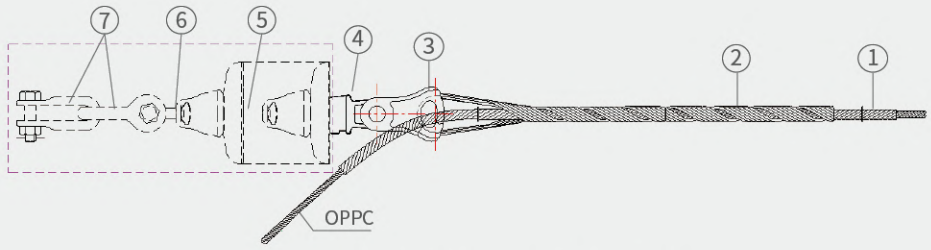
OPPC Helical Tension Set is composed of Dead-end components, Structural Reinforcing Rods, Thimble Clevis etc. OPPC Helical Tension Set is installed onto the tower/pole through insulators.

Reference Assembly

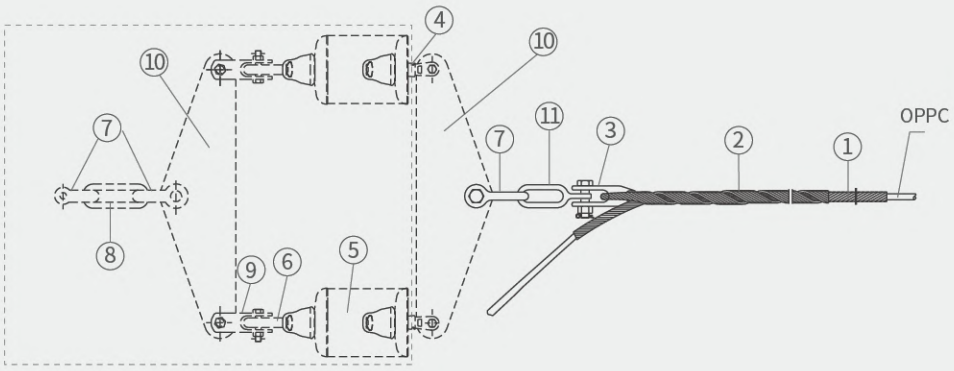


1. Structural Reinforcing Rods
2. Dead-end Component
3. Thimble Clevis
4. Socket Clevis
5. Yoke Plate
6. U-Shackle
7. Eye Chain Link

Installation diagram of OPPC Tension Set



Installation Instruction of Single Tension Set



Installation Instruction of Double Tension Set

1. Structural Reinforcing Rods
2. Dead-end Component
3. Thimble Clevis
4. Socket Clevis
5. Insulator
6. Ball Eye
7. U-Shackle
8. Chain Link
9. Z type Clevis
10. Yoke Plate
11. Eye Chain Link

Remarks: our company won't provide the components in imaginary line (including insulator, ball eye, Z type Clevis , Yoke Plate, U-Shackle, Chain Link).

Specification

Specification of Dead-end for OPPC

Type	Available Dia. of Cable		RTS of OPPC(kN)
	Min.(mm)	Max.(mm)	
NJP 1400/100	12.8	14.0	100
NJP 1530/100	14.1	15.3	100
NJP 1660/100	15.4	16.6	100
NJP 1790/120	16.6	17.9	120
NJP 1920/120	18.0	19.2	120
NJP 2050/120	19.3	20.5	120
NJP 2180/120	20.6	21.8	120
NJP 2310/120	21.9	23.1	120
NJP 2440/120	23.2	24.4	120
NJP 2570/120	24.5	25.7	120

Note:
The symbols of 'NJP' are: N-tension set, J-helical rods, P-apply to OPPC cable
The products are beyond the schedule, if need more please contact our company freely.



Helical Suspension Set

Helical Suspension Set is mainly used for hanging and supporting optical fibre cable on straight pole and tower, to transmit axial load and divert axial pressure which provide well protection for optical cable, to avoid emergencies happen such as too small bending radius or stress concentration. Grip strength of the Suspension Set is larger than 15% -20% rated tensile strength of the cable, which is fatigue resistance and can serve as vibration reduction.

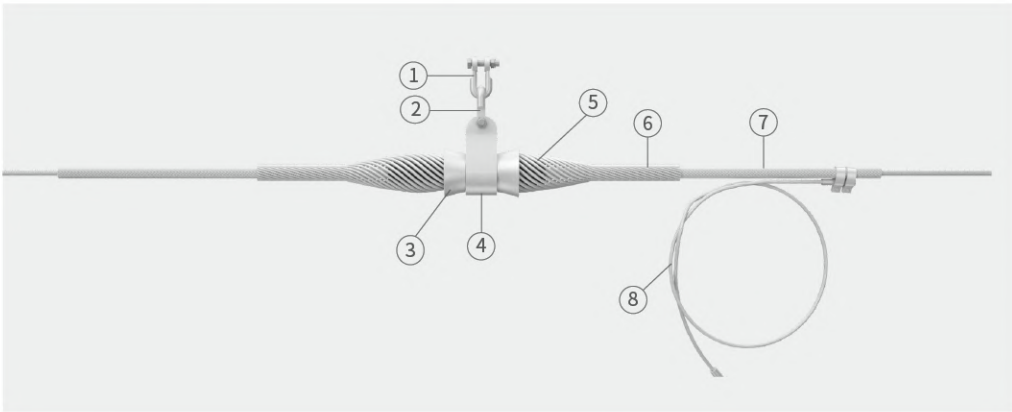
OPGW Helical Suspension Set

Helical Suspension Set for OPGW will disperse the stress of suspension point to the whole length of helical armor rods; effectively reduce static pressure and dynamic stress caused by Aeolian vibration; to protect OPGW cable from the damage caused by above mentioned factors, greatly improve fatigue resistance of the cable, and extend the service life of OPGW cable.

OPGW Helical Suspension Set is divided into two types in according to span length, fall head and tensile strength of the electrical power line, including Double layers with single suspension point OPGW Helical Suspension Set (abbreviation is Single Suspension Set) and Double layers with dual suspension point OPGW Helical Suspension Set (abbreviation is Double Suspension Set).

OPGW Single Suspension Set

Reference Assembly



1. U-Shackle
2. Eye Chain Link
3. Aluminum Housing
4. U-clip
5. Rubber Insert
6. Outer Rods
7. Structural Reinforcing Rods
8. Grounding wire Clamps

Specification

Specifications

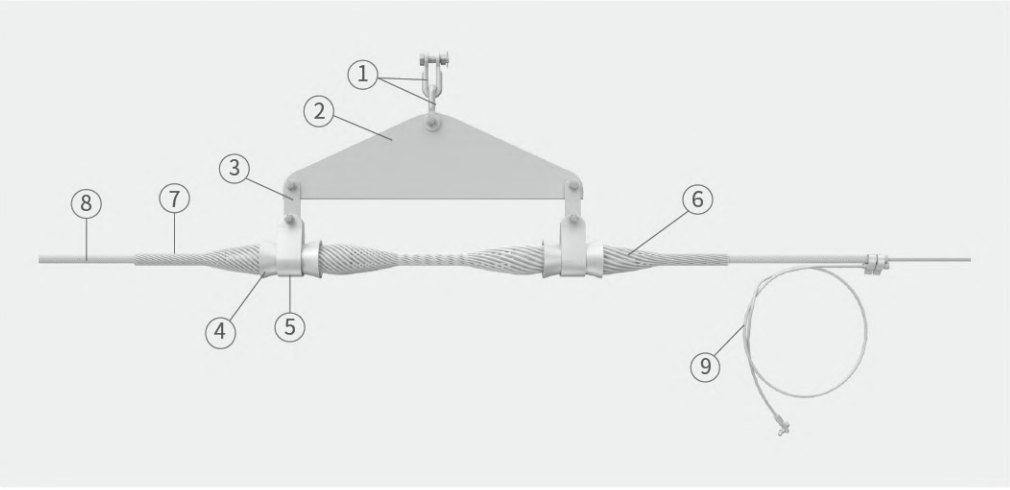
Type	Available Dia. of Cable		RTS of Cable(kN)
	Min.(mm)	Max.(mm)	
XJO 870/60	8.1	8.7	60
XJO 940/60	8.8	9.4	60
XJO 1010/60	9.5	10.1	60
XJO 1080/60	10.2	10.8	60
XJO 1150/60	10.9	11.5	60
XJO 1220/60	11.6	12.2	60
XJO 1290/60	12.3	12.9	60
XJO 1360/60	13.0	13.6	60
XJO 870/80	8.1	8.7	80
XJO 940/80	8.8	9.4	80
XJO 1010/80	9.5	10.1	80
XJO 1080/80	10.2	10.8	80
XJO 1150/80	10.9	11.5	80
XJO 1220/80	11.6	12.2	80
XJO 1290/80	12.3	12.9	80
XJO 1360/80	13.0	13.6	80
XJO 1430/80	13.7	14.3	80
XJO 1080/100	10.2	10.8	100
XJO 1150/100	10.9	11.5	100
XJO 1220/100	11.6	12.2	100
XJO 1290/100	12.3	12.9	100
XJO 1360/100	13.0	13.6	100
XJO 1430/100	13.7	14.3	100
XJO 1500/100	14.4	15.0	100
XJO 1570/100	15.1	15.7	100
XJO 1220/120	11.6	12.2	120
XJO 1290/120	12.3	12.9	120
XJO 1360/120	13.0	13.6	120
XJO 1430/120	13.7	14.3	120
XJO 1500/120	14.4	15.0	120
XJO 1570/120	15.1	15.7	120
XJO 1640/120	15.8	16.4	120
XJO 1500/140	14.4	15.0	140
XJO 1570/140	15.1	15.7	140
XJO 1640/140	15.8	16.4	140
XJO 1710/140	16.5	17.1	140
XJO 1780/140	17.2	17.8	140
XJO 1850/140	17.9	18.5	140

Note:
The symbols of 'XJO' are: X-suspension set, J-helical rods, O-apply to OPGW cable
The products are beyond the schedule, if need more please contact our company freely.

OPGW Double Suspension Set

OPGW Double Suspension Set is adopted design proposal of dual suspension housings, the whole set is composed of Armor Rods, Outer rods, two sets of suspension housing, Grounding wire Clamps and mated link fittings. It is mainly used for OPGW installation and supporting on straight pole and tower with high falling head, large span length, and line angle is larger than 30° .

Reference Assembly



1. U-Shackle
2. Yoke Plate
3. PS-Shackle
4. Aluminum Housing
5. U-clip
6. Rubber Insert
7. Outer Rods
8. Structural Reinforcing Rods
9. Grounding wire Clamps

Specification

Specification

Type	Available Dia. of Cable		Type	Available Dia. of Cable	
	Min.(mm)	Max.(mm)		Min.(mm)	Max.(mm)
XJSO 940	8.8	9.4	XJSO 1430	13.7	14.3
XJSO 1010	9.5	10.1	XJSO 1500	14.4	15.0
XJSO 1080	10.2	10.8	XJSO 1570	15.1	15.7
XJSO 1150	10.9	11.5	XJSO 1640	15.8	16.4
XJSO 1220	11.6	12.2	XJSO 1710	16.5	17.1
XJSO 1290	12.3	12.9	XJSO 1780	17.2	17.8
XJSO 1360	13.0	13.6	XJSO 1850	17.9	18.5

Note:
The symbols of 'XJSO' are: X-suspension set, J-helical rods, S-double suspension set, O-apply to OPGW cable
The products are beyond the schedule, if need more please contact our company freely.

* **Remarks**: under exceptional circumstances, please contact us freely, we will provide special design and consultation service in accroding to the specific circumstances.

Helical Suspension Set for ADSS

Helical Suspension Set for ADSS is mainly used for hanging and supporting optical cable on straight tower/pole, to transfer axial load and divert axial pressure and provide well protection for optical cable, it also protect ADSS from emergencies caused by too small bending radius or stress concentration. Grip strength of the Suspension Set is larger than 15%-20% of ADSS rated tensile strength; it is fatigue resistance and can serve as vibration reduction.

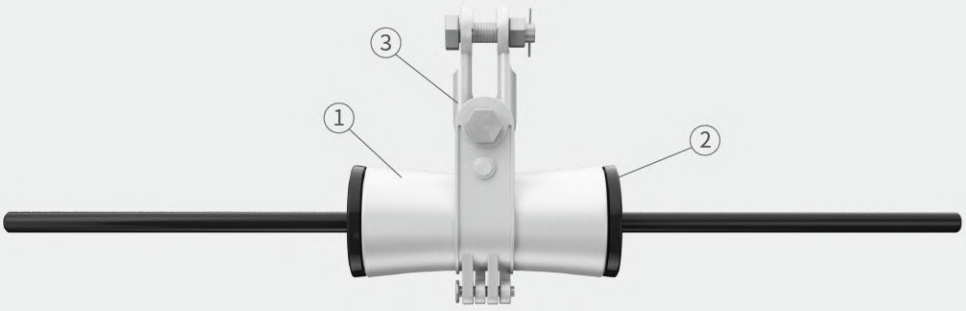
Helical Suspension Set for ADSS is divided into several kinds in according to ADSS span length, includes Short Span Suspension Set, Single Layer Suspension Set, Double Layers Single Point Suspension Set （abbreviation is Single Suspension）, and Dual Point Suspension Set (abbreviation is Double Suspension).

Short Span Suspension Set and Single Layer Suspension Set

Short Span Suspension Set for ADSS cable is mainly used for span length within 100m; Single layer Suspension Set is mainly used for span length between 100m and 200m.

Reference Assembly

Suspension set only with housing clamp(Span length less than 100m)



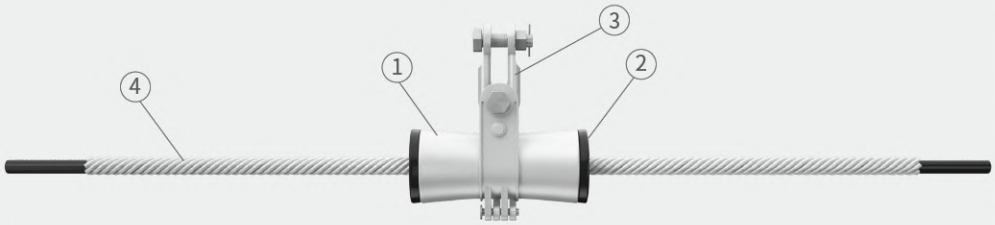
1. Aluminum Housing
2. Rubber Insert
3. U-Shackle

Ring type Suspension for ADSS(Span length less than 100m)



1. Ring
2. Suspension Set

Single Layer Suspension for ADSS(Suitable for Span length 100m to 200m)



1. Aluminum Housing
2. Rubber Insert
3. U-Shackle
4. Suspension Set

Specification

Specifications

Item	Type	Available Dia. of Cable(mm)	Available Span(m)
Tangent clamp for ADSS	XQA 1300/100	10.5~13.0	100
	XQA 1550/100	13.1~15.5	100
	XQA 1800/100	15.6~18.0	100
Ring type suspension for ADSS	XJBA 1080/100	10.2~10.8	100
	XJBA 1150/100	10.9~11.5	100
	XJBA 1220/100	11.6~12.2	100
	XJBA 1290/100	12.3~12.9	100
	XJBA 1360/100	13.0~13.6	100
	XJBA 1430/100	13.7~14.3	100
	XDA 0940/200	8.8~9.4	200
Single layer preformed rods tangent clamp for ADSS	XDA 1010/200	9.5~10.1	200
	XDA 1080/200	10.2~10.8	200
	XDA 1150/200	10.9~11.5	200
	XDA 1220/200	11.6~12.2	200
	XDA 1290/200	12.3~12.9	200
	XDA 1360/200	13.0~13.6	200
	XDA 1430/200	13.7~14.3	200

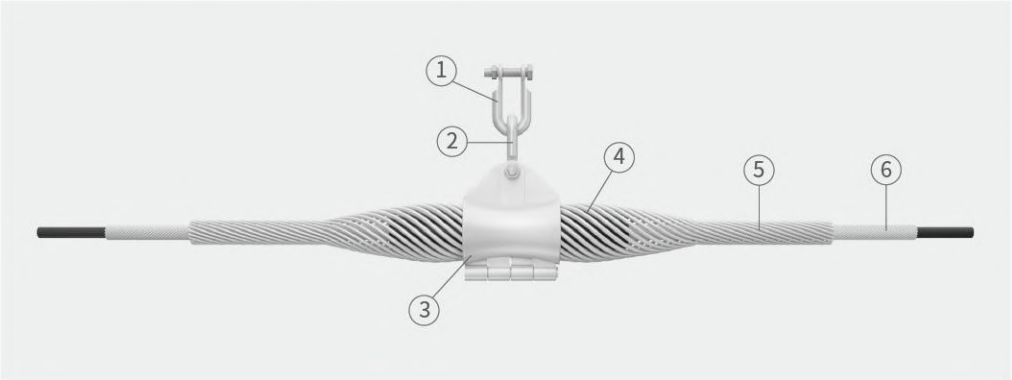
Note:
The symbols of 'XQA' are: X-suspension set, Q-tangent clamp, A-apply to ADSS cable
The symbols of 'XJBA' are: X-suspension set, J-helical rods, B-ring type suspension, A-apply to ADSS cable
The symbols of 'XDA' are: X-suspension set, D-single layer preformed rods, A-apply to ADSS cable
The products are beyond the schedule, if need more please contact our company freely.

Single Suspension Set for ADSS

If Suspension Set for ADSS is adopted double layers helical rods designing, generally it is used for 200m span length ADSS installation.

Suspension set for ADSS is composed by aluminum alloy helical rods, Aluminum housing and other link fittings.

Reference Assembly



1. U-Shackle
2. Eye Chain Link
3. Aluminum Housing
4. Rubber Insert
5. Outer Rods
6. Structural Reinforcing Rods

Specification

Specification of Suspension Set for ADSS Cable

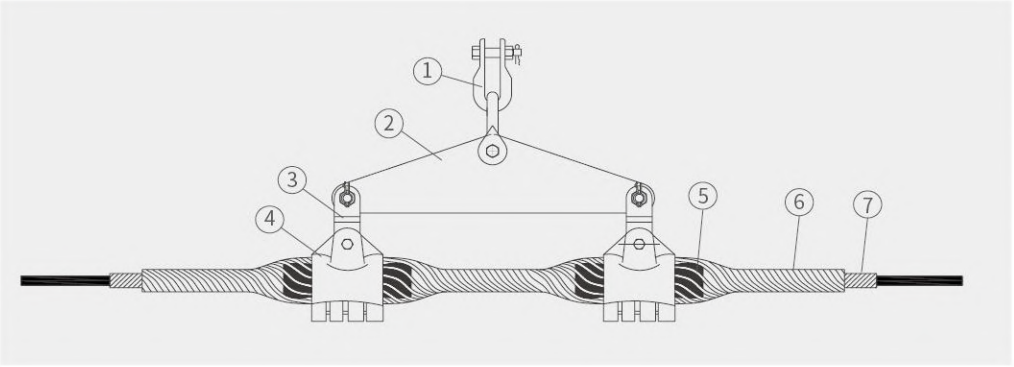
Type	Available Dia. of Cable		Available Span(m)
	Min.(mm)	Max.(mm)	
XJA 940/300	8.8	9.4	200~300
XJA 1010/300	9.5	10.1	200~300
XJA 1080/300	10.2	10.8	200~300
XJA 1150/300	10.9	11.5	200~300
XJA 1220/300	11.6	12.2	200~300
XJA 1290/300	12.3	12.9	200~300
XJA 1360/300	13.0	13.6	200~300
XJA 1010/400	9.5	10.1	300~400
XJA 1080/400	10.2	10.8	300~400
XJA 1150/400	10.9	11.5	300~400
XJA 1220/400	11.6	12.2	300~400
XJA 1290/400	12.3	12.9	300~400
XJA 1360/400	13.0	13.6	300~400
XJA 1430/400	13.7	14.3	300~400
XJA 1550/400	14.4	15.0	300~400
XJA 1150/500	10.9	11.5	400~500
XJA 1220/500	11.6	12.2	400~500
XJA 1290/500	12.3	12.9	400~500
XJA 1360/500	13.0	13.6	400~500
XJA 1430/500	13.7	14.3	400~500
XJA 1550/500	14.4	15.0	400~500
XJA 1570/500	15.1	15.7	400~500
XJA 1290/600	12.3	12.9	500~600
XJA 1360/600	13.0	13.6	500~600
XJA 1430/600	13.7	14.3	500~600
XJA 1550/600	14.4	15.0	500~600
XJA 1570/600	15.1	15.7	500~600
XJA 1640/600	15.8	16.4	500~600
XJA 1360/800	13.0	13.6	700~800
XJA 1430/800	13.7	14.3	700~800
XJA 1550/800	14.4	15.0	700~800
XJA 1570/800	15.1	15.7	700~800
XJA 1640/800	15.8	16.4	700~800
XJA 1710/800	16.5	17.1	700~800
XJA 1570/1000	15.1	15.7	900~1000
XJA 1640/1000	15.8	16.4	900~1000
XJA 1710/1000	16.5	17.1	900~1000
XJA 1780/1000	17.2	17.8	900~1000
XJA 1850/1000	17.9	18.5	900~1000

Note:
The symbols of 'XJA' are: X-suspension set, J-helical rods, A-apply to ADSS cable
The products are beyond the schedule, if need more please contact our company freely.

Double Suspension Sets for ADSS

Double Suspension Sets for ADSS cable is mainly used for ADSS installation on pole/tower with large falling head, and span length is larger than 800 meters or line corner is more than 30° .

Reference Assembly



1. U-Shackle
2. Yoke Plate
3. PS-Shackle
4. Aluminum Housing
5. Rubber Insert
6. Outer Rods
7. Structure Reinforcing Rods

Specification

Specifications

Type	Available Dia. of Cable		Available Span(m)
	Min.(mm)	Max.(mm)	
XJSA 940/500	8.8	9.4	100~500
XJSA 1010/500	9.5	10.1	100~500
XJSA 1080/500	10.2	10.8	100~500
XJSA 1150/500	10.9	11.5	100~500
XJSA 1220/500	11.6	12.2	100~500
XJSA 1290/500	12.3	12.9	100~500
XJSA 1360/500	13.0	13.6	100~500
XJSA 1430/500	13.7	14.3	100~500
XJSA 1500/500	14.4	15.0	100~500
XJSA 1220/1000	11.6	12.2	600~1000
XJSA 1290/1000	12.3	12.9	600~1000
XJSA 1360/1000	13.0	13.6	600~1000
XJSA 1430/1000	13.7	14.3	600~1000
XJSA 1500/1000	14.4	15.0	600~1000
XJSA 1570/1000	15.1	15.7	600~1000
XJSA 1640/1000	15.8	16.4	600~1000
XJSA 1710/1000	16.5	17.1	600~1000
XJSA 1780/1000	17.2	17.8	600~1000
XJSA 1850/1000	17.9	18.5	600~1000

Note:
The symbols of 'XJSA' are: X-suspension set, J-helical rods, S-double suspension set, A-apply to ADSS cable
The products are beyond the schedule, if need more please contact our company freely.

Helical Suspension Set for OPPC

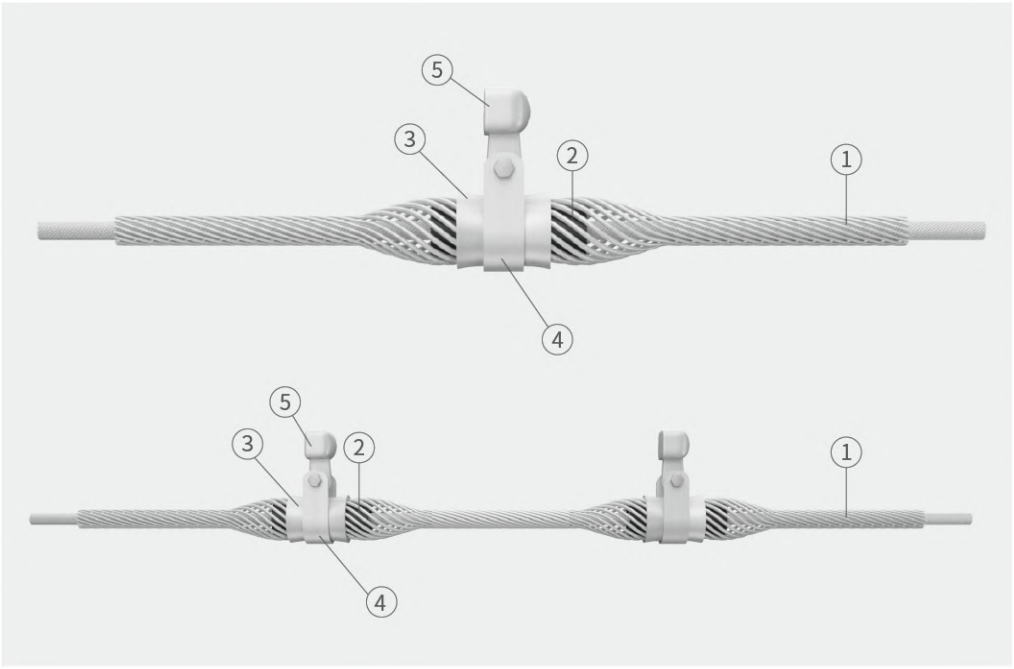
OPPC is the abbreviation of Optical Fibre Composition Phase Conductor; it combines the optical fibre unit into the phase conductor, and act as both electric power transmission and optical fibre communications. OPPC is a new pattern of electric power cable.

If the stressed area of OPPC is too small, this will lead to a deformation of optical fibre stainless steel, and affect the optical fibre communication. For this reason, OPPC installation cannot use traditional fittings designed for conductor installation, but should use helical fittings with special design, such as helical tension set, helical suspension set, 4D vibration damper, armor rods, etc…

OPPC Helical Suspension Set

Helical Suspension set completes the OPPC installation onto pole/tower through insulators. It is divided into Single Suspension Set and Double Suspension Set; and it's composed of Single Rods, Aluminum housing, U-clip& Bolt, Rubber insert, Socket Clevis.

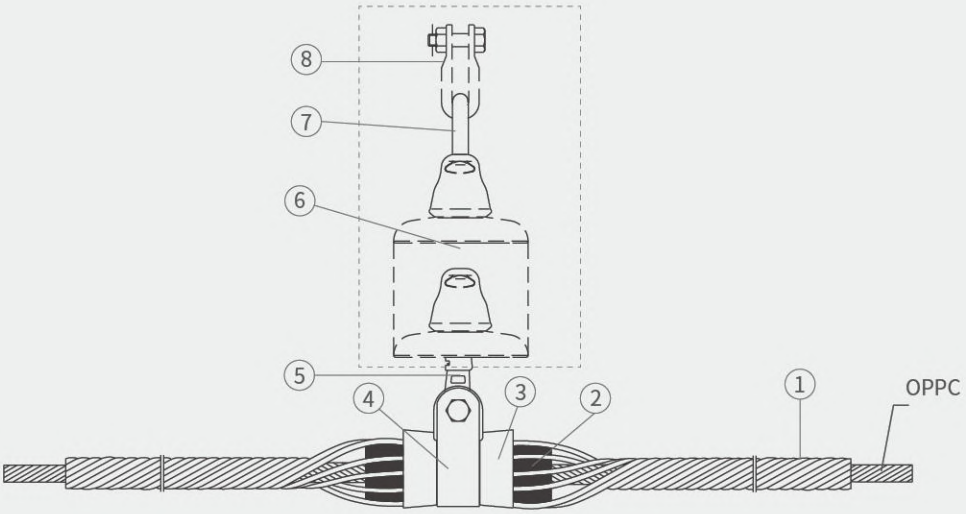
Reference Assembly



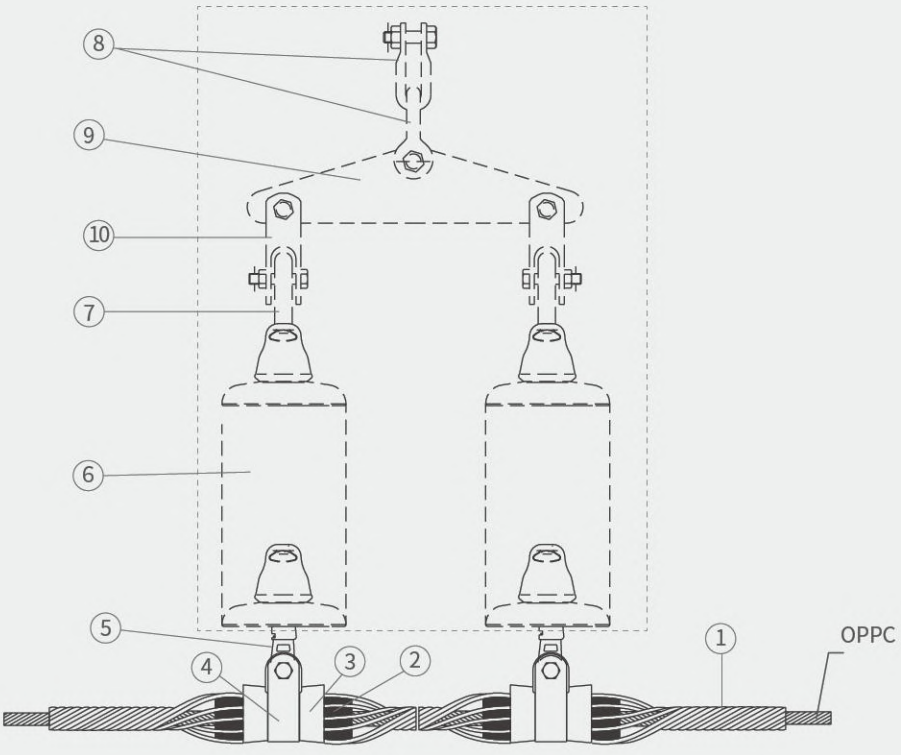
1. Single Rods
2. Rubber Insert
3. Aluminum Housing
4. U-clip
5. Socket Clevis

1. Single Rods
2. Rubber Insert
3. Aluminum Housing
4. U-clip
5. Socket Clevis

Installation Diagram of OPPC Suspension Set



Installation Instruction of Single Suspension Set



Installation Instruction of Double Suspension set

1. Single Rods
2. Rubber Insert
3. Aluminum Housing
4. U-clip
5. Socket Clevis
6. Insulator
7. Ball Eye
8. U-Shackle
9. Yoke Plate
10. Z type Clevis

Remarks: our company won't provide the components in imaginary line (insulator, ball eye, Z type Clevis, Yoke Plate, U-Shackle).

Specification

Specification for OPPC Suspension set

Type	Available Dia. of Cable		Type	Available Dia. of Cable	
	Min.(mm)	Max.(mm)		Min.(mm)	Max.(mm)
XJP 1360 XJSP 1360	13.0	13.6	XJP 1990 XJSP 1990	19.3	19.9
XJP 1430 XJSP 1430	13.7	14.3	XJP 2060 XJSP 2060	20.2	20.6
XJP 1500 XJSP 1500	14.4	15.0	XJP 2130 XJSP 2130	20.7	21.3
XJP 1570 XJSP 1570	15.1	15.7	XJP 2200 XJSP 2200	21.4	22.0
XJP 1640 XJSP 1640	15.8	16.4	XJP 2270 XJSP 2270	22.1	22.7
XJP 1710 XJSP 1710	16.5	17.1	XJP 2340 XJSP 2340	22.8	23.4
XJP 1780 XJSP 1780	17.2	17.8	XJP 2410 XJSP 2410	23.5	24.1
XJP 1850 XJSP 1850	17.9	18.5	XJP 2480 XJSP 2480	24.2	24.8
XJP 1920 XJSP 1920	18.6	19.2	XJP 2550 XJSP 2550	24.9	25.5

Note:
The symbols of 'XJSP' are: X-suspension set, J-helical rods, S-double suspension set, P-apply to OPPC cable
The products are beyond the schedule, if need more please contact our company freely.



Down Lead Clamp

Down Lead Clamp is used for fixation of OPGW and ADSS onto the pole /tower. It is suitable for all kinds of cable diameter; the installation is reliable, convenient and fast.

Down Lead Clamp is divided into two basic types: pole used and tower used. Each basic type is divided into electro-insulating rubber and metal type. Electro-insulating rubber type Down Lead Clamp is generally used for ADSS installation, while metal type Down Lead Clamp is generally used for OPGW installation.

Assembly Drawing



Electro-insulating rubber type Down lead clamp for pole



Metal type Down lead clamp for pole



Electro-insulating rubber type Down lead clamp for tower



Metal type Down lead clamp for tower

Specification

Specification for Down Lead Clamp

Item	Type	Available Dia. of Cable(mm)	Available Span(m)
Rubber type Down lead clamp for tower	YTA 1440	9.0~14.4	for ADSS cable
	YTA 1770	14.5~18.5	
Metal type Down lead clamp for tower	YTO 2400	8.5~24.0	for OPGW
Rubber type Down lead clamp for pole	YGA 1440-***	9.0~14.4	for ADSS cable
	YGA 1770-***	14.5~18.5	
Metal type Down lead clamp for pole	YGO 2400-***	8.5~24.0	for OPGW

Note:
Y-apply to Down lead clamp, T- apply to tower, G-apply to pole, A-apply to ADSS cable, O-apply to OPGW cable

Vibration Damper

Vibration Damper for electric power cable is divided into two types, including spiral vibration damper and 4D vibration damper. It can restrain the Aeolian vibration and wave of the optic fibre cable. Installation quantity, installation site and installation distance of vibration damper under each span length should be confirmed in according to the line circumstance.

Spiral Vibration Damper

Spiral Vibration Damper is made of engineering plastic which is high strength, aging resistance and high elastic; it will not cause any mechanical damage to the optical fibre cable.

Spiral Vibration Damper is widely used in ADSS cable installation. Each Spiral Vibration Damper is composed of a short part of grip section and a long vibration attenuation section. The grip section can effectively close upon the cable to make sure the spiral vibration damper is firmly fixed on the cable; the vibration attenuation section create damping effect through mutual crash with the cable, to consume the cable vibration energy, so that the Aeolian vibration on the cable can be weaken.

Photograph of Spiral Vibration Damper



Specification

Specification of Spiral Vibration Damper

Type	Dia. Range(mm)	Length(mm)	Weight(kg)
FLQ 1170/1300	8.30~11.70	1300	0.28
FLQ 1500/1350	11.71~15.00	1350	0.30
FLQ 1930/1670	14.31~19.30	1670	0.66

Recommand Allocation Number of Spiral Vibration Damper

Span(m)	Recommend Qty/Span
<100	0
100~250	2
250~400	4
400~800	6
800~1000	8

4D Vibration Damper and Armor Rod

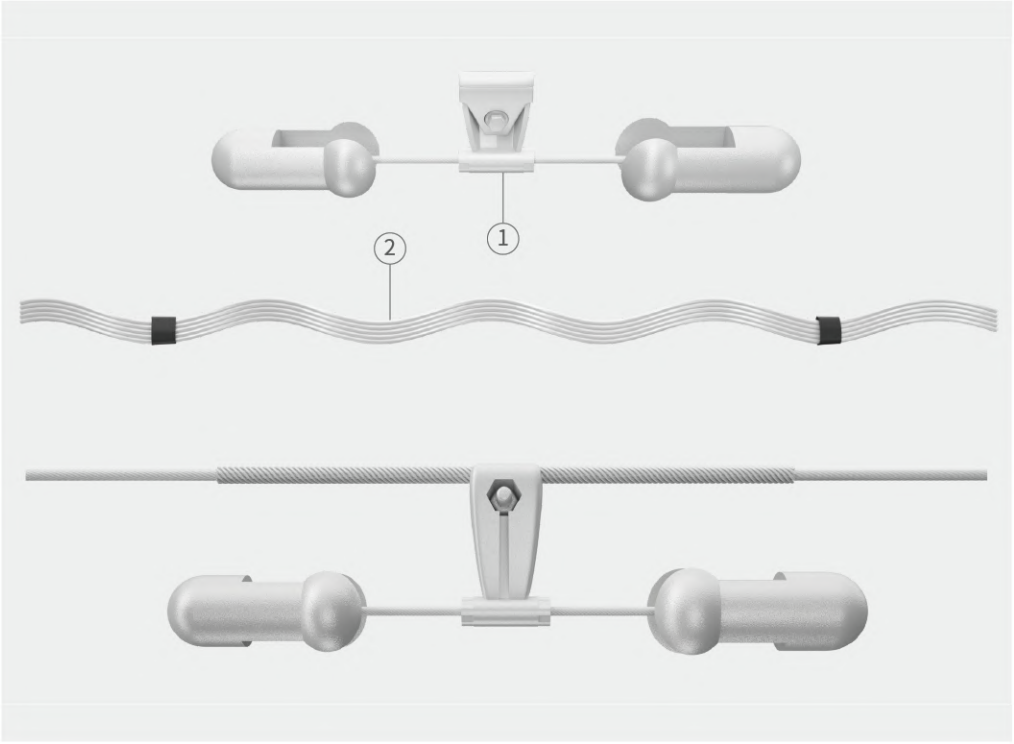
4D Vibration damper is composed of two different weight hammers stranded galvanized steel wire with high elasticity and high-intensity, and aluminum alloy clamp.

The 4D series Vibration dampers we provided are Stockbridge Tuning Fork, with four resonant frequencies, the frequency range is from 3Hz to 150Hz. With wide frequency range, the 4D vibration damper can highly consume vibration energy, and effectively dissipate the energy caused by cable Aeolian vibration, reduce cable vibration horizontal, extend the cable service life.

Vibration Damper can be installed on both OPGW and ADSS cable. Armor rods are needed when it is installed on OPGW and ADSS cable.

Armor rods are also called Vibration damper protective rods. Because of the concentrated stress, vibration damper will cause some damages to the cable. The armor rods provide proper stress distribution on the optical cable and protect the cable.

Sketch Map



1. 4D Vibration Damper
2. Armor Rods

Installation Instruction of Bolt Type 4D Vibration Damper

Specification

4D Series Vibration Dampers

Type	Clamp Dia. Range(mm)		Weight(kg)
	Min.(mm)	Max.(mm)	
4D-20-16.0	14.0	16.0	1.4
4D-20-18.0	15.0	18.0	
4D-20-20.3	16.5	20.3	
4D-20-23.4	19.5	23.4	
4D-20-27.0	22.3	27.0	
4D-30-18.0	15.0	18.0	2.5
4D-30-23.4	18.0	23.4	
4D-30-27.0	22.3	27.0	

Recommend Allocation of Vibration Damper for OPGW

Cable Dia.(mm)	Span(m)			
d<12	100~300	300~600	600~900	-
12≤d<22	100~350	350~700	700~1000	1000~1200
Recommend quantity of vibration damper/span	2	4	6	8

Recommend Allocation of Vibration Damper for ADSS

Cable Dia.(mm)	Span(m)			
d<12	100~250	250~450	450~700	-
12≤d<22	100~250	250~500	500~800	800~1000
Recommend quantity of vibration damper/span	2	4	6	8

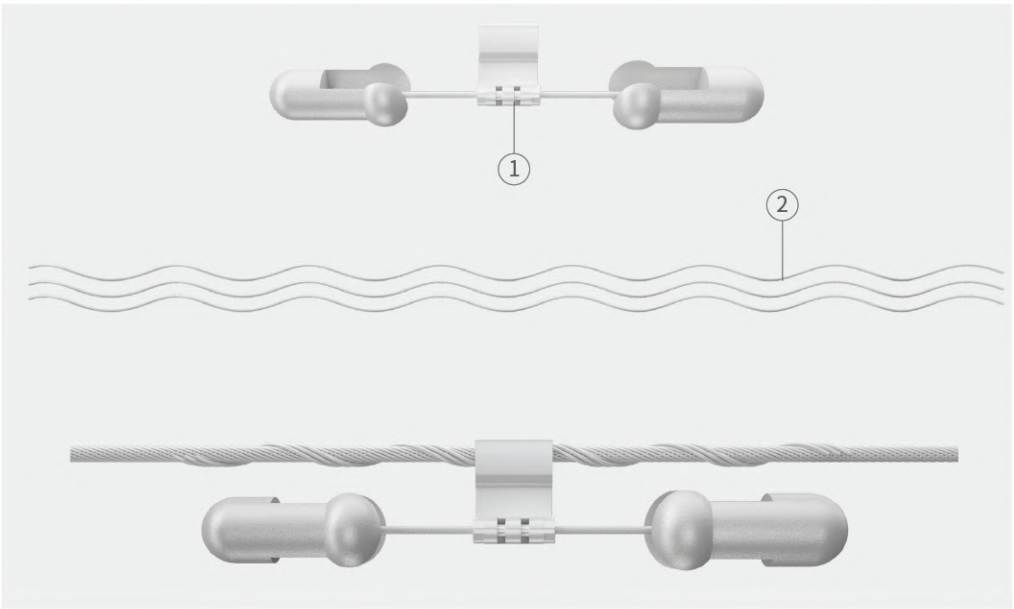
Note:
For safety reason, quantity of vibration damper would rather surpass than lack at critical span.

Non-slip Type Vibration Damper with Armor Rods

Non-slip type vibration damper is composed of hammer and helical clip. It can reduce the breeze fatigue damage of wire and optical cable. But if the vibration damper produce the slip it will cause greater damage to the wire, so must be ensure to installed with reasonable weight and position .

The non-slip type vibration damper we provided with particular weight and reasonable shape design ,it can produce multi resonant frequencies and effective absorption the different frequencies of vibration. Adopting the helical structure form of installation, it have large adhesion area and evenly distributed the Adhesion force, without stress concentration, can keep the constant installation moment of force, ensure the products don't have any slip phenomenon, effectively prevent the fatigue damage of cable, extension the wire service life .

Sketch Map of Non-slip Vibration Damper with Armor Rods



1. Vibration Damper
2. Armor Rods

Installation Instruction of Non-slip Vibration Damper

Specification

Specification of Non-slip Type Vibration Damper

Type	Available Dia. of Cable		Weight(kg)
	Min.(mm)	Max.(mm)	
4D-20Y	7.5	22	1.4
4D-30Y	7.5	22	2.5

Recommend Allocation of Vibration Damper for OPGW

Cable Dia.(mm)	Span(m)			
d<12	100~300	300~600	600~900	-
12≤d<22	100~350	350~700	700~1000	1000~1200
Recommend quantity of vibration damper/span	2	4	6	8

Note:
For safety reason, quantity of vibration damper would rather surpass than lack at critical span.



Optical Fibre Closure

Optical fibre closure is used for protecting the optical fibre fusion splicing head between two different optical cables; a reserved section of optical fibre will be kept in the closure for maintenance purpose.

Optical fibre closure has some excellent performances, such as good sealing property, waterproof, moisture-resistant, and incorrodible after being installed on the electric power line.

Optical fibre closure is divided into two types: joint-box and Terminal Box, joint-box is used for protecting the connection between two optical fibre cables, while Terminal Box is used for cable terminal or to protect the connection between optical fibre and jumper.

In according to environmental conditions, Optical fibre closure is divided into Closure for pole and Closure for tower; in according to the different shell material, it is divided into Plastic Closure and Metal Closure.

1. Plastic Closure is used for ADSS cable.

2.Compare with Plastic Closure, Metal Closure has many obvious advantages as mechanical strength, leak tightness and corrosion resistance. It's usually used for OPGW.

Cap-type Joint-Box

Sketch Map



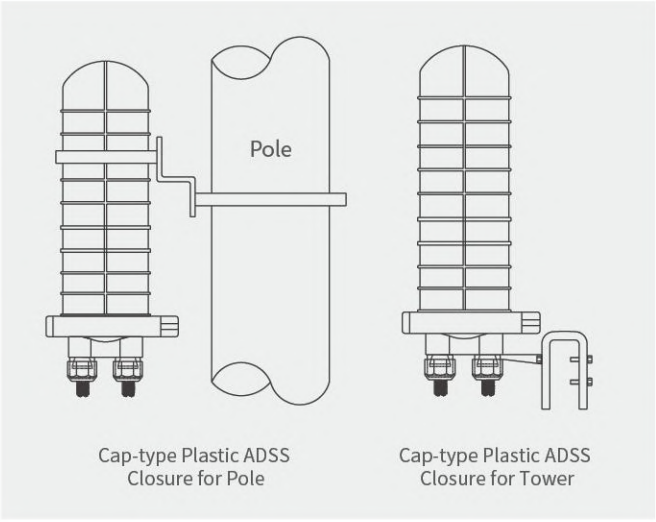
Cap-type Metal Closure On Pole



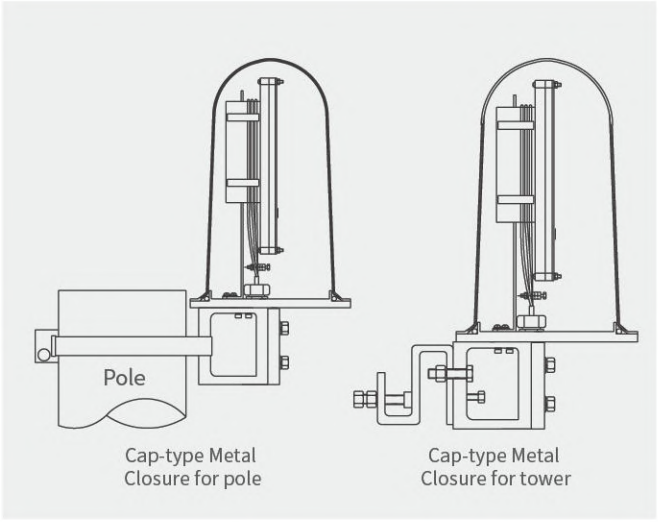
Cap-type Metal Closure On Tower

Installation Sketch Map

Installation sketch map of plastic closure



Installation sketch map of metallic closure



Specification

Specification of Plastic Joint Box

Name	Type	Shell Material
ADSS cable closure for pole	JXGA N1 N2	Plastic
ADSS cable closure for tower	JXTA N1 N2	Plastic

Note:
N1-cable ports, no more than 6, N2-fibre number of cable

Specification of Metal Joint Box

Item	Type	Shell Material	Remark
Cap-type metal closure for pole	JXGO N1 N2	Aluminum Alloy	For ADSS and OPGW
Cap-type metal closure for tower	JXTO N1 N2	Aluminum Alloy	For ADSS and OPGW

Note:
N1-cable ports, no more than 6, N2-fibre number of cable

Joint Closure for OPPC

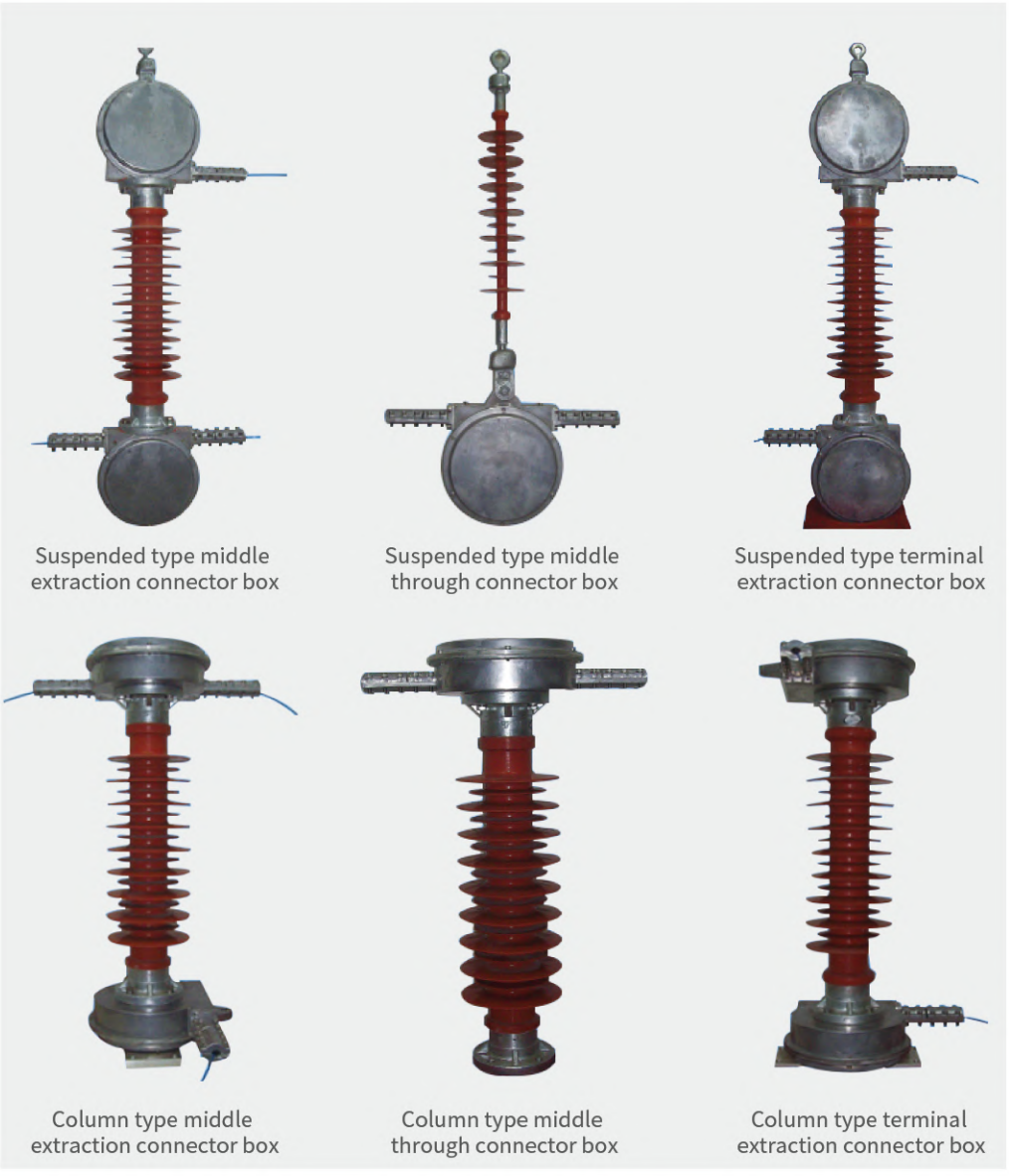
During the engineering application of OPPC, the optical fibre unit needs to be separated from the phase conductor; this will come down to optical fibre splicing and Photoelectricity isolation technology. For OPPC application, in order to meet with requirements of fibre splicing, protecting and high-voltage insulation, joint closure is an all-important link.

The joint closure for OPPC is quite different from OPGW and ADSS because it is electriferous during the run-time, it will affect directly to the line safety and normal operation once it is going wrong. According to voltage class, OPPC joint closure needs to adopt the appropriate insulator.

The joint closure of OPPC is divided into joint-box and Terminal Box. Joint closure is installed among towers and poles, plays the role of fibre splicing, protection and power transmission. Terminal Box realized the final optical-power separation.

Sketch Map of Box

OPPC Connector box is divided into Column type and Suspended type connector box. Column type connector box requires special platform for the fixation during the usage. Column type connector box is fixed onto tower with help of link fittings.



Suspended type middle extraction connector box

Suspended type middle through connector box

Suspended type terminal extraction connector box

Column type middle extraction connector box

Column type middle through connector box

Column type terminal extraction connector box

Specification

High voltage grade(kV)	Joint-box	Terminal Box
10	JXG-JT210	JXG-JT110
35	JXG-JT235	JXG-JT135
110	JXG-JT2110	JXG-JT1110
220	JXG-JT2220	JXG-JT1220

Note:
If customer needs other high-voltage OPPC joint closure, please contact with our company.

OPPC Joint Closure Platform

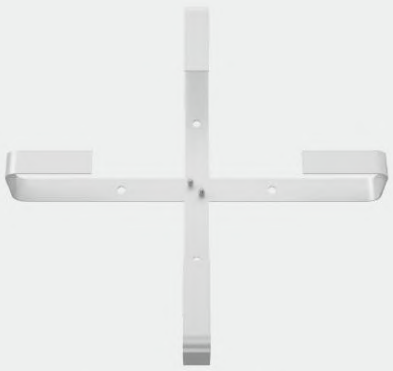
OPPC joint closure is electriferous during running, so it cannot be installed directly onto the pole and tower same as the OPGW and ADSS joint closure. Generally, the existing electric power line is not designed with platform for displaying the joint closure. A safety and reliable Joint closure platform should be designed separately in according to dimension of pole and tower. Meanwhile, this platform can serve as a temporary foot platform for construction and maintenance.



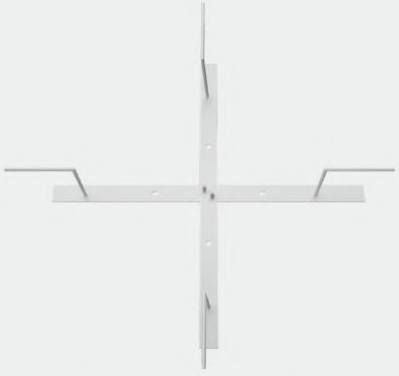
Cable Storage Assembly

Cable Storage Assembly is used for storage of reserved optical fibre cable. It is divided into Inserted type storage and Outside coil type storage, they are generally installed on the strain tower and pole.

Sketch Map



Inserted type storage



Outside coil type storage

Specification

Specification of Cable Storage Assembly

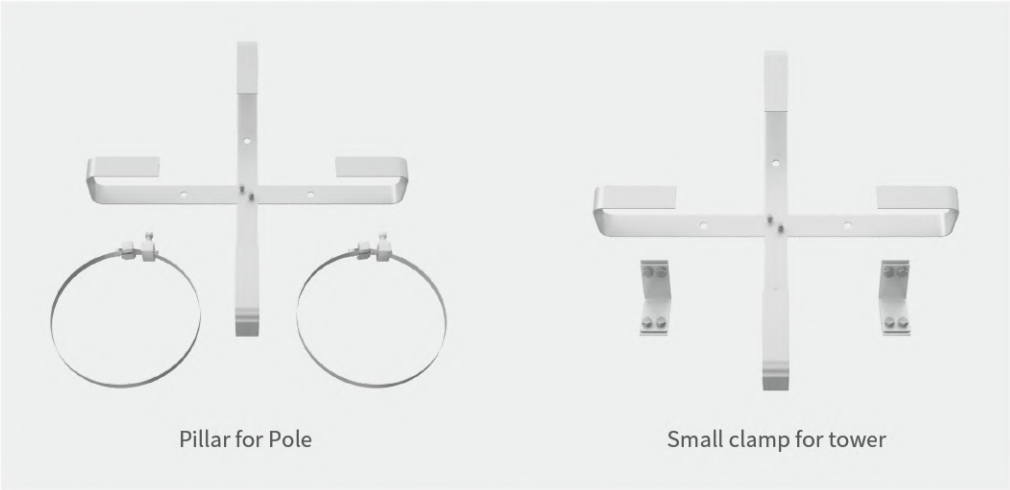
Item	Type	Collocation	Suitable Cable Type
Cable storage assembly for tower	LT LTN	small clamp	Suit for ADSS & OPGW cable
Cable storage assembly for pole	LG*** LGN***	pillar for pole	Suit for ADSS & OPGW cable

Note:
1、T-Use for tower, G-Use for pole, ***-pole Dia.(mm), LT、LG-Outside coil type storage, LTN、LGN-Inserted type storage
2、It needs two pairs of clamps when cable storage assembly installation on the tower.It needs two pairs of pillars when cable storage assembly installation on the pole

Accessories for Cable Storage Assembly

Usage: Pillar for pole is used to fix Cable Storage Assembly on the pole; Small Clamp is used to fix Cable Storage Assembly on the tower.

Sketch Map for Pillar and Small Clamp



Each pillar for pole of Cable Storage Assembly include one set pillar (GYL-ZZ) and one set stainless steel strip (BDL-*).

Specification of Stainless Steel Strip

Name	Type	Pole Dia.(mm)
Stainless steel strip	BDL-1	150~300
	BDL-2	301~400
	BDL-3	401~600
	BDL-4	601~800
	BDL-5	801~1000

Specification of Small Clamp for Tower

Name	Type	Size of Angle Steel for Tower (mm)	Material	Remark
Small clamp	YJB-***	70~250	galvanized steel	

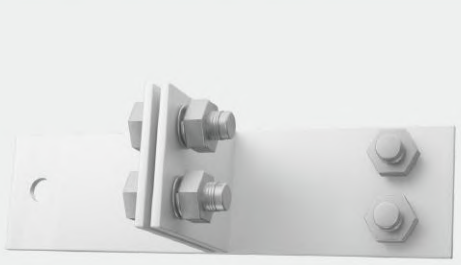
Immobility Clamp

Immobility Clamp is used for fixing or connecting other hardware fittings onto the tower/pole. It is divided into Immobility Clamp for tower and Immobility Clamp for Pole. Immobility Clamp for tower uses metal clamp while Immobility Clamp for Pole uses hoop.

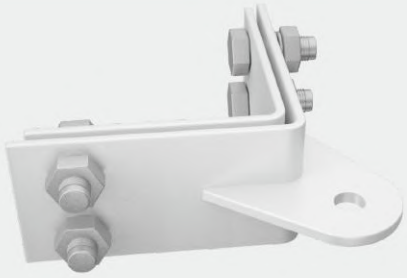
Tension Clamp is used for angle tower or terminal tower to provide suspension point for ADSS cable. Straight Clamp is used on tangent tower while hoop is used to fix Preformed Dead-end and Preformed Suspension Set on the pole to provide suspension point on ADSS cable.

Sketch Map

Immobility Clamp for tower



Straight clamp



Tension Clamp

Immobility Clamp for Pole



Hoop

Specification

Specification of Clamp for Tower

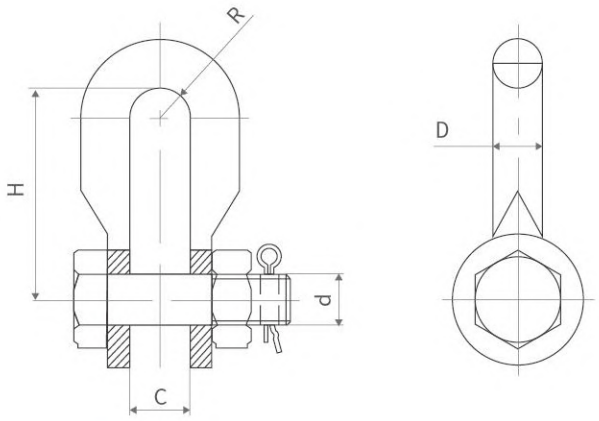
Name	Type	Dimension of main stand for cable fixing location	Material	Devastating Load(kN)
Straight clamp	GZT 80/70	⩽80mm	galvanized steel	70
	GZT 100/70	81~100mm		70
	GZT 125/70	101~125mm		70
	GZT 145/70	126~145mm		70
	GZT 165/70	146~165mm		70
	GZT 200/70	166~200mm		70
Tension clamp	GNT 100/80	⩽80mm		100
	GNT 100/100	81~100mm		100
	GNT 125/100	101~125mm		100
	GNT 145/100	126~145mm		100
	GNT 165/100	146~165mm		100
	GNT 200/100	166~200mm		100

Specification of Hoop

Name	Type	Diameter of fixing locations	Material	Devastating Load(kN)
Hoop	BG 125/70	101~125mm	galvanized steel	70
	BG 150/70	126~150mm		70
	BG 175/70	151~175mm		70
	BG 200/70	176~200mm		70
	BG 225/70	201~225mm		70
	BG 250/70	226~250mm		70
	BG 275/70	251~275mm		70
	BG 300/70	276~300mm		70
	BG 325/70	301~325mm		70
	BG 350/70	326~350mm		70
	BG 375/70	351~375mm		70
	BG 400/70	376~400mm		70
	BG 425/70	401~425mm		70
	BG 450/70	426~450mm		70
	BG 475/70	451~475mm		70
	BG 500/70	476~500mm		70
	BG 525/70	501~525mm		70
	BG 550/70	526~550mm		70
	BG 575/70	551~575mm		70
	BG 600/70	576~600mm		70
	BG 625/70	601~625mm		70
	BG 650/70	626~650mm		70
	BG 675/70	651~675mm		70
	BG 700/70	676~700mm		70

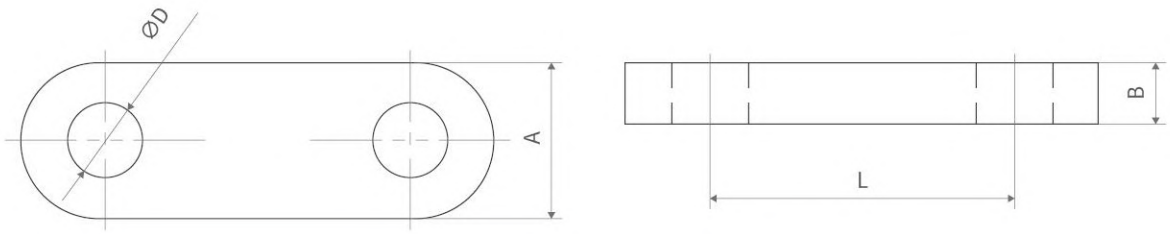
Appendix： Link Fittings Parameter

U-Shackle



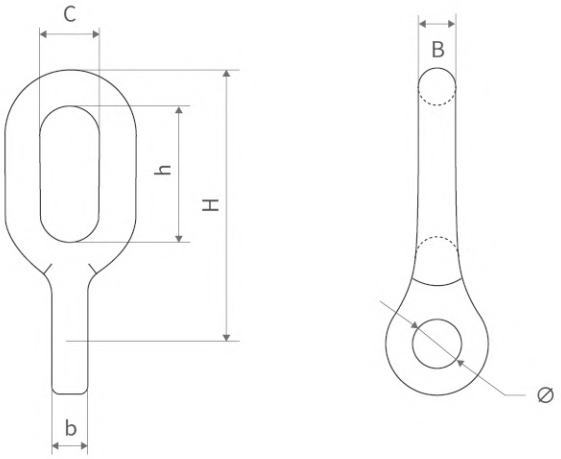
Type	Main Dimensions (mm)					Devastating Load (kN)	Weight (kg)
	c	d	D	H	R		
U-4	20	12	12.5	65	10	40	0.25
U-7	20	16	16	80	10	70	0.5
U-10	22	18	18	85	11	100	0.7
U-12	24	22	20	90	12	120	1.1
U-16	26	24	22	95	13	160	1.5
UL-7	20	16	16	120	15	70	0.65
UL-10	22	18	18	140	17	100	0.9
UL-12	24	22	20	140	18	120	1.3

PD Shackle



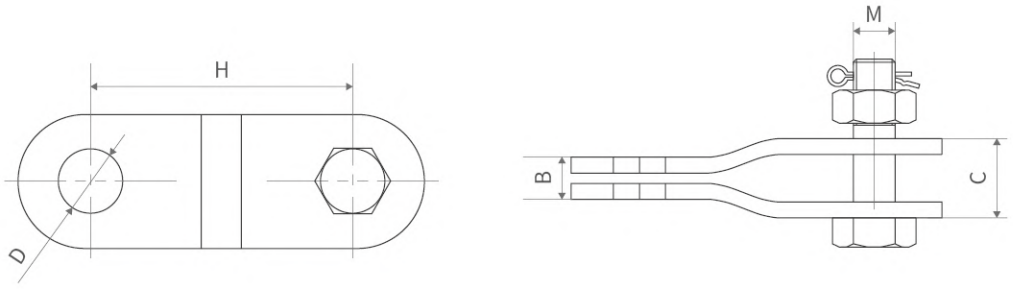
Type	Main Dimensions (mm)				Devastating Load (kN)	Weight (kg)
	B	D	L	A		
PD-7	16	18	70	40	70	0.45
PD-10	16	20	80	45	100	0.6
PD-12	16	24	100	50	120	0.85
PD-16	18	26	100	60	160	1.1

Eye Chain Link



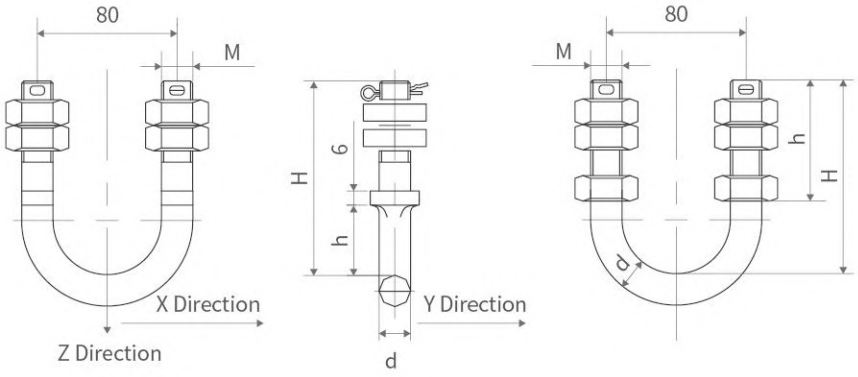
Type	Main Dimensions (mm)						Devastating Load (kN)	Weight (kg)
	c	h	H	b	B	Ø		
ZH-4	18	38	75	12.5	12.5	14/18	40	0.2
ZH-7	24	57	100	16	16	20	70	0.5
ZH-10	24	57	100	16	18	20	100	0.5
ZH-12	24	65	115	16	18	24	120	0.75
ZH-16	26	75	135	18	22	26	160	1.15

PS-Shackle



Type	Main Dimensions (mm)					Devastating Load (kN)	Weight (kg)
	C	B	M	D	H		
PS-7	18	16	16	20	90	70	0.5
PS-10	20	20	18	20	90	100	0.8
PS-12	20	20	22	24	95	120	1.5
PS-16	26	24	24	26	155	160	2.7

U-Bolt

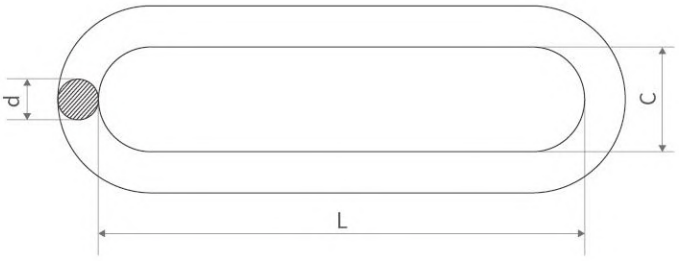


Type UJ

Type U

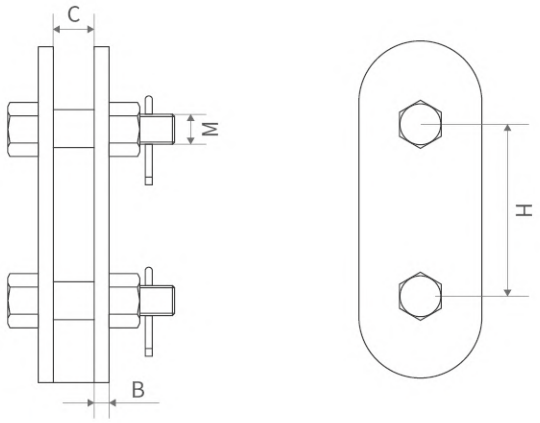
Type	Main Dimensions (mm)				Devastating Load (kN)			Weight (kg)
	d	h	H	M	X	Y	Z	
UJ-1880	18	50	105	18	24	7.4	47	0.85
UJ-2080	20	60	120	20	28	6.5	57	1.10
UJ-2280	22	65	127	22	28	10.8	57	1.40
U-1880	18	75	110	18	18	3.5	35	0.80
U-2080	20	80	120	20	18	5.3	35	1.10
U-2280	22	90	130	22	24	4.9	47	1.30

Chain Link



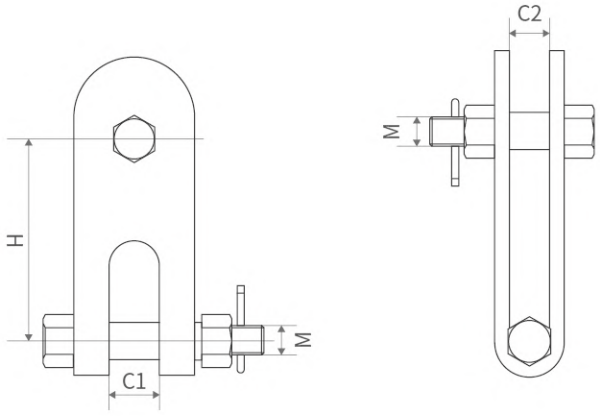
Type	Main Dimensions (mm)			Devastating Load (kN)	Weight (kg)
	C	d	L		
PH-7	20	16	80	70	0.4
PH-10	22	18	100	100	0.6
PH-12	24	20	120	120	0.9
PH-16	26	22	140	160	1.1

P-Shackle



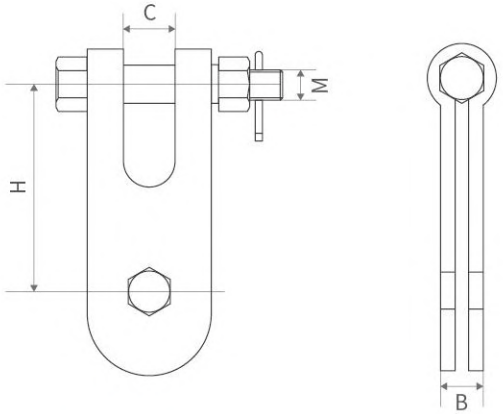
Type	Main Dimensions (mm)				Devastating Load (kN)	Weight (kg)
	B	C	M	H		
P-7	6	18	16	70	70	0.65
P-10	8	20	18	80	100	0.95
P-12	10	24	22	90	120	1.6
P-16	12	26	24	100	160	2.4

Z-Shackle



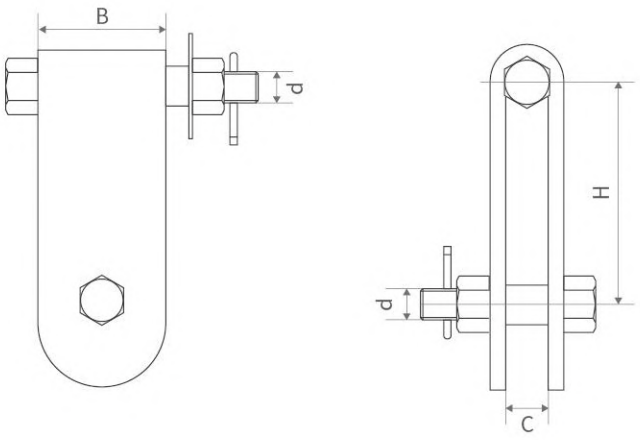
Type	Main Dimensions (mm)				Devastating Load (kN)	Weight (kg)
	C1	C2	M	H		
Z-7	18	18	16	80	70	0.65
Z-10	20	20	18	80	100	0.9
Z-12	24	24	22	100	120	1.45
Z-16	26	26	24	100	160	2.5

ZS-Shackle



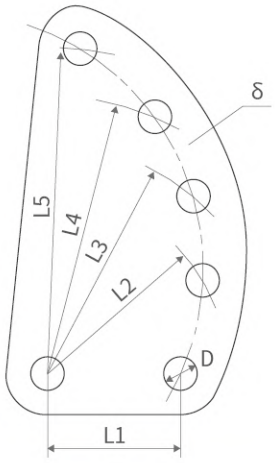
Type	Main Dimensions (mm)					Devastating Load (kN)	Weight (kg)
	C	B	M	D	H		
ZS-7	18	16	16	20	60	70	0.55
ZS-10	20	18	18	20	80	100	0.7
ZS-12	22	22	22	24	80	160	1.05
ZS-16	26	26	24	26	90	160	1.6

UB-Shackle



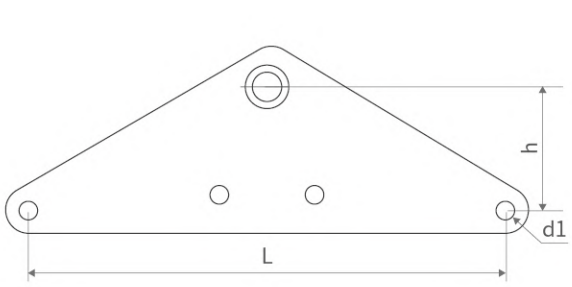
Type	Main Dimensions (mm)				Devastating Load (kN)	Weight (kg)
	C	d	H	B		
UB-0770	20	16	70	45	70	0.75
UB-10	20	18	80	45	100	1.1
UB-12	24	22	100	60	120	2.1
UB-12100	24	22	100	45	120	1.8
UB-16	28	24	100	60	160	2.90
UB-16100	28	24	100	45	160	2.3

Sag.Adjusting Plate(Type DB)



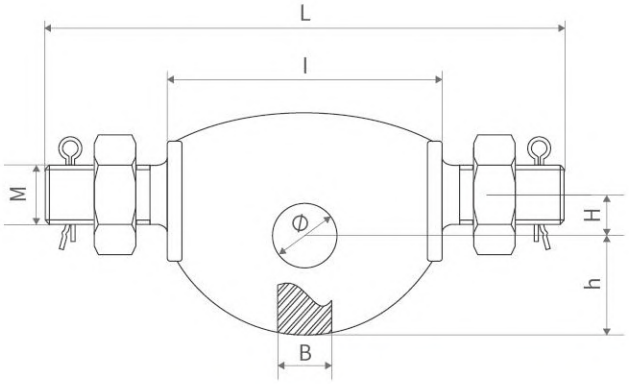
Type	Main Dimensions (mm)							Devastating Load (kN)	Weight (kg)
	C	δ	L1	L2	L3	L4	L5		
DB-7	18	16	70	95	120	145	170	70	1.70
DB-10	20	16	80	110	140	170	200	100	2.70
DB-12	24	16	100	135	170	205	240	120	3.20
DB-16	26	18	110	125	140	155	170	160	4.10

Yoke Plate



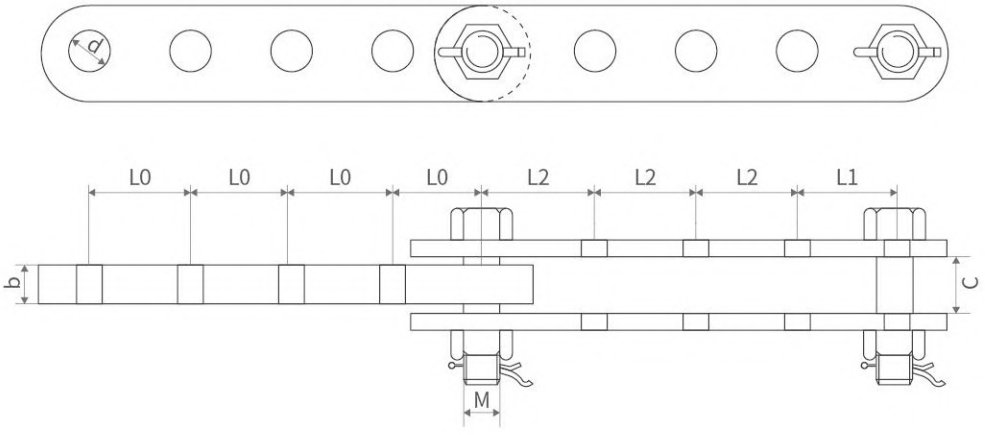
Type	Main Dimensions (mm)						Devastating Load (kN)	Weight (kg)
	b	b1	d	d1	h	L		
L-1040	16	16	20	18	70	400	100	4.4
L-1240	16	16	24	18	70	400	120	4.7
L-1640	18	18	26	20	100	400	160	5.9
L-2140	26	16	30	20	100	400	210	7.0
L-2540	30	18	33	24	110	400	250	9.9
L-3040	32	18	39	26	110	400	300	10.0

Twisted Strap(Type GD)



Type	Main Dimensions (mm)							Devastating Load (kN)	Weight (kg)
	L	I	Ø	M	H	B	h		
GD-12	250	112	24	22	12	16	30	120	1.35
GD-12S	230	112	24	22	12	16	30	120	1.7
GD-21	250	112	26	24	12	18	35	120	1.8
GD-21S	250	112	26	24	12	20	40	210	2.1

Sag.Adjusting Plate(Type PT)



Type	Main Dimensions (mm)								Devastating Load (kN)	Weight (kg)
	L0	L1	L2	M	d	b	c	Adjusting Range		
PT-7	45	60	45	16	18	16	18	225~345	70	2.0
PT-10	50	65	50	18	20	16	20	250~390	100	3.0
PT-12	60	75	60	22	24	16	24	300~465	120	5.3
PT-16	65	80	65	24	26	18	26	325~505	160	7.0

FTTH Accessories

Outdoor Accessories for Aerial Drop Cable



Steel hoop



Wire wheel



C-Type hook



Screw buckle



S-type fixure



Clamp hoop



Binding hook



Confining retractor



Distribution box (Φ25mm)

Corridor accessories for indoor drop cable



Dual-wall corrugated pipe
(Φ20mm、Φ25mm)



corrugated pipe clamp
(Φ20mm、Φ25mm)

Indoor Accessories for Indoor Drop Cable



Sealed cable slot



Cable fixed slot



Straight cable slot



Cable ending slot



Corner piece



Internal corner



External corner



Soft tube for cable slot



Cable clip



Through-wall sleeve



Self-wrap sleeve