Anti-vibration Damper

product description

The anti-vibration damper is installed on aluminum stranded wire, aluminum alloy stranded wire, steel core aluminum stranded wire and steel core aluminum alloy stranded wire, wire located near the insulator string and suspended/stretched ground wire.

The anti-vibration hammer consumes the wind energy injected into the wire through resonance, thereby achieving the purpose of reducing the vibration of the wire and protecting the wire.

The pre-twisted anti-vibration hammer adopts the pre-twisted wire as the coupling structure of the anti-vibration vertical clamp and the protected wire, so the preformed metal fitting has the convenience of quick installation and good grip on the wire (to avoid the looseness of the clamp caused by thermal expansion and contraction), uniform grip, no damage to the wire, no hidden bolts, maintenance-free, anti-corona, energy-saving (preformed wire and wire clamp are aluminum alloy), excellent fatigue resistance and so on.

National Grid Product Catalog Description

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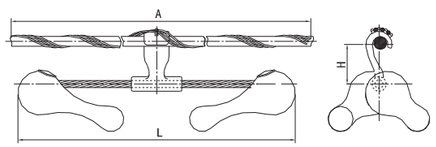
- Strand type: G-steel strand wire; ACSR and aluminum clad steel stranded wire default;
- Applicable to the diameter of the strand, expressed by the combination number, see the table on the right, the combination number and The default when the damper type is the same;
- The model of the anti-vibration damper is expressed by natural numbers such as 1, 2, and 3;
- damper clamp type: J-preformed clamp; bolt type clamp default;
- Damper structure type: N-twist type; Y-stockbridge type;
- Damper structure type: D-symmetric; R asymmetric;
- Fitting name: vibration damper;

Stranded wire diameter and its corresponding combination number

Combination Number	Stranded wire diameter D (mm)	
	For non-steel strands wire	for steel strand wire
0	5.4≤D<8.0	
1	8.0≤D<12.0	6.4≤D<8.6
2	12.0≤D<16.0	8.6≤D<12.0
3	16.0≤D<18.0	12.0≤D<14.5
4	18.0≤D<22.5	14.5≤D<17
5	22.5≤D<30.0	17≤D<20
6	30.0≤D<35.0	20≤D<23
7	35.0≤D<39.0	
8	39.0≤D<45.0	
9	45.0≤D<51.0	
10	51.0≤D<70.0	

Preformed Wire Clamp Symmetrical Torsion Type Anti-vibration Damper

Technical Data Sheet

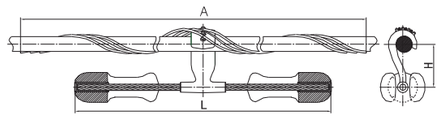


National Grid Catalog No.	suitable Conductor Specification	Main Dimensions (mm)			weight (kg)
		H	A	L	
FDNJ-1/G	GJ-35	54	640	420	1.70
FDNJ-2/G	GJ-50～80	54	640	420	1.50
FDNJ-3/G	GJ-100	61	640	420	2.20
FDNJ-1/2	JL/G1A-95/20	70	640	420	2.50
FDNJ-2/3	JL/G1A-150/25	70	720	440	3.45
FDNJ-3/4	JL/G1A-185/30 JL/G1A-240/30 JL/G1A-240/40	63	720	460	3.95
FDNJ-4/5	JL/G1A-300/25～40 JL/G1A-400/35～50	92	860	490	4.85
FDNJ-4/6	JL/G1A-500/45 JL/G1A-630/45 JL/G1A-630/55	92	1020	490	5.40

Note: The clamp is a high-strength aluminum alloy casting; the hammer is made of gray cast iron and the surface is hot-dip galvanized.

Preformed Wire Clamp Symmetrical Tuning Fork Anti-vibration Damper

Technical Data Sheet

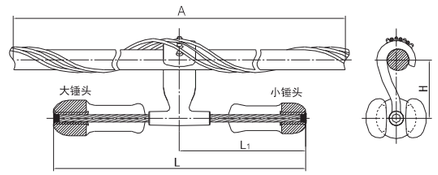


National Grid Catalog No.	suitable Conductor Specification	Main Dimensions (mm)			weight (kg)
		H	A	L	
FDYJ-1/G	GJ-35	54	640	300	1.80
FDYJ-2/G	GJ-50～80	54	640	400	2.44
FDYJ-3/G	GJ-100	70	640	500	4.60
FDYJ-1/2	JL/G1A-95/20	70	640	400	3.20
FDYJ-1/3	JL/G1A-150/25	70	720	400	3.20
FDYJ-2/4	JL/G1A-185/30 JL/G1A-240/30～40	63	860	450	4.53
FDYJ-3/5	JL/G1A-300/25～40	92	860	550	6.62
FDYJ-4/5	JL/G1A-400/35～50	92	932	600	6.47
FDYJ-4/6	JL/G1A-500/45 JL/G1A-630/45～55	92	1020	630	7.42

Note: The hammer head is a gray iron casting, and the wire clamp is an aluminum alloy casting, which avoids hysteresis loss and has energy saving effect.

Preformed Wire Clamp Asymmetric Tuning Fork Type Anti-vibration Damper

Technical Data Sheet

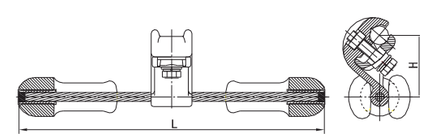


National Grid Catalog No.	suitable Conductor Specification	Main Dimensions (mm)				weight (kg)
		H	A	L1	L	
FRYJ-1/G	GJ-35	54	640	130	280	1.50
FRYJ-2/G	GJ-50～80	54	640	170	380	2.14
FRYJ-3/G	GJ-100	70	640	220	480	4.40
FRYJ-1/2	JL/G1A-95/20	70	640	170	380	1.60
FRYJ-1/3	JL/G1A-150/25	70	720	170	380	1.60
FRYJ-2/4	JL/G1A-185/30 JL/G1A-240/30～40	63	860	120	322	2.40
FRYJ-3/5	JL/G1A-300/25～40	92	860	200	400	2.98
FRYJ-4/5	JL/G1A-400/35～50	92	932	250	520	4.43
FRYJ-4/6	JL/G1A-500/45 JL/G1A-630/45～55	92	1020	267	567	6.9

Note: The hammer head is a gray iron casting, and the wire clamp is an aluminum alloy casting, which avoids hysteresis loss and has energy saving effect.

Symmetrical Tuning Fork Anti-vibration Damper

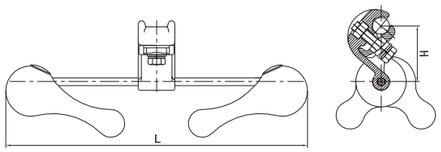
Technical Data Sheet



National Grid Catalog No.	suitable Conductor Diameter range (mm)	Main Dimensions (mm)		weight (kg)
		H	L	
FDY-1/2	11.0～22.0	80	300	1.72
FDY-2	11.0～22.0	80	370	2.57
FDY-2/3	11.0～22.0	80	370	2.57
FDY-3/4	18.0～28.0	90	450	4.00
FDY-3/5	23.0～36.0	90	450	4.50
FDY-4/5	22.5～36.0	95	500	5.62
FDY-4/6	22.5～36.0	95	500	6.07

Note: The clamp is a high-strength aluminum alloy casting; the hammer is made of gray cast iron and the surface is hot-dip galvanized.

Symmetrical Torsion Type Vibration Damper

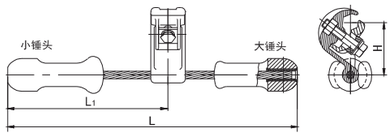


■Technical Data Sheet

National Grid Catalog No.	Corresponding Catalog No.	suitable conductor diameter range (mm)	Main Dimensions (mm)		weight (kg)
			H	L	
FDN-1/G		6.4～8.6	62	420	1.70
FDN-2/G		8.6～12.0	62	420	1.70
FDN-3/G		12.0～14.5	62	420	2.0
FDN-1/2		12.0～16.0	62	420	2.5
FDN-2/3		16.0～18.0	65	460	3.5
FDN-3/4		18.0～22.5	65	460	4.2
FDN-4/5	DB2B24SS	22.5～30.0	90	490	5.1
FDN-4/6	DB2B27SS	30.0～35.0	95	490	5.4
	DB05B07SS	7.0～12.0	80	420	1.3
	DB05B12SS	12.1～15.0	80	420	1.3
	DB05B15SS	15.1～18.0	80	420	1.3
	DB05B18SS	18.1～21.0	80	420	1.3
	DB1B21SS	21.1～24.0	90	460	2.5

Note: The clamp is a high-strength aluminum alloy casting; the hammer is made of gray cast iron and the surface is hot-dip galvanized.

Asymmetric Tuning Fork Vibration Damper



■Technical Data Sheet

National Grid Catalog No.	Corresponding Catalog No.	Applicable diameter range (including wraps) (mm)	Main Dimensions (mm)			weight (kg)
			H	L1	L	
FRY-1/G		6.4～8.6	62	190	280	1.50
FRY-2/G		8.6～12.0	62	175	380	2.18
FRY-3/G		12.0～14.5	62	225	480	4.23
	FR-1	7.0～12.0	80	190	430	2.35
FRY-1/2	FR-2	12.0～16.0	80	190	430	2.62
FRY-2	FR-2	12.0～16.0	80	190	430	2.62
FRY-2/3	FR-2	16.0～18.0	80	190	430	2.62
FRY-3/4	FR-3	18.0～22.5	90	225	505	4.50
FRY-3/5		22.5～30.0	90	225	505	4.72
FRY-4/5	FR-4	22.5～30.0	95	255	550	7.18
FRY-4/6	FR-4	30.0～35.0	95	255	550	7.18
	FR-5	33.0～38.0	127	255	550	7.90
	FR-6	36.0～40.0	127	300	650	11.0

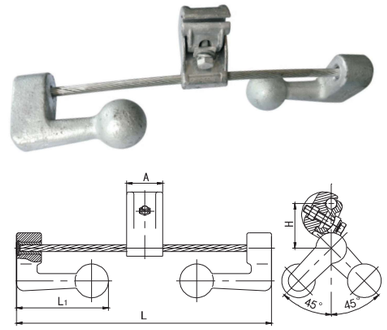
Note: The hammer head is a gray iron casting, and the wire clamp is an aluminum alloy casting, which avoids hysteresis loss and has energy saving effect.

FDZ Type Vibration Damper

■Technical Data Sheet

Catalog No.	Suitable for stranded wire Section (mm2)	Main Dimensions (mm)				weight (kg)
		A	H	L1	L	
FDZ-1	35～50	50	60	120	330	1.94
FDZ-2	70～95	50	60	130	350	2.27
FDZ-3	120～150	55	65	150	430	4.3
FDZ-4	185～240	55	65	160	470	4.83
FDZ-5	300～500	60	90	180	520	5.88
FDZ-6	500～630	60	90	196	550	7.29

Note: 1. The wire clamp is a high-strength aluminum alloy casting; the hammer head is a gray cast iron casting, and the surface is hot-dip galvanized.
2. Add the letter T after the model number to indicate that the clamp is an iron clamp.



FD, FG Type Anti-vibration Damper (Stoker type)

■Technical Data Sheet

Catalog No.	Suitable for stranded wire Section (mm2)		简图	Main Dimensions (mm)					Steel wire specification	weight (kg)
	Steel wire	AAC、ACSR Conductor		D	A	H	L1	L		
FD-1	/	35～50	图2	40	40	40	95	300	7/2.6	1.35
FD-2	/	70～95	图1	46	45	55	130	370	7/3.0	2.4
FD-3	/	120～150	图1	56	60	65	150	450	19/2.2	4.5
FD-4	/	185～240	图1	62	60	68	175	500	19/2.2	5.6
FD-5	/	300～500	图1	67	70	73	200	550	19/2.6	7.2
FD-6	/	500～630	图1	70	70	78	200	550	19/2.6	8.6
FG-35	35	/	图2	42	45	50	100	300	7/3.0	1.8
FG-50	50	/	图2	46	45	50	130	350	7/3.0	2.4
FG-70	70	/	图1	56	50	60	150	400	19/2.2	4.2
FG-100	100	/	图1	62	60	65	175	500	19/2.2	5.9

Note: 1. The hammer head is gray iron casting and painting, and the rest is hot-dip galvanized steel. The hammer head and steel strand are connected by riveting.

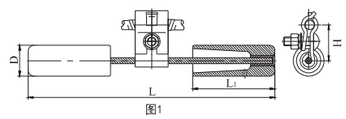


图1

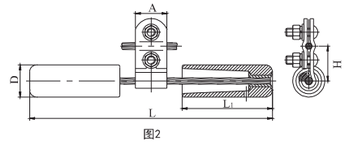


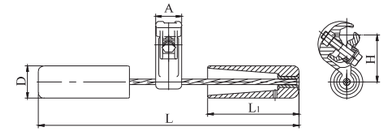
图2

FD-L Vibration Damper

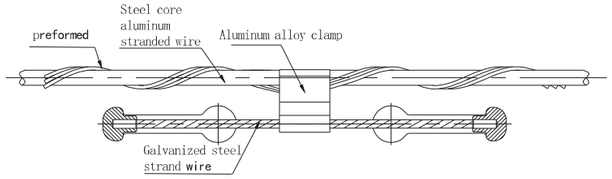
■Technical Data Sheet

Catalog No.	Suitable for stranded wire Section (mm2)	Main Dimensions (mm)					Steel wire specification	weight (kg)
		D	A	H	L1	L		
FD-1L	35～50	40	50	63	95	300	7/2.6	1.5
FD-2L	70～95	46	50	63	130	370	7/3.0	2.4
FD-3L	120～150	56	55	65	150	450	19/2.2	4.5
FD-4L	185～240	62	55	70	175	500	19/2.2	5.6
FD-5L	300～500	67	60	90	200	550	19/2.6	7.2
FD-6L	500～630	70	60	90	200	550	19/2.6	8.6

Note: The hammer head is a gray iron casting, and the wire clamp is an aluminum alloy casting,which avoids hysteresis loss and has energy saving effect.
2. The L in the model indicates the aluminum clamp.



FR-Y Preformed Vibration Damper



Selection of Preformed Vibration Damper for wire

Tuning fork hammer Catalog No.	Applicable Wire Diameter Range (mm)	Applicable Wire Type Specification			Reference Weight (kg)
		For Steel Core Aluminum Stranded Wire	For Aluminum Strand Wire	For Steel Strand Wire	
FR-2Y01	7.6～8.79	LGJ-35/6	LJ-35	GJ-35	1.36
FR-2Y02	8.8～10.09	LGJ-50/8	LJ-50	GJ-50	1.36
FR-2Y03	10.1～11.49	LGJ-70/10	LJ-70	GJ-70	1.36
FR-2Y04	11.5～13.1	LGJ-50/30	LJ-95	GJ-100	1.36
FR-2Y05	13.11～13.99	LGJ-70/40 LGJ-95/20			1.36
FR-3Y06	14.0～14.81	LGJ-120/7	LJ-120		1.80
FR-3Y07	14.81～16.6	LGJ-95/55 LGJ-120/25 LGJ-150/8	LJ-150		1.80
FR-3Y08	16.61～18.0	LGJ-120/70 LGJ-150/25 LGJ-150/35 LGJ-185/10	LJ-185		1.80
FR-4Y09 FR-5Y09	18.0～20.2	LGJ-185/25 LGJ-185/30 LGJ-185/45 LGJ-210/25	LJ-210 LJ-240		2.58 3.20
FR-4Y10 FR-5Y10	20.21～22.6	LGJ-210/35 LGJ-210/50 LGJ-240/30 LGJ-240/40 LGJ-240/55	LJ-300		2.58 3.20
FR-5Y11	22.61～25.2	LGJ-300/15 LGJ-300/25 LGJ-300/40 LGJ-300/70			3.20
FR-5Y12	25.21～28.0	LGJ-400/20 LGJ-400/35 LGJ-400/65	LJ-400		3.20
FR-6Y13	28.0～30.0	LGJ-500/35 LGJ-500/45	LJ-500		4.35
FR-6Y14	30.01～32.0	LGJ-500/65			4.35
FR-7Y15	32.01～34.0	LGJ-630/45	LJ-630		6.20

Note: Only some of our commonly used products are listed in the table; the company can provide various types of anti-vibration hammers according to customer requirements.

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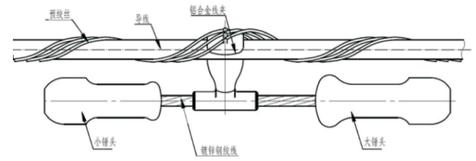
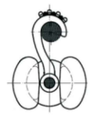
FRYJ Preformed Tuning Fork Stockbridge Vibration Damper



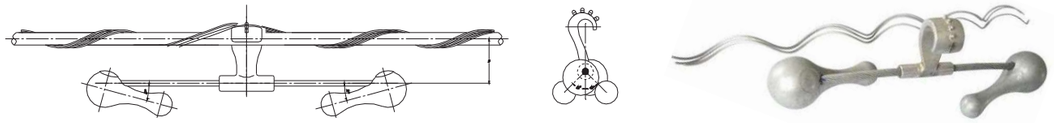


Product selection table

Catalog No.	Applicable Wire Diameter Range (mm)	Applicable Wire Type Specification			Reference Weight (kg)
		For Steel Core Aluminum Stranded Wire	For Aluminum Strand Wire	For Steel Strand Wire	
FRYJ-2Y01	7.0～8.8	LGJ-35/6	LJ-35	GJ-35	1.94
FRYJ-2Y02	8.8～10.1	LGJ-50/8	LJ-50	GJ-50	
FRYJ-2Y03	10.1～11.5	LGJ-70/10	LJ-70	GJ-70	
FRYJ-2Y04	11.5～13.1	LGJ-50/30	LJ-95	GJ-100	
FRYJ-3Y05	13.11～14.8	LGJ-70/40 LGJ-95/20 LGJ-120/7	LJ-120		2.4
FRYJ-3Y06	14.81～16.6	LGJ-95/55 LGJ-120/25 LGJ-150/8	LJ-150		
FRYJ-3Y07	16.61～18.0	LGJ-120/70 LGJ-150/25 LGJ-150/35 LGJ-185/10	LJ-185		
FRYJ-4Y08	18.0～20.2	LGJ-185/25 LGJ-185/30 LGJ-185/45 LGJ-210/25	LJ-210 LJ-240		4.1
FRYJ-4Y09	20.21～22.6	LGJ-210/35 LGJ-210/50 LGJ-240/30 LGJ-240/40 LGJ-240/55	LJ-300		
FRYJ-4Y10	22.61～24.0	LGJ-300/15 LGJ-300/25 LGJ-300/40			
FRYJ-5Y11	24.0～26.0	LGJ-300/50 LGJ-300/70			5.5
FRYJ-5Y12	26.0～28.0	LGJ-400/20 LGJ-400/25 LGJ-400/35 LGJ-400/50 LGJ-400/65	LJ-400 LJ-500		
FRYJ-6Y13	28.0～30.0	LGJ-500/35 LGJ-500/45			7.3
FRYJ-6Y14	30.0～32.0	LGJ-500/65			
FRYJ-6Y15	32.0～34.0	LGJ-630/45	LJ-630		

Note: This product is divided into large and small hammers. When installed near the tower, the direction of the hammer head is toward the tower.

FFH-Y Preformed Hippocampus Vibration Damper

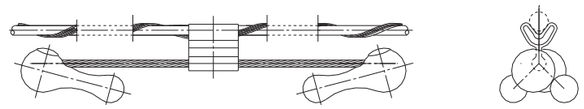


Preformed hippocampus vibration damper selection selection table

Catalog No.	Applicable Conductor Diameter Range(mm)	Suitable Conductor Specification			Reference Weight(kg)
		For Steel Core Aluminum Stranded Wire	For Aluminum Strand Wire	For Steel Strand Wire	
FFH-0713Y01	7.0～8.8	LGJ-35/6	LJ-35	GJ-35	1.23
FFH-0713Y02	8.8～10.1	LGJ-50/8	LJ-50	GJ-50	
FFH-0713Y03	10.1～11.5	LGJ-70/10	LJ-70	GJ-70	
FFH-0713Y04	11.5～13.1	LGJ-50/30	LJ-95	GJ-100	
FFH-1318Y05	13.11～14.8	LGJ-70/40 LGJ-95/20 LGJ-120/7	LJ-120		1.48
FFH-1318Y06	14.81～16.6	LGJ-95/55 LGJ-120/25 LGJ-150/8	LJ-150		
FFH-1318Y07	16.61～18.0	LGJ-120/70 LGJ-150/25 LGJ-150/35 LGJ-185/10	LJ-185		
FFH-1824Y08	18.0～20.2	LGJ-185/25 LGJ-185/30 LGJ-185/45 LGJ-210/25	LJ-210 LJ-240		2.80
FFH-1824Y09	20.21～22.6	LGJ-210/35 LGJ-210/50 LGJ-240/30 LGJ-240/40 LGJ-240/55	LJ-300		
FFH-1824Y10	22.61～24	LGJ-300/15 LGJ-300/25 LGJ-300/40			
FFH-2428Y11	24.0～26.0	LGJ-300/50 LGJ-300/70			4.4
FFH-2428Y12	26.0～28.0	LGJ-400/20 LGJ-400/25 LGJ-400/35 LGJ-400/50 LGJ-400/65	LJ-400 LJ-500		
FFH-2834Y13	28.0～30.0	LGJ-500/35 LGJ-500/45			6.44
FFH-2834Y14	30.0～32.0	LGJ-500/65			
FFH-2834Y15	32.0～34.0	LGJ-630/45	LJ-630		

Note: This product is preformed. Please specify the type of wire used when ordering, so that it can be shipped with suitable preformed wire.

FDB-Y Preformed Vibration Damper



Selection of preformed vibration damper for wire

Dog Bone Type Damper Catalog No.	Applicable Diameter Range(mm)	Suitable Conductor Specification			Reference Weight(kg)
		For Steel Core Aluminum Stranded Wire	For Aluminum Strand Wire	For Steel Strand Wire	
FDB-1Y01	7.6～8.79	LGJ-35/6	LJ-35	GJ-35	1.3
FDB-1Y02	8.8～10.09	LGJ-50/8	LJ-50	GJ-50	1.3
FDB-1Y03	10.1～11.49	LGJ-70/10	LJ-70	GJ-70	1.3
FDB-2Y04	11.5～13.1	LGJ-50/30	LJ-95	GJ-100	1.5
FDB-2Y05	13.11～13.99	LGJ-70/40 LGJ-95/20			1.5
FDB-2Y06	14.0～14.81	LGJ-120/7	LJ-120		1.5
FDB-3Y07	14.81～16.6	LGJ-95/55 LGJ-120/25 LGJ-150/8	LJ-150		1.8
FDB-3Y08	16.61～18.0	LGJ-120/70 LGJ-150/25 LGJ-150/35 LGJ-185/10	LJ-185		1.8
FDB-4Y09	18.0～20.2	LGJ-185/25 LGJ-185/30 LGJ-185/45 LGJ-210/25	LJ-210 LJ-240		2.5
FDB-4Y10	20.21～22.6	LGJ-210/35 LGJ-210/50 LGJ-240/30 LGJ-240/40 LGJ-240/55	LJ-300		2.5
FDB-5Y11	22.61～25.2	LGJ-300/15 LGJ-300/25 LGJ-300/40 LGJ-300/70			3.2
FDB-6Y12	25.21～28.0	LGJ-400/20 LGJ-400/35 LGJ-400/65	LJ-400		4.6
FDB-6Y13	28.0～30.0	LGJ-500/35 LGJ-500/45	LJ-500		4.6
FDB-7Y14	30.01～32.0	LGJ-500/65			6.8
FDB-7Y15	32.01～34.0	LGJ-630/45	LJ-630		6.8

Note: Only some of our commonly used products are listed in the table; the company can provide various types of vibration damper according to customer requirements.

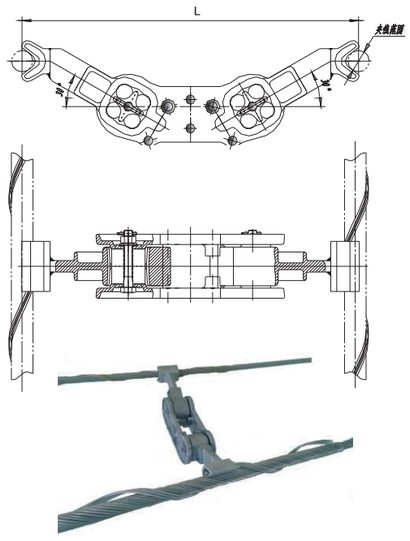
Preformed Spacer Damper

product description

The preformed spacer damper adopts the preformed wire as the connection structure of the spacer damper clamp and the shielded wire, so the preformed metal fitting has the advantages of convenient and quick installation, good grip on the wire (to avoid looseness of the wire clamp caused by thermal expansion and contraction), Even grip strength does not hurt the wire, no hidden troubles of bolts (maintenance-free), good anti-vibration, energy saving (pre-twisted wire and wire clip are aluminum alloy), excellent anti-fatigue performance. It has proven to be excellent and widely used in decades of power lines in developed countries.

Gulifa has overcome technical difficulties and successfully productized and mass-produced products. It has been tested by authoritative organizations and has been put on the market and recognized by users.

FJZ-Y Preformed Wire Double Split Spacer Damper

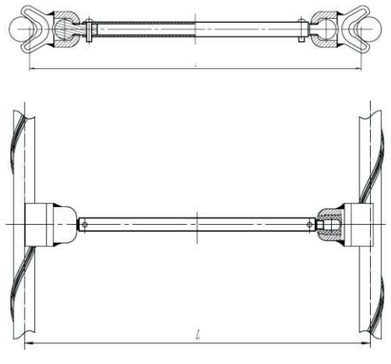


Technical Data Sheet

Catalog No.	Applicable diameter range(mm)	L	Preformed Length	Weight (kg)
FJZ-245Y09	18.0～20.2	450	620	2.5
FJZ-245Y10	20.21～22.6	450	620	2.5
FJZ-245Y11	22.61～25.2	450	620	2.5
FJZ-245Y12	25.21～28.0	450	650	2.5
FJZ-245Y13	28.0～30.0	450	700	2.5
FJZ-245Y14	30.01～32.0	450	700	2.5
FJZ-245Y15	32.01～34.0	450	700	2.5
FJZ-245Y16	34.01～38.0	450	700	2.5

The distance L between the two wires can be adjusted according to customer needs.

FJQ(Z)-Y Preformed Wire Spacer Damper



Technical Data Sheet

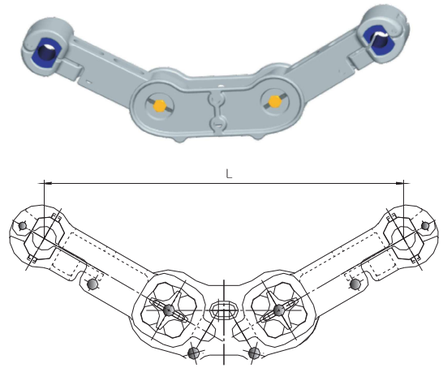
Catalog No.	Applicable diameter range(mm)	L	Weight (kg)
FJQ(Z)-205Y09	18.0～20.2	200	0.65
FJQ(Z)-205Y10	20.21～22.6	200	0.65
FJQ(Z)-205Y11	22.61～25.2	200	0.65
FJQ(Z)-205Y12	25.21～28.0	200	0.65
FJQ(Z)-205Y13	28.0～30.0	200	0.65
FJQ(Z)-205Y14	30.01～32.0	200	0.65
FJQ(Z)-205Y15	32.01～34.0	200	0.65
FJQ(Z)-405Y09	18.0～20.2	400	0.75
FJQ(Z)-405Y10	20.21～22.6	400	0.75
FJQ(Z)-405Y11	22.61～25.2	400	0.75
FJQ(Z)-405Y12	25.21～28.0	400	0.75
FJQ(Z)-405Y13	28.0～30.0	400	0.75
FJQ(Z)-405Y14	30.01～32.0	400	0.75
FJQ(Z)-405Y15	32.01～34.0	400	0.75

Note: 1. The FJQZ type is a double split damping spacer; the distance L between the two wires can be adjusted according to customer requirements.

FJZ Twin-Spacer Damper

Technical Data Sheet

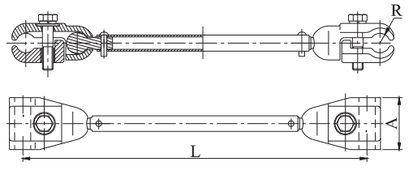
Catalog No.	Suitable Conductor	Wire Slot R	Wire Spacing	Weight(kg)
FJZ-240/20	LGJ-185/10～45	8.5	400	3.6
FJZ-240/22	LGJ-240/30～55	9.6	400	3.6
FJZ-240/24	LGJ-300/20～70	10.0	400	3.6
FJZ-240/27	LGJ-400/20～50	12.0	400	3.6
FJZ-240/30	LGJ-500/35～65	13.0	400	3.6
FJZ-245/20	LGJ-185/10～45	8.5	450	4.0
FJZ-245/22	LGJ-240/30～55	9.6	450	4.0
FJZ-245/24	LGJ-300/20～70	10.0	450	4.0
FJZ-245/27	LGJ-400/20～50	12.0	450	4.0
FJZ-245/30	LGJ-500/35～65	13.0	450	4.0
FJZ-250/30	LGJ-500/35～65	13.0	500	4.5
FJZ-250/34	LGJ-600/45～80	15.5	500	4.5
FJZ-250/36	LGJ-720/50	17.1	500	4.5



FJQ Twin Damper

Technical Data Sheet

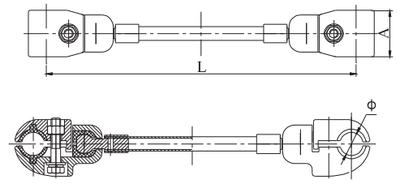
Catalog No.	Applicable wire cross section (mm2)	Main Dimensions (mm)			Axial Load (≥kN)
		A	R	L	
FJQ-204	185～240	60	11	200	7
FJQ-205	300～400	60	14.5	200	10
FJQ-206	500～630	60	18	200	10
FJQ-404	185～240	60	11	400	7
FJQ-405	300～400	60	14.5	400	10
FJQ-406	500～630	60	18	400	10
FJQ-455	300～400	60	15.4	450	10



FJQZ Twin-Spacer Damper

Technical Data Sheet

National Grid Catalog No.	Corresponding Catalog No.	Applicable wire cross section (mm2)	Main Dimensions (mm)		
			A	R	L
FJG-220/22	FJQZ-204	185～240	60	11	200
FJG-220/24	FJQZ-205	300	60	14.5	
FJG-220/27	FJQZ-205	400			
FJG-220/30	FJQZ-206	500	60	18	
FJG-220/34	FJQZ-206	630			
FJG-230/30		500	60	18	300
FJG-230/34		630			
	FJQZ-404	185～240	60	11	400
	FJQZ-405	300～400	60	14.5	
	FJQZ-406	500～630	60	18	
	FJQZ-455	300～400	60	14.5	450



Triple-Spacer Damper

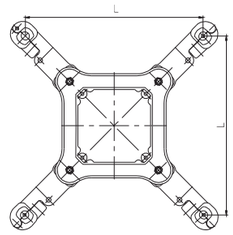
■ Technical Data Sheet

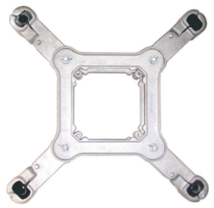
Catalog No.	Suitable Conductor Specification	Wire Spacing	Weight (kg)
FJZR-340/21-25	LGJ-240/30～300/70	400	7.0
FJZR-340/26-30	LGJ-400/20～500/65	400	7.0
FJZR-340/31-36	LGJ-600/45～720/50	400	7.0
FJZR-345/21-25	LGJ-240/30～300/70	450	7.5
FJZR-345/26-30	LGJ-400/20～500/65	450	7.5
FJZR-345/31-36	LGJ-600/45～720/50	450	7.5
FJZR-350/31-36	LGJ-600/45～720/50	500	8.5

FJZ Quadant Spacer Damper (Double Frame Type)

■ Technical Data Sheet

Catalog No.	Suitable Conductor Specification	Main Dimensions (mm)	Reference Weight(kg)
		L	
FJZ-445/20	LGJ-185/10～45	450	7.3
FJZ-445/22	LGJ-240/30～55	450	7.3
FJZ-445/24	LGJ-300/20～70	450	7.3
FJZ-445/27	LGJ-400/20～50	450	7.5
FJZ-445/30	LGJ-500/35～65	450	7.5
FJZ-445/34	LGJ-600/45～80	450	7.5
FJZ-450/30	LGJ-500/35～65	500	10.4
FJZ-450/34	LGJ-600/45～80	500	10.4
FJZ-450/36	LGJ-720/50	500	10.4

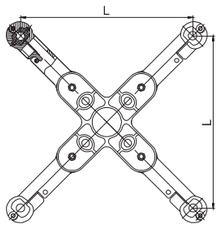




FJZS Cross Type Four Split Spacer Damper

■ Technical Data Sheet

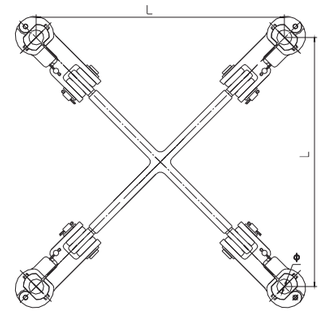
Catalog No.	Suitable Conductor Specification	Main Dimensions (mm)	Reference Weight(kg)
		L	
FJZS-445/24	LGJ-300/20～70	450	8.2
FJZS-445/27	LGJ-400/20～50	450	8.2
FJZS-445/30	LGJ-500/35～65	450	8.2
FJZS-445/34	LGJ-600/45～80	450	8.2
FJZS-450/30	LGJ-500/35～65	500	10.0
FJZS-450/34	LGJ-600/45～80	500	10.0
FJZS-450/36	LGJ-720/50	500	10.0



FJZT Type Spacer Damper (For Jumpers Wire)

■ Technical Data Sheet

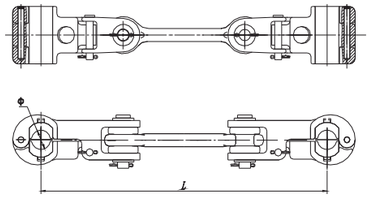
Catalog No.	Suitable Conductor Specification	Wire Slot φ	Wire Spacing L	Weight(kg)
FJZT-445/20	LGJ-185/10～45	17.0	450	4.9
FJZT-445/22	LGJ-240/30～55	19.2	450	4.9
FJZT-445/24	LGJ-300/20～70	20.0	450	4.9
FJZT-445/27	LGJ-400/20～50	24.0	450	4.9
FJZT-445/30	LGJ-500/35～65	26.0	450	4.9
FJZT-250/30	LGJ-500/35～65	26.0	500	5.2
FJZT-250/34	LGJ-600/45～80	31.0	500	5.2
FJZT-250/36	LGJ-720/50	34.2	500	5.2



FJZT Type Spacer Damper (For Jumpers Wire)

■ Technical Data Sheet

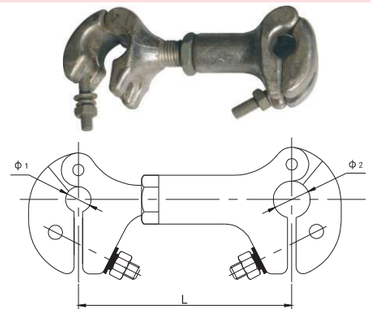
Catalog No.	Suitable Conductor Specification	Wire Slot φ	Wire Spacing L	Weight(kg)
FJZT-240/20	LGJ-185/10～45	17.0	400	3.6
FJZT-240/22	LGJ-240/30～55	19.2	400	3.6
FJZT-240/24	LGJ-300/20～70	20.0	400	3.6
FJZT-240/27	LGJ-400/20～50	24.0	400	3.6
FJZT-240/30	LGJ-500/35～65	26.0	400	3.6
FJZT-245/20	LGJ-185/10～45	17.0	450	4.0
FJZT-245/22	LGJ-240/30～55	19.2	450	4.0
FJZT-245/24	LGJ-300/20～70	20.0	450	4.0
FJZT-245/27	LGJ-400/20～50	24.0	450	4.0
FJZT-245/30	LGJ-500/35～65	26.0	450	4.0
FJZT-250/30	LGJ-500/35～65	26.0	500	4.5
FJZT-250/34	LGJ-600/45～80	31.0	500	4.5
FJZT-250/36	LGJ-720/50	34.2	500	4.5



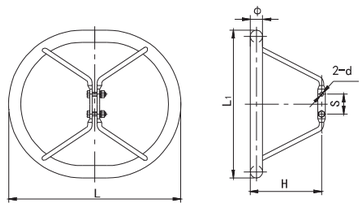
TJ Type Double Split Adjustable Spacer (For 500kV Jumper)

■ Technical Data Sheet

National Grid Catalog No.	Corresponding Catalog No.	Suitable Conductor Specification	Main Dimensions (mm)		
			Φ1	Φ2	L
	TJ2-12240	LGJ-240/30	18	22	120～145
	TJ2-12300	LGJ-300/25～40	18	26	120～146
	TJ2-12400	LGJ-400/20～35	22	28	120～147
TJ2-120-28/19		LGJ-400/35	19	28	120～135
TJ2-120-28/23		LGJ-400/35	23	28	120～135
	TJ2-12500	LGJ-500/45	23	31	120～140
	TJ2-12630	LGJ-630/45	26	34	120～135
	TJ2-12720	LGJ-720/50	26	38	120～145



FJY Circular Grading Ring(Aluminum Tube)

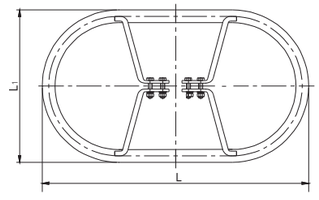


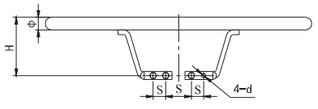
■ Technical Data Sheet

National Grid Catalog No.	Main Dimensions (mm)						weight (kg)
	L	L_1	d	S	H	Φ	
FJY-32/700/220	700	600	18	80	220	32	2.8
FJY-32/700/250	700	600	18	80	250	32	2.8
FJY-32/700/275	700	600	18	80	275	32	2.9
FJY-32/600/H	600	600	18	80	H	32	2.8
FJY-50/700/260	700	600	18	80	260	50	4.1
FJY-50/700/340	700	600	18	80	340	50	4.4
FJY-50/700/H	700	600	18	80	H	50	4.1
FJY-80/1000/375	1000	900	18	80	375	80	12.2
FJY-80/1000/450	1000	900	18	80	450	80	12.7
FJY-80/900/H	900	800	18	80	H	80	12.7

Note: The thickness is determined according to the actual situation of the project. The composite insulator is covered into the depth plus the length of the fitting.

FJD Runway Type Grading Ring(Aluminum Tube)





■ Technical Data Sheet

National Grid Catalog No.	Main Dimensions (mm)						weight (kg)
	L	L_1	d	S	H	Φ	
FJD-32/1000/215	1000	600	18	60	215	32	3.1
FJD-32/1100/215	1100	600	18	60	215	32	3.3
FJD-32/1000/H	1000	600	18	60	H	32	3.3
FJD-32/1100/H	1100	600	18	60	H	32	3.3
FJD-50/1050/260	1050	600	18	60	260	50	6.2
FJD-50/1100/260	1100	600	18	60	260	50	6.6
FJD-50/1200/260	1200	600	18	60	260	50	6.8
FJD-50/1050/H	1050	600	18	60	H	50	6.2
FJD-50/1100/H	1100	600	18	60	H	50	6.6
FJD-50/1200/H	1200	600	18	60	H	50	6.8
FJD-80/1450/375	1450	900	18	60	375	80	14.7
FJD-80/1350/H	1350	800	18	60	H	80	14.7

■ Technical Data Sheet

National Grid Catalog No.	Main Dimensions (mm)						weight (kg)
	L	L_1	d	S	H	Φ	
FJD-50/1050/260S	1050	600	18	60/100/60	260	50	6.2
FJD-50/1100/260S	1100	600	18	60/100/60	260	50	6.6
FJD-50/1200/260S	1200	600	18	60/100/60	260	50	6.8
FJD-50/1050/HS	1050	600	18	60/100/60	H	50	6.2
FJD-50/1100/HS	1100	600	18	60/100/60	H	50	6.6
FJD-50/1200/HS	1200	600	18	60/100/60	H	50	6.8

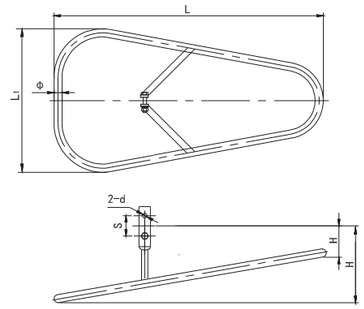
Note: This racetrack type Grading ring is mounted on the cross plate of the double I type string.

Grading and Shielding Ring(aluminum tube)(for Tension String)

■ Technical Data Sheet

National Grid Catalog No.	Main Dimensions (mm)						weight (kg)
	L	L_1	d	S	H	Φ	
FJPE-32/1050/360/150	1050	560	18	80	360/150	32	5.2

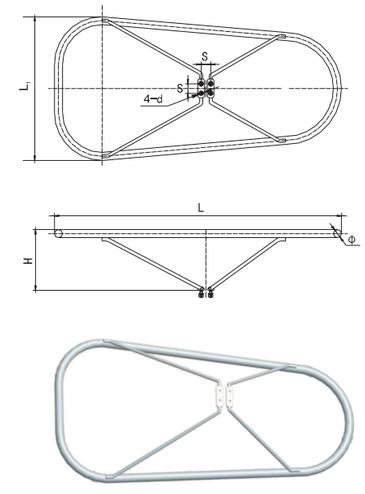
Note: For 330kV transmission lines.



■ Technical Data Sheet

National Grid Catalog No.	Main Dimensions (mm)						weight (kg)
	L	L_1	d	S	H	Φ	
FJPE-50/1800/300	1800	900	18	60	300	50	9.5
FJPE-50/1800/325	1800	900	18	60	325	50	9.6
FJPE-50/1800/350	1800	900	18	60	350	50	9.7
FJPE-50/1800/375	1800	900	18	60	375	50	9.7
FJPE-50/1900/300	1900	900	18	60	300	50	9.5
FJPE-50/1900/325	1900	900	18	60	325	50	9.5
FJPE-50/1900/350	1900	900	18	60	350	50	9.5
FJPE-50/1900/375	1900	900	18	60	375	50	9.5

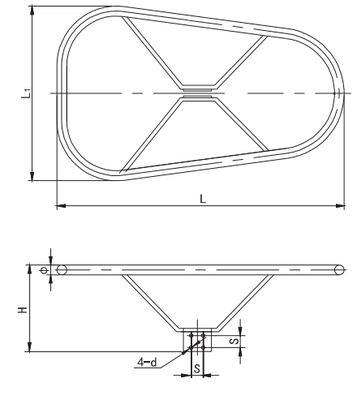
Note: For 5000kV transmission lines.



■ Technical Data Sheet

National Grid Catalog No.	Main Dimensions (mm)						weight (kg)
	L	L_1	d	S	H	Φ	
FJPE-80/2245/445	2245	1300	18	60	445	80	26.9
FJPE-80/2345/445	2345	1300	18	60	445	80	26.9

Note: For 750kV transmission lines.



Parallel Gap

Outline

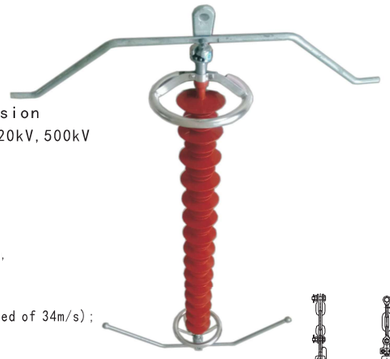
Parallel gap products are generally used in power systems with transmission lines of 110kV-500kV. The role played: provide lightning flashover path, transfer and divert power frequency arc, improve power frequency electric field, prevent power frequency arc burning insulator. Each discharge electrode must be an arc-resistant material. However, it must be ensured that the product is installed on the line. The trip rate of the normal line operation must not be greatly increased. When the line is struck by lightning, the parallel gap lightning protection device should be discharged before the insulator, so as to protect the insulator and protect the line. The product is free of cleaning, rust resistant, light weight and easy to install. The maintenance workload is minimal.

The product structure is divided into a suspension single string and a suspension double string; tension Single string, tension double string. The discharge ball head is divided into a ring (Y), an angle type (H), a ball type Q, and a racket type P. A discharge indicating device must also be provided below 220kV. This device can be installed to enable the line inspection to quickly find the location of the discharge accident.

Model Description

F ZH 220- □ □

- D-Single, S-Double
- X-Suspension, N-Tension
- Voltage level 110kV, 220kV, 500kV
- Arcing horn
- Protection class



Applicable conditions

(1) The altitude does not exceed 1000m (when it is greater than 1000m, it is corrected according to Gb311);
(2) ambient air temperature: -50° C ~ 45° C;
(3) The wind pressure does not exceed 700Pa (equivalent to a wind speed of 34m/s);
(4) The maximum annual precipitation does not exceed 2400mm, and the maximum monthly precipitation does not exceed 200mm;
(5) The maximum earthquake withstand strength is 8;
(6) There is no frequent and severe vibration;
(7) The maximum ice cover thickness is 10mm;

■ Tension string technical parameters

Name	Catalog No.	Voltage level(kV)	Insulation height(Z0)	Discharge gap(Z)	Short circuit current Flowcapacity(kA)	duration (mS)	X_c (mm)	X_p (mm)	weight (kg)
Tension Single string Parallel gap figure 1	FZH500-ND	500	4340	3875	40	0.2	380	400	1.3
	FZH220-ND	220	2190	1890	40	0.2	490	570	1.2
	FZH110-ND	110	1460	1240	40	0.2	146	170	0.8
Tension double string Parallel gap figure 2	FZH500-NS	500	4340	3875	40	0.2	380	400	1.3
	FZH220-NS	220	2190	1890	40	0.2	490	570	1.2
	FZH220-NS	110	1460	1240	40	0.2	146	170	0.8

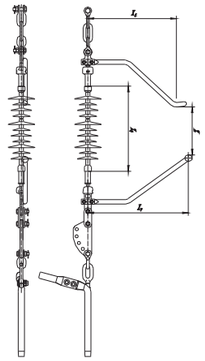


图1

■ Suspension string technical parameters

Name	Catalog No.	Voltage level(kV)	Insulation height (Z_0)	Discharge gap(Z)	Short circuit current Flowcapacity(kA)	duration (mS)	X_c (mm)	X_p (mm)	weight (kg)
Suspension Single string Parallel gap figure 3	FZH500-XD	500	4340	3875	40	0.2	310	355	1.0
	FZH220-XD	220	2080	1810	40	0.2	490	570	1.2
	FZH110-XD	110	1460	1240	40	0.2	146	170	0.8
Suspension double string Parallel gap figure 4	FZH500-XS	500	4340	3875	40	0.2	310	355	1.2
	FZH220-XS	220	2080	1810	40	0.2	490	570	1.5
	FZH110-XS	110	1460	1240	40	0.2	146	170	1.0

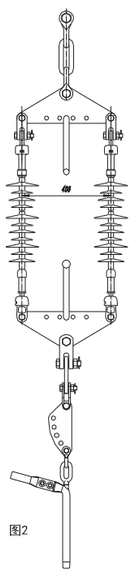


图2

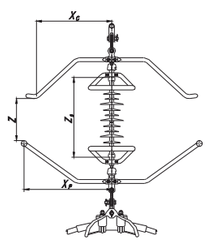


图3

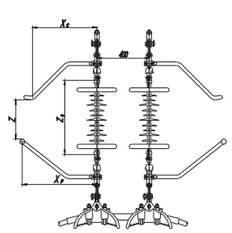


图4

Lightning Anti-winding Device

Outline

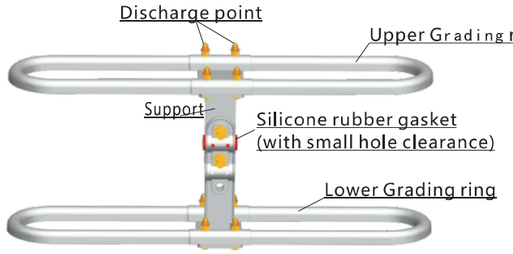
In the line operation, the lightning protection effect of the ground line on the line is not absolute. The phenomenon that we directly hit the lightning line around the lightning protection line is called a wrap.
In the case of lightning discharge, it can generate surge voltages of up to tens of thousands of volts or even hundreds of thousands of volts. It may destroy the insulation of electrical equipment such as generators and power transformers, burn wires and split poles, causing large-scale power outages, and insulation damage may also cause short circuits, causing serious damage such as combustibles, flammable materials, and explosions.
The anti-winding device is a new lightning protection and anti-winding product designed by our company according to a new lightning protection theory. It is installed on the overhead earth line of EHV transmission line and is used for the new power system line to reduce the lightning bypass rate. Lightning protection equipment. It can be applied to AC and DC ultra-high voltage transmission equipment of 110~500kV voltage levels.

Applicable conditions

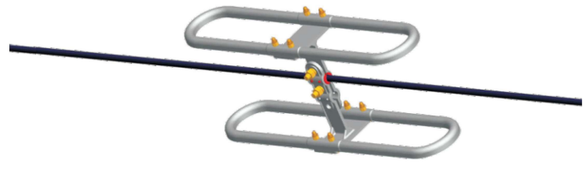
This product is suitable for AC-DC ultra-high voltage transmission equipment of 110~500kV voltage level, and can be applied to 7.5-15mm diameter. Applicable temperature range: -40° C ~ 80° C.

Product structure

1. The products are all cast and formed by high-strength aluminum alloy material, which has the advantages of high strength, light weight and convenient carrying;
2. The gasket is made of high-temperature integral vulcanization of polymer material, which has the advantages of good elasticity, wear resistance, UV resistance, anti-aging, anti-ozone, etc. It is durable and maintenance-free.
3. The standard parts are made of high-performance anti-corrosion stainless steel material, which has the advantages of anti-hysteresis, anti-corrosion, anti-rust and anti-acid rain.



Schematic



Installation diagram

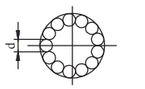
Working principle

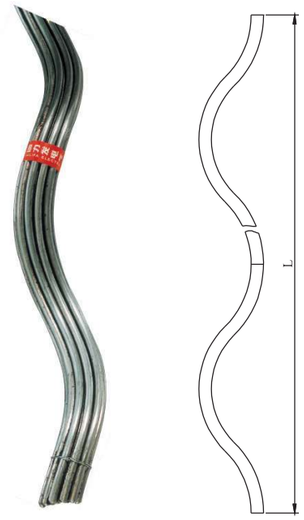
When working, the lightning protection circulator is installed on the upper overhead ground line. At the installation point, it can reduce the electric field strength above the ground line caused by the charged cloud layer by about 97%, so that it does not generate corona discharge when the charged cloud layer gradually approaches the line, in the anti-winding device and the adjacent number There is not a large amount of reverse polarity space charge above the ground in the rice. The potential of the body is similar to that of the charged cloud layer; as the charged cloud layer approaches, the potential difference between the body and the ground line increases continuously. When the potential difference between the body and the ground rises to a certain value, the breakdown device The air in the small hole between the body and the ground line forms a discharge, which instantaneously reduces the potential difference between the body and the ground line, and at the same time causes a large potential difference between the charged cloud layer and the body, and induces the charged cloud layer to discharge to the circulator, passing through the open space. The line leads the lightning current to the tower body to achieve the effect of intelligent anti-winding.

Selection table

Catalog No.	Applicable Voltage Level	Applicable ground wire diameter	Remarks
FHR-35G~120	110~500kV	7.5~15mm	for OPGW ground wire LJ-35~95 GJ-35~100 LGJ-35~120

FYH Performed Armor Rod





Note: Made of high-stretch aluminum alloy, the end uses a parrot mouth design.
No corona phenomenon.

Technical Data Sheet

Catalog No.	Suitable Conductor	Main Dimensions (mm)		Quantity of each group	weight (kg)
		D	L		
FYH-95/15	LGJ-95/15	3.71	1400	13	0.55
FYH-95/20	LGJ-95/20	3.71	1400	13	0.55
FYH-95/55	LGJ-95/55	3.71	1500	16	0.73
FYH-120/7	LGJ-120/7	3.71	1400	14	0.59
FYH-120/20	LGJ-120/20	3.71	1400	14	0.59
FYH-120/25	LGJ-120/25	3.71	1400	14	0.59
FYH-120/70	LGJ-120/70	4.62	1800	14	1.18
FYH-150/8	LGJ-150/8	3.71	1500	16	0.73
FYH-150/20	LGJ-150/20	3.71	1500	16	0.73
FYH-150/25	LGJ-150/25	3.71	1500	16	0.73
FYH-150/35	LGJ-150/35	3.71	1500	16	0.73
FYH-185/10	LGJ-185/10	4.62	1800	14	1.18
FYH-185/25	LGJ-185/25	4.62	1800	14	1.18
FYH-185/30	LGJ-185/30	4.62	1800	14	1.18
FYH-185/45	LGJ-185/45	4.62	1800	14	1.20
FYH-210/10	LGJ-210/10	4.62	1800	14	1.18
FYH-210/25	LGJ-210/25	4.62	1800	14	1.18
FYH-210/35	LGJ-210/35	4.62	1800	14	1.20
FYH-210/50	LGJ-210/50	4.62	1800	14	1.20
FYH-240/30	LGJ-240/30	4.62	1900	16	1.44
FYH-240/40	LGJ-240/40	4.62	1900	16	1.44
FYH-240/55	LGJ-240/55	4.62	1900	16	1.44
FYH-300/15	LGJ-300/15	6.35	2000	13	2.31
FYH-300/20	LGJ-300/20	6.35	2000	13	2.31
FYH-300/25	LGJ-300/25	6.35	2000	13	2.31
FYH-300/40	LGJ-300/40	6.35	2000	13	2.31
FYH-300/50	LGJ-300/50	6.35	2000	13	2.31
FYH-300/70	LGJ-300/70	6.35	2000	13	2.31
FYH-400/20	LGJ-400/20	6.35	2200	14	2.74
FYH-400/25	LGJ-400/25	6.35	2200	14	2.74
FYH-400/35	LGJ-400/35	6.35	2200	14	2.74
FYH-400/50	LGJ-400/50	6.35	2200	14	2.74
FYH-400/65	LGJ-400/65	6.35	2200	14	2.74
FYH-400/95	LGJ-400/95	6.35	2200	14	2.75
FYH-500/35	LGJ-500/35	6.35	2500	16	3.56
FYH-500/45	LGJ-500/45	6.35	2500	16	3.56
FYH-500/65	LGJ-500/65	6.35	2500	16	3.56
FYH-630/45	LGJ-630/45	7.87	2500	15	5.12
FYH-630/55	LGJ-630/55	7.87	2500	15	5.12
FYH-630/80	LGJ-630/80	7.87	2500	15	5.12
FYH-720/50	LGJ-720/50	7.87	2500	15	5.12
FYH-800/55	LGJ-800/55	7.87	2500	17	5.80
FYH-800/70	LGJ-800/70	7.87	2500	17	5.80
FYH-800/100	LGJ-800/100	7.87	2500	17	5.80

FLD Aluminium Armor Tape

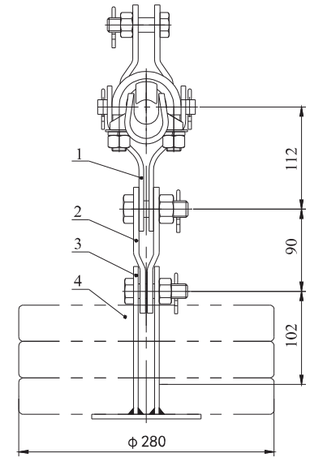
Catalog No.	Specification	Weight	
		kg/m	m/kg
FLD-1	1×10	0.027	37

Suspension Counter Weight Aluminum Parts and Accessories

Technical Data Sheet

Item	Name	Catalog No.	Remarks
1	counter weight clevis	ZG-1	Suitable for installation on XGU-4 suspension clamp
		ZG-2	Suitable for mounting on XGU-5, 6 suspension clamps
2	Parallel clevis	PS-0790	see link fittings
3	weight seat	FZJ-15	
4	weight piece	FZC-15Y	

Note: 1. The heavy counter weight piece is gray cast iron piece, painted, and the rest is hot-dip galvanized steel parts;
2, each heavy hammer seat can be installed with three pieces of heavy hammer, according to the design needs, each added
PS-0790 parallel hanging plate, can add three pieces of hammer

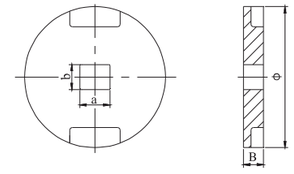


Counter Weight Pieces (FZC type)

Technical Data Sheet

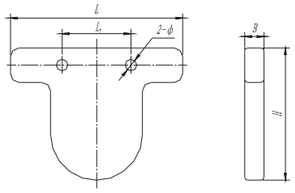
Catalog No.	Main Dimensions (mm)				weight (kg)
	B	ϕ	a	b	
FZC-15Y	40	280	70	50	15.0

Note: Gray cast iron parts, painted.



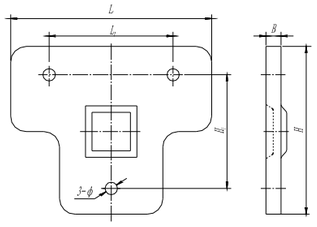
Catalog No.	Main Dimensions (mm)						weight (kg)
	L	L_1	H	H_1	B	ϕ	
FZC-10	300	120	230	/	34	20	10

Note: Gray cast iron parts, painted.



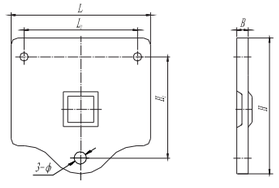
Catalog No.	Main Dimensions (mm)						weight (kg)
	L	L_1	H	H_1	B	ϕ	
FZC-20	390	240	325	220	30	24	20

Note: Gray cast iron parts, painted.

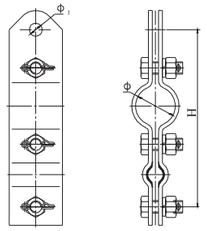


Catalog No.	Main Dimensions (mm)						weight (kg)
	L	L_1	H	H_1	B	ϕ	
FZC-30	400	325	390	290	33	26	30

Note: Gray cast iron parts, painted.

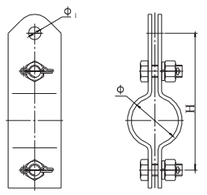


Hoop



Technical Data Sheet

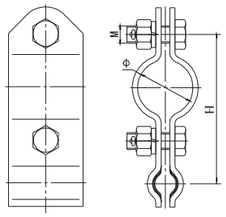
Catalog No.	Applicable Conductor Diameter Range(mm)	Main Dimensions (mm)			Connection fitting strength (kN)
		Φ	H	Φ_1	
BGD-07/48-1	13.9～18.9	48	190	18	70
BGD-07/48-2	18.9～23.9	48	190	18	70
BGD-07/48-3	23.9～27.6	48	190	20	100
BGD-10/48-2	18.9～23.9	48	190	20	100
BGD-10/48-3	23.9～27.6	48	190	20	100



Technical Data Sheet

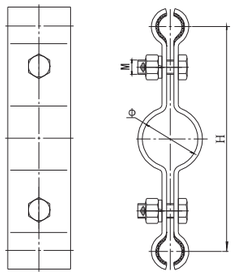
Catalog No.	Main Dimensions (mm)			连接金具强度 (kN)
	Φ	H	Φ_1	
BG-07/60	60	180	18	70
BG-10/60	60	180	20	100

Support clamp



Technical Data Sheet

Catalog No.	Applicable Conductor Diameter Range(mm)	Main Dimensions (mm)		
		Φ	H	M
TZ-1	13.9～18.9	48	140	16
TZ-2	18.9～23.9	48	140	16
TZ-3	23.9～27.6	48	140	16



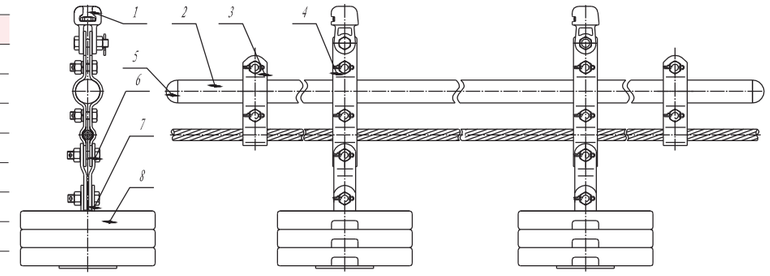
Technical Data Sheet

Catalog No.	Applicable Conductor Diameter Range(mm)	Main Dimensions (mm)		
		Φ	H	M
TZ2-1/250	21.6～23.9	60	250	16
TZ2-2/250	23.9～27.6	60	250	16
TZ2-3/250	27.6～34.3	60	250	16

Single wire jumper bracket installation diagram

Technical Data Sheet

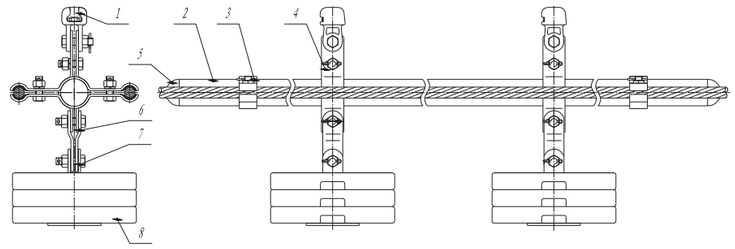
Item	Name	Catalog No.
1	Socket Clevis	WS-**
2	Support steel tube	According to customer needs
3	Support clamp	TZ-**
4	Hoop	BGD-**
5	End cap	MGF-**
6	Parallel Clevis	PS-0790
7	Weight seat	FZJ-15
8	Weight Pieces	FZC-15Y



Horizontal double split wire jumper bracket installation diagram

Technical Data Sheet

Item	Name	Catalog No.
1	Socket Clevis	WS-**
2	Support steel tube	According to customer needs
3	Support clamp	TZ2-**
4	Hoop	BG-**
5	End cap	MGF-**
6	Parallel Clevis	PS-0790
7	Weight seat	FZJ-15
8	Weight Pieces	FZC-15Y



FNC bird thorn

Bird protection device

Due to the implementation of the policy of protecting wetlands throughout the country, wild birds have been protected and the number has increased greatly. The transmission line trips and pollution accidents caused by bird damage have occurred frequently. Therefore, based on a large amount of research work conducted by the company on transmission lines, In combination with the geographical, climatic, ecological, and bird damage characteristics of the region, it has developed anti-bird thorn and bird-proof baffles suitable for various regions of the country.

The bird-proof device is manufactured and installed in accordance with the specifications and regulations of the relevant state departments. After practical application in recent years, the purpose of controlling bird damage has been achieved.

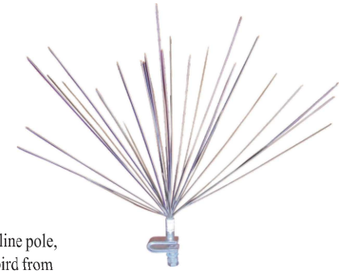
Bird shield

Technical requirement:

1.The anti-bird board material is made of resin insulation board with a thickness of 3mm or 4mm;
2.the fastener is a hook bolt, hanging bolt, flat bracket

Performance characteristics:

1.easy to install
2.the anti-bird effect is obvious
3.convenient maintenance



status of use

Bird thorn

As a product for preventing bird droppings, the bird-proof thorn is installed above the insulator of the line pole, so that the bird can not stay at the position where the event is easy to occur, thereby actively preventing the bird from invading the line tower and preventing the bird fecal flash accident. happened.

1.The thorn body material is made of high quality steel stranded wire that meets national standards.
2.the welding method uses carbon dioxide to protect the seamless welding method, so that the use does not fall off.
3.the thorn body and tube welding using stamping welding.