



**slingco**<sup>®</sup>

## **SLINGCO OIL & GAS PRODUCTS**

**CABLE INSTALLATION AND SUPPORT  
MADE A WHOLE LOT EASIER**



# A GLOBAL BUSINESS BUILT ON QUALITY, INNOVATION, SERVICE ...AND REAL FAMILY TIES

**W**e've been living and breathing manufacturing for as long as we can remember. You can blame our Dad for that!

He founded Slingco more than 40 years ago. Since then, we've grown up and so has the company, evolving into an expert design and manufacturing operation, producing high quality tools for cable and conductor installation - products that are renowned for high performance in quality-critical applications.

Slingco America is based in Atlanta, Georgia, but you'll find our products around the world, making heavy-duty cable installation and support a whole lot easier for people working in industries as varied as public utilities, overhead line construction, oil and gas, marine and offshore, civil engineering, aerospace, transport, the military, performing arts, vehicle building, construction, and more.

You can't make mistakes when you're dealing with products like ours. Too much depends on them. That's why we're obsessive about quality and innovation in design and manufacturing, and why nothing leaves our hands that isn't 100% dependable.

Because we understand exactly what your operation needs, we also know cost is a factor. We keep our prices realistic and hold a vast range of stock for fast – even same day – delivery.

We're brothers, partners, and the driving force behind Slingco, but we're only a small part of the whole picture. We've got a fantastic team of skilled people who share our obsession with quality and great service. We're proud of every one of them.

Together, we're going to carry on developing outstanding products. We're going to carry on getting them out to you in record time. And we're going to carry on being the sort of company it's a pleasure to deal with.

MATT DYKINS  
PRESIDENT, SLINGCO AMERICA

NICK DYKINS  
CEO, SLINGCO LIMITED



# Cable protectors, grips, and centralizers

## Products for Oil & Gas applications



On the rig, where conditions are unforgiving, Slingco tools are built for heavy-duty work. Precision and dependability crews trust shift after shift. We offer extensive ranges of cable protectors, grips, centralizers, and accessories designed to meet the demanding performance requirements of oil and gas operations.

- Cable protectors to fit a variety of cable configurations
- Standard and custom cable protectors
- Galvanized, Stainless and Aramid Grips
- API Certified Centralizers
- Large project delivery
- Quick availability
- 40+ years' experience
- Award winning manufacturer

### CABLE PROTECTORS

Slingco cable protectors provide a safe, efficient way to convey and secure downhole cables into wellbores while reducing the risk of compression-related damage. A full range of products is available for ESP cables, control lines, umbilicals, and encapsulated bundles across a wide range of sizes. Streamlined designs help minimize hang-ups during installation.

The product range includes standard, mid-joint, banded, and centralizing protectors.

### CABLE PULLING GRIPS

Slingco offers a comprehensive range of cable pulling grips engineered for the installation and control of cables and pipes through ducts, conduits, and trenches. Designed for heavy-duty and electrical applications, these grips provide a quick, secure means of pulling, supporting, or positioning cylindrical objects within their rated diameter and load capacity.

Grip options include hose restraint, marine, non-metallic, and support configurations.

#### **⚠ WARNING**

Cancer and Reproductive Harm [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

Some of the products in this catalog are subject to Prop65 health warnings. For details, please contact us.

**PLEASE NOTE:** While every effort has been made to ensure accuracy of all content in this catalog, please confirm with your Slingco contact any critical information before purchase.

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### CENTRALIZERS

Slingco manufactures a range of centralizers, also referred to as casing spacers, suitable for use in vertical, deviated, and horizontal wells. Designed to provide reliable spacing and centralization of piping within larger diameter casings, they are available in rigid and bow-spring configurations.

**CENTRALIZING CABLE PROTECTORS**

This versatile 'hybrid' product is designed to fulfil the dual role of cable protection and centralization, ensuring both can be achieved as quickly and efficiently as possible.

As with the other cable protectors in our range, the Centralizing Cable Protector is available in standard and specialized configurations.

Often installed above and below SSSV, pumps, and other equipment to centralize the tubing.

- Standard range and also custom options
- Quick and Efficient installation performing the dual role of centralizing and protecting



**MID-JOINT CABLE PROTECTORS**

The Mid-Joint Cable Protector is installed between joints of down-hole tubing strings, and is often used in conjunction with other cable protectors to further secure and protect cables or lines from damage.

- Used between the joints
- Offers additional securement and protection of the cables



**BANDED CABLE PROTECTORS**

These lightweight, stamped steel protective cable guards offer a compact, low-cost alternative to our standard Cable Protectors. Designed for use in shallow wells with little to no deviation, the protectors are situated across the coupling and attached to the tubing string with steel bands.

- Lightweight
- Low cost alternative
- Suitable for shallow wells or ones with minimal deviation



**BLAST PROTECTORS**

Slingco Blast Protectors are designed to protect the cables servicing perforating guns in wells. We offer added metal in the protector channel to enhance locating the orientation of the gun through magnetic resonance. Protector styles are long length (56" to 96") with added collars for securing the protector to the tubing. Call Slingco and let us design a protector perfect for your application.

- Long length for secure protection
- Added metal in the channel for orientation locating
- Multiple collars for secure attachment



## CROSS COUPLING PROTECTORS

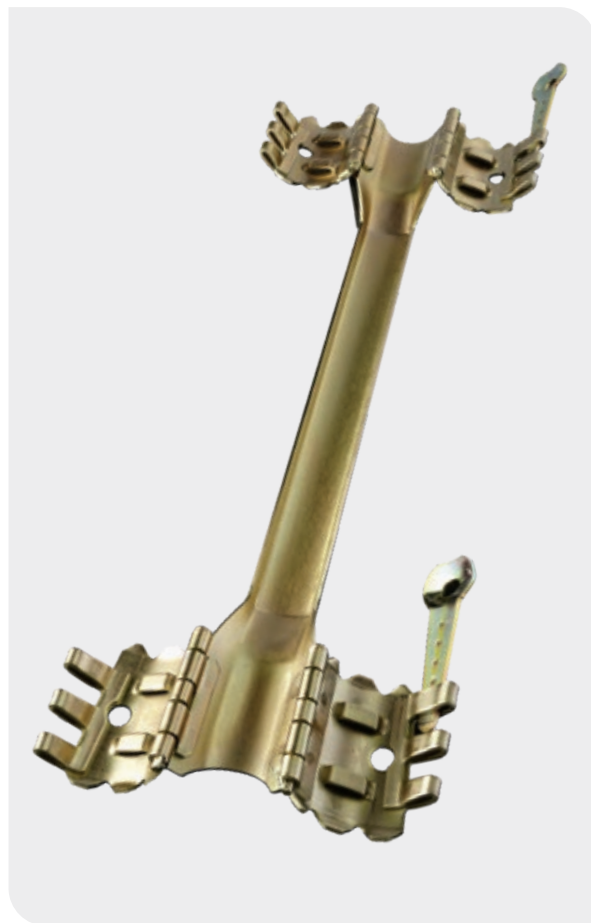
Slingco Cross Coupling Protectors are available in a variety of materials and configurations to protect cables and capillary tubing traveling downhole. Customized variations allow for any cable/cap string configuration needed. Low Carbon Steel, various Stainless Steel, Inconel, Monel and other materials options available to match the requirements of your well composition. Contact Slingco for guidance on selecting the proper protector for your well.

Protector configurations for many applications:

- Artificial Lift
- Well monitoring and intelligent wells
- Offshore well strings with crossovers
- Completions
- Accommodating safety valves, gauges, and other well tools
- Deviated wells and SAG-D

Slingco's corrosion-resistant stamped steel cable protectors should be utilized for all your subsurface cable management. Our rugged oil and gas cable protectors provide cable and capillary safeguards when crossing tubing couplings.

- Various cable configuration options available
- Standard and low profile models
- Easy installation
- Securely holds and protects lines
- Reusable after inspection and cleaning
- Can be manufactured in many different metals



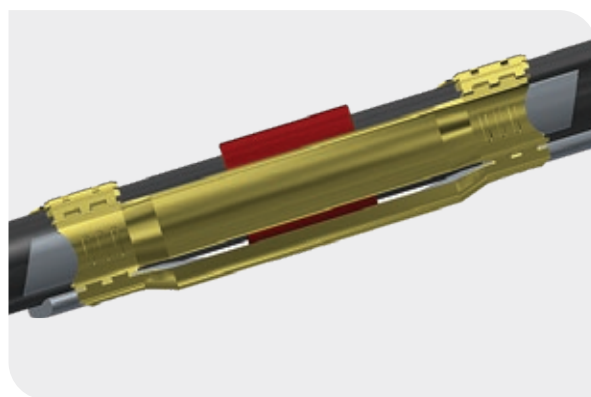
## DUAL CHANNEL CROSS COUPLING PROTECTORS

Slingco Dual Channel Protectors increase the number of cables that may be protected by adding a second channel to the cable protector.

They can accommodate multiple ESP cables plus additional cap lines or control cables. As with standard cross coupling protectors these may be made in a variety of materials and configurations to protect cables and capillary tubing traveling down hole.

Customized variations allow for any cable/cap string configuration needed. Low Carbon Steel, various Stainless Steel, Inconel, Monel and other materials options available to match the requirements of your well composition.

- Easy Install hinge design
- Standard and low profile models
- Securely holds and protects lines
- Special and custom features available



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**HYDRAULIC CABLE PROTECTOR INSTALLATION TOOL KIT**



Slingco's Hydraulic Cable Protector Installation Tool Kits allow you to safely and efficiently install Slingco cable protectors.

Slingco Part No.	Description	Quantity
ZCP4429	Hydraulic Installation Tool Kit (See Bill of Materials Below for Parts Listing)	
<b>Parts Included in Hydraulic Installation Tool Kit</b>		<b>Quantity</b>
	Hydraulic Installation Tool Kit - Storage Locker	1
	Air Gun Hammer (With ISO-B Connection)	1
	Hand Operated Hydraulic Clamping Tool (Tool Only)	1
	Air-Driven Hydraulic Pump (Pump Only)	1
	Rubber Air Hose - 59" L (Brass 1/4" ISO-B Connections)	1
	Rubber Air Hose - Labeled "Air Out" - 157" L (Brass 1/4" ISO-B Connections)	1
	Rubber Air Hose - Labeled "Air Hammer" - 181" L (Brass 1/4" ISO-B Connections)	1
	Rubber Air Hose - Labeled "Pump" - 134" L (Brass 1/4" ISO-B Connections)	1
	Rubber Hydraulic Hose & Air Lines - 79" L (Stainless 1/4" ISO-B Connections)	1
	Male-Male-Female Quick Connect 1/4" ISO-B Brass Tee Coupling Assembly	1
	Hydraulic Installation Tool Kit - Spare Parts Bag	1
	Air Gun Replacement Tips (0.401" - EN24T)	5

**MANUAL CABLE PROTECTOR INSTALLATION TOOL KIT**



Slingco's Manual Cable Protector Installation Tool Kit allows you to safely and efficiently install stamped cable protectors.

Manual Clamping Tool may be adjusted to work perfectly with any brand of stamped cable protector.

Slingco Part No.	Description	Quantity
ZCP4428	Manual Installation Tool Kit	
<b>Parts Included in Manual Installation Tool Kit</b>		<b>Quantity</b>
	Manual Clamping Tool	1
	Manual Installation Tool Punch	1
	Manual Installation Hammer	1
TOO4469	Manual Clamping Tool	




# Control.

## When extreme conditions leave no margin for error.

Cable protectors, grips, and centralizers for Oil & Gas applications





## RIGID CENTRALIZERS

Designed to ensure concentricity and standoff in deviated and horizontal wells, this one-piece centralizer minimises differential sticking. As with other centralizers in our range the Rigid Centralizer is available in multiple sizes and blade configurations.

- API Certified
- Multiple sizes and configurations
- Minimizes differential sticking



## BOW SPRING CENTRALIZERS

Specially designed for vertical wells where low principal forces and high restoring forces are required, this one-piece design simplifies installation onto casings. The Bow Spring Centralizer is available in multiple sizes and blade configurations.

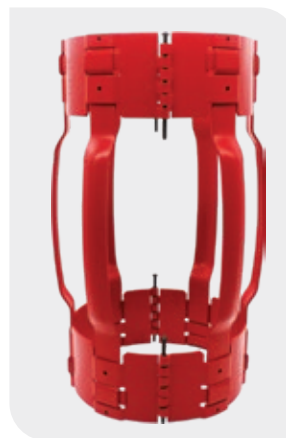
- API Certified
- Simplifies installation
- Multiple sizes and configurations



## HINGED BOW SPRING CENTRALIZERS

Bow Spring centralizers provide high restoring forces to centralize tubing and casing within a well. Our Hinged Bow Spring Centralizers make installation easier with hinged opening to wrap onto tubing or casing. Pins secure the centralizer. Use with stop collars to maintain position of the centralizer.

- Exceeds API Spec 10D
- Made of steel plate and spring steel material
- Hinge allows for easy installation



STANDARD DUTY HOSE RESTRAINT GRIPS - DOUBLE EYE

Slingco offer a range of safety restraining grips and whip checks designed to prevent whipping in the event of a pressurized hose becoming detached from its fitting. Made from the highest grade galvanized steel and 316 stainless steel wire, and color coded for range identification, our grips are designed for various plant-critical applications across a wide range of commercial industries. Suitable for restraining all types of high pressure hoses such as water and air hoses, hydraulic hoses, concrete pump and delivery hoses as well as supporting electrical cabling within critical applications within mining, automation and other industrial sectors.

The grips are woven in such a way that the lattice or weave is uniform throughout its length, ensuring even load protection around the hose. This helps with any adverse abrasion to the hose and prevents displacement in the event of rupture. Available for 1/2" to 7" diameter hoses.



Slingco Part No.	Grip material	Thimble Eye	Thimble Size	Weave	Range		Eye length		Lattice/Weave		Overall length		Break load			Color Code
					mm	in	mm	in	mm	in	mm	in	kg	lb	kN	
ZCS14350	Galv	SS	6	Double	6-14	0.24-0.55	90	4	330	13	420	17	1600	3527	16	White
ZCS14351	Galv	SS	6	Double	14-20	0.55-0.80	90	4	352	14	442	17	2000	4409	20	White
ZCS14352	Galv	SS	6	Double	20-30	0.80-1.25	115	5	574	23	689	27	2500	5512	25	White
ZCS14353	Galv	SS	8	Double	30-40	1.25-1.50	165	6	810	32	975	38	4300	9480	42	Brown
ZCS14354	Galv	SS	8	Double	40-50	1.50-2.00	185	7	893	35	1078	42	6200	13669	61	Orange
ZCS14355	Galv	SS	10	Double	50-60	2.00-2.40	230	9	1215	48	1445	57	8100	17857	79	Yellow
ZCS14356	Galv	SS	10	Double	60-70	2.40-2.75	240	9	1224	48	1464	58	8100	17857	79	Blue
ZCS14357	Galv	SS	10	Double	70-90	2.75-3.50	260	10	1295	51	1555	61	8100	17857	79	Red
ZCS14358	Galv	SS	14	Double	90-110	3.50-4.30	280	11	1468	58	1748	69	10500	23148	103	Green
ZCS14359	Galv	SS	14	Double	110-130	4.30-5.00	350	14	1551	61	1901	75	12500	27558	123	Black
ZCS14360	Galv	SS	16	Double	120-150	4.70-5.90	400	16	1582	62	1982	78	16000	35274	157	Grey
ZCS14361	Galv	SS	16	Double	140-180	5.50-7.00	450	18	1533	60	1983	78	20000	44092	196	Light Blue
ZCS14362	SS	SS	6	Double	6-14	0.24-0.55	90	4	330	13	420	17	1280	2822	13	White
ZCS14363	SS	SS	6	Double	14-20	0.55-0.80	90	4	352	14	442	17	1600	3527	16	White
ZCS14364	SS	SS	6	Double	20-30	0.80-1.25	115	5	574	23	689	27	2000	4409	20	White
ZCS14365	SS	SS	8	Double	30-40	1.25-1.50	165	6	810	32	975	38	3440	7584	34	Brown
ZCS14366	SS	SS	8	Double	40-50	1.50-2.00	185	7	893	35	1078	42	4960	10935	49	Orange
ZCS14367	SS	SS	10	Double	50-60	2.00-2.40	230	9	1215	48	1445	57	6480	14286	64	Yellow
ZCS14368	SS	SS	10	Double	60-70	2.40-2.75	240	9	1224	48	1464	58	6480	14286	64	Blue
ZCS14369	SS	SS	10	Double	70-90	2.75-3.50	260	10	1295	51	1555	61	6480	14286	64	Red
ZCS14370	SS	SS	14	Double	90-110	3.50-4.30	280	11	1468	58	1748	69	8400	18519	82	Green

Performance.  
Under the toughest conditions.

We test to destruction here,  
to make sure it doesn't happen out there



## HEAVY DUTY HOSE RESTRAINT GRIPS - DOUBLE EYE

Our heavy duty range of hose restraint grips can be used in areas where high break loading are required, mainly within highly critical environments. Available in our standard double format we also offer a range using a multi-weave option.

The grips are woven in such a way that the lattice or weave is uniform throughout its length ensuring even load protection around the hose. This helps with any adverse abrasion to the hose and prevents displacement in the event of rupture.

Available for - 1" to 7" diameter hoses.

Slingco Part No.	Eye Type	Range		Lattice Length		Lattice Weave	Approx. Break Load	
		in	mm	in	mm		lb	kg
<b>DOUBLE THIMBLE EYE - GALVANIZED STEEL</b>								
ZCS5363	Thimble eye	1.0 - 1.5	25 - 38	26	660	Double	11,000	4,911
ZCS5364	Thimble eye	1.5 - 2.5	38 - 63	40	1,016	Double	20,000	8,928
ZCS5365	Thimble eye	2.5 - 3.5	63 - 89	42	1,067	Double	22,000	9,821
ZCS5366	Thimble eye	3.5 - 4.5	89 - 114	44	1,118	Double	27,000	12,053
ZCS5367	Thimble eye	4.5 - 5.5	114 - 140	48	1,219	Double	31,000	13,839
ZCS6012	Thimble eye	5.5 - 7.0	140 - 180	60	1,524	Double	50,000	22,685
<b>DOUBLE THIMBLE EYE - 316 STAINLESS STEEL</b>								
ZCS5650	Thimble eye	1.0 - 1.5	25 - 38	26	660	Double	7,700	3,437
ZCS5651	Thimble eye	1.5 - 2.5	38 - 63	40	1,016	Double	14,000	6,250
ZCS5652	Thimble eye	2.5 - 3.5	63 - 89	42	1,067	Double	15,400	6,874
ZCS5653	Thimble eye	3.5 - 4.5	89 - 114	44	1,118	Double	18,900	8,437
ZCS5654	Thimble eye	4.5 - 5.5	114 - 140	48	1,219	Double	21,700	9,687
ZCS6000	Thimble eye	5.5 - 7.0	140 - 180	60	1,524	Double	35,000	15,880
<b>DOUBLE THIMBLE EYE - GALVANIZED STEEL (LONG)</b>								
ZCS3146	Thimble eye	0.59-0.79	15-20	49	1,250	Single	2,730	1,240
ZCS3148	Thimble eye	0.79-1.18	20-30	49	1,250	Double	4,380	1,990
ZCS3149	Thimble eye	1.18-1.57	20-30	49	1,250	Single	5,620	2,550
ZCS3150	Thimble eye	1.18-1.57	30-40	49	1,250	Double	6,740	3,060
ZCS3151	Thimble eye	1.57-1.97	40-50	59	1,500	Double	13,060	5,930
ZCS3152	Thimble eye	1.97-2.36	50-60	59	1,500	Double	14,610	6,630
ZCS3153	Thimble eye	2.36-2.76	60-70	59	1,500	Double	17,160	7,790
ZCS3154	Thimble eye	2.76-3.54	70-90	59	1,500	Double	17,870	8,110
ZCS3155	Thimble eye	3.54-4.33	90-110	59	1,500	Double	26,070	11,830
ZCS3156	Thimble eye	4.33-5.12	110-130	59	1,500	Double	26,070	11,830
ZCS3157	Thimble eye	4.72-5.91	120-150	59	1,500	Double	28,100	12,750
ZCS3158	Thimble eye	5.51-7.09	140-180	59	1,500	Double	28,100	12,750
<b>DOUBLE EYE MULTIWEAVE - MAX STRENGTH - 316 STAINLESS STEEL</b>								
ZCS3995	Thimble eye	1.14 - 1.57	29 - 40	50	1,270	Double	35,000	15,625
ZCS3295	Flex eye	2.75 - 3.44	70 - 87	58	1,460	Multiple	49,000	22,230
ZCS3254	Flex eye	3.00 - 3.50	76 - 89	58	1,460	Multiple	39,200	17,785
ZCS6004	Flex eye	3.50 - 4.75	89 - 120	58	1,460	Multiple	50,000	22,320



**CAN'T FIND THE SPECIFICATION YOU NEED?**

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**SLINGCO NON-METALLIC ARAMID CABLE GRIPS FOR PULLING CABLE IN MANY INDUSTRIAL & COMMERCIAL PROJECTS**



**Slingco's Non-Metallic Aramid Cable Grip Features:**

- Break loads similar to steel cable grips
- Lightweight
- No more frayed grip wires
- UV Resistant and strong enough to last in salt water, pollutants, and underground
- We can create custom grips to meet your specifications

Slingco's line of Non-Metallic Aramid Cable Grips are ideal for use in fiber optic cable installation operations, offshore applications, or for a multitude of uses in the utilities industry.

These grips are made of a high-strength, non-metallic aramid fiber, with UV protective coating, and now feature an improved weight to break ratio. They are suitable for pulling both single cable and multiple cable bundles.

Thanks to the non-metallic material, these grips are easy to work with even without gloves. The woven mesh material also offers

a non-metallic, non-conductive alternative to steel grips.

We have many different styles of Non-Metallic Aramid Cable Grips for your project, such as Single Eye, Double Eye, Offset Eye, Lace Up, Mining Grips, and our new Single Eye Double Weave Grips made of ultra flex aramid material. We can also work with you to customize an Aramid Cable Grip to match any particular project specifications.

Call your Slingco Account Manager today and they will help you select the right grip for your project!

**ND TYPE - DOUBLE EYE ARAMID CABLE GRIP**



Slingco Part No	Range		Lattice Length		Approx. Break Load	
	in	mm	in	mm	lb	kg
<b>DOUBLE EYE SINGLE WEAVE NON-METALLIC GRIP</b>						
ZCS1148	0.38 - 0.75	10 - 20	22	552	2,460	1,115
ZCS1176	0.75 - 1.25	20 - 30	21	523	3,580	1,620
ZCS2922	1.00 - 1.50	25 - 38	23	573	3,580	1,620
ZCS1177	1.25 - 1.50	30 - 40	25	642	4,920	2,230
ZCS1178	1.50 - 2.00	40 - 50	19	487	5,820	2,640
<b>DOUBLE EYE DOUBLE WEAVE NON-METALLIC GRIP</b>						
ZCS1182	1.25 - 1.50	30 - 40	25	642	9,860	4,472
ZCS1183	1.50 - 2.00	40 - 50	26	667	11,880	5,389
ZCS1184	2.00 - 2.50	50 - 65	25	636	15,900	7,212
ZCS1185	2.50 - 3.00	65 - 76	30	762	15,900	7,212
ZCS1186	3.00 - 4.00	76 - 102	32	800	15,900	7,212
ZCS3813	4.00 - 5.00	102 - 127	61	1,540	15,900	7,212

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## NO TYPE - OFFSET EYE ARAMID CABLE GRIP



Single Offset Eye Single Weave Non-Metallic Grip



Single Offset Eye Lace Up Non-Metallic Cable Grip



Double Offset Eye Non-Metallic Cable Grip

Slingco Part No	Range		Lattice Length		Approx. Break Load	
	in	mm	in	mm	lb	kg
<b>SINGLE OFFSET EYE SINGLE WEAVE NON-METALLIC GRIP</b>						
ZCS2810	0.38 - 0.75	10 - 20	21	535	2,460	1,115
ZCS2811	0.75 - 1.25	20 - 30	21	535	3,580	1,620
ZCS2921	1.00 - 1.50	25 - 40	23	584	3,580	1,620
ZCS2812	1.25 - 1.50	30 - 40	25	635	4,920	2,230
ZCS2813	1.50 - 2.00	40 - 50	21	535	5,820	2,640
<b>SINGLE OFFSET EYE DOUBLE WEAVE NON-METALLIC GRIP</b>						
ZCS09342	0.50 - 1.00	13 - 25	39	990	8,093	3,671
ZCS2814	1.25 - 1.50	30 - 40	34	864	9,860	4,470
ZCS2815	1.50 - 2.00	40 - 50	25	635	11,880	5,390
ZCS2816	2.00 - 2.50	50 - 65	25	635	15,900	7,210
ZCS2817	2.50 - 3.00	65 - 76	26	667	15,900	7,210
ZCS2818	3.00 - 4.00	76 - 102	34	864	15,900	7,210
<b>SINGLE OFFSET EYE EXTENDED EYE 12" NON-METALLIC GRIP</b>						
ZCS7053	0.50 - 0.63	13 - 16	24	610	800	363
ZCS7054	0.63 - 0.74	16 - 19	24	610	1,000	454
ZCS7055	0.75 - 1.00	19 - 25	24	610	1,200	544
ZCS7056	1.00 - 1.25	25 - 32	24	610	1,200	544
<b>SINGLE OFFSET EYE LACE UP NON-METALLIC CABLE GRIP</b>						
ZCS09342	0.50 - 1.00	13 - 25	39	990	8,093	3670
ZCS09323	0.63 - 1.00	16 - 25	59	1498	13,000	5896
ZCS10476	3.00 - 5.00	76 - 127	30	762	5,000	2267
<b>DOUBLE OFFSET EYE NON-METALLIC CABLE GRIP</b>						
ZCS8176	2.50 - 3.00	65 - 76	39	990	8,000	3,629
ZCS09959	2.50 - 3.50	65 - 89	36	914	9,000	4,083
ZCS6823	3.00 - 4.00	76 - 102	33	838	9,000	4,082



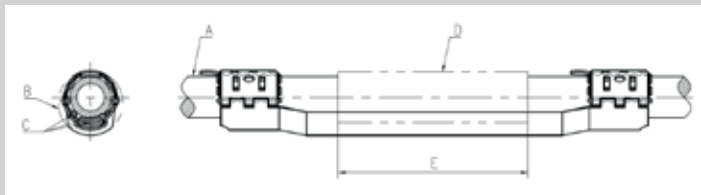
# IMPORTANT TECHNICAL INFORMATION

## SELECTING THE APPROPRIATE CABLE PROTECTOR FOR A WELL

Slingco's stamped steel cable protectors are designed to securely hold cables and other well components that require protection within a specific, narrowly defined size range. This range is clearly indicated in our drawings and stamped on the cable protector itself. The design of Slingco cable protectors provides a minimum of 1,500 pounds of holding strength at the minimum cable specification for that protector. The holding strength is defined by the amount of pulling load required to cause any movement of the cable when it is securely installed in the cable protector.

For example, if the cable protector description is 3-1/2 F16-19/56, then it will hold the cable with a minimum of 1,500 pounds of force if the cable is at the minimum 16 mm thickness. If the cable thickness is more than the minimum value, then the holding strength will increase. It is important to note that any thermal expansion of the tubing or cable will add to the holding strength and compression of the cable. Below is information to help select the appropriate cable protector to adequately protect cables in a well.

When selecting cable protectors for a well, it is important to identify the well configuration and environment properly to adequately protect the tubing, cables, and measurement equipment. Below is a list of important characteristics of cables protectors.



- A. Production Tubing OD\*
- B. Maximum Running OD
- C. Cable(s) Dimensions – (Qty) Cable Size/Dimensions\*
  - a. (1) 11 x 11 mm line, (3) 3/4" OD lines
- D. Coupling OD (if applicable)
- E. Coupling Length (if applicable)

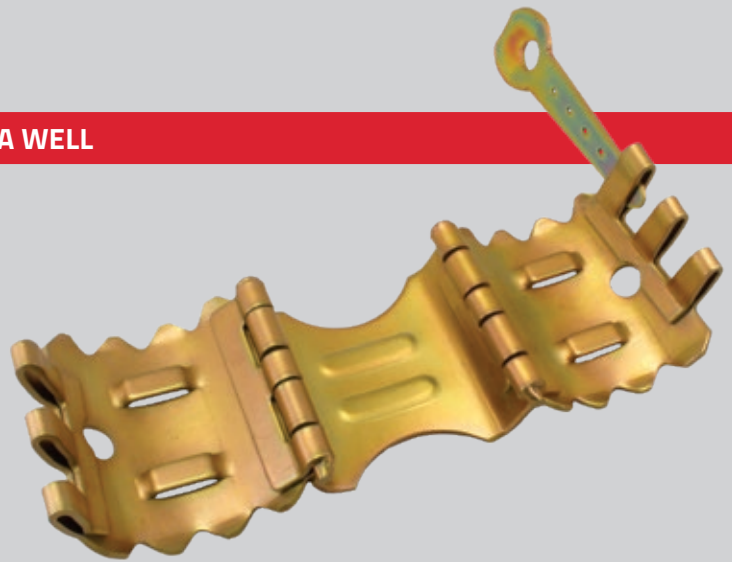
\*Minimum information required for design identification.

### PRODUCTION TUBING

Select a cable protector specific to the tubing string being run. Slingco cable protectors can be manufactured for API tubing and casing sizes.

### MAXIMUM RUNNING OD

Specify a maximum running OD for the protector. Generally, the running OD should be at least 0.15" – 0.25" less than the casing drift ID.



### CASING DRIFT ID

The casing drift ID is a very important measurement when specifying cable protectors. The drift ID of the casing is the maximum value that can fit through the casing. Anything larger than the drift ID will have fitment issues during installation.

### CABLE DIMENSIONS

Specify the dimensions of each cable being run in the tubing string and the quantity of each. Multiple channels can be included in the design if multiple cables are being run. If a specific layout of the cables is required, please provide a schematic of the positions of each cable.

### COUPLING DIMENSIONS

Specify the dimensions of the coupling (if applicable) or the coupling type (EUE, VAM, etc.).

### MATERIAL SELECTION

Standard cable protectors are manufactured from Low Carbon Steel and finished with a zinc passivation for corrosion resistance during delivery and while in storage. Slingco can produce cable protectors made from SS316, SS410, Inconel, Monel, Super Duplex, or other materials if needed based on the well conditions.

### PROTECTOR TYPES

There are many different styles of cable protectors for different applications. Slingco offers a variety of cable protector types, including the following:

- Cross Coupling
- Mid Joint
- Banded
- Flush
- Splice
- Gauge
- Blast
- Centralizing
- Crossover

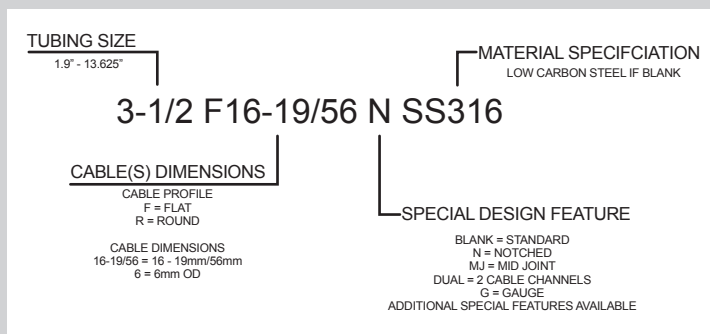
For example, cross coupling cable protectors protect the cables across the coupling location, while mid joint protectors hold the cables against the tubing between coupling connections. Other styles of protectors offered are blast protectors (for perforating operations), splice protectors (for protecting splice connections), gauge protectors (for protecting downhole gauges), and centralizing protectors (for maintaining stand-off clearance).

### SPECIAL EQUIPMENT

Specify special equipment being run (if needed for the protector type). This could include splice or gauge information, safety valves, or special configurations.

### SLINGCO PROTECTOR NAMING CONVENTION

Slingco protectors are identified with a part number beginning in ZCP (for cable protectors) or ZWC (for centralizers). A description of the cable protector is also provided on each drawing and stamped onto the protector during manufacturing. The naming convention is as below:



For another example, a splice protector for 3.50" tubing with (2) 11 x 11 mm lines and (1) 6mm OD line in SS316 would have the description:

3-1/2 F11X2 R6 SPLICE19 F11X2 R6 L40 SS316

This allows for quick identification during installation ensuring that the correct protector is being installed onto the tubing string.

### TO QUOTE SLINGCO CABLE PROTECTORS

Please email the requirements of the cable protectors to [sales@slingcoamerica.com](mailto:sales@slingcoamerica.com) for design identification and quoting. Once received, a design drawing will be sent over by a Slingco representative for review. If needed, provide feedback and the design will be modified to the specification provided.



When selecting cable protectors for a well, it is important to identify the well configuration and environment properly to adequately protect the tubing, cables, and measurement equipment

# IMPORTANT TECHNICAL INFORMATION

## CABLE PULLING GRIPS AND CABLE SUPPORT GRIPS

### ASSESSMENT OF SUITABILITY

There are many factors that must be taken into account when assessing the suitability of a cable grip for a proposed application and trying to calculate a safe working load. These include:

- Size of cable grip in relation to size/shape of gripped object(s)
- Stability of object(s) when gripped
- Grip surface of object(s)
- Resistive force of object(s)
- Anticipated path of movement, including possible obstructions
- Approximate breaking strength of the cable grip
- Condition of cable grip
- Suitability and compatibility of any attachments used
- Environment / operating conditions
- Persons at risk

If you have any questions regarding suitability for any particular application please call the distributor who supplied the cable grip or our in-house Technical Department.

*Please note:* Slingco cable grips must be double steel banded securely before being pulled.

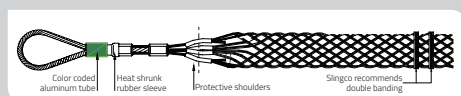
### LATTICE DIMENSIONS

Lattice dimensions shown are as fitted to a nominal diameter of cable and prior 'free length' may be slightly longer than stated.

### APPROXIMATE BREAK LOAD

This is the calculated average based on actual testing done by Slingco. Approximate Break Loads are quoted as a guide only.

### TYPICAL CONFIGURATIONS



### SAFE WORKING LOAD

Application load is normally calculated to be reduced by at least a factor of 5x the Approximate Break Load. Due to the wide variety of application parameters, the end user must apply a sensible safety factor to suit the safety requirements for the conditions of use.

The Safe Working Load (SWL) of a Slingco cable grip will depend on the Factor of Safety (FOS) applied to the Minimum Breaking Load.

### FACTOR OF SAFETY (FOS)

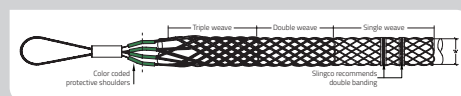
Where the operational risk is considered to be normal, it is recommended that a FOS of 5 be applied, for a high risk operation a FOS of at least 10 should be considered. It is impossible to catalog or guarantee a safety factor that will apply for all applications.

Approximate Break Loads stated on any certification, the recommended Factors of Safety, and any implied or stated fitness for purpose, are all only applicable when the cable grip is as new and unused.

A 20% variance in break loads must be allowed for when selecting a cable grip; a suitable swivel must be used if there is 'twist' in the cable.

Pulling devices should only be attached via the pulling eye.

Torsional stress must be dealt with when using grips for line pulls and wire splices. When twisting forces are present use a swivel that rotates under load to release torsional stress.



## Cable Grip Safety Information

- Ensure that the cable grip mesh fits conductor correctly.
- Ensure that the conductor fits up to the mid-point of the protective shoulder.
- Band the ends of the cable grip when attaching the conductor. We recommend between 1 1/4" and 2 1/4" from the end of the cable grips.
- Never modify or attempt to repair any grip.
- Ensure proper maintenance of the cable grip. If in doubt call 888-685-9478.
- Check the condition of the cable grip, and that it is the correct size for the intended application - do not exceed the rated capacity.
- Grips that are worn, bent or otherwise damaged should not be used.
- Grips are only to be used for temporary installations
- Pulling devices should only be attached via the pulling eye. It is NOT recommended that grips or swivels be run over tensioners while under load.
- Cable grips must only be fitted and used by trained competent person(s).
- Cable grips must not be used as primary lifting devices.



SLINGCO CABLE GRIPS MUST NOT BE USED TO THEIR APPROXIMATE BREAKING STRENGTH. A SENSIBLE SAFETY FACTOR MUST ALWAYS BE USED. IF IN DOUBT CONTACT THE MANUFACTURER OR THE DISTRIBUTOR THAT SUPPLIED THE GRIP!

If you have any questions regarding suitability for any particular application please call 888-685-9478

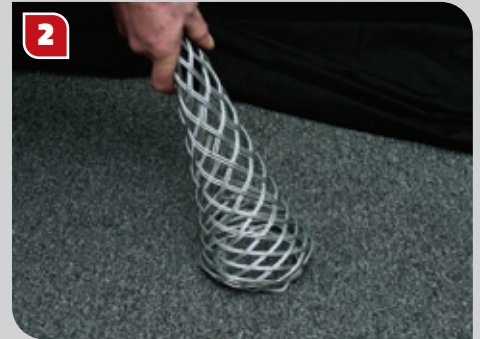


## SINGLE AND DOUBLE EYE CABLE GRIP INSTRUCTIONS

**PLEASE NOTE:** The condition of the cable grip should always be checked prior to use. The correct size of grip should always be used for the intended application. The rated capacity of the grip should never be exceeded. Grips that are worn, bent or otherwise damaged should not be used.



1 Select the correct grip for the diameter of the conductor.



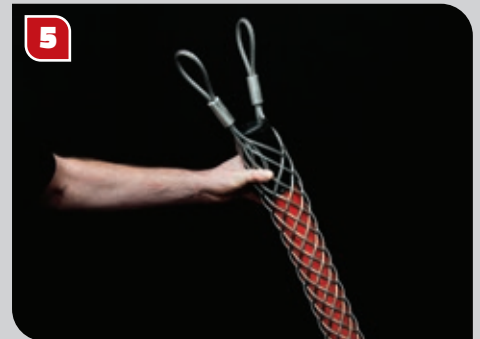
2 Prior to use, the lattice at the end of the grip needs to be widened. This can be easily achieved by pressing the end of the grip against a hard surface, which causes the lattice to expand.



3 The grip should then be placed over the end of the conductor...



4 ...and pushed over the conductor.



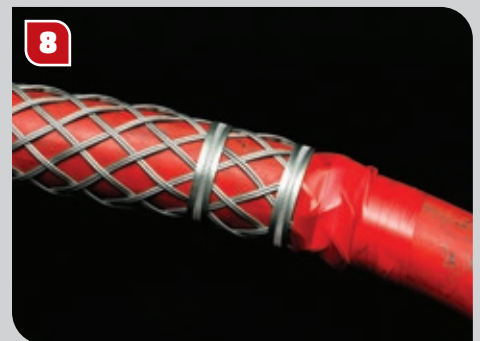
5 The grip then needs to be pushed along so that all the lattice is in contact with the conductor.



6 Once the cable grip is in place on the conductor, two bands should be fitted to the end of the grip (as shown). We recommend between 1 1/4" (30mm) and 2 1/4" (55mm) away from the end of the cable grip.



7 Tape should then be wound around the end of the cable grip furthest away from the eye ends.



8 This will prevent the cable grip from snagging when in use.

 **888 685 9478**

 [sales@slingcoamerica.com](mailto:sales@slingcoamerica.com)

 [slingco.com](http://slingco.com)



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