

# CANNON SERVICES, LTD.

*The Industry's Leading Source for ESP Cable and Control Line Protection Systems*

## Overview

Cannon's Cross Coupling Protectors are used to protect virtually any configuration of control lines, ESP cables, umbilical lines or encapsulated bundles in the wellbore. The Protectors use channels to shield cables or lines as they transition across the coupling to prevent damage during installation or retrieval of completions. The Protector uses a compressive fit design to accommodate oversize or undersize tubing per API spec and securely engage the cable or lines to the tubing. Field installation is quick and simple using our air driven hydraulic installation tools to compress the collars and drive the Taper Pin into place.



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## Cross Coupling Protector

### ***Applications***

Protection for cables and lines on:

- ❖ Artificial lift
- ❖ Permanent Gauges
- ❖ Intelligent Wells
- ❖ Chemical Injection
- ❖ Fiber Optics
- ❖ Safety Valves
- ❖ Geo Phones

### ***Features & Benefits***

- ❖ Interchangeable designs to fit tubing sizes from 2.375" OD to 13.375" OD
- ❖ Configurations for flat, round, or square cables, bundles or lines
- ❖ Compatible with Fiber Optics
- ❖ Dual or triple channel configurations available to separate multiple line configurations
- ❖ Protectors are re-useable saving costs on well recompletions
- ❖ Suitable for high angle wellbores
- ❖ Custom configurations upon request

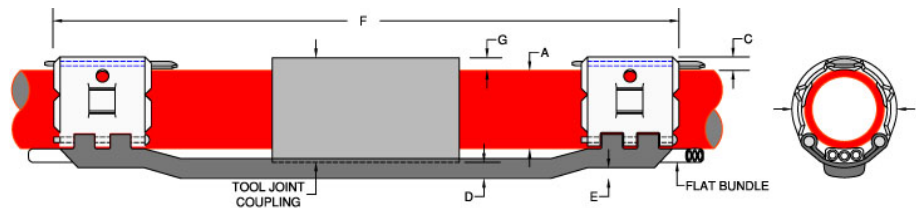


# Cross Coupling Protector

## Specification Guide – Flat Channel

7.000	7.85	.41	.47	.59	.66	.72	.87	1.05	Calculation of Nominal Running OD ADD 1. "A" Dimension 2. The larger of dimension "C" or "G" 3. "D" Dimension 4. The larger of dimension "E" or "G"
5.500	6.35	.41	.45	.58	.64	.70	.85	1.03	
5.000	5.85	.40	.44	.56	.63	.69	.84	1.02	
4.500	5.35	.40	.42	.54	.61	.67	.82	1.00	
4.000	4.85	.39	.41	.53	.60	.66	.81	.99	
3.500	4.35	.38	.37	.49	.56	.62	.77	.95	
2.875	3.73	.38	.37	.49	.56	.62	.77	.95	
2.375	3.23	.38	.37	.49	.56	.62	.77	----	
PRODUCTION TUBING SIZE A	+.427 /SIDE B	C	.250	.375	.43	.50	.65	.79	E = 0.43 Offset For All Channels  F = 25.5 For All Standard Protectors  G = Coupling or Tool Joint Dimension
			CABLE SIZE D						

\* Consult your Cannon Representative for actual running OD's, additional sizes and configurations



## Specification Guide – Round Channel

7.000	7.85	.41	1.27	1.37	1.47	1.57	1.67	1.77	Calculation of Nominal Running OD ADD 1. "A" Dimension 2. The larger of dimension "C" or "G" 3. "D" Dimension 4. The larger of dimension "E" or "G"
5.500	6.35	.41	1.25	1.35	1.45	1.55	1.65	1.75	
5.000	5.85	.40	1.23	1.33	1.43	1.53	1.63	1.73	
4.500	5.35	.40	1.21	1.31	1.41	1.51	1.61	1.71	
4.000	4.85	.39	1.19	1.29	1.39	1.49	1.59	1.69	
3.500	4.35	.38	1.17	1.27	1.37	1.47	1.57	1.67	
2.875	3.73	.38	1.15	1.25	1.35	1.45	1.55	1.65	
2.375	3.23	.38	1.15	1.25	1.35	1.45	1.55	----	
PRODUCTION TUBING SIZE A	+.427 /SIDE B	C	1.00	1.10	1.20	1.30	1.40	1.50	E = 0.43 Offset For All Channels  F = 25.5 For All Standard Protectors  G = Coupling or Tool Joint Dimension
			CABLE SIZE D						

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