



Cable Protectors

General Brochure



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Unibrom designs and manufactures durable downhole cable protectors to safely convey and efficiently secure virtually any configuration of control lines or cables into or out of well-bores. Unibrom uses an all-round engineering approach to develop cable protectors that can be customised or configured for a range of tubing sizes, cable sizes and cable types. These protectors have a slick profile and can be installed or removed easily and rapidly. Customised configurations and alternative materials are available upon request.

Product Features

- Engineered for optimal down-hole protection of ESP conductors
- Strategically placed contact points for superior grip
- Holds cables in place with minimal slipping and rotation
- Galvanized coating for maximum rust protection
- Choice of hydraulic or manual tools for installation and removal
- Materials and design can be customized to user specifications



Multiple Contact Points for Superior Grip



Available in Various Configurations

Applications

- ESP cable
- Subsurface safety valves control line
- Chemical injection line
- Permanent Gauges
- Intelligent Wells
- Fiber Optic
- Coiled tubing



Hydraulic Tools for Rapid Installation and Removal

Cable Protectors

Design Specifications

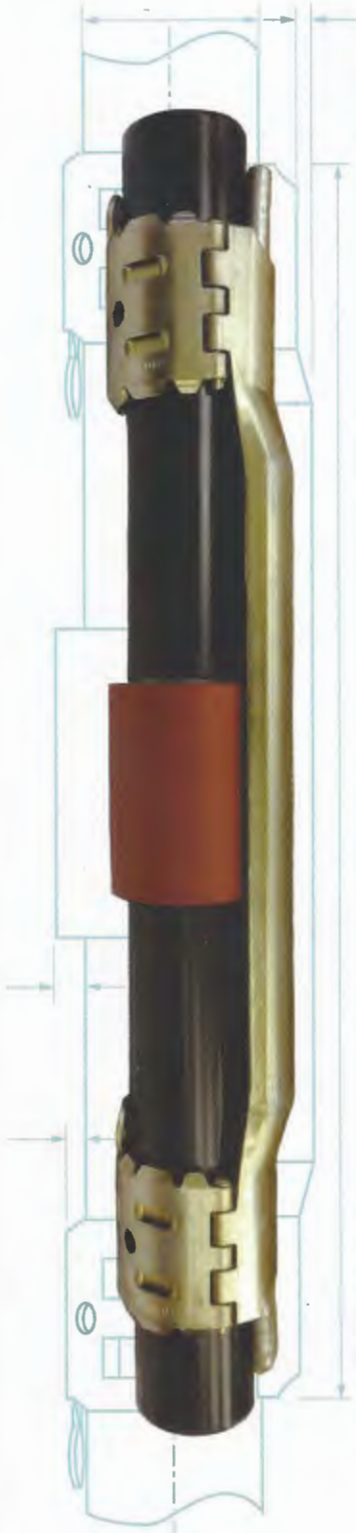
- Fits standard production tubing sizes from 2-3/8" to 7"
- Available as cross-coupling or mid-joint assemblies
- Configurable for either round or flat cables
- Separate channels for different purposes in one cross-coupling protector
- Materials and design can be customized to user specifications

Standard Sizing Chart

Production Tubing	Flat Cable Dimension (H/W, mm)							
	11	11 – 16		16 – 19			19 – 23	H
	34	56	60	56	60	70	60	W
2-3/8"	•							
2-7/8"	•	•		•	•			
3-1/2"	•		•		•	•	•	
4-1/2"	•	•			•		•	
5-1/2"	•	•				•		
7"	•							

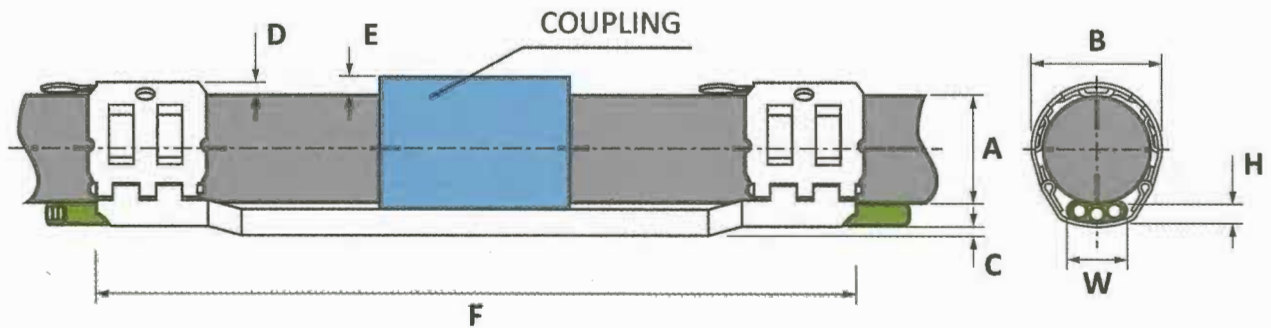
Production Tubing	Round Cable Dimension (∅, mm)				
	6.35	30 – 33	32 – 34	34 – 37	38 – 42
2-3/8"	•		•		
2-7/8"	•			•	
3-1/2"	•	•		•	•
4-1/2"	•			•	•
5-1/2"	•			•	
7"	•				

* Please note that these charts are for Unibrom Standard Sizing reference only. Unibrom Cable Protectors can be customised for various production tubing diameters, cable specifications and material requirements. Please contact your Unibrom representative for more details.

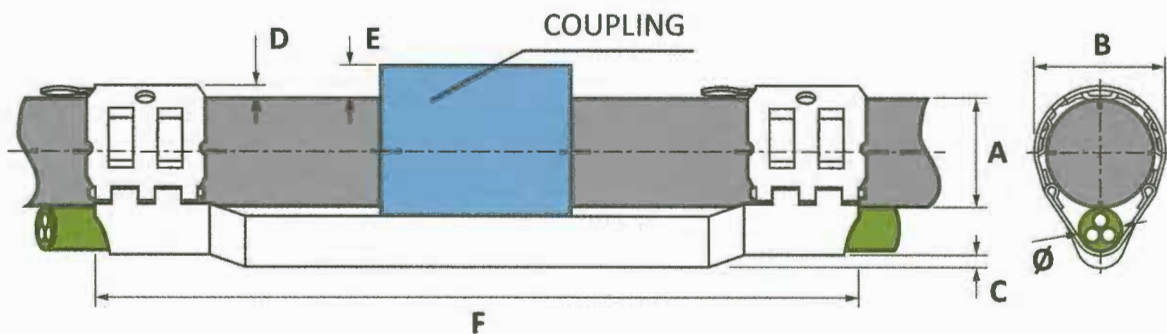


Cross-Coupling

Technical Specifications



Production Tubing (A)	Collar OD (B)	Channel Offset (C)	D = 0.38" for All Standard Protectors E = Coupling Dimension F = 24.7" for All Standard Protectors
2-3/8"	3.16	0.39	Calculation of Running OD $A + C + H + 0.12''$ (material thickness) + (Larger of D or E)
2-7/8"	3.66	0.47	
3-1/2"	4.29	0.59	
4-1/2"	5.29	0.59	
5-1/2"	6.29	0.39	
7"	7.79	0.39	

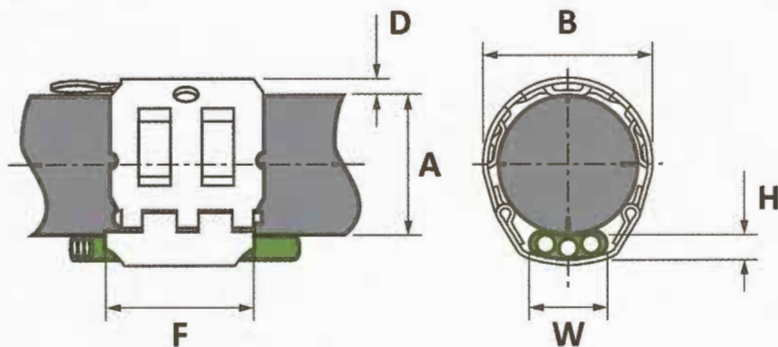


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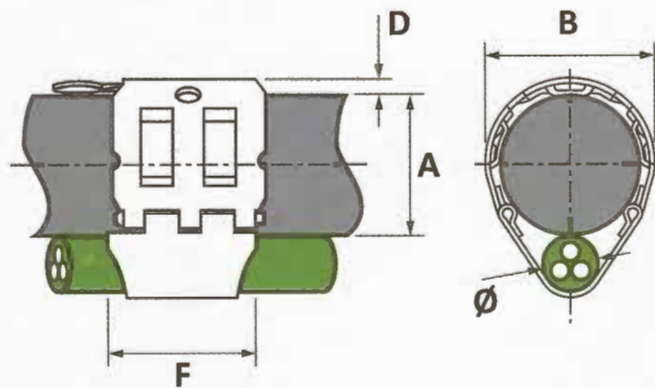
* Please note that these specifications are for information only. For actual measurements, customization requests or other enquiries, please contact your Unibrom representative.

Mid-Joint

Technical Specifications



Production Tubing (A)	Collar OD (B)	D = 0.38" for All Standard Protectors F = 3.39" for All Standard Protectors
2-3/8"	3.16	Calculation of Running OD $A + D + H + 0.12"$ (material thickness)
2-7/8"	3.66	
3-1/2"	4.29	
4-1/2"	5.29	
5-1/2"	6.29	
7"	7.79	



Production Tubing (A)	Collar OD (B)	D = 0.38" for All Standard Protectors F = 3.39" for All Standard Protectors
2-3/8"	3.16	Calculation of Running OD $A + D + \text{Ø} + 0.12"$ (material thickness)
2-7/8"	3.66	
3-1/2"	4.29	
4-1/2"	5.29	
5-1/2"	6.29	
7"	7.79	

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