

Tri-Lok™ Family of Connectors

Wellhead Penetrator System



Ideal for Concentric Wellheads with Minimum Space

The Tri-Lok 3-Bore Wellhead Penetrator Systems are designed to provide safe and reliable ESP power transfer through wellheads with minimal space.



Tri-Lok™ system shown in the wellhead

Flexible Lower Connector Configurations	Available in Field Attachable or Factory Molded, providing the utmost flexibility to meet installation needs.
Flexible Surface Connector	Multiple surface mounting configurations allows Tri-Lok™ to fit most wellheads.
Wellhead Pressure Block & Seal	The complete pressure block and seal at the wellhead keeps the well fluids in the well, providing the safety without requiring a vent.
Minimal Space Required	Requires only three 3/8 inch bores through the tubing hanger.

Easy to install, maximum flexibility.

The Tri-Lok 3-Bore Wellhead Penetrator System now comes with an improved surface connector, making it the most flexible and easiest to install 3-Bore product on the market. The new BIW Quick-Thread™ Technology connection does away with tedious wrench turns and the flexible leads make installation easy even in the tightest of locations. It can be retrofitted to the surface cable while in place.

The new higher rating of 160 Amperes enables the user to use this product with larger motors. The surface connector is available in field attachable or cable-molded configurations and is ATEX approved for hazardous locations.

The design of the Tri-Lok™ 772 surface connector systems are ideal for concentric wellheads, with or without bonnets, where there is not enough room for a standard mandrel system. The Tri-Lok system also provides the ultimate safety: providing a complete pressure block and cable termination in the wellhead.

For years, BIW Connector Systems' Tri-Lok Penetrator system has reliably delivered electricity downhole at wellheads not originally intended for electrical penetration. Now, the Tri-Lok surface connector allows users to retrofit to the existing surface cable infrastructure.

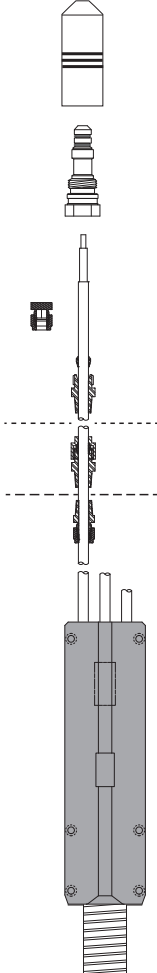
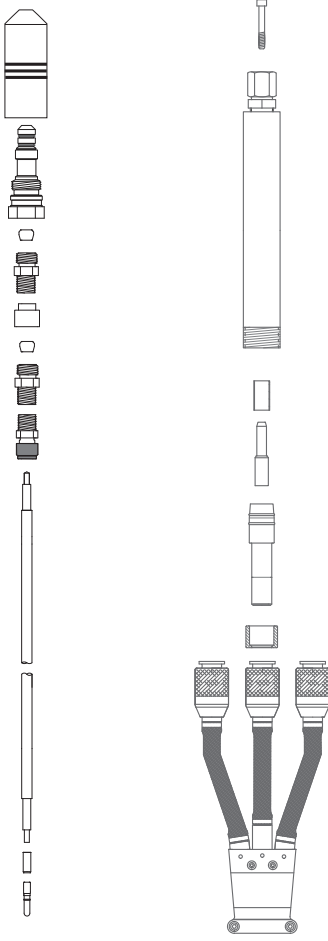
Specification

Electrical	5 kV 20-120Hz, 160 A
Temperature	300° F (149° C)
Pressure	5,000 psi
Approvals	ATEX Hazardous Locations

Contact your BIW representative to find out about complimentary access to the BIW Learning Center.

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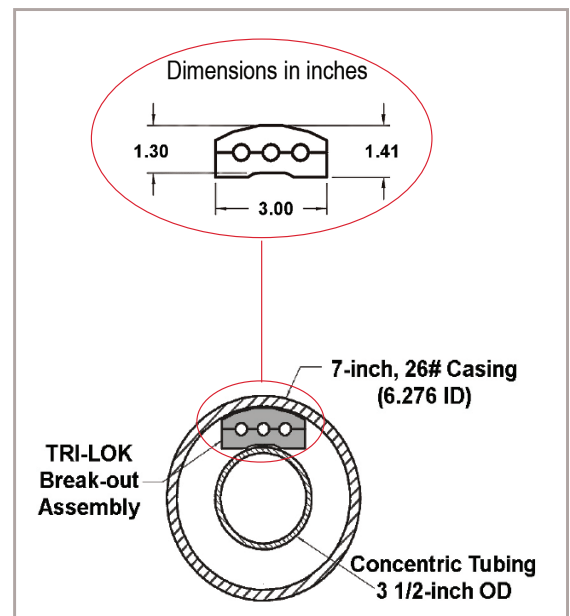
TW771	STW 771
Rubber molded breakout works as complete pressure block	Field attachable, eliminates downhole splice
Small profile-1.41 inch at break out	Small profile- 1.20 inch diameter per splice tube
Minimal installation required	Minimal installation required
Lower cost option	Most flexible option
	
	<p>WELLHEAD PENETRATION</p> <p>CABLE CONNECTION</p>

Cable Breakout

Tri-Lok™ Penetrator components are designed for reliable operation in well casings as small as 5½ inches. Upper and lower cable breakouts are only 3 inches in width. Exterior surfaces are rounded for minimal interference with the casing during installation. The interior surface is also shaped to reduce the profile when attached to tubing. See the diagram showing the fit of the cable break-outs when installed in 7 inch casing with 3½ inch production tubing.

Breakout Sizing

Break-out Tubing Diameter	0.375 inch (9.5 mm) each
Typical Length	84-inch (2134 mm) typical
Break-out Size	3-inch (76 mm) width 1.4 inch (36 mm) max. height



Tri-Lok™ spacing in the wellhead