

# BLISS EMI Screen Series

## **Reduced Electromagnetic Interference Enhanced Electromagnetic Shielding Improved Electromagnetic Compatibility**

BLISS Yih Enterprise Co., Ltd. enriches our various flexible conduit portfolio!

Since our development of "Electrical Appliance Signal Filter Conduit PAT. No. 39811" in 1993, BLISS keeps on developing conduit with better EMI shielding performance. Now, we're introducing the EMI series, providing the ability of screening electromagnetic waves and radio interference, addressing your diverse needs.

There are new electric devices appearing in the marketplace everyday. In many circumstances, sensitive & sophisticated device circuit has to be isolated from any external interference, such as medical examine apparatus in hospital, and radar detecting instrument in military base, which should prevent from interferences of electromagnetic waves to show their top performances. Furthermore, in the regulations of CE, whatever electrical devices exporting to Europe must conform to their standards. The radiation of electrical device must be lower than the requirement to prevent the high electromagnetic radiation from endangering human body. BLISS flexible conduit is your best choice to decrease the electromagnetic radiation.

Also, in the EU regulations of Electromagnetic Compatibility (EMC) 89/336/EEC, the electrical devices have to be radiation interference passive, let alone be active. By taking the advantage of BLISS EMI series, you are shielding yourself from the threats of electromagnetic radiations; meanwhile, the data transmission in your electrical devices won't have mutual interruptions with others.

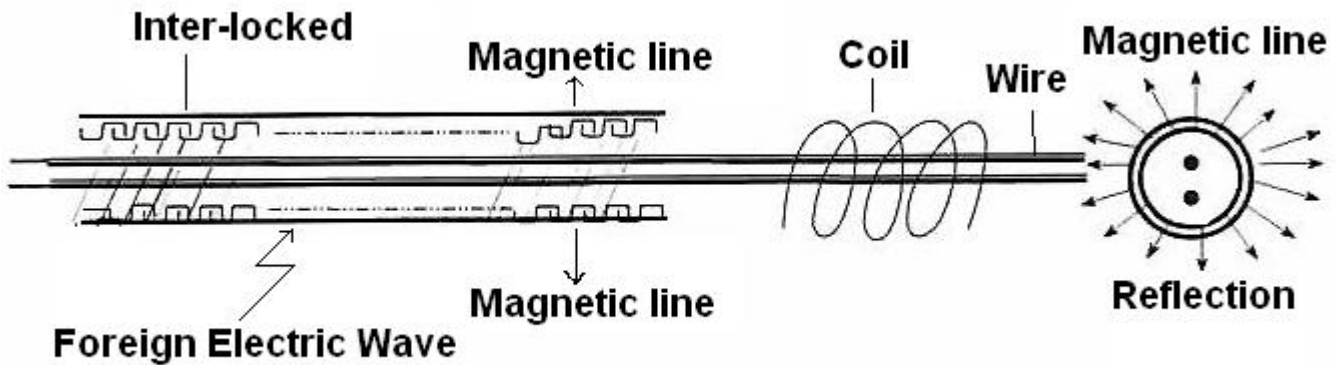
BLISS EMI series itself does not emit electromagnetic radiation, and it can screen the internal radiations inside of the conduit, and vice versa. Therefore, adding the protection of BLISS EMI conduit on your wiring system, you can enjoy not only the inherent fine wiring manageability of conduit, but also the eliminated electromagnetic emissions. No more extra concerns for crosstalk.

**Please use with BLISS connectors to reach the ultimate shielding performance.**

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## EMI Screen Series (EMI= Electromagnetic Interference)

### Adapting flexible conduit to information, communication & others:



### Description:

1. The flexible conduit covers the wires and signal lines as the figure above, will produce strong magnetic lines around the conduit. Reflecting the foreign electric waves will protect the inner signals instead of interfering the communication quality and there will be no disorder for the digital signals. This enlarges the EMS of electric equipments.
2. On the other hand, the power cord is the origin of electric interference, the electric interference reflects out by the power cord. Using the flexible conduit to screen it will lower the EMI to the minimum level.
3. EMI + EMS = EMC.

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To offer reliable screening efficiency, BLISS requested trusted ERA Technology Ltd. in U.K. for third-party test to offer you the trustworthy EMI shielding efficiency data. This test is based on IEC 1196-1, with 1/2", 0.5m sample, and the frequency range is from 100 kHz to 1GHz. Please see the following graphics for the test results. A2066 is the flexible conduit without special shielding braiding, the shielding efficiency of which is from 21.6 to 51.8 dB. Among the six samples tested, H7217 which has low fire hazard halogen free thermoplastic elastomer jacket and a layer of copper braiding has the best shielding efficiency from 39.6 to 79.6dB.

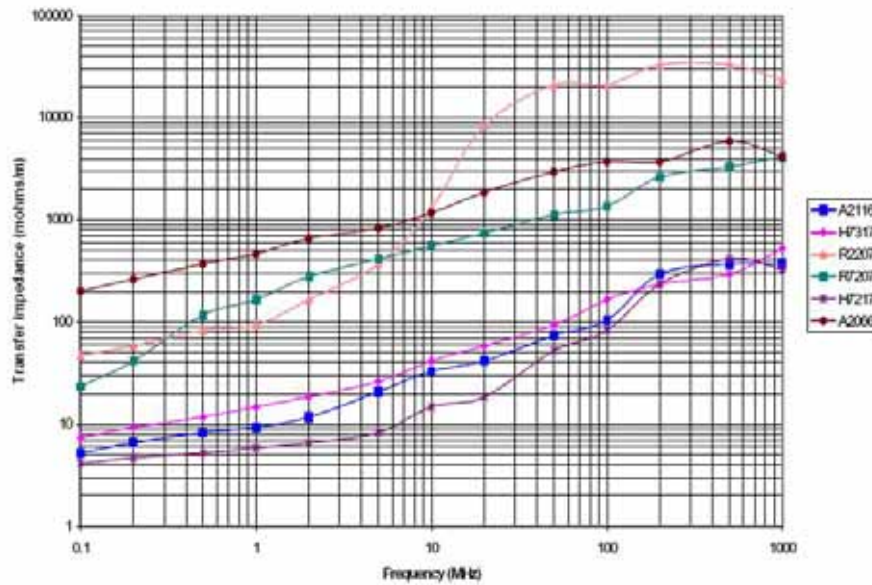


Figure 3: Graph of Transfer Impedance against frequency for the Bliss Yih samples

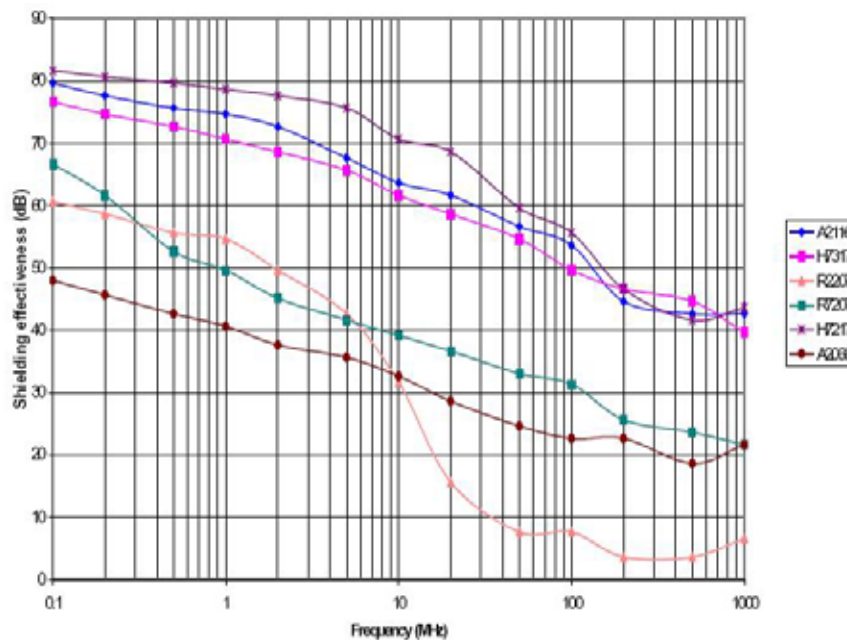


Figure 4: Graph of Shielding Effectiveness against frequency for the Bliss Yih samples

# BLISS EMI Screen Series

TYPE	STRUCTURE	STRUCTURE ILLUSTRATION	NOTE
A2066	Galvanized steel core, PVC jacketed. Size 3/8" through 1-1/4" have a continuous copper ground wire built into the core. Sizes 1-1/2" through 4" are interlocked.		Please assemble with steel fitting to reach the tested performance.
A2116	A2066 (UL TYPE) + BRAIDING + LIQUID-TIGHT JACKET*		Please assemble with brass fitting to reach the tested performance.  The brass fitting assembly is as the figure 1 below:
A7207	COPPER INTERLOCKED STRUCTURE + LIQUID-TIGHT JACKET*		
A7217	COPPER INTERLOCKED STRUCTURE + BRAIDING + LIQUID-TIGHT JACKET*		
A7317	BRASS INTERLOCKED STRUCTURE + BRAIDING + LIQUID-TIGHT JACKET*		
A2207	COPPER CORE + LIQUID-TIGHT JACKET*		

\*Welcome your order for different jackets:

A series jacket : PVC

H series jacket : Low Smoke Halogen Free Thermoplastic Elastomer

R series jacket : PVC Jacket Which Conforms With RoHS Requirements

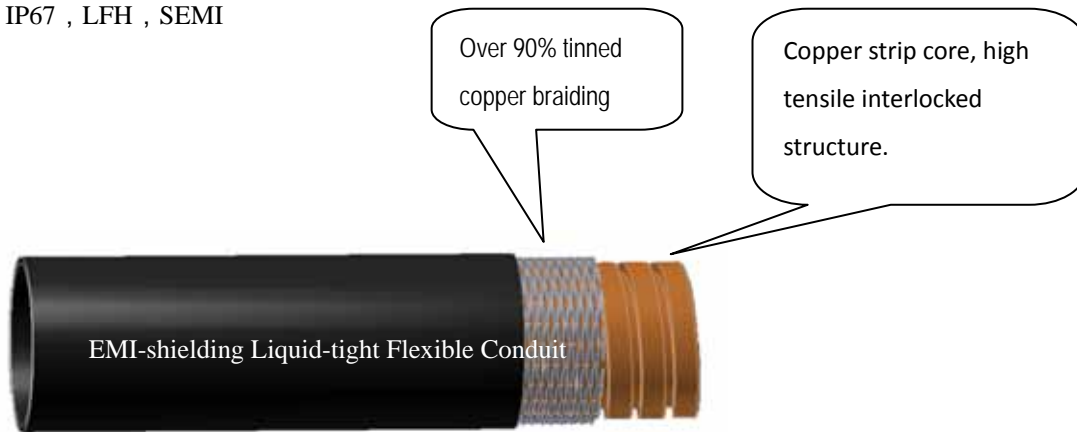
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## EMI-Shielding Liquid-tight Flexible Conduit User Guide

### A. Product Description

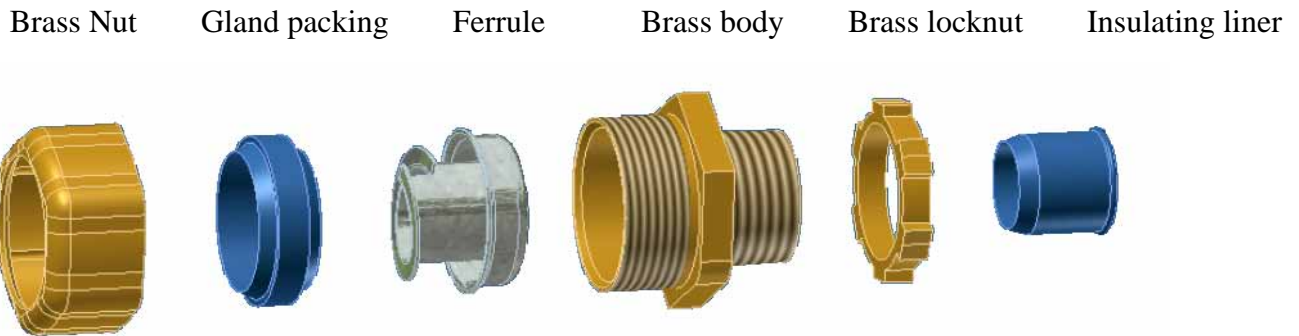
#### TYPE A7217

- Inner core: Copper strip. Structure: high tensile interlocked structure, with over 90% tinned copper braiding, covered by PVC jacket.
- Temperature: -10 ~ +70 .
- Liquid-tightness, high tension, oil-resistance and fire-retardant.
- Standard jacket: Black RoHS-compliant PVC. If you need other jacket material, like Low Smoke Halogen Free material, please feel free to contact us.
- IP67 , LFH , SEMI

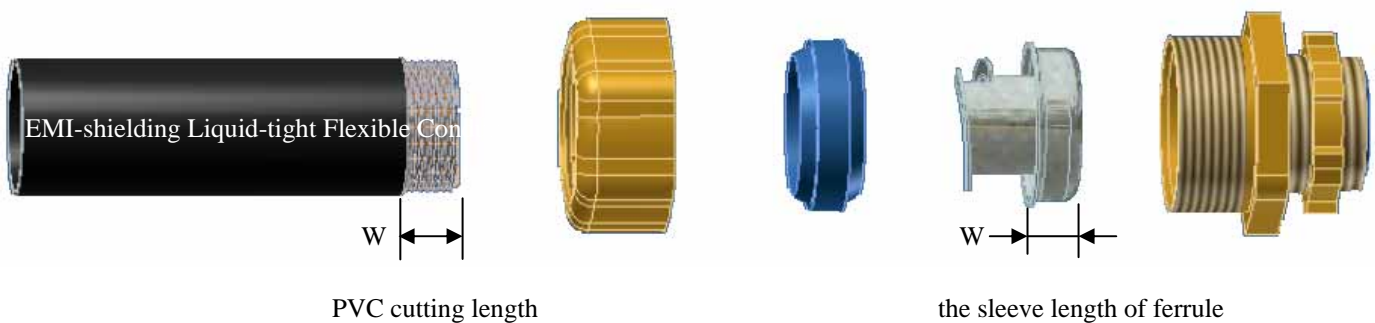


#### TYPE B2915

- Using Brass fitting to achieve the tested shielding performance.



### B. Assembly Guide



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## C、Assembling Step

1. Measure the needed length and mark, cut the conduit with circular sawing machine.
2. Trim the burrs with scissors.
3. Put the Nut and gland packing onto the conduit (see fig. 1).

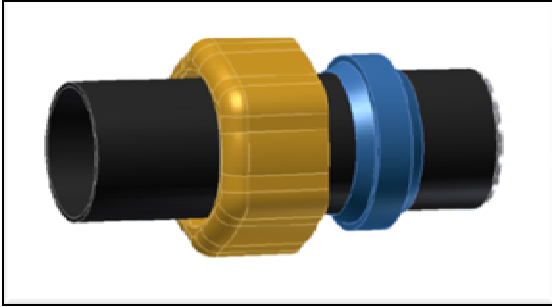


Fig. 1

4. Measure the length of Ferrule sleeve (W) with calipers. Cut off the terminal jacket of the conduit (cutting length = W). (See fig. 2.)

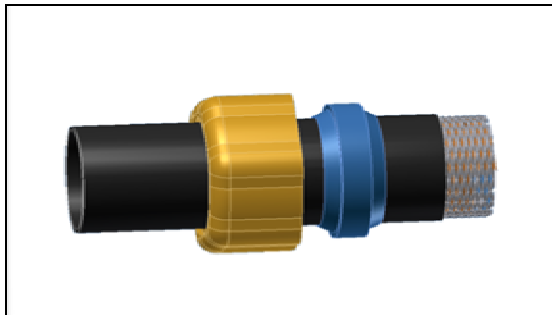


Fig. 2

5. Lock the ferrule along with the inner corrugation of conduit to the bottoms. (See fig. 3.)

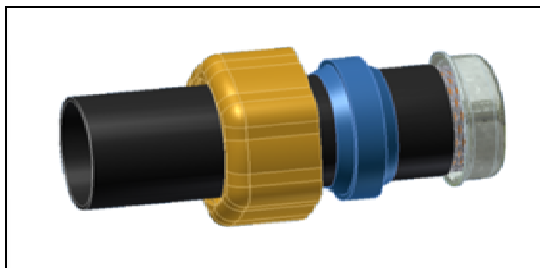


Fig. 3

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6. Assemble the nut, gland packing and ferrule (see fig. 4), and lock onto the body. Tighten the nut and the body with wrench to make sure the liquid-tightness and grounding. (See Fig. 5)

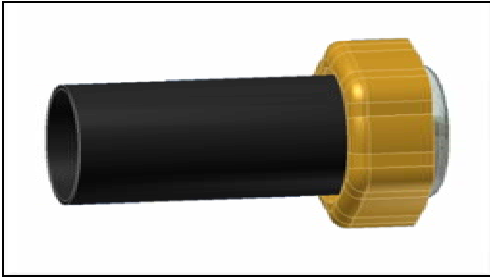


Fig. 4

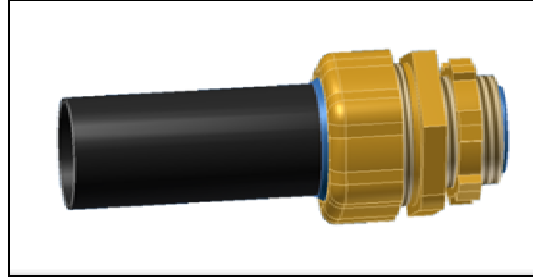


Fig. 5

7. Fittings installed on equipments shall apply individual bonding (The bonding shall not connect to the equipment's grounding conductor) to achieve the best shielding performance.

Last updated on Jan. 24, 2011.