



HIGH-PERFORMANCE

CONDUIT SYSTEMS

FOR INTERCONNECT APPLICATIONS

APRIL 2012

Turnkey

CABLE AND CONDUIT ASSEMBLY CAPABILITIES

TERMINATED, TESTED, AND READY FOR USE



**Flexible Metal-Core Conduit and
High Performance Polymer-Core
Convuluted Tubing Systems
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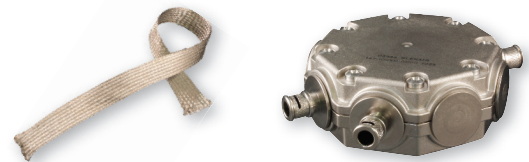
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Conduit is an outstanding alternative to jacketed cables, especially for prototype assemblies, systems with extreme flexibility and physical protection requirements and also when the need for field repair or system expansion is anticipated. Polymer tubing versions are lightweight, durable, flexible and available in a broad range of material choices. Metal-core versions offer crush resistance and high-levels of EMI shielding. Connector-to-conduit backshells, transition fittings and special adapters are available in factory assembled and user installable styles. Conduit offers outstanding EMI, mechanical and environmental protection including,

- Easy on-site installation and repair
- Superior crush protection and resistance to projectile damage
- Reliable E and H field EMI shielding
- Superior flexibility compared to jacketed cables
- Superior durability and aging protection from heat, chemicals, and fluids.

Glenair is unique in the industry because we produce all our conduit component elements in-house, including extruded polymer tubing, braided EMI shielding, formed metal-core conduit, and machined, die-cast and injection molded backshells, adapters and fittings. In addition, we offer turnkey (wired and un-wired) conduit assemblies made from both Mil-qualified and Glenair commercial components.

WHY CHOOSE CONDUIT INSTEAD OF A STANDARD CABLE ASSEMBLY?

1 Ease of Installation and Repair

- *Factory terminated point-to-point and multi-branch assemblies deliver exceptional value and convenience.*
- *Conduit can be cut to length on-site and fitted with Glenair user-installable fittings—a faster and less costly solution compared to cabling with its long lead times and minimum orders.*
- *Conduit systems allow easy post-assembly access to wires for repairs, whether in the field or in the factory.*
- *For prototypes and mockups where wire routing lengths cannot be exactly determined before installation, the convenience of conduit as a wire protection solution is unmatched.*
- *Conduit systems are expandable, making it easy to add or remove wires as needed.*



2 Advanced EMI Protection

- *Metal-Core conduit provides optimal EMI/RFI shielding across all frequencies—H and E fields, TEMPEST and lightning strike.*
- *The continuously-wound and solder-sealed tubing completely encloses wire media—eliminating EMI susceptibility and emissions.*
- *Optional metallic or lightweight composite braided shielding provides an additional pathway to ground for EMI.*



3 Environmental and Mechanical Performance



- *Conduit is extremely flexible and offers wire routing versatility and environmental-sealing durability in repetitive flex applications*
- *Conduit delivers crush protection, abrasion protection, and high pull or tensile strength.*
- *Heat-resistant conduit materials, such as PFA, function in extreme temperatures from -95° to 500°F .*
- *High performance polymer materials are resistant to gamma radiation, ozone, fluids, fungus, and offer CBRN certification.*
- *Low smoke, zero halogen, low toxicity materials, such as PEEK, meet stringent environmental requirements.*

The first choice in the design of a flexible conduit assembly is the selection of core tubing material—whether to choose lightweight polymer convoluted tubing, or flexible metal-core conduit. Glenair Series 72 Economical annular and Series 74 High Performance helical convoluted conduit; and Series 75 Metal Core conduit all have numerous advantages summarized below. Detailed material properties for each can be found in Sections B, C, and D of this catalog.

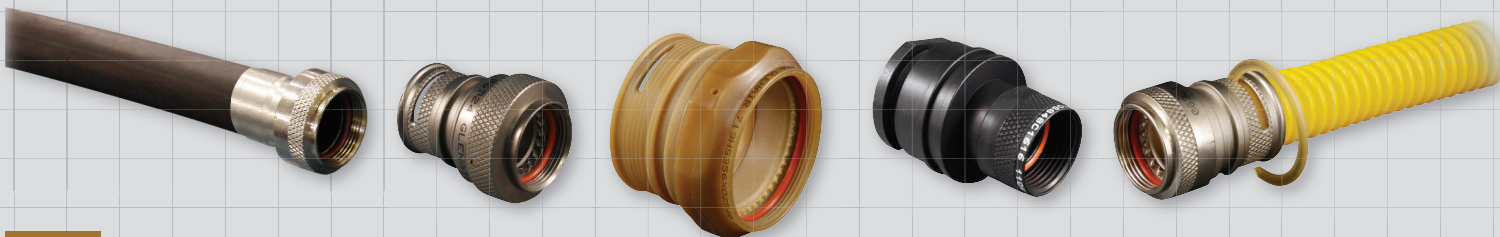
SERIES 72

ANNULAR POLYMER CORE

ECONOMICAL CONVOLUTED TUBING, BACKSHELLS AND ASSEMBLIES

Quick, easy and economical

- Economical, general-duty performance
- Easy-to-install fittings
- Thermally-stabilized Kynar®, PVDF and Siltem materials available
- Braid options for superior EMI protection
- Ideal for expandable systems or prototypes
- Used in air, rail and transit applications



B

Turn to Section B for Glenair Series 72 economical annular convoluted tubing, including braid and jacketing options, factory-terminated crimp assemblies, and do-it-yourself backsells, fittings and transitions.

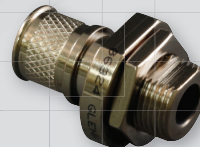
SERIES 74

HELICAL POLYMER CORE

HIGH-PERFORMANCE CONVOLUTED TUBING, BACKSHELLS AND ASSEMBLIES

High performance, durable and flexible

- *Lightweight, high temperature-rated materials*
- *Maximum flexibility, durability and performance*
- *Low-Smoke, Zero Halogen PEEK material available*
- *Braid options for superior EMI protection*
- *Ideal for expandable systems or prototypes*
- *Harsh chemical environment resistant*
- *Used in rugged landing gear and aerospace applications*



C

Turn to Section C for Glenair Series 74 High Performance helical convoluted tubing, including braid and jacketing options, factory-terminated crimp assemblies, and do-it-yourself backshells, fittings and transitions.

SERIES 75

FLEXIBLE METAL-CORE CONDUIT, BACKSHELLS, FITTINGS AND ASSEMBLIES

Crush-proof EMI protection

- *Continuous solder seal for optimum EMI/EMP and environmental protection*
- *Superior crush resistance*
- *Used by the U.S. Navy in harsh-environment topside shipboard applications*
- *Metallic braid provides additional tensile (pull) strength*
- *Used in tanks, heavy machinery, airframes and submarines*



D

Turn to Section D for Glenair Series 75 Flexible Metal-Core conduit, including braid and jacketing options, factory-terminated crimp assemblies, and do-it-yourself backshells, fittings and transitions.

Do-it-yourself conduit, conduit-to-connector backshells and other fittings allow users the flexibility to build prototype wire protection systems with ease and convenience. Do-it-yourself solutions are also employed when final cable/wire run lengths cannot be determined prior to installation; such is often the case in Navy ships, submarines, and communication shelter and bunker applications. Glenair offers a number of different do-it-yourself system technologies, each designed for particular performance requirements such as weight reduction, ease of assembly, durability, or to satisfy a particular military specification.

DO-IT-YOURSELF

BACKSHELLS, ADAPTERS AND TRANSITIONS

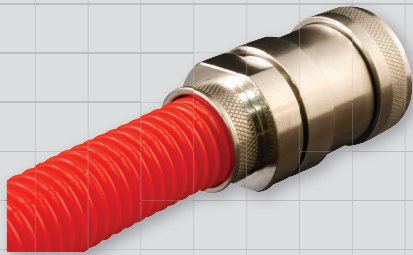
Repairable and expandable on-site

- A range of fitting types, all designed for convenient user installation
- Easy to assemble and repair
- Excellent choice for topside shipboard applications
- Best for prototype systems
- For interconnect systems that require periodic expansion or maintenance



SERIES 72 ANNULAR POLYMER CORE

Two fitting design types are available for user termination and assembly of Series 72 annular thermoplastic tubing systems



Robust, Easy-to-Assemble Sentry System

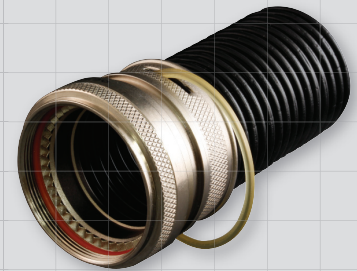
Sentry System fittings feature a Kynar® bushing and compression nut assembly design for robust, easy-to-assemble wire protection. Two fitting styles are available: one with an integral banding platform for applications where EMI termination is required, and a lightweight, compact design for weight- and space-saving environmental protection.

See Section B, part numbers 710-840, 710-841, 710-842, 710-847, 710-848, and 710-849.

Easy-to-Install Guardian System

The Guardian System is Glenair's easy-to-install, economical general-purpose wire protection solution. The heart of the Guardian system is its unique retaining clip assembly system, offering high speed assembly without the need for special tools. Environmental O-Rings provide splash-proof environmental sealing, and all Guardian adapters feature shrink boot grooves for enhanced environmental sealing and strain relief. Guardian connector backshells are equipped with banding platforms for easy EMI shield termination.

See Section B, part numbers 712-839, 712-852, 713-356, and 713-376.



SERIES 74 HELICAL POLYMER CORE

Five fitting design types are available for user termination and assembly of Series 74 convoluted thermoplastic tubing systems, including:



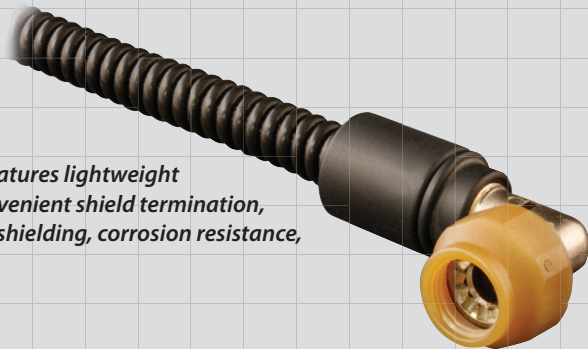
Hat Trick: Compact, Versatile “3-in-1” Design

Glenair’s unique and versatile “Hat Trick” conduit system fittings provide three key functions—conduit attachment, shield termination and boot attachment—in one easy-to-use compact fitting. These do-it-yourself fittings are equipped with a threaded inner shell, banding platform and shrink boot groove as well as a self-locking coupling nut. Helical Series 74 convoluted tubing threads directly into the shell cavity for easy attachment without restricting the conduit’s inner diameter. Available in composite plastic and aluminum versions. Banding is fast, easy and reliable with Glenair Band-Master™ ATS bands. Add a shrink boot for environmental sealing rated to IP66.
See Section C, part numbers 713-355, 713-359, 713-377, 713-378, 713-380, and 713-381



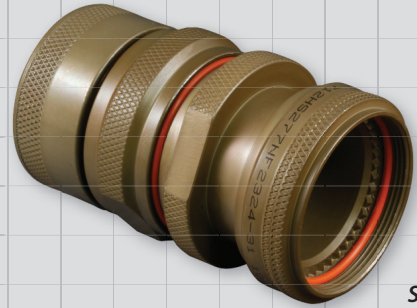
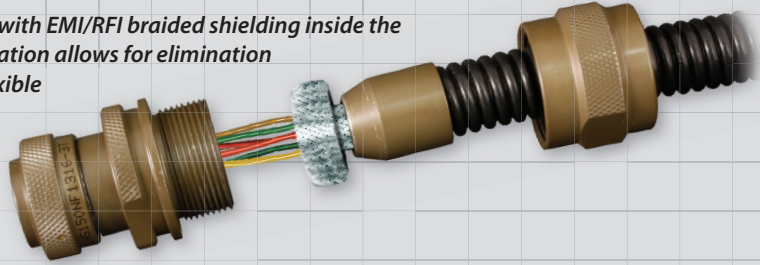
AeroLite: Weight Saving Composite with Braid Slot for Shield Termination

Developed for weight savings in airframe applications, the AeroLite system features lightweight and corrosion resistant composite fittings. Each fitting has a braid slot for convenient shield termination, plus a self-locking anti-decoupling feature. AeroLite is the best choice for EMI shielding, corrosion resistance, vibration protection and weight savings.
See Section C, part numbers 712-879, 712-880, 712-831, and 712-848



The Harsh-Environment Internal Braid Solution

These special-purpose, do-it-yourself fittings are fabricated with EMI/RFI braided shielding inside the chemical- and UV-resistant convoluted tubing. This configuration allows for elimination of outer jacketing materials, providing a lightweight and flexible conduit that resists fuels, oils, solvents, and other harsh chemicals. Use with epoxy adhesive lined elastomer shrink boots for environmental sealing. Internal braid fittings provide easy termination of single or double layers of shielding.
See Section C, part numbers 711-150, 711-149, and 711-148

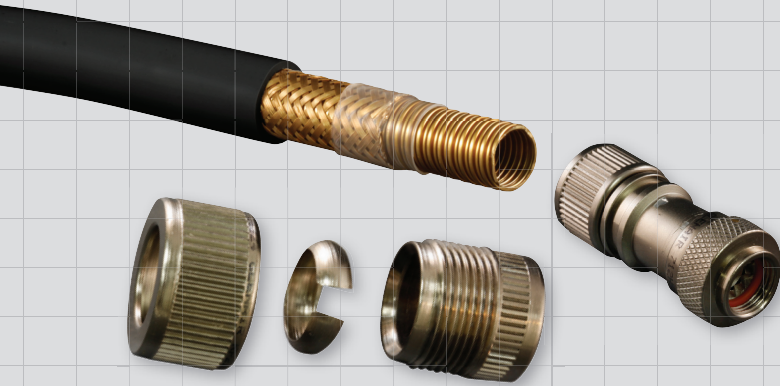


Heavy-Duty Environmental System

These bump seal equipped heavy duty EMI/RFI conduit backshells, fittings and adapters are ideally suited for conventional conduit wire protection applications such as aircraft undercarriage and wheel-well wire routing. These heavy duty user installable fittings are designed for use with shielded conduit and feature easy-to-assemble ground ring shield termination.
See Section C, part numbers 712-277, 712-389, 712-380, and 712-358

SERIES 75 FLEXIBLE METAL CORE

Four fitting design types are available for user termination and assembly of Series 75 metal-core conduit systems, including:



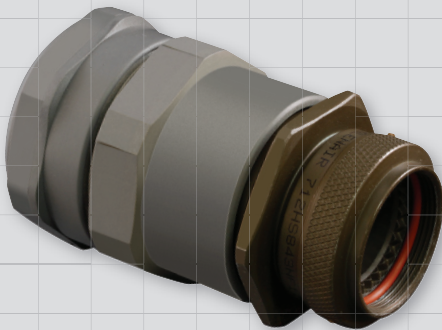
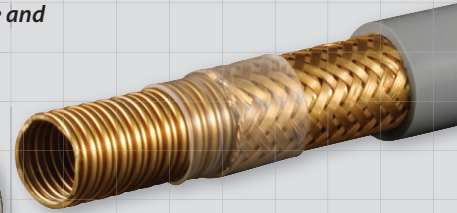
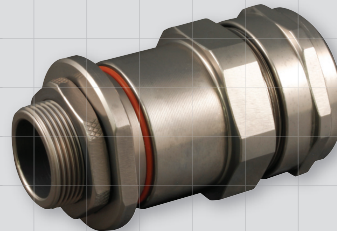
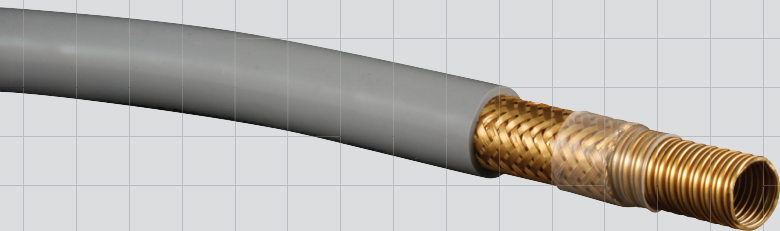
RP Plus: Lightweight, Compact, with Secure EMI Termination with Self-Locking Coupling Nut

Glenair's lightest, most compact fitting design for metal-core conduit is based on the Navy RP2000 fitting series and utilizes integrated split ring inserts for secure EMI shield termination, with or without jacketing on the conduit. RP Plus fittings mate with M24758 Mil-spec conduit, and can be ordered with optional shrink boots for environmental sealing when terminating conduit with an outer jacket. See Section D, part numbers 712-832, 712-849, 712-850, and 712-878

Heavy-Duty Environmental System: Metal

Glenair is a full-spectrum supplier of qualified MIL-PRF-24758 fittings. We bring the same rugged reliability and heavy duty performance to all of our MIL-PRF-24758 style commercial fittings. These topside, durable fittings feature individual termination of conduit, braiding and jacketing layers for maximum EMI performance and environmental sealing.

See Section D, part numbers 712-834, 712-835, 712-836, and 712-837



Heavy-Duty Environmental System: Composite

The same reliable, ruggedized performance of our M24758 QPL products in a unique hybrid configuration: Heavy-duty metal connectors with lightweight, corrosion resistant composite "Haze Gray" fittings provide a durable weight saving solution.

See Section D, part numbers 712-843, 712-845, 712-844, and 712-846

Many of the conduit and convoluted tubing systems we fabricate at Glenair are completed at our factory with tamper-proof crimp-ring or solder terminations. User-assembled conduit components offer the convenience and flexibility of do-it-yourself field termination—especially valuable for prototyping of interconnect wire protection systems. But factory terminated assemblies—from simple point-to-point to elaborate multi-branch assemblies—offer size and weight savings, and the utmost in convenience, value, reliability and durability.

FACTORY TERMINATED CONDUIT AND CONVOLUTED TUBING ASSEMBLIES

Reduce package size, weight, and labor with turnkey factory assemblies

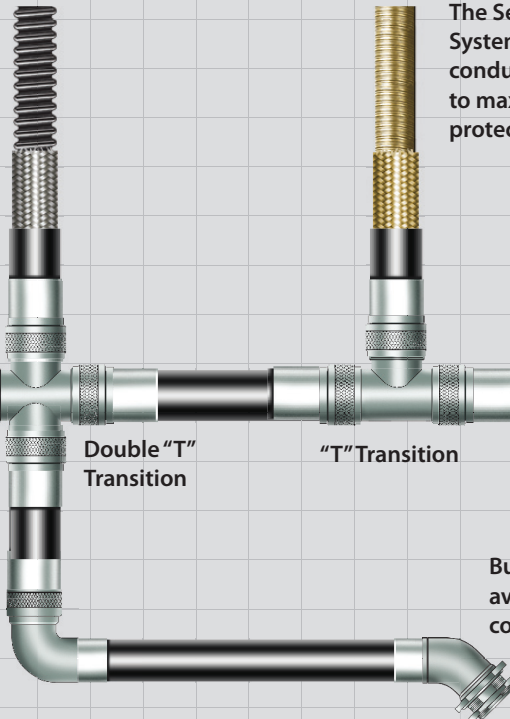
- *Glenair can design, build, terminate—and even pre-wire—turnkey conduit wire routing solutions.*
- *Certified factory assemblers and calibrated tooling create better-performing systems.*
- *Simple point-to-point or complex multi-branch.*



The Series 72 and 74 Polymer-Core Convoluted Tubing Systems offer the industry's broadest selection of high-performance materials—all designed to optimize flex cycles, temperature resistance, and weight reduction.

Internally-braided tubing systems provide a lightweight and chemically-resistant package without the use of conventional outer jacketing.

Detachable 90° Elbow Adapter for easy wire maintenance



Double "T" Transition

"T" Transition

The Series 75 Metal-Core Conduit System offers a wide range of flexible conduit core materials, all designed to maximize crush resistance and EMI protection.

Bulkhead Feed-Thru Fittings are available in Straight, 45°, and 90° configurations.

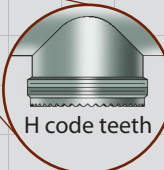
Retractable connector backshells facilitate large-gauge contact termination and insertion.

Circular straight, 45° and 90° Conduit-to-Connector backshells are available for all common circular connector series.

For individual shield termination and enhanced mechanical protection to Series 74 and 75 assemblies, use Band-In-A-Can Backshells in Straight, 45° and 90° configurations.

Double "Y" Transition

Direct-Attach Lazy "Y" Transition



Transitions and adapters are available in a number of configurations, depending on series and system. Versions with H code teeth (shown) for either direct attachment to MIL-DTL-38999 connector adapters, or to additional lengths of conduit, accommodate self-locking coupling nuts for anti-decoupling and easy clocking of backshells and fittings.

Glenair offers a variety of elastomeric jacketing materials. Our UV resistant and temperature tolerant Duralectric™ jacketing is available in several colors including black, OSHA Safety Orange, MIL-PRF-24758A Haze Gray, and Fed Std #3446 Desert Tan.

Rectangular Conduit-to-Connector Backshells for MIL-DTL-24308, MIL-DTL-83513 Micro-D, Glenair HiPer-D and Series 79 Micro-Crimp connectors are available in Straight, 45°, and 90° configurations.



Conduit Backshells, Fittings and Adapters Standard Materials and Finishes

A

Table II: Standard Finishes Master Table

Glenair Symbol	Finish	Specification(s)
A	Cadmium Plate, Bright	AMS-QQ-P-416, Type I, Class 2
B	Cadmium Plate, Olive Drab	AMS-QQ-P-416, Type II, Class 3
C*	Anodize, Black	AMS-A-8625, Type II, Class 2
G*	Hard Coat, Anodic	AMS-A-8625, Type III, Class 1
J	Iridite, Gold Over Cadmium Plate Over Electroless Nickel	MIL-C-5541, Class 3 AMS-QQ-P-416, Type II, Class 3 over AMS-C-26074, Class 4, Grade B
LF	Cadmium Plate, Bright Over Electroless Nickel	1000 Hour Corrosion Resistance
M	Electroless Nickel	AMS-C-26074, Class 4, Grade B
MT	Nickel-PTFE	AMS2454
N	Cadmium Plate, Olive Drab Over Electroless Nickel	AMS-QQ-P-416, Type II, Class 3 over Electroless Nickel; AMS-C-26074, Class 4, Grade B
NC	Zinc Cobalt, Dark Olive Drab	96 Hour Corrosion Resistance
NF	Cadmium Plate, Olive Drab Over Electroless Nickel	1000 Hour Corrosion Resistance
T	Cadmium Plate, Olive Drab Over Electroless Nickel	AMS-QQ-P-416, Type II, Class 3 over Electroless Nickel, AMS-C-26074, Class 4, Grade B
U**	Cadmium Plate, Black	AMS-QQ-P-416, Type II, Class 3
UCR	Zinc Cobalt / Black	ASTM B 840 Grade 6 Type D over Electroless Nickel
XB	Composite, Unplated Black	
XM	Composite, Electroless Nickel	AMS-C-26074
XMT	Composite, Nickel-PTFE	GMF-002 Type 2 Class 2
XW	Composite, Cadmium Olive Drab	AMS-QQ-P-416 Type 2 Class 3 Over Electroless Nickel
Z1	Passivate	AMS-QQ-P-35 Type VI
ZM	Stainless Steel, Electroless Nickel	AMS-C-26074 Class 1 Grade A
ZMT	Stainless Steel, Nickel-PTFE	AMS2454
ZN	Zinc-Nickel, Olive Drab	ASTMB 841-91 Grade 5, Over Electroless Nickel 1000 Hour Salt Spray
ZNU	Aluminum, Zinc Nickel, Black	ASTMB 841-91 Grade 5, Over Electroless Nickel 1000 Hour Salt Spray
ZW	Stainless Steel, Cadmium Olive Drab	AMS-QQ-P-416 Type 2 Class 2 Over Electroless Nickel

* Anodize finish; not suitable for EMI shielding or grounding applications.
 ** Applicable to corrosion resisting steel backshells and accessories. Consult the factory for other available finishes.

Additional Material Specifications and Notes

Component	Material	Specification
Machined components: such as backshell bodies, fabricated elbows, protective covers, rotatable couplers, dummy stowage receptacles, lock nuts, G-spring support rings, EMI ground rings, grommet followers, etc.	Aluminum	QQ-A-200, 225 ASTMB211, 221
Die cast components: such as angular backshells, strain relief backshells, strain relief bodies, strain relief saddles, special EMI ground rings, etc.	Aluminum	QQ-A-591 ASTMSC84A
Backshells or strain reliefs: available in optional corrosion resisting steel; and hardware such as screws, washers, rivets, wire rope, sash chain, band straps, etc.	Corrosion Resisting Steel	QQ-S-763 (300 Series) ASTMB484
Elastomeric seals: such as O-Rings, cable jacket seals, grommets, etc.	Silicone	ZZ-R-765
Anti-friction and thrust washers	Fluoropolymer	TFE
Anti-rotation device	Corrosion Resistant Material	N/A

Conduit Backshells, Fittings and Adapters Interface Standards



Table I: Conduit Backshell Interface Dimensions Master Table

Connector Designator											A THREAD*	B	C	D	E
A	C*	D	E	F	G	H	J	K	L	S	REFERENCE	Dia Max	Dia Max	Dia Max	Dia Max
		08	08	08 [9]				08	08	08	7/16 - 28 UNEF	.59 (15.0)	.65 (16.5)	.77 (19.6)	.69 (17.5)
						09 [A]					M12 X 1 - 6H	.65 (16.5)	.77 (19.6)		.94 (24.8)
08							08 [A]	10			1/2 - 20 UNF	.65 (16.5)	.65 (16.5)		.69 (17.5)
											1/2 - 28 UNEF	.65 (16.5)	.77 (19.6)	.77 (19.6)	
03		10	10	10 [11]				11	10	10	9/16 - 24 UNEF	.72 (18.3)	.77 (19.6)	.89 (22.6)	.82 (20.8)
						11 [B]					M15 X 1 - 6H	.77 (19.6)	.82 (20.8)		1.06 (26.9)
10								12 [13]			5/8 - 24 UNEF	.77 (19.6)	.77 (19.6)	.89 (22.6)	.82 (20.8)
								10 [B]			5/8 - 28 UN	.77 (19.6)	.89 (22.6)		
		12		12 [13]					12	12	11/16 - 24 UNEF	.84 (21.3)	.89 (22.6)	1.02 (25.9)	.94 (23.8)
						13 [C]					M18 X 1 - 6H	.89 (22.6)	.94 (23.9)		1.17 (29.7)
12 [7]	12		12		11 [A]			14 [15]			3/4 - 20 UNEF	.91 (23.1)	.94 (23.9)	1.02 (25.9)	
		14	14	14 [15]					14	14	13/16 - 20 UNEF	.97 (24.6)	1.02 (25.9)	1.15 (29.2)	1.06 (26.9)
						15 [D]					M22 X 1 - 6H	1.03 (26.2)	1.07 (27.2)		1.29 (32.7)
14 [12]	14				13 [B]			16 [17]			7/8 - 20 UNEF	1.03 (26.2)	1.02 (25.9)	1.15 (29.2)	1.06 (26.9)
							14 [D]				7/8 - 28 UN	1.03 (26.2)	1.15 (29.2)		
		16	16	16 [17]					16	16	15/16 - 20 UNEF	1.09 (27.7)	1.15 (29.2)	1.26 (32.0)	1.17 (29.7)
						17 [E]					M25 X 1 - 6H	1.15 (29.2)	1.21 (30.7)		1.42 (36.1)
16 [19]	16				15 [C]			18			1 - 20 UNEF	1.15 (29.2)	1.21 (30.7)	1.23 (31.2)	1.17 (29.7)
							16 [E]				1 - 28 UN	1.15 (29.2)	1.36 (34.5)		
18 [27]		18	18	18 [19]					18	18	1 1/16 - 18 UNEF	1.22 (31.0)	1.23 (31.2)	1.40 (35.6)	1.29 (32.7)
						19 [F]					M28 X 1 - 6H	1.28 (32.5)	1.36 (34.5)		1.54 (39.1)
	18				17 [D]			20			1 1/8 - 18 UNEF	1.28 (32.5)	1.36 (34.5)	1.36 (34.5)	
							18 [F]				1 1/8 - 28 UN	1.28 (32.5)	1.48 (37.6)		
20 [37]		20	20	20 [21]					20	20	13/16 - 18 UNEF	1.34 (34.0)	1.36 (34.5)	1.53 (38.9)	1.42 (36.0)
						21 [G]					M31 X 1 - 6H	1.41 (35.8)	1.48 (37.6)		1.67 (42.4)
	20				19 [E]			22			1 1/4 - 18 UNEF	1.41 (35.8)	1.53 (38.9)	1.48 (37.6)	
							20 [G]				1 1/4 - 28 UN	1.41 (35.8)	1.60 (40.6)		
22		22	22	22 [23]					22	22	15/16 - 18 UNEF	1.47 (37.3)	1.48 (37.6)	1.60 (40.6)	1.54 (39.1)
						23 [H]					M34 X 1 - 6H	1.53 (38.9)	1.60 (40.6)		2.01 (51.1)
	22							24			13/8 - 18 UNEF	1.53 (38.9)		1.60 (40.6)	
							22 [H]				1 3/8 - 28 UN	1.53 (38.9)	1.73 (43.9)		
24		24	24	24 [25]	23 [F]				24	24	17/16 - 18 UNEF	1.59 (40.4)	1.73 (43.9)	1.94 (49.3)	1.66 (42.2)
						25 [J]					M37 X 1 - 6H	1.66 (42.2)	1.70 (43.2)		2.12 (53.8)
61								24 [J]			1 1/2 - 18 UNEF	1.66 (42.2)	1.67 (42.4)		
											1 1/2 - 28 UN	1.66 (42.2)	1.94 (49.3)		
					25 [G]						19/16 - 18 UNEF		1.82 (46.2)		
	24							28			15/8 - 18 UNEF	1.84 (46.7)		1.94 (49.3)	
28											13/4 - 18 UNS	1.97 (50.0)	1.97 (50.0)		2.01 (51.1)
	28				29 [H]			32			17/8 - 16 UN	2.09 (53.1)	2.19 (55.6)	2.19 (55.6)	
32											2 - 18 UNS	2.28 (57.9)	2.22 (56.4)		2.26 (57.4)
	32				33 [J]						2 1/16 - 16 UNS		2.44 (62.0)	2.44 (62.0)	
								36			2 1/8 - 16 UN	2.34 (59.4)		2.44 (62.0)	
36											2 1/4 - 16 UN	2.53 (64.3)	2.47 (62.7)		2.53 (64.3)
	36										2 5/16 - 16 UNS			2.69 (68.3)	
								40			2 3/8 - 16 UN	2.59 (65.8)		2.69 (68.3)	
40											2 1/2 - 16 UN	2.78 (70.6)	2.72 (69.1)		3.04 (77.2)
	40										2 5/8 - 16 UN			2.93 (74.4)	
44											2 3/4 - 16 UN	3.03 (77.0)	2.97 (75.4)		
48											3 - 16 UN	3.22 (81.8)	3.22 (81.8)		

* Code C, MIL-C-22992, Left-Hand Thread

Connector designations in brackets [] are for reference only and are not to be used in part number development.



Conduit Backshells, Fittings and Adapters Interface Standards and Connector Designators

A

Conduit Adapter Interface Standards

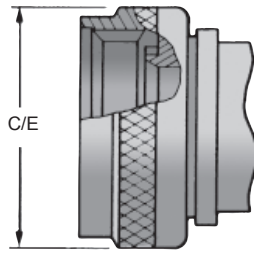
Desig.	Spec.	Series	Desig.	Spec.	Series	Desig.	Spec.	Series	Desig.	Spec.	Series
A	MIL-C-5015	MS3400	A	PATT 602		G	MIL-C-28840		L	EN3372	
	MIL-C-26482	2	B	MIL-C-5015	MS3100	H	MIL-C-38999			JN 1003	
	MIL-C-81703	3	C	MIL-C-22992	MS173XX		EN3645	III & IV		LN 29729	
	MIL-C-83723	I & III	D	MIL-C-26482	1	J	MIL-C-81511	1, 2, 3 & 4		NFC93422	HE06
	40M39569		E	MIL-C-26500	Aluminum					PAN6433-2	
	DEF 5326-3		F	MIL-C-38999	I & II	K	MIL-C-83723	II		PATT 615	
	EN 2997, 3646			40M38277					S	VG 96912	
	ESC 10, 11			PAN 6433-1						PATT 105	
	LN 29504			PATT 614						PATT 603	
	NFC93422	HE302		PATT 616						PATT 608	
	PAN 6432-1, -2			NFC93422	HE308, 9						

The following illustrations depict the standard fitting or adapter interface for the connector noted. Specification design standards are indicated wherever applicable. Consult factory for accessory part numbers for connector series not shown

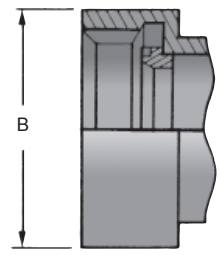
CONNECTOR DESIGNATOR	CONNECTOR SPECIFICATION	SERIES	ROTATABLE COUPLING	DIRECT COUPLING
----------------------	-------------------------	--------	--------------------	-----------------

A

MIL-C-5015	MS3400
MIL-C-26482	2
MIL-C-81703	3
MIL-C-83723	I & III
40M39569	
CECC 75201.001	
DEF 5326-3	
EN 2997	
EN 3646	
ESC 10	
ESC 11	
LN 29504	
NFC 93422	HE302
PAN 6432-1	
PAN 6432-2	
PATT 602	

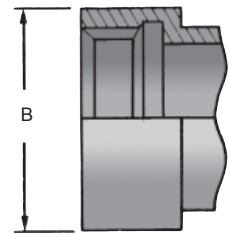


MIL-C-85049
FIGURE 4
(MS3155)



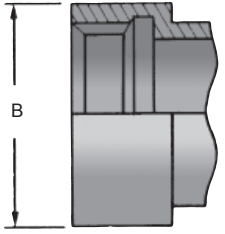
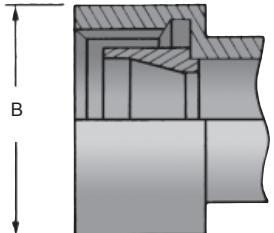
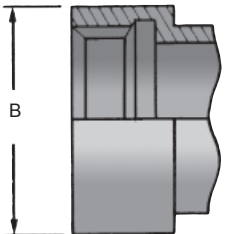
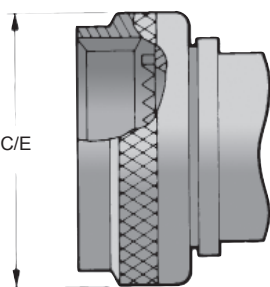
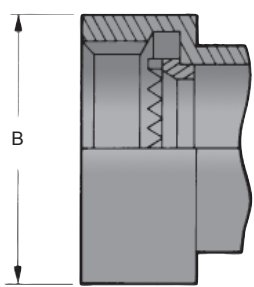
B

MIL-C-5015	MS3100	SEE PAGES 18-19
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Conduit Backshells, Fittings and Adapters Interface Standards and Connector Designators



CONNECTOR DESIGNATOR	CONNECTOR SPECIFICATION	SERIES	ROTATABLE COUPLING	DIRECT COUPLING
C	MIL-C-22992	MS173XX	CONSULT FACTORY	
D	MIL-C-26482	MS312X Series 1	CONSULT FACTORY	
E	MIL-C-26500	Aluminum (Class F, G & R)	CONSULT FACTORY	
F	MIL-C-38999 40M38277 NFC93422 NFC93422 PAN 6433-1 PATT 614 PATT 616	I & II HE308 HE309		 

Caution: These connector interfaces are not suitable for total environmental sealing; for further information consult factory.

MIL-C-85049 FIGURE 2
MIL-C-38999 FIGURE 3

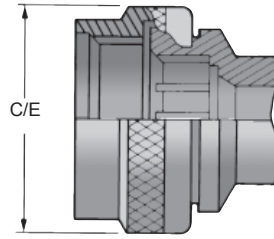


**Conduit Backshells, Fittings and Adapters
Interface Standards and Connector Designators**

A

CONNECTOR DESIGNATOR	CONNECTOR SPECIFICATION	SERIES	ROTATABLE COUPLING	DIRECT COUPLING
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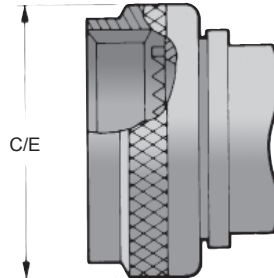
G



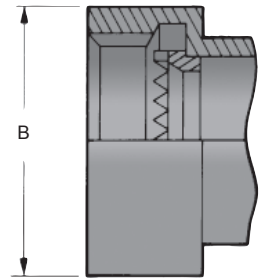
MIL-C-28840 FIGURE 7

CONSULT FACTORY

H



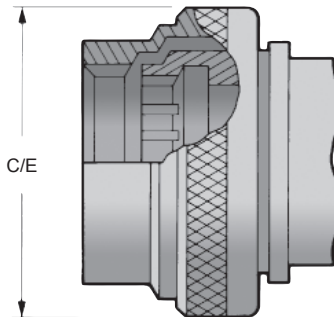
MIL-C-85049 FIGURE 3
MIL-C-38999 FIGURE 3



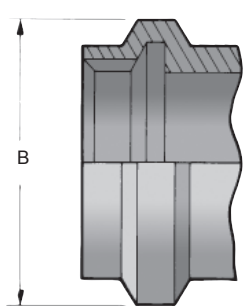
J

MIL-C-81511
VG95329

1, 2, 3 & 4



MIL-C-81511 FIGURE 12C



Conduit Backshells, Fittings and Adapters Interface Standards and Connector Designators



Conduit Introduction

A

CONNECTOR DESIGNATOR	CONNECTOR SPECIFICATION	SERIES	ROTATABLE COUPLING	DIRECT COUPLING
K	MIL-C-83723	Series II	CONSULT FACTORY	
L	EN3372 JN1003 LN 29729 NFC93422 PAN 6433-2 PATT 615 VG 96912	HE306		
S	PATT 105 PATT 603 PATT 608			



Military Standard Connector Index

Military Standard Connector Index

The following is a listing of circular connectors defined by US Military Specifications, cross-referenced to the applicable active or inactive part number series. The symbols in the Connector Designator column are an essential element in Glenair's backshell part number developments.

Part No.	Connector Designator	Specification	Series	Description
MS3100	B	SAE AS50151	MS3100	Receptacle Wall Mount (Solder)***
MS3101	B	SAE AS50151	MS3100	Plug (Solder)***
MS3102	**	SAE AS50151	MS3100	Receptacle Box Mount (Solder)***
MS3103	**	SAE AS50151	MS3100	Receptacle Potting (Solder)***
MS3105	**	SAE AS50151	MS3100	Dummy Receptacle***
MS3106	B	SAE AS50151	MS3100	Plug Straight (Solder)***
MS3107	B	SAE AS50151	MS3100	Plug Quick Disconnect (Solder)***
MS3108	B	SAE AS50151	MS3100	Plug 90° (Solder)***
MS3110	D-729	MIL-DTL-26482	1	Receptacle Wall Mount
MS3111	D	MIL-DTL-26482	1	Plug Cable Connecting
MS3112	**	MIL-DTL-26482	1	Receptacle Box Mount
MS3113	**	MIL-DTL-26482	1	Receptacle Solder Mount
MS3114	D-717	MIL-DTL-26482	1	Receptacle Jam Nut
MS3115	**	MIL-DTL-26482	1-2	Dummy Receptacle
MS3116	D	MIL-DTL-26482	1	Plug Straight
MS3119	**	MIL-DTL-26482	1	Receptacle Thru-Bulkhead
MS3120	D	MIL-DTL-26482	1	Receptacle Wall Mount (Crimp)
MS3121	D	MIL-DTL-26482	1	Plug Straight (Crimp)
MS3122	**	MIL-DTL-26482	1	Receptacle Box Mount (Crimp)
MS3124	D-717	MIL-DTL-26482	1	Receptacle Rear Mount Jam Nut (Crimp)
MS3126	D	MIL-DTL-26482	1	Plug Straight (Crimp)
MS3127	**	MIL-DTL-26482	1	Receptacle Box Mount (Crimp)
MS3128	D	MIL-DTL-26482	1	Receptacle Wall Mount (Crimp)
MS3130	*	QPL-81703	1	Receptacle Push Pull Wall Mount Flange
MS3132	X-706	QPL-81703	1	Receptacle Push Pull Box Mount
MS3134	X-706	QPL-81703	1	Receptacle Push Pull Jam Nut
MS3135	**	QPL-81703	1	Dummy Receptacle
MS3137	X-706	QPL-81703	1	Plug Straight Push Pull
MS3138	X-706	QPL-81703	1	Plug Lanyard Push Pull
MS3139	**	QPL-81703	1	Receptacle Thru-Bulkhead (Wall Mount)
* Consult Factory ** Connector Does Not Accommodate Rear Accessories ***Inactive For New Design				

Military Standard Connector Index



Part No.	Connector Designator	Specification	Series	Description
MS3140	X-706B	QPL-81703	2	Receptacle Push Pull Wall Mount
MS3142	**	MIL-C-5015	MS3100	Receptacle Hermetic Box Mount (Solder)
MS3143	**	MIL-C-5015	MS3100	Receptacle Hermetic Solder Mount
MS3144	X-706B	QPL-81703	2	Receptacle Push Pull Jam Nut
MS3145	**	QPL-81703	3	Receptacle Hermetic Push Pull Box Mount
MS3146	**	QPL-81703	3	Receptacle Push Pull Hermetic Solder Mount
MS3147	X-706B	QPL-81703	2	Plug Push Pull (Crimp)
MS3148	X-706B	QPL-81703	2	Plug Push Pull Lanyard (Crimp)
MS3149	**	QPL-81703	3	Receptacle Push Pull Hermetic (Single-Hole Mount)
MS3400	A	MIL-C-5015	MS3400	Receptacle Wall Mount (Crimp)
MS3401	A	SAE AS50151	MS3400	Receptacle Cable Connecting (Crimp)
MS3402	**	SAE AS50151	MS3400	Receptacle, Box Mount (Crimp)
MS3404	A	SAE AS50151	MS3400	Receptacle Jam Nut (Crimp)
MS3406	A	SAE AS50151	MS3400	Plug (Crimp)
MS3408	A	SAE AS50151	MS3400	Plug 90° (Crimp)
MS3409	A	SAE AS50151	MS3400	Plug 45° (Crimp)
MS3412	A	SAE AS50151	MS3400	Receptacle Wall Mount (Crimp)
MS3424	A	SAE AS81703	3	Receptacle Push Pull Wall Mount
MS3440	**	MIL-DTL-26482	2	Receptacle Narrow Flange Mount (Was M83723/9/10)
MS3442	**	MIL-DTL-26482	2	Receptacle Wide Flange Mount
MS3443	**	MIL-DTL-26482	2	Receptacle Solder Flange Mount
MS3445	*	QPL-81703	2	Plug Push Pull Rack & Panel Mount
MS3446	A	QPL-81703	3	Plug Push Pull Rack & Panel Mount
MS3449	**	MIL-DTL-26482	2	Receptacle Push Pull Single Hole Mount
MS3450	A	SAE AS50151	MS3450	Receptacle Wall Mount (Was M83723/19/20) (Crimp)
MS3451	A	SAE AS50151	MS3450	Receptacle Cable Connecting (Was M83723/17/18) (Crimp)
MS3452	**	SAE AS50151	MS3450	Receptacle Box Mount (Was M83723/21/22) (Crimp)
MS3454	A	SAE AS50151	MS3450	Receptacle Jam Nut (Crimp)
MS3456	A	SAE AS50151	MS3450	Plug Straight (Was M83723/23/24) (Crimp)
MS3459	A	SAE AS50151	MS3450	Plug Straight Self Locking (Was M83723/52/53)
MS3463	**	QPL-81703	3	Receptacle Push Pull (Hermetic)
MS3464	A	QPL-81703	3	Receptacle Push Pull Jam Nut
MS3466	**	QPL-81703	3	Receptacle Push Pull Hermetic (Box Mount)
MS3467	A	QPL-81703	3	Plug Push Pull
* Consult Factory ** Connector Does Not Accommodate Rear Accessories ***Inactive For New Design				



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A

Part No.	Connector Designator	Specification	Series	Description
MS3468	A	QPL-81703	3	Plug Push Pull Lanyard
MS3469	**	QPL-81703	3	Receptacle Push Pull Hermetic Jam Nut
MS3470	A	MIL-DTL-26482	2	Receptacle Narrow Flange Mount (Was M83723/1/2)
MS3471	A	MIL-DTL-26482	2	Receptacle Cable Connecting (Was M83723/7/8)
MS3472	A	MIL-DTL-26482	2	Receptacle Wide Flange Mount (Was M83723/3/4)
MS3473	**	MIL-DTL-26482	2	Receptacle Solder Mount Hermetic
MS3474	A	MIL-DTL-26482	2	Receptacle Rear Mount Jam Nut (Was M83723/5/6)
MS3475	A	MIL-DTL-26482	2	Plug RFI Shielded (Was M83723/42/43)
MS3476	A	MIL-DTL-26482	2	Plug Straight (Was M83723/13/14)
MS3477	**	MIL-DTL-26482	2	Receptacle Hermetic Box Mount
MS3479	**	MIL-DTL-26482	2	Receptacle Hermetic Rear Mount Jam Nut
MS17343	C	MIL-DTL-22992	R	Receptacle Wall Mount
MS17344	C	MIL-DTL-22992	R	Plug Straight
MS17345	C	MIL-DTL-22992	R	Plug Cable Connecting (Female)
MS17346	C	MIL-DTL-22992	R	Receptacle Box Mount
MS17347	C	MIL-DTL-22992	R	Receptacle Jam Nut
MS17348	**	MIL-DTL-22992	R	Receptacle Jam Nut Box Mount
MS18062	**	MIL-DTL-22992	R	Dummy Receptacle
MS20026	*	MIL-DTL-27599	I	Receptacle Wall Mount Solder***
MS20027	*	MIL-DTL-27599	I	Receptacle Line***
MS20028	*	MIL-DTL-27599	I	Plug Straight***
MS20029	**	MIL-DTL-27599	I	Receptacle Jam Nut Mount***
MS20030	*	MIL-DTL-27599		Receptacle Box Mount Hermetic
MS20031	**	MIL-DTL-27599		Receptacle Jam Nut Hermetic***
MS20032	**	MIL-DTL-27599		Receptacle Solder Mount Hermetic***
MS20034	*	MIL-DTL-27599		Receptacle Wall Mount***
MS20035	*	MIL-DTL-27599		Receptacle Box Mount***
MS24264	E	MIL-C-26500	F G & R	Receptacle Flange Mount*** Use MIL-DTL-83723
MS24265	E	MIL-C-26500	F G & R	Receptacle Single Hole Mount*** Use MIL-DTL-83723
MS24266	E	MIL-C-26500	F G & R	Plug Straight*** Use MIL-DTL-83723
MS25183	**	SAE AS50151	MS3100	Plug Potting Seal (Solder)
MS27034	**	MIL-C-26500		Receptacle Hermetic Solder Mount
MS27334	*	MIL-DTL-27599		Receptacle Wall Mount ***
MS27335	**	MIL-DTL-27599		Receptacle Box Mount ***
* Consult Factory ** Connector Does Not Accommodate Rear Accessories ***Inactive For New Design				

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Conduit Introduction

A

Part No.	Connector Designator	Specification	Series	Description
M83723/19	K	MIL-DTL-83723	II	Superseded By MS3450 ***
M83723/20	K	MIL-DTL-83723	II	Superseded By MS3450 ***
M83723/21	**	MIL-DTL-83723	II	Superseded By MS3452 ***
M83723/22	**	MIL-DTL-83723	II	Superseded By MS3452 ***
M83723/23	K	MIL-DTL-83723	II	Superseded By MS3456 ***
M83723/24	K	MIL-DTL-83723	II	Superseded By MS3456 ***
M83723/25	**	MIL-DTL-83723	II	Superseded By MS3142 ***
M83723/26	**	MIL-DTL-83723	II	Superseded By MS3143 ***
M83723/36	A	MIL-DTL-83723	I	Inactive For New Design
M83723/37	A	MIL-DTL-83723	I	Inactive For New Design
M83723/38	A	MIL-DTL-83723	I	Inactive For New Design
M83723/39	A	MIL-DTL-83723	I	Inactive For New Design
M83723/40	A	MIL-DTL-83723	I	Inactive For New Design
M83723/41	A	MIL-DTL-83723	I	Inactive For New Design
M83723/42	A	MIL-DTL-83723	I	Superseded By MS3475
M83723/43	A	MIL-DTL-83723	I	Superseded By MS3475
M83723/45	**	MIL-DTL-83723	I	Superseded By MS3115
M83723/48	A	MIL-DTL-83723	I	Inactive For New Design
M83723/49	A	MIL-DTL-83723	I	Inactive For New Design
M83723/52	K	MIL-DTL-83723	II	Superseded By MS3459
M83723/53	K	MIL-DTL-83723	II	Superseded By MS3459
M83723/66	A	MIL-DTL-83723	III	Plug Push Pull (Pin Contacts)
M83723/67	A	MIL-DTL-83723	III	Plug Push Pull (Socket Contacts)
M83723/68	A	MIL-DTL-83723	III	Plug Push Pull Lanyard (Pin Contacts)
M83723/69	A	MIL-DTL-83723	III	Plug Push Pull Lanyard (Socket Contacts)
M83723/71	A	MIL-DTL-83723	III	Receptacle Bayonet Flange Mount (Socket Contact)
M83723/72	A	MIL-DTL-83723	III	Receptacle Bayonet Flange Mount (Pin Contact)
M83723/73	A	MIL-DTL-83723	III	Receptc Bayonet Single Hole Mount (Socket Contact)
M83723/74	A	MIL-DTL-83723	III	Receptacle Bayonet Single Mount (Pin Contact)
M83723/75	A	MIL-DTL-83723	III	Plug Bayonet (Socket Contact)
M83723/76	A	MIL-DTL-83723	III	Plug Bayonet (Pin Contact)
M83723/77	A	MIL-DTL-83723	III	Plug Bayonet RFI (Socket Contact)
M83723/78	A	MIL-DTL-83723	III	Plug Bayonet RFI (Pin Contact)
M83723/79	**	MIL-DTL-83723	III	Receptacle Bayonet Flange Mount Hermetic
* Consult Factory ** Connector Does Not Accommodate Rear Accessories ***Inactive For New Design				



Military Standard Connector Index

A

Part No.	Connector Designator	Specification	Series	Description
M83723/80	**	MIL-DTL-83723	III	Receptacle Bayonet Solder Flange Mount Hermetic
M83723/81	**	MIL-DTL-83723	III	Receptacle Bayonet Single Hole Mount Hermetic
M83723/82	A	MIL-DTL-83723	III	Receptacle Threaded Flange Mount (Socket Contact)
M83723/83	A	MIL-DTL-83723	III	Receptacle Threaded Flange Mount (Pin Contact)
M83723/84	A	MIL-DTL-83723	III	Receptacle Threaded Single Hole Mount (Socket Contact)
M83723/85	A	MIL-DTL-83723	III	Receptacle Threaded Single Hole Mount (Pin Contact)
M83723/86	A	MIL-DTL-83723	III	Plug Threaded (Socket Contact)
M83723/87	A	MIL-DTL-83723	III	Plug Threaded (Pin Contact)
M83723/88	**	MIL-DTL-83723	III	Receptacle Threaded Flange Mount (Pin Contact)
M83723/89	**	MIL-DTL-83723	III	Receptacle Threaded Single Hole Mount Hermetic
M83723/90	**	MIL-DTL-83723	III	Receptacle Threaded Solder Flange Mount Hermetic
M83723/91	A	MIL-DTL-83723	III	Plug Threaded RFI (Socket Contact)
M83723/92	A	MIL-DTL-83723	III	Plug Threaded RFI (Pin Contact)
M83723/93	**	MIL-DTL-83723	III	Receptacle Bayonet Solder Flange Mount Hermetic
M83723/94	**	MIL-DTL-83723	III	Receptacle Bayonet Single Hole Mount Hermetic
M83723/95	A	MIL-DTL-83723	III	Plug Threaded (Socket Contact) Self Locking
M83723/96	A	MIL-DTL-83723	III	Plug Threaded (Pin Contact) Self Locking
M83723/97	A	MIL-DTL-83723	III	Plug Threaded RFI (Socket Contact) Self Locking
M83723/98	A	MIL-DTL-83723	III	Plug Threaded RFI (Pin Contact) Self Locking
Natc00	H*	SSQ21635		Receptacle Flange
Natc06	H*	SSQ21635		Plug
Natc07	H*	SSQ21635		Receptacle Jam Nut
Natc09	***	SSQ21635		Receptacle Weld Mount
Natc77	***	SSQ21635		Receptacle Jam Nut Bulkhead Feed-Thru
Natc99	***	SSQ21635		Receptacle Weld Mount
Nbo	A	40M39569		Receptacle Flange Mount
Nboh	**	40M39569		Receptacle Hermetic
Nb3h	**	40M39569		Receptacle Hermetic
Nb4	A	40M39569		Receptacle Flange Mount
Nb5h	**	40M39569		Thru-Bulkhead Hermetic
NB6	A	40M39569		Plug Straight
NB6G	A	40M39569		Plug Straight,EMI
NB7	A	40M39569		Receptacle Jam Nut
NB7H	**	40M39569		Receptacle Hermetic
* Consult Factory		** Connector Does Not Accommodate Rear Accessories		***Inactive For New Design

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Conduit
Introduction

A

Part No.	Connector Designator	Specification	Series	Description
NB8H	**	40M39569		Receptacle Hermetic
NLSO	F	40M38277		Receptacle Flange Mount
NLS3H	**	40M38277		Receptacle Hermetic
NLS6	F	40M38277		Plug Straight
NLS6G	F	40M38277		Plug Straight EMI
NLS7	F	40M38277		Receptacle Jam Nut
NLS7H	**	40M38277		Receptacle Jam Nut
NZGL00	H**	SSQ21635		Receptacle Flange
NZGL03	***	SSQ21635		Receptacle Lever
NZGL06	H**	SSQ21635		Plug
NZGL07	H**	SSQ21635		Receptacle Weld Mount
NZGL09	***	SSQ21635		Receptacle Weld Mount
NZGL66	H**	SSQ21635		Plug
NZGL77	***	SSQ21635		Receptacle Jam Nut
NZGL99	***	SSQ21635		Receptacle Weld Mount
* Consult Factory ** Connector Does Not Accomodate Rear Accessories ***Inactive For New Design				



MIL-C-5015 Connector Fittings (MS3100 Series)

A

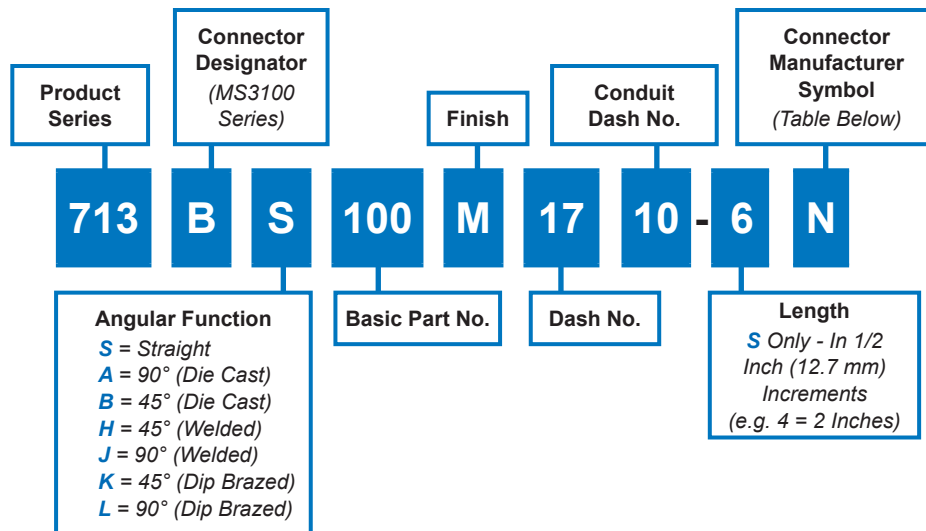
Part Number Development For Connector Designator "B"

The threaded rear ends on MIL-C-5015 solder-type connectors are not specification controlled. Rear accessory accommodation, therefore, varies from one manufacturer to the next with no universal standard for the number of threads or interlocking teeth. As a result, many MS3100 connectors and accessories are not interchangeable in certain shell sizes and service classes.

To assure optimum backshell compatibility for each MS3100 Series solder contact connector, it is necessary to add an additional connector manufacturer's symbol to the part number.

The connector manufacturer's symbol ensures the interface dimensions and mechanical features for each MS3100 connector manufacturer's product are accommodated in the backshell. If there is any doubt as to the provenance of the connector, Symbol A, universal fit, should be selected.

For proper use of these backshells, discard all rear hardware, including wire seal grommets, normally supplied with the MS3100 Series connectors. (This information does not apply to endbell extenders commonly supplied with MS3100A Series connectors.) Connector manufacturer symbols are shown in the table below and pertinent connector fitting interface information (Table I) may be found on page A-13.



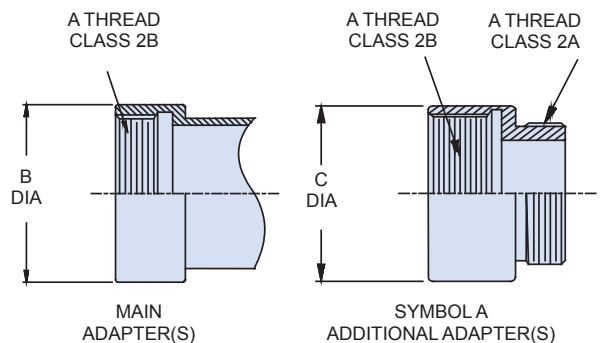
Connector Manufacturer Symbols			
Symbol	Manufacturer	Connector Series	Class
A	All	MS3100, 01, 06	A/E/F/R
G	Glenair	ITS	A/E/F/R
H	Amphenol	MS3100, 01, 06 97 Series Blue Insert	A
L	Amphenol/BCO	MS3100, 01, 06 10-214, 10-720 10-721, 10-726	A/E/F/R
M	Cannon	MS3100, 01, 06	A
N		MS3100, 01, 063 CA00, 01, 06	E/F/R

MIL-C-5015 Connector Fittings (MS3100 Series)



MS3100 Series Manufacturer Designations						
Dash Number	Shell Size	Conn. Mfg. Desig.	See Note 1	A Thread Class 2B	B Dia Max	C Dia Max
01	8S	A	1	7/16 - 28 UNEF	.656 (16.7)	.625 (15.9)
02	8S	J, M, N,	2	7/16 - 28 UNEF	.656 (16.7)	.625 (15.9)
03	8S	L	3	3/8 - 32 UNEF	.607 (15.4)	.562 (14.3)
04	8S	H	3	7/16 - 27 UNS	.656 (16.7)	.625 (15.9)
05	10S	A	1	1/2 - 28 UNEF	.724 (18.4)	.687 (17.4)
06	10S	H, J, L, N	2	1/2 - 28 UNEF	.724 (18.4)	.687 (17.4)
07	10S	M	3	9/16 - 24 UNEF	.724 (18.4)	.687 (17.4)
08	10SL	A	1	9/16 - 24 UNEF	.724 (18.4)	.687 (17.4)
09	10SL	M, N	2	9/16 - 24 UNEF	.724 (18.4)	.687 (17.4)
10	10SL	H, J, L	3	5/8 - 24 UNEF	.848 (21.5)	.812 (20.6)
11	12, 12S	A	1	5/8 - 24 UNEF	.848 (21.5)	.812 (20.6)
12	12, 12S	L, N	2	5/8 - 24 UNEF	.848 (21.5)	.812 (20.6)
13	12, 12S	H, J, M	3	11/16 - 24 UNEF	.848 (21.5)	.812 (20.6)
14	12SL, 14, 14S	A	2	3/4 - 20 UNEF	.974 (24.7)	.937 (23.8)
15	16, 16S	A	2	7/8 - 20 UNEF	1.102 (28.0)	1.062 (27.0)
16	18	A	2	1 - 20 UNEF	1.220 (31.0)	1.187 (30.1)
17	20	A	1	1 1/8 - 18 UNEF	1.343 (34.1)	1.312 (34.1)
18	20	H, L, M, N	2	1 1/8 - 18 UNEF	1.343 (34.1)	1.312 (33.3)
19	20	J	3	1 1/8 - 24 UNS	1.343 (34.1)	1.312 (33.3)
20	22	A	2	1 1/4 - 18 UNEF	1.343 (34.1)	1.437 (36.5)
21	24	A	2	1 3/8 - 18 UNEF	1.468 (37.3)	1.562 (39.7)
22	28	A	2	1 5/8 - 18 UNEF	1.593 (40.5)	1.812 (46.0)
23	32	A	1	1 7/8 - 16 UN	2.125 (54.0)	2.062 (52.4)
24	32	L, M, N	2	1 7/8 - 16 UN	2.125 (54.0)	2.062 (52.4)
25	32	H, J	3	1 29/32 - 18 UNS	2.125 (54.0)	2.062 (52.4)
26	36	A	1	2 1/8 - 16 UN	2.375 (60.3)	2.312 (58.7)
27	36	M, N	2	2 1/8 - 16 UN	2.375 (60.3)	2.312 (58.7)
28	36	L	3	2 1/16 - 16 UNS	2.375 (60.3)	2.312 (58.7)
29	36	J	3	2 1/16 - 20 UNEF	2.375 (60.3)	1.312 (33.3)
30	36	H	3	2 1/8 - 18 UNS	2.375 (60.3)	2.312 (58.7)
31	40	A	1	2 3/8 - 16 UN	2.625 (66.7)	2.562 (65.1)
32	40	H, M, N	2	2 3/8 - 16 UN	2.625 (66.7)	2.562 (65.1)
33	40	L	3	2 5/16 - 16 UNS	2.625 (66.7)	2.562 (65.1)
34	44	A	2	2 5/8 - 16 UN	2.906 (73.8)	2.875 (73.0)
35	48	A	1	2 7/8 - 16 UN	3.156 (80.2)	3.125 (79.4)
36	48	H	2	2 7/8 - 16 UN	3.156 (80.2)	3.125 (79.4)
37	48	N	3	2 13/16 - 18 UNS	3.156 (80.2)	3.125 (79.4)

1. Since the rear accessory accommodation is not spec controlled, many of the connectors manufactured by one supplier are incompatible with the adapters manufactured for another supplier. Therefore, to assure compatibility, the specific manufacturer's connector series symbol should be used when ordering. If the specific manufacturer is not known, order symbol A and corresponding dash number, for MS universal fit.
2. Symbol A mates with all connectors for each shell size.
3. Additional transition adapters may be supplied with symbol A for each shell size, as noted.





Determining Tubing/Conduit Core Size

How to use the tables on this page:

A

It is possible for a wire bundle to contain wires of all the same size diameter, or a variety of mixed diameters. The gauge indicates only the diameter of the conductor, and this information alone is not sufficient to determine required tubing size. Referring to the appropriate wire specification is necessary to establish the overall diameter including the insulation and/or braided shielding.

Step	All Wires Same Diameter	Two Different Wire Diameters
1. A bundle containing 30 wires	30 wires @ .045 dia	15 wires @ .045 dia 15 wires @ .135 dia
2. Determine average wire diameter	$30 \times .045 = 1.35$ $1.35 \div 30 = .045$ average wire diameter	$15 \times .045 = .68$ $15 \times .135 = \underline{2.03}$ 2.71 $2.71 \div 30 = .090$ average wire diameter
3. Using Table I, find factor for 30 wires (6.7) and multiply by average wire diameter	$.045 \times 6.7 = .3015$ wire bundle diameter	$.090 \times 6.7 = .603$ wire bundle diameter
4. Tubing size is determined on Table II. 70% fill is recommended	Size 12 (.305 dia = 70% fill)	Size 24 (.607 dia = 70% fill)

Table I

Number of Wires	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	24	28	32
Factor	1.0	2.0	2.2	2.4	2.7	2.9	3.0	3.3	3.8	4.0	4.3	4.6	5.0	5.3	5.6	6.0	6.5	6.9
Number of Wires	36	40	45	50	55	60	65	70	75	80	90	100	125	150	175	200	250	300
Factor	7.4	7.7	8.1	8.5	8.9	9.3	9.7	10.1	10.5	10.9	11.6	12.2	13.7	15.0	16.1	17.2	19.3	21.0

Table II

Dash No.	I.D.	Cross-sectional Area	FILL				
			50%	60%	70%	80%	90%
06	3/16 (0.188)	0.027	0.132	0.145	0.156	0.167	0.177
08	1/4 (0.250)	0.049	0.177	0.194	0.209	0.224	0.237
09	9/32 (0.281)	0.062	0.199	0.218	0.235	0.251	0.267
10	5/16 (0.313)	0.076	0.221	0.242	0.261	0.279	0.296
12	3/8 (0.375)	0.110	0.265	0.290	0.314	0.335	0.356
14	7/16 (0.438)	0.150	0.309	0.338	0.366	0.391	0.415
16	1/2 (0.500)	0.196	0.354	0.387	0.418	0.447	0.474
20	5/8 (0.625)	0.307	0.442	0.484	0.523	0.559	0.593
24	3/4 (0.750)	0.442	0.530	0.581	0.627	0.671	0.712
28	7/8 (0.875)	0.601	0.619	0.678	0.732	0.783	0.830
32	1 (1.000)	0.785	0.707	0.775	0.837	0.894	0.949
40	1 1/4 (1.250)	1.227	0.884	0.968	1.046	1.118	1.186
48	1 1/2 (1.500)	1.767	1.061	1.162	1.255	1.342	1.423
56	1 3/4 (1.750)	2.405	1.237	1.356	1.464	1.565	1.660
64	2 (2.000)	3.142	1.414	1.549	1.673	1.789	1.897
80	2 1/2 (2.500)	4.909	1.768	1.936	2.092	2.236	2.372
96	3 (3.000)	7.069	2.121	2.324	2.510	2.683	2.846

Wire Diameter and Weight Lookup Tables



Conduit Introduction

A

Bulk Conduit Length Tolerances	
The following tolerances apply to the lengths of bulk conduit	
Inches	
Length	Tolerance
12 - 144	+ 2.0
145 - 600	+4.0
601 - up	+ 6.0
Centimeters	
Lenth	Tolerance
31 - 366	+5.0
367 - 1524	+10.2
1525 - up	+15.2

WIRE	REFERENCE DIAMETER	REFERENCE WEIGHT (LBS/1000 FT) MAX
M22759/11-28	0.033 (±.002)	1.36
M22759/11-26	0.038 (±.002)	1.90
M22759/11-24	0.043 (±.002)	2.58
M22759/11-22	0.049 (±.002)	3.72
M22759/11-20	0.058 (±.002)	5.43
M22759/11-18	0.068 (±.002)	8.14
M22759/11-16	0.075 (±.002)	10.00
M22759/11-14	0.090 (±.002)	15.10
M22759/11-12	0.111 (±.003)	24.10
M22759/11-10	0.139 (±.004)	37.80
M22759/11-8	0.202 (±.004)	65.50

WIRE	REFERENCE DIAMETER	REFERENCE WEIGHT (LBS/1000 FT) MAX
M22759/33-30	0.024 (±.002)	0.66
M22759/33-28	0.027 (±.002)	0.91
M22759/33-26	0.032 (±.002)	1.40
M22759/33-24	0.037 (±.002)	2.00
M22759/33-22	0.043 (±.002)	2.90
M22759/33-20	0.050 (±.002)	4.40
M22759/44-28	0.027 (±.002)	0.91
M22759/44-26	0.032 (±.002)	1.40
M22759/44-24	0.037 (±.002)	2.00
M22759/44-22	0.043 (±.002)	2.80
M22759/44-20	0.050 (±.002)	4.30
M22759/44-18	0.060 (±.002)	6.50
M22759/44-16	0.068 (±.002)	8.30
M22759/44-14	0.085 (±.003)	13.00
M22759/44-12	0.103 (±.003)	19.70

TWISTED PAIR (JACKET & SHIELD)				TWISTED PAIR (NO JACKET OR SHIELD)			
Part Number	Max OD	MAX weight (lbs/1000 ft)	REFERENCE BASIC WIRE	Part Number	Max OD	MAX weight (lbs/1000 ft)	REFERENCE BASIC WIRE
M27500-28RC2S06	0.128	12.947	M22759/11-28	M27500-28RC2U00	0.070	2.774	M22759/11-28
M27500-26RC2S06	0.138	15.107	M22759/11-26	M27500-26RC2U00	0.080	3.876	M22759/11-26
M27500-24RC2S06	0.148	17.553	M22759/11-24	M27500-24RC2U00	0.090	5.263	M22759/11-24
M27500-22RC2S06	0.160	21.149	M22759/11-22	M27500-22RC2U00	0.102	7.589	M22759/11-22
M27500-20RC2S06	0.178	26.543	M22759/11-20	M27500-20RC2U00	0.120	11.077	M22759/11-20
M27500-18RC2S06	0.198	34.188	M22759/11-18	M27500-18RC2U00	0.140	16.606	M22759/11-18
M27500-16RC2S06	0.212	39.464	M22759/11-16	M27500-16RC2U00	0.154	20.400	M22759/11-16
M27500-14RC2S06	0.242	53.044	M22759/11-14	M27500-14RC2U00	0.184	30.804	M22759/11-14
M27500-12RC2S06	0.286	76.061	M22759/11-12	M27500-12RC2U00	0.228	49.164	M22759/11-12
M27500-10RC2S06	0.348	114.607	M22759/11-10	M27500-10RC2U00	0.286	77.112	M22759/11-10
M27500-8RC2S06	0.500	207.438	M22759/11-8	M27500-8RC2U00	0.412	133.620	M22759/11-8
M27500-30SC2S06	0.110	9.614	M22759/33-30	M27500-30SC2U00	0.052	1.346	M22759/33-30
M27500-28SC2S06	0.116	10.759	M22759/33-28	M27500-28SC2U00	0.058	1.856	M22759/33-28
M27500-26SC2S06	0.126	12.817	M22759/33-26	M27500-26SC2U00	0.068	2.856	M22759/33-26
M27500-24SC2S06	0.136	15.100	M22759/33-24	M27500-24SC2U00	0.078	4.080	M22759/33-24
M27500-22SC2S06	0.148	18.206	M22759/33-22	M27500-22SC2U00	0.090	5.916	M22759/33-22
M27500-20SC2S06	0.162	22.748	M22759/33-20	M27500-20SC2U00	0.104	8.976	M22759/33-20

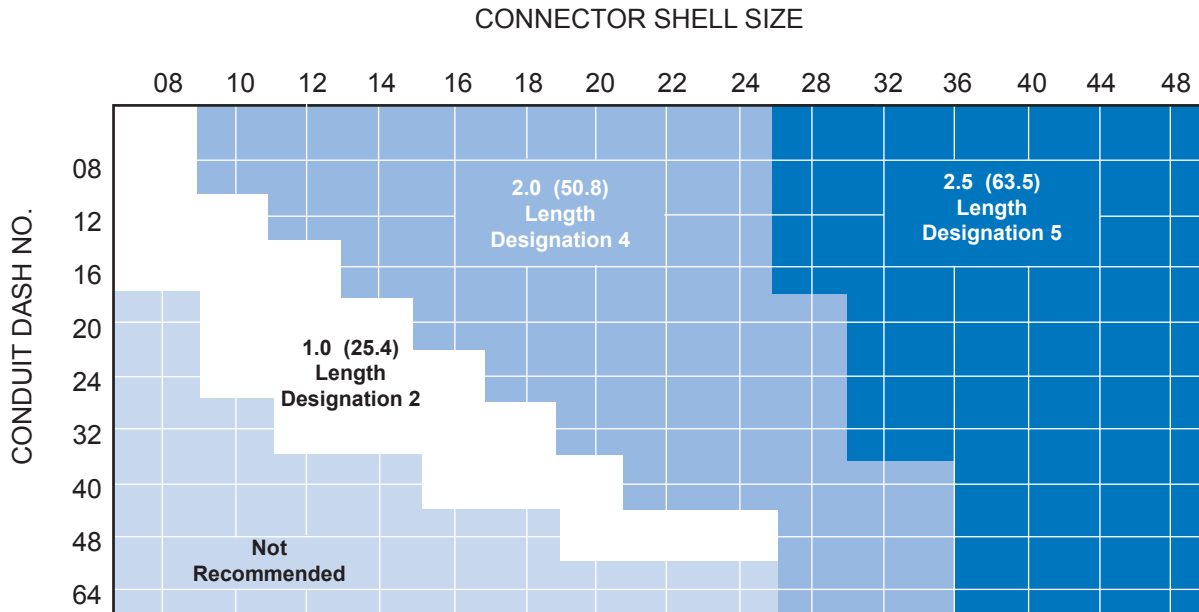


Standard Minimum Lengths Style 1 and Style 2 Conduit Fittings

A

Standard Minimum Lengths

The following chart defines the standard minimum lengths for straight conduit fittings, 713*S100 through 713*S103. These recommended minimum lengths have been established to provide adequate working room behind the connector for the shell size and conduit dash number combinations listed. These lengths also provide sufficient clearance for wire routing when using small size conduit with large size connectors.

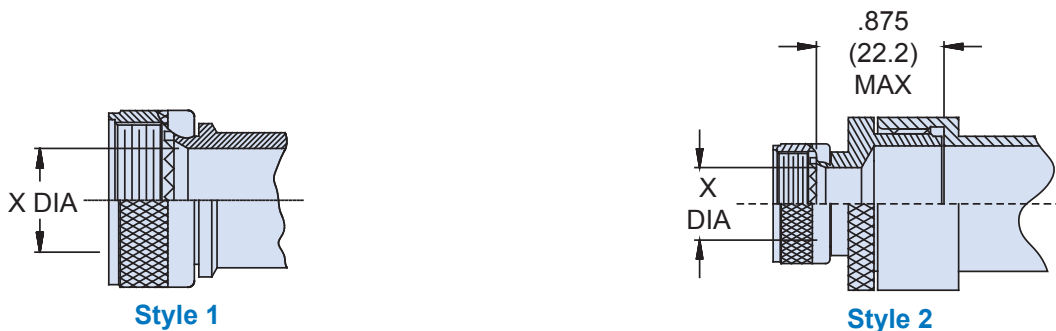


Style 1 / Style 2 Conduit Fittings

To provide an optimized termination between all series of conduit and the connector it is necessary to select either style 1 or style 2 fitting configuration as illustrated.

Style 1 applies to wire bundle or cable diameters which are smaller than the X-diameters listed for each connector designation and shell size on the following page. When the wire bundle or cable diameter exceeds the listed X-diameter, then style 2 is desired.

Style 2 configuration also may be desirable to provide fitting increased working room inside the conduit fitting to accommodate conductor cross-overs, splices, ground leads, etc., and should be considered when selecting the conduit fitting part number.



Maximum Cable/Wire Bundle Diameter for Style 1 Conduit Fitting Catalog Notes



Style 1 Fittings: X Diameter

Shell Size	Connector Designator									
	A	D	E	F	G	H	J	K	L	S
03	.295 (7.5)									
08	.295 (7.5)	.300 (7.6)	.350 (8.9)	.299 (7.6)			.446 (11.3)	.320 (8.1)	.299 (7.6)	.312 (7.9)
09						.299 (7.6)				
10	.400 (10.2)	.405 (10.3)	.443 (11.3)	.427 (10.8)			.571 (14.5)	.30 (7.6)	.427 (10.8)	.429 (10.9)
11					.367 (9.3)	.427 (10.8)		.38 (9.7)		
12	.536 (13.6)	.550 (14.0)	.595 (15.1)	.541 (13.7)				.40 (10.2)	.541 (13.7)	.554 (14.1)
13					.502 (12.8)	.541 (13.7)		.40 (10.2)		
14	.610 (15.5)	.635 (16.1)	.693 (17.6)	.641 (16.3)			.821 (20.9)	.48 (12.2)	.641 (16.3)	.668 (17.0)
15					.647 (16.4)	.641 (16.3)		.48 (12.2)		
16	.735 (18.7)	.795 (20.2)	.786 (20.0)	.766 (19.5)			.946 (24.0)	.60 (15.2)	.766 (19.5)	.793 (20.1)
17					.744 (18.9)	.766 (19.5)		.60 (15.2)		
18	.814 (20.7)	.875 (22.2)	.923 (23.4)	.855 (21.7)			1.071 (27.2)	.72 (18.3)	.885 (22.5)	.888 (22.6)
19					.876 (22.3)	.885 (22.5)				
20	.939 (23.9)	1.005 (25.5)	1.051 (26.7)	.980 (24.9)			1.196 (30.4)	.86 (21.8)	.980 (24.9)	1.025 (26.0)
21						.980 (24.9)				
22	1.064 (27.0)	1.120 (28.4)	1.176 (29.9)	1.165 (29.6)			1.321 (33.6)	.97 (24.6)	1.165 (29.6)	1.150 (29.2)
23					1.073 (27.3)	1.165 (29.6)				
24	1.179 (29.9)	1.180 (30.0)	1.301 (33.0)	1.230 (31.2)			1.446 (36.7)	1.08 (27.4)	1.230 (31.2)	1.275 (32.4)
25					1.205 (30.6)	1.230 (31.2)				
28	1.414 (35.9)							1.24 (31.5)		
29					1.442 (36.6)					
32	1.660 (42.2)							1.51 (38.4)		
33					1.640 (41.7)					
36	1.875 (47.6)							1.75 (44.5)		
40	2.090 (53.1)							1.86 (47.2)		
44	2.345 (59.6)									
48	2.595 (65.9)									
61	1.219 (31.0)									

Style 1 X Dia.

Dash No.	Conn. Desig. B
01	.358 (9.1)
02	.358 (9.1)
03	.312 (7.9)
04	.358 (9.1)
05	.437 (11.1)
06	.437 (11.1)
07	.483 (12.3)
08	.483 (12.3)
09	.483 (12.3)
10	.531 (13.5)
11	.531 (13.5)
12	.531 (13.5)
13	.531 (13.5)
14	.656 (16.7)
15	.781 (19.8)
16	.966 (24.5)
17	1.031 (26.2)
18	1.031 (26.2)
19	1.031 (26.2)
20	1.156 (29.4)
21	1.320 (33.5)
22	1.531 (38.9)
23	1.781 (45.2)
24	1.781 (45.2)
25	1.781 (45.2)
26	1.900 (48.3)
27	1.900 (48.3)
28	1.968 (50.0)
29	1.968 (50.0)
30	1.968 (50.0)
31	2.218 (56.3)
32	2.218 (56.3)
33	2.218 (56.3)
34	2.531 (64.3)
35	2.781 (70.6)
36	2.781 (70.6)
37	2.656 (67.5)

Catalog Notes

For all parts in this catalog:

- All parts will be identified with manufacturer's name and part number, space permitting.
- Glenair 600 series backshell assembly tools are recommended for assembly and installation.
- Conduit in part drawings is shown for reference only.
- On all length callouts, tolerance is $\pm .060$ unless otherwise specified.
- Metric dimensions appear in parentheses in diagrams and tables, based on 1 inch = 25.4 mm, for reference only. Unless otherwise specified, the following other dimensional tolerances apply:
 - .xx = $\pm .03$ (0.8)
 - .xxx = $\pm .015$ (0.4)
 - Lengths = $\pm .060$ (1.52)
 - Angles = $\pm 5^\circ$

Turnkey

SERIES 72 ANNULAR TUBING ASSEMBLIES

TERMINATED, TESTED, AND READY FOR IMMEDIATE USE



Series 72
**Economical Annular Polymer-Core
 Convoluted Tubing Systems**
 Introduction and Quick Selection Guide

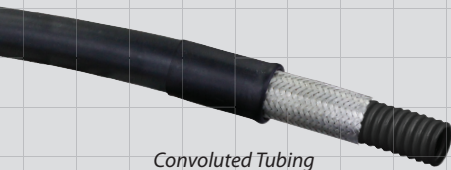


High-Performance Annular Convoluted Tubing, Backshells, Fittings and Assemblies

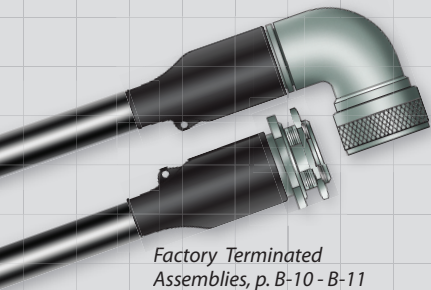
Glenair Series 72 Annular Polymer-Core Convoluted Tubing provides an economical, lightweight, durable enclosure for interconnect wiring, available in three flexible and versatile materials, with or without EMI/RFI braiding and jacketing.

Do-It-Yourself Fittings are the best choice when ease of assembly and installation is a requirement, when prototyping wire-routing systems, or when running annular tubing in unpredictable lengths.

Prefer a Turnkey Solution? Glenair can terminate point-to-point or complex multi-branch annular tubing assemblies to fit your specific application requirements.



Convoluted Tubing configurations, pages B-2 – B-9



Factory Terminated Assemblies, p. B-10 - B-11



Sentry system, pages B-12 – B-23



Easy-to-Install Guardian system, pages B-24 – B-31

Part No.	Description	Page No.
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Factory Terminated Assemblies		
	Factory Crimp Conduit Assemblies - How To Order	B-10
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Compact Environmental Sentry System		
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710-842	Annular Convoluted Tubing-to-Bulkhead Fitting, EMI/Environmental	B-16
710-847	Annular Convoluted Tubing-to-Connector Backshell, Compact Environmental	B-18
710-848	Annular Convoluted Tubing-to-Transition or End Fitting Adapter, Compact Environmental	B-20
710-849	Annular Convoluted Tubing-to-Bulkhead Fitting, Compact Environmental	B-22
Easy-to-Install Guardian System		
712-839	Annular Convoluted Tubing-to-Connector Backshell, Metal	B-24
712-852	Annular Convoluted Tubing-to-Bulkhead Fitting, Metal	B-26
713-356	Annular Convoluted Tubing-to-Connector Backshell, Composite	B-28
713-376	Composite Bulkhead and Junction box Feed-Thru Fitting	B-30
	Installation Procedures	B-32



Series 72
High-Performance Polymer-Core
Annular Convoluted Tubing
Configuration Options

Annular convoluted tubing, braided shielding, and jacketing options

Polymer core annular tubing is Glenair's economical wire-routing solution for easy on-site installation. System design begins with your selection of core material, either Kynar, PVDF, or G-FLEX Siltem. Core materials may be outfitted with braided shielding and jacketing options per the type designators listed below to address specific mechanical, electrical (EMI), and environmental protection requirements. See the following pages for detailed how-to-order information.

B

Part Number
120-144



Pg. B-5

For non-environmental and non-EMI/RFI applications

Strong, abrasion resistant annular conduit tubing, supplied in thermally stabilized Kynar®, PVDF, or medium duty Siltem. Available in 7 colors, standard or slit.

Part Number
121-190



Pg. B-6

For non-environmental EMI/RFI applications

Annular conduit tubing with braided shield for EMI/RFI protection and additional structural integrity, particularly pull (tensile) strength.

Part Number
121-191



Pg. B-7

For environmental EMI/RFI applications

Annular conduit tubing with braided shielding for EMI/RFI protection and a ruggedized jacket for environmental protection against dust, dirt, and moisture incursion.

Part Number
121-192



Pg. B-8

For non-environmental EMI/RFI applications with high dB shielding requirements

Annular conduit tubing with double braided shield for high frequency EMI/RFI protection and mechanical strength.

Part Number
121-193



Pg. B-9

For environmental EMI/RFI applications with high dB shielding requirements

Annular conduit tubing with double braided shield and jacket for optimum EMI/RFI protection, strength and environmental sealing.

Series 72
High-Performance Polymer-Core
Annular Convolute Tubing
Material Properties and Colors



Tubing Material Choices

Y	Kynar®	Flexible, thermally stabilized, resistant to harsh chemicals and radiation. UV resistant, self-extinguishing, nontoxic and resistant to low-temperatures. 166° C temp. rating.
V	PVDF	Flexible and chemical/radiation resistant. Available in 4 colors plus standard black and natural. 150° C temperature rating.
S	G-FLEX Siltem	Lightweight, halogen-free, low toxicity, low smoke. 175° temperature rating. Ideal for harsh environment applications. Exceptional flexibility and crush resistance.

Material Properties - Kynar® and PVDF

Material Property	Service Temperature	Tensile Strength	Elongation	Specific Gravity
Kynar® and PVDF	-65°F/330°F (-54°C/166°C)*	5000 PSI (34,474 KP)	250%	1.8 Max
Material Property	Heat Aging	Dielectric Strength	Volume Resistivity	Water Absorption
Kynar® and PVDF	168 Hrs. @ 347°F (175°C)	10,000V	10 ¹⁶	0.02%
Material Property	Solvent Resistance	Flammability	Fungus Resistance	
Kynar® and PVDF	No swelling, stickiness or weight change	Non-burning	Does not support fungus growth	

*Note: Kynar® and PVDF material properties are identical, with the exception that Kynar® has been irradiated for thermal stability, and thus has a higher temperature rating of 166°C compared to 150° for non-thermally-stabilized PVDF.

G-FLEX Siltem is Glenair's proprietary annular polymer-core convoluted tubing formulation, developed for harsh environment applications that require a lightweight, halogen-free material with exceptional flexibility and crush resistance

Material Properties - G-FLEX Siltem

Material Property	Flexural Modulus	Flexural Strength	Tensile Strength	Elongation
	168,000 PSI	5590 PSI	5700 PSI	60%
Material Property	Melt Flow Rate	Dielectric Strength	Volume Resistivity	Water Absorption
	38.0 G/10 min	422.9 V/mil	>1.E+16 Ohm-cm	0.58%

Color Options

	Standard Black	Standard for Kynar and PVDF annular convoluted tubing materials
N	Natural/Clear	Standard for G-FLEX Siltem. Available for for all Series 72 annular convoluted tubing materials
R	Red	Available for Kynar and PVDF annular convoluted tubing materials
Y	Yellow	Available for Kynar and PVDF annular convoluted tubing materials
BL	Blue	Available for Kynar and PVDF annular convoluted tubing materials
TN	Desert Tan	Available for Kynar and PVDF annular convoluted tubing materials
O	Orange	Available for Kynar and PVDF annular convoluted tubing materials



Series 72 Annular Polymer-Core Convuluted Tubing Material Properties and Colors

B

EMI/RFI Braided Shielding and Non-Metallic (Fabric) Overbraids

T	Tin/Copper	150°C temperature rating, 125 lbs. tensile strength, 96 hr. salt spray corrosion resistance
C	Stainless Steel	Highest tensile strength (225 lbs.), highest temperature—1093°C+
N	Nickel/Copper	200°C temperature rated, 150 lbs. tensile strength, 500 hrs. salt spray corrosion resistance
S	SnCuFe	Tin plated iron/copper
L	ArmorLite™	Microfilament metal-clad ultra lightweight stainless steel braid
D	Dacron	Yarn with excellent abrasion resistance, good chemical resistance, non-conductive
M	Nomex	-55°C to 260°C temperature range - will not melt, excellent chemical resistance, non-conductive
E	AmberStrand® 100%	Expandable, flexible, high-strength conductive metal-clad composite thermoplastic
F	AmberStrand® 75%/25%	75% Expandable, flexible, high-strength conductive metal-clad composite thermoplastic combined with 25% nickel-plated 36AWG copper wire for additional strength

Jacketing Options

N	Neoprene	Tough, durable polychloroprene for mechanical and environmental protection
H	Hypalon®	Light weight with broad temperature range
E	EPDM	Better resistance to Ketones
V	Viton	Heaviest material with best resistance to oil and gasoline
B	Duraelectric, Black	Weatherproof, halogen free, flame resistant, functional to 260°C
G	Duraelectric, Gray	Qualified to US Navy MIL-PRF-24758A, Fed Std 595B #26270 Haze Gray color
TN	Duraelectric, Desert Tan	Duraelectric in Fed Std #3446 Desert Tan color
O	Duraelectric, Orange	OSHA Safety Orange to mark energized electrical cables

Jacketing Material Properties and Chemical Resistance

Material Property	EPDM (Ethylene Propylene Diene Monomer)	Hypalon (Chlorosulfonated Polyethylene)	Neoprene (Polychloroprene)	Viton (Fluoroelastomer)	Duraelectric
Temperature Range	-60°F to +300°F (-51°C to +149°C)	-60°F to +300°F (-51°C to +149°C)	-60°F to +250°F (-51°C to +121°C)	-40°F to +392°F (-40°C to +200°C)	-94°F to +392°F (-70°C to +200°C)
Specific Gravity	1.26	1.18	1.25	1.80	1.22
Weight: Lbs./Cubic Inch	.045	.043	.045	.055	.045
Abrasion Resistance	Excellent	Excellent	Excellent	Good	Good
Wear Resistance	Good	Good	Good	Good	Good
Flame Resistance	Good	Good	Good	Good	Excellent
Sunlight Resistance	Excellent	Excellent	Good	Excellent	Excellent
Chemical Resistance					
Aliphatic Hydrocarbons	Good	Good	Good	Excellent	Excellent
Aromatic Hydrocarbons	Good	Fair	Fair	Excellent	Excellent
Ketones, Etc.	Good	Poor	Poor	Poor	Excellent
Oil & Gasoline	Good	Good	Fair	Excellent	Excellent

120-144 Annular Polymer-Core Convuluted Tubing



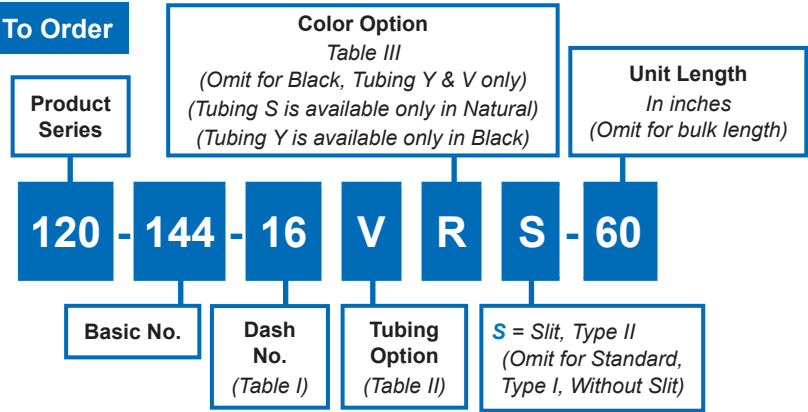
Outstanding mechanical wire protection and lubricity for non-EMI/RFI applications



Standard Black and Natural/Clear Annular Convuluted Tubing

Blue, Yellow, Red, Desert Tan, and Orange Annular Convuluted Tubing

How To Order

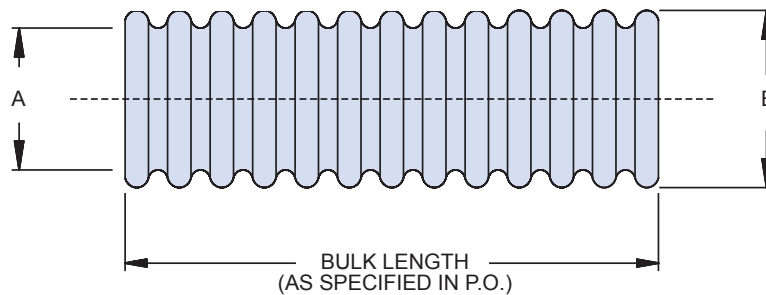


Dash No	A Inside Dia		B Outside Dia
	Min	Max	Max
06	.17 (4.3)	.19 (4.8)	.32 (8.1)
09	.24 (6.1)	.28 (7.1)	.42 (10.7)
12	.33 (8.4)	.37 (9.4)	.52 (13.2)
14	.40 (10.1)	.44 (11.2)	.59 (15.0)
16	.45 (11.4)	.50 (12.7)	.66 (16.8)
20	.57 (14.5)	.62 (15.7)	.77 (20.0)
24	.69 (17.5)	.75 (19.1)	.94 (23.9)
28	.81 (20.6)	.87 (22.1)	1.08 (27.4)
32	.93 (23.6)	1.00 (25.4)	1.20 (30.5)
40	1.18 (30.0)	1.25 (31.8)	1.44 (36.6)
48	1.43 (36.3)	1.50 (38.1)	1.71 (43.4)
52	1.56 (39.6)	1.63 (41.4)	1.85 (47.0)

Y	Kynar/Thermally stabilized
V	PVDF/Not thermally stabilized
S	G-FLEX Siltem/Medium duty

N	Natural/Clear
R	Red (available in PVDF only)
Y	Yellow (available in PVDF only)
BL	Blue (available in PVDF only)
TN	Desert Tan (available in PVDF only)
O	Orange (available in PVDF only)
Omit for standard black	

Dash No (I.D.)	Max. Length
09 (.281")	2000 ft.
12 (.375")	1500 ft.
16 (.5")	1000 ft.
20 (.625")	700 ft.
24 (.75")	500 ft.
32 (1")	300 ft.
40 (1.25")	200 ft.
48 (1.5")	200 ft.
52 (1.625")	200 ft.



Packaging

Long-length orders of conduit are subject to the practical limits of shipping box sizes. For example, the maximum length of 1/2 inch (dash 16) conduit that can fit in a standard shipping container is 1000 feet. Unless otherwise specified, Glenair standard practice is to ship optimal lengths of conduit material based on tubing diameter and box size. Consult factory for non-standard length or packaging requirements.



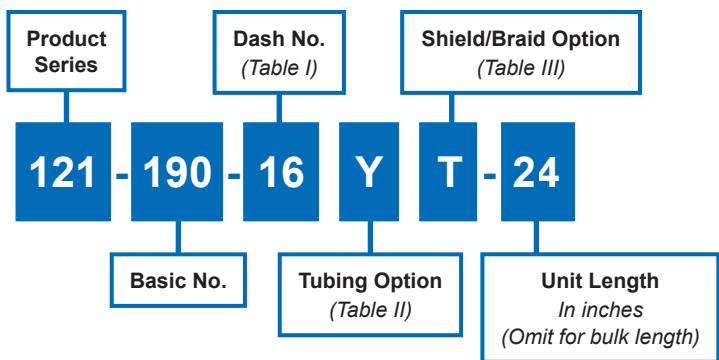
121-190 Annular Polymer-Core Convuluted Tubing with External Braid

121-190 Tubing plus a single EMI/RFI braided shield

B



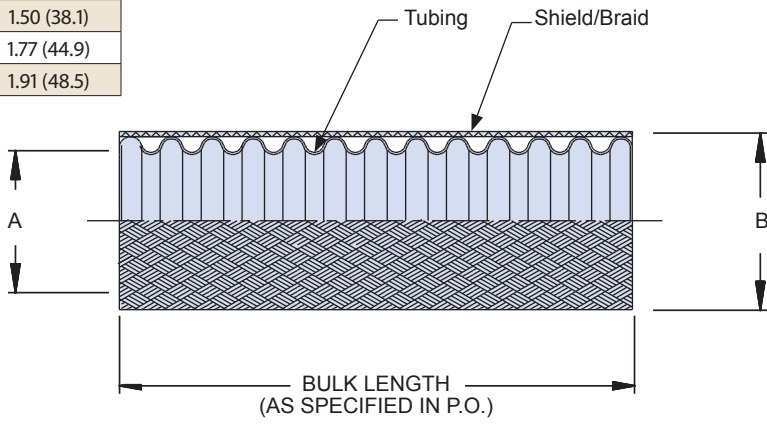
How To Order



Dash No	A Inside Dia		B Outside Dia
	Min	Max	Max
06	.17 (4.3)	.19 (4.8)	.38 (9.6)
09	.24 (6.1)	.28 (7.1)	.48 (12.2)
12	.33 (8.4)	.37 (9.4)	.58 (14.7)
14	.40 (10.1)	.44 (11.2)	.65 (16.5)
16	.45 (11.4)	.50 (12.7)	.72 (18.3)
20	.57 (14.5)	.62 (15.7)	.83 (21.1)
24	.69 (17.5)	.75 (19.1)	1.00 (25.4)
28	.81 (20.6)	.87 (22.1)	1.14 (28.9)
32	.93 (23.6)	1.00 (25.4)	1.26 (32.0)
40	1.18 (30.0)	1.25 (31.8)	1.50 (38.1)
48	1.43 (36.3)	1.50 (38.1)	1.77 (44.9)
52	1.56 (39.6)	1.63 (41.4)	1.91 (48.5)

Y	Kynar/Thermally stabilized
V	PVDF/Not thermally stabilized
S	G-FLEX Siltem/Medium duty - natural color only

T	Tin/Copper
C	Stainless Steel
N	Nickel Copper
L	ArmorLite™
D	Dacron
M	Nomex
E	AmberStrand® 100%
F	AmberStrand® 75%/25%



Dash No.	Max Length Per Pkg.
09& 12	200 ft (60m)
16 - 52	100 ft (30m)

Packaging
Long-length orders of 121-190 braided conduit are subject to carrier weight and box size restrictions. For example, UPS air shipments are currently limited to 50 lbs. per box. Unless otherwise specified, Glenair standard practice is to ship optimal lengths of product based on weight, size, and individual carrier specifications. Consult factory for additional information or to specify packaging requirements.

121-191

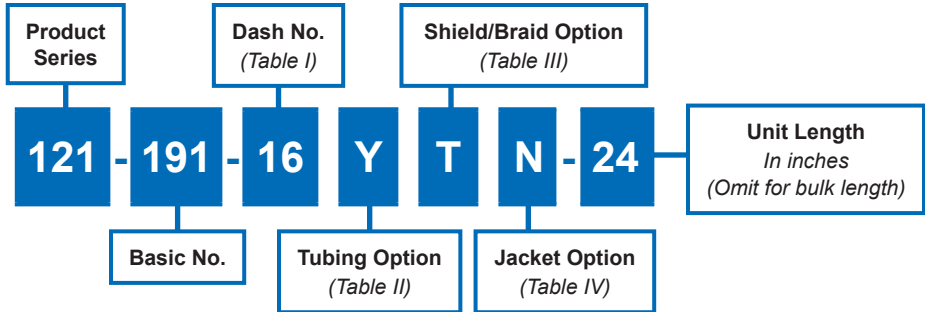
Annular Polymer-Core Convulsed Tubing
with External Braid and Jacket



Series 72
Annular Tubing

Tubing with one EMI/RFI Braided shield plus jacket for use in environmental applications

How To Order



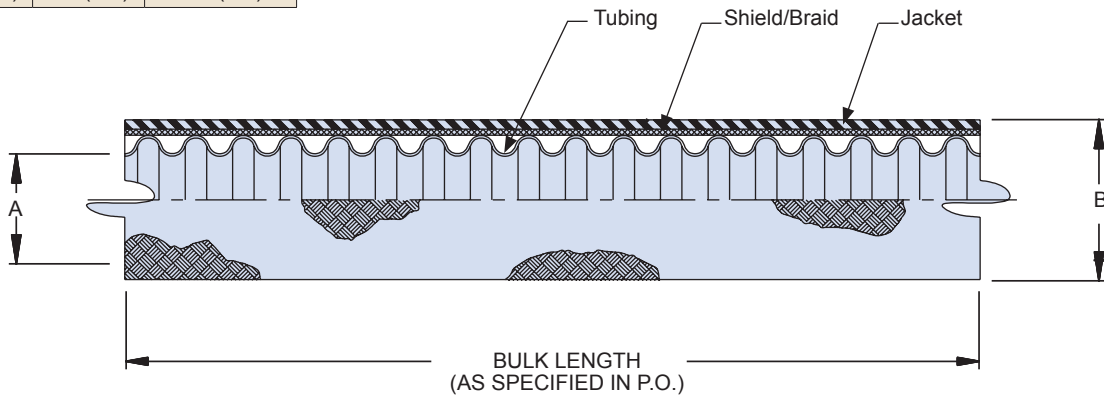
B

Dash No	A Inside Dia		B Outside Dia
	Min	Max	Max
06	.17 (4.3)	.19 (4.8)	.51 (12.9)
09	.24 (6.1)	.28 (7.1)	.61 (15.5)
12	.33 (8.4)	.37 (9.4)	.71 (18.0)
14	.40 (10.1)	.44 (11.2)	.78 (19.8)
16	.45 (11.4)	.50 (12.7)	.85 (21.6)
20	.57 (14.5)	.62 (15.7)	.96 (24.4)
24	.69 (17.5)	.75 (19.1)	1.13 (28.7)
28	.81 (20.6)	.87 (22.1)	1.27 (32.2)
32	.93 (23.6)	1.00 (25.4)	1.39 (35.3)
40	1.18 (30.0)	1.25 (31.8)	1.63 (41.4)
48	1.43 (36.3)	1.50 (38.1)	1.90 (48.3)
52	1.56 (39.6)	1.63 (41.4)	2.04 (51.8)

Y	Kynar/Thermally stabilized
V	PVDF/Not thermally stabilized
S	G-FLEX Siltem/Medium duty - natural color only

T	Tin/Copper
C	Stainless Steel
N	Nickel Copper
L	ArmorLite™
D	Dacron
M	Nomex
E	AmberStrand® 100%
F	AmberStrand® 75%/25%
-	No braid

N	Neoprene
H	Hypalon
E	EPDM
V	Viton
B	Duralectric, black
G	Bluejacket, Gray
TN	Duralectric, Desert Tan



Dash No.	Max Length Per Pkg.
09& 12	200 ft (60m)
16 - 52	100 ft (30m)

Packaging

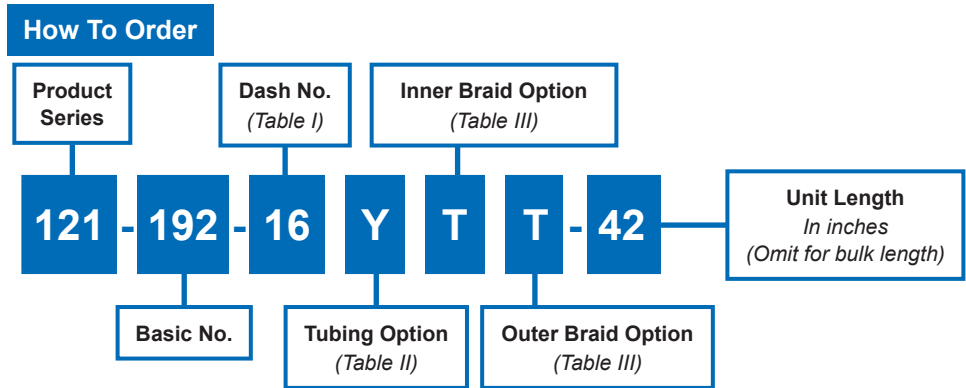
121-191 braided and jacketed conduit is typically supplied in 50 foot lengths. Longer lengths are available—consult factory for additional information. Unless otherwise specified, Glenair packages optimal lengths of product based on weight, size, and commercial carrier specifications. If necessary, consult factory for additional information on package weight restrictions.



121-192 Annular Polymer-Core Convulsed Tubing with Double External Braid

Tubing plus a double layer of high dB EMI/RFI shielding

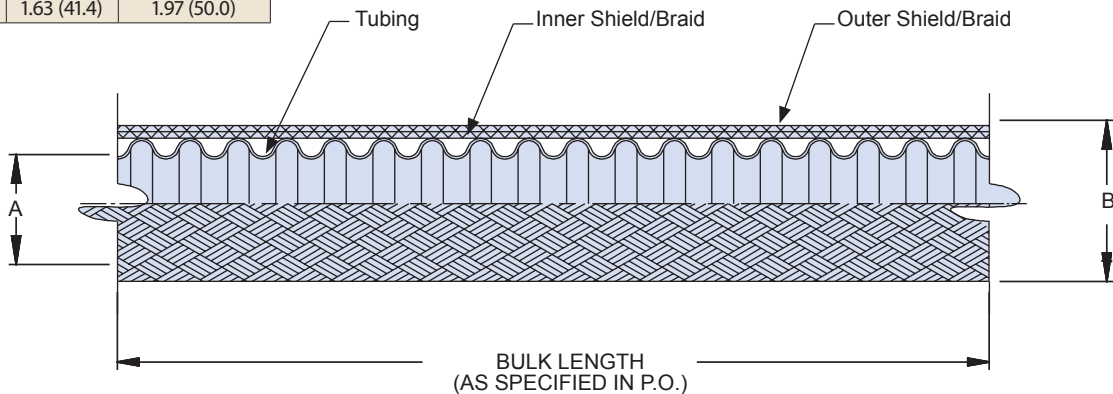
B



Dash No	A Inside Dia		B Outside Dia
	Min	Max	Max
06	.17 (4.3)	.19 (4.8)	.44 (11.1)
09	.24 (6.1)	.28 (7.1)	.54 (13.7)
12	.33 (8.4)	.37 (9.4)	.64 (16.2)
14	.40 (10.1)	.44 (11.2)	.71 (18.0)
16	.45 (11.4)	.50 (12.7)	.78 (19.8)
20	.57 (14.5)	.62 (15.7)	.89 (22.6)
24	.69 (17.5)	.75 (19.1)	1.06 (26.9)
28	.81 (20.6)	.87 (22.1)	1.20 (30.5)
32	.93 (23.6)	1.00 (25.4)	1.32 (33.5)
40	1.18 (30.0)	1.25 (31.8)	1.56 (39.6)
48	1.43 (36.3)	1.50 (38.1)	1.83 (46.5)
52	1.56 (39.6)	1.63 (41.4)	1.97 (50.0)

Y	Kynar/Thermally stabilized
V	PVDF/Not thermally stabilized
S	G-FLEX Siltem/Medium duty - natural color only

T	Tin/Copper
C	Stainless Steel
N	Nickel Copper
L	ArmorLite™
D	Dacron
M	Nomex
E	AmberStrand® 100%
F	AmberStrand® 75%/25%



Dash No.	Max Length Per Pkg.
09&12	200 ft (60m)
16 - 52	100 ft (30m)

Packaging

Long-length orders of 121-192 braided conduit are subject to carrier weight and box size restrictions. For example, UPS air shipments are currently limited to 50 lbs. per box. Unless otherwise specified, Glenair standard practice is to ship optimal lengths of product based on weight, size, and individual carrier specifications. Consult factory for additional information or to specify packaging requirements.

121-193

**Annular Polymer-Core Convulsed Tubing
with Double External Braid and Jacket**

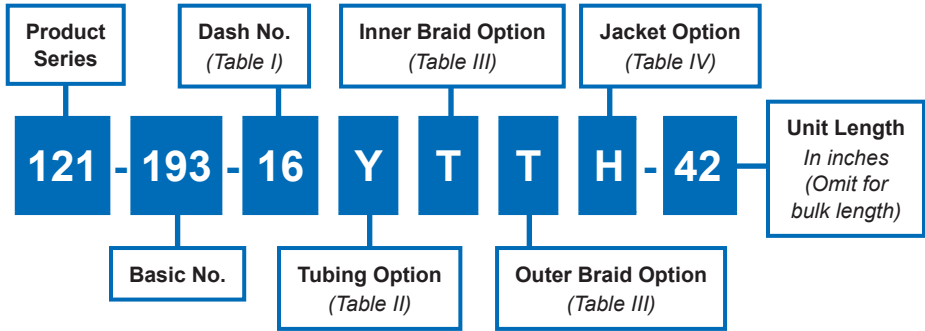


Series 72
Annular Tubing

B

For environmental EMI/RFI applications with high dB shielding requirements

How To Order

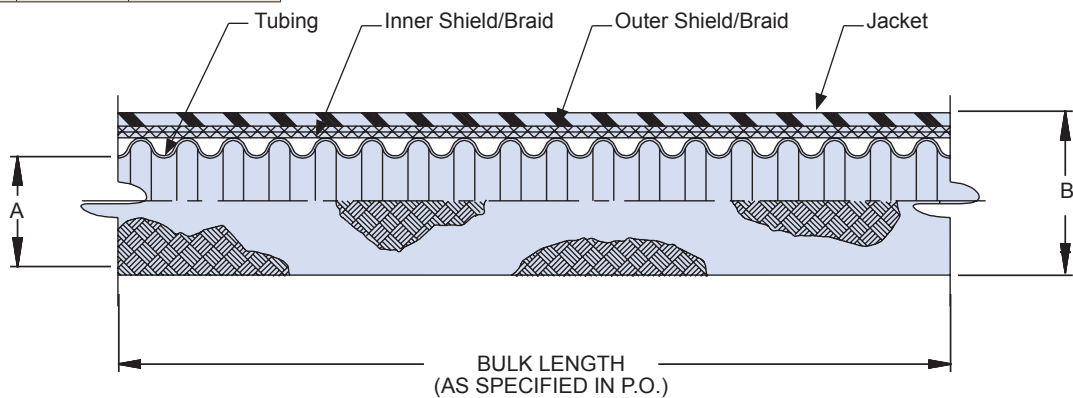


Dash No	A Inside Dia		B Outside Dia
	Min	Max	Max
06	.17 (4.3)	.19 (4.8)	.57 (14.5)
09	.24 (6.1)	.28 (7.1)	.67 (17.0)
12	.33 (8.4)	.37 (9.4)	.77 (19.5)
14	.40 (10.1)	.44 (11.2)	.84 (21.3)
16	.45 (11.4)	.50 (12.7)	.91 (23.1)
20	.57 (14.5)	.62 (15.7)	1.02 (25.9)
24	.69 (17.5)	.75 (19.1)	1.19 (30.2)
28	.81 (20.6)	.87 (22.1)	1.33 (33.8)
32	.93 (23.6)	1.00 (25.4)	1.45 (36.8)
40	1.18 (30.0)	1.25 (31.8)	1.69 (42.9)
48	1.43 (36.3)	1.50 (38.1)	1.96 (49.8)
52	1.56 (39.6)	1.63 (41.4)	2.10 (53.3)

Y	Kynar/Thermally stabilized
V	PVDF/Not thermally stabilized
S	G-FLEX Siltem/Medium duty - natural color only

T	Tin/Copper
C	Stainless Steel
N	Nickel Copper
L	ArmorLite™
D	Dacron
M	Nomex
E	AmberStrand® 100%
F	AmberStrand® 75%/25%

N	Neoprene
H	Hypalon
E	EPDM
V	Viton
B	Duraelectric, black
G	Bluejacket, Gray
TN	Duraelectric, Desert Tan



Dash No.	Max Length Per Pkg.
09& 12	200 ft (60m)
16 - 52	100 ft (30m)

Packaging

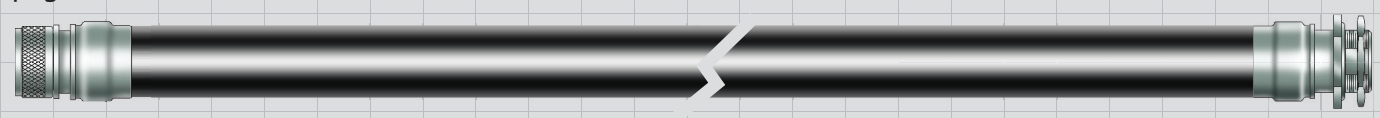
121-193 braided and jacketed conduit is typically supplied in 50 foot lengths. Longer lengths are available—consult factory for additional information. Unless otherwise specified, Glenair packages optimal lengths of product based on weight, size, and commercial carrier specifications. If necessary, consult factory for additional information on package weight restrictions.



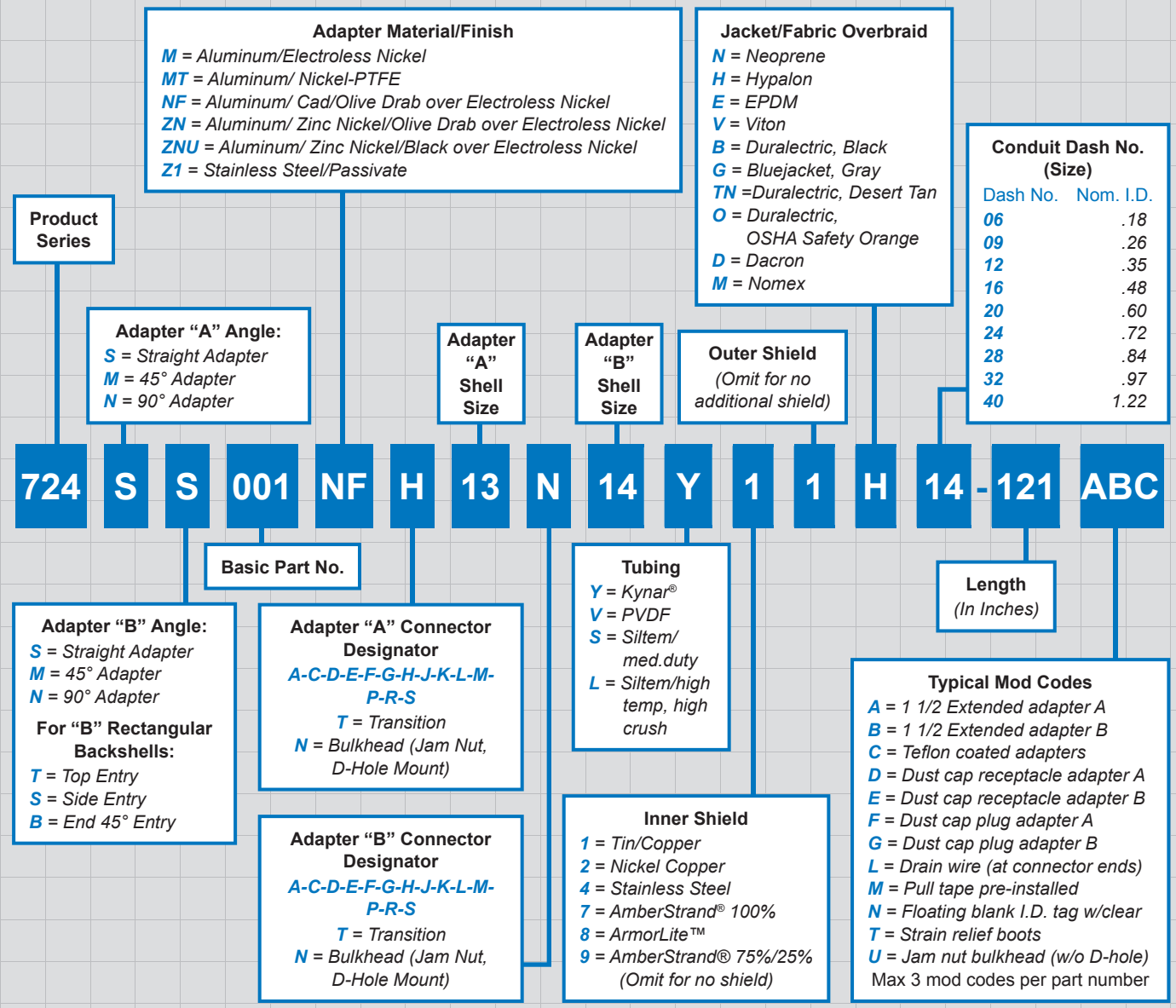
Factory Terminated Series 72 Assemblies How-to-Order

How-To-Order: Factory Terminated Series 72 Convolved Tubing Assembly

Use the order tree below to develop part numbers for the full range of Series 72 System point-to-point factory terminated assemblies. Diagrams of basic Series 72 point-to-point assemblies are shown on the facing page.



How To Order



Factory Terminated Series 72 Assemblies
Point-to-Point Assembly Selection Guide



Part Number
724-001

Connector Backshell to Bulkhead Feed-Thru or Connector Backshell
(circular connector to bulkhead feed-thru option shown)



Part Number
724-002

Circular Connector Backshell to D-Subminiature Connector Backshell
(45° backshell shown)



Part Number
724-003

Circular Connector Backshell to Micro-D Connector Backshell



Part Number
724-004

Circular Connector Backshell to Series 79 Micro-Crimp Connector Backshell
(45° backshell shown)



Part Number
724-005

Circular Connector Backshell to Swivel Joint Circular Connector Backshell



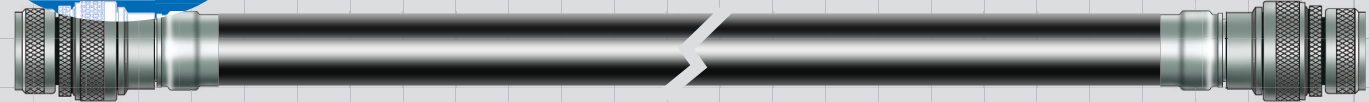
Part Number
724-006

Retractable Circular Connector Backshell to Circular Connector Backshell
(90° backshell shown)



Part Number
724-007

Band-In-A-Can Connector Backshell to Band-In-A-Can Connector Backshell



Part Number
724-008

Mighty Mouse Connector Backshell to Mighty Mouse Connector Backshell
(consult factory for part number development)

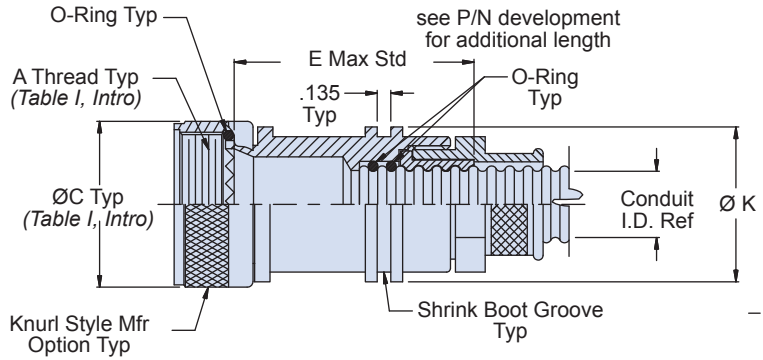
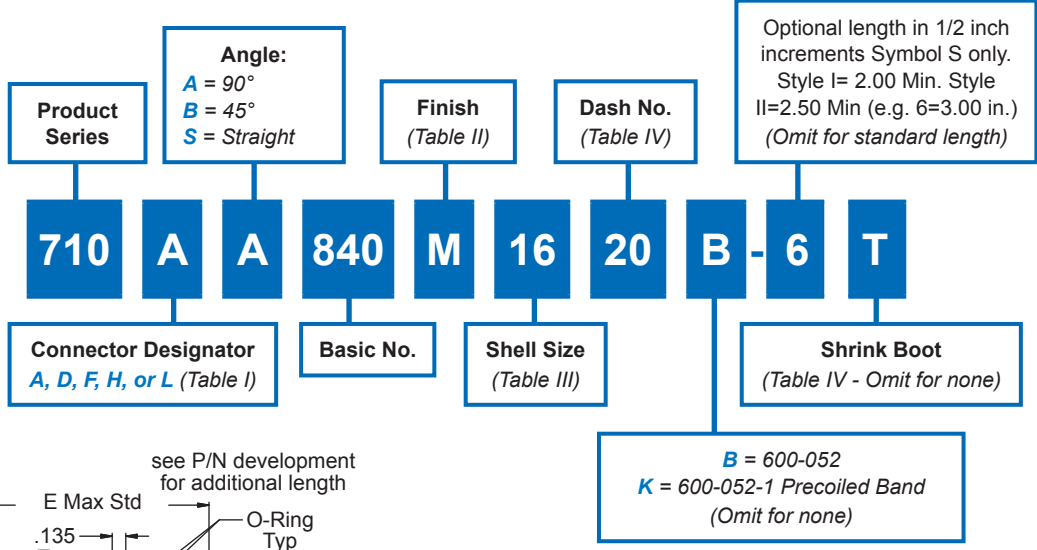




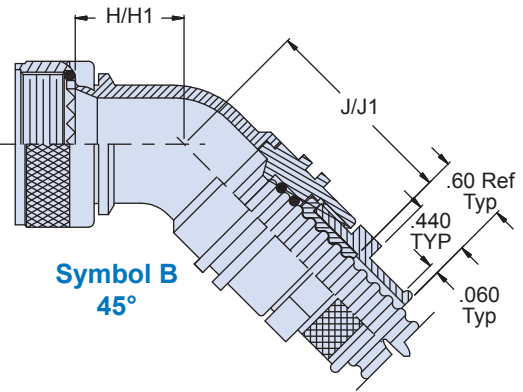
710-840
Sentry System EMI/Environmental
Convolved Tubing to Connector Backshell, Metal
for Series 72 Annular Convolved Tubing

Sentry System EMI/environmental convoluted tubing-to-connector backshell with banding platform and shrink boot groove

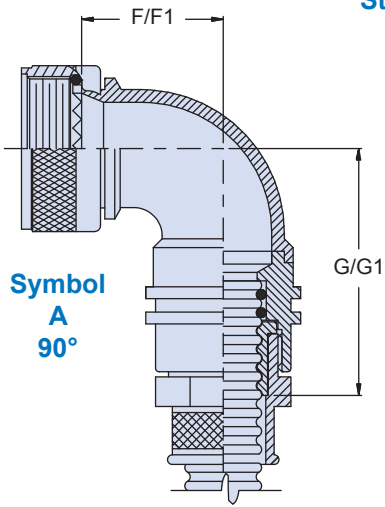
How To Order



Symbol S
Straight



Symbol B
45°



Symbol A
90°

Material and Finish

- Adapters, coupling nuts, RFI nuts & elbows: See Table II
- Split Bushings: Kynar/N.A.
- Band: CRES/Passivated
- O-Rings: Silicone/N.A.
- Shrink Boot: See individual drawing

Notes

- When conduit diameter exceeds Max Dash No. (Table III), Style II will be supplied. Dimensions F1, G1, H1 and J1 apply to Style II angular fittings.
- Interfacial O-Ring not supplied with Connector Designator A.

710-840

**Sentry System EMI/Environmental
Convuluted Tubing to Connector Backshell, Metal
for Series 72 Annular Convuluted Tubing**



Series 72
Annular Tubing

B

Table III: Shell Size/Dimensions

Shell Size		E Max	F Max	G Max	H Max	J Max	Max Conduit Style I
A,D,F,L	H						
08	09	1.470 (37.3)	.500 (12.7)	1.995 (49.7)	.457 (11.6)	2.005 (50.9)	12
10	11	1.491 (37.9)	.595 (15.1)	2.075 (52.7)	.520 (13.2)	2.005 (50.9)	12
12	13	1.530 (38.9)	.610 (15.5)	2.095 (53.2)	.582 (14.8)	2.065 (52.5)	16
14	15	1.552 (39.4)	.700 (17.8)	2.165 (55.0)	.645 (16.4)	2.155 (54.7)	20
16	17	1.580 (40.1)	.885 (22.5)	2.255 (57.3)	.738 (18.7)	2.265 (57.5)	24
18	19	1.610 (40.9)	.975 (24.8)	2.425 (61.6)	.927 (23.5)	2.455 (62.4)	28
20	21	1.650 (41.9)	.975 (24.8)	2.425 (61.6)	.927 (23.5)	2.455 (62.4)	32
22	23	1.685 (42.8)	1.125 (28.6)	2.535 (64.4)	1.020 (25.9)	2.605 (66.2)	32
24	25	1.710 (43.4)	1.125 (28.6)	2.535 (64.4)	1.020 (25.9)	2.605 (66.2)	40
28		1.785 (45.6)	1.225 (31.1)	2.705 (68.7)	1.145 (29.1)	2.655 (67.4)	40
32		1.855 (47.1)	1.575 (40.0)	2.925 (74.3)	1.207 (30.7)	2.755 (70.0)	40
36		1.920 (48.8)	1.775 (45.1)	2.955 (75.1)	1.238 (31.4)	2.845 (72.3)	40

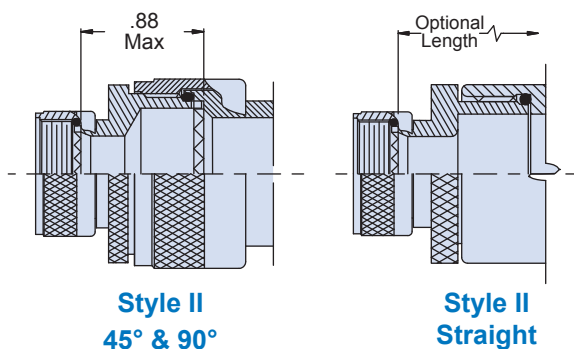
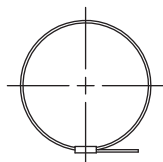


Table II: Finish

Symbol	Material	Finish
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	CAD/O.D. over Electroless Nickel (1,000 hour salt spray)
Z1	300 Series SST	Passivate
ZM	300 Series SST	Electroless Nickel
ZN	Aluminum Alloy	Zinc Nickel/Olive Drab over Electroless Nickel (1,000 hour salt spray)
ZW	300 Series SST	CAD O.D. over Electroless Nickel



**SYM K
Band**

Table IV: Dash No./Dimensions

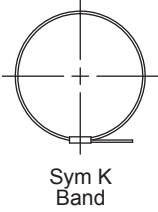
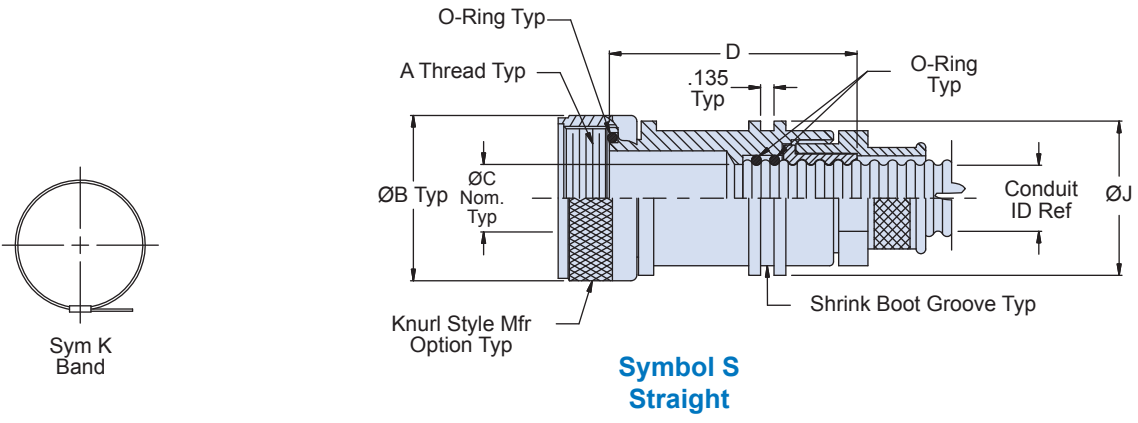
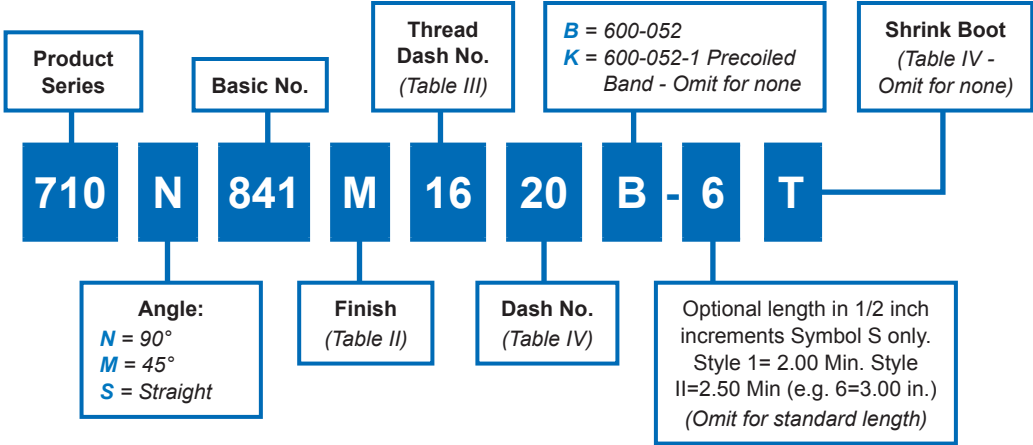
Dash No	Conduit I.D. Ref		F1 Max	G1 Max	H1 Max	J1 Max	Ø K	Shrink Boot
	Min	Max						
09	.24 (6.1)	.28 (7.1)	N/A	N/A	N/A	N/A	.875 (22.5)	770-001S105
12	.33 (8.4)	.37 (9.4)	N/A	N/A	N/A	N/A	1.062 (26.9)	770-001S106
16	.45 (11.4)	.50 (12.7)	.610 (15.5)	2.095 (53.3)	.582 (15.0)	2.065 (52.6)	1.188 (30.2)	770-001S106
20	.57 (14.5)	.62 (15.8)	.700 (17.8)	2.165 (55.1)	.645 (16.5)	2.155 (54.9)	1.312 (33.3)	770-001S107
24	.69 (17.5)	.75 (19.1)	.885 (22.6)	2.255 (57.4)	.738 (18.8)	2.265 (57.7)	1.500 (38.1)	770-001S107
28	.81 (20.6)	.87 (22.1)	.975 (24.9)	2.425 (61.7)	.927 (23.6)	2.455 (62.5)	1.688 (42.9)	770-001S108
32	.93 (23.6)	1.00 (25.4)	1.125 (28.7)	2.535 (64.5)	1.020 (25.9)	2.605 (66.3)	1.812 (46.0)	770-001S108
40	1.18 (30.0)	1.25 (31.8)	1.775 (45.2)	2.955 (75.2)	1.238 (31.5)	2.845 (72.4)	2.062 (52.3)	770-001S108



710-841
Sentry System EMI/Environmental
Convuluted Tubing to Transition Backshell, Metal
for Series 72 Annular Convuluted Tubing

Sentry System EMI/environmental convuluted tubing to transition or end fitting backshell with banding platform and shrink boot lip

How To Order



Material and Finish

- Adapters, coupling nuts, RFI nuts & elbows: See Table II
- Split Bushings: Kynar/N.A.
- Band: CRES/Passivated
- O-Rings: Silicone/N.A.
- Shrink Boot: See individual drawing

Notes

For use with: 710-077, 100, 101, 102, 103, 106, 107, 108, 109, 114, 115, 116, 117, 370, 371, 372, 373, 405, 406; 713-100, 101, 110.

710-841

**Sentry System EMI/Environmental
Convolved Tubing to Transition Backshell, Metal
for Series 72 Annular Convolved Tubing**



Series 72
Annular Tubing

B

Table III: Dash No./Dimensions

Thread Dash No.	A Thread Class 2B	Ø B Max	Ø C Nom	D Max	E Max	F Max	G Max	H Max
09	9/16-24 UNEF	.690 (17.5)	.281 (7.1)	1.491 (37.9)	.78 (19.8)	1.66 (42.2)	.56 (14.2)	1.44 (36.6)
12	5/8-24 UNEF	.760 (19.3)	.375 (9.5)	1.530 (38.9)	.78 (19.8)	1.66 (42.2)	.56 (14.2)	1.44 (36.6)
16	3/4-20 UNEF	.890 (22.6)	.500 (12.7)	1.552 (39.4)	.84 (21.3)	1.72 (43.7)	.58 (14.7)	1.46 (37.1)
20	7/8-20 UNEF	1.024 (25.9)	.625 (16.0)	1.580 (40.1)	.96 (24.4)	1.84 (46.7)	.63 (16.0)	1.51 (38.4)
24	1.00-20 UNEF	1.152 (29.2)	.750 (19.1)	1.610 (40.9)	1.03 (26.2)	1.91 (48.5)	.66 (16.8)	1.54 (39.1)
28	1 3/16-18 UNEF	1.363 (34.5)	.875 (22.4)	1.685 (42.9)	1.15 (29.2)	2.03 (51.6)	.71 (18.0)	1.59 (40.4)
32	1 5/16-18 UNEF	1.488 (37.9)	1.000 (25.4)	1.710 (43.4)	1.21 (30.7)	2.09 (53.1)	.74 (18.8)	1.62 (41.2)
40	1 1/2-18 UNEF	1.676 (42.7)	1.250 (31.8)	1.785 (45.5)	1.34 (34.0)	2.22 (56.4)	.79 (20.1)	1.67 (42.4)

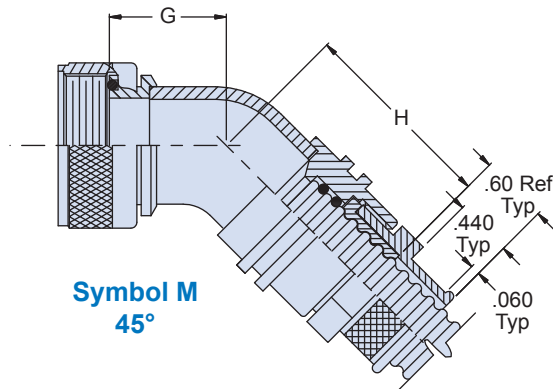


Table II: Finish

Symbol	Material	Finish
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	CAD/O.D. over Electroless Nickel (1,000 hour salt spray)
Z1	300 Series SST	Passivate
ZM	300 Series SST	Electroless Nickel
ZN	Aluminum Alloy	Zinc Nickel/Olive Drab over Electroless Nickel (1,000 hour salt spray)
ZW	300 Series SST	CAD O.D. over Electroless Nickel

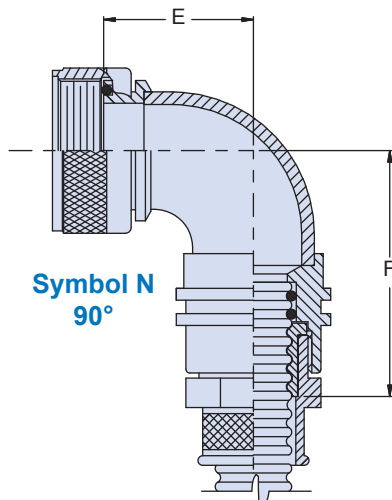
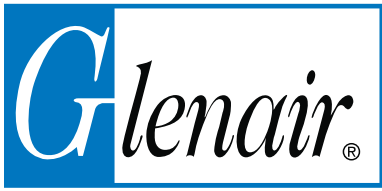


Table IV: Dash No./Dimensions/Shrink Boot

Dash No.	Conduit I.D. Ref		Ø J	Shrink Boot
	Min	Max		
09	0.24 (6.1)	0.28 (7.1)	0.875 (22.4)	770-001S105
12	0.33 (8.4)	0.37 (9.4)	1.062 (26.9)	770-001S106
16	0.45 (11.4)	0.50 (12.7)	1.188 (30.2)	770-001S106
20	0.57 (14.5)	0.62 (15.8)	1.312 (33.3)	770-001S107
24	0.69 (17.5)	0.75 (19.1)	1.500 (38.1)	770-001S107
28	0.81 (20.6)	0.87 (22.1)	1.688 (42.9)	770-001S108
32	0.93 (23.6)	1.00 (25.4)	1.812 (46.0)	770-001S108
40	1.18 (30.0)	1.25 (31.8)	2.062 (52.3)	770-001S108

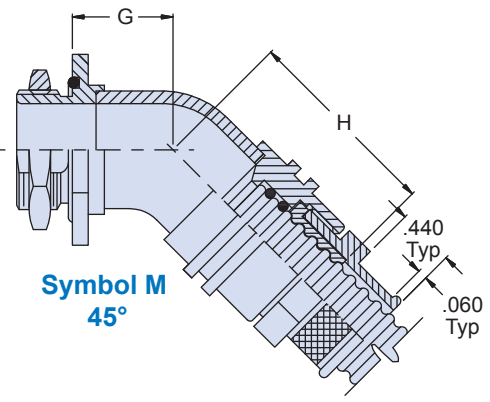
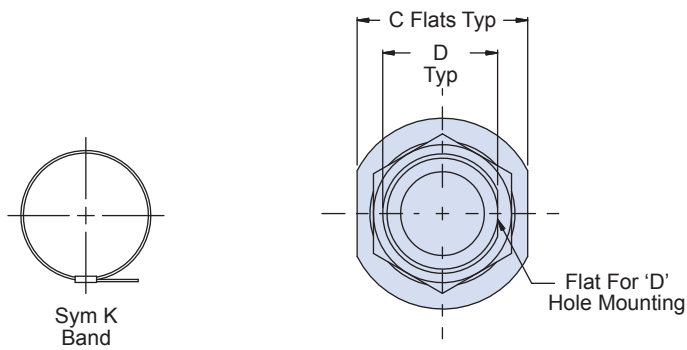
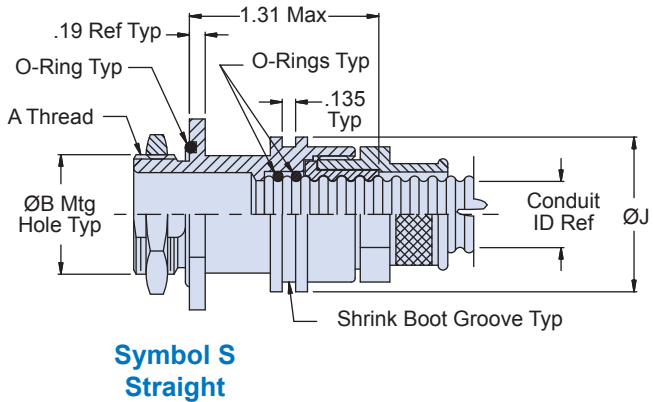
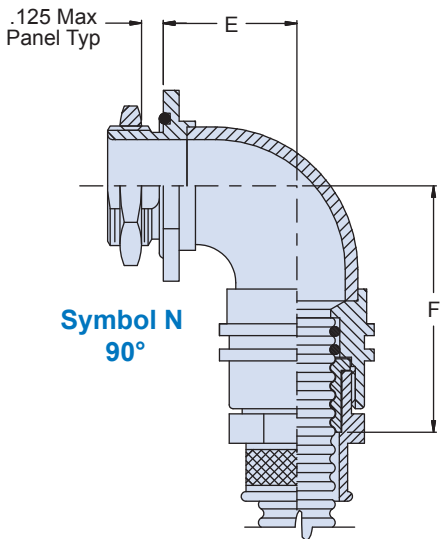
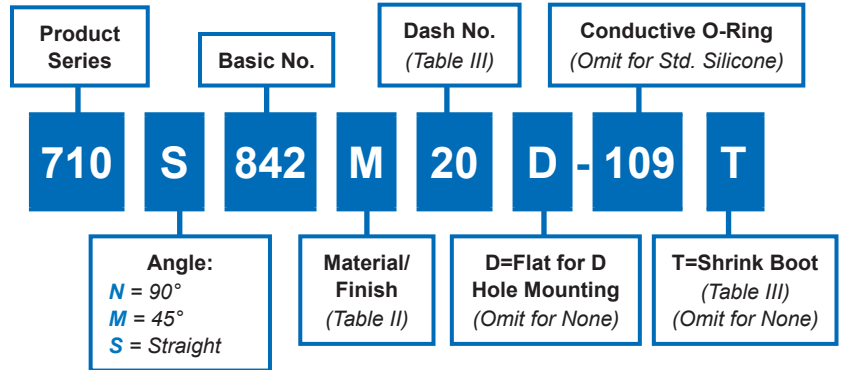


710-842
Sentry System EMI/Environmental
Metal Convuluted Tubing to Bulkhead Feed-Thru Adapter
for Series 72 Annular Convuluted Tubing

Sentry System EMI/environmental bulkhead feed-thru adapter with banding platform and shrink boot lip

How To Order

B



710-842

**Sentry System EMI/Environmental
Metal Convoluted Tubing to Bulkhead Feed-Thru Adapter
for Series 72 Annular Convoluted Tubing**

Series 72
Annular Tubing

B

Table III: Dash No./Dimensions

Dash No.	Conduit I.D. Ref		A Thread	ØB +.015 / -.000	C Flats	D +.000 / -.015
	Min	Max				
09	.24 (6.1)	.28 (7.1)	9/16 - 24 UNEF - 2A	0.568 (14.5)	0.812 (20.6)	0.500 (12.7)
12	.33 (8.4)	.37 (9.4)	5/8 - 24 UNEF - 2A	0.630 (16.0)	0.875 (22.4)	0.563 (14.2)
16	.45 (11.4)	.50 (12.7)	3/4 - 20 UNEF - 2A	0.755 (19.3)	1.000 (25.4)	0.688 (17.5)
20	.57 (14.5)	.62 (15.8)	7/8 - 20 UNEF - 2A	0.880 (22.4)	1.125 (28.7)	0.812 (20.6)
24	.69 (17.5)	.75 (19.1)	1 - 20 UNEF - 2A	1.005 (25.7)	1.250 (31.8)	0.938 (23.9)
28	.81 (20.6)	.87 (22.1)	1 3/16 - 18 UNEF - 2A	1.193 (30.2)	1.438 (36.6)	1.125 (28.7)
32	.93 (23.6)	1.00 (25.4)	1 5/16 - 18 UNEF - 2A	1.318 (33.5)	1.562 (39.6)	1.250 (31.8)
40	1.18 (30.0)	1.25 (31.8)	1 1/2 - 18 UNEF - 2A	1.505 (38.4)	1.812 (46.0)	1.438 (36.6)

Table III (continued)

Dash No.	E Max	F Max	G Max	H Max	Ø J	Shrink Boot
09	0.75 (19.1)	1.66 (42.2)	0.53 (13.5)	1.44 (36.6)	0.875 (22.4)	770-001S105
12	0.75 (19.1)	1.66 (42.2)	0.53 (13.5)	1.44 (36.6)	1.052 (26.9)	770-001S106
16	0.81 (20.6)	1.72 (43.7)	0.55 (14.0)	1.46 (37.1)	1.188 (30.2)	770-001S106
20	0.93 (23.6)	1.84 (46.7)	0.60 (15.2)	1.51 (38.4)	1.313 (33.3)	770-001S107
24	1.00 (25.4)	1.91 (48.5)	0.63 (16.0)	1.54 (39.1)	1.500 (38.1)	770-001S107
28	1.12 (28.5)	2.03 (51.6)	0.68 (17.3)	1.59 (40.4)	1.688 (42.9)	770-001S108
32	1.18 (30.0)	2.09 (53.1)	0.71 (18.0)	1.62 (41.2)	1.812 (46.0)	770-001S108
40	1.31 (33.3)	2.22 (56.4)	0.76 (19.3)	1.67 (42.4)	2.062 (52.3)	770-001S108

Table II: Finish

Sym	Material	Finish Description
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	CAD/O.D. over Electroless Nickel (1,000 hour salt spray)
Z1	300 Series SST	Passivate
ZM	300 Series SST	Electroless Nickel
ZN	Aluminum Alloy	Zinc Nickel/Olive Drab over Electroless Nickel (1,000 hour salt spray)
ZW	300 Series SST	CAD O.D. over Electroless Nickel

Material and Finish

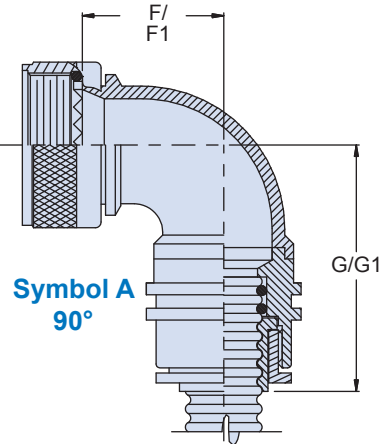
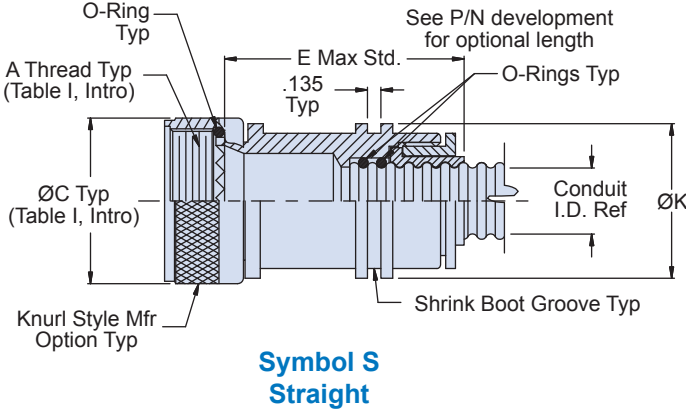
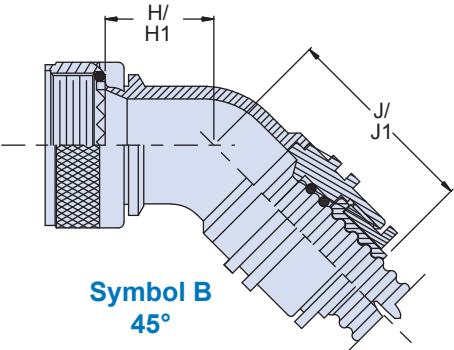
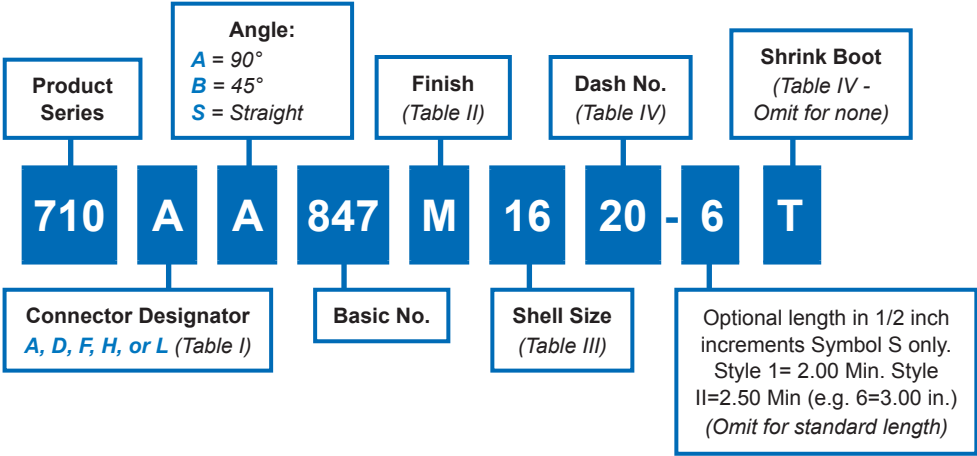
- Adapters, jam nuts, RFI nuts & elbows: See Table II
- Split Bushings: Kynar/N.A.
- Band: CRES/Passivated
- O-Rings: Silicone/N.A.
- Shrink Boot: See individual drawing



710-847
Sentry System Compact Environmental
Metal Convoluted Tubing to Connector Backshell
for Series 72 Annular Convoluted Tubing

Sentry System compact environmental connector backshell with shrink boot lip

How To Order



Material and Finish

- Adapters, coupling nuts & elbows: See Table II
- Gland Nuts & Split Bushings: Kynar/N.A.
- O-Rings: Silicone/N.A.
- Shrink Boot: See individual drawing

Notes

- When conduit diameter exceeds Max Dash No. (Table III), Style II will be supplied. Dimensions F1, G1, H1 and J1 apply to Style II angular fittings.
- Interfacial O-Ring not supplied with Connector Designator A

710-847

Sentry System Compact Environmental Metal Convuluted Tubing to Connector Backshell for Series 72 Annular Convuluted Tubing

Series 72
Annular Tubing

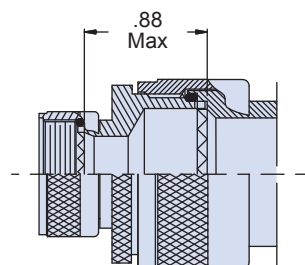
B

Table III: Shell Size/Dimensions

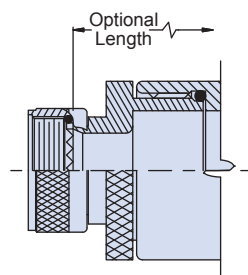
Shell Size		E Max	F Max	G Max	H Max	J Max	Max Conduit Style I
A,D,F,L	H						
08	09	1.470 (37.3)	.500 (12.7)	1.955 (49.7)	.457 (11.6)	2.005 (50.9)	12
10	11	1.491 (37.9)	.595 (15.1)	2.075 (52.7)	.520 (13.2)	2.005 (50.9)	12
12	13	1.530 (38.9)	.610 (15.5)	2.095 (53.2)	.582 (14.8)	2.065 (52.5)	16
14	15	1.552 (39.4)	.700 (17.8)	2.165 (55.0)	.645 (16.4)	2.155 (54.7)	20
16	17	1.580 (40.1)	.885 (22.5)	2.255 (57.3)	.738 (18.7)	2.265 (57.5)	24
18	19	1.610 (40.9)	.975 (24.8)	2.425 (61.6)	.927 (23.5)	2.455 (62.4)	28
20	21	1.650 (41.9)	.975 (24.8)	2.425 (61.6)	.927 (23.5)	2.455 (62.4)	32
22	23	1.685 (42.8)	1.125 (28.6)	2.535 (64.4)	1.020 (25.9)	2.605 (66.2)	32
24	25	1.710 (43.4)	1.125 (28.6)	2.535 (64.4)	1.020 (25.9)	2.605 (66.2)	40
28		1.785 (45.3)	1.225 (31.1)	2.705 (68.7)	1.145 (29.1)	2.655 (67.4)	40
32		1.855 (47.1)	1.575 (40.0)	2.925 (74.3)	1.207 (30.7)	2.755 (70.0)	40
36		1.920 (48.8)	1.775 (45.1)	2.955 (75.1)	1.238 (31.4)	2.845 (72.3)	40

Table IV: Dash No./Dimensions/Shrink Boot

Dash No	Conduit I.D. Ref		F1 Max	G1 Max	H1 Max	J1 Max	Ø K	Shrink Boot
	Min	Max						
09	.24 (6.1)	.28 (7.1)	N/A	N/A	N/A	N/A	.875 (22.4)	770-001S105
12	.33 (8.4)	.37 (9.4)	N/A	N/A	N/A	N/A	1.062 (26.9)	770-001S106
16	.45 (11.4)	.50 (12.7)	.610 (15.5)	2.095 (53.3)	.582 (15.1)	2.065 (52.6)	1.188 (30.2)	770-001S106
20	.57 (14.5)	.62 (15.8)	.700 (17.8)	2.165 (55.1)	.645 (16.5)	2.155 (54.9)	1.312 (33.3)	770-001S107
24	.69 (17.5)	.75 (19.1)	.885 (22.6)	2.255 (57.4)	.738 (18.8)	2.265 (57.7)	1.500 (38.1)	770-001S107
28	.81 (20.6)	.87 (22.1)	.975 (24.9)	2.425 (61.7)	.927 (23.6)	2.455 (62.5)	1.688 (42.9)	770-001S108
32	.93 (23.6)	1.00 (25.4)	1.125 (28.7)	2.535 (64.5)	1.020 (25.9)	2.605 (66.3)	1.812 (45.8)	770-001S108
40	1.18 (30.0)	1.25 (31.8)	1.775 (45.2)	2.955 (75.2)	1.238 (31.5)	2.845 (72.4)	2.062 (52.3)	770-001S108



Style II
45° & 90°



Style II
Straight

Table II: Finish

Sym	Material	Finish Description
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	CAD/O.D. over Electroless Nickel (1,000 hour salt spray)
Z1	300 Series SST	Passivate
ZM	300 Series SST	Electroless Nickel
ZN	Aluminum Alloy	Zinc Nickel/Olive Drab over Electroless Nickel (1,000 hour salt spray)
ZW	300 Series SST	CAD O.D. over Electroless Nickel



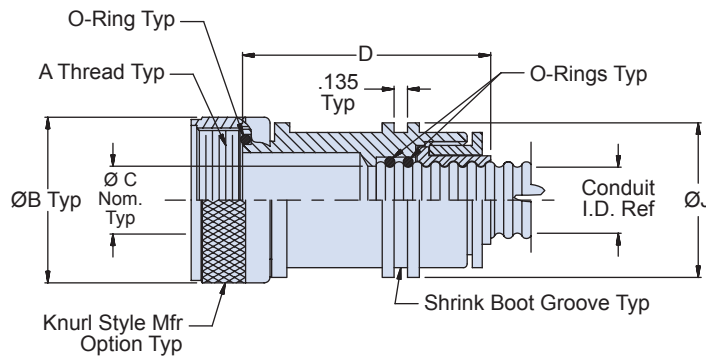
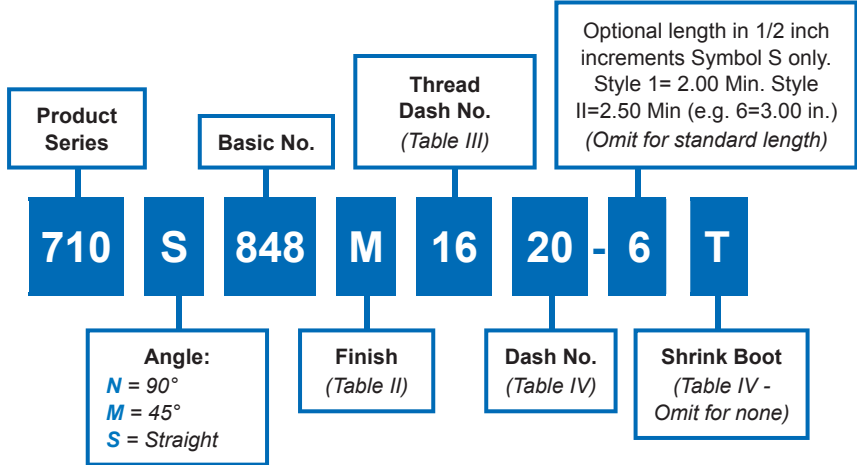
710-848
Sentry System Compact Environmental
Convuluted Tubing to Transition or End Fitting Backshell
for Series 72 Annular Convuluted Tubing

Sentry System compact environmental transition adapter with shrink boot lip

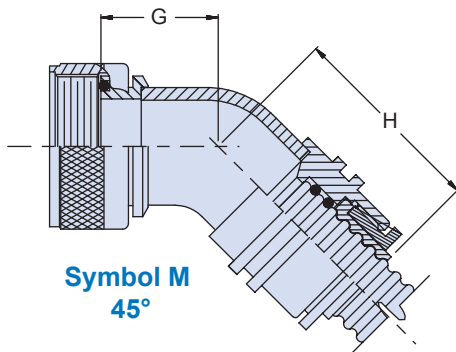
How To Order



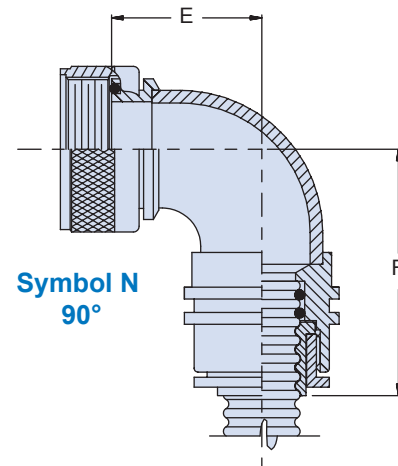
B



Symbol S
Straight



Symbol M
45°



Symbol N
90°

710-848

**Sentry System Compact Environmental
Convuluted Tubing to Transition or End Fitting Backshell
for Series 72 Annular Convuluted Tubing**

Series 72
Annular Tubing

B

Table III: Dash No./Dimensions

Thread Dash No.	A Thread Class 2B	Ø B Max	Ø C Nom	D Max	E Max	F Max	G Max	H Max
09	9/16-24 UNEF	.690 (17.5)	.281 (7.1)	1.491 (37.9)	.78 (19.81)	1.66 (42.16)	.56 (14.22)	1.44 (36.58)
12	5/8-24 UNEF	.760 (19.3)	.375 (9.5)	1.530 (38.9)	.78 (19.81)	1.66 (42.16)	.56 (14.22)	1.44 (36.58)
16	3/4-20 UNEF	.890 (22.6)	.500 (12.7)	1.552 (39.4)	.84 (21.34)	1.72 (43.69)	.58 (14.73)	1.46 (37.08)
20	7/8-20 UNEF	1.024 (25.9)	.625 (16.0)	1.580 (40.1)	.96 (24.38)	1.84 (46.74)	.63 (16.00)	1.51 (38.35)
24	1.00-20 UNEF	1.152 (29.2)	.750 (19.1)	1.610 (40.9)	1.03 (26.16)	1.91 (48.51)	.66 (16.76)	1.54 (39.12)
28	1 3/16-18 UNEF	1.363 (34.5)	.875 (22.4)	1.685 (42.9)	1.15 (29.21)	2.03 (51.56)	.71 (18.03)	1.59 (40.39)
32	1 5/16-18 UNEF	1.488 (37.9)	1.000 (25.4)	1.710 (43.4)	1.21 (30.73)	2.09 (53.09)	.74 (18.80)	1.62 (41.15)
40	1 1/2-18 UNEF	1.676 (42.7)	1.250 (31.8)	1.785 (45.5)	1.34 (34.04)	2.22 (56.39)	.79 (20.07)	1.67 (42.42)

Table II: Finish

Sym	Material	Finish Description
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	CAD/O.D. over Electroless Nickel (1,000 hour salt spray)
Z1	300 Series SST	Passivate
ZM	300 Series SST	Electroless Nickel
ZN	Aluminum Alloy	Zinc Nickel/Olive Drab over Electroless Nickel (1,000 hour salt spray)
ZW	300 Series SST	CAD O.D. over Electroless Nickel

Table IV: Dash No./Dimensions/Shrink Boot

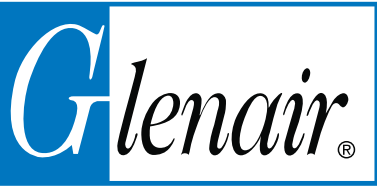
Dash No	Conduit I.D. Ref		Ø J	Shrink Boot
	Min	Max		
09	.24 (6.1)	.28 (7.1)	.875 (22.4)	770-001S105
12	.33 (8.4)	.37 (9.4)	1.062 (26.9)	770-001S106
16	.45 (11.4)	.50 (12.7)	1.188 (30.2)	770-001S106
20	.57 (14.5)	.62 (15.8)	1.312 (33.3)	770-001S107
24	.69 (17.5)	.75 (19.1)	1.500 (38.1)	770-001S107
28	.81 (20.6)	.87 (22.1)	1.688 (42.9)	770-001S108
32	.93 (23.6)	1.00 (25.4)	1.812 (45.7)	770-001S108
40	1.18 (30.0)	1.25 (31.8)	2.062 (52.3)	770-001S108

Material and Finish

- Adapters, Coupling nuts & elbows: See Table II
- Gland nuts & Split Bushings: Kynar/N.A.
- O-Rings: Silicone/N.A.
- Shrink Boot: See individual drawing

Notes

For use with: 710-077, 100, 101, 102, 103, 106, 107, 108, 109, 114, 115, 116, 117, 370, 371, 372, 373, 405, 406; 713-100, 101, 110.

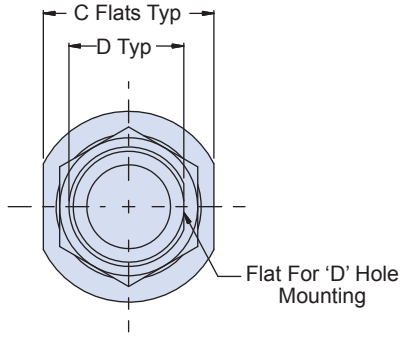
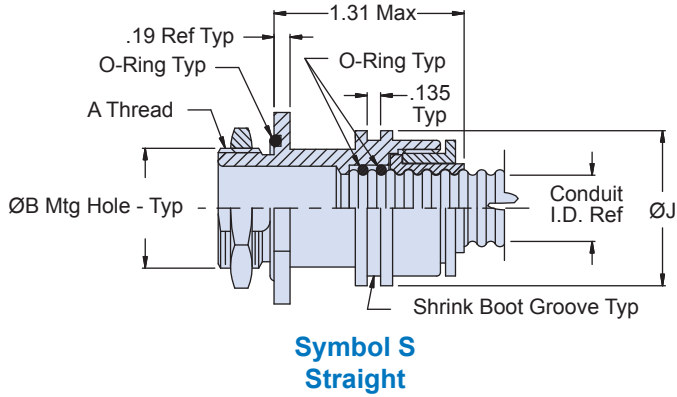
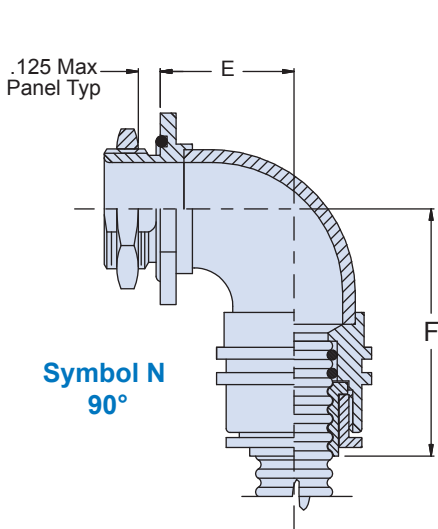
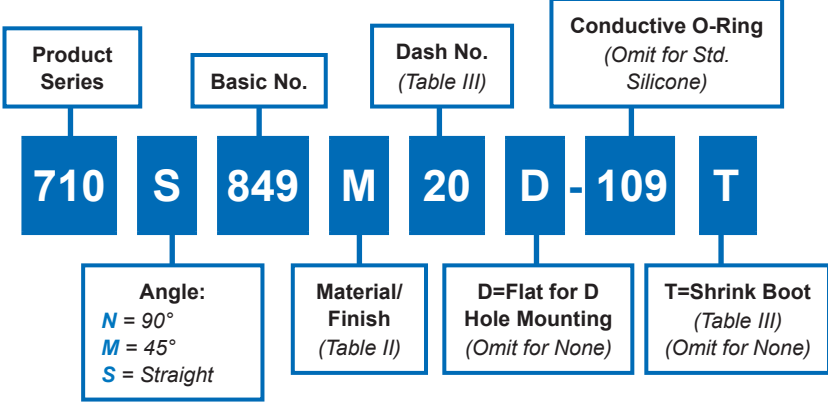


710-849
Sentry System Compact Environmental
Convuluted Tubing to Bulkhead Feed-Thru Fitting
for Series 72 Annular Convuluted Tubing

Sentry System compact environmental bulkhead feed-thru fitting with shrink boot lip

How To Order

B



Material and Finish

- Adapters, Jam nuts & elbows: See Table II
- Gland nuts & Split Bushings: Kynar/N.A.
- O-Rings: Silicone/N.A.
- Shrink Boot: See individual drawing

710-849

**Sentry System Compact Environmental
Convulated Tubing to Bulkhead Feed-Thru Fitting
for Series 72 Annular Convulated Tubing**



Series 72
Annular Tubing

B

Table III: Dash No./Dimensions

Dash No.	Conduit I.D. Ref		A Thread	Ø B +.015 / -.000	C Flats	D +.000 / -.015
	Min	Max				
09	.24 (6.1)	.28 (7.1)	9/16 - 24 UNEF - 2A	0.568 (14.48)	0.812 (20.57)	0.500 (12.70)
12	.33 (8.4)	.37 (9.4)	5/8 - 24 UNEF - 2A	0.630 (16.00)	0.875 (22.35)	0.563 (14.22)
16	.45 (11.4)	.50 (12.7)	3/4 - 20 UNEF - 2A	0.755 (19.30)	1.000 (25.40)	0.688 (17.53)
20	.57 (14.5)	.62 (15.8)	7/8 - 20 UNEF - 2A	0.880 (22.35)	1.125 (28.70)	0.812 (20.57)
24	.69 (17.5)	.75 (19.1)	1 - 20 UNEF - 2A	1.005 (25.65)	1.250 (31.75)	0.938 (23.88)
28	.81 (20.6)	.87 (22.1)	1 3/16 - 18 UNEF - 2A	1.193 (30.23)	1.438 (36.58)	1.125 (28.70)
32	.93 (23.6)	1.00 (25.4)	1 5/16 - 18 UNEF - 2A	1.318 (33.53)	1.562 (39.62)	1.250 (31.75)
40	1.18 (30.0)	1.25 (31.8)	1 1/2 - 18 UNEF - 2A	1.505 (38.35)	1.812 (45.97)	1.438 (36.58)

Table III (continued)

Dash No.	E Max	F Max	G Max	H Max	Ø J	Shrink Boot
09	0.75 (19.1)	1.66 (42.2)	0.53 (13.5)	1.44 (36.6)	0.875 (22.4)	770-001S105
12	0.75 (19.1)	1.66 (42.2)	0.53 (13.5)	1.44 (36.6)	1.062 (26.9)	770-001S106
16	0.81 (20.6)	1.72 (43.7)	0.55 (14.0)	1.46 (37.1)	1.188 (30.2)	770-001S106
20	0.93 (23.6)	1.84 (46.7)	0.60 (15.2)	1.51 (38.4)	1.312 (33.3)	770-001S107
24	1.00 (25.4)	1.91 (48.5)	0.63 (16.0)	1.54 (39.1)	1.500 (38.1)	770-001S107
28	1.12 (28.5)	2.03 (51.6)	0.68 (17.3)	1.59 (40.4)	1.688 (42.9)	770-001S108
32	1.18 (30.0)	2.09 (53.1)	0.71 (18.0)	1.62 (41.2)	1.812 (46.0)	770-001S108
40	1.31 (33.3)	2.22 (56.4)	0.76 (19.3)	1.67 (42.4)	2.062 (52.3)	770-001S108

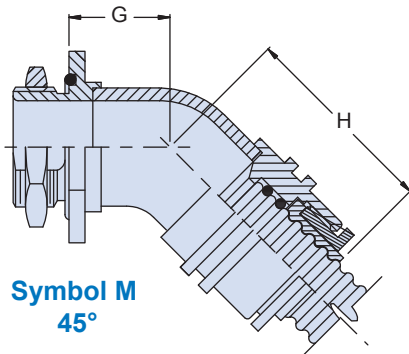
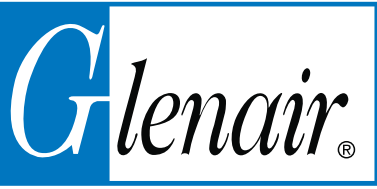


Table II: Finish

Sym	Material	Finish Description
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	CAD/O.D. over Electroless Nickel (1,000 hour salt spray)
Z1	300 Series SST	Passivate
ZM	300 Series SST	Electroless Nickel
ZMT	300 Series SST	Nickel-PTFE
ZN	Aluminum Alloy	Zinc Nickel/O.D. over Electroless Nickel (1,000 hour salt spray)
ZW	300 Series SST	CAD O.D. over Electroless Nickel



712-839
Guardian System - Metal
Convolute Tubing to Connector Universal Backshell
for Series 72 Annular Convolute Tubing

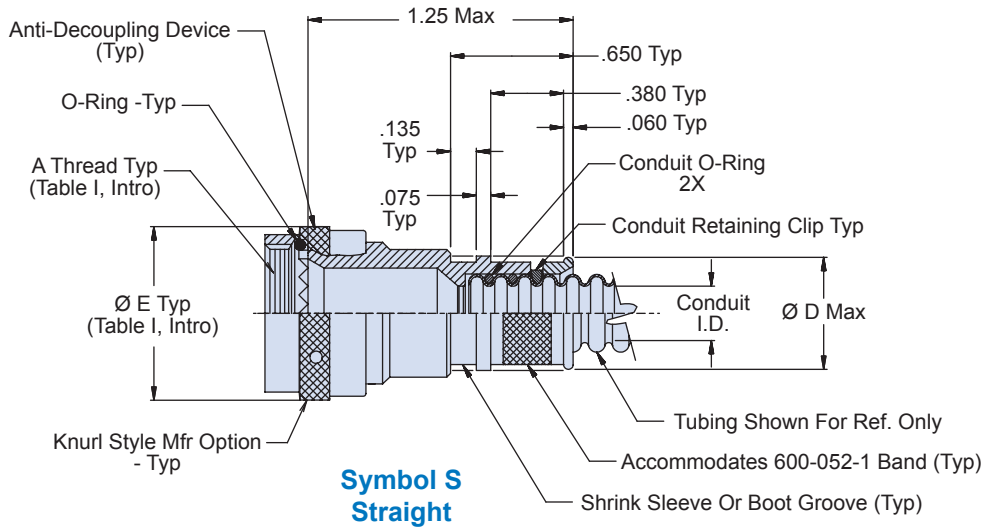
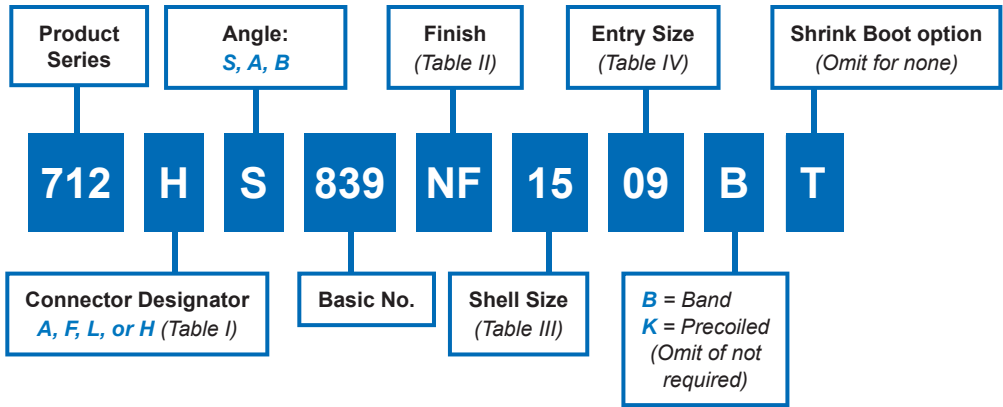
Metal Guardian System universal convolute tubing to connector and adapter backshell, self locking, EMI/RFI environmental

How To Order



Self-Locking

B



Material and Finish

- Adapters, elbows, coupling nut: See Table II
- O-Rings: Silicone/NA
- Retaining clip: High grade engineering thermoplastic/NA
- Anti-decoupling device: Corrosion resistant material

Tools and Assembly notes

- Conduit retaining clip and conduit O-Ring to be supplied unassembled
- For effective grounding, connector with conductive Finish should be used
- Glenair assembly procedure is recommended for adapter to conduit termination. See Guardian assembly procedure at the end of this section
- Interfacial O-Ring not supplied with Connector Designator "A"

712-839
Guardian System - Metal
Convoluted Tubing to Connector Universal Backshell
for Series 72 Annular Convoluted Tubing

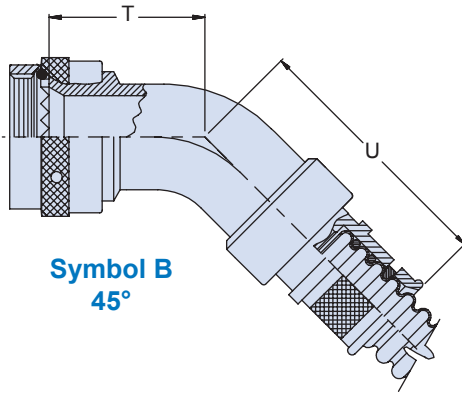


Table III: Shell Size/Dimensions					
Shell Size		T	U	V	W
A,F,L	H	Max	Max	Max	Max
08	09	0.600 (15.2)	1.610 (40.9)	0.680 (17.3)	1.780 (45.2)
10	11	0.630 (16.0)	1.800 (45.7)	0.770 (19.6)	1.880 (47.8)
12	13	0.660 (16.8)	1.850 (47.0)	0.800 (20.3)	1.880 (47.8)
14	15	0.690 (17.5)	1.920 (48.8)	0.880 (22.4)	1.920 (48.8)
16	17	0.820 (20.8)	2.050 (52.1)	1.060 (26.9)	2.030 (51.6)
18	19	0.970 (24.6)	2.230 (56.6)	1.150 (29.2)	2.210 (56.1)
20	21	0.970 (24.6)	2.280 (57.9)	1.150 (29.2)	2.250 (57.2)
22	23	1.000 (25.4)	2.420 (61.5)	1.300 (33.0)	2.360 (59.9)
24	25	1.000 (25.4)	2.470 (62.7)	1.300 (33.0)	2.410 (61.2)
28	33	1.125 (28.6)	2.560 (65.0)	1.400 (35.6)	2.630 (66.8)
32	37	1.250 (31.8)	2.645 (67.2)	1.750 (44.5)	2.920 (74.2)

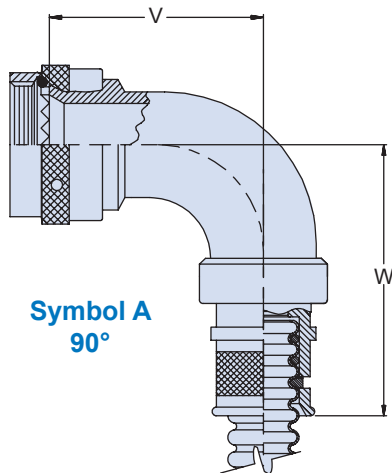
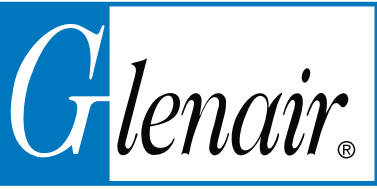


Table IV: Entry Code/Dimensions/Shrink Boot				
Entry Code	Ø D Max	Conduit I.D.		T Shrink Boot
		Min	Max	
06	.53 (13.5)	.16 (4.1)	.19 (4.8)	770-001S103
09	.63 (16.0)	.24 (6.1)	.28 (7.1)	770-001S103
12	.73 (18.5)	.33 (8.4)	.37 (9.4)	770-001S104
16	.86 (21.8)	.45 (11.4)	.50 (12.7)	770-001S104
20	.98 (24.9)	.57 (14.5)	.62 (15.8)	770-001S105
24	1.15 (29.2)	.69 (17.5)	.75 (19.1)	770-001S106
28	1.27 (32.3)	.81 (20.6)	.87 (22.2)	770-001S107
32	1.40 (35.6)	.93 (23.6)	1.00 (25.4)	770-001S107
36	1.53 (38.9)	1.07 (27.2)	1.13 (28.7)	770-001S107
40	1.62 (41.1)	1.18 (30.0)	1.25 (31.8)	770-001S107
48	1.98 (50.3)	1.45 (36.8)	1.50 (38.1)	770-001S108
52	2.07 (52.6)	1.58 (40.1)	1.63 (41.4)	770-001S108
56	2.14 (54.4)	1.70 (43.2)	1.75 (44.4)	770-001S108

Table II: Finish		
Sym	Material	Finish Description
C	Aluminum	Anodize, Black (Non-conductive)
M		Electroless Nickel
MT		Nickel-PTFE
NF		Cad/Olive Drab over Electroless Nickel
UCR		Zinc Cobalt/Black
ZN		Zinc Nickel/Olive Drab over Electroless Nickel
ZNU		Zinc Nickel/Black over Electroless Nickel
Z1		Passivate
ZM	Stainless Steel	Electroless Nickel
ZMT		Nickel-PTFE
ZW		CAD O.D. over Electroless Nickel



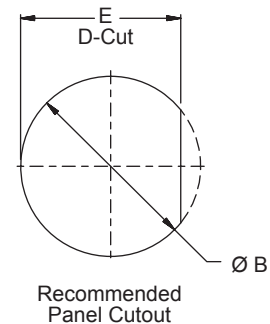
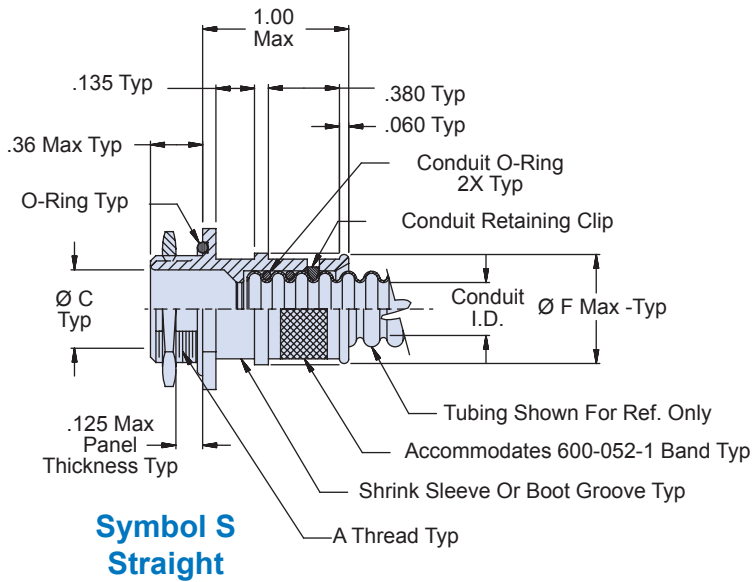
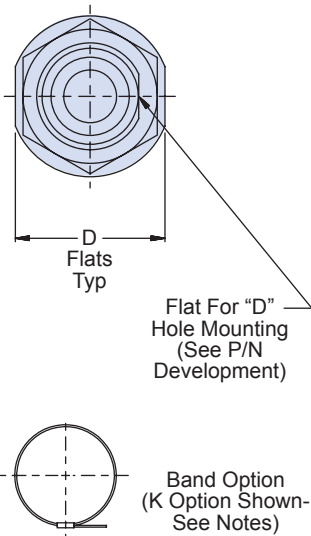
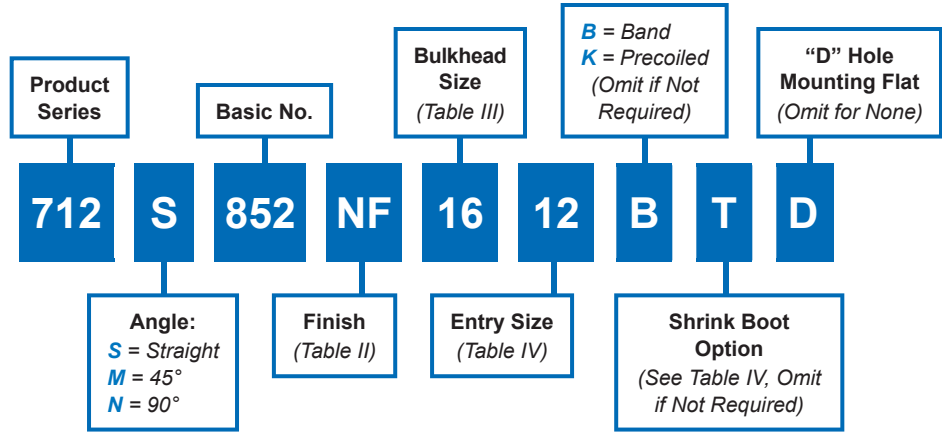
712-852
Guardian System - Metal
Convoluted Tubing to Bulkhead Feed-Thru Fitting
for Series 72 Annular Convoluted Tubing

Metal Guardian System bulkhead feed-thru fitting, EMI/RFI environmental

B



How To Order



Material and Finish

- Adapters, elbows: See Table II
- O-Rings: Silicone/NA
- Retaining Clip: High Grade Engineering Thermoplastic/NA

Notes

- Conduit retaining clip and O-Ring to be supplied unassembled.
- Glenair assembly procedure is recommended for adapter to conduit termination. See Guardian assembly procedure at the end of this section

712-852

Guardian System - Metal
Convoluted Tubing to Bulkhead Feed-Thru Fitting
for Series 72 Annular Convoluted Tubing



Series 72
Annular Tubing

B

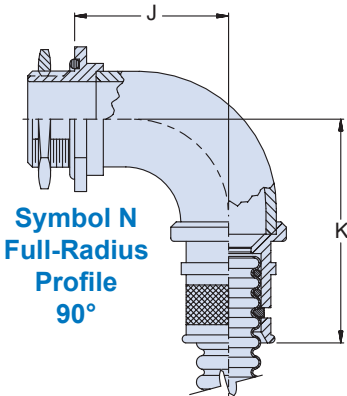
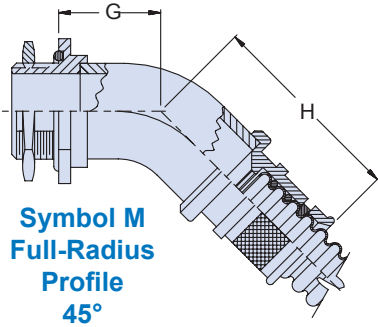


Table III: Bulkhead Size/Dimensions

Bulkhead Size	A Thread Class 2A	Ø B +.015 -0.000	Ø C	D Flats	E +.010 -0.000	Max Entry Size
06	3/8-32 UNEF	0.380 (9.7)	0.188 (4.8)	0.625 (15.9)	0.323 (8.2)	09
08	7/16-28 UNEF	0.443 (11.3)	0.250 (6.4)	0.688 (17.5)	0.385 (9.8)	12
09	1/2-20 UNF	0.505 (12.8)	0.281 (7.1)	0.750 (19.1)	0.448 (11.4)	12
10	1/2-20 UNF	0.505 (12.8)	0.312 (7.9)	0.750 (19.1)	0.448 (11.4)	12
12	9/16-24 UNEF	0.568 (14.4)	0.375 (9.5)	0.812 (20.6)	0.510 (13.0)	16
14	5/8-24 UNEF	0.630 (16.0)	0.438 (11.1)	0.875 (22.2)	0.573 (14.6)	16
16	11/16-24 UNEF	0.693 (17.6)	0.500 (12.7)	0.937 (23.8)	0.635 (16.1)	20
20	13/16-20 UNEF	0.818 (20.8)	0.625 (15.9)	1.062 (27.0)	0.760 (19.3)	20
24	15/16-20 UNEF	0.943 (24.0)	0.750 (19.1)	1.250 (31.8)	0.885 (22.5)	24
28	1 1/16-18 UNEF	1.068 (27.1)	0.875 (22.2)	1.375 (34.9)	1.010 (25.7)	32
32	1 3/16-18 UNEF	1.193 (30.3)	1.000 (25.4)	1.562 (39.7)	1.135 (28.8)	32
36	1 3/8-18 UNEF	1.380 (35.1)	1.125 (28.6)	1.687 (42.9)	1.323 (33.6)	36
40	1 7/16-18 UNEF	1.443 (36.7)	1.250 (31.8)	1.875 (47.6)	1.385 (35.2)	40
48	1 3/4-18 UNS	1.755 (44.6)	1.500 (38.1)	1.688 (42.9)	1.698 (43.1)	48
52	1 7/8-18 UNS	1.880 (47.8)	1.625 (41.3)	2.250 (57.2)	1.823 (46.3)	52
56	1 15/16-16 UN	1.943 (49.4)	1.750 (44.4)	2.313 (58.8)	1.905 (48.4)	56

Table II: Finish

Sym	Material	Finish Description
C	Aluminum	Anodize, Black (Non-conductive)
M		Electroless Nickel
MT		Nickel-PTFE
NF		Cad/Olive Drab over Electroless Nickel
UCR		Zinc Cobalt/Black
ZN		Zinc Nickel/Olive Drab over Electroless Nickel
ZNU		Zinc Nickel/Black over Electroless Nickel
Z1	Stainless Steel	Passivate
ZM		Electroless Nickel
ZMT		Nickel-PTFE
ZW		CAD O.D. over Electroless Nickel

Table IV: Entry Size/Dimensions/Shrink Boot

Entry Size	Ø F Max	Conduit I.D.		G Max	H Max	J Max	K Max	Shrink Boot Ref
		Min	Max					
06	.53 (13.5)	.16 (4.1)	.19 (4.8)	.50 (12.7)	1.02 (25.9)	.68 (17.3)	1.20 (30.5)	770-001S103
09	.63 (16.0)	.24 (6.1)	.28 (7.1)	.53 (13.5)	1.04 (26.4)	.75 (19.1)	1.26 (32.0)	770-001S103
12	.73 (18.5)	.33 (8.4)	.37 (9.4)	.53 (13.5)	1.04 (26.4)	.75 (19.1)	1.26 (32.0)	770-001S104
16	.86 (21.8)	.45 (11.4)	.50 (12.7)	.55 (14.0)	1.07 (27.2)	.87 (20.6)	1.39 (33.8)	770-001S104
20	.98 (24.9)	.57 (14.5)	.62 (15.7)	.61 (15.5)	1.12 (28.4)	.93 (23.6)	1.45 (36.8)	770-001S105
24	1.15 (29.2)	.69 (17.5)	.75 (19.1)	.63 (16.0)	1.15 (29.2)	1.00 (25.4)	1.51 (38.4)	770-001S106
28	1.27 (32.3)	.81 (20.6)	.87 (22.1)	.68 (17.3)	1.20 (30.5)	1.12 (28.4)	1.64 (41.7)	770-001S107
32	1.40 (35.6)	.93 (23.6)	1.00 (25.4)	.71 (18.0)	1.22 (31.0)	1.18 (30.0)	1.70 (43.2)	770-001S107
36	1.53 (38.9)	1.07 (27.2)	1.13 (28.7)	.75 (19.0)	1.26 (32.0)	1.29 (32.8)	1.81 (46.0)	770-001S107
40	1.62 (41.1)	1.18 (30.0)	1.25 (31.8)	.76 (19.3)	1.28 (32.5)	1.31 (33.3)	1.83 (46.5)	770-001S107
48	1.98 (50.3)	1.45 (36.8)	1.50 (38.1)	.79 (20.1)	1.31 (33.3)	1.42 (36.1)	1.94 (49.3)	770-001S108
52	2.07 (52.6)	1.58 (40.1)	1.63 (41.4)	.81 (20.6)	1.33 (33.8)	1.44 (36.6)	1.96 (49.8)	770-001S108
56	2.14 (54.4)	1.70 (43.2)	1.75 (44.4)	.86 (21.8)	1.38 (35.1)	1.57 (39.9)	2.09 (53.1)	770-001S108



713-356
Guardian System - Composite
Convoluted Tubing to Connector Backshell
for Series 72 Annular Convoluted Tubing

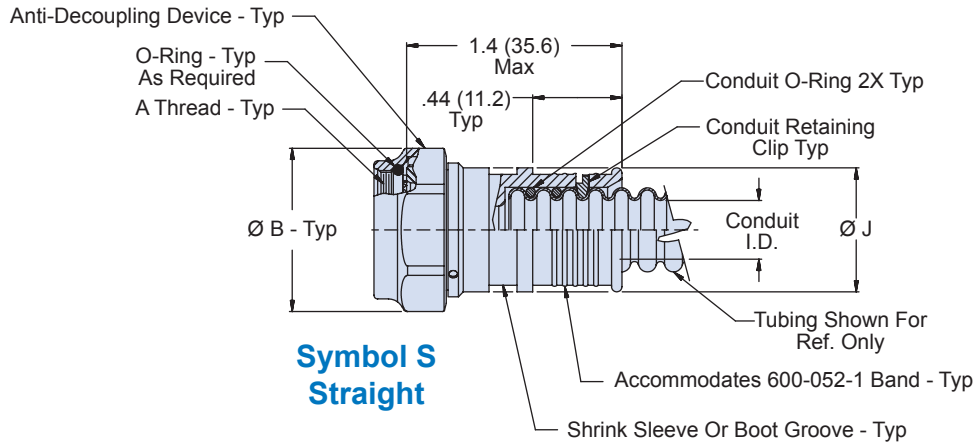
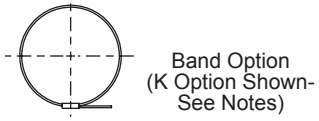
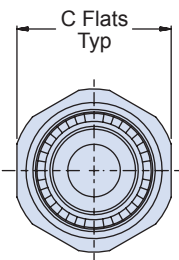
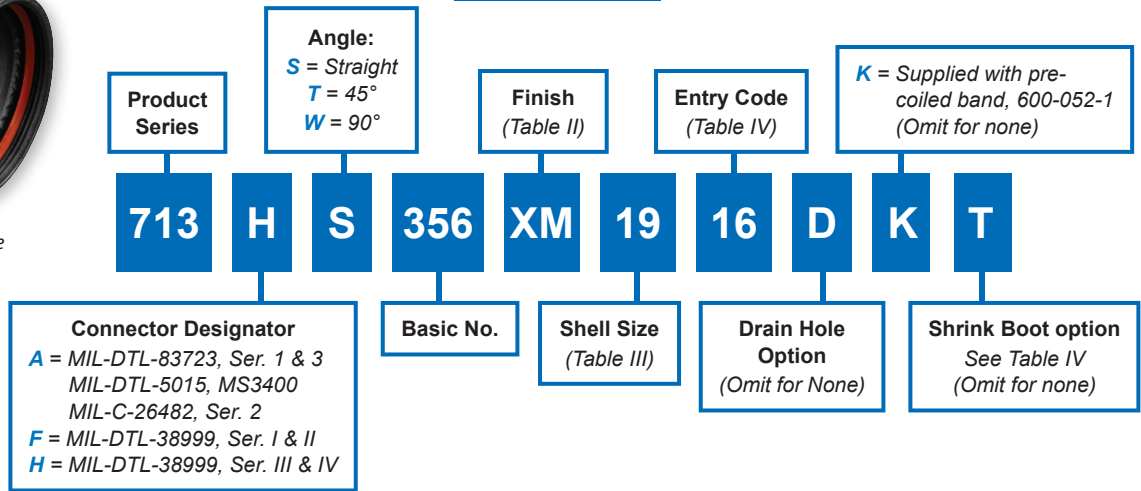
**Composite Guardian System convoluted tubing to connector backshell,
EMI/RFI* Environmental**



*EMI/RFI when conductive finish is specified

B

How To Order



**Symbol S
Straight**

Material and Finish

- Elbow, adapter: High grade engineering thermoplastic/See Table II
- Coupling nut: High grade engineering thermoplastic, black/no plating
- Conduit retaining clip: High grade engineering thermoplastic/no plating
- Anti-decoupling device: Corrosion resistant material/NA
- O-Rings: Silicone/NA

Tools and Assembly notes

- Conduit retaining clip and conduit O-Ring to be supplied unassembled.
- For effective grounding, connector with conductive finish should be used.
- Glenair assembly procedure is recommended for adapter to conduit termination. See Guardian assembly procedure at the end of this section

713-356

**Guardian System - Composite
Convuluted Tubing to Connector Backshell
for Series 72 Annular Convuluted Tubing**



Series 72
Annular Tubing

Table III: Connector Designators/Dimensions

Connector Designator A		Connector Designator F		Connector Designator H		Ø B Max	C Flats	
Shell Size	A Thread Class 2B	Shell Size	A Thread Class 2B	Shell Size	A Thread Iso Metric		Max	Min
08	1/2-20 UNF	08	7/16-28 UNEF	09	M12 X 1.0-6H	.83 (21.1)	.750 (19.1)	.736 (18.7)
10	5/8-24 UNEF	10	9/16-24 UNEF	11	M15 X 1.0-6H	.96 (24.4)	.875 (22.2)	.860 (21.8)
12	3/4-20 UNEF	12	11/16-24 UNEF	13	M18 X 1.0-6H	1.09 (27.7)	1.000 (25.4)	.980 (24.9)
14	7/8-20 UNEF	14	13/16-20 UNEF	15	M22 X 1.0-6H	1.22 (31.0)	1.125 (28.6)	1.100 (27.9)
16	1-20 UNEF	16	15/16-20 UNEF	17	M25 X 1.0-6H	1.35 (34.3)	1.250 (31.8)	1.224 (31.1)
18	1 1/16-18 UNEF	18	1 1/16-18 UNEF	19	M28 X 1.0-6H	1.48 (37.6)	1.375 (34.9)	1.348 (34.2)
20	1 3/16-18 UNEF	20	1 3/16-18 UNEF	21	M31 X 1.0-6H	1.62 (41.1)	1.500 (38.1)	1.469 (37.3)
22	1 5/16-18 UNEF	22	1 5/16-18 UNEF	23	M34 X 1.0-6H	1.75 (44.5)	1.625 (41.3)	1.581 (40.2)
24	1 7/16-18 UNEF	24	1 7/16-18 UNEF	25	M37 X 1.0-6H	1.89 (48.0)	1.750 (44.5)	1.690 (42.9)

Table III (cont.)

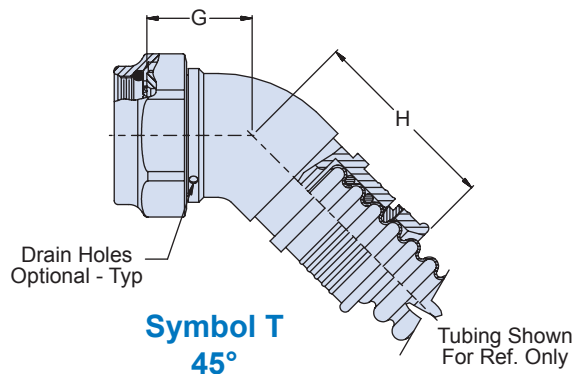
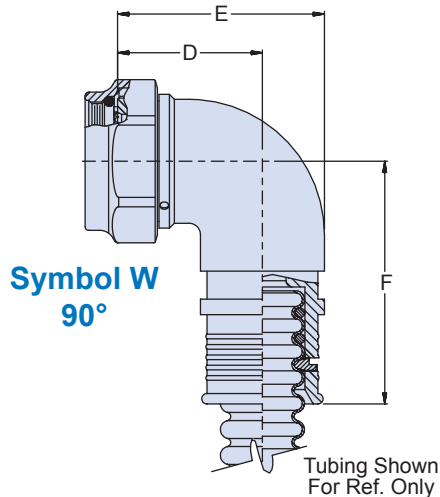
Conn Desig		D	E	F	G	H
A,F	H	±.06 (1.5)	±.09 (2.3)	±.09 (2.3)	±.06 (1.5)	±.09 (2.3)
08	09	.69 (17.5)	.88 (22.4)	1.19 (30.2)	.72 (18.3)	1.00 (25.4)
10	11	.75 (19.1)	1.00 (25.4)	1.25 (31.8)	.75 (19.1)	1.06 (26.9)
12	13	.81 (20.6)	1.13 (28.7)	1.31 (33.3)	.75 (19.1)	1.13 (28.7)
14	15	.88 (22.4)	1.31 (33.3)	1.38 (35.1)	.76 (19.3)	1.16 (29.5)
16	17	.94 (23.9)	1.38 (35.1)	1.44 (36.6)	.78 (19.8)	1.18 (30.0)
18	19	.97 (24.6)	1.44 (36.6)	1.47 (37.3)	.79 (20.1)	1.19 (30.2)
20	21	1.06 (26.9)	1.63 (41.4)	1.56 (39.6)	.82 (20.8)	1.22 (31.0)
22	23	1.13 (28.7)	1.75 (44.5)	1.63 (41.4)	.86 (21.8)	1.26 (32.0)
24	25	1.19 (30.2)	1.88 (47.8)	1.69 (42.9)	.89 (22.6)	1.29 (32.8)

Table IV: Entry Code/Dimensions/Shrink Boot

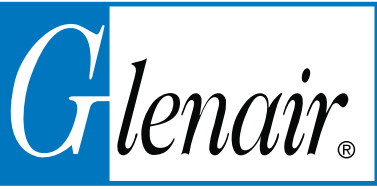
Entry Code	Ø J Max	Conduit I.D.		Shrink Boot
		Min	Max	
06	.53 (13.5)	.16 (4.1)	.19 (4.8)	770-001S103
09	.63 (16.0)	.24 (6.1)	.28 (7.1)	770-001S103
12	.73 (18.5)	.33 (8.4)	.37 (9.4)	770-001S104
16	.86 (21.8)	.45 (11.4)	.50 (12.7)	770-001S104
20	.98 (24.9)	.57 (14.5)	.62 (15.8)	770-001S105
24	1.15 (29.2)	.69 (17.5)	.75 (19.1)	770-001S106
28	1.27 (32.3)	.81 (20.6)	.87 (22.2)	770-001S107
32	1.40 (35.6)	.93 (23.6)	1.00 (25.4)	770-001S107
36	1.53 (38.9)	1.07 (27.2)	1.13 (28.7)	770-001S107
40	1.62 (41.1)	1.18 (30.0)	1.25 (31.8)	770-001S107
48	1.98 (50.3)	1.45 (36.8)	1.50 (38.1)	770-001S108
52	2.07 (52.6)	1.58 (40.1)	1.63 (41.4)	770-001S108
56	2.14 (54.4)	1.70 (43.2)	1.75 (44.4)	770-001S108

Table II: Finish

Symbol	Finish Description
XM	Electroless Nickel
XW	Cad/Olive Drab over Electroless Nickel
XB	Black color/Unplated
XMT	Nickel-PTFE



B



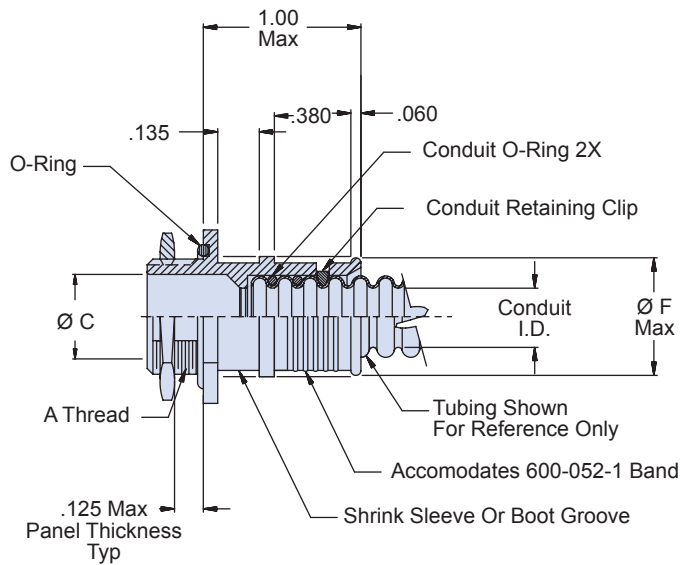
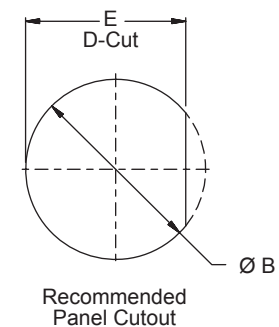
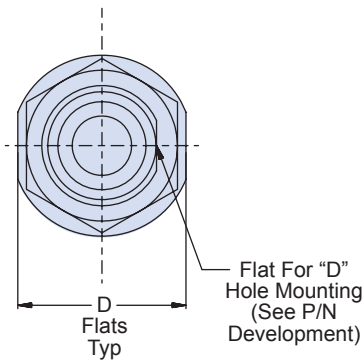
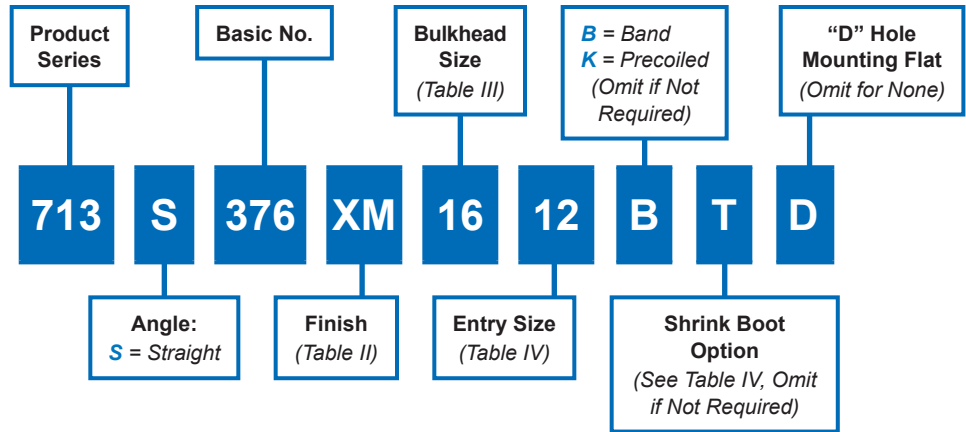
713-376
Guardian System - Composite
Convoluted Tubing to Bulkhead Feed-Thru Fitting
for Series 72 Annular Convolute Tubing

Composite Guardian System convoluted tubing to bulkhead feed-thru fitting

B



How To Order



Material and Finish

- Adapter and Jam nut: High grade engineering thermoplastic/See Table II
- O-Rings: Silicone/NA
- Retaining clip: High grade engineering thermoplastic/no plating

Tools and Assembly notes

- Conduit retaining clip and conduit O-Ring to be supplied unassembled
- For effective grounding, connector with conductive finish should be used
- Glenair assembly procedure is recommended for adapter to conduit termination. See Guardian assembly procedure at the end of this section

713-376

**Guardian System - Composite
Convuluted Tubing to Bulkhead Feed-Thru Fitting
for Series 72 Annular Convuluted Tubing**

Series 72
Annular Tubing

B

Table III: Bulkhead Size/Dimensions

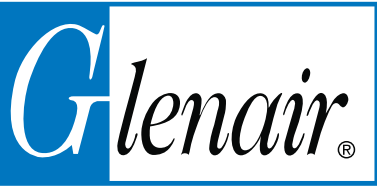
Bulkhead Size	A Thread Class 2A	Ø B +.015 -.000	Ø C	D Flats	E +.010 -.000	Max Entry Size
06	7/16-28 UNEF	0.443 (11.3)	0.188 (4.8)	0.688 (17.5)	0.385 (9.8)	09
08	1/2-20 UNF	0.505 (12.8)	0.250 (6.4)	0.750 (19.1)	0.448 (11.4)	12
09	9/16-24 UNEF	0.568 (14.4)	0.281 (7.1)	0.812 (20.6)	0.510 (13.0)	12
10	9/16-24 UNEF	0.568 (14.4)	0.312 (7.9)	0.812 (20.6)	0.510 (13.0)	12
12	5/8-24 UNEF	0.630 (16.0)	0.375 (9.5)	0.875 (22.2)	0.573 (14.6)	16
14	11/16-24 UNEF	0.693 (17.6)	0.438 (11.1)	0.938 (23.8)	0.635 (16.2)	16
16	3/4-20 UNEF	0.755 (19.2)	0.500 (12.7)	1.000 (25.4)	0.698 (17.7)	20
20	7/8-20 UNEF	0.880 (22.4)	0.625 (15.9)	1.125 (28.6)	0.822 (20.9)	20
24	1-20 UNEF	1.005 (25.5)	0.750 (19.1)	1.250 (31.8)	0.948 (24.1)	24
28	1 3/16-8 UNEF	1.193 (30.3)	0.875 (22.2)	1.438 (36.5)	1.135 (28.8)	32
32	1 5/16-18 UNEF	1.318 (33.5)	1.000 (25.4)	1.562 (39.7)	1.260 (32.0)	32
36	1 7/16-18 UNEF	1.443 (36.7)	1.125 (28.6)	1.625 (41.3)	1.385 (35.2)	36
40	1 1/2-18 UNEF	1.505 (38.2)	1.250 (31.8)	1.812 (46.0)	1.448 (36.8)	40
48	1 3/4-18 UNS	1.755 (44.6)	1.500 (38.1)	2.062 (52.4)	1.698 (43.1)	48
52	1 7/8-18 UNS	1.880 (47.8)	1.625 (41.3)	2.125 (54.0)	1.823 (46.3)	52
56	2-18 UNS	2.005 (50.9)	1.750 (44.4)	2.312 (58.7)	1.938 (49.2)	56

Table II: Finish

Symbol	Finish Description
XMT	Nickel-PTFE Gray (1000 Hr. Salt Spray)
XM	Electroless Nickel
XW	Cadmium Olive Drab over Electroless Nickel
XMT	No Plating - Base Material, Non-Conductive

Table IV: Entry Code/Dimensions/Shrink Boot

Entry Code	Ø F Max	Conduit I.D.		Shrink Boot
		Min	Max	
06	.53 (13.5)	.16 (4.1)	.19 (4.8)	770-001S103
09	.63 (16.0)	.24 (6.1)	.28 (7.1)	770-001S103
12	.73 (18.5)	.33 (8.4)	.37 (9.4)	770-001S104
16	.86 (21.8)	.45 (11.4)	.50 (12.7)	770-001S104
20	.98 (24.9)	.57 (14.5)	.62 (15.8)	770-001S105
24	1.15 (29.2)	.69 (17.5)	.75 (19.1)	770-001S106
28	1.27 (32.3)	.81 (20.6)	.87 (22.2)	770-001S107
32	1.40 (35.6)	.93 (23.6)	1.00 (25.4)	770-001S107
36	1.53 (38.9)	1.07 (27.2)	1.13 (28.7)	770-001S107
40	1.62 (41.1)	1.18 (30.0)	1.25 (31.8)	770-001S107
48	1.98 (50.3)	1.45 (36.8)	1.50 (38.1)	770-001S108
52	2.07 (52.6)	1.58 (40.1)	1.63 (41.4)	770-001S108
56	2.14 (54.4)	1.70 (43.2)	1.75 (44.4)	770-001S108



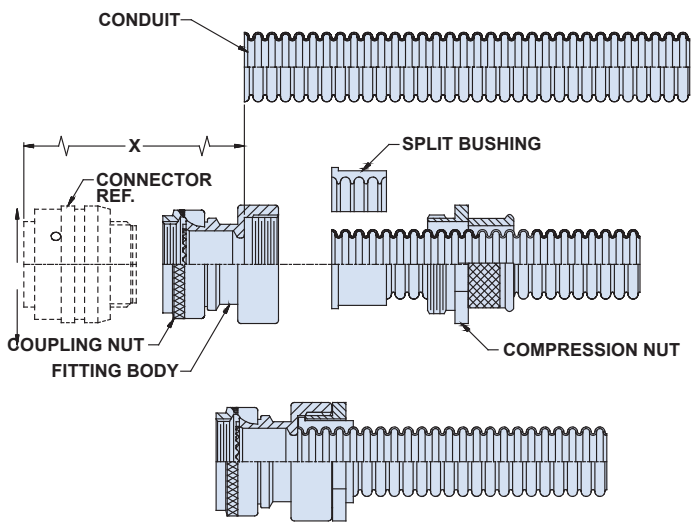
Installation Procedures for Sentry System

(710-840, 710-841, 710-842, 710-847, 710-848, 710-849)

Sentry System Fittings

Pre-Assembly Preparation

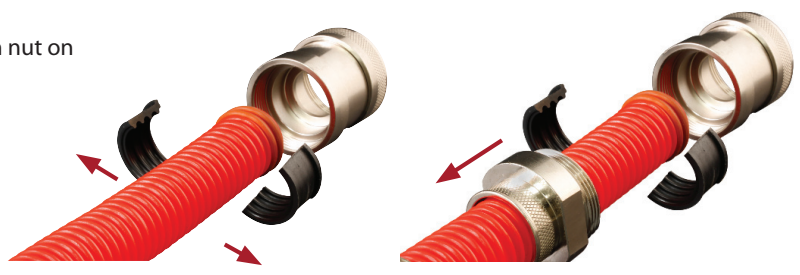
1. Determine overall conduit assembly length required from connector face to connector face. From this dimension, establish conductor length needed for connector termination and add two inches.
2. Temporarily assemble connector to fitting and hand tighten. Establish and deduct the "X" dimension(s) from the overall assembly length in Step 1.
3. Disassemble fitting from connector. Prepare conduit and assemble to fitting per instructions for the fitting series used.



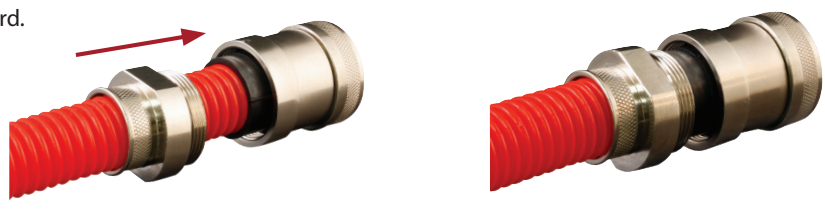
Fitting/Conduit Assembly

1. Cut the conduit to length plus 0.5 inch (12.7 mm) per pre-assembly preparation step 2 using conduit shears or an equivalent. Using the "split bushing" as a guide, trim conduit perpendicular to the bore.

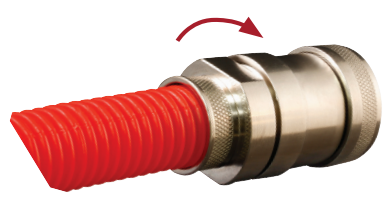
2. Remove bushing and slide compression nut on conduit.



3. Reinstall bushing and bring nut forward.



4. Thread nut into rear of fitting body and bottom on shoulder. Torque to 35 to 50 inch pounds.

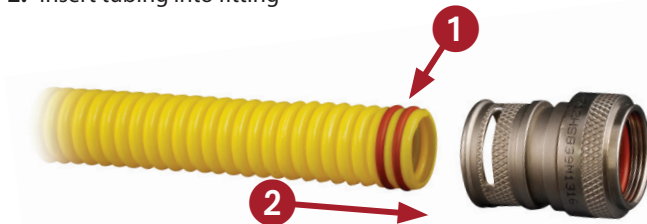


Glenair 600 series backshell assembly tools are recommended for assembly and installation. A catalog is available on request, or may be accessed on the internet at www.glenair.com.

Guardian System Fittings

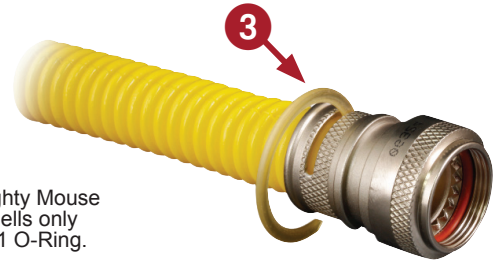
O-Ring Attachment

1. Install pair of provided O-Rings on the two forwardmost tubing convolutes
2. Insert tubing into fitting



Retention Ring Attachment

3. Run provided retaining clip into slot, aligned with the third convolution of conduit, behind the 2 O-Rings.



Note: Mighty Mouse backshells only require 1 O-Ring.

BandMaster™ ATS Band Termination

Cable Prep

1. Pull overall braid shield over the band platform so that all braid strands will be captured by the band.



Install Band

2. Wrap the band through the buckle twice. Insert the free end into the banding tool in the direction shown on the tool. Squeeze the short grey handle to insert the band. Slide the band onto the cable. Close the black handle repeatedly until the handle no longer opens. Close the long grey handle until the tool cuts the band. Remove the excess strap from the tool by closing the small grey handle.



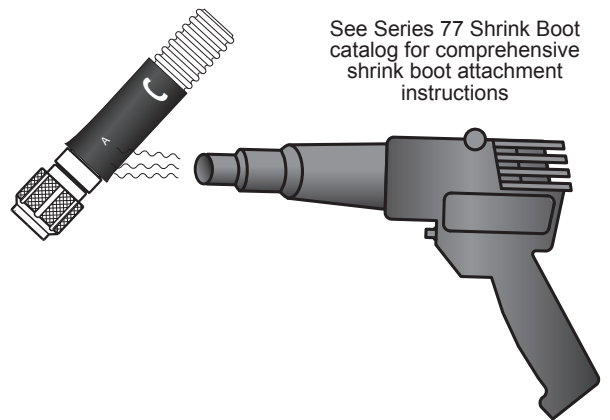
Trim Braid

3. It's a snap! Just trim the excess braid and you're done.



Shrink Boot Attachment

1. Position the boot so that the lipped "A" end is on the adapter, and the "C" end is on the conduit.
2. Apply heat to adapter end of boot until the lipped end recovers fully and fits into the groove of the adapter.
3. Continue to heat down the body of the boot towards the "C" end, applying heat in brush-like strokes until "C" end is fully recovered.
4. After the boot is fully recovered, apply additional heat as necessary to the entire boot to ensure good adhesion. Do not overheat as conduit can be damaged by excessive heating.



See Series 77 Shrink Boot catalog for comprehensive shrink boot attachment instructions

Glenair 600 series backshell assembly tools are recommended for assembly and installation. A catalog is available on request, or may be accessed on the internet at www.glenair.com.

Turnkey

SERIES 74 CONVOLUTED TUBING ASSEMBLIES

TERMINATED, TESTED, AND READY FOR IMMEDIATE USE



Series 74
**High-Performance Helical Polymer-Core
 Convoluted Tubing Systems**
 Introduction and Quick Selection Guide



High-Performance Helical Convoluted Tubing, Backshells, Fittings and Assemblies

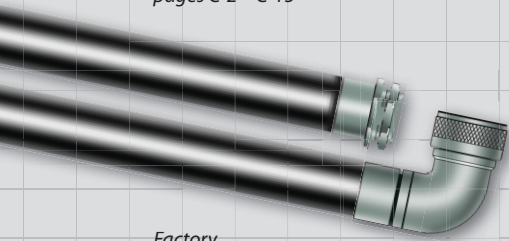
Glenair Series 74 High-Performance Helical Polymer-Core Convoluted Tubing provides a lightweight, durable enclosure for interconnect wiring, with backshells, transitions and a wide range of high-performance convoluted tubing types with and without EMI/RFI braiding and jacketing.

Do-It-Yourself Fittings are the best choice when ease of assembly and installation is a requirement, when prototyping wire-routing systems, or when running convoluted tubing in unpredictable lengths.

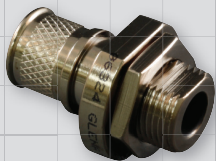
Prefer a Turnkey Solution? Factory terminated assemblies offer weight reduction and size savings, as well as highly durable tamper-proof crimp fittings.



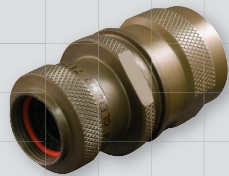
Helical Convoluted
 Tubing configurations,
 pages C-2 – C-15



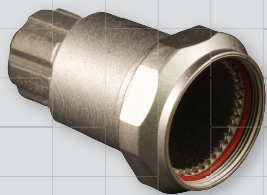
Factory
 Terminated
 Assemblies, p. C-16 - C-17



Easy-to-Assemble
 Hat Trick system,
 pages C-18 – C-29



Super-Durable
 Internal Braid system,
 pages C-30 – C-35



Ultra-Lightweight
 Composite Hummer-Nut
 system, pages C-52 – C-57

Part No.	Description	Page No.
Helical Convoluted Tubing Configurations		
	Configuration Options and Material Properties	C-2 – C-8
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121-102	Convoluted Tubing with 2 Braids	C-11
121-100	Convoluted Tubing with Braid and Jacket	C-12
121-103	Convoluted Tubing with 2 Braids and Jacket	C-13
123-100	Convoluted Tubing with Environmental Jacket	C-14
121-195	Convoluted Tubing with Internal Braid	C-15
Factory Terminated Assemblies		
	Factory Crimp Conduit Assemblies - How To Order	C-16
	Point-to-Point Conduit Assembly basic part numbers	C-17
Easy-to-Install Hat Trick System		
713-355	Convoluted Tubing-to-Connector Backshell, Metal	C-18
713-359	Convoluted Tubing-to-Bulkhead Fitting, Metal	C-20
713-377	Convoluted Tubing-to-Connector Backshell, Composite	C-22
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713-380	Hat Trick "Y" Transition	C-26
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Super-Durable Internal Braid System		
711-150	Convoluted Tubing-to-Connector Backshell	C-30
711-149	Convoluted Tubing-to-Bulkhead Fitting	C-32
711-148	Convoluted Tubing-to-Transition or End Fitting Adapter	C-34
AeroLite System		
712-879	Convoluted Tubing-to-Connector Backshell	C-36
712-880	Convoluted Tubing-to-Bulkhead Fitting	C-38
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Legacy Heavy-Duty Ground Ring System		
712-277	Convoluted Tubing-to-Connector Backshell	C-44
712-389	Convoluted Tubing-to-Bulkhead Fitting	C-46
712-380	Convoluted Tubing-to-Transition or End Fitting Adapter	C-48
712-358	Convoluted Tubing-to-Convoluted Tubing Splice Kit	C-50
Hummer Nut System		
712-178	Convoluted Tubing-to-Connector Backshell	C-52
712-202	Convoluted Tubing-to-Bulkhead Fitting	C-54
712-379	Convoluted Tubing-to-Transition or End Fitting Adapter	C-56
712-419	Convoluted Tubing-to-Connector Backshell, Composite	C-58
712-475	Convoluted Tubing-to-Bulkhead Fitting, Composite	C-60
	Installation Procedures	C-62



Series 74 High-Performance Helical Polymer-Core Convuluted Tubing Systems Configuration Options

Series 74 convuluted tubing, braided shielding, and jacketing options

The Series 74 Convuluted Tubing System is a flexible and durable alternative to standard jacketed cable. System design begins with your selection of core material, either ETFE, FEP, PFA or PTFE, or halogen-free PEEK. Core materials may be outfitted with braided shielding and jacketing options to address specific mechanical, electrical (EMI), and environmental protection requirements. See the individual catalog pages for detailed how-to-order information.

Part Number
120-100

Pg. C-9



Outstanding mechanical wire protection and lubricity for non-environmental and non-EMI/RFI applications

Helical plastic convuluted tubing, available in a choice of 5 materials. Choose standard black or clear color.

Part Number
121-101

Pg. C-10



Adds EMI/RFI braided shielding for use in non-environmental applications

Helical plastic convuluted tubing, available in a choice of 5 materials, with a single braided shield for EMI/RFI protection.

Part Number
121-102

Pg. C-11



Adds a second layer of high dB EMI/RFI shielding for use in non-environmental applications

Helical plastic convuluted tubing, available in a choice of 5 materials, with double braided shield for high frequency shielding applications.

Part Number
121-100

Pg. C-12



A jacketed configuration with one EMI/RFI shield for use in environmental applications

Helical plastic convuluted tubing, available in a choice of 5 materials, with braided shielding for EMI/RFI protection and a ruggedized jacket for environmental protection.

Part Number
121-103

Pg. C-13



Double-braided and jacketed configuration for environmental and high dB EMI/RFI shielding protection

Helical plastic convuluted tubing, available in a choice of 5 materials with double shielding and jacket for optimum EMI/RFI protection and environmental sealing.

Part Number
123-100

Pg. C-14



For environmental applications without EMI shielding requirements

Helical convuluted tubing in choice of 5 materials with a ruggedized jacket for environmental protection.

Part Number
121-195

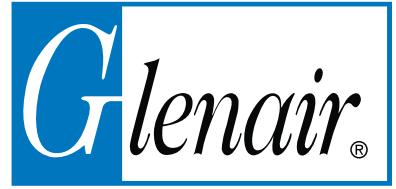
Pg. C-15



Internal braid configuration for harsh chemical environment applications, with EMI/RFI shielding

Chemical- and UV-resistant plastic conduit tubing with internal braid for weight savings and harsh-environment EMI/RFI protection.

Series 74
High-Performance Helical Polymer-Core
Convolute Tubing Systems
Material Properties and Colors



Convolute Tubing Material Choices

E	ETFE Fluoropolymer (Series 74 standard)	Highest tensile strength and lubricity. Combines mechanical toughness with outstanding chemical, dielectric and thermal properties, improved radiation resistance. This is our standard material for a reason: ETFE delivers the best performance and best value in high-performance polymer resins.
F	FEP	Economical with relatively high thermal stability, excellent dielectric properties. Unaffected by virtually all solvents and chemicals, good adhesion resistance.
P	PFA	Outstanding lubricity and resistance to corrosives, -95°F to 500°F temperature rating. Melt-extruded for better cold flow and greater long-term sealing than PTFE; more economical.
T	PTFE	Outstanding resistance to corrosives, -95°F to 500°F temperature rating. Somewhat better folding endurance than PFA. However, this paste-extruded fluoropolymer material is more difficult to process and so costs more than PFA with virtually equal performance.
K	PEEK	Low-smoke, zero-halogen with high strength and superior crush resistance. Lightest weight of all the tubing polymers, but also the highest material cost.

Convolute Tubing Material Properties

Material Property	Perfluoroalkoxy (PFA)	Fluorinated Ethylene Propylene (FEP)	Ethylene Tetrafluoroethylene (ETFE)	Polytetrafluoroethylene (PTFE)	Polyether Ketone (PEEK)
Service Temperature	-95°F/500°F (-71°C/260°C)	-95°F/400°F (-71°C/204°C)	-88°F/302°F (-67°C/150°C)	-95°F/500°F (-71°C/260°C)	-76°F/392°F (-60°C/200°C)
Tensile Strength	3,000 PSI (20,684 KP)	2,500 PSI (17,237 KP)	5,000 PSI (34,474 KP)	2,500 PSI (17,237 KP)	7,000 PSI (48,300 KP)
Elongation	250%	200%	100%	175%	100%
Specific Gravity	2.15	2.15	1.70	2.15	1.26
Heat Aging	2000 Hrs.@ 525°F (274°C)	2000 Hrs.@ 430°F (221°C)	2000 Hrs.@ 350°F (177°C)	2000 Hrs. @ 525°F (274°C)	2,000 Hrs. @ 464°F (240°C)
Dielectric Strength	12,000V	12,000V	12,000V	12,000V	12,000V
Volume Resistivity	1018	1018	1016	1018	1016
Water Absorption	0.03%	0.01%	0.02%	0.01%	0.03%
Solvent Resistance	No swelling, stickiness or weight change				
Flammability	Non-burning				
Fungus Resistance	Does not support fungus growth				

Convolute Tubing Color Options

B	Standard Black	Standard for all Series 74 convolute tubing materials
C	Clear (Natural)	Available for all Series 74 convolute tubing materials

Consult factory for additional color options



Summary and Analysis

Understanding the performance characteristics of available material types is an essential first step in specifying the correct convoluted tubing for your interconnect application. But two of the most popular fluoropolymer materials, PFA and PTFE are so close in most major performance areas that selection is more often an issue of price, rather than performance.

Both materials show outstanding chemical properties for resistance to corrosive agents, nonsolubility, and nonflammability. Both are virtually identical in terms of their electrical properties for dielectric, dissipation, and surface resistivity. Even in critical melting point (service temperature) ratings, both materials have identical properties. In fact, it is only in three areas, cold flow, folding endurance and cost that these virtually identical fluoropolymer resins differ significantly.

Because PFA is melt extruded, it exhibits better cold flow values than PTFE, which translates to better long-term sealing and reduced loosening of fittings. In terms of cost, PFA convoluted tubing is typically the better performer, as the melt extruded product is less costly to fabricate and can be produced in any length, effectively eliminating the scrap associated with PTFE.

PFA vs PTFE Comparison Table

Property	PFA 350	PTFE
Service Temperature	-95°F/500°F -71°C/260°C	-95°F/500°F -71°C/260°C
Thermal Conductivity	.25 W/MK	.19 W/MK
Tensile Strength	4,000 PSI (20,684 KP)	3,600 PSI (17,237 KP)
Specific Gravity	2.12 - 2.17	2.13 - 2.25
Hardness	55	55
Cold Flow	>2% 6.9 MPa (1,000 PSI) @25°C (73°F) at 1,000 hrs.	>10% 6.9 MPa (1,000 PSI) @25°C (73°F) at 1,000 hrs.
Flexural Modulus	590 - 625 MPa 85,000 - 90,000 PSI	345 - 620 MPa 50,000 - 90,000 PSI
MIT Folding Endurance	5 x 10 ⁵	1 x 10 ⁶
Chemical Properties	inert	Inert
Electrical Resistivity	>1018 OHM/CM	>1018 OHM/CM
Water Absorption	<.03%	<.01%

Series 74
High-Performance Helical Polymer-Core
Convuluted Tubing Systems
Braided Shield and Jacket Options and Material Properties



EMI/RFI Braided Shielding and Non-Metallic (Fabric) Overbraids

T	Tin/Copper	150°C temperature rating, 125 lbs. tensile strength, 96 hr. salt spray corrosion resistance
C	Stainless Steel	Highest tensile strength (225 lbs.), highest temperature—1093°C+
N	Nickel/Copper	200°C temperature rated, 150 lbs. tensile strength, 500 hrs. salt spray corrosion resistance
S	SnCuFe	Tin plated iron/copper
L	ArmorLite™	Microfilament metal-clad ultra lightweight stainless steel braid
D	Dacron	Yarn with excellent abrasion resistance, good chemical resistance, non-conductive
M	Nomex	-55°C to 260°C temperature range - will not melt, excellent chemical resistance, non-conductive
E	AmberStrand® 100%	Expandable, flexible, high-strength conductive metal-clad composite thermoplastic
F	AmberStrand® 75%/25%	75% Expandable, flexible, high-strength conductive metal-clad composite thermoplastic combined with 25% nickel-plated 36AWG copper wire for additional strength

Jacketing Options

N	Neoprene	Tough, durable polychloroprene for mechanical and environmental protection
H	Hypalon®	Light weight with broad temperature range
E	EPDM	Better resistance to Ketones
V	Viton	Heaviest material with best resistance to oil and gasoline
B	Duraelectric, Black	Weatherproof, halogen free, flame resistant, functional to 260°C
G	Duraelectric, Gray	Qualified to US Navy MIL-PRF-24758A, Fed Std 595B #26270 Haze Gray color
TN	Duraelectric, Desert Tan	Duraelectric in Fed Std #3446 Desert Tan color
O	Duraelectric, Orange	OSHA Safety Orange to mark energized electrical cables

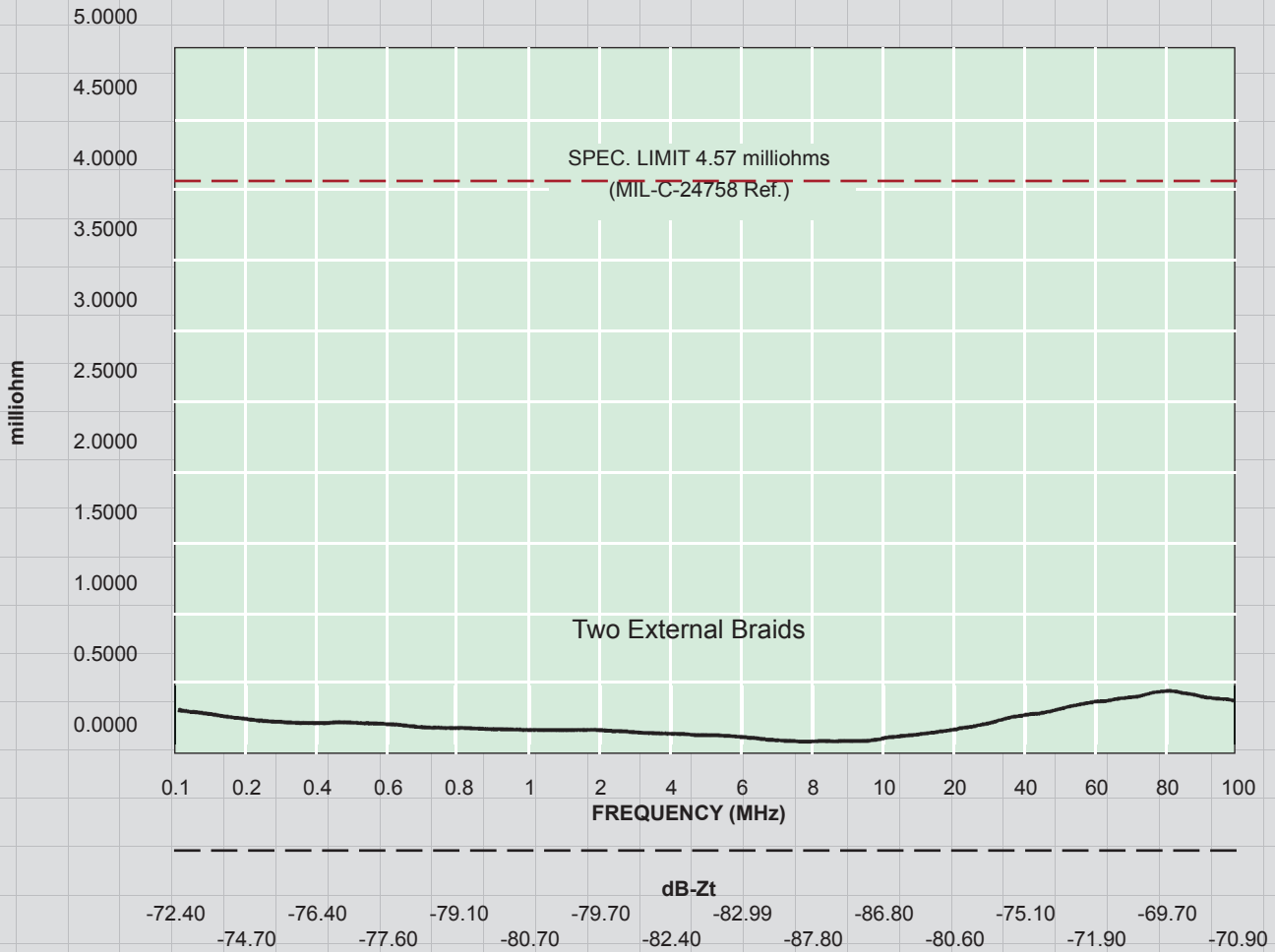
Jacketing Material Properties and Chemical Resistance

Material Property	EPDM (Ethylene Propylene Diene Monomer)	Hypalon (Chlorosulfonated Polyethylene)	Neoprene (Polychloroprene)	Viton (Fluoroelastomer)	Duraelectric
Temperature Range	-60°F to +300°F (-51°C to +149°C)	-60°F to +300°F (-51°C to +149°C)	-60°F to +250°F (-51°C to +121°C)	-40°F to +392°F (-40°C to +200°C)	-94°F to +392°F (-70°C to +200°C)
Specific Gravity	1.26	1.18	1.25	1.80	1.22
Weight: Lbs./Cubic Inch	.045	.043	.045	.055	.045
Abrasion Resistance	Excellent	Excellent	Excellent	Excellent	Good
Wear Resistance	Good	Good	Good	Good	Good
Flame Resistance	Good	Good	Good	Good	Excellent
Sunlight Resistance	Good	Excellent	Excellent	Excellent	Excellent
Chemical Resistance					
Aliphatic Hydrocarbons	Good	Good	Good	Excellent	Excellent
Aromatic Hydrocarbons	Good	Fair	Fair	Excellent	Excellent
Ketones, Etc.	Good	Poor	Poor	Poor	Excellent
Oil & Gasoline	Good	Good	Good	Excellent	Excellent



**Transfer Impedance - Series 74 Convuluted Tubing (FEP)
with 2 Tin/Copper Braids and User Installable Fittings
0.5 Inch Diameter**

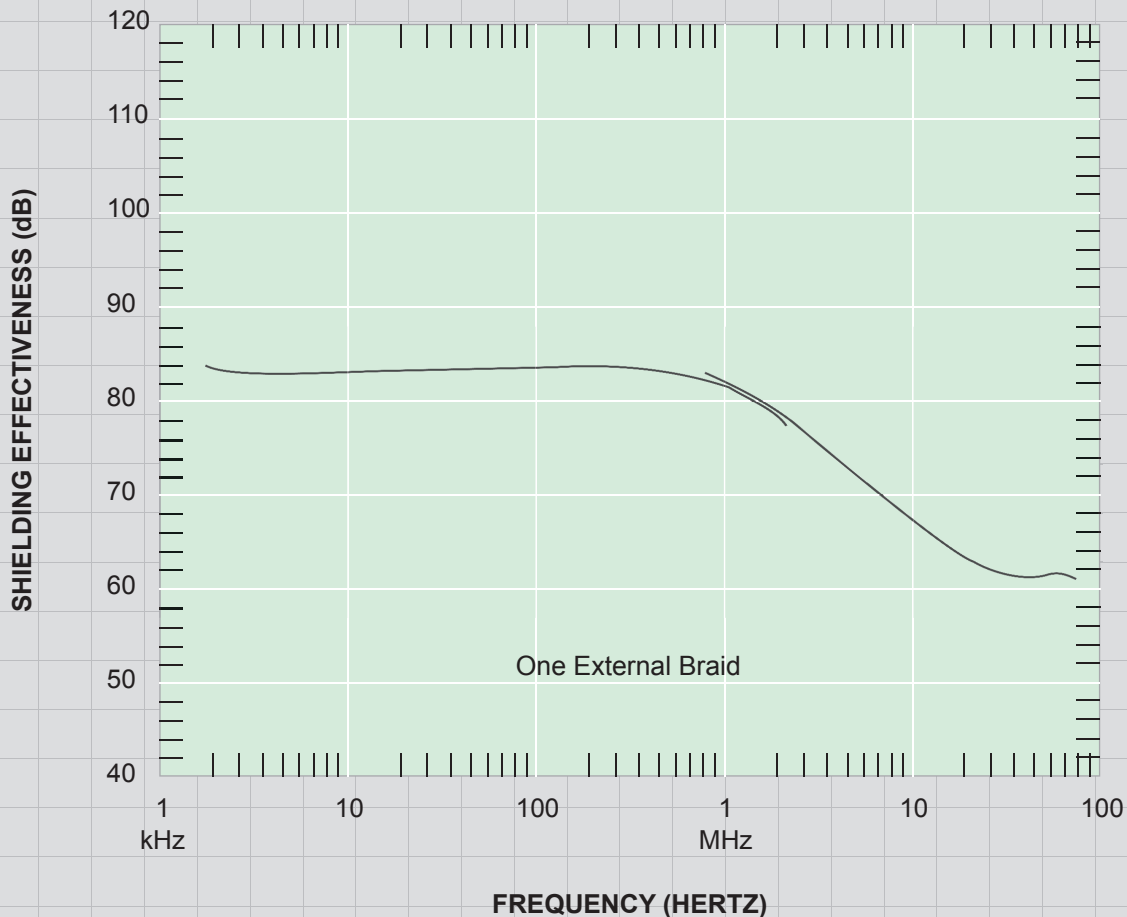
C



Shield Effectiveness of Series 74 Tubing
with One External Tin/Copper Braid
1 Inch Diameter Tubing



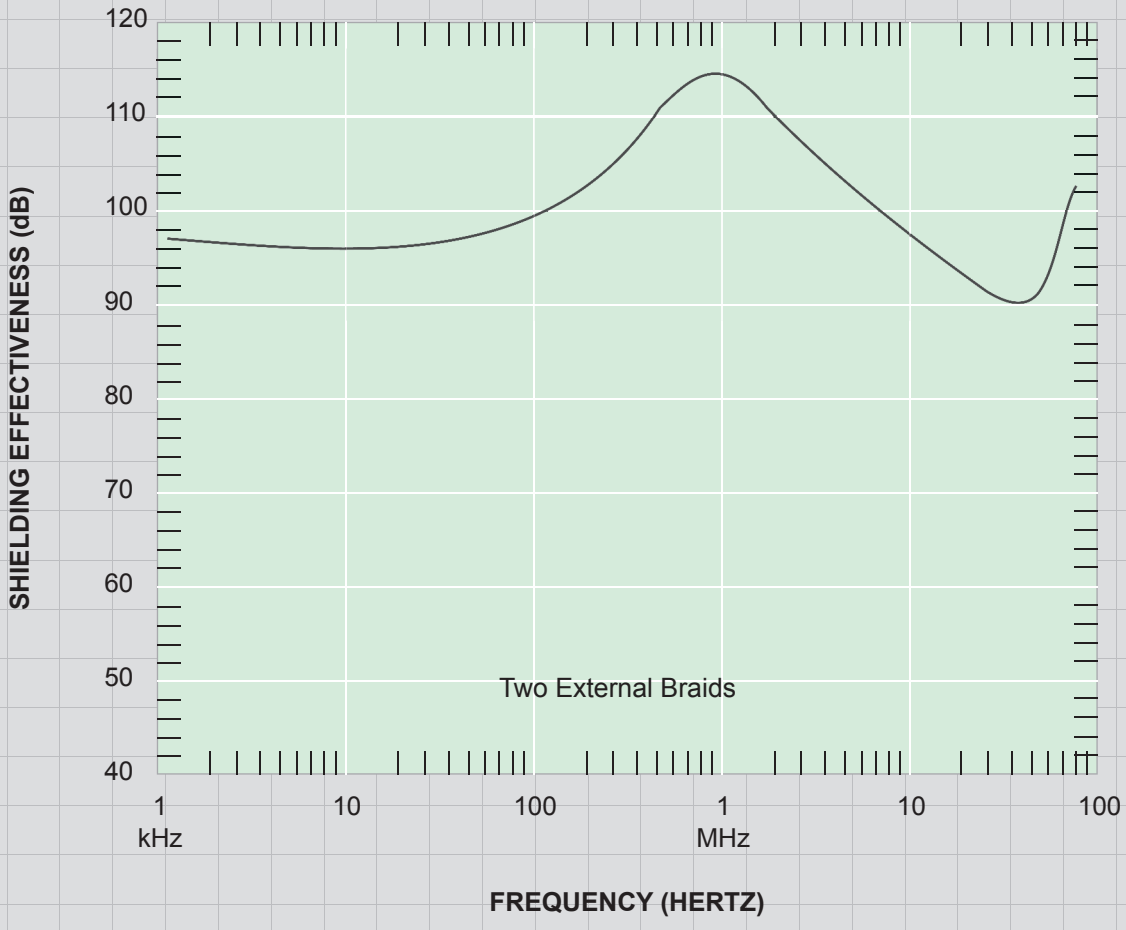
Series 74
Helical Tubing



C



Shield Effectiveness of Series 74 Tubing with Two External Tin/Copper Braids 1 Inch Diameter Tubing



120-100
Helical Polymer-Core Convulated Tubing
In Accordance With SAE AMS-81914



Outstanding mechanical wire protection and lubricity for non-environmental and non-EMI/RFI applications

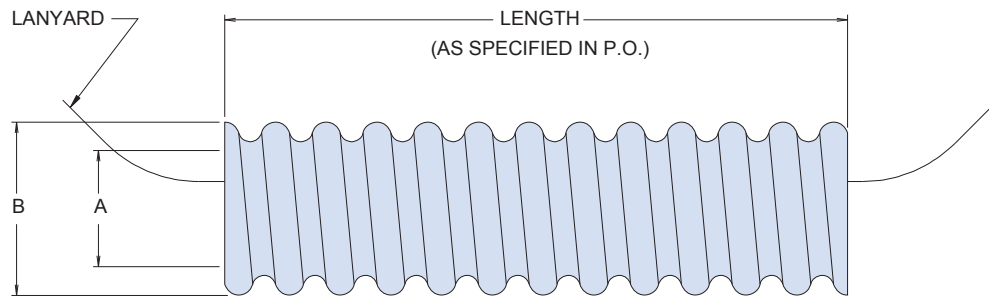
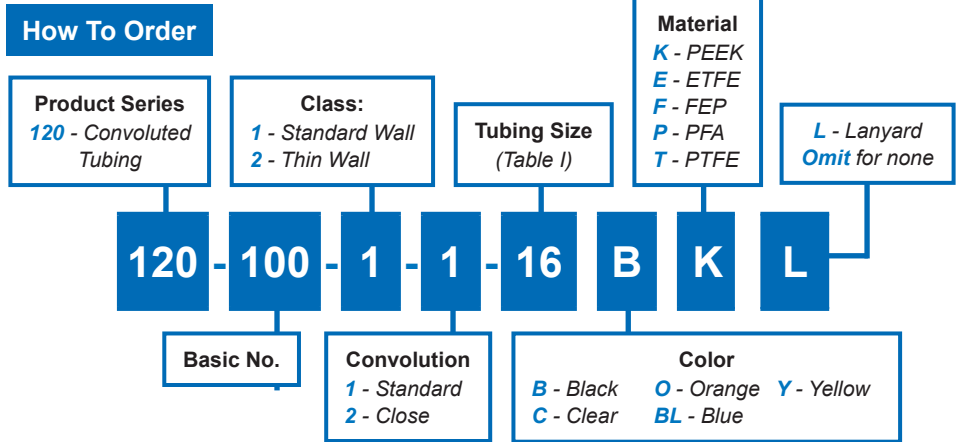
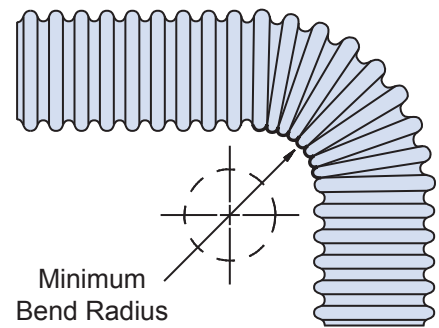


Table I: Tubing Size Order Number and Dimensions

Tubing Size	Fractional Size Ref	A Inside Dia Min	B Dia Max	Min Bend Radius
06	3/16	.181 (4.6)	.320 (8.1)	.50 (12.7)
09	9/32	.273 (6.9)	.414 (10.5)	.75 (19.1)
10	5/16	.306 (7.8)	.450 (11.4)	.75 (19.1)
12	3/8	.359 (9.1)	.510 (13.0)	.88 (22.4)
14	7/16	.427 (10.8)	.571 (14.5)	1.00 (25.4)
16	1/2	.480 (12.2)	.650 (16.5)	1.25 (31.8)
20	5/8	.603 (15.3)	.770 (19.6)	1.50 (38.1)
24	3/4	.725 (18.4)	.930 (23.6)	1.75 (44.5)
28	7/8	.860 (21.8)	1.073 (27.3)	1.88 (47.8)
32	1	.970 (24.6)	1.226 (31.1)	2.25 (57.2)
40	1 1/4	1.205 (30.6)	1.539 (39.1)	2.75 (69.9)
48	1 1/2	1.437 (36.5)	1.832 (46.5)	3.25 (82.6)
56	1 3/4	1.688 (42.9)	2.156 (54.8)	3.63 (92.2)
64	2	1.937 (49.2)	2.332 (59.2)	4.25 (108.0)



Packaging

- Long-length orders of 120-100 conduit are subject to carrier weight and box size restrictions. For example, UPS air shipments are currently limited to 50 lbs. per box. Unless otherwise specified, Glenair standard practice is to ship optimal lengths of product based on weight, size, and individual carrier specifications.
- Consult factory for thin-wall, close convolution combination and for PEEK™ and PTFE min/max dimensions.



121-101
Helical Polymer-Core Convolute Tubing
In Accordance With SAE AMS-81914 • with External Braid

Tubing plus a single EMI/RFI braided shield for use in non-environmental applications



How To Order

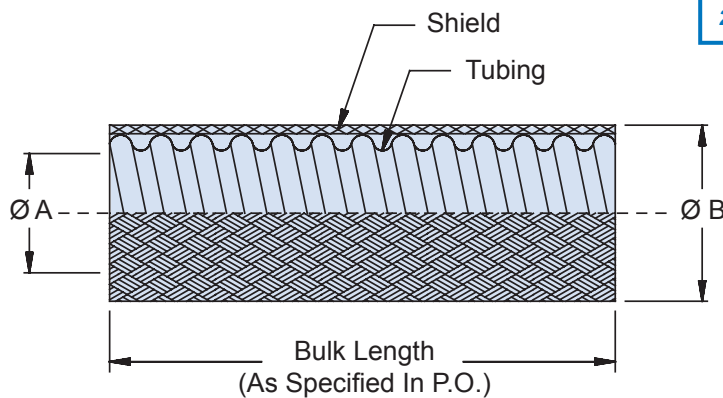
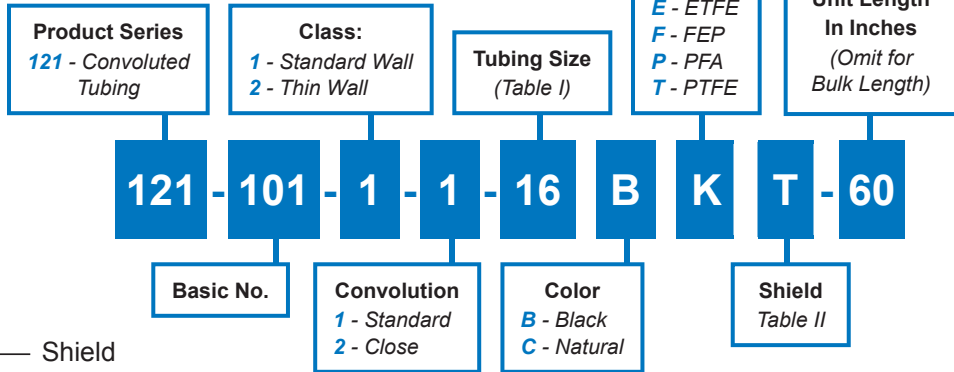
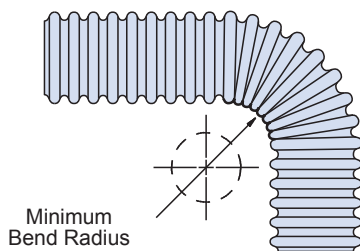


Table I: Tubing Size Order Number and Dimensions

Tubing Size	Fractional Size Ref	Ø A Inside Min	Ø B Max	Minimum Bend Radius
06	3/16	.181 (4.6)	.370 (9.4)	.50 (12.7)
09	9/32	.273 (6.9)	.464 (11.8)	.75 (19.1)
10	5/16	.306 (7.8)	.500 (12.7)	.75 (19.1)
12	3/8	.359 (9.1)	.560 (14.2)	.88 (22.4)
14	7/16	.427 (10.8)	.621 (15.8)	1.00 (25.4)
16	1/2	.480 (12.2)	.700 (17.8)	1.25 (31.8)
20	5/8	.603 (15.3)	.820 (20.8)	1.50 (38.1)
24	3/4	.725 (18.4)	.980 (24.9)	1.75 (44.5)
28	7/8	.860 (21.8)	1.123 (28.5)	1.88 (47.8)
32	1	.970 (24.6)	1.276 (32.4)	2.25 (57.2)
40	1 1/4	1.205 (30.6)	1.589 (40.4)	2.75 (69.9)
48	1 1/2	1.437 (36.5)	1.882 (47.8)	3.25 (82.6)
56	1 3/4	1.688 (42.9)	2.132 (54.2)	3.63 (92.2)
64	2	1.937 (49.2)	2.382 (60.5)	4.25 (108.0)

Table II: Shield/Braid Option

T	Tin/Copper
C	Stainless Steel
N	Nickel Copper
S	SnCuFe
L	ArmorLite™
D	Dacron (Non-Conductive)
M	Nomex (Non-Conductive)
E	AmberStrand® 100%
F	AmberStrand® 75%/25%



Packaging/Notes

- Long-length orders of 121-101 braided conduit are subject to carrier weight and box size restrictions. For example, UPS air shipments are currently limited to 50 lbs. per box. Unless otherwise specified, Glenair standard practice is to ship optimal lengths of product based on weight, size, and individual carrier specifications. Consult factory for additional information or to specify packaging requirements.
- Consult factory for thin-wall, close convolution combination and for PEEK™ and PTFE min/max dimensions.

121-102
Helical Polymer-Core Convoluted Tubing
 In Accordance With SAE AMS-81914 • with 2 External Braids



Tubing plus a double layer of high dB EMI/RFI shielding for use in non-environmental applications

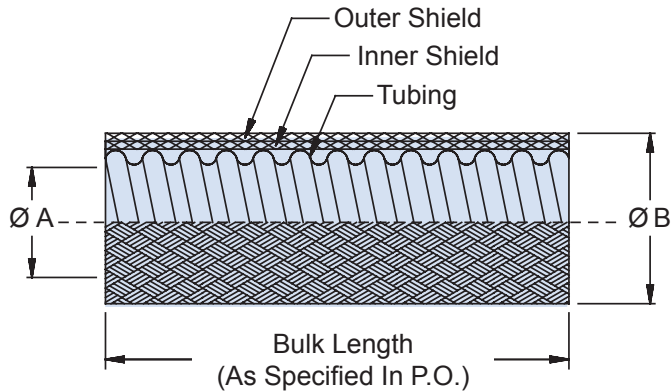
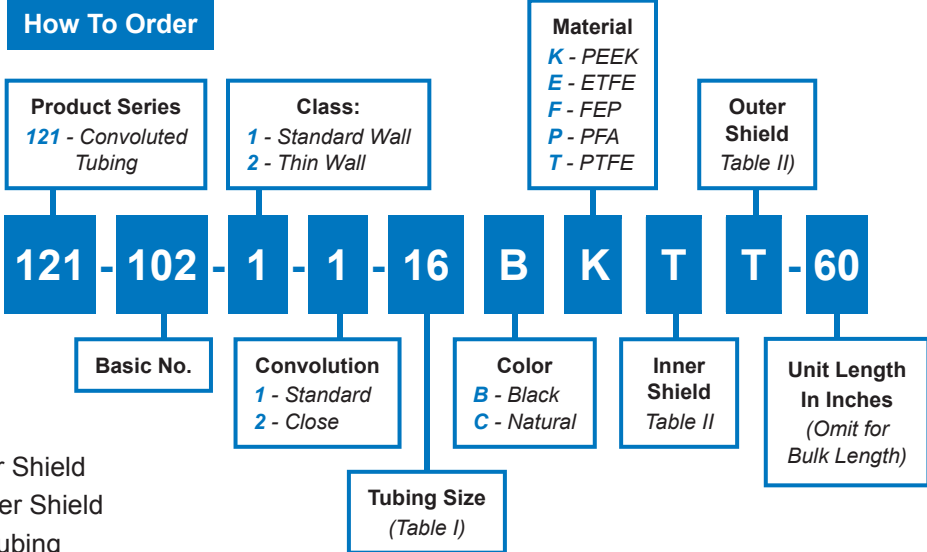
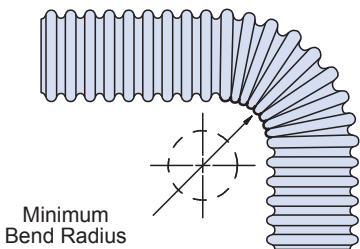


Table I: Tubing Size Order Number and Dimensions

Tubing Size	Fractional Size Ref	Ø A Inside Min	Ø B Max	Minimum Bend Radius
06	3/16	.181 (4.6)	.420 (10.7)	.50 (12.7)
09	9/32	.273 (6.9)	.514 (13.1)	.75 (19.1)
10	5/16	.306 (7.8)	.550 (14.0)	.75 (19.1)
12	3/8	.359 (9.1)	.610 (15.5)	.88 (22.4)
14	7/16	.427 (10.8)	.671 (17.0)	1.00 (25.4)
16	1/2	.480 (12.2)	.750 (19.1)	1.25 (31.8)
20	5/8	.603 (15.3)	.870 (22.1)	1.50 (38.1)
24	3/4	.725 (18.4)	1.03 (26.2)	1.75 (44.5)
28	7/8	.860 (21.8)	1.17 (29.8)	1.88 (47.8)
32	1	.970 (24.6)	1.33 (29.8)	2.25 (57.2)
40	1 1/4	1.205 (30.6)	1.64 (41.6)	2.75 (69.9)
48	1 1/2	1.437 (36.5)	1.93 (49.1)	3.25 (82.6)
56	1 3/4	1.688 (42.9)	2.18 (55.4)	3.63 (92.2)
64	2	1.937 (49.2)	2.43 (61.8)	4.25 (108.0)

Table II: Shield/Braid Option

T	Tin/Copper
C	Stainless Steel
N	Nickel Copper
S	SnCuFe
L	ArmorLite™
D	Dacron (Non-Conductive)
M	Nomex (Non-Conductive)
E	AmberStrand® 100%
F	AmberStrand® 75%/25%



Packaging/Notes

- Long-length orders of 121-102 braided conduit are subject to carrier weight and box size restrictions. For example, UPS air shipments are currently limited to 50 lbs. per box. Unless otherwise specified, Glenair standard practice is to ship optimal lengths of product based on weight, size, and individual carrier specifications. Consult factory for additional information or to specify packaging requirements.
- Consult factory for thin-wall, close convolution combination and for PEEK™ and PTFE min/max dimensions.



121-100 Helical Polymer-Core Convoluted Tubing In Accordance With SAE AMS-81914 with External Braid and Jacket

Tubing with one EMI/RFI Braided shield plus jacket for use in environmental applications

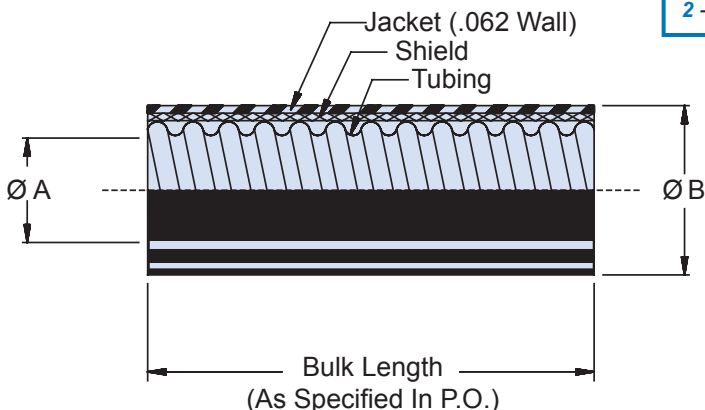
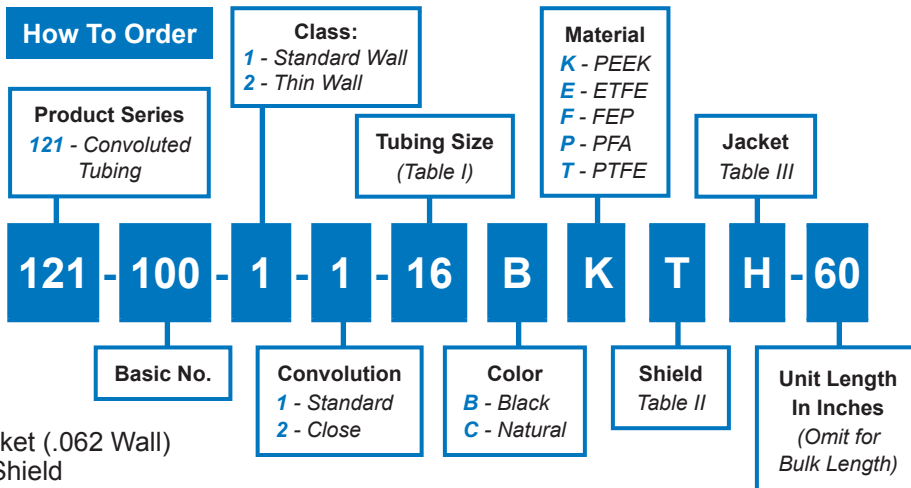
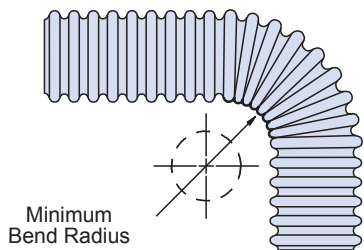


Table I: Tubing Size Order Number and Dimensions				
Tubing Size	Fractional Size Ref	Ø A Inside Min	Ø B Max	Minimum Bend Radius
06	3/16	.181 (4.6)	.490 (12.4)	.50 (12.7)
09	9/32	.273 (6.9)	.584 (14.8)	.75 (19.1)
10	5/16	.306 (7.8)	.620 (15.7)	.75 (19.1)
12	3/8	.359 (9.1)	.680 (17.3)	.88 (22.4)
14	7/16	.427 (10.8)	.741 (18.8)	1.00 (25.4)
16	1/2	.480 (12.2)	.820 (20.8)	1.25 (31.8)
20	5/8	.603 (15.3)	.940 (23.9)	1.50 (38.1)
24	3/4	.725 (18.4)	1.100 (27.9)	1.75 (44.5)
28	7/8	.860 (21.8)	1.243 (31.6)	1.88 (47.8)
32	1	.970 (24.6)	1.396 (35.5)	2.25 (57.2)
40	1 1/4	1.205 (30.6)	1.709 (43.4)	2.75 (69.9)
48	1 1/2	1.437 (36.5)	2.002 (50.9)	3.25 (82.6)
56	1 3/4	1.688 (42.9)	2.252 (57.2)	3.63 (92.2)
64	2	1.937 (49.2)	2.502 (63.6)	4.25 (108.0)

Table II: Shield/Braid Option	
T	Tin/Copper
C	Stainless Steel
N	Nickel Copper
S	SnCuFe
L	ArmorLite™
D	Dacron (Non-Conductive)
M	Nomex (Non-Conductive)
E	AmberStrand® 100%
F	AmberStrand® 75%/25%

Table III: Jacket Option	
N	Neoprene
H	Hypalon®
E	EPDM
V	Viton
B	Duraelectric, Black
G	Duraelectric, Gray
TN	Duraelectric, Desert Tan
O	Duraelectric, OSHA Orange



Packaging/Notes

- Long-length orders of 121-100 braided and jacketed conduit are subject to carrier weight and box size restrictions. For example, UPS air shipments are currently limited to 50 lbs. per box. Unless otherwise specified, Glenair standard practice is to ship optimal lengths of product based on weight, size, and individual carrier specifications. Consult factory for additional information or to specify packaging requirements.
- Consult factory for thin-wall, close convolution combination and for PEEK™ and PTFE min/max dimensions.

121-103
Helical Polymer-Core Convoluted Tubing
 In Accordance With SAE AMS-81914
 with 2 External Braids and Jacket



Tubing with double braid and jacket for environmental and high dB EMI/RFI shielding protection



How To Order

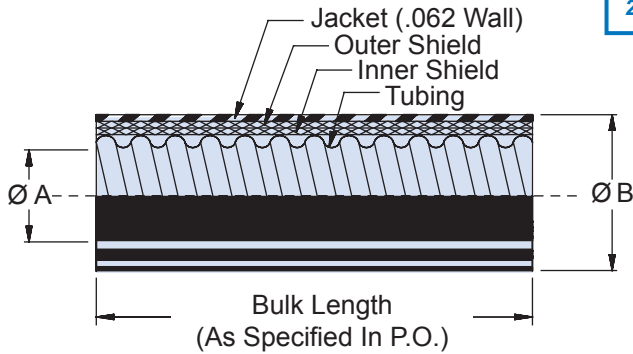
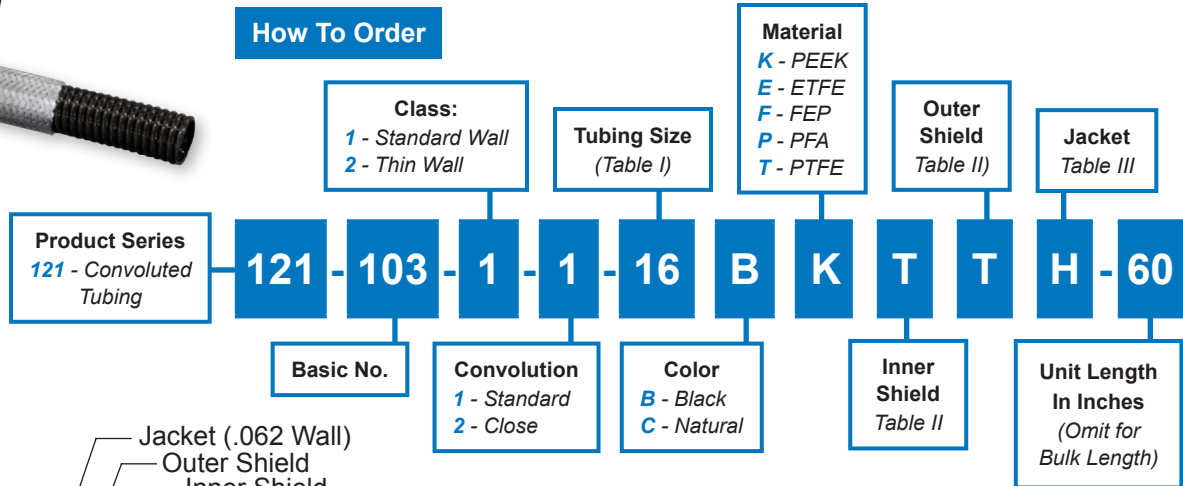


Table II: Shield/Braid Option

T	Tin/Copper
C	Stainless Steel
N	Nickel Copper
S	SnCuFe
L	ArmorLite™
D	Dacron (Non-Conductive)
M	Nomex (Non-Conductive)
E	AmberStrand® 100%
F	AmberStrand® 75%/25%

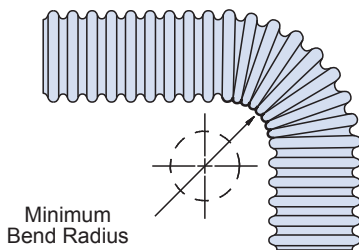
Table III: Jacket Option

N	Neoprene
H	Hypalon®
E	EPDM
V	Viton
B	Duralectric, Black
G	Duralectric, Gray
TN	Duralectric, Desert Tan
O	Duralectric, OSHA Orange

Table I: Tubing Size Order Number and Dimensions

Tubing Size	Fractional Size Ref	Ø A Inside Min	Ø B Max	Minimum Bend Radius
06	3/16	.181 (4.6)	.540 (13.7)	.50 (12.7)
09	9/32	.273 (6.9)	.634 (16.1)	.75 (19.1)
10	5/16	.306 (7.8)	.670 (17.0)	.75 (19.1)
12	3/8	.359 (9.1)	.730 (18.5)	.88 (22.4)
14	7/16	.427 (10.8)	.791 (20.1)	1.00 (25.4)
16	1/2	.480 (12.2)	.870 (22.1)	1.25 (31.8)
20	5/8	.603 (15.3)	.990 (25.1)	1.50 (38.1)
24	3/4	.725 (18.4)	1.150 (29.2)	1.75 (44.5)
28	7/8	.860 (21.8)	1.293 (32.8)	1.88 (47.8)
32	1	.970 (24.6)	1.446 (36.7)	2.25 (57.2)
40	1 1/4	1.205 (30.6)	1.759 (44.7)	2.75 (69.9)
48	1 1/2	1.437 (36.5)	2.052 (52.1)	3.25 (82.6)
56	1 3/4	1.688 (42.9)	2.302 (58.5)	3.63 (92.2)
64	2	1.937 (49.2)	2.552 (64.8)	4.25 (108.0)

*The minimum bend radius is based on Type A construction. For multiple-braided coverings, these minimum bend radii may be increased slightly.



Packaging/Notes

- Long-length orders of 121-103 braided and jacketed conduit are subject to carrier weight and box size restrictions. For example, UPS air shipments are currently limited to 50 lbs. per box. Unless otherwise specified, Glenair standard practice is to ship optimal lengths of product based on weight, size, and individual carrier specifications. Consult factory for additional information or to specify packaging requirements.
- Consult factory for thin-wall, close convolution combination and for PEEK™ and PTFE min/max dimensions.



123-100
Helical Polymer-Core Convoluted Tubing
In Accordance With SAE AMS-81914 • with Environmental Jacket

Tubing with jacket for environmental applications without EMI shielding requirements



How To Order

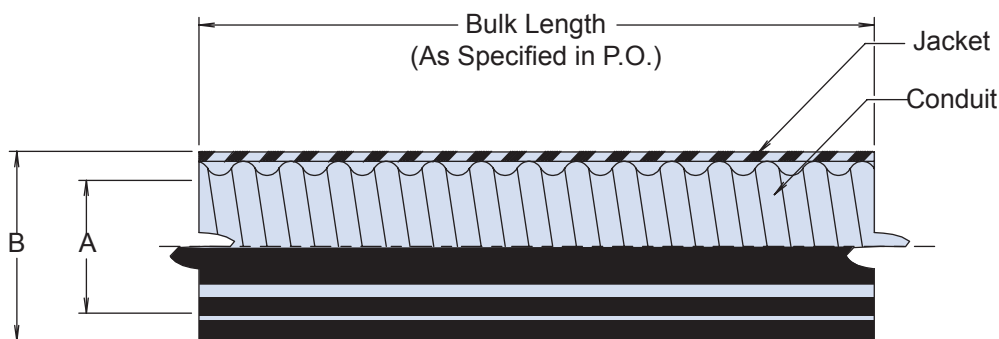
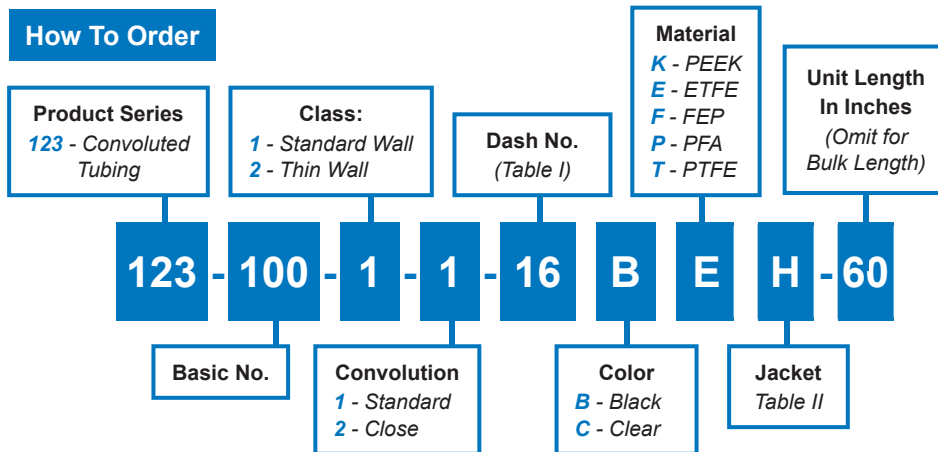


Table I: Tubing Size Order Number and Dimensions

Tubing Size	Fractional Size Ref	Ø A Inside		Ø B Max
		Min	Max	
06	3/16	.181 (4.6)	0.188 (4.8)	0.460 (11.7)
09	9/32	.273 (6.9)	0.281 (7.1)	0.554 (14.1)
10	5/16	.306 (7.8)	0.312 (7.9)	0.590 (15.0)
12	3/8	.359 (9.1)	0.375 (9.5)	0.650 (16.5)
14	7/16	.427 (10.8)	0.437 (11.1)	0.711 (18.1)
16	1/2	.480 (12.2)	0.500 (12.7)	0.790 (20.1)
20	5/8	.603 (15.3)	0.625 (15.9)	0.910 (23.1)
24	3/4	.725 (18.4)	0.750 (19.1)	1.070 (27.2)
28	7/8	.860 (21.8)	0.875 (22.2)	1.213 (30.8)
32	1	.970 (24.6)	1.000 (25.4)	1.366 (34.7)
40	1 1/4	1.205 (30.6)	1.250 (31.8)	1.679 (42.6)
48	1 1/2	1.437 (36.5)	1.500 (38.1)	1.972 (50.1)
56	1 3/4	1.688 (42.9)	1.750 (44.5)	2.222 (56.4)
64	2	1.937 (49.2)	2.000 (50.8)	2.472 (62.8)

Table II: Jacket Option

N	Neoprene
H	Hypalon®
E	EPDM
V	Viton
B	Duralectric, Black
G	Duralectric, Gray
TN	Duralectric, Desert Tan
O	Duralectric, OSHA Orange

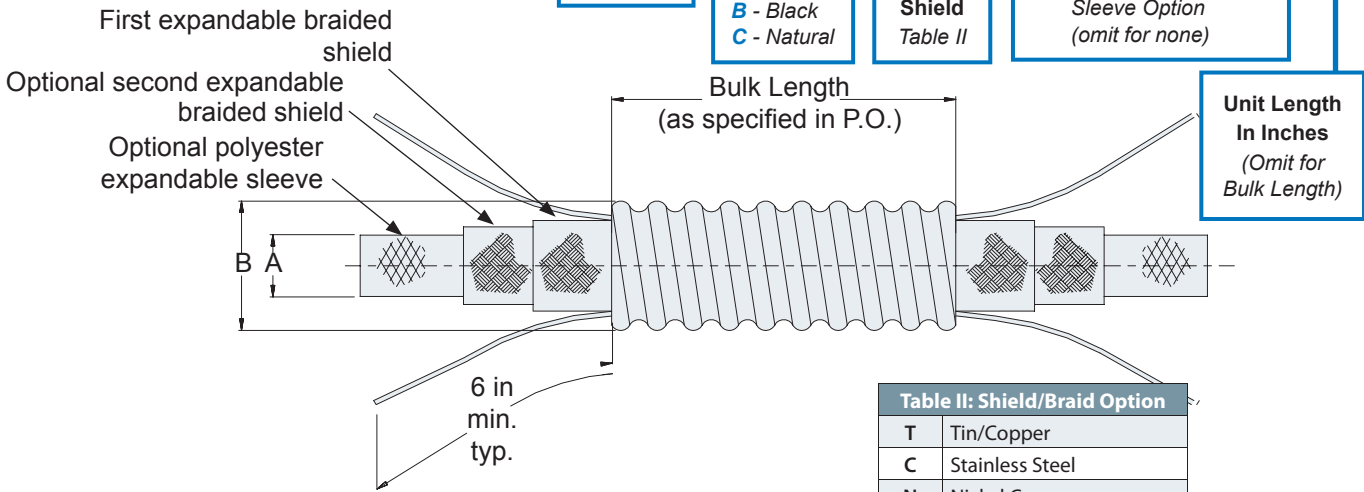
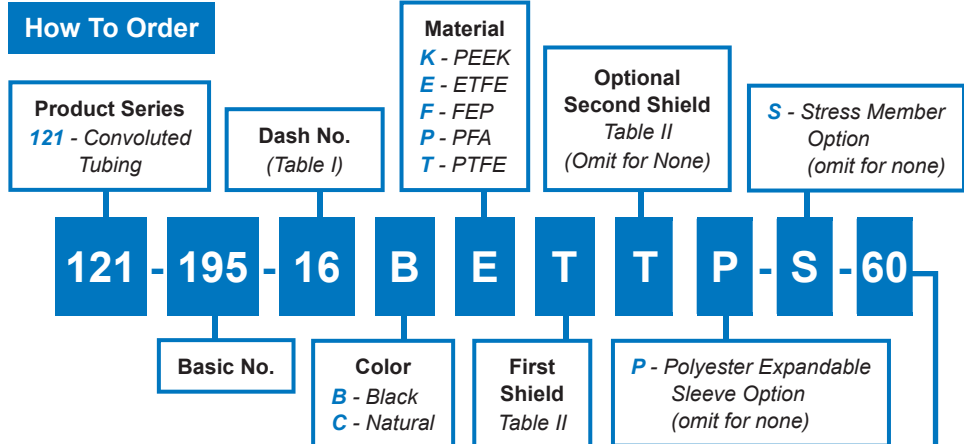
Packaging/Notes

- Long-length orders of 123-100 jacketed conduit are subject to carrier weight and box size restrictions. For example, UPS air shipments are currently limited to 50 lbs. per box. Unless otherwise specified, Glenair standard practice is to ship optimal lengths of product based on weight, size, and individual carrier specifications. Consult factory for additional information or to specify packaging requirements.
- Consult factory for thin-wall, close convolution combination and for PEEK™ and PTFE min/max dimensions.

121-195
Helical Polymer-Core Convuluted Tubing
In Accordance With SAE AMS-81914
with One or Two Internal Braids



Tubing with internal braid for harsh chemical environment applications, with EMI/RFI shielding



Dash No.	A Inside Diameter						B Outside Diameter Max
	2 Braids & Sleeve		2 Braids		1 Braid		
	Min	Max	Min	Max	Min	Max	
06	N/A	N/A	0.041 (1.0)	0.048 (1.2)	0.111 (2.8)	0.118 (3.0)	0.320 (8.1)
09	0.063 (1.6)	0.071 (1.8)	0.133 (3.4)	0.141 (3.6)	0.203 (5.2)	0.211 (5.4)	0.414 (10.5)
10	0.096 (2.4)	0.102 (2.6)	0.166 (4.2)	0.172 (4.4)	0.236 (6.0)	0.242 (6.1)	0.450 (11.4)
12	0.149 (3.8)	0.165 (4.2)	0.219 (5.6)	0.235 (6.0)	0.289 (7.3)	0.305 (7.7)	0.510 (13.0)
14	0.217 (5.5)	0.227 (5.8)	0.287 (7.3)	0.297 (7.5)	0.357 (9.1)	0.367 (9.3)	0.571 (14.5)
16	0.270 (6.9)	0.290 (7.4)	0.340 (8.6)	0.360 (9.1)	0.410 (10.4)	0.430 (10.9)	0.650 (16.5)
20	0.393 (10.0)	0.415 (10.5)	0.463 (11.8)	0.485 (12.3)	0.533 (13.5)	0.555 (14.1)	0.770 (19.6)
24	0.515 (13.1)	0.540 (13.7)	0.585 (14.9)	0.610 (15.5)	0.655 (16.6)	0.680 (17.3)	0.930 (23.6)
28	0.650 (16.5)	0.665 (16.9)	0.720 (18.3)	0.735 (18.7)	0.790 (20.1)	0.805 (20.4)	1.073 (27.3)
32	0.760 (19.3)	0.790 (20.1)	0.830 (21.1)	0.860 (21.8)	0.900 (22.9)	0.930 (23.6)	1.226 (31.1)
40	0.995 (25.3)	1.040 (26.4)	1.065 (27.1)	1.110 (28.2)	1.135 (28.8)	1.180 (30.0)	1.539 (39.1)
48	1.227 (31.2)	1.290 (32.8)	1.297 (32.9)	1.360 (34.5)	1.367 (34.7)	1.430 (36.3)	1.832 (46.5)
56	1.478 (37.5)	1.540 (39.1)	1.548 (39.3)	1.610 (40.9)	1.618 (41.1)	1.680 (42.7)	2.156 (54.8)
64	1.727 (43.9)	1.790 (45.5)	1.797 (45.6)	1.860 (47.2)	1.867 (47.4)	1.930 (49.0)	2.332 (59.2)

T	Tin/Copper
C	Stainless Steel
N	Nickel Copper
S	SnCuFe
L	ArmorLite™
E	AmberStrand® 100%
F	AmberStrand® 75%/25%

- Packaging/Material Notes**
- Long-length orders of 121-195 conduit are subject to carrier weight and box size restrictions. Glenair standard practice is to ship optimal lengths of product based on weight, size, and carrier specifications. Consult factory for additional information or to specify packaging requirements.
 - Max continuous length is 360 in. Consult factory for longer lengths.
 - Two Kevlar stress members at 180° apart between tin copper shield and I.D. of tubing, to extend 6 in. min. beyond ends of tubing.
 - Expandable sleeve material: E-CTFE, black.



Factory Terminated Series 74 Assemblies

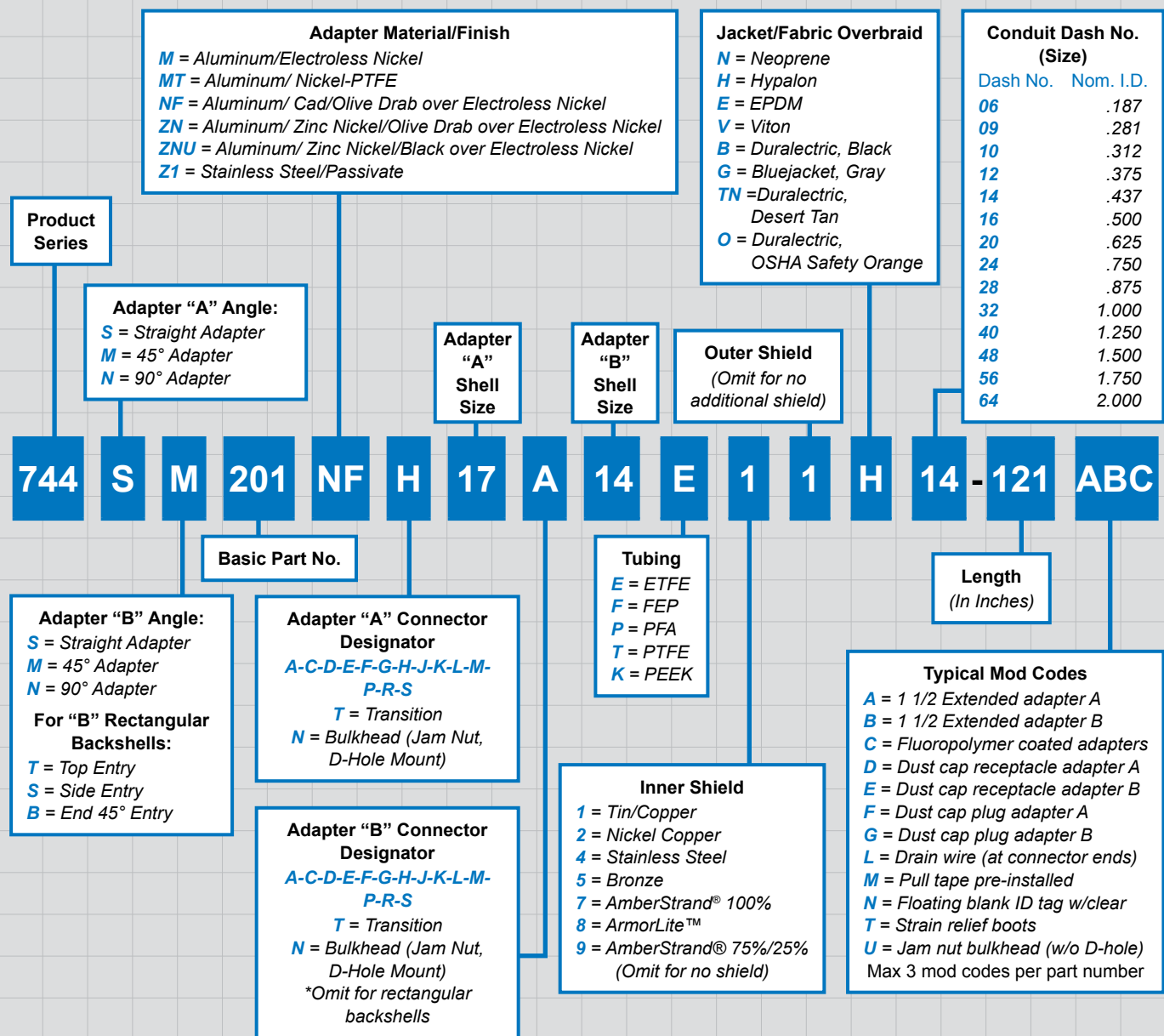
How-to-Order

How-To-Order: Factory Terminated Series 74 Convuluted Tubing Assembly

Use the order tree below to develop part numbers for the full range of Series 74 System point-to-point factory terminated assemblies. Diagrams of basic Series 74 point-to-point assemblies are shown on the facing page.



How To Order



Factory Terminated Series 74 Assemblies
Point-to-Point Assembly Selection Guide



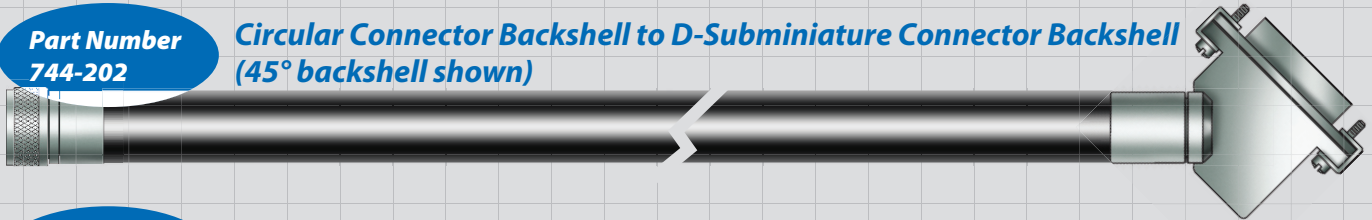
Part Number
744-201

Connector Backshell to Bulkhead Feed-Thru or Connector Backshell
(circular connector to bulkhead feed-thru option shown)



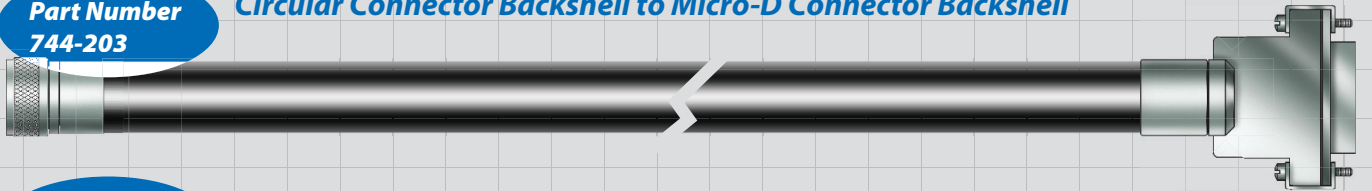
Part Number
744-202

Circular Connector Backshell to D-Subminiature Connector Backshell
(45° backshell shown)



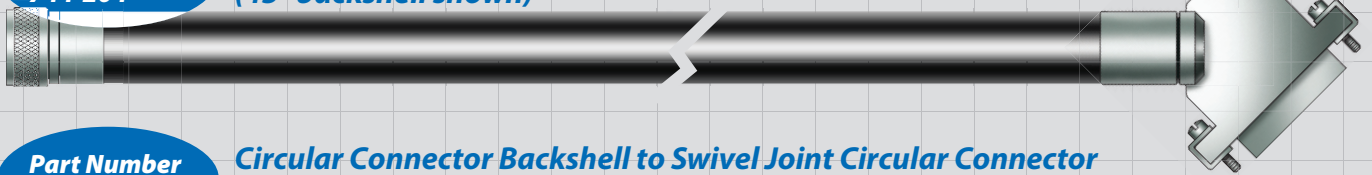
Part Number
744-203

Circular Connector Backshell to Micro-D Connector Backshell



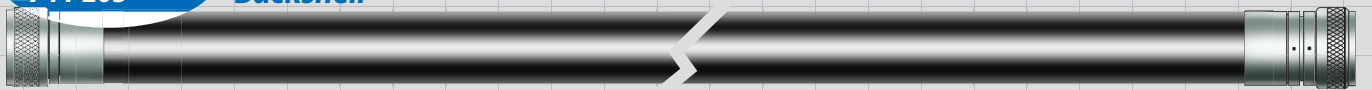
Part Number
744-204

Circular Connector Backshell to Series 79 Micro-Crimp Connector Backshell
(45° backshell shown)



Part Number
744-205

Circular Connector Backshell to Swivel Joint Circular Connector Backshell



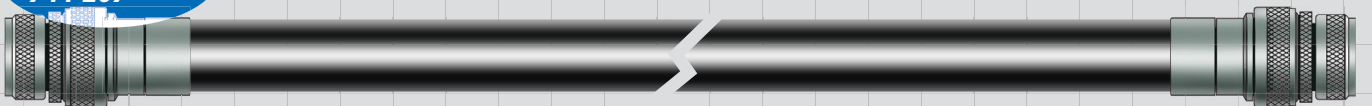
Part Number
744-206

Retractable Circular Connector Backshell to Circular Connector Backshell
(90° backshell shown)



Part Number
744-207

Band-In-A-Can Connector Backshell to Band-In-A-Can Connector Backshell



Part Number
744-208

Mighty Mouse Connector Backshell to Mighty Mouse Connector Backshell
(consult factory for part number development)

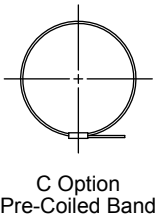
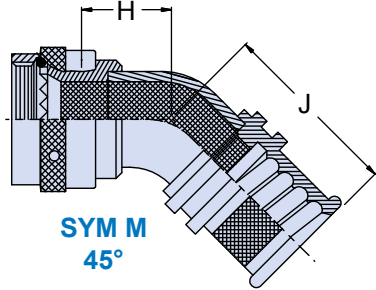
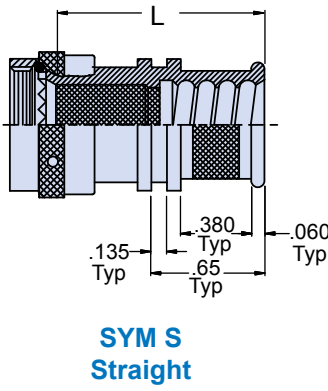
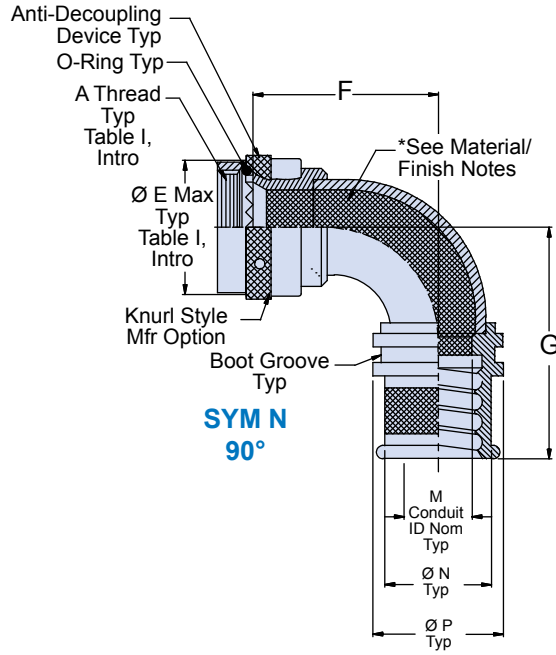
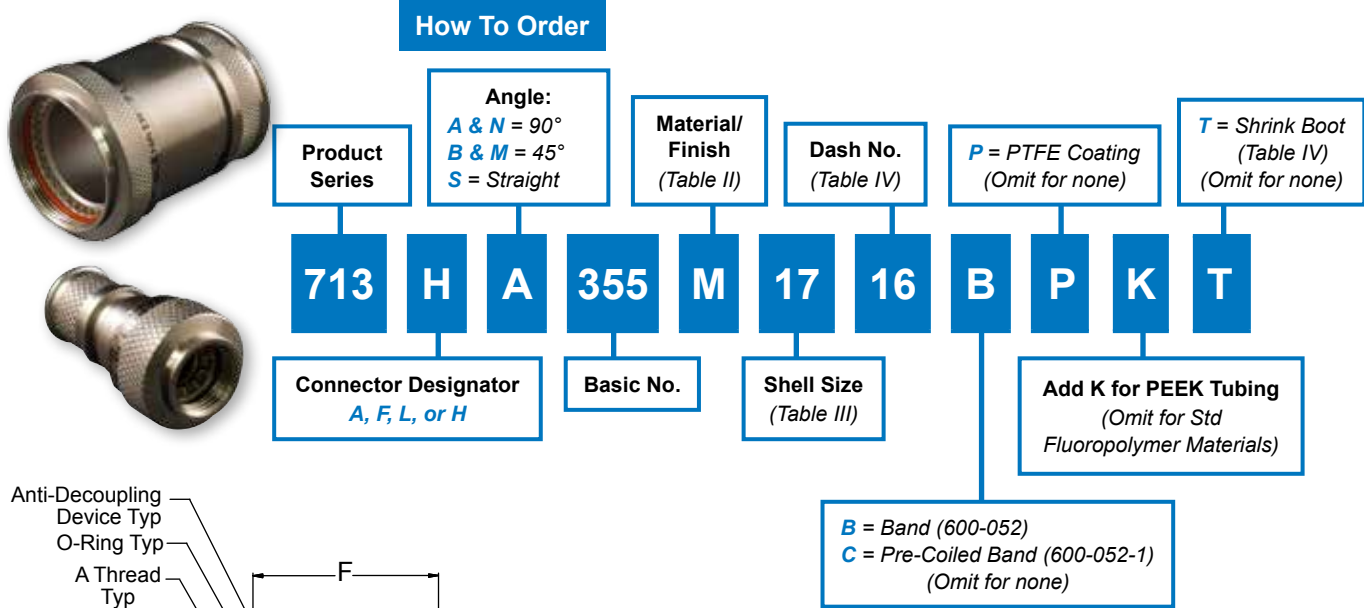


C



713-355
Hat Trick System
Environmental Self-Locking Metal Backshell
with Band Termination for Series 74 Helical Convuluted Tubing

Easy-to-install Hat Trick convoluted tubing-to-connector backshell, metal



- Material and Finish/Notes**
- Adapters, Coupling Nuts and Elbows - Table II (See P/N development)
 - Anti-Decoupling Device - Corrosion resistant material
 - O-Ring - Silicone/N.A.
 - Band - SST/Passivate
 - Shrink Boot - See individual drawing.
 - * Internal surfaces coated with PTFE Fluoropolymer in area indicated, see P/N development.
 - Interface O-Ring not applicable to connector designator A

713-355
Hat Trick System
 Environmental Self-Locking Metal Backshell
 with Band Termination for Series 74 Helical Convuluted Tubing



Table III: Shell Size/Dimensions

Shell Size		F Max	G Max	H Max	J Max	L Dim	R Dim	S Dim	T Dim	U Dim	Max Dash No. Table IV
A, F, L	H										
08	09	0.88 (22.4)	1.28 (32.5)	0.76 (19.3)	1.06 (26.9)	1.25 (31.8)	.60 (15.2)	1.57 (39.9)	.68 (17.3)	1.74 (44.2)	10
10	11	0.94 (23.9)	1.34 (34.0)	0.79 (20.1)	1.08 (27.4)	1.25 (31.8)	.63 (16.0)	1.80 (45.7)	.77 (19.6)	1.88 (47.8)	14
12	13	1.00 (25.4)	1.46 (37.1)	0.81 (20.6)	1.13 (28.7)	1.25 (31.8)	.66 (16.8)	1.89 (48.0)	.80 (20.3)	1.92 (48.8)	20
14	15	1.06 (26.9)	1.63 (41.4)	0.86 (21.8)	1.26 (32.0)	1.35 (34.3)	.69 (17.5)	2.01 (51.1)	.88 (22.4)	2.01 (51.1)	24
16	17	1.13 (28.7)	1.85 (47.0)	0.90 (22.9)	1.41 (35.8)	1.45 (36.8)	.82 (20.8)	2.16 (54.9)	1.06 (26.9)	2.14 (54.4)	28
18	19	1.19 (30.2)	1.91 (48.5)	0.94 (23.9)	1.44 (36.6)	1.45 (36.8)	.97 (24.6)	2.34 (59.4)	1.15 (29.2)	2.31 (58.7)	32
20	21	1.25 (31.8)	2.29 (58.2)	0.97 (24.6)	1.74 (44.2)	1.75 (44.5)	.97 (24.6)	2.39 (60.7)	1.15 (29.2)	2.36 (59.9)	40
22	23	1.31 (33.3)	2.29 (58.2)	0.99 (25.1)	1.74 (44.2)	1.75 (44.5)	1.00 (25.4)	2.53 (64.3)	1.30 (33.0)	2.47 (62.7)	40
24	25	1.38 (35.1)	2.41 (61.2)	1.02 (25.9)	1.79 (45.5)	1.75 (44.5)	1.00 (25.4)	2.58 (65.5)	1.30 (33.0)	2.52 (64.0)	48
28		1.46 (37.1)	2.41 (61.2)	1.12 (28.5)	1.79 (45.5)	1.75 (44.5)	TBD	TBD	1.40 (35.6)	2.73 (69.3)	48

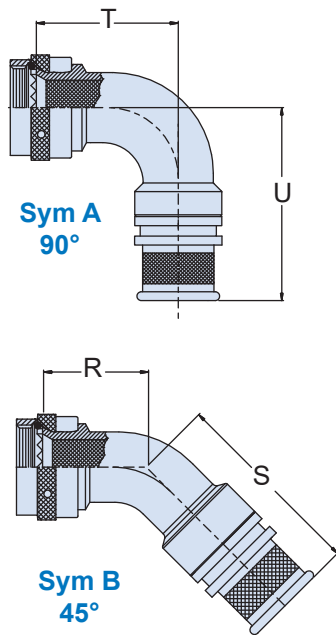


Table IV: Dash No. and Shrink Boot

Dash No.	M Conduit ID Nom.	Ø N	Ø P	Shrink Boot Part Number
06	.188 (4.8)	.419 (10.6)	.481 (12.2)	770-001S103
09	.281 (7.1)	.513 (13.0)	.575 (14.6)	770-001S104
10	.312 (7.9)	.549 (13.9)	.611 (15.5)	770-001S104
12	.375 (9.5)	.609 (15.5)	.671 (17.0)	770-001S104
14	.437 (11.1)	.670 (17.0)	.732 (18.6)	770-001S104
16	.500 (12.7)	.749 (19.0)	.811 (20.6)	770-001S105
20	.625 (15.9)	.869 (22.1)	.931 (23.6)	770-001S106
24	.750 (19.1)	1.029 (26.1)	1.091 (27.7)	770-001S106
28	.875 (22.2)	1.172 (29.8)	1.234 (31.3)	770-001S107
32	1.000 (25.4)	1.320 (33.5)	1.382 (35.1)	770-001S107
40	1.250 (31.8)	1.664 (42.3)	1.726 (43.8)	770-001S108
48	1.500 (31.8)	1.957 (49.7)	2.019 (51.3)	770-001S108

Table II: Material/Finish

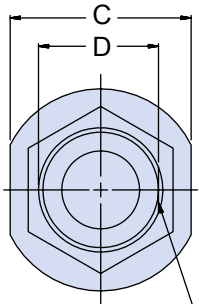
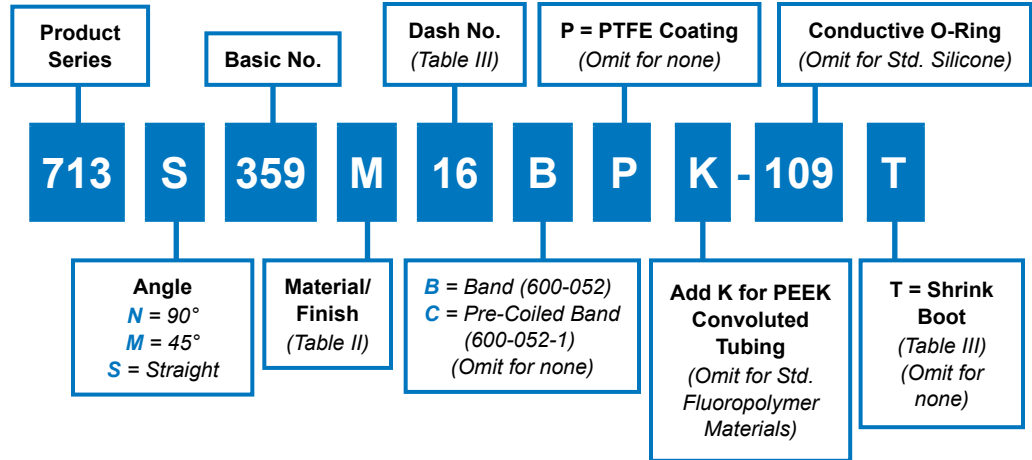
Sym	Material	Finish Description	Component
M	Aluminum Alloy	Electroless Nickel	
MT	Aluminum Alloy	Nickel-PTFE	
NF	Aluminum Alloy	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)	
Z1	300 Series SST	Passivate	
ZN	Aluminum Alloy	Zinc Nickel/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)	
ZM	300 Series SST	Electroless Nickel	Adapter, Elbow
		Passivate	Coupling Nut
ZW	300 Series SST	Cad O.D. Over Electroless Nickel	Adapter, Elbow
		Cad Olive Drab	Coupling Nut



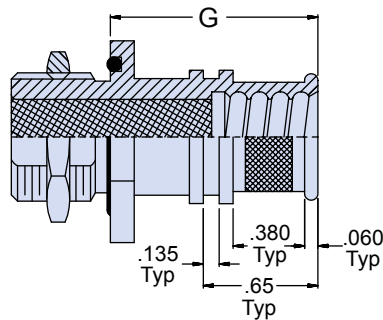
713-359
Hat Trick System
 Environmental Metal Bulkhead Fitting
 with Band Termination for Series 74 Helical Convuluted Tubing

Easy-to-install Hat Trick convoluted tubing-to-bulkhead fitting, metal

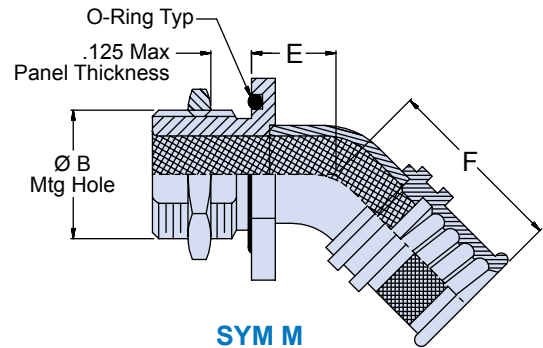
How To Order



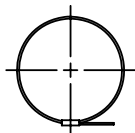
Flat For 'D' Hole Mounting
(See P/N Development)



SYM S
Straight



SYM M
Full-Profile
45°



C Option
Pre-Coiled Band

Material and Finish/Notes

- Adapters, Hex Nuts: Table II (See P/N development)
 - O-Ring - Silicone/N.A.
 - Band - SST/Passivate
 - Shrink Boot - See individual drawing.
- *Internal surfaces coated with PTFE in area indicated, see P/N development.

713-359
Hat Trick System
 Environmental Metal Bulkhead Fitting
 with Band Termination for Series 74 Helical Convuluted Tubing



Table III: Dimensions

Dash No.	Conduit ID	A Thread Class 2A	Ø B +.015 -.000	C Flat	Ø D +.000 -.015	E Max	F Max
06	.188 (4.8)	7/16-28 UNEF	.443 (11.3)	.688 (17.5)	.375 (9.5)	.61 (15.5)	1.03 (26.2)
09	.281 (7.1)	9/16-24 UNEF	.568 (14.4)	.812 (20.6)	.500 (12.7)	.64 (16.3)	1.06 (26.9)
10	.312 (7.9)	9/16-24 UNEF	.568 (14.4)	.812 (20.6)	.500 (12.7)	.64 (16.3)	1.06 (26.9)
12	.375 (9.5)	5/8-24 UNEF	.630 (16.0)	.875 (22.2)	.563 (14.3)	.64 (16.3)	1.06 (26.9)
14	.437 (11.1)	11/16-24 UNEF	.693 (17.6)	.938 (23.8)	.625 (15.9)	.66 (16.8)	1.08 (27.4)
16	.500 (12.7)	3/4-20 UNEF	.755 (19.2)	1.000 (25.4)	.688 (17.5)	.66 (16.8)	1.08 (27.4)
20	.625 (15.9)	7/8-20 UNEF	.880 (22.4)	1.125 (28.6)	.812 (20.6)	.71 (18.0)	1.13 (28.7)
24	.750 (19.1)	1-20 UNEF	1.005 (25.5)	1.250 (31.8)	.938 (23.8)	.75 (19.1)	1.26 (32.0)
28	.875 (22.2)	1 3/16-18 UNEF	1.193 (30.3)	1.438 (36.5)	1.125 (28.6)	.79 (20.1)	1.41 (35.8)
32	1.000 (25.4)	1 5/16-18 UNEF	1.318 (33.5)	1.562 (39.7)	1.250 (31.8)	.84 (21.3)	1.44 (36.6)
40	1.250 (31.8)	1 1/2-18 UNEF	1.505 (38.2)	1.812 (46.0)	1.438 (36.5)	.87 (22.1)	1.74 (44.2)
48	1.500 (31.8)	1 3/4-18 UNS	1.755 (44.6)	2.062 (52.4)	1.688 (42.9)	.91 (23.1)	1.79 (45.5)
64	2.500 (63.5)	2 1/4-16 UN	2.255 (57.4)	2.750 (69.6)	2.188 (55.6)	1.30 (33.0)	1.91 (48.5)

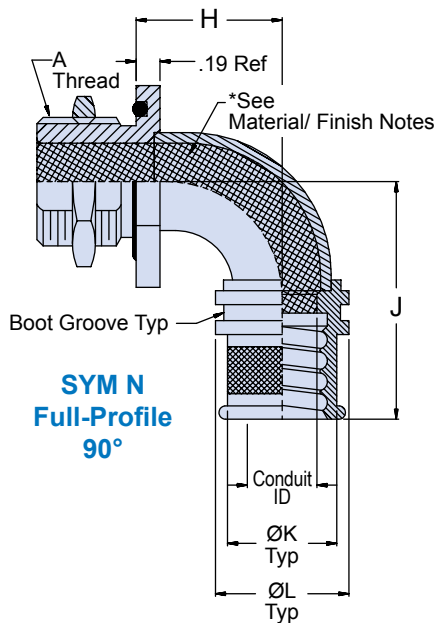


Table III (continued): Dimensions and Shrink Boot

Dash No.	G Max	H Max	J Max	Ø K	Ø L	Shrink Boot Part Number
06	.94 (23.9)	.73 (18.5)	1.21 (30.7)	.419 (10.6)	.481 (12.2)	770-001S103
09	.94 (23.9)	.79 (20.1)	1.28 (32.5)	.513 (13.0)	.575 (14.6)	770-001S104
10	.94 (23.9)	.79 (20.1)	1.28 (32.5)	.549 (13.9)	.611 (15.5)	770-001S104
12	.94 (23.9)	.79 (20.1)	1.28 (32.5)	.609 (15.5)	.671 (17.0)	770-001S104
14	.94 (23.9)	.85 (21.6)	1.34 (34.0)	.670 (17.0)	.732 (18.6)	770-001S104
16	.94 (23.9)	.85 (21.6)	1.34 (34.0)	.749 (19.0)	.811 (20.6)	770-001S105
20	.94 (23.9)	.93 (23.6)	1.46 (37.1)	.869 (22.1)	.931 (23.6)	770-001S106
24	.94 (23.9)	1.00 (25.4)	1.63 (41.4)	1.029 (26.1)	1.091 (27.7)	770-001S106
28	1.00 (25.4)	1.12 (28.4)	1.85 (47.0)	1.172 (29.8)	1.234 (31.3)	770-001S107
32	1.00 (25.4)	1.18 (30.0)	1.91 (48.5)	1.320 (33.5)	1.382 (35.1)	770-001S107
40	1.31 (33.3)	1.31 (33.3)	2.29 (58.2)	1.664 (42.3)	1.726 (43.8)	770-001S108
48	1.31 (33.3)	1.43 (36.3)	2.41 (61.2)	1.957 (49.7)	2.019 (51.3)	770-001S108
64	1.31 (33.3)	2.35 (59.7)	2.85 (72.4)	TBD	TBD	TBD

Table II: Material/Finish

Sym	Material	Finish Description
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
Z1	300 Series SST	Passivate
ZN	Aluminum Alloy	Zinc Nickel/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
ZM	300 Series SST	Electroless Nickel
ZW	300 Series SST	Cad O.D. Over Electroless Nickel

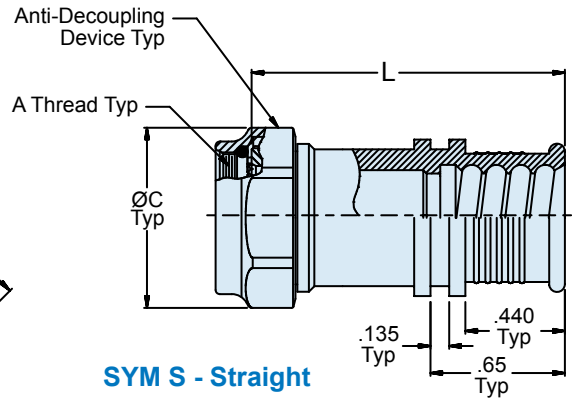
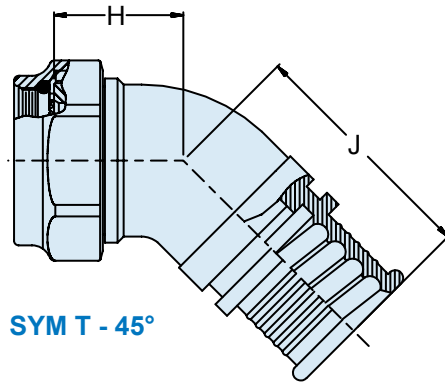
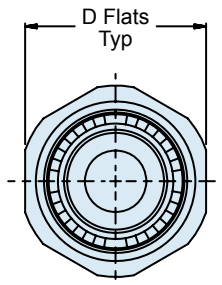
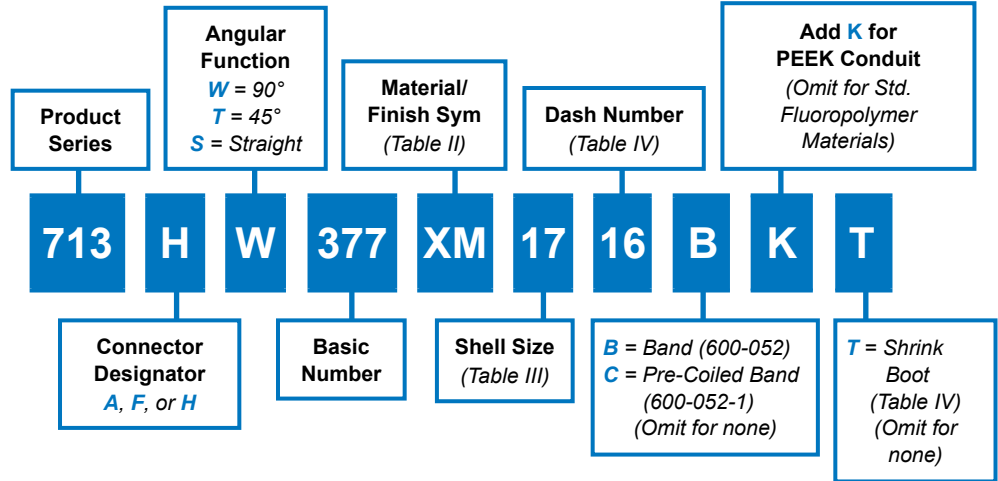


713-377
Hat Trick System
 Environmental Self-Locking Composite Backshell
 with Band Termination for Series 74 Helical Convuluted Tubing

Easy-to-install Hat Trick conduit-to-connector backshell, composite, self-locking, rotatable coupling



How To Order



C Option
Pre-Coiled Band

Material and Finish

- Adapters & Elbows: High grade engineering thermoplastic/see Table II
- Coupling Nuts - High grade engineering thermoplastic, black/no plating
- Anti-decoupling Device: Corrosion resistant material
- O-Ring: Silicone/NA
- Band: SST/Passivate
- Shrink Boot - See individual drawing.
- Interface O-Ring not applicable to connector designator A.

713-377 Hat Trick System Environmental Self-Locking Composite Backshell with Band Termination for Series 74 Helical Convoluted Tubing



Table III: Connector Designator and Dimensions

Connector Designator A		Connector Designator F		Connector Designator H		Ø C Max	D Flats	
Shell Size	A Thread Class 2B	Shell Size	A Thread Class 2B	Shell Size	A Thread Iso Metric		Max	Min
08	1/2-20 UNF	08	7/16-28 UNEF	09	M12 X 1.0-6H	.830 (21.1)	.750 (19.1)	.736 (18.7)
10	5/8-24 UNEF	10	9/16-24 UNEF	11	M15 X 1.0-6H	.960 (24.4)	.875 (22.2)	.860 (21.8)
12	3/4-20 UNEF	12	11/16-24 UNEF	13	M18 X 1.0-6H	1.090 (27.7)	1.000 (25.4)	.980 (24.9)
14	7/8-20 UNEF	14	13/16-20 UNEF	15	M22 X 1.0-6H	1.220 (31.0)	1.125 (28.6)	1.100 (27.9)
16	1-20 UNEF	16	15/16-20 UNEF	17	M25 X 1.0-6H	1.350 (34.3)	1.250 (31.8)	1.224 (31.1)
18	1 1/16-18 UNEF	18	1 1/16-18 UNEF	19	M28 X 1.0-6H	1.480 (37.6)	1.375 (34.9)	1.348 (34.2)
20	1 3/16-18 UNEF	20	1 3/16-18 UNEF	21	M31 X 1.0-6H	1.620 (41.1)	1.500 (38.1)	1.469 (37.3)
22	1 5/16-18 UNEF	22	1 5/16-18 UNEF	23	M34 X 1.0-6H	1.750 (44.5)	1.625 (41.3)	1.581 (40.2)
24	1 7/16-18 UNEF	24	1 7/16-18 UNEF	25	M37 X 1.0-6H	1.890 (48.0)	1.750 (44.5)	1.690 (42.9)

Table III (Cont.)

Shell Size Connector Des. A, F	H	F Max	G Max	H Max	J Max	L Dim	Max Dash No. Table IV
10	11	.784 (19.9)	1.442 (36.6)	.782 (19.9)	1.263 (32.1)	1.30 (33.0)	14
12	13	.846 (21.5)	1.519 (38.6)	.777 (19.7)	1.321 (33.6)	1.36 (34.5)	20
14	15	.909 (23.1)	1.582 (40.2)	.785 (19.9)	1.362 (34.6)	1.42 (36.1)	24
16	17	.972 (24.7)	1.645 (41.8)	.807 (20.5)	1.382 (35.1)	1.49 (37.8)	28
18	19	1.034 (26.2)	1.683 (42.7)	.817 (20.8)	1.389 (35.3)	1.53 (38.9)	32
20	21	1.097 (27.9)	1.769 (44.9)	.847 (21.5)	1.425 (36.2)	1.59 (40.4)	40
22	23	1.159 (29.5)	1.832 (46.5)	.887 (22.5)	1.466 (37.2)	1.66 (42.2)	40
24	25	1.222 (31.0)	1.895 (48.1)	.917 (23.3)	1.492 (37.9)	1.72 (43.7)	48

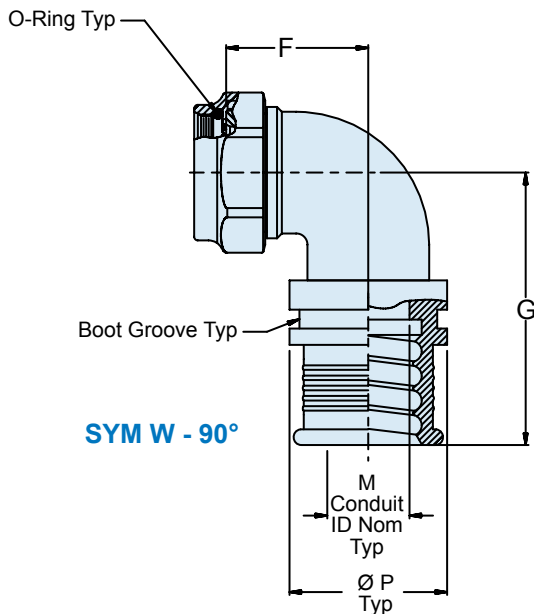


Table IV: Conduit Dash No. and Shrink Boot Part No.

Dash No.	M Conduit ID Nom	Ø P	Shrink Boot Part Number
06	.188 (4.8)	.481 (12.2)	770-001S103
09	.281 (7.1)	.575 (14.6)	770-001S104
10	.312 (7.9)	.611 (15.5)	770-001S104
12	.375 (9.5)	.671 (17.0)	770-001S104
14	.437 (11.1)	.732 (18.6)	770-001S104
16	.500 (12.7)	.811 (20.6)	770-001S105
20	.625 (15.9)	.931 (23.6)	770-001S106
24	.750 (19.1)	1.091 (27.7)	770-001S106
28	.875 (22.2)	1.234 (31.2)	770-001S107
32	1.000 (25.4)	1.382 (35.1)	770-001S107
40	1.250 (31.8)	1.726 (43.9)	770-001S108
48	1.500 (31.8)	2.019 (53.3)	770-001S108

Table II: Finish

Sym	Finish Description
XMT	Nickel-PTFE - Grey (1,000 Hour Salt Spray)
XM	Electroless Nickel
XW	Cadmium/Olive Drab Over Electroless Nickel
XB	Black Color/Unplated

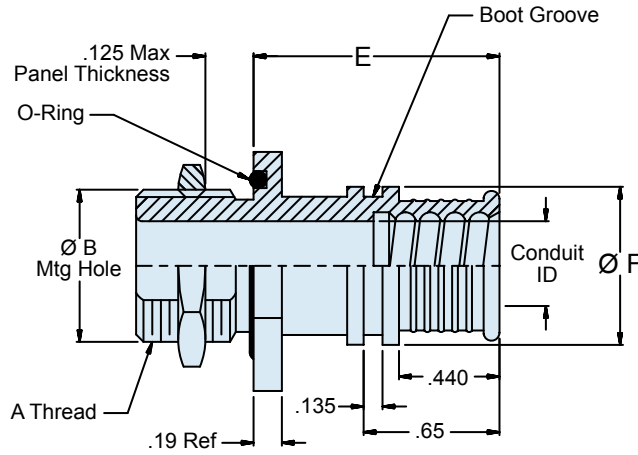
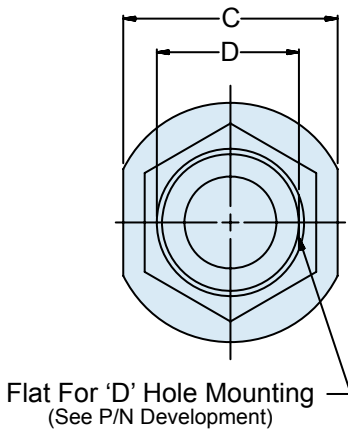
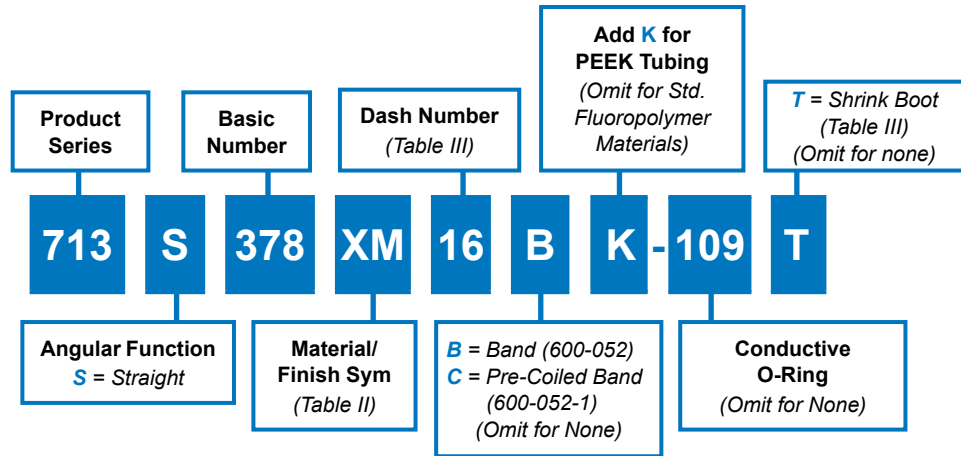


713-378
Hat Trick System
 Environmental Composite Bulkhead Fitting
 with Band Termination for Series 74 Helical Convuluted Tubing

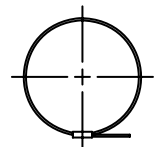
Easy-to-install Hat Trick convoluted tubing-to-bulkhead fitting, composite



How To Order



SYM S - Straight



C Option
Pre-Coiled Band

Material and Finish

- Adapters, Hex Nuts: High grade engineering thermoplastic/see Table II
- O-Ring: Silicone/NA
- Band: SST/Passivate
- Shrink Boot - See individual drawing.

713-378
Hat Trick System
Environmental Composite Bulkhead Fitting
with Band Termination for Series 74 Helical Convuluted Tubing



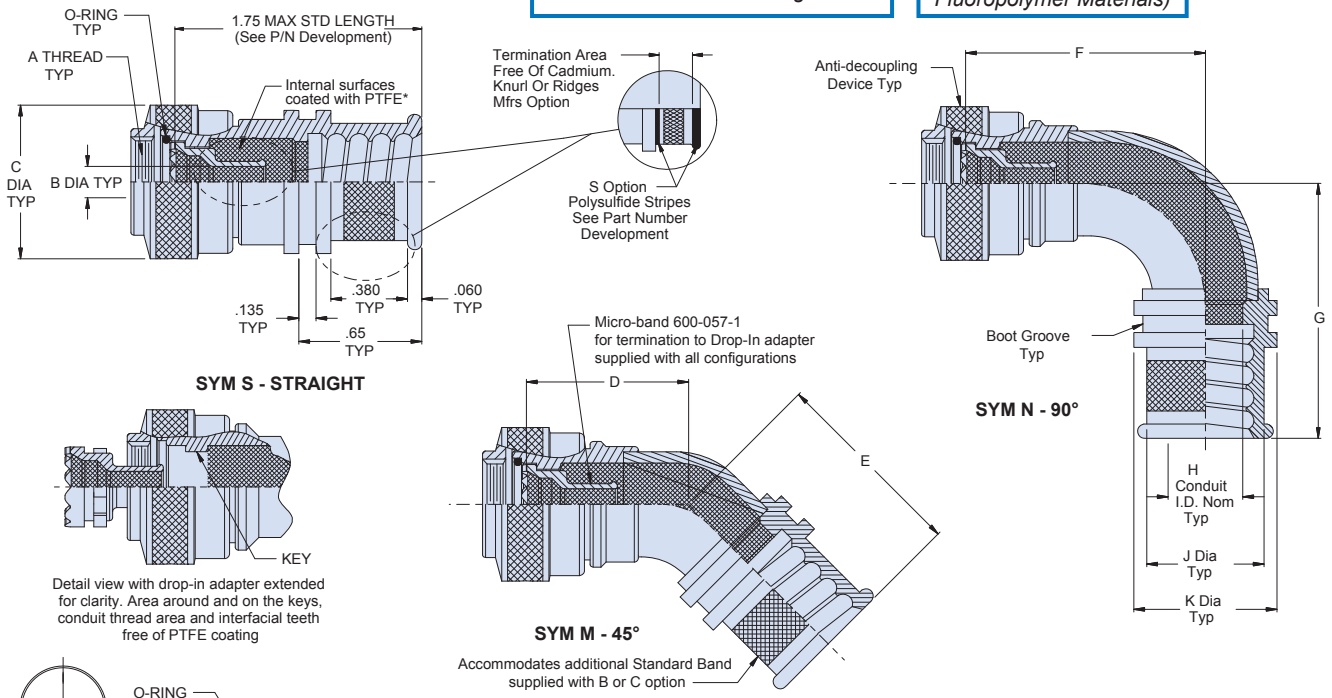
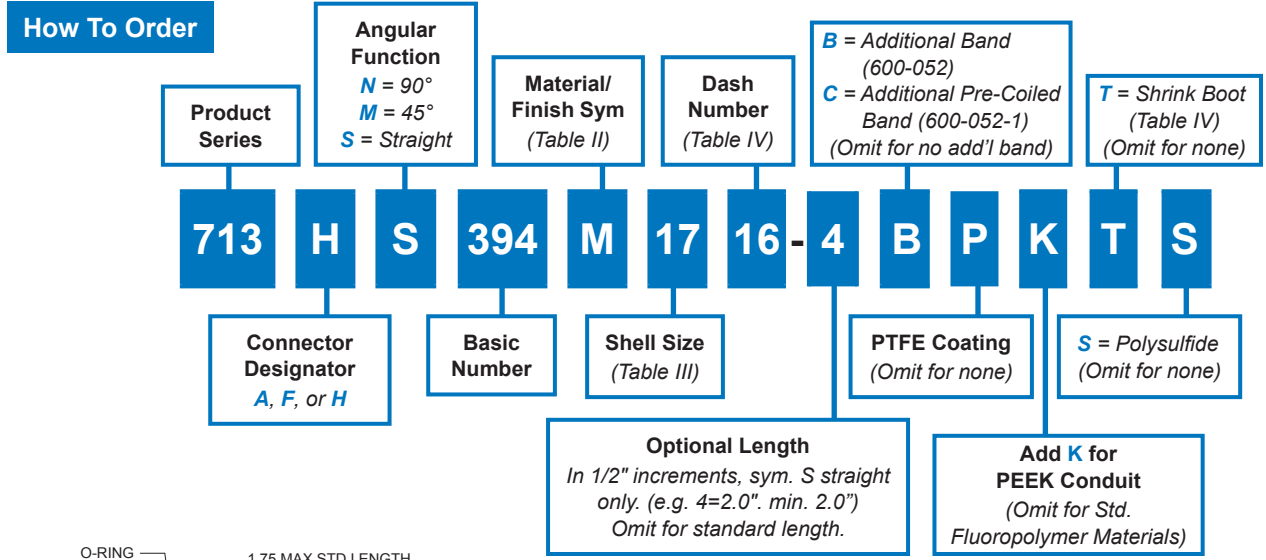
Table III: Dimensions and Shrink Boot

Dash No.	Conduit ID	A Thread Class 2A	Ø B +.015 -.000	C Flat	Ø D +.000 -.015	E Max	Ø F	Shrink Boot Part Number
06	.188 (4.8)	7/16-28 UNEF	.443 (11.3)	.688 (17.5)	.375 (9.5)	.940 (23.9)	.481 (12.2)	770-001S103
09	.281 (7.1)	9/16-24 UNEF	.568 (14.4)	.812 (20.6)	.500 (12.7)	.940 (23.9)	.575 (14.6)	770-001S104
10	.312 (7.9)	9/16-24 UNEF	.568 (14.4)	.812 (20.6)	.500 (12.7)	.940 (23.9)	.611 (15.5)	770-001S104
12	.375 (9.5)	5/8-24 UNEF	.630 (16.0)	.875 (22.2)	.563 (14.3)	.940 (23.9)	.671 (17.0)	770-001S104
14	.437 (11.1)	11/16-24 UNEF	.693 (17.6)	.938 (23.8)	.625 (15.9)	.940 (23.9)	.732 (18.6)	770-001S104
16	.500 (12.7)	3/4-20 UNEF	.755 (19.2)	1.000 (25.4)	.688 (17.5)	.940 (23.9)	.811 (20.6)	770-001S105
20	.625 (15.9)	7/8-20 UNEF	.880 (22.4)	1.125 (28.6)	.812 (20.6)	.940 (23.9)	.931 (23.6)	770-001S106
24	.750 (19.1)	1-20 UNEF	1.005 (25.5)	1.250 (31.8)	.938 (23.8)	.940 (23.9)	1.091 (27.7)	770-001S106
28	.875 (22.2)	1 3/16-18 UNEF	1.193 (30.3)	1.438 (36.5)	1.125 (28.6)	1.000 (25.4)	1.234 (31.2)	770-001S107
32	1.000 (25.4)	1 5/16-18 UNEF	1.318 (33.5)	1.562 (39.7)	1.250 (31.8)	1.000 (25.4)	1.382 (35.1)	770-001S107
40	1.250 (31.8)	1 1/2-18 UNEF	1.505 (38.2)	1.812 (46.0)	1.438 (36.5)	1.310 (33.3)	1.726 (43.9)	770-001S108
48	1.500 (31.8)	1 3/4-18 UNS	1.755 (44.6)	2.062 (52.4)	1.688 (42.9)	1.310 (33.3)	2.019 (53.3)	770-001S108
64	2.500 (63.5)	2 1/4-16 UN	2.255 (57.4)	2.750 (69.6)	2.188 (55.6)	1.310 (33.3)	TBD	TBD

Table II: Finish

Sym	Finish Description
XMT	Nickel-PTFE - Grey (1,000 Hour Salt Spray)
XM	Electroless Nickel
XW	Cadmium/Olive Drab Over Electroless Nickel
XB	Black Color/Unplated
XO	No Plating - Base Material Non-Conductive

Easy-to-install Hat Trick convoluted tubing-to-bulkhead fitting, metal



Material and Finish/Notes

- Adapters, Hex Nuts: Table II (See P/N development)
 - Anti-decoupling device: Corrosion-resistant material
 - O-Ring - Silicone/N.A. • Band - SST/Passivate • Shrink Boot - See individual drawing.
 - Assembly supplied with Micro-Band (600-057-1) for shield termination onto the drop-in adapter. Options B and C are for additional Standard Band to terminate overall shielding.
- *Internal surfaces coated with PTFE in area indicated, see P/N development.

713-394

Hat Trick System

Environmental Self-Locking Metal Backshell with Drop-In and Band Termination for Series 74 Helical Convuluted Tubing

Series 74
Helical Tubing

Table III: Connector Designator and Dimensions

Shell Size	A Thread			B Dia			C Dia Max	D Max	E Max	F Max	G Max
	Connector Designator A	Connector Designator F	Connector Designator H	A	F	H					
08/09	1/2-20 UNF	7/16-28 UNEF	M12 X 1.0-6H	.160 (4.1)	.138 (3.5)	.160 (4.1)	.94 (23.9)	1.000 (25.4)	1.220 (31.0)	1.158 (29.4)	1.380 (35.1)
10/11	5/8-24 UNEF	9/16-24 UNEF	M15 X 1.0-6H	.270 (6.9)	.248 (6.3)	.270 (6.9)	1.06 (26.9)	1.027 (26.1)	1.230 (31.2)	1.220 (31.0)	1.420 (36.1)
12/13	3/4-20 UNEF	11/16-24 UNEF	M18 X 1.0-6H	.390 (9.9)	.374 (9.5)	.390 (9.9)	1.17 (29.7)	1.027 (26.1)	1.230 (31.2)	1.220 (31.0)	1.420 (36.1)
14/15	7/8-20 UNEF	13/16-20 UNEF	M22 X 1.0-6H	.512 (13.0)	.455 (11.6)	.512 (13.0)	1.29 (32.8)	1.079 (27.4)	1.260 (32.0)	1.283 (32.6)	1.460 (37.1)
16/17	1-20 UNEF	15/16-20 UNEF	M25 X 1.0-6H	.610 (15.5)	.577 (14.7)	.627 (15.9)	1.42 (36.1)	1.105 (28.1)	1.260 (32.0)	1.345 (34.2)	1.500 (38.1)
18/19	1 1/16-18 UNEF	1 1/16-18 UNEF	M28 X 1.0-6H	.672 (17.1)	.672 (17.1)	.747 (19.0)	1.54 (39.1)	1.157 (29.4)	1.310 (33.3)	1.408 (35.8)	1.560 (39.6)
20/20	1 3/16-18 UNEF	1 3/16-18 UNEF	M31 X 1.0-6H	.797 (20.2)	.797 (20.2)	.891 (22.6)	1.67 (42.4)	1.183 (30.0)	1.360 (34.5)	1.470 (37.3)	1.640 (41.7)
22/23	1 5/16-18 UNEF	1 5/16-18 UNEF	M34 X 1.0-6H	.922 (23.4)	.922 (23.4)	.996 (25.3)	2.01 (51.1)	1.208 (30.7)	1.400 (35.6)	1.533 (38.9)	1.730 (43.9)
24/25	1 7/16-18 UNEF	1 7/16-18 UNEF	M37 X 1.0-6H	1.047 (26.6)	1.047 (26.6)	1.121 (28.5)	2.12 (53.8)	1.234 (31.3)	1.450 (36.8)	1.595 (40.5)	1.810 (46.0)

Table IV: Dash No. and Shrink Boot

Dash No.	H Conduit I.D. Nom	Ø J	Ø K	Shrink Boot Part Number
06	.188 (4.8)	.419 (10.6)	.481 (12.2)	770-001S103
09	.281 (7.1)	.513 (13.0)	.575 (14.6)	770-001S104
10	.312 (7.9)	.549 (13.9)	.611 (15.5)	770-001S104
12	.375 (9.5)	.609 (15.5)	.671 (17.0)	770-001S104
14	.437 (11.1)	.670 (17.0)	.732 (18.6)	770-001S104
16	.500 (12.7)	.749 (19.0)	.811 (20.6)	770-001S105
20	.625 (15.9)	.869 (22.1)	.931 (23.6)	770-001S106
24	.750 (19.0)	1.029 (26.1)	1.091 (27.7)	770-001S106
28	.875 (22.2)	1.172 (29.8)	1.234 (31.3)	770-001S107
32	1.000 (25.4)	1.320 (33.5)	1.382 (35.1)	770-001S107
40	1.250 (31.8)	1.664 (42.3)	1.726 (43.8)	770-001S108
48	1.500 (38.1)	1.957 (49.7)	2.019 (51.3)	770-001S108

Table II: Material/Finish

Sym	Material	Finish Description
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
Z1	300 Series SST	Passivate
ZN	Aluminum Alloy	Zinc Nickel/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)

Table II continued

Sym	Material	Finish Description	Component
ZM	300 Series SST	Electroless Nickel	Adapters, Elbow
		Passivate	Coupling Nut
ZW	300 Series SST	Cad O.D. Over Electroless Nickel	Adapters, Elbow
		Cad Olive Drab	Coupling Nut



713-380

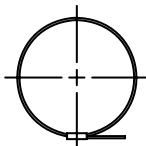
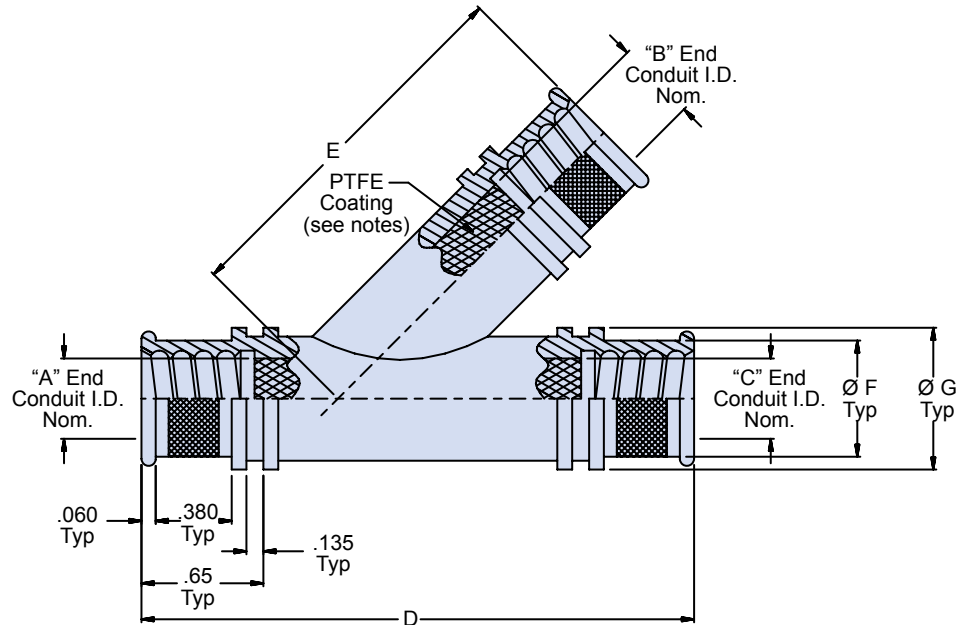
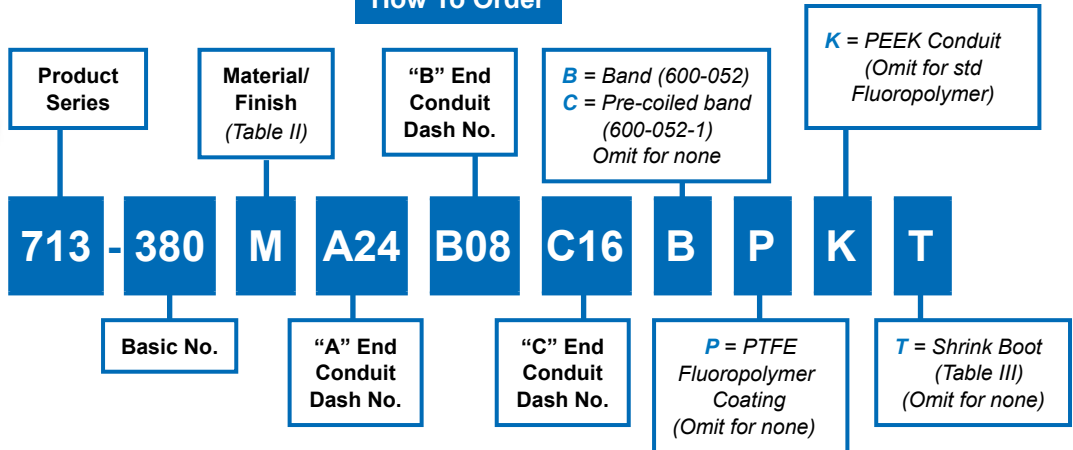
Hat Trick System

Y Transition for Direct Attachment of Series 74 Helical Convuluted Tubing

Hat Trick Y transition with banding platform and boot groove for direct attachment of Series 74 conduit



How To Order



C option
Pre-coiled
band

Notes

- Internal surfaces coated with PTFE Fluoropolymer in area indicated, see P/N development.
- Overall dimensions will be determined by largest dash no. ordered, e.g. 713-380MA20B16C32 will have Dash No. 32 dimensions.

Material and Finish

- Transition: Table II (see P/N development)
- Band: SST/Passivate
- Shrink Boot: See individual dwg.

713-380
Hat Trick System
 Y Transition for Direct Attachment of
 Series 74 Helical Convuluted Tubing



Table III: Dimensions and Shrink Boot

Dash No	Conduit I.D. Nom	D Max	E Max	F Dia	G Dia	Shrink Boot Part Number
06	.188 (4.8)	2.66 (67.6)	1.52 (38.6)	.419 (1.6)	.481 (12.2)	770-001S103
09	.281 (7.1)	2.82 (71.6)	1.63 (41.4)	.513 (13.0)	.575 (14.6)	770-001S104
10	.312 (7.9)	2.82 (71.6)	1.69 (42.9)	.549 (13.9)	.611 (15.5)	770-001S104
12	.375 (9.5)	2.91 (73.9)	1.73 (43.9)	.609 (15.5)	.671 (17.0)	770-001S104
14	.437 (11.1)	3.06 (77.7)	1.83 (46.5)	.670 (17.0)	.732 (18.6)	770-001S104
16	.500 (12.7)	3.06 (77.7)	1.86 (47.2)	.749 (19.0)	.811 (2.6)	770-001S105
20	.625 (15.9)	3.38 (85.9)	2.08 (52.8)	.869 (22.1)	.931 (23.6)	770-001S106
24	.750 (19.1)	3.44 (87.4)	2.18 (55.4)	1.029 (26.1)	1.091 (27.7)	770-001S106
28	.875 (22.2)	3.75 (95.3)	2.51 (63.8)	1.172 (29.8)	1.234 (31.3)	770-001S107
32	1.000 (25.4)	3.97 (10.8)	2.57 (65.3)	1.320 (33.5)	1.382 (35.1)	770-001S107
40	1.250 (31.8)	4.28 (108.7)	2.90 (73.7)	1.664 (42.3)	1.726 (43.8)	770-001S108
48	1.500 (38.1)	4.92 (125.0)	3.19 (81.0)	1.957 (49.7)	2.019 (51.3)	770-001S108

Table II: Material/Finish

Sym	Material	Finish Description
M	Aluminum Alloy	Electroless Nickel
MT		Nickel-PTFE
NF		Cad/Olive Drab over Electroless Nickel (1000 hr. salt spray)
ZN		Zinc Nickel/Olive Drab over Electroless Nickel
ZNU		Zinc Nickel/Black over Electroless Nickel (1000 hr. salt spray)
Z1	Stainless Steel	Passivate
ZM		Electroless Nickel
ZW		Cad/Olive Drab over Electroless Nickel



713-381

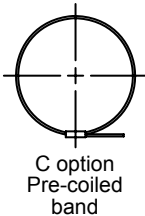
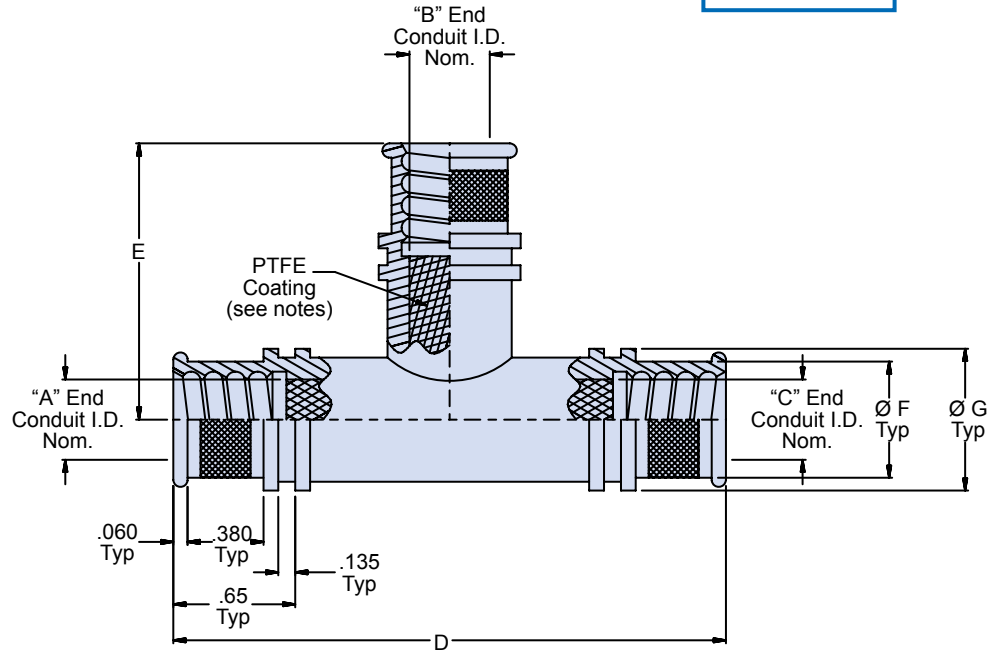
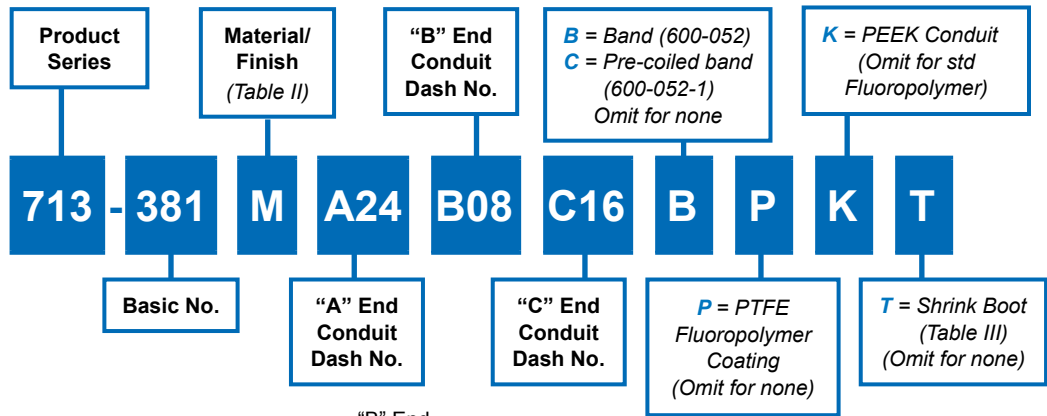
Hat Trick System

T Transition for Direct Attachment of
Series 74 Helical Convuluted Tubing

Hat Trick T Transition with banding platform and boot groove for direct attachment of Series 74 conduit



How To Order



Notes

- Internal surfaces coated with PTFE Fluoropolymer in area indicated, see P/N development.
- Overall dimensions will be determined by largest dash no. ordered, e.g. 713-381MA20B16C32 will have Dash No. 32 dimensions.

Material and Finish

- Transition: Table II (see P/N development)
- Band: SST/Passivate
- Shrink Boot: See individual dwg.

713-381
Hat Trick System
T Transition for Direct Attachment of
Series 74 Helical Convuluted Tubing



Table III: Dimensions and Shrink Boot

Dash No	Conduit I.D. Nom	D Max	E Max	F Dia	G Dia	Shrink Boot Part Number
06	.188 (4.8)	2.00 (50.8)	1.16 (29.5)	.419 (1.6)	.481 (12.2)	770-001S103
09	.281 (7.1)	2.10 (53.3)	1.23 (31.2)	.513 (13.0)	.575 (14.6)	770-001S104
10	.312 (7.9)	2.12 (53.8)	1.23 (31.2)	.549 (13.9)	.611 (15.5)	770-001S104
12	.375 (9.5)	2.16 (54.9)	1.26 (32.0)	.609 (15.5)	.671 (17.0)	770-001S104
14	.437 (11.1)	2.22 (56.4)	1.29 (32.8)	.670 (17.0)	.732 (18.6)	770-001S104
16	.500 (12.7)	2.34 (59.4)	1.29 (32.8)	.749 (19.0)	.811 (2.6)	770-001S105
20	.625 (15.9)	2.47 (62.7)	1.38 (35.1)	.869 (22.1)	.931 (23.6)	770-001S106
24	.750 (19.1)	2.54 (64.5)	1.48 (37.6)	1.029 (26.1)	1.091 (27.7)	770-001S106
28	.875 (22.2)	2.76 (70.1)	1.51 (38.4)	1.172 (29.8)	1.234 (31.3)	770-001S107
32	1.000 (25.4)	3.12 (79.2)	1.51 (38.4)	1.320 (33.5)	1.382 (35.1)	770-001S107
40	1.250 (31.8)	3.34 (84.8)	1.63 (41.4)	1.664 (42.3)	1.726 (43.8)	770-001S108
48	1.500 (38.1)	3.82 (97.0)	1.88 (47.8)	1.957 (49.7)	2.019 (51.3)	770-001S108

Table II: Material/Finish

Sym	Material	Finish Description
M	Aluminum Alloy	Electroless Nickel
MT		Nickel-PTFE
NF		Cad/Olive Drab over Electroless Nickel (1000 hr. salt spray)
ZN		Zinc Nickel/Olive Drab over Electroless Nickel
ZNU		Zinc Nickel/Black over Electroless Nickel (1000 hr. salt spray)
Z1	Stainless Steel	Passivate
ZM		Electroless Nickel
ZW		Cad/Olive Drab over Electroless Nickel



711-150
Internal Braid System
Environmental Self-Locking Metal Backshell
for Series 74 Helical Convolted Tubing with Internal Braid

Internal braid conduit-to-connector backshell, metal

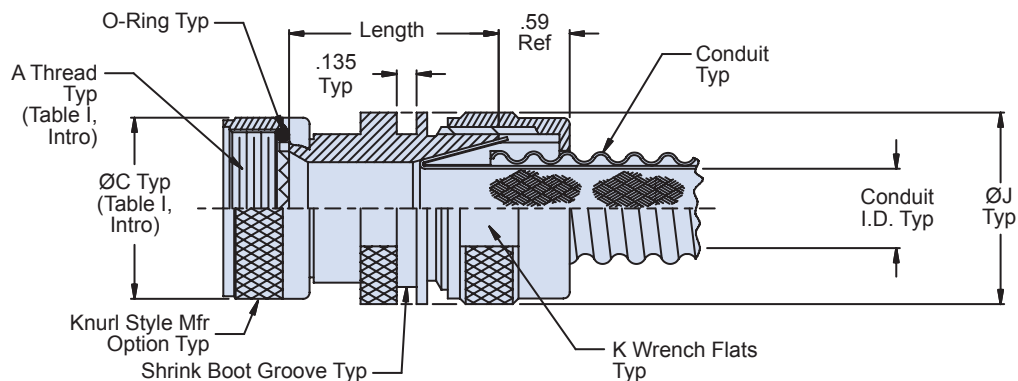
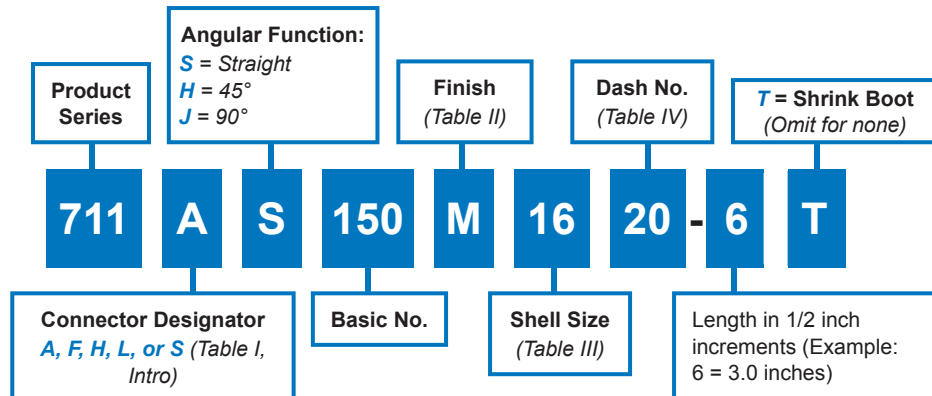


olive drab finish



nickel finish

How To Order



SYM S - Straight

Material/Finish

- Adapters, Elbows, Coupling Nuts, Nuts & Ferrules: Table II (see P/N development)
- O-Ring: Silicone/NA
- Anti-decoupling Device: Corrosion resistant material
- Shrink Boot: See individual drawings

Assembly Notes

- Standard minimum length is 1.50 inches. For shorter length, consult factory. Note: applies to SYM S, Straight, only.
- O-Ring not supplied with Connector code "A".

711-150
Internal Braid System
 Environmental Self-Locking Metal Backshell
 for Series 74 Helical Convoluted Tubing with Internal Braid

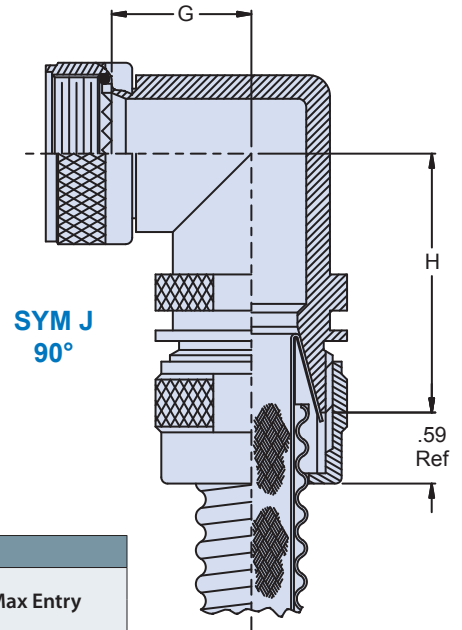
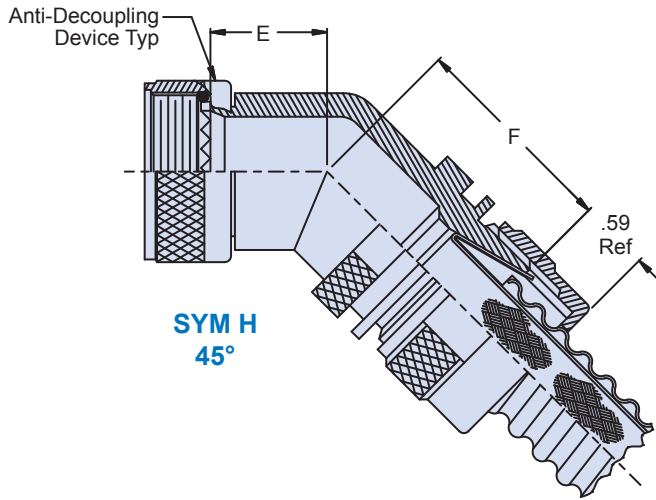
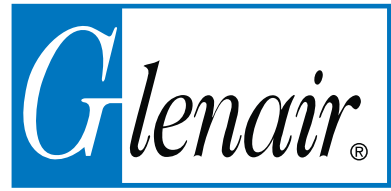


Table III: Shell Size/Dimensions

Shell Size		E	F	G	H	Max Entry
A, F, L, S	H	Max	Max	Max	Max	
08	09	.829 (21.1)	1.64 (41.7)	.94 (23.9)	1.75 (44.5)	20
10	11	.854 (21.7)	1.67 (42.4)	1.00 (25.4)	1.82 (46.2)	24
12	13	.878 (22.3)	1.69 (42.9)	1.06 (26.9)	1.88 (47.8)	28
14	15	.895 (22.7)	1.72 (43.7)	1.11 (28.2)	1.94 (49.3)	32
16	17	.922 (23.4)	1.75 (44.5)	1.17 (29.7)	2.00 (50.8)	32
18	19	.938 (23.8)	1.76 (44.7)	1.21 (30.7)	2.05 (52.1)	40
20	21	.963 (24.5)	1.80 (45.7)	1.27 (32.3)	2.12 (53.8)	40
22	23	.990 (25.1)	1.82 (46.2)	1.33 (33.8)	2.17 (55.1)	48
24	25	1.013 (25.7)	1.84 (46.7)	1.39 (35.3)	2.24 (56.9)	48
28		1.231 (31.2)	1.88 (47.8)	1.67 (42.4)	2.31 (58.7)	56
32		1.282 (32.5)	1.93 (49.0)	1.80 (45.7)	2.44 (62.0)	64
36		1.328 (33.8)	1.97 (50.0)	1.91 (48.5)	2.55 (64.8)	64

Table IV: Dimensions/Shrink Boot

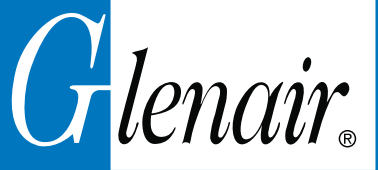
Dash No.	Conduit I.D.	ØJ	K Flat	Shrink Boot Part Number
06	See 121-195 Conduit Drawing	.94 (23.9)	.812 (20.6)	770-001S105
09		1.00 (25.4)	.875 (22.2)	770-001S106
10		1.06 (26.9)	.937 (23.8)	770-001S106
12		1.13 (28.7)	1.000 (25.4)	770-001S106
14		1.19 (30.2)	1.062 (27.1)	770-001S106
16		1.25 (31.8)	1.125 (28.7)	770-001S107
20		1.38 (35.1)	1.250 (31.8)	770-001S107
24		1.56 (39.6)	1.438 (36.6)	770-001S108
28		1.69 (42.9)	1.562 (39.6)	770-001S108
32		1.88 (47.8)	1.750 (44.5)	770-001S108
40		2.13 (54.1)	2.000 (50.8)	770-001S108
48		2.50 (63.5)	2.375 (60.5)	TBD
56		2.75 (69.9)	2.625 (66.8)	TBD
64		3.00 (76.2)	2.875 (73.2)	TBD

Table II: Material/Finish

Sym	Material	Finish Description
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	Cad/O.D. over Electroless Nickel (1,000 Hour Salt Spray)
Z1	300 Series SST	Passivate
ZN	Aluminum Alloy	Zinc Nickel/O.D. over Electroless Nickel (1,000 Hour Salt Spray)

Table II (continued)

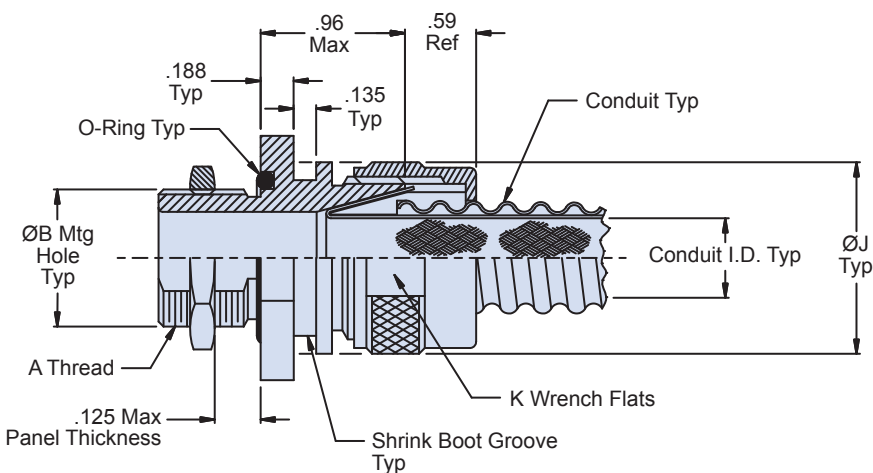
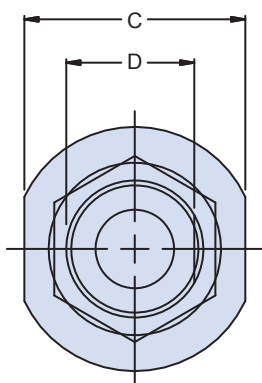
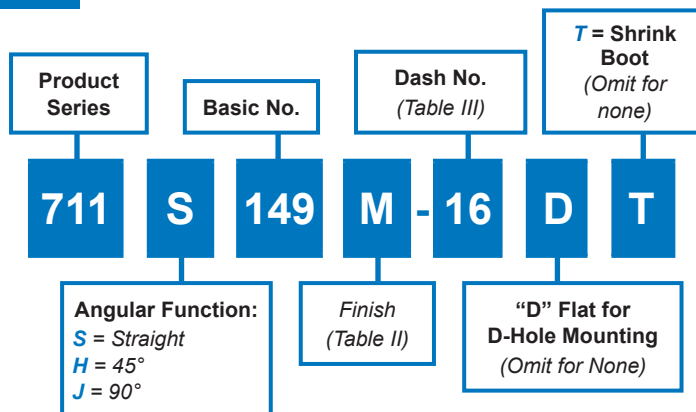
Sym	Material	Finish Description	Component
ZM	300 Series SST	Electroless Nickel	Adapter, Elbow
		Passivate	Coupling Nut
ZW	300 Series SST	Cadmium Olive Drab over Electroless Nickel	Adapter, Elbow
		Cadmium Olive Drab	Coupling Nut



711-149
Internal Braid System
 Environmental Metal Bulkhead Fitting with
 Shrink Boot Groove for Series 74 Helical Convuluted Tubing

Internal braid convoluted tubing-to-bulkhead fitting with shrink boot groove, metal

How To Order



SYM S - Straight

Material/Finish

- Adapters, Elbows, Nuts, Hex Nuts & Ferrules: Table II (See P/N development)
- O-Ring: Silicone/NA
- Shrink Boot: See individual drawings

711-149
Internal Braid System
 Environmental Metal Bulkhead Fitting with
 Shrink Boot Groove for Series 74 Helical Convolted Tubing

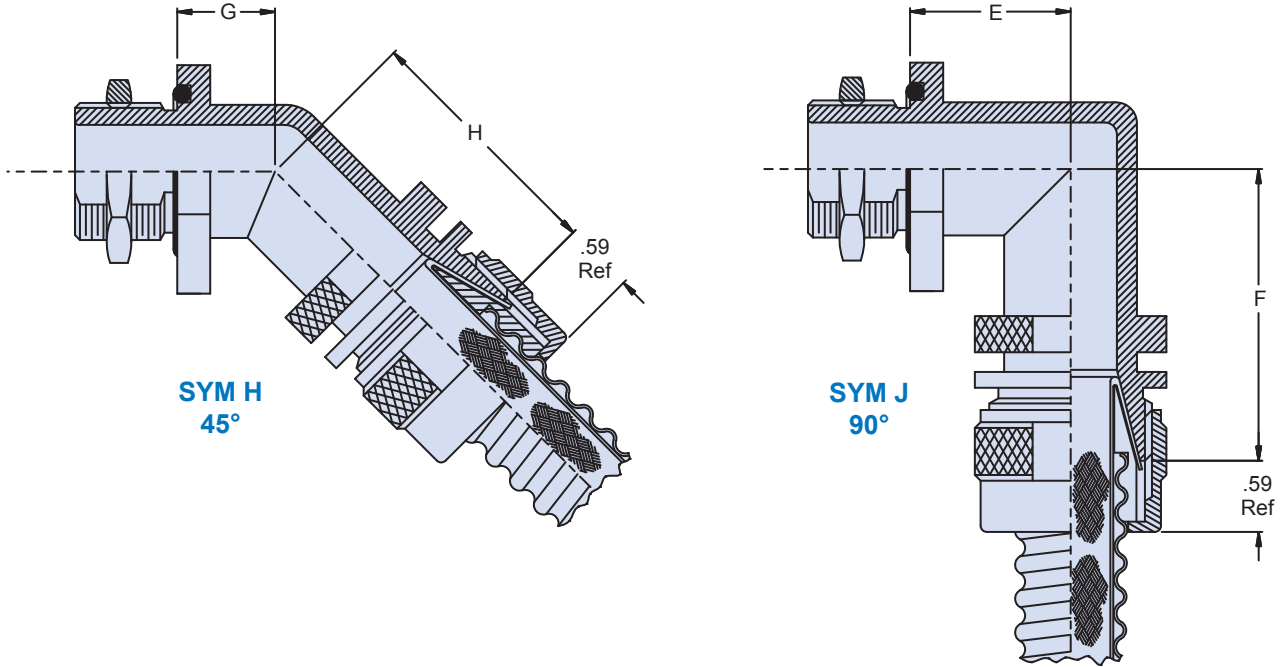


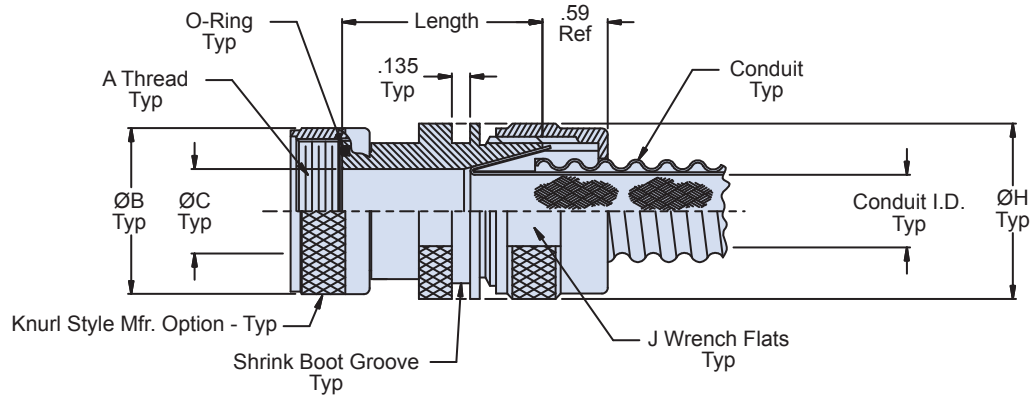
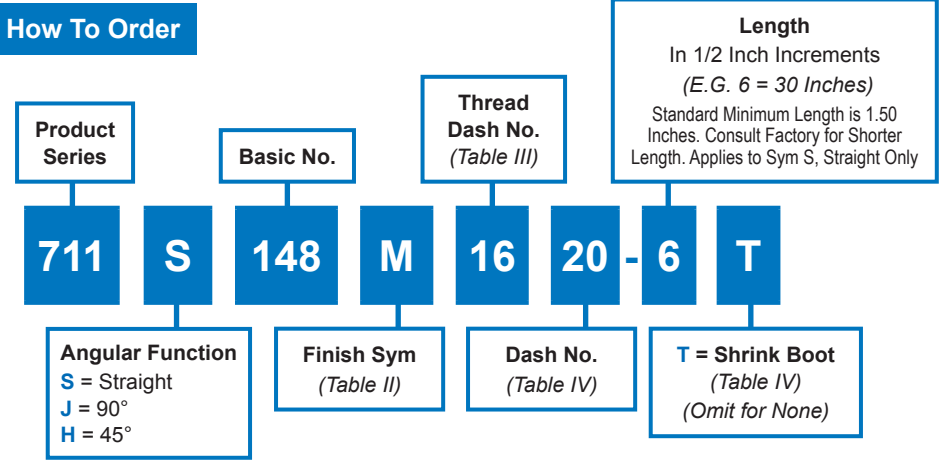
Table III: Dimensions and Shrink Boot

Dash No.	Conduit ID	A Thread Class 2A	Ø B +.015 -.000	C Flat	D +.000 -.015	E Max	F Max	G Max	H Max	Ø J	K Flat	Shrink Boot Part Number
06	See 121-195 Conduit Drawing	7/16-28 UNEF	.443 (11.3)	.937 (23.8)	.375 (9.50)	.846 (21.5)	1.75 (44.5)	.462 (11.7)	1.64 (41.7)	.94 (23.9)	.812 (20.6)	770-001S105
09		9/16-24 UNEF	.568 (14.4)	1.000 (25.4)	.500 (12.7)	.878 (22.3)	1.75 (44.5)	.475 (12.2)	1.64 (41.7)	1.00 (25.4)	.875 (22.2)	770-001S106
10		9/16-24 UNEF	.568 (14.4)	1.062 (27.9)	.500 (12.7)	.909 (23.1)	1.75 (44.5)	.488 (12.4)	1.64 (41.7)	1.06 (26.9)	.937 (23.8)	770-001S106
12		5/8-24 UNEF	.630 (16.0)	1.125 (28.7)	.563 (14.3)	.940 (23.9)	1.82 (46.2)	.500 (12.7)	1.67 (42.4)	1.13 (28.7)	1.000 (25.4)	770-001S106
14		11/16-24 UNEF	.693 (17.6)	1.187 (30.2)	.625 (15.9)	.972 (24.7)	1.82 (46.2)	.513 (13.0)	1.67 (42.4)	1.19 (30.2)	1.062 (27.1)	770-001S106
16		3/4-20 UNEF	.755 (19.2)	1.250 (31.8)	.688 (17.5)	1.003 (25.4)	1.82 (46.2)	.526 (13.5)	1.67 (42.4)	1.25 (31.8)	1.125 (28.7)	770-001S107
20		7/8-20 UNEF	.880 (22.4)	1.375 (35.1)	.812 (20.6)	1.065 (25.7)	1.88 (47.8)	.552 (14.0)	1.69 (42.9)	1.38 (35.1)	1.250 (31.8)	770-001S107
24		1-20 UNEF	1.005 (25.5)	1.500 (38.1)	.938 (23.8)	1.128 (28.7)	1.94 (49.3)	.578 (14.7)	1.72 (43.7)	1.56 (39.6)	1.437 (36.6)	770-001S108
28		13/16-18 UNEF	1.193 (30.3)	1.625 (41.4)	1.125 (28.6)	1.190 (30.2)	2.00 (50.8)	.604 (15.3)	1.75 (44.5)	1.69 (42.9)	1.562 (39.6)	770-001S108
32		15/16-18 UNEF	1.318 (33.5)	1.750 (44.5)	1.250 (31.8)	1.253 (31.8)	2.12 (53.8)	.630 (16.0)	1.80 (45.7)	1.88 (47.8)	1.750 (44.5)	770-001S108
40		11/2-18 UNEF	1.505 (38.2)	2.125 (54.1)	1.438 (36.5)	1.440 (36.5)	2.24 (57.0)	.708 (18.0)	1.84 (46.7)	2.13 (54.1)	2.000 (50.8)	770-001S108
48		13/4-18 UNS	1.755 (44.6)	2.437 (62.0)	1.688 (42.9)	1.596 (40.5)	2.31 (58.7)	.772 (19.6)	1.88 (47.8)	2.50 (63.5)	2.375 (60.5)	TBD
56		2-18 UNS	2.005 (51.1)	2.750 (69.6)	1.938 (49.3)	1.753 (44.5)	2.44 (62.0)	.837 (21.3)	1.93 (49.0)	2.75 (69.9)	2.625 (66.8)	TBD
64		2 1/4-16 UN	2.255 (57.4)	2.875 (73.2)	2.188 (55.6)	1.815 (46.2)	2.55 (64.8)	.863 (21.9)	1.97 (50.0)	3.00 (76.2)	2.875 (73.2)	TBD

Table II: Material/Finish

Sym	Material	Finish Description
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
Z1	300 Series SST	Passivate
ZM	300 Series SST	Electroless Nickel
ZN	Aluminum Alloy	Zinc Nickel/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
ZW	300 Series SST	Cad O.D. Over Electroless Nickel

Internal Braid System convoluted tubing to transition or end fitting adapter



Sym S - Straight

Intermateability Guide	
For use with	
Y transitions	710-106, 710-107, 710-370,
T transitions	710-108, 710-109, 710-371
Connector adapters	713-100, 713-101, 713-110
Bulkhead adapters	710-100, 710-101, 710-372
Bulkhead feed-thrus	710-102, 710-103, 710-373
Male Pipe thread adapters	710-114, 710-115, 710-405
Female pipe thread adapters	710-116, 710-117, 710-406

Material & Finish

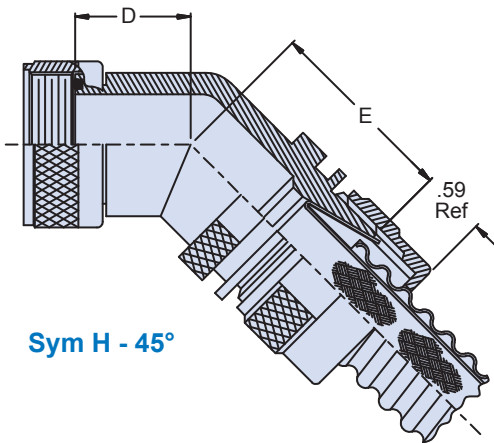
- Adapters, Elbows, Coupling Nuts & Ferrules: See Table III
- O-Rings: Silicone/NA
- Shrink Boot: See Individual Drawings

711-148
Internal Braid System
Conduit to Transition or End Fitting

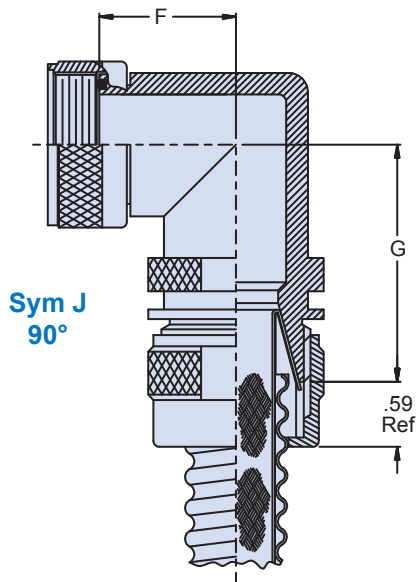


Table III: Dash No./Dimensions

Thread Dash No.	A Thread Class 2B	Ø B Max	Ø C	D Max	E Max	F Max	G Max	Max Conduit Dash No.
06	7/16-28 UNEF	.640 (16.3)	.188 (4.78)	.66 (16.8)	1.64 (41.7)	.81 (20.6)	1.75 (44.5)	20
09	9/16-24 UNEF	.690 (17.5)	.281 (7.14)	.66 (16.8)	1.64 (41.7)	.81 (20.6)	1.75 (44.5)	24
10	9/16-24 UNEF	.690 (17.5)	.312 (7.92)	.66 (16.8)	1.64 (41.7)	.81 (20.6)	1.75 (44.5)	24
12	5/8-24 UNEF	.760 (19.3)	.375 (9.53)	.66 (16.8)	1.67 (42.4)	.81 (20.6)	1.82 (46.2)	24
14	11/16-24 UNEF	.890 (22.6)	.438 (11.1)	.69 (17.5)	1.67 (42.4)	.87 (22.1)	1.82 (46.2)	28
16	3/4-20 UNEF	.890 (22.6)	.500 (12.7)	.69 (17.5)	1.67 (42.4)	.87 (22.1)	1.82 (46.2)	28
20	7/8-20 UNEF	1.024 (26.0)	.625 (15.9)	.71 (18.0)	1.69 (42.9)	.92 (23.4)	1.88 (47.8)	32
24	1-20 UNEF	1.152 (29.3)	.750 (19.1)	.73 (18.5)	1.72 (43.7)	.98 (24.9)	1.94 (49.3)	32
28	13/16-18 UNEF	1.363 (34.6)	.875 (22.2)	.77 (19.6)	1.75 (44.5)	1.08 (27.6)	2.00 (50.8)	40
32	15/16-18 UNEF	1.488 (37.8)	1.000 (25.4)	.80 (20.3)	1.80 (45.7)	1.14 (29.0)	2.12 (53.8)	40
40	1 1/2-18 UNEF	1.676 (42.6)	1.250 (31.8)	.82 (20.8)	1.84 (46.7)	1.20 (30.5)	2.24 (56.9)	48
48	1 3/4-18 UNS	1.960 (49.8)	1.500 (38.1)	1.04 (26.4)	1.88 (47.8)	1.48 (37.6)	2.31 (58.7)	56
56	2-18 UNS	2.210 (56.1)	1.750 (44.5)	1.09 (27.7)	1.93 (49.0)	1.61 (40.9)	2.44 (62.0)	64
64	2 1/4-16 UN	2.460 (62.5)	2.000 (50.8)	1.14 (29.0)	1.97 (50.0)	1.72 (43.7)	2.55 (64.8)	64



Sym H - 45°



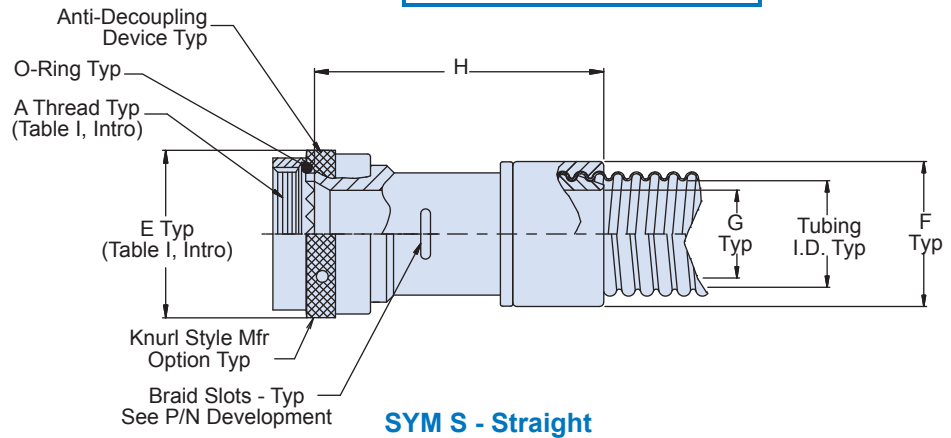
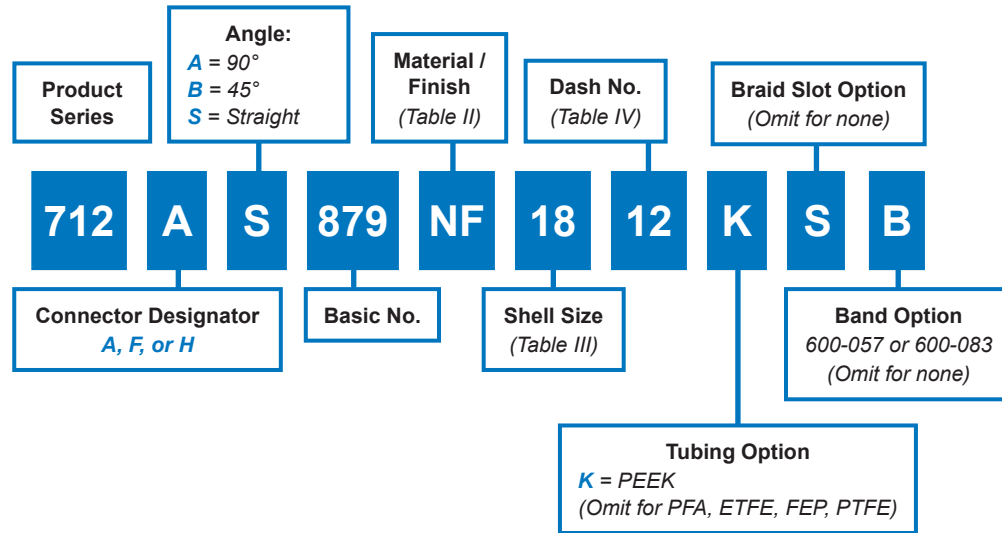
Sym J
90°

Table IV: Dash No./Dimensions/Boot

Dash No.	Conduit I.D.	Ø H	J Flat	Shrink Boot Part No.
06	See 121-195 Conduit Drawing	.94 (23.9)	.812 (20.6)	770-001S105
09		1.00 (25.4)	.875 (22.2)	770-001S106
10		1.06 (26.9)	.937 (23.8)	770-001S106
12		1.13 (28.7)	1.000 (25.4)	770-001S106
14		1.19 (30.2)	1.062 (27.0)	770-001S106
16		1.25 (31.8)	1.125 (28.6)	770-001S107
20		1.38 (35.1)	1.250 (31.8)	770-001S107
24		1.56 (39.6)	1.437 (36.5)	770-001S108
28		1.69 (42.9)	1.562 (39.7)	770-001S108
32		1.88 (47.8)	1.750 (44.5)	770-001S108
40		2.13 (54.1)	2.000 (50.8)	770-001S108
48		2.50 (63.5)	2.375 (60.3)	TBD
56		2.75 (69.9)	2.625 (66.7)	TBD
64		3.00 (76.2)	2.875 (73.0)	TBD

Table II: Material/Finish

Sym	Material	Finish Description
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
Z1	300 Series SST	Passivate
ZM	300 Series SST	Electroless Nickel
ZN	Aluminum Alloy	Zinc Nickel/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
ZW	300 Series SST	Cad O.D. Over Electroless Nickel

Metal AeroLite System convoluted tubing to connector backshell
How To Order

Material and Finish

- Adapters, Coupling Nuts and Elbows - Table II (See P/N development)
- Follower Nuts - High grade engineering thermoplastic black/no plating
- Anti-Decoupling Device - Corrosion-resistant material/NA
- O-Ring - Fluorosilicone/N.A.
- Band - SST/Passivate

Notes

- Interface O-Ring not applicable to connector designator A
- Nominal I.D. of PEEK tubing adapters are reduced by approximately .060 in.
- Convoluted tubing to be ordered separately, see 120-100 standard wall conduit.

712-879

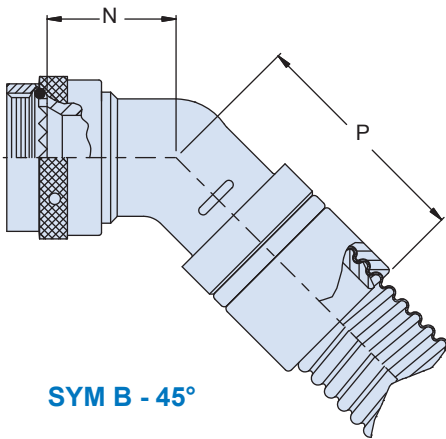
AeroLite System - Metal
Convuluted Tubing to Connector Backshell
for Series 74 Helical Convuluted Tubing



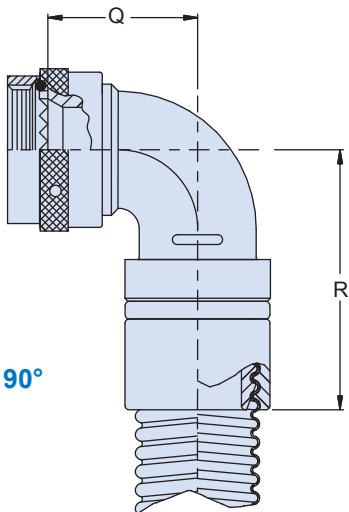
Series 74
Helical Tubing

Table III: Shell Size/Dimensions

Shell Size		H Max	N Max	P Max	Q Max	R Max	Max Dash No. Table II
A, F, L	H						
08	09	1.71 (43.4)	.600 (15.2)	1.500 (38.1)	.680 (17.3)	1.670 (42.4)	09
10	11	1.71 (43.4)	.630 (16.0)	1.740 (44.2)	.770 (19.6)	1.810 (45.7)	12
12	13	1.76 (44.7)	.660 (16.8)	1.880 (47.8)	.800 (20.3)	1.900 (48.2)	20
14	15	1.76 (44.7)	.690 (17.5)	2.090 (53.1)	.880 (22.4)	2.090 (53.1)	24
16	17	1.86 (47.2)	.820 (20.1)	2.240 (56.9)	1.060 (26.9)	2.220 (56.4)	24
18	19	1.96 (49.8)	.970 (24.6)	2.530 (64.3)	1.150 (29.2)	2.500 (63.5)	28
20	21	1.96 (49.8)	.970 (24.6)	2.570 (65.3)	1.150 (29.6)	2.540 (64.5)	32
22	23	1.96 (49.8)	1.000 (25.4)	2.710 (68.8)	1.300 (33.0)	2.650 (67.3)	32
24, 61	25	2.06 (52.3)	1.000 (25.4)	2.870 (72.9)	1.300 (33.0)	2.800 (71.1)	40
28	⊗	2.06 (52.3)	TBD	TBD	1.400 (35.6)	3.020 (76.7)	40



SYM B - 45°



SYM A - 90°

Table IV: Dash No./Dimensions

Dash No.	M Conduit ID Nom.	F Dia Max	G Dia ± .015 Entry
06	.188 (4.8)	.580 (14.7)	.157 (4.0)
09	.281 (7.1)	.670 (17.0)	.250 (6.4)
10	.312 (7.9)	.710 (18.0)	.281 (7.1)
12	.375 (9.5)	.770 (19.6)	.344 (8.7)
14	.437 (11.1)	.830 (21.1)	.406 (10.3)
16	.500 (12.7)	.920 (23.4)	.469 (11.9)
20	.625 (15.9)	1.040 (26.4)	.594 (15.1)
24	.750 (19.1)	1.200 (30.5)	.714 (18.1)
28	.875 (22.2)	1.340 (34.0)	.839 (21.3)
32	1.000 (25.4)	1.500 (38.1)	.964 (24.5)
40	1.250 (31.8)	1.660 (42.2)	1.214 (30.8)

Table II - Finish

Sym	Material	Finish Description
B	Aluminum Alloy	Cadmium, Olive Drab
C		Anodize, Black
M		Electroless Nickel
MT		Nickel-PTFE
NF		Cad/O.D. over Electroless Nickel
UCR		Zinc Cobalt/Black
ZNU		Zinc Nickel/Black over Electroless Nickel
Z1		Stainless Steel, 300 Series

Table II - Finish (continued)

Sym	Material	Finish Description	Component
ZM	300 SERIES SST	Electroless Nickel	Adapter, Elbow
		Passivate	Coupling Nut
ZW		Cadmium Olive Drab over Electroless Nickel	Adapter, Elbow
		Cadmium Olive Drab	Coupling Nut
ZMT		Nickel-PTFE	Adapter, Elbow
		Passivate	Coupling Nut

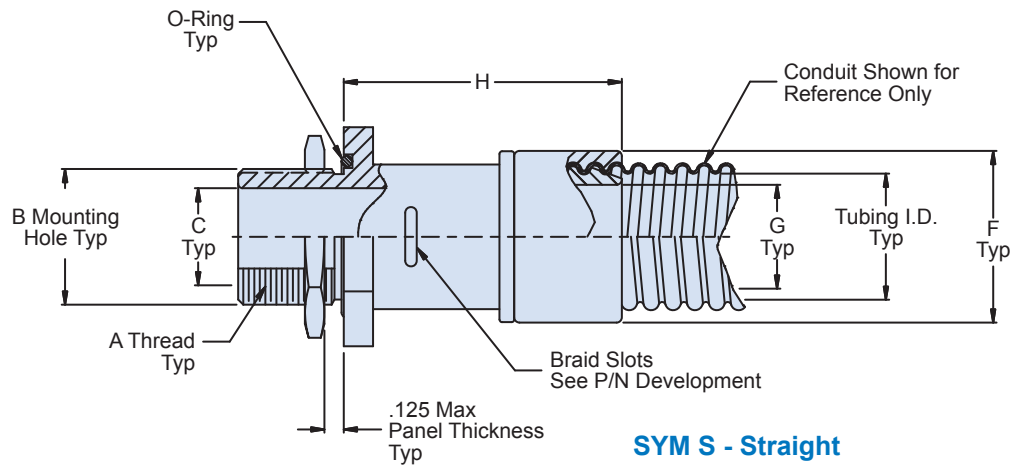
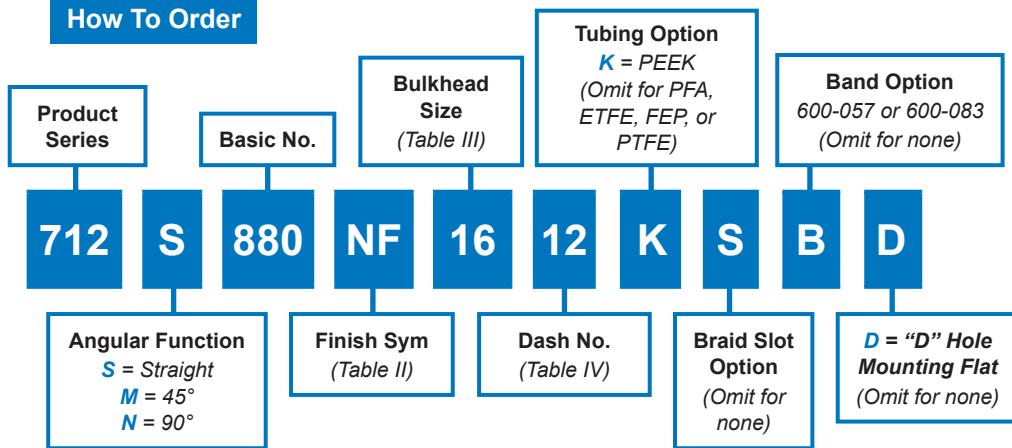


712-880

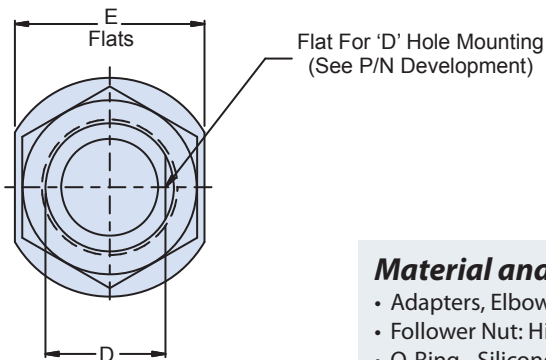
AeroLite System - Metal
Convolved Tubing to Bulkhead Fitting
for Series 74 Helical Convolved Tubing

Metal AeroLite System convolved tubing to bulkhead fitting

How To Order



SYM S - Straight



Material and Finish

- Adapters, Elbows, Jam Nuts: See Table II
- Follower Nut: High Grade Engineering Thermoplastic, black/no plating
- O-Ring - Silicone/N.A.
- Band - SST/Passivate

Notes

- Convolved Tubing to be ordered separately, see 120-100, standard wall. Dash No. refers to Convolved Tubing size.
- Nom I.D. of PEEK Tubing Adapters are reduced by approximately .060 in.

712-880
AeroLite System - Metal
 Convoluted Tubing to Bulkhead Fitting
 for Series 74 Helical Convoluted Tubing

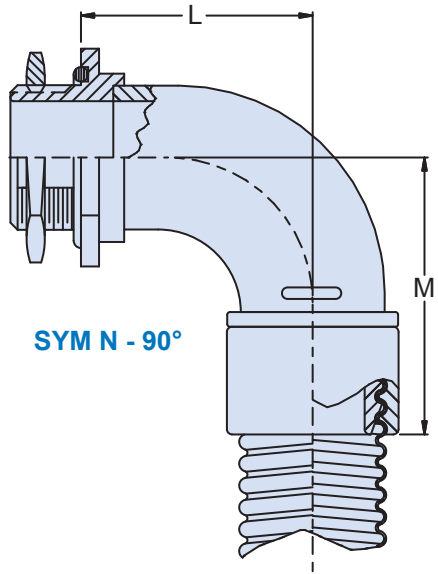


Table III: Bulkhead Size/Dimensions

Bulkhead Size	A Thread Class 2A	Ø B +.015 -.000	Ø C	D +.000 -.015	E Flats	Max Dash No.
06	7/16-28 UNEF	.443 (11.3)	.188 (4.78)	.375 (9.5)	.688 (17.5)	09
09	9/16-24 UNEF	.568 (14.4)	.281 (7.14)	.500 (12.7)	.812 (20.6)	12
10	9/16-24 UNEF	.568 (14.4)	.312 (7.92)	.500 (12.7)	.812 (20.6)	12
12	5/8-24 UNEF	.630 (16.0)	.375 (9.52)	.563 (14.3)	.875 (22.2)	14
14	11/16-24 UNEF	.693 (17.6)	.437 (11.1)	.625 (15.9)	.938 (23.8)	16
16	3/4-20 UNEF	.755 (19.2)	.500 (12.7)	.688 (17.5)	1.000 (25.4)	16
20	7/8-20 UNEF	.880 (22.4)	.625 (15.9)	.812 (20.6)	1.125 (28.6)	20
24	1-20 UNEF	1.005 (25.5)	.750 (19.1)	.938 (23.8)	1.250 (31.8)	24
28	1 3/16-18 UNEF	1.193 (30.3)	.875 (22.2)	1.125 (28.6)	1.438 (36.5)	28
32	1 5/16-18 UNEF	1.318 (33.5)	1.000 (25.4)	1.250 (31.8)	1.562 (39.6)	32
40	1 1/2-18 UNEF	1.505 (38.2)	1.250 (31.8)	1.438 (36.5)	1.812 (46.0)	40

Table IV: Dash No./Dimensions

Dash No.	Tubing I.D. Nom	Ø F Max	Ø G +.015	H Max	J Max	K Max	L Max	M Max
06	.188 (4.80)	.580 (14.7)	.157 (4.00)	1.393 (35.3)	.50 (12.7)	1.23 (31.2)	.68 (17.3)	1.42 (36.1)
09	.281 (7.14)	.670 (17.0)	.250 (6.35)	1.393 (35.3)	.53 (13.5)	1.26 (32.0)	.75 (19.1)	1.48 (37.6)
10	.312 (7.92)	.710 (18.0)	.281 (7.14)	1.393 (35.3)	.53 (13.5)	1.26 (32.0)	.75 (19.1)	1.48 (37.6)
12	.375 (9.53)	.770 (19.6)	.344 (8.73)	1.393 (35.3)	.53 (13.5)	1.26 (32.0)	.75 (19.1)	1.48 (37.6)
14	.437 (11.1)	.830 (21.1)	.406 (10.3)	1.393 (35.3)	.55 (14.0)	1.29 (32.8)	.81 (20.6)	1.54 (39.1)
16	.500 (12.7)	.920 (23.4)	.469 (11.9)	1.443 (36.6)	.55 (14.0)	1.34 (34.0)	.81 (20.6)	1.59 (40.4)
20	.625 (15.9)	1.040 (26.4)	.594 (15.1)	1.443 (36.6)	.61 (15.5)	1.39 (35.3)	.93 (23.6)	1.72 (43.7)
24	.750 (19.1)	1.200 (30.5)	.714 (18.1)	1.543 (39.1)	.63 (16.0)	1.51 (38.4)	1.00 (25.4)	1.88 (47.8)
28	.875 (22.2)	1.340 (34.0)	.839 (21.3)	1.643 (41.7)	.68 (17.3)	1.67 (42.4)	1.12 (28.4)	2.10 (53.3)
32	1.000 (25.4)	1.500 (38.1)	.964 (24.5)	1.643 (41.7)	.71 (18.0)	1.69 (42.9)	1.18 (30.0)	2.17 (55.1)
40	1.250 (31.8)	1.660 (42.2)	1.214 (30.7)	1.743 (44.2)	.76 (19.3)	1.84 (46.7)	1.31 (33.3)	2.39 (60.7)

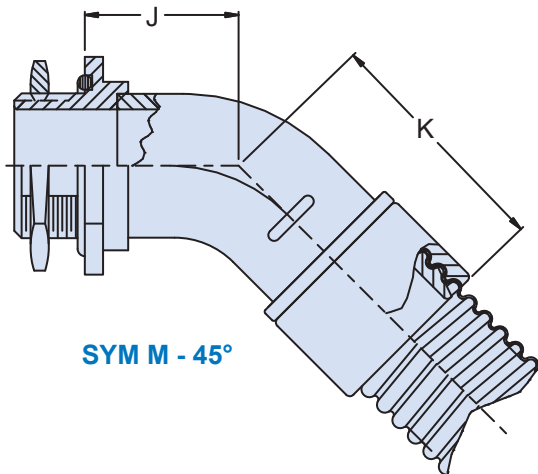
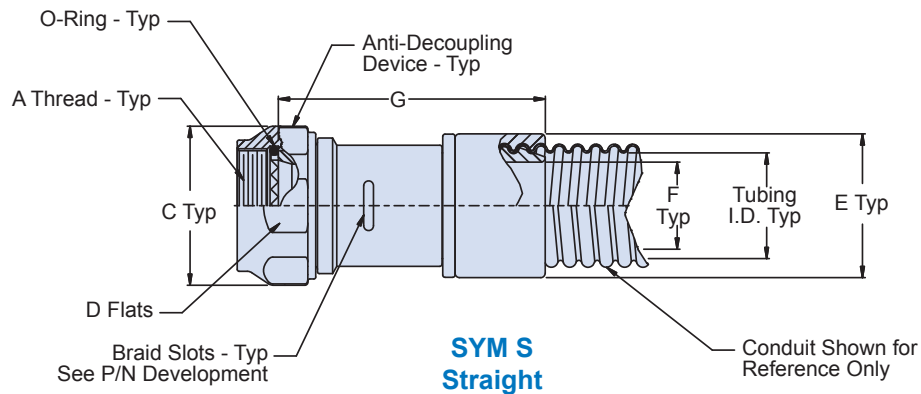
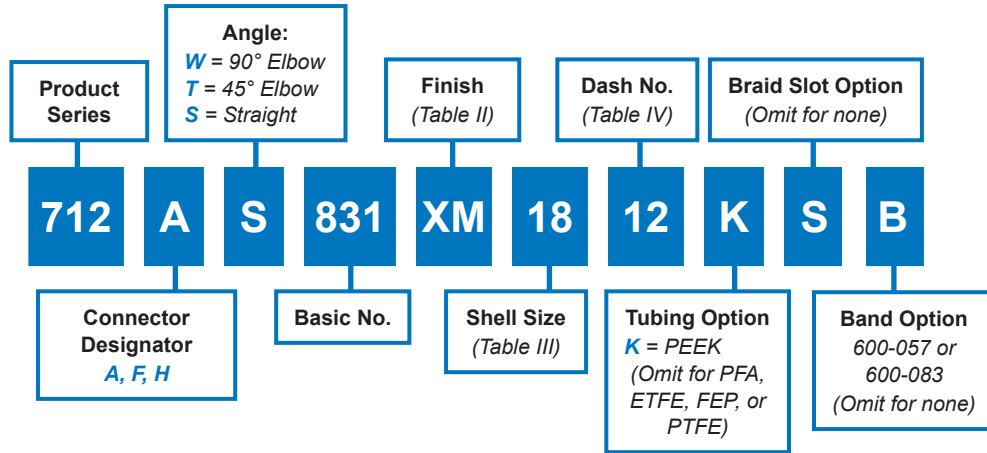


Table II: Finish

Sym	Material	Finish Description
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
Z1	300 Series SST	Passivate
ZM	300 Series SST	Electroless Nickel
ZN	Aluminum Alloy	Zinc Nickel/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
ZW	300 Series SST	Cad O.D. Over Electroless Nickel

Composite AeroLite System convuluted tubing to connector backshell
How To Order

Material/Finish

- Adapters, Elbows: High grade engineering thermoplastic/See Table II
- Coupling Nuts, Ferrules: High grade engineering thermoplastic, black/no plating (XB)
- O-Ring: Fluorosilicone/NA (not supplied with Code A)
- Anti-Decoupling Device: Corrosion resistant material/N.A.
- Band: SST/Passivate

Notes

- Nom I.D. of PEEK tubing adapters are reduced by approximately .060 in.
- All coupling nuts and ferrules supplied unplated. Conduit termination platforms may also be unplated.
- Convuluted Tubing to be ordered separately, see 120-100, standard wall. Dash No. refers to Convuluted Tubing size.

712-831
AeroLite System - Composite
Convuluted Tubing to Connector Backshell
for Series 74 Helical Convuluted Tubing

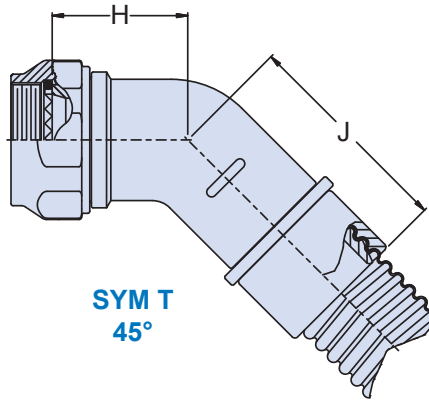
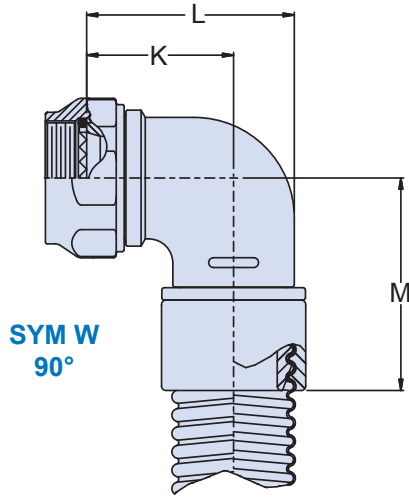


Table III: Connector Designators and Dimensions

Connector Designator A		Connector Designator F		Connector Designator H		Ø C Max	D Flats	
Shell Size	A Thread Class 2B	Shell Size	A Thread Class 2B	Shell Size	A Thread Iso Metric		Max	Min
08	1/2-20 UNF	08	7/16-28 UNEF	09	M12 X 1.0-6H	.830 (21.1)	.750 (19.1)	.736 (18.7)
10	5/8-24 UNEF	10	9/16-24 UNEF	11	M15 X 1.0-6H	.960 (24.4)	.875 (22.2)	.860 (21.8)
12	3/4-20 UNEF	12	11/16-24 UNEF	13	M18 X 1.0-6H	1.090 (27.7)	1.000 (25.4)	.980 (24.9)
14	7/8-20 UNEF	14	13/16-20 UNEF	15	M22 X 1.0-6H	1.220 (31.0)	1.125 (28.6)	1.100 (27.9)
16	1-20 UNEF	16	15/16-20 UNEF	17	M25 X 1.0-6H	1.350 (34.3)	1.250 (31.8)	1.224 (31.1)
18	11/16-18 UNEF	18	11/16-18 UNEF	19	M28 X 1.0-6H	1.480 (37.6)	1.375 (34.9)	1.348 (34.2)
20	13/16-18 UNEF	20	13/16-18 UNEF	21	M31 X 1.0-6H	1.620 (41.1)	1.500 (38.1)	1.469 (37.3)
22	15/16-18 UNEF	22	15/16-18 UNEF	23	M34 X 1.0-6H	1.750 (44.5)	1.625 (41.3)	1.581 (40.2)
24	17/16-18 UNEF	24	17/16-18 UNEF	25	M37 X 1.0-6H	1.890 (48.0)	1.750 (44.5)	1.690 (42.9)

Table II: Finish

SYM	Finish Description
XMT	Nickel-PTFE - Gray (1000 Hour Salt Spray)
XM	Electroless Nickel
XW	Cadmium Olive Drab Over Electroless Nickel
XB	No Plating, Black - Base Material Non-Conductive

Table III continued: Shell Size and Dimensions

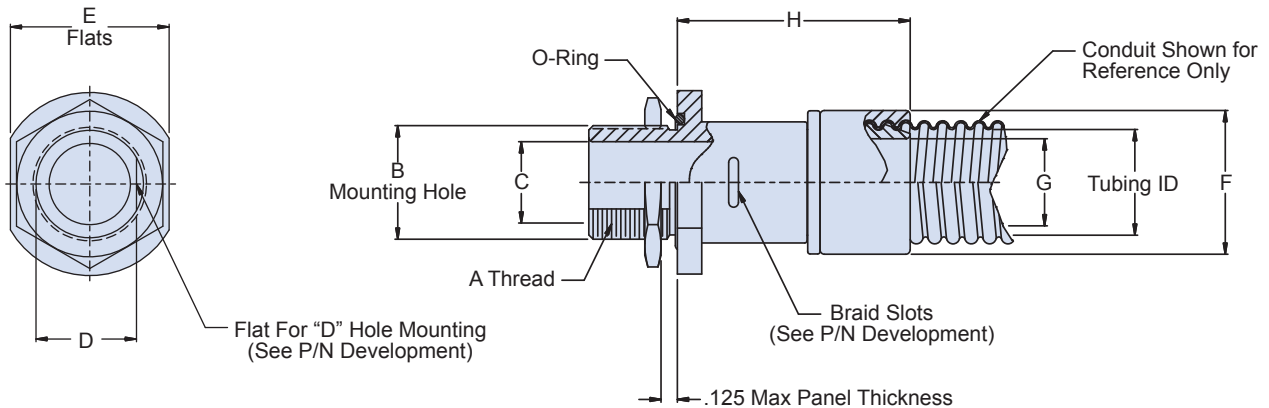
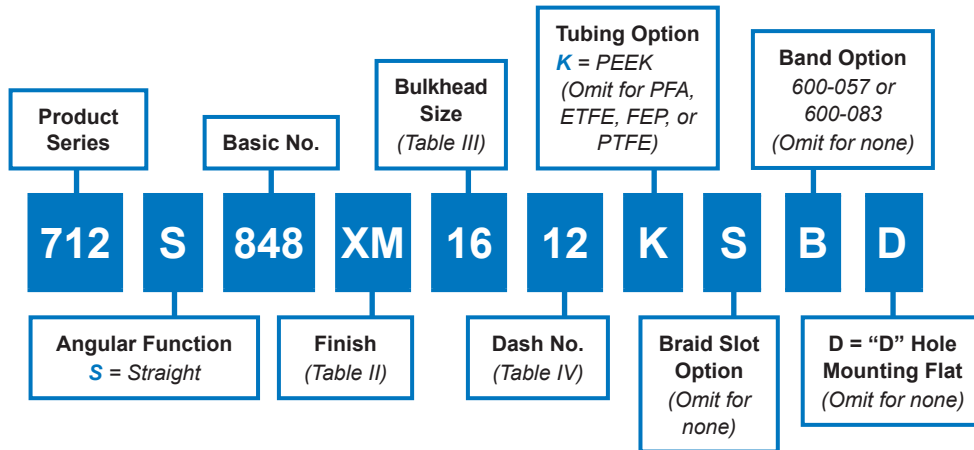
Shell Size A,F	H	G Max	H Max	J Max	K Max	L Max	M Max	Dash No. Max
08	09	1.71 (43.4)	.796 (20.2)	1.261 (32.0)	.770 (19.6)	.958 (24.3)	1.493 (37.9)	09
10	11	1.71 (43.4)	.830 (21.0)	1.376 (35.0)	.832 (21.1)	1.082 (27.5)	1.555 (39.5)	12
12	13	1.76 (44.7)	.825 (21.0)	1.453 (37.0)	.894 (22.7)	1.207 (30.7)	1.667 (42.3)	20
14	15	1.76 (44.7)	.833 (21.1)	1.494 (38.0)	.957 (24.3)	1.332 (33.8)	1.730 (44.0)	24
16	17	1.86 (47.2)	.855 (21.7)	1.614 (41.0)	1.020 (25.9)	1.458 (37.0)	1.893 (48.1)	24
18	19	1.96 (49.8)	.865 (22.0)	1.721 (43.7)	1.082 (27.5)	1.582 (40.2)	2.055 (52.2)	28
20	21	1.96 (49.8)	.895 (22.7)	1.743 (44.3)	1.145 (29.1)	1.707 (43.4)	2.117 (53.8)	32
22	23	1.96 (49.8)	.935 (23.7)	1.784 (45.3)	1.207 (30.7)	1.832 (46.5)	2.180 (55.4)	32
24, 61	25	2.06 (52.3)	.965 (24.5)	1.910 (48.5)	1.270 (32.3)	1.958 (49.7)	2.343 (59.5)	40
28	25	2.06 (52.3)	1.013 (25.7)	1.945 (49.4)	1.434 (36.4)	2.215 (56.3)	2.405 (61.1)	40

Table IV: Dash No.

Dash No.	Tubing I.D. Nom.	Ø E Max	Ø F ± .015 Entry
06	.188 (4.80)	.580 (14.7)	.157 (4.00)
09	.281 (7.10)	.670 (17.0)	.250 (6.40)
10	.312 (7.90)	.710 (18.0)	.281 (7.10)
12	.375 (9.50)	.770 (19.6)	.344 (8.70)
14	.437 (11.1)	.830 (21.1)	.406 (10.3)
16	.500 (12.7)	.920 (23.4)	.469 (11.9)
20	.625 (15.9)	1.040 (26.4)	.594 (15.1)
24	.750 (19.1)	1.200 (30.5)	.714 (18.1)
28	.875 (22.2)	1.340 (34.0)	.839 (21.3)
32	1.000 (25.4)	1.500 (38.1)	.964 (24.5)
40	1.250 (31.8)	1.660 (42.2)	1.214 (30.8)

Composite AeroLite System convoluted tubing to bulkhead fitting

How To Order



Material/Finish

- Adapters, Elbows, Jam Nuts: High grade engineering thermoplastic/See Table II
- Ferrules: High grade engineering thermoplastic, black/no plating (XB)
- O-Ring: Silicone/NA
- Band: SST/Passivate

Notes

- Convoluted Tubing to be ordered separately, see 120-100, standard wall. Dash No. refers to Convoluted Tubing size.
- Nominal I.D. of PEEK tubing adapters are reduced by approximately .060 in.

712-848
AeroLite System - Composite
Convuluted Tubing to Bulkhead Feed-Thru Fitting
for Series 74 Helical Convuluted Tubing



Table III: Bulkhead Size and Dimensions

Bulkhead Size	A Thread Class 2A	Ø B +.015 -.000	Ø C	D +.000 -.015	E Flats	Max Dash No.
06	7/16-28 UNEF	.443 (11.3)	.188 (4.78)	.375 (9.5)	.688 (17.5)	09
09	9/16-24 UNEF	.568 (14.4)	.281 (7.14)	.500 (12.7)	.812 (20.6)	12
10	9/16-24 UNEF	.568 (14.4)	.312 (7.92)	.500 (12.7)	.812 (20.6)	12
12	5/8-24 UNEF	.630 (16.0)	.375 (9.52)	.563 (14.3)	.875 (22.2)	14
14	11/16-24 UNEF	.693 (17.6)	.437 (11.1)	.625 (15.9)	.938 (23.8)	16
16	3/4-20 UNEF	.755 (19.2)	.500 (12.7)	.688 (17.5)	1.000 (25.4)	16
20	7/8-20 UNEF	.880 (22.4)	.625 (15.9)	.812 (20.6)	1.125 (28.6)	20
24	1-20 UNEF	1.005 (25.5)	.750 (19.1)	.938 (23.8)	1.250 (31.8)	24
28	1 3/16-18 UNEF	1.193 (30.3)	.875 (22.2)	1.125 (28.6)	1.438 (36.5)	28
32	1 5/16-18 UNEF	1.318 (33.5)	1.000 (25.4)	1.250 (31.8)	1.562 (39.6)	32
40	1 1/2-18 UNEF	1.505 (38.2)	1.250 (31.8)	1.438 (36.5)	1.812 (46.0)	40

Table IV: Dash No./Dimensions

Dash No.	Tubing I.D. Nom	Ø F Max	Ø G Entry +.015	H Max
06	.188 (4.80)	.580 (14.7)	.157 (4.00)	1.393 (35.3)
09	.281 (7.14)	.670 (17.0)	.250 (6.35)	1.393 (35.3)
10	.312 (7.92)	.710 (18.0)	.281 (7.14)	1.393 (35.3)
12	.375 (9.53)	.770 (19.6)	.344 (8.73)	1.393 (35.3)
14	.437 (11.1)	.830 (21.1)	.406 (10.3)	1.393 (35.3)
16	.500 (12.7)	.920 (23.4)	.469 (11.9)	1.443 (36.6)
20	.625 (15.9)	1.040 (26.4)	.594 (15.1)	1.443 (36.6)
24	.750 (19.1)	1.200 (30.5)	.714 (18.1)	1.543 (39.1)
28	.875 (22.2)	1.340 (34.0)	.839 (21.3)	1.643 (41.7)
32	1.000 (25.4)	1.500 (38.1)	.964 (24.5)	1.643 (41.7)
40	1.250 (31.8)	1.660 (42.2)	1.214 (30.7)	1.743 (44.2)

Table II: Finish

SYM	Finish Description
XMT	Nickel-PTFE - Gray (1000 Hour Salt Spray)
XM	Electroless Nickel
XW	Cadmium Olive Drab Over Electroless Nickel
XO	No Plating - Base Material Non-Conductive



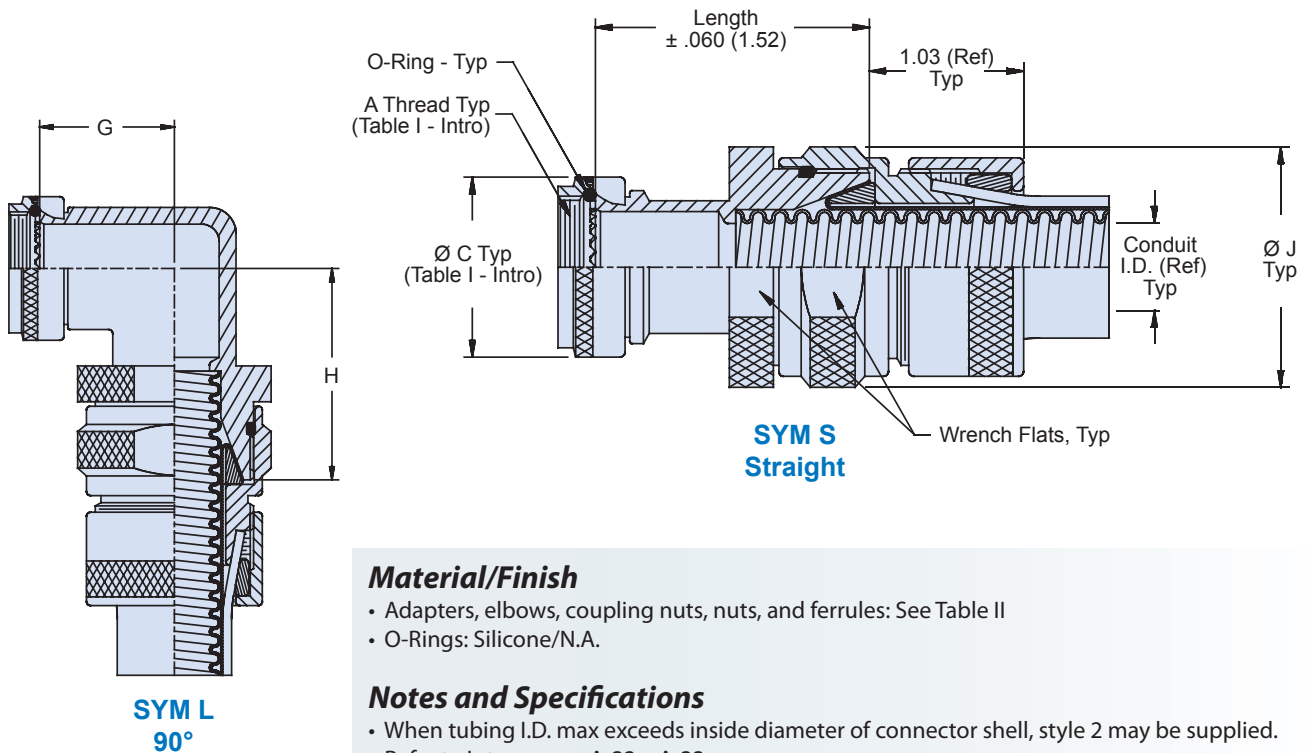
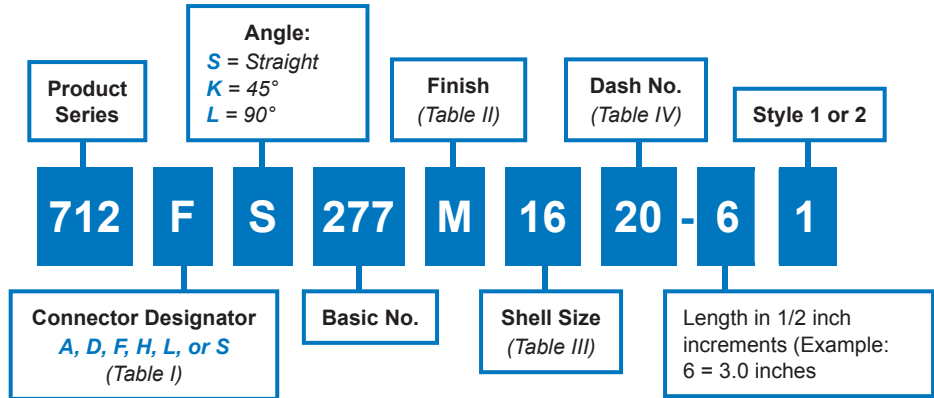
712-277

**Heavy-Duty Ground Ring System
Backshell with Ground Ring Shield Termination
for Series 74 Helical Convuluted Tubing**

Heavy-Duty convoluted tubing-to-connector backshell, environmental, for tubing with one or two braids and jacket



How To Order



Material/Finish

- Adapters, elbows, coupling nuts, nuts, and ferrules: See Table II
- O-Rings: Silicone/N.A.

Notes and Specifications

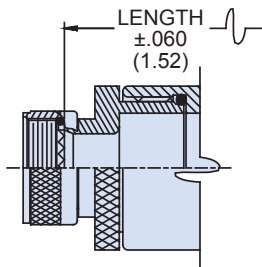
- When tubing I.D. max exceeds inside diameter of connector shell, style 2 may be supplied. Refer to Intro, pages A-32 – A-33.
- O-Ring not supplied with connector designator A
- Standard minimum length for Style I is 1.50 inch, for Style II is 2.00 inches. Consult factory for shorter length. Note: applies to Symbol S, Straight, only.

712-277

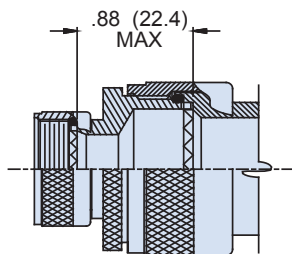
**Heavy-Duty Ground Ring System
Backshell with Ground Ring Shield Termination
for Series 74 Helical Convuluted Tubing**



Series 74
Helical Tubing



**STYLE 2
(STRAIGHT)**



**STYLE 2
(45° & 90°)**

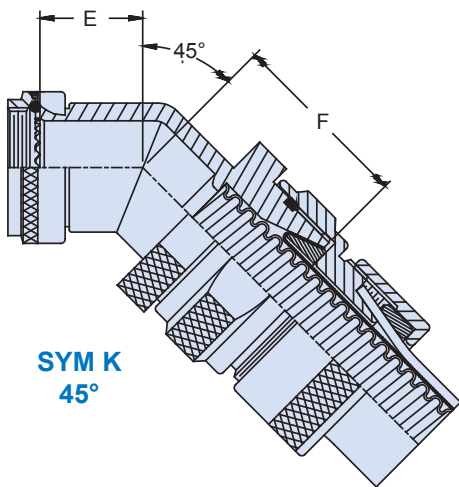


Table III: Shell Size/Dimensions					
Shell Size A, D, F, L, S	H	E Max	F Max	G Max	H Max
10	11	.66 (16.8)	1.26 (32.0)	.81 (20.6)	1.40 (35.6)
12	13	.69 (17.6)	1.28 (32.5)	.87 (22.1)	1.46 (37.1)
14	15	.71 (18.0)	1.31 (33.3)	.92 (23.4)	1.53 (38.9)
16	17	.73 (18.5)	1.33 (33.8)	.98 (24.9)	1.59 (40.4)
18	19	.75 (19.1)	1.34 (34.0)	1.02 (25.9)	1.61 (40.9)
20	21	.77 (19.6)	1.36 (34.5)	1.08 (27.4)	1.67 (42.4)
22	23	.80 (20.3)	1.40 (35.6)	1.14 (29.0)	1.75 (44.5)
24	25	.82 (20.8)	1.43 (36.3)	1.20 (30.5)	1.82 (46.2)
28		1.04 (26.4)	1.60 (40.6)	1.48 (37.6)	2.06 (52.3)
32		1.09 (27.7)	1.64 (41.7)	1.61 (40.9)	2.15 (54.6)
36		1.14 (29.0)	1.69 (42.9)	1.72 (43.7)	2.26 (57.4)

Table II: Finish		
Sym	Material	Finish Description
B	AL Alloy	Olive Drab over Cadmium Plate
J		Gold Iridite over Cadmiup Plate over Nickel
M		Electroless Nickel
N		Olive Drab over Cadmium Plate over Nickel
NC		Zinc-Cobalt, Olive Drab
NF		Olive Drab over Cadmium Plate over Electroless Nickel (500 Hour Salt Spray)
T		Bright Dip Cadmium Plate over Nickel
Z1	300 Series SST	Passivate

Table IV: Dash No./Dimensions			
Dash No.	Conduit I.D.		Ø J Max
	Min	Max	
06	.181 (4.6)	.188 (4.8)	1.09 (27.7)
09	.273 (6.9)	.281 (7.1)	1.16 (29.5)
10	.306 (7.8)	.312 (7.9)	1.22 (31.0)
12	.359 (9.1)	.375 (9.5)	1.28 (32.5)
14	.427 (10.8)	.437 (11.1)	1.34 (34.0)
16	.480 (12.2)	.500 (12.7)	1.41 (35.8)
20	.603 (15.3)	.625 (15.9)	1.53 (38.9)
24	.725 (18.4)	.750 (19.1)	1.66 (42.2)
28	.860 (21.8)	.875 (22.2)	1.78 (45.2)
32	.970 (24.6)	1.000 (25.4)	1.91 (48.5)
40	1.205 (30.6)	1.250 (31.8)	2.28 (57.9)
48	1.437 (36.5)	1.500 (38.1)	2.59 (65.8)
56	1.688 (42.9)	1.750 (44.5)	2.91 (73.9)
64	1.937 (49.2)	2.000 (50.8)	3.03 (77.0)

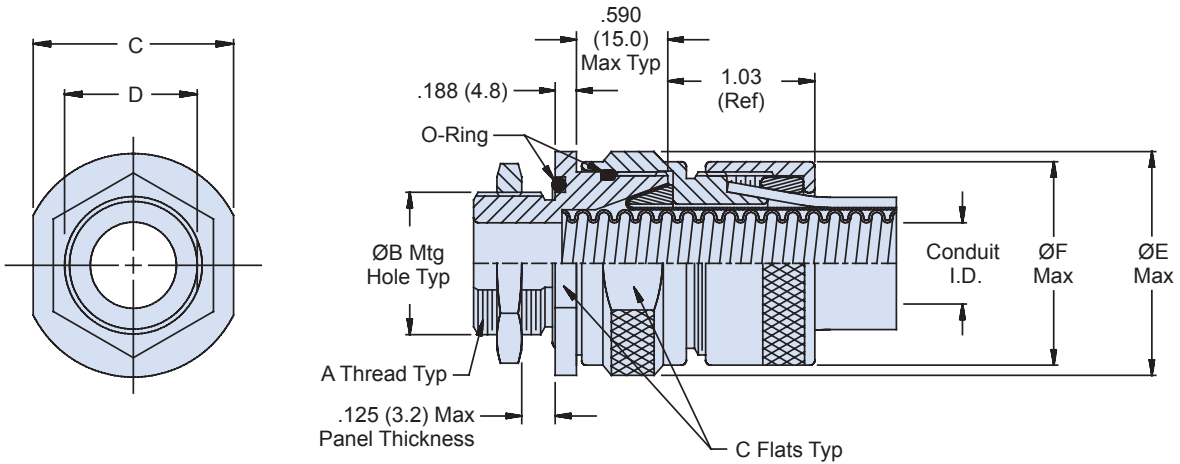
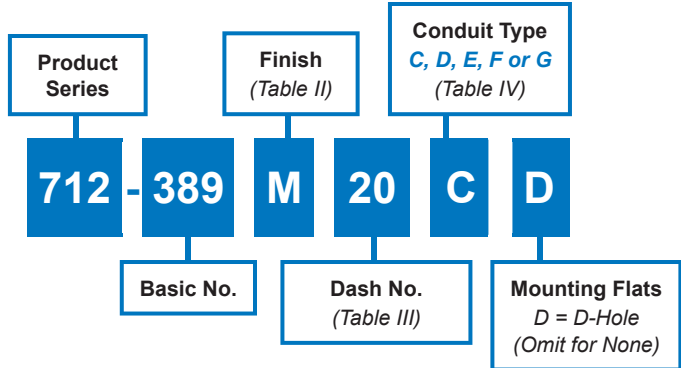


712-389
Heavy-Duty Ground Ring System
Bulkhead Fitting with Ground Ring
Shield Termination for Series 74 Helical Convuluted Tubing

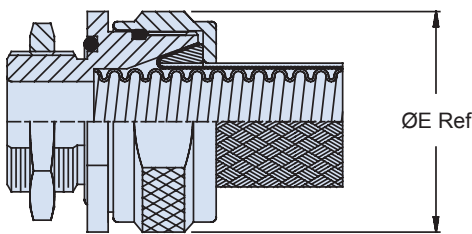
Heavy-Duty convoluted tubing-to-bulkhead fitting



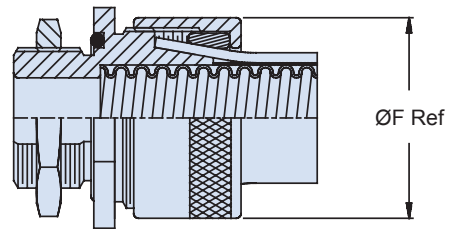
How To Order



Types C & F
Environmental



Types D, & E
Non-Environmental



Type G
Environmental

Material/Finish

- Adapters, hex nuts, nuts, ferrules: See Table II
- O-Rings: Silicone/N.A.

712-389

Heavy-Duty Ground Ring System

Bulkhead Fitting with Ground Ring

Shield Termination for Series 74 Helical Convuluted Tubing

Series 74
Helical Tubing

Table III: Dash No./Dimensions

Dash No.	Conduit ID		A Thread Class 2A	Ø B +.03 (0.8) -.00 (0.0)	C Across Flat	D +.000 -.015	Ø E Max	Ø F Max
	Min	Max						
06	.181 (4.6)	.188 (4.8)	7/16 - 28 UNEF	.440 (11.2)	.937 (23.8)	.375 (9.5)	1.09 (27.7)	.780 (19.8)
09	.273 (6.9)	.281 (7.1)	9/16 - 24 UNEF	.560 (14.2)	1.00 (25.4)	.500 (12.7)	1.16 (29.5)	1.03 (26.2)
10	.306 (7.8)	.312 (7.9)	9/16 - 24 UNEF	.560 (14.2)	1.06 (27.0)	.500 (12.7)	1.22 (31.0)	1.03 (26.2)
12	.359 (9.1)	.375 (9.5)	5/8 - 24 UNEF	.630 (16.0)	1.13 (28.6)	.563 (14.3)	1.28 (32.5)	1.03 (26.2)
14	.427 (10.8)	.437 (11.1)	11/16 - 24 UNEF	.690 (17.5)	1.19 (30.1)	.625 (15.9)	1.34 (34.0)	1.22 (31.0)
16	.480 (12.2)	.500 (12.7)	3/4 - 20 UNEF	.750 (19.1)	1.25 (31.8)	.688 (17.5)	1.41 (35.8)	1.28 (32.5)
20	.603 (16.0)	.625 (15.9)	7/8 - 20 UNEF	.880 (22.4)	1.38 (34.9)	.812 (20.6)	1.53 (38.9)	1.41 (35.8)
24	.725 (18.4)	.750 (19.1)	1 - 20 UNEF	1.00 (25.4)	1.50 (38.1)	.938 (23.8)	1.66 (42.2)	1.53 (38.9)
28	.860 (21.8)	.875 (22.2)	13/16 - 18 UNEF	1.19 (30.2)	1.63 (41.3)	1.130 (28.6)	1.78 (45.2)	1.71 (43.4)
32	.970 (24.6)	1.000 (25.4)	15/16 - 18 UNEF	1.31 (33.3)	1.75 (44.5)	1.250 (31.8)	1.91 (48.5)	1.84 (46.7)
40	1.205 (30.6)	1.250 (31.8)	1 1/2 - 18 UNEF	1.50 (38.1)	2.13 (54.0)	1.440 (36.5)	2.28 (57.9)	2.16 (54.9)
48	1.437 (36.5)	1.500 (38.1)	1 3/4 - 18 UNS	1.75 (44.5)	2.44 (61.9)	1.690 (42.9)	2.59 (65.8)	2.46 (62.5)
56	1.688 (42.9)	1.750 (44.5)	2 - 18 UNS	2.00 (50.8)	2.75 (69.9)	1.940 (49.2)	2.91 (73.9)	2.78 (70.6)
64	1.937 (49.2)	2.000 (50.8)	2 1/4 - 16 UN	2.25 (57.2)	2.88 (73.0)	2.190 (55.6)	3.03 (77.0)	3.03 (77.0)

Table II: Finish

Sym	Material	Finish Description
B	AL Alloy	Olive Drab over Cadmium Plate
J		Gold Iridite over Cadmiup Plate over Nickel
M		Electroless Nickel
N		Olive Drab over Cadmium Plate over Nickel
NC		Zinc-Cobalt, Olive Drab
NF		Olive Drab over Cadmium Plate over Electroless Nickel (500 Hour Salt Spray)
T		Bright Dip Cadmium Plate over Nickel
Z1	300 Series SST	Passivate

Table IV: Conduit Type

Conduit Type	Part Number	Configuration
C	121-100	Tubing with braided shield and jacket
D	121-101	Tubing with braided shield
E	121-102	Tubing with two braided shields
F	121-103	Tubing with two braided shields and jacket
G	123-100	Tubing with jacket



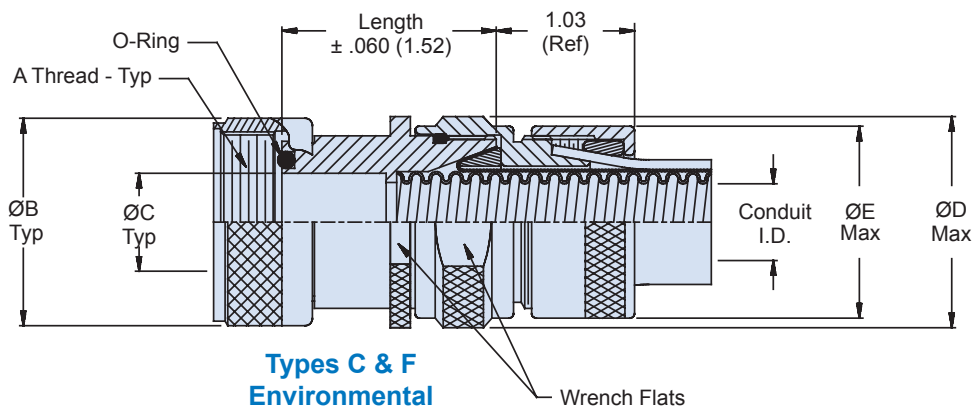
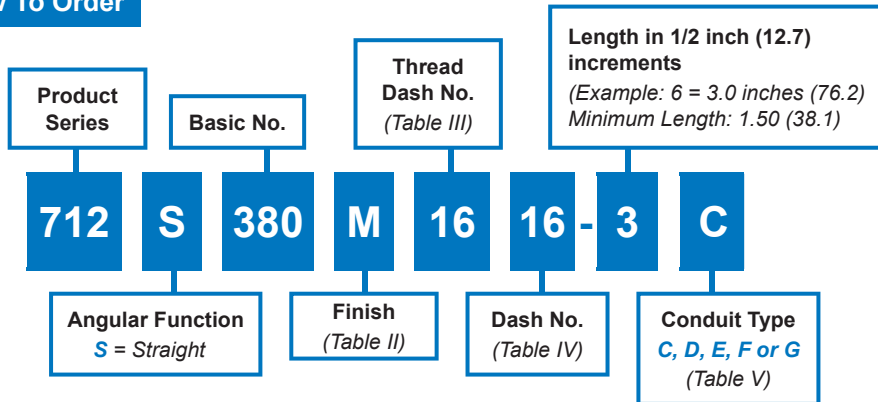
712-380

Heavy-Duty Ground Ring System
Conduit to Transition or End Fitting Adapter with Ground Ring
Shield Termination for Series 74 Helical Convuluted Tubing

Heavy-Duty convoluted tubing to transition or end-fitting adapter



How To Order



Intermateability Guide	
For use with	
Y transitions	710-106, 710-107, 710-370,
T transitions	710-108, 710-109, 710-371
Connector adapters	713-100, 713-101, 713-110
Bulkhead adapters	710-100, 710-101, 710-372
Bulkhead feed-thrus	710-102, 710-103, 710-373
Male Pipe thread adapters	710-114, 710-115, 710-405
Female pipe thread adapters	710-116, 710-117, 710-406

Material/Finish

- Adapters, coupling nuts, nuts, and ferrules: See Table II
- O-Rings: Silicone/N.A.

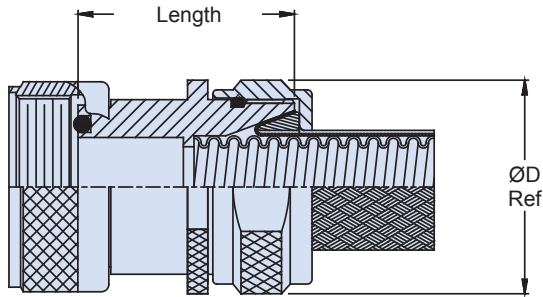
712-380

Heavy-Duty Ground Ring System

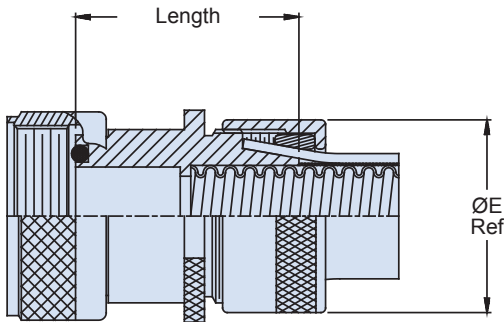
Conduit to Transition or End Fitting Adapter with Ground Ring Shield Termination for Series 74 Helical Convuluted Tubing



Series 74
Helical Tubing



Types D & E
Non-Environmental



Type G
Environmental

Thread Dash No.	A Thread Class 2B	Ø B Max	Ø C	Max Dash No. Table IV
06	7/16 - 28 UNEF	.640 (16.3)	.188 (4.8)	06
09	9/16 - 24 UNEF	.690 (17.5)	.281 (7.1)	09
10	9/16 - 24 UNEF	.690 (17.5)	.312 (7.9)	10
12	5/8 - 24 UNEF	.760 (19.3)	.375 (9.5)	12
14	11/16 UNEF	.890 (22.6)	.438 (11.1)	14
16	3/4 - 20 UNEF	.890 (22.6)	.500 (12.7)	16
20	7/8 - 20 UNEF	1.024 (26.0)	.625 (15.9)	20
24	1 - 20 UNEF	1.152 (29.3)	.750 (19.1)	24
28	13/16 - 18 UNEF	1.363 (34.6)	1.000 (25.4)	28
32	115/16 - 18 UNEF	1.488 (37.8)	1.250 (31.8)	32
40	1 1/2 - 18 UNEF	1.676 (42.6)	2.500 (63.5)	40
48	1 3/4 - 18 UNS	1.960 (49.8)	1.500 (38.1)	48
56	2 - 18 UNS	2.210 (56.1)	1.750 (44.5)	56
64	2 1/4 - 16 UN	2.460 (62.5)	2.000 (50.8)	64

Dash No.	Conduit I.D.		Ø D Max	Ø E Max
	Min	Max		
06	.181 (4.6)	.188 (4.8)	1.09 (27.7)	.780 (19.8)
09	.273 (6.9)	.281 (7.1)	1.16 (29.5)	1.03 (26.2)
10	.306 (7.8)	.312 (7.9)	1.22 (31.0)	1.03 (26.2)
12	.359 (9.1)	.375 (9.5)	1.28 (32.5)	1.03 (26.2)
14	.427 (10.8)	.437 (11.1)	1.34 (34.0)	1.22 (31.0)
16	.480 (12.2)	.500 (12.7)	1.41 (35.8)	1.28 (32.5)
20	.603 (15.3)	.625 (15.9)	1.53 (38.9)	1.41 (35.8)
24	.725 (18.4)	.750 (19.1)	1.66 (42.2)	1.53 (38.9)
28	.860 (21.8)	.875 (22.2)	1.78 (45.2)	1.71 (43.3)
32	.970 (24.6)	1.000 (25.4)	1.91 (48.5)	1.84 (46.7)
40	1.205 (30.6)	1.250 (31.8)	2.28 (57.9)	2.16 (54.9)
48	1.437 (36.5)	1.500 (38.1)	2.59 (65.8)	2.46 (62.5)
56	1.688 (42.9)	1.750 (44.5)	2.91 (73.9)	2.78 (70.6)
64	1.937 (49.2)	2.000 (50.8)	3.03 (77.0)	3.03 (77.0)

Sym	Material	Finish Description
B	AL Alloy	Olive Drab over Cadmium Plate
J		Gold Iridite over Cadmiup Plate over Nickel
M		Electroless Nickel
N		Olive Drab over Cadmium Plate over Nickel
NC		Zinc-Cobalt, Olive Drab
NF		Olive Drab over Cadmium Plate over Electroless Nickel (500 Hour Salt Spray)
T	Bright Dip Cadmium Plate over Nickel	
Z1	300 Series SST	Passivate

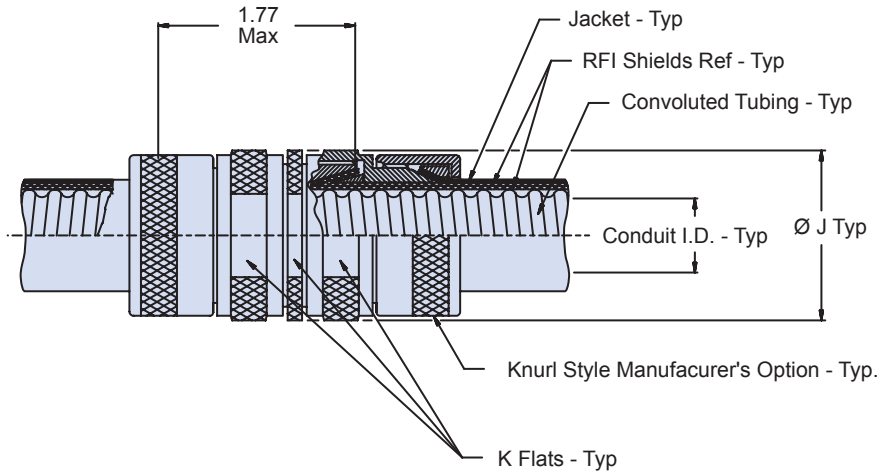
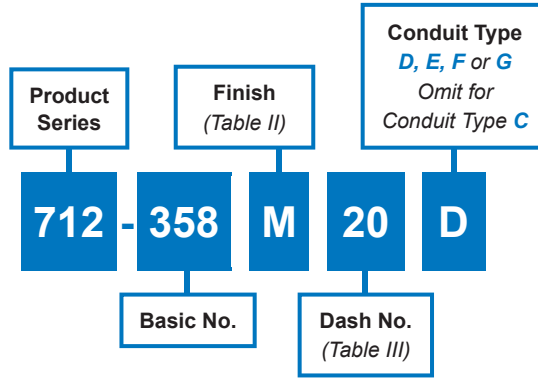
Conduit Type	Part Number	Configuration
C	121-100	Tubing with braided shield and jacket
D	121-101	Tubing with braided shield
E	121-102	Tubing with two braided shields
F	121-103	Tubing with two braided shields and jacket
G	123-100	Tubing with jacket



712-358
Heavy Duty System
Conduit to Conduit Splice Kit
for Glenair Series 74 Convulated Tubing

Heavy-Duty System user installable splice kit

How To Order



Material/Finish

- Adapters, nuts, and ferrules: Al Alloy/See Table II
- O-Rings: Silicone/N.A.

712-358
Heavy Duty System
Conduit to Conduit Splice Kit
for Glenair Series 74 Convuluted Tubing



Table II: Finish

Sym	Tubing Material
M	Electroless Nickel Per MIL-C-26074, Class I, Grade B
NF	Cadmium, Olive Drab, Per Qq-P-416, Type II Class 3 Over Electroless Nickel Per Mil-C-26074, Class I, Grade B

Table III: Dimensions

Dash No.	Conduit I.D.		Ø J Max	K Flats
	Min	Max		
06	.181 (4.6)	.188 (4.8)	1.09 (27.7)	.937 (23.8)
09	.273 (6.9)	.281 (7.1)	1.16 (29.5)	1.000 (25.4)
10	.306 (7.8)	.312 (7.9)	1.22 (31.0)	1.062 (27.0)
12	.359 (9.1)	.375 (9.5)	1.28 (32.5)	1.125 (28.6)
14	.427 (10.8)	.437 (11.1)	1.34 (34.0)	1.187 (30.1)
16	.480 (12.2)	.500 (12.7)	1.41 (36.6)	1.250 (31.8)
20	.603 (15.3)	.625 (15.9)	1.53 (38.9)	1.375 (34.9)
24	.725 (18.4)	.750 (19.1)	1.66 (42.2)	1.500 (38.1)
28	.860 (21.8)	.875 (22.2)	1.78 (45.2)	1.625 (41.3)
32	.970 (24.6)	1.000 (25.4)	1.91 (48.5)	1.750 (44.5)
40	1.205 (30.6)	1.250 (31.8)	2.28 (57.9)	2.125 (54.0)
48	1.437 (36.5)	1.500 (38.1)	2.59 (65.8)	2.437 (61.9)
56	1.688 (42.9)	1.750 (44.5)	2.91 (73.9)	2.750 (69.9)
64	1.937 (49.2)	2.000 (50.8)	3.03 (77.0)	2.875 (73.0)

Table IV: Conduit Type

Conduit Type	Part Number	Configuration
C	121-100	Tubing with braided shield and jacket
D	121-101	Tubing with braided shield
E	121-102	Tubing with two braided shields
F	121-103	Tubing with two braided shields and jacket
G	123-100	Tubing with jacket

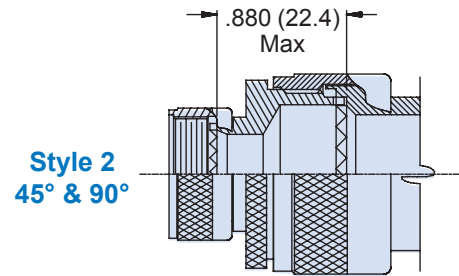
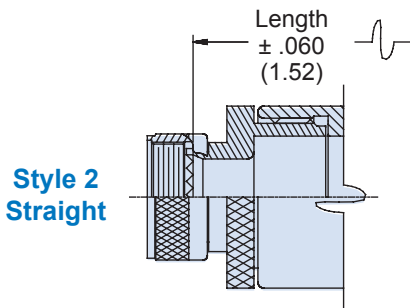
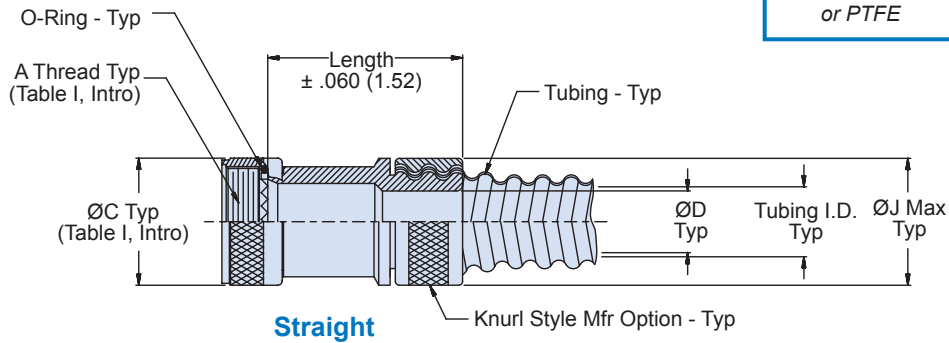
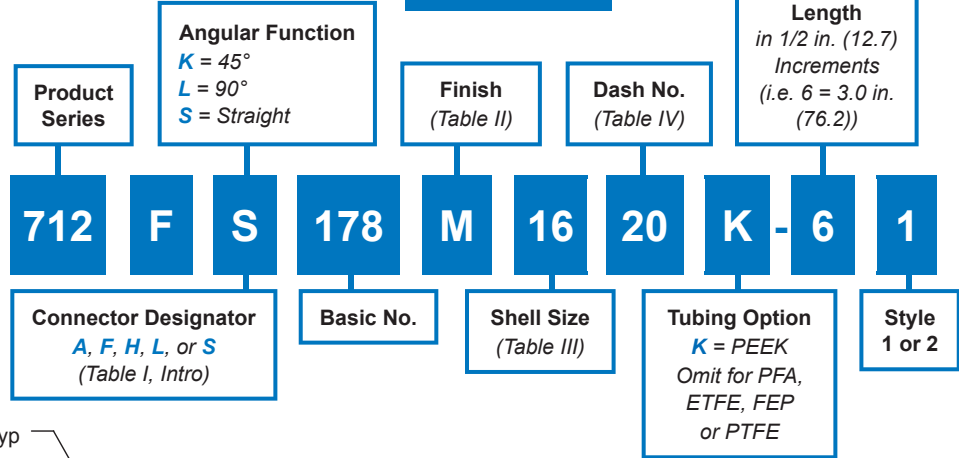


712-178
Hammer Nut System
 Conduit to Connector Backshell
 for Standard or PEEK Series 74 Helical Convuluted Tubing

**Metal backshell with compression hammer nut for easy termination of conduit.
 Available for use with a wide range of connectors**



How To Order



Material/Finish

- Adapters, elbows, coupling nuts, and ferrules: See Table II
- O-Rings: Silicone/N.A.

Notes

- When tubing I.D. max exceeds inside diameter of connector shell, style 2 may be supplied. Refer to Intro, pages A-32 – A-33.
- O-Ring not supplied with connector designator A.
- Standard minimum length for Style I is 1.50 inch, for Style II is 2.00 inches. Consult factory for shorter lengths. Note: applies to Symbol S, Straight, only.

712-178
Hammer Nut System
 Conduit to Connector Backshell
 for Standard or PEEK Series 74 Helical Convoluted Tubing

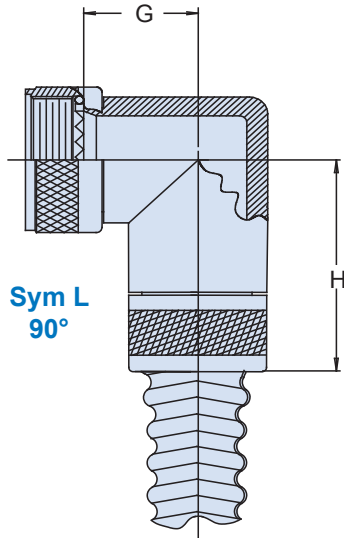


Table III: Shell Size/Dimensions

Shell Size		E		F		G		H	
A, F, L, S	H	Max		Max		Max		Max	
08	09	.639	(16.2)	.950	(24.1)	.750	(19.1)	1.060	(26.9)
10	11	.664	(16.9)	.980	(24.9)	.810	(20.6)	1.120	(28.4)
12	13	.688	(17.5)	1.000	(25.4)	.870	(22.1)	1.180	(30.0)
14	15	.705	(17.9)	1.030	(26.2)	.920	(23.4)	1.250	(31.8)
16	17	.732	(18.6)	1.050	(26.7)	.980	(24.9)	1.310	(33.3)
18	19	.748	(19.0)	1.060	(26.9)	1.020	(25.9)	1.330	(33.8)
20	21	.773	(19.6)	1.080	(27.4)	1.080	(27.4)	1.390	(35.3)
22	23	.800	(20.3)	1.120	(28.4)	1.140	(29.0)	1.470	(37.3)
24	25	.823	(20.9)	1.150	(29.2)	1.200	(30.5)	1.540	(39.1)
28	-	1.041	(26.4)	1.320	(33.5)	1.480	(37.6)	1.780	(45.2)
32	-	1.092	(27.7)	1.360	(34.5)	1.610	(40.9)	1.870	(47.5)
36	-	1.138	(28.9)	1.410	(35.8)	1.720	(43.7)	1.980	(50.3)

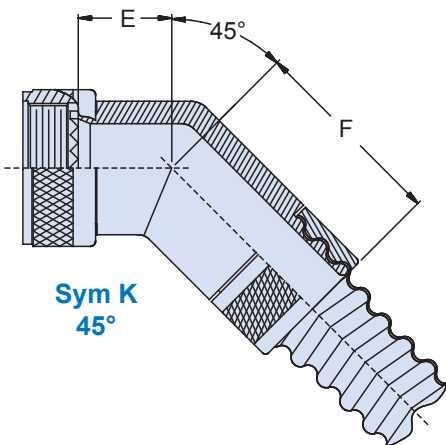


Table II: Finish

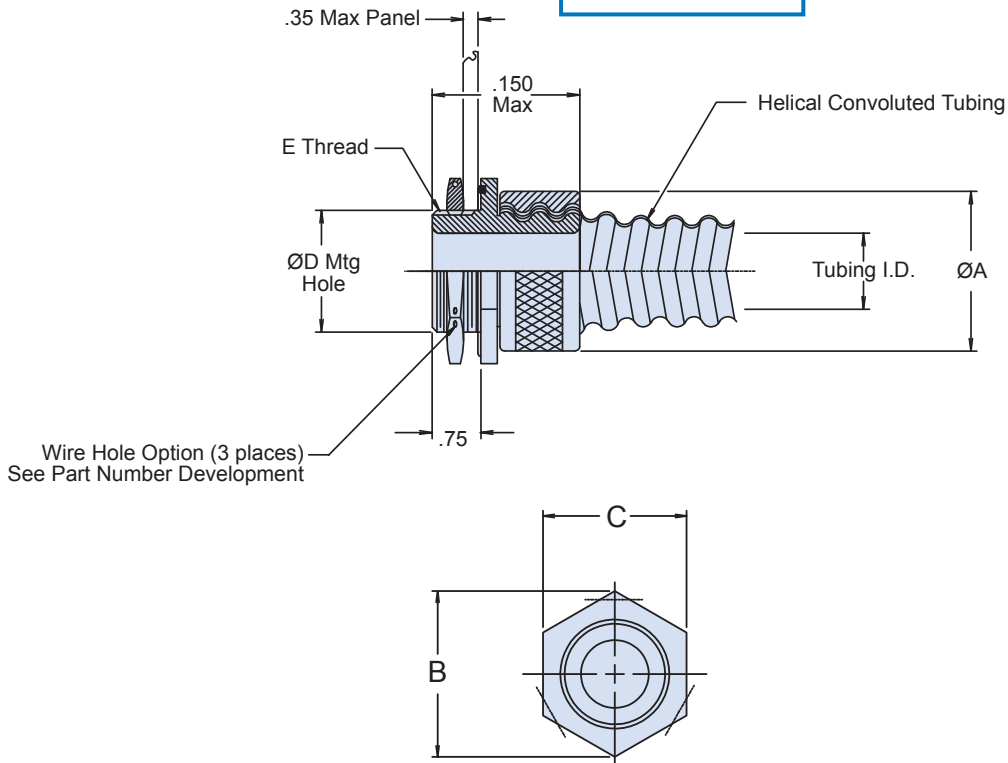
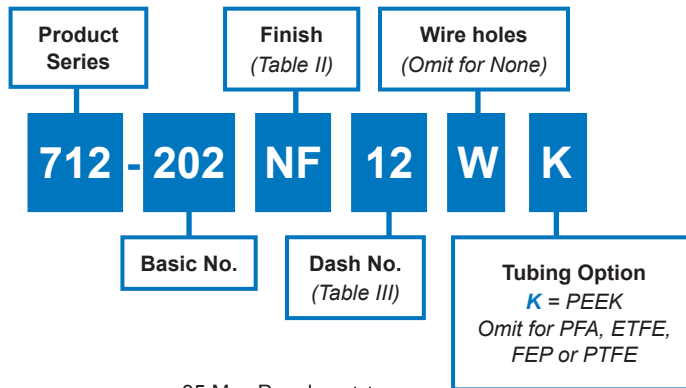
Sym	Material	Finish Description
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
Z1	300 Series SST	Passivate
ZM	300 Series SST	Electroless Nickel
ZN	Aluminum Alloy	Zinc Nickel/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
ZW	300 Series SST	Cad O.D. Over Electroless Nickel

Table IV: Dash No./Tubing Size

Dash No.	Tubing I.D.		D Dia		J Dia
	Min	Max	Std Teflon	PEEK	Max
06	.181 (4.60)	.188 (4.80)	.188 (4.8)	.115 (2.9)	.530 (13.5)
09	.273 (6.93)	.281 (7.14)	.265 (6.7)	.210 (5.3)	.590 (15.0)
10	.306 (7.80)	.312 (7.90)	.265 (6.7)	.235 (6.0)	.660 (16.8)
12	.364 (9.20)	.375 (9.53)	.325 (8.3)	.320 (8.1)	.710 (18.0)
14	.427 (10.8)	.437 (11.1)	.390 (9.9)	.365 (9.3)	.780 (19.8)
16	.485 (12.3)	.500 (12.7)	.470 (11.9)	.425 (10.8)	.840 (21.3)
20	.608 (15.4)	.625 (15.9)	.595 (15.1)	.550 (14.0)	.970 (24.6)
24	.730 (18.5)	.750 (19.1)	.735 (18.7)	.680 (17.3)	1.160 (29.5)
28	.860 (21.8)	.875 (22.2)	.875 (22.2)	.790 (20.1)	1.310 (33.3)
32	.975 (24.8)	1.000 (25.4)	.975 (24.8)	.915 (23.2)	1.410 (35.8)
40	1.210 (30.7)	1.250 (31.8)	1.192 (30.3)	1.165 (29.6)	1.720 (43.7)
48	1.437 (36.5)	1.500 (38.1)	1.445 (36.7)	1.415 (35.9)	2.010 (51.1)
56	1.688 (42.9)	1.750 (44.5)	1.690 (42.9)	1.660 (42.2)	2.280 (57.9)
64	1.937 (49.2)	2.000 (50.8)	2.000 (50.8)	1.905 (48.4)	2.420 (61.5)

Hummer nut system convoluted tubing-to-bulkhead fitting

How To Order



Material/Finish/Notes

- Adapter, Jam nut, nut - Al Alloy or 300 Series Stainless Steel/See Table II
- O-Rings - Silicone/N.A.,
- For effective grounding, connector with conductive finish should be used.

712-202
Hummer Nut System
Conduit to Bulkhead Fitting



Table II: Finish	
Sym	Finish
B	Cadmium Plate/Olive Drab
C	Anodize, Black (Non-Conductive)
J	Gold Iridite over Cadmium Plate over Nickel
M	Electroless Nickel
N	Cadmium Plate/Olive Drab over Nickel
NF	Cadmium Plate/Olive Drab over Electroless Nickel (1000 Hour salt spray)
T	Bright Dip Cadmium over Nickel
Z1	Passivate (300 Series CRES) Per AMS-2700, Type 6

Table II: Dash No./Dimensions							
Dash No.	Tubing I.D.		A Dia Max	B Dim	C Dim	D Dia +.015 -.000	E Thread Class 2A
	Min	Max					
06	0.181 (4.6)	0.188 (4.8)	0.729 (18.5)	0.72 (18.3)	0.625 (15.9)	0.448 (11.4)	7/16-28 UNEF
09	0.273 (6.9)	0.281 (7.1)	0.821 (20.9)	0.80 (20.3)	0.688 (17.5)	0.510 (13.0)	1/2-28 UNEF
10	0.306 (7.8)	0.312 (7.9)	0.852 (21.6)	0.87 (22.1)	0.750 (19.1)	0.572 (14.5)	9/16-24 UNEF
12	0.359 (9.1)	0.375 (9.5)	0.915 (23.2)	0.94 (23.9)	0.812 (20.6)	0.635 (16.1)	5/8-24 UNEF
14	0.427 (10.8)	0.437 (11.1)	0.978 (24.8)	1.01 (25.7)	0.875 (22.2)	0.697 (17.7)	11/16-24 UNEF
16	0.480 (12.2)	0.500 (12.7)	1.040 (26.4)	1.09 (27.7)	0.938 (23.8)	0.760 (19.3)	3/4-20 UNEF
20	0.603 (15.3)	0.625 (15.9)	1.165 (29.6)	1.23 (31.2)	1.062 (27.0)	0.885 (22.5)	7/8-20 UNEF
24	0.725 (18.4)	0.750 (19.1)	1.290 (32.8)	1.44 (36.6)	1.250 (31.8)	1.010 (25.7)	1-20 UNEF
28	0.860 (21.8)	0.875 (22.2)	1.415 (35.9)	1.59 (40.4)	1.375 (34.9)	1.135 (28.8)	11/8-18 UNEF
32	0.970 (24.6)	1.000 (25.4)	1.540 (39.1)	1.73 (43.9)	1.500 (38.1)	1.260 (32.0)	11/4-18 UNEF
40	1.205 (30.6)	1.250 (31.8)	1.790 (45.5)	2.02 (51.3)	1.750 (44.5)	1.510 (38.4)	11/2-18 UNEF
48	1.437 (36.5)	1.500 (38.1)	2.040 (51.8)	2.32 (58.9)	2.000 (50.8)	1.760 (44.7)	1 3/4-18 UNS
56	1.688 (42.9)	1.750 (44.5)	2.290 (58.2)	2.53 (64.3)	2.187 (55.5)	2.010 (51.1)	2-18 UNS
64	1.937 (49.2)	2.000 (50.8)	2.540 (64.5)	2.87 (72.9)	2.437 (61.9)	2.260 (57.4)	2 1/4-16 UN

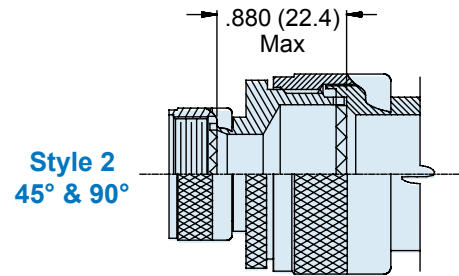
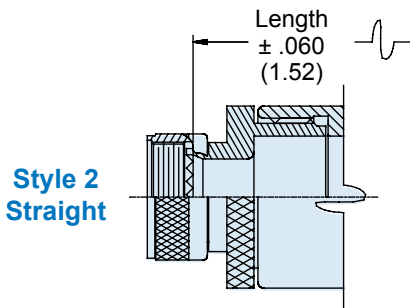
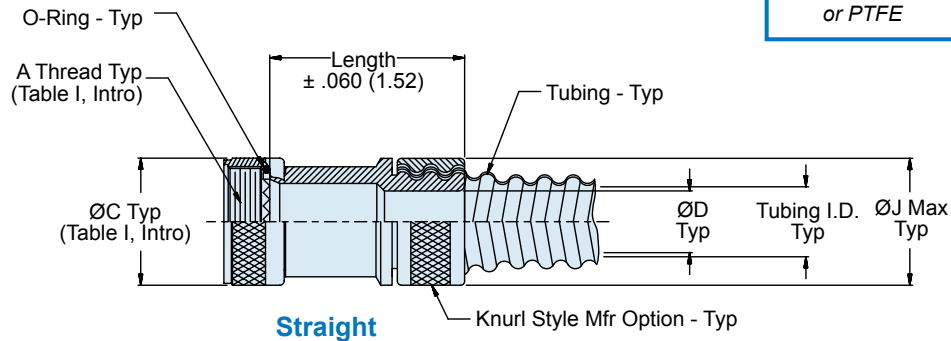
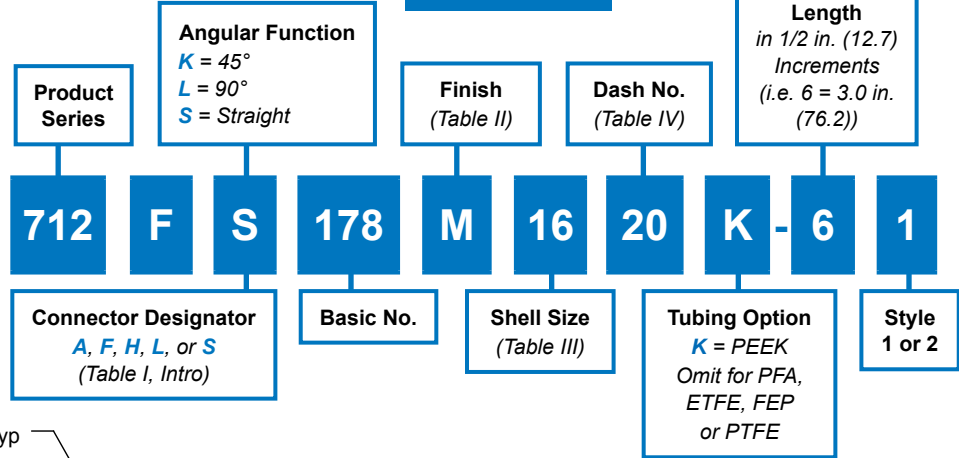


712-178
Hammer Nut System
Conduit to Connector Backshell
for Standard or PEEK Series 74 Helical Convoluted Tubing

Metal backshell with compression hammer nut for easy termination of conduit.
Available for use with a wide range of connectors



How To Order



Material/Finish

- Adapters, elbows, coupling nuts, and ferrules: See Table II
- O-Rings: Silicone/N.A.

Notes

- When tubing I.D. max exceeds inside diameter of connector shell, style 2 may be supplied. Refer to Intro, pages A-32 – A-33.
- O-Ring not supplied with connector designator A.
- Standard minimum length for Style I is 1.50 inch, for Style II is 2.00 inches. Consult factory for shorter lengths. Note: applies to Symbol S, Straight, only.

712-178
Hammer Nut System
 Conduit to Connector Backshell
 for Standard or PEEK Series 74 Helical Convoluted Tubing

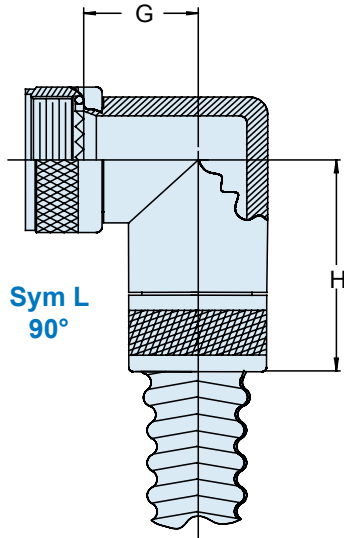


Table III: Shell Size/Dimensions

Shell Size		E		F		G		H	
A, F, L, S	H	Max		Max		Max		Max	
08	09	.639	(16.2)	.950	(24.1)	.750	(19.1)	1.060	(26.9)
10	11	.664	(16.9)	.980	(24.9)	.810	(20.6)	1.120	(28.4)
12	13	.688	(17.5)	1.000	(25.4)	.870	(22.1)	1.180	(30.0)
14	15	.705	(17.9)	1.030	(26.2)	.920	(23.4)	1.250	(31.8)
16	17	.732	(18.6)	1.050	(26.7)	.980	(24.9)	1.310	(33.3)
18	19	.748	(19.0)	1.060	(26.9)	1.020	(25.9)	1.330	(33.8)
20	21	.773	(19.6)	1.080	(27.4)	1.080	(27.4)	1.390	(35.3)
22	23	.800	(20.3)	1.120	(28.4)	1.140	(29.0)	1.470	(37.3)
24	25	.823	(20.9)	1.150	(29.2)	1.200	(30.5)	1.540	(39.1)
28	-	1.041	(26.4)	1.320	(33.5)	1.480	(37.6)	1.780	(45.2)
32	-	1.092	(27.7)	1.360	(34.5)	1.610	(40.9)	1.870	(47.5)
36	-	1.138	(28.9)	1.410	(35.8)	1.720	(43.7)	1.980	(50.3)

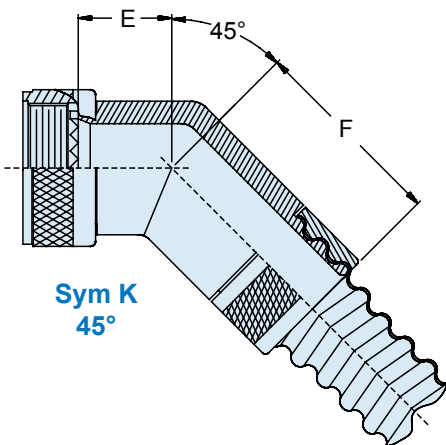


Table II: Finish

Sym	Material	Finish Description
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
Z1	300 Series SST	Passivate
ZM	300 Series SST	Electroless Nickel
ZN	Aluminum Alloy	Zinc Nickel/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
ZW	300 Series SST	Cad O.D. Over Electroless Nickel

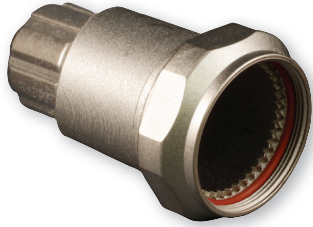
Table IV: Dash No./Tubing Size

Dash No.	Tubing I.D.		D Dia		J Dia Max
	Min	Max	Std Fluoropolymer	PEEK	
06	.181 (4.60)	.188 (4.80)	.188 (4.8)	.115 (2.9)	.530 (13.5)
09	.273 (6.93)	.281 (7.14)	.265 (6.7)	.210 (5.3)	.590 (15.0)
10	.306 (7.80)	.312 (7.90)	.265 (6.7)	.235 (6.0)	.660 (16.8)
12	.364 (9.20)	.375 (9.53)	.325 (8.3)	.320 (8.1)	.710 (18.0)
14	.427 (10.8)	.437 (11.1)	.390 (9.9)	.365 (9.3)	.780 (19.8)
16	.485 (12.3)	.500 (12.7)	.470 (11.9)	.425 (10.8)	.840 (21.3)
20	.608 (15.4)	.625 (15.9)	.595 (15.1)	.550 (14.0)	.970 (24.6)
24	.730 (18.5)	.750 (19.1)	.735 (18.7)	.680 (17.3)	1.160 (29.5)
28	.860 (21.8)	.875 (22.2)	.875 (22.2)	.790 (20.1)	1.310 (33.3)
32	.975 (24.8)	1.000 (25.4)	.975 (24.8)	.915 (23.2)	1.410 (35.8)
40	1.210 (30.7)	1.250 (31.8)	1.192 (30.3)	1.165 (29.6)	1.720 (43.7)
48	1.437 (36.5)	1.500 (38.1)	1.445 (36.7)	1.415 (35.9)	2.010 (51.1)
56	1.688 (42.9)	1.750 (44.5)	1.690 (42.9)	1.660 (42.2)	2.280 (57.9)
64	1.937 (49.2)	2.000 (50.8)	2.000 (50.8)	1.905 (48.4)	2.420 (61.5)

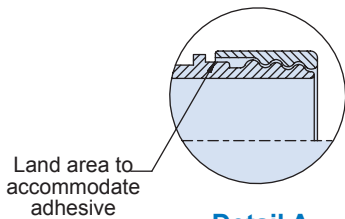
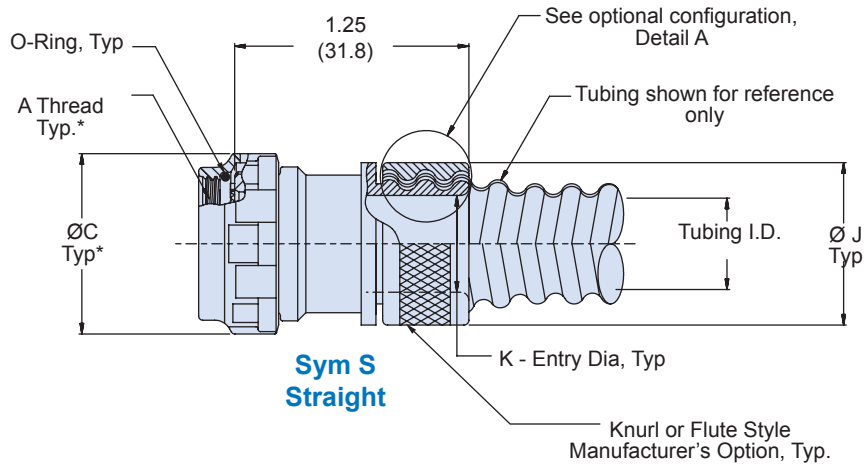
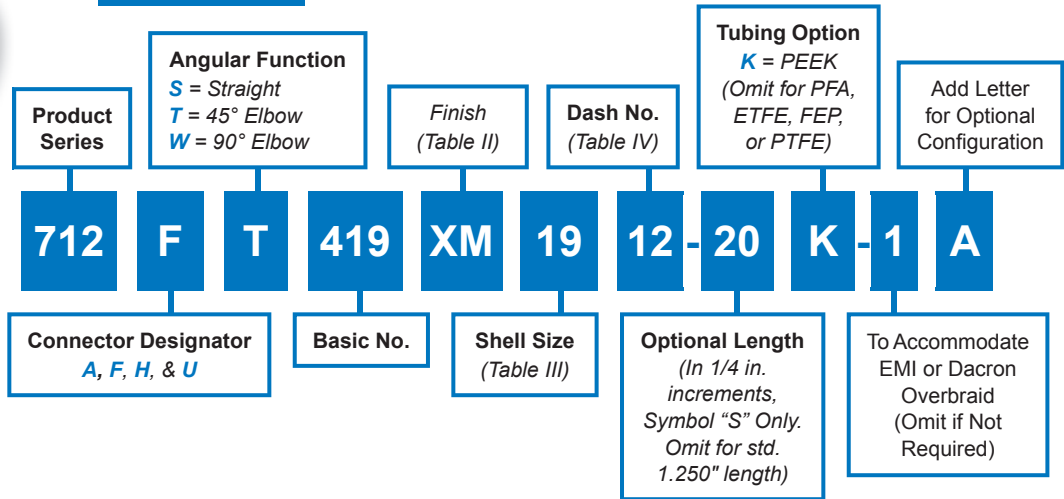


712-419
Lightweight Composite Hummer-Nut System
Composite Backshell for Series 74 Helical Convoluted Tubing,
Shielding Optional

Lightweight Composite Hummer Nut conduit-to-connector backshell



How To Order



Detail A
Optional adhesive land configuration, see P/N

Material/Finish

- Adapters, elbows, ferrules, coupling nuts: High grade engineering thermoplastic/ See Table II
- O-Ring: Silicone/NA

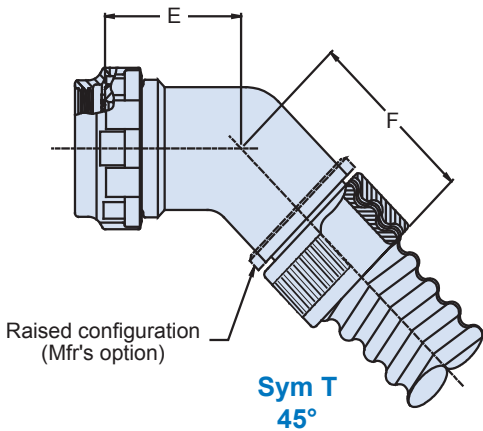
Assembly Notes

- Nominal I.D. of PEEK tubing adapters are reduced by approximately .060 in.
- For permanent installation use 3M Scotch Weld Tape after installing tubing/shield.
- O-Ring not supplied with connector designator A
- * See composite catalog for front end dimensions

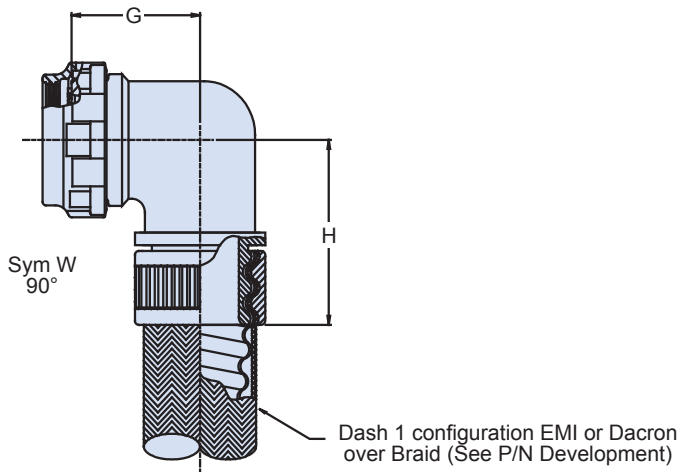
712-419
Lightweight Composite Hammer-Nut System
Composite Backshell for Series 74 Helical Convuluted Tubing,
Shielding Optional



Shell Size		E	F	G	H	Tubing Size
A, F, & H	G & U	± .06 (1.5)	± .09 (2.3)	± .06 (1.5)	± .09 (2.3)	Max.
08, 09	-	.72 (18.3)	.89 (22.6)	.69 (17.5)	1.11 (28.2)	09
3, 10, 11	08	.75 (19.1)	.95 (24.1)	.75 (19.1)	1.16 (29.5)	12
12, 13	10, 11	.75 (19.1)	1.02 (25.9)	.81 (20.6)	1.22 (31.0)	16
14, 15	12, 13	.76 (19.3)	1.05 (26.7)	.88 (22.4)	1.29 (32.8)	20
16, 17	14, 15	.78 (19.8)	1.07 (27.2)	.94 (23.9)	1.35 (34.3)	24
18, 19	16, 17	.79 (20.1)	1.08 (27.4)	.97 (24.6)	1.38 (35.1)	28
20, 21	18, 19	.82 (20.8)	1.11 (28.2)	1.06 (26.9)	1.47 (37.3)	32
22, 23	20	.86 (21.8)	1.15 (29.2)	1.13 (28.7)	1.54 (39.1)	32
24, 25, 61	22, 23	.89 (22.6)	1.18 (30.0)	1.19 (30.2)	1.73 (43.9)	40
28	24, 25	.92 (23.4)	1.21 (30.7)	1.34 (34.0)	1.82 (46.2)	40



Dash No.	Conduit I.D.	Ø J Max	Ø K Entry
06	.188 (4.8)	.54 (13.7)	.12 (3.0)
09	.281 (7.1)	.63 (16.0)	.22 (5.6)
10	.312 (7.9)	.69 (17.5)	.24 (6.1)
12	.375 (9.5)	.73 (18.5)	.29 (7.4)
14	.437 (11.1)	.80 (20.3)	.34 (8.6)
16	.500 (12.7)	.87 (22.1)	.40 (10.2)
20	.625 (15.9)	1.00 (25.4)	.52 (13.2)
24	.750 (19.1)	1.18 (30.0)	.65 (16.5)
28	.875 (22.2)	1.32 (33.5)	.78 (19.8)
32	1.000 (25.4)	1.47 (37.3)	.90 (22.9)
40	1.250 (31.8)	1.76 (53.3)	1.08 (27.4)
48	1.500 (38.1)	2.13 (54.1)	1.32 (33.5)



Sym	Finish
XM	Electroless Nickel
XW	Cadmium Olive Drab over Electroless Nickel
XB	No Plating - Black Material
XO	No Plating - Natural, Non-conductive

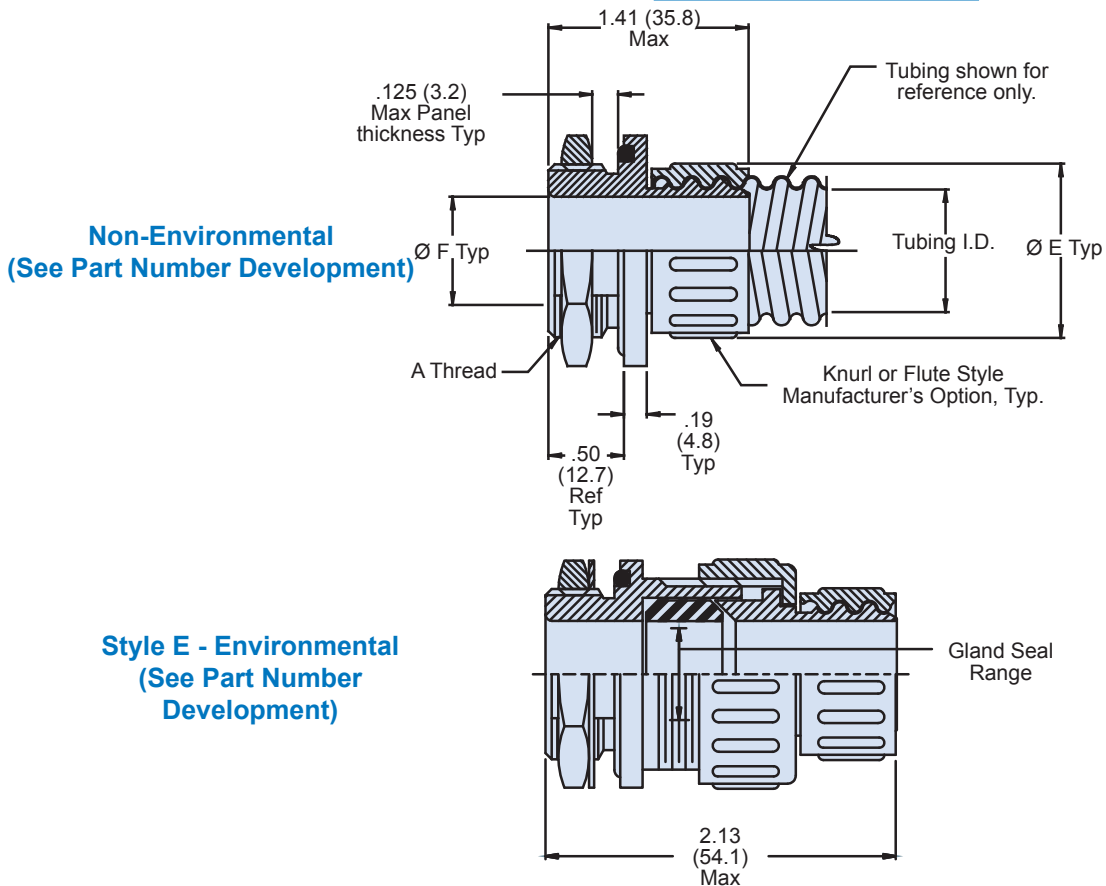
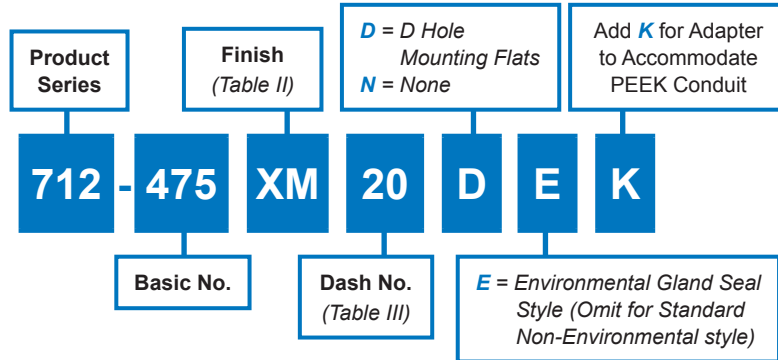


712-475

Lightweight Composite Hummer-Nut System
Bulkhead Fitting, Environmental or Non-Environmental
for Series 74 PEEK or Standard Tubing

Lightweight Composite Hummer-Nut convoluted tubing-to-bulkhead fitting

How To Order



Material/Finish

- Adapters, jam nuts, ferrules: High grade engineering thermoplastic/See Table II
- O-Ring, Gland seal: Silicone/NA
- Washer: CRES/Passivated

712-475
Lightweight Composite Hummer-Nut System
Bulkhead Backshell for Environmental or
Non-Environmental for Series 74 PEEK or Standard Tubing

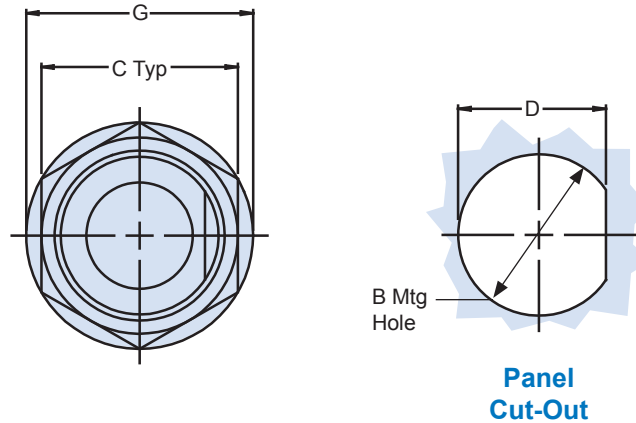


Table III: Dash No./Dimensions

Dash No.	A Thread Class 2A	Ø B ± .015 - .000	C Across Flats	D + .000 - .015	Ø E Max	Ø F Max	Ø G Max	H ± .005	Tubing I.D.		Gland Seal Range	
									Min	Max	Min	Max
06	M16 X 1.5	.640 (16.3)	.875 (22.2)	.595 (15.1)	.500 (12.7)	.162 (4.10)	1.02 (25.9)	.570 (14.5)	.181 (4.60)	.187 (4.70)	.156 (4.00)	.250 (6.40)
09	M16 X 1.5	.640 (16.3)	.875 (22.2)	.595 (15.1)	.600 (15.2)	.244 (6.20)	1.02 (25.9)	.570 (14.5)	.273 (6.90)	.281 (7.10)	.156 (4.00)	.250 (6.40)
10	M16 X 1.5	.640 (16.3)	.875 (22.2)	.595 (15.1)	.630 (16.0)	.274 (7.00)	1.02 (25.9)	.570 (14.5)	.306 (7.80)	.312 (7.90)	.156 (4.00)	.250 (6.40)
12	M16 X 1.5	.640 (16.3)	.875 (22.2)	.595 (15.1)	.700 (17.8)	.326 (8.30)	1.02 (25.9)	.570 (14.5)	.364 (9.20)	.375 (9.5)	.188 (4.80)	.312 (7.90)
14	M20 X 1.5	.802 (20.4)	1.062 (27.0)	.752 (19.1)	.760 (19.3)	.382 (9.70)	1.18 (30.0)	.727 (18.5)	.427 (10.8)	.437 (11.1)	.250 (6.40)	.438 (11.1)
16	M20 X 1.5	.802 (20.4)	1.062 (27.0)	.752 (19.1)	.850 (21.6)	.434 (11.0)	1.18 (30.0)	.727 (18.5)	.485 (12.3)	.500 (13.0)	.250 (6.40)	.438 (11.1)
20	M27 X 2.0	1.078 (27.4)	1.312 (33.3)	1.029 (26.1)	.970 (24.6)	.539 (13.7)	1.45 (36.8)	1.004 (25.5)	.608 (15.4)	.625 (15.9)	.375 (9.50)	.625 (15.9)
22	1-20 UNEF	1.005 (25.5)	1.312 (33.3)	.937 (23.8)	1.00 (25.4)	.649 (16.5)	1.39 (35.3)	.912 (23.2)	.608 (15.4)	.625 (15.9)	.375 (9.5)	.625 (15.9)
24	1-20 UNEF	1.005 (25.5)	1.312 (33.3)	.937 (23.8)	1.140 (29.0)	.649 (16.5)	1.39 (35.3)	.912 (23.2)	.730 (18.5)	.750 (19.1)	.375 (9.50)	.625 (15.9)
28	M27 X 2.0	1.078 (27.4)	1.312 (33.3)	1.029 (26.1)	1.280 (32.5)	.769 (19.5)	1.45 (36.8)	1.004 (25.5)	.860 (21.8)	.875 (22.2)	.438 (11.1)	.750 (19.1)
32	M36 X 2.0	1.437 (36.5)	1.750 (44.5)	1.403 (35.6)	1.450 (36.8)	.868 (22.0)	1.81 (46.0)	1.370 (34.8)	.975 (24.8)	1.000 (25.4)	.625 (15.9)	.938 (23.8)
40	1 1/2-18 UNEF	1.505 (38.2)	1.750 (44.5)	1.437 (36.5)	1.760 (44.7)	1.078 (27.4)	1.89 (48.0)	1.412 (35.9)	1.210 (30.7)	1.250 (31.8)	.875 (22.2)	1.250 (31.8)
48	1 3/4-18 UNEF	1.755 (44.6)	2.000 (50.8)	1.687 (42.8)	2.060 (52.3)	1.200 (30.5)	2.14 (54.4)	1.662 (42.2)	1.437 (36.5)	1.500 (38.1)	1.000 (25.4)	1.375 (34.9)
56	2-18 UNS	2.005 (50.9)	2.250 (57.2)	1.937 (49.2)	2.390 (60.7)	1.400 (35.6)	2.39 (60.7)	1.912 (48.6)	1.688 (42.9)	1.750 (44.5)	1.250 (31.8)	1.625 (41.3)
64	2 1/4 - 16 UN	2.255 (57.3)	2.500 (63.5)	2.187 (55.5)	2.570 (65.3)	1.600 (40.6)	2.64 (67.1)	2.162 (54.9)	1.937 (49.2)	2.000 (50.8)	1.250 (31.8)	1.625 (41.3)

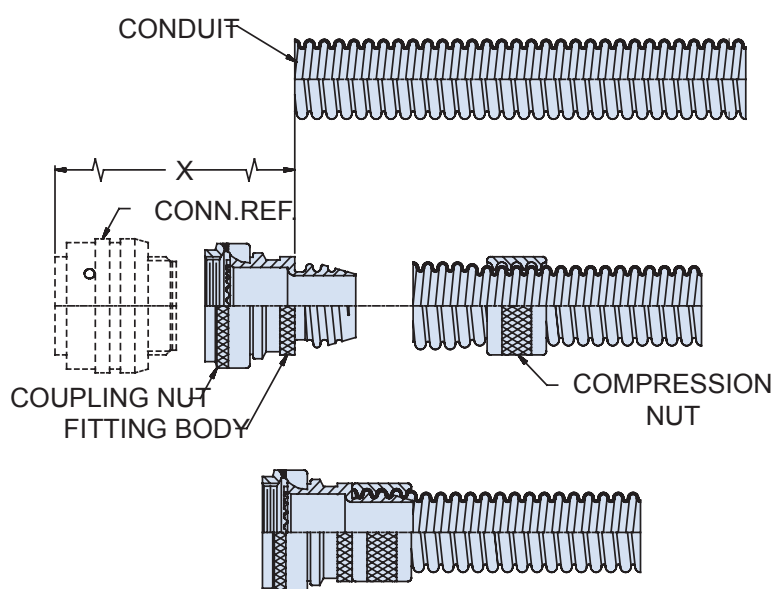
Table II: Finish

Sym	Finish
XM	Electroless Nickel
XW	Cadmium Olive Drab over Electroless Nickel
XB	No Plating - Black Material
XO	No Plating - Natural, Non-conductive

Hummer Nut System Fittings

Pre-Assembly Preparation

1. Determine overall conduit assembly length required from connector face to connector face. From this dimension, establish conductor length needed for connector termination and add two inches.
2. Temporarily assemble connectors to adapters and hand tighten. Establish and deduct the "X" dimension(s) from the overall assembly length in Step 1.
3. Disassemble fitting from connector. Prepare conduit and assemble to adapters per instructions below for the fitting series used.

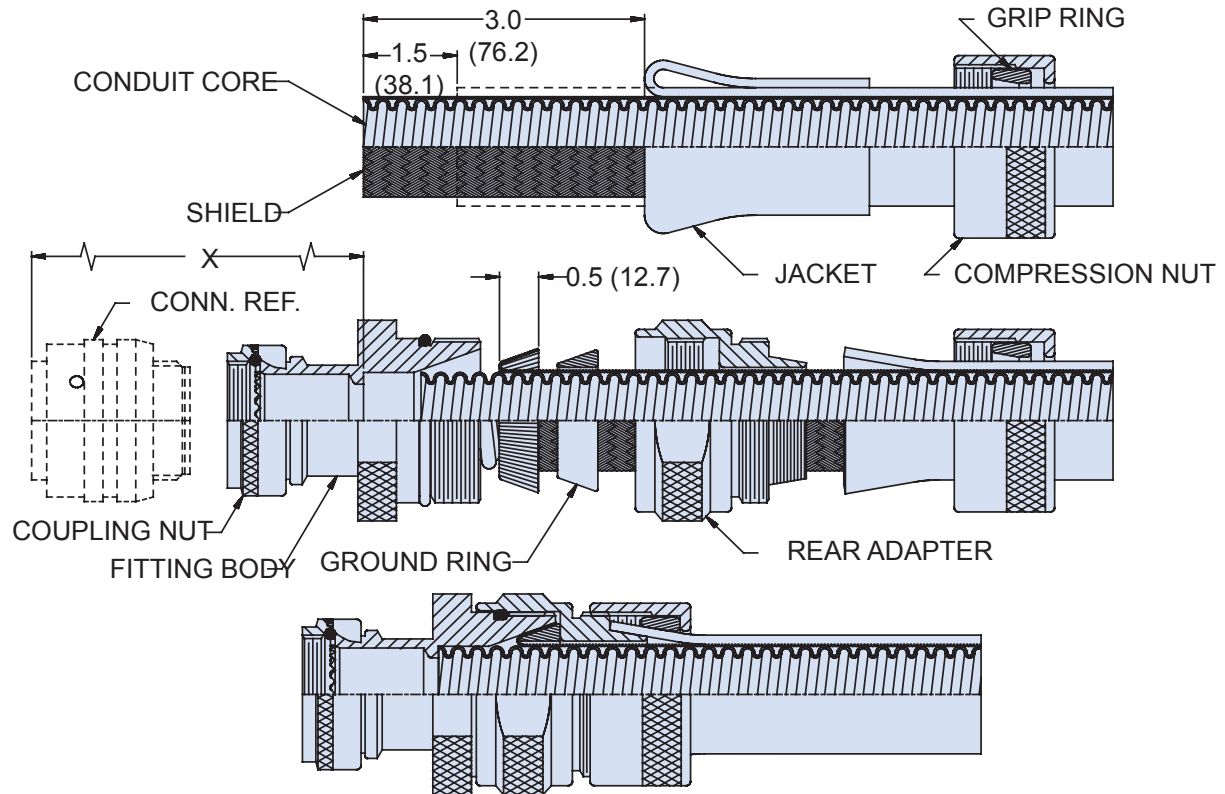


Fitting/Conduit Assembly

1. Cut the conduit to length per pre-assembly preparation step 2 using conduit shears or an equivalent. Trim conduit perpendicular to the bore.
2. Thread compression nut onto conduit approximately 1.0 inch (25.4 mm).
3. Expand conduit approximately .06 diameter. Thread onto rear of fitting body and bottom on shoulder.
4. Thread compression nut forward over conduit and bottom on shoulder. Torque to 35 to 50 inch pounds.
5. Prepare and terminate other end of conduit per above.

Glenair 600 series backshell assembly tools are recommended for assembly and installation. A catalog is available on request, or may be accessed on the internet at www.glenair.com.

Heavy-Duty Ground Ring System Fittings



Pre-Assembly Preparation

1. Determine overall conduit assembly length required from connector face to connector face. From this dimension, establish conductor length needed for connector termination and add two inches.
2. Temporarily assemble connector to fitting and hand tighten. Establish and deduct the "X" dimension(s) from the overall assembly length in Step 1.
3. Disassemble fitting from connectors. Prepare conduit and assemble to fitting per instructions below.

Fitting/Conduit Assembly

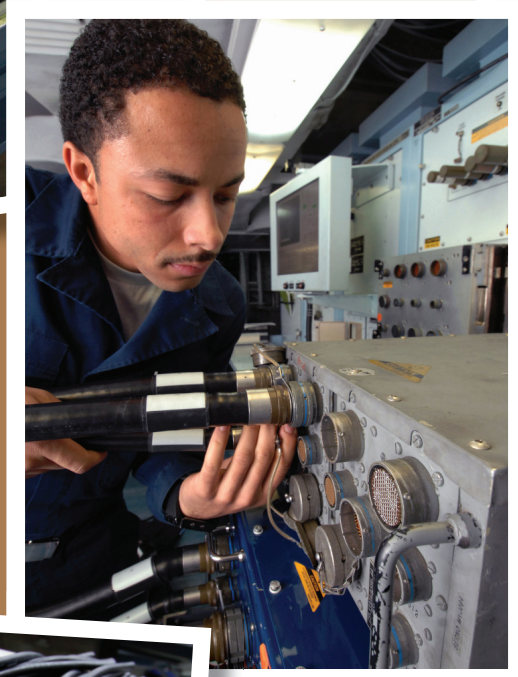
1. Cut conduit to length per pre-assembly preparation step 2 using conduit shears or an equivalent. Trim jacket back 1.0 inches from end taking care not to cut or nick shield underneath.
2. Slide compression nut and grip ring onto conduit.
3. Fold jacket back approximately 3.0 inches (76.2 mm). Silicone grease or other lubricant may be used to aid this process.

4. Trim conduit and the shield perpendicular to the bore. Inspect inside of conduit for trimmings or other foreign matter and remove. Slide rear adapter and ground ring over shield and back to folded jacket.
5. Fold back (or comb out and fold back) shield approximately 0.5 inch (1.3 mm). Slide conduit core into bore in fitting and bottom on shoulder at "X" dimension. Slide ground ring forward into tapered bore in fitting, capturing shield. (If shield has been "combed out", make sure the ends are equally displaced about the ring and not bunched) Trim shield at rear end of ground ring and remove trimmings.
6. Bring rear adapter forward, thread to fitting body and torque 30 to 50 inch pounds. Verify conduit is seated in bore.
7. Fold jacket forward over serrated cone. Trim jacket flush to 1/8 inch back from shoulder and remove any trimmings.
8. Bring grip ring and compression nut forward, thread to fitting body and torque to 30 to 50 inch pounds.

Glenair 600 series backshell assembly tools are recommended for assembly and installation. A catalog is available on request, or may be accessed on the internet at www.glenair.com.

Turnkey SERIES 75 FLEXIBLE METAL- CORE CONDUIT ASSEMBLIES

FOR RUGGED EMI/RFI APPLICATIONS



Series 75 Flexible Metal-Core Conduit System Introduction and Quick Selection Guide



The Ultimate in Highly Flexible, Crush-Proof EMI/RFI Protection

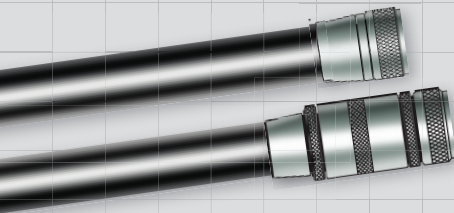
Glenair Series 75 Metal-Core Conduit is a helically wound, continuous solder metal conduit, delivering the highest level of EMI/RFI shielding and crush-proof strength available for mission-critical interconnect wiring applications. Metal-core conduit is the material of choice for TEMPEST secure communications and intensive EMI/RFI environments, and is offered in brass, nickel/iron, or stainless steel. Specify braided shielding and jacketing for additional mechanical and environmental protection. State-of-the-art construction IAW MIL-C-13909/A-A-52240, MIL-PRF-24758A and MIL-DTL-28840.

Series 75 Do-It-Yourself Fittings are the best choice when ease of assembly and installation is a requirement, or when producing prototype wire-routing systems in unpredictable lengths. Glenair's offerings include the compact, lightweight RP Plus family of backshells and fittings, plus heavy-duty environmental metal and weight-saving hybrid composite fittings built for rugged reliability in topside applications.

Prefer a Turnkey Solution? Factory terminated assemblies offer weight reduction and size savings, as well as highly durable tamper-proof fittings.



Metal-Core
Conduit Configurations,
pages D-2 – D-11



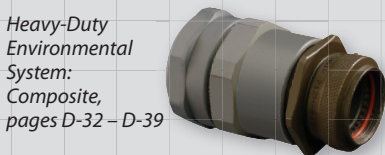
Turnkey Factory Terminated
Series 75 Assemblies, p. D-14 - D-15



Low-profile
RP Plus system,
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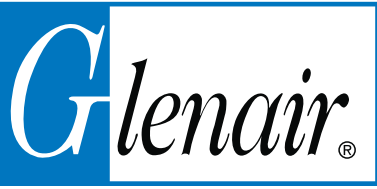
Heavy-Duty
Environmental
System: Metal,
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Heavy-Duty
Environmental
System:
Composite,
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750-192	Metal-Core Conduit with Braid and Jacket	D-9
750-193	Metal-Core Conduit with 2 Braids	D-10
750-194	Metal-Core Conduit with 2 Braids and Jacket	D-11
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712-835	Conduit to Transition or End Fitting Backshell	D-28
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Heavy-Duty Environmental System: Composite		
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712-845	Conduit to Bulkhead Fitting	D-34
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Series 75 Flexible Metal-Core EMI/RFI Conduit Configuration Options

Series 75 Flexible Conduit Tubing, Braided Shielding, and Jacketing Options

The Series 75 flexible metal-core conduit system is a helically wound, continuous solder metal conduit known for its flexibility, durability and hermeticity compared to a standard jacketed cable. System design begins with your selection of core material, either brass, nickel-iron, or stainless steel. Core materials may be outfitted with braided shielding and jacketing to address specific mechanical, electrical (EMI), and environmental protection requirements. See the individual catalog pages for detailed how-to-order information.

- | | |
|---|---|
|  <p>Pg. D-7</p> | <p>Part Number
750-190</p> <p><i>Superior EMI protection and crush-proof strength for static applications</i></p> <p>Highly flexible crush-proof metal conduit, available in Nickel-Iron, Brass, or SST.</p> |
|  <p>Pg. D-8</p> | <p>Part Number
750-191</p> <p><i>Adds braided shielding for additional tensile strength applications</i></p> <p>Flexible metal-core conduit tubing with numerous braided shielding options, for additional tensile strength and effective grounding of electromagnetic interference.</p> |
|  <p>Pg. D-9</p> | <p>Part Number
750-192</p> <p><i>Adds a jacket for environmental protection</i></p> <p>Flexible metal-core conduit tubing with braided shielding plus a ruggedized jacket for environmental protection against contaminants and moisture.</p> |
|  <p>Pg. D-10</p> | <p>Part Number
750-193</p> <p><i>Adds a second braided shield for high dB EMI/RFI shielding</i></p> <p>Flexible metal-core conduit tubing with double braided shield for high frequency EMI/RFI shielding requirements.</p> |
|  <p>Pg. D-11</p> | <p>Part Number
750-194</p> <p><i>A jacketed, double-braided configuration for combined environmental and EMI/RFI applications with high dB shielding requirements</i></p> <p>Flexible metal-core conduit tubing with double braided shield and jacket for optimum EMI/RFI protection, strength and environmental sealing.</p> |
|  <p>Pg. D-12</p> | <p>Part Number
750-195</p> <p><i>Triple-braided conduit for predictable and reliable grounding of surface-borne/high frequency electromagnetic interference</i></p> <p>Flexible metal-core conduit tubing with triple braided shield for optimal tensile strength and enhanced high frequency EMI/RFI protection.</p> |
|  <p>Pg. D-13</p> | <p>Part Number
750-196</p> <p><i>Triple-braided and jacketed conduit for maximum EMI shielding in environmental applications</i></p> <p>Flexible metal-core conduit tubing with triple braided shield and jacket for enhanced high-frequency EMI/RFI protection, strength and environmental sealing.</p> |

Series 75 Flexible Metal-Core EMI/RFI Conduit Conduit Material Properties



Series 75
Metal-Core Conduit

Conduit Material Choices, Material Properties, and Military Specifications

Glenair Code	Material	Properties	Applicable Military Specifications
B	Brass, Per A-A-52440 Type I, Grade B	Optimal EMI shielding when combined with bronze overbraid. Generally specified with bronze overbraid and jacket.	<ul style="list-style-type: none"> ■ IAW A-A-52440 (Covering shielded, electrical, flexible, metal conduit for use as protection of wiring in military vehicles from mechanical injury and, when properly installed and grounded, to prevent radiation that may cause interference with radio and other electronic equipment.) ■ MIL-C-13909 (Superseded by IAW-A-A-52440 above)
C	Stainless Steel AISI 316	Specified for high-temperature, corrosion, and crush resistance. Nominal shielding value. Typically braided with stainless steel braid for additional pull strength and durability. Available with or without a jacket.	<ul style="list-style-type: none"> ■ MIL-PRF-24758 (Covering the performance requirements for weatherproof flexible conduit systems for use primarily in exposed areas on U.S. Navy ships, to shield against electromagnetic (EM) radiation from own-ship transmitters and emissions external to the ship, electromagnetic pulse (EMP) events, and to minimize corrosion while being field repairable to reduce maintenance.)
N	Nickel Iron Alloy Type 4 ANSI/ASTM-A-753	80% Nickel, 20% Iron. Optimal low-frequency shielding material. Typically braided with stainless steel braid for additional pull strength and durability. Available with or without a jacket.	<ul style="list-style-type: none"> ■ MIL-DTL-28840 (Covering Connectors, Electrical, Circular, Threaded, High Shock, High Density, Shipboard, Metal Conduit, for EMI Shielding)

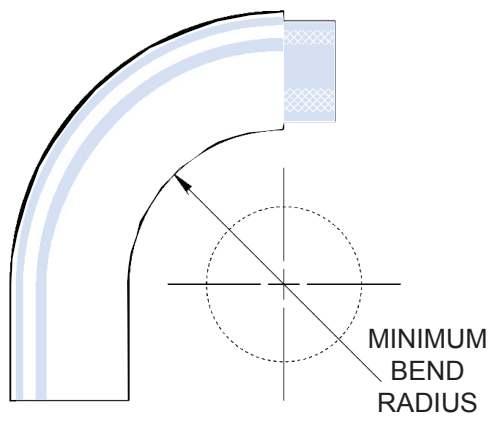
Conduit Resistance and Conduit Pull Force

Dash No.	Nominal I.D.	Percent Crush	Pull Force	
			Pounds	Newtons
08	.250 (6.4)	2.6	250	1112
12	.375 (9.5)	2.8	500	2224
16	.500 (12.7)	4.7	600	2669
20	.625 (15.9)	4.4	650	2891
24	.750 (19.1)	5.7	700	3114
32	1.000 (25.4)	5.0	750	3336
40	1.250 (31.8)	3.6	1500	6672
48	1.500 (38.1)	3.0	2000	8896
56	1.750 (44.5)	3.0	2000	8896
64	2.000 (50.8)	3.0	2000	8896
80	2.500 (63.5)	3.0	2000	8896
96	3.000 (76.2)	3.0	2000	8896

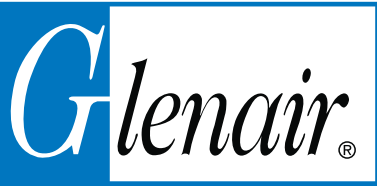
Crush resistance values are expressed as a "percent crush" with a force of 480 pounds (2138 Nm) applied to brass conduit with bronze braid and Neoprene jacket using a 4 inch width compression plate. The "percent crush" for double- and triple-braided conduit configurations are less due to additional braided coverings.

Pull-force values listed indicate the axial load at which the conduit braid separated at a point between the conduit end-fittings. No separation of the terminated end-fittings occurred at these force levels. Double- and triple-braided conduit configurations have a higher pull force due to additional braided coverings. (Note: These values are for factory installed fittings.)

D



Minimum Bend Radius: Brass conduit, single braid, neoprene jacket			
Dash No.	A Dia	B Dia Max	Minimum Bend Radius
08	.250 (6.4)	.625 (15.9)	1.750 (44.5)
12	.375 (9.5)	.750 (19.1)	2.000 (50.8)
16	.500 (12.7)	.875 (22.2)	2.500 (63.5)
20	.625 (15.9)	1.000 (25.4)	3.000 (76.2)
24	.750 (19.1)	1.141 (29.0)	3.750 (95.3)
32	1.000 (25.4)	1.500 (38.1)	5.000 (127.0)
40	1.250 (31.8)	1.750 (44.5)	6.250 (158.8)
48	1.500 (38.1)	2.000 (50.8)	7.750 (196.9)
56	1.750 (44.5)	2.250 (57.2)	8.500 (215.9)
64	2.000 (50.8)	2.531 (64.3)	10.000 (254.6)
80	2.500 (63.5)	3.031 (77.0)	12.500 (317.5)
96	3.000 (76.2)	3.560 (90.4)	15.000 (381.0)



Series 75 Flexible Metal-Core EMI/RFI Conduit Braided Shield and Jacket Options and Material Properties

EMI/RFI Braided Shielding and Non-Metallic (Fabric) Overbraids

B	Bronze	Heavy-gauge braided bronze wire for pull (tensile) strength in metal-core conduit systems. Specified for U.S. Navy and Military applications since the 1930s.
T	Tin/Copper	150°C temperature rating, 125 lbs. tensile strength, 96 hr. salt spray corrosion resistance
C	Stainless Steel	High tensile strength (225 lbs.), highest temperature—1093°C+
N	Nickel/Copper	200°C temperature rated, 150 lbs. tensile strength, 500 hrs. salt spray corrosion resistance
S	SnCuFe	Tin plated iron/copper braid for tensile strength in metal-core conduit
L	ArmorLite™	Microfilament metal-clad stainless steel braid. Ultra-lightweight EMI/RFI braiding for high-temperature applications -80°C to +260°C
D	Dacron	Yarn with excellent abrasion resistance, good chemical resistance, non-conductive
M	Nomex	-55°C to 260°C temperature range - will not melt, excellent chemical resistance, non-conductive
E	AmberStrand® 100%	Metal-clad EMI/RFI Shielding with a lightweight composite thermoplastic base material Reduces shielding weight 80% +
F	AmberStrand® 75%/25%	75% lightweight metal-clad composite thermoplastic combined with 25% nickel-plated 36AWG copper wire for additional strength

Jacketing Options

N	Neoprene	Tough, durable polychloroprene for mechanical and environmental protection
H	Hypalon®	Light weight with broad temperature range
E	EPDM	Better resistance to Ketones
V	Viton	Heaviest material with best resistance to oil and gasoline
B	Duraelectric, Black	Weatherproof, halogen free, flame resistant, functional to 260°C
G	Duraelectric, Gray	Qualified to US Navy MIL-PRF-24758A, Fed Std 595B #26270 Haze Gray color
TN	Duraelectric, Desert Tan	Duraelectric in Fed Std #3446 Desert Tan color
O	Duraelectric, Orange	OSHA Safety Orange to mark energized electrical cables

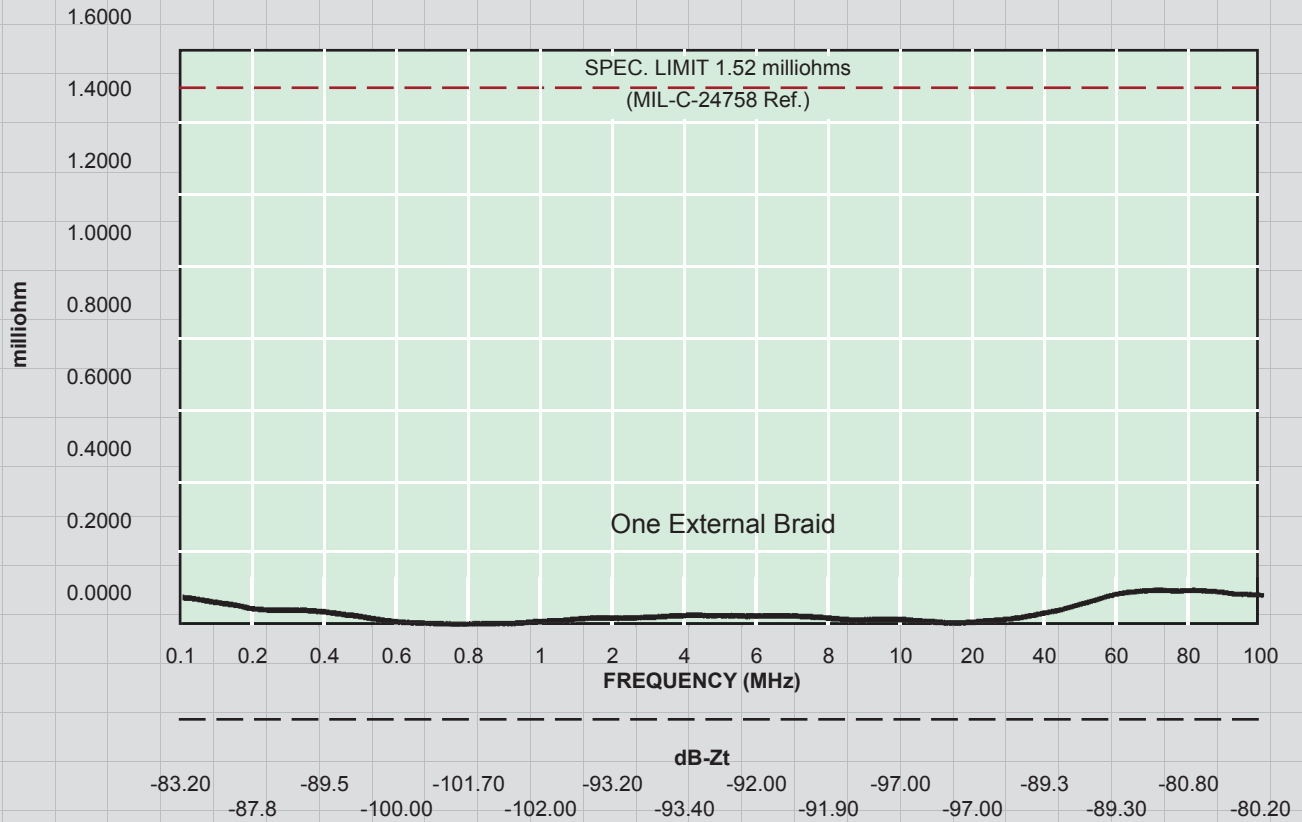
Jacketing Material Properties and Chemical Resistance

Material Property	EPDM (Ethylene Propylene Diene Monomer)	Hypalon (Chlorosulfonated Polyethylene)	Neoprene (Polychloroprene)	Viton (Fluoroelastomer)	Duraelectric
Temperature Range	-60°F to +300°F (-51°C to +149°C)	-60°F to +300°F (-51°C to +149°C)	-60°F to +250°F (-51°C to +121°C)	-40°F to +392°F (-40°C to +200°C)	-94°F to +392°F (-70°C to +200°C)
Specific Gravity	1.26	1.18	1.25	1.80	1.22
Weight: Lbs./Cubic Inch	.045	.043	.045	.055	.045
Abrasion Resistance	Excellent	Excellent	Excellent	Excellent	Good
Wear Resistance	Good	Good	Good	Good	Good
Flame Resistance	Good	Good	Good	Good	Excellent
Sunlight Resistance	Good	Excellent	Excellent	Excellent	Excellent
Chemical Resistance					
Aliphatic Hydrocarbons	Good	Good	Good	Excellent	Excellent
Aromatic Hydrocarbons	Good	Fair	Fair	Excellent	Excellent
Ketones, Etc.	Good	Poor	Poor	Poor	Excellent
Oil & Gasoline	Good	Good	Good	Excellent	Excellent

**Transfer Impedance
Series 75 Brass-Core Conduit
with Bronze Braid and User Installable Fittings
1.5 Inch Diameter**



Series 75
Metal-Core Conduit

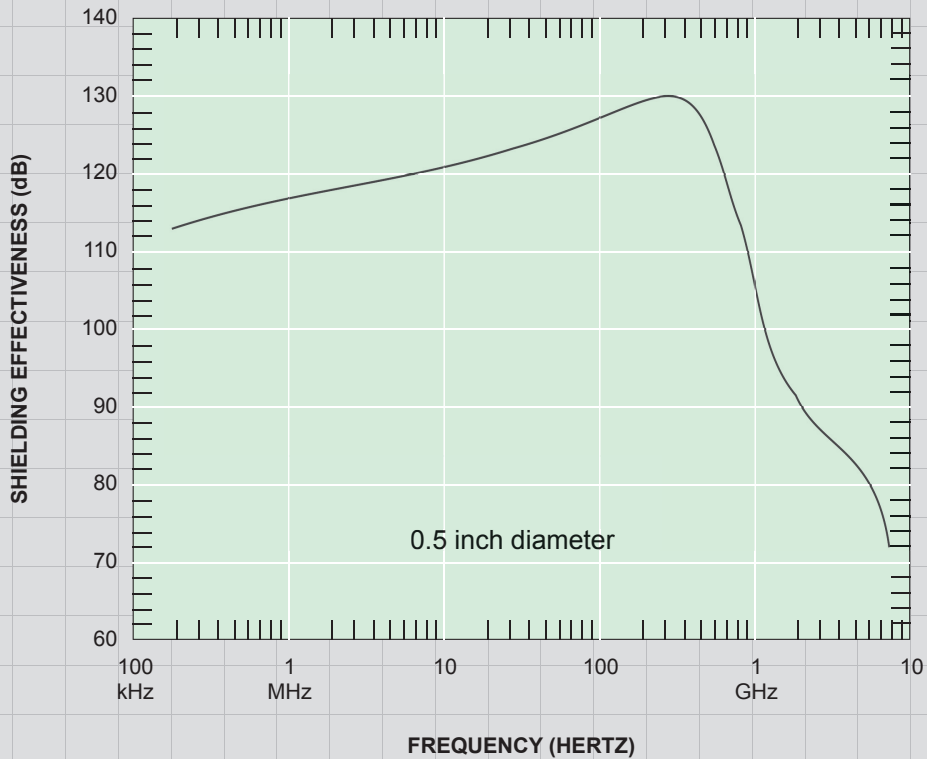
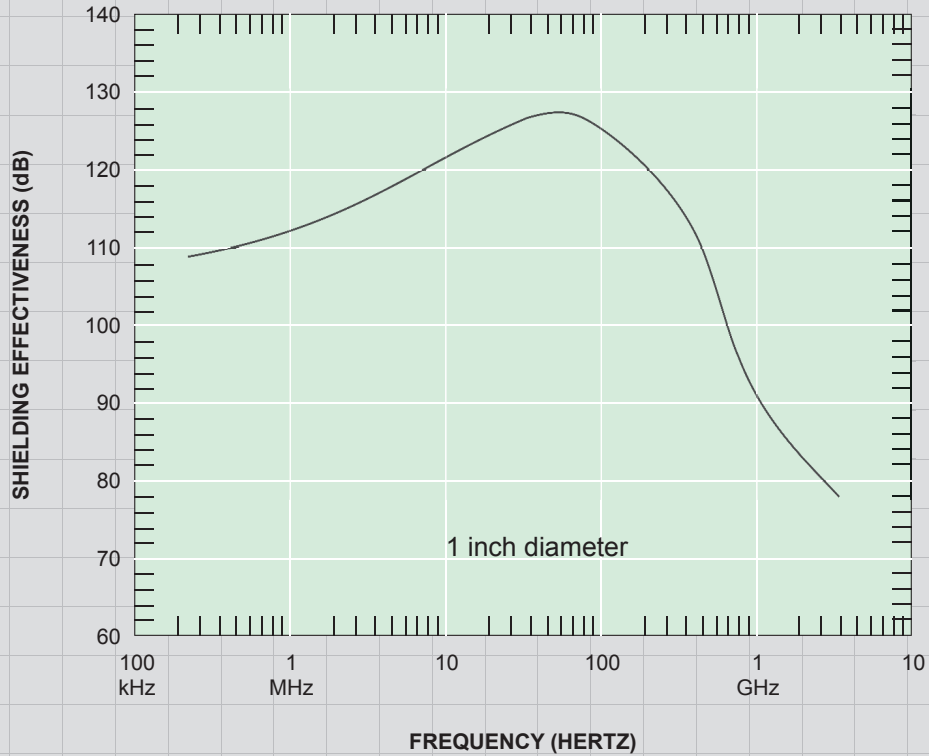


D



Shielding Effectiveness Series 75 Metal Core Conduit 1 Inch Diameter, 0.5 Inch Diameter

D



750-190 Flexible Metal-Core EMI/RFI Conduit

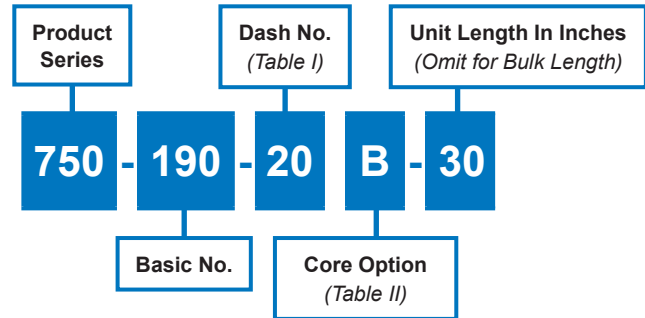


Series 75
Metal-Core Conduit

Superior EMI protection and crush-proof strength for static applications



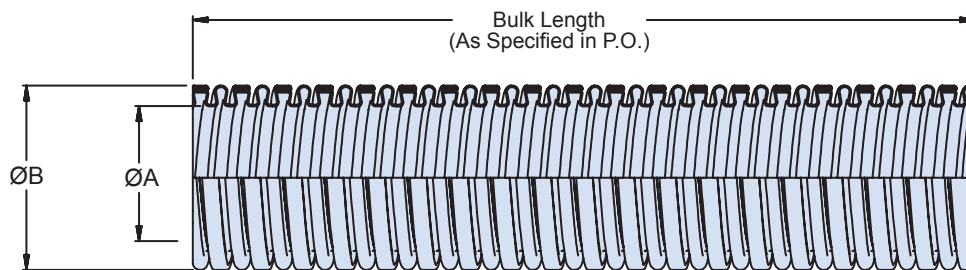
How To Order



Dash No.	"B" Glenair Brass			"C" SST, "N" Nickel/Iron		
	A I.D.	B O.D.		A I.D.	B O.D.	
	Min	Min	Max	Min	Min	Max
06	.175 (4.45)	.260 (6.60)	.270 (6.86)	.175 (4.45)	.260 (6.60)	.270 (6.86)
08	.260 (6.60)	.360 (9.14)	.370 (9.40)	.245 (6.22)	.354 (9.00)	.374 (9.50)
09	.294 (7.47)	.390 (9.91)	.398 (10.1)	.294 (7.47)	.390 (9.91)	.398 (10.1)
10	.308 (7.82)	.408 (10.4)	.425 (10.8)	.308 (7.82)	.408 (10.4)	.425 (10.8)
12	.380 (9.65)	.484 (12.3)	.490 (12.4)	.370 (9.40)	.478 (12.1)	.498 (12.6)
16	.505 (12.8)	.610 (15.5)	.620 (15.7)	.495 (12.6)	.627 (15.9)	.647 (16.4)
20	.630 (16.0)	.730 (18.5)	.740 (18.8)	.620 (15.7)	.750 (19.1)	.770 (19.6)
24	.760 (19.3)	.860 (21.8)	.875 (22.2)	.745 (18.9)	.870 (22.1)	.890 (22.6)
32	1.012 (25.7)	1.115 (28.3)	1.125 (28.6)	.995 (25.3)	1.182 (30.0)	1.202 (30.5)
40	1.265 (32.1)	1.475 (37.5)	1.485 (37.7)	1.245 (31.6)	1.444 (36.7)	1.464 (37.2)
48	1.510 (38.4)	1.730 (43.9)	1.740 (44.2)	1.495 (38.0)	1.694 (43.0)	1.714 (43.5)
56	1.760 (44.7)	1.970 (50.0)	1.985 (50.4)	1.760 (44.7)	1.970 (50.0)	1.985 (50.4)
64	2.010 (51.1)	2.240 (56.9)	2.250 (57.2)	1.995 (50.7)	2.204 (56.0)	2.224 (56.5)
80	2.515 (63.9)	2.735 (69.5)	2.745 (69.7)	2.495 (63.4)	2.704 (68.7)	2.724 (69.2)
96	2.995 (76.1)	3.194 (81.1)	3.214 (81.6)	2.995 (76.1)	3.194 (81.1)	3.214 (81.6)

SYM	Core Material
B	Brass, Per A-A-52440 Type I, Grade B
C	Stainless Steel
N	80% Nickel, 20% Iron

Length (Inches)	Tolerance (Inches)
Up To 18	± .50
19 - 36	± 1.0
37 - 72	± 1.5
73 - 144	± 2.0
145 - 300	± 3.0
301 - 600	± 4.0
601 - 1200	± 5.0
1201 - Up	± 6.0



Packaging

Long-length orders of 750-190 conduit are subject to carrier weight and box size restrictions. For example, UPS air shipments are currently limited to 50 lbs. per box. Unless otherwise specified, Glenair standard practice is to ship optimal lengths of product based on weight, size, and individual carrier specifications. Consult factory for additional information or to specify packaging requirements.





750-191 Flexible Metal-Core EMI/RFI Conduit with External Braid

Flexible metal-core conduit plus a single shield of EMI/RFI braiding



How To Order

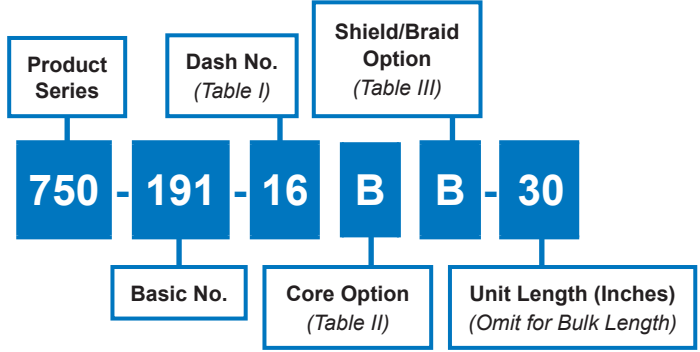
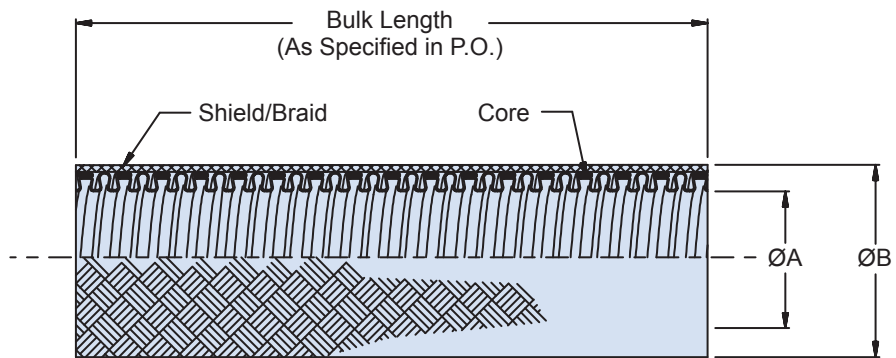


Table I: Dash No./Dimensions				
Dash No.	Glenair Brass		SST, Nickel/Iron	
	A I.D.	B O.D.	A I.D.	B O.D.
	Min	Max	Min	Max
06	.175 (4.45)	.330 (8.40)	.175 (4.45)	.330 (8.40)
08	.260 (6.60)	.430 (10.9)	.245 (6.22)	.434 (11.0)
09	.294 (7.47)	.458 (11.6)	.294 (7.47)	.458 (11.6)
10	.308 (7.82)	.485 (12.3)	.308 (7.82)	.485 (12.3)
12	.380 (9.65)	.550 (14.0)	.370 (9.40)	.558 (14.2)
16	.505 (12.8)	.680 (17.3)	.495 (12.6)	.707 (18.0)
20	.630 (16.0)	.800 (20.3)	.620 (15.7)	.830 (21.1)
24	.760 (19.3)	.935 (23.7)	.745 (18.9)	.950 (24.1)
32	1.012 (25.7)	1.201 (30.5)	.995 (25.3)	1.270 (32.3)
40	1.265 (32.1)	1.561 (39.6)	1.245 (31.6)	1.532 (38.9)
48	1.510 (38.4)	1.816 (46.1)	1.495 (38.0)	1.782 (45.3)
56	1.760 (44.7)	2.061 (52.3)	1.760 (44.7)	2.053 (52.1)
64	2.010 (51.1)	2.326 (59.1)	1.995 (50.7)	2.292 (58.2)
80	2.515 (63.9)	2.821 (71.7)	2.495 (63.4)	2.792 (70.9)
96	2.995 (76.1)	3.290 (83.6)	2.995 (76.1)	3.282 (83.4)

Table III: Braided Shield	
SYM	Shield/Braid
B	Bronze (Standard for Brass Core)
C	Stainless Steel (Standard for SST and Nickel/Iron Core)
T	Tin Copper
N	Nickel Copper
S	SnCuFe
A	Silver Copper
L	Armorlite™
D	Dacron
M	Nomex
E	AmberStrand® 100%
F	AmberStrand® 75%/25%

Std. Conduit Tolerances	
Length (Inches)	Tolerance (Inches)
Up To 18	± .50
19 - 36	± 1.0
37 - 72	± 1.5
73 - 144	± 2.0
145 - 300	± 3.0
301 - 600	± 4.0
601 - 1200	± 5.0
1201 - Up	± 6.0

Table II: Conduit Core	
SYM	Core Material
B	Brass, Per A-A-52440 Type I, Grade B
C	Stainless Steel
N	80% Nickel, 20% Iron



Packaging

Long-length orders of 750-191 braided conduit are subject to carrier weight and box size restrictions. For example, UPS air shipments are currently limited to 50 lbs. per box. Unless otherwise specified, Glenair standard practice is to ship optimal lengths of product based on weight, size, and individual carrier specifications. Consult factory for additional information or to specify packaging requirements.

750-192 Flexible Metal-Core EMI/RFI Conduit with External Braid and Jacket



Flexible metal-core conduit plus a single shield of EMI/RFI braiding and jacket for environmental applications



How To Order

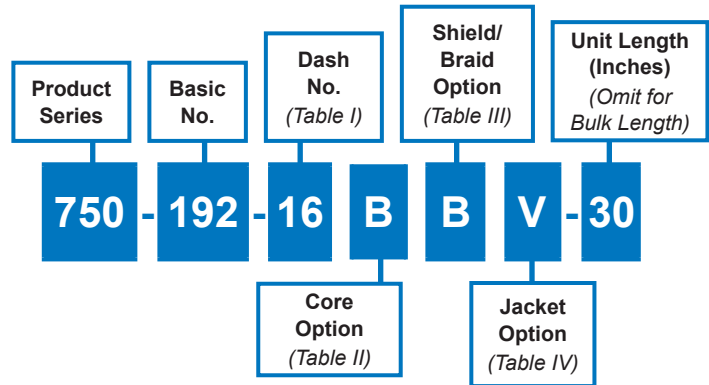


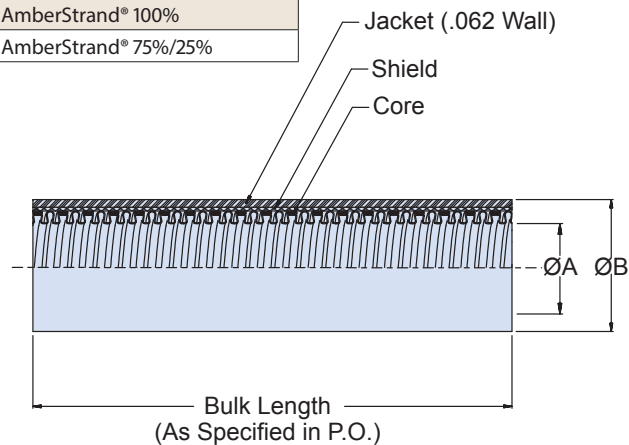
Table I: Dash No./Dimensions				
Dash No.	Glenair Brass		SST, Nickel/Iron	
	A I.D.	B O.D.	A I.D.	B O.D.
	Min	Max	Min	Max
06	.175 (4.45)	.460 (11.7)	.175 (4.45)	.460 (11.7)
08	.260 (6.60)	.560 (14.2)	.245 (6.22)	.564 (14.3)
09	.294 (7.47)	.588 (14.9)	.294 (7.47)	.588 (14.9)
10	.308 (7.82)	.615 (15.6)	.308 (7.82)	.615 (15.6)
12	.380 (9.65)	.680 (17.3)	.370 (9.40)	.688 (17.5)
16	.505 (12.8)	.810 (20.6)	.495 (12.6)	.837 (21.3)
20	.630 (16.0)	.930 (23.6)	.620 (15.7)	.960 (24.4)
24	.760 (19.3)	1.065 (27.0)	.745 (18.9)	1.080 (27.4)
32	1.012 (25.7)	1.331 (33.8)	.995 (25.3)	1.400 (35.6)
40	1.265 (32.1)	1.691 (43.0)	1.245 (31.6)	1.662 (42.2)
48	1.510 (38.4)	1.946 (49.4)	1.495 (38.0)	1.912 (48.6)
56	1.760 (44.7)	2.191 (55.7)	1.760 (44.7)	2.183 (55.4)
64	2.010 (51.1)	2.456 (62.4)	1.995 (50.7)	2.422 (61.5)
80	2.515 (63.9)	2.951 (75.0)	2.495 (63.4)	2.922 (74.2)
96	2.995 (76.1)	3.420 (86.9)	2.995 (76.1)	3.412 (86.7)

Table III: Braided Shield	
SYM	Shield/Braid
B	Bronze (Standard for Brass Core)
C	Stainless Steel (Standard for SST and Nickel/Iron Core)
T	Tin Copper
N	Nickel Copper
S	SnCuFe
A	Silver Copper
L	Armorlite™
D	Dacron
M	Nomex
E	AmberStrand® 100%
F	AmberStrand® 75%/25%

Std. Conduit Tolerances	
Length (Inches)	Tolerance (Inches)
Up To 18	± .50
19 - 36	± 1.0
37 - 72	± 1.5
73 - 144	± 2.0
145 - 300	± 3.0
301 - 600	± 4.0
601 - 1200	± 5.0
1201 - Up	± 6.0

Table II: Conduit Core	
SYM	Core Material
B	Brass, Per A-A-52440 Type I, Grade B
C	Stainless Steel
N	80% Nickel, 20% Iron

Table IV: Jacket	
SYM	Jacket Material
N	Neoprene
H	Hypalon®
E	EPDM
V	Viton
B	Duralectric, Black
G	Duralectric, Gray
TN	Duralectric, Desert Tan
O	Duralectric, OSHA Safety Orange



Packaging

Long-length orders of 750-192 braided and jacketed conduit are subject to carrier weight and box size restrictions. For example, UPS air shipments are currently limited to 50 lbs. per box. Unless otherwise specified, Glenair standard practice is to ship optimal lengths of product based on weight, size, and individual carrier specifications. Consult factory for additional information or to specify packaging requirements.

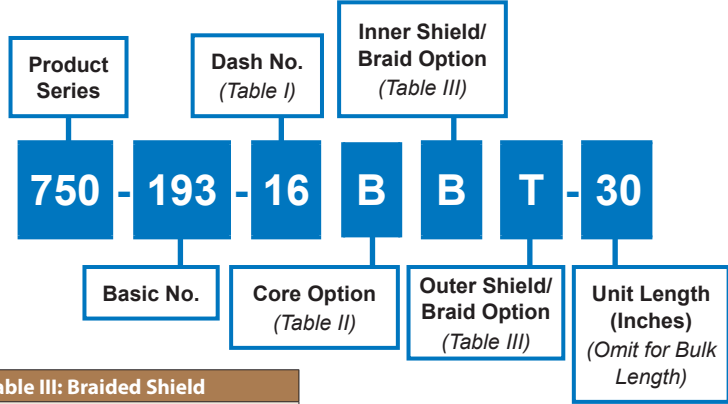


750-193 Flexible Metal-Core EMI/RFI Conduit with 2 External Braids

Double braided shield for high dB shielding requirements



How To Order

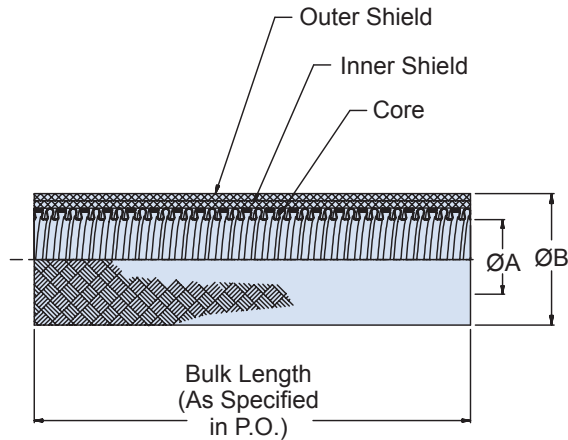


Dash No.	Glenair Brass		SST, Nickel/Iron	
	A I.D.	B O.D.	A I.D.	B O.D.
	Min	Max	Min	Max
06	.175 (4.45)	.390 (9.90)	.175 (4.45)	.390 (9.90)
08	.260 (6.60)	.490 (12.4)	.245 (6.22)	.494 (12.5)
09	.294 (7.47)	.518 (13.2)	.294 (7.47)	.518 (13.2)
10	.308 (7.82)	.545 (13.8)	.308 (7.82)	.545 (13.8)
12	.380 (9.65)	.610 (15.5)	.370 (9.40)	.618 (15.7)
16	.505 (12.8)	.740 (18.8)	.495 (12.6)	.767 (19.5)
20	.630 (16.0)	.860 (21.8)	.620 (15.7)	.890 (22.6)
24	.760 (19.3)	.995 (25.3)	.745 (18.9)	1.010 (25.7)
32	1.012 (25.7)	1.276 (32.4)	.995 (25.3)	1.338 (34.0)
40	1.265 (32.1)	1.636 (41.6)	1.245 (31.6)	1.600 (40.6)
48	1.510 (38.4)	1.891 (48.0)	1.495 (38.0)	1.850 (47.0)
56	1.760 (44.7)	2.136 (54.3)	1.760 (44.7)	2.121 (53.9)
64	2.010 (51.1)	2.401 (61.0)	1.995 (50.7)	2.360 (59.9)
80	2.515 (63.9)	2.896 (73.6)	2.495 (63.4)	2.860 (72.6)
96	2.995 (76.1)	3.365 (85.5)	2.995 (76.1)	3.350 (85.1)

SYM	Shield/Braid
B	Bronze (Standard for Brass Core)
C	Stainless Steel (Standard for SST and Nickel/Iron Core)
T	Tin Copper
N	Nickel Copper
S	SnCuFe
A	Silver Copper
L	Armorlite™
D	Dacron
M	Nomex
E	AmberStrand® 100%
F	AmberStrand® 75%/25%

Length (Inches)	Tolerance (Inches)
Up To 18	± .50
19 - 36	± 1.0
37 - 72	± 1.5
73 - 144	± 2.0
145 - 300	± 3.0
301 - 600	± 4.0
601 - 1200	± 5.0
1201 - Up	± 6.0

SYM	Core Material
B	Brass, Per A-A-52440 Type I, Grade B
C	Stainless Steel
N	80% Nickel, 20% Iron



Packaging

Long-length orders of 750-193 braided conduit are subject to carrier weight and box size restrictions. For example, UPS air shipments are currently limited to 50 lbs. per box. Unless otherwise specified, Glenair standard practice is to ship optimal lengths of product based on weight, size, and individual carrier specifications. Consult factory for additional information or to specify packaging requirements.

750-194 Flexible Metal-Core EMI/RFI Conduit with 2 External Braids and Jacket

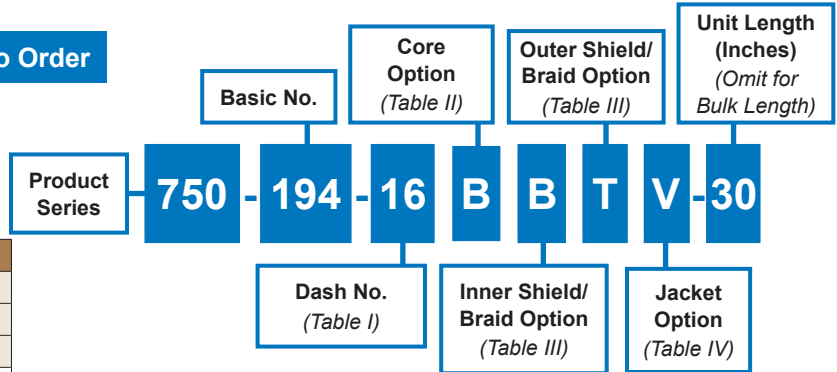


Series 75
Metal-Core Conduit

Double braided shield and jacket for high dB shielding requirements, environmental



How To Order



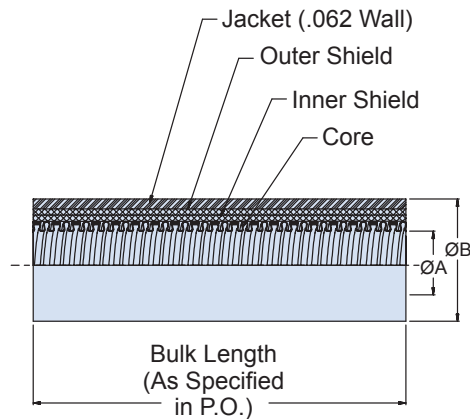
Dash No.	Glenair Brass		SST, Nickel/Iron	
	A I.D.	B O.D.	A I.D.	B O.D.
	Min	Max	Min	Max
06	.175 (4.45)	.520 (13.2)	.175 (4.45)	.520 (13.2)
08	.260 (6.60)	.620 (15.7)	.245 (6.22)	.624 (15.8)
09	.294 (7.47)	.648 (16.5)	.294 (7.47)	.648 (16.5)
10	.308 (7.82)	.675 (17.1)	.308 (7.82)	.675 (17.1)
12	.380 (9.65)	.740 (25.4)	.370 (9.40)	.748 (19.0)
16	.505 (12.8)	.870 (22.1)	.495 (12.6)	.897 (22.8)
20	.630 (16.0)	.990 (25.1)	.620 (15.7)	1.020 (25.9)
24	.760 (19.3)	1.125 (28.6)	.745 (18.9)	1.140 (29.0)
32	1.012 (25.7)	1.406 (35.7)	.995 (25.3)	1.468 (37.3)
40	1.265 (32.1)	1.766 (44.9)	1.245 (31.6)	1.730 (43.9)
48	1.510 (38.4)	2.021 (51.3)	1.495 (38.0)	1.980 (50.3)
56	1.760 (44.7)	2.266 (57.6)	1.760 (44.7)	2.251 (57.2)
64	2.010 (51.1)	2.531 (64.3)	1.995 (50.7)	2.490 (63.2)
80	2.515 (63.9)	3.026 (76.9)	2.495 (63.4)	2.990 (75.9)
96	2.995 (76.1)	3.495 (88.8)	2.995 (76.1)	3.480 (88.4)

SYM	Shield/Braid
B	Bronze (Standard for Brass Core)
C	Stainless Steel (Standard for SST and Nickel/Iron Core)
T	Tin Copper
N	Nickel Copper
S	SnCuFe
A	Silver Copper
L	Armorlite™
D	Dacron
M	Nomex
E	AmberStrand® 100%
F	AmberStrand® 75%/25%

Length (Inches)	Tolerance (Inches)
Up To 18	± .50
19 - 36	± 1.0
37 - 72	± 1.5
73 - 144	± 2.0
145 - 300	± 3.0
301 - 600	± 4.0
601 - 1200	± 5.0
1201 - Up	± 6.0

SYM	Core Material
B	Brass, Per A-A-52440 Type I, Grade B
C	Stainless Steel
N	80% Nickel, 20% Iron

N	Neoprene
H	Hypalon®
E	EPDM
V	Viton
B	Duraelectric, Black
G	Duraelectric, Gray
TN	Duraelectric, Desert Tan
O	Duraelectric, OSHA Safety Orange



Packaging

Long-length orders of 750-194 braided and jacketed conduit are subject to carrier weight and box size restrictions. For example, UPS air shipments are currently limited to 50 lbs. per box. Unless otherwise specified, Glenair standard practice is to ship optimal lengths of product based on weight, size, and individual carrier specifications. Consult factory for additional information or to specify packaging requirements.



750-195 Flexible Metal-Core EMI/RFI Conduit with 3 External Braids

Triple braided shield for high dB shielding requirements



How To Order

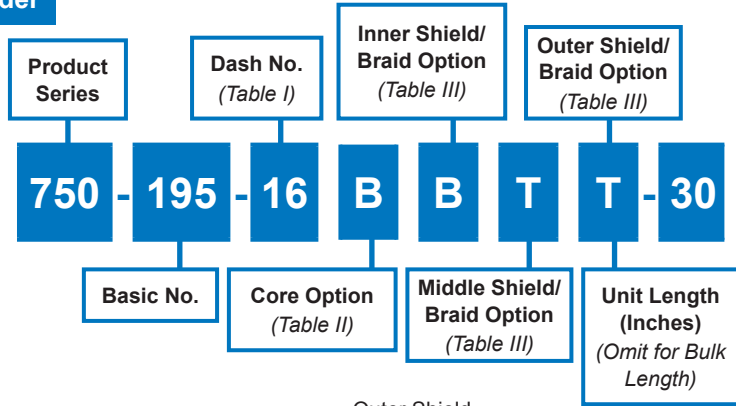


Table I: Dash No./Dimensions				
Dash No.	Glenair Brass		SST, Nickel/Iron	
	A I.D.	B O.D.	A I.D.	B O.D.
	Min	Max	Min	Max
06	.175 (4.45)	.450 (11.4)	.175 (4.45)	.450 (11.4)
08	.260 (6.60)	.550 (14.0)	.245 (6.22)	.554 (14.1)
09	.294 (7.47)	.578 (14.7)	.294 (7.47)	.578 (14.7)
10	.308 (7.82)	.605 (15.4)	.308 (7.82)	.605 (15.4)
12	.380 (9.65)	.670 (17.0)	.370 (9.40)	.678 (17.2)
16	.505 (12.8)	.800 (20.3)	.495 (12.6)	.827 (21.0)
20	.630 (16.0)	.920 (23.4)	.620 (15.7)	.950 (24.1)
24	.760 (19.3)	1.055 (26.8)	.745 (18.9)	1.070 (27.2)
32	1.012 (25.7)	1.352 (34.3)	.995 (25.3)	1.429 (36.3)
40	1.265 (32.1)	1.712 (43.5)	1.245 (31.6)	1.691 (43.0)
48	1.510 (38.4)	1.967 (50.0)	1.495 (38.0)	1.941 (49.3)
56	1.760 (44.7)	2.212 (56.2)	1.760 (44.7)	2.212 (56.2)
64	2.010 (51.1)	2.477 (62.9)	1.995 (50.7)	2.451 (62.3)
80	2.515 (63.9)	2.972 (75.5)	2.495 (63.4)	2.951 (75.0)
96	2.995 (76.1)	3.441 (87.4)	2.995 (76.1)	3.441 (87.4)

Table II: Conduit Core	
SYM	Core Material
B	Brass, Per A-A-52440 Type I, Grade B
C	Stainless Steel
N	80% Nickel, 20% Iron

Std. Conduit Tolerances	
Length (Inches)	Tolerance (Inches)
Up To 18	± .50
19 - 36	± 1.0
37 - 72	± 1.5
73 - 144	± 2.0
145 - 300	± 3.0
301 - 600	± 4.0
601 - 1200	± 5.0
1201 - Up	± 6.0

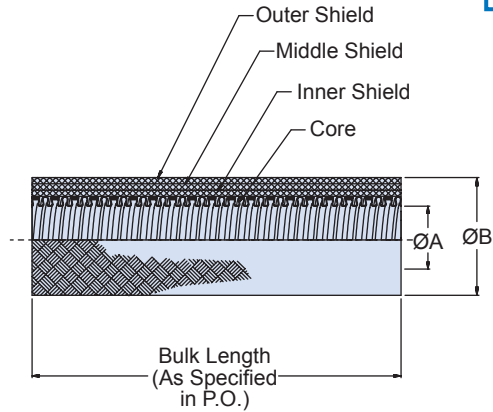


Table III: Braided Shield	
SYM	Shield/Braid
B	Bronze (Standard for Brass Core)
C	Stainless Steel (Standard for SST and Nickel/Iron Core)
T	Tin Copper
N	Nickel Copper
S	SnCuFe
A	Silver Copper
L	Armorlite™
D	Dacron
M	Nomex
E	AmberStrand® 100%
F	AmberStrand® 75%/25%

Packaging

Long-length orders of 750-195 braided conduit are subject to carrier weight and box size restrictions. For example, UPS air shipments are currently limited to 50 lbs. per box. Unless otherwise specified, Glenair standard practice is to ship optimal lengths of product based on weight, size, and individual carrier specifications. Consult factory for additional information or to specify packaging requirements.

750-196 Flexible Metal-Core EMI/RFI Conduit with 3 External Braids and Jacket

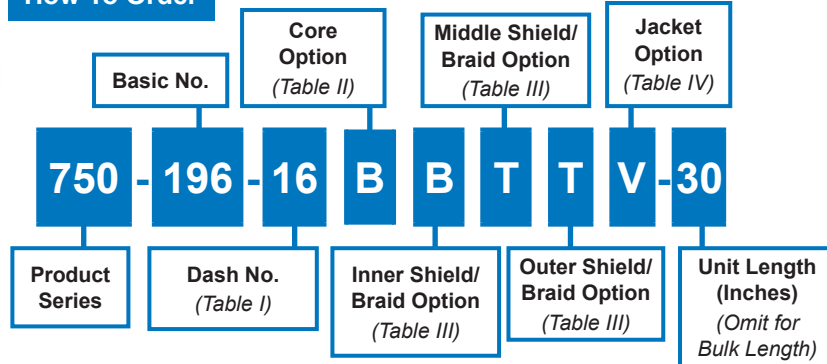


Series 75
Metal-Core Conduit

Triple braided shield and jacket for high dB shielding requirements, environmental



How To Order



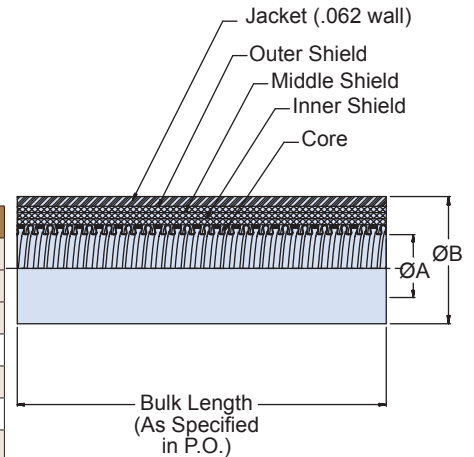
SYM	Core Material
B	Brass, Per A-A-52440 Type I, Grade B
C	Stainless Steel
N	80% Nickel, 20% Iron

SYM	Shield/Braid
B	Bronze (Standard for Brass Core)
C	Stainless Steel (Standard for SST and Nickel/Iron Core)
T	Tin Copper
N	Nickel Copper
S	SnCuFe
A	Silver Copper
L	Armorlite™
D	Dacron
M	Nomex
E	AmberStrand® 100%
F	AmberStrand® 75%/25%

N	Neoprene
H	Hypalon®
E	EPDM
V	Viton
B	Duraelectric, Black
G	Duraelectric, Gray
TN	Duraelectric, Desert Tan
O	Duraelectric, OSHA Safety Orange

Length (Inches)	Tolerance (Inches)
Up To 18	± .50
19 - 36	± 1.0
37 - 72	± 1.5
73 - 144	± 2.0
145 - 300	± 3.0
301 - 600	± 4.0
601 - 1200	± 5.0
1201 - Up	± 6.0

Dash No.	Glenair Brass		SST, Nickel/Iron	
	A I.D.	B O.D.	A I.D.	B O.D.
06	.175 (4.45)	.580 (14.7)	.175 (4.45)	.580 (14.7)
08	.260 (6.60)	.680 (17.3)	.245 (6.22)	.684 (17.4)
09	.294 (7.47)	.708 (18.0)	.294 (7.47)	.708 (18.0)
10	.308 (7.82)	.735 (18.7)	.308 (7.82)	.735 (18.7)
12	.380 (9.65)	.800 (20.3)	.370 (9.40)	.808 (20.5)
16	.505 (12.8)	.930 (23.6)	.495 (12.6)	.957 (24.3)
20	.630 (16.0)	1.050 (26.7)	.620 (15.7)	1.080 (27.4)
24	.760 (19.3)	1.185 (30.1)	.745 (18.9)	1.200 (30.5)
32	1.012 (25.7)	1.482 (37.6)	.995 (25.3)	1.559 (39.6)
40	1.265 (32.1)	1.842 (46.8)	1.245 (31.6)	1.821 (46.3)
48	1.510 (38.4)	2.097 (53.3)	1.495 (38.0)	2.071 (52.6)
56	1.760 (44.7)	2.342 (59.5)	1.760 (44.7)	2.342 (59.5)
64	2.010 (51.1)	2.607 (66.2)	1.995 (50.7)	2.581 (65.6)
80	2.515 (63.9)	3.102 (78.8)	2.495 (63.4)	3.081 (78.3)
96	2.995 (76.1)	3.571 (90.7)	2.995 (76.1)	3.571 (90.7)



Packaging

Long-length orders of 750-196 braided and jacketed conduit are subject to carrier weight and box size restrictions. For example, UPS air shipments are currently limited to 50 lbs. per box. Unless otherwise specified, Glenair standard practice is to ship optimal lengths of product based on weight, size, and individual carrier specifications. Consult factory for additional information or to specify packaging requirements.



Factory Terminated Series 75 Assemblies How-To-Order

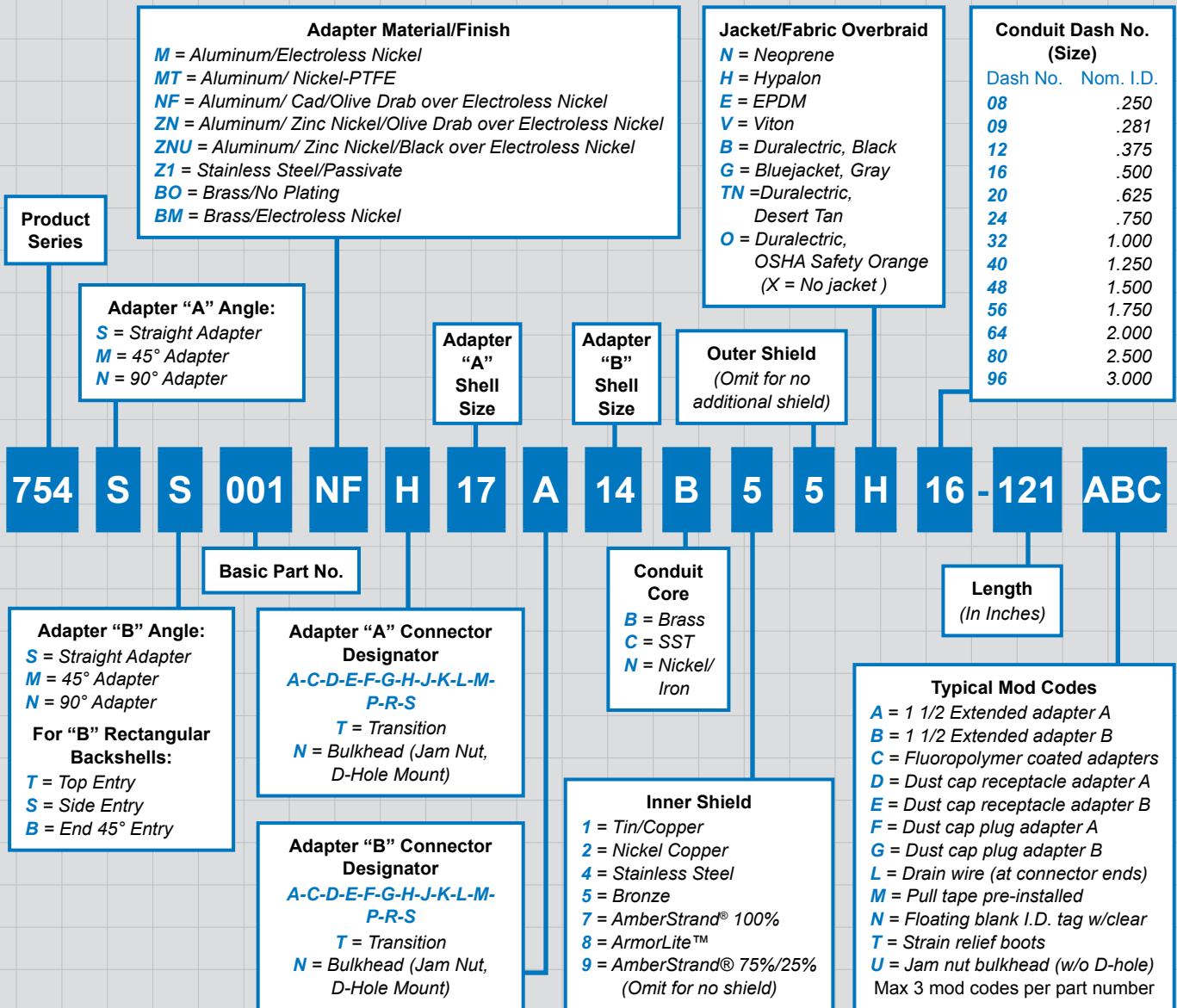
How-To-Order: Factory Terminated Series 75 Metal-Core Assembly

Use the order tree below to develop part numbers for the full range of Series 75 System point-to-point factory terminated assemblies. Diagrams of basic Series 75 point-to-point assemblies are shown on the facing page.



How To Order

D



Factory Terminated Series 75 Assemblies
Point-to-Point Assembly Selection Guide



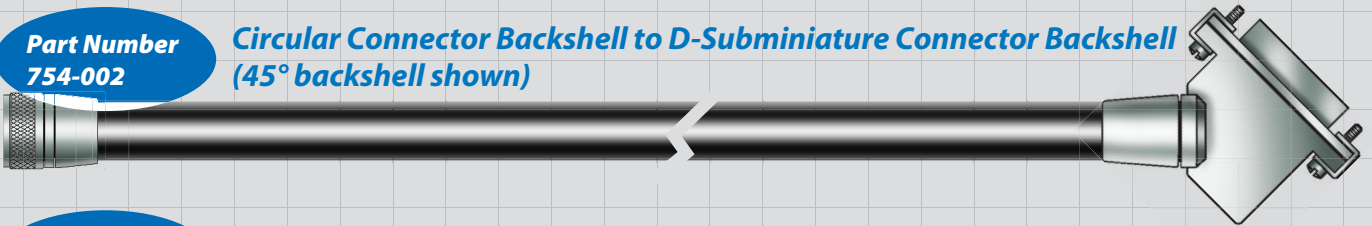
Part Number
754-001

Connector Backshell to Bulkhead Feed-Thru or Connector Backshell
(circular connector to bulkhead feed-thru option shown)



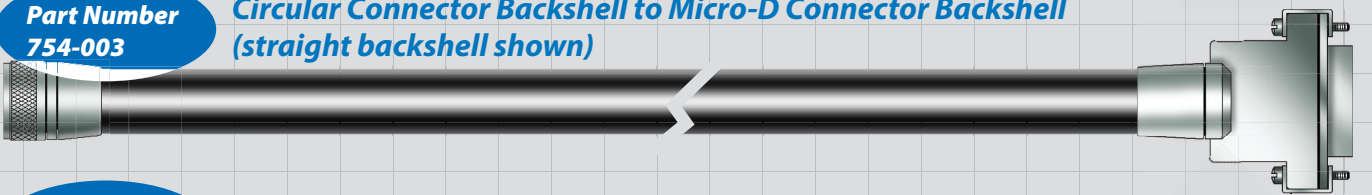
Part Number
754-002

Circular Connector Backshell to D-Subminiature Connector Backshell
(45° backshell shown)



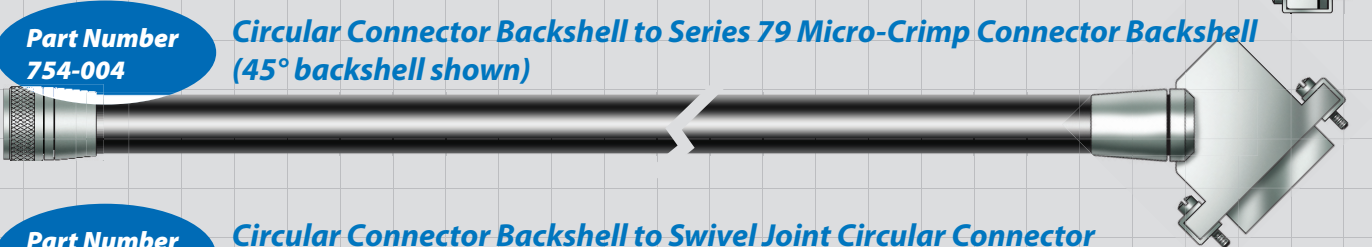
Part Number
754-003

Circular Connector Backshell to Micro-D Connector Backshell
(straight backshell shown)



Part Number
754-004

Circular Connector Backshell to Series 79 Micro-Crimp Connector Backshell
(45° backshell shown)



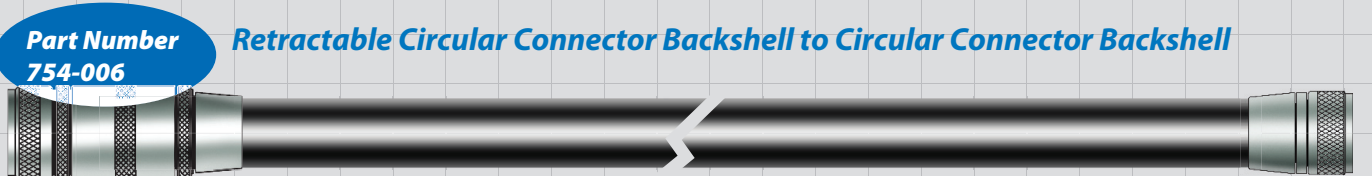
Part Number
754-005

Circular Connector Backshell to Swivel Joint Circular Connector Backshell



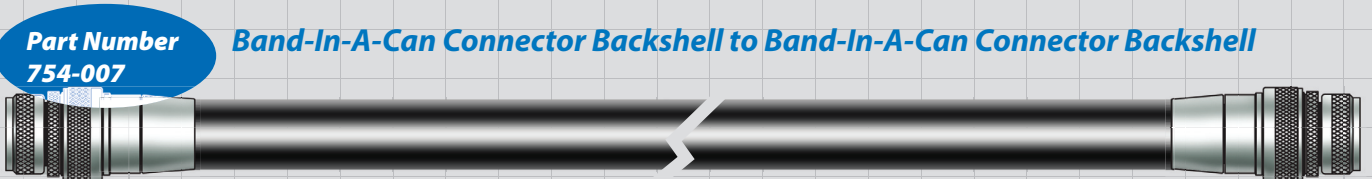
Part Number
754-006

Retractable Circular Connector Backshell to Circular Connector Backshell



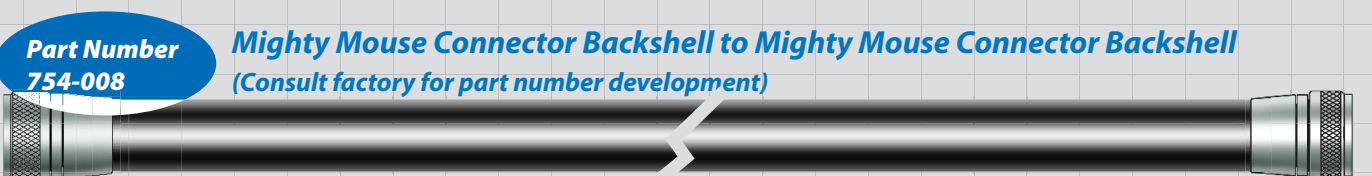
Part Number
754-007

Band-In-A-Can Connector Backshell to Band-In-A-Can Connector Backshell



Part Number
754-008

Mighty Mouse Connector Backshell to Mighty Mouse Connector Backshell
(Consult factory for part number development)



D

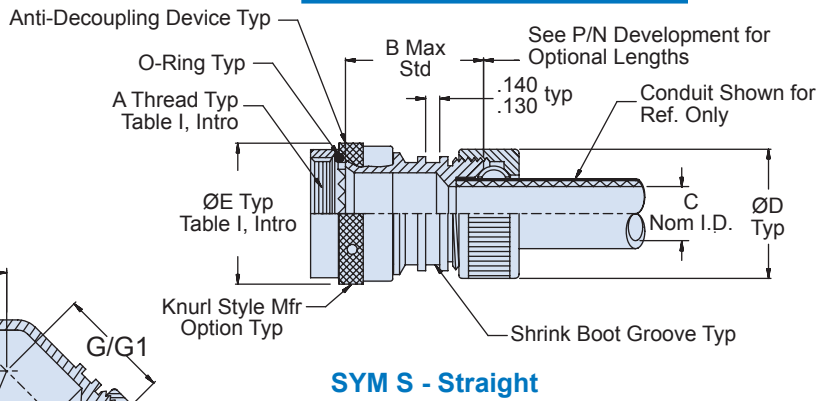
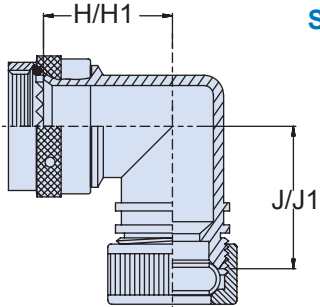
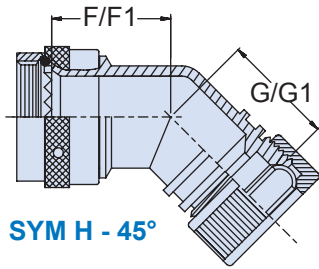
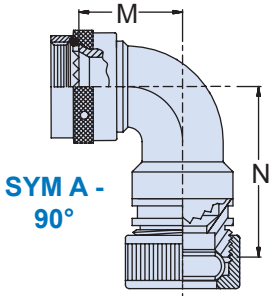
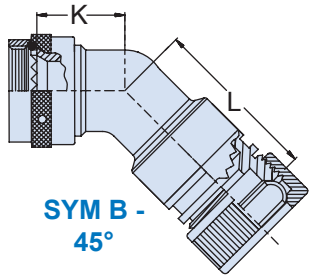
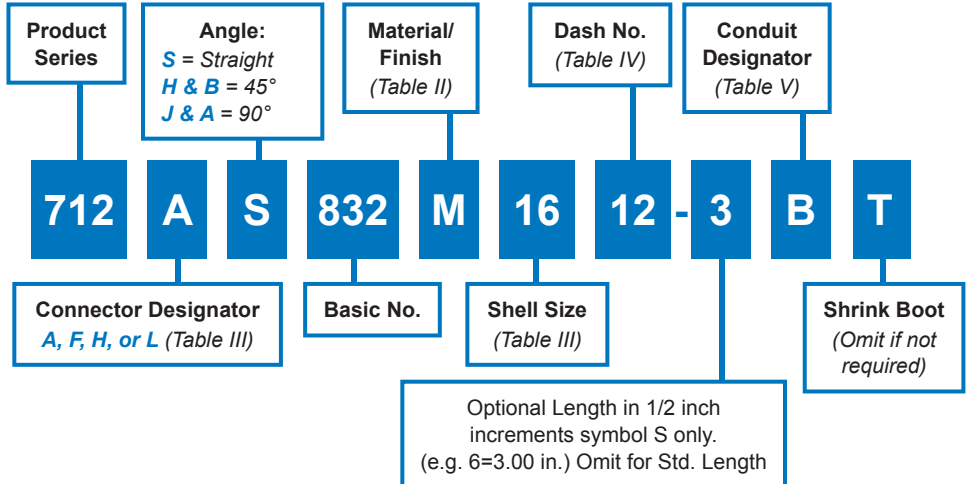


712-832
RP Plus System
 Low-Profile, Self-Locking, Environmental Backshell with
 Shrink Boot Accomodation for Series 75 Metal-Core Conduit

RP Plus conduit-to-connector backshell with self-locking coupling nut, environmental



How To Order



Material and Finish

- Adapters, Elbows, Coupling Nuts & Rings: See Table II
- Anti-Decoupling Device: Corrosion resistant material/NA
- O-Ring: Silicone/NA

Notes

- Minimum optional length is 1.50 Inches for shell sizes 08/09 thru 32 & 61, and 2.00 Inches for shell sizes 36 thru 48. Consult factory for shorter length.
- O-Ring not supplied with connector designator A
- Mates with Conduit per Table V

D

712-832

RP Plus System

Low-Profile, Self-Locking, Environmental Backshell with Shrink Boot Accomodation for Series 75 Metal-Core Conduit

Series 75
Metal-Core Conduit

Table III: Shell Size

Shell Size		Max Dash No Table IV	B Max	F Max	G Max	H Max	J Max	K Max	L Max	M Max	N Max
A,F,L	H										
08	09	08	1.25 (31.8)	0.639 (16.2)	1.20 (30.5)	0.75 (19.1)	1.31 (33.3)	0.600 (15.2)	1.500 (38.1)	0.680 (17.3)	1.670 (42.4)
10/11	11	12	1.25 (31.8)	0.654 (16.6)	1.23 (31.2)	0.81 (20.6)	1.37 (34.8)	0.630 (16.0)	1.730 (43.9)	0.770 (19.6)	1.810 (46.0)
12/13	13	16	1.25 (31.8)	0.688 (17.5)	1.25 (31.8)	0.87 (22.1)	1.43 (36.3)	0.660 (16.8)	1.800 (45.7)	0.800 (20.3)	1.830 (46.5)
14/15	15	20	1.25 (31.8)	0.705 (17.9)	1.28 (32.5)	0.92 (23.4)	1.50 (38.1)	0.690 (17.5)	1.910 (48.5)	0.880 (22.4)	1.910 (48.5)
16/17	17	24	1.25 (31.8)	0.732 (18.6)	1.30 (33.0)	0.98 (24.9)	1.56 (39.6)	0.820 (20.8)	2.060 (52.3)	1.060 (26.9)	2.040 (51.8)
18	19	24	1.25 (31.8)	0.748 (19.0)	1.31 (33.3)	1.02 (25.9)	1.58 (40.1)	0.970 (24.6)	2.240 (56.9)	1.150 (29.2)	2.220 (56.4)
20	21	32	1.35 (34.3)	0.773 (19.6)	1.52 (38.6)	1.08 (27.4)	1.89 (48.0)	0.970 (24.6)	2.290 (58.2)	1.150 (29.2)	2.260 (57.4)
22	23	32	1.35 (34.3)	0.800 (20.3)	1.56 (39.6)	1.14 (29.0)	1.97 (50.0)	1.000 (25.4)	2.430 (61.7)	1.300 (33.0)	2.370 (60.2)
24	25	40	1.35 (34.3)	0.823 (20.9)	1.59 (40.4)	1.20 (30.5)	2.04 (51.8)	1.000 (25.4)	2.480 (63.0)	1.300 (33.0)	2.420 (61.5)
28		40	1.50 (38.1)	1.041 (26.4)	1.82 (46.2)	1.48 (37.6)	2.28 (57.9)	TBD	TBD	1.400 (35.6)	2.640 (67.1)
32		48	1.50 (38.1)	1.092 (27.7)	1.86 (47.2)	1.61 (40.9)	2.37 (60.2)	TBD	TBD	1.750 (44.5)	2.930 (74.4)
36		48	1.75 (44.5)	1.138 (28.9)	1.91 (48.5)	1.72 (43.7)	2.46 (62.5)	TBD	TBD	1.950 (49.5)	2.960 (75.2)
40		64	1.75 (44.5)	1.184 (30.1)	1.95 (49.5)	1.83 (46.5)	2.57 (65.3)	N/A	N/A	N/A	N/A
44		64	1.75 (44.5)	1.235 (31.4)	2.00 (50.8)	1.95 (49.5)	2.70 (68.6)	N/A	N/A	N/A	N/A
48		64	1.75 (44.5)	1.287 (32.7)	2.05 (52.1)	2.08 (52.8)	2.82 (71.6)	N/A	N/A	N/A	N/A
61		32	1.35 (34.3)	1.003 (25.5)	1.77 (45.0)	1.39 (35.3)	1.88 (47.8)	N/A	N/A	N/A	N/A

Table IV: Dash No. and Shrink Boot

Dash No	C I.D.		Ø D Max		F1 Max		G1 Max		H1 Max		J1 Max		Shrink Boot Part Number
08	0.250	(6.4)	0.84	(21.3)	N/A		N/A		N/A		N/A		770-001S104
12	0.375	(9.5)	0.97	(24.6)	0.654	(16.6)	1.23	(31.2)	0.81	(20.6)	1.37	(34.8)	770-001S105
16	0.500	(12.7)	1.09	(27.7)	0.688	(17.5)	1.25	(31.8)	0.87	(22.1)	1.43	(36.3)	770-001S106
20	0.625	(15.9)	1.22	(31.0)	0.705	(17.9)	1.28	(32.5)	0.92	(23.4)	1.50	(38.1)	770-001S106
24	0.750	(19.1)	1.35	(34.3)	0.732	(18.6)	1.30	(33.0)	0.98	(24.9)	1.56	(39.6)	770-001S107
32	1.000	(25.4)	1.66	(42.2)	0.773	(19.6)	1.52	(38.6)	1.08	(27.4)	1.89	(48.0)	770-001S108
40	1.250	(31.8)	1.91	(48.5)	0.823	(20.9)	1.59	(40.4)	1.20	(30.5)	2.04	(51.8)	770-001S108
48	1.500	(38.1)	2.28	(57.9)	1.041	(26.4)	1.86	(47.2)	1.48	(37.6)	2.37	(60.2)	770-001S109
64	2.000	(50.8)	2.78	(70.6)	1.092	(27.7)	1.95	(49.5)	1.61	(40.9)	2.57	(65.3)	770-001S109

Table II: Material and Finish

Sym	Material	Finish Description
NF	Al Alloy	Cad O.D. Over Electroless Nickel
BN	Brass	(1000 Hour Salt Spray)
B0	Brass	Unplated
Z1	300 Series SST	Passivate
M	Al Alloy	Electroless Nickel
MT	Al Alloy	Nickel PTFE
SN	Steel, B1113	Cad O.D. Over Electroless Nickel (1000 Hour Salt Spray)

Table II (continued)

Sym	Material	Finish Description	Component
ZM	300 Series SST	Electroless Nickel	Adapter, Elbow
		Passivate	Coupling Nut
ZW	300 Series SST	Cadmium Olive Drab over Electroless Nickel	Adapter, Elbow
		Cadmium Olive Drab	Coupling Nut

Table V: Conduit Designator

Conduit Part Number	Core Material	Conduit Designator
750-191 & -192 (Core Option N) 750-084, 750-085	Nickel/Iron Core	N
750-191 & -192 (Core Option C) 750-094, 750-095	Stainless Steel Core	
M24758-*, 750-079	M24758 Brass Core	
750-191 & -192 (Core Option B) 730-031, 750-045	Glenair Brass Core	B
750-190 (Core Option N)	Nickel/Iron Core	W
750-190 (Core Option C)	Stainless Steel Core	
750-190 (Core Option B)	Glenair Brass Core	X
750-193 & -194 (Core Option N)	Nickel/Iron Core	Y
750-193 & -194 (Core Option C)	Stainless Steel Core	
750-193 & -194 (Core Option B)	Glenair Brass Core	

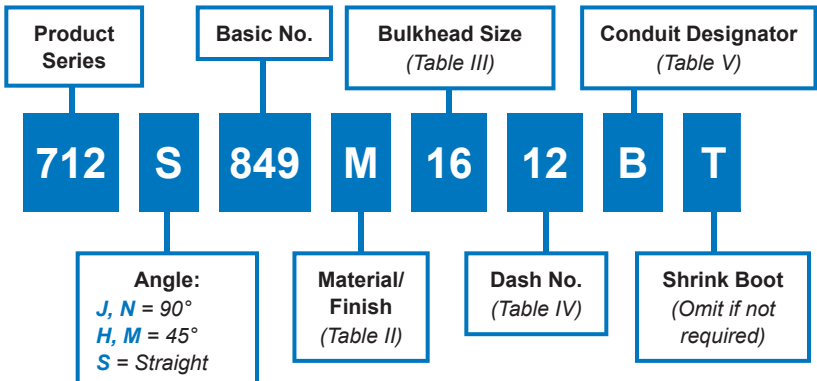


712-849
RP Plus System
 Low-Profile Bulkhead Fitting with Shrink Boot Accomodation
 for Series 75 Metal-Core Conduit

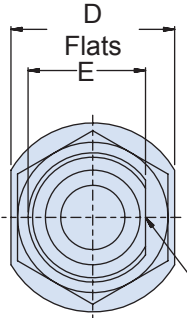
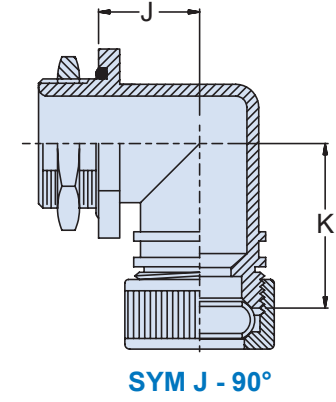
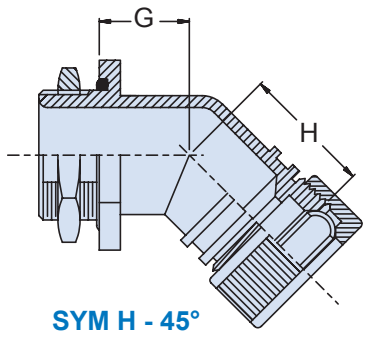
RP Plus conduit-to-bulkhead fitting, environmental



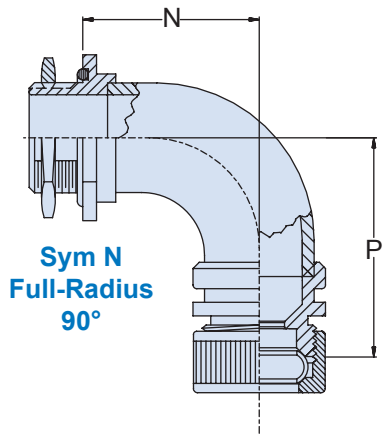
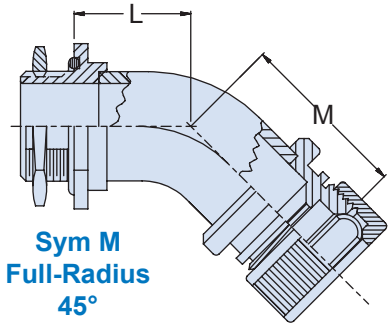
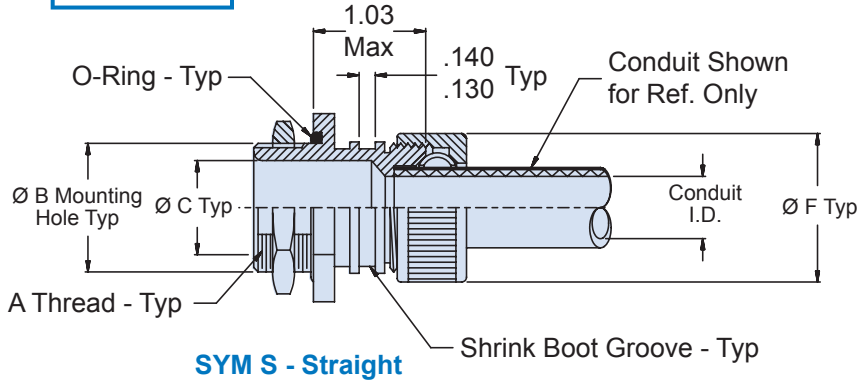
How To Order



D



Flat for 'D' Hole Mounting
(See P/N Development)



- Material and Finish**
- Adapters, Elbows, Nuts & Rings: See Table II
 - O-Ring: Silicone/NA

- Notes**
- Mates with conduit per Table V

712-849
RP Plus System
Low-Profile Bulkhead Fitting with Shrink Boot Accomodation
for Series 75 Metal-Core Conduit



Series 75
Metal-Core Conduit

Table III: Bulkhead Size

Bulkhead Size	A Thread Class 2A	B Dia +.015 -.000	C Dia	Max Dash No Table IV	D Flats	E +.000 -.015	G Max	J Max
08	1/2-20 UNF	0.505 (12.8)	0.250 (6.4)	08	0.750 (19.1)	0.438 (11.1)	0.53 (13.5)	0.70 (17.8)
12	5/8-24 UNEF	0.630 (16.0)	0.375 (9.5)	12	0.875 (22.2)	0.563 (14.3)	0.56 (14.2)	0.77 (19.6)
16	3/4-20 UNEF	0.755 (19.2)	0.500 (12.7)	16	1.000 (25.4)	0.688 (17.5)	0.58 (14.7)	0.84 (21.3)
20	7/8-20 UNEF	0.880 (22.4)	0.625 (15.9)	20	1.125 (28.6)	0.812 (20.6)	0.61 (15.5)	0.91 (23.1)
24	1-20 UNEF	1.005 (25.5)	0.750 (19.1)	24	1.250 (31.8)	0.938 (23.8)	0.64 (16.3)	0.98 (24.9)
32	1 5/16-18 UNEF	1.318 (33.5)	1.000 (25.4)	32	1.562 (39.7)	1.250 (31.8)	0.71 (18.0)	1.16 (29.5)
40	1 1/2-18 UNEF	1.505 (38.2)	1.250 (31.8)	40	1.812 (46.0)	1.438 (36.5)	0.77 (19.6)	1.30 (33.0)
48	1 3/4-18 UNS	1.755 (44.6)	1.500 (38.1)	48	2.062 (52.4)	1.688 (42.9)	0.83 (21.1)	1.44 (36.6)
64	2 1/4-16 UN	2.255 (57.3)	2.000 (50.8)	64	2.562 (65.1)	2.188 (55.6)	0.97 (24.6)	1.71 (43.4)

Table IV: Dash No./Shrink Boot

Dash No	Conduit I.D.	F Dia Max	H Max	K Max	L Max	M Max	N Max	P Max	Shrink Boot Part Number
08	0.250 (6.4)	0.84 (21.3)	1.06 (26.9)	1.26 (32.0)	0.50 (12.7)	1.01 (25.7)	0.68 (17.3)	1.20 (30.5)	770-001S104
12	0.375 (9.5)	0.97 (24.6)	1.09 (27.7)	1.32 (33.5)	0.53 (13.5)	1.04 (26.4)	0.75 (19.1)	1.26 (32.0)	770-001S105
16	0.500 (12.7)	1.09 (27.7)	1.12 (28.4)	1.38 (35.1)	0.55 (14.0)	1.07 (27.2)	0.81 (20.6)	1.32 (33.5)	770-001S106
20	0.625 (15.9)	1.22 (31.0)	1.14 (29.0)	1.44 (36.6)	0.61 (15.5)	1.12 (28.4)	0.93 (23.6)	1.45 (36.8)	770-001S106
24	0.750 (19.1)	1.35 (34.3)	1.17 (29.7)	1.51 (38.4)	0.63 (16.0)	1.14 (29.0)	1.00 (25.4)	1.51 (38.4)	770-001S107
32	1.000 (25.4)	1.66 (42.2)	1.23 (31.2)	1.66 (42.2)	0.71 (18.0)	1.22 (31.0)	1.18 (30.0)	1.70 (43.2)	770-001S108
40	1.250 (31.8)	1.91 (48.5)	1.28 (32.5)	1.79 (45.5)	0.76 (19.3)	1.27 (32.3)	1.31 (33.3)	1.82 (46.2)	770-001S108
48	1.500 (38.1)	2.28 (57.9)	1.36 (34.5)	1.98 (50.3)	0.81 (20.6)	1.32 (33.5)	1.43 (36.3)	1.95 (49.5)	770-001S109
64	2.000 (50.8)	2.78 (70.6)	1.50 (38.1)	2.23 (56.6)	TBD (TBD)	TBD (TBD)	TBD (TBD)	TBD (TBD)	770-001S109

D

Table II: Material and Finish

Sym	Material	Finish Description
NF	Al Alloy	Cad O.D. Over Electroless Nickel (1000 Hour Salt Spray)
BN	Brass	
B0	Brass	Unplated
Z1	300 Series SST	Passivate
M	Al Alloy	Electroless Nickel
MT	Al Alloy	Nickel PTFE
SN	Steel, B1113	Cad O.D. Over Electroless Nickel (1000 Hour Salt Spray)
ZM	300 Series SST	Electroless Nickel
ZW	300 Series SST	Cadmium Olive Drab over Electroless Nickel

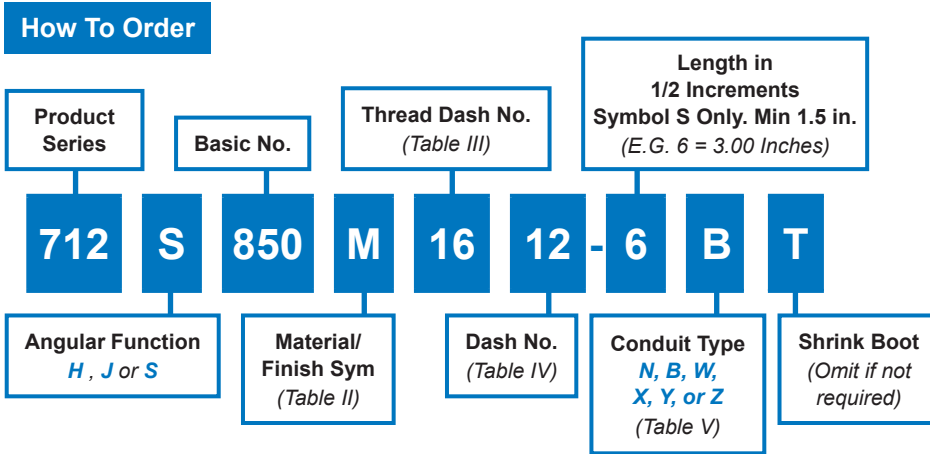
Table V: Conduit Designator

Conduit Part Number	Core Material	Conduit Designator
750-191 & -192 (Core Option N) 750-084, 750-085	Nickel/Iron Core	N
750-191 & -192 (Core Option C) 750-094, 750-095	Stainless Steel Core	
M24758-*, 750-079	M24758 Brass Core	
750-191 & -192 (Core Option B) 730-031, 750-045	Glenair Brass Core	B
750-190 (Core Option N)	Nickel/Iron Core	W
750-190 (Core Option C)	Stainless Steel Core	
750-190 (Core Option B)	Glenair Brass Core	X
750-193 & -194 (Core Option N)	Nickel/Iron Core	Y
750-193 & -194 (Core Option C)	Stainless Steel Core	
750-193 & -194 (Core Option B)	Glenair Brass Core	

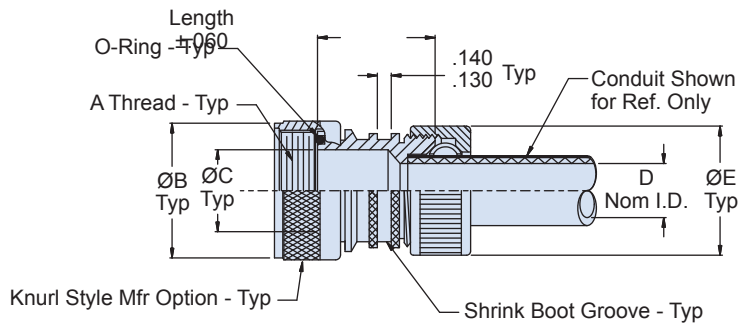


712-850
RP Plus System
Conduit to Transition or End Fitting Backshell
for Series 75 Metal-Core Conduit

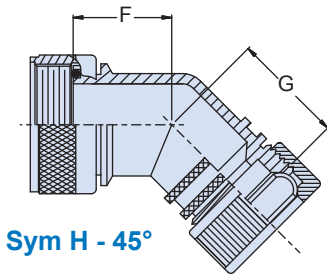
RP Plus conduit-to-transition or end fitting backshell



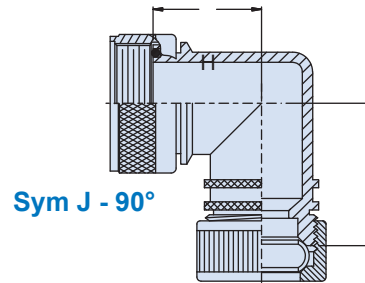
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SYM S - Straight



Sym H - 45°



Sym J - 90°

Intermateability Guide	
For use with	
Y transitions	710-106, 710-107, 710-370,
T transitions	710-108, 710-109, 710-371
Connector adapters	713-100, 713-101, 713-110
Bulkhead adapters	710-100, 710-101, 710-372
Bulkhead feed-thrus	710-102, 710-103, 710-373
Male Pipe thread adapters	710-114, 710-115, 710-405
Female pipe thread adapters	710-116, 710-117, 710-406

Material and Finish

- Adapters, Elbows, Nuts & Rings: See Table II
- O-Ring: Silicone/NA

Notes

- Mates with conduit per Table V

712-850
RP Plus System
Conduit to Transition or End Fitting Backshell
for Series 75 Metal-Core Conduit



Series 75
Metal-Core Conduit

Table II: Material and Finish

Sym	Material	Finish Description
NF	Al Alloy	Cad O.D. Over Electroless Nickel (1000 Hour Salt Spray)
BN	Brass	
B0	Brass	Unplated
Z1	300 Series SST	Passivate
M	Al Alloy	Electroless Nickel
MT	Al Alloy	Nickel PTFE
SN	Steel, B1113	Cad O.D. Over Electroless Nickel (1000 Hour Salt Spray)
ZM	300 Series SST	Electroless Nickel
ZW	300 Series SST	Cadmium Olive Drab over Electroless Nickel

Table III: Dash No./Thread

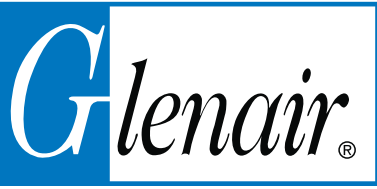
Dash No	A Thread Class 2A	B Dia Max	C Dia
08	1/2-20 UNF	0.640 (16.3)	0.250 (6.4)
12	5/8-24 UNEF	0.760 (19.3)	0.375 (9.5)
16	3/4-20 UNEF	0.890 (22.6)	0.500 (12.7)
20	7/8-20 UNEF	1.024 (26.0)	0.625 (15.9)
24	1.00-20 UNEF	1.152 (29.3)	0.750 (19.1)
32	1 5/16-18 UNEF	1.488 (37.8)	1.000 (25.4)
40	1 1/2-18 UNEF	1.676 (42.6)	1.250 (31.8)
48	1 3/4-18 UNS	1.960 (49.8)	1.500 (38.1)
64	2 1/4-16 UN	2.460 (62.5)	2.000 (50.8)
80	2 3/4-16 UN	3.000 (76.2)	2.500 (63.5)
96	3 1/4-16 UN	3.450 (87.6)	3.000 (76.2)

Table IV: Dash No./Shrink Boot

Dash No	Conduit I.D.	E Dia Max	F Max	G Max	H Max	J Max	Shrink Boot Part Number
08	0.250 (6.4)	0.84 (21.3)	0.71 (18.0)	1.06 (26.9)	0.88 (22.4)	1.26 (32.0)	770-001S104
12	0.375 (9.5)	0.97 (24.6)	0.74 (18.8)	1.09 (27.7)	0.95 (24.1)	1.32 (33.5)	770-001S105
16	0.500 (12.7)	1.09 (27.7)	0.76 (19.3)	1.12 (28.4)	1.02 (25.9)	1.38 (35.1)	770-001S106
20	0.625 (15.9)	1.22 (31.0)	0.79 (20.1)	1.14 (29.0)	1.12 (28.4)	1.44 (36.6)	770-001S106
24	0.750 (19.1)	1.35 (34.3)	0.83 (21.1)	1.17 (29.7)	1.19 (30.2)	1.51 (38.4)	770-001S107
32	1.000 (25.4)	1.66 (42.2)	0.88 (22.4)	1.23 (31.2)	1.32 (33.5)	1.66 (42.2)	770-001S108
40	1.250 (31.8)	1.91 (48.5)	1.07 (27.2)	1.28 (32.5)	1.52 (38.6)	1.79 (45.5)	770-001S108
48	1.500 (38.1)	2.28 (57.9)	1.16 (29.5)	1.36 (34.5)	1.66 (42.2)	1.98 (50.3)	770-001S109
64	2.000 (50.8)	2.78 (70.6)	1.26 (32.0)	1.50 (38.1)	1.99 (50.5)	2.23 (56.6)	770-001S109

Table V: Conduit Designator

Conduit Part Number	Core Material	Conduit Designator
750-191 & -192 (Core Option N) 750-084, 750-085	Nickel/Iron Core	N
750-191 & -192 (Core Option C) 750-094, 750-095	Stainless Steel Core	
M24758-*, 750-079	M24758 Brass Core	
750-191 & -192 (Core Option B) 730-031, 750-045	Glenair Brass Core	B
750-190 (Core Option N)	Nickel/Iron Core	W
750-190 (Core Option C)	Stainless Steel Core	
750-190 (Core Option B)	Glenair Brass Core	
750-193 & -194 (Core Option N)	Nickel/Iron Core	Y
750-193 & -194 (Core Option C)	Stainless Steel Core	
750-193 & -194 (Core Option B)	Glenair Brass Core	Z

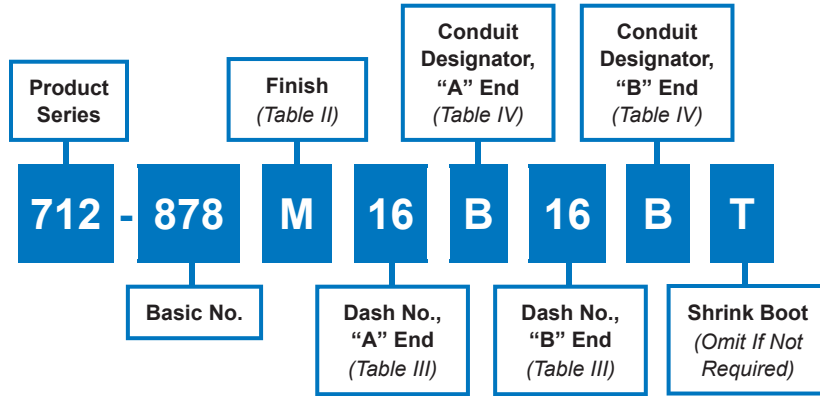


712-878 RP Plus Splice

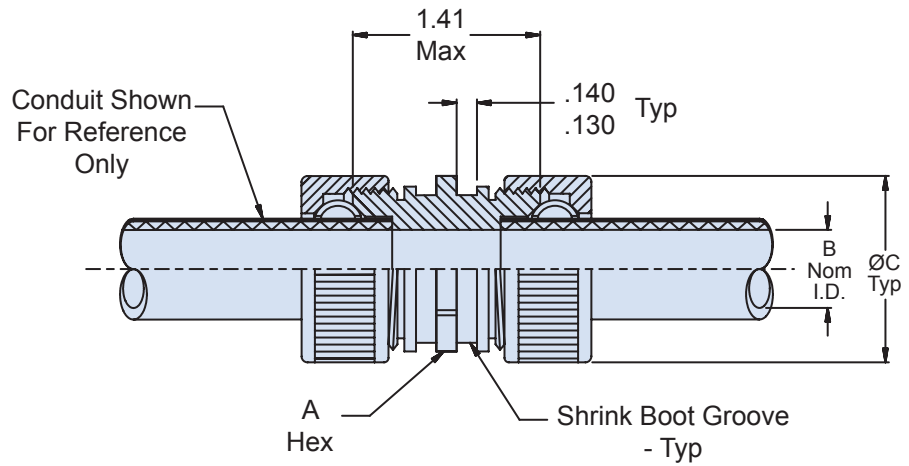
RP Plus conduit-to-conduit splice



How To Order



D



Material & Finish

Adapters, Nuts & Rings: See Table II

Notes

Mates with conduit per Table IV

Table II: Material/Finish

Sym	Description	
	Material	Finish
NF	AL Alloy	Cadmium Olive Drab over Electroless Nickel (1000 Hour Salt Spray)
BN	Brass	
B0	Brass	Unplated
Z1	300 Series SST	Passivate
M	AL Alloy	Electroless Nickel
MT	AL Alloy	Nickel PTFE
SN	Steel, B1113	Cadmium Olive Drab over Electroless Nickel (1000 Hour Salt Spray)
ZM	300 Series SST	Electroless Nickel
ZW	300 Series SST	Cadmium Olive Drab over Electroless Nickel

Table III: Dash No./

Dash No.	A Hex	B I.D.	Ø C Max	Shrink Boot Part Number
08	.875 (22.2)	.250 (6.40)	.840 (21.3)	770-001S104
12	1.000 (25.4)	.375 (9.53)	.970 (24.6)	770-001S105
16	1.125 (28.6)	.500 (12.7)	1.090 (27.7)	770-001S106
20	1.250 (31.8)	.625 (15.9)	1.220 (31.0)	770-001S106
24	1.375 (34.9)	.750 (19.1)	1.350 (34.3)	770-001S107
32	1.750 (44.5)	1.000 (25.4)	1.660 (42.2)	770-001S108
40	2.000 (50.8)	1.250 (31.8)	1.910 (48.5)	770-001S108
48	2.375 (60.3)	1.500 (38.1)	2.280 (57.9)	770-001S109
64	2.875 (73.0)	2.000 (50.8)	2.780 (70.6)	770-001S109

Table V: Conduit Designator

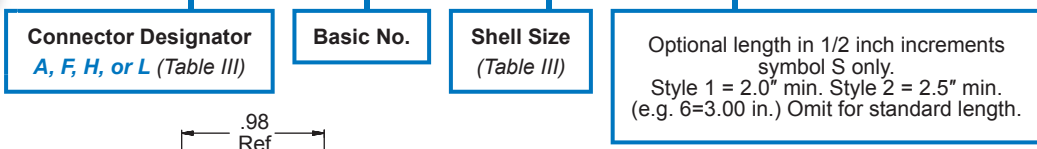
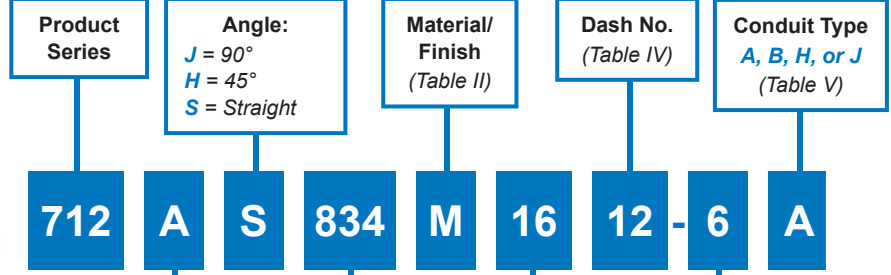
Conduit Part Number	Core Material	Conduit Designator
750-191 & -192 (Core Option N) 750-084, 750-085	Nickel/Iron Core	N
750-191 & -192 (Core Option C) 750-094, 750-095	Stainless Steel Core	
M24758-*, 750-079	M24758 Brass Core	
750-191 & -192 (Core Option B) 730-031, 750-045	Glenair Brass Core	B
750-190 (Core Option N)	Nickel/Iron Core	W
750-190 (Core Option C)	Stainless Steel Core	
750-190 (Core Option B)	Glenair Brass Core	X
750-193 & -194 (Core Option N)	Nickel/Iron Core	Y
750-193 & -194 (Core Option C)	Stainless Steel Core	
750-193 & -194 (Core Option B)	Glenair Brass Core	Z



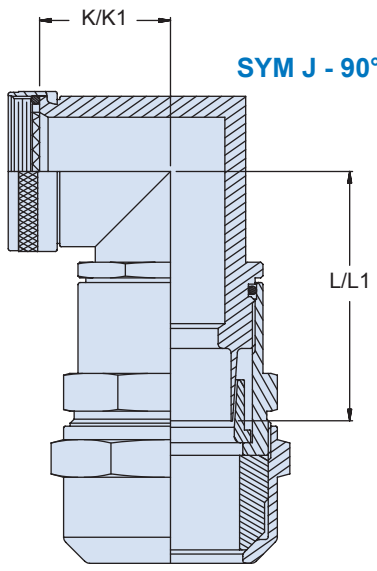
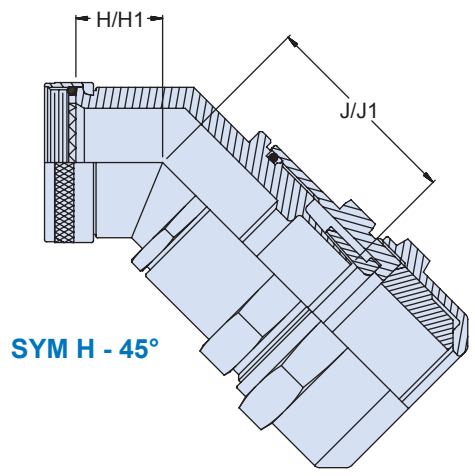
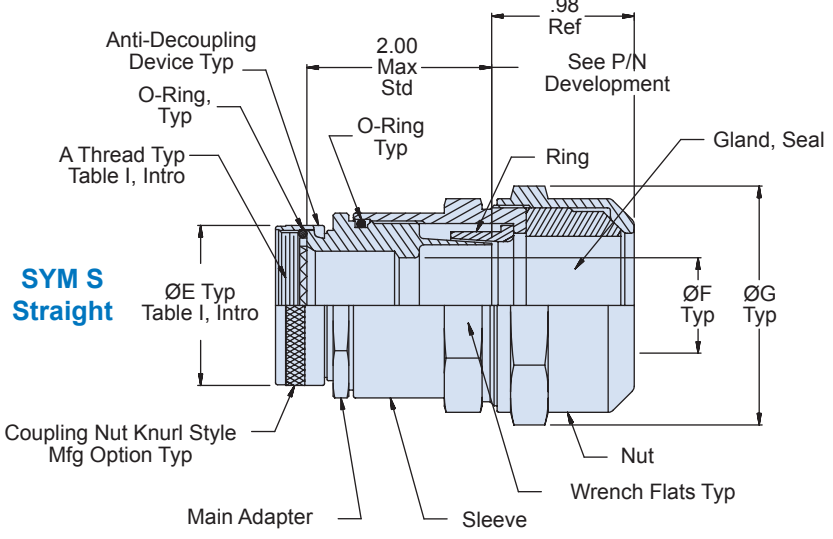
712-834
Heavy-Duty Environmental System - Metal
Metal Self-Locking, Advanced EMI/Sealing Conduit to Connector
Backshell for Series 75 Metal-Core Conduit

Metal Heavy-Duty Environmental System conduit-to-connector backshell, self-locking with advanced EMI shielding and environmental sealing

How To Order



D



Material and Finish

- Adapters, Elbows, Nuts, Sleeve & Ring: See Table II
- O-Rings & Gland: Silicone Rubber/NA
- Anti-Decoupling Device: Corrosion Resistant Material

Specifications

- When conduit diameter exceeds max dash no. (Table III) Style 2 will be supplied (also see pages A-32 – A-33). Dimensions H1, J1, K1 and L1 apply to Style 2 angular fittings.
- O-Ring not supplied with connector designator A

712-834

**Heavy-Duty Environmental System - Metal
Metal Self-Locking, Advanced EMI/Sealing Conduit to Connector
Backshell for Series 75 Metal-Core Conduit**



Series 75
Metal-Core Conduit

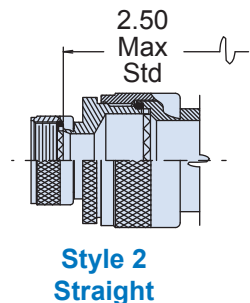


Table III: Shell Size/Dimensions

Shell Size		Max Dash No Style I	H Max	J Max	K Max	L Max
A, F, L	H					
08	09	08	0.71 (18.0)	1.63 (41.4)	0.88 (22.4)	1.90 (48.3)
10	11	12	0.74 (18.8)	1.66 (42.2)	0.95 (24.1)	1.97 (50.0)
12	13	16	0.76 (19.3)	1.70 (43.2)	1.02 (25.9)	2.07 (52.6)
14	15	20	0.79 (20.1)	1.73 (43.9)	1.12 (28.4)	2.14 (54.4)
16	17	24	0.81 (20.6)	1.76 (44.7)	1.19 (30.2)	2.21 (56.1)
18	19	24	0.83 (21.1)	1.78 (45.2)	1.19 (30.2)	2.21 (56.1)
20	21	32	0.86 (21.8)	1.82 (46.2)	1.32 (33.5)	2.38 (60.5)
22	23	32	0.88 (22.4)	1.85 (47.0)	1.32 (33.5)	2.38 (60.5)
24	25	40	0.92 (23.4)	1.88 (47.8)	1.45 (36.8)	2.52 (64.0)
28		40	1.07 (27.2)	1.91 (48.5)	1.52 (38.6)	2.52 (64.0)
32		48	1.12 (28.4)	1.97 (50.0)	1.66 (42.2)	2.65 (67.3)
36		48	1.16 (29.5)	2.01 (51.1)	1.66 (42.2)	2.73 (69.3)
40		64	1.21 (30.7)	2.07 (52.6)	1.99 (50.5)	2.97 (75.4)
44		64	1.26 (32.0)	2.11 (53.6)	1.99 (50.5)	3.09 (78.5)
48		80	1.31 (33.3)	2.18 (55.4)	2.26 (57.4)	3.21 (81.5)
61		40	0.92 (23.4)	1.87 (47.5)	1.45 (36.8)	2.52 (64.0)

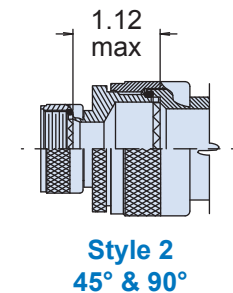


Table IV Dash No./Dimensions

Dash No	F.I.D.	Ø G Max	H1 Max	J1 Max	K1 Max	L1 Max
08	0.250 (6.4)	1.18 (30.0)	N/A	N/A	N/A	N/A
12	0.375 (9.5)	1.32 (33.5)	0.74 (18.8)	1.66 (42.2)	.95 (24.1)	1.97 (50.0)
16	0.500 (12.7)	1.45 (36.8)	0.76 (19.3)	1.70 (43.2)	1.02 (25.9)	2.07 (52.6)
20	0.625 (15.9)	1.66 (42.2)	0.79 (20.1)	1.73 (43.9)	1.12 (28.4)	2.14 (54.4)
24	0.750 (19.1)	1.79 (45.5)	0.83 (21.1)	1.78 (45.2)	1.19 (30.2)	2.21 (56.1)
32	1.000 (25.4)	2.06 (52.3)	0.88 (22.4)	1.85 (47.0)	1.32 (33.5)	2.38 (60.5)
40	1.250 (31.8)	2.32 (58.9)	1.07 (27.2)	1.91 (48.5)	1.52 (38.6)	2.52 (64.0)
48	1.500 (38.1)	2.59 (65.8)	1.16 (29.5)	2.01 (51.1)	1.66 (42.2)	2.73 (69.3)
64	2.000 (50.8)	3.26 (82.8)	1.26 (32.0)	2.11 (53.6)	1.99 (50.5)	3.09 (78.5)
80	2.500 (63.5)	3.80 (96.5)	1.31 (33.3)	2.18 (55.4)	2.26 (57.4)	3.21 (81.5)

Table II

Sym	Material	Finish Description	Component
BO	Brass	Unplated	
BN	Brass	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)	
BM	Brass	Electroless Nickel	
BMT	Brass	Nickel-PTFE	
M	Aluminum Alloy	Electroless Nickel	
MT	Aluminum Alloy	Nickel-PTFE	
NF	Aluminum Alloy	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)	
Z1	300 Series SST	Passivate	
ZN	Aluminum Alloy	Zinc Nickel/Olive Drab Over Electroless Nickel (1,000 Hour Salt Spray)	
ZM	300 Series SST	Electroless Nickel	Adapter, Elbow
		Passivate	Coupling Nut
ZW	300 Series SST	Cad O.D. Over Electroless Nickel	Adapter, Elbow
		Cad Olive Drab	Coupling Nut

**Table VI
Recommended Torque**

Conduit Size Code	±5 Inch Pounds	
	Sleeve	Nut
08	120	40-60
12	120	↑
16	140	↑
20	140	↑
24	150	↑
32	170	↑
40	170	↑
48	170	↑
64	170	↑
80	170	40-60

Table V: Conduit Type

Conduit Type	Part Number	Configuration
A	750-192	Brass conduit with single braided shield and jacket
B	750-194	Brass conduit with double braided shield and jacket
H	750-192	Stainless steel conduit with single braided shield and jacket
J	750-192	Nickel/iron conduit with single braided shield and Jacket

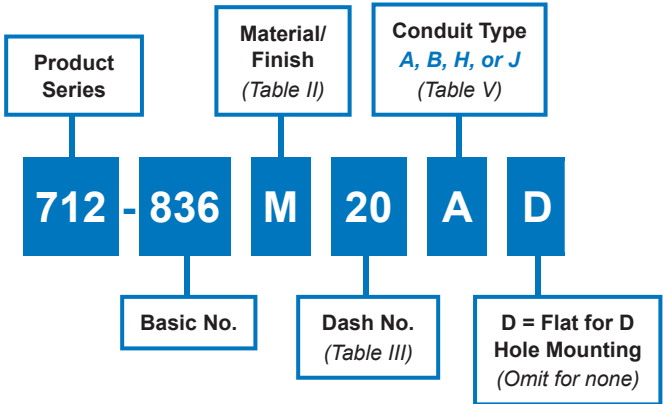


712-836
Heavy-Duty Environmental System - Metal
Advanced EMI/Sealing Conduit to Bulkhead Fitting
for Series 75 Metal-Core Conduit

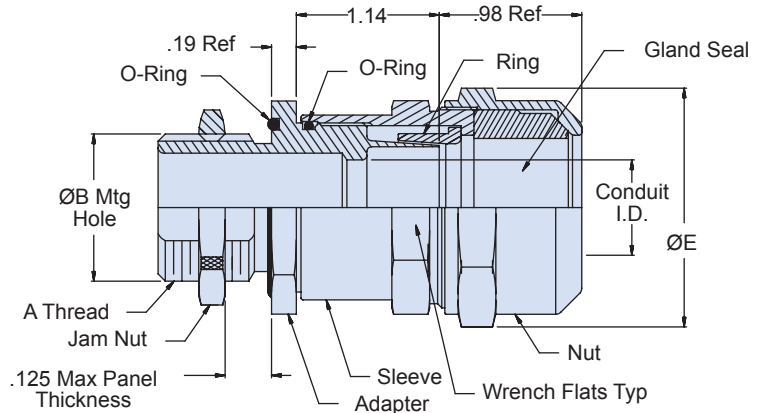
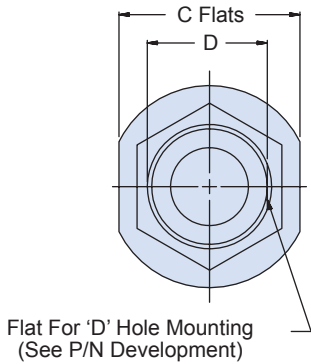
Metal Heavy-Duty Environmental System conduit-to-bulkhead fitting, with advanced EMI shielding and environmental sealing



How To Order



D



- Material and Finish**
- Adapter, Nuts, Sleeves & Rings: See Table II
 - O-Rings & Gland: Silicone Rubber/NA

712-836

Heavy-Duty Environmental System - Metal Advanced EMI/Sealing Conduit to Bulkhead Fitting for Series 75 Metal-Core Conduit

Series 75
Metal-Core Conduit

Table III: Dash No./Dimensions

Dash No	Conduit I.D.	A Thread	Ø B +.015 -.000	C Flats	D +.000 -.015	Ø E Max
08	0.250 (6.4)	1/2-20 UNF - 2A	0.505 (12.8)	0.875 (22.2)	0.438 (11.1)	1.18 (30.0)
12	0.375 (9.5)	5/8-24 UNEF - 2A	0.630 (16.0)	1.000 (25.4)	0.563 (14.3)	1.32 (33.5)
16	0.500 (12.7)	3/4-20 UNEF - 2A	0.755 (19.2)	1.250 (31.8)	0.688 (17.5)	1.45 (36.8)
20	0.625 (15.9)	7/8-20 UNEF - 2A	0.880 (22.4)	1.312 (33.3)	0.812 (20.6)	1.66 (42.2)
24	0.750 (19.1)	1.00-20 UNEF - 2A	1.005 (25.5)	1.500 (38.1)	0.938 (23.8)	1.79 (45.5)
32	1.000 (25.4)	1 5/16-18 UNEF - 2A	1.318 (33.5)	1.750 (44.5)	1.250 (31.8)	2.06 (52.3)
40	1.250 (31.8)	1 1/2-18 UNEF - 2A	1.505 (38.2)	2.000 (50.8)	1.438 (36.5)	2.32 (58.9)
48	1.500 (38.1)	1 3/4-18 UNS - 2A	1.755 (44.6)	2.250 (57.2)	1.688 (42.9)	2.59 (65.8)
64	2.000 (50.8)	2 1/4-16 UN - 2A	2.255 (57.3)	2.750 (69.9)	2.188 (55.6)	3.26 (82.8)
80	2.500 (63.5)	2 3/4-16 UN - 2A	2.755 (70.0)	3.250 (82.6)	2.688 (68.3)	3.80 (96.5)
96	3.000 (76.2)	3 1/4-16 UN - 2A	3.255 (82.7)	3.750 (95.3)	3.188 (81.0)	4.45 (113.0)

Table II: Material/Finish

Sym	Material	Finish Description
BO	Brass	Unplated
BN	Brass	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
BM	Brass	Electroless Nickel
BMT	Brass	Nickel-PTFE
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
Z1	300 Series SST	Passivate
ZM	300 Series SST	Electroless Nickel
ZN	Aluminum Alloy	Zinc Nickel/Olive Drab over Electroless Nickel (1000 Hour Salt Spray)
ZW	300 Series SST	Cad O.D. Over Electroless Nickel

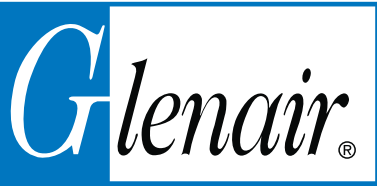
Table IV
Recommended Torque

Conduit Size Code	±5 Inch Pounds	
	Sleeve	Nut
08	120	40-60
12	120	↑
16	140	
20	140	
24	150	
32	170	
40	170	
48	170	
64	170	
80	170	
96	170	↓ 40-60

Table V: Conduit Type

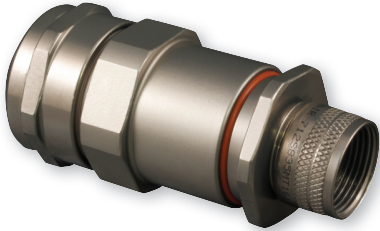
Conduit Type	Part Number	Configuration
A	750-192	Brass conduit with single braided shield and jacket
B	750-194	Brass conduit with double braided shield and jacket
H	750-192	Stainless steel conduit with single braided shield and jacket
J	750-192	Nickel/iron conduit with single braided shield and jacket

D

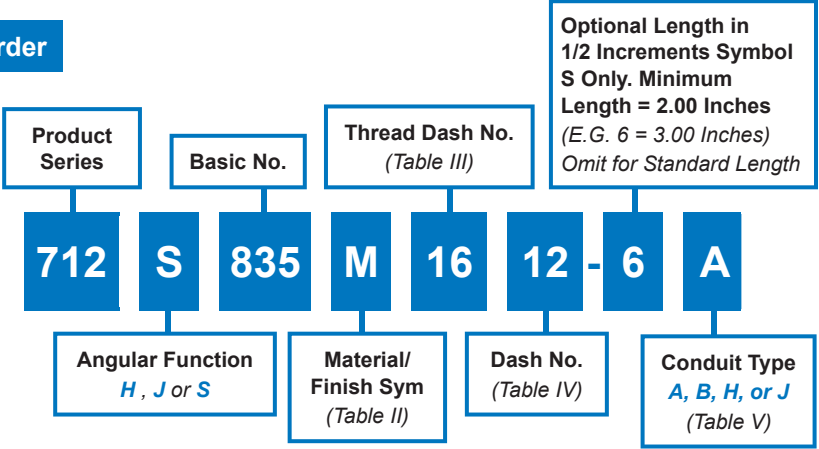


712-835
Heavy-Duty Environmental System - Metal
Environmental Conduit to Transition or End Fitting Backshell
for Series 75 Metal-Core Conduit

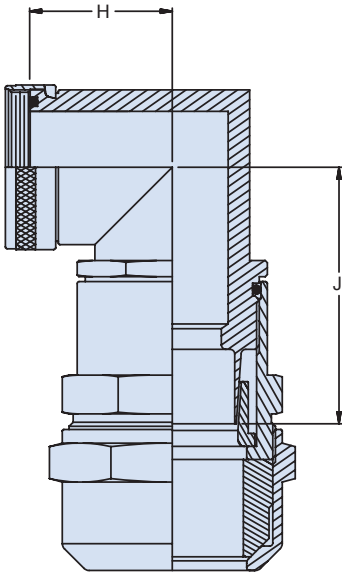
Metal Heavy-Duty Environmental System conduit-to-transition or end fitting backshell



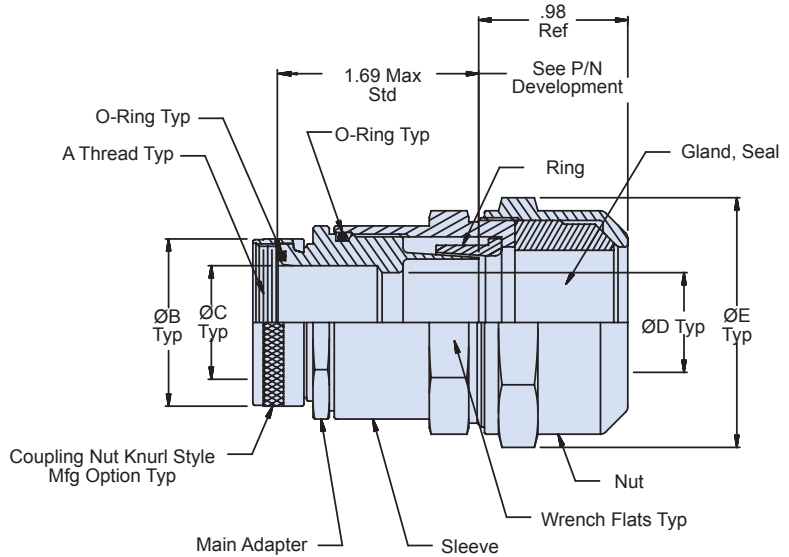
How To Order



D



SYM J - 90°



SYM S - Straight

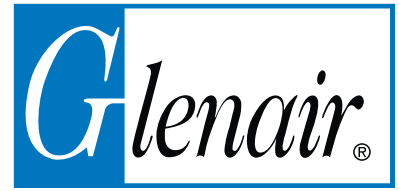
Intermateability Guide	
For use with	
Y transitions	710-106, 710-107, 710-370,
T transitions	710-108, 710-109, 710-371
Connector adapters	713-100, 713-101, 713-110
Bulkhead adapters	710-100, 710-101, 710-372
Bulkhead feed-thrus	710-102, 710-103, 710-373
Male Pipe thread adapters	710-114, 710-115, 710-405
Female pipe thread adapters	710-116, 710-117, 710-406

Material and Finish

- Adapters, Elbows, Nuts, Sleeve & Ring: See Table II
- O-Rings & Gland: Silicone rubber/NA

712-835

**Heavy-Duty Environmental System - Metal
Environmental Conduit to Transition or End Fitting Backshell
for Series 75 Metal-Core Conduit**



Series 75
Metal-Core Conduit

Table III: Thread Dash No./Dimensions

Thread Dash No.	A Thread	Ø B Max	Ø C
08	1/2-20 UNF	.640 (16.3)	.250 (6.35)
12	5/8-24 UNEF	.760 (19.3)	.375 (9.53)
16	3/4-20 UNEF	.890 (22.6)	.500 (12.7)
20	7/8-20 UNEF	1.024 (26.0)	.625 (15.9)
24	1.00-20 UNEF	1.152 (29.2)	.750 (19.1)
32	1 5/16-18 UNEF	1.488 (37.8)	1.000 (25.4)
40	1 1/2-18 UNEF	1.676 (42.7)	1.250 (31.8)
48	1 3/4-18 UNS	1.960 (49.8)	1.500 (38.1)
64	2 1/4-16 UN	2.460 (62.5)	2.000 (50.8)
80	2 3/4-16 UN	3.000 (76.2)	2.500 (63.5)
96	3 1/4-16 UN	3.450 (87.6)	3.000 (76.2)

Table II: Material/Finish

Sym	Material	Finish Description
BO	Brass	Unplated
BN	Brass	Cadmium/Olive Drab Over Electroless Nickel (1,000 Hour Salt Spray)
BM	Brass	Electroless Nickel
BMT	Brass	Nickel-PTFE
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	Cadmium/Olive Drab Over Electroless Nickel (1,000 Hour Salt Spray)
Z1	300 Series SST	Passivate
ZM	300 Series SST	Electroless Nickel
ZN	Aluminum Alloy	Zinc Nickel/Olive Drab Over Electroless Nickel (1,000 Hour Salt Spray)
ZW	300 Series SST	Cad O.D. Over Electroless Nickel

Table IV: Recommended Torque

Conduit Size Code	±5 Inch Pounds	
	Sleeve	Nut
08	120	40-60
12	120	↑
16	140	↑
20	140	↑
24	150	↑
32	170	↑
40	170	↑
48	170	↑
64	170	↓
80	170	40-60

Table IV: Dash No./Dimensions

Dash No.	D I.D.	Ø E Max	F Max	G Max	H Max	J Max
08	.250 (6.4)	1.18 (30.0)	.71 (18.0)	1.63 (41.4)	.88 (22.4)	1.90 (48.3)
12	.375 (9.5)	1.32 (33.5)	.74 (18.8)	1.66 (42.2)	.95 (24.1)	1.97 (50.0)
16	.500 (12.7)	1.45 (36.8)	.76 (19.3)	1.70 (43.2)	1.02 (25.9)	2.07 (52.6)
20	.625 (15.9)	1.66 (42.2)	.79 (20.0)	1.73 (43.9)	1.12 (28.4)	2.14 (54.4)
24	.750 (19.1)	1.79 (45.5)	.83 (21.1)	1.78 (45.2)	1.19 (30.2)	2.21 (56.1)
32	1.000 (25.4)	2.06 (52.3)	.88 (22.4)	1.85 (47.0)	1.32 (33.5)	2.38 (60.5)
40	1.250 (31.8)	2.32 (58.9)	1.07 (27.2)	1.91 (48.5)	1.52 (38.6)	2.52 (64.0)
48	1.500 (38.1)	2.59 (65.8)	1.16 (29.5)	2.01 (51.1)	1.66 (42.2)	2.73 (69.3)
64	2.000 (50.8)	3.26 (82.8)	1.26 (32.0)	2.11 (53.6)	1.99 (50.5)	3.09 (78.5)
80	2.500 (63.5)	3.80 (96.5)	1.31 (33.3)	2.18 (55.4)	2.26 (57.4)	3.21 (81.5)
96	3.000 (76.2)	4.45 (113.0)	1.42 (36.1)	2.28 (57.9)	2.59 (65.8)	3.42 (86.9)

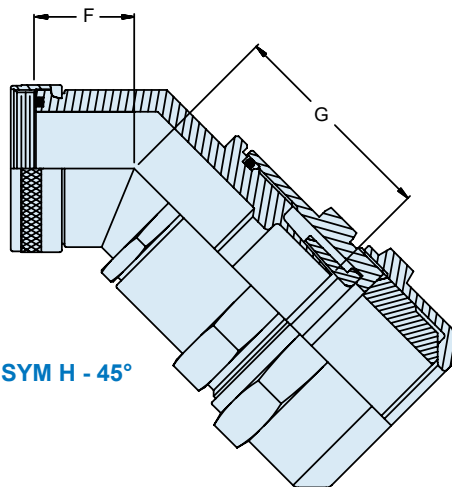


Table V: Conduit Type

Conduit Type	Part Number	Configuration
A	750-192	Brass conduit with single braided shield and jacket
B	750-194	Brass conduit with double braided shield and jacket
H	750-192	Stainless steel conduit with single braided shield and jacket
J	750-192	Nickel/iron conduit with single braided shield and jacket

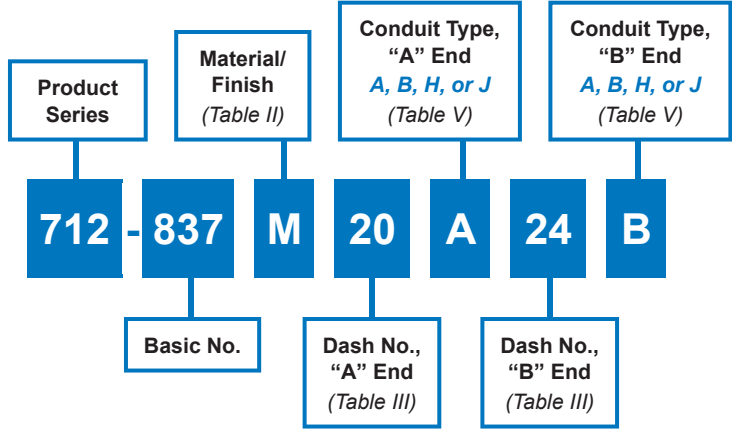


712-837
Heavy-Duty Environmental System - Metal
Advanced EMI/Sealing Conduit-to-Conduit Splice
for Series 75 Metal-Core Conduit

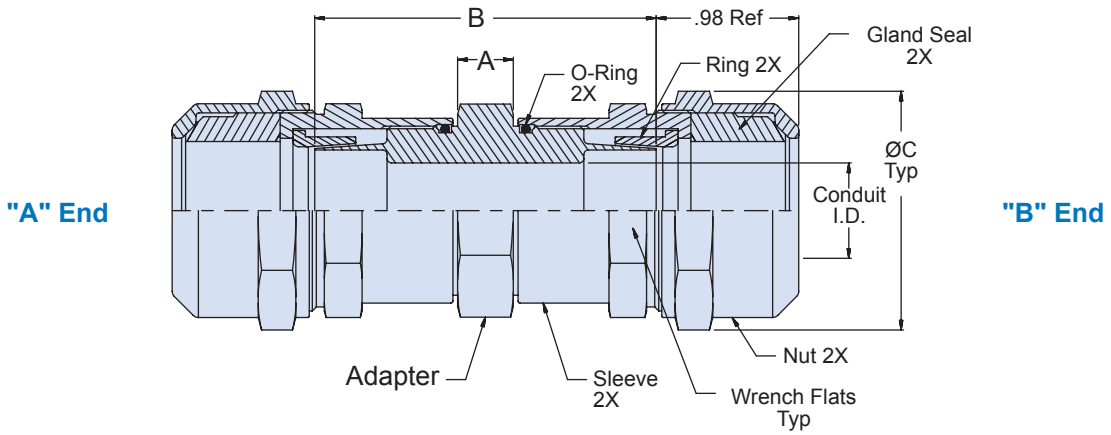
Metal Heavy-Duty Environmental System user installable splice kit with advanced EMI shielding and environmental sealing



How To Order



D



Material and Finish

- Adapters, Nuts, Sleeves & Rings: See Table II
- O-Rings & Gland: Silicone Rubber/NA

712-837

Heavy-Duty Environmental System - Metal Advanced EMI/Sealing Conduit-to-Conduit Splice for Series 75 Metal-Core Conduit

Series 75
Metal-Core Conduit

Table III: Dash No./Dimensions

Dash No	Conduit I.D.		A		B		C Max	
08	0.250	(6.4)	0.50	(12.7)	2.78	(70.6)	1.18	(30.0)
12	0.375	(9.5)	0.50	(12.7)	2.78	(70.6)	1.32	(33.5)
16	0.500	(12.7)	0.56	(14.2)	2.84	(72.1)	1.45	(36.8)
20	0.625	(15.9)	0.56	(14.2)	2.84	(72.1)	1.66	(42.2)
24	0.750	(19.1)	0.62	(15.7)	2.90	(73.7)	1.79	(45.5)
32	1.000	(25.4)	0.62	(15.7)	2.90	(73.7)	2.06	(52.3)
40	1.250	(31.8)	0.68	(17.3)	2.96	(75.2)	2.32	(58.9)
48	1.500	(38.1)	0.68	(17.3)	2.96	(75.2)	2.59	(65.8)
64	2.000	(50.8)	0.75	(19.1)	3.03	(77.0)	3.26	(82.8)
80	2.500	(63.5)	0.75	(19.1)	3.03	(77.0)	3.80	(96.5)
96	3.000	(76.2)	0.75	(19.1)	3.03	(77.0)	4.45	(113.0)

Table II: Material/Finish

Sym	Material	Finish Description
BO	Brass	Unplated
BN	Brass	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
BM	Brass	Electroless Nickel
BMT	Brass	Nickel-PTFE
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
Z1	300 Series SST	Passivate
ZM	300 Series SST	Electroless Nickel
ZN	Aluminum Alloy	Zinc Nickel/Olive Drab over Electroless Nickel (1000 Hour Salt Spray)
ZW	300 Series SST	Cad O.D. Over Electroless Nickel

Table IV
Recommended Torque

Conduit Size Code	±5 Inch Pounds	
	Sleeve	Nut
08	120	40-60
12	120	↑
16	140	↑
20	140	↑
24	150	↑
32	170	↑
40	170	↑
48	170	↑
64	170	↑
80	170	↑
96	170	40-60

D

Table V: Conduit Type

Conduit Type	Part Number	Configuration
A	750-192	Brass conduit with single braided shield and jacket
B	750-194	Brass conduit with double braided shield and jacket
H	750-192	Stainless steel conduit with single braided shield and jacket
J	750-192	Nickel/iron conduit with single braided shield and jacket

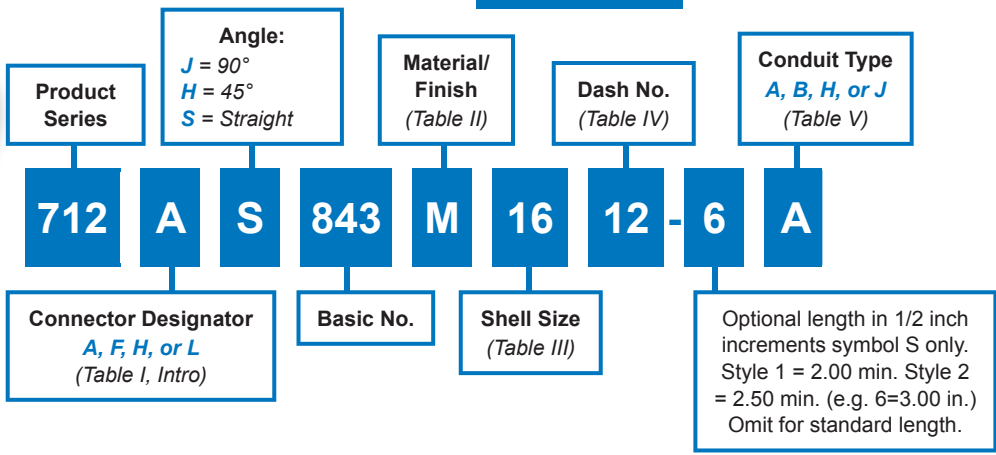


712-843
Heavy-Duty Environmental System - Composite
Environmental, Self-Locking Conduit to Connector Backshell for
Series 75 Metal-Core Conduit

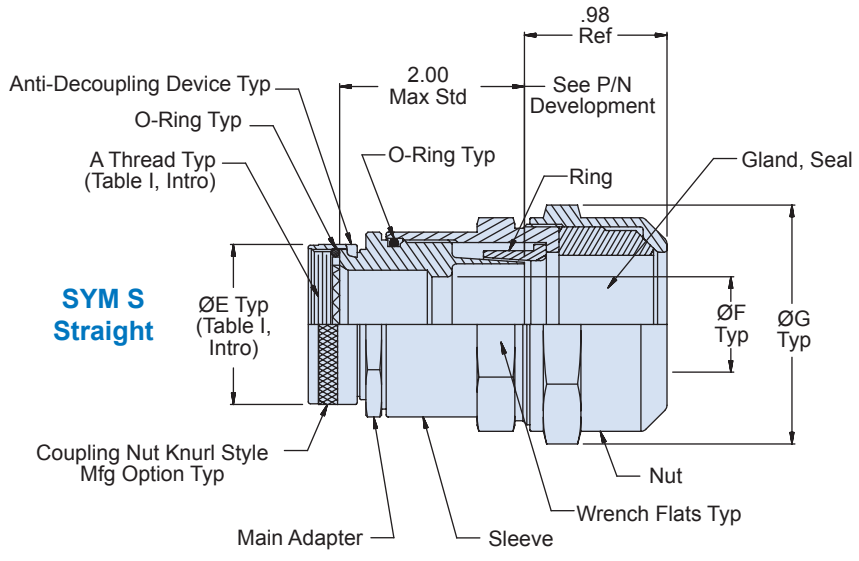
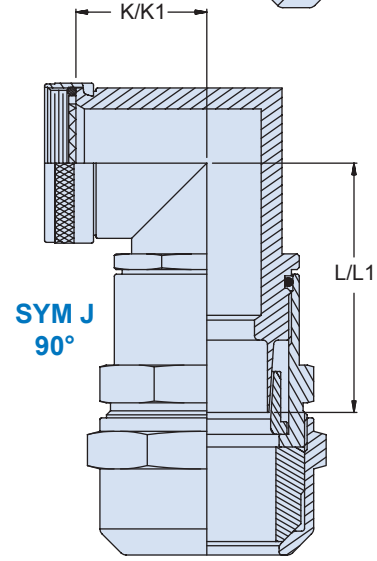
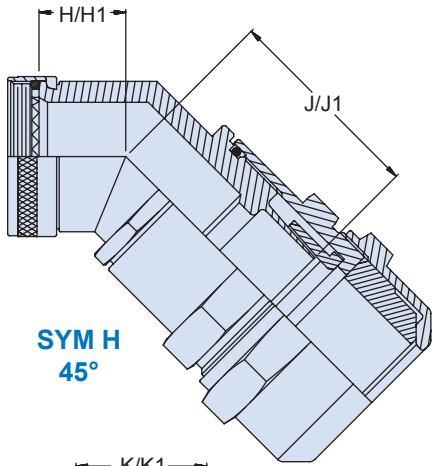
Weight-saving composite Heavy-Duty Environmental System self-locking conduit to connector backshell



How To Order



D



Material and Finish

- Adapters, Elbows, Coupling Nuts & Ring: See Table II
- Sleeves & Nuts: High Grade Engineering Thermoplastic, color Haze Gray/NA
- O-Ring & Gland Seal: Silicone Rubber/NA
- Anti-Decoupling Device: Corrosion resistant material/NA

Notes

- When conduit diameter exceeds max dash no. (Table III) Style 2 will be supplied (also see pages A-32 – A-33). Dimensions H1, J1, K1 and L1 apply to Style 2 angular fittings.
- O-Ring not supplied with connector designator A

712-843

Heavy-Duty Environmental System - Composite
Environmental, Self-Locking Conduit to Connector Backshell for
Series 75 Metal-Core Conduit



Series 75
Metal-Core Conduit

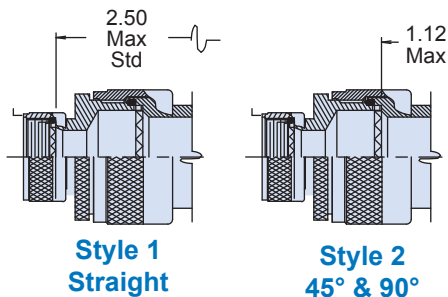


Table III: Shell Size/Dimensions

Shell Size		Max Dash No Style I	H Max	J Max	K Max	L Max
A, F, L	H					
08	09	08	0.71 (18.0)	1.63 (41.4)	0.88 (22.4)	1.90 (48.3)
10	11	12	0.74 (18.8)	1.66 (42.2)	0.95 (24.1)	1.97 (50.0)
12	13	16	0.76 (19.3)	1.70 (43.2)	1.02 (25.9)	2.07 (52.6)
14	15	20	0.79 (20.1)	1.73 (43.9)	1.12 (28.4)	2.14 (54.4)
16	17	24	0.81 (20.6)	1.76 (44.7)	1.19 (30.2)	2.21 (56.1)
18	19	24	0.83 (21.1)	1.78 (45.2)	1.19 (30.2)	2.21 (56.1)
20	21	32	0.86 (21.8)	1.82 (46.2)	1.32 (33.5)	2.38 (60.5)
22	23	32	0.88 (22.4)	1.85 (47.0)	1.32 (33.5)	2.38 (60.5)
24	25	40	0.92 (23.4)	1.88 (47.8)	1.45 (36.8)	2.52 (64.0)
28		40	1.07 (27.2)	1.91 (48.5)	1.52 (38.6)	2.52 (64.0)
32		48	1.12 (28.4)	1.97 (50.0)	1.66 (42.2)	2.65 (67.3)
36		48	1.16 (29.5)	2.01 (51.1)	1.66 (42.2)	2.73 (69.3)
40		64	1.21 (30.7)	2.07 (52.6)	1.99 (50.5)	2.97 (75.4)
44		64	1.26 (32.0)	2.11 (53.6)	1.99 (50.5)	3.09 (78.5)
48		80	1.31 (33.3)	2.18 (55.4)	2.26 (57.4)	3.21 (81.5)
61		40	0.92 (23.4)	1.87 (47.5)	1.45 (36.8)	2.52 (64.0)

Table VI: Recommended Torque

Conduit Size Code	±5 Inch Pounds	
	Sleeve	Nut
08	120	40-60
12	120	
16	140	
20	140	
24	150	
32	170	
40	170	
48	170	
64	170	
80	170	40-60

Table IV: Dash No./Dimensions

Dash No	F.I.D.	Ø G Max	H1 Max	J1 Max	K1 Max	L1 Max
08	0.250 (6.4)	1.18 (30.0)	N/A	N/A	N/A	N/A
12	0.375 (9.5)	1.32 (33.5)	0.74 (18.8)	1.66 (42.2)	0.95 (24.1)	1.97 (50.0)
16	0.500 (12.7)	1.45 (36.8)	0.76 (19.3)	1.70 (43.2)	1.02 (25.9)	2.07 (52.6)
20	0.625 (15.9)	1.66 (42.2)	0.79 (20.1)	1.73 (43.9)	1.12 (28.4)	2.14 (54.4)
24	0.750 (19.1)	1.79 (45.5)	0.83 (21.1)	1.78 (45.2)	1.19 (30.2)	2.21 (56.1)
32	1.000 (25.4)	2.06 (52.3)	0.88 (22.4)	1.85 (47.0)	1.32 (33.5)	2.38 (60.5)
40	1.250 (31.8)	2.32 (58.9)	1.07 (27.2)	1.91 (48.5)	1.52 (38.6)	2.52 (64.0)
48	1.500 (38.1)	2.59 (65.8)	1.16 (29.5)	2.01 (51.1)	1.66 (42.2)	2.73 (69.3)
64	2.000 (50.8)	3.26 (82.8)	1.26 (32.0)	2.11 (53.6)	1.99 (50.5)	3.09 (78.5)
80	2.500 (63.5)	3.80 (96.5)	1.31 (33.3)	2.18 (55.4)	2.26 (57.4)	3.21 (81.5)

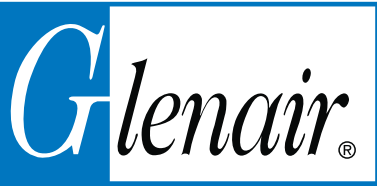
Table V: Conduit Type

Conduit Type	Part Number	Configuration
A	750-192	Brass conduit with single braided shield and jacket
B	750-194	Brass conduit with double braided shield and jacket
H	750-192	Stainless steel conduit with single braided shield and jacket
J	750-192	Nickel/iron conduit with single braided shield and jacket

Table II: Material/Finish

Sym	Material	Finish Description	Component
BO	Brass	Unplated	
BN	Brass	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)	
BM	Brass	Electroless Nickel	
BMT	Brass	Nickel-PTFE	
M	Aluminum Alloy	Electroless Nickel	
MT	Aluminum Alloy	Nickel-PTFE	
NF	Aluminum Alloy	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)	
Z1	300 Series SST	Passivate	
ZN	Aluminum Alloy	Zinc Nickel/Olive Drab Over Electroless Nickel (1,000 Hour Salt Spray)	
ZM	300 Series SST	Electroless Nickel	Adapter, Elbow
		Passivate	Coupling Nut
ZW	300 Series SST	Cad O.D. Over Electroless Nickel	Adapter, Elbow
		Cad Olive Drab	Coupling Nut



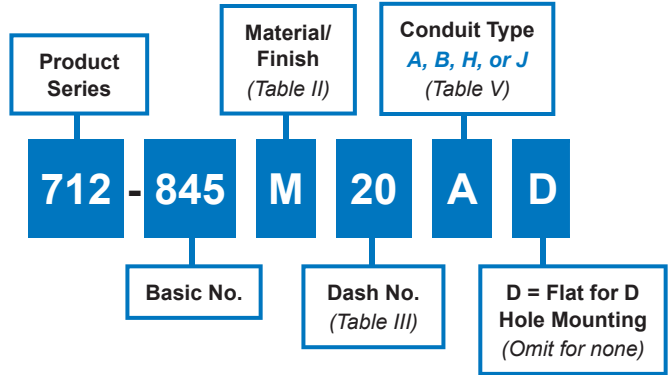


712-845
Heavy-Duty Environmental System - Composite
Conduit-to-Bulkhead Fitting
for Series 75 Metal-Core Conduit

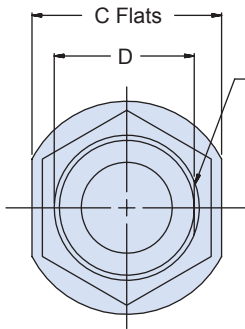
Weight-saving composite Heavy-Duty Environmental System conduit-to-bulkhead fitting



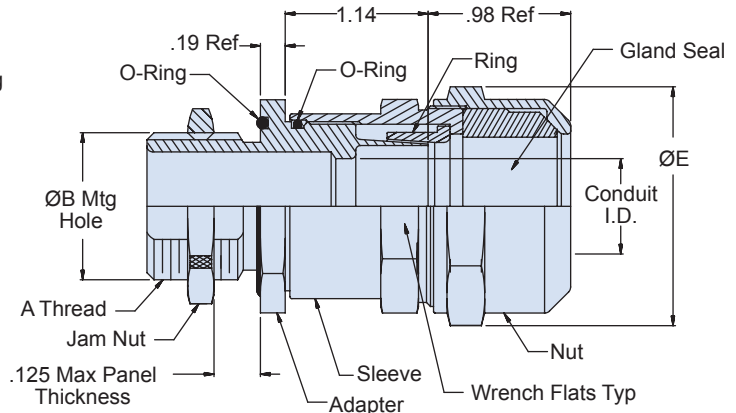
How To Order



D



Flat for 'D' Hole Mounting
(See P/N Development)



Material and Finish

- Adapter, Jam Nuts & Rings: See Table II
- Sleeves & Nuts: High grade engineering thermoplastic, color Haze Gray/NA
- O-Ring & Gland Seal: Silicone rubber/NA

712-845
Heavy-Duty Environmental System - Composite
Conduit-to-Bulkhead Fitting
for Series 75 Metal-Core Conduit



Table III: Dash No./Dimensions

Dash No	Conduit I.D.	A Thread	Ø B +.015 -.000	C Flats	D +.000 -.015	Ø E Max
08	0.250 (6.4)	1/2-20 UNF - 2A	0.505 (12.8)	0.875 (22.2)	0.438 (11.1)	1.18 (30.0)
12	0.375 (9.5)	5/8-24 UNEF - 2A	0.630 (16.0)	1.000 (25.4)	0.563 (14.3)	1.32 (33.5)
16	0.500 (12.7)	3/4-20 UNEF - 2A	0.755 (19.2)	1.250 (31.8)	0.688 (17.5)	1.45 (36.8)
20	0.625 (15.9)	7/8-20 UNEF - 2A	0.880 (22.4)	1.312 (33.3)	0.812 (20.6)	1.66 (42.2)
24	0.750 (19.1)	1.00-20 UNEF - 2A	1.005 (25.5)	1.500 (38.1)	0.938 (23.8)	1.79 (45.5)
32	1.000 (25.4)	1 5/16-18 UNEF - 2A	1.318 (33.5)	1.750 (44.5)	1.250 (31.8)	2.06 (52.3)
40	1.250 (31.8)	1 1/2-18 UNEF - 2A	1.505 (38.2)	2.000 (50.8)	1.438 (36.5)	2.32 (58.9)
48	1.500 (38.1)	1 3/4-18 UNS - 2A	1.755 (44.6)	2.250 (57.2)	1.688 (42.9)	2.59 (65.8)
64	2.000 (50.8)	2 1/4-16 UN - 2A	2.255 (57.3)	2.750 (69.9)	2.188 (55.6)	3.26 (82.8)
80	2.500 (63.5)	2 3/4-16 UN - 2A	2.755 (70.0)	3.250 (82.6)	2.688 (68.3)	3.80 (96.5)
96	3.000 (76.2)	3 1/4-16 UN - 2A	3.255 (82.7)	3.750 (95.3)	3.188 (81.0)	4.45 (113.0)

Table II: Material/Finish

Sym	Material	Finish Description
BO	Brass	Unplated
BN	Brass	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
BM	Brass	Electroless Nickel
BMT	Brass	Nickel-PTFE
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
Z1	300 Series SST	Passivate
ZM	300 Series SST	Electroless Nickel
ZN	Aluminum Alloy	Zinc Nickel/Olive Drab over Electroless Nickel (1000 Hour Salt Spray)
ZW	300 Series SST	Cad O.D. Over Electroless Nickel

Table IV: Recommended Torque

Conduit Size Code	±5 Inch Pounds	
	Sleeve	Nut
08	120	40-60
12	120	↑
16	140	↑
20	140	↑
24	150	↑
32	170	↑
40	170	↑
48	170	↑
64	170	↑
80	170	↑
96	170	40-60 ↓

Table V: Conduit Type

Conduit Type	Part Number	Configuration
A	750-192	Brass conduit with single braided shield and jacket
B	750-194	Brass conduit with double braided shield and jacket
H	750-192	Stainless steel conduit with single braided shield and jacket
J	750-192	Nickel/iron conduit with single braided shield and jacket

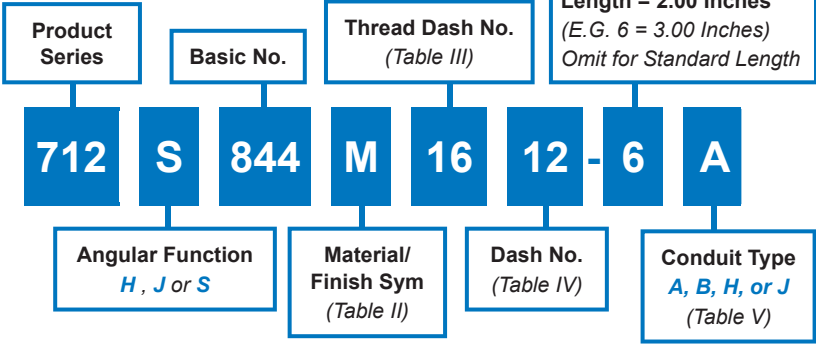
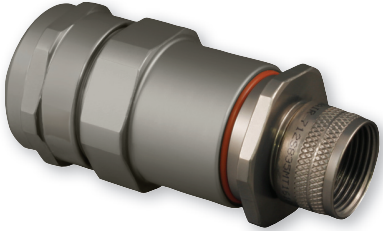


712-844
Heavy-Duty Environmental System - Composite
Conduit to Transition or End Fitting Backshell
for Series 75 Metal-Core Conduit

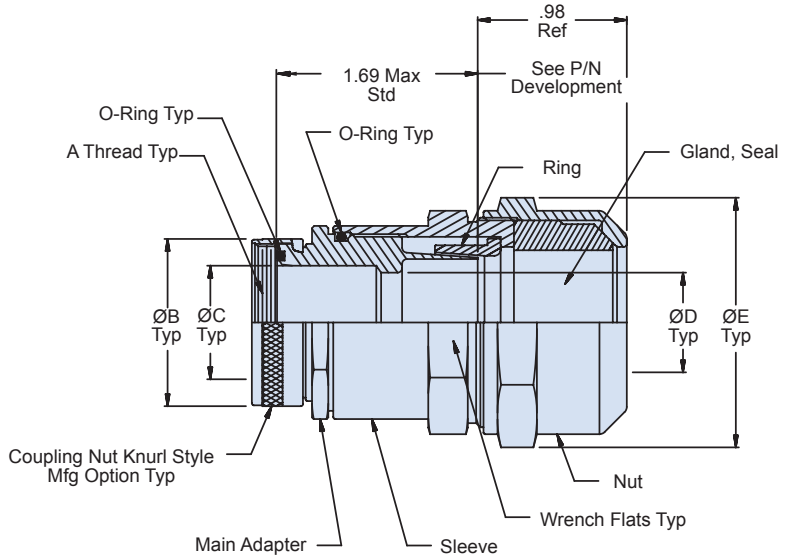
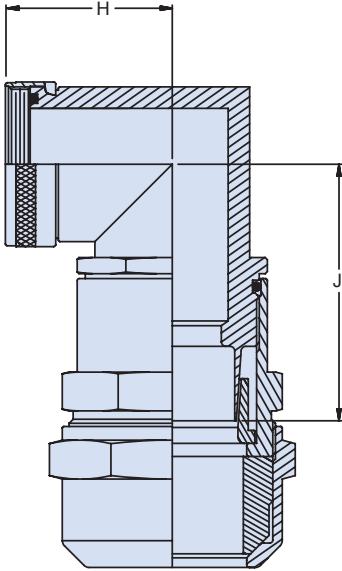
Weight-saving composite Heavy-Duty Environmental System conduit-to-transition or end fitting backshell

How To Order

Optional Length in 1/2 Increments Symbol **S** Only. Minimum Length = 2.00 Inches (E.G. 6 = 3.00 Inches) Omit for Standard Length



D



Intermateability Guide	
For use with	
Y transitions	710-106, 710-107, 710-370,
T transitions	710-108, 710-109, 710-371
Connector adapters	713-100, 713-101, 713-110
Bulkhead adapters	710-100, 710-101, 710-372
Bulkhead feed-thrus	710-102, 710-103, 710-373
Male Pipe thread adapters	710-114, 710-115, 710-405
Female pipe thread adapters	710-116, 710-117, 710-406

Material and Finish

- Adapters, Elbows, and Ring: See Table II
- Sleeves and Nuts: High grade engineering thermoplastic, color Haze Gray/NA
- O-Rings & Gland: Silicone rubber/NA

712-844

Heavy-Duty Environmental System - Composite Conduit to Transition or End Fitting Backshell for Series 75 Metal-Core Conduit

Series 75
Metal-Core Conduit

Table III: Dash No./Dimensions

Thread Dash No.	A Thread	Ø B Max	Ø C
08	1/2-20 UNF	.640 (16.3)	.250 (6.35)
12	5/8-24 UNEF	.760 (19.3)	.375 (9.53)
16	3/4-20 UNEF	.890 (22.6)	.500 (12.7)
20	7/8-20 UNEF	1.024 (26.0)	.625 (15.9)
24	1.00-20 UNEF	1.152 (29.2)	.750 (19.1)
32	1 5/16-18 UNEF	1.488 (37.8)	1.000 (25.4)
40	1 1/2-18 UNEF	1.676 (42.7)	1.250 (31.8)
48	1 3/4-18 UNS	1.960 (49.8)	1.500 (38.1)
64	2 1/4-16 UN	2.460 (62.5)	2.000 (50.8)
80	2 3/4-16 UN	3.000 (76.2)	2.500 (63.5)
96	3 1/4-16 UN	3.450 (87.6)	3.000 (76.2)

Table II: Material/Finish

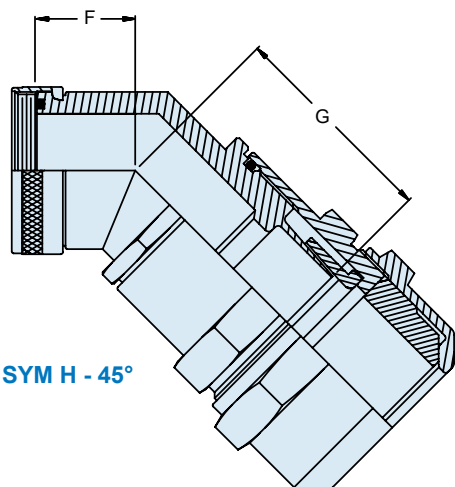
Sym	Material	Finish Description
BO	Brass	Unplated
BN	Brass	Cadmium/Olive Drab Over Electroless Nickel (1,000 Hour Salt Spray)
BM	Brass	Electroless Nickel
BMT	Brass	Nickel-PTFE
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	Cadmium/Olive Drab Over Electroless Nickel (1,000 Hour Salt Spray)
Z1	300 Series SST	Passivate
ZM	300 Series SST	Electroless Nickel
ZN	Aluminum Alloy	Zinc Nickel/Olive Drab Over Electroless Nickel (1,000 Hour Salt Spray)
ZW	300 Series SST	Cad O.D. Over Electroless Nickel

Table IV: Recommended Torque

Conduit Size Code	±5 Inch Pounds	
	Sleeve	Nut
08	120	40-60
12	120	↑
16	140	↑
20	140	↑
24	150	↑
32	170	↑
40	170	↑
48	170	↑
64	170	↓
80	170	40-60

Table IV: Dash No./Dimensions

Dash No.	D I.D.	Ø E Max	F Max	G Max	H Max	J Max
08	.250 (6.4)	1.18 (30.0)	.71 (18.0)	1.63 (41.4)	.88 (22.4)	1.90 (48.3)
12	.375 (9.5)	1.32 (33.5)	.74 (18.8)	1.66 (42.2)	.95 (24.1)	1.97 (50.0)
16	.500 (12.7)	1.45 (36.8)	.76 (19.3)	1.70 (43.2)	1.02 (25.9)	2.07 (52.6)
20	.625 (15.9)	1.66 (42.2)	.79 (20.0)	1.73 (43.9)	1.12 (28.4)	2.14 (54.4)
24	.750 (19.1)	1.79 (45.5)	.83 (21.1)	1.78 (45.2)	1.19 (30.2)	2.21 (56.1)
32	1.000 (25.4)	2.06 (52.3)	.88 (22.4)	1.85 (47.0)	1.32 (33.5)	2.38 (60.5)
40	1.250 (31.8)	2.32 (58.9)	1.07 (27.2)	1.91 (48.5)	1.52 (38.6)	2.52 (64.0)
48	1.500 (38.1)	2.59 (65.8)	1.16 (29.5)	2.01 (51.1)	1.66 (42.2)	2.73 (69.3)
64	2.000 (50.8)	3.26 (82.8)	1.26 (32.0)	2.11 (53.6)	1.99 (50.5)	3.09 (78.5)
80	2.500 (63.5)	3.80 (96.5)	1.31 (33.3)	2.18 (55.4)	2.26 (57.4)	3.21 (81.5)
96	3.000 (76.2)	4.45 (113.0)	1.42 (36.1)	2.28 (57.9)	2.59 (65.8)	3.42 (86.9)



SYM H - 45°

Table V: Conduit Type

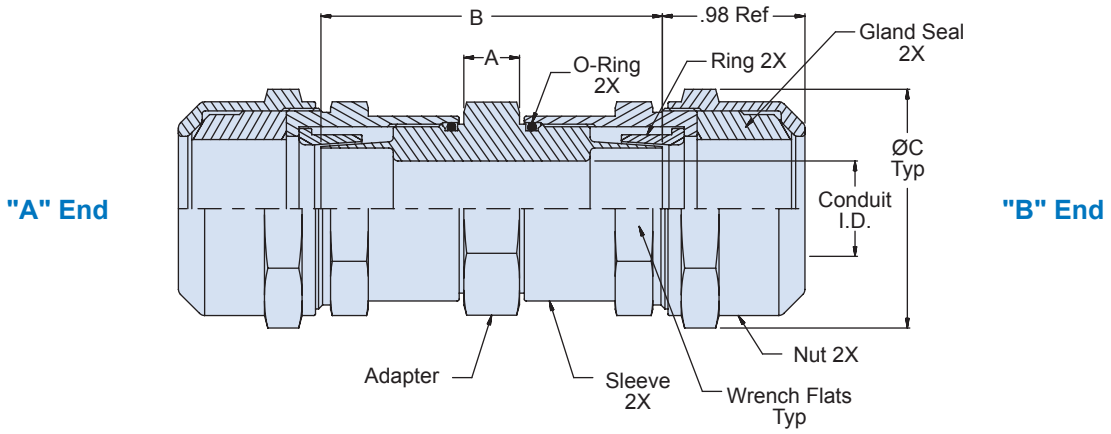
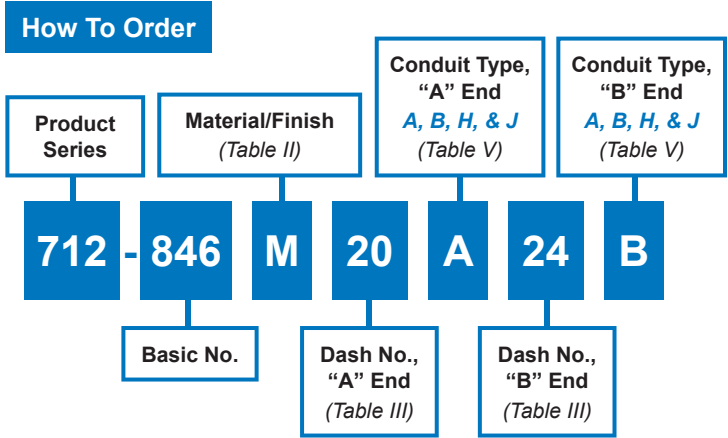
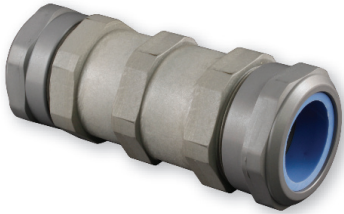
Conduit Type	Part Number	Configuration
A	750-192	Brass conduit with single braided shield and jacket
B	750-194	Brass conduit with double braided shield and jacket
H	750-192	Stainless steel conduit with single braided shield and jacket
J	750-192	Nickel/iron conduit with single braided shield and jacket

D



712-846
Heavy-Duty Environmental System - Composite
Conduit-to-Conduit Splice for Series 75 Metal-Core Conduit

Weight-saving composite Heavy-Duty Environmental System user installable splice kit



Material and Finish

- Adapters & Rings: See Table II
- Sleeves & Nuts: High grade engineering thermoplastic, color Haze Gray/NA
- O-Rings & Gland: Silicone rubber/NA

712-846

Heavy-Duty Environmental System - Composite Conduit-to-Conduit Splice for Series 75 Metal-Core Conduit

Series 75
Metal-Core Conduit

Table III: Dash No./Dimensions

Dash No	Conduit I.D.	A	B	Ø C Max
08	0.250 (6.4)	0.50 (12.7)	2.78 (70.6)	1.18 (30.0)
12	0.375 (9.5)	0.50 (12.7)	2.78 (70.6)	1.32 (33.5)
16	0.500 (12.7)	0.56 (14.2)	2.84 (72.1)	1.45 (36.8)
20	0.625 (15.9)	0.56 (14.2)	2.84 (72.1)	1.66 (42.2)
24	0.750 (19.1)	0.62 (15.7)	2.90 (73.7)	1.79 (45.5)
32	1.000 (25.4)	0.62 (15.7)	2.90 (73.7)	2.06 (52.3)
40	1.250 (31.8)	0.68 (17.3)	2.96 (75.2)	2.32 (58.9)
48	1.500 (38.1)	0.68 (17.3)	2.96 (75.2)	2.59 (65.8)
64	2.000 (50.8)	0.75 (19.1)	3.03 (77.0)	3.26 (82.8)
80	2.500 (63.5)	0.75 (19.1)	3.03 (77.0)	3.80 (96.5)
96	3.000 (76.2)	0.75 (19.1)	3.03 (77.0)	4.45 (113.0)

Table IV: Recommended Torque

Conduit Size Code	±5 Inch Pounds	
	Sleeve	Nut
08	120	40-60
12	120	↑ ↓
16	140	
20	140	
24	150	
32	170	
40	170	
48	170	
64	170	
80	170	
96	170	

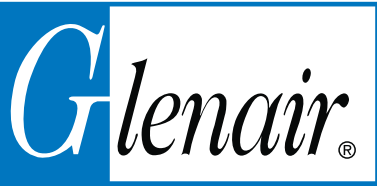
Table II: Material/Finish

Sym	Material	Finish Description
BO	Brass	Unplated
BN	Brass	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
BM	Brass	Electroless Nickel
BMT	Brass	Nickel-PTFE
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
Z1	300 Series SST	Passivate
ZN	Aluminum Alloy	Zinc Nickel/Olive Drab Over Electroless Nickel (1,000 Hour Salt Spray)
ZM	300 Series SST	Passivate
ZW	300 Series SST	Cad O.D. Over Electroless Nickel

Table V: Conduit Type

Conduit Type	Part Number	Configuration
A	750-192	Brass conduit with single braided shield and jacket
B	750-194	Brass conduit with double braided shield and jacket
H	750-192	Stainless steel conduit with single braided shield and jacket
J	750-192	Nickel/iron conduit with single braided shield and jacket

D

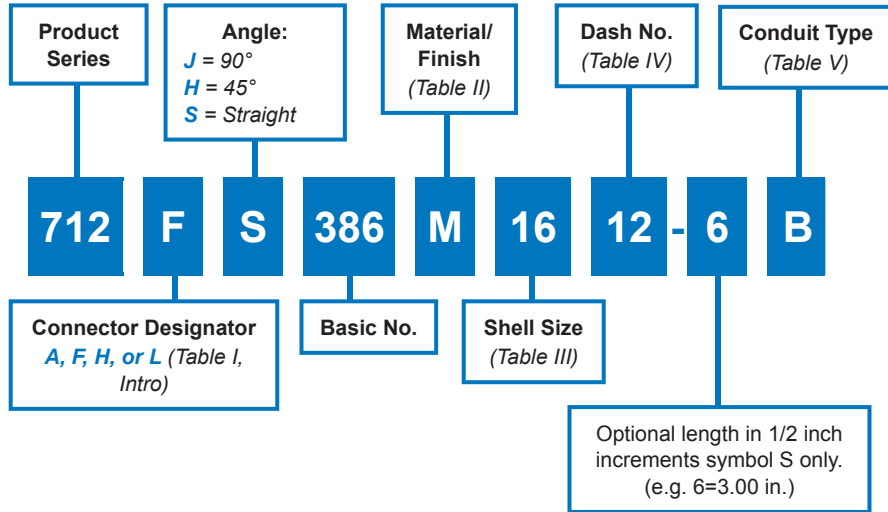


712-386
Legacy MIL-C-24758 (Superseded)
Environmental EMI/RFI Conduit to Connector Backshell
for Series 75 Metal-Core Conduit

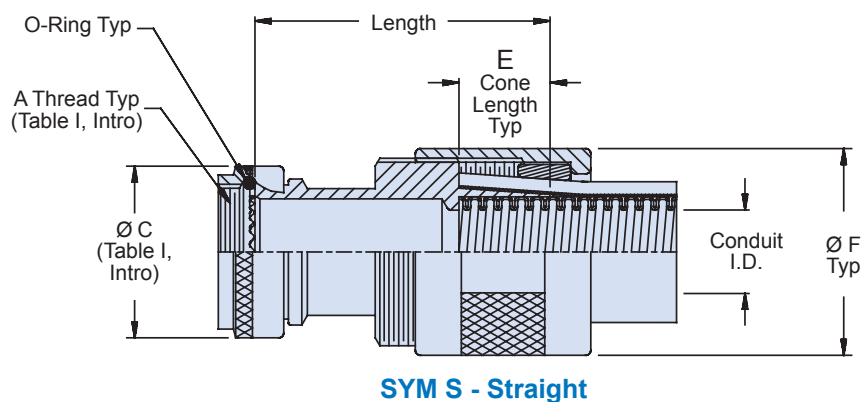
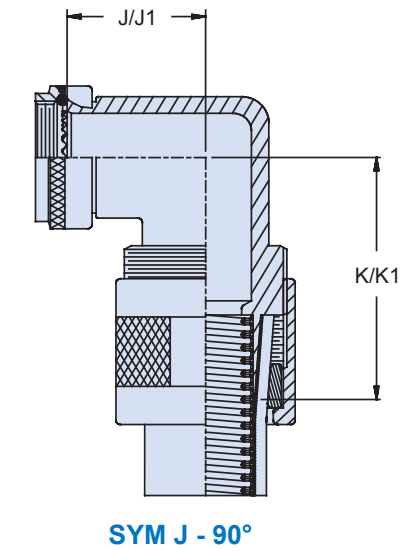
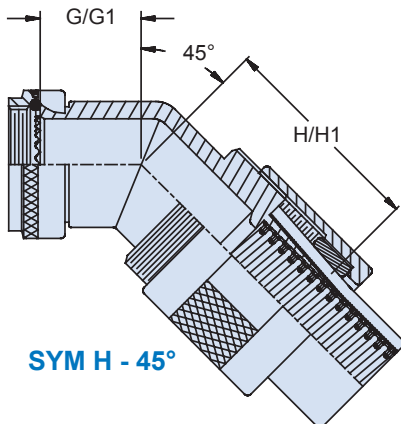
Legacy MIL-C-24758 conduit-to-connector backshell (Superseded by MIL-PRF-24758A [SH])



How To Order



D



Material/Finish

- Adapters, Elbows, Coupling Nuts, Nuts, Ring: See Table II
- O-Rings: Silicone/NA

Notes

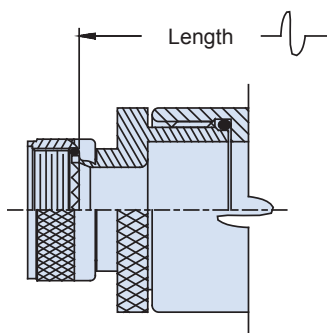
- O-Ring not supplied with connector designator A
- F dimension is based on type A conduit. Add .125 (3.2) to listed dimensions for additional shield types B or D.
- When tubing I.D. max exceeds inside diameter of connector shell, style 2 will be supplied. Refer to pages A-32 – A-33.

712-386

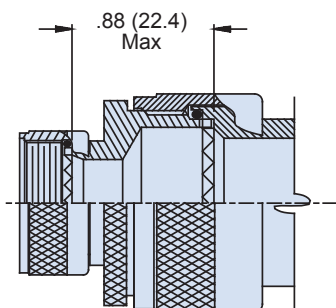
Legacy MIL-C-24758 (Superseded)
Environmental EMI/RFI Conduit to Connector Backshell
for Series 75 Metal-Core Conduit



Series 75
 Metal-Core Conduit



Style 2
(Straight)



Style 2
(45° & 90°)

Table III: Shell Size/Dimensions

Shell Size		G Max	H Max	J Max	K Max
A,F,L	H				
08	09	.639 (16.2)	1.700 (43.2)	.750 (19.1)	1.810 (46.0)
10	11	.654 (16.6)	1.730 (43.9)	.810 (20.6)	1.870 (47.5)
12	13	.688 (17.5)	1.750 (44.5)	.870 (22.1)	1.930 (49.0)
14	15	.705 (17.9)	1.780 (45.2)	.920 (23.4)	2.000 (50.8)
16	17	.732 (18.6)	1.800 (45.7)	.980 (24.9)	2.060 (52.3)
18	19	.748 (19.0)	1.810 (46.0)	1.020 (25.9)	2.080 (52.8)
20	21	.773 (19.6)	2.020 (51.3)	1.080 (27.4)	2.390 (60.7)
22	23	.800 (20.3)	2.060 (52.3)	1.140 (29.0)	2.470 (62.7)
24	25	.823 (20.9)	2.090 (53.1)	1.200 (30.5)	2.540 (64.5)
28		1.041 (26.4)	2.320 (58.9)	1.480 (37.6)	2.780 (70.6)
32		1.092 (27.7)	2.360 (59.9)	1.610 (40.9)	2.870 (72.9)
36		1.138 (28.9)	2.410 (61.2)	1.720 (43.7)	2.960 (75.2)
40		1.184 (30.1)	2.450 (62.2)	1.830 (46.5)	3.070 (78.0)
44		1.235 (31.4)	2.500 (63.5)	1.950 (49.5)	3.200 (81.3)
48		1.287 (32.7)	2.550 (64.8)	2.080 (52.8)	3.320 (84.3)
61		1.003 (25.5)	2.270 (57.7)	1.390 (35.3)	2.380 (60.5)

Table IV Dash No./Dimensions

Dash No	Conduit I.D.	E	Ø F Max	G1 Max	H1 Max	J1 Max	K1 Max
08	.250 (6.4)	.75 (19.1)	1.16 (29.5)	.639 (16.2)	1.700 (43.2)	.750 (19.1)	1.810 (46.0)
12	.375 (9.5)	.75 (19.1)	1.34 (34.0)	.654 (16.6)	1.730 (43.9)	.810 (20.6)	1.870 (47.5)
16	.500 (12.7)	.75 (19.1)	1.46 (37.1)	.688 (17.5)	1.750 (44.5)	.870 (22.1)	1.930 (49.0)
20	.625 (15.9)	.75 (19.1)	1.65 (41.9)	.705 (17.9)	1.780 (45.2)	.920 (23.4)	2.000 (50.8)
24	.750 (19.1)	.75 (19.1)	1.84 (46.7)	.732 (18.6)	1.800 (45.7)	.980 (24.9)	2.060 (52.3)
32	1.000 (25.4)	1.00 (25.4)	2.02 (51.3)	.773 (19.6)	2.020 (51.3)	1.080 (27.4)	2.390 (60.7)
40	1.250 (31.8)	1.00 (25.4)	2.34 (59.4)	.823 (20.9)	2.090 (53.1)	1.200 (30.5)	2.540 (64.5)
48	1.500 (38.1)	1.00 (25.4)	2.72 (69.1)	1.041 (26.4)	2.360 (59.9)	1.480 (37.6)	2.870 (72.9)
56	1.750 (44.5)	1.00 (25.4)	2.96 (75.2)	1.062 (27.0)	2.410 (61.2)	1.550 (39.4)	2.960 (75.2)
64	2.000 (50.8)	1.00 (25.4)	3.22 (81.8)	1.092 (27.7)	2.450 (62.2)	1.610 (40.9)	3.070 (78.0)
80	2.500 (63.5)	1.00 (25.4)	3.86 (98.0)	1.190 (30.2)	2.550 (64.8)	1.860 (47.2)	3.320 (84.3)
96	3.000 (76.2)	1.00 (25.4)	4.38 (111.3)	1.250 (31.8)	2.610 (66.3)	1.990 (50.5)	3.450 (87.6)

Table II: Finish

Symbol	Material	Finish
A	Aluminum Alloy, 6061	Cadmium, Olive Drab, per QQ-P-416 over Electroless Nickel per ASTM B733-90 and MIL-C-26074, 1000 Hour Salt Spray
B	Brass, ASTM B16	
C	Corrosion Resistant Steel 300 Series	Passivate per QQ-P-35
M	Aluminum Alloy, 6061	Electroless Nickel per ASTM B733-90 and MIL-C-26074
NC	Aluminum Alloy, 6061	Zinc Cobalt, Olive Drab
S	Carbon Steel, B1113	Cadmium, Olive Drab, per QQ-P-416, over Electroless Nickel per ASTM B733-90 and MIL-C-26074, 500 Hour Salt Spray

Table V: Conduit Type

Conduit Type	Part Number	Configuration
A	750-192	Brass conduit with single braided shield and jacket
B	750-194	Brass conduit with double braided shield and jacket
D	750-196	Brass conduit with triple braided shield and jacket
H	750-192	Stainless steel conduit with single braided shield and jacket
J	750-192	Nickel/iron conduit with single braided shield and jacket

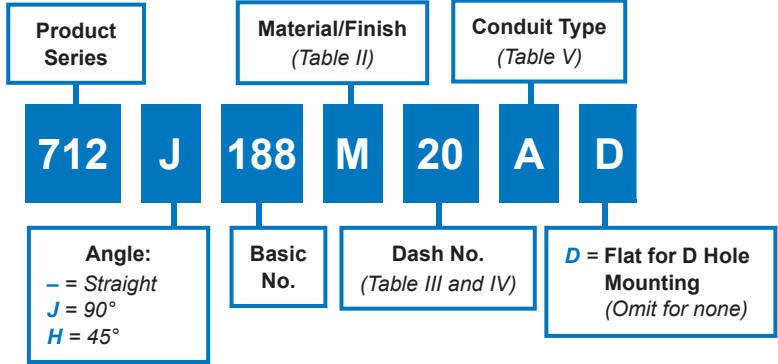
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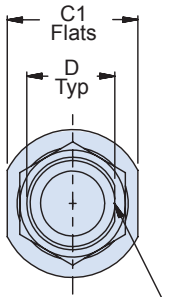
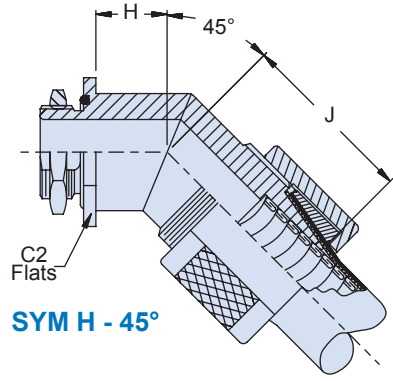
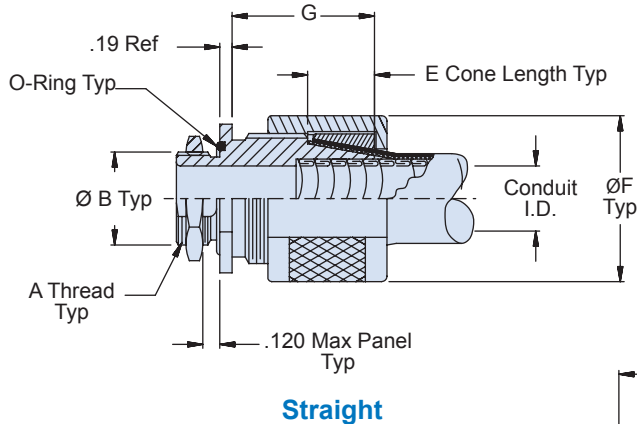
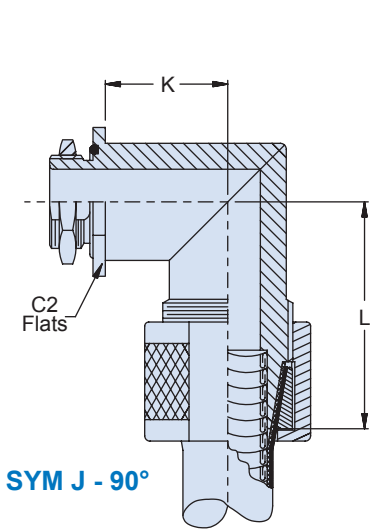
712-188
Legacy MIL-C-24758 (Superseded)
Environmental EMI/RFI Bulkhead Fitting
for Series 75 Metal-Core Conduit

Legacy MIL-C-24758 conduit-to-bulkhead fitting (Superseded by MIL-PRF-24758A [SH])

How To Order



D



Flat for 'D' Hole Mounting
(see P/N Development)

Material/Finish

- Adapter, Nuts, Rings: See Table II
- O-Ring: Silicone

Notes

- F dimensions are based on type A conduit. Add .125 (3.2) to listed dimensions for additional shield types B or D.

712-188
Legacy MIL-C-24758 (Superseded)
Environmental EMI/RFI Bulkhead Fitting
for Series 75 Metal-Core Conduit



Series 75
Metal-Core Conduit

D

Table III: Dash No./Dimensions

Dash No	Conduit I.D.	A Thread Class 2A	Ø B +.03 -.00	C1 Flats	C2 Flats	D +.000 -.015	H Max	J Max	K Max	L Max
08	.250 (6.4)	1/2 - 20 UNF	.50 (12.7)	000 (25.4)	.750 (19.1)	.438 (11.1)	0.424 (10.8)	1.700 (43.2)	0.550 (14.0)	1.810 (46.0)
12	.375 (9.5)	5/8 - 24 UNEF	.63 (16.0)	1.187 (30.1)	.875 (22.2)	.563 (14.3)	0.454 (11.5)	1.730 (43.9)	0.610 (15.5)	1.870 (47.5)
16	.500 (12.7)	3/4 - 20 UNEF	.75 (19.1)	1.250 (31.8)	1.000 (25.4)	.688 (17.5)	0.488 (12.4)	1.750 (44.5)	0.670 (17.0)	1.930 (49.0)
20	.625 (15.9)	7/8 - 20 UNEF	.88 (22.4)	1.375 (34.9)	1.125 (28.6)	.812 (20.6)	0.505 (12.8)	1.780 (45.2)	0.720 (18.3)	2.000 (50.8)
24	.750 (19.1)	1 - 20 UNEF	1.00 (25.4)	1.625 (41.3)	1.250 (31.8)	.938 (23.8)	0.532 (13.5)	1.800 (45.7)	0.780 (19.8)	2.060 (52.3)
32	1.000 (25.4)	1 5/16 - 18 UNEF	1.32 (33.5)	1.812 (46.0)	1.562 (39.7)	1.250 (31.8)	0.573 (14.6)	2.020 (51.3)	0.880 (22.4)	2.390 (60.7)
40	1.250 (31.8)	1 1/2 - 18 UNEF	1.50 (38.1)	2.125 (54.0)	1.812 (46.0)	1.438 (36.5)	0.623 (15.8)	2.090 (53.1)	1.000 (25.4)	2.540 (64.5)
48	1.500 (38.1)	1 3/4 - 18 UNS	1.75 (44.5)	2.500 (63.5)	2.062 (52.4)	1.688 (42.9)	0.841 (21.4)	2.360 (59.9)	1.280 (32.5)	2.870 (72.9)
56	1.750 (44.5)	2 - 18 UNS	2.00 (50.8)	2.750 (69.9)	2.312 (58.7)	1.938 (49.2)	0.862 (21.9)	2.410 (61.2)	1.350 (34.3)	2.960 (75.2)
64	2.000 (50.8)	2 1/4 - 16 UN	2.25 (57.2)	3.000 (76.2)	2.562 (65.1)	2.188 (55.6)	0.892 (22.7)	2.450 (62.2)	1.410 (35.8)	3.070 (78.0)
80	2.500 (63.5)	2 3/4 - 16 UN	2.75 (69.9)	3.625 (92.1)	3.062 (77.8)	2.688 (68.3)	0.990 (25.1)	2.550 (64.8)	1.660 (42.2)	3.320 (84.3)
96	3.000 (76.2)	3 1/4 - 16 UN	3.25 (82.6)	4.000 (101.6)	3.562 (90.5)	3.188 (81.0)	1.050 (26.7)	2.610 (66.3)	1.790 (45.5)	3.450 (87.6)

Table IV: Dash No./Dimensions

Dash No	E	Ø F Max	G
08	.75 (19.1)	1.16 (29.5)	1.39 (35.3)
12	.75 (19.1)	1.34 (34.0)	1.39 (35.3)
16	.75 (19.1)	1.46 (37.1)	1.39 (35.3)
20	.75 (19.1)	1.65 (41.9)	1.39 (35.3)
24	.75 (19.1)	1.84 (46.7)	1.39 (35.3)
32	1.00 (25.4)	2.02 (51.3)	1.64 (41.7)
40	1.00 (25.4)	2.34 (59.4)	1.64 (41.7)
48	1.00 (25.4)	2.72 (69.0)	1.64 (41.7)
56	1.00 (25.4)	2.96 (75.2)	1.64 (41.7)
64	1.00 (25.4)	3.22 (81.8)	1.64 (41.7)
80	1.00 (25.4)	3.86 (98.0)	1.64 (41.7)
96	1.00 (25.4)	4.38 (111.3)	1.64 (41.7)

Table II: Finish

Symbol	Material	Finish
A	Aluminum Alloy, 6061	Cadmium, Olive Drab, per QQ-P-416 over Electroless Nickel per ASTM B733-90 and MIL-C-26074, 1000 Hour Salt Spray
B	Brass, ASTM B16	
C	Corrosion Resistant Steel, 300 Series	Passivate per QQ-P-35
M	Aluminum Alloy, 6061	Electroless Nickel per ASTM B733-90 and MIL-C-26074
NC	Aluminum Alloy, 6061	Zinc Cobalt, Olive Drab
S	Carbon Steel, B1113	Cadmium, Olive Drab, per QQ-P-416, over Electroless Nickel per ASTM B733-90 and MIL-C-26074, 500 Hour Salt Spray

1.000 (25.4)
 1.187 (30.1)
 1.250 (31.8)
 1.375 (34.9)
 1.625 (41.3)
 1.812 (46.0)
 2.125 (54.0)
 2.500 (63.5)
 2.750 (69.9)
 3.000 (76.2)
 3.625 (92.1)

Table V: Conduit Type

Conduit Type	Part Number	Configuration
A	750-192	Brass conduit with single braided shield and jacket
B	750-194	Brass conduit with double braided shield and jacket
D	750-196	Brass conduit with triple braided shield and jacket
H	750-192	Stainless steel conduit with single braided shield and jacket
J	750-192	Nickel/iron conduit with single braided shield and jacket



712-387
Legacy MIL-C-24758 (Superseded)
Conduit to Transition or End Fitting Backshell
for Jacketed and/or Shielded Series 75 Metal-Core Conduit

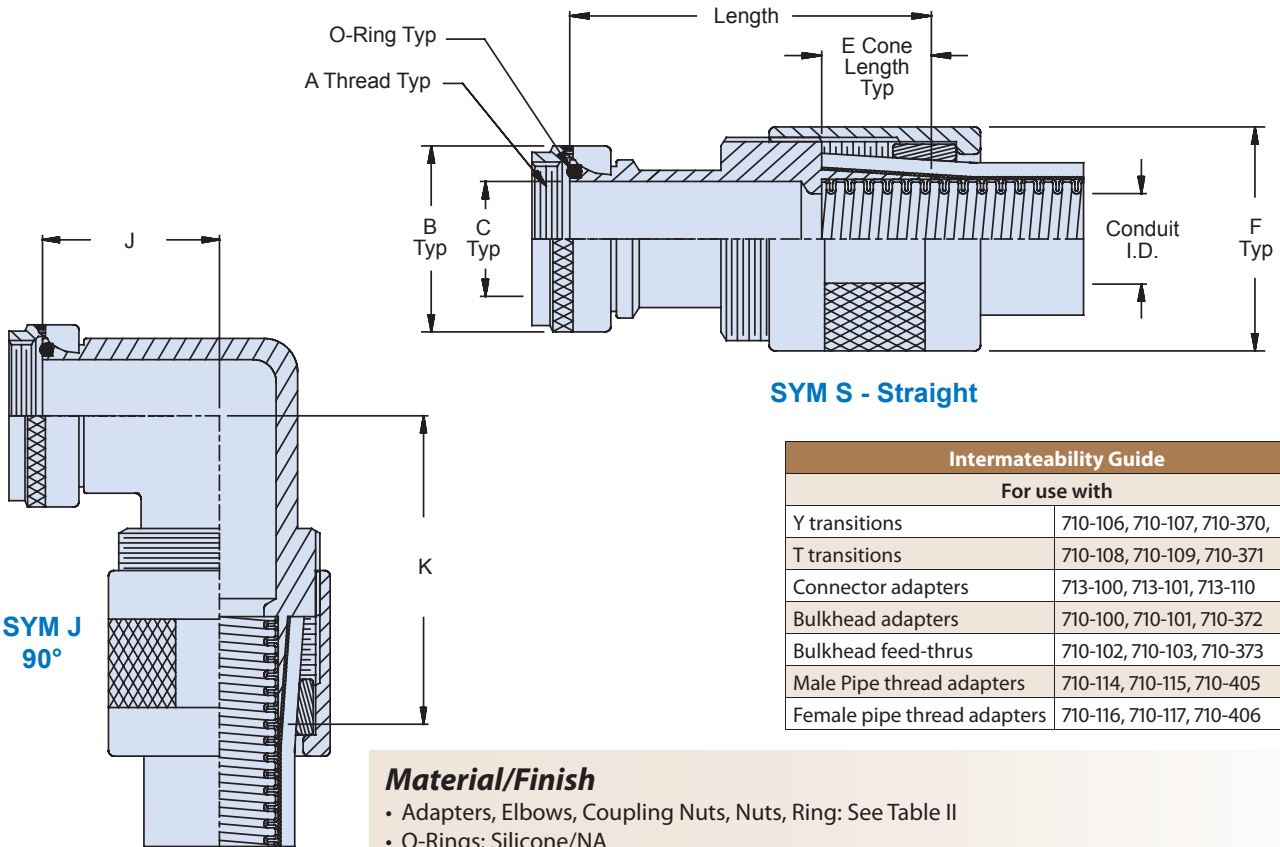
Legacy MIL-C-24758 Conduit-to-transition or end-fitting backshell (Superseded by MIL-PRF-24758A [SH])



How To Order

Product Series	Basic No.	Thread Dash No. (Table III)		Length in 1/2 inch (12.7) increments (Example: 6 = 3.0 inches (76.2)) Minimum Length: Dash No. (Table II) 08 to 24 = 1.50 (38.1) Dash No. (Table II) 32 to 96 = 2.00 (63.5)		
712	S	387	M	16	12 - 6	A
Angular Function S = Straight H = 45° J = 90°		Material/Finish (Table II)		Dash No. (Table III and IV)		Conduit Type (Table V)

D



Intermateability Guide	
For use with	
Y transitions	710-106, 710-107, 710-370,
T transitions	710-108, 710-109, 710-371
Connector adapters	713-100, 713-101, 713-110
Bulkhead adapters	710-100, 710-101, 710-372
Bulkhead feed-thrus	710-102, 710-103, 710-373
Male Pipe thread adapters	710-114, 710-115, 710-405
Female pipe thread adapters	710-116, 710-117, 710-406

- Material/Finish**
- Adapters, Elbows, Coupling Nuts, Nuts, Ring: See Table II
 - O-Rings: Silicone/NA

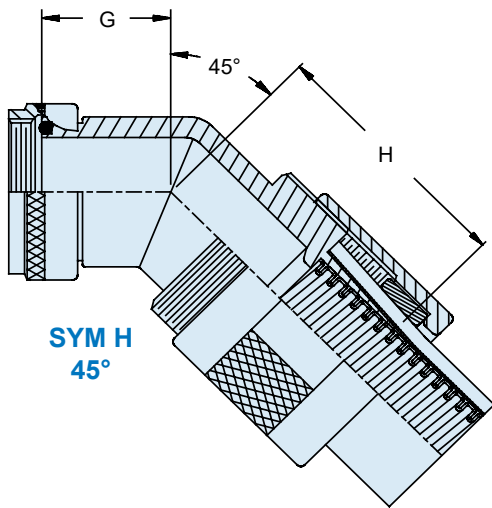
- Notes**
- F dimension is based on type A conduit. Add .125 (3.2) to listed dimensions for each additional shield types B and D

712-387

**Legacy MIL-C-24758 (Superseded)
Conduit to Transition or End Fitting Backshell
for Jacketed and/or Shielded Series 75 Metal-Core Conduit**



Series 75
Metal-Core Conduit

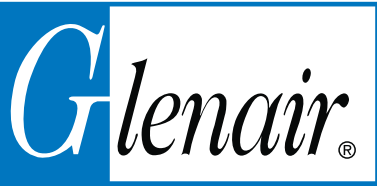


Dash No.	A Thread Class 2B	B Dia Max	C Dia
08	1/2 - 20 UNF	.640 (16.3)	.250 (6.4)
12	5/8 - 24 UNEF	.760 (19.3)	.375 (9.5)
16	3/4 - 20 UNEF	.890 (22.6)	.500 (12.7)
20	7/8 - 20 UNEF	1.024 (26.0)	.625 (15.9)
24	1 - 20 UNEF	1.152 (29.3)	.750 (19.1)
32	1 5/16 - 18 UNEF	1.488 (37.8)	1.000 (25.4)
40	1 1/2 - 18 UNEF	1.676 (42.6)	1.250 (31.8)
48	1 3/4 - 18 UNS	1.960 (49.8)	1.500 (38.1)
56	2 - 18 UNS	2.210 (56.1)	1.750 (44.5)
64	2 1/4 - 16 UN	2.460 (62.5)	2.000 (50.8)
80	2 3/4 - 16 UN	3.000 (76.2)	2.500 (63.5)
96	3 1/4 - 16 UN	3.450 (87.6)	3.000 (76.2)

Dash No.	Conduit I.D.	E	F Dia Max	G Max	H Max	J Max	K Max
08	.250 (6.40)	.75 (19.1)	1.16 (29.5)	.624 (15.8)	1.700 (43.2)	.750 (19.1)	1.810 (46.0)
12	.375 (9.50)	.75 (19.1)	1.34 (34.0)	.654 (16.6)	1.730 (43.9)	.810 (20.6)	1.870 (47.5)
16	.500 (12.7)	.75 (19.1)	1.46 (37.1)	.688 (17.5)	1.750 (44.5)	.870 (22.1)	1.930 (49.0)
20	.625 (15.9)	.75 (19.1)	1.65 (41.9)	.705 (17.9)	1.780 (45.2)	.920 (23.4)	2.000 (50.8)
24	.750 (19.1)	.75 (19.1)	1.84 (46.7)	.732 (18.6)	1.800 (45.7)	.980 (24.9)	2.060 (52.3)
32	1.000 (25.4)	1.00 (25.4)	2.02 (51.3)	.773 (19.6)	2.020 (51.3)	1.080 (27.4)	2.390 (60.7)
40	1.250 (31.8)	1.00 (25.4)	2.34 (59.4)	.823 (20.9)	2.090 (53.1)	1.200 (30.5)	2.540 (64.5)
48	1.500 (38.1)	1.00 (25.4)	2.72 (69.0)	1.041 (26.4)	2.360 (59.9)	1.480 (37.6)	2.870 (72.9)
56	1.750 (44.5)	1.00 (25.4)	2.96 (75.2)	1.062 (27.0)	2.410 (61.2)	1.550 (39.4)	2.960 (75.2)
64	2.000 (50.8)	1.00 (25.4)	3.22 (81.8)	1.092 (27.7)	2.450 (62.2)	1.610 (40.9)	3.070 (78.0)
80	2.500 (63.5)	1.00 (25.4)	3.86 (98.0)	1.190 (30.2)	2.550 (64.8)	1.860 (47.2)	3.320 (84.3)
96	3.000 (76.2)	1.00 (25.4)	4.38 (111.3)	1.250 (31.8)	2.610 (66.3)	1.990 (50.5)	3.450 (87.6)

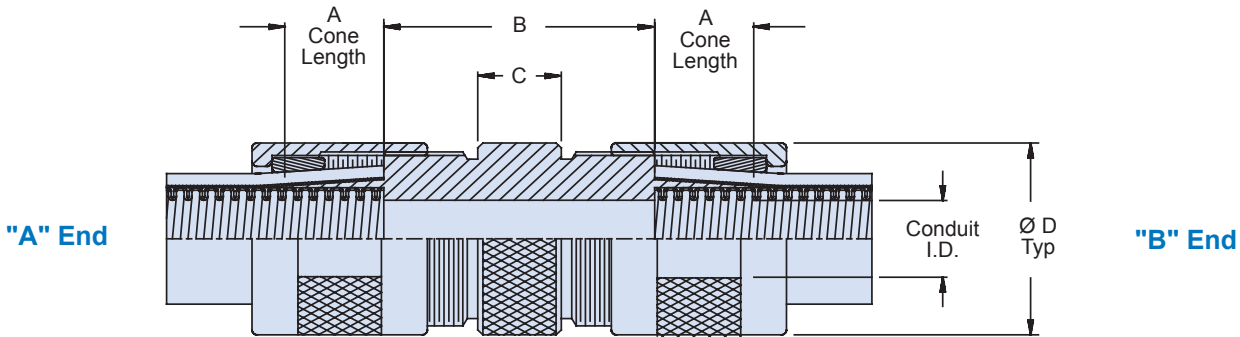
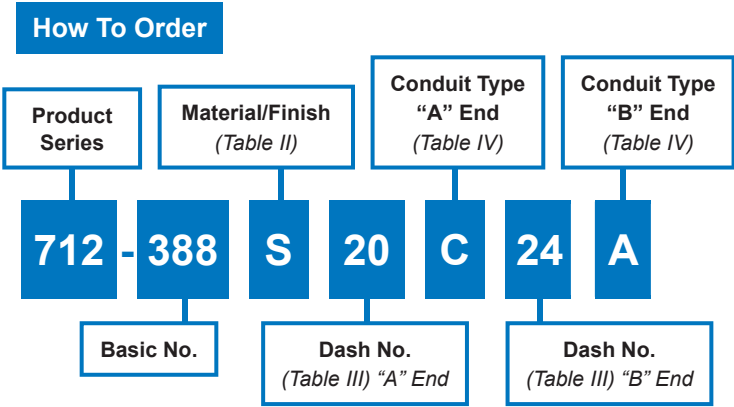
Symbol	Material	Finish
A	Aluminum Alloy, 6061	Cadmium, Olive Drab, per QQ-P-416 over Electroless Nickel per ASTM B733-90 and MIL-C-26074, 500 Hour Salt Spray
B	Brass, ASTM B16	
C	Corrosion Resistant Steel	Passivate per QQ-P-35
M	Aluminum Alloy, 6061	Electroless Nickel per ASTM B733-90 and MIL-C-26074
NC	Aluminum Alloy, 6061	Zinc Cobalt, Olive Drab
S	Carbon Steel, B1113	Cadmium, Olive Drab, per QQ-P-416, over Electroless Nickel per ASTM B733-90 and MIL-C-26074, 500 Hour Salt Spray

Conduit Type	Part Number	Configuration
A	750-192	Brass conduit with single braided shield and jacket
B	750-194	Brass conduit with double braided shield and jacket
D	750-196	Brass conduit with triple braided shield and jacket
H	750-192	Stainless steel conduit with single braided shield and jacket
J	750-192	Nickel/iron conduit with single braided shield and jacket



712-388
Legacy MIL-C-24758 (Superseded)
Environmental EMI/RFI Splice Fitting
for Series 75 Metal-Core Conduit

Legacy MIL-C-24758 user-installable splice kit (Superseded by MIL-PRF-24758A [SH])



Material/Finish

- Adapter, Nuts, Ring: See Table II

Specifications

- F dimensions are based on type A construction. Add .125 (3.2) to listed dimensions for additional shield types B or D.

712-388
Legacy MIL-C-24758 (Superseded)
Environmental EMI/RFI Splice Fitting
for Series 75 Metal-Core Conduit



Table III: Dash No./Dimensions						
Dash No	Conduit I.D.	A	B	C	Ø D Max (Note 2)	
08	.250 (6.4)	.75 (19.1)	1.78 (45.2)	.50 (12.7)	1.16 (29.5)	
12	.375 (9.5)	.75 (19.1)	1.78 (45.2)	.50 (12.7)	1.28 (32.5)	
16	.500 (12.7)	.75 (19.1)	1.84 (46.7)	.56 (14.2)	1.40 (35.6)	
20	.625 (15.9)	.75 (19.1)	1.84 (46.7)	.56 (14.2)	1.59 (40.4)	
24	.750 (19.1)	.75 (19.1)	1.90 (48.3)	.62 (15.7)	1.78 (45.2)	
32	1.000 (25.4)	.75 (19.1)	1.90 (48.3)	.62 (15.7)	1.96 (49.8)	
40	1.250 (31.8)	1.00 (25.4)	1.96 (49.8)	.68 (17.3)	2.28 (57.9)	
48	1.500 (38.1)	1.00 (25.4)	1.96 (49.8)	.68 (17.3)	2.66 (67.6)	
56	1.750 (44.5)	1.00 (25.4)	1.96 (49.8)	.75 (19.1)	2.96 (75.2)	
64	2.000 (50.8)	1.00 (25.4)	2.03 (51.6)	.75 (19.1)	3.16 (80.3)	
80	2.500 (63.5)	1.00 (25.4)	2.03 (51.6)	.75 (19.1)	3.86 (98.0)	
96	3.000 (76.2)	1.00 (25.4)	2.03 (51.6)	.75 (19.1)	4.38 (111.3)	

Table II: Finish		
Symbol	Material	Finish
A	Aluminum Alloy, 6061	Cadmium, Olive Drab, per QQ-P-416 over Electroless Nickel per ASTM B733-90 and MIL-C-26074, 500 Hour Salt Spray
B	Brass, ASTM B16	
C	Corrosion Resistant Steel	Passivate per QQ-P-35
M	Aluminum Alloy, 6061	Electroless Nickel per ASTM B733-90 and MIL-C-26074
NC	Aluminum Alloy, 6061	Zinc Cobalt, Olive Drab
S	Carbon Steel, B1113	Cadmium, Olive Drab, per QQ-P-416, over Electroless Nickel per ASTM B733-90 and MIL-C-26074, 500 Hour Salt Spray

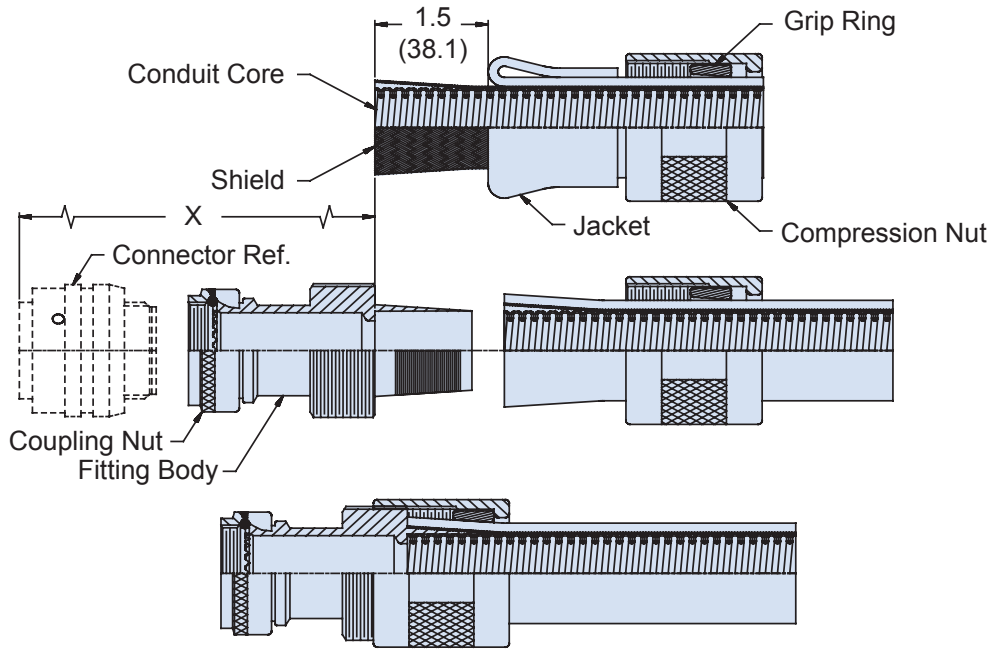
Table V: Conduit Type		
Conduit Type	Part Number	Configuration
A	750-192	Brass conduit with single braided shield and jacket
B	750-194	Brass conduit with double braided shield and jacket
D	750-196	Brass conduit with triple braided shield and jacket
H	750-192	Stainless steel conduit with single braided shield and jacket
J	750-192	Nickel/iron conduit with single braided shield and jacket





**Installation Procedures for
Legacy MIL-C-24758 System
(712-188, 712-386, 712-387 & 712-388)**

Legacy MIL-C-24758 System Fittings



D

Pre-assembly Preparation

1. Determine overall conduit assembly length required from connector face to connector face. From this dimension, establish conductor length needed for connector termination and add two inches.
2. Temporarily assemble connector to fitting and hand tighten. Establish and deduct the "X" dimension(s) from the overall assembly length in Step 1.
3. Disassemble fitting from connector. Prepare conduit and assemble to fitting per instructions below.

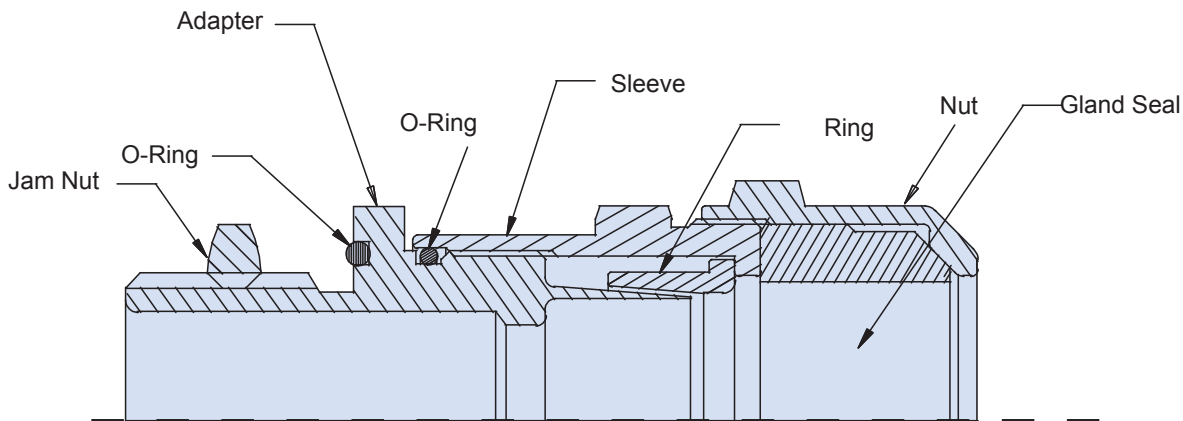
Fitting/Conduit Assembly

1. Cut conduit to length per pre-assembly preparation step 2 using an abrasive disk or an equivalent. Ends of conduit must be perpendicular to the bore to assure proper termination.
2. Slide compression nut and grip ring onto conduit.
3. Fold jacket back approximately 1.5 inches (38.1 mm), as shown in figure 1. Silicone grease or other lubricant may be used to aid this process.
4. Deburr and remove all sharp edges on inside diameter, face and outside diameter of conduit core.

5. Flare shield out from conduit to fit over serrated cone of fitting. Slide conduit core into bore in fitting and bottom on shoulder at "X" dimension. Shield should be flush to external shoulder of fitting. Trim loose strands if required.
6. Fold jacket forward. Jacket should be flush with shoulder at "X" dimension.
7. Bring grip ring and compression nut forward, thread to fitting body and torque to recommended value in Table I. Silicone grease or other lubricant may be used to aid this process. For stainless-steel fitting, use an "anti-sieze" lubricant on threads to prevent galling and obtain correct torque values.

Conduit Dash No.	Torque Values	
	Fitting Torque Values (Inch Pounds)	Newton/Meters
8	140	16
12, 16	150	17
20, 24, 32	175	20
40, 48, 56	190	21
64, 80, 96	210	24

Heavy-Duty Environmental System

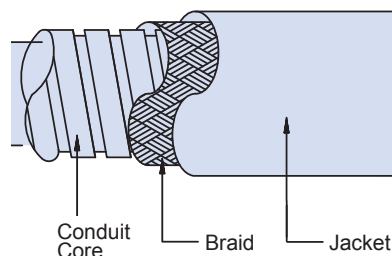


Tools:

- Tin snips or scissors capable of trimming conduit and braid
- Hacksaw, chop saw or tubing cutter
- Anti Seize Compound such as NSN 8030-01 450 4009 Tef Gel
- Razorblade
- Adjustable wrench (Rigid E110 or similar)
- Silicone O-Ring lube
- Vice or second wrench
- Needle-nose pliers

Preassembly instructions: Disassemble fitting and ensure all thread engagements are smooth and burr free. Lubricate gland and O-Ring with silicone lube.

1. Measure conduit to desired length (better long than short) and cut to length.
2. Using snips, trim end of conduit, braid and jacket. Ensure all bent edges are removed or smoothed.
3. Slide sleeve, nut and gland seal up conduit (out of way).
4. Using ring as a guide, cut jacket back 1/4" (6.35mm) wider than ring.
5. Slide ring over braid to edge of jacket.
6. Insert cone portion of adapter under braid and ring over conduit core. Apply anti seize to threads.
7. Slide sleeve down conduit and engage threads on adapter. Tighten sleeve until it bottoms out against adapter. O-Ring should not be visible.
8. Slide gland seal and nut down to engage thread on sleeve. Tighten until only a small portion of blue gland 1/32" (.793mm) seal is visible above nut.



Glenair 600 series backshell assembly tools are recommended for assembly and installation. A catalog is available on request, or may be accessed on the internet at www.glenair.com.

SERIES 72, 74 & 75

ADAPTERS AND TRANSITIONS

**FOR METAL-CORE AND POLYMER-CORE
CONVOLUTED CONDUIT SYSTEMS**



Glenair offers a complete wire-routing solution with conduit adapters and multi-branch transitions. Adapt conduit to popular commercial and Mil-spec connector styles like D-Subminiature, MIL-DTL-83513 Micro, and Series 79 Micro-Crimp with a full range of adapters that feature MIL-DTL-38999 Series III interface teeth, EMI/RFI gaskets, entry angle and mounting options. Solve difficult wire-routing issues with Y, T, Double Y and Double T transitions.



Connector Adapters and Transitions

Glenair MIL-DTL-38999 Series III (H code) Adapters and Transitions provide a universal solution to conduit routing and connector accommodation in multi-branch conduit assemblies. The teeth create a locking interface when combined with a self-locking backshell or fitting. These adapters and transitions may be used with any of the do-it-yourself adapters and fittings in this book that have MIL-DTL-38999 Series III (H code) threads and teeth, and provide environmental protection when combined with an environmental H code backshell or fitting.

Other Adapters and Transitions provide a quick and easy solution for conduit routing when a locking interface is not needed. This system of adapters and transitions has the advantage of being available in much larger shell sizes for use with conduit up to 2¾ inches. They provide an environmental interface when used with any of the do-it-yourself transition fittings in this book.



Transitions with MIL-DTL-38999 Series III Threads and Interlocking Teeth pages E-22 – E-25



Circular Connector Adapter page E-30 – E-31



Transitions for use with Glenair transition fittings, pages E-32 – E-33



Pipe Thread Adapter, page E-28

Part No.	Description	Page No.
Circular Adapters with MIL-DTL-38999 Series III Interface Teeth		
713-361	Circular Connector Adapter/Extender	E-2
713-362	Bulkhead Feed-Thru Adapter	E-4
713-363	Bulkhead Flange Mount Adapter	E-6
Rectangular Connector Adapters with MIL-DTL-38999 Series III Interface Teeth		
713-364	M24308 D-Subminiature Adapter	E-8
713-365	M83513 Micro-D Adapter	E-10
713-366	Series 79 Micro-Crimp Adapter	E-12
713-382	Series 28 HiPer-D Adapter	E-14
Other Specialized Connector Adapters		
713-368	Band-In-A-Can Adapter	E-16
713M*369	Mighty Mouse Adapter/Extender	E-18
713-370	Pipe Thread Adapter	E-20
Transitions with MIL-DTL-38999 Series III Interface Teeth		
713-351	Y Transition	E-22
713-352	Double-Y Transition	E-23
713-353	T Transition	E-24
713-354	Double-T Transition	E-25
Other Adapters and Transitions		
710-100	Bulkhead Feed-Thru	E-26
710-114 – 710-117, 710-405 – 710-406	Male and Female Pipe Thread Adapters	E-28
713-100	Circular Connector Adapter	E-30
710-106 – 710-109, 710-370 – 710-371	Y and T Transitions	E-32
710-077	Multibranch Transitions	E-33
687-051	Split Bushing with Snap Assembly for Series 74 Tubing	E-34
G70685	Split Bushing with Snap Assembly for Series 72 Tubing	E-35





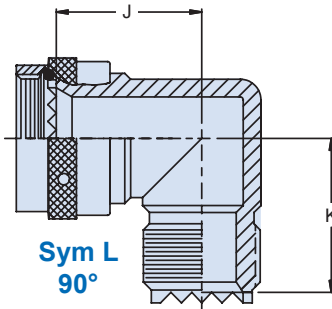
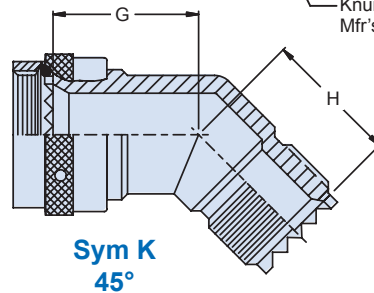
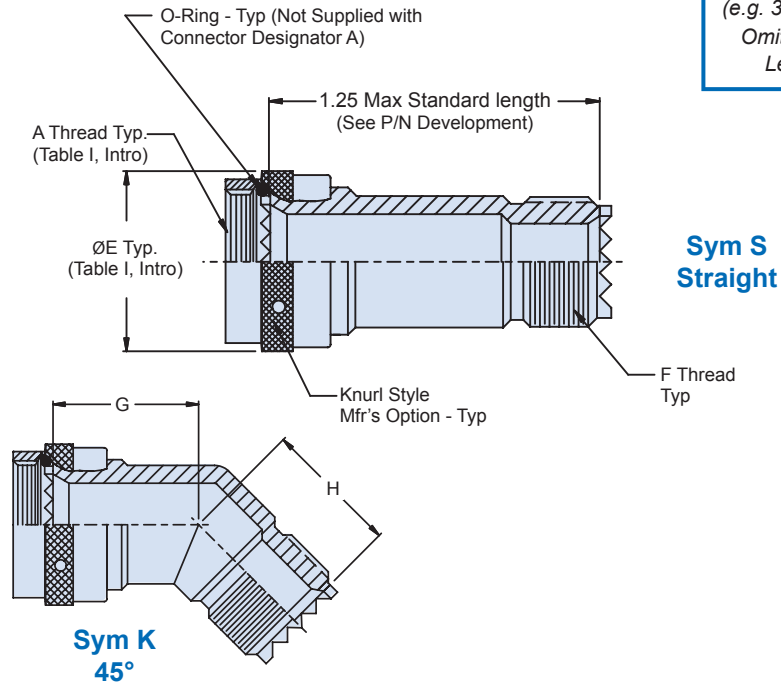
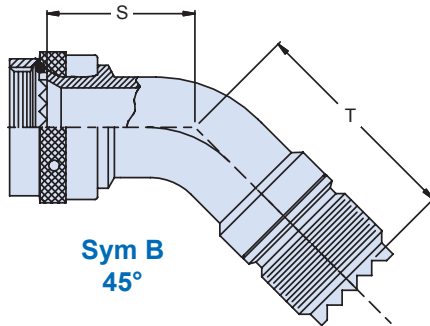
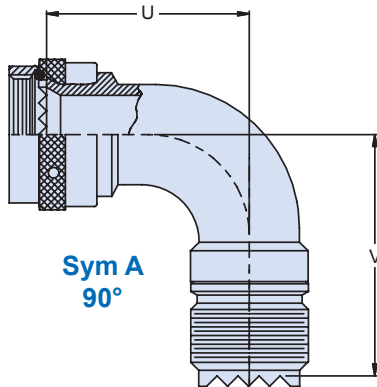
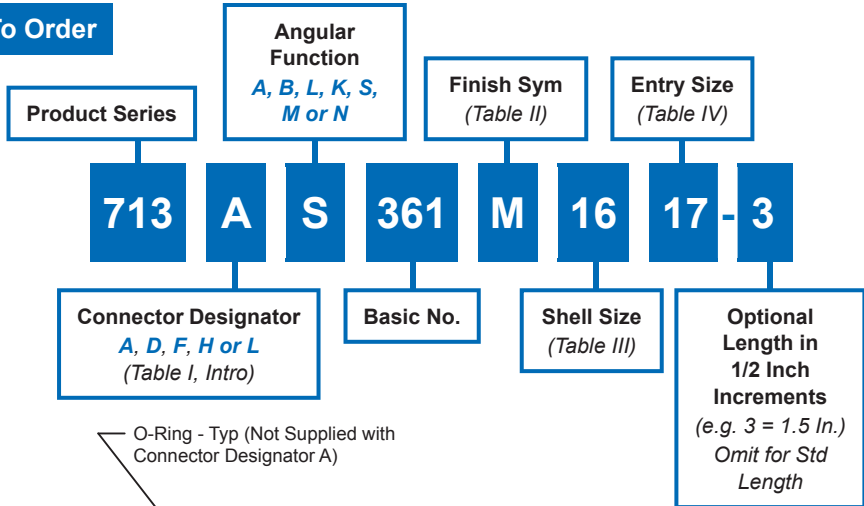
713-361

Metal Self-Locking Environmental Circular Connector Adapter/Extender Straight, 45°, 90°

Circular connector adapter/extender, self-locking with environmental O-Ring and MIL-DTL-38999 Series III (H code) accessory thread and interface teeth



How To Order



Material and Finish

- Adapters, Elbows & Coupling Nuts: See Table II
- Anti-decoupling Device: Corrosion resistant material/N.A.
- O-Ring: Silicone/N.A.

Notes

- Minimum optional length is 1.5 inches. Note: Length applies to Sym S, Straight only.
- MIL-DTL-38999, Series III accessory interface (Glenair Code H). Entry size corresponds to MIL-DTL-38999, Series III shell size.

713-361 Metal Self-Locking Environmental Circular Connector Adapter/Extender Straight, 45°, 90°



Table III: Shell Size/Dimensions

Shell Size			G Max	H Max	J Max	K Max	L Max	M Max	N Max	P Max	S Max	T Max	U Max	V Max
A	D, F, L	H												
08	08	09	.830 (21.1)	.890 (22.6)	.940 (23.9)	1.00 (25.4)	.721 (18.3)	1.080 (27.4)	.878 (22.3)	1.230 (31.2)	.600 (15.2)	1.460 (37.1)	.680 (17.3)	1.630 (41.4)
10	10	11	.860 (21.8)	.920 (23.4)	1.010 (25.7)	1.07 (27.2)	.747 (19.0)	1.080 (27.4)	.940 (23.9)	1.270 (32.3)	.630 (16.0)	1.650 (41.9)	.770 (19.6)	1.730 (43.9)
12	12	13	.882 (22.4)	.942 (23.9)	1.070 (27.2)	1.13 (28.7)	.747 (19.0)	1.080 (27.4)	.940 (23.9)	1.270 (32.3)	.660 (16.8)	1.700 (43.2)	.800 (20.3)	1.730 (43.9)
14	14	15	.900 (22.9)	.970 (24.6)	1.130 (28.7)	1.19 (30.2)	.799 (20.3)	1.110 (28.2)	1.003 (25.5)	1.310 (33.3)	.690 (17.5)	1.770 (45.0)	.880 (22.4)	1.770 (45.0)
16	16	17	.930 (23.6)	.990 (25.1)	1.190 (30.2)	1.25 (31.8)	.825 (21.0)	1.110 (28.2)	1.065 (27.1)	1.350 (34.3)	.820 (20.8)	1.850 (47.0)	1.060 (29.9)	1.830 (46.5)
18	18	19	.950 (24.1)	1.010 (25.7)	1.240 (31.5)	1.30 (33.0)	.877 (22.3)	1.140 (29.0)	1.128 (28.7)	1.390 (35.3)	.970 (24.6)	2.040 (51.8)	1.150 (29.2)	2.010 (51.1)
20	20	21	.980 (24.9)	1.040 (26.4)	1.310 (33.3)	1.37 (34.8)	.903 (22.9)	1.160 (29.5)	1.190 (30.2)	1.440 (36.6)	.970 (24.6)	2.080 (52.8)	1.150 (29.2)	2.050 (52.1)
22	22	23	1.000 (25.4)	1.060 (26.9)	1.360 (34.5)	1.42 (36.1)	.928 (23.6)	1.200 (30.5)	1.253 (31.8)	1.530 (38.9)	1.000 (25.4)	2.220 (56.4)	1.300 (33.0)	2.160 (54.9)
24	24	25	1.030 (26.2)	1.090 (27.7)	1.540 (39.1)	1.49 (37.8)	.954 (24.2)	1.250 (31.8)	1.315 (33.4)	1.610 (40.9)	1.000 (25.4)	2.280 (57.9)	1.300 (33.0)	2.210 (56.1)
28	-	-	1.480 (37.6)	1.140 (29.0)	1.670 (42.4)	1.60 (40.6)	1.006 (25.6)	1.350 (34.3)	1.628 (41.4)	1.970 (50.0)	TBD	TBD	1.400 (35.6)	2.430 (61.7)
32	-	-	1.610 (40.9)	1.180 (30.0)	1.780 (45.2)	1.69 (42.9)	1.058 (26.9)	1.450 (36.8)	1.754 (44.6)	2.140 (54.4)	TBD	TBD	1.750 (44.5)	2.720 (69.1)

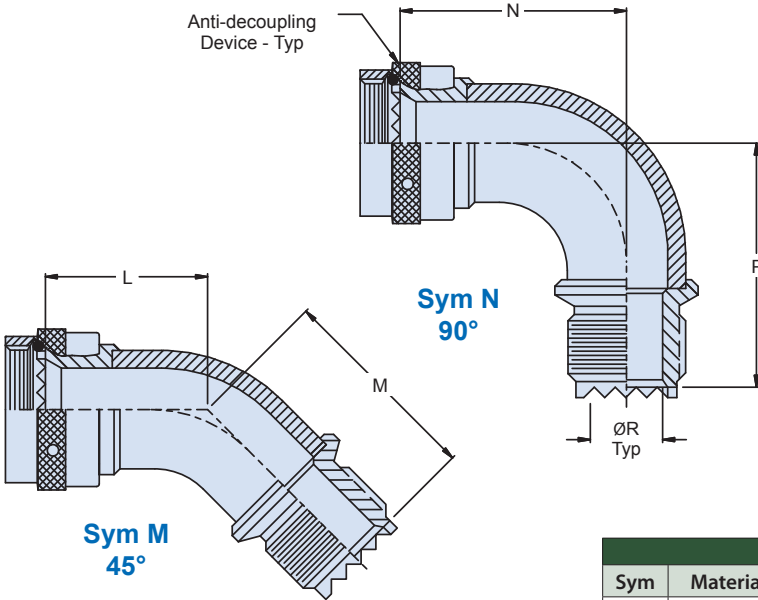
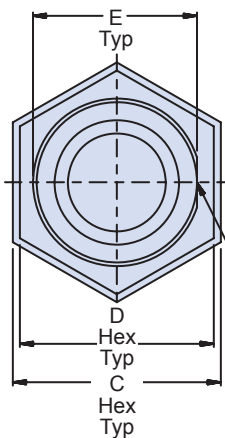
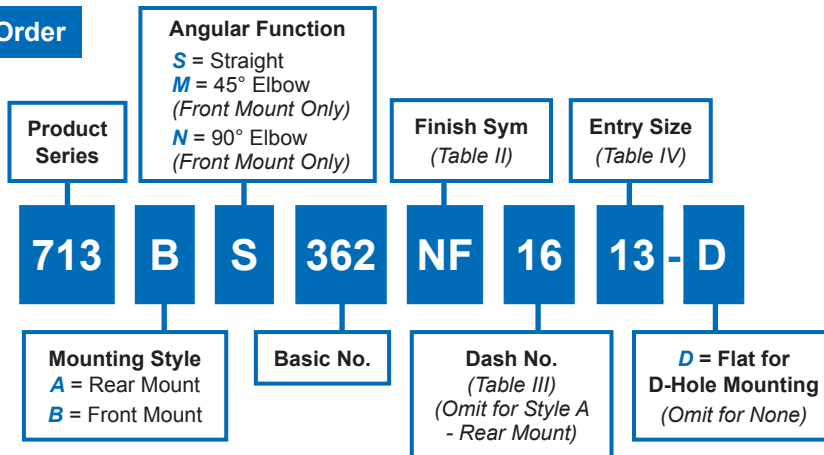


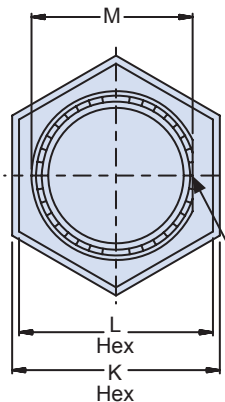
Table IV: Entry Size/Conduit Dimensions

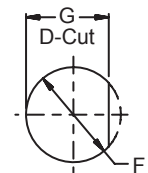
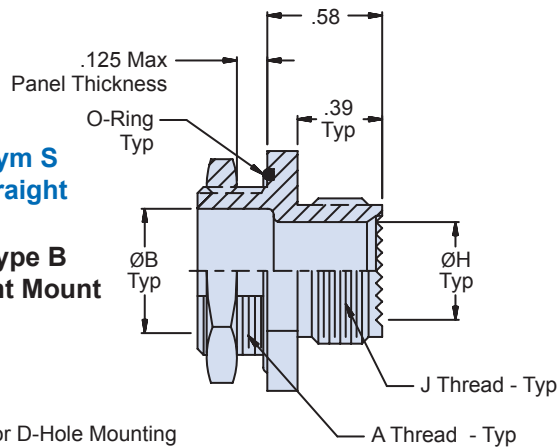
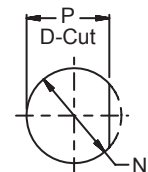
Entry Size	Conduit Size (Ref)	F Thread ISO Metric	Ø R
09	06, 09	M12 X 1.0-6g	.281 (7.14)
11	10, 12	M15 X 1.0-6g	.397 (10.1)
13	14, 16	M18 X 1.0-6g	.511 (13.0)
15	20	M22 X 1.0-6g	.636 (16.2)
17	24	M25 X 1.0-6g	.761 (19.3)
19	28	M28 X 1.0-6g	.875 (22.2)
21	32	M31 X 1.0-6g	1.000 (25.4)
23	36	M34 X 1.0-6g	1.125 (28.6)
25	40	M37 X 1.0-6g	1.250 (31.8)
33	48	M45 X 1.5-6g	1.530 (38.9)
37	56	M50 X 1.5-6g	1.750 (44.5)

Table II: Material/Finish

Sym	Material	Finish Description	Component
B	Aluminum	Cadmium, Olive Drab	
C		Anodize, Black (Non-Conductive)	
M		Electroless Nickel	
MT		Nickel-PTFE	
NF		Cadmium/Olive Drab Over Electroless Nickel	
UCR		Zinc Cobalt/Black	
ZN		Zinc Nickel/Olive Drab Over Electroless Nickel	
ZNU		Zinc Nickel/Black Over Electroless Nickel	
Z1	300 Series SST	Passivate	
ZM		Electroless Nickel	Adapter, Elbow
		Passivate	Coupling Nut
ZMT		Nickel - PTFE	Adapter, Elbow
		Passivate	Coupling Nut
ZW		Cadmium O.D. Over Electroless Nickel	Adapter, Elbow
	Cadmium Olive Drab	Coupling Nut	

Bulkhead feed-thru adapter with environmental O-Ring and MIL-DTL-38999 Series III (H code) accessory thread and interface teeth
How To Order

Sym S
Straight
Type B
Front Mount

 Flats for D-Hole Mounting
 (See P/N Development)

Type A
Rear Mount

 Flats for D-Hole Mounting
 (See P/N Development)

 Recommended
 Panel Cutout for
 Type B Front Mount

 Recommended
 Panel Cutout for
 Type A Rear Mount

Material and Finish

- Adapters, Elbows & Jam Nut: See Table III.
- O-Ring: Silicone/N.A.

Notes

- MIL-DTL-38999, Series III accessory interface (Glenair Code H). Entry size corresponds to MIL-DTL-38999, Series III shell size.

713-362 Environmental Bulkhead Adapter



Table III: Dash No./Dimensions

Dash No	A Thread Class 2A	Ø B	C Hex	D Hex	E Flat +.000 -.015	Ø F +.015 -.000	G +.010 -.000	Max Entry Size
06	7/16 - 28 UNEF	.188 (4.78)	.688 (17.5)	.625 (15.9)	.375 (9.53)	.443 (11.3)	.385 (9.80)	11
08	1/2 - 20 UNF	.250 (6.35)	.750 (19.1)	.688 (17.5)	.438 (11.1)	.505 (12.8)	.448 (11.4)	13
09	9/16 - 24 UNEF	.281 (7.14)	.812 (20.6)	.750 (19.1)	.500 (12.7)	.568 (14.4)	.510 (13.0)	13
10	9/16 - 24 UNEF	.313 (8.00)	.812 (20.6)	.750 (19.1)	.500 (12.7)	.568 (14.4)	.510 (13.0)	13
12	5/8 - 24 UNEF	.375 (9.53)	.875 (22.2)	.812 (20.6)	.563 (14.3)	.630 (16.0)	.573 (14.6)	15
14	11/16 - 24 UNEF	.438 (11.1)	.938 (23.8)	.875 (22.2)	.625 (15.9)	.693 (17.6)	.635 (16.1)	15
16	3/4 - 20 UNF	.500 (12.7)	1.000 (25.4)	.938 (23.8)	.688 (17.5)	.755 (19.2)	.698 (17.7)	17
20	7/8 - 20 UNEF	.625 (15.9)	1.125 (28.6)	1.062 (27.0)	.812 (20.6)	.880 (22.4)	.822 (21.0)	19
24	1 - 20 UNEF	.750 (19.1)	1.250 (31.8)	1.188 (30.2)	.938 (23.8)	1.005 (25.5)	.948 (24.1)	21
28	1 3/16 - 18 UNEF	.875 (22.2)	1.438 (36.5)	1.375 (34.9)	1.125 (28.6)	1.193 (30.3)	1.135 (28.8)	23
32	1 5/16 - 18 UNEF	1.000 (25.4)	1.562 (39.7)	1.562 (39.7)	1.250 (31.8)	1.318 (33.5)	1.260 (32.0)	25
40	1 1/2 - 18 UNEF	1.250 (31.8)	1.812 (46.0)	1.750 (44.5)	1.438 (36.5)	1.505 (38.2)	1.448 (36.8)	33
48	1 3/4 - 18 UNS	1.500 (38.1)	2.062 (52.4)	2.000 (50.8)	1.688 (42.9)	1.755 (44.6)	1.698 (43.1)	37
56	2 - 18 UNS	1.750 (44.5)	2.312 (58.7)	2.250 (57.2)	1.938 (49.2)	2.005 (50.9)	1.948 (49.5)	37
64	2 1/4 - 16 UN	2.000 (50.8)	2.562 (65.1)	2.500 (63.5)	2.188 (55.6)	2.255 (57.3)	2.198 (55.8)	37

Table IV: Entry Size/Dimensions

Entry Size	Conduit Size (Ref)	Ø H	J Thread ISO Metric	K Hex	L Hex	M +.000 -.015	Ø N +.015 -.000	P +.010 -.000	Q Max	R Max	S Max	T Max
09	06, 09	.281 (7.14)	M12 X 1.0-6g	.750 (19.1)	.688 (17.5)	.422 (10.7)	.477 (12.1)	.432 (11.0)	.53 (13.5)	.73 (18.5)	.75 (19.1)	.95 (24.1)
11	10, 12	.397 (10.1)	M15 X 1.0-6g	.875 (22.2)	.812 (20.6)	.541 (13.7)	.596 (15.1)	.551 (14.0)	.53 (13.5)	.73 (18.5)	.75 (19.1)	.95 (24.1)
13	14, 16	.511 (13.0)	M18 X 1.0-6g	1.000 (25.4)	.938 (23.8)	.659 (16.7)	.714 (18.1)	.669 (16.9)	.55 (14.0)	.76 (19.3)	.81 (20.6)	1.01 (25.7)
15	20	.636 (16.9)	M22 X 1.0-6g	1.125 (28.6)	1.062 (27.0)	.816 (20.7)	.871 (22.1)	.826 (21.0)	.61 (15.5)	.81 (20.6)	.93 (23.6)	1.14 (29.0)
17	24	.761 (19.3)	M25 X 1.0-6g	1.250 (31.8)	1.188 (30.2)	.934 (23.7)	.989 (25.1)	.944 (24.0)	.63 (16.0)	.83 (21.1)	1.00 (25.4)	1.20 (30.5)
19	28	.875 (22.2)	M28 X 1.0-6g	1.375 (34.9)	1.312 (33.3)	1.052 (26.7)	1.107 (28.1)	1.062 (27.0)	.68 (17.3)	.89 (22.6)	1.12 (28.4)	1.32 (33.5)
21	32	1.000 (25.4)	M31 X 1.0-6g	1.500 (38.1)	1.438 (36.5)	1.170 (29.7)	1.225 (31.1)	1.180 (30.0)	.71 (18.0)	.91 (23.1)	1.18 (30.0)	1.39 (35.3)
23	36	1.125 (28.6)	M34 X 1.0-6g	1.625 (41.3)	1.625 (41.3)	1.289 (32.7)	1.344 (34.1)	1.299 (33.0)	.73 (18.5)	.94 (23.9)	1.25 (31.8)	1.45 (36.8)
25	40	1.250 (31.8)	M37 X 1.0-6g	1.750 (44.5)	1.750 (44.5)	1.407 (35.7)	1.462 (37.1)	1.417 (36.0)	.76 (19.3)	.96 (24.4)	1.31 (33.3)	1.51 (38.4)
33	48	1.530 (38.9)	M45 X 1.5-6g	2.125 (54.0)	2.000 (50.8)	1.702 (43.2)	1.777 (45.1)	1.712 (43.5)	.81 (20.6)	1.01 (25.7)	1.43 (36.3)	1.64 (41.7)
37	56	1.750 (44.5)	M50 X 1.5-6g	2.250 (57.2)	2.250 (57.2)	1.899 (48.2)	1.974 (50.1)	1.909 (48.5)	.86 (21.8)	1.07 (27.2)	1.56 (39.6)	1.76 (44.7)

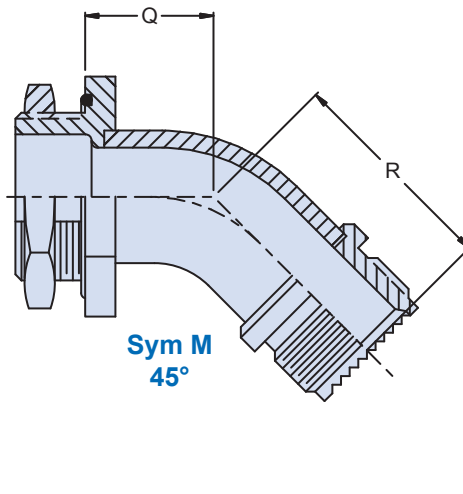
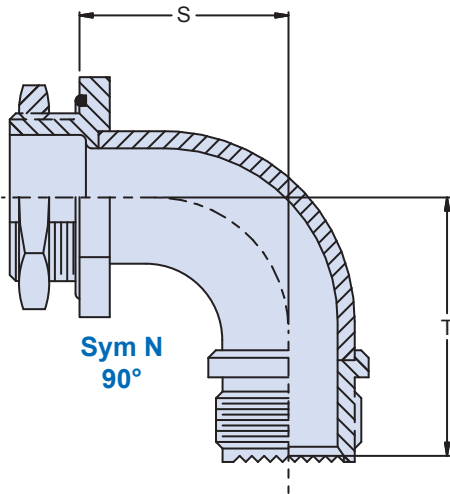
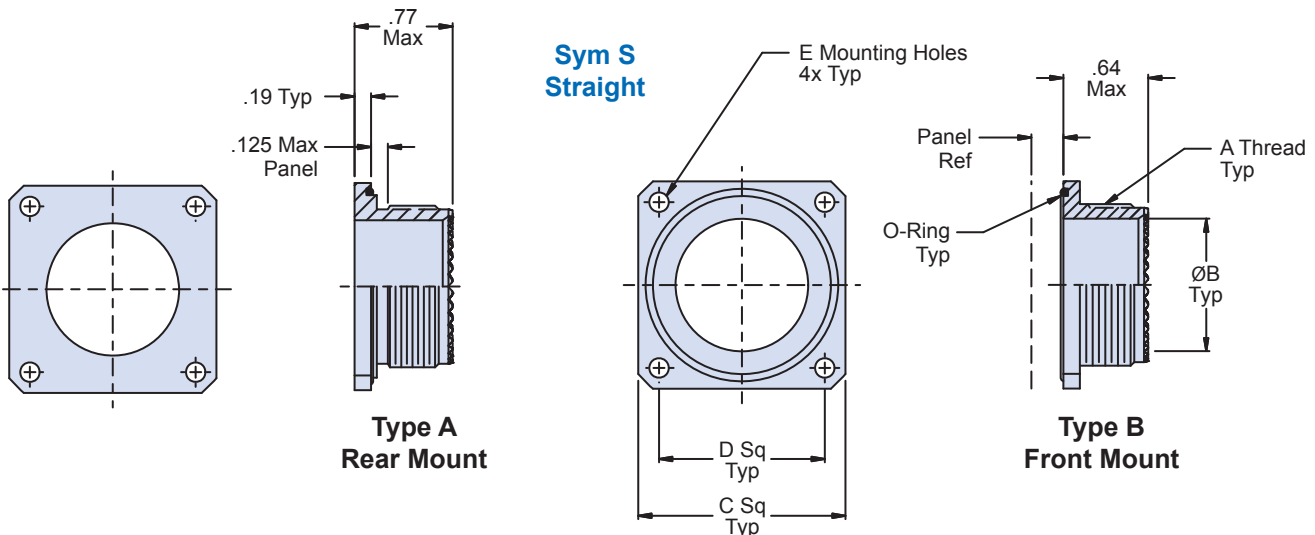
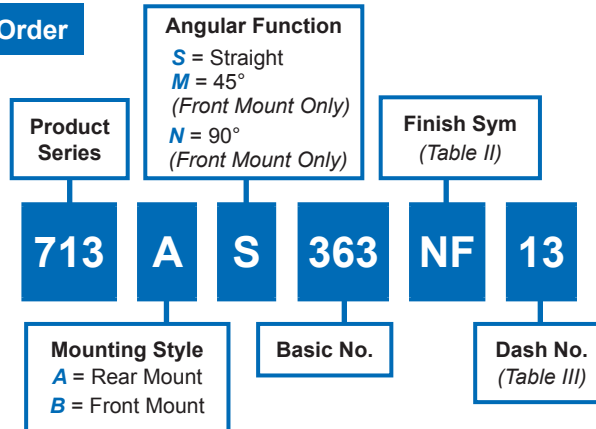


Table II: Finish

Sym	Material	Finish Description	
B	Aluminum	Cadmium, Olive Drab	
C		Anodize, Black	
M		Electroless Nickel	
MT		Nickel-PTFE	
NF		Cadmium/O.D. Over Electroless Nickel	
UCR		Zinc Cobalt/Black	
ZN		Zinc Nickel/O.D. Over Electroless Nickel	
ZNU		Zinc Nickel/Black Over Electroless Nickel	
Z1		Stainless Steel	Passivate
ZM			Electroless Nickel
ZMT	Nickel-PTFE		
ZW	Cadmium/O.D. Over Electroless Nickel		

Bulkhead flange mount adapter with environmental O-Ring and MIL-DTL-38999 Series III (H code) accessory thread and interface teeth
How To Order

Material and Finish

- Adapters & Elbows : See Table II
- O-Ring: Silicone/N.A.

Notes

- MIL-DTL-38999, Series III accessory interface (Glenair Code H).
- Dash No. corresponds to MIL-DTL-38999, Series III shell size.

713-363

Environmental Bulkhead Flange Mount Adapter Straight, 45°, 90°



Table III: Dash No./Dimensions

Dash No.	Conduit Size (Ref)	A Thread ISO Metric	Ø B		C Dim	D ± .005	Ø E ± .005	Ø F +.015 -0.000	Ø G +.030 -0.000	H Max	J Max	K Max	L Max
09	06, 09	M12 X 1.0-6g	.281	(7.14)	.937 (23.8)	.719 (18.3)	.125 (3.18)	.477 (12.1)	.281 (7.14)	.53 (13.5)	.73 (18.5)	.75 (19.1)	.95 (24.1)
11	10, 12	M15 X 1.0-6g	.397	(10.1)	1.031 (26.2)	.812 (20.6)	.125 (3.18)	.596 (15.1)	.397 (10.1)	.53 (13.5)	.73 (18.5)	.75 (19.1)	.95 (24.1)
13	14, 16	M18 X 1.0-6g	.511	(13.0)	1.125 (28.6)	.906 (23.0)	.125 (3.18)	.714 (18.1)	.511 (13.0)	.55 (14.0)	.76 (19.3)	.81 (20.6)	1.01 (25.7)
15	20	M22 X 1.0-6g	.636	(16.9)	1.250 (31.8)	.969 (24.6)	.125 (3.18)	.871 (22.1)	.636 (16.9)	.61 (15.5)	.81 (20.6)	.93 (23.6)	1.14 (29.0)
17	24	M25 X 1.0-6g	.761	(19.3)	1.343 (34.1)	1.062 (27.0)	.125 (3.18)	.989 (25.1)	.761 (19.3)	.63 (16.0)	.83 (21.1)	1.00 (25.4)	1.20 (30.5)
19	28	M28 X 1.0-6g	.875	(22.2)	1.467 (37.3)	1.156 (29.4)	.125 (3.18)	1.107 (28.1)	.875 (22.2)	.68 (17.3)	.89 (22.6)	1.12 (28.4)	1.32 (33.5)
21	32	M31 X 1.0-6g	1.000	(25.4)	1.562 (39.7)	1.250 (31.8)	.147 (3.18)	1.225 (31.1)	1.000 (25.4)	.71 (18.0)	.91 (23.1)	1.18 (30.0)	1.39 (35.3)
23	36	M34 X 1.0-6g	1.125	(28.7)	1.703 (43.3)	1.375 (34.9)	.147 (3.73)	1.344 (34.1)	1.125 (28.7)	.73 (18.5)	.94 (23.9)	1.25 (31.8)	1.45 (36.8)
25	40	M37 X 1.0-6g	1.250	(31.8)	1.812 (46.0)	1.500 (38.1)	.147 (3.73)	1.462 (37.1)	1.250 (31.8)	.76 (19.3)	.96 (24.4)	1.31 (33.3)	1.51 (38.4)
33	48	M45 X 1.5-6g	1.530	(38.9)	2.250 (57.2)	1.750 (44.5)	.147 (3.73)	1.777 (45.1)	1.530 (38.9)	.81 (20.6)	1.01 (25.7)	1.43 (36.3)	1.64 (41.7)
37	56	M50 X 1.5-6g	1.750	(44.5)	2.500 (63.5)	1.938 (49.2)	.173 (4.39)	1.974 (50.1)	1.750 (44.5)	.86 (21.8)	1.02 (25.9)	1.56 (39.6)	1.76 (44.7)

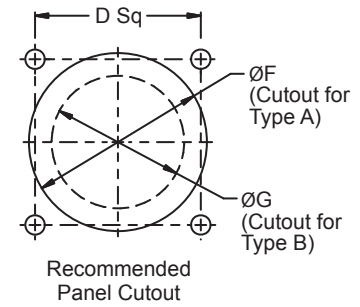
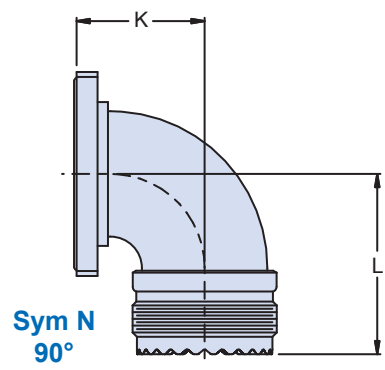
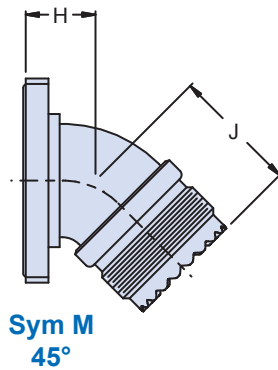
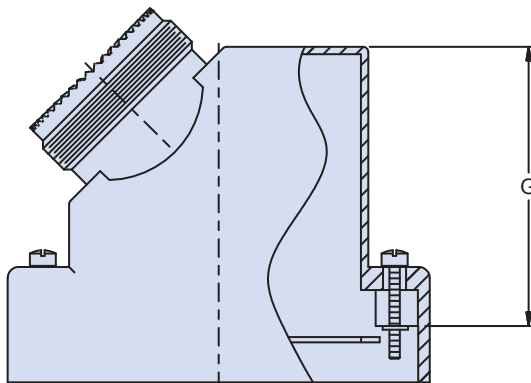
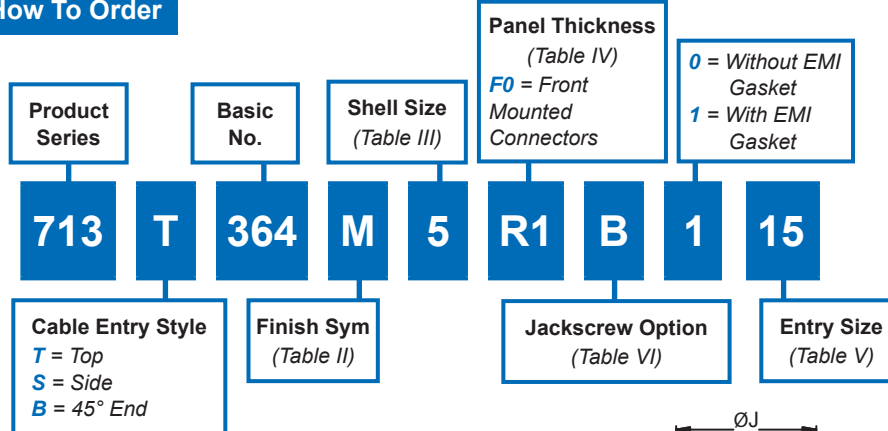
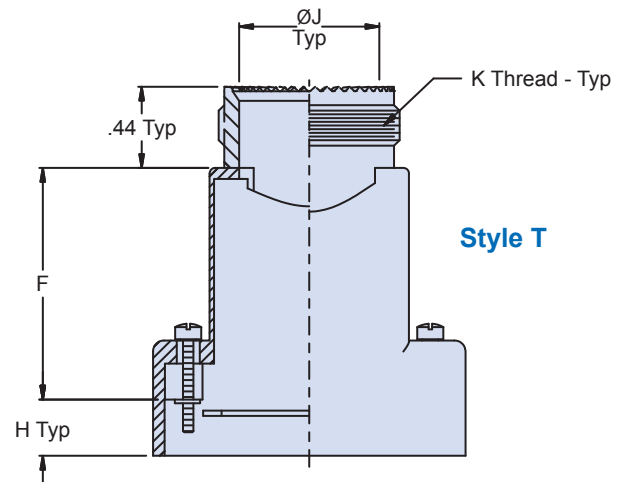
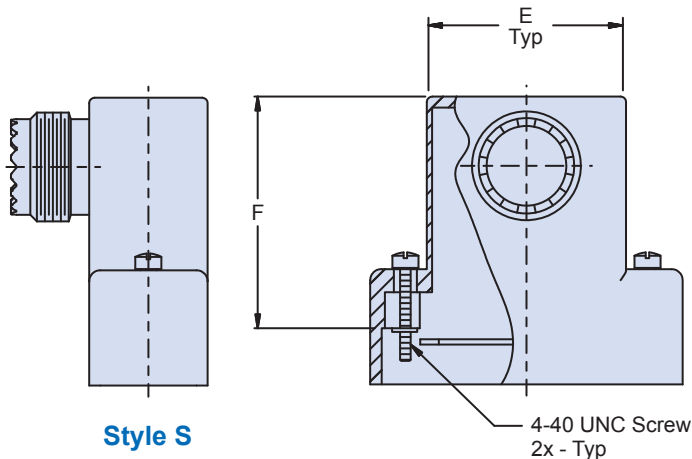
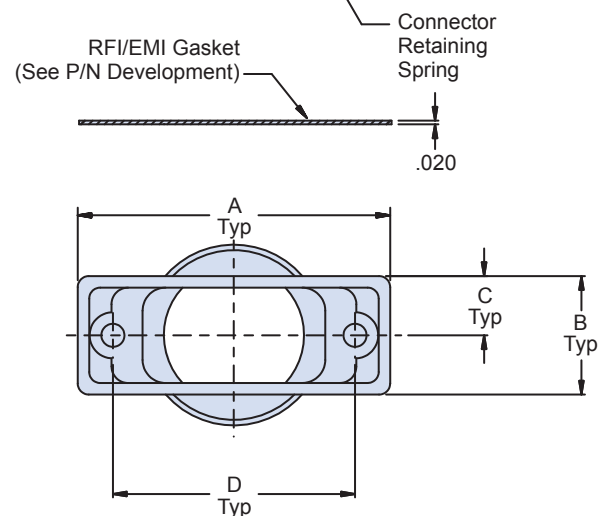


Table II: Finish

Sym	Material	Finish Description
B	Aluminum	Cadmium, Olive Drab
C		Anodize, Black (Non-Conductive)
M		Electroless Nickel
MT		Nickel-PTFE
NF		Cadmium/Olive Drab Over Electroless Nickel
UCR		Zinc Cobalt/Black
ZN		Zinc Nickel/Olive Drab Over Electroless Nickel
ZNU		Zinc Nickel/Black Over Electroless Nickel
Z1	Stainless Steel	Passivate
ZM		Electroless Nickel
ZMT		Nickel-PTFE
ZW		Cadmium/Olive Drab Over Electroless Nickel

M24308 D-subminiature connector adapter with MIL-DTL-38999 Series III (H code) accessory thread and interface teeth and optional EMI/RFI gasket
How To Order

Style B
 45°

Style T

Style S


713-364

M24308 D-Subminiature Connector Adapter

Top, Side, 45° Entry



Male Jackscrew Options

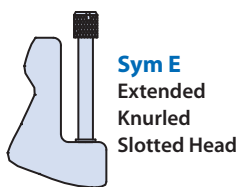


Table III: Shell Size/Dimensions

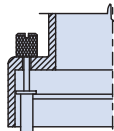
Shell Size	Com'l Shell Size (Ref)	A Max	B Max	C Ref	D ± .005	E Dim	F ± .031	G ± .031	Max Entry
1	E/09	1.393 (35.4)	.624 (15.8)	.312 (7.92)	.984 (25.0)	757 (19.2)	1.03 (26.2)	1.41 (35.8)	13
2	A/15	1.709 (43.4)	.624 (15.8)	.312 (7.92)	1.312 (33.3)	1.088 (27.6)	1.19 (30.2)	1.51 (38.4)	15
3	B/25	2.265 (57.5)	.624 (15.8)	.312 (7.92)	1.852 (47.0)	1.622 (41.2)	1.31 (33.3)	1.59 (40.4)	17
4	C/37	2.900 (73.7)	.624 (15.8)	.312 (7.92)	2.500 (63.5)	2.275 (57.8)	1.31 (33.3)	1.62 (41.1)	17
5	D/50	2.800 (71.1)	.750 (19.1)	.375 (9.53)	2.406 (61.1)	2.175 (55.2)	1.54 (39.1)	1.77 (45.0)	21
6	F/104	2.900 (73.7)	.844 (21.4)	.422 (10.7)	2.500 (63.5)	2.285 (58.0)	1.54 (39.1)	1.78 (45.2)	21

Table II: Material/Finish

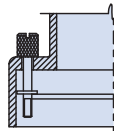
Sym	Material	Finish Description
B	Aluminum	Cadmium, Olive Drab
C		Anodize, Black (Non-Conductive)
M		Electroless Nickel
MT		Nickel-PTFE
NF		Cadmium/Olive Drab Over Electroless Nickel
UCR		Zinc Cobalt/Black
ZN		Zinc Nickel/Olive Drab Over Electroless Nickel
ZNU		Zinc Nickel/Black Over Electroless Nickel
Z1	Stainless Steel	Passivate
ZM		Electroless Nickel
ZMT		Nickel-PTFE
ZW		Cadmium/Olive Drab Over Electroless Nickel

Table IV: Panel Thickness

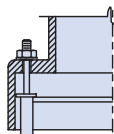
Dash No.	Panel Thickness	H
CC	N/A	.174 (4.41)
F0	N/A	.343 (8.71)
R1	.031 (.790)	.247 (6.27)
R2	.047 (1.19)	.231 (5.87)
R3	.062 (1.57)	.216 (5.49)
R4	.093 (2.36)	.185 (4.70)
R5	.104 (2.64)	.174 (4.42)
R6	.125 (3.20)	.153 (3.89)
R7	.156 (4.00)	.125 (3.20)
R8	.135 (3.43)	.140 (3.60)
R9	.188 (4.80)	.094 (2.39)



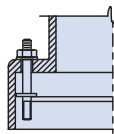
Turnable Female



Turnable Male



Fixed Females



Fixed Males

Table V: Entry Size

Entry Size	Conduit Size (Ref)	Ø J	K Thread ISO Metric
09	06, 09	.281 (7.14)	M12 X 1.0-6g
11	10, 12	.397 (10.1)	M15 X 1.0-6g
13	14, 16	.511 (13.0)	M18 X 1.0-6g
15	20	.636 (16.2)	M22 X 1.0-6g
17	24	.761 (19.3)	M25 X 1.0-6g
19	28	.875 (22.2)	M28 X 1.0-6g
21	32	1.000 (25.4)	M31 X 1.0-6g

Table VI: Jackscrew Options

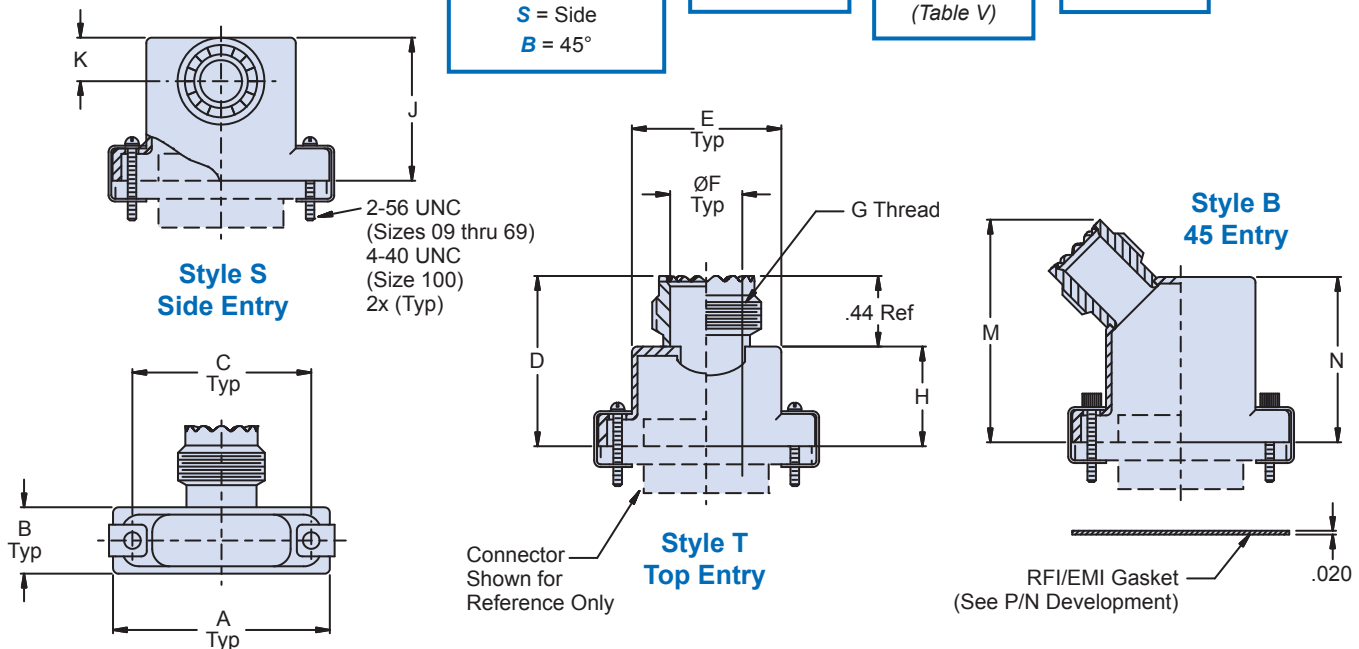
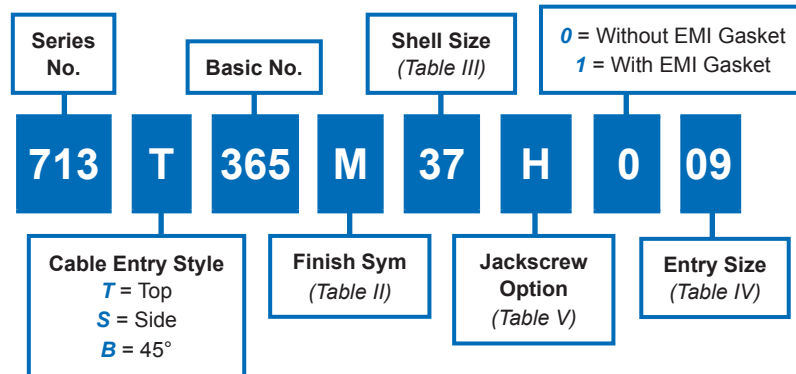
Symbol	Description
A	Socket Head
B	Fillister Head
D	Drilled Fillister Head
E	Extended Knurled Slotted Head
H	Hex Head
K	Knurled Slotted Head
Polarizing Jackscrew Options	
F	Turnable Male and Female
L	Turnable Females
M	Turnable Males
N	Fixed Male and Female
P	Fixed Females
R	Fixed Males

Material and Finish

- Adapter: See Table II
- Jackscrews, Hardware: CRES/Passivate
- Gasket: Metex (Monel Mesh/Silicone) or equiv/NA

Notes

- MIL-DTL-38999, Series III accessory interface (Glenair Code H). Entry size corresponds to MIL-DTL-38999 series III shell size.
- For front mount, mating connector must be mounted to panel using M24308/26 female screw locks (float mounts cannot be used). For rear mounted applications, use 559-001.
- Symbol E hardware is not available with style B (45°) cable entries, style T (top) shell size 1 (all entries) and shell size 2 with entry sizes 13 & 15.

M83513 Micro-D connector adapter with MIL-DTL-38999 Series III (H code) accessory thread and interface teeth and optional EMI/RFI gasket
How To Order

Material and Finish

- Adapter: See Table II
- Retaining Clip, Washers, Jackscrews, Nuts, Jackposts: CRES/Passivate
- Gasket: Metex (Monel Mesh/Silicone) or equiv/NA

Notes

- MIL-DTL-38999, Series III accessory interface (Glenair Code H). Entry size corresponds to MIL-DTL-38999 Series III shell size.
- RFI/EMI Gasket (559-005) mounts between mating connector and panel.
- Symbol E hardware is not available with style B (45°) cable entries. Symbol E hardware on Style T cable entries may interfere with coupling from mating backshell. Consult factory for use of Symbol E hardware on Style T (Top) cable entries.

713-365

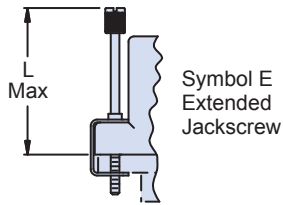
M83513 Micro-D Connector Adapter

Top, Side, 45° Entry



Table III: Shell Size/Dimensions

Shell Size	A Max	B Max	C Dim	D Max	E Max	H Max	J Max	L Max	M Max	N Max	Max Entry		
											Top	Side	45 End
09	.850 (21.6)	.370 (9.4)	.565 (14.4)	1.030 (26.2)	.410 (10.4)	.590 (15.0)	.673 (17.1)	1.040 (26.4)	N/A	N/A	09	09	-
15	1.000 (25.4)	.370 (9.4)	.715 (18.2)	1.030 (26.2)	.580 (14.7)	.590 (15.0)	.673 (17.1)	1.170 (29.7)	1.206 (30.6)	.895 (22.7)	11	09	11
21	1.150 (29.2)	.370 (9.4)	.865 (22.0)	1.030 (26.2)	.740 (18.8)	.590 (15.0)	.707 (17.6)	1.290 (32.8)	1.306 (33.2)	.995 (25.3)	13	09	13
25	1.250 (31.8)	.370 (9.4)	.965 (24.5)	1.090 (27.7)	.850 (21.6)	.650 (16.5)	.748 (19.0)	1.350 (34.3)	1.411 (35.8)	1.100 (27.9)	13	09	13
31	1.400 (35.6)	.370 (9.4)	1.115 (28.3)	1.150 (29.2)	.980 (24.9)	.710 (18.0)	.785 (19.9)	1.420 (36.1)	1.541 (39.1)	1.230 (31.2)	15	11	15
37	1.550 (39.4)	.370 (9.4)	1.265 (32.1)	1.190 (30.2)	1.130 (28.7)	.750 (19.1)	.785 (19.9)	1.450 (36.8)	1.666 (42.3)	1.355 (34.4)	17	11	17
51	1.500 (38.1)	.410 (10.4)	1.215 (31.0)	1.220 (31.0)	1.080 (27.4)	.780 (19.8)	.859 (21.8)	1.480 (37.6)	1.616 (41.0)	1.305 (33.1)	17	11	17
51-2	1.910 (48.5)	.370 (9.4)	1.615 (41.0)	1.220 (31.0)	1.510 (38.4)	.780 (19.8)	.859 (21.8)	1.480 (37.6)	1.891 (48.0)	1.580 (40.1)	17	11	17
67	2.310 (58.7)	.370 (9.4)	2.015 (51.2)	1.220 (31.0)	1.880 (47.8)	.780 (19.8)	.905 (23.0)	1.480 (37.6)	2.066 (52.5)	1.755 (44.6)	19	13	19
69	1.810 (46.0)	.410 (10.4)	1.515 (38.5)	1.220 (31.0)	1.380 (35.0)	.780 (19.8)	.905 (23.0)	1.480 (37.6)	1.866 (47.4)	1.555 (39.5)	19	13	19
100	2.235 (56.8)	.460 (11.7)	1.800 (45.7)	1.280 (32.5)	1.470 (37.3)	.840 (21.3)	1.060 (26.9)	1.580 (40.1)	1.856 (47.1)	1.545 (39.2)	21	15	21



Style T & S Only

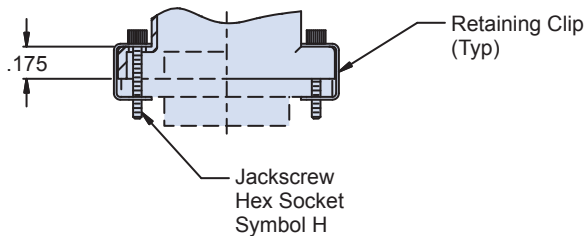
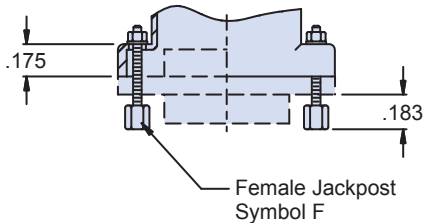
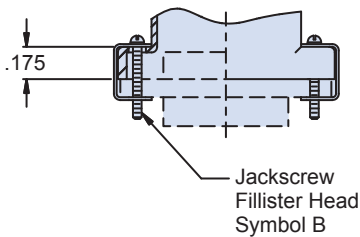


Table IV: Entry Size

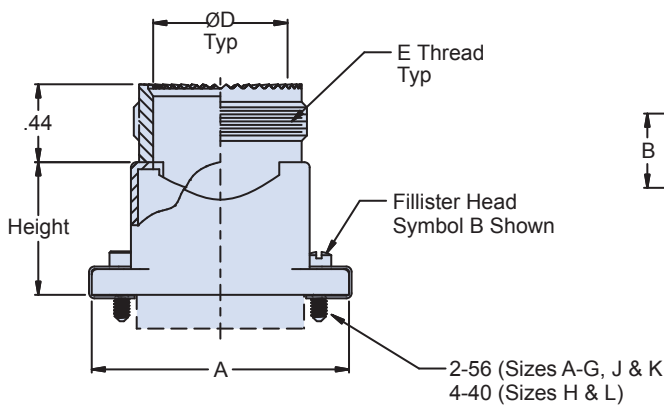
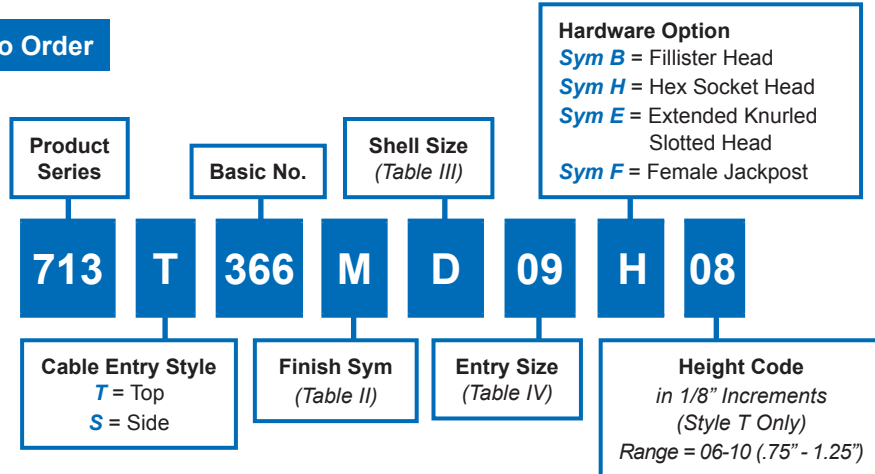
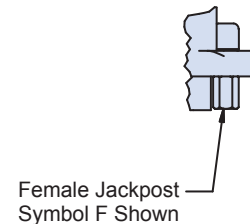
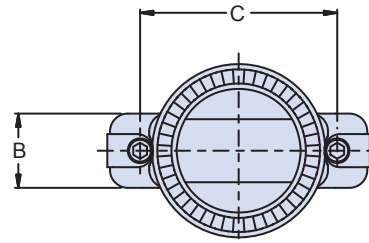
Entry Size	Conduit Size (Ref)	ØF	G Thread ISO Metric	K Dim
09	06, 09	.281 (7.14)	M12 X 1.0-6g	.236 (6.00)
11	10, 12	.397 (10.1)	M15 X 1.0-6g	.295 (7.49)
13	14, 16	.511 (13.0)	M18 X 1.0-6g	.354 (8.99)
15	20	.636 (16.2)	M22 X 1.0-6g	.433 (10.1)
17	24	.761 (19.3)	M25 X 1.0-6g	.492 (12.5)
19	28	.875 (22.2)	M28 X 1.0-6g	.551 (14.0)
21	32	1.000 (25.4)	M31 X 1.0-6g	.610 (15.5)

Table V: Jackscrew Type

Symbol	Jackscrew Type
B	(2) Male Fillister Head
H	(2) Male Hex Socket
E	(2) Male Extended
F	(2) Female Jackpost
FB	(1) Female Jackpost, (1) Male Fillister Head
FH	(1) Female Jackpost, (1) Male Hex Socket

Table II: Material/Finish

Sym	Material	Finish Description
B	Aluminum	Cadmium, Olive Drab
C		Anodize, Black
M		Electroless Nickel
MT		Nickel-PTFE
NF		Cadmium/Olive Drab Over Electroless Nickel
UCR		Zinc Cobalt/Black
ZN		Zinc Nickel/Olive Drab Over Electroless Nickel
ZNU		Zinc Nickel/Black Over Electroless Nickel
Z1	Stainless Steel	Passivate
ZM		Electroless Nickel
ZMT		Nickel-PTFE
ZW		Cadmium/Olive Drab Over Electroless Nickel

Series 79 Micro-Crimp connector adapter with MIL-DTL-38999 Series III (H code) accessory thread and interface teeth
How To Order

**Style T
Top Entry**

Material and Finish

- Adapter: See Table II
- Retaining Clip, Washers, Jackscrews, Nuts, Jackposts: CRES/Passivate

Notes

- Symbol E hardware is not available with style T (Top) cable entries for shell sizes A through E, and for max entries on shell sizes F and G. Symbol E hardware with Style T cable entries may interfere with coupling from mating backshell.
- Consult factory for use of Symbol E hardware on Style T (Top) cable entries.
- MIL-DTL-38999, Series III accessory interface (Glenair Code H). Entry size corresponds to MIL-DTL-38999 Series III shell size.

713-366
Series 79 Micro-Crimp Connector Adapter
Top or Side Entry

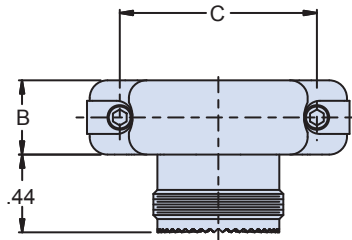


Table II: Finish		
Sym	Material	Finish Description
B	Aluminum	Cadmium, Olive Drab
C		Anodize, Black
M		Electroless Nickel
MT		Nickel-PTFE
NF		Cadmium/Olive Drab Over Electroless Nickel
UCR		Zinc Cobalt/Black
ZN		Zinc Nickel/Olive Drab Over Electroless Nickel
ZNU		Zinc Nickel/Black Over Electroless Nickel
Z1		Stainless Steel
ZM	Electroless Nickel	
ZMT	Nickel-PTFE	
ZW	Cadmium/Olive Drab Over Electroless Nickel	

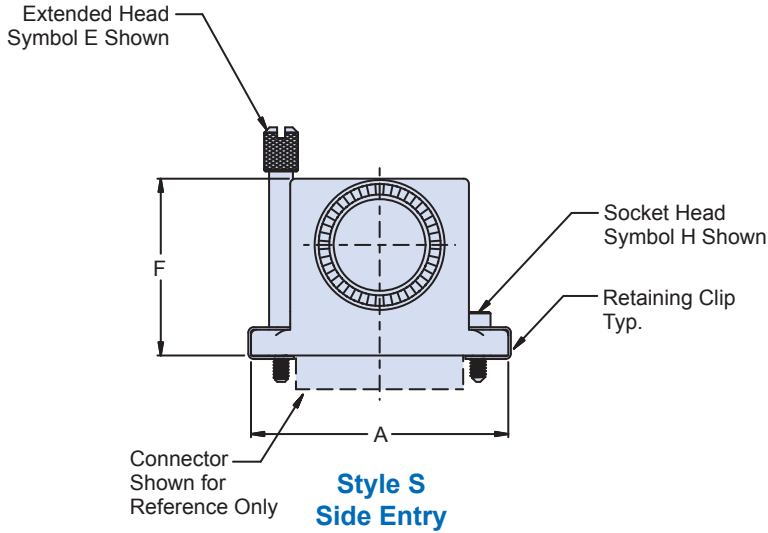
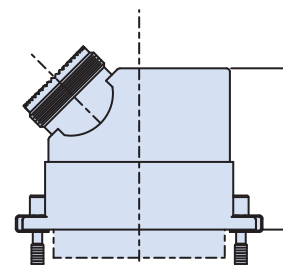
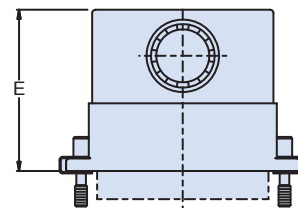
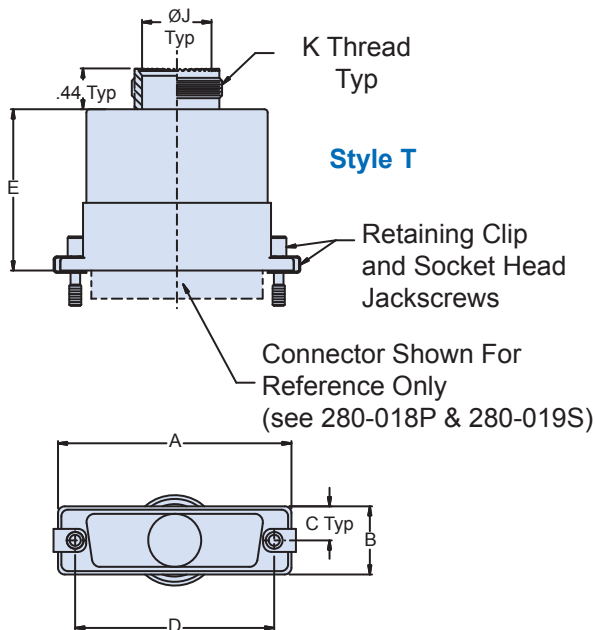
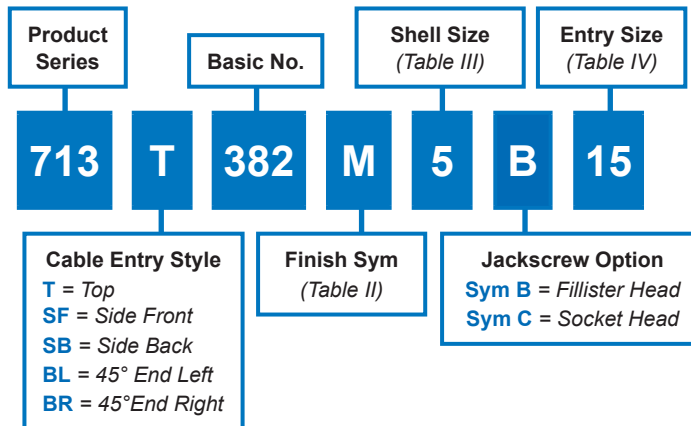


Table III: Shell Size					
Shell Size	A Max	B Max	C Dim	Max Entry	
A	.935 (23.7)	.450 (11.4)	.565 (14.4)	09	
B	1.085 (27.6)	.450 (11.4)	.715 (18.2)	11	
C	1.235 (31.4)	.450 (11.4)	.865 (22.0)	11	
D	1.335 (33.9)	.450 (11.4)	.965 (24.5)	13	
E	1.485 (37.7)	.450 (11.4)	1.115 (28.3)	13	
F	1.635 (41.5)	.450 (11.4)	1.265 (32.1)	15	
G	1.585 (40.3)	.533 (13.5)	1.215 (30.9)	15	
H	2.320 (58.9)	.560 (14.2)	1.800 (45.7)	17	
J	1.990 (50.5)	.450 (11.4)	1.615 (41.0)	17	
K	2.385 (60.6)	.450 (11.4)	2.015 (51.2)	17	
L	2.556 (64.9)	.560 (14.2)	2.036 (51.7)	19	

Table IV: Entry Size				
Entry Size	Conduit Size (Ref)	ØD	E Thread ISO Metric	F Max
09	06, 09	.281 (7.14)	M12 X 1.0-6g	.97 (24.6)
11	10, 12	.397 (10.1)	M15 X 1.0-6g	1.09 (27.7)
13	14, 16	.511 (13.0)	M18 X 1.0-6g	1.21 (30.7)
15	20	.636 (16.2)	M22 X 1.0-6g	1.37 (34.8)
17	24	.761 (19.3)	M25 X 1.0-6g	1.49 (37.8)
19	28	.875 (22.2)	M28 X 1.0-6g	1.60 (40.6)

Series 28 HiPer-D connector adapter with MIL-DTL-38999 Series III (H code) accessory thread and interface teeth
How To Order

Material & Finish

- Adapter: See Table II
- Jackscrews, Retaining Clips: Cres/Passivate

Notes

- MIL-DTL-38999, Series III accessory interface (Glenair Code H).
- Entry Size corresponds to MIL-DTL-38999, Series III shell size.

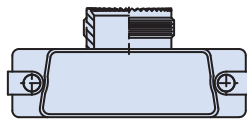
713-382
Series 28 HiPer-D Connector Adapter
 Top, Side or 45° Entry



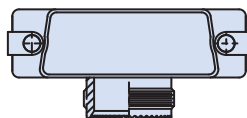
Table III														
Shell Size	Com'l Shell Size Ref	A Max		B Max		C Ref		D ± .005		E Max		F Max		Max Entry
1	E/09	1.393	(35.4)	.624	(15.8)	.312	(7.92)	.984	(25.0)	1.31	(33.3)	1.69	(42.9)	13
2	A/15	1.709	(43.4)	.624	(15.8)	.312	(7.92)	1.312	(33.3)	1.47	(37.3)	1.79	(45.5)	15
3	B/25	2.265	(57.5)	.624	(15.8)	.312	(7.92)	1.852	(47.0)	1.59	(40.4)	1.87	(47.5)	17
4	C/37	2.900	(74.0)	.624	(15.8)	.312	(7.92)	2.500	(63.5)	1.59	(40.4)	1.90	(48.3)	17
5	D/50	2.800	(71.1)	.750	(19.1)	.375	(9.53)	2.406	(61.1)	1.82	(46.2)	2.05	(52.1)	21
6	F/104	2.900	(74.0)	.844	(21.4)	.422	(10.7)	2.500	(63.5)	1.82	(46.2)	2.06	(42.3)	21

Table IV			
Entry Size	Conduit Size (Ref)	Ø J	K Thread Iso Metric
09	06, 09	.281 (7.14)	M12 X 1.0-6g
11	10, 12	.397 (10.1)	M15 X 1.0-6g
13	14, 16	.511 (13.0)	M18 X 1.0-6g
15	20	.636 (16.2)	M22 X 1.0-6g
17	24	.761 (19.3)	M25 X 1.0-6g
19	28	.875 (22.2)	M28 X 1.0-6g
21	32	1.000 (25.4)	M31 X 1.0-6g

Table II			
Sym	Material	Finish Description	
B	Aluminum	Cadmium Olive Drab	
C		Anodize, Black	
M		Electroless Nickel	
MT		Nickel - PTFE	
NF		Cadmium/Olive Drab over Electroless Nickel	
UCR		Zinc Cobalt/Black	
ZN		Zinc Nickel/Olive Drab over Electroless Nickel	
ZNU		Zinc Nickel/Black over Electroless Nickel	
Z1		Stainless Steel	Passivate
ZM			Electroless Nickel
ZMT	Nickel - PTFE		
ZW	Cadmium/Olive Drab over Electroless Nickel		



Style SB



Style SF



Style BR



Style BL

Fillister Head Jackscrew

4-40 UNC-2A

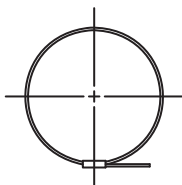
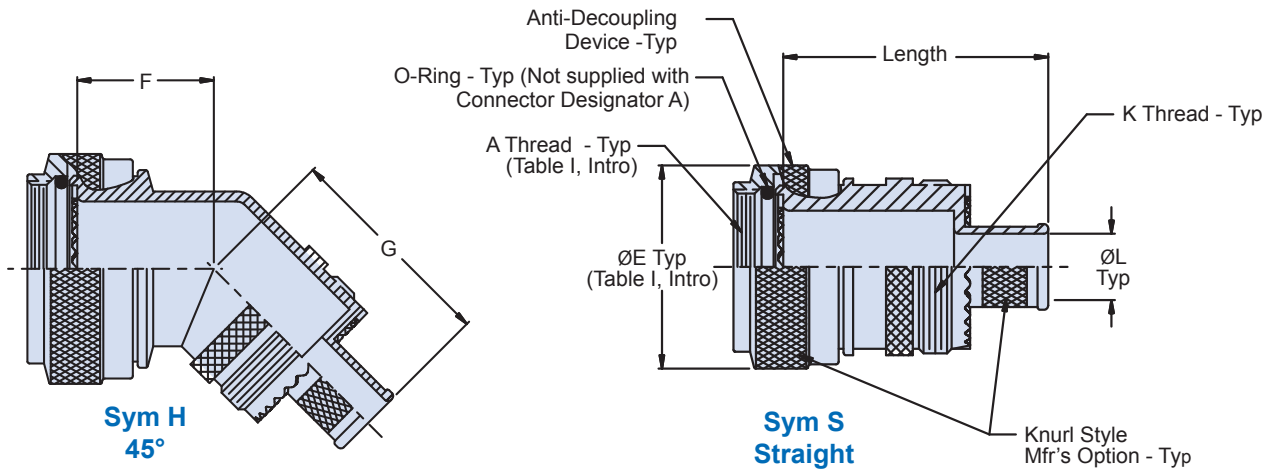
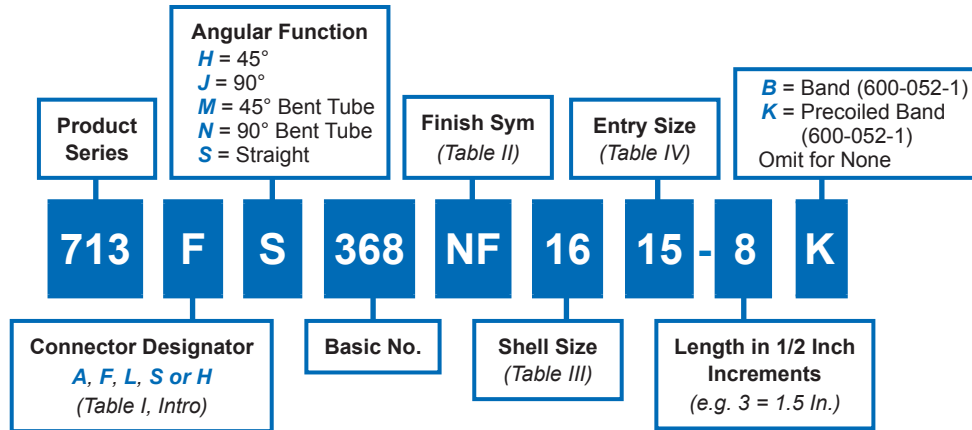
B Option

Socket Head Jackscrew

4-40 UNC-2A

C Option



Metal Band-in-a-Can connector adapter with self-locking coupling nut and MIL-DTL-38999 Series III (H code) accessory thread and interface teeth
How To Order

**Sym K
Band**
Material and Finish

- Adapters, Elbows, Coupling Nuts: See Table II
- Band & Hardware: CRES/Passivate
- Anti-decoupling Device: Corrosion Resistant Material/N.A.
- O-Rings: Silicone/N.A.

Notes

- Standard minimum length is 1.5 inches, for shorter length, consult factory. Note: Length applies to SYM S, Straight only.
- MIL-DTL-38999, Series III accessory interface (Glenair Code H). Entry size corresponds to MIL-DTL-38999, Series III shell size.

713-368
Band-in-a-Can Connector Adapter
with Accessory Threads and Self-Locking Coupling Nut

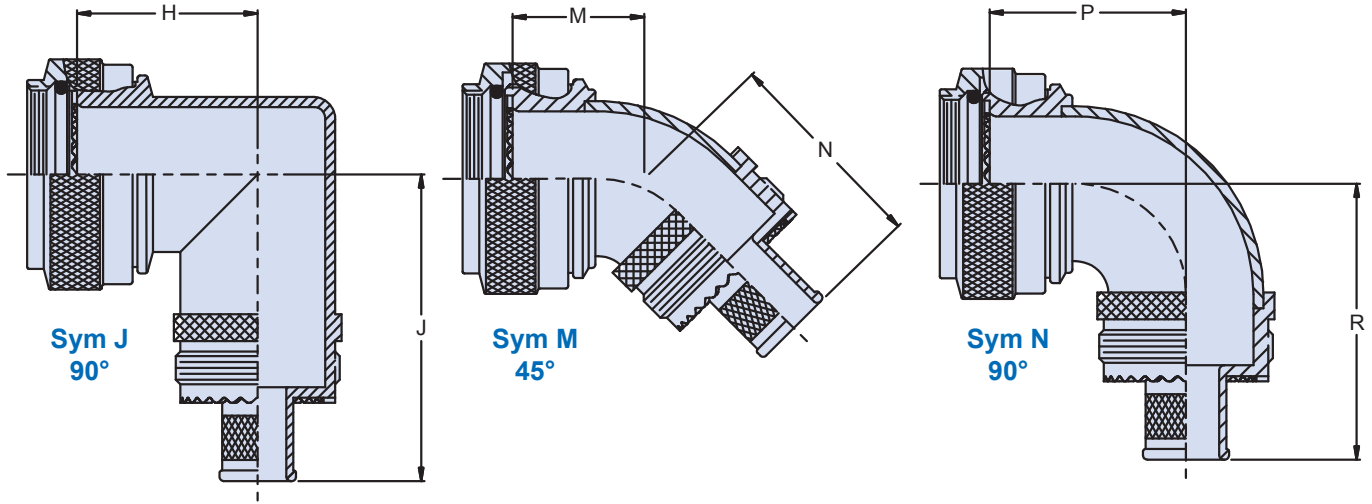


Table III: Shell Size/Dimensions

Shell Size Conn. Desig. A, F, L, S	H	F Max	G Max	H Max	J Max	M Max	N Max	P Max	R Max	Max Entry
08	09	.795 (20.2)	1.450 (36.8)	.906 (23.0)	1.570 (39.9)	.721 (18.3)	1.330 (33.8)	.878 (22.3)	1.490 (37.8)	17
10	11	.820 (21.0)	1.480 (37.6)	.966 (24.5)	1.620 (41.1)	.747 (19.0)	1.360 (34.5)	.940 (23.9)	1.550 (39.4)	19
12	13	.844 (21.4)	1.500 (38.1)	1.026 (26.1)	1.680 (42.7)	.747 (19.0)	1.380 (35.1)	.940 (23.9)	1.570 (39.9)	21
14	15	.861 (21.9)	1.530 (38.9)	1.076 (27.3)	1.750 (44.5)	.799 (20.3)	1.430 (36.3)	1.003 (25.5)	1.640 (41.7)	23
16	17	.888 (22.6)	1.550 (39.4)	1.136 (28.9)	1.810 (46.0)	.825 (21.0)	1.460 (37.1)	1.065 (27.1)	1.700 (43.2)	25
18	19	.904 (23.0)	1.560 (39.6)	1.176 (29.9)	1.830 (46.5)	.877 (22.3)	1.540 (39.1)	1.128 (28.7)	1.790 (45.5)	33
20	21	.929 (23.6)	1.580 (40.1)	1.236 (31.4)	1.890 (48.0)	.903 (22.9)	1.570 (39.9)	1.190 (30.2)	1.850 (47.0)	33
22	23	.956 (24.3)	1.620 (41.1)	1.296 (32.9)	1.970 (50.0)	.928 (23.6)	1.620 (41.1)	1.253 (31.8)	1.940 (49.3)	33
24	25	.979 (24.9)	1.650 (41.9)	1.356 (34.4)	2.040 (51.8)	.954 (24.2)	1.660 (42.2)	1.315 (33.4)	2.030 (51.6)	37

Table IV: Entry Size

Entry Size	K Thread ISO Metric	Ø L	
13	M18 X 1.0-6g	.125	(3.20)
15	M22 X 1.0-6g	.250	(6.40)
17	M25 X 1.0-6g	.375	(9.53)
19	M28 X 1.0-6g	.438	(11.1)
21	M31 X 1.0-6g	.563	(14.3)
23	M34 X 1.0-6g	.688	(17.5)
25	M37 X 1.0-6g	.812	(20.6)
33	M45 X 1.5-6g	1.125	(28.6)
37	M50 X 1.5-6g	1.313	(33.4)

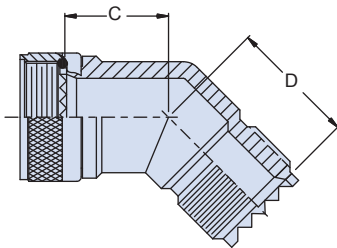
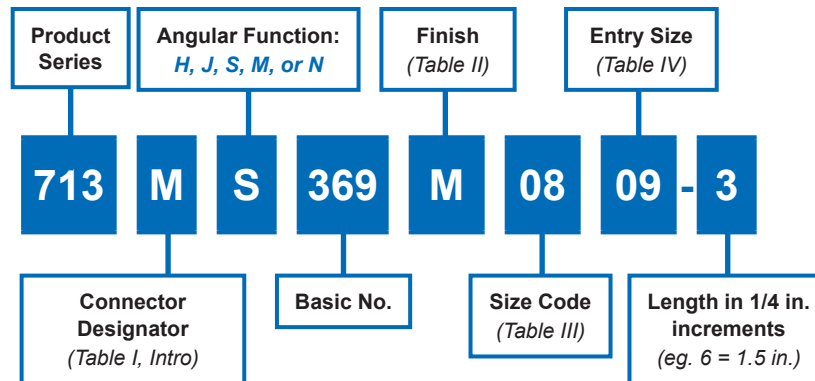
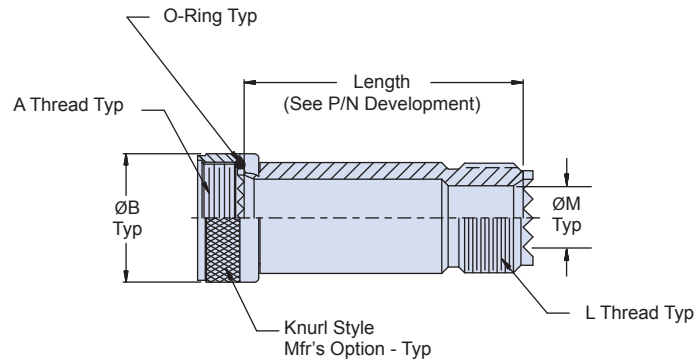
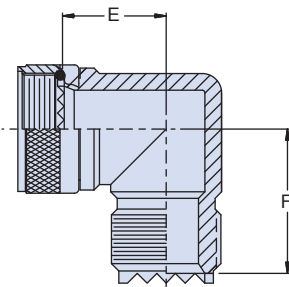
Table II: Material/Finish

Sym	Material	Finish Description	
B	Aluminum	Cadmium, Olive Drab	
C		Anodize, Black (Non-Conductive)	
M		Electroless Nickel	
MT		Nickel-PTFE	
NF		Cadmium/Olive Drab Over Electroless Nickel	
UCR		Zinc Cobalt/Black	
ZN		Zinc Nickel/Olive Drab Over Electroless Nickel	
ZNU		Zinc Nickel/Black Over Electroless Nickel	
Z1		300 Series SST	Passivate

Table II (continued)

Sym	Material	Finish Description	Component
ZM	300 Series SST	Electroless Nickel	Adapter, Elbow
		Passivate	Coupling Nut
ZMT	300 Series SST	Nickel - PTFE	Adapter, Elbow
		Passivate	Coupling Nut
ZW	300 Series SST	Cadmium O.D. Over Electroless Nickel	Adapter, Elbow
		Cadmium Olive Drab	Coupling Nut



Mighty Mouse adapter/extender with environmental O-Ring and Rear Mighty Mouse interface teeth and threads
How To Order

Symbol H
 45°

Symbol S
 Straight

Symbol J
 90°

Material and Finish

- Adapters, elbows, and coupling nuts: See Table II
- O-Rings: Silicone/NA

Notes

- Standard minimum length is 1.00 inches. For shorter length, consult factory. Note: Length applies to Symbol S, Straight only.
- Mighty Mouse accessory interface (Glenair code M) entry size corresponds to Mighty Mouse size code.

713M*369

Series 80 Mighty Mouse Connector Adapter/Extender
Environmental, Straight, 45°, 90°



Adapters and
Transitions

Table III: Size Code/Dimensions

Size Code	A Thread Class 2B	Shell Size Ref		Ø B Max	C Max	D Max	E Max	F Max
		800/801 803/804	805					
05	1/4-32 UNEF	5	N/A	.470 (11.9)	.530 (13.5)	.660(16.8)	.630 (16.0)	.780 (19.8)
06	5/16-32 UNEF	6	N/A	.530 (13.5)	.550 (14.0)	.670 (17.0)	.660(16.8)	.790 (20.1)
11	3/8-32 UNEF	N/A	8	.570 (14.5)	.560 (14.2)	.680 (17.3)	.680 (17.3)	.810 (20.6)
07	7/16-28 UNEF	7	9	.637 (16.2)	.570 (14.5)	.690 (17.5)	.700 (17.8)	.830 (21.1)
08	1/2-28 UNEF	8	10	.700 (17.8)	.580 (14.7)	.700 (17.8)	.740 (18.8)	.860 (21.8)
09	9/16-24 UNEF	9	11	.758 (19.3)	.590 (15.0)	.710 (18.0)	.770 (19.6)	.890(22.6)
10	5/8-24 UNEF	10	12	.819 (20.8)	.610 (15.5)	.730 (18.5)	.800(20.3)	.920(23.4)
12	11/16-24 UNEF	12/13	N/A	.896(22.8)	.640(16.3)	.750 (19.1)	.840 (21.3)	.970(24.6)
13	3/4-20 UNEF	N/A	15	.930(23.6)	.660(16.8)	.770 (19.6)	.880(22.4)	1.020(25.9)
14	15/16-20 UNEF	14/15/16/17	18/19	1.137 (28.9)	.690 (17.5)	.800(20.3)	.950 (24.1)	1.090 (27.7)
17	1 3/16-18 UNEF	21	23	1.387 (35.2)	.720 (18.3)	.830 (21.1)	1.010 (25.7)	1.160 (29.5)

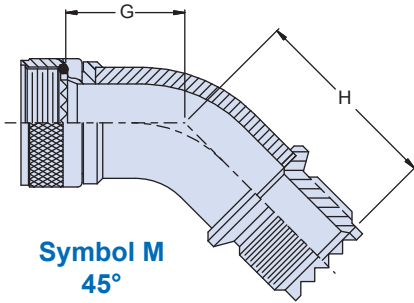


Table III (cont.)

Size Code	G Max	H Max	J Max	K Max
05	.650 (16.5)	.727 (18.5)	.842 (21.4)	.919 (23.3)
06	.650 (16.5)	.727 (18.5)	.842 (21.4)	.919 (23.3)
11	.700 (17.8)	.777 (19.7)	.905(23.0)	.982 (24.9)
07	.700 (17.8)	.777 (19.7)	.905(23.0)	.982 (24.9)
08	.730 (18.5)	.807(20.5)	.967(24.6)	1.044(26.5)
09	.730 (18.5)	.807(20.5)	.967(24.6)	1.044(26.5)
10	.780 (19.8)	.857 (21.8)	1.030(26.2)	1.107 (28.1)
12	.780 (19.8)	.857 (21.8)	1.030(26.2)	1.107 (28.1)
13	.780 (19.8)	.857 (21.8)	1.030(26.2)	1.107 (28.1)
14	.805(20.4)	.882(22.4)	1.092 (27.7)	1.169 (29.7)
17	.830 (21.1)	.907(23.0)	1.155 (29.3)	1.232 (31.3)

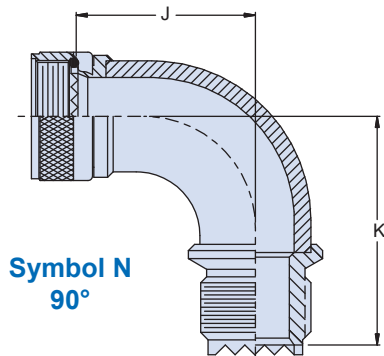


Table IV: Entry Size

Entry Size	L Thread Class 2A	ØM
05	1/4-32 UNEF	.166 (4.2)
06	5/16-32 UNEF	.228 (5.8)
11	3/8-32 UNEF	.266 (6.8)
07	7/16-28 UNEF	.328 (8.3)
08	1/2-28 UNEF	.388 (9.9)
09	9/16-24 UNEF	.445 (11.3)
10	5/8-24 UNEF	.508 (12.9)
12	11/16-24 UNEF	.578 (14.7)
13	3/4-20 UNEF	.625 (15.9)
14	15/16-20 UNEF	.812 (20.6)
17	1 3/16-18 UNEF	1.057(26.8)

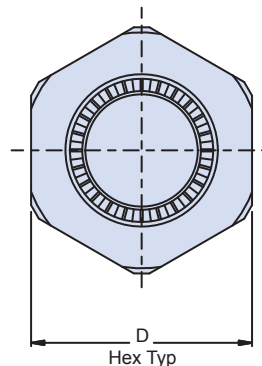
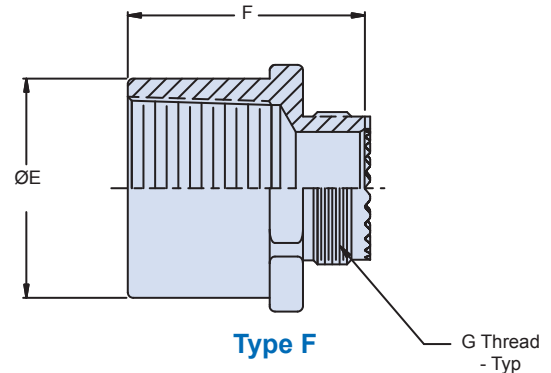
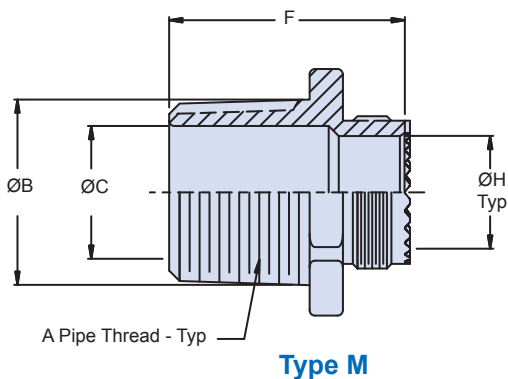
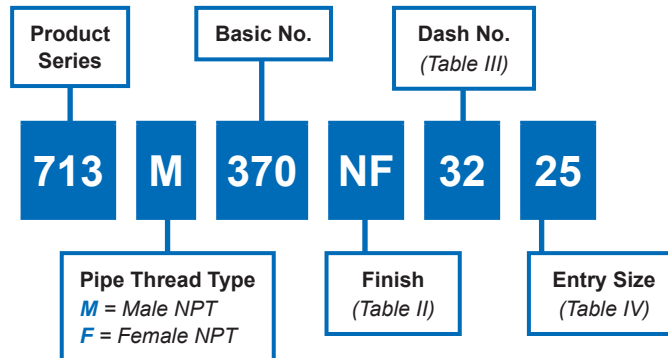
Table II: Material/Finish

Sym	Material	Finish Description	
B	Aluminum	Cadmium, Olive Drab	
C		Anodize, Black	
M		Electroless Nickel	
MT		Nickel-PTFE	
NF		Cad/Olive Drab over Electroless Nickel	
UCR		Zinc Cobalt/Black	
ZN		Zinc Nickel/Olive Drab over Electroless Nickel	
ZNU		Zinc Nickel/Black over Electroless Nickel	
Z1		Stainless Steel	Passivate
ZM			Electroless Nickel
ZMT	Nickel-PTFE		
ZW	Cadmium/Olive Drab over Electroless Nickel		

E

Pipe thread adapter with MIL-DTL-38999 Series III (H code) accessory thread and interface teeth

How To Order



Notes

- Entry size corresponds to MIL-DTL-38999 Series III shell size.

713-370 Pipe Thread Adapter



Table III: Dash No./Dimensions

Dash No	A Pipe Thread NPT	B Dia	C Dia	D Hex	E Dia Max	F Max	Max Entry Size
08	¼	0.540 (13.7)	0.250 (6.4)	0.625 (15.9)	0.625 (15.9)	1.31 (33.3)	11
12	⅜	0.675 (17.1)	0.375 (9.5)	0.875 (22.2)	0.875 (22.2)	1.31 (33.3)	15
16	½	0.840 (21.3)	0.500 (12.7)	1.000 (25.4)	1.000 (25.4)	1.52 (38.6)	17
24	¾	1.050 (26.7)	0.750 (19.1)	1.250 (31.8)	1.250 (31.8)	1.52 (38.6)	21
32	1	1.315 (33.4)	1.000 (25.4)	1.500 (38.1)	1.500 (38.1)	1.83 (46.5)	25
40	1 ¼	1.660 (42.2)	1.250 (31.8)	1.750 (44.5)	1.750 (44.5)	1.85 (47.0)	25
48	1 ½	1.900 (48.3)	1.500 (38.1)	2.250 (57.2)	2.125 (54.0)	1.85 (47.0)	37
64	2	2.375 (60.3)	2.000 (50.8)	2.500 (63.5)	2.500 (63.5)	1.85 (47.0)	37

Table IV: Entry Size

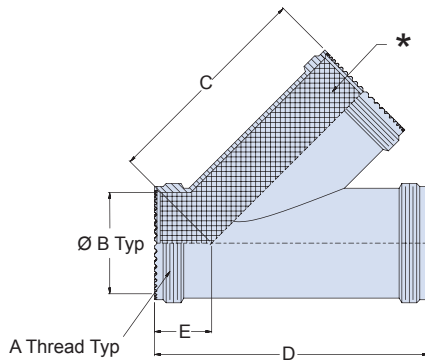
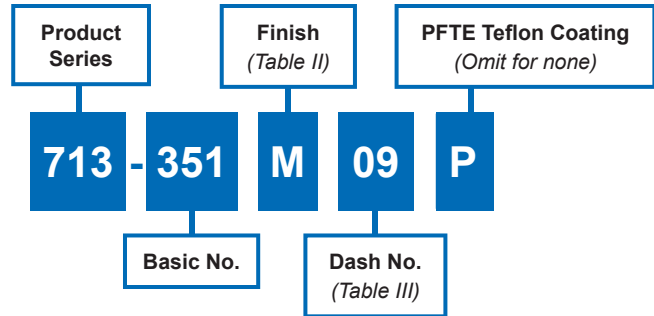
Entry Size	G Thread Iso Metric	H Dia
09	M12 X 1.0-6g	.281 (7.1)
11	M15 X 1.0-6g	.397 (1.1)
13	M18 X 1.0-6g	.511 (13.0)
15	M22 X 1.0-6g	.636 (16.2)
17	M25 X 1.0-6g	.761 (19.3)
19	M28 X 1.0-6g	.875 (22.2)
21	M31 X 1.0-6g	1.000 (25.4)
23	M34 X 1.0-6g	1.125 (28.6)
25	M37 X 1.0-6g	1.250 (31.8)
33	M45 X 1.5-6g	1.530 (38.9)
37	M50 X 1.5-6g	1.750 (44.5)

Table II: Finish

Sym	Material	Finish Description
B	Aluminum Alloy	Cadmium, Olive Drab
C		Anodize, Black
M		Electroless Nickel
MT		Nickel - PTFE
NF		Cadmium/Olive Drab over Electroless Nickel
UCR		Zinc Cobalt/Black
ZN		Zinc Nickel/Olive Drab over Electroless Nickel
ZNU		Zinc Nickel/Black over Electroless Nickel
Z1		Passivate
ZM		Stainless Steel
ZMT	Nickel - PTFE	
ZW	Cad/Olive Drab over Electroless Nickel	



Y transition with self-locking feature for ease of assembly and repair for multi-legged conduit assemblies. MIL-DTL-38999 Series III (H code) interface teeth.

How To Order

Table II: Material/Finish

Sym	Material	Finish Description
M	Aluminum	Electroless Nickel
MT		Nickel-PTFE
NF		Cad/Olive Drab over Electroless Nickel
ZN		Zinc Nickel/Olive Drab over Electroless Nickel
ZNU		Zinc Nickel/Black over Electroless Nickel
Z1	Stainless Steel	Passivate

Table III: Dash No./Dimensions

Dash No	Conduit Size (Ref)	A Thread Iso Metric	B Dia	C Max	D Max	E Max
09	06,09	M12 x 1.0-6g	.281 (7.1)	1.38 (35.1)	1.87 (47.5)	.52 (13.2)
11	10,12	M15 x 1.0-6g	.397 (10.1)	1.60 (40.6)	2.11 (53.6)	.54 (13.7)
13	14,16	M18 x 1.0-6g	.511 (13.0)	1.75 (44.5)	2.28 (57.9)	.57 (14.5)
15	20	M22 x 1.0-6g	.636 (16.2)	1.90 (48.3)	2.47 (62.7)	.60 (15.2)
17	24	M25 x 1.0-6g	.761 (19.3)	2.09 (53.1)	2.69 (68.3)	.63 (16.0)
19	28	M28 x 1.0-6g	.875 (22.2)	2.22 (56.4)	2.84 (72.1)	.65 (16.5)
21	32	M31 x 1.0-6g	1.000 (25.4)	2.36 (59.9)	3.00 (76.2)	.68 (17.3)
23	36	M34 x 1.0-6g	1.125 (28.6)	2.50 (63.5)	3.17 (80.5)	.70 (17.8)
25	40	M37 x 1.0-6g	1.250 (31.8)	2.66 (67.6)	3.35 (85.1)	.73 (18.5)
33	48	M45 x 1.5-6g	1.530 (38.9)	3.10 (78.7)	3.87 (98.3)	.80 (20.3)
37	56	M50 x 1.5-6g	1.750 (44.5)	3.39 (86.1)	4.21 (106.9)	.84 (21.3)

Material and Finish

See Table II.

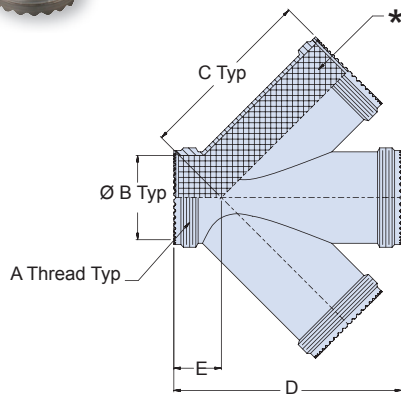
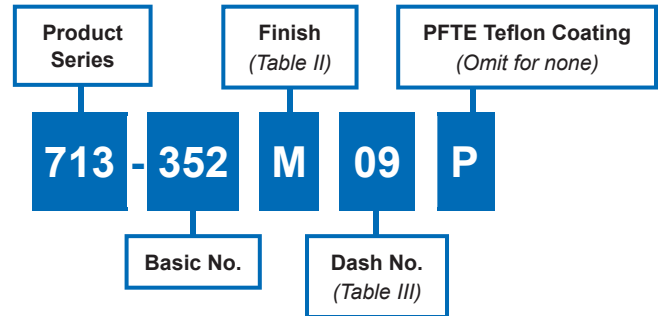
*Internal Surface coated with Teflon as shown, see P/N development.

713-352 Double-Y Transition



Double-Y transition with self-locking feature for ease of assembly and repair for multi-legged conduit assemblies. MIL-DTL-38999 Series III (H code) interface teeth.

How To Order



Sym	Material	Finish Description
M	Aluminum	Electroless Nickel
MT		Nickel-PTFE
NF		Cad/Olive Drab over Electroless Nickel
ZN		Zinc Nickel/Olive Drab over Electroless Nickel
ZNU		Zinc Nickel/Black over Electroless Nickel
Z1	Stainless Steel	Passivate

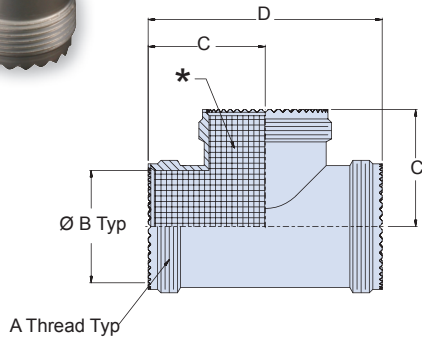
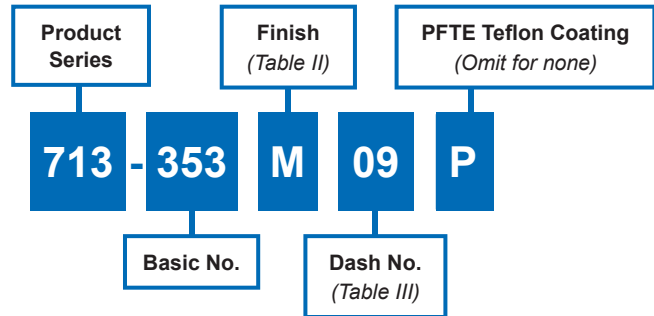
Dash No	Conduit Size (Ref)	A Thread Iso Metric	B Dia	C Max	D Max	E Max
09	06,09	M12 x 1.0-6g	.281 (7.1)	1.38 (35.1)	1.87 (47.5)	.52 (13.2)
11	10,12	M15 x 1.0-6g	.397 (10.1)	1.60 (40.6)	2.11 (53.6)	.54 (13.7)
13	14,16	M18 x 1.0-6g	.511 (13.0)	1.75 (44.5)	2.28 (57.9)	.57 (14.5)
15	20	M22 x 1.0-6g	.636 (16.2)	1.90 (48.3)	2.47 (62.7)	.60 (15.2)
17	24	M25 x 1.0-6g	.761 (19.3)	2.09 (53.1)	2.69 (68.3)	.63 (16.0)
19	28	M28 x 1.0-6g	.875 (22.2)	2.22 (56.4)	2.84 (72.1)	.65 (16.5)
21	32	M31 x 1.0-6g	1.000 (25.4)	2.36 (59.9)	3.00 (76.2)	.68 (17.3)
23	36	M34 x 1.0-6g	1.125 (28.6)	2.50 (63.5)	3.17 (80.5)	.70 (17.8)
25	40	M37 x 1.0-6g	1.250 (31.8)	2.66 (67.6)	3.35 (85.1)	.73 (18.5)
33	48	M45 x 1.5-6g	1.530 (38.9)	3.10 (78.7)	3.87 (98.3)	.80 (20.3)
37	56	M50 x 1.5-6g	1.750 (44.5)	3.39 (86.1)	4.21 (106.9)	.84 (21.3)

Material and Finish

See Table II.

*Internal Surface coated with Teflon as shown, see P/N development.

T transition with self-locking feature for ease of assembly and repair for multi-legged conduit assemblies. MIL-DTL-38999 Series III (H code) interface teeth.


How To Order

Table II: Material/Finish

Sym	Material	Finish Description
M	Aluminum	Electroless Nickel
MT		Nickel-PTFE
NF		Cad/Olive Drab over Electroless Nickel
ZN		Zinc Nickel/Olive Drab over Electroless Nickel
ZNU		Zinc Nickel/Black over Electroless Nickel
Z1	Stainless Steel	Passivate

Table III: Dash No./Dimensions

Dash No	Conduit Size (Ref)	A Thread Iso Metric	B Dia	C Max	D Max
09	06,09	M12 X 1.0-6g	.281 (7.1)	.78 (19.8)	1.53 (38.9)
11	10,12	M15 X 1.0-6g	.397 (10.1)	.90 (22.9)	1.71 (43.4)
13	14,16	M18 X 1.0-6g	.511 (13.0)	.94 (23.9)	1.84 (46.7)
15	20	M22 X 1.0-6g	.636 (16.2)	1.00 (25.4)	1.96 (49.8)
17	24	M25 X 1.0-6g	.761 (19.3)	1.08 (27.4)	2.12 (53.8)
19	28	M28 X 1.0-6g	.875 (22.2)	1.13 (28.7)	2.23 (56.6)
21	32	M31 X 1.0-6g	1.000 (25.4)	1.19 (30.2)	2.34 (59.4)
23	36	M34 X 1.0-6g	1.125 (28.6)	1.25 (31.8)	2.46 (62.5)
25	40	M37 X 1.0-6g	1.250 (31.8)	1.31 (33.3)	2.59 (65.8)
33	48	M45 X 1.5-6g	1.530 (38.9)	1.49 (37.8)	2.95 (74.9)
37	56	M50 X 1.5-6g	1.750 (44.5)	1.62 (41.1)	3.21 (81.5)

Material and Finish

See Table II.

*Internal Surface coated with Teflon as shown, see P/N development.

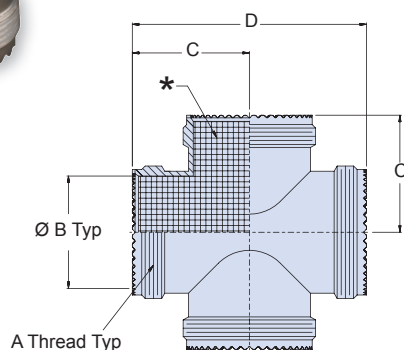
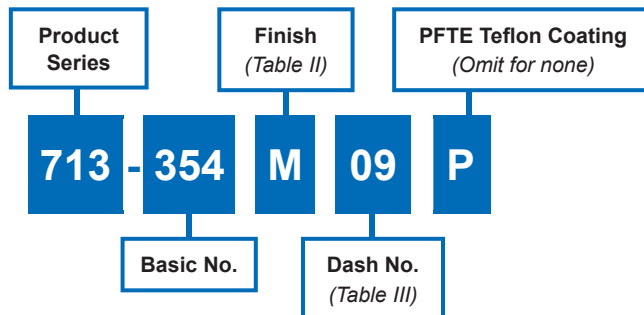
713-354 Double-T Transition



Double-T transition with self-locking feature for ease of assembly and repair for multi-legged conduit assemblies. MIL-DTL-38999 Series III (H code) interface teeth.



How To Order



Sym	Material	Finish Description
M	Aluminum	Electroless Nickel
MT		Nickel-PTFE
NF		Cad/Olive Drab over Electroless Nickel
ZN		Zinc Nickel/Olive Drab over Electroless Nickel
ZNU		Zinc Nickel/Black over Electroless Nickel
Z1	Stainless Steel	Passivate

Dash No	Conduit Size (Ref)	A Thread Iso Metric	B Dia	C Max	D Max
09	06,09	M12 X 1.0-6g	.281 (7.1)	.78 (19.8)	1.53 (38.9)
11	10,12	M15 X 1.0-6g	.397 (10.1)	.90 (22.9)	1.71 (43.4)
13	14,16	M18 X 1.0-6g	.511 (13.0)	.94 (23.9)	1.84 (46.7)
15	20	M22 X 1.0-6g	.636 (16.2)	1.00 (25.4)	1.96 (49.8)
17	24	M25 X 1.0-6g	.761 (19.3)	1.08 (27.4)	2.12 (53.8)
19	28	M28 X 1.0-6g	.875 (22.2)	1.13 (28.7)	2.23 (56.6)
21	32	M31 X 1.0-6g	1.000 (25.4)	1.19 (30.2)	2.34 (59.4)
23	36	M34 X 1.0-6g	1.125 (28.6)	1.25 (31.8)	2.46 (62.5)
25	40	M37 X 1.0-6g	1.250 (31.8)	1.31 (33.3)	2.59 (65.8)
33	48	M45 X 1.5-6g	1.530 (38.9)	1.49 (37.8)	2.95 (74.9)
37	56	M50 X 1.5-6g	1.750 (44.5)	1.62 (41.1)	3.21 (81.5)

Material and Finish

See Table II.

*Internal Surface coated with Teflon as shown, see P/N development.

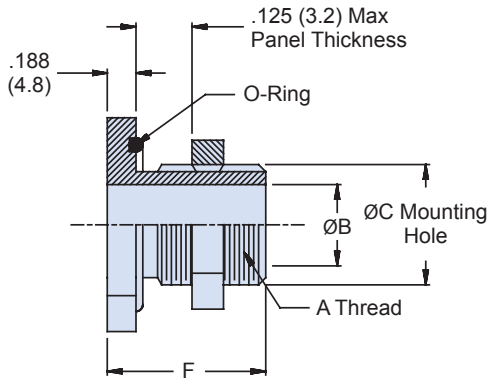
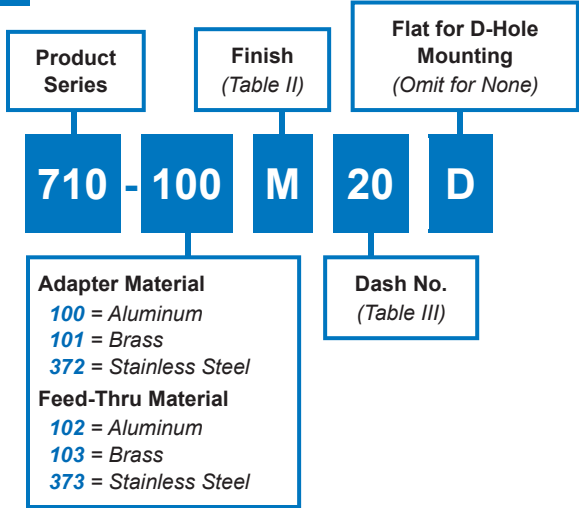


710-100 Metal Bulkhead Adapters & Feed-Throughs for Series 72 & 74 Tubing and Series 75 Conduit

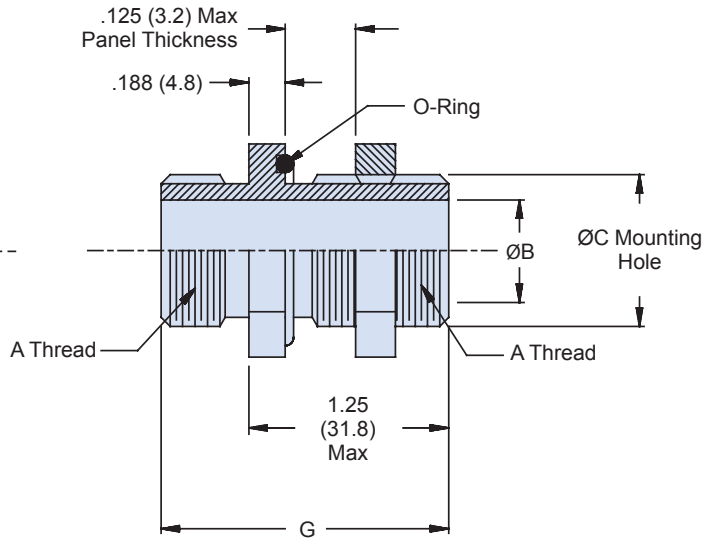
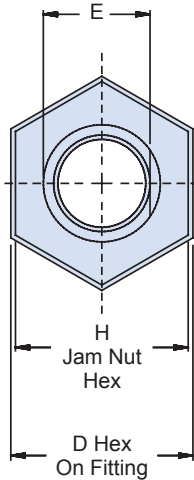
Metal bulkhead adapters & feed-throughs mate with transition fittings



How To Order



Bulkhead Adapters
710-100/101/372



Bulkhead Feed-Throughs
710-102/103/373

710-100

Metal Bulkhead Adapters & Feed-Throughs for Series 72 & 74 Tubing and Series 75 Conduit



Table III: Dash No./Dimensions

Dash No.	Conduit Size (Ref)			A Thread Class 2A	Ø B ± .015 (.4)	Ø C ± .030 (.8) - .000 (.0)	D Hex Fitting	E ± .000 (.0) - .015 (.4)	F Max	G Max	H Hex Jam Nut
	72	74	75								
06	06	06	-	7/16 - 28 UNEF	.193 (4.9)	.44 (11.2)	.69 (17.5)	.375 (9.5)	1.00 (25.4)	1.63 (41.4)	.63 (16.0)
08	-	-	08	1/2 - 20 UNF	.255 (6.5)	.50 (12.7)	.75 (19.1)	.438 (11.1)	1.00 (25.4)	1.63 (41.4)	.75 (19.1)
09	09	09	09	9/16 - 24 UNEF	.286 (7.3)	.56 (14.2)	.81 (20.6)	.500 (12.7)	1.00 (25.4)	1.63 (41.4)	.75 (19.1)
10	-	10	-	9/16 - 24 UNEF	.317 (8.1)	.56 (14.2)	.81 (20.6)	.500 (12.7)	1.00 (25.4)	1.63 (41.4)	.75 (19.1)
12	12	12	12	5/8 - 24 UNEF	.380 (9.7)	.63 (16.0)	.88 (22.4)	.563 (14.3)	1.00 (25.4)	1.63 (41.4)	.81 (20.6)
14	14	14	-	11/16 - 24 UNEF	.442 (11.2)	.69 (17.5)	.94 (23.9)	.625 (15.9)	1.00 (25.4)	1.63 (41.4)	.88 (22.4)
16	16	16	16	3/4 - 20 UNEF	.505 (12.8)	.75 (19.1)	1.00 (25.4)	.688 (17.5)	1.00 (25.4)	1.63 (41.4)	.94 (23.9)
20	20	20	20	7/8 - 20 UNEF	.630 (16.0)	.88 (22.4)	1.13 (28.7)	.812 (20.6)	1.00 (25.4)	1.63 (41.4)	1.06 (26.9)
24	24	24	24	1 - 20 UNEF	.755 (19.2)	1.00 (25.4)	1.25 (31.8)	.938 (23.8)	1.00 (25.4)	1.63 (41.4)	1.25 (31.8)
28	28	28	-	1 3/16 - 18 UNEF	.880 (22.4)	1.19 (30.2)	1.44 (36.6)	1.125 (28.6)	1.00 (25.4)	1.63 (41.4)	1.38 (35.1)
32	32	32	32	1 5/16 - 18 UNEF	1.005 (25.5)	1.31 (33.3)	1.56 (39.6)	1.250 (31.8)	1.00 (25.4)	1.63 (41.4)	1.62 (41.1)
40	40	40	40	1 1/2 - 18 UNEF	1.255 (31.9)	1.50 (38.1)	1.81 (46.0)	1.438 (36.5)	1.00 (25.4)	1.63 (41.4)	1.75 (44.5)
48	48	48	48	1 3/4 - 18 UNS	1.505 (38.2)	1.75 (44.5)	2.06 (52.3)	1.688 (42.9)	1.13 (28.7)	1.75 (44.5)	2.00 (50.8)
56	-	56	56	2 - 18 UNS	1.755 (44.6)	2.00 (50.8)	2.31 (58.7)	1.938 (49.2)	1.13 (28.7)	1.75 (44.5)	2.19 (55.6)
64	-	64	64	2 1/4 - 16 UN	2.005 (50.9)	2.25 (57.2)	2.56 (65.0)	2.188 (55.6)	1.13 (28.7)	1.75 (44.5)	2.44 (62.0)
80	-	-	80	2 3/4 - 16 UN	2.505 (63.6)	2.75 (69.9)	3.06 (77.7)	2.688 (68.3)	1.13 (28.7)	1.75 (44.5)	3.00 (76.2)
96	-	-	96	3 1/4 - 16 UN	3.005 (76.3)	3.25 (82.6)	3.56 (90.4)	3.188 (81.0)	1.13 (28.7)	1.75 (44.5)	3.50 (88.9)

Table II: Finish

Sym	Finish
B	Olive Drab over Cadmium Plate
J	Gold Iridite over Cadmium Plate over Nickel
M	Electroless Nickel
N	Olive Drab over Cadmium Plate over Nickel
NC	Zinc Cobalt, Olive Drab
NF	Olive Drab over Cadmium Plate over Electroless Nickel (1000 Hour salt Spray)
T	Bright Dip Cadmium over Nickel
Z1	Passivate



Male & Female Series Metal Straight Tapered Pipe Thread Adapters for Series 72 & 74 Tubing and Series 75 Conduit

Metal straight tapered pipe thread adapters mate with transition fittings



How To Order

Product Series

Finish
(Table II)

710

- 114

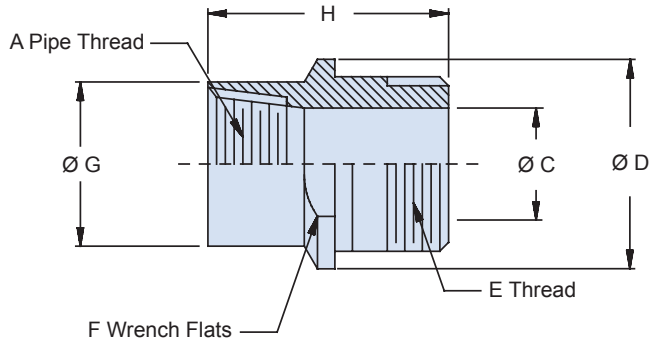
M

32

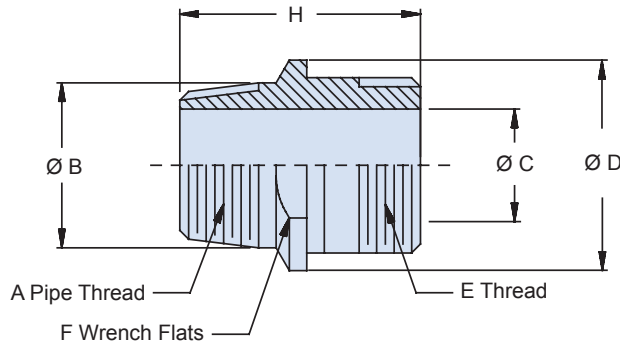
Male NPT Adapter
 114 = Aluminum
 115 = Brass
 405 = Stainless Steel
Female NPT Adapter
 116 = Aluminum
 117 = Brass
 406 = Stainless Steel

Conduit Dash No.
(Table III)

710-116/117/406



710-114/115/405



**Male & Female Series
Metal Straight Tapered Pipe Thread Adapters
for Series 72 & 74 Tubing and Series 75 Conduit**



Table II: Finish	
Sym	Finish
B	Olive Drab over Cadmium Plate
J	Gold Iridite over Cadmium Plate over Nickel
M	Electroless Nickel
N	Olive Drab over Cadmium Plate over Nickel
NC	Zinc Cobalt, Olive Drab
NF	Olive Drab over Cadmium Plate over Electroless Nickel (1000 Hour salt Spray)
T	Bright Dip Cadmium over Nickel
Z1	Passivate

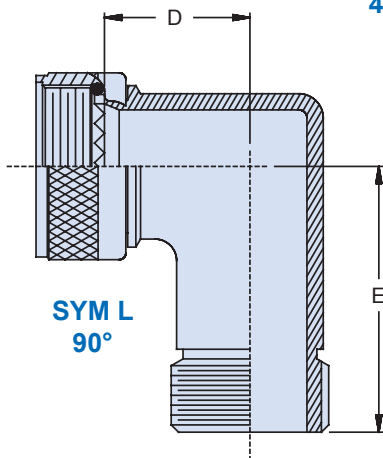
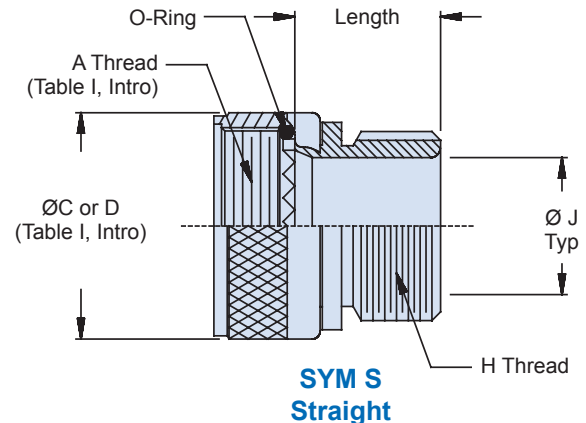
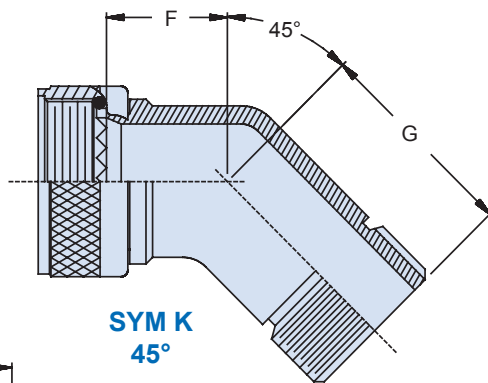
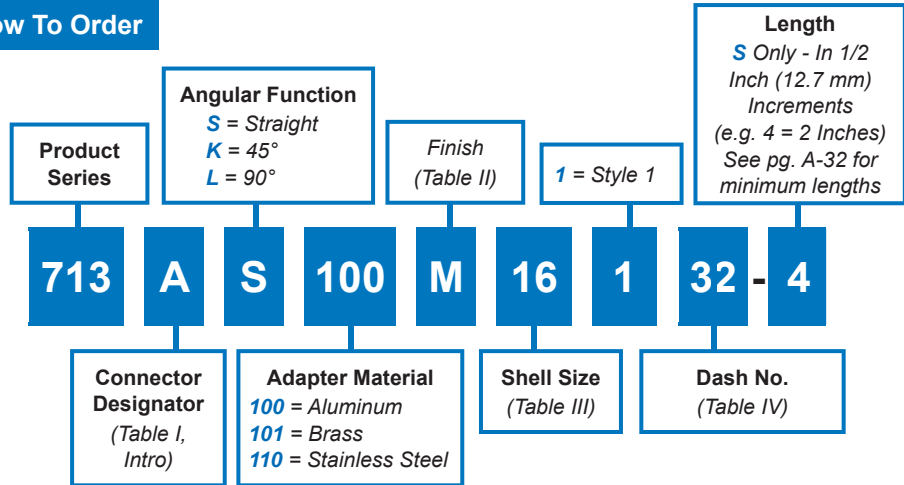
Table II: Conduit Dash No./Dimensions									
Conduit Dash No.	A Pipe Thread.	Ø B	Ø C	Ø D Max	E Thread Class 2A	F Dim	Ø G Max	H Max	
08	1/4	.540 (13.7)	.250 (6.4)	.72 (18.3)	1/2 - 20 UNF	.625 (15.9)	.625 (15.9)	1.31 (33.3)	
12	3/8	.675 (17.1)	.375 (9.5)	1.01 (25.7)	5/8 - 24 UNEF	.875 (22.2)	.875 (22.2)	1.31 (33.3)	
16	1/2	.840 (21.3)	.500 (12.7)	1.15 (29.2)	3/4 - 20 UNEF	1.000 (25.4)	1.000 (25.4)	1.38 (35.1)	
24	3/4	1.050 (26.7)	.750 (19.1)	1.44 (36.6)	1 - 20 UNEF	1.250 (31.8)	1.250 (31.8)	1.52 (38.6)	
32	1	1.315 (33.4)	1.000 (25.4)	1.73 (43.9)	1 5/16 - 18 UNEF	1.500 (38.1)	1.500 (38.1)	1.83 (46.5)	
40	1 1/4	1.660 (42.2)	1.250 (31.8)	2.02 (51.3)	1 1/2 - 18 UNEF	1.750 (44.5)	1.750 (44.5)	1.85 (47.0)	
48	1 1/2	1.900 (48.3)	1.500 (38.1)	2.60 (66.0)	1 3/4 - 18 UNS	2.250 (57.2)	2.125 (54.0)	1.85 (47.0)	
64	2	2.375 (60.3)	2.000 (50.8)	2.89 (73.4)	2 1/4 - 16 UN	2.500 (63.5)	2.500 (63.5)	1.85 (47.0)	

713-100 Metal Straight, 45°, and 90° Connector Adapters for use with Transition Fittings

Circular connector adapter, non-self-locking with environmental O-Ring for use with transition fittings



How To Order



Material and Finish

- Adapters, Coupling Nuts and Elbows - Table II (See P/N development)
- O-Ring - Silicone/N.A.

Notes

- Interface O-Ring not applicable to connector designator A.

713-100

Metal Straight, 45°, and 90° Connector Adapters for use with Transition Fittings



Shell Size		Max Dash No. Ref**	D Max	E Max	F Max	G Max
A, D, E, F, J, K, L, S	H					
08	09	08	.531 (13.5)	.781 (19.8)	.437 (11.1)	.625 (15.9)
10	11	12	.625 (15.9)	.906 (23.0)	.500 (12.7)	.656 (16.7)
12	13	16	.688 (17.5)	.906 (23.0)	.500 (12.7)	.719 (18.3)
14	15	20	.719 (18.3)	1.000 (25.4)	.562 (14.3)	.781 (19.8)
16	17	24	.906 (23.0)	1.062 (27.0)	.656 (16.7)	.844 (21.4)
18	19	24	.968 (24.6)	1.062 (27.0)	.656 (16.7)	.844 (21.4)
20	21	32	1.031 (26.2)	1.093 (27.8)	.719 (18.3)	.844 (21.4)
22	23	32	1.156 (29.4)	1.156 (29.4)	.812 (20.6)	.906 (23.0)
28	25	40	1.219 (31.0)	1.281 (32.5)	.812 (20.6)	.906 (23.0)
24	-	40	1.281 (32.5)	1.531 (38.9)	1.093 (27.8)	.906 (23.0)
32	-	48	1.593 (40.5)	1.719 (43.7)	1.093 (27.8)	1.219 (31.0)
36	-	64	1.718 (43.6)	1.906 (48.4)	1.156 (29.4)	1.281 (32.5)

** Dimensions D-E-F-G apply to connector Shell Size and Conduit Dash No. combinations listed.
When larger Conduit Dash Numbers are selected, consult factory for dimensions.

Dash No.	Conduit Size (Ref)			H Thread Class 2A	Ø J ± .015 (.4)
	72	74	75		
06	06	06	-	7/16 - 28 UNEF	.193 (4.9)
08	-	-	08	1/2 - 20 UNF	.255 (6.5)
09	09	09	09	9/16 - 24 UNEF	.286 (7.3)
10	-	10	-	9/16 - 24 UNEF	.317 (8.1)
12	12	12	12	5/8 - 24 UNEF	.380 (9.7)
14	14	14	-	11/16 - 24 UNEF	.442 (11.2)
16	16	16	16	3/4 - 20 UNEF	.505 (12.8)
20	20	20	20	7/8 - 20 UNEF	.630 (16.0)
24	24	24	24	1 - 20 UNEF	.755 (19.2)
28	28	28	-	1 3/16 - 18 UNEF	.880 (22.4)
32	32	32	32	1 5/16 - 18 UNEF	1.005 (25.5)
40	40	40	40	1 1/2 - 18 UNEF	1.255 (31.9)
48	48	48	48	1 3/4 - 18 UNS	1.505 (38.2)
56	-	56	56	2 - 18 UNS	1.755 (44.6)
64	-	64	64	2 1/4 - 16 UN	2.005 (50.9)
80	-	-	80	2 3/4 - 16 UN	2.505 (63.6)

*** Consult factory for adapters using 3.000 inch (76.2) conduit

Sym	Finish
B	Olive Drab over Cadmium Plate
J	Gold Iridite over Cadmium Plate over Nickel
M	Electroless Nickel
N	Olive Drab over Cadmium Plate over Nickel
NC	Zinc Cobalt, Olive Drab
NF	Olive Drab over Cadmium Plate over Electroless Nickel (1000 Hour salt Spray)
T	Bright Dip Cadmium over Nickel
Z1	Passivate





710-106/107/370 and 710-108/109/371 Metal "Y" and "T" Transitions for Series 72 & 74 Tubing and Series 75 Conduit

Metal "T" & "Y" Transitions for use with Transition Fittings



How To Order

Product Series

710

Finish
(Table II)

M

"B" End Dash No.

A24

B08

C16

Y Transition Material

106 = Aluminum
107 = Brass
370 = Stainless Steel

T Transition Material

108 = Aluminum
109 = Brass
371 = Stainless Steel

"A" End Dash No.

"C" End Dash No.

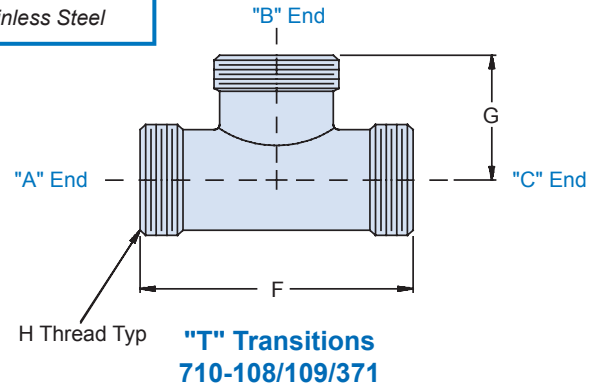
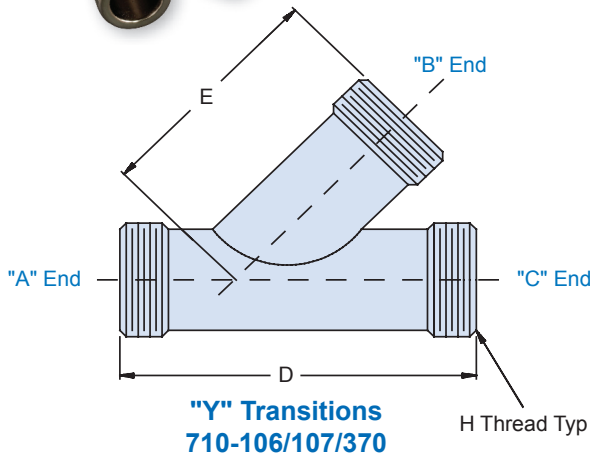


Table II: Finish

Sym	Finish
B	Olive Drab over Cadmium Plate
J	Gold Iridite over Cadmium Plate over Nickel
M	Electroless Nickel
N	Olive Drab over Cadmium Plate over Nickel
NC	Zinc Cobalt, Olive Drab
NF	Olive Drab over Cadmium Plate over Electroless Nickel (1000 Hour salt Spray)
T	Bright Dip Cadmium over Nickel
Z1	Passivate

Table III: Conduit Dash No./Dimensions

Dash No.	Conduit Size (Ref)			H Thread Class 2A	D Max	E Max	F Max	G Max
	72	74	75					
06	06	06	-	7/16 - 28 UNEF	1.97 (50.0)	1.20 (30.5)	1.33 (33.8)	.81 (20.6)
08	-	-	08	1/2 - 20 UNF	1.97 (50.0)	1.20 (30.5)	1.35 (34.3)	.84 (21.3)
09	09	09	09	9/16 - 24 UNEF	2.13 (54.1)	1.30 (33.0)	1.43 (36.3)	.88 (22.4)
10	-	10	-	9/16 - 24 UNEF	2.13 (54.1)	1.30 (33.0)	1.43 (36.3)	.88 (22.4)
12	12	12	12	5/8 - 24 UNEF	2.22 (56.4)	1.34 (34.0)	1.47 (37.3)	.91 (23.1)
14	14	14	-	11/16 - 24 UNEF	2.37 (60.2)	1.49 (37.8)	1.58 (40.1)	.94 (23.9)
16	16	16	16	3/4 - 20 UNEF	2.37 (60.2)	1.49 (37.8)	1.65 (41.9)	.94 (23.9)
20	20	20	20	7/8 - 20 UNEF	2.69 (68.3)	1.70 (43.2)	1.78 (45.2)	1.03 (26.2)
24	24	24	24	1 - 20 UNEF	2.75 (69.9)	1.84 (46.7)	1.85 (47.0)	1.13 (28.7)
28	28	28	-	1 3/16 - 18 UNEF	3.06 (77.7)	2.09 (53.1)	2.09 (53.1)	1.16 (29.5)
32	32	32	32	1 5/16 - 18 UNEF	3.28 (83.3)	2.23 (56.6)	2.43 (61.7)	1.16 (29.5)
40	40	40	40	1 1/2 - 18 UNEF	3.59 (91.2)	2.50 (63.5)	2.65 (67.3)	1.28 (32.5)
48	48	48	48	1 3/4 - 18 UNS	4.23 (107.4)	2.96 (75.2)	3.15 (80.0)	1.53 (38.9)
56	-	56	56	2 - 18 UNS	5.00 (127.0)	3.50 (88.9)	3.40 (86.4)	1.69 (42.9)
64	-	64	64	2 1/4 - 16 UN	5.00 (127.0)	3.50 (88.9)	3.75 (95.3)	1.87 (47.5)
80	-	-	80	2 3/4 - 16 UN	5.70 (144.8)	4.10 (104.1)	4.25 (108.0)	2.13 (54.1)

* Consult factory for adapters using 3.000 inch (76.2) conduit

710-077
Metal Multi-Branch Transitions
 for Series 72 & 74 Tubing and Series 75 Conduit



Metal Multi-Branch Transitions for use with Transition Fittings



How To Order

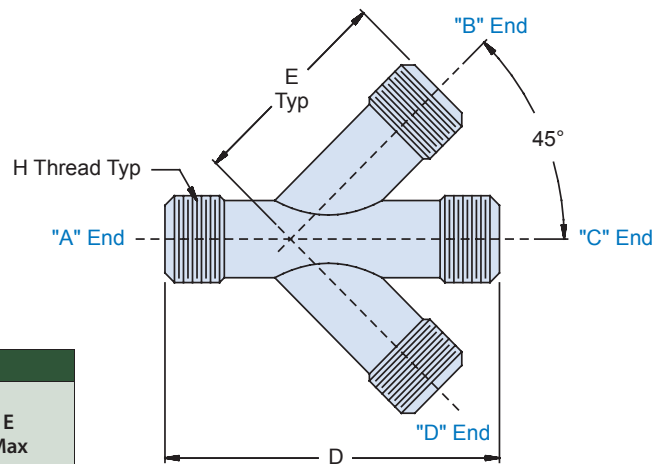
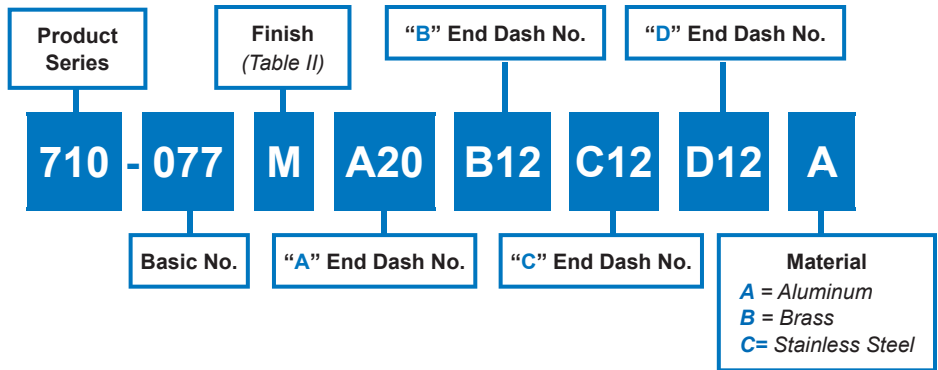


Table III: Conduit Dash No./Dimensions

Dash No.	Conduit Size (Ref)			H Thread Class 2A	D Max	E Max
	72	74	75			
06	06	06	-	7/16 - 28 UNEF	1.97 (50.0)	1.20 (30.5)
08	-	-	08	1/2 - 20 UNF	1.97 (50.0)	1.20 (30.5)
09	09	09	09	9/16 - 24 UNEF	2.13 (54.1)	1.30 (33.0)
10	-	10	-	9/16 - 24 UNEF	2.13 (54.1)	1.30 (33.0)
12	12	12	12	5/8 - 24 UNEF	2.22 (56.4)	1.34 (34.0)
14	14	14	-	11/16 - 24 UNEF	2.37 (60.2)	1.49 (37.8)
16	16	16	16	3/4 - 20 UNEF	2.37 (60.2)	1.49 (37.8)
20	20	20	20	7/8 - 20 UNEF	2.69 (68.3)	1.70 (43.2)
24	24	24	24	1 - 20 UNEF	2.75 (69.9)	1.84 (46.7)
28	28	28	-	1 3/16 - 18 UNEF	3.06 (77.7)	2.09 (53.1)
32	32	32	32	1 5/16 - 18 UNEF	3.28 (83.3)	2.23 (56.6)
40	40	40	40	1 1/2 - 18 UNEF	3.59 (91.2)	2.50 (63.5)
48	48	48	48	1 3/4 - 18 UNS	4.23 (107.4)	2.96 (75.2)
56	-	56	56	2 - 18 UNS	5.00 (127.0)	3.50 (88.9)
64	-	64	64	2 1/4 - 16 UN	5.00 (127.0)	3.50 (88.9)
80	-	-	80	2 3/4 - 16 UN	5.70 (144.8)	4.10 (104.1)

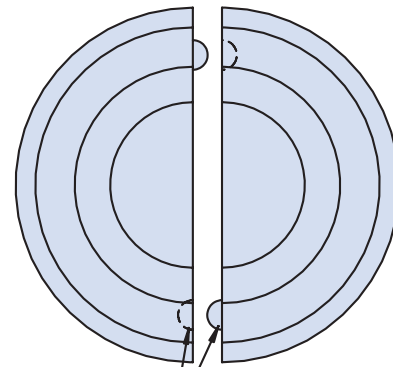
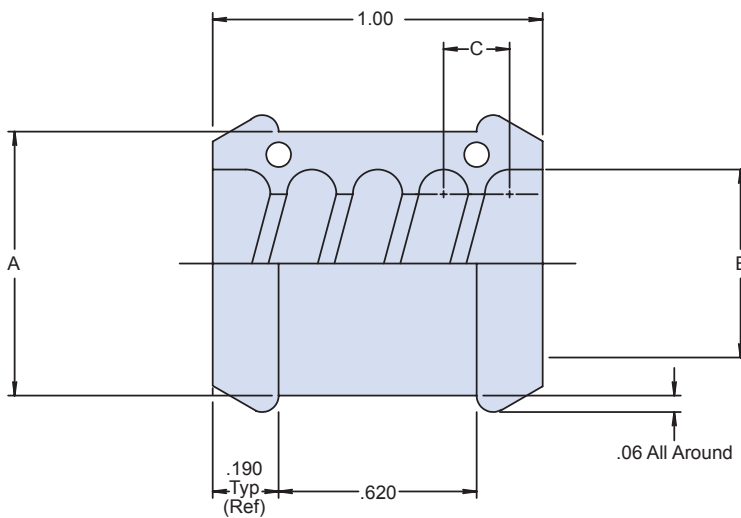
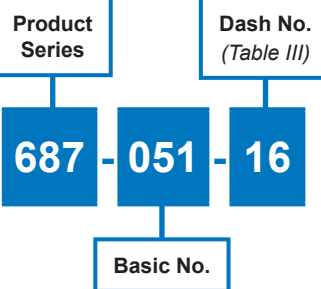
* Consult factory for adapters using 3.000 inch (76.2) conduit

Table II: Finish

Sym	Finish
B	Olive Drab over Cadmium Plate
J	Gold Iridite over Cadmium Plate over Nickel
M	Electroless Nickel
N	Olive Drab over Cadmium Plate over Nickel
NC	Zinc Cobalt, Olive Drab
NF	Olive Drab over Cadmium Plate over Electroless Nickel (1000 Hour salt Spray)
T	Bright Dip Cadmium over Nickel
Z1	Passivate



Split bushing for series 74 Helical Conduit

How To Order


Pin/Socket for Snap Assembly

Table III: Dimensions

Dash No.	A Ref	B Min	C Ref	Tube Size Ref
06	.450 (11.4)	.330 (8.42)	.100 (2.54)	3/16
09	.560 (14.2)	.439 (11.2)	.100 (2.54)	9/32
10	.580 (14.7)	.460 (11.7)	.100 (2.54)	5/16
12	.640 (16.3)	.517 (13.1)	.100 (2.54)	3/8
14	.700 (17.8)	.585 (14.9)	.100 (2.54)	7/16
16	.780 (19.8)	.660 (16.8)	.111 (2.82)	1/2
20	.900 (22.9)	.780 (19.8)	.111 (2.82)	5/8
24	1.06 (26.9)	.940 (23.9)	.125 (3.18)	3/4
28	1.20 (30.5)	1.085 (27.6)	.142 (3.61)	7/8
32	1.35 (34.3)	1.225 (31.1)	.142 (3.61)	1
40	1.73 (43.9)	1.640 (41.7)	.166 (4.22)	1 1/4

Material/Finish

Bushing: Kynar per ASTM-D-3222/N.A.

Notes

- Assembly to be tagged and bagged.
- Bushing designed to mate with MIL-T-81914/5-11** Tubing.
- Bushing may be suitable for use with other Slash Sheets at user's discretion.
- Not for use with PEEK convoluted tubing.

G70685
Split Bushing with Pin/Socket Snap Assembly
 for Protection of Tie-Down Points for Series 72 Annular Conduit



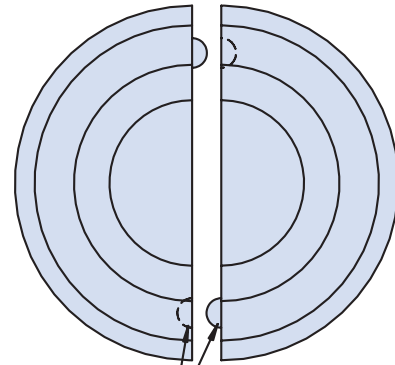
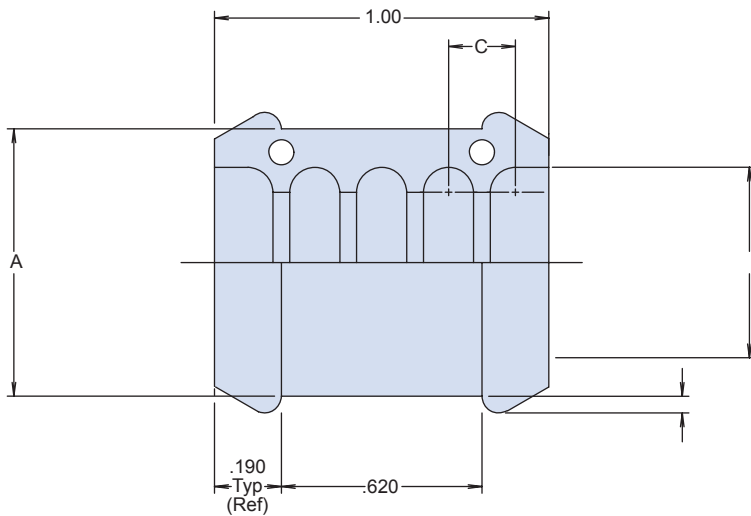
Split bushing for series 72 Annular Conduit

How To Order

Basic
No.

Dash No.
(Table III)

G70685 - 16



Pin/Socket for Snap Assembly

Table III: Dimensions

Dash No.	A Ref	B Min	C Ref
09	0.55 (14.0)	0.425 (10.8)	0.150 (3.8)
12	0.65 (16.5)	0.525 (13.3)	0.155 (3.9)
14	0.73 (18.5)	0.605 (15.4)	0.175 (4.4)
16	0.80 (20.3)	0.670 (17.0)	0.175 (4.4)
20	0.92 (23.4)	0.790 (20.1)	0.175 (4.4)
24	1.08 (27.4)	0.950 (24.1)	0.175 (4.4)
28	1.21 (30.7)	1.085 (27.6)	0.175 (4.4)
32	1.33 (33.8)	1.205 (30.6)	0.175 (4.4)
40	1.57 (39.9)	1.445 (36.7)	0.175 (4.4)
52	1.98 (50.3)	1.855 (47.1)	0.175 (4.4)

Material/Finish

Bushing: Kynar per ASTM-D-3222/N.A.

SERIES 72, 74 & 75

SPECIAL PURPOSE CONDUIT

MATERIALS, BACKSHELLS AND FITTINGS



Certain application environments, such as commercial aircraft, vehicles and transit systems require unique or special purpose materials to be used in all wire-protection interconnect systems. The use of low-smoke zero-halogen materials, for example, is a common requirement in transportation systems. This section of the Glenair high performance conduit catalog presents a selection of just some of the special purpose core materials and fitting designs available from Glenair. These products are generally not compatible or intermateable with the tubing and fittings found in the other sections of this book. However, if there is a particular functional design that is of interest, Glenair is certainly able to produce the part for use with our standard Series 74 and Series 75 materials. Please consult the factory for additional information.



Special Purpose Backshells for Fiber Optics and Other Unique Applications

High Temperature Halogen-Free PEEK Polyetheretherketone is the only halogen free plastic tubing material supplied by Glenair. It is extremely light weight and crush resistant. The material is tough under an extreme range of conditions. PEEK far outperforms other plastics in its tolerance to high temperatures, and has a V-O flammability rating down to 0.057 inches without the use of additives. PEEK combines strength, toughness, chemical resistance, purity, wear resistance, and USP Class VI biocompatibility. The material maintains its properties under sustained pressure, elevated temperatures and most chemical environments. The mechanical and high temperature properties of this material make processing and manufacturing of PEEK tubing more costly than other polymers, but the weight savings, crush resistance, and zero halogen properties make it a worthwhile addition to many applications.

Fiber Optic Backshells The use of glass fiber media in interconnect systems calls for special purpose backshells and other accessories. Axial alignment of fiber media and termini, as well as the need to control micro bending in optical cabling has led to the development of a very specialized range of conduit-to-fiber optic-connector backshells, a small selection of which are presented in this chapter of the catalog.



Special Purpose PEEK Convoluted Tubing, pages F-4 – F-5



PEEK Convoluted Tubing Backshells for MIL-DTL-38999 Connectors, pages F-6 – F-9



MIL-PRF-28876 Fiber Optic Backshells, pages F-10 – F-13

Part No.	Description	Page No.
	Special Purpose Polymer and Metal-Core Material Types and Configurations	F-2 – F-3
PEEK Convoluted Tubing		
120-108	Standard Diameter PEEK Convoluted Tubing	F-4
120-132	Ultra Small Diameter PEEK Convoluted Tubing	F-5
Convoluted Tubing Backshells for Fiber Optic Applications		
712-416	PEEK Convoluted Tubing-to-Connector Backshell for Light Duty Applications	F-6
377-014	MIL-DTL-38999 Composite Fiber Optic Backshell with Grommet	F-8
MIL-PRF-28876 Fiber Optic Backshells		
189-014	Metal MIL-PRF-28876 Fiber Optic Backshell With Compression Nut, Straight	F-10
189-021	Metal MIL-PRF-28876 Fiber Optic Backshell With Compression Nut, 90° and 45°	F-12
Other Special Purpose Backshells and Systems		
189 M*052	Series 80 Mighty Mouse fiber optic backshell	F-14
	Series 72 Guardian System overview	F-16

Glenair produces the industry's broadest range of polymer-core tubing and flexible metal conduit and fittings. Here we present additional options not yet addressed in this catalog. Glenair's conduit engineers can design and create numerous conduit configurations to meet the toughest interconnect challenges.

SPECIAL PURPOSE

POLYMER AND METAL-CORE MATERIAL TYPES AND CONFIGURATIONS

Wire-reinforced convoluted polymer-core tubing



Reference Part No.

(Consult factory for additional materials and configurations)

127 - 009

Many customers prefer to use lightweight, flexible polymer-core tubing for their wire-routing application, but want to add crush strength similar to that found in metal-core conduit. Glenair has developed a unique configuration where helical polymer-core tubing is reinforced with a stainless steel wire, adding at least 200 lbs. crush strength while maintaining the lightweight, chemical-resistant and environmental protection properties of polymer core tubing. Wire-reinforced tubing can be braided for EMI/RFI shielding, and jacketed for environmental protection.

Convoluted polymer-core tubing with drain holes



Reference Part No.

(Consult factory for additional materials and configurations)

120 - 143

For aerospace applications where altitude changes can cause moisture condensation within conduit, Glenair produces convoluted polymer-core tubing with drain holes. All major aircraft OEM hole patterns are on file, contact the factory for details on specific configurations.

F

Slit polymer core tubing

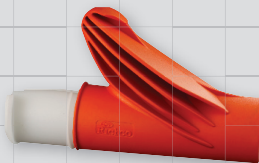


Reference Part No.

(Consult factory for additional materials and configurations)

120 - 144

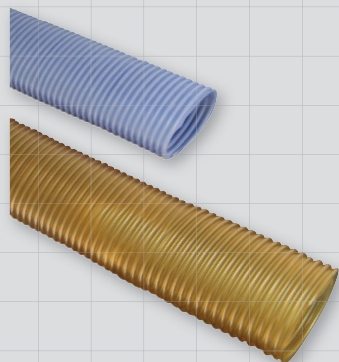
Any of Glenair's regular bulk helical or annular polymer-core tubings can be provided slit, for on-site installation or addition of wires in open wire loom applications. Use the Wire Loom Tool for easy wire insertion: simply gather the wires into the tool, insert into the slit conduit, and run the tool through the tubing.



Wire Loom Tool

Part Number	Max Bundle Dia.
600-180-08	3/8 in (8mm)
600-180-15	5/8 in (15mm)
600-180-20	3/4 in (20mm)
600-180-25	1 in (25 mm)
600-180-32	1 1/4 in (32mm)

Oval polymer core annular tubing



Reference Part No.
(Consult factory for additional materials and configurations)

120 - 140 - 40

For specialized wire routing applications, Glenair can fabricate annular tubing with an oval shaped profile. In-house manufacturing allows us to design and fabricate non-standard shapes.

"No-Hal" halogen free flexible helical PEEK tubing assembly

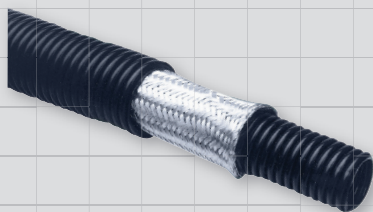


Reference Part No.
(Consult factory for additional materials and configurations)

127 - 130

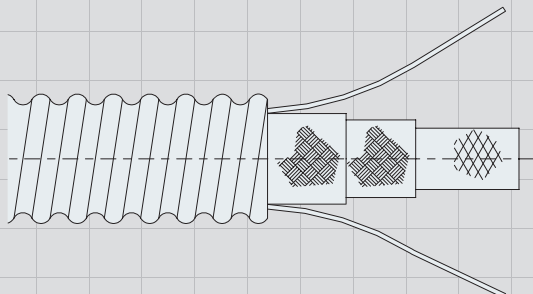
The Glenair "No Hal" tubing assembly is designed for applications where RoHS compliance or other environmental standards mandate a halogen-free configuration. Halogen-free PEEK tubing (with optional stainless steel wire reinforcement for crush strength) is combined with Glenair halogen-free Duralectric™ jacketing material. Add an optional braided shield for EMI/RFI protection.

Dual-core tubing



In applications where helical convoluted tubing needs to perform in harsh chemical environments, and weight savings is a concern, dual-core conduit is the answer. Glenair Series 74 polymer-core tubing materials are chemical- and UV resistant, and protecting the outside of tubing with a second layer of polymer tubing can save weight over standard jacketing. Consult the factory for polymer core and braided shield material options.

Polymer-core tubing with pre-installed lanyards or stress members



Glenair can supply lengths of polymer-core tubing with pre-installed mule tape lanyards to make on-site installation of wire bundles through tubing easier. Polymer tubing can also be supplied with stress members in Nomex, Kevlar, or CRES stainless steel to provide conduit with enhanced pull strength and stress resistance.



120-108
Standard Diameter
PEEK Helical Convolute Tubing
for Fiber Optic applications

Standard diameter low-smoke, zero-halogen tubing with outstanding crush resistance

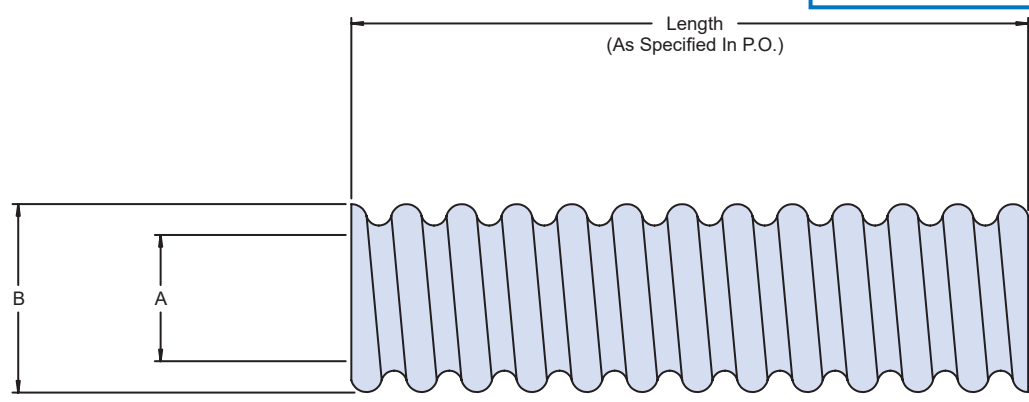
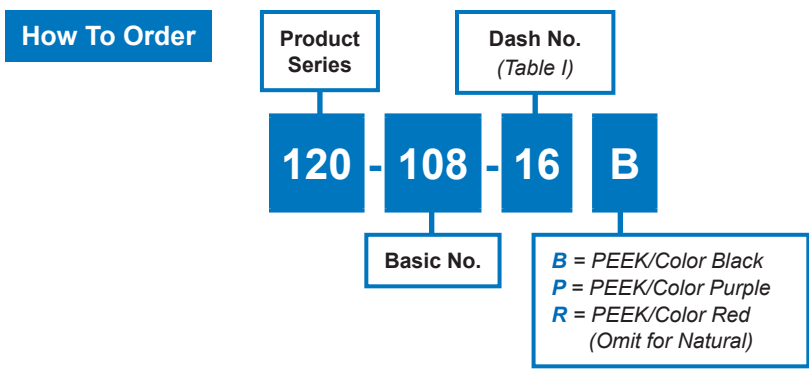


Table I				
Tubing Size	Fractional Size Ref	A Inside Dia		B Dia Max
		Min	Nom	
06	3/16	.181 (4.6)	.187 (4.7)	.307 (7.8)
09	9/32	.273 (6.9)	.281 (7.1)	.405 (1.3)
10	5/16	.300 (7.6)	.312 (7.9)	.440 (11.2)
12	3/8	.364 (9.2)	.375 (9.5)	.500 (12.7)
16	1/2	.485 (12.3)	.500 (12.7)	.630 (16.0)
20	5/8	.608 (15.4)	.625 (15.9)	.750 (19.1)
24	3/4	.730 (18.5)	.750 (19.1)	.890 (22.6)
28	7/8	.855 (21.7)	.875 (22.2)	1.060 (26.9)
32	1	.980 (24.9)	1.000 (25.4)	1.195 (3.4)
40	1 1/4	1.220 (31.0)	1.250 (31.8)	1.500 (38.1)
48	1 1/2	1.480 (37.6)	1.500 (38.1)	1.780 (45.2)
56	1 3/4	1.735 (44.1)	1.750 (44.5)	2.020 (51.3)
64	2	1.980 (5.3)	2.000 (5.8)	2.280 (57.9)

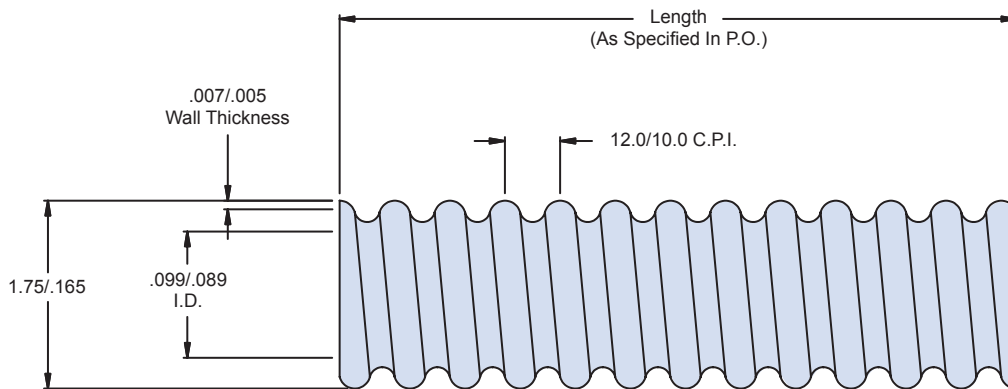
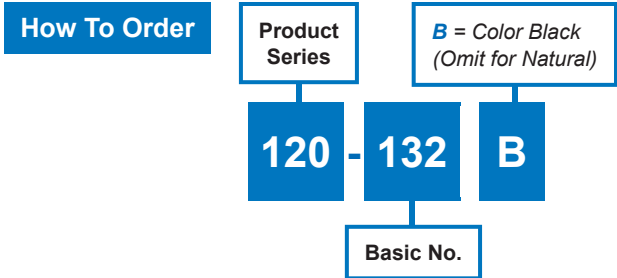
Packaging / Notes

- Packages and Spools identified with manufacturer's name and P/N. Unless otherwise specified, Conduit will be shipped per standard package. Length to be as follows: 3/16 to 3/4 I.D.; 80 ft. min. 1 to 2 I.D.; 40 ft. min.

120-132
 Ultra Small Diameter
 PEEK Helical Convolute Tubing
 for Fiber Optic applications

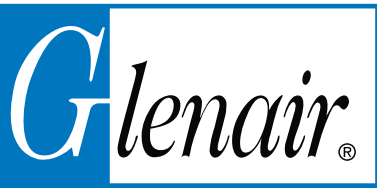


Low-smoke, zero-halogen tubing with outstanding crush resistance and special purpose ultra small O.D. and I.D. for fiber optic applications



Packaging / Notes

- Packages and Spools identified with manufacturer's name and P/N.
- Unless otherwise specified, Conduit will be shipped per standard package. Minimum length supplied will be 10 feet (3 m), with a maximum length of four lengths per package.

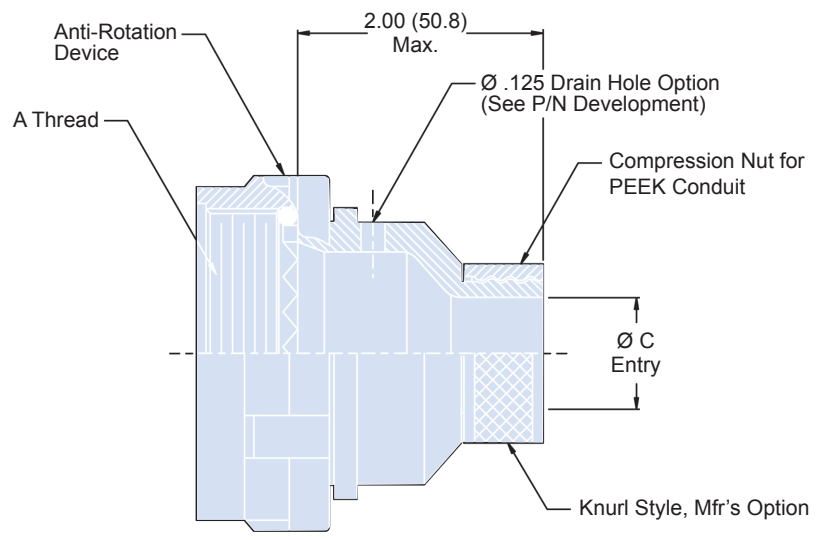
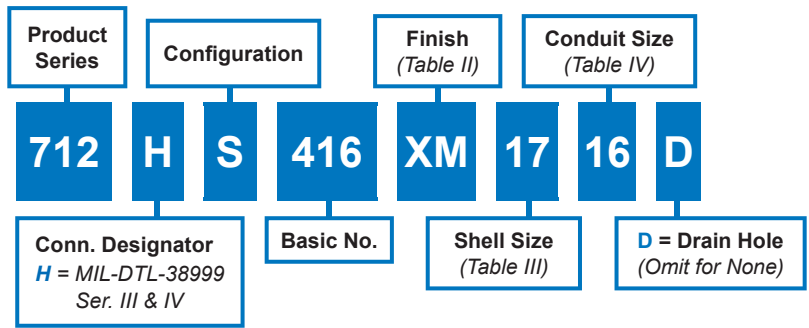


712-416
PEEK Convuluted Tubing-to-Connector Backshell
for MIL-DTL-38999 Series III & IV, Composite

Composite PEEK convuluted tubing-to-connector backshell with compression nut for easy termination of PEEK conduit. For MIL-DTL-38999 Series III & IV connectors only



How To Order



F

Material and Finish

- Adapter, Coupling and Compression Nut: High-Grade Engineering Thermoplastic
- O-Ring: Fluorosilicone
- Anti-Rotation Device: Corrosion Resistant Material
- Unless otherwise specified, the Backshell Body to be supplied finished per Table II - all other components to be supplied without plating.

712-416
**PEEK Convuluted Tubing-to-Connector Backshell
 for MIL-DTL-38999 Series III & IV, Composite**



Table II: Finish

SYM	Finish Description
XM	Electroless Nickel
XW	Cadmium O.D. Over Electroless Nickel
XB	No Plating-Black
XO	No Plating-Natural

Table III: Shell Size

Shell Size	A Thread ISO Metric	Ø B Dim.
11	M15 x 1 - 6H	.98 (24.0)
13	M18 x 1 - 6H	1.16 (28.4)
15	M22 x 1 - 6H	1.28 (32.5)
17	M25 x 1 - 6H	1.41 (35.8)
19	M28 x 1 - 6H	1.52 (38.6)
21	M31 x 1 - 6H	1.64 (41.7)
23	M34 x 1 - 6H	1.77 (43.4)
25	M37 x 1 - 6H	1.89 (48.0)

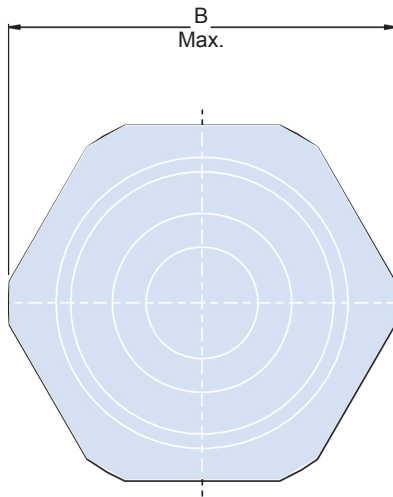


Table IV: PEEK Conduit Size

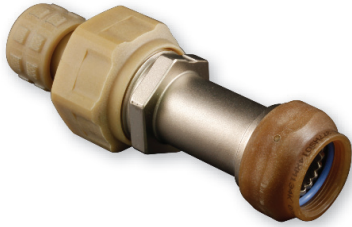
Dash No.	Fractional Size	Ø C Dim. Entry
06	3/16	.100 (2.5)
09	9/32	.171 (4.2)
10	5/16	.200 (5.8)
12	3/8	.265 (6.7)
16	1/2	.390 (9.6)
20	5/8	.515 (12.6)
24	3/4	.640 (15.7)
28	7/8	.765 (18.7)
32	1	.890 (21.8)



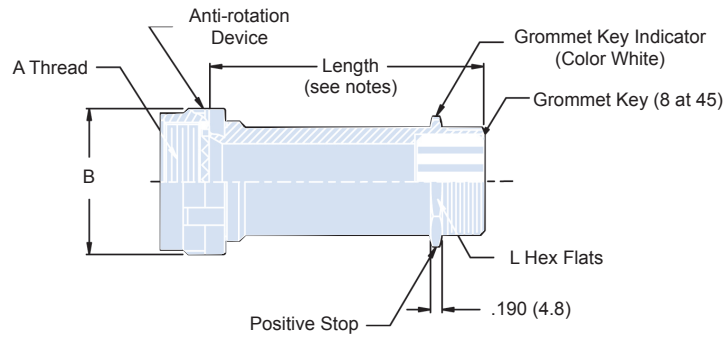
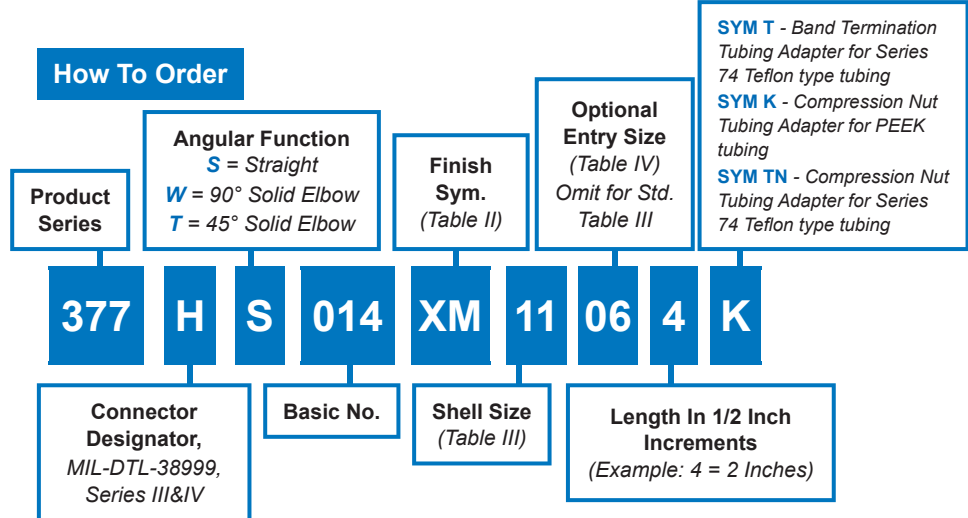
377-014

**Convoluted Tubing-to-Connector Backshell
for Fiber Optic MIL-DTL-38999 Series III & IV Connectors**

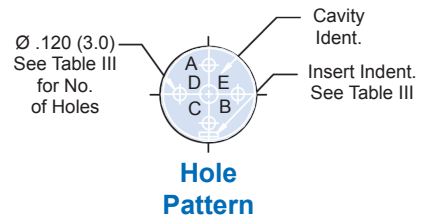
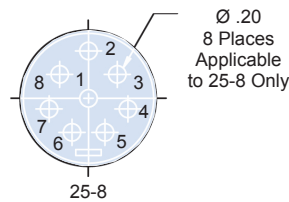
Convoluted tubing-to-connector backshell, fiber optic, composite with grommet



How To Order



Sym S - Straight



Material and Finish

- Adapters, Elbows, Coupling Nut, Nut: Hi-grade engineering thermoplastic/see table II
- Grommet, O-Ring: Fluorosilicone/N.A.
- Anti-Rotation Device: Corrosion resistant material/N.A.

Notes

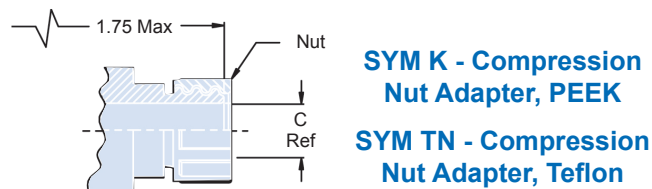
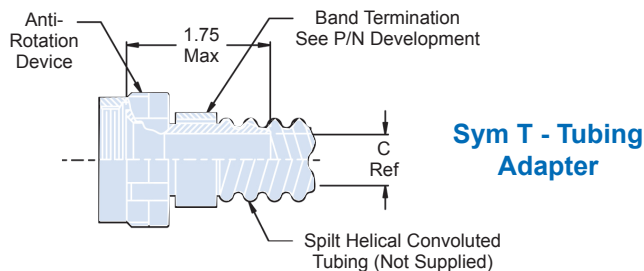
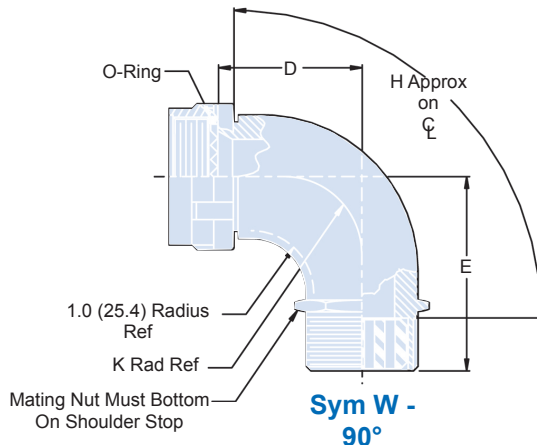
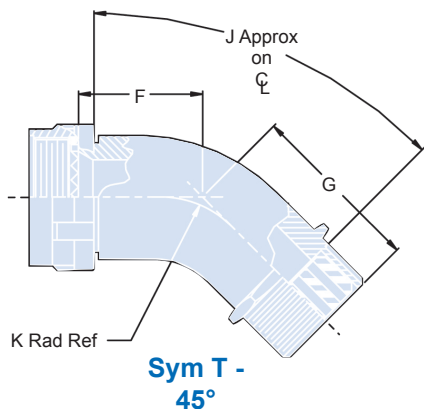
- Standard minimum length: 1.5 inches, for shorter length consult factory.
- For Sealing Plugs, see Glenair drawing 687-142.

377-014

**Convolved Tubing-to-Connector Backshell
for Fiber Optic MIL-DTL-38999 Series III & IV Connectors**



Special Applications



Shell Size	A Thread Iso Metric	B Max	Tubing Size	D Max	E Max	F Max	G Max	H Approx	J Radius	K Radius	L Flats	Insert Indent	Hole Count
11	M15 X 1 - 6H	1.00 (25.4)	3/8	1.78 (45.2)	1.93 (49.0)	1.33 (33.8)	1.56 (39.6)	2.23 (56.6)	2.09 (53.1)	1.20 (30.5)	.938 (23.8)	11-2	2
13	M18 X 1 - 6H	1.12 (28.4)	7/16	1.84 (46.7)	1.98 (50.3)	1.39 (35.3)	1.62 (41.1)	2.28 (57.9)	2.21 (56.1)	1.26 (32.0)	.938 (23.8)	13-4	4
15	M22 X 1 - 6H	1.25 (31.8)	1/2	1.90 (48.3)	2.08 (52.8)	1.45 (36.8)	1.68 (42.7)	2.45 (62.2)	2.33 (59.2)	1.32 (33.5)	.938 (23.8)	15-5	5
17	M25 X 1 - 6H	1.38 (35.1)	5/8	1.97 (50.0)	2.14 (54.4)	1.51 (38.4)	1.74 (44.2)	2.47 (62.7)	2.44 (62.0)	1.38 (35.1)	1.250 (31.8)	17-8	8
19	M28 X 1 - 6H	1.50 (38.1)	3/4	2.11 (53.6)	2.18 (55.4)	1.54 (39.1)	1.77 (45.0)	2.54 (64.5)	2.50 (63.5)	1.43 (36.3)	1.250 (31.8)	19-11	11
21	M31 X 1 - 6H	1.62 (41.0)	7/8	2.07 (52.6)	2.25 (57.2)	1.61 (40.9)	1.84 (46.7)	2.64 (67.1)	2.64 (67.1)	1.49 (37.8)	1.500 (38.1)	21-16	16
23	M34 X 1 - 6H	1.75 (44.5)	1	2.14 (54.4)	2.31 (58.7)	1.67 (42.4)	1.89 (48.0)	2.76 (70.1)	2.75 (69.9)	1.55 (39.4)	1.500 (38.1)	23-21	21
25	M37 X 1 - 6H	1.88 (47.8)	1	2.19 (55.6)	2.19 (55.6)	1.73 (43.9)	1.96 (49.8)	2.84 (72.1)	2.87 (72.9)	1.62 (41.1)	1.812 (46.0)	25-29	29
25-8	M37 X 1 - 6H	1.88 (47.8)	1 1/4	2.19 (55.6)	2.19 (55.6)	1.73 (43.9)	1.96 (49.8)	2.84 (72.1)	2.87 (72.9)	1.62 (41.1)	1.812 (46.0)	25-8	8
25-37	M37 X 1 - 6H	1.88 (47.8)	1 1/4	2.19 (55.6)	2.19 (55.6)	1.73 (43.9)	1.96 (49.8)	2.84 (72.1)	2.87 (72.9)	1.62 (41.1)	1.812 (46.0)	25-37	37

Entry Size	C Ref Sym T & TN	C Ref Sym K	Optional Conduit Size Ref.
03	.219 (5.6)	.188 (4.8)	9/32
04	.236 (6.0)	-	5/32
05	.250 (6.4)	.265 (6.7)	3/8
06	.338 (8.6)	.330 (8.4)	7/16
07	.398 (10.0)	.390 (9.9)	1/2
08	.523 (13.2)	.515 (13.1)	5/8
10	.648 (16.4)	.640 (16.3)	3/4
11	.648 (16.4)	.640 (16.3)	3/4
13	.778 (19.6)	.765 (19.4)	7/8
15	.875 (22.7)	.890 (22.6)	1
17	1.078 (28.0)	1.125 (28.6)	1 1/4

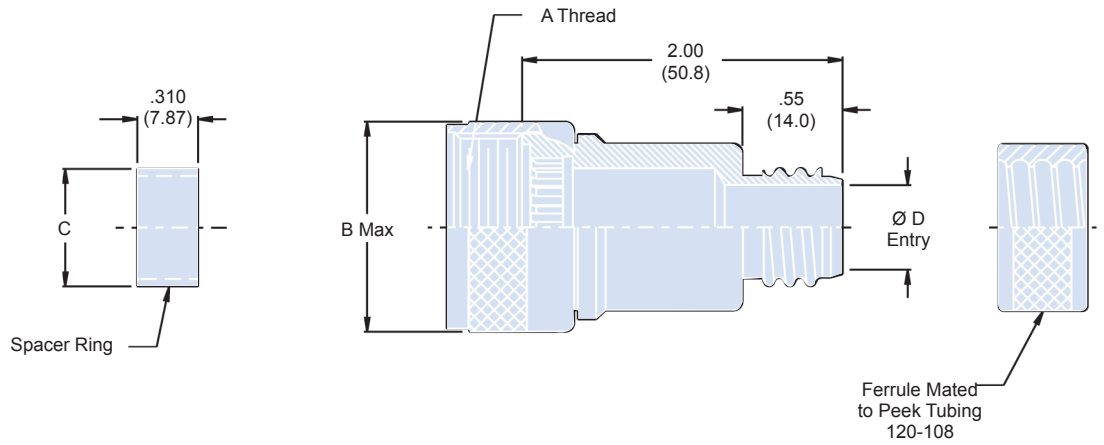
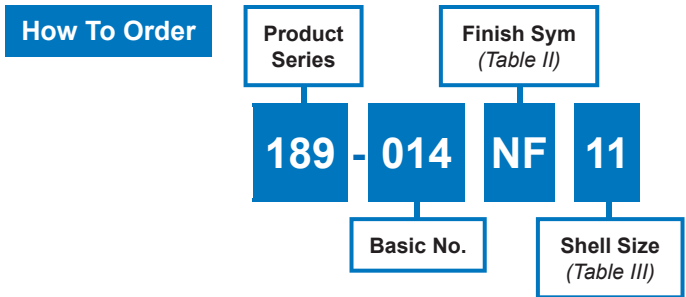
Sym	Finish Description
-	Dash (-) For No Plating
XB	No Plating - Black Color
XM	Electroless Nickel Backshell No Plating Supplied On Coupling Nut Or Rear Entry Components - Amber Color
XW	Cadmium Olive Drab Over Electroless Nickel Backshell - No Plating Supplied on Coupling Nut or Rear Entry Components - Amber Color
XMT	Copper Flash - GPS52-XMT (JCP-3)

F



189-014
Straight Backshell for PEEK Convulated Tubing
 to be used with MIL-PRF-28876 Fiber Optic Connectors

MIL-PRF-28876 fiber optic backshell, straight, with compression nut for easy termination of PEEK convoluted tubing



F

Material/Finish

- Adapter, Coupling Nut, Ferrule and Spacer Ring: See Table II

Notes

- Spacer Ring is packaged loose and must be installed with Connector at time of assembly to retain Terminus Insert.
- For 45° or 90° Backshell option, see Glenair drawing 189-021

189-014

**Straight Backshell for PEEK Convuluted Tubing
to be used with MIL-PRF-28876 Fiber Optic Connectors**



Special
Applications

Table III: Shell Size/Dimensions/Conduit Size

Shell Size	Designator (Ref)	A Thread Class 2B	Ø B Max	Ø C Max	Ø D Entry	PEEK Conduit Size	
						Frac. Size	Dash No.
11	A	3/4-20 UNEF	.960 (24.4)	.410 (10.4)	.390 (9.91)	1/2	16
13	B	7/8-20 UNEF	1.085 (27.6)	.532 (13.5)	.390 (9.91)	1/2	16
15	C	1-20 UNEF	1.255 (31.9)	.710 (18.0)	.390 (9.91)	1/2	16
23	F	1 7/16-18 UNEF	1.695 (43.1)	1.116 (28.3)	.890 (22.6)	1	32

Table II: Material/Finish

Class	Shell Material	Finish Description
B	AL Alloy	Cadmium Plate/Olive Drab
J		Gold Iridite over Cadmium Plate over Nickel
M		Electroless Nickel
N		Cadmium Plate/Olive Drab over Nickel
NF		Cadmium/Olive Drab over Electroless Nickel (1000 Hours Salt Spray)
T		Cadmium Plate/Bright Dip over Nickel
ZL	CRES (SS)	Nickel Plate (Stainless Steel)

F

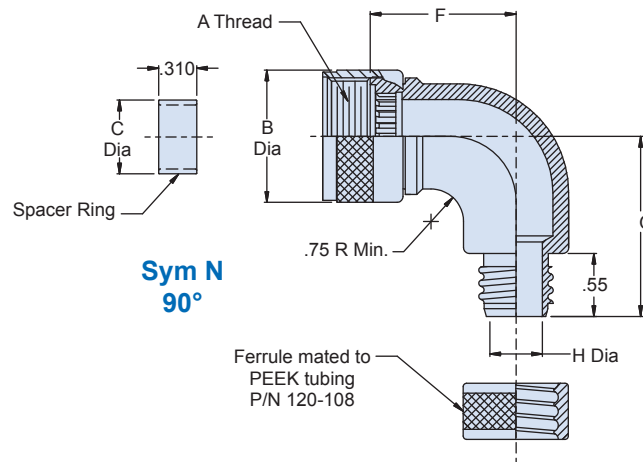
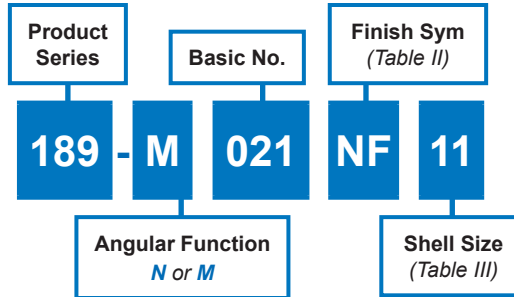


189-021

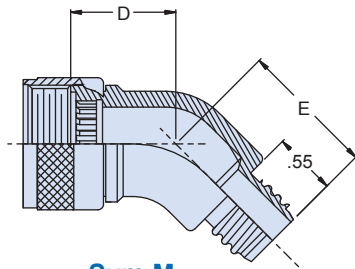
90° and 45° Backshell for PEEK Convulated Tubing to be used with MIL-PRF-28876 Fiber Optic Connectors

MIL-PRF-28876 fiber optic backshell, 90° and 45°, with compression nut for easy termination of PEEK convoluted tubing

How To Order



Sym N
90°



Sym M
45°

F

Material/Finish

- Adapter, Coupling Nut, and Ferrule: See Table II
- Spacer Ring: Al Alloy/Gold Iridite

Notes

- Spacer Ring is packaged loose and must be installed with Connector at time of assembly to retain Terminus Insert.
- For Straight Backshell option, see Glenair drawing 189-014

189-021

90° and 45° Backshell for PEEK Convolute Tubing
to be used with MIL-PRF-28876 Fiber Optic Connectors



Special Applications

Table III: Shell Size/Dimensions/Conduit Size

Shell Size	Designator (Ref)	A Thread Class 2B	Ø B Max	Ø C Max	D Max	E Max	F Max	G Max	H Max	PEEK Conduit Size	
										Frac. Size	Dash No.
11	A	3/4-20 UNEF	.960 (24.4)	.410 (10.4)	0.900 (22.9)	0.950 (24.1)	1.985 (50.4)	2.035 (51.7)	.390 (9.91)	1/2	16
13	B	7/8-20 UNEF	1.085 (27.6)	.532 (13.5)	0.960 (24.4)	1.010 (25.7)	2.110 (53.6)	2.160 (54.9)	.390 (9.91)	1/2	16
15	C	1-20 UNEF	1.255 (31.9)	.710 (18.0)	1.020 (25.9)	1.070 (27.2)	2.115 (53.7)	2.165 (55.0)	.390 (9.91)	1/2	16
23	F	17/16-18 UNEF	1.695 (43.1)	1.116 (28.3)	1.270 (32.3)	1.320 (33.5)	2.485 (63.1)	2.535 (64.4)	.890 (22.6)	1	32

Table II: Material/Finish

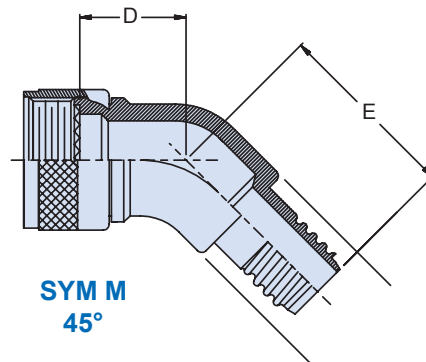
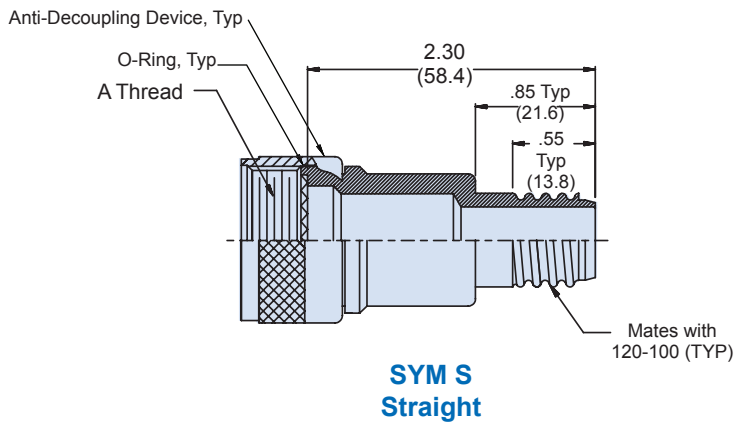
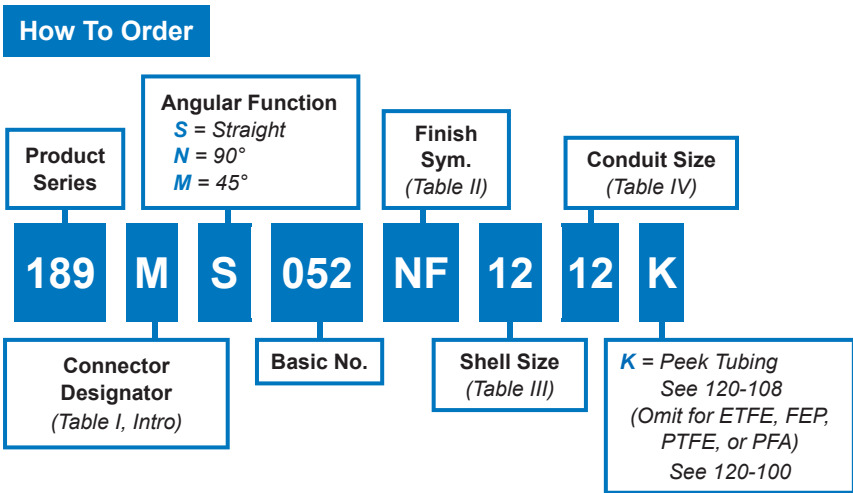
Class	Shell Material	Finish Description
B	AL Alloy	Cadmium Plate/Olive Drab
J		Gold Iridite over Cadmium Plate over Nickel
M		Electroless Nickel
N		Cadmium Plate/Olive Drab over Nickel
NF		Cadmium/Olive Drab over Electroless Nickel (1000 Hours Salt Spray)
T		Cadmium Plate/Bright Dip over Nickel

F



189 M* 052
Convolved Tubing Backshell
 for Series 80 Mighty Mouse Fiber Optic Connectors

Convolved tubing-to-connector fiber optic backshell for Series 80 Mighty Mouse



Material and Finish

- Adapter, Coupling Nut and Ferrule: Al Alloy/see Table II
- O-Ring: Fluorosilicone/N.A.
- Anti-Decoupling Device: Corrosion resistant material/N.A.

189 M* 052
Convolute Tubing Backshell
 for Series 80 Mighty Mouse Fiber Optic Connectors

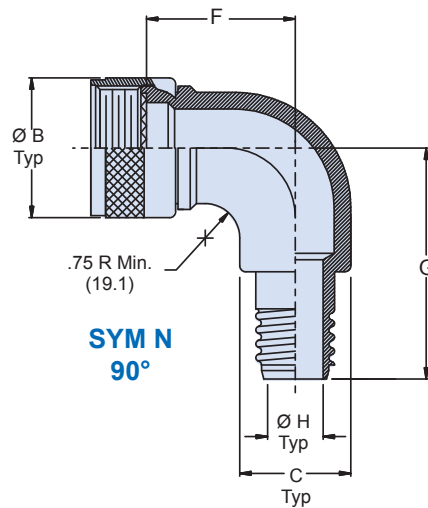


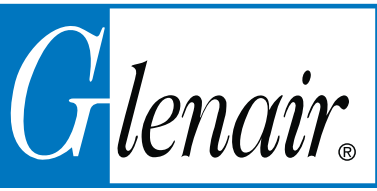
Special Applications

Table III: Shell Size							
Shell Size	A Thread Class 2B	Ø B Max	C	D Max	E Max	F Max	G Max
12	.6875-24 UNEF-2A	.910 (23.1)	.620 (15.7)	.910 (23.1)	1.250 (31.8)	1.985 (50.4)	2.395 (60.8)
14	.9375-20 UNEF-2A	1.250 (31.8)	.875 (22.2)	1.020 (25.9)	1.370 (34.8)	2.115 (53.7)	2.465 (62.6)
15	.9375-20 UNEF-2A	1.250 (31.8)	.875 (22.2)	1.020 (25.9)	1.370 (34.8)	2.115 (53.7)	2.465 (62.6)

Table II: Finish	
SYM	Finish
B	Cadmium Plate/Olive Drab
J	Gold Iridite over Cadmium Plate over Nickel
M	Electroless Nickel
N	Cadmium Plate/Olive Drab over Nickel
NF	Cadmium/Olive Drab over Electroless Nickel (1000 Hours Salt Spray)
T	Cadmium Plate/Bright Dip over Nickel

Table IV: PEEK Conduit Size		
Frac. Size	Dash No.	Ø H Max
3/8	12	.320 (8.1)
1/2	16	.425 (10.8)
5/8	20	.550 (14.0)
3/4	24	.680 (17.3)

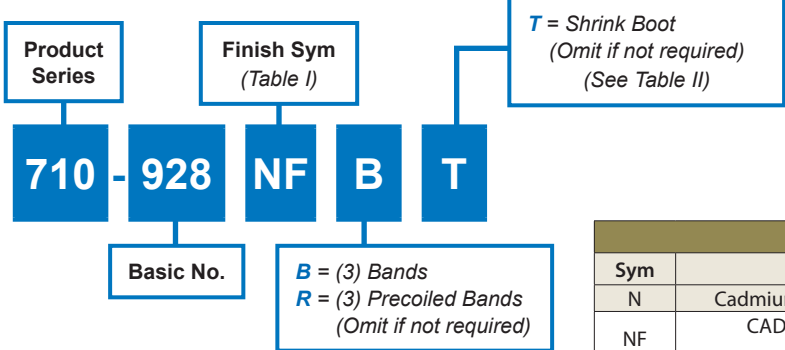




710-928 Guardian Transition Aluminum Transition for Annular Convuluted Tubing

Guardian Transition for Glenair Annular Convuluted Tubing

How To Order

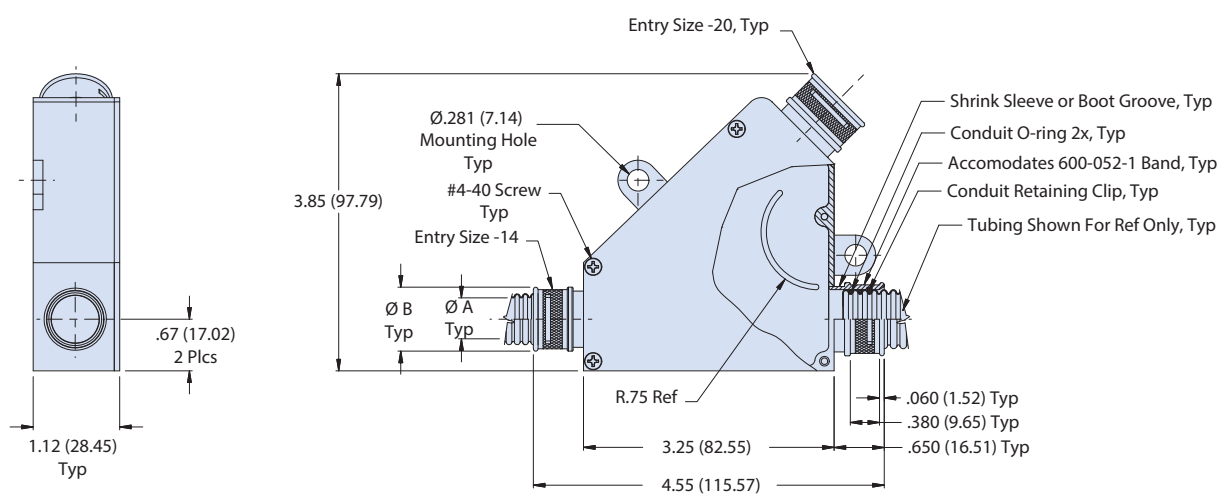
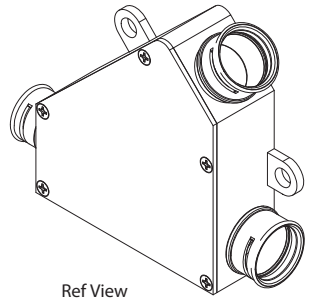
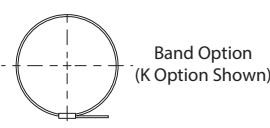


Sym	Finish Description
N	Cadmium Plate/Olive Drab Over Nickel
NF	CAD/O.D. over Electroless Nickel (1000 hr salt spray)
M	Electroless Nickel

Entry Size	A Dia		B Dia. Max	Shrink Boot Reference
	Min	Max		
-14	.40 (10.16)	.44 (11.18)	.81 (20.57)	770-001S104
-20	.57 (14.48)	.62 (15.75)	.98 (24.89)	770-001S105

Notes

- Glenair 600 series backshell assembly tools recommended
- Conduit retaining clip and conduit O-rings to be supplied un-assembled
- Glenair assembly procedure AP74-010 is recommended for adapter to conduit termination
- Material/Finish:
 - Transition: Aluminum alloy/See Table I
 - Retaining clip: high grade engineering thermoplastic/n.a.
 - O-ring: silicone/N.A.
 - Hardware: Cres/passivated



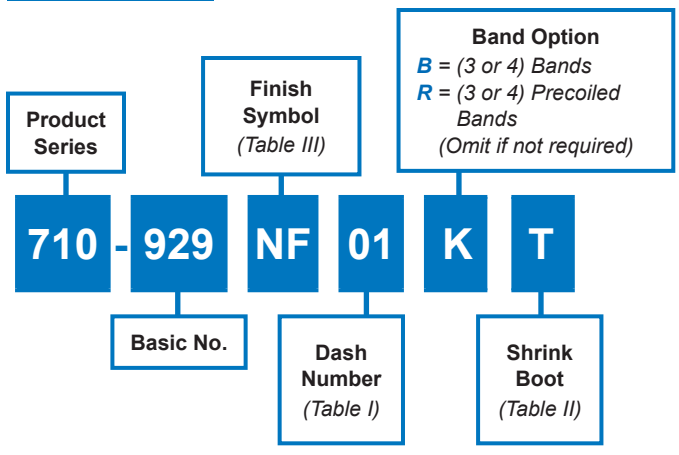
710-929 Guardian Transition, Split Body Aluminum Transition for Annular Convolute Tubing



Special Applications

Guardian Transition for Glenair Annular Convolute Tubing

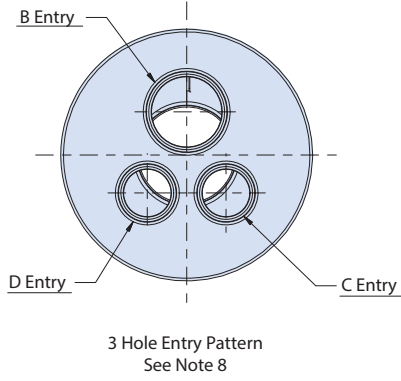
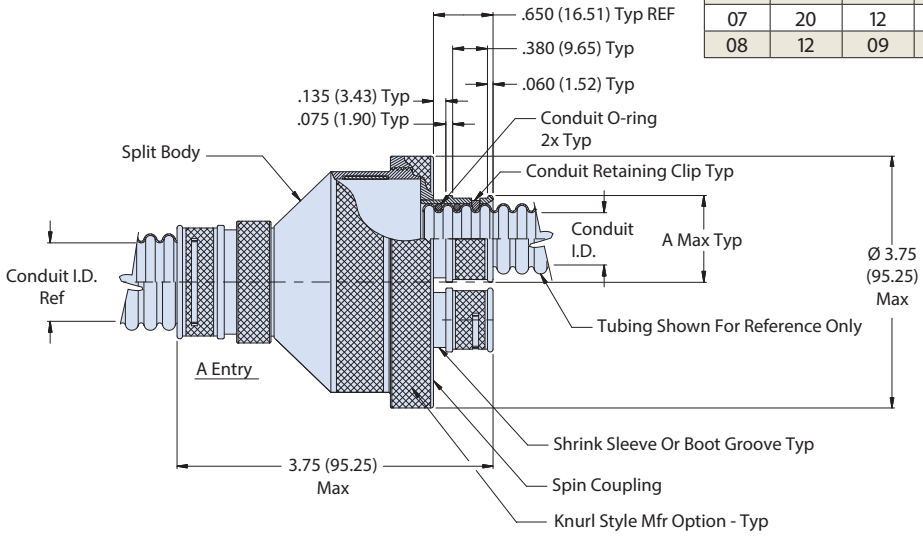
How To Order



Entry Size	Conduit I.D.		A Dia Max	Shrink Boot Ref
	Min	Max		
-09	.24 (6.10)	.28 (7.11)	.63 (16.00)	770-001S103
-12	.33 (8.38)	.37 (9.40)	.73 (18.54)	770-001S104
-14	.40 (10.16)	.44 (11.18)	.79 (20.07)	770-001S104
-20	.57 (14.48)	.62 (15.75)	.98 (24.89)	770-001S105
-24	.69 (17.53)	.75 (19.05)	1.15 (29.21)	770-001S106
-28	.81 (20.57)	.87 (22.10)	1.27 (32.26)	770-001S107

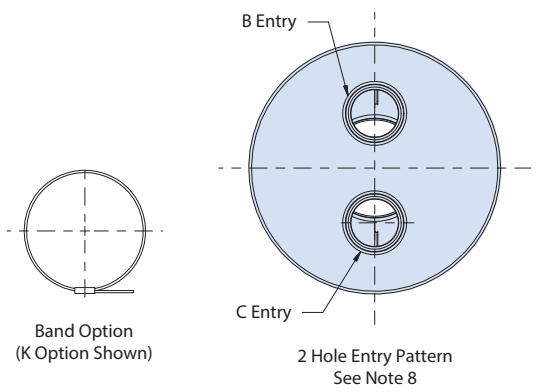
Dash No	Entry A	Entry B	Entry C	Entry D
01	09	09	09	N/A
03	14	12	12	N/A
04	28	24	14	N/A
05	28	24	24	N/A
06	24	20	12	12
07	20	12	12	12
08	12	09	09	09

Sym	Finish Description
N	Cadmium Plate/ Olive Drab Over Nickel Plate
NF	CAD/O.D. over Electroless Nickel (1000 hr salt spray)



Notes

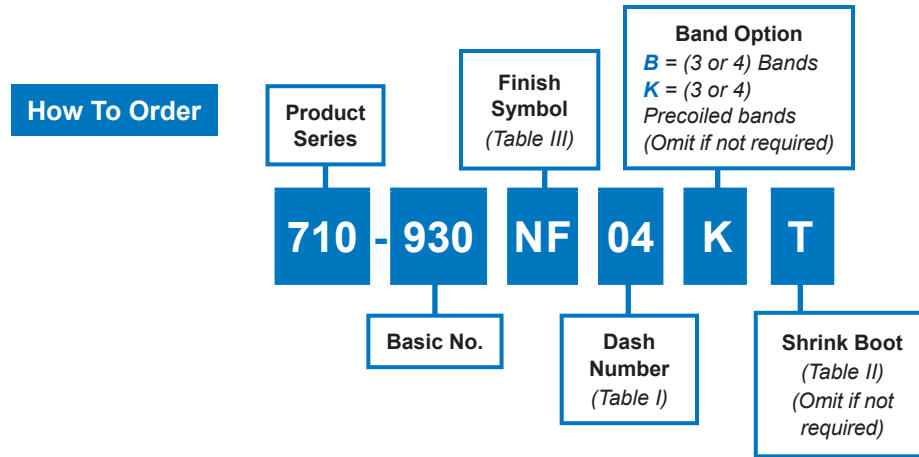
- Glenair 600 series backshell assembly tools recommended
- Conduit retaining clip and conduit O-rings to be supplied un-assembled
- For effective grounding, connector with conductive finish should be used
- Glenair assembly procedure AP74-010 is recommended for adapter to conduit termination
- Material/Finish:
 - Adapter, fittings, plate, nut: Aluminum alloy/see table III
 - O-rings: silicone/N.A.
 - Retaining clip: high grade engineering thermoplastic/N.A.





710-930 Guardian Transition Aluminum Transition for Annular Convulved Tubing

Guardian Transition for Glenair Annular Convulved Tubing



Notes

- Annular convulved tubing shown for reference only. Tubing to be ordered sparately. see Glenair drawings 120-001, 120-125 and 120-137.
- Glenair Assembly procedure AP74-010 is recommended for adapter to conduit termination.
- Conduit Retaining clip and conduit O-rings to be supplied un-assembled.
- Glenair 600 series backshell assembly tools are recommended for assembly and installation.
- Material/Finish:
 - Transition - aluminum alloy/see table III
 - Hardware - cress/passivate
 - retaining clip - high grade engineering thermoplastic/N.A.

Dash No	Entry A	Entry B	Entry C	Entry D
01	09	09	09	N/A
03	14	12	12	N/A
04	28	24	14	N/A
05	28	24	24	N/A
06	24	12	12	20
07	20	12	12	12
08	12	09	09	09
09	28	14	24	N/A
10	24	20	12	12

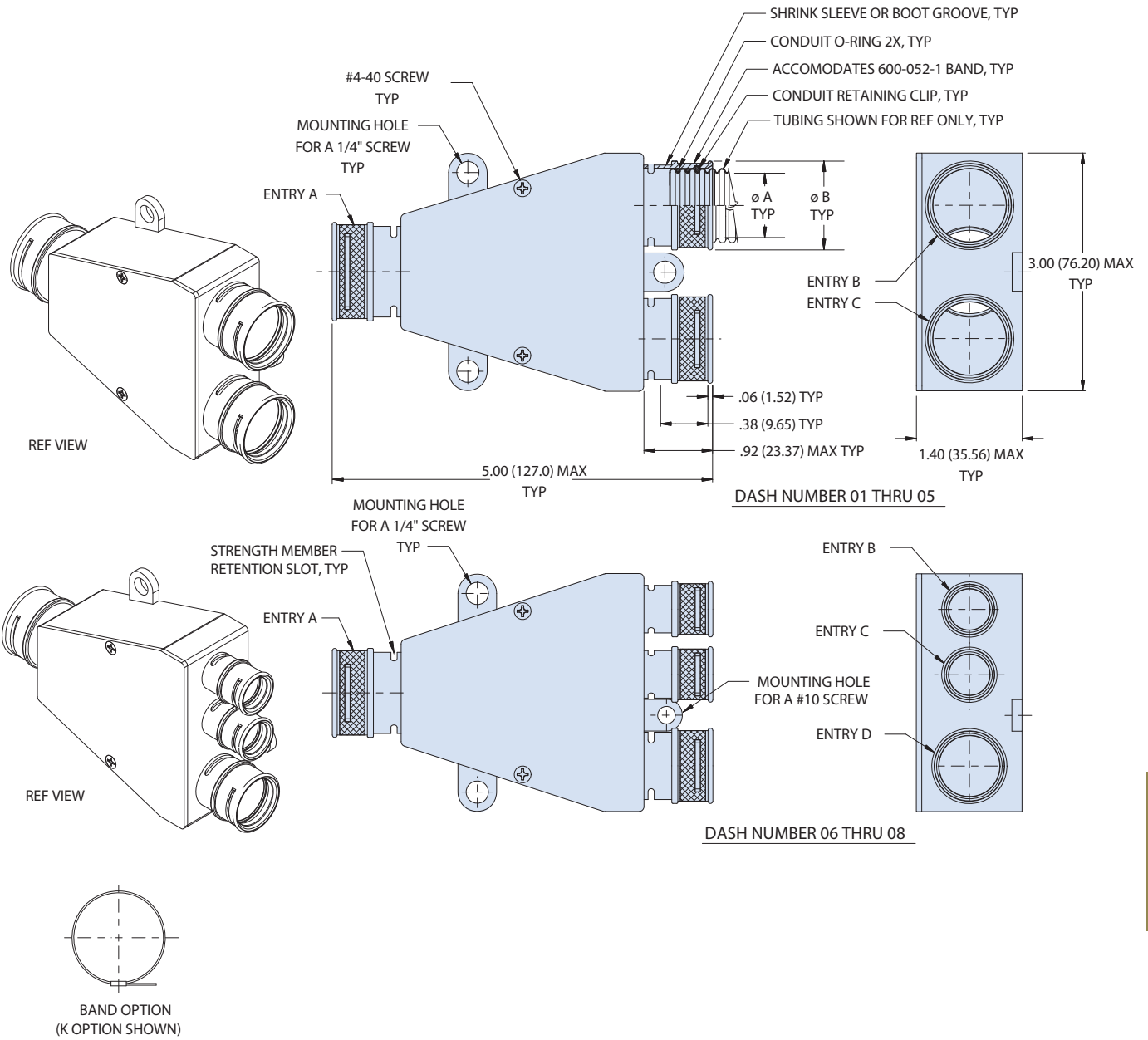
Entry Size	A Dia.		B Dia Max	Shrink Boot Ref
	Min	Max		
-09	.24	.28	.63	770-001S103
-12	.33	.37	.73	770-001S104
-14	.40	.44	.79	770-001S104
-20	.57	.62	.98	770-001S105
-24	.69	.75	1.15	770-001S106
-28	.81	.87	1.27	770-001S107

Sym	Finish Description
N	Cadmium plate/olive drab over nickel
NF	CAD/ O.D. over electroless nickel (1000 hour salt spray)
M	Electroless nickel

710-930 Guardian Transition Aluminum Transition for Annular Convuluted Tubing



Special Applications



The Guardian System is an annular polymer-core tubing system designed for high-performance wire protection applications where economy and ease of installation are primary concerns. Especially suited to transport, rail, hybrid car, and industrial/agricultural machinery applications, Guardian provides easy-to-install and economical wire protection. Turn to Section B of this catalog for the full range of annular polymer-core tubing and do-it-yourself Guardian System fittings.

SERIES 72 ANNULAR POLYMER CORE GUARDIAN SYSTEM ECONOMICAL, HIGH-PERFORMANCE WIRE PROTECTION

The Guardian Series of Do-It-Yourself Fittings

- Economical and easy to install. *It's a snap!*
- General duty, all-purpose wire protection
- O-ring equipped environmental sealing (splash-proof)
- Self-locking coupling nuts
- Band and shrink-boot ready
- Metal and composite thermoplastic materials



Available with your choice of Economical Annular Convoluted Tubing

- Kynar® - Thermally stabilized, chemical and radiation resistant.
- PVDF - Chemical and radiation resistant, available in 5 colors plus black and natural.
- G-FLEX Siltem - Halogen free, low toxicity, low smoke, 175° temperature rating.

F

SELECTION GUIDE

1: Select the *Kynar*®, *PVDF*, or *Siltem* annular convoluted tubing core

2: Select from our menu of jacketing and braiding options

3: Select appropriate Guardian adapters, fittings, and transitions

= **Easy-To-Install and Economical Wire Protection**



Available jacketing materials include EPDM, Hypalon®, Neoprene, and Viton as well as Duraelectric™ in Black, Gray, and Desert Tan

“Y” and “T” transitions in composite thermoplastic and plated metal materials for easy routing of multi-branch wire assemblies

Convoluting tubing options in the Guardian system include Kynar®, PVDF, and Siltem

EMI/RFI shielding options include standard tin/copper braid as well as ArmorLite™ Microfilament metal-clad ultra lightweight braid

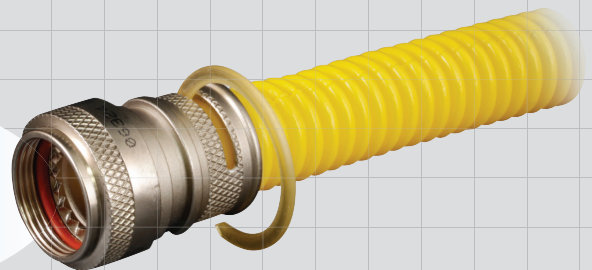
A selection of high performance, high temperature plastic convoluted tubing is available in a broad range of materials and colors

The Guardian system also includes bulkhead feed-thru adapters for easy routing of wires through non-connectorized bulkheads and boxes

All Guardian system conduit to connector adapters are Banding Platform equipped and optimized for easy EMI shield termination with BAND-IT® banding

All Guardian system adapters are equipped with shrink boot grooves for easy environmental sealing and strain relief

The heart of the Guardian system is its unique retaining clip assembly system, offering high speed assembly without the need for special tools. Environmental O-rings provide splash-proof level environmental sealing.



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Convolved Tubing and Conduit System Selection Application Checklist

Originator Contact Information

Name and Title _____
 Company Name/Division _____
 Street Address _____
 City and State/Province _____
 Country and Postal Code/Zip _____
 Telephone _____ Fax _____ Email _____

Fitting Type

- Factory Installed
 User Installed

Working Environment

- Shipboard
 Aircraft
 Secure Communications
 Ground Support
 Rail/Mass Transit
 Space
 Missile Defense
 Telecommunications
 Armored Vehicle
 Other

Assembly Length Requirements

- Less than 10 Meters
 10 to 150 Meters
 More than 150 Meters

Special Considerations

- Weight Reduction Required
 Low Smoke/Zero Halogen Rq'd.
 UL94-V0 Flammability Required
 NBC Resistance Required
 Field Repairability Required
 Size or Shape Restraints as Specified: _____

Level of Electromagnetic Protection

- Not Applicable
 _____ db from _____ MHz/GHz
 to _____ Mhz/GHz
 EMP
 TEMPEST
 Other; Required attenuation
 and frequency band:

Level of Environmental Protection

- Not Applicable
 Moisture Resistance
 Full Water Immersion
 Chemical/Caustic Fluid Resistance
 Extreme Corrosion Resistance
 Intense Atomic Radiation

Mechanical Requirements

- Abrasion Resistance
 Crush Resistance
 Approx Strength: _____ psi
 Flexibility
 Approx no. of cycles: _____
 Tensile Strength
 Max. lbs. of pull: _____

Temperature Tolerance:

Operating: - ____ °C to + ____ °C
 Storage: - ____ °C to + ____ °C

Mechanical Durability

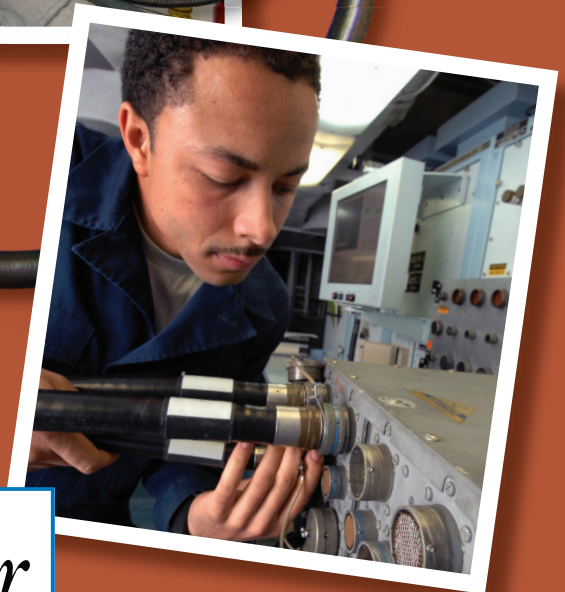
- Not Applicable
 Light Duty
 Medium Duty
 Heavy Duty
 Gorilla Proof

List the connectors used in this project, including connector interface designators, if known:

List preferred jacketing, protective overbraiding or fabric sheathing materials such as neoprene, Amber-Strand®, ArmorLite™ Dacron, etc.

Labelling & Marking Requirements:

Turnkey
**FACTORY TERMINATED
CONDUIT ASSEMBLIES**
FOR MISSION-CRITICAL APPLICATIONS





A World of Interconnect Solutions

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