

HIGH-PERFORMANCE

CONDUIT SYSTEMS

FOR INTERCONNECT APPLICATIONS

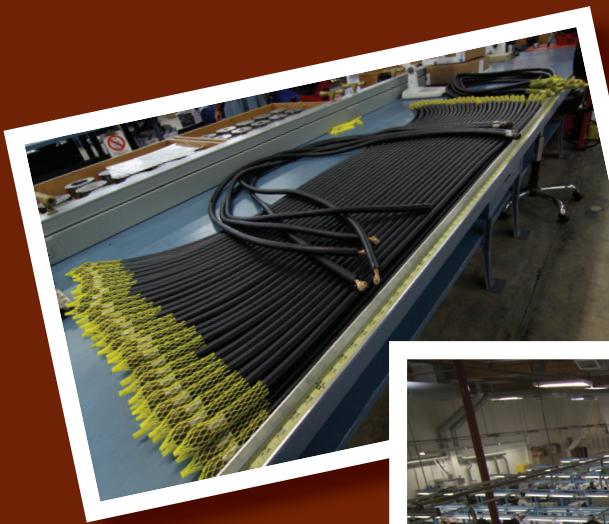
APRIL 2012

GLENAIR.COM

Turnkey

CABLE AND CONDUIT ASSEMBLY CAPABILITIES

TERMINATED, TESTED, AND READY FOR USE



Glenair®

**Flexible Metal-Core Conduit and
High Performance Polymer-Core
Convoluted Tubing Systems**

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Adapters and Transitions



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Systems and Fittings**



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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.

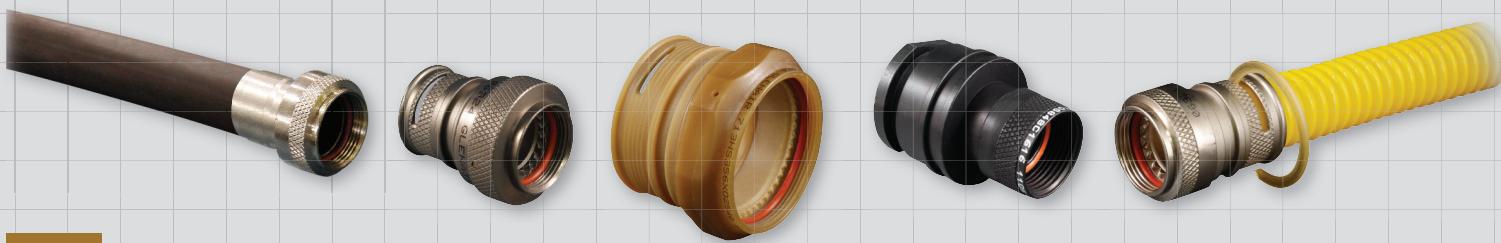
SERIES 72

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 Silem 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 backshells, 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 backsheets, 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

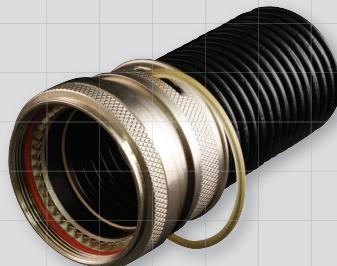
Sentry System fittings feature a Kynar® bushing and compression nut assembly design for robust, easy-to-assemble wire protection. Two fitting styles are available: one with an integral banding platform for applications where EMI termination is required, and a lightweight, compact design for weight- and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

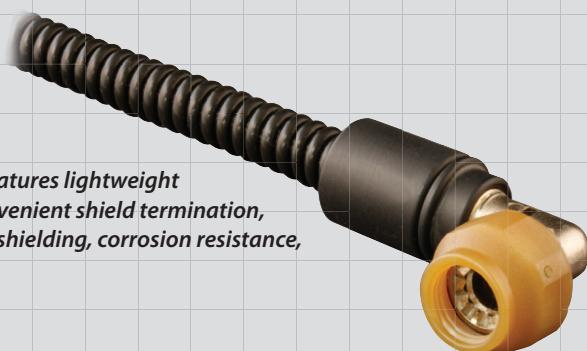
See Section C, part numbers 713-355, 713-359, 713-377, 713-378, 713-380, and 713-381



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



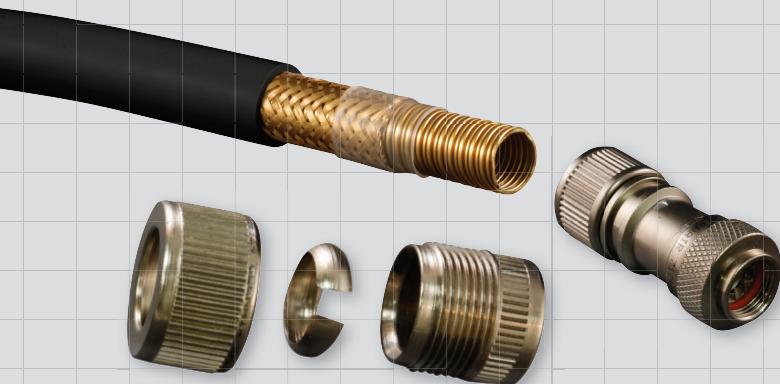
Heavy-Duty Environmental System

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:



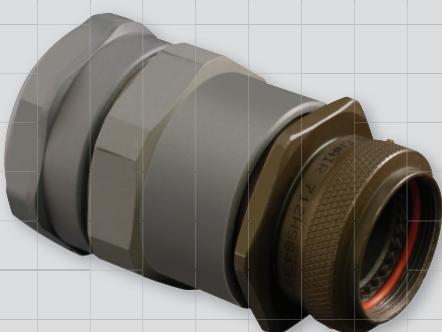
RP Plus: Lightweight, Compact, with Secure EMI Termination with Self-Locking Coupling Nut

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.

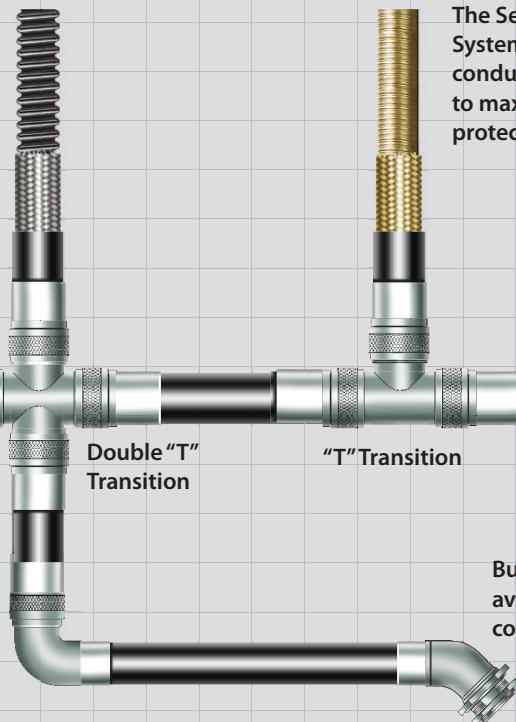
FACTORY TERMINATED CONDUIT AND CONVOLUTED TUBING ASSEMBLIES

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

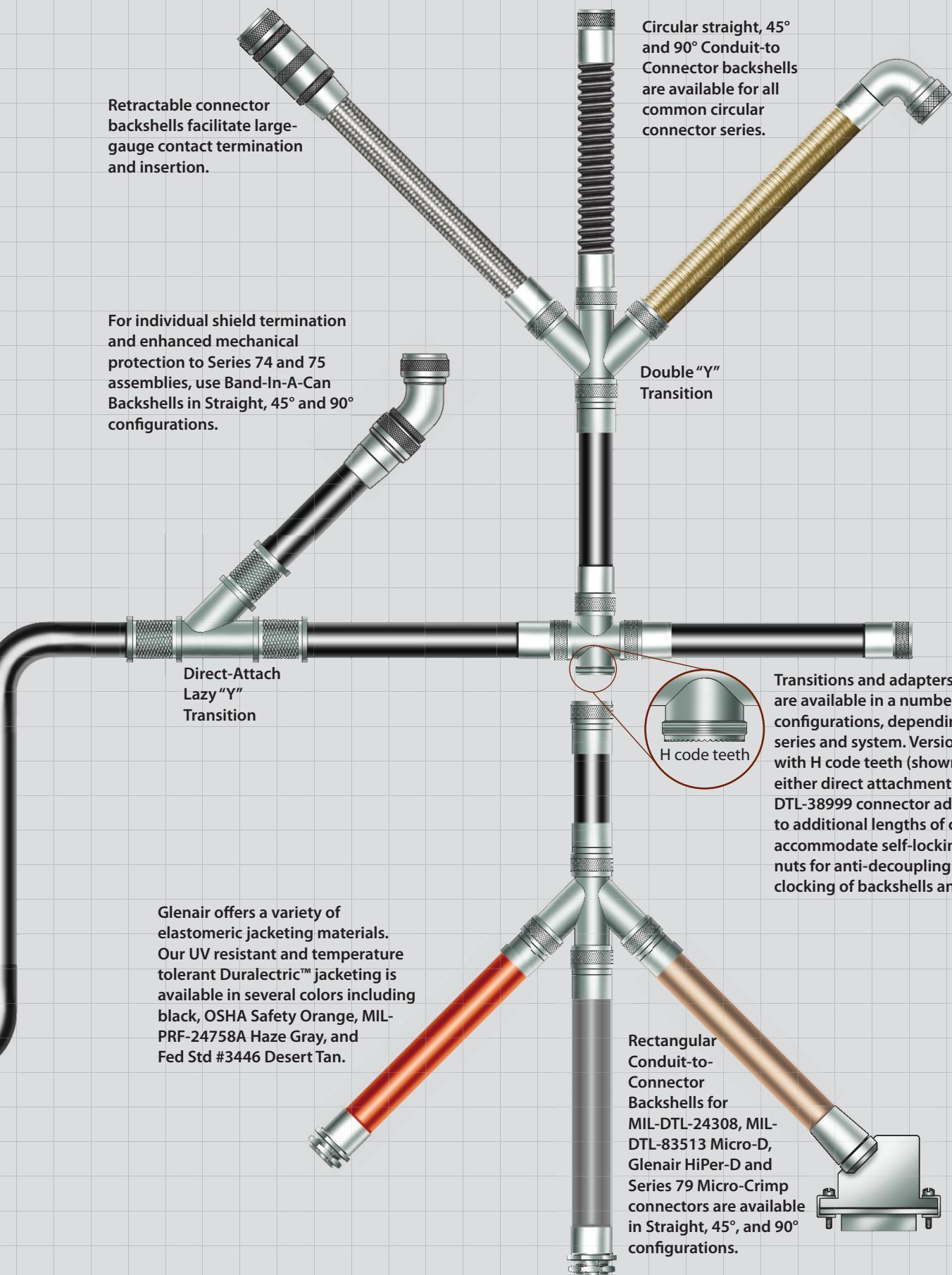
- *Glenair can design, build, terminate—and even pre-wire—turnkey conduit wire routing solutions.*
- *Certified factory assemblers and calibrated tooling create better-performing systems.*
- *Simple point-to-point or complex multi-branch.*



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.



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.



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	GMF-002 Type 2 Class 1
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	GMF-002 Type 2 Class 3
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	Teflon	TFE
Anti-rotation device	Corrosion Resistant Material	N/A

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Conduit Backshells, Fittings and Adapters Interface Standards


Table I: Conduit Backshell Interface Dimensions Master Table

Connector Designator										A THREAD* REFERENCE	B Dia Max	C Dia Max	D Dia Max	E Dia Max	
A	C*	D	E	F	G	H	J	K	L	S					
		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											1/2 - 20 UNF	.65 (16.5)	.65 (16.5)		.69 (17.5)
						08 [A]	10				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	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		11/16 - 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				11/8 - 18 UNEF	1.28 (32.5)	1.36 (34.5)	1.36 (34.5)	
						18 [F]					11/8 - 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				11/4 - 18 UNEF	1.41 (35.8)	1.53 (38.9)	1.48 (37.6)	
						20 [G]					11/4 - 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]					13/8 - 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											11/2 - 18 UNEF	1.66 (42.2)	1.67 (42.4)		
						24 [J]					11/2 - 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.



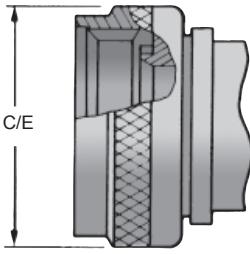
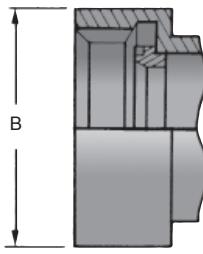
Conduit Backshells, Fittings and Adapters Interface Standards and Connector Designators

A

Conduit Adapter Interface Standards

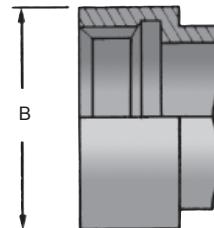
Desig.	Spec.	Series	Desig.	Spec.	Series	Desig.	Spec.	Series	Desig.	Spec.	Series
A	MIL-C-5015	MS3400	A	PATT 602		G	MIL-C-28840		L	EN3372	
	MIL-C-26482	2	B	MIL-C-5015	MS3100	H	MIL-C-38999			JN 1003	
	MIL-C-81703	3	C	MIL-C-22992	MS173XX	I	EN3645	III & IV		LN 29729	
	MIL-C-83723	I & III	D	MIL-C-26482	1	J	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						VG 96912	
	ESC 10, 11			PAN 6433-1					S	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 MIL-C-26482 MIL-C-81703 MIL-C-83723 40M39569 CECC 75201.001 DEF 5326-3 EN 2997 EN 3646 ESC 10 ESC 11 LN 29504 NFC 93422 PAN 6432-1 PAN 6432-2 PATT 602	MS3400 2 3 I & III HE302	 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
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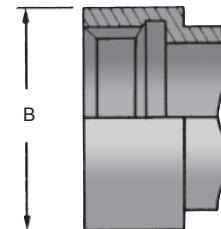
A

C

MIL-C-22992

MS173XX

CONSULT FACTORY

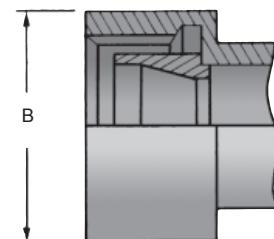


D

MIL-C-26482

MS312X
Series 1

CONSULT FACTORY

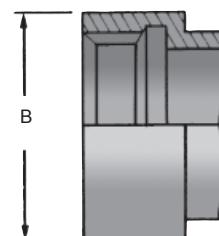


E

MIL-C-26500

Aluminum
(Class F,
G & R)

CONSULT FACTORY

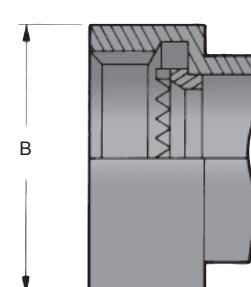
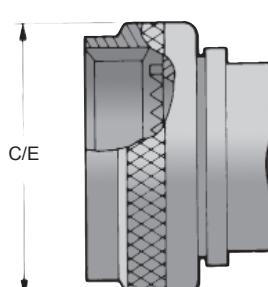


F

MIL-C-38999
40M38277
NFC93422
NFC93422
PAN 6433-1
PATT 614
PATT 616

I & II
HE308
HE309

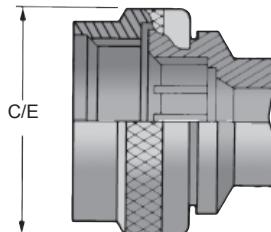
Caution: These connector interfaces
are not suitable for total environmental
sealing; for further information consult
factory.



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

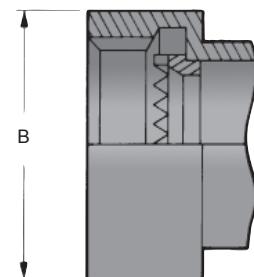
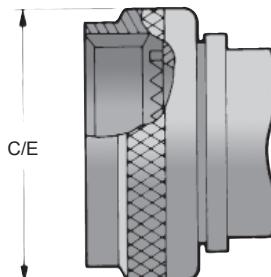
Conduit Backshells, Fittings and Adapters
Interface Standards and Connector Designators**A**CONNECTOR
DESIGNATORCONNECTOR
SPECIFICATION

SERIES

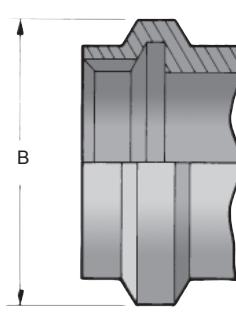
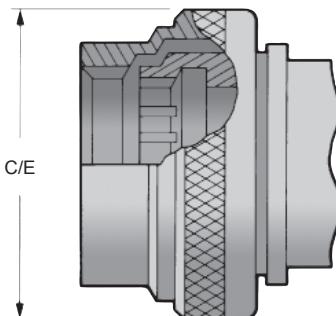
ROTATABLE
COUPLINGDIRECT
COUPLING**G**

CONSULT FACTORY

MIL-C-28840 FIGURE 7

HMIL-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
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Glenair®

Conduit
Introduction

**CONNECTOR
DESIGNATOR**

**CONNECTOR
SPECIFICATION**

SERIES

**ROTATABLE
COUPLING**

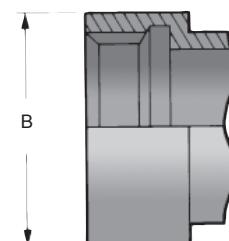
**DIRECT
COUPLING**

K

MIL-C-83723

Series II

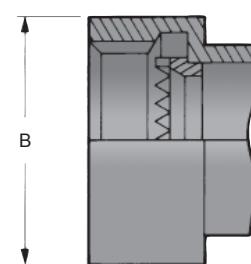
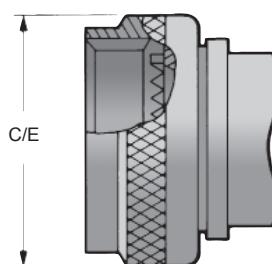
CONSULT FACTORY



L

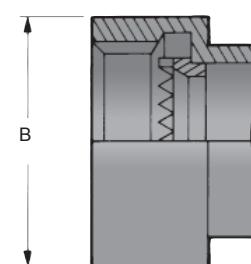
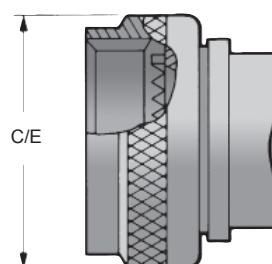
EN3372
JN1003
LN 29729
NFC93422
PAN 6433-2
PATT 615
VG 96912

HE306



S

PATT 105
PATT 603
PATT 608



A



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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)

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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 Cbl 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

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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 ***

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Part No.	Connector Designator	Specification	Series	Description
MS27336	*	MIL-DTL-27599		Plug Straight ***
MS27337	*	MIL-DTL-27599		Receptacle Jam Nut ***
MS27338	*	MIL-DTL-27599		Receptacle Wall Mount Hermetic
MS27339	**	MIL-DTL-27599		Receptacle Box Mount Hermetic
MS27340	**	MIL-DTL-27599		Receptacle Jam Nut Mount Hermetic
MS27341	**	MIL-DTL-27599		Receptacle Solder Mount Hermetic
MS27466	F	MIL-DTL-38999	I	Receptacle Wall Mount
MS27467	F	MIL-DTL-38999	I	Plug Straight
MS27468	F	MIL-DTL-38999	I	Receptacle Jam Nut
MS27469	**	MIL-DTL-38999	I	Receptacle Wall Mount Hermetic
MS27470	**	MIL-DTL-38999	I	Receptacle Jam Nut Hermetic
MS27471	**	MIL-DTL-38999	I	Receptacle Solder Mount Hermetic
MS27472	F	MIL-DTL-38999	II	Receptacle Wall Mount
MS27473	F	MIL-DTL-38999	II	Plug Straight
MS27474	F	MIL-DTL-38999	II	Receptacle Jam Nut
MS27475	F	MIL-DTL-38999	II	Receptacle Wall Mount
MS27476	**	MIL-DTL-38999	II	Receptacle Box Mount Hermetic
MS27477	**	MIL-DTL-38999	II	Receptacle Jam Nut Hermetic
MS27478	**	MIL-DTL-38999	II	Receptacle Solder Mount Hermetic
MS27479	F	MIL-DTL-38999	II	Inactive Use MS27472
MS27480	F	MIL-DTL-38999	II	Inactive Use MS27473
MS27481	F	MIL-DTL-38999	II	Inactive Use MS27474
MS27482	F	MIL-DTL-38999	II	Inactive Use MS27475
MS27483	**	MIL-DTL-38999	II	Inactive Use MS27474
MS27484P	**	MIL-DTL-38999	II	Plug Straight
MS27484T	F	MIL-DTL-38999	II	Plug Straight
MS27496	**	MIL-DTL-38999	I	Receptacle Box Mount
MS27497	F	MIL-DTL-38999	II	Receptacle Back Panel Wall Mount
MS27498	F	MIL-DTL-38999	I	Plug 90° (MS27467)
MS27499	**	MIL-DTL-38999	II	Receptacle Box Mount
MS27500	F	MIL-DTL-38999	II	Inactive See MS27473
MS27503	**	MIL-DTL-38999	II	Inactive See MS27478
MS27504	**	MIL-DTL-38999	II	Inactive See MS27499
MS27505	**	MIL-DTL-38999	I	Receptacle Back Panel Box Mount

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Part No.	Connector Designator	Specification	Series	Description
MS27508	**	MIL-DTL-38999	II	Receptacle Back Panel Box Mount
MS27513	**	MIL-DTL-38999	II	Receptacle Box Mount
MS27515	F	MIL-DTL-38999	I	Inactive Use MS27656
MS27613	E-710	MIL-DTL-26500		Receptacle Panel Mount ***Use MIL-DTL-83723
MS27614	E-710	MIL-DTL-26500		Receptacle D-Hole Mount ***Use MIL-DTL-83723
MS27615	E-710	MIL-DTL-26500		Plug Straight ***Use MIL-DTL-83723
MS27652	F	MIL-DTL-38999	I	Inactive Use MS27466
MS27653	F	MIL-DTL-38999	I	Inactive Use MS27467
MS27654	F	MIL-DTL-38999	I	Inactive Use MS27656
MS27656	F	MIL-DTL-38999	I	Receptacle Back Panel Wall Mount (MS27499)
MS27661	F-752	MIL-DTL-38999	I	Plug Lanyard Release
MS27662	**	MIL-DTL-38999	I	Receptacle Thru-Bulkhead
MS27664	**	MIL-DTL-38999	II	Receptacle Back-Panel Wall Mount
MS27665	F	MIL-DTL-38999	I	Plug Rack & Panel Mount
MS27667	**	MIL-DTL-38999	II	Receptacle Thru-Bulkhead
MS90555	*	MIL-DTL-22992	L	Receptacle Wall Mount
MS90556	*	MIL-DTL-22992	L	Plug Straight
MS90557	*	MIL-DTL-22992	L	Plug Cable Connecting
MS90558	*	MIL-DTL-22992	L	Receptacle W/Coupling Ring Wall Mount
M28840/10	G	MIL-DTL-28840		Receptacle Wall Mount
M28840/11	G	MIL-DTL-28840		Receptacle Cable Connecting
M28840/12	**	MIL-DTL-28840		Receptacle Box Mount
M28840/14	G	MIL-DTL-28840		Receptacle Jam Nut
M28840/16	G	MIL-DTL-28840		Plug Straight
D38999/20	H	MIL-DTL-38999	III	Receptacle Wall Mount
D38999/21	**	MIL-DTL-38999	III	Receptacle Hermetic (Box Mount)
D38999/23	**	MIL-DTL-38999	III	Receptacle Hermetic Jam Nut
D38999/24	H	MIL-DTL-38999	III	Receptacle Jam Nut
D38999/25	**	MIL-DTL-38999	III	Receptacle Hermetic Solder Mount
D38999/26	H	MIL-DTL-38999	III	Plug Straight
D38999/27	**	MIL-DTL-38999	III	Receptacle Hermetic Weld Mount
D38999/29	H-701	MIL-DTL-38999	III	Plug Lanyard Release
D38999/30	H-701	MIL-DTL-38999	III	Plug Lanyard Release
D38999/31	H	MIL-DTL-38999	III	Plug Lanyard Release

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Part No.	Connector Designator	Specification	Series	Description
D38999/36	H	MIL-DTL-38999	III	Plug Lanyard Release
D38999/40	H	MIL-DTL-38999	IV	Receptacle Wall Mount
D38999/41	**	MIL-DTL-38999	IV	Box Mount Receptacle Hermetic
D38999/42	**	MIL-DTL-38999	IV	Receptacle Box Mount
D38999/43	H	MIL-DTL-38999	IV	Jam Nut Mount Hermetic Receptacle
D38999/44	H-715	MIL-DTL-38999	IV	Receptacle Jam Nut
D38999/45	**	MIL-DTL-38999	IV	Solder Mount Hermetic Receptacle
D38999/46	H	MIL-DTL-38999	IV	Plug Straight EMI
D38999/47	H	MIL-DTL-38999	IV	Plug Straight
D38999/49	H	MIL-DTL-38999	IV	In Line Cable Receptacle
D38999/60	H	MIL-DTL-38999	III	Tight Tolerance Fiber Optic Plug
D38999/61	H	MIL-DTL-38999	III	Tight Tolerance Wall Mount Fiber Optic Receptacle
M81511/1	J	MIL-C-81511	2	Receptacle Flange Mount
M81511/2	**	MIL-C-81511	2	Receptacle Solder Flange
M81511/3	J	MIL-C-81511	2	Receptacle Jam Nut
M81511/4	**	MIL-C-81511	2	Receptacle Jam Nut ***
M81511/5	J	MIL-C-81511	2	Plug Cable Connecting ***
M81511/6	J	MIL-C-81511	2	Plug ***
M81511/21	J	MIL-C-81511	1	Receptacle Flange Mount ***
M81511/22	**	MIL-C-81511	1	Receptacle Solder Flange Mount ***
M81511/23	J	MIL-C-81511	1	Receptacle Jam Nut ***
M81511/24	**	MIL-C-81511	1	Receptacle Jam Nut ***
M81511/25	J	MIL-C-81511	1	Receptacle Cable Connecting ***
M81511/26	J	MIL-C-81511	1	Plug ***
M81511/27	**	MIL-C-81511	1	Receptacle Thru-Bulkhead Jam Nut ***
M81511/28	**	MIL-C-81511	2	Receptacle Thru-Bulkhead Single Hole Mount ***
M81511/31	J	MIL-C-81511	2	Receptacle Flange Mount ***
M81511/32	J	MIL-C-81511	2	Receptacle Jam Nut Mount ***
M81511/33	J	MIL-C-81511	2	Receptacle,Cable Connecting ***
M81511/34	J	MIL-C-81511	2	Plug ***
M81511/35	J	MIL-C-81511	1	Receptacle Flange Mount ***
M81511/36	J	MIL-C-81511	1	Receptacle Jam Nut ***
M81511/37	J	MIL-C-81511	1	Receptacle Cable Connecting ***
M81511/38	J	MIL-C-81511	1	Plug ***
* Consult Factory ** Connector Does Not Accommodate Rear Accessories ***Inactive For New Design				



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Part No.	Connector Designator	Specification	Series	Description
M81511/41	J	MIL-C-81511	3	Receptacle Flange Mount ***
M81511/42	**	MIL-C-81511	3	Receptacle Solder Flange Mount ***
M81511/44	**	MIL-C-81511	3	Receptacle Jam Nut ***
M81511/45	J	MIL-C-81511	3	Receptacle Cable Connecting ***
M81511/46	J	MIL-C-81511	3	Plug ***
M81511/47	**	MIL-C-81511	3	Receptacle Solder Flange Mount ***
M81511/48	**	MIL-C-81511	3	Receptacle Jam Nut ***
M81511/49	J	MIL-C-81511	3	Receptacle Jam Nut ***
M81511/50	**	MIL-C-81511	4	Receptacle Jam Nut ***
M81511/51	J	MIL-C-81511	4	Receptacle Flange Mount ***
M81511/52	**	MIL-C-81511	4	Receptacle Solder Flange Mount ***
M81511/53	J	MIL-C-81511	4	Receptacle Jam Nut ***
M81511/54	**	MIL-C-81511	4	Receptacle Jam Nut ***
M81511/55	J	MIL-C-81511	4	Receptacle Cable Connecting ***
M81511/56	J	MIL-C-81511	4	Plug ***
M81511/57	**	MIL-C-81511	4	Receptacle Solder Flange Mount ***
M81582/1	*	MIL-C-81582		Receptacle Jam Nut Mount ***
M81582/2	*	MIL-C-81582		Plug Lanyard Release ***
M83723/1	A	MIL-DTL-83723	I	Superseded By MS3470
M83723/2	A	MIL-DTL-83723	I	Superseded By MS3470
M83723/3	A	MIL-DTL-83723	I	Superseded By MS3472
M83723/4	A	MIL-DTL-83723	I	Superseded By MS3472
M83723/5	A	MIL-DTL-83723	I	Superseded By MS3474
M83723/6	A	MIL-DTL-83723	I	Superseded By MS3474
M83723/7	A	MIL-DTL-83723	I	Superseded By MS3471
M83723/8	A	MIL-DTL-83723	I	Superseded By MS3471
M83723/9	**	MIL-DTL-83723	I	Superseded By MS3440
M83723/10	**	MIL-DTL-83723	I	Superseded By MS3442
M83723/11	**	MIL-DTL-83723	I	Superseded By MS3443
M83723/12	**	MIL-DTL-83723	I	Superseded By MS3443
M83723/13	A	MIL-DTL-83723	I	Superseded By MS3476
M83723/14	A	MIL-DTL-83723	I	Superseded By MS3476
M83723/17	K	MIL-DTL-83723	II	Superseded By MS3451 ***
M83723/18	K	MIL-DTL-83723	II	Superseded By MS3451 ***

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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	Receptacle 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

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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

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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

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MIL-C-5015 Connector Fittings (MS3100 Series)

A

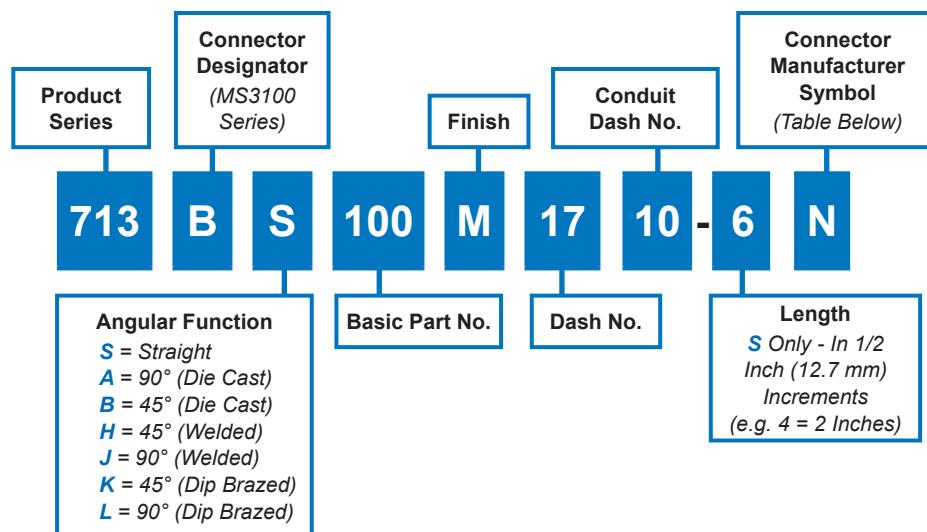
Part Number Development For Connector Designator "B"

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		MS3100, 01, 06	A
N	Cannon	MS3100, 01, 063 CA00, 01, 06	E/F/R

MIL-C-5015 Connector Fittings (MS3100 Series)



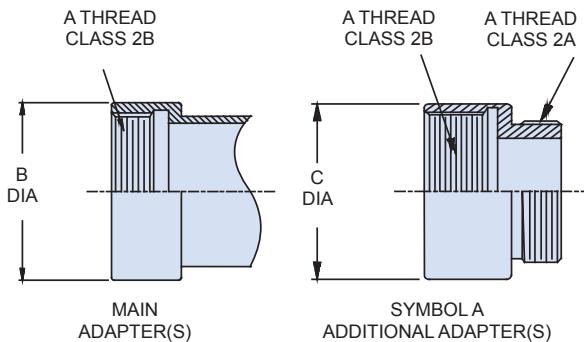
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MS3100 Series Manufacturer Designations

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	129/32- 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)

- 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.
- Symbol A mates with all connectors for each shell size.
- Additional transition adapters may be supplied with symbol A for each shell size, as noted.





Determining Tubing/Conduit Core Size

A

How to use the tables on this page:

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				$15 \times .045 = .68$	$15 \times .135 = 2.03$ 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

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



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)

Part Number	Max OD	MAX weight (lbs/1000 ft)	REFERENCE BASIC WIRE
M27500-28RC2S06	0.128	12.947	M22759/11-28
M27500-26RC2S06	0.138	15.107	M22759/11-26
M27500-24RC2S06	0.148	17.553	M22759/11-24
M27500-22RC2S06	0.160	21.149	M22759/11-22
M27500-20RC2S06	0.178	26.543	M22759/11-20
M27500-18RC2S06	0.198	34.188	M22759/11-18
M27500-16RC2S06	0.212	39.464	M22759/11-16
M27500-14RC2S06	0.242	53.044	M22759/11-14
M27500-12RC2S06	0.286	76.061	M22759/11-12
M27500-10RC2S06	0.348	114.607	M22759/11-10
M27500-8RC2S06	0.500	207.438	M22759/11-8
M27500-30SC2S06	0.110	9.614	M22759/33-30
M27500-28SC2S06	0.116	10.759	M22759/33-28
M27500-26SC2S06	0.126	12.817	M22759/33-26
M27500-24SC2S06	0.136	15.100	M22759/33-24
M27500-22SC2S06	0.148	18.206	M22759/33-22
M27500-20SC2S06	0.162	22.748	M22759/33-20

TWISTED PAIR (NO JACKET OR SHIELD)

Part Number	Max OD	MAX weight (lbs/1000 ft)	REFERENCE BASIC WIRE
M27500-28RC2U00	0.070	2.774	M22759/11-28
M27500-26RC2U00	0.080	3.876	M22759/11-26
M27500-24RC2U00	0.090	5.263	M22759/11-24
M27500-22RC2U00	0.102	7.589	M22759/11-22
M27500-20RC2U00	0.120	11.077	M22759/11-20
M27500-18RC2U00	0.140	16.606	M22759/11-18
M27500-16RC2U00	0.154	20.400	M22759/11-16
M27500-14RC2U00	0.184	30.804	M22759/11-14
M27500-12RC2U00	0.228	49.164	M22759/11-12
M27500-10RC2U00	0.286	77.112	M22759/11-10
M27500-8RC2U00	0.412	133.620	M22759/11-8
M27500-30SC2U00	0.052	1.346	M22759/33-30
M27500-28SC2U00	0.058	1.856	M22759/33-28
M27500-26SC2U00	0.068	2.856	M22759/33-26
M27500-24SC2U00	0.078	4.080	M22759/33-24
M27500-22SC2U00	0.090	5.916	M22759/33-22
M27500-20SC2U00	0.104	8.976	M22759/33-20

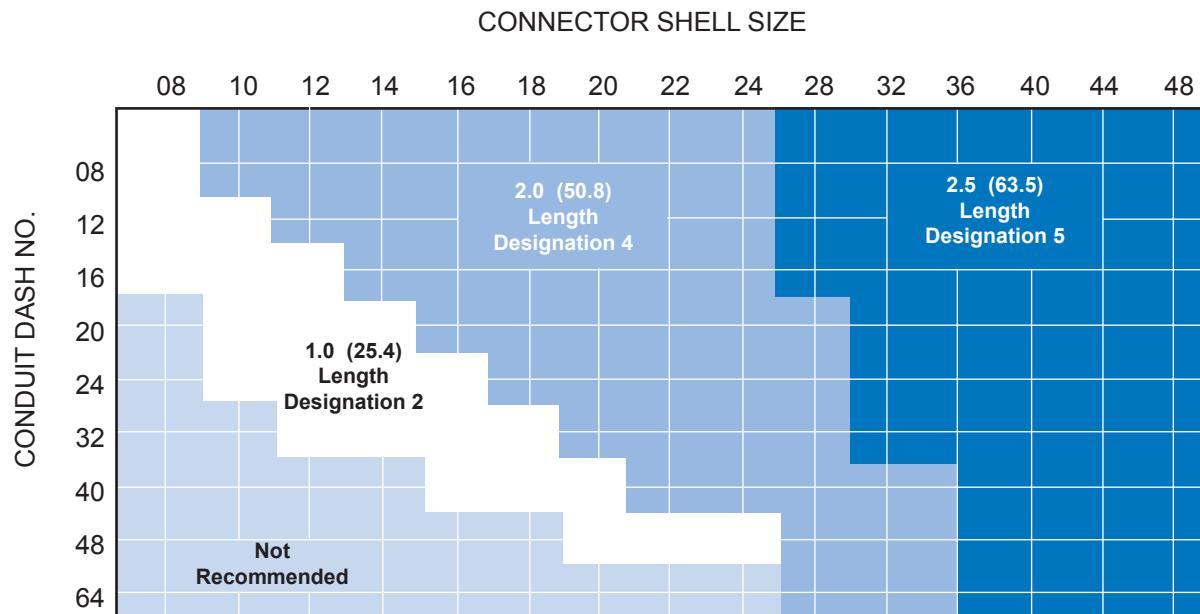


Standard Minimum Lengths Style 1 and Style 2 Conduit Fittings

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.

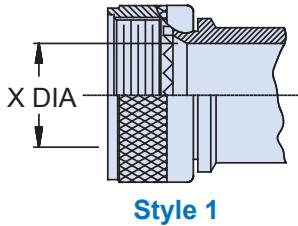


Style 1 / Style 2 Conduit Fittings

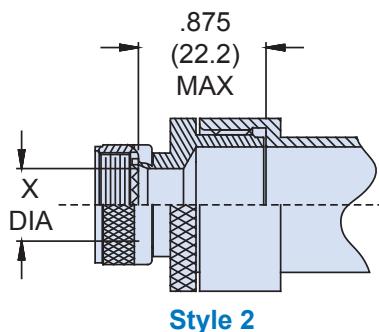
To provide an optimized termination between all series of conduit and the connector it is necessary to select either style 1 or style 2 fitting configuration as illustrated.

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.



Style 1



Style 2

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.

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

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)

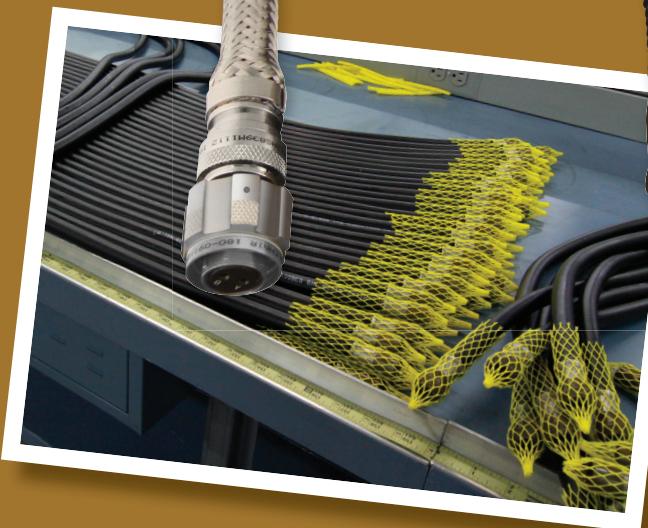
Lengths = $\pm .060$ (1.52)

Angles = $\pm 5^\circ$

Turnkey

SERIES 72 ANNULAR TUBING ASSEMBLIES

TERMINATED, TESTED, AND READY FOR IMMEDIATE USE



Glenair®

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



Series 72
Annular Tubing

B

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

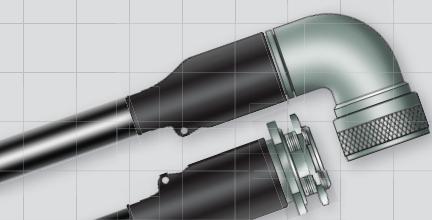
Glenair Series 72 Annular Polymer-Core Convoluted Tubing provides an economical, lightweight, durable enclosure for interconnect wiring, available in three flexible and versatile materials, with or without EMI/RFI braiding and jacketing.

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.
Annular Polymer-Core Convoluted Tubing Configurations		
	Configuration Options and Material Properties	B-2
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121-191	Annular Convoluted Tubing with Braid and Jacket	B-7
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Factory Terminated Assemblies		
	Factory Crimp Conduit Assemblies - How To Order	B-10
	Point-to-Point Conduit Assembly basic part numbers	B-11
Compact Environmental Sentry System		
710-840	Annular Convoluted Tubing-to-Connector Backshell, EMI/Environmental	B-12
710-841	Annular Convoluted Tubing-to-Transition or End Fitting Adapter, EMI/Environmental	B-14
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 Sitem. 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 Sitem. 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 Convoluted 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.

B

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 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 Convoluted Tubing

Material Properties and Colors

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	Duralectric, Black	Weatherproof, halogen free, flame resistant, functional to 260°C
G	Duralectric, Gray	Qualified to US Navy MIL-PRF-24758A, Fed Std 595B #26270 Haze Gray color
TN	Duralectric, Desert Tan	Duralectric in Fed Std #3446 Desert Tan color
O	Duralectric, 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)	Duralectric
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

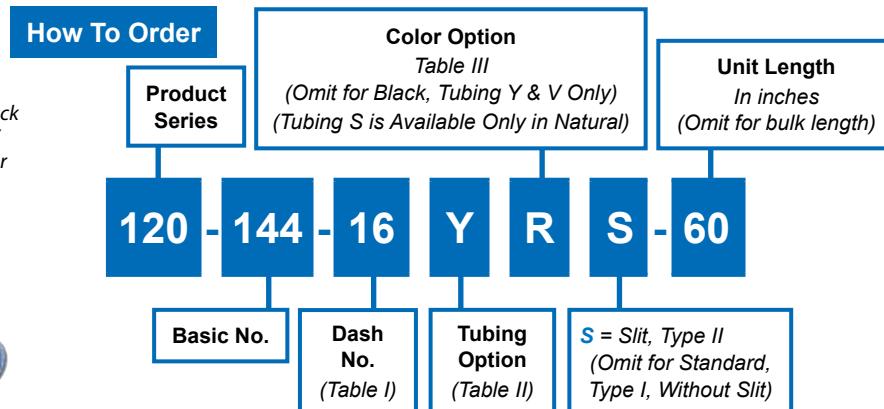
120-144
Annular Polymer-Core Convoluted Tubing



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



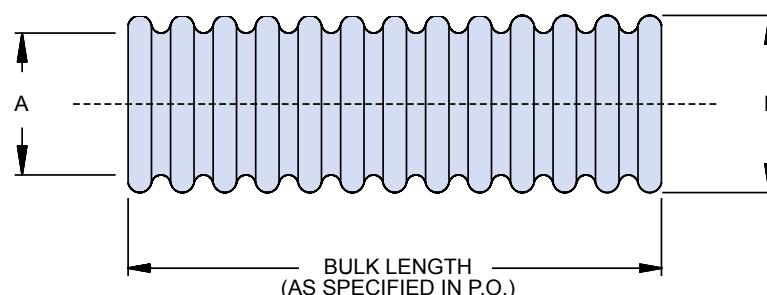
Blue, Yellow, Red, Desert Tan, and Orange Annular Convoluted Tubing



Dash No	Table I - Dash Number/Diameter	
	A Inside Dia	B Outside Dia
Min	Max	Max
06	.17 (4.3)	.19 (4.8)
09	.24 (6.1)	.28 (7.1)
12	.33 (8.4)	.37 (9.4)
14	.40 (10.1)	.44 (11.2)
16	.45 (11.4)	.50 (12.7)
20	.57 (14.5)	.62 (15.7)
24	.69 (17.5)	.75 (19.1)
28	.81 (20.6)	.87 (22.1)
32	.93 (23.6)	1.00 (25.4)
40	1.18 (30.0)	1.25 (31.8)
48	1.43 (36.3)	1.50 (38.1)
52	1.56 (39.6)	1.63 (41.4)
		1.85 (47.0)

Table II - Tubing Option	
Y	Kynar/Thermally stabilized
V	PVDF/Not thermally stabilized
S	G-FLEX Silitem/Medium duty

Table III - Color Option	
N	Natural/Clear
R	Red (available in Kynar and PVDF only)
Y	Yellow (available in Kynar and PVDF only)
BL	Blue (available in Kynar and PVDF only)
TN	Desert Tan (available in Kynar and PVDF only)
O	Orange (available in Kynar and PVDF only)
Omit for standard black	



Standard Packaging	
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 Convoluted Tubing
with External Braid

Tubing plus a single EMI/RFI braided shield



How To Order

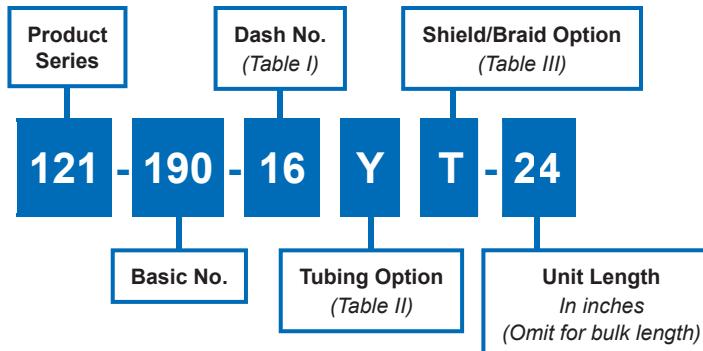


Table I - Dash Number/Diameter

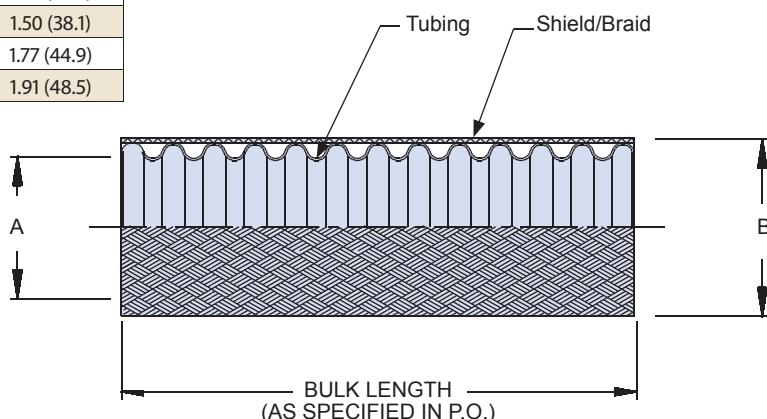
Dash No.	A Inside Dia		B Outside Dia
	Min	Max	Max
06	.17 (4.3)	.19 (4.8)	.38 (9.6)
09	.24 (6.1)	.28 (7.1)	.48 (12.2)
12	.33 (8.4)	.37 (9.4)	.58 (14.7)
14	.40 (10.1)	.44 (11.2)	.65 (16.5)
16	.45 (11.4)	.50 (12.7)	.72 (18.3)
20	.57 (14.5)	.62 (15.7)	.83 (21.1)
24	.69 (17.5)	.75 (19.1)	1.00 (25.4)
28	.81 (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)

Table II - Tubing Option

Y	Kynar/Thermally stabilized
V	PVDF/Not thermally stabilized
S	G-FLEX Silitem/Medium duty
L	G-FLEX Silitem/High temp, high crush

Table III - Shield/Braid Option

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



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.

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

121-191
Annular Polymer-Core Convoluted Tubing
with External Braid and Jacket

Glenair®

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



How To Order

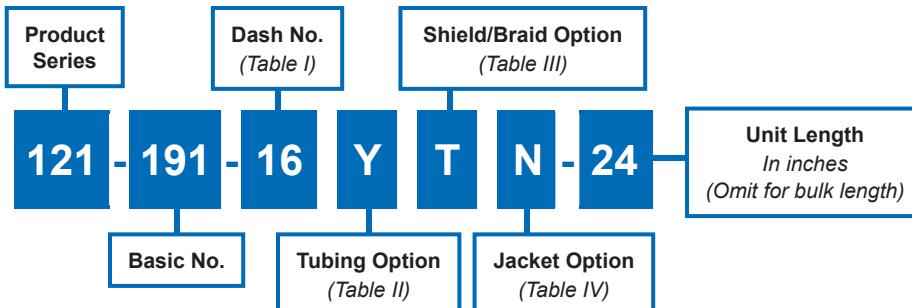


Table I - Dash Number/Diameter

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)

Table II - Tubing Option

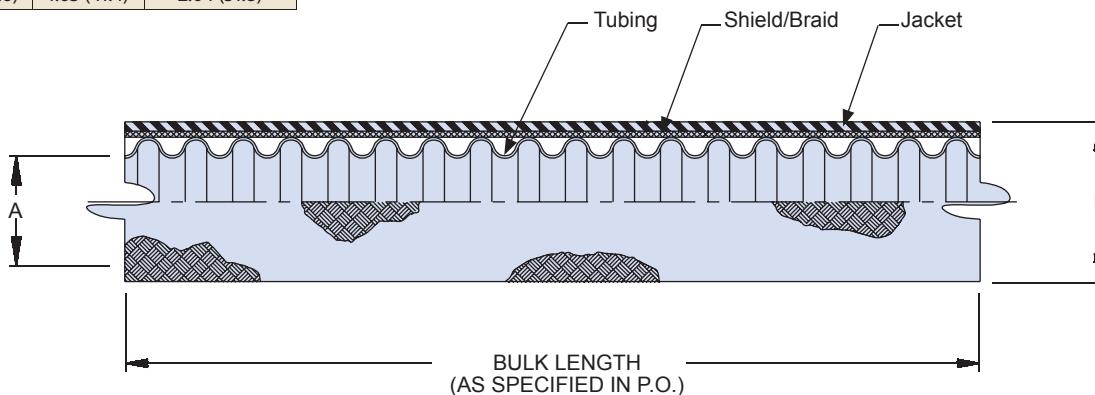
Y	Kynar/Thermally stabilized
V	PVDF/Not thermally stabilized
S	G-FLEX Siltem/Medium duty
L	G-FLEX Siltem/High temp, high crush

Table IV - Jacket Option

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

Table III - Shield/Braid Option

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



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.

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



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

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

B



How To Order

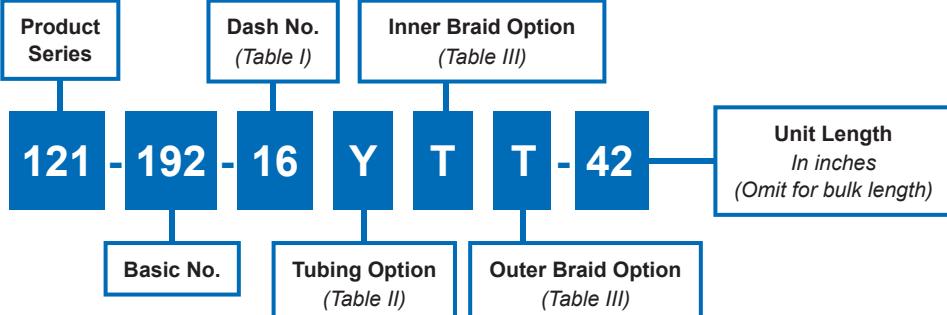
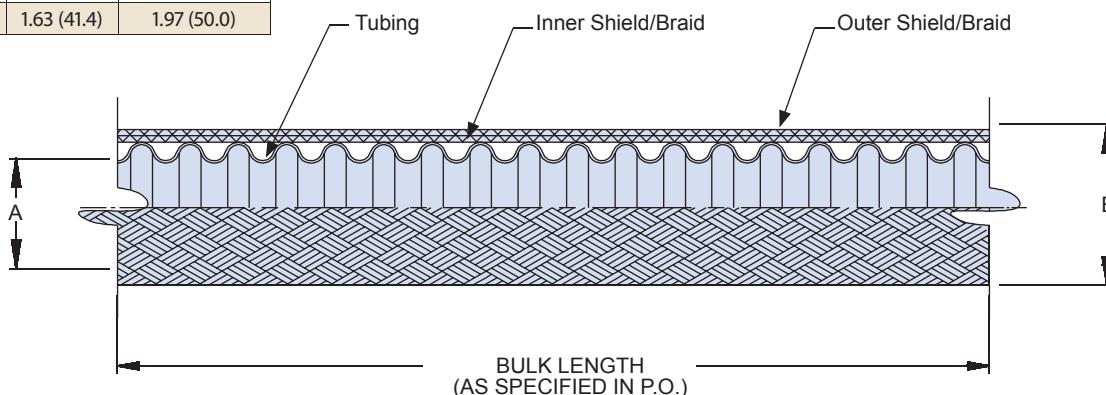


Table I - Dash Number/Diameter			
Dash No	A Inside Dia		B Outside Dia
	Min	Max	Max
06	.17 (4.3)	.19 (4.8)	.44 (11.1)
09	.24 (6.1)	.28 (7.1)	.54 (13.7)
12	.33 (8.4)	.37 (9.4)	.64 (16.2)
14	.40 (10.1)	.44 (11.2)	.71 (18.0)
16	.45 (11.4)	.50 (12.7)	.78 (19.8)
20	.57 (14.5)	.62 (15.7)	.89 (22.6)
24	.69 (17.5)	.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)

Table II - Tubing Option	
Y	Kynar/Thermally stabilized
V	PVDF/Not thermally stabilized
S	G-FLEX Silitem/Medium duty
L	G-FLEX Silitem/High temp, high crush

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



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.

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

121-193
Annular Polymer-Core Convoluted Tubing
with Double External Braid and Jacket

Glenair®

For environmental EMI/RFI applications with high dB shielding requirements



How To Order

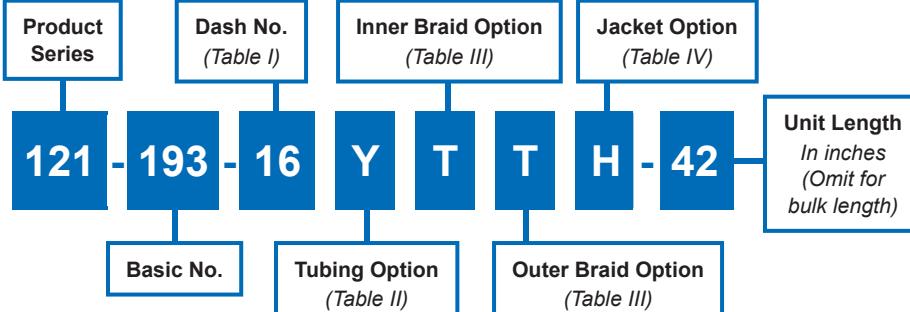


Table I - Dash Number/Diameter

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)

Table II - Tubing Option

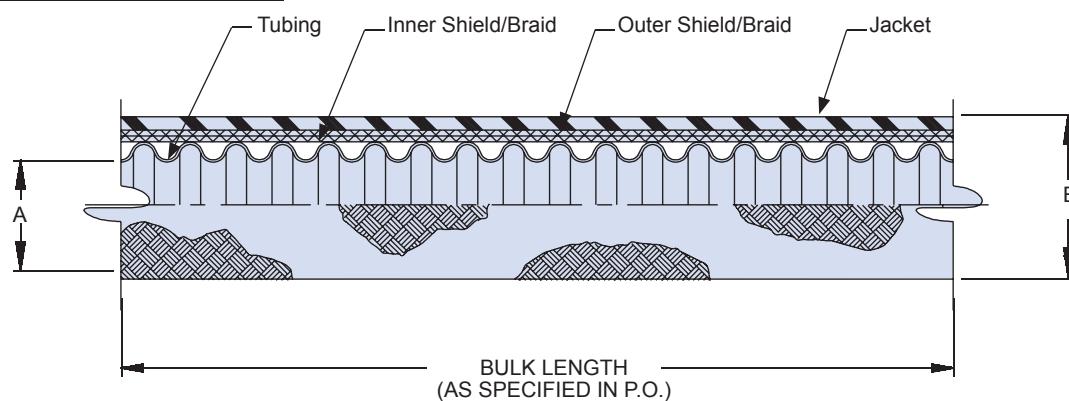
Y	Kynar/Thermally stabilized
V	PVDF/Not thermally stabilized
S	G-FLEX Silitem/Medium duty
L	G-FLEX Silitem/High temp, high crush

Table III - Shield/Braid Option

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

Table IV - Jacket Option

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



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.

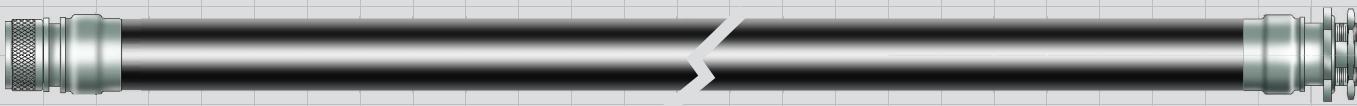
Standard Shipping Package	
Dash No.	Max Length Per Pkg.
09& 12	200 ft (60m)
16 – 52	100 ft (30m)



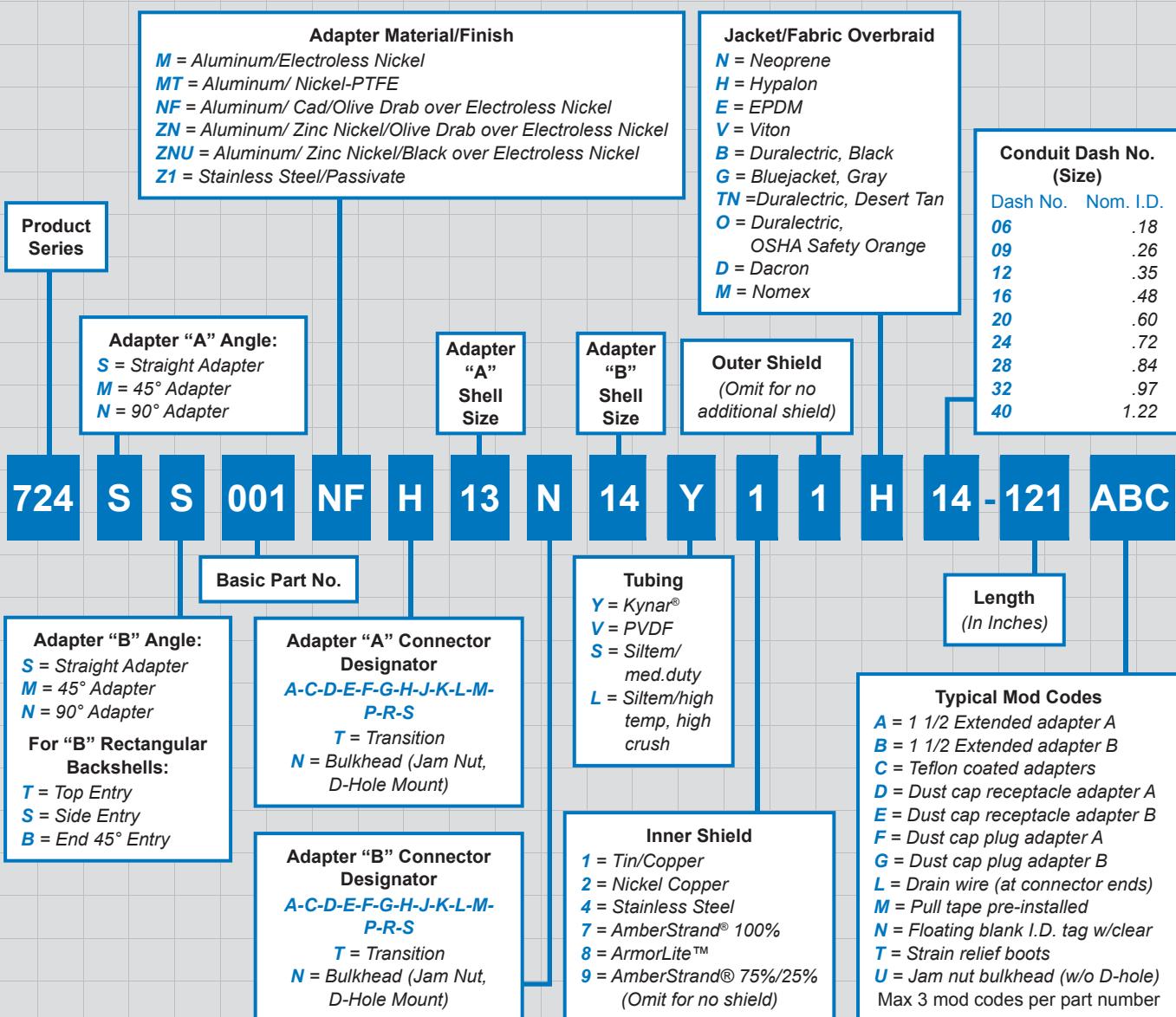
Factory Terminated Series 72 Assemblies How-to-Order

How-To-Order: Factory Terminated Series 72 Convoluted 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.

**B**

How To Order



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

Glenair®

Series 72
Annular Tubing

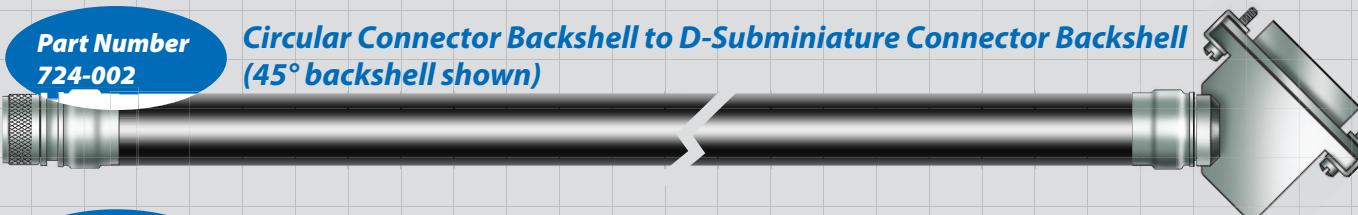
Part Number
724-001

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



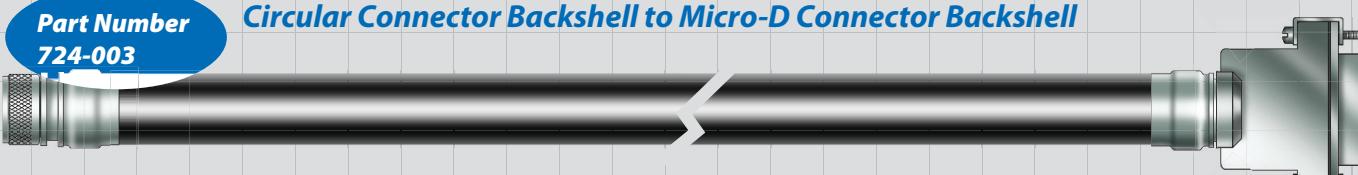
Part Number
724-002

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



Part Number
724-003

Circular Connector Backshell to Micro-D Connector Backshell



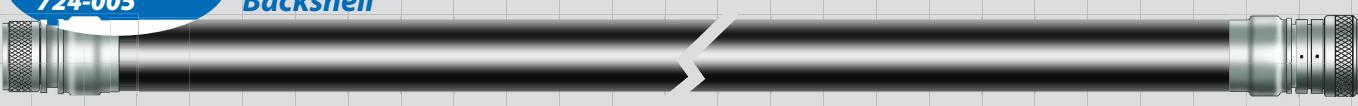
Part Number
724-004

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)

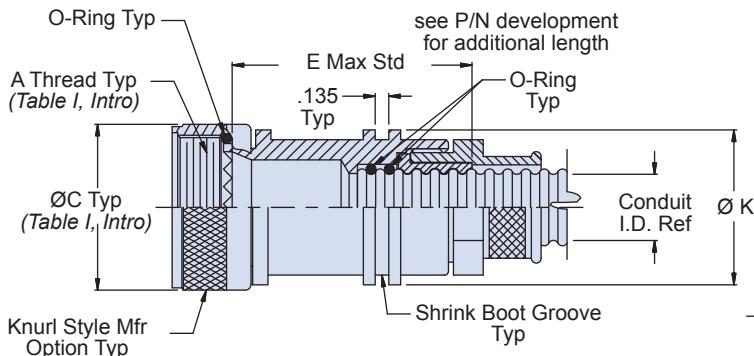
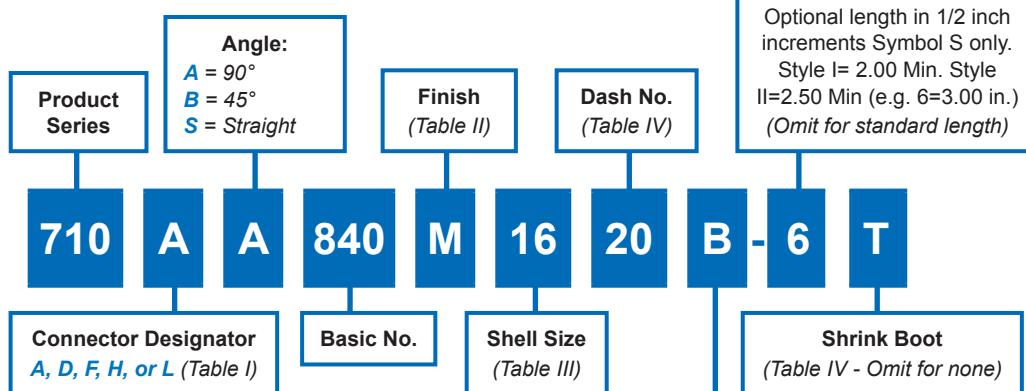




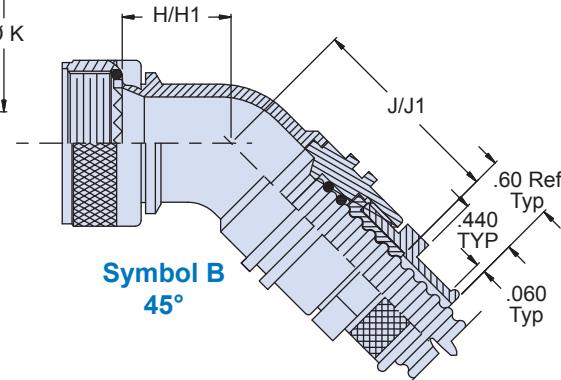
710-840
Sentry System EMI/Environmental
Convoluted Tubing to Connector Backshell, Metal
for Series 72 Annular Convoluted Tubing

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

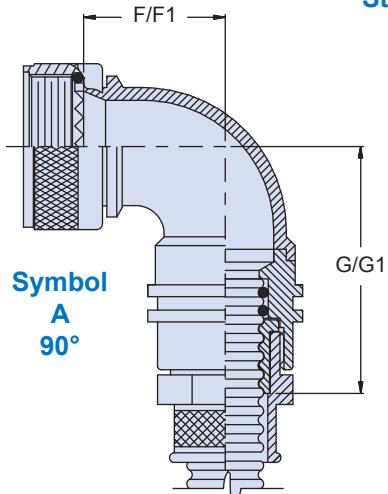
How To Order



B = 600-052
K = 600-052-1 Precoiled Band
(Omit for none)



**Symbol S
Straight**



**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
Convoluted Tubing to Connector Backshell, Metal
for Series 72 Annular Convoluted 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

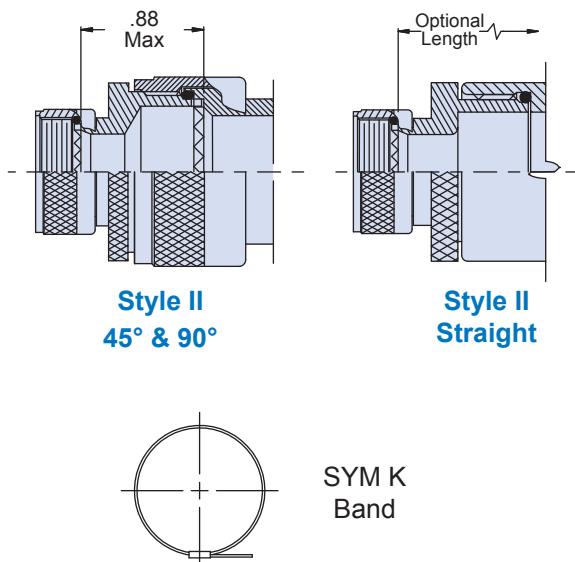


Table II: Finish

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

Table IV: Dash No./Dimensions

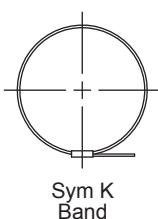
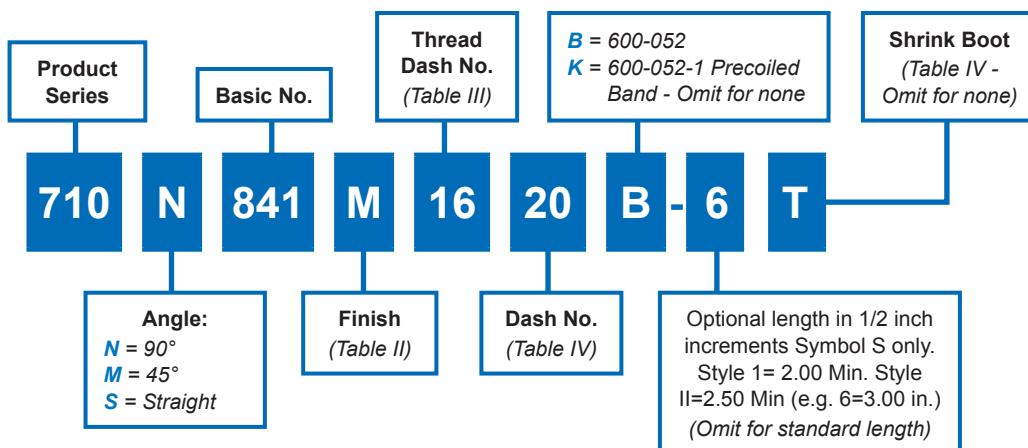
Dash No	Conduit I.D. Ref		F1 Max	G1 Max	H1 Max	J1 Max	Ø K	Shrink Boot
	Min	Max						
09	.24 (6.1)	.28 (7.1)	N/A	N/A	N/A	N/A	.875 (22.5)	770-001S105
12	.33 (8.4)	.37 (9.4)	N/A	N/A	N/A	N/A	1.062 (26.9)	770-001S106
16	.45 (11.4)	.50 (12.7)	.610 (15.5)	2.095 (53.3)	.582 (15.0)	2.065 (52.6)	1.188 (30.2)	770-001S106
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
Convoluted Tubing to Transition Backshell, Metal
for Series 72 Annular Convoluted Tubing

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

How To Order



**Symbol S
Straight**

Material and Finish

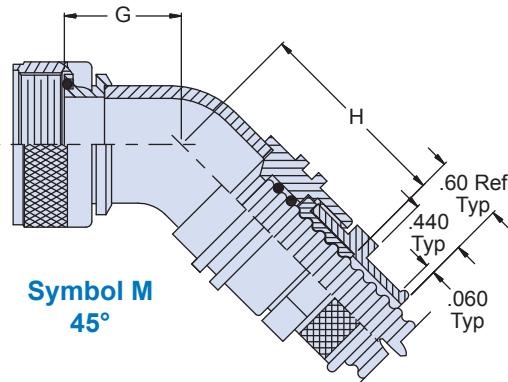
- Adapters, coupling nuts, RFI nuts & elbows: See Table II
- Split Bushings: Kynar/N.A.
- Band: CRES/Passivated
- O-Rings: Silicone/N.A.
- Shrink Boot: See individual drawing

Notes

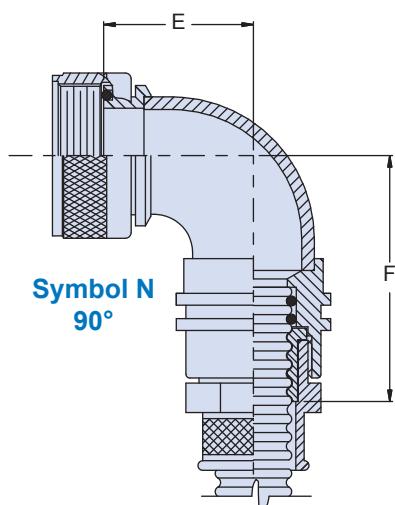
For use with: 710-077, 100, 101, 102, 103, 106, 107, 108, 109, 114, 115, 116, 117, 370, 371, 372, 373, 405, 406; 713-100, 101, 110.

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	13/16-18 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	15/16-18 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	11/2-18 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

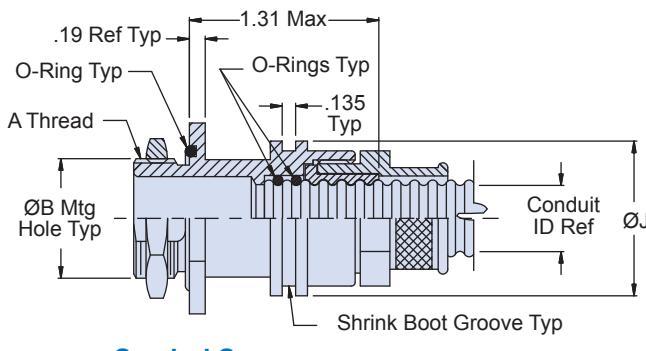
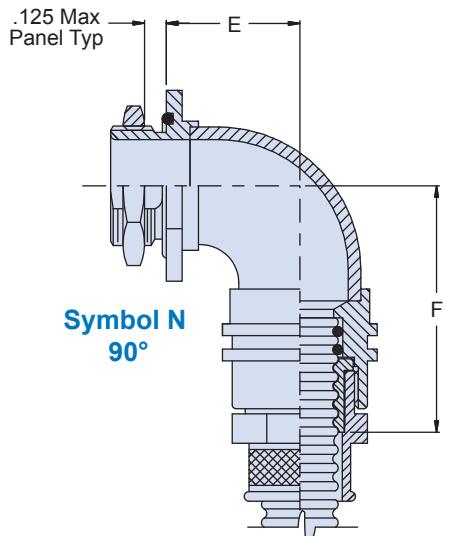
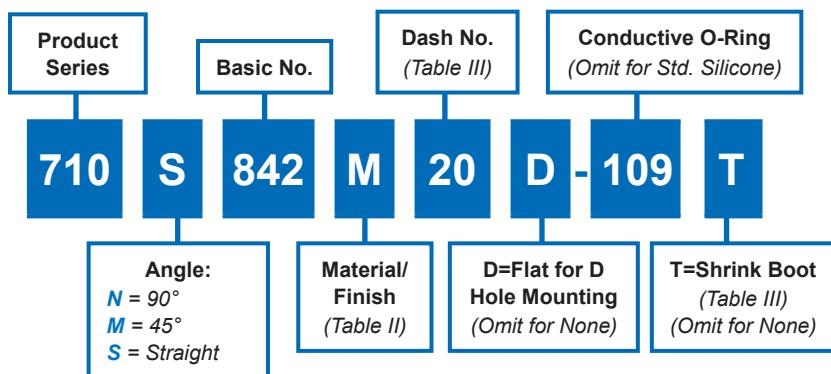
Dash No.	Conduit I.D. Ref Min	Conduit I.D. Ref Max	Ø J	Shrink Boot
09	0.24 (6.1)	0.28 (7.1)	0.875 (22.4)	770-001S105
12	0.33 (8.4)	0.37 (9.4)	1.062 (26.9)	770-001S106
16	0.45 (11.4)	0.50 (12.7)	1.188 (30.2)	770-001S106
20	0.57 (14.5)	0.62 (15.8)	1.312 (33.3)	770-001S107
24	0.69 (17.5)	0.75 (19.1)	1.500 (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



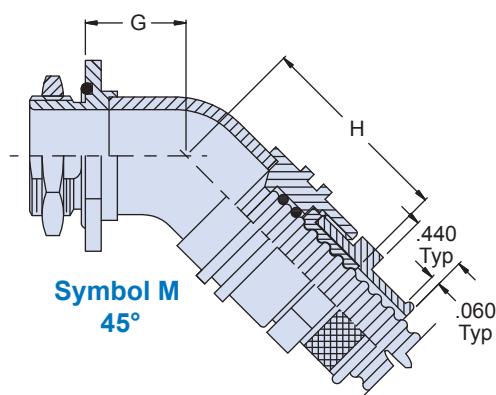
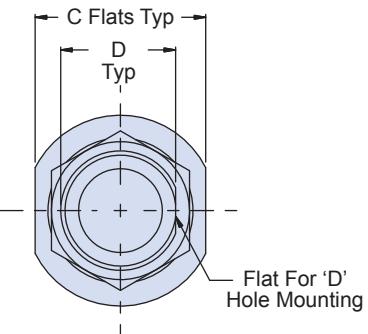
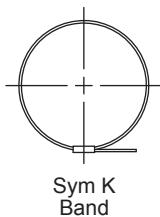
710-842
Sentry System EMI/Environmental
Metal Convoluted Tubing to Bulkhead Feed-Thru Adapter
for Series 72 Annular Convoluted Tubing

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

How To Order



**Symbol S
Straight**



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

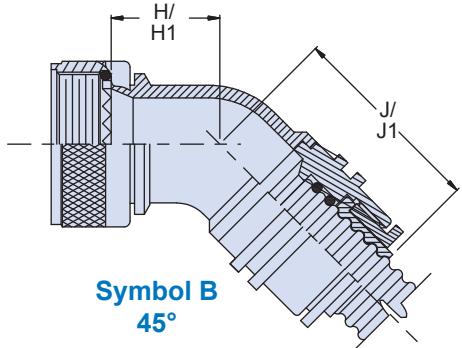
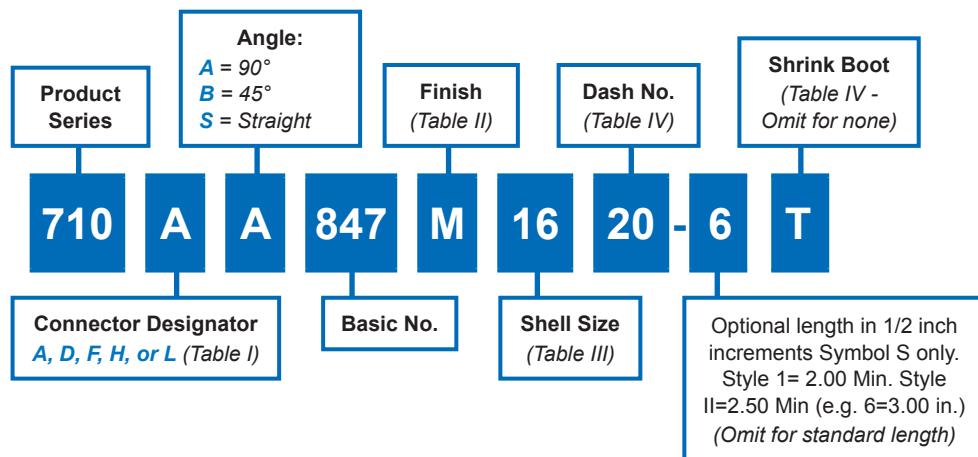
- Adapters, jam nuts, RFI nuts & elbows: See Table II
- Split Bushings: Kynar/N.A.
- Band: CRES/Passivated
- O-Rings: Silicone/N.A.
- Shrink Boot: See individual drawing



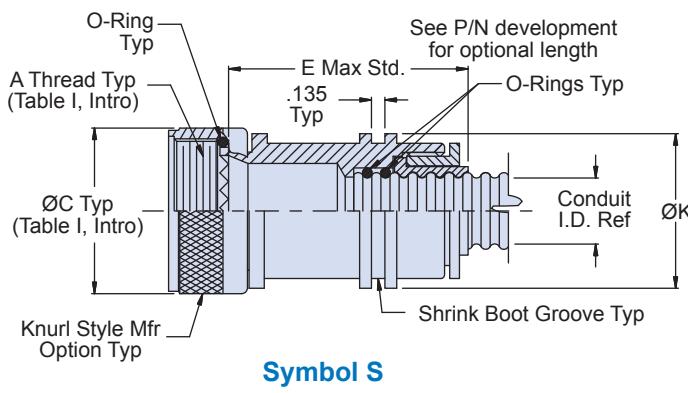
710-847
Sentry System Compact Environmental
Metal Convoluted Tubing to Connector Backshell
for Series 72 Annular Convoluted Tubing

Sentry System compact environmental connector backshell with shrink boot lip

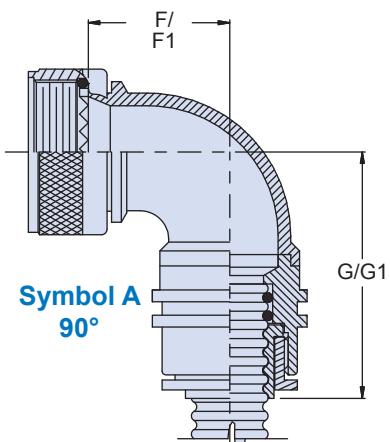
How To Order



Symbol B
45°



Symbol S
Straight



Symbol A
90°

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 Convoluted Tubing to Connector Backshell
for Series 72 Annular Convoluted Tubing**



Series 72
Annular Tubing

B

Table III: Shell Size/Dimensions

Shell Size A,D,F,L	H	E Max	F Max	G Max	H Max	J Max	Max Conduit Style I
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 Min	Max	F1 Max	G1 Max	H1 Max	J1 Max	Ø K	Shrink Boot
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 (15.0)	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

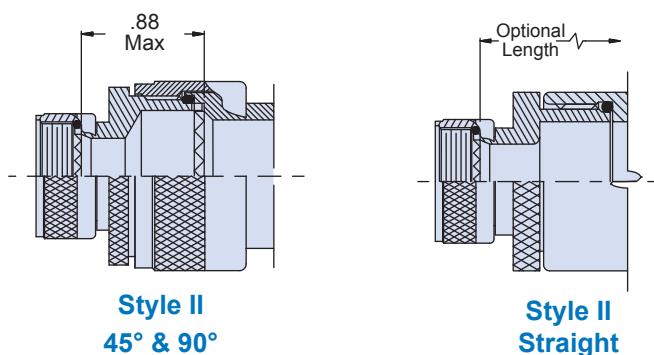
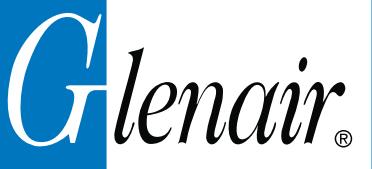


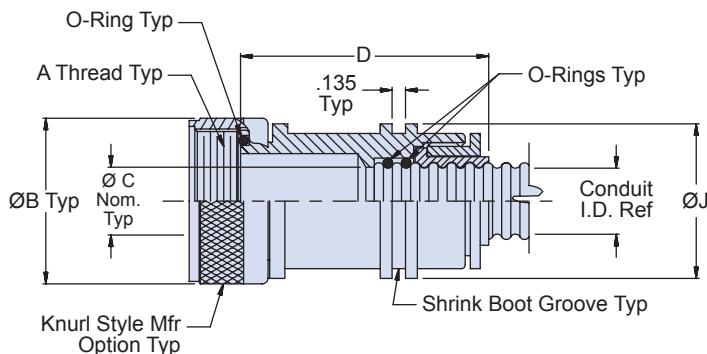
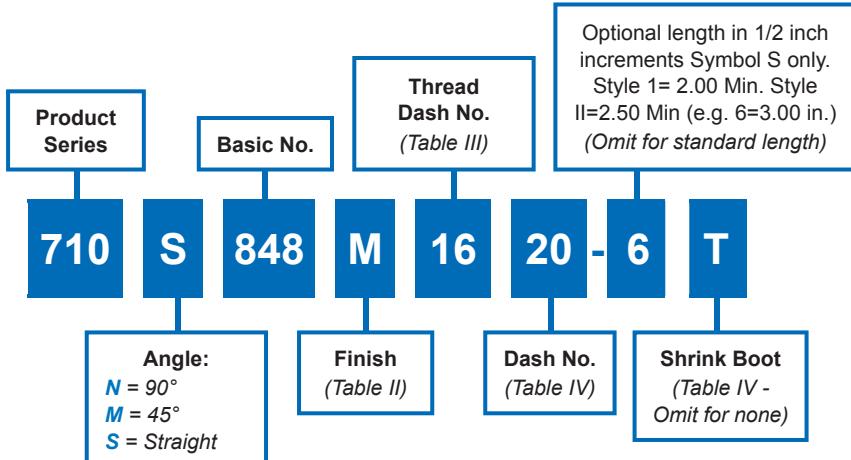
Table II: Finish		
Sym	Material	Finish Description
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	CAD/O.D. over Electroless Nickel (1,000 hour salt spray)
Z1	300 Series SST	Passivate
ZM	300 Series SST	Electroless Nickel
ZN	Aluminum Alloy	Zinc Nickel/Olive Drab over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



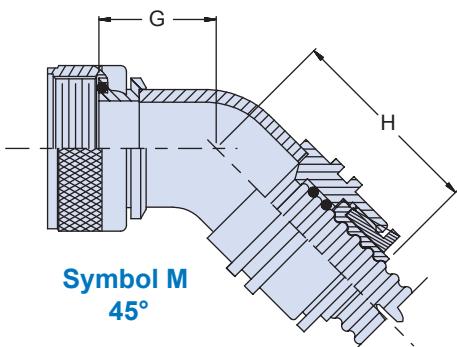
710-848
Sentry System Compact Environmental
Convoluted Tubing to Transition or End Fitting Backshell
for Series 72 Annular Convoluted Tubing

Sentry System compact environmental transition adapter with shrink boot lip

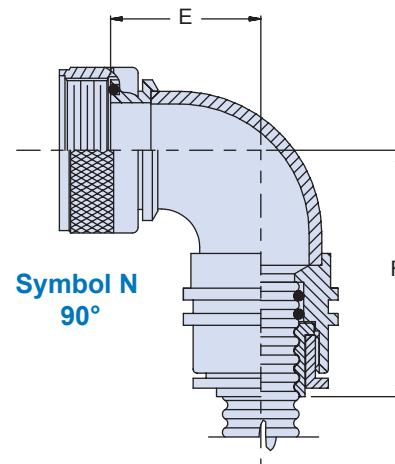
How To Order



**Symbol S
Straight**



**Symbol M
45°**



**Symbol N
90°**

710-848

**Sentry System Compact Environmental
Convoluted Tubing to Transition or End Fitting Backshell
for Series 72 Annular Convoluted 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	13/16-18 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 (50.0)	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

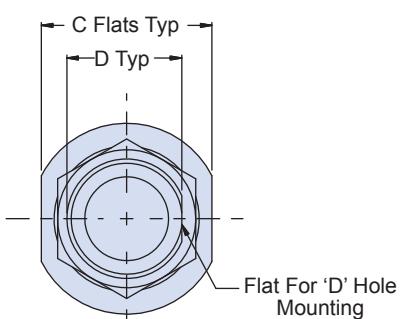
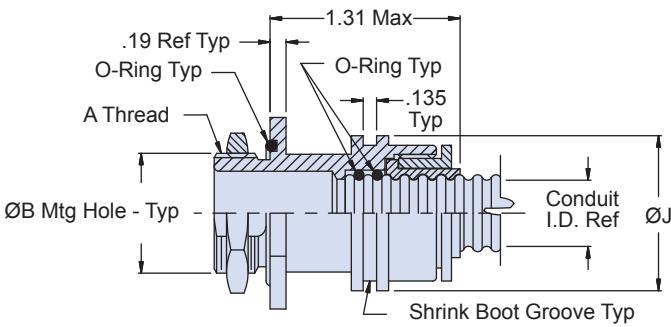
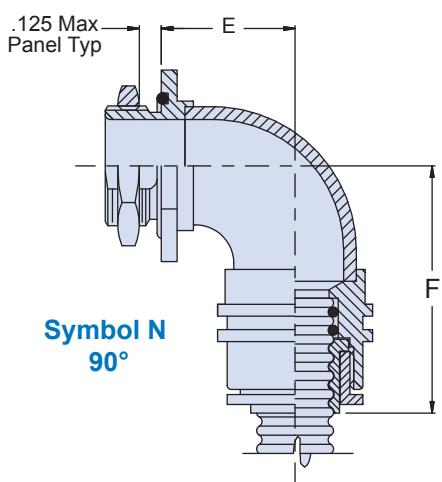
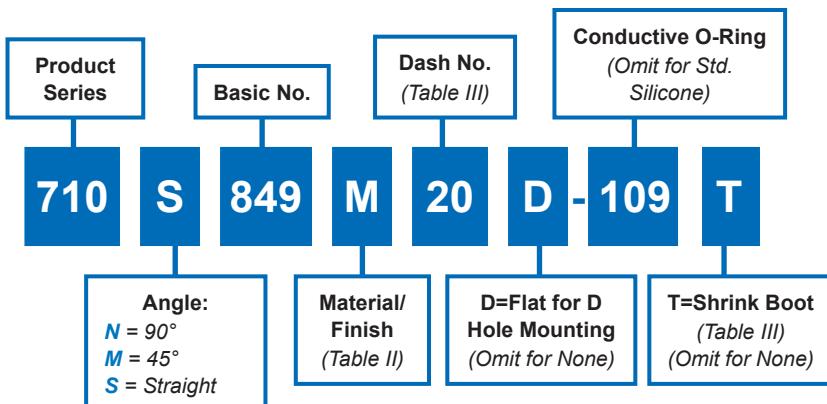
For use with: 710-077, 100, 101, 102, 103, 106, 107, 108, 109, 114, 115, 116, 117, 370, 371, 372, 373, 405, 406; 713-100, 101, 110.



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

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

How To Order



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
Convoluted Tubing to Bulkhead Feed-Thru Fitting
for Series 72 Annular Convolved Tubing**



Table III: Dash No./Dimensions

Dash No.	Conduit I.D. Ref Min	Conduit I.D. Ref Max	A Thread	Ø B +.015 / -.000	C Flats	D +.000 / -.015
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

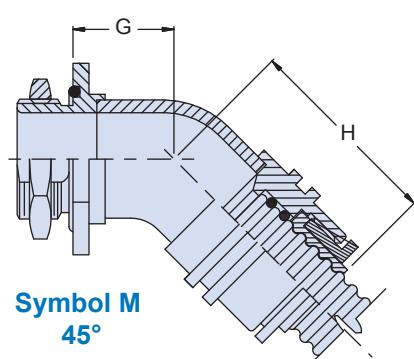


Table II: Finish

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



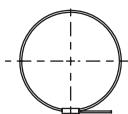
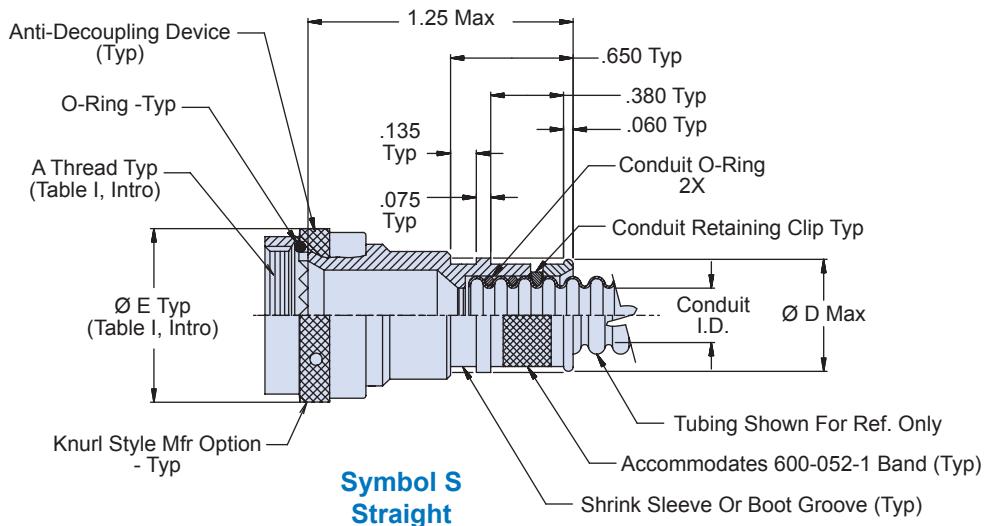
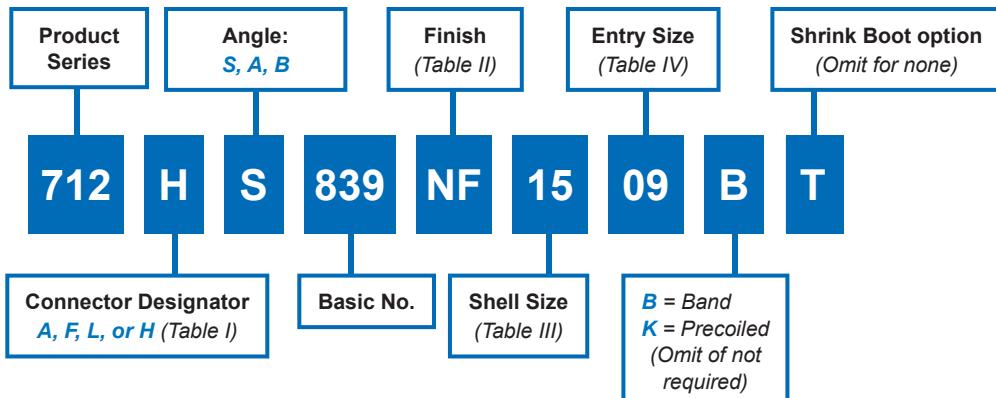
712-839
Guardian System - Metal
Convoluted Tubing to Connector Universal Backshell
for Series 72 Annular Convoluted Tubing

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

How To Order



Self-Locking



Band Option
(K Option Shown-
See Notes)

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

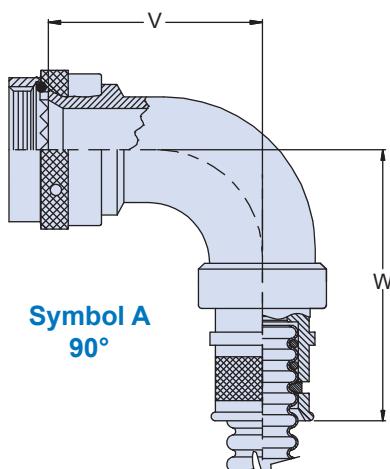
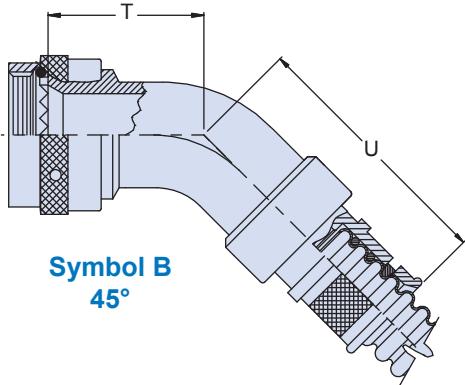


Table III: Shell Size/Dimensions

Shell Size A,F,L	H	T Max	U Max	V Max	W 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	TBD	TBD	1.400 (35.6)	2.630 (66.8)
32	37	TBD	TBD	1.750 (44.5)	2.920 (74.2)

Table IV: Entry Code/Dimensions/Shrink Boot

Entry Code	\varnothing 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
40	1.62 (41.1)	1.18 (30.0)	1.25 (31.8)	770-001S107

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

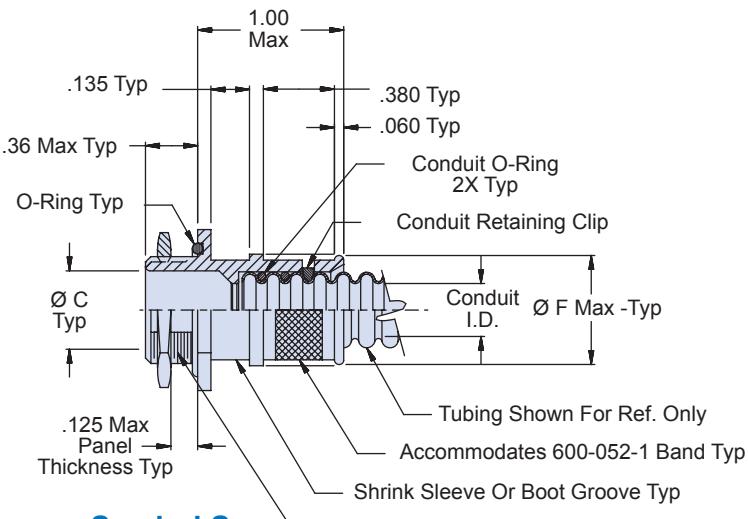
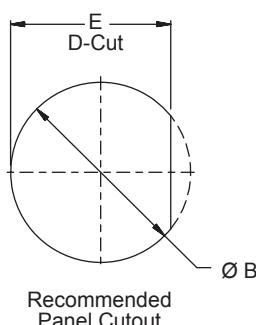
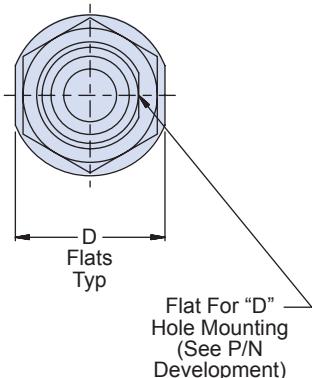
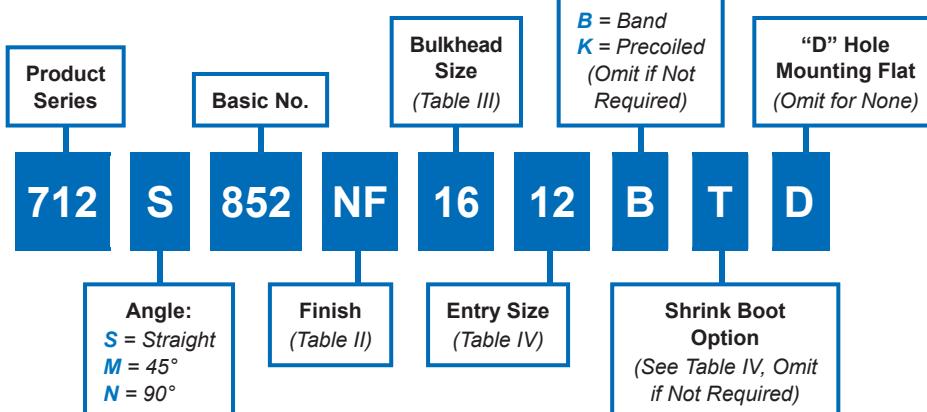


712-852
Guardian System - Metal
Convoluted Tubing to Bulkhead Feed-Thru Fitting
for Series 72 Annular Convoluted Tubing

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

B

How To Order



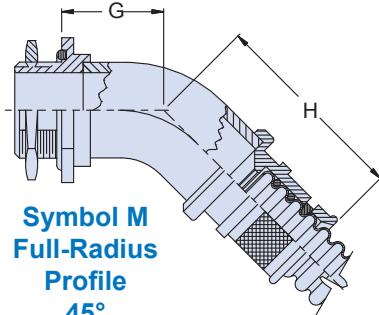
**Symbol S
Straight**

Material and Finish

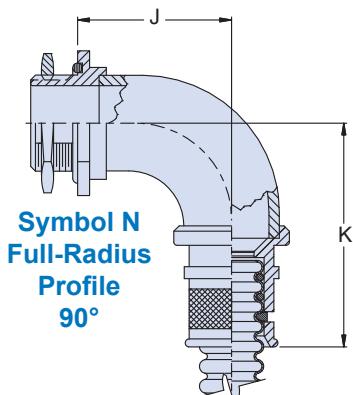
- Adapters, elbows: See Table II
- O-Rings: Silicone/NA
- Retaining Clip: High Grade Engineering Thermoplastic/NA

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



Symbol M
Full-Radius
Profile
45°



Symbol N
Full-Radius
Profile
90°

Table III: Bulkhead Size/Dimensions						
Bulkhead Size	A Thread Class 2A	\emptyset B +.015 -.000	\emptyset C	D Flats	E +.010 -.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	11/16-18 UNEF	1.068 (27.1)	0.875 (22.2)	1.375 (34.9)	1.010 (25.7)	32
32	13/16-18 UNEF	1.193 (30.3)	1.000 (25.4)	1.562 (39.7)	1.135 (28.8)	32
40	17/16-18 UNEF	1.443 (36.7)	1.250 (31.8)	1.875 (47.6)	1.385 (35.2)	40

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	\emptyset 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
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



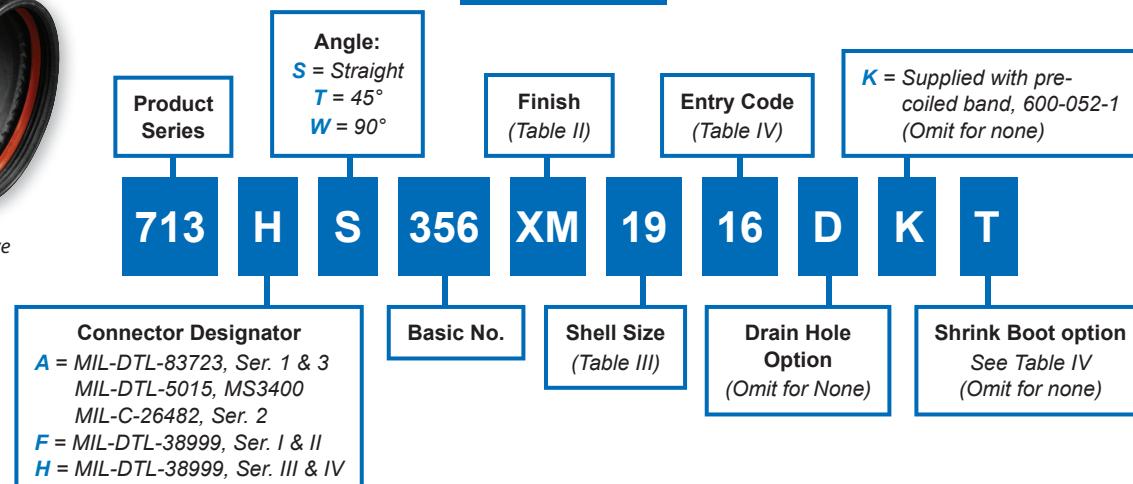
713-356
Guardian System - Composite
Convoluted Tubing to Connector Backshell
for Series 72 Annular Convoluted Tubing

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



*EMI/RFI when conductive finish is specified

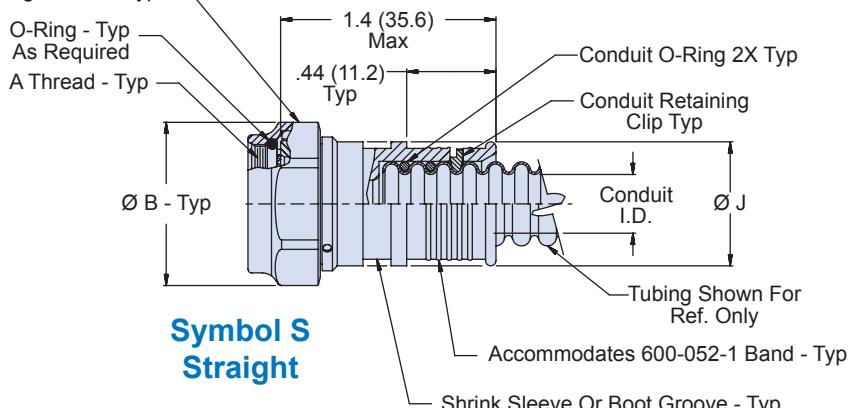
How To Order



Anti-Decoupling Device - Typ



Band Option
(K Option Shown - See Notes)



**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
Convoluted Tubing to Connector Backshell
for Series 72 Annular Convoluted Tubing

 Series 72
 Annular Tubing

B

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	11/16-18 UNEF	18	11/16-18 UNEF	19	M28 X 1.0-6H	1.48 (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	1.62 (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	1.75 (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	1.89 (48.0)	1.750 (44.5)	1.690 (42.9)

Table III (cont.)

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

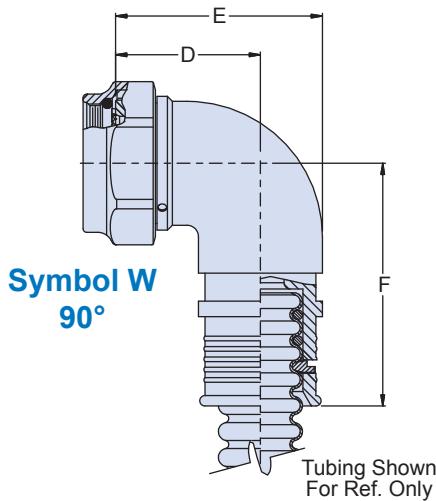
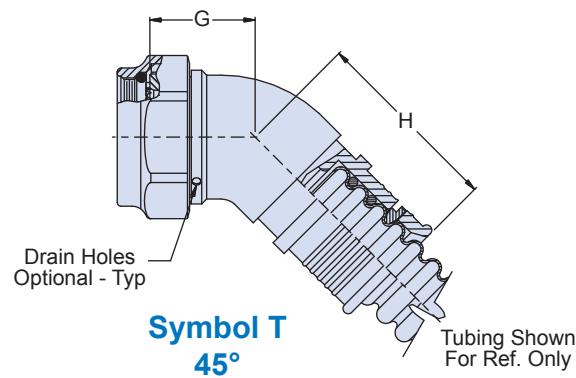


Table IV: Entry Code/Dimensions/Shrink Boot

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

Table II: Finish

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



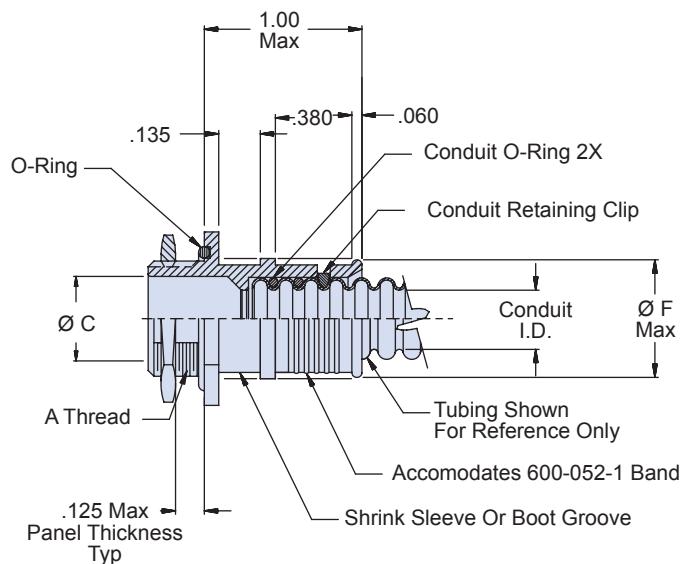
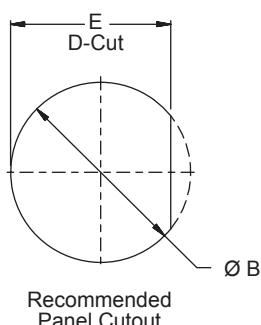
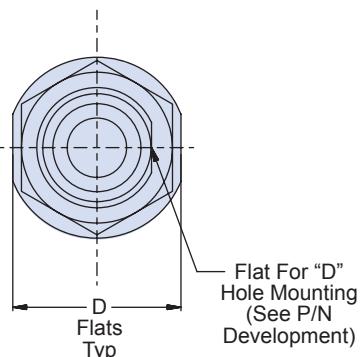
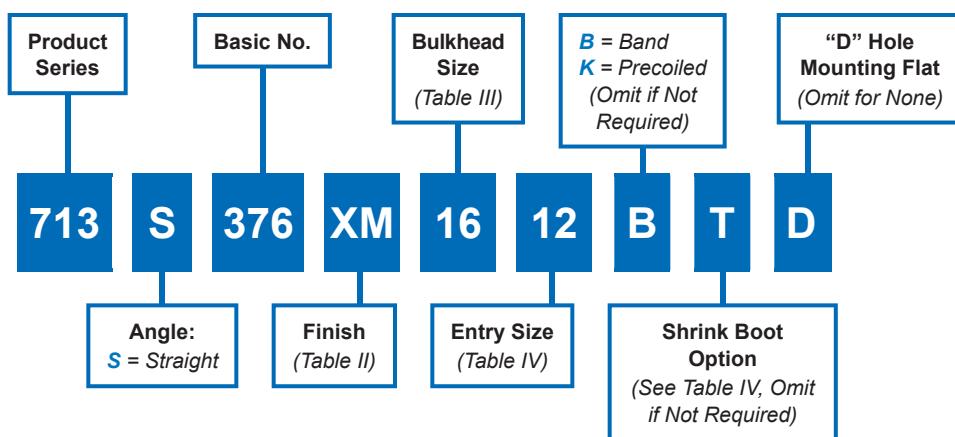


713-376
Guardian System - Composite
Convoluted Tubing to Bulkhead Feed-Thru Fitting
for Series 72 Annular Convoluted Tubing

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
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 -.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	13/16-8 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
40	1 1/2-18 UNEF	1.505 (38.2)	1.250 (31.8)	1.812 (46.0)	1.448 (36.8)	40

Table II: Finish

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

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
40	1.62 (41.1)	1.18 (30.0)	1.25 (31.8)	770-001S107



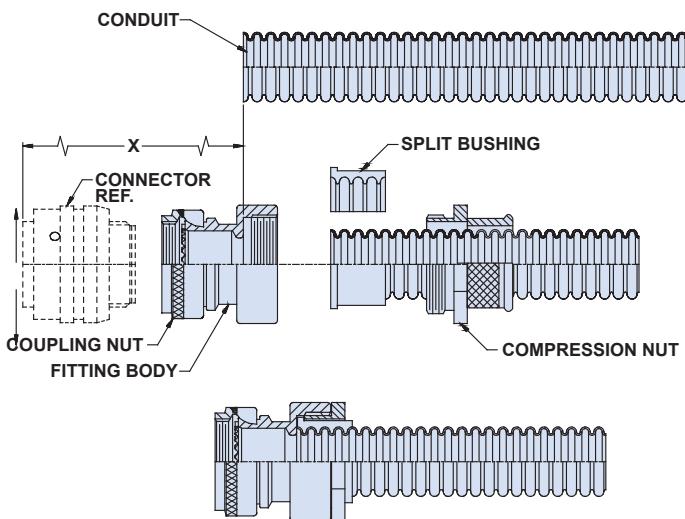
Installation Procedures for Sentry System

(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.

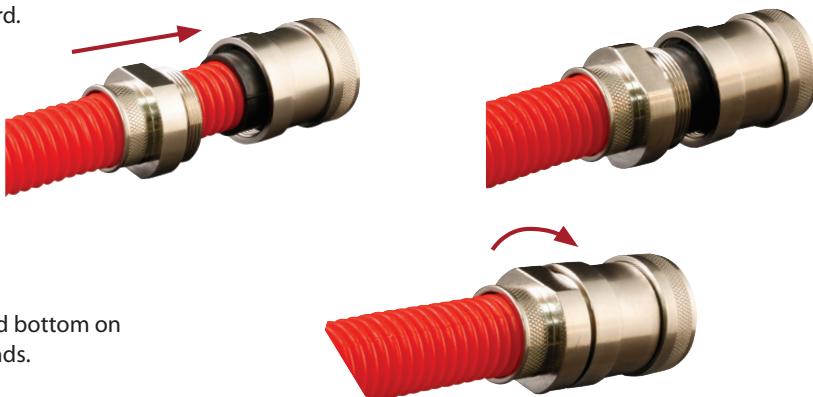


Fitting/Conduit Assembly

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.

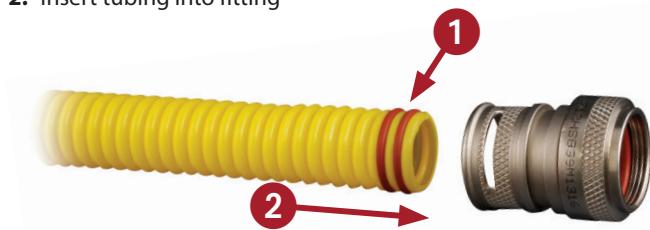
**Installation Procedures for
Guardian System**
(712-839, 712-852, 713-356, 713-376)



Guardian System Fittings

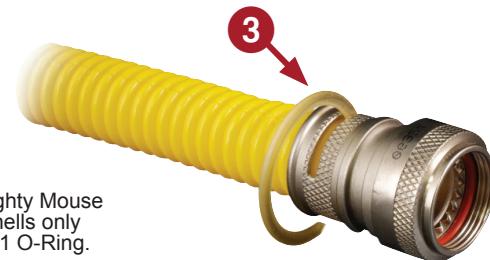
O-Ring Attachment

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.



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.



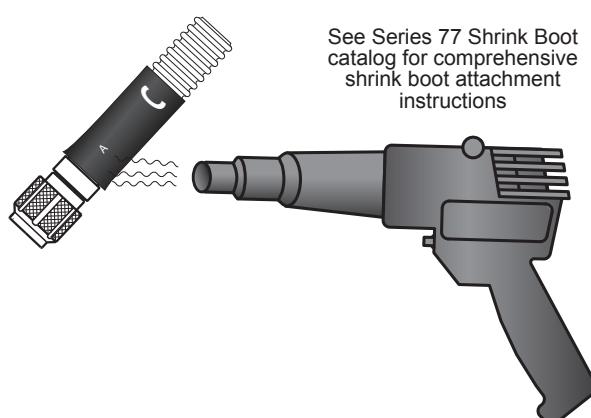
Trim Braid

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.



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



Glenair®

Series 74

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

Glenair®

Series 74
Helical Tubing

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.



Part No.	Description	Page No.
Helical Convoluted Tubing Configurations		
	Configuration Options and Material Properties	C-2 – C-8
120-100	Helical Convoluted Tubing	C-9
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121-102	Convolved Tubing with 2 Braids	C-11
121-100	Convolved Tubing with Braid and Jacket	C-12
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	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	Convolved Tubing-to-Connector Backshell, Metal	C-18
713-359	Convolved Tubing-to-Bulkhead Fitting, Metal	C-20
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Super-Durable Internal Braid System		
711-150	Convolved Tubing-to-Connector Backshell	C-30
711-149	Convolved Tubing-to-Bulkhead Fitting	C-32
711-148	Convolved Tubing-to-Transition or End Fitting Adapter	C-34
AeroLite System		
712-879	Convolved Tubing-to-Connector Backshell	C-36
712-880	Convolved Tubing-to-Bulkhead Fitting	C-38
712-831	Convolved Tubing-to-Connector Backshell, Composite	C-40
712-848	Convolved Tubing-to-Bulkhead Fitting, Composite	C-42
Legacy Heavy-Duty Ground Ring System		
712-277	Convolved Tubing-to-Connector Backshell	C-44
712-389	Convolved Tubing-to-Bulkhead Fitting	C-46
712-380	Convolved Tubing-to-Transition or End Fitting Adapter	C-48
712-358	Convolved Tubing-to-Convolved Tubing Splice Kit	C-50
Hummer Nut System		
712-178	Convolved Tubing-to-Connector Backshell	C-52
712-202	Convolved Tubing-to-Bulkhead Fitting	C-54
712-379	Convolved Tubing-to-Transition or End Fitting Adapter	C-56
712-419	Convolved Tubing-to-Connector Backshell, Composite	C-58
712-475	Convolved Tubing-to-Bulkhead Fitting, Composite	C-60
Installation Procedures		
		C-62



Series 74

High-Performance Helical Polymer-Core Convolved Tubing Systems

Configuration Options

Series 74 convoluted tubing, braided shielding, and jacketing options

The Series 74 Convolved Tubing System is a flexible and durable alternative to standard jacketed cable. System design begins with your selection of core material, either ETFE, FEP, Teflon® 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.



Pg. C-9

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

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



Pg. C-10

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

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



Pg. C-11

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

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



Pg. C-12

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

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



Pg. C-13

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

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



Pg. C-14

For environmental applications without EMI shielding requirements

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



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
Convoluted Tubing Systems
Material Properties and Colors



Convoluted Tubing Material Choices

E	ETFE (Tefzel®; 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 (Teflon®)	Outstanding lubricity and resistance to corrosives, -95°F to 500°F temperature rating. Melt-extruded for better cold flow and long-term sealing than PTFE; more economical.
T	PTFE (Teflon®)	Outstanding resistance to corrosives, -95°F to 500°F temperature rating. Somewhat better folding endurance than PFA. However, this paste-extruded Teflon® 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.

Convoluted 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)	-65°F/310°F (-54°C/154°C)	-95°/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		

Convoluted Tubing Color Options

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

Consult factory for additional color options

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PFA/PTFE Properties Comparison Choosing the Right Teflon® Fluoropolymer Resin



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 DuPont's most popular materials, Teflon® PFA and Teflon® 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 105	1 x 106
Chemical Properties	inert	Inert
Electrical Resistivity	>10 ¹⁸ OHM/CM	>10 ¹⁸ OHM/CM
Water Absorption	<.03%	<.01%

Series 74

High-Performance Helical Polymer-Core Convoluted Tubing Systems

Braided Shield and Jacket Options and Material Properties



Series 74
Helical Tubing

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

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

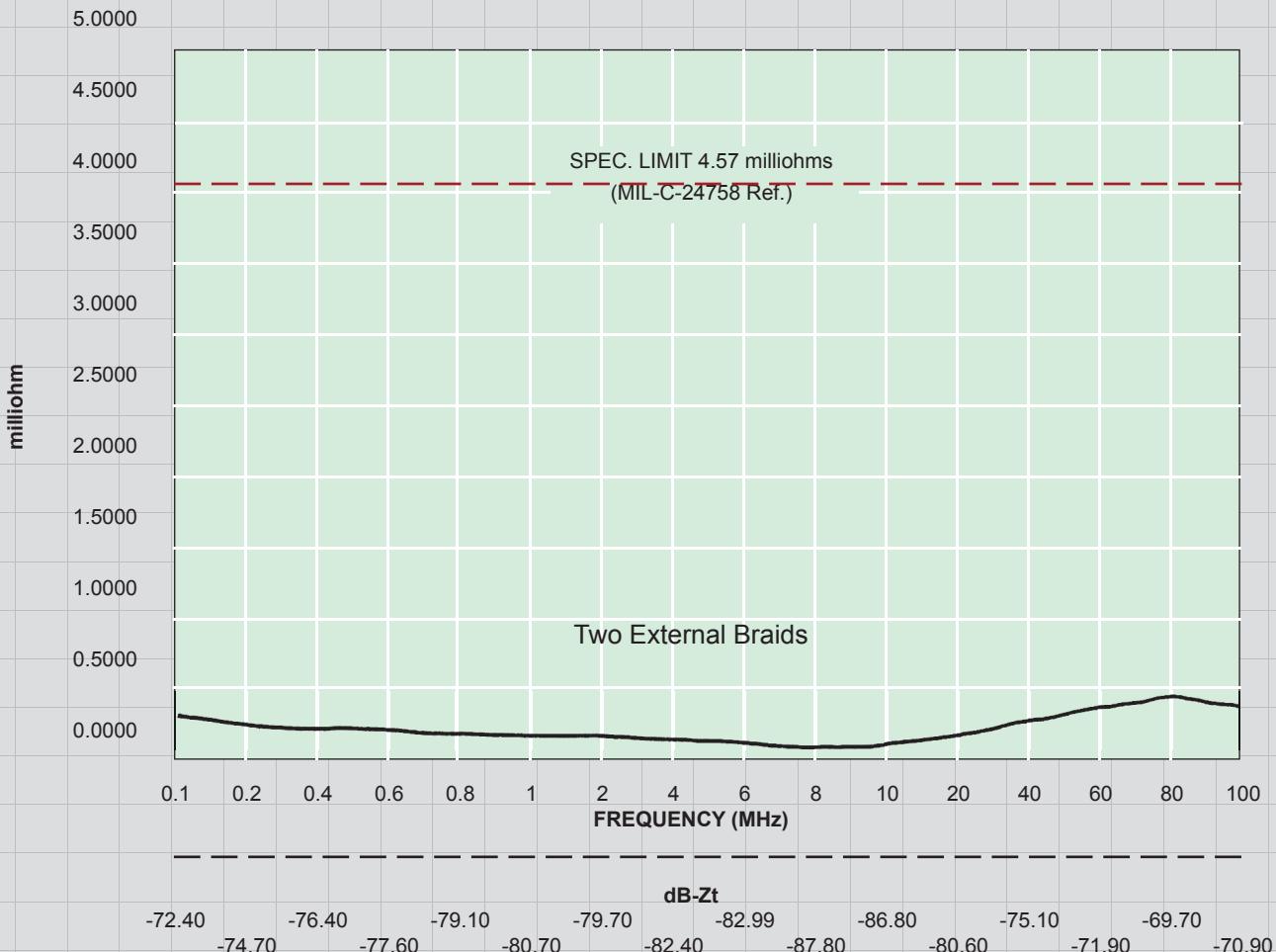
C

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	Duralectric, Black	Weatherproof, halogen free, flame resistant, functional to 260°C
G	Duralectric, Gray	Qualified to US Navy MIL-PRF-24758A, Fed Std 595B #26270 Haze Gray color
TN	Duralectric, Desert Tan	Duralectric in Fed Std #3446 Desert Tan color
O	Duralectric, Orange	OSHA Safety Orange to mark energized electrical cables

Jacketing Material Properties and Chemical Resistance

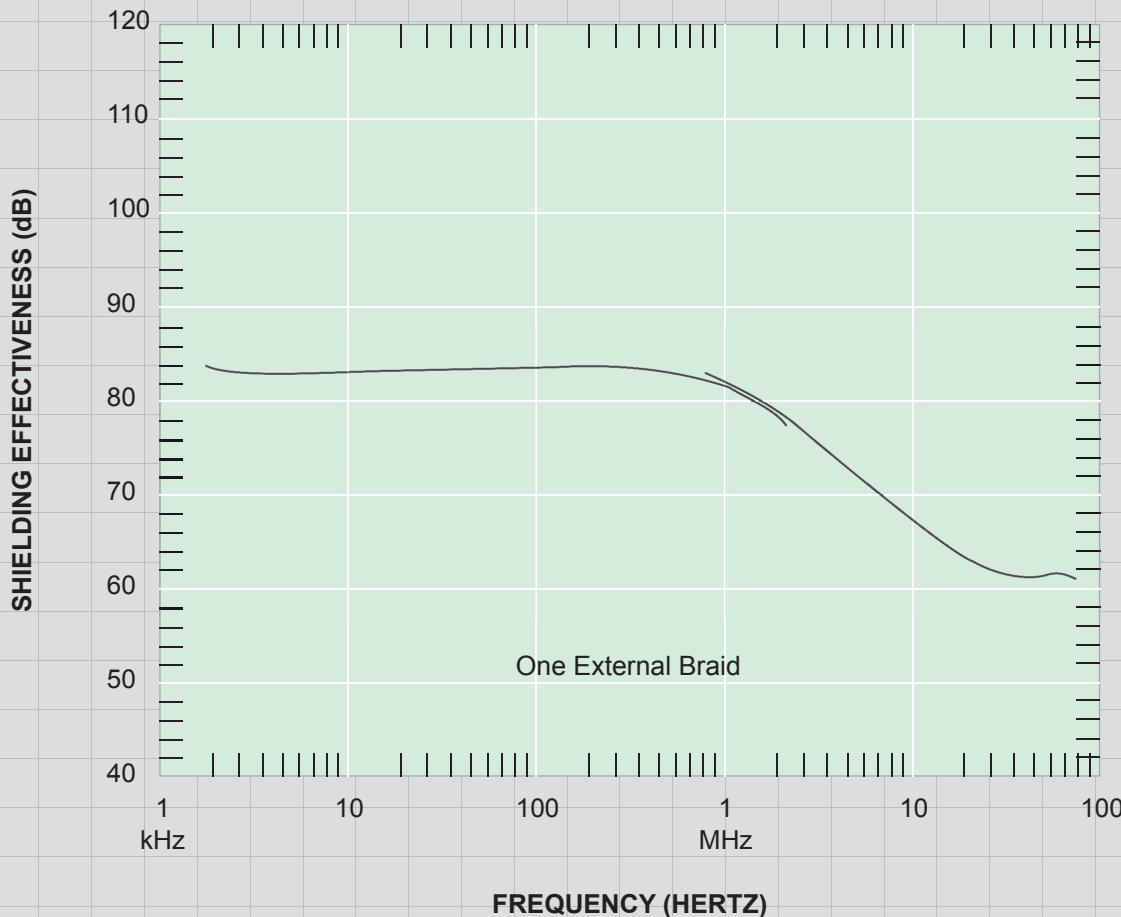
Material Property	EPDM (Ethylene Propylene Diene Monomer)	Hypalon (Chlorosulfonated Polyethylene)	Neoprene (Polychloroprene)	Viton (Fluoroelastomer)	Duralectric
Temperature Range	-60°F to +300°F (-51°C to +149°C)	-60°F to +300°F (-51°C to +149°C)	-60°F to +250°F (-51°C to +121°C)	-40°F to +392°F (-40°C 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 Convoluted Tubing (FEP)
with 2 Tin/Copper Braids and User Installable Fittings
0.5 Inch Diameter

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

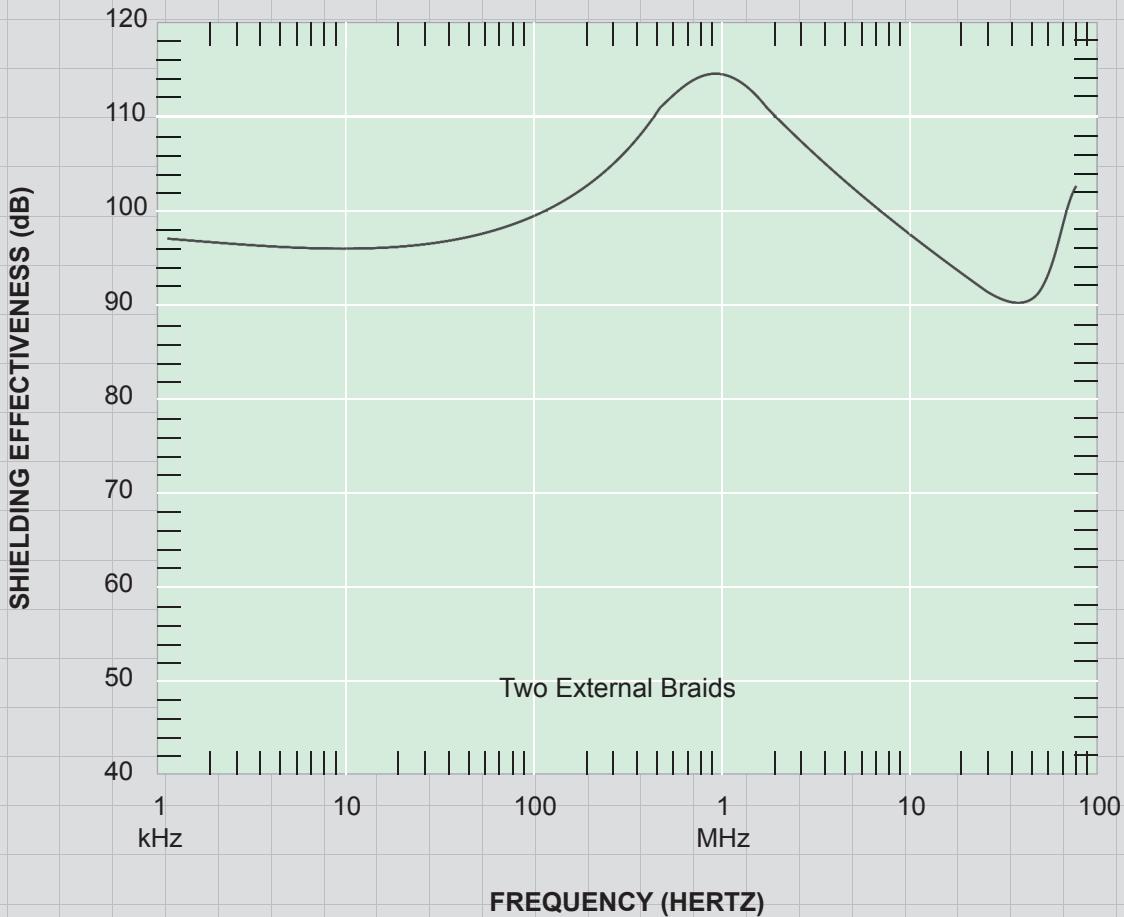
Glenair®

Series 74
Helical Tubing





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



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

Glenair®

Series 74
 Helical Tubing

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



How To Order

Product Series
120 - Convoluted Tubing

Class:
1 - Standard Wall
2 - Thin Wall

Tubing Size
(Table I)

Material
K - PEEK
E - ETFE
F - FEP
P - PFA
T - PTFE

Unit Length
In Inches
(Omit for Bulk Length)

120 - 100 - 1 - 1 - 16 - B - K - 24

Basic No.

Convolution
1 - Standard
2 - Close

Color

B - Black
C - Natural
(Consult factory for additional color options)

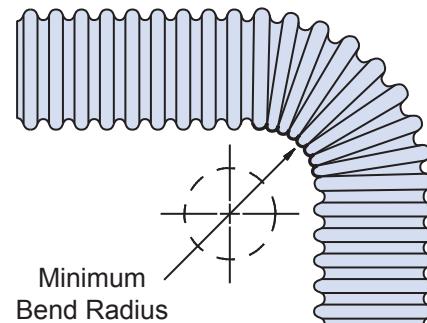
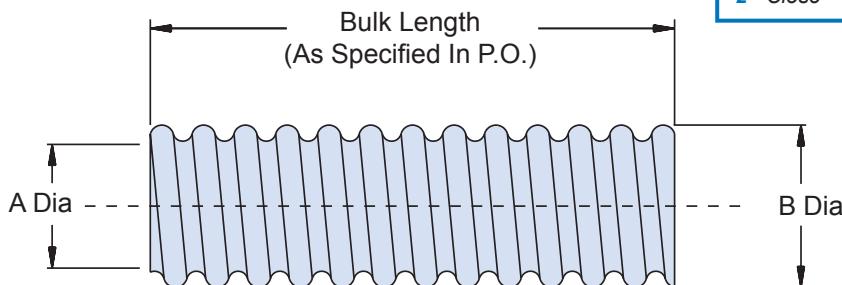


Table I: Tubing Size Order Number and Dimensions

Tubing Size	Fractional Size Ref	A Inside Dia Min	B Dia Max	Minimum 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 Convoluted 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

Product Series
121 - Convoluted Tubing

Class:
1 - Standard Wall
2 - Thin Wall

Tubing Size
(Table I)

Material
K - PEEK
E - ETFE
F - FEP
P - PFA
T - PTFE

Unit Length
In Inches
(Omit for Bulk Length)

121

101

1

1

16

B

K

T - **60**

Basic No.

Convolution
1 - Standard
2 - Close

Color
B - Black
C - Natural

Shield
Table II

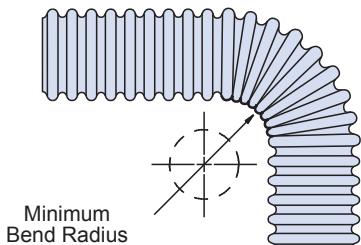
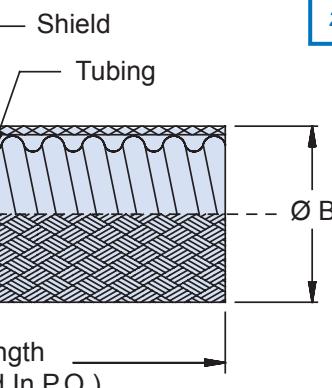


Table II: Shield/Braid Option	
T	Tin/Copper
C	Stainless Steel
N	Nickel Copper
S	SnCuFe
L	ArmorLite™
D	Dacron (Non-Conductive)
M	Nomex (Non-Conductive)
E	AmberStrand® 100%
F	AmberStrand® 75%/25%

Table 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	11/4	1.205 (30.6)	1.589 (40.4)	2.75 (69.9)
48	11/2	1.437 (36.5)	1.882 (47.8)	3.25 (82.6)
56	13/4	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)

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.

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



How To Order

Product Series
121 - Convoluted Tubing

Class:
1 - Standard Wall
2 - Thin Wall

Material
K - PEEK
E - ETFE
F - FEP
P - PFA
T - PTFE

Outer Shield
Table II)

121 - **102** - **1** - **1** - **16**

Basic No.

Convolution
1 - Standard
2 - Close

B **K** **T** **T** - **60**

Color
B - Black
C - Natural

Inner Shield
Table II)

Unit Length
In Inches
(Omit for Bulk Length)

Tubing Size
(Table I)

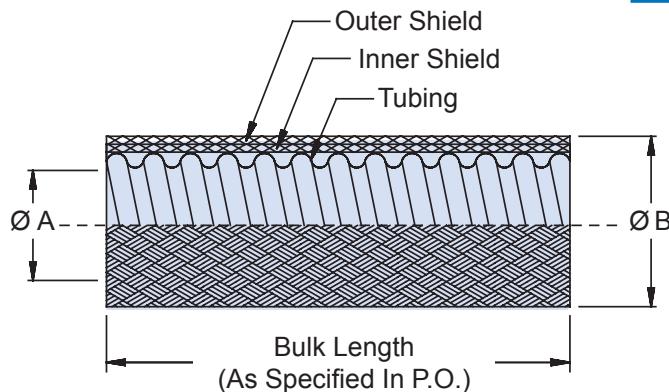


Table II: Shield/Braid Option

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%

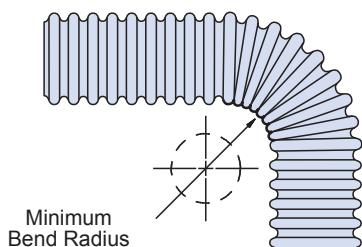


Table I: Tubing Size Order Number and Dimensions

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	11/4	1.205 (30.6)	1.64 (41.6)	2.75 (69.9)
48	11/2	1.437 (36.5)	1.93 (49.1)	3.25 (82.6)
56	13/4	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)

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

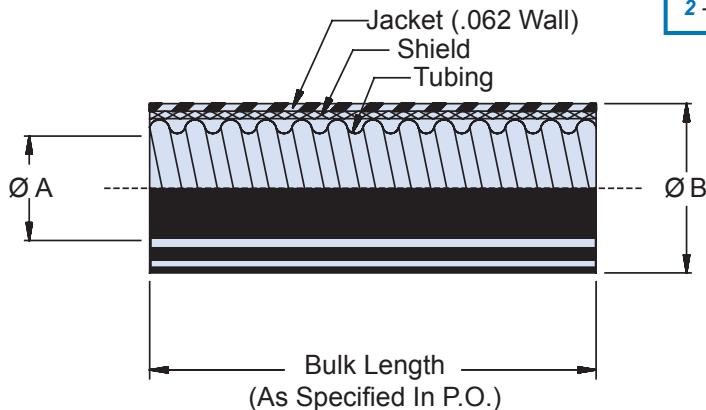
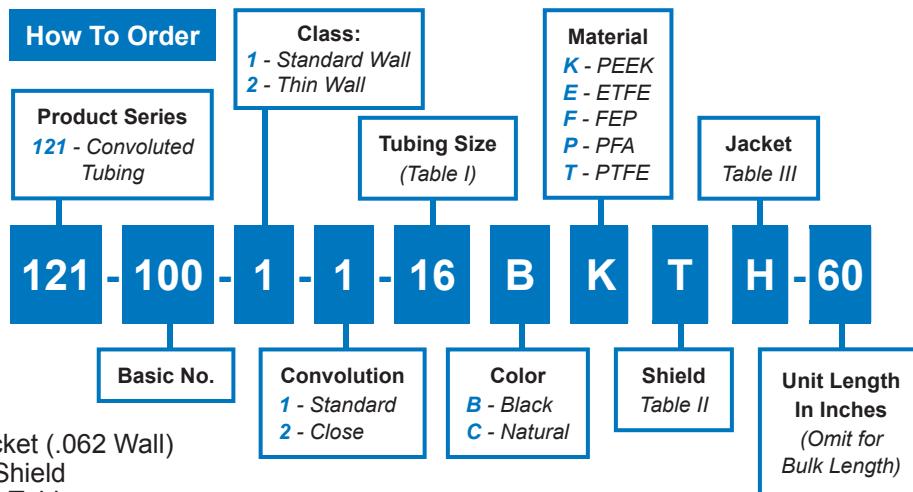
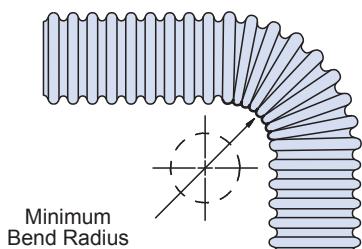


Table II: Shield/Braid Option	
T	Tin/Copper
C	Stainless Steel
N	Nickel Copper
S	SnCuFe
L	ArmorLite™
D	Dacron (Non-Conductive)
M	Nomex (Non-Conductive)
E	AmberStrand® 100%
F	AmberStrand® 75%/25%

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



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

Glenair®

Series 74
Helical Tubing

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



How To Order

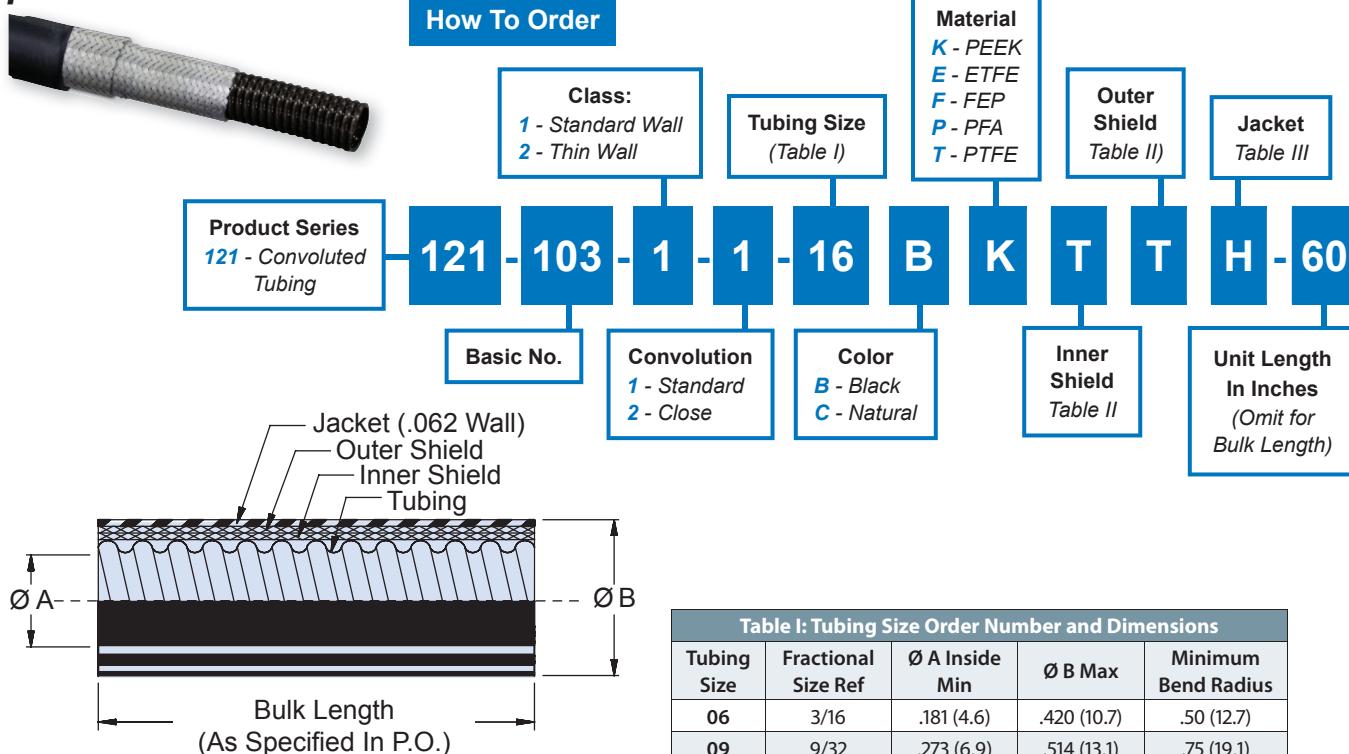


Table II: Shield/Braid Option

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%

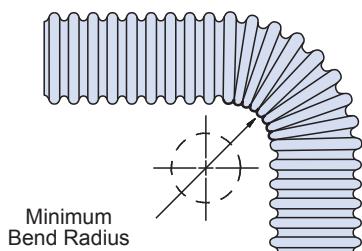
Table III: Jacket Option

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)	.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	11/4	1.205 (30.6)	1.64 (41.6)	2.75 (69.9)
48	11/2	1.437 (36.5)	1.93 (49.1)	3.25 (82.6)
56	13/4	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)

*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

Product Series
123 - Convoluted Tubing

Class:
1 - Standard Wall
2 - Thin Wall

Dash No.
(Table I)

Material
K - PEEK
E - ETFE
F - FEP
P - PFA
T - PTFE

Unit Length In Inches
(Omit for Bulk Length)

123 - 100 - 1 - 1 - 16 B E H - 60

Basic No.

Convolution
1 - Standard
2 - Close

Color
B - Black
C - Clear

Jacket
Table II

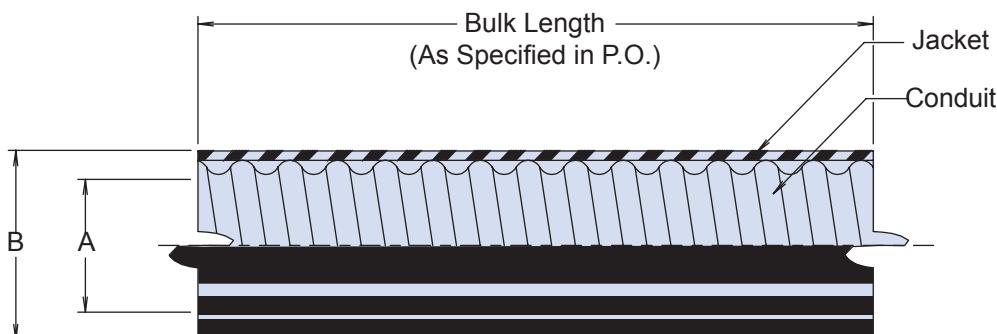


Table I: Tubing Size Order Number and Dimensions

Tubing Size	Fractional Size Ref	\varnothing A Inside		\varnothing 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	11/4	1.205 (30.6)	1.250 (31.8)	1.679 (42.6)
48	11/2	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.

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



How To Order

Product Series
121 - Convolved Tubing

Dash No.
(Table I)

Material
K - PEEK
E - ETFE
F - FEP
P - PFA
T - PTFE

Optional Second Shield
Table II
(Omit for None)

S - Stress Member Option
(omit for none)

121 - 195 - 16 B E T T P - S - 60

Basic No.

Color
B - Black
C - Natural

First Shield
Table II

P - Polyester Expandable Sleeve Option
(omit for none)

Unit Length In Inches
(Omit for Bulk Length)

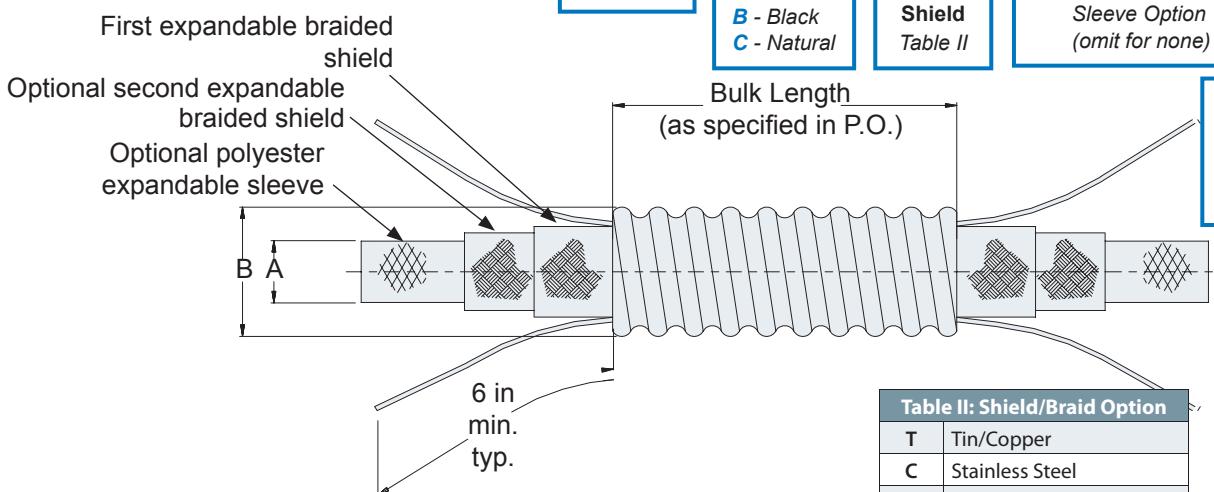


Table II: Shield/Braid Option

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

Table I: Dash No./Dimensions

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)	

Packaging/Material Notes

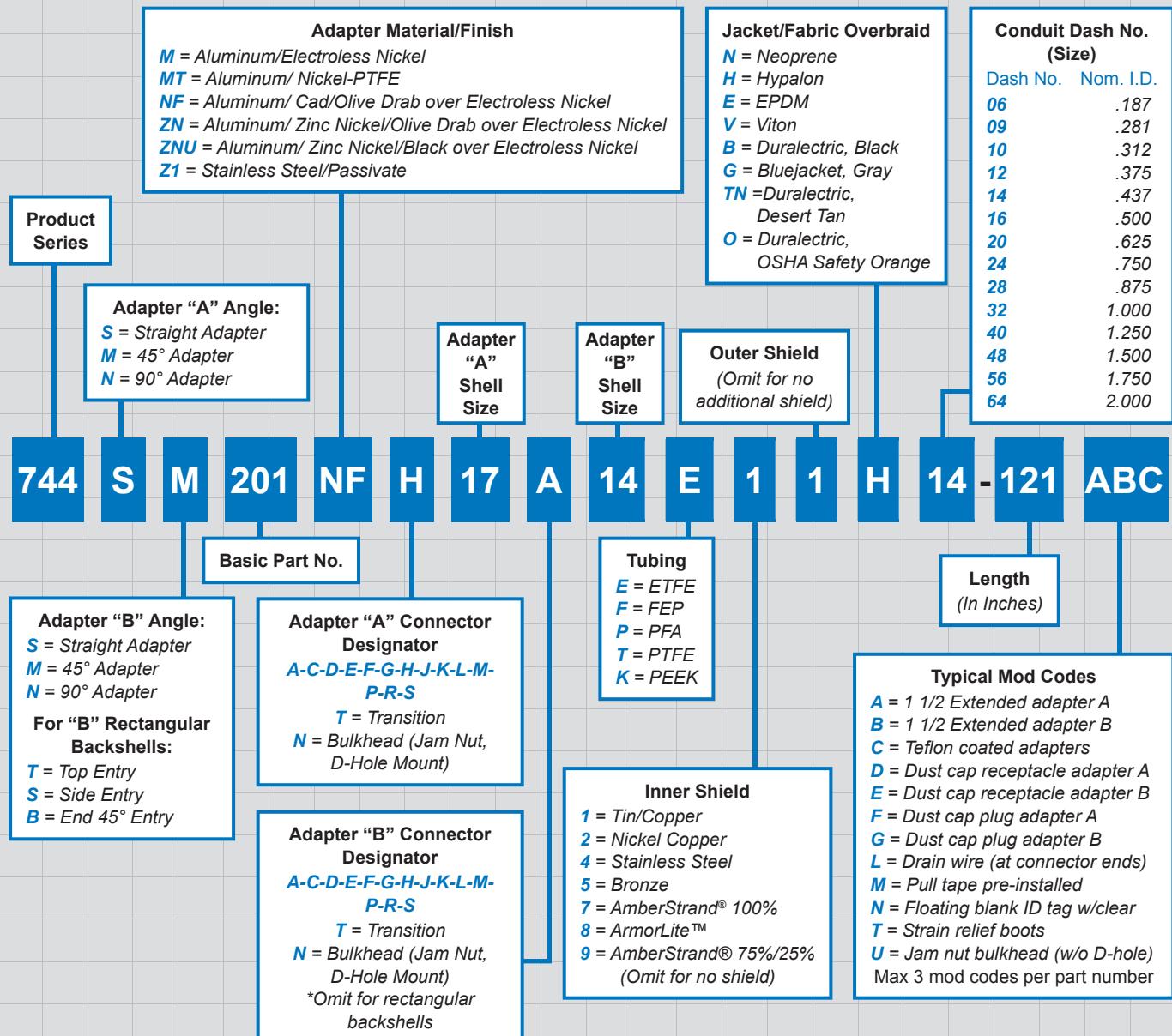
- Long-length orders of 121-195 conduit are subject to carrier weight and box size restrictions. Glenair standard practice is to ship optimal lengths of product based on weight, size, and carrier specifications. Consult factory for additional information or to specify packaging requirements.
- Max continuous 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.

How-To-Order: Factory Terminated Series 74 Convoluted 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

Glenair®

Series 74
Helical Tubing

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)



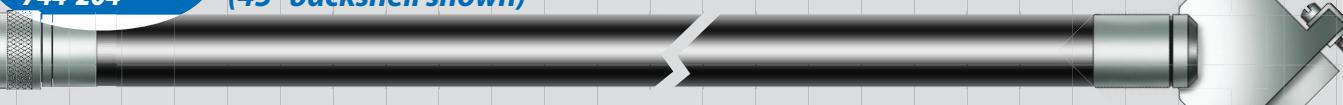
Part Number
744-203

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)



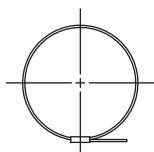
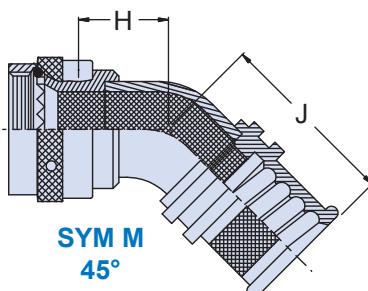
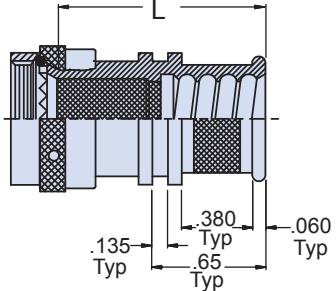
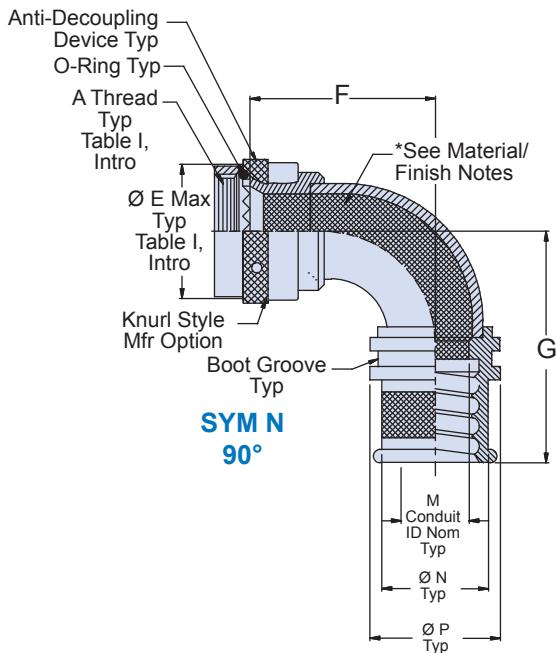
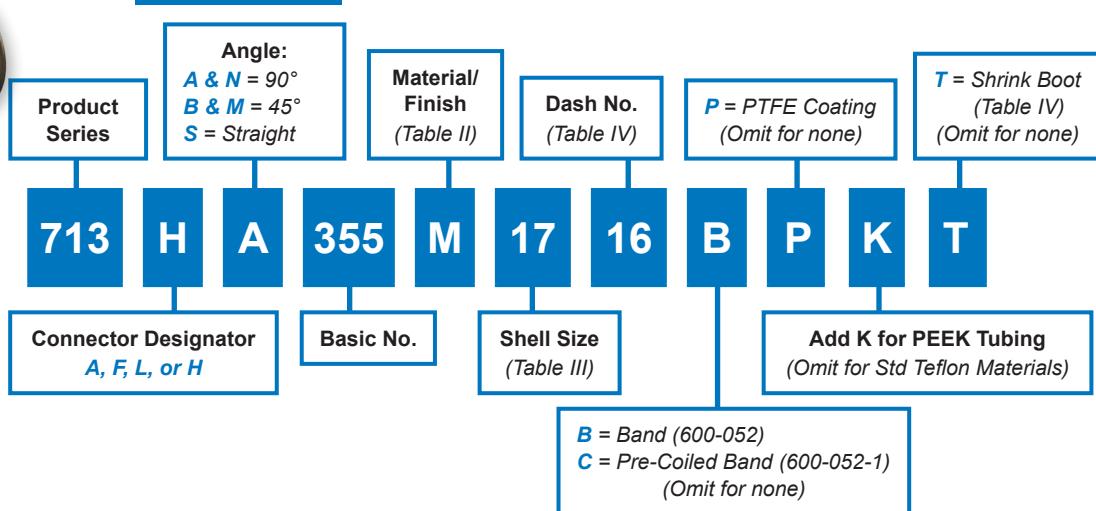


713-355
Hat Trick System
Environmental Self-Locking Metal Backshell
with Band Termination for Series 74 Helical Convoluted Tubing

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



How To Order



C Option
Pre-Coiled Band

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 Teflon 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 Convoluted Tubing**

 Series 74
Helical 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

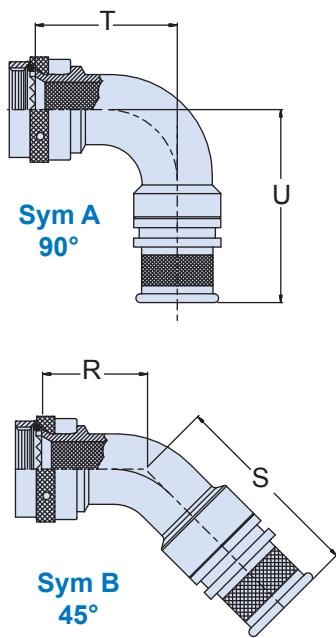


Table IV: Dash No. and Shrink Boot

Dash No.	M Conduit ID Nom.	Ø N	Ø P	Shrink Boot Part Number
6	.188 (4.8)	.419 (10.6)	.481 (12.2)	770-001S103
9	.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

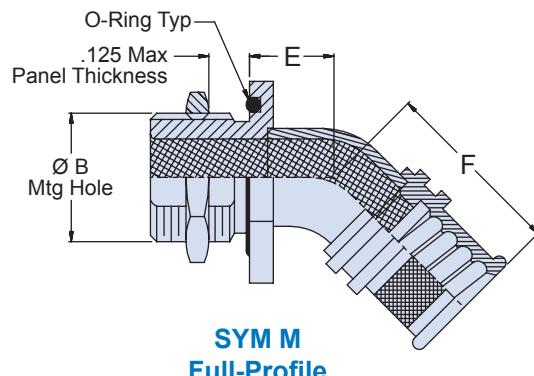
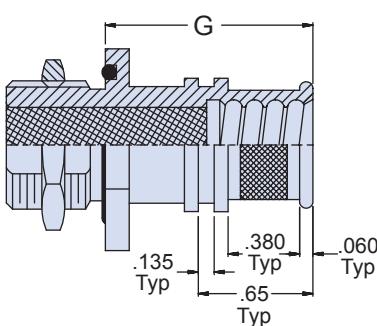
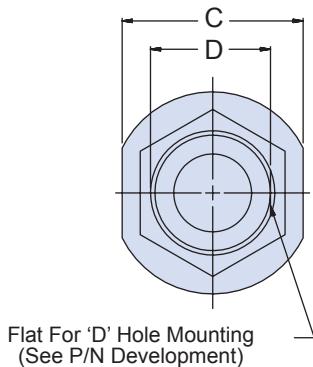
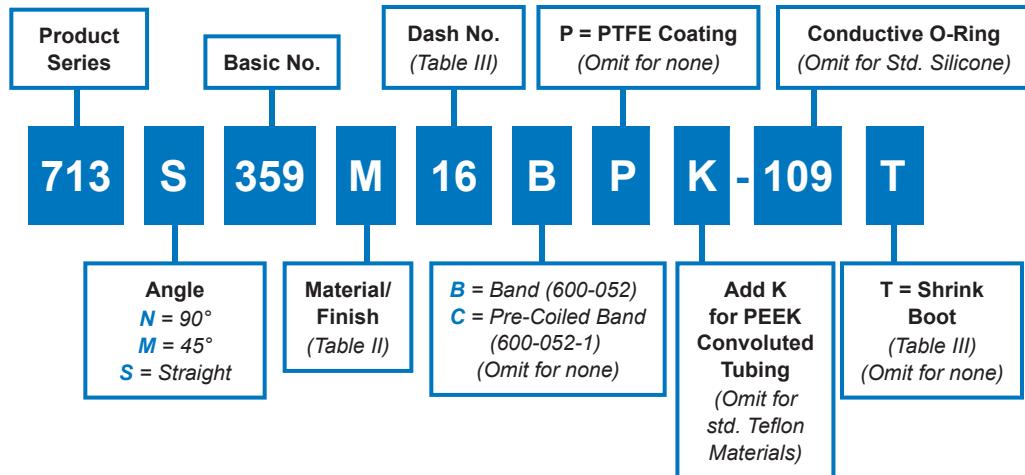
Sym	Material	Finish Description	Component
M	Aluminum Alloy	Electroless Nickel	
MT	Aluminum Alloy	Nickel-PTFE	
NF	Aluminum Alloy	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)	
Z1	300 Series SST	Passivate	
ZN	Aluminum Alloy	Zinc Nickel/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)	
ZM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

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

How To Order



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 Teflon in area indicated, see P/N development.

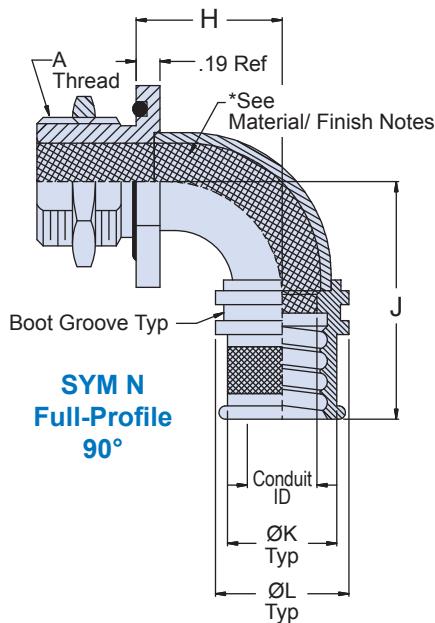
713-359

Hat Trick System

**Environmental Metal Bulkhead Fitting
with Band Termination for Series 74 Helical Convoluted Tubing**

 Series 74
Helical 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

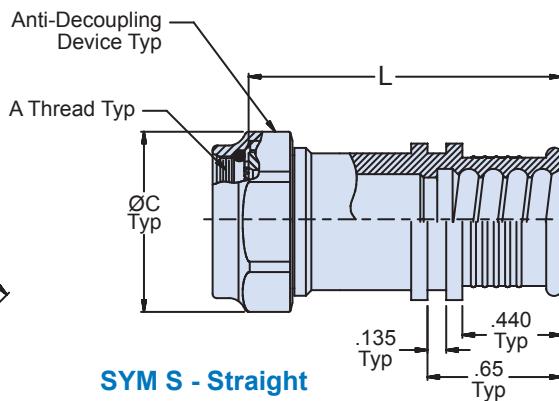
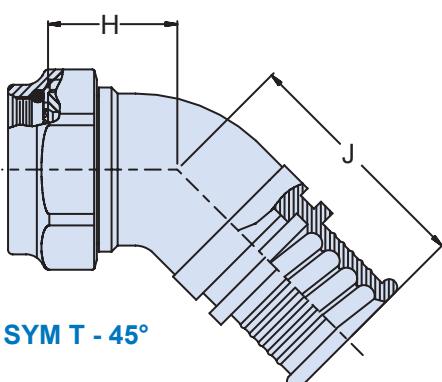
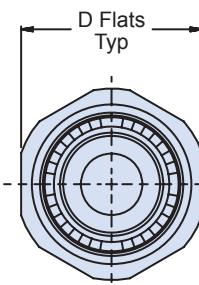
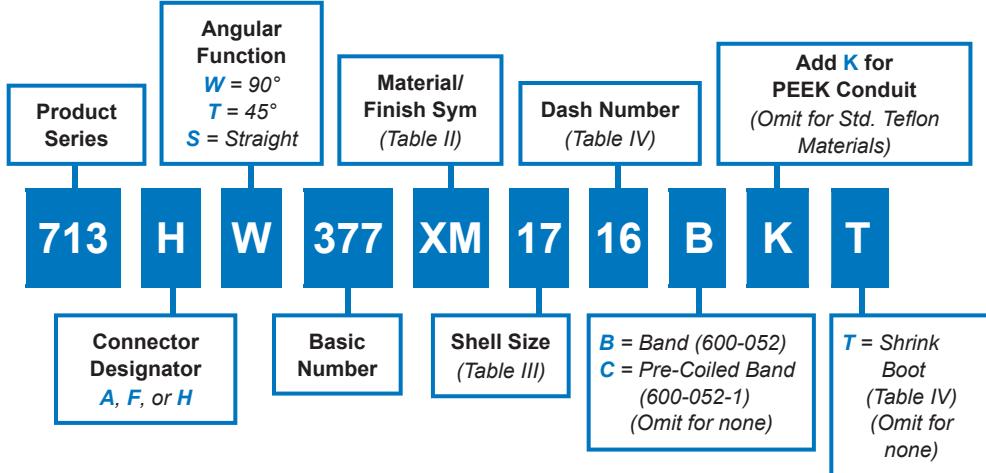


713-377
Hat Trick System
Environmental Self-Locking Composite Backshell
with Band Termination for Series 74 Helical Convoluted Tubing

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

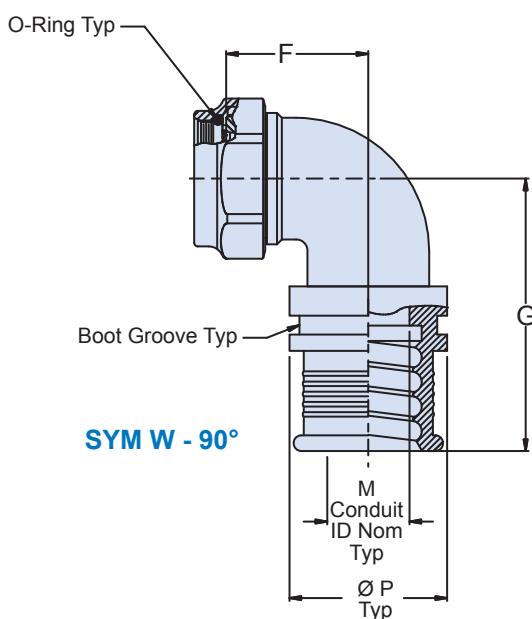
**Environmental Self-Locking Composite Backshell
with Band Termination for Series 74 Helical Convoluted Tubing**

 Series 74
Helical Tubing
Table III: Connector Designator and Dimensions

Connector Designator A	A Thread Class 2B	Shell Size	A Thread Class 2B	Connector Designator H	Shell Size	A Thread Iso Metric	Ø C Max	D Flats	
								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	1 3/16-18 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	1 5/16-18 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	1 7/16-18 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 III (Cont.)

Shell Size	Connector Des.	F Max	G Max	H Max	J Max	L Dim	Max Dash No. Table IV
A, F	H						
08	09	.722 (18.3)	1.380 (35.1)	.748 (19.0)	1.148 (29.2)	1.25 (31.8)	10
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

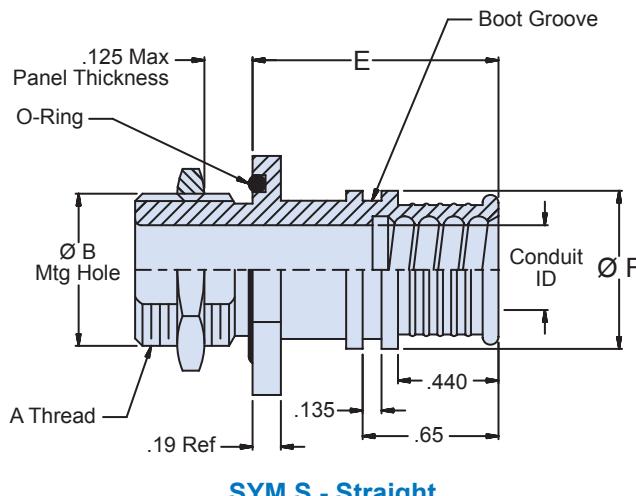
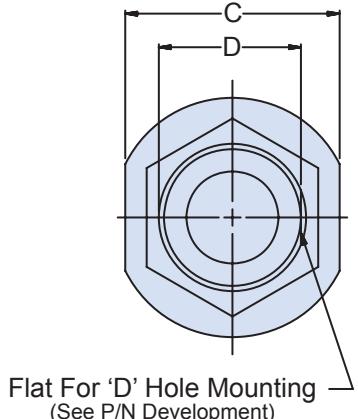
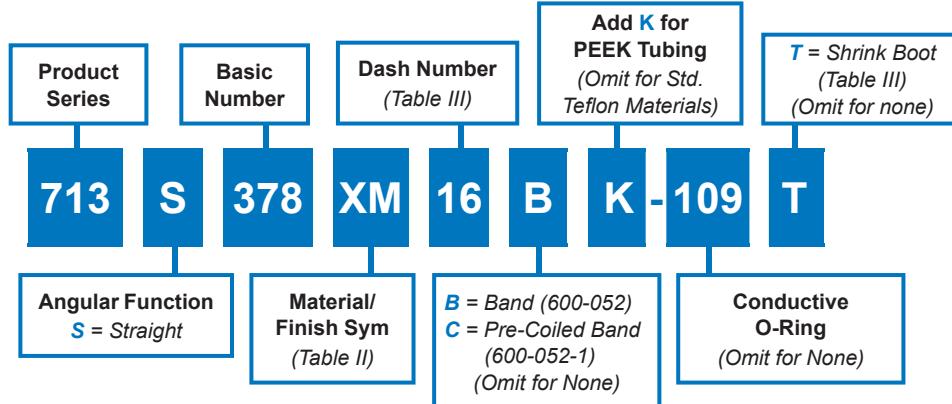


713-378
Hat Trick System
Environmental Composite Bulkhead Fitting
with Band Termination for Series 74 Helical Convoluted Tubing

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



How To Order



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 Convoluted Tubing**



Series 74
Helical Tubing

C

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)	13/16-18 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)	15/16-18 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)	11/2-18 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)	13/4-18 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

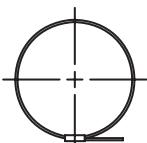
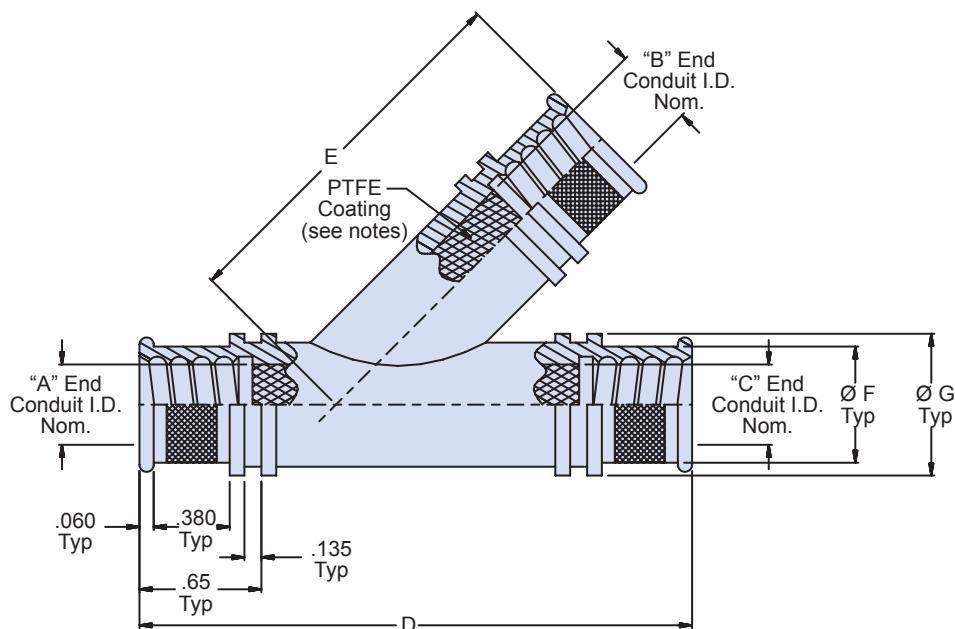
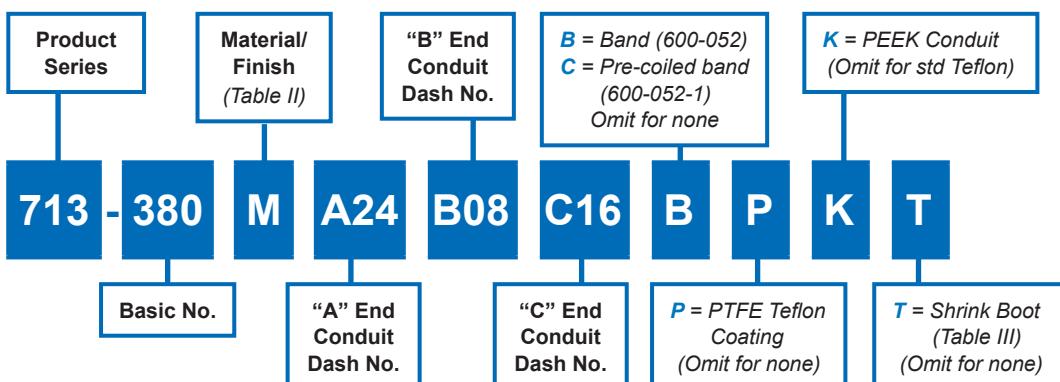


713-380
Hat Trick System
Y Transition for Direct Attachment of
Series 74 Helical Convoluted Tubing

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 Teflon 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 Convoluted Tubing



Series 74
Helical 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 (108.7)	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

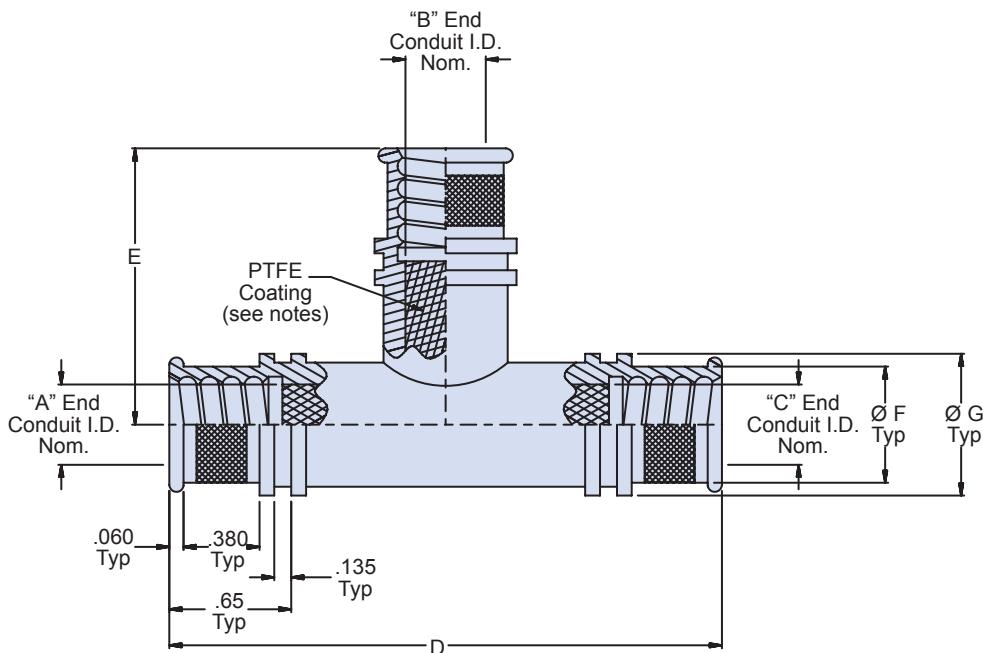
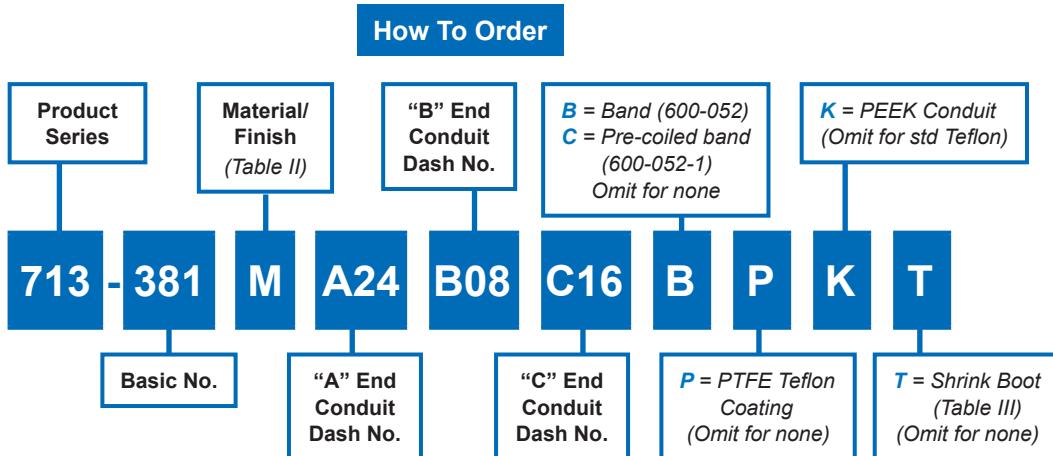
Table II: Material/Finish

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 Convoluted Tubing

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



C option
Pre-coiled
band

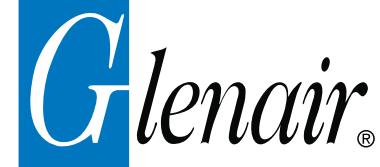
Notes

- Internal surfaces coated with PTFE Teflon 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 Convoluted Tubing



Series 74
Helical 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 Convoluted Tubing with Internal Braid

Internal braid conduit-to-connector backshell, metal

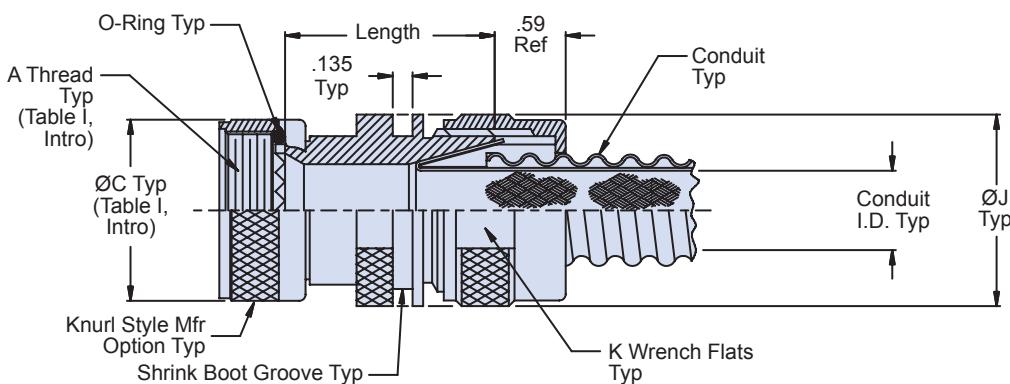
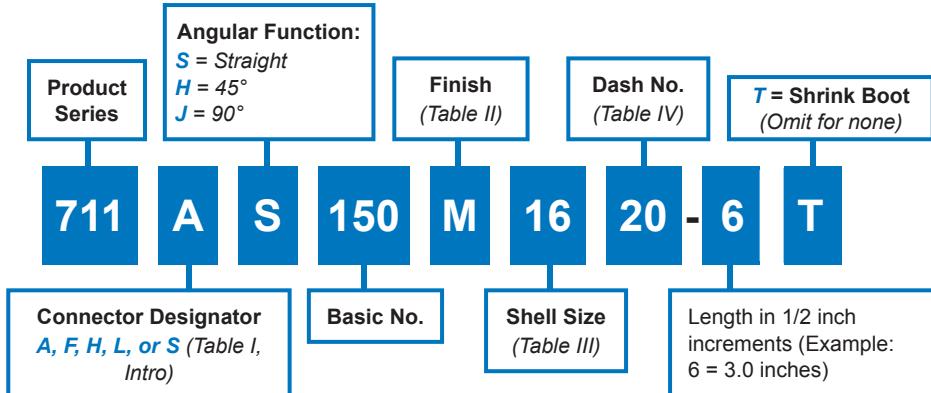


olive drab finish



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

Glenair®

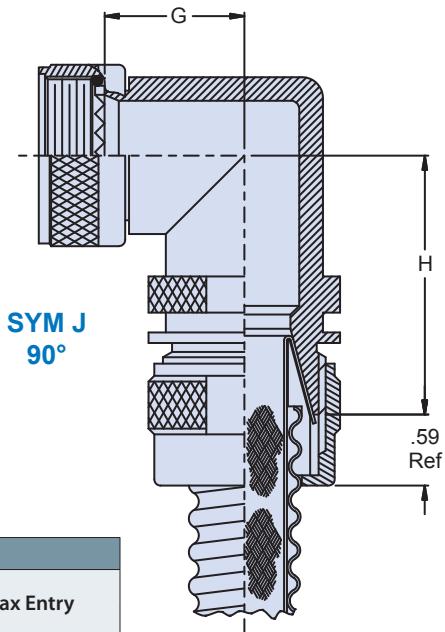
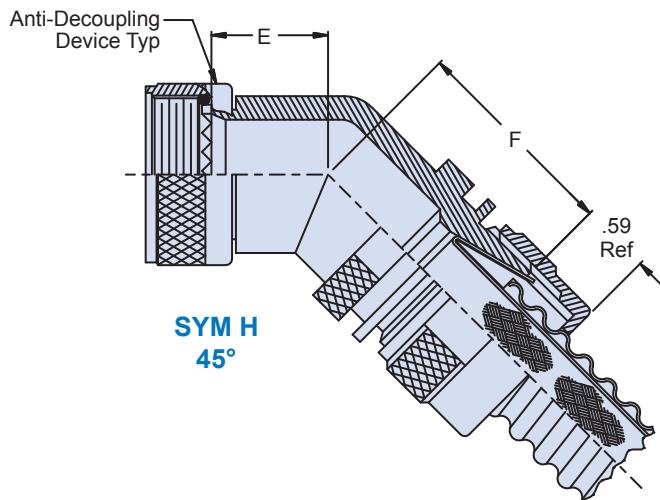
Series 74
Helical Tubing

Table III: Shell Size/Dimensions

Shell Size A, F, L, S	H	E Max	F Max	G Max	H Max	Max Entry
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)

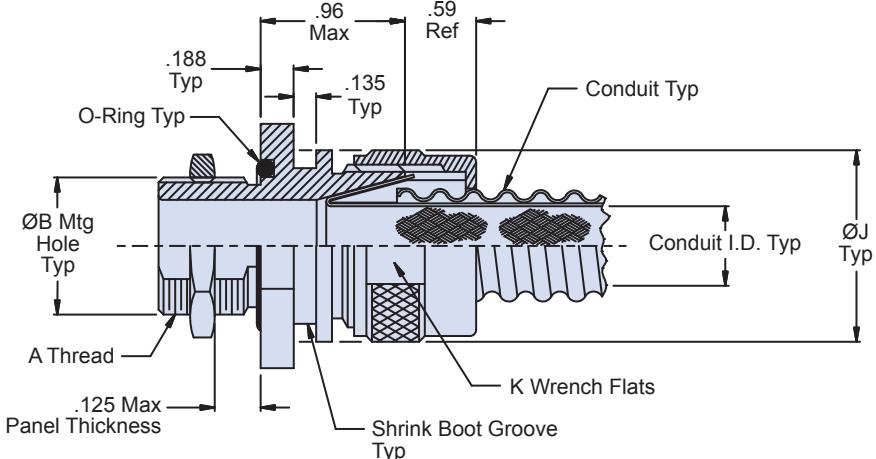
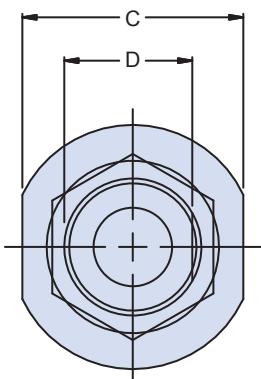
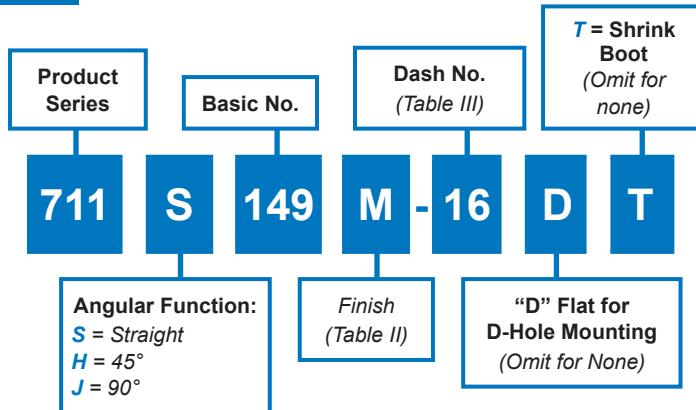
Sym	Material	Finish Description	Component
ZM	300 Series SST	Electroless Nickel	Adapter, Elbow
		Passivate	Coupling Nut
ZW	300 Series SST	Cadmium Olive Drab over Electroless Nickel	Adapter, Elbow
		Cadmium Olive Drab	Coupling Nut



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

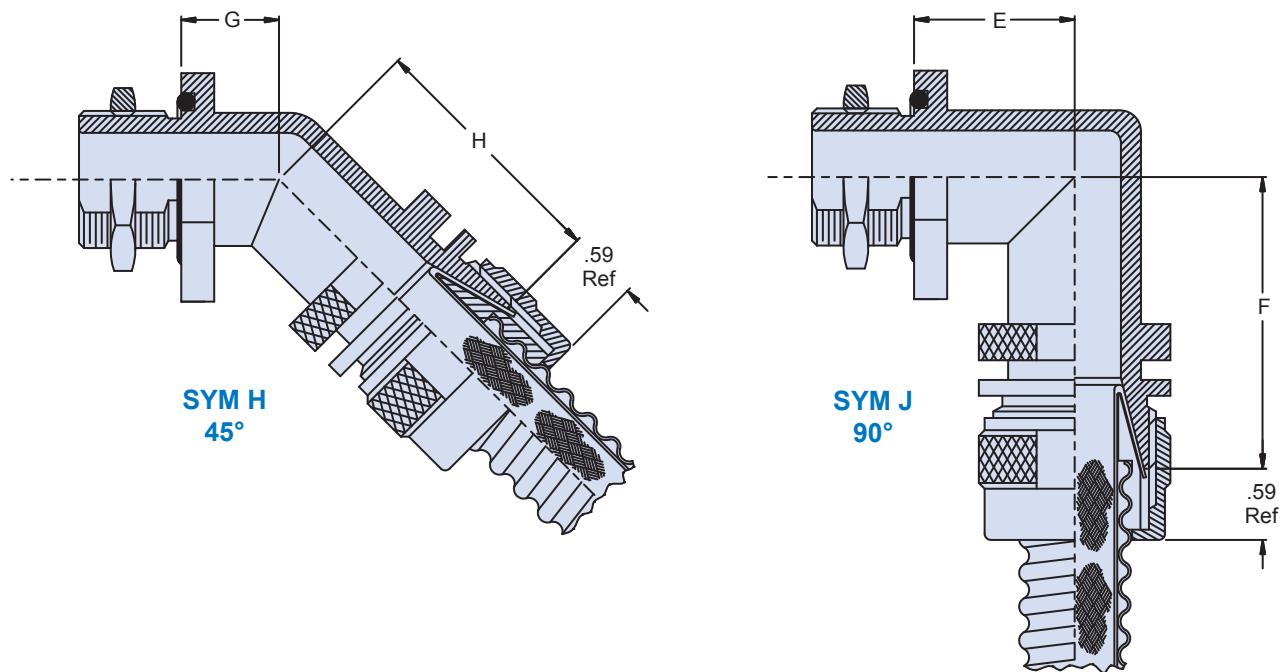
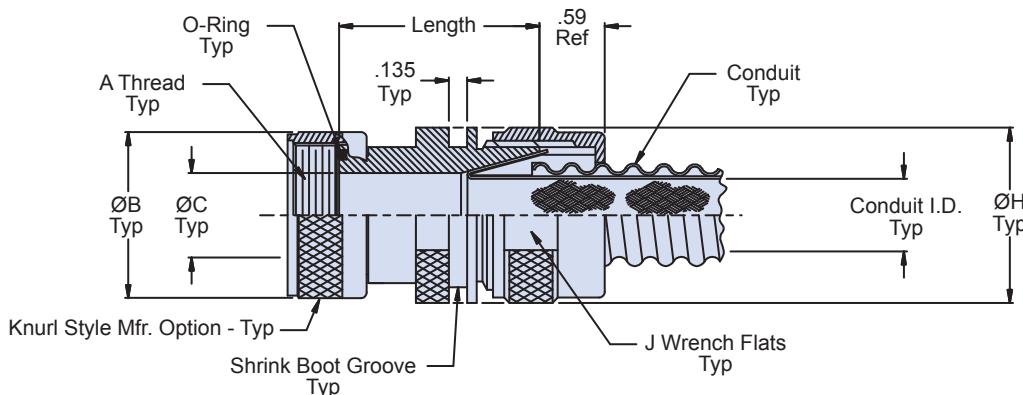
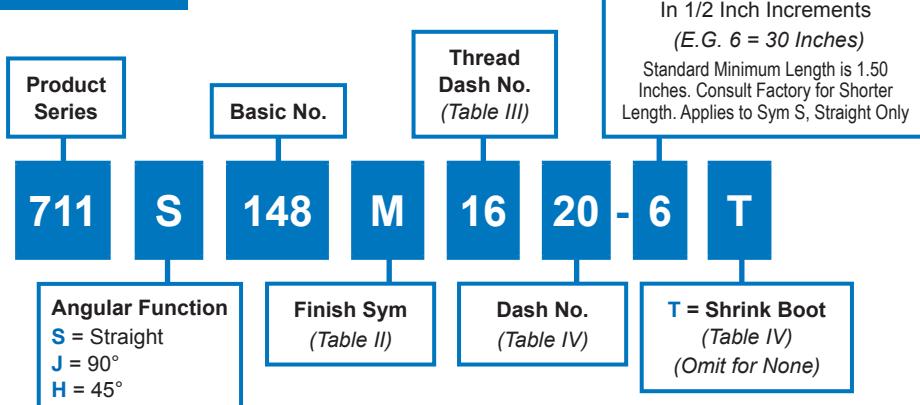
 Series 74
Helical Tubing


Table III: Dimensions and Shrink Boot

Dash No.	Conduit ID	A Thread Class 2A	\varnothing B +.015 -.000	C Flat	D +.000 -.015	E Max	F Max	G Max	H Max	\varnothing 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
How To Order

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

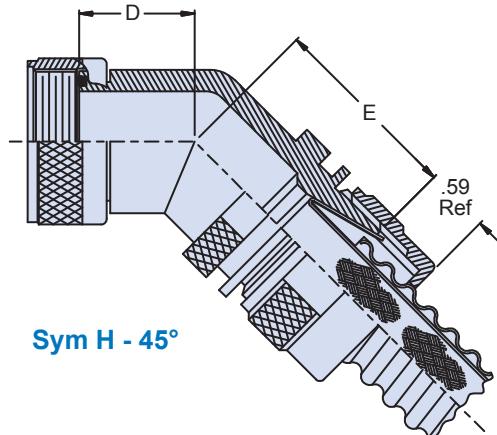
Material & Finish

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

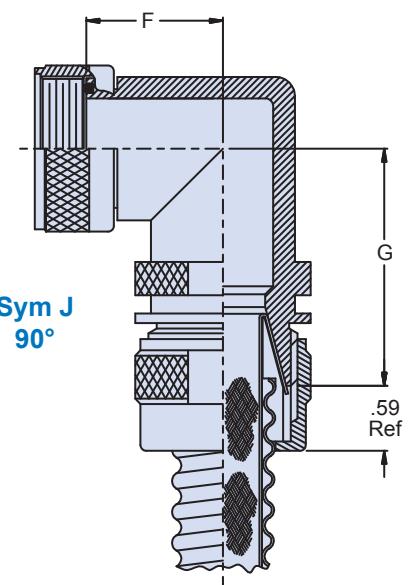
711-148
Internal Braid System
Conduit to Transition or End Fitting



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	11/2-18 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	13/4-18 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	21/4-16 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°

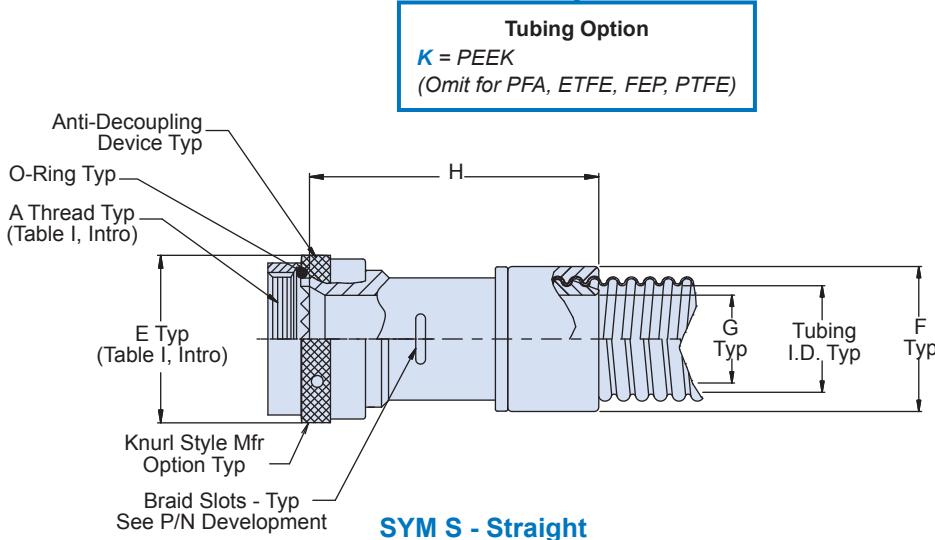
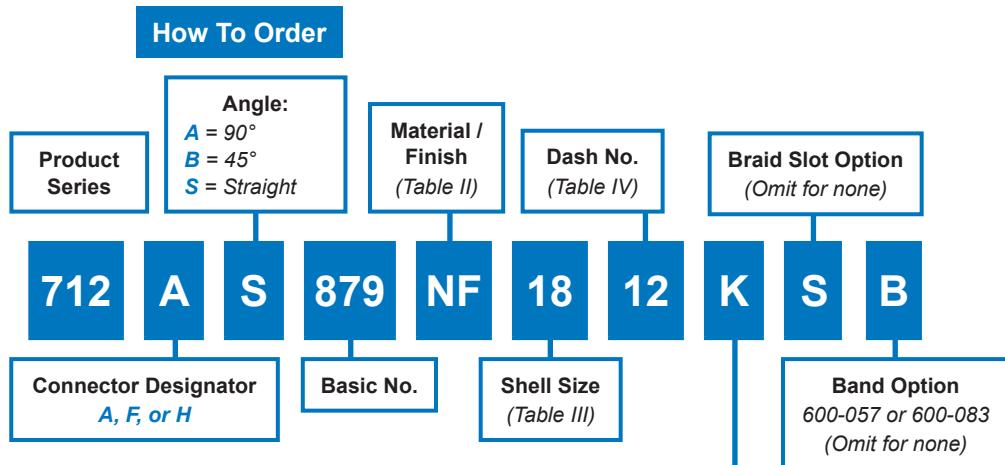
Dash No.	Conduit I.D.	Ø H		J Flat	Shrink Boot Part No.
		.94 (23.9)	.812 (20.6)	.770-001S105	
09	See 121-195 Conduit Drawing	1.00 (25.4)	.875 (22.2)	.770-001S106	
10		1.06 (26.9)	.937 (23.8)	.770-001S106	
12		1.13 (28.7)	1.000 (25.4)	.770-001S106	
14		1.19 (30.2)	1.062 (27.0)	.770-001S106	
16		1.25 (31.8)	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



712-879
AeroLite System - Metal
Convoluted Tubing to Connector Backshell
for Series 74 Helical Convoluted Tubing

Metal AeroLite System convoluted tubing to connector backshell



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.

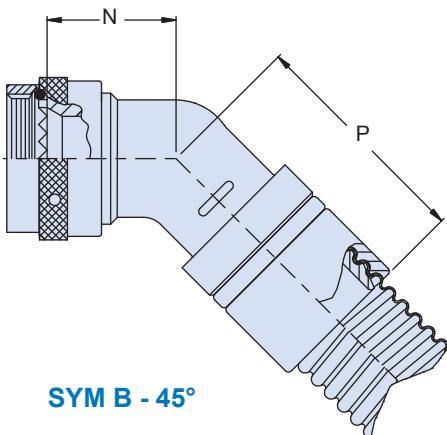
Table III: Shell Size/Dimensions

Shell Size A, F, L	H	H Max	N Max	P Max	Q Max	R Max	Max Dash No. Table II
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

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)

SYM B - 45°



SYM A - 90°

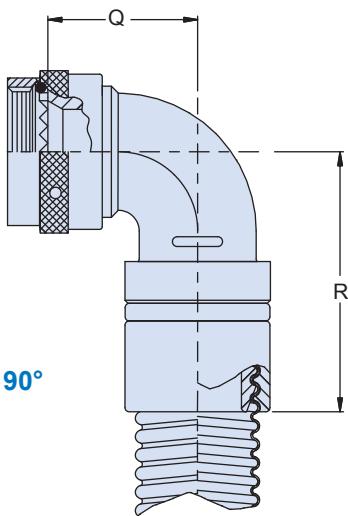


Table II - Finish

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	Passivate

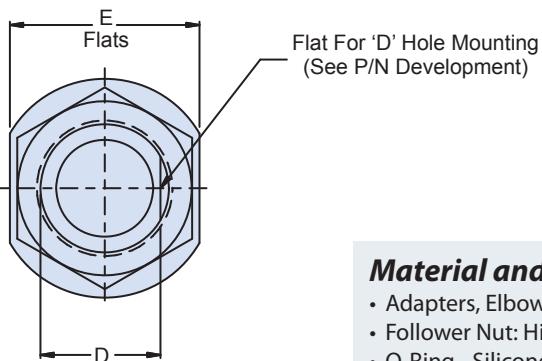
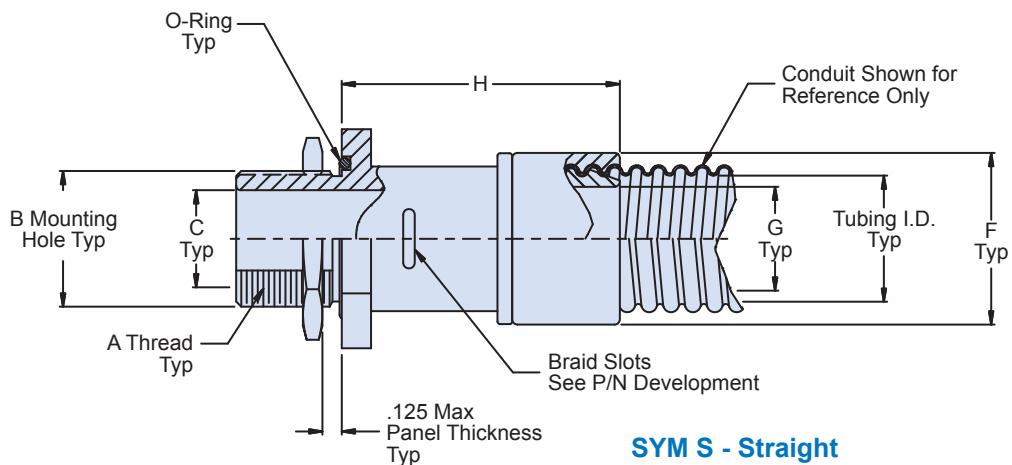
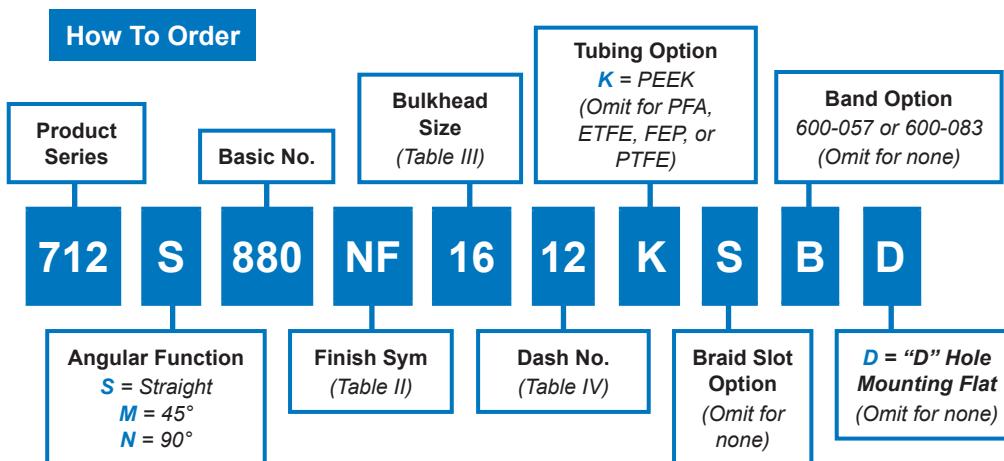
Table II - Finish (continued)

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



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

Metal AeroLite System convoluted tubing to bulkhead fitting



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

- Convoluted Tubing to be ordered separately, see 120-100, standard wall. Dash No. refers to Convoluted 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

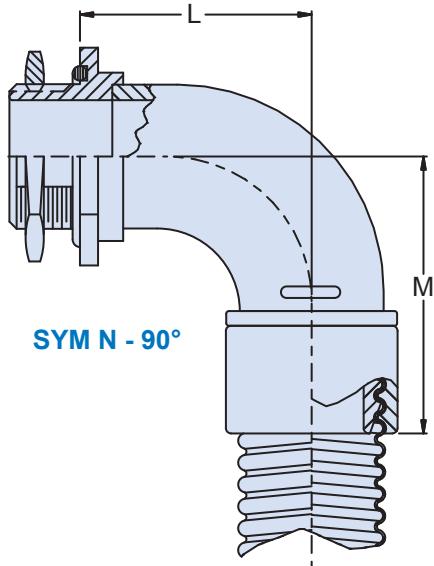
 Series 74
 Helical Tubing


Table III: Bulkhead Size/Dimensions

Bulkhead Size	A Thread Class 2A	\varnothing B +.015 -.000	\varnothing 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	13/16-18 UNEF	1.193 (30.3)	.875 (22.2)	1.125 (28.6)	1.438 (36.5)	28
32	15/16-18 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	\varnothing F Max	\varnothing 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)

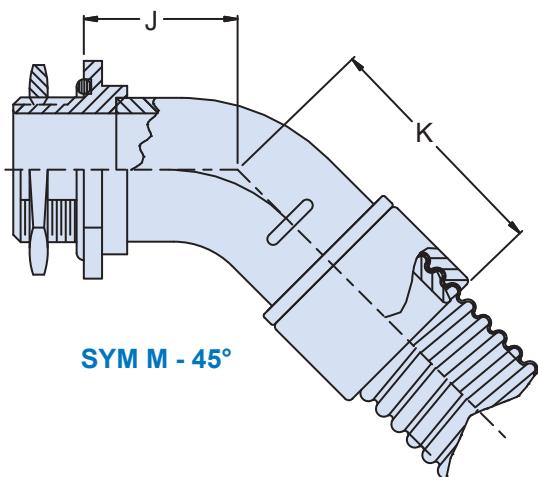


Table II: Finish

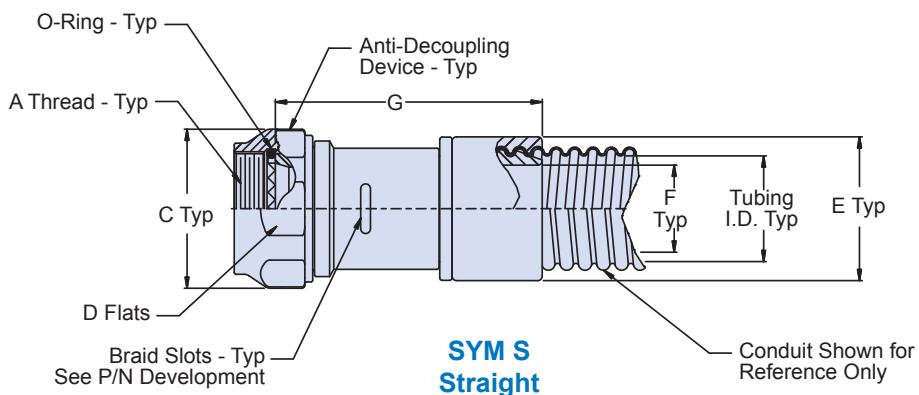
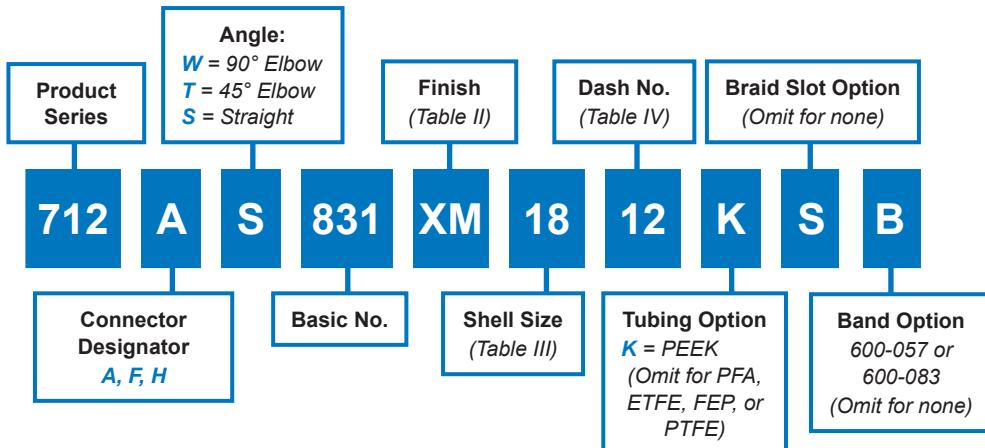
Sym	Material	Finish Description
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	Cad/O.D. Over Electroless Nickel (1,000 Hour Salt Spray)
Z1	300 Series SST	Passivate
ZM	300 Series SST	Electroless Nickel
ZN	Aluminum Alloy	Zinc Nickel/O.D. Over Electroless Nickel (1,000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



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

Composite AeroLite System convoluted 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.
- Convoluted Tubing to be ordered separately, see 120-100, standard wall. Dash No. refers to Convoluted Tubing size.

712-831

AeroLite System - Composite
Convoluted Tubing to Connector Backshell
for Series 74 Helical Convoluted Tubing

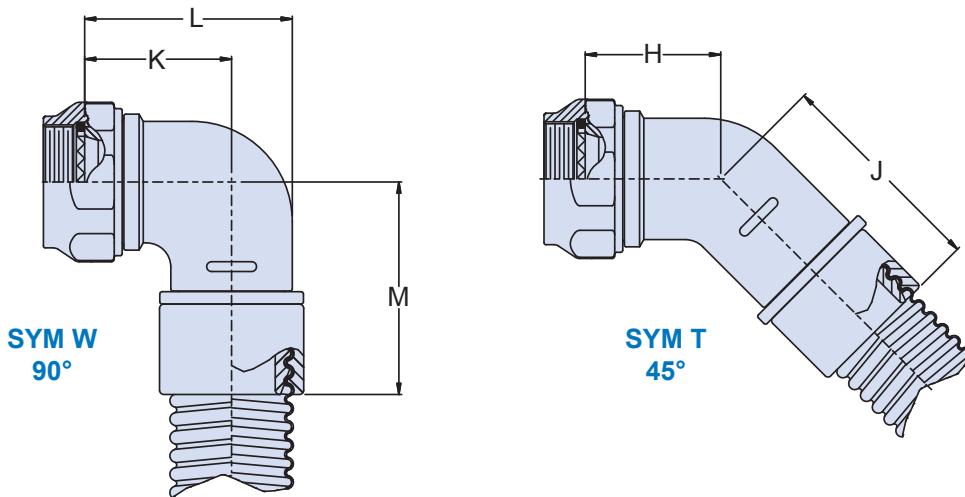
 Series 74
 Helical Tubing


Table III: Connector Designators and Dimensions

Connector Designator A		Connector Designator F		Connector Designator H		\varnothing 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	XX	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.

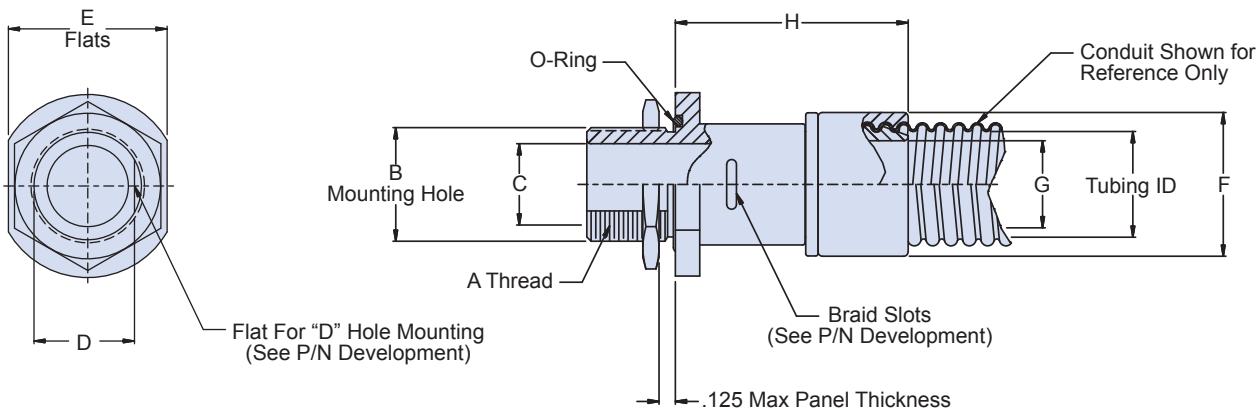
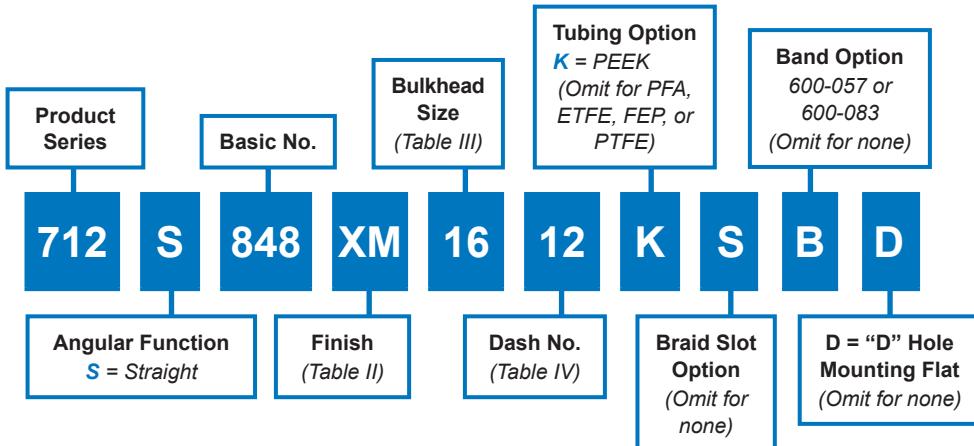
Dash No.	Tubing I.D. Nom.	\varnothing E Max	\varnothing F ± .015 Entry
06	.188 (4.80)	.580 (14.7)	.157 (4.00)
09	.281 (7.10)	.670 (17.0)	.250 (6.40)
10	.312 (7.90)	.710 (18.0)	.281 (7.10)
12	.375 (9.50)	.770 (19.6)	.344 (8.70)
14	.437 (11.1)	.830 (21.1)	.406 (10.3)
16	.500 (12.7)	.920 (23.4)	.469 (11.9)
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)



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

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
Convoluted Tubing to Bulkhead Feed-Thru Fitting
for Series 74 Helical Convoluted Tubing

Series 74
Helical 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	13/16-18 UNEF	1.193 (30.3)	.875 (22.2)	1.125 (28.6)	1.438 (36.5)	28
32	15/16-18 UNEF	1.318 (33.5)	1.000 (25.4)	1.250 (31.8)	1.562 (39.6)	32
40	11/2-18 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

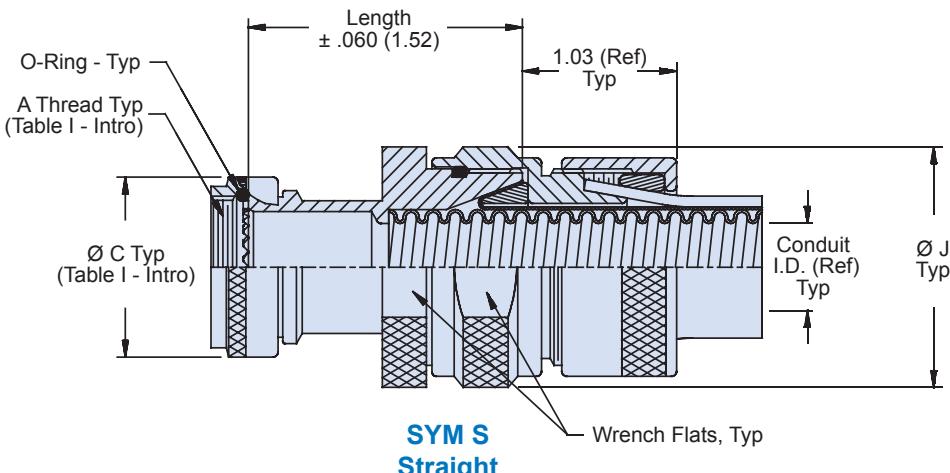
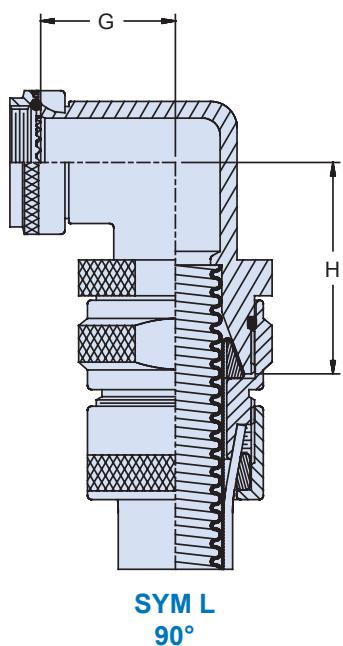
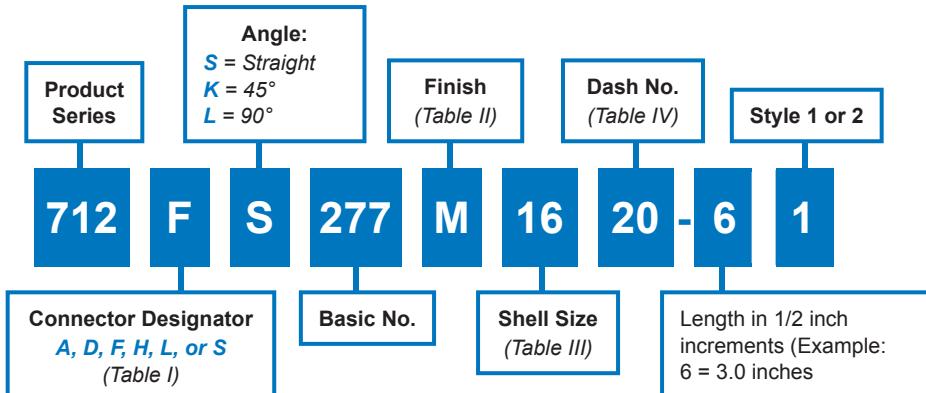


712-277
Heavy-Duty Ground Ring System
Backshell with Ground Ring Shield Termination
for Series 74 Helical Convoluted Tubing

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 Convoluted Tubing

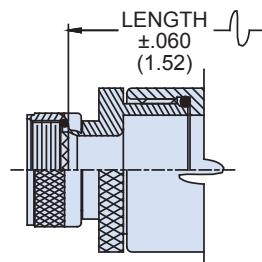
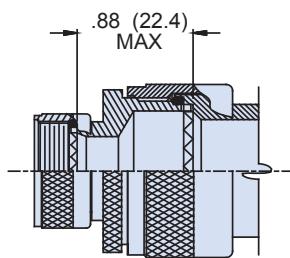
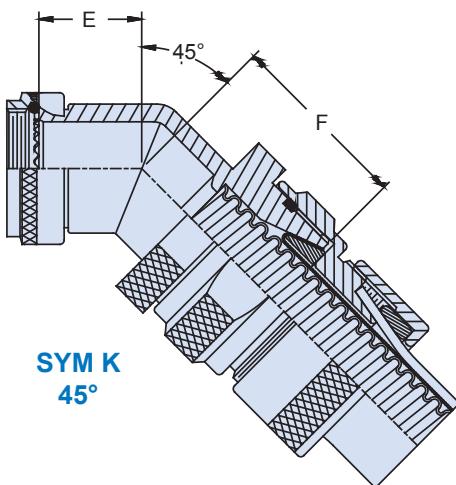
Series 74
Helical Tubing**STYLE 2
(STRAIGHT)****STYLE 2
(45° & 90°)****SYM K
45°**

Table III: Shell Size/Dimensions					
Shell Size A, D, F, L, S	H	E	F	G	H
		Max	Max	Max	Max
08	09	.64 (16.3)	1.23 (31.2)	.75 (19.1)	1.34 (34.0)
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 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 (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. Min	Max	Ø J 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)

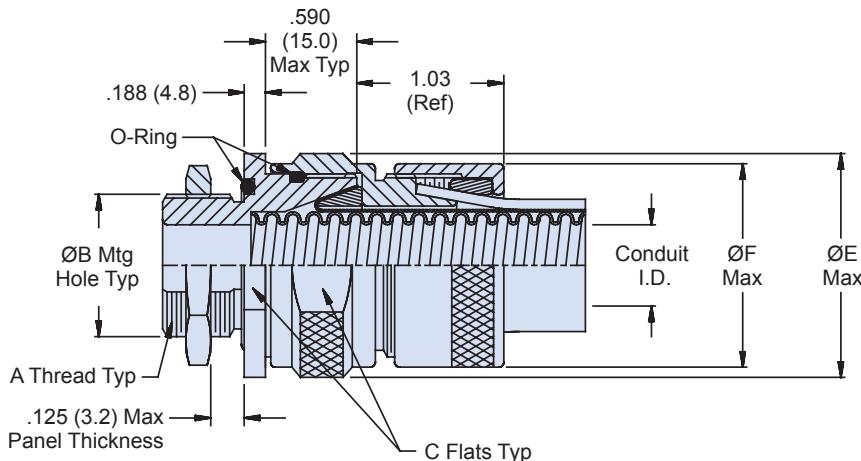
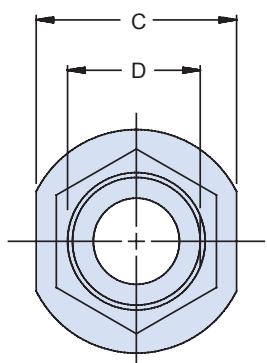
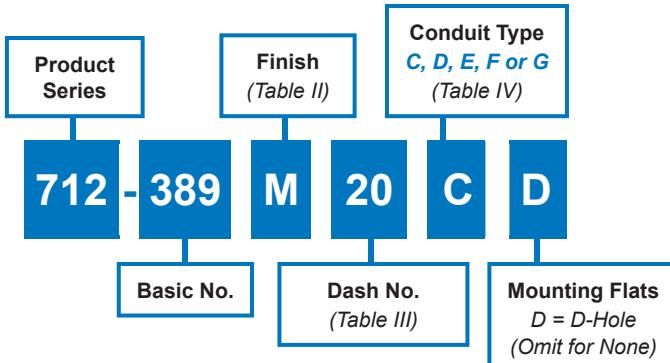


712-389
Heavy-Duty Ground Ring System
Bulkhead Fitting with Ground Ring
Shield Termination for Series 74 Helical Convoluted Tubing

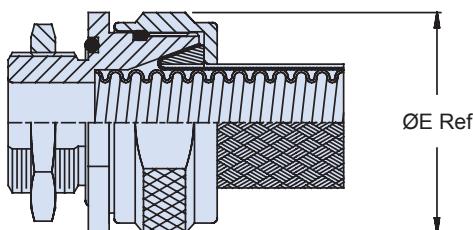
Heavy-Duty convoluted tubing-to-bulkhead fitting



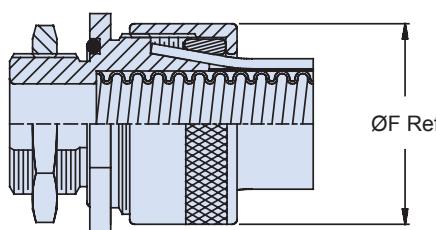
How To Order



**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 Convoluted 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)	11/2 - 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)	13/4 - 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

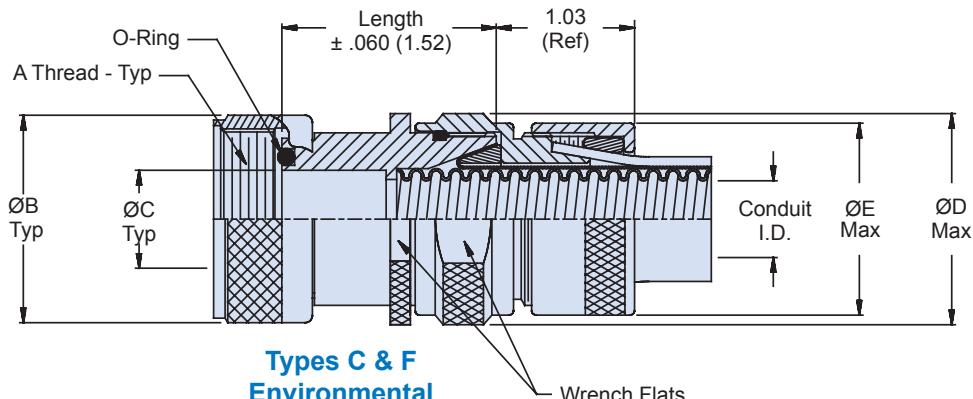
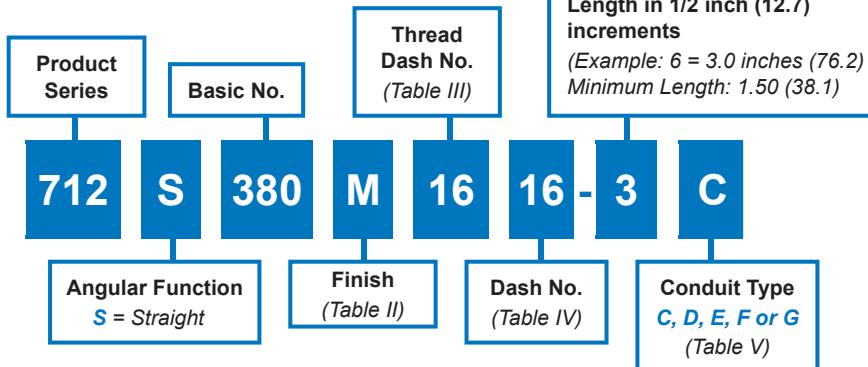


712-380
Heavy-Duty Ground Ring System
Conduit to Transition or End Fitting Adapter with Ground Ring
Shield Termination for Series 74 Helical Convoluted Tubing

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



How To Order



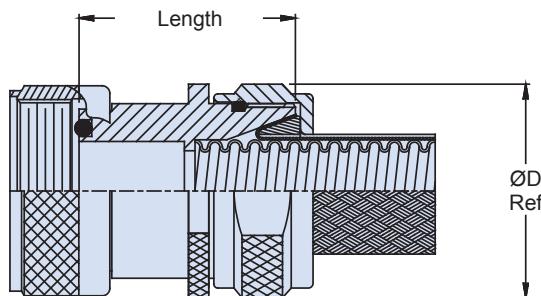
Intermateability Guide	
For use with	
Y transitions	710-106, 710-107, 710-370,
T transitions	710-108, 710-109, 710-371
Connector adapters	713-100, 713-101, 713-110
Bulkhead adapters	710-100, 710-101, 710-372
Bulkhead feed-thrus	710-102, 710-103, 710-373
Male Pipe thread adapters	710-114, 710-115, 710-405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

Material/Finish

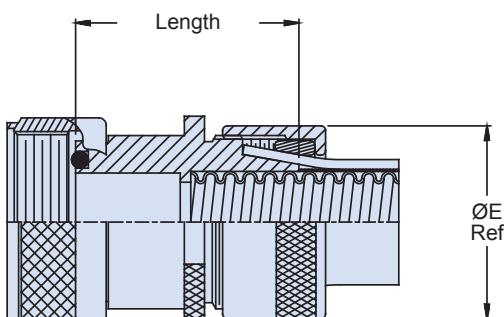
- Adapters, coupling nuts, nuts, and ferrules: See Table II
- O-Rings: Silicone/N.A.

Heavy-Duty Ground Ring System

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



**Types D & E
Non-Environmental**



**Type G
Environmental**

Table III: Dash No./Dimensions

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

Table IV: Dash No./Dimensions

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)

Table II: Finish

Sym	Material	Finish Description
B	AL Alloy	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 (500 Hour Salt Spray)
T		Bright Dip Cadmium Plate over Nickel
Z1	300 Series SST	Passivate

Table V: Conduit Type

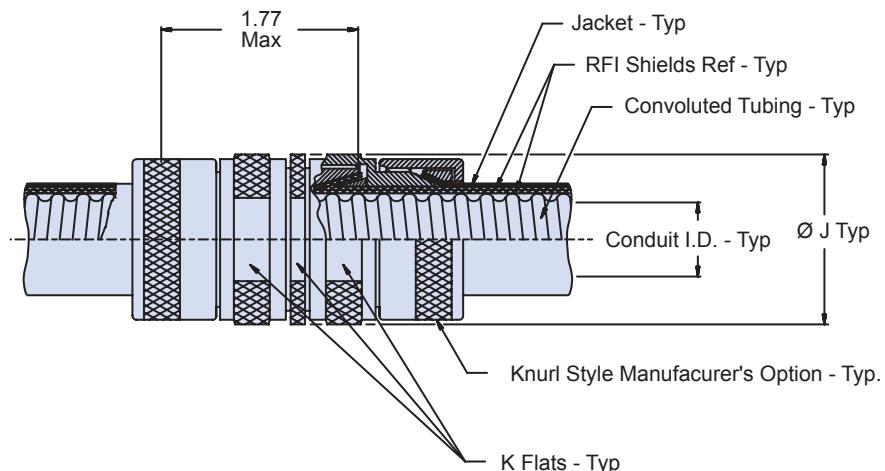
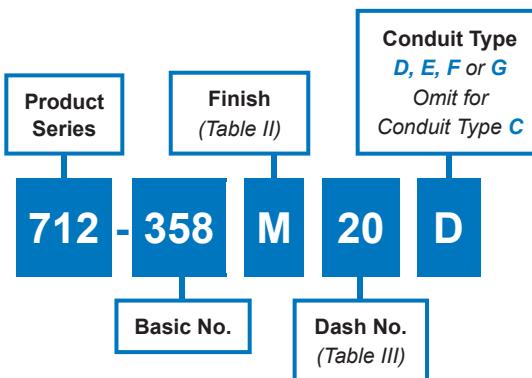
Conduit Type	Part Number	Configuration
C	121-100	Tubing with braided shield and jacket
D	121-101	Tubing with braided shield
E	121-102	Tubing with two braided shields
F	121-103	Tubing with two braided shields and jacket
G	123-100	Tubing with jacket



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



Series 74
Helical 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)

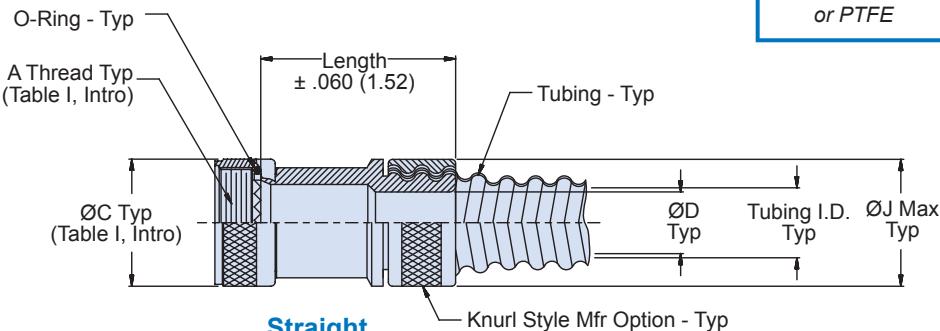
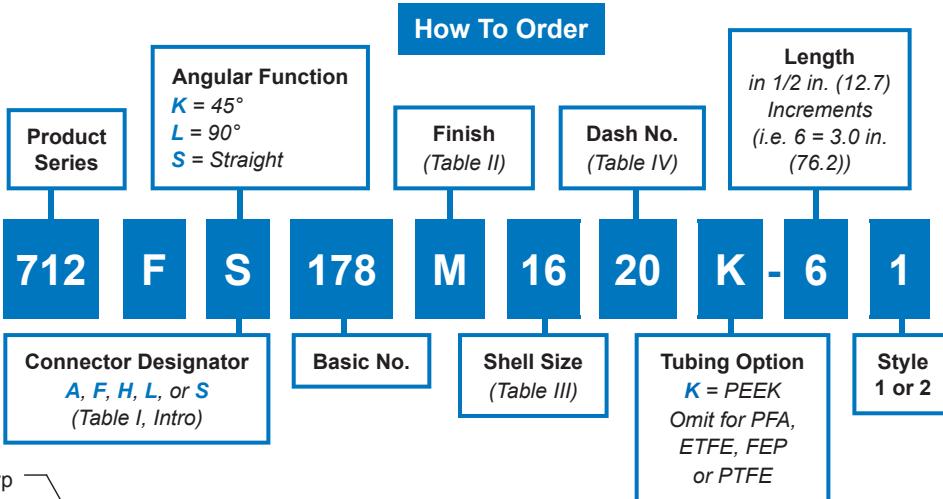
Table IV: Conduit Type

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

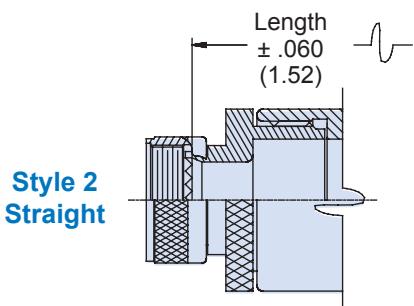


712-178
Hummer Nut System
Conduit to Connector Backshell
for Standard or PEEK Series 74 Helical Convoluted Tubing

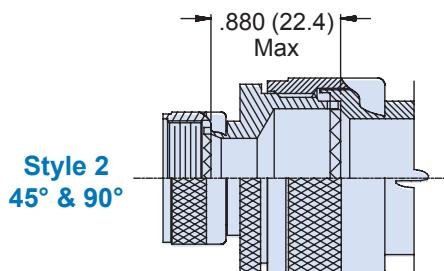
Metal backshell with compression hummer nut for easy termination of conduit.
Available for use with a wide range of connectors



Straight



**Style 2
Straight**



**Style 2
45° & 90°**

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.

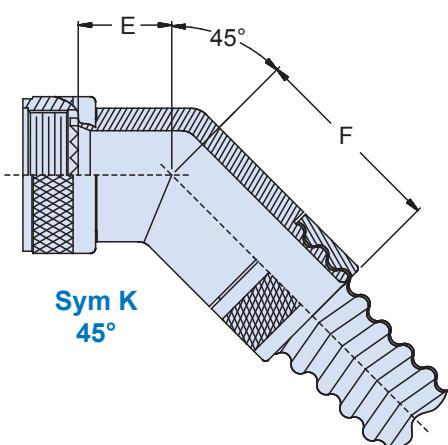
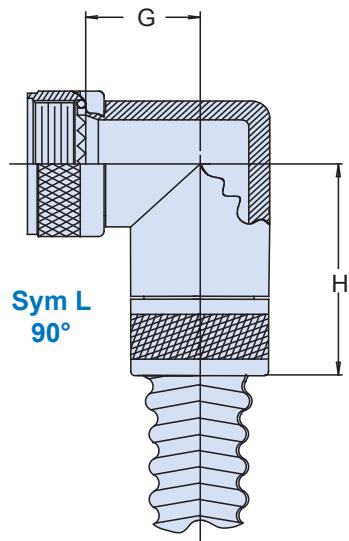


Table III: Shell Size/Dimensions

Shell Size A, F, L, S	H	E Max		F Max		G Max		H Max	
		E Max	F Max	G Max	H 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

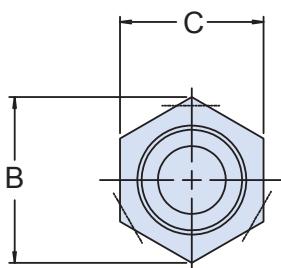
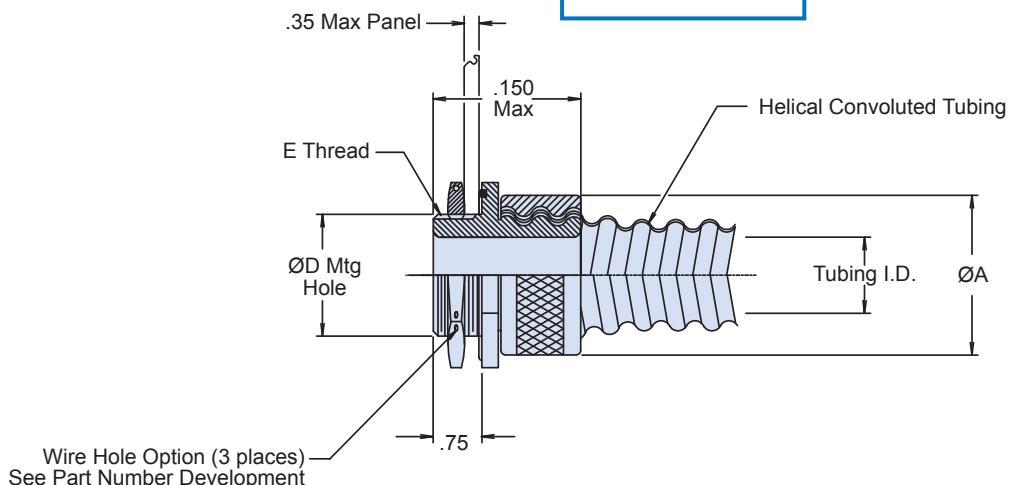
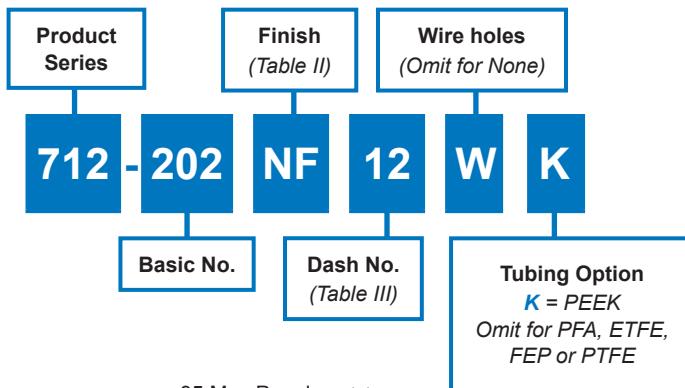
Dash No.	Tubing I.D.		D Dia		J Dia Max
	Min	Max	Std Teflon	PEEK	
06	.181 (4.60)	.188 (4.80)	.188 (4.8)	.115 (2.9)	.530 (13.5)
09	.273 (6.93)	.281 (7.14)	.265 (6.7)	.210 (5.3)	.590 (15.0)
10	.306 (7.80)	.312 (7.90)	.265 (6.7)	.235 (6.0)	.660 (16.8)
12	.364 (9.20)	.375 (9.53)	.325 (8.3)	.320 (8.1)	.710 (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)



712-202
Hummer Nut System
Conduit to Bulkhead Fitting

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



Series 74
 Helical Tubing

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

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

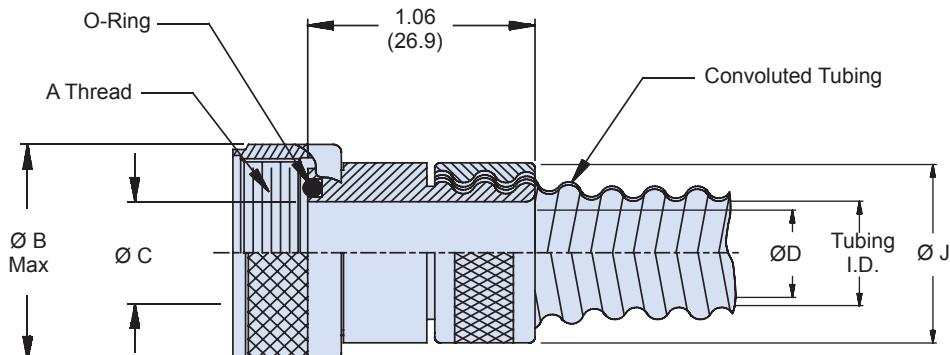
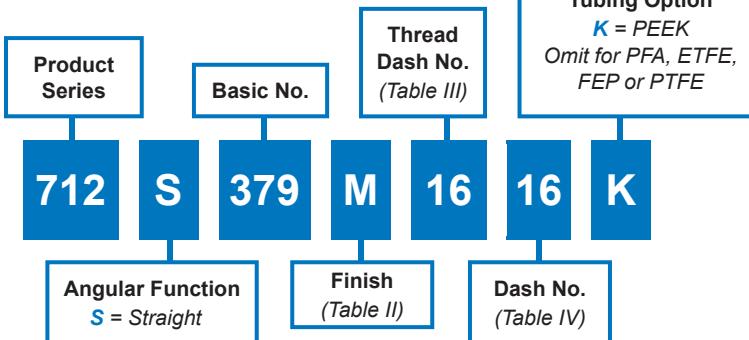


712-379
Hummer Nut System
Conduit to Transition or End Fitting Backshell

Hummer nut conduit backshell for use with non-self-locking transitions and adapters



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.

712-379
Hummer Nut System
Conduit to Transition or End Fitting Backshell



Series 74
Helical Tubing

Table III: Dash No./Dimensions				
Thread Dash No.	A Thread Class 2B	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	11 1/2 - 18 UNEF	1.676 (42.6)	2.500 (63.5)	40
48	13 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

Table IV: Dash No./Tubing Dimensions					
Dash No.	Tubing I.D.		D Dia		J Max
	Min	Max	Std Teflon	PEEK	
06	.181 (4.6)	.188 (4.8)	.188 (4.8)	.115 (2.9)	.530 (13.5)
09	.273 (6.9)	.281 (7.1)	.265 (6.7)	.210 (5.3)	.590 (15.0)
10	.306 (7.8)	.312 (7.9)	.265 (6.7)	.235 (6.0)	.660 (16.8)
12	.359 (9.1)	.375 (9.5)	.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	.480 (12.2)	.500 (12.7)	.470 (11.9)	.425 (10.8)	.840 (21.3)
20	.603 (15.3)	.625 (15.9)	.595 (15.1)	.550 (14.0)	.970 (24.6)
24	.725 (18.4)	.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	.970 (24.6)	1.000 (25.4)	.975 (24.8)	.915 (23.2)	1.410 (35.8)
40	1.205 (30.6)	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)

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

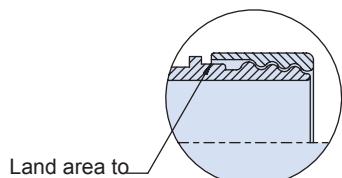
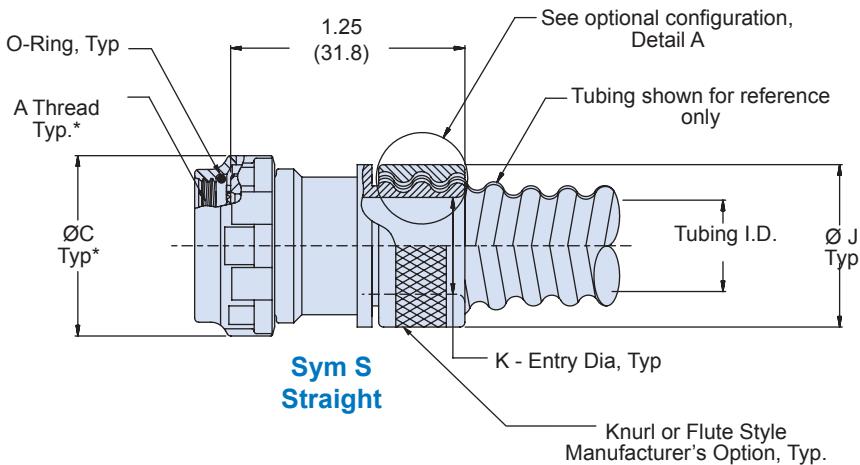
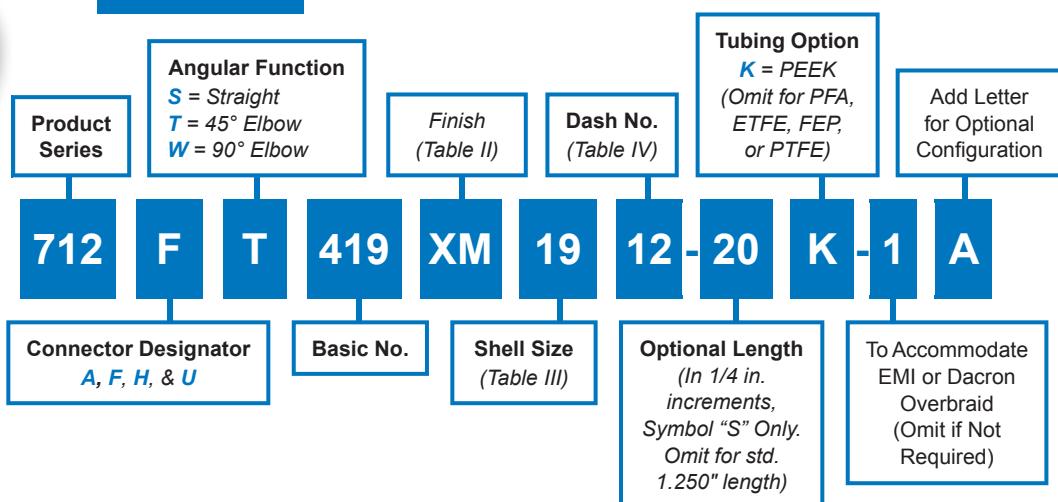


712-419
Lightweight Composite Hummer-Nut System
Composite Backshell for Series 74 Helical Convoluted Tubing,
Shielding Optional

Lightweight Composite Hummer Nut conduit-to-connector backshell



How To Order



Land area to accommodate adhesive

Detail A

Optional adhesive land configuration, see P/N

Material/Finish

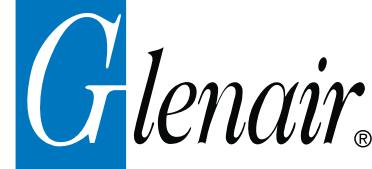
- Adapters, elbows, ferrules, coupling nuts: High grade engineering thermoplastic/
See Table II
- O-Ring: Silicone/NA

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

Series 74
Helical Tubing

C

Table III: Shell Size and Dimensions

Shell Size		E $\pm .06$ (1.5)	F $\pm .09$ (2.3)	G $\pm .06$ (1.5)	H $\pm .09$ (2.3)	Tubing Size Max.
A, F & H	G & U					
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

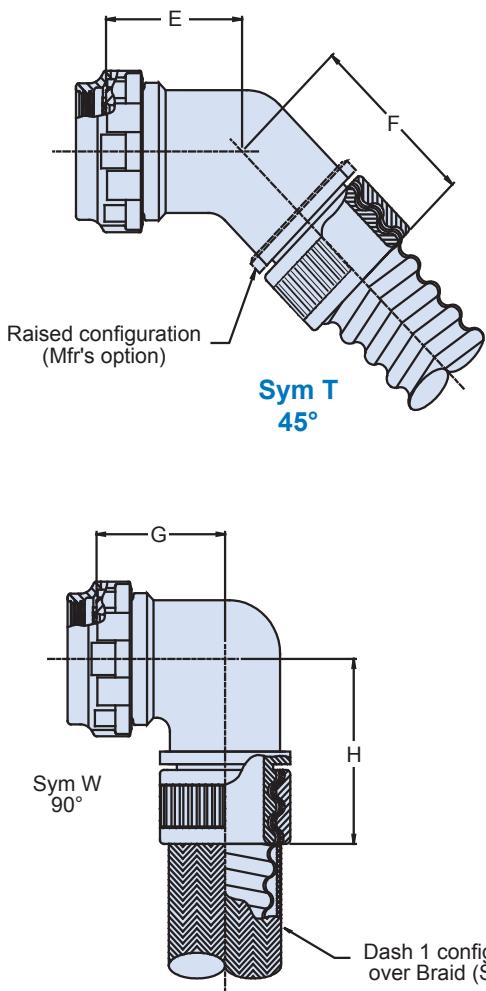


Table IV: Dimensions

Dash No.	Conduit I.D.	$\varnothing J$ Max	$\varnothing K$ 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)

Table II: Finish

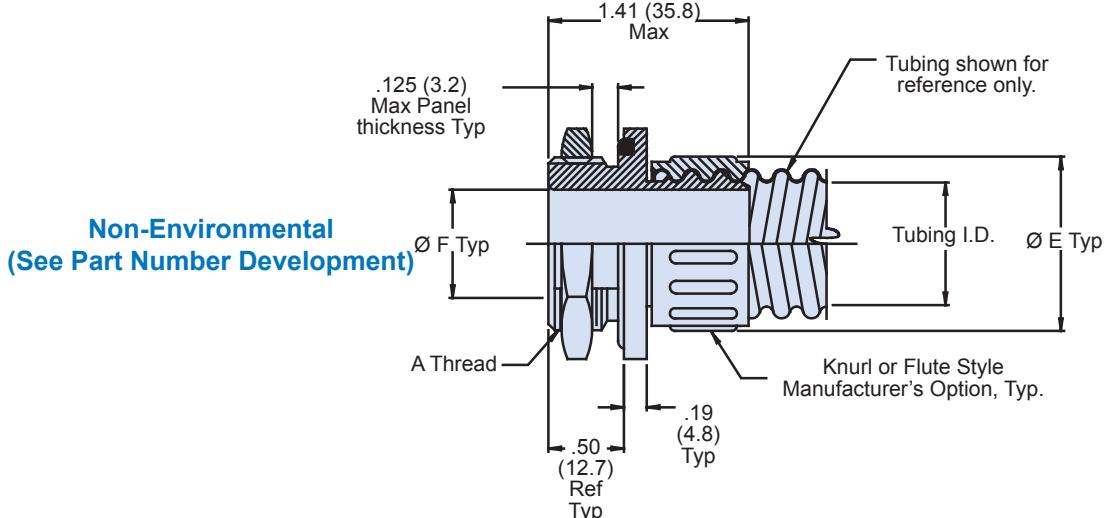
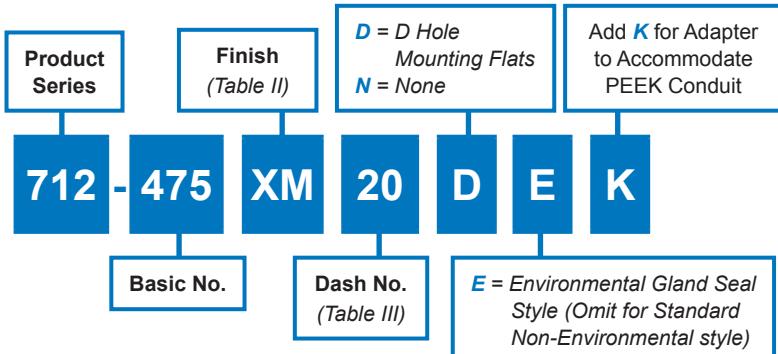
Sym	Finish
XM	Electroless Nickel
XW	Cadmium Olive Drab over Electroless Nickel
XB	No Plating - Black Material
XO	No Plating - Natural, Non-conductive



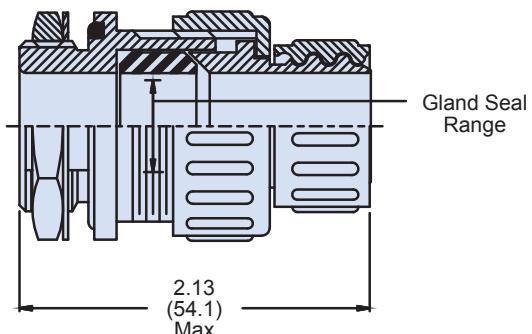
712-475
Lightweight Composite Hummer-Nut System
Bulkhead Fitting, Environmental or Non-Environmental
for Series 74 PEEK or Standard Tubing

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

How To Order



Style E - Environmental
(See Part Number Development)



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

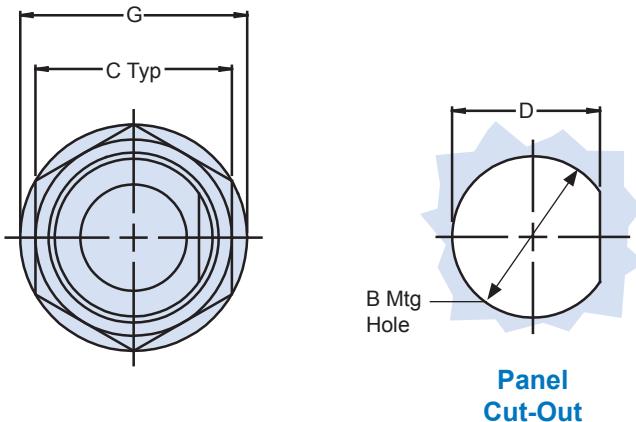
Series 74
Helical Tubing

Table III: Dash No./Dimensions

Dash No.	A Thread Class 2A	\varnothing B ± .015 -.000	C Across Flats	D + .000 -.015	\varnothing E Max	\varnothing F Max	\varnothing 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	11/2-18 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	13/4-18 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

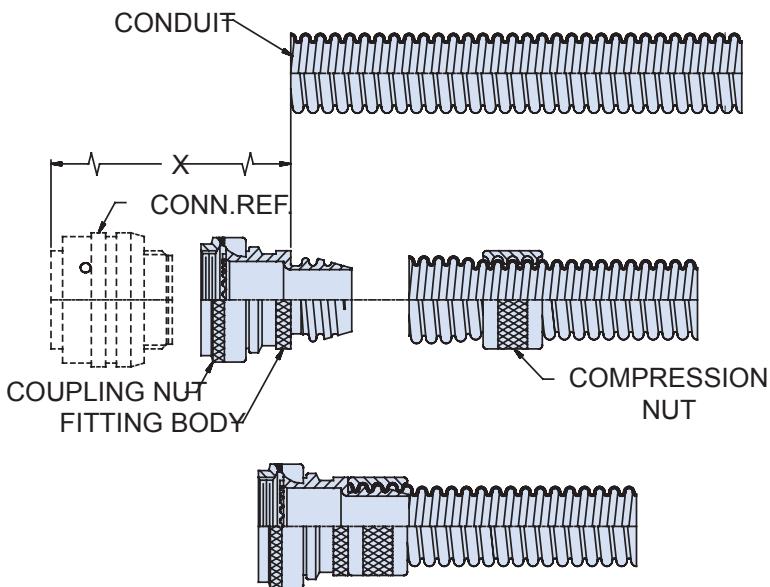


Installation Procedures for Hummer Nut System (712-178, 712-202, 712-379)

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

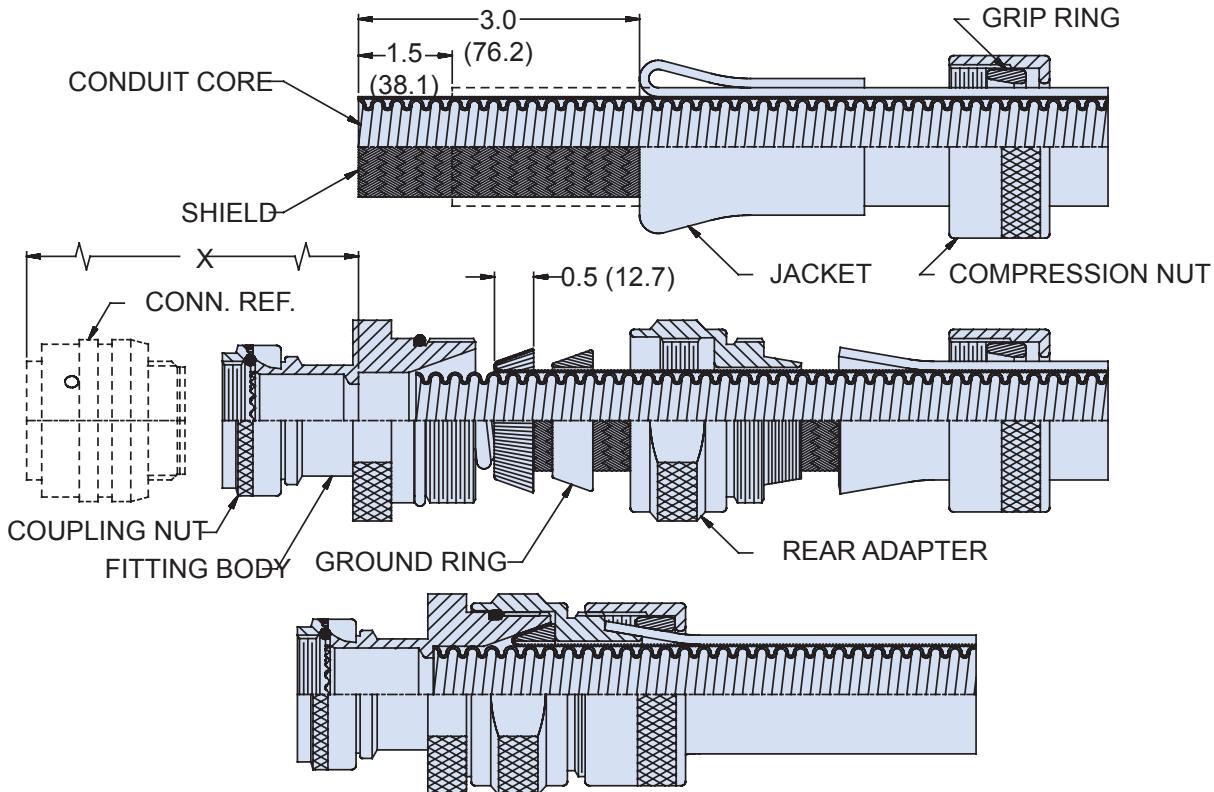
1. Cut the conduit to length per pre-assembly preparation step 2 using conduit shears or an equivalent. Trim conduit perpendicular to the bore.
2. Thread compression nut onto conduit approximately 1.0 inch (25.4 mm).
3. Expand conduit approximately .06 diameter. Thread onto rear of fitting body and bottom 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.

**Installation Procedures for
Heavy-Duty Ground Ring System**
(712-277, 712-389, 712-380, 712-358)



Heavy-Duty Ground Ring System Fittings



Pre-Assembly Preparation

- 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.
- Temporarily assemble connector to fitting and hand tighten. Establish and deduct the "X" dimension(s) from the overall assembly length in Step 1.
- Disassemble fitting from connectors. Prepare conduit and assemble to fitting per instructions below.

Fitting/Conduit Assembly

- 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.
- Slide compression nut and grip ring onto conduit.
- Fold jacket back approximately 3.0 inches (76.2 mm). Silicone grease or other lubricant may be used to aid this process.

- 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.
- 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.
- Bring rear adapter forward, thread to fitting body and torque 30 to 50 inch pounds. Verify conduit is seated in bore.
- Fold jacket forward over serrated cone. Trim jacket flush to 1/8 inch back from shoulder and remove any trimmings.
- 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



Glenair®

Series 75

Flexible Metal-Core Conduit System

Introduction and Quick Selection Guide



Series 75
Metal-Core Conduit

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,
pages D-16 – D-23



Heavy-Duty
Environmental
System: Metal,
pages D-24 – D-31

Heavy-Duty
Environmental
System:
Composite,
pages D-32 – D-39



Part No.	Description	Page No.
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750-191	Metal-Core Conduit with Braid	D-8
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
750-195	Metal-Core Conduit with 3 Braids	D-12
750-196	Metal-Core Conduit with 3 Braids and Jacket	D-13
Turnkey Factory Terminated Assemblies		
	Factory Terminated Conduit Assemblies - How to Order	D-14
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Low-profile RP Plus Fittings		
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Heavy-Duty Environmental System: Metal		
712-834	Conduit to Connector Backshell	D-24
712-836	Conduit to Bulkhead Fitting	D-26
712-835	Conduit to Transition or End Fitting Backshell	D-28
712-837	Conduit-to-Conduit Splice	D-30
Heavy-Duty Environmental System: Composite		
712-843	Conduit to Connector Backshell	D-32
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712-844	Conduit to Transition or End Fitting Backshell	D-36
712-846	Conduit to Conduit Splice	D-38
Legacy MIL-C-24758 System		
712-386	Conduit to Connector Backshell	D-40
712-188	Conduit to Bulkhead Fitting	D-42
712-387	Conduit to Transition or End Fitting Backshell	D-44
712-388	Conduit-to-Conduit Splice	D-46
Installation Procedures		
		D-48



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.


**Part Number
750-190**

**Part Number
750-191**

**Part Number
750-192**

**Part Number
750-193**

**Part Number
750-194**

**Part Number
750-195**

**Part Number
750-196**

Superior EMI protection and crush-proof strength for static applications

Highly flexible crush-proof metal conduit, available in Nickel-Iron, Brass, or SST.

Adds braided shielding for additional tensile strength applications

Flexible metal-core conduit tubing with numerous braided shielding options, for additional tensile strength and effective grounding of electromagnetic interference.

Adds a jacket for environmental protection

Flexible metal-core conduit tubing with braided shielding plus a ruggedized jacket for environmental protection against contaminants and moisture.

Adds a second braided shield for high dB EMI/RFI shielding

Flexible metal-core conduit tubing with double braided shield for high frequency EMI/RFI shielding requirements.

A jacketed, double-braided configuration for combined environmental and EMI/RFI applications with high dB shielding requirements

Flexible metal-core conduit tubing with double braided shield and jacket for optimum EMI/RFI protection, strength and environmental sealing.

Triple-braided conduit for predictable and reliable grounding of surface-borne/high frequency electromagnetic interference

Flexible metal-core conduit tubing with triple braided shield for optimal tensile strength and enhanced high frequency EMI/RFI protection.

Triple-braided and jacketed conduit for maximum EMI shielding in environmental applications

Flexible metal-core conduit tubing with triple braided shield and jacket for enhanced high-frequency EMI/RFI protection, strength and environmental sealing.

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

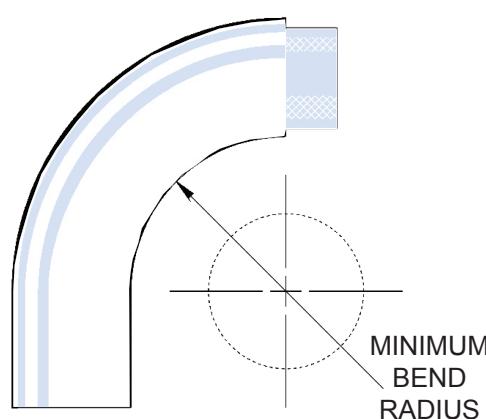


Conduit Material Choices, Material Properties, and Military Specifications

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



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	Duralectric, Black	Weatherproof, halogen free, flame resistant, functional to 260°C
G	Duralectric, Gray	Qualified to US Navy MIL-PRF-24758A, Fed Std 595B #26270 Haze Gray color
TN	Duralectric, Desert Tan	Duralectric in Fed Std #3446 Desert Tan color
O	Duralectric, Orange	OSHA Safety Orange to mark energized electrical cables

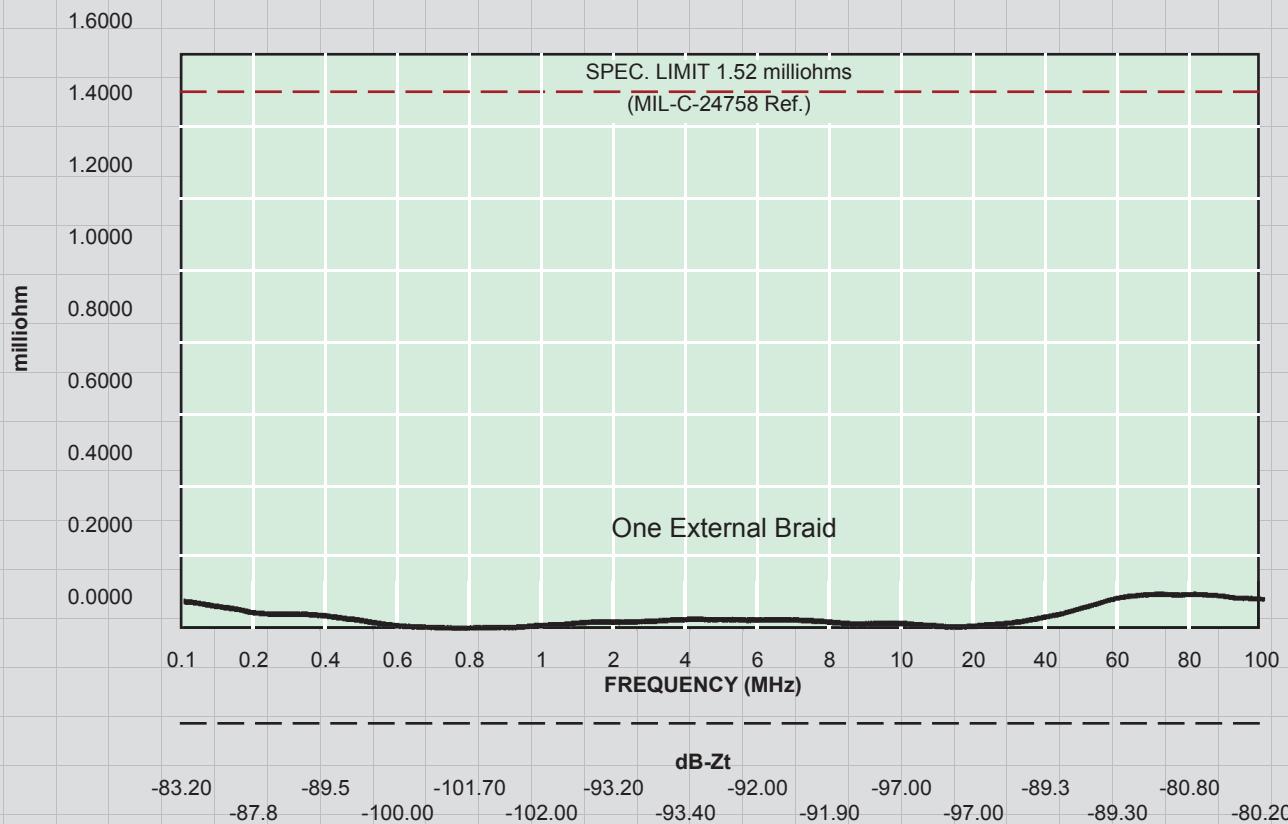
Jacketing Material Properties and Chemical Resistance

Material Property	EPDM (Ethylene Propylene Diene Monomer)	Hypalon (Chlorosulfonated Polyethylene)	Neoprene (Polychloroprene)	Viton (Fluoroelastomer)	Duralectric
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**

Glenair®

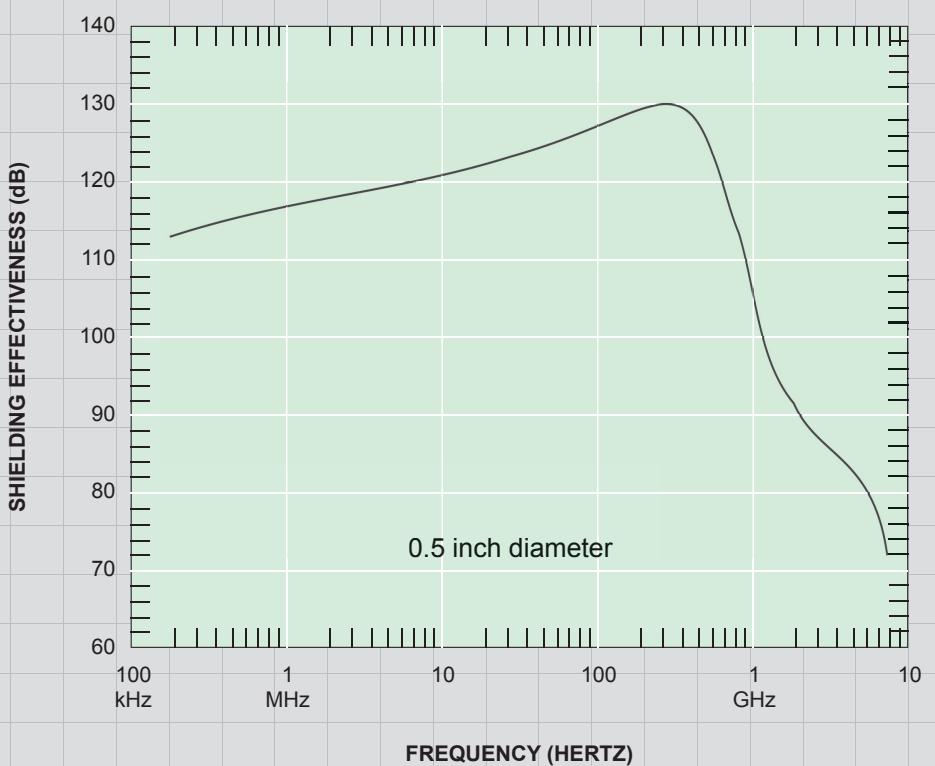
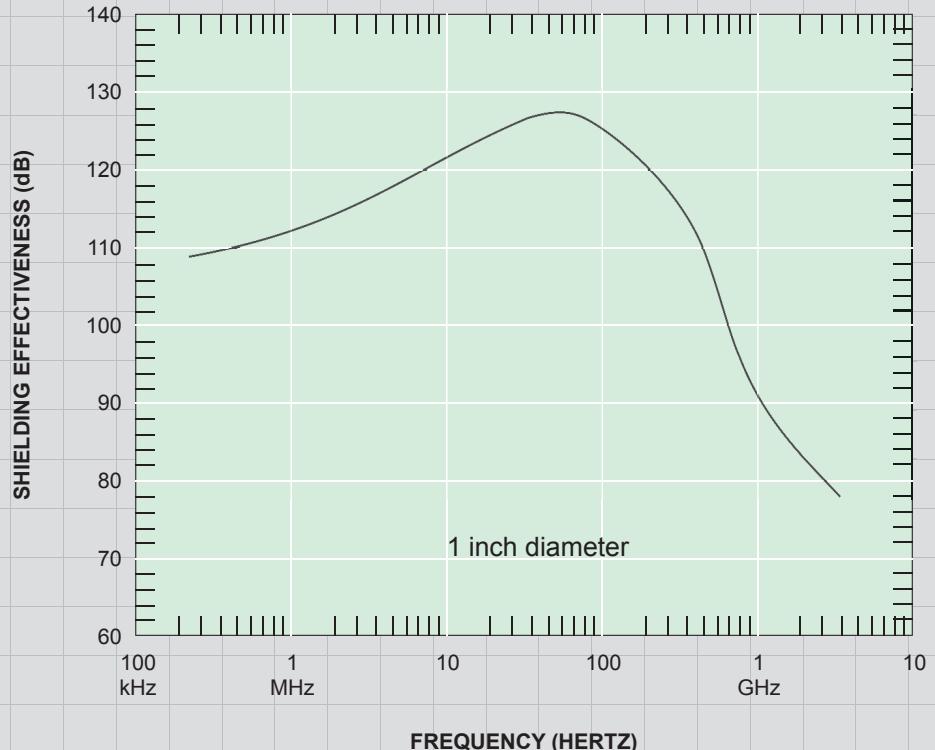
Series 75
Metal-Core Conduit



D



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



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

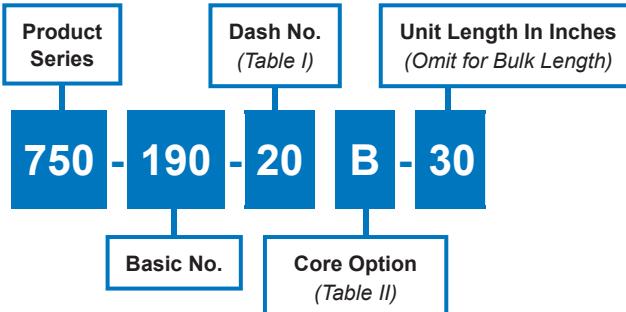


Table I: Dash No./Dimensions

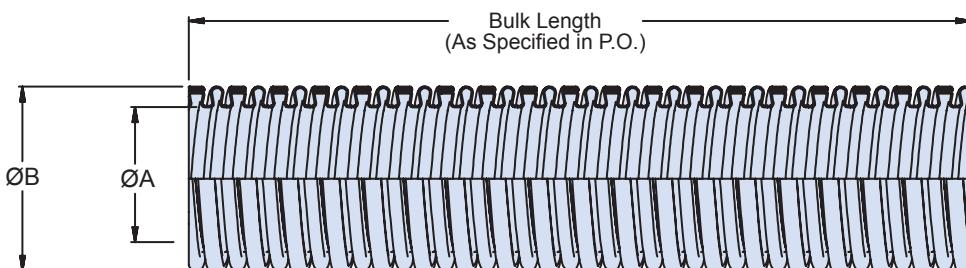
Dash No.	"B" Glenair Brass			"C" SST, "N" Nickel/Iron		
	A I.D.		B O.D.		A I.D.	
	Min	Max	Min	Max	Min	Max
06	.175 (4.45)	.260 (6.60)	.270 (6.86)	.175 (4.45)	.260 (6.60)	.270 (6.86)
08	.260 (6.60)	.360 (9.14)	.370 (9.40)	.245 (6.22)	.354 (9.00)	.374 (9.50)
09	.294 (7.47)	.390 (9.91)	.398 (10.1)	.294 (7.47)	.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	.635 (16.1)	.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)

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	$\pm .50$
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

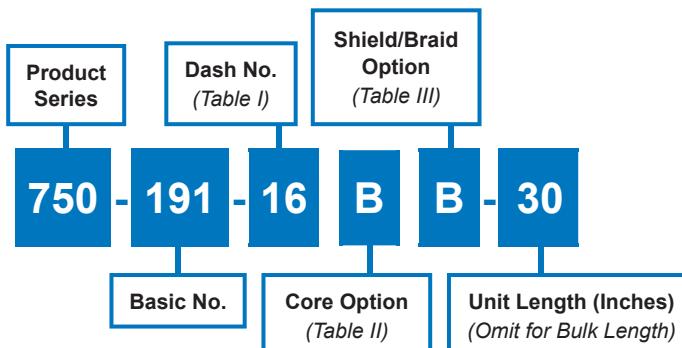


Table I: Dash No./Dimensions

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	.635 (16.1)	.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 II: Conduit Core

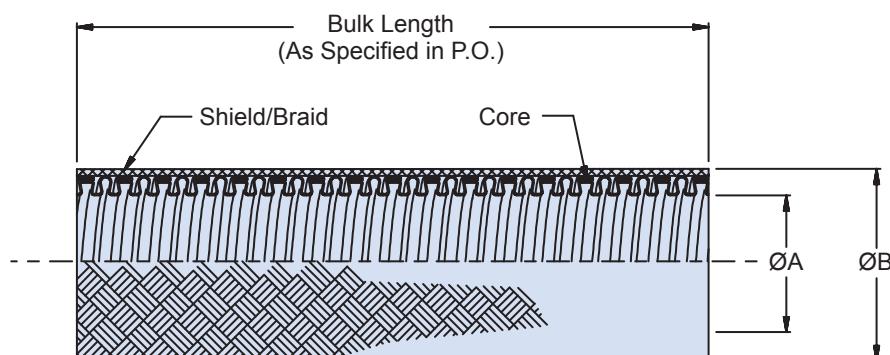
SYM	Core Material
B	Brass, Per A-A-52440 Type I, Grade B
C	Stainless Steel
N	80% Nickel, 20% Iron

Table 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



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



Series 75
Metal-Core Conduit

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



How To Order

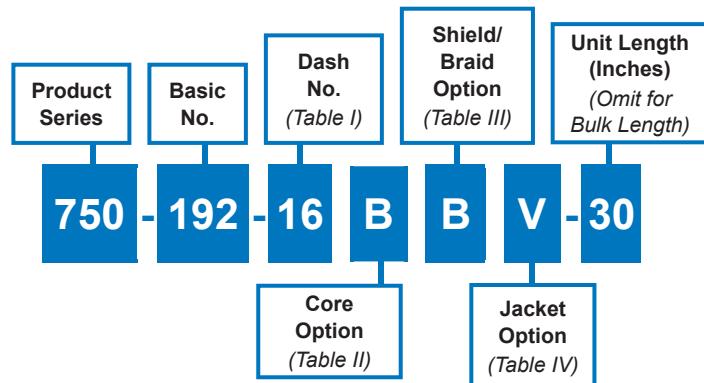


Table I: Dash No./Dimensions

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	.635 (16.1)	.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 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

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

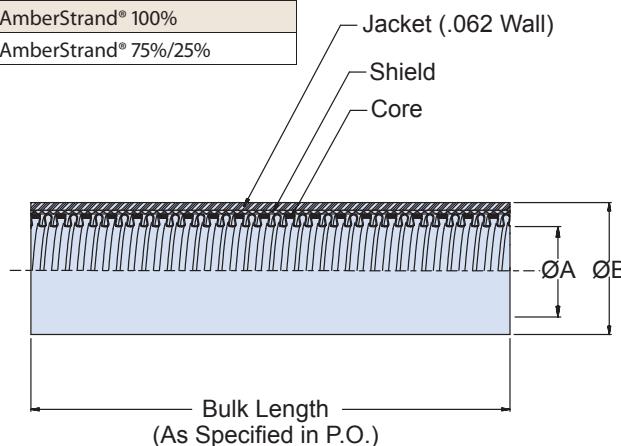
Table III: Braided Shield

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

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.



D



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

Double 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.	
	Min	Max	Min	
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	.635 (16.1)	.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)

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

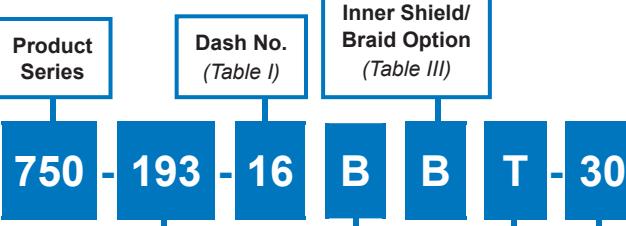
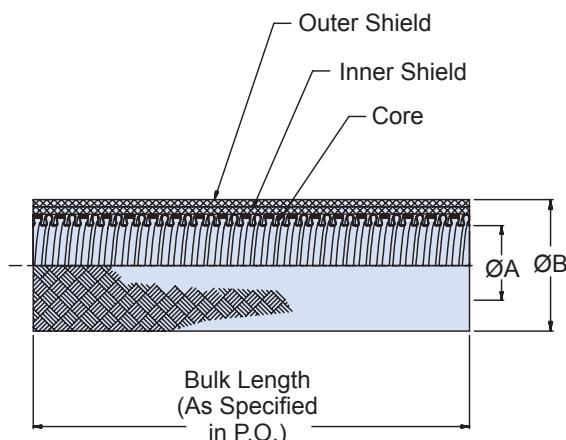


Table III: Braided Shield	
SYM	Shield/Braid
B	Bronze (Standard for Brass Core)
C	Stainless Steel (Standard for SST and Nickel/Iron Core)
T	Tin Copper
N	Nickel Copper
S	SnCuFe
A	Silver Copper
L	Armorlite™
D	Dacron
M	Nomex
E	AmberStrand® 100%
F	AmberStrand® 75%/25%

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



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

Glenair®

Series 75
 Metal-Core Conduit

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



How To Order

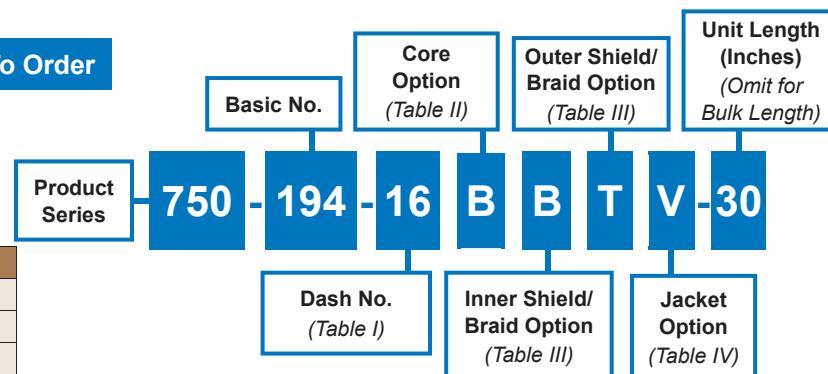


Table I: Dash No./Dimensions

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)	.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	.635 (16.1)	.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)

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

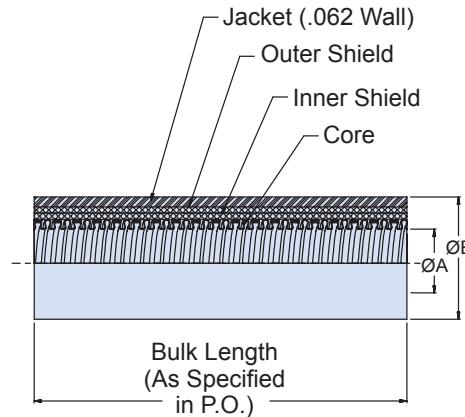
N	Neoprene
H	Hypalon®
E	EPDM
V	Viton
B	Duralectric, Black
G	Duralectric, Gray
TN	Duralectric, Desert Tan
O	Duralectric, OSHA Safety Orange

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



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.

D



750-195

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

Triple braided shield for high dB shielding requirements



How To Order

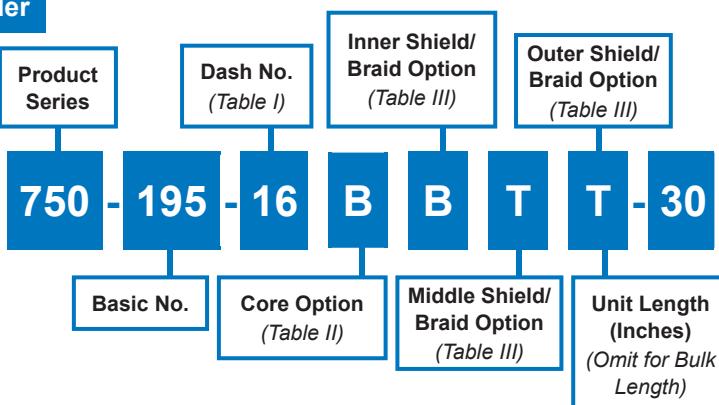


Table I: Dash No./Dimensions

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	.635 (16.1)	.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



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



How To Order

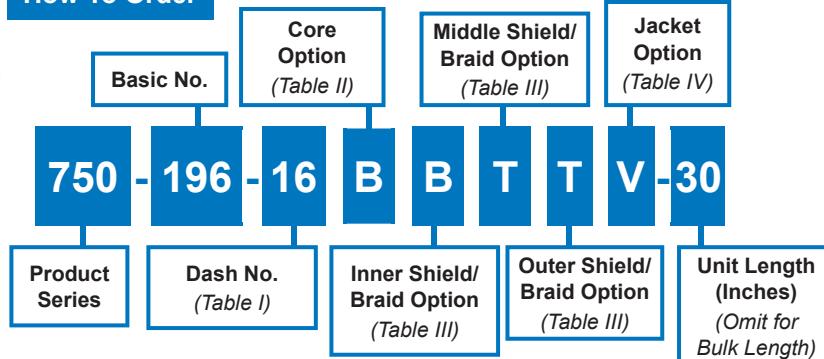


Table II: Conduit Core	
SYM	Core Material
B	Brass, Per A-A-52440 Type I, Grade B
C	Stainless Steel
N	80% Nickel, 20% Iron

Table 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%

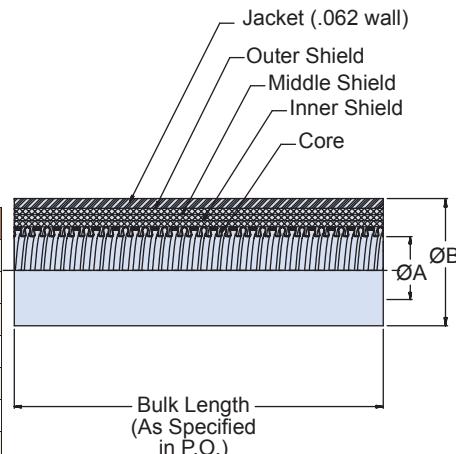
Table IV: Jacket	
N	Neoprene
H	Hypalon®
E	EPDM
V	Viton
B	Duraelectric, Black
G	Duraelectric, Gray
TN	Duraelectric, Desert Tan
O	Duraelectric, OSHA Safety Orange

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

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)	.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	.635 (16.1)	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.

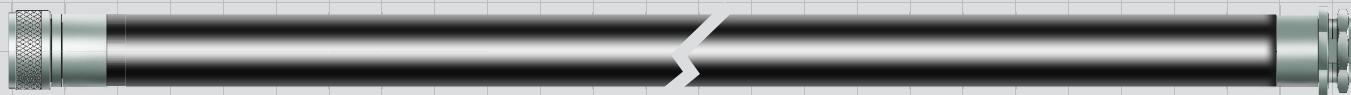




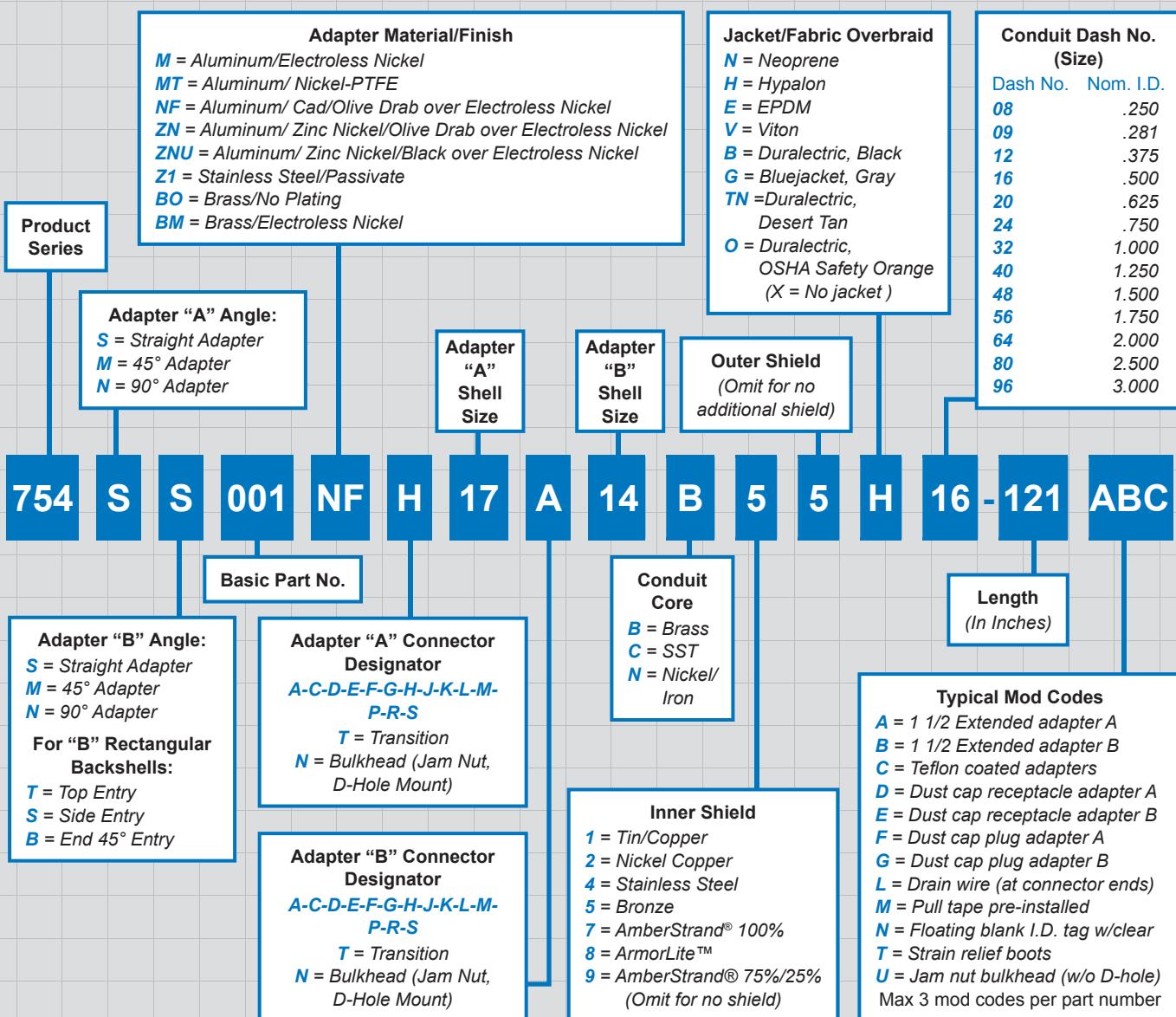
Factory Terminated Series 75 Assemblies How-To-Order

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



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

Glenair®

Series 75
Metal-Core Conduit

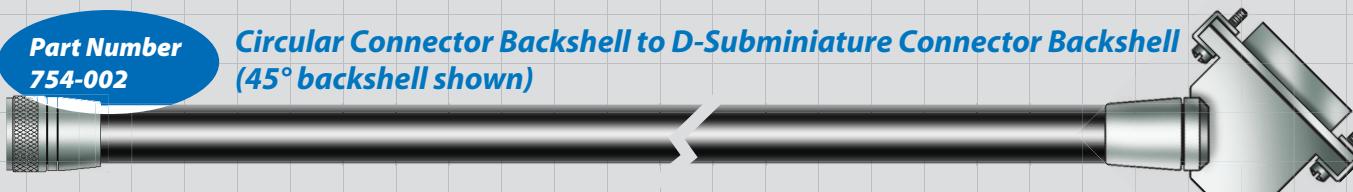
Part Number
754-001

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)



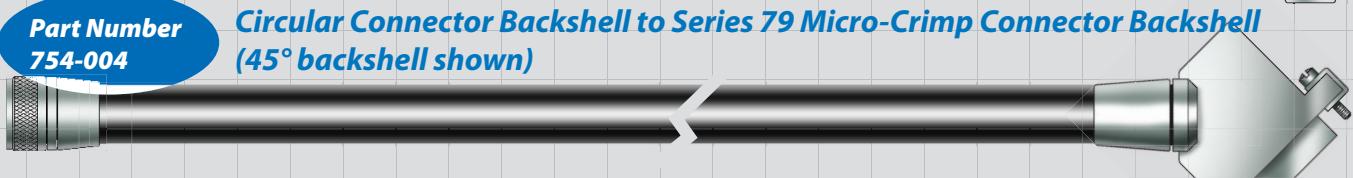
Part Number
754-003

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)



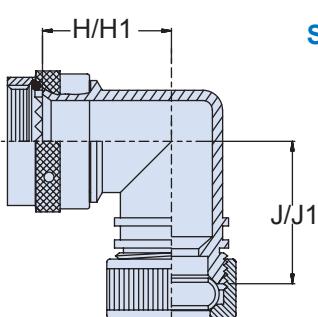
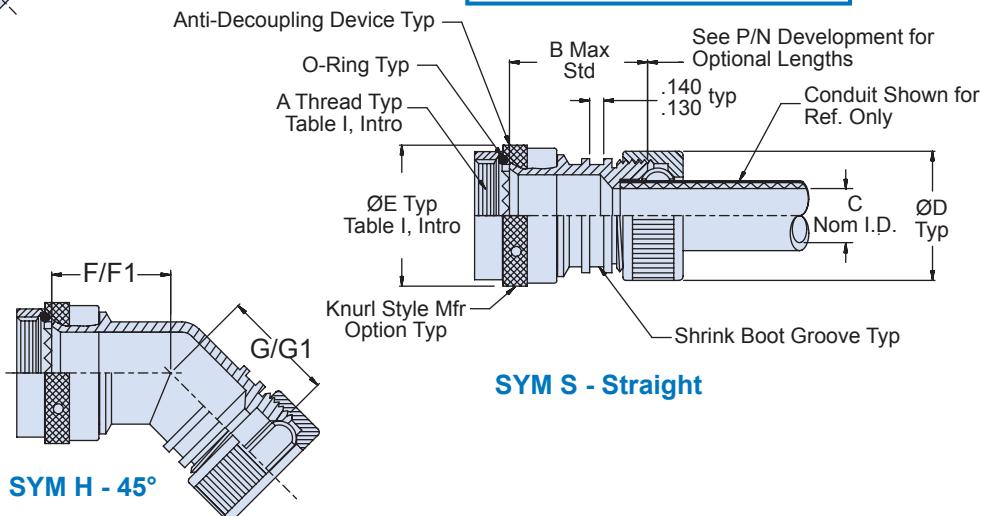
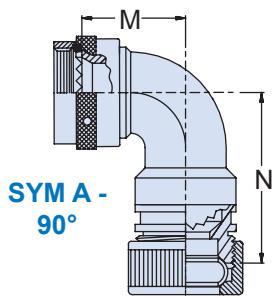
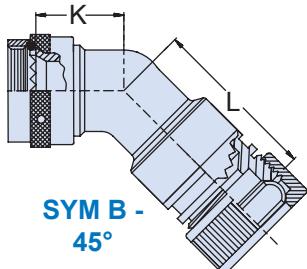
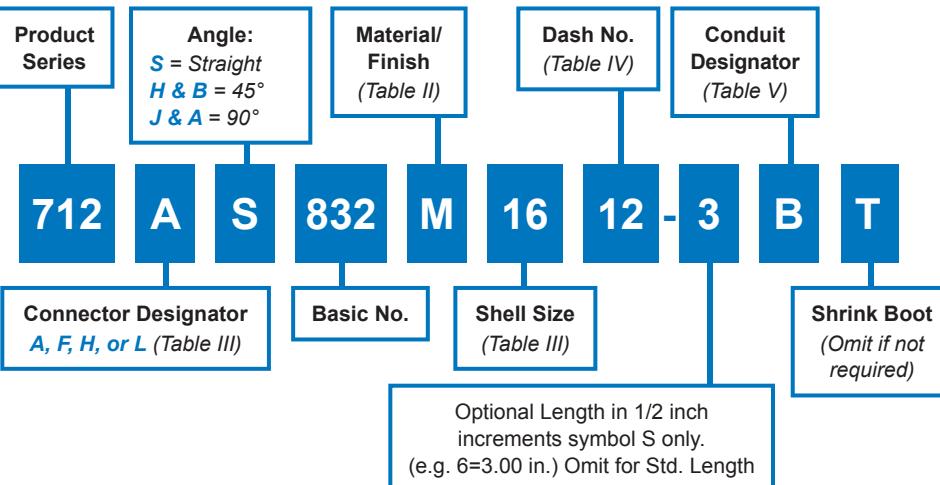


712-832
RP Plus System
Low-Profile, Self-Locking, Environmental Backshell with
Shrink Boot Accommodation for Series 75 Metal-Core Conduit

**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

712-832

RP Plus System

**Low-Profile, Self-Locking, Environmental Backshell with
Shrink Boot Accommodation for 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 (1000 Hour Salt Spray)
BN	Brass	Unplated
B0	Brass	Passivate
Z1	300 Series SST	Electroless Nickel
M	Al Alloy	Nickel PTFE
MT	Al Alloy	Cad O.D. Over Electroless Nickel (1000 Hour Salt Spray)
SN	Steel, B1113	

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

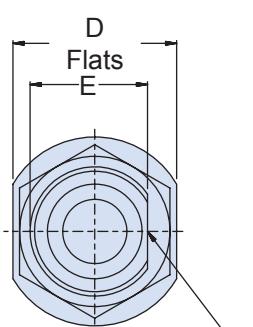
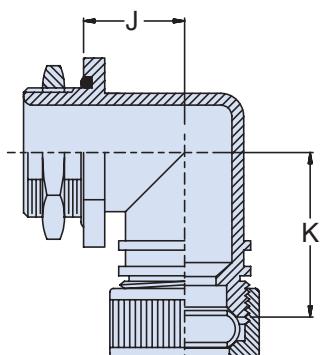
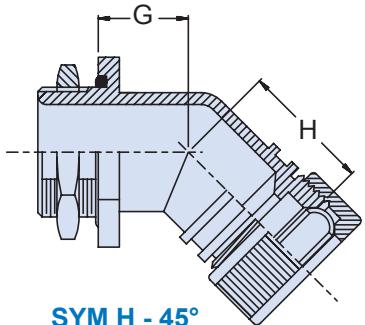
Table V: Conduit Designator

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	Z

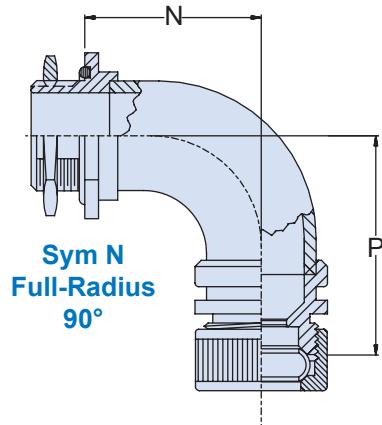
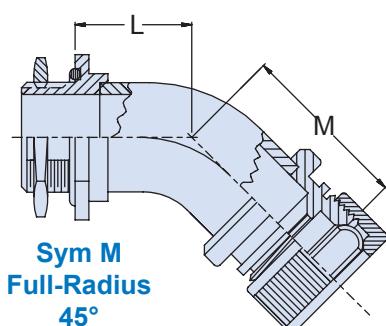
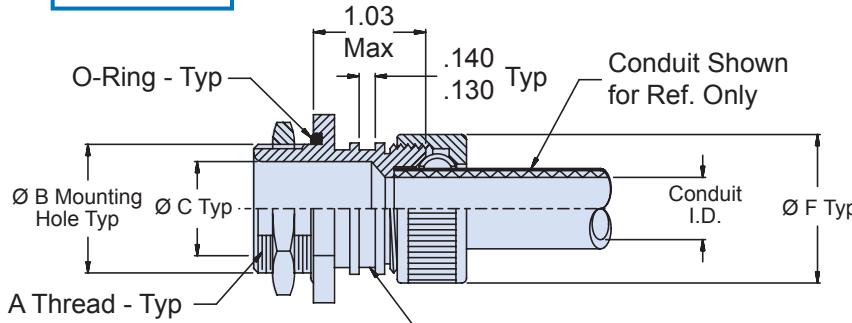
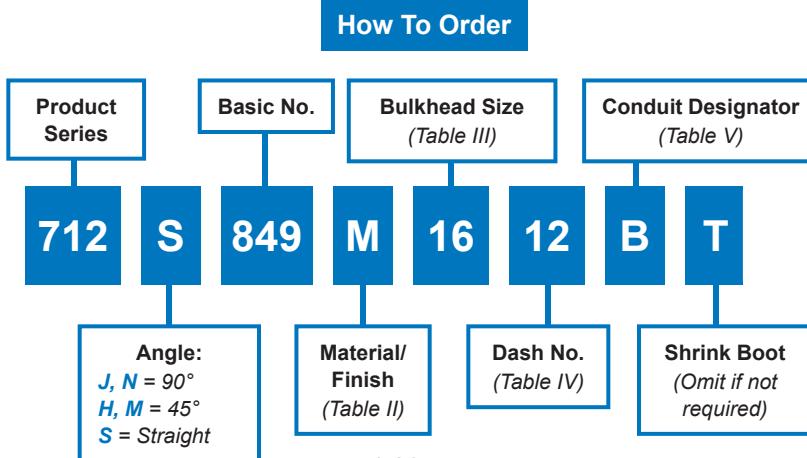


712-849
RP Plus System
Low-Profile Bulkhead Fitting with Shrink Boot Accommodation
for Series 75 Metal-Core Conduit

RP Plus conduit-to-bulkhead fitting, environmental



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	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

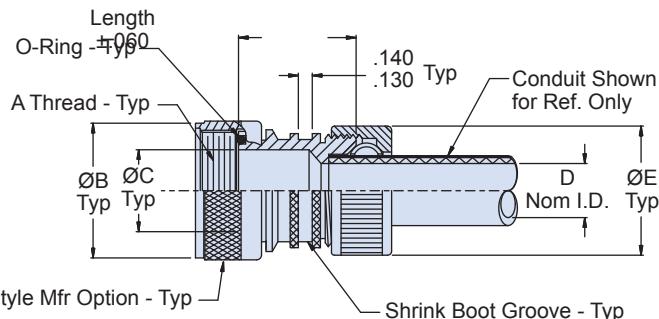
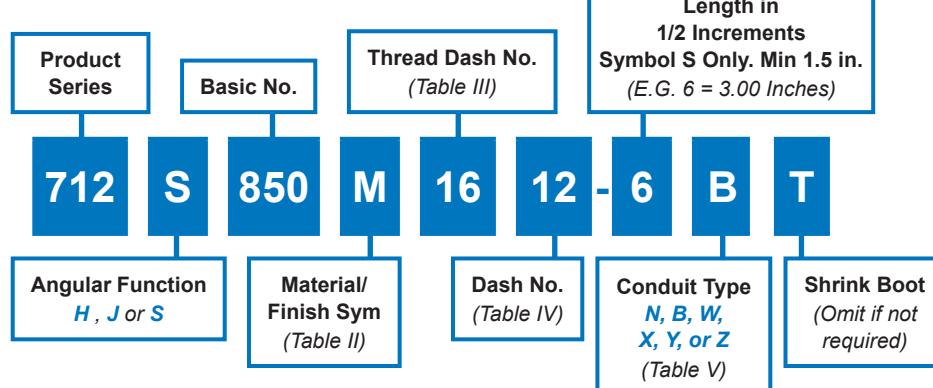
Conduit Part Number	Core Material	Conduit Designator
750-191 & -192 (Core Option N) 750-084, 750-085	Nickel/Iron Core	N
750-191 & -192 (Core Option C) 750-094, 750-095	Stainless Steel Core	
M24758-*, 750-079	M24758 Brass Core	
750-191 & -192 (Core Option B) 730-031, 750-045	Glenair Brass Core	B
750-190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



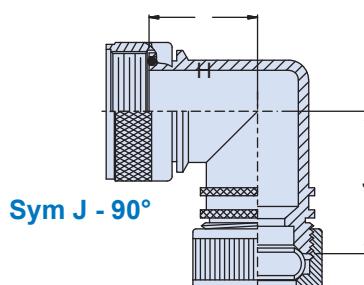
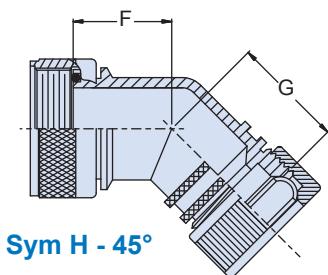
712-850
RP Plus System
Conduit to Transition or End Fitting Backshell
for Series 75 Metal-Core Conduit

RP Plus conduit-to-transition or end fitting backshell

How To Order



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 & 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	15/16-18 UNEF	1.488 (37.8)	1.000 (25.4)
40	11/2-18 UNEF	1.676 (42.6)	1.250 (31.8)
48	13/4-18 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	2.930 (74.4)	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

D

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

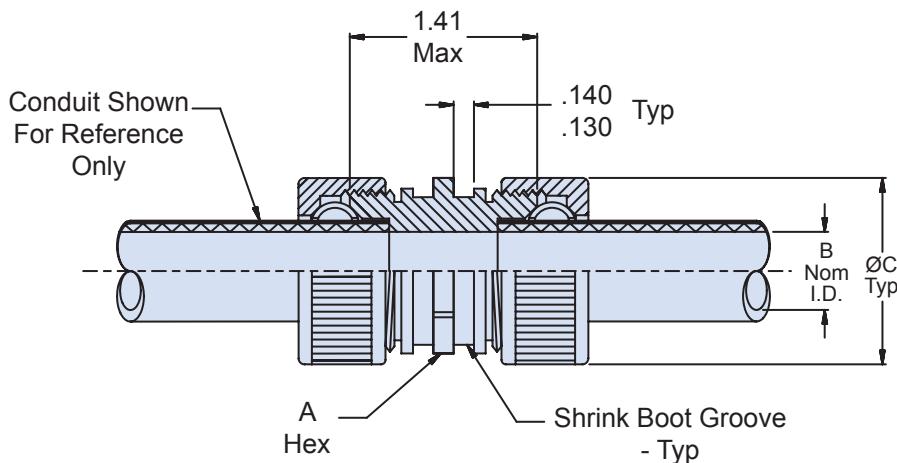
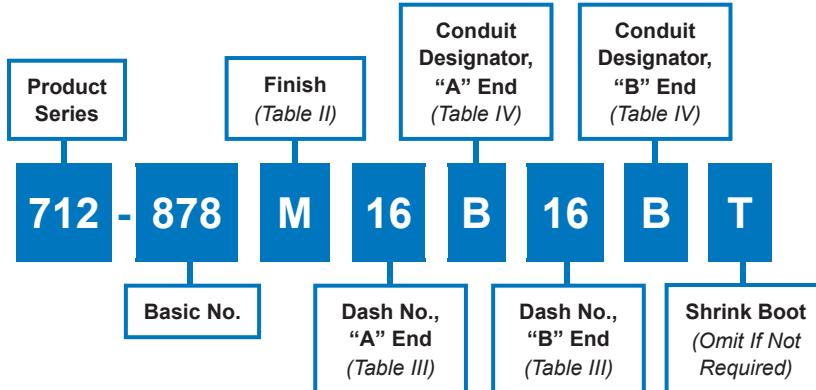


712-878
RP Plus Splice

RP Plus conduit-to-conduit splice



How To Order



Material & Finish

Adapters, Nuts & Rings: See Table II

Notes

Mates with conduit per Table IV

712-878
RP Plus Splice



Table II: Material/Finish		
Sym	Description	
	Material	Finish
NF	AL Alloy	Cadmium Olive Drab over Electroless Nickel (1000 Hour Salt Spray)
BN	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

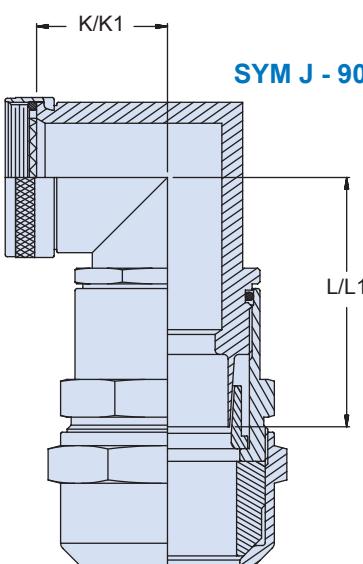
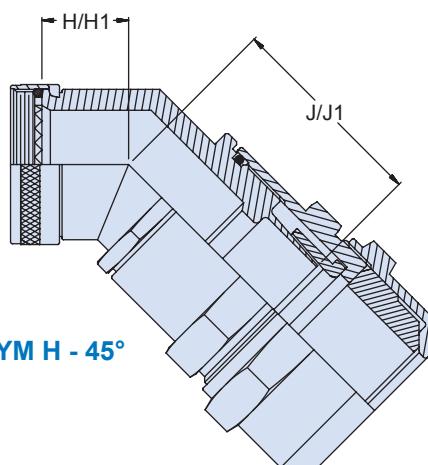
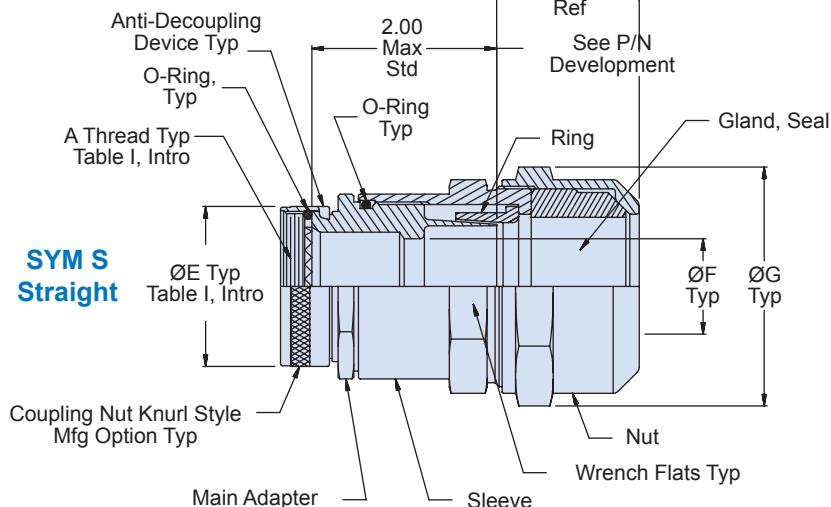
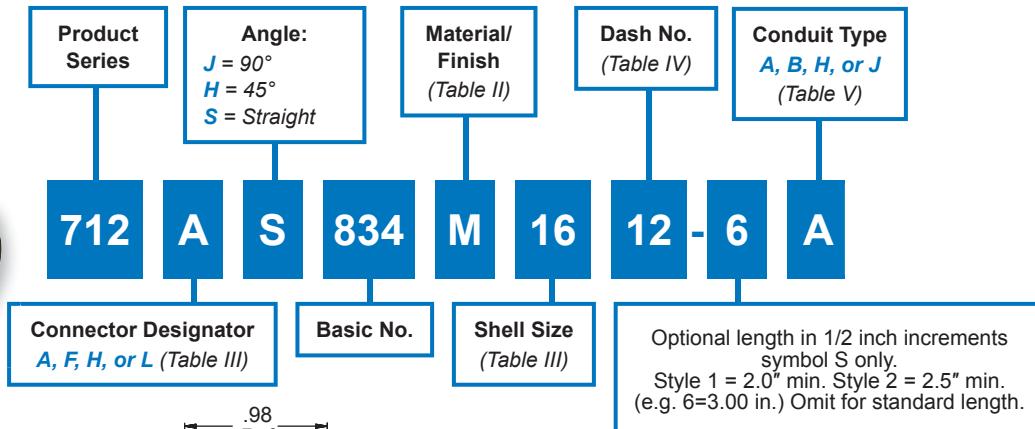


712-834
Heavy-Duty Environmental System - Metal
Metal Self-Locking, Advanced EMI/Sealing Conduit to Connector
Backshell for Series 75 Metal-Core Conduit

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



How To Order



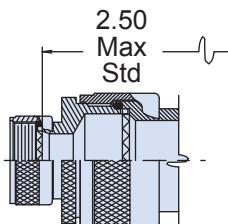
Material and Finish

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

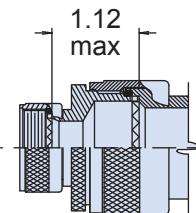
Specifications

- 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

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



**Style 2
Straight**



**Style 2
45° & 90°**

Table III: Shell Size/Dimensions						
Shell Size		Max Dash No	H Max	J Max	K Max	L Max
A, F, L	H	Style I				
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 (16.7)
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	



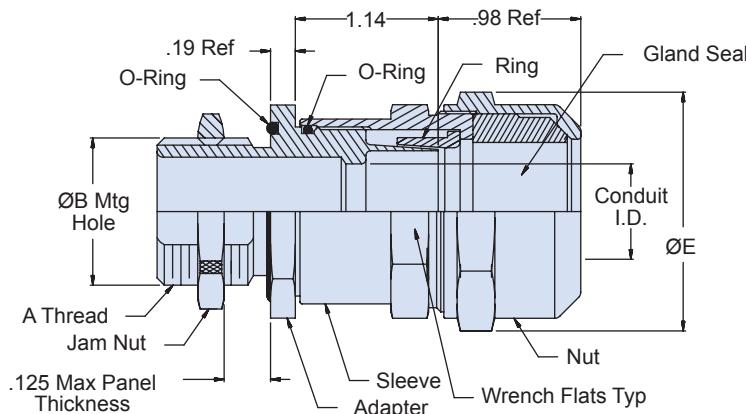
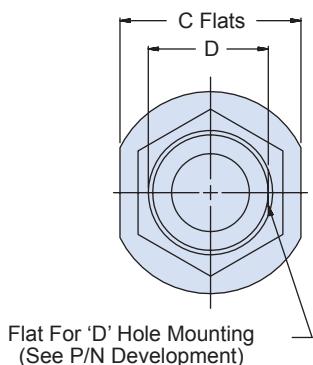
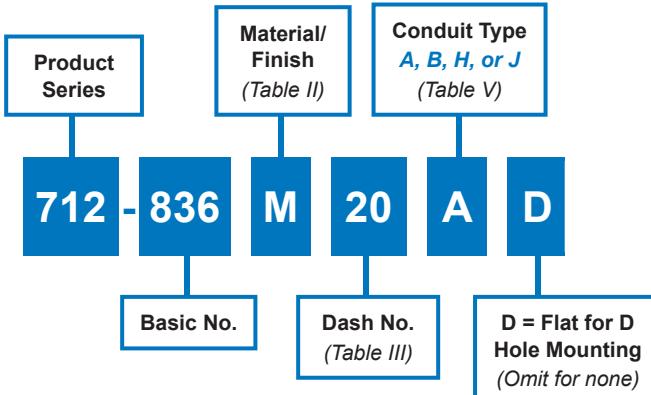
712-836

**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



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)	11/2-18 UNEF - 2A	1.505 (38.2)	2.000 (50.8)	1.438 (36.5)	2.32 (58.9)
48	1.500 (38.1)	13/4-18 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

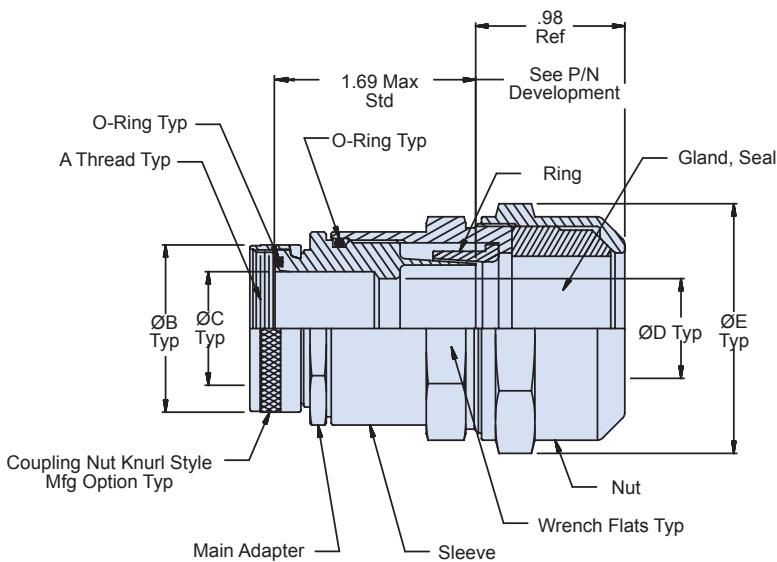
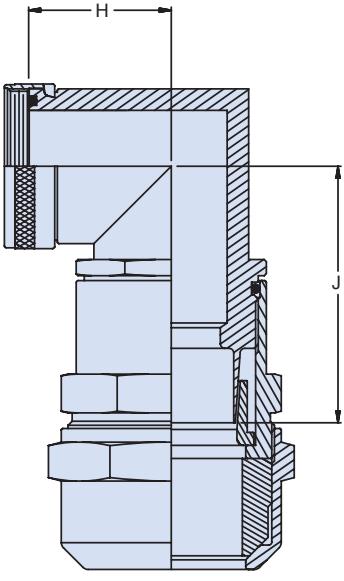
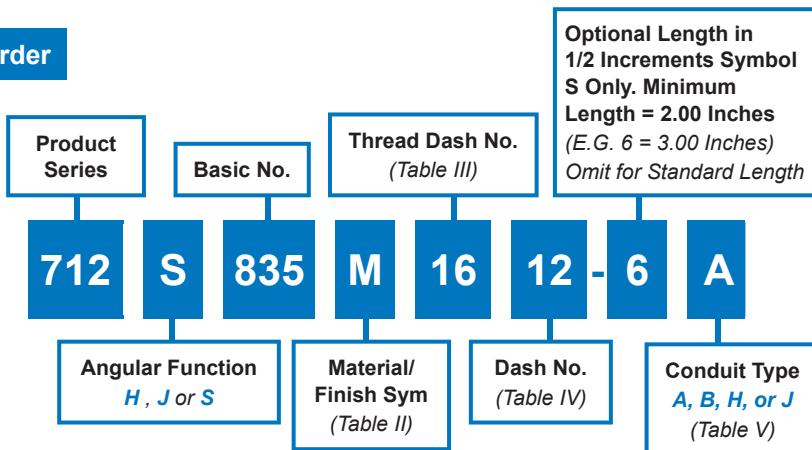


712-835
Heavy-Duty Environmental System - Metal
Environmental Conduit to Transition or End Fitting Backshell
for Series 75 Metal-Core Conduit

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



How To Order



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**



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	15/16-18 UNEF	1.488 (37.8)	1.000 (25.4)
40	11/2-18 UNEF	1.676 (42.7)	1.250 (31.8)
48	13/4-18 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	2.930 (74.4)	2.500 (64.0)
96	3 1/4-16 UN	3.450 (87.6)	3.000 (75.2)

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)

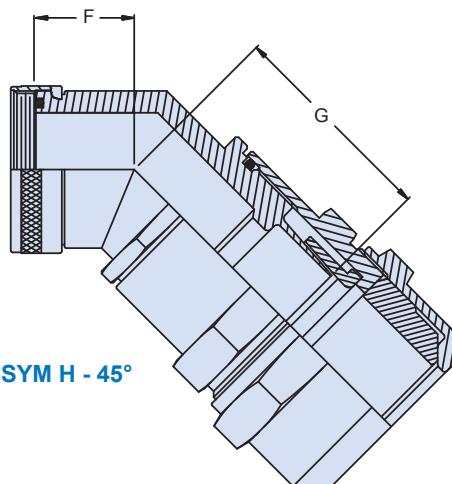


Table V: Conduit Type

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

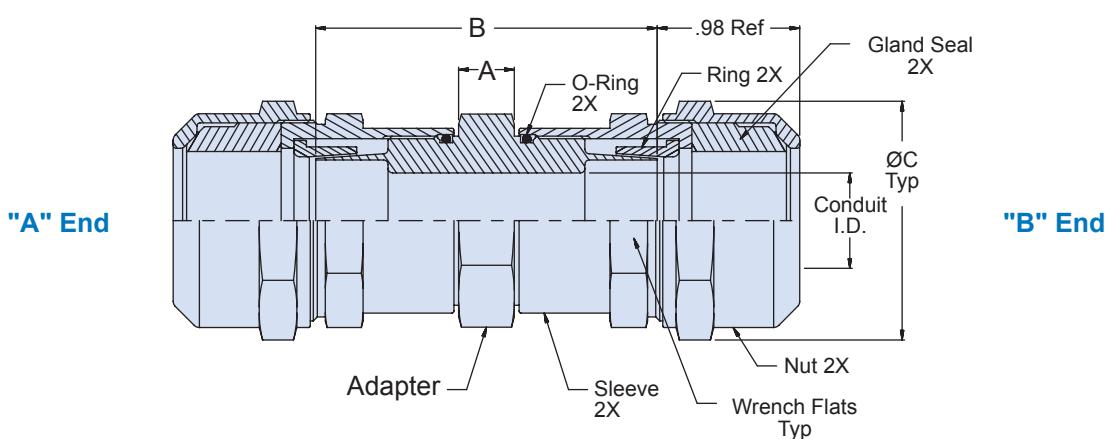
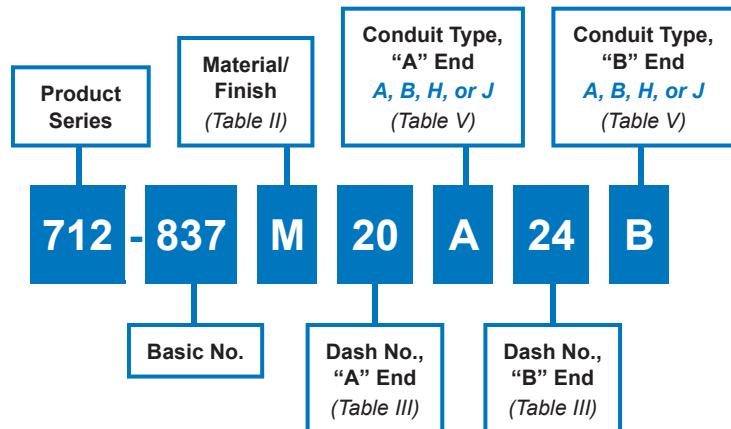


712-837
Heavy-Duty Environmental System - Metal
Advanced EMI/Sealing Conduit-to-Conduit Splice
for Series 75 Metal-Core Conduit

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



How To Order



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

Table V: Conduit Type

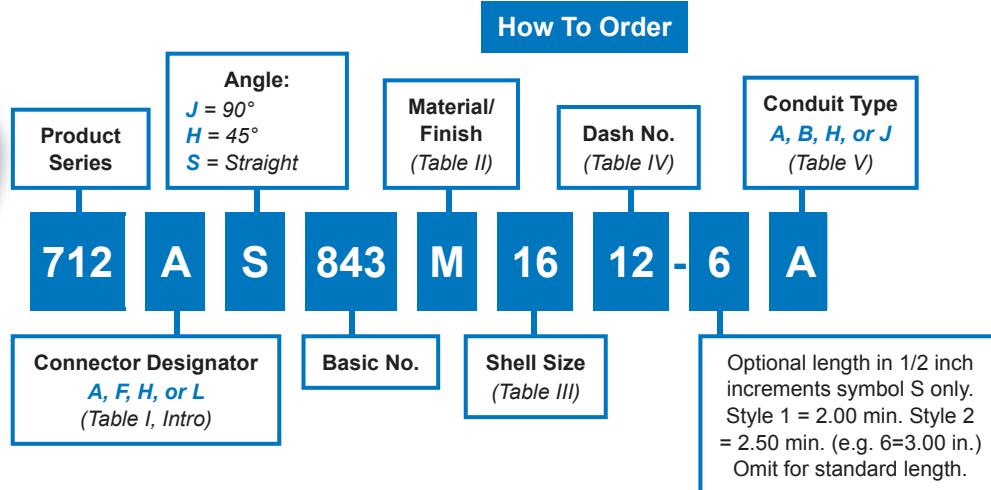
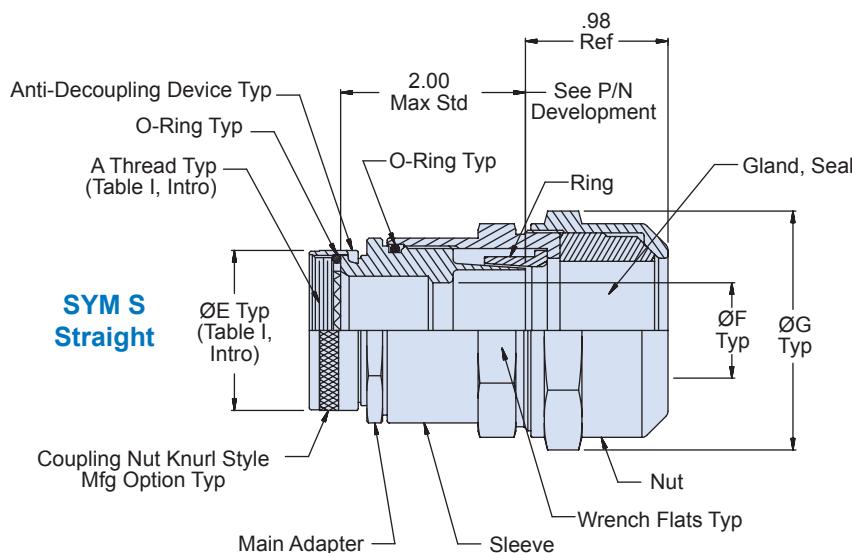
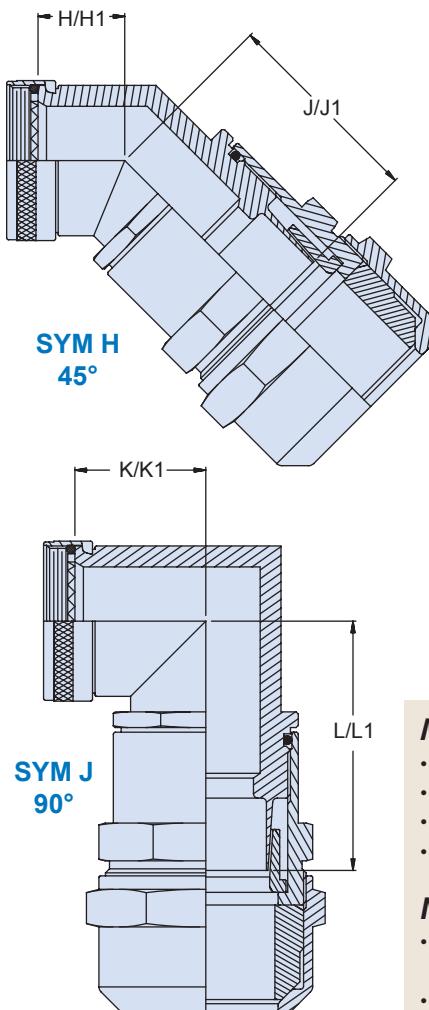
Conduit Type	Part Number	Configuration
A	750-192	Brass conduit with single braided shield and jacket
B	750-194	Brass conduit with double braided shield and jacket
H	750-192	Stainless steel conduit with single braided shield and jacket
J	750-192	Nickel/iron conduit with single braided shield and jacket

D



712-843
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

**D**

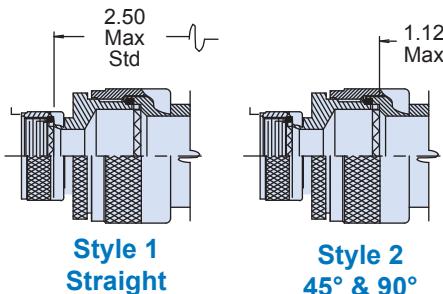
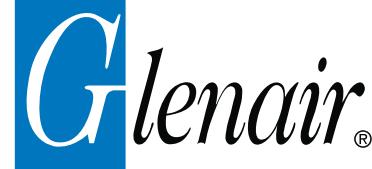
Material and Finish

- 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

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



**Style 1
Straight**

**Style 2
45° & 90°**

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 III: Shell Size/Dimensions		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.	\varnothing 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

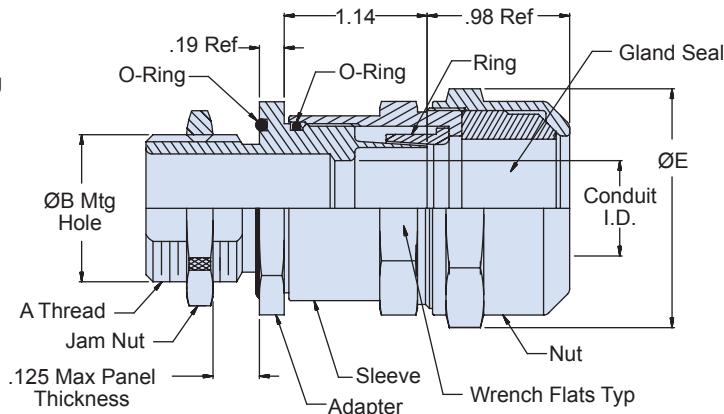
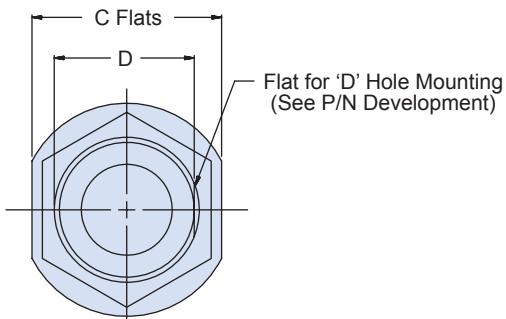
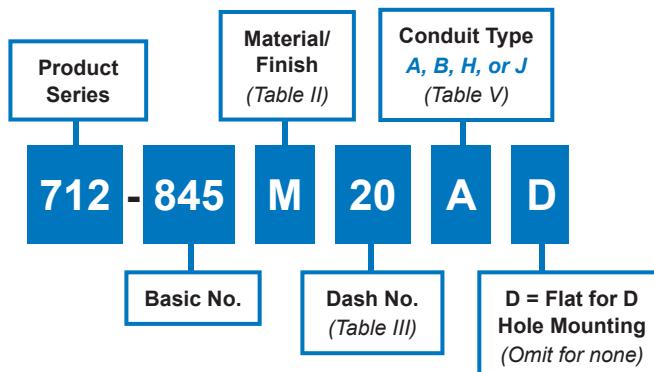


712-845
Heavy-Duty Environmental System - Composite
Conduit-to-Bulkhead Fitting
for Series 75 Metal-Core Conduit

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



How To Order



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**

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

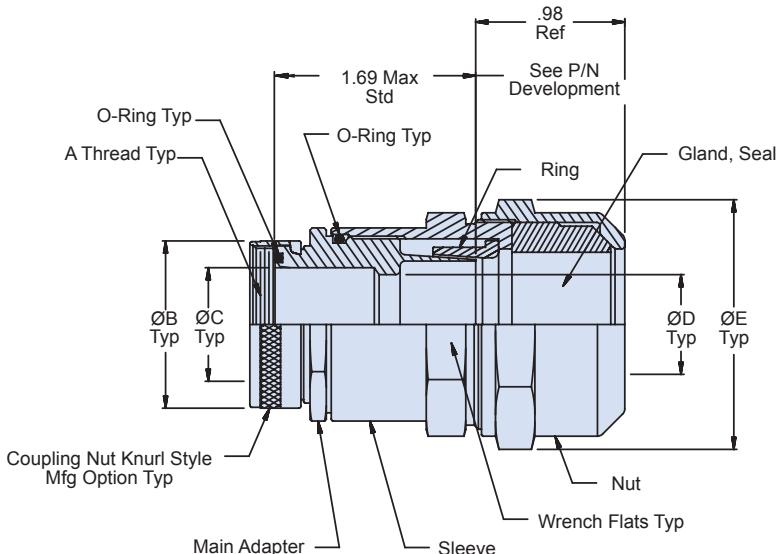
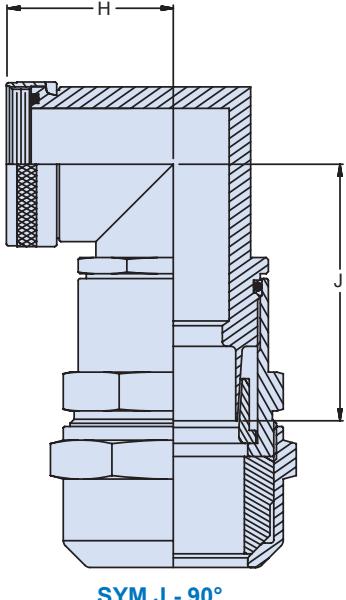
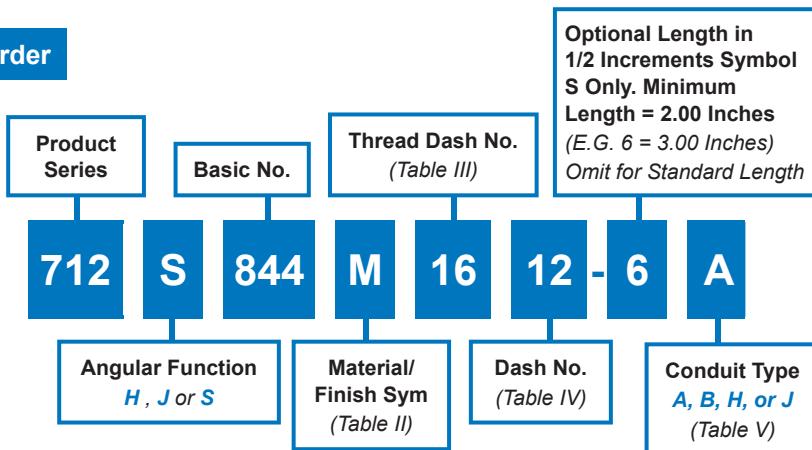
Conduit Type	Part Number	Configuration
A	750-192	Brass conduit with single braided shield and jacket
B	750-194	Brass conduit with double braided shield and jacket
H	750-192	Stainless steel conduit with single braided shield and jacket
J	750-192	Nickel/iron conduit with single braided shield and jacket



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



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

**Heavy-Duty Environmental System - Composite
Conduit to Transition or End Fitting Backshell
for 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	15/16-18 UNEF	1.488 (37.8)	1.000 (25.4)
40	11/2-18 UNEF	1.676 (42.7)	1.250 (31.8)
48	13/4-18 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	2.930 (74.4)	2.500 (64.0)
96	3 1/4-16 UN	3.450 (87.6)	3.000 (75.2)

Table II: Material/Finish

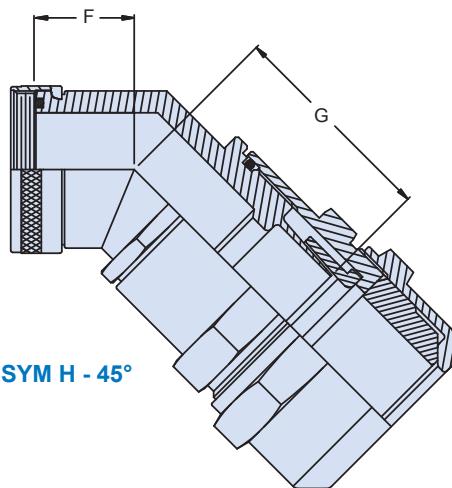
Sym	Material	Finish Description
BO	Brass	Unplated
BN	Brass	Cadmium/Olive Drab Over Electroless Nickel (1,000 Hour Salt Spray)
BM	Brass	Electroless Nickel
BMT	Brass	Nickel-PTFE
M	Aluminum Alloy	Electroless Nickel
MT	Aluminum Alloy	Nickel-PTFE
NF	Aluminum Alloy	Cadmium/Olive Drab Over Electroless Nickel (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

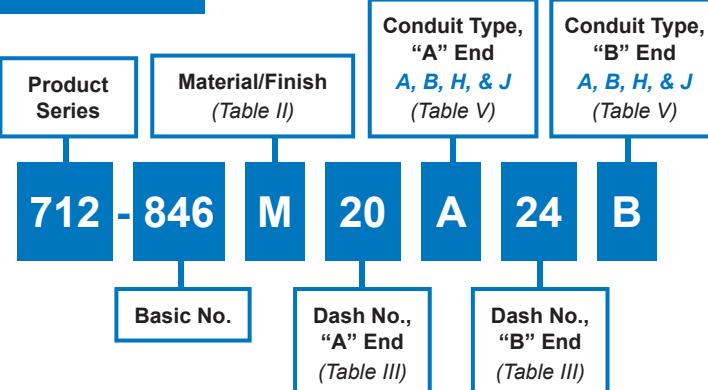


712-846
**Heavy-Duty Environmental System - Composite
Conduit-to-Conduit Splice for Series 75 Metal-Core Conduit**

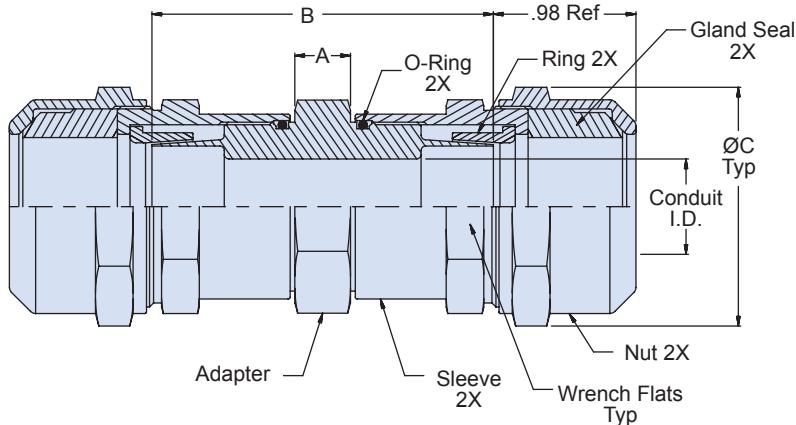
**Weight-saving composite Heavy-Duty Environmental System user installable
splice kit**



How To Order



"A" End



"B" End

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	40-60

D

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

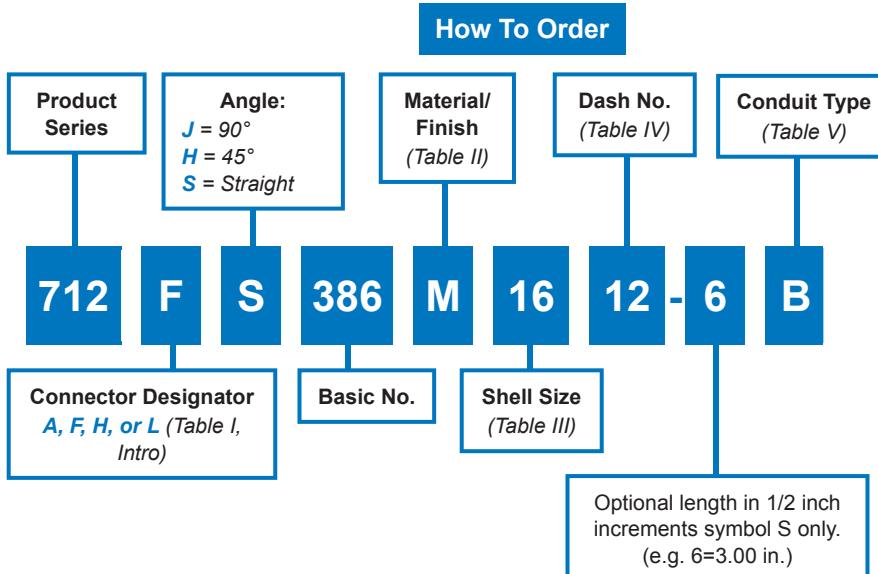
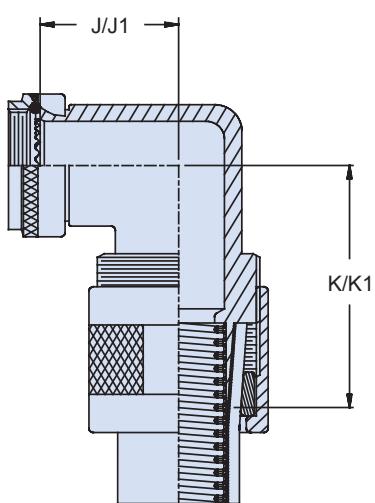
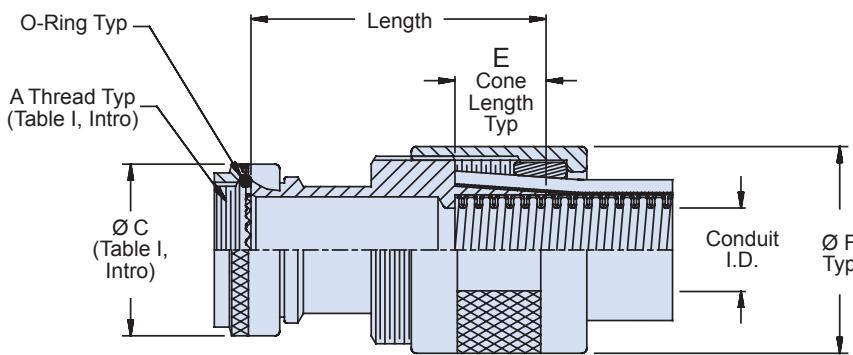
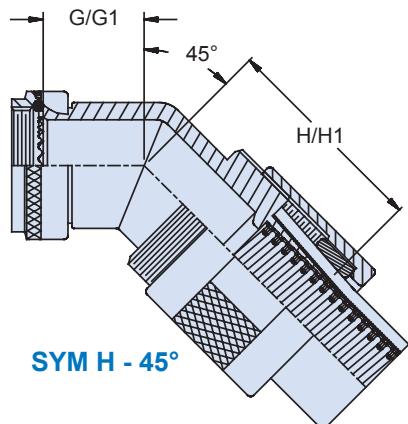
Table V: Conduit Type

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



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])

**D****SYM J - 90°****Material/Finish**

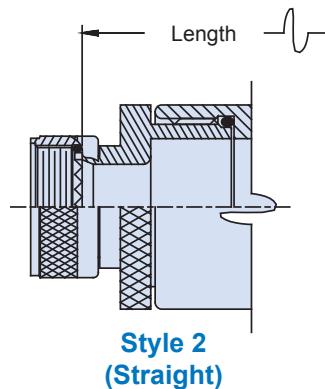
- Adapters, Elbows, Coupling Nuts, Nuts, Ring: See Table II
- O-Rings: Silicone/NA

Notes

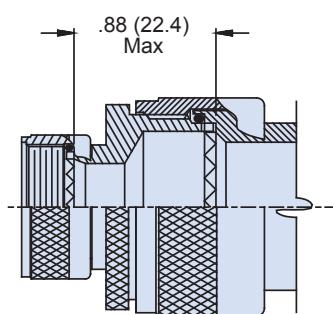
- O-Ring not supplied with connector designator A
- F dimension is based on type A conduit. Add .125 (3.2) to listed dimensions for additional shield types B or D.
- When tubing I.D. max exceeds inside diameter of connector shell, style 2 will be supplied. Refer to pages A-32 – A-33 .

712-386

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



**Style 2
(Straight)**



**Style 2
(45° & 90°)**

Table III: Shell Size/Dimensions				
A,F,L	H	G Max	H Max	J Max
08	09	.639 (16.2)	1.700 (43.2)	.750 (19.1)
10	11	.654 (16.6)	1.730 (43.9)	.810 (20.6)
12	13	.688 (17.5)	1.750 (44.5)	.870 (22.1)
14	15	.705 (17.9)	1.780 (45.2)	.920 (23.4)
16	17	.732 (18.6)	1.800 (45.7)	.980 (24.9)
18	19	.748 (19.0)	1.810 (46.0)	1.020 (25.9)
20	21	.773 (19.6)	2.020 (51.3)	1.080 (27.4)
22	23	.800 (20.3)	2.060 (52.3)	1.140 (29.0)
24	25	.823 (20.9)	2.090 (53.1)	1.200 (30.5)
28		1.041 (26.4)	2.320 (58.9)	1.480 (37.6)
32		1.092 (27.7)	2.360 (59.9)	1.610 (40.9)
36		1.138 (28.9)	2.410 (61.2)	1.720 (43.7)
40		1.184 (30.1)	2.450 (62.2)	1.830 (46.5)
44		1.235 (31.4)	2.500 (63.5)	1.950 (49.5)
48		1.287 (32.7)	2.550 (64.8)	2.080 (52.8)
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



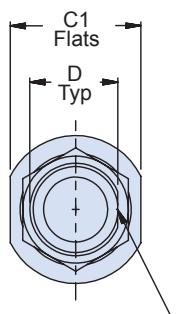
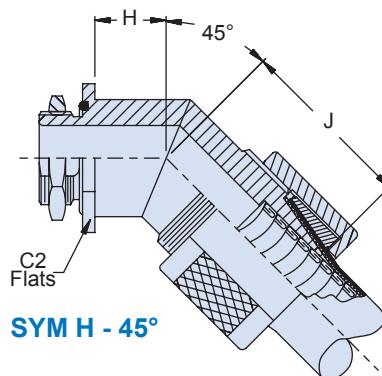
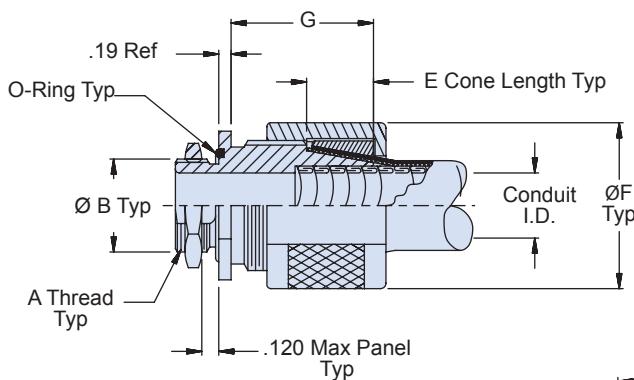
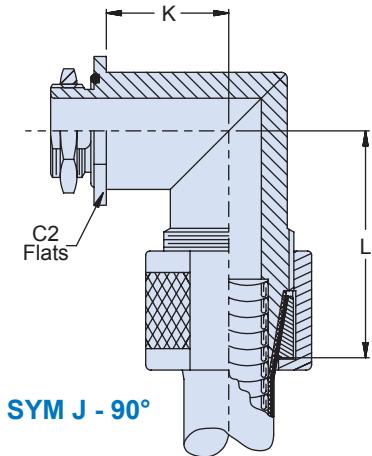
712-188
Legacy MIL-C-24758 (Superseded)
Environmental EMI/RFI Bulkhead Fitting
for Series 75 Metal-Core Conduit

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

How To Order



Product Series	Material/Finish (Table II)	Conduit Type (Table V)
712	J	188
		M
		20
		A
		D
Angle: <i>J</i> = Straight <i>J</i> = 90° <i>H</i> = 45°	Basic No.	Dash No. (Table III and IV) <i>D</i> = Flat for D Hole Mounting (Omit for none)

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.

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)	15/16 - 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)	11/2 - 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)	13/4 - 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

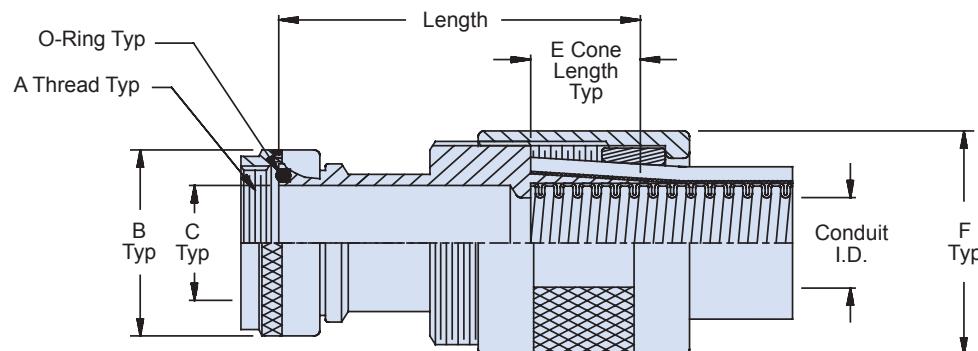
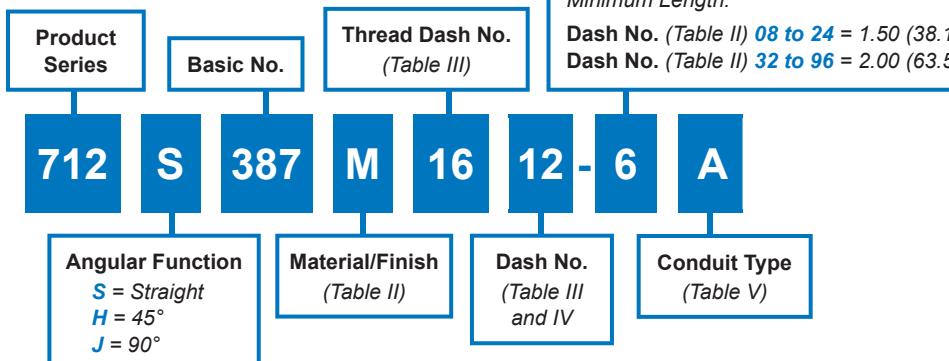


712-387
Legacy MIL-C-24758 (Superseded)
Conduit to Transition or End Fitting Backshell
for Jacketed and/or Shielded Series 75 Metal-Core Conduit

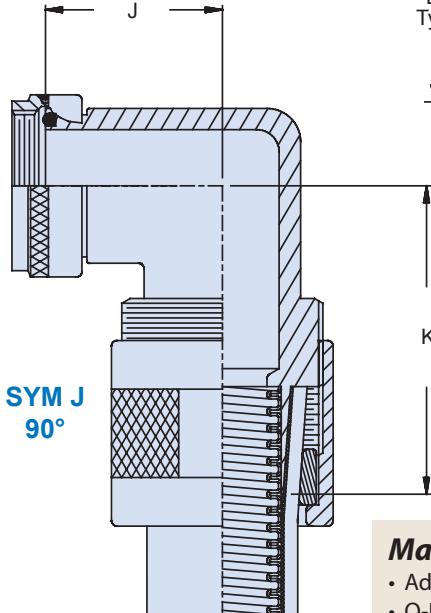
Legacy MIL-C-24758 Conduit-to-transition or end-fitting backshell (Superseded by MIL-PRF-24758A [SH])



How To Order



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, 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

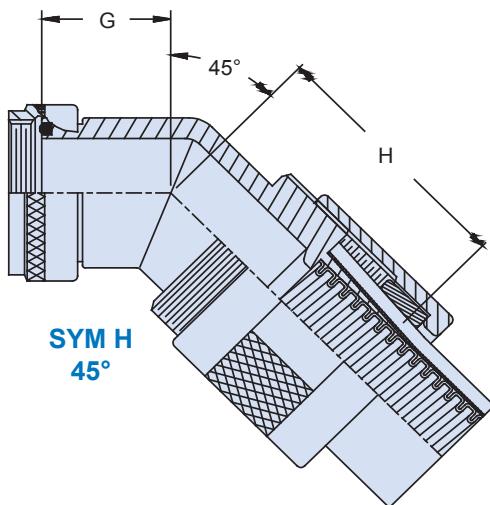


Table III: Thread Dash No./Dimensions

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	15/16 - 18 UNEF	1.488 (37.8)	1.000 (25.4)
40	11/2 - 18 UNEF	1.676 (42.6)	1.250 (31.8)
48	13/4 - 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	2.930 (74.4)	2.500 (63.5)
96	3 1/4 - 16 UN	3.450 (87.6)	3.000 (76.2)

Table IV: Dash No./Dimensions

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)

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

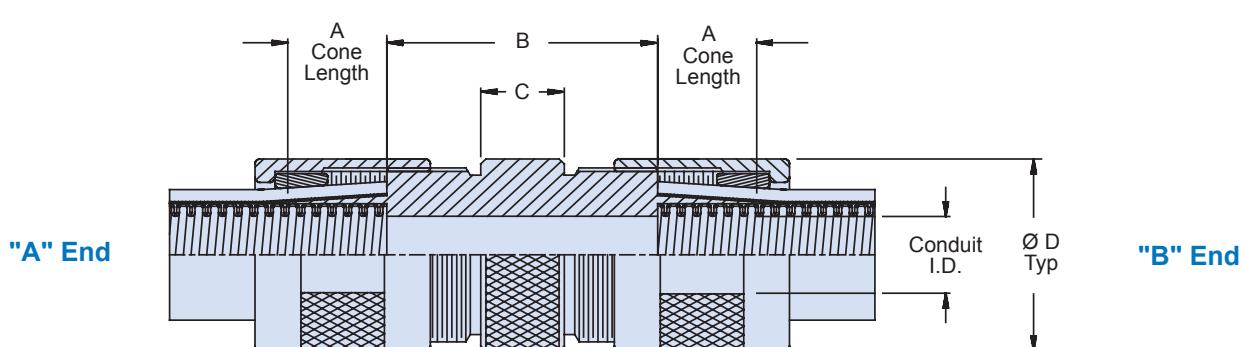
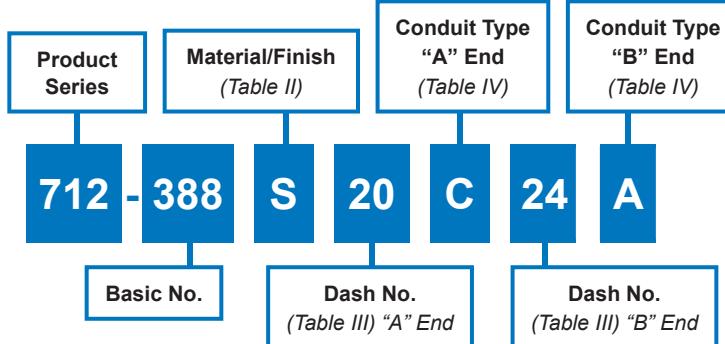


712-388
Legacy MIL-C-24758 (Superseded)
Environmental EMI/RFI Splice Fitting
for Series 75 Metal-Core Conduit

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



How To Order



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

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)

D

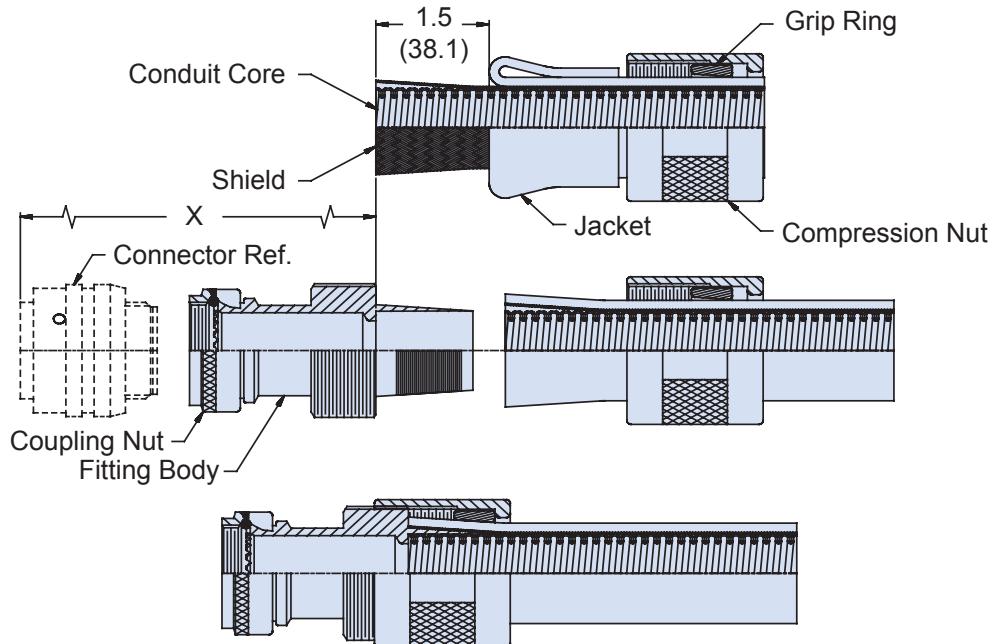
Table II: Finish		
Symbol	Material	Finish
A	Aluminum Alloy, 6061	Cadmium, Olive Drab, per QQ-P-416 over Electroless Nickel per ASTM B733-90 and MIL-C-26074, 500 Hour Salt Spray
B	Brass, ASTM B16	
C	Corrosion Resistant Steel	Passivate per QQ-P-35
M	Aluminum Alloy, 6061	Electroless Nickel per ASTM B733-90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



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.

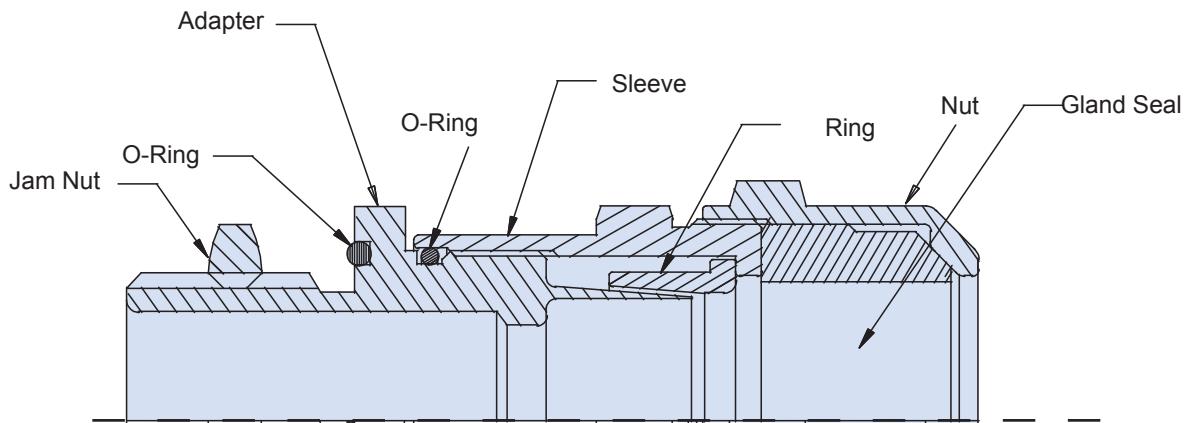
5. Flare shield out from conduit to fit over serrated cone of fitting. Slide conduit core into bore in fitting and bottom on shoulder at "X" dimension. Shield should be flush to external shoulder of fitting. Trim loose strands if required.
6. Fold jacket forward. Jacket should be flush with shoulder 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.

Torque Values		
Conduit Dash No.	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

Conduit-to-Backshell Termination Instructions
**(712-834, 712-835, 712-836, 712-837,
 712-843, 712-844, 712-845 & 712-846)**



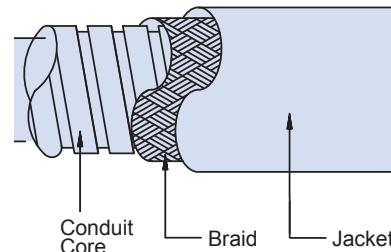
Heavy-Duty Environmental System



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 2 $\frac{3}{4}$ 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

E



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

Product Series

713

Angular Function
*A, B, L, K, S,
M or N*

**A, B, L, K, S,
M or N**

Finish Sym
(Table II)

M

Entry Size
(Table IV)

16

17 - 3

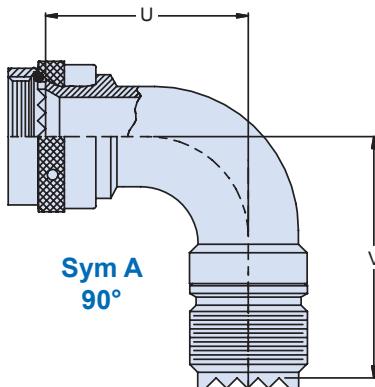
Connector Designator
A, D, F, H or L
(Table I, Intro)

Basic No.

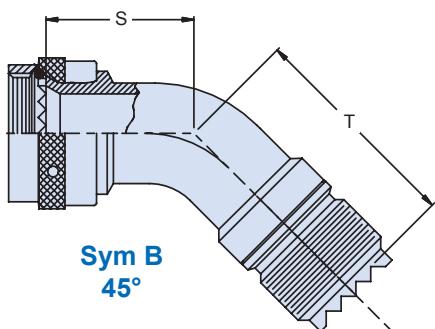
Shell Size
(Table III)

361

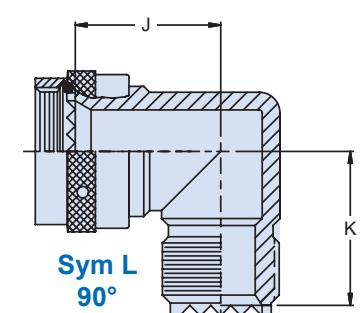
Optional Length in
1/2 Inch
Increments
(e.g. 3 = 1.5 In.)
Omit for Std
Length



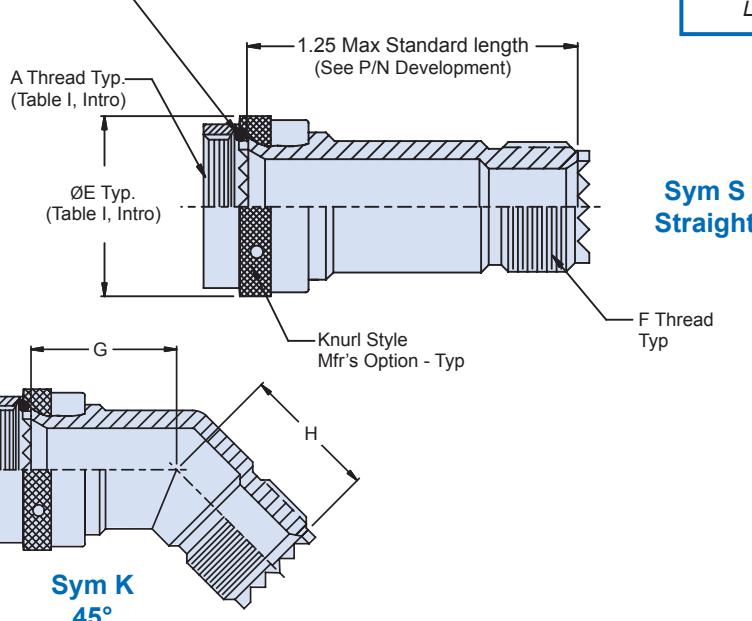
Sym A
90°



Sym B
45°



Sym L
90°



Sym S
Straight

Sym K
45°

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.

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)

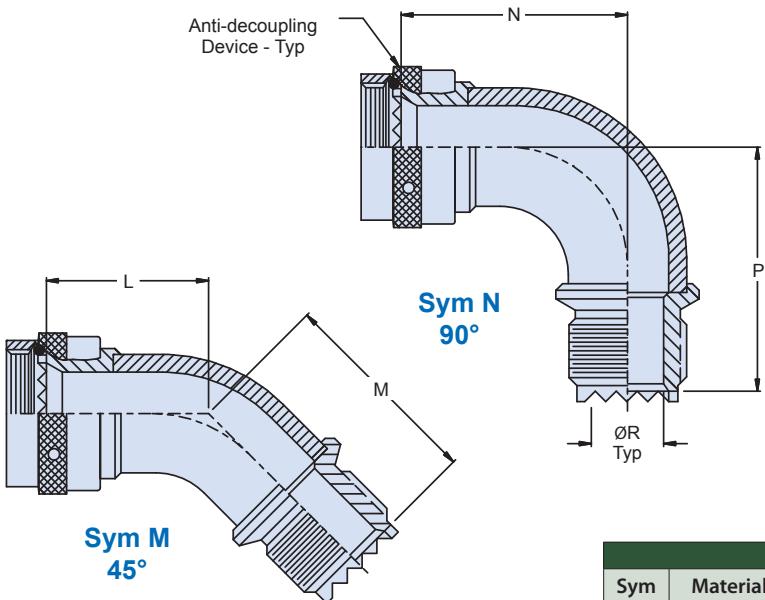


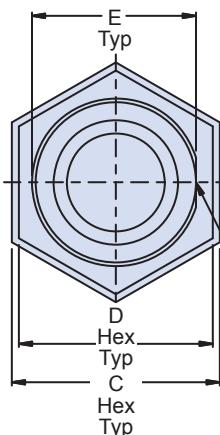
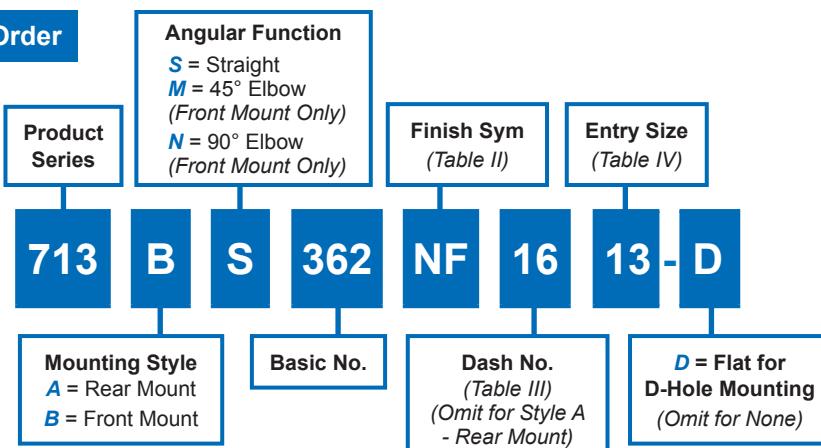
Table IV: Entry Size/Conduit Dimensions

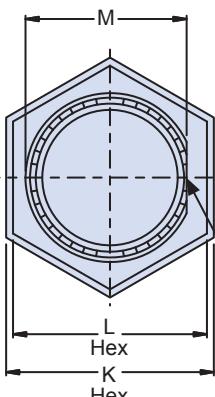
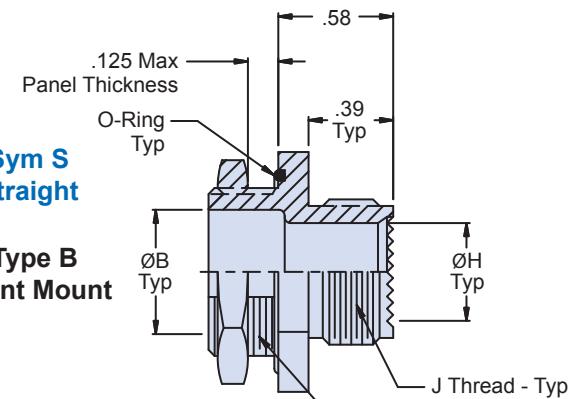
Entry Size	Conduit Size (Ref)	F Thread ISO Metric	Ø R
09	06, 09	M12 X 1.0-6g	.281 (7.14)
11	10, 12	M15 X 1.0-6g	.397 (10.1)
13	14, 16	M18 X 1.0-6g	.511 (13.0)
15	20	M22 X 1.0-6g	.636 (16.2)
17	24	M25 X 1.0-6g	.761 (19.3)
19	28	M28 X 1.0-6g	.875 (22.2)
21	32	M31 X 1.0-6g	1.000 (25.4)
23	36	M34 X 1.0-6g	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)

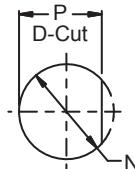
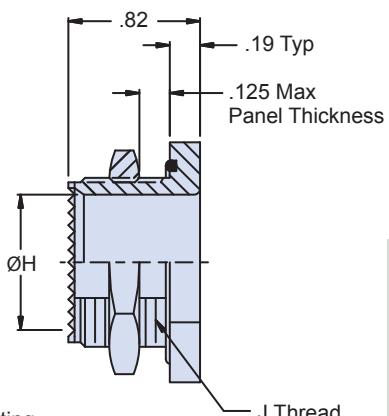
Table II: Material/Finish

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

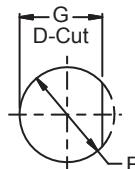
Bulkhead feed-thru adapter with environmental O-Ring and MIL-DTL-38999 Series III (H code) accessory thread and interface teeth

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

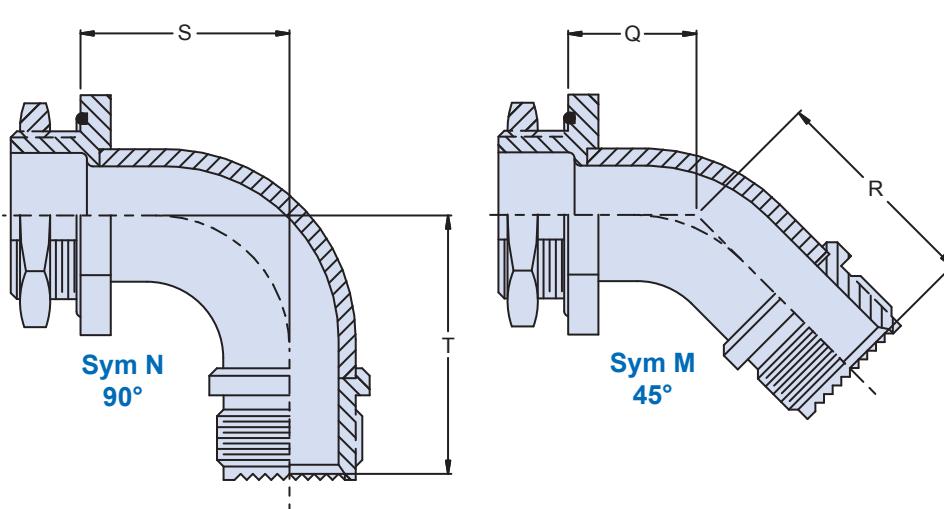
Dash No	A Thread Class 2A	Ø B	C Hex	D Hex	E Flat +.000 -.015	Ø F +.015 -.000	G +.010 -.000	Max Entry Size
06	7/16 - 28 UNEF	.188 (4.78)	.688 (17.5)	.625 (15.9)	.375 (9.53)	.443 (11.3)	.385 (9.80)	11
08	1/2 - 20 UNF	.250 (6.35)	.750 (19.1)	.688 (17.5)	.438 (11.1)	.505 (12.8)	.448 (11.4)	13
09	9/16 - 24 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 UNEF	.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	13/16 - 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	15/16 - 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	11/2 - 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	13/4 - 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

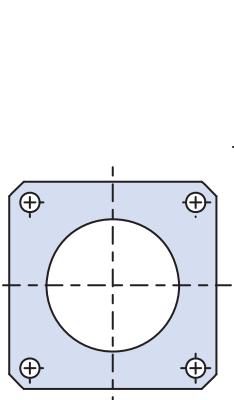
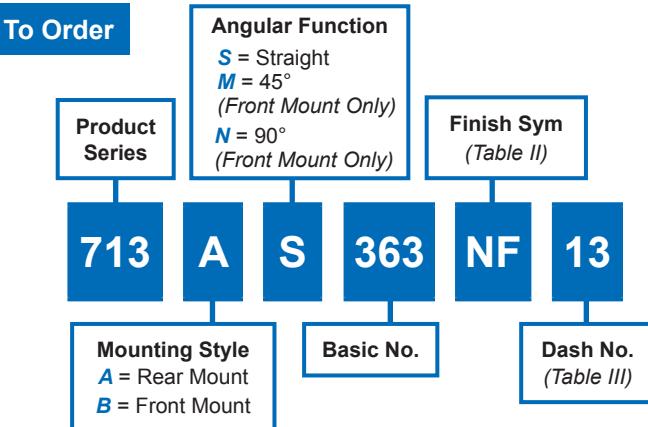




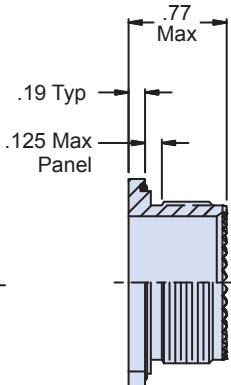
713-363
Environmental Bulkhead Flange Mount Adapter
Straight, 45°, 90°

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

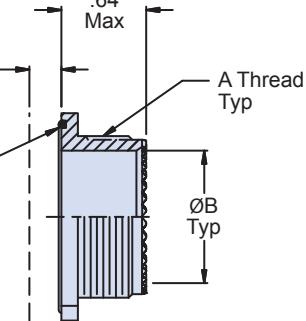
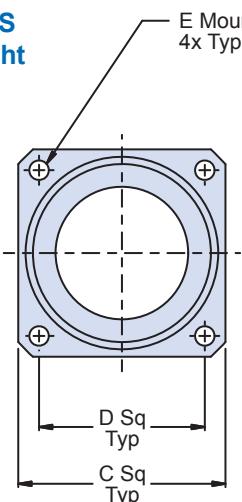
How To Order



Type A
Rear Mount



Sym S
Straight



Type B
Front Mount

Material and Finish

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

Notes

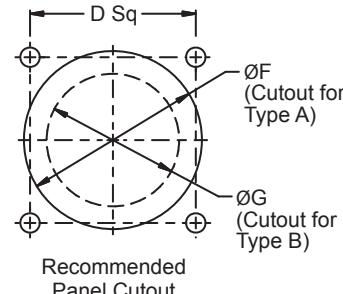
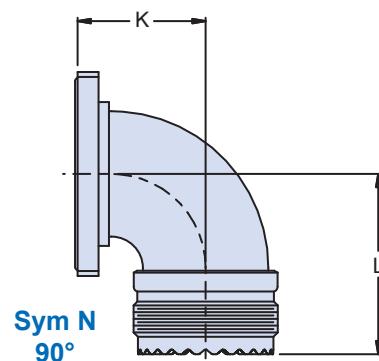
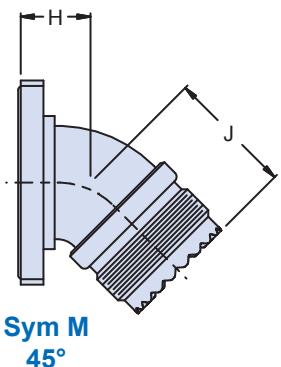
- MIL-DTL-38999, Series III accessory interface (Glenair Code H).
- Dash No. corresponds to MIL-DTL-38999, Series III shell size.

713-363
Environmental Bulkhead Flange Mount Adapter
Straight, 45°, 90°

Glenair®

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 -.000	Ø G +.030 -.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)



E

Table II: Finish

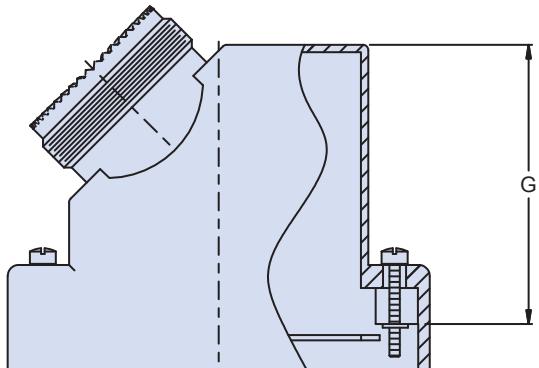
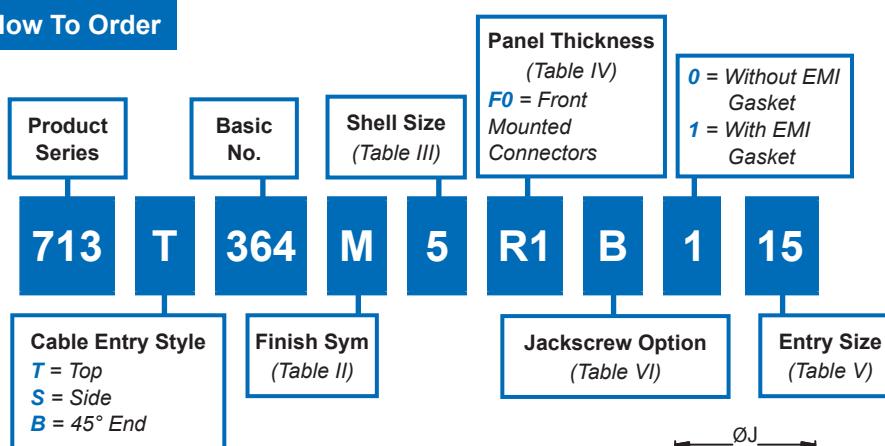
Sym	Material	Finish Description
B	Aluminum	Cadmium, Olive Drab
C		Anodize, Black (Non-Conductive)
M		Electroless Nickel
MT		Nickel-PTFE
NF		Cadmium/Olive Drab Over Electroless Nickel
UCR		Zinc Cobalt/Black
ZN		Zinc Nickel/Olive Drab Over Electroless Nickel
ZNU		Zinc Nickel/Black Over Electroless Nickel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



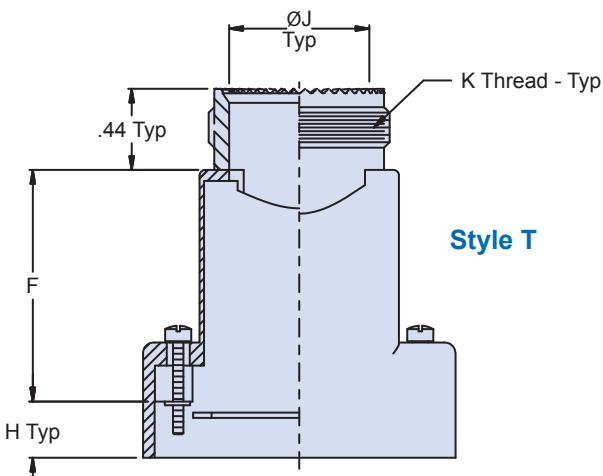
713-364
M24308 D-Subminiature Connector Adapter
Top, Side, 45° Entry

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

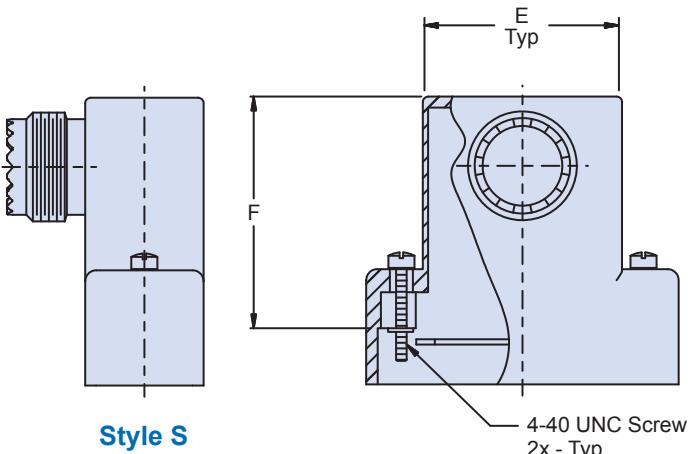
How To Order



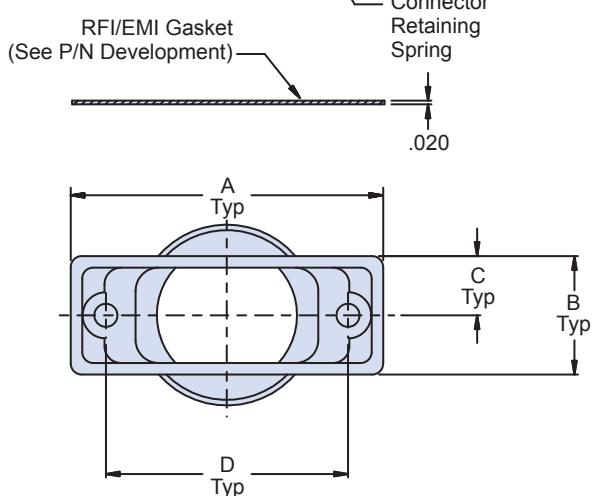
Style B
45°



Style T



Style S



713-364
M24308 D-Subminiature Connector Adapter
Top, Side, 45° Entry



Male Jackscrew Options	
Sym A Socket Head	
Sym B Fillister Head	
Sym D Drilled Fillister Head	
Sym E Extended Knurled Slotted Head	
Sym H Hex Head	
Sym K Knurled Slotted Head	

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

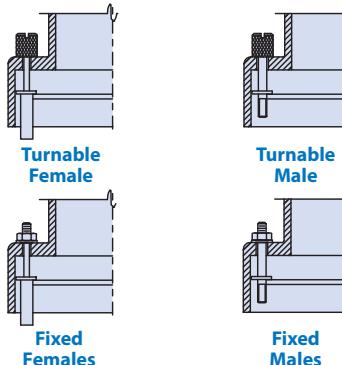


Table IV: Panel Thickness		
Dash	Panel Thickness	H
CC	N/A	.174 (4.41)
F0	N/A	.343 (8.71)
R1	.031 (.790)	.247 (6.27)
R2	.047 (1.19)	.231 (5.87)
R3	.062 (1.57)	.216 (5.49)
R4	.093 (2.36)	.185 (4.70)
R5	.104 (2.64)	.174 (4.42)
R6	.125 (3.20)	.153 (3.89)
R7	.156 (4.00)	.125 (3.20)
R8	.135 (3.43)	.140 (3.60)
R9	.188 (4.80)	.094 (2.39)

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	Knurl 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

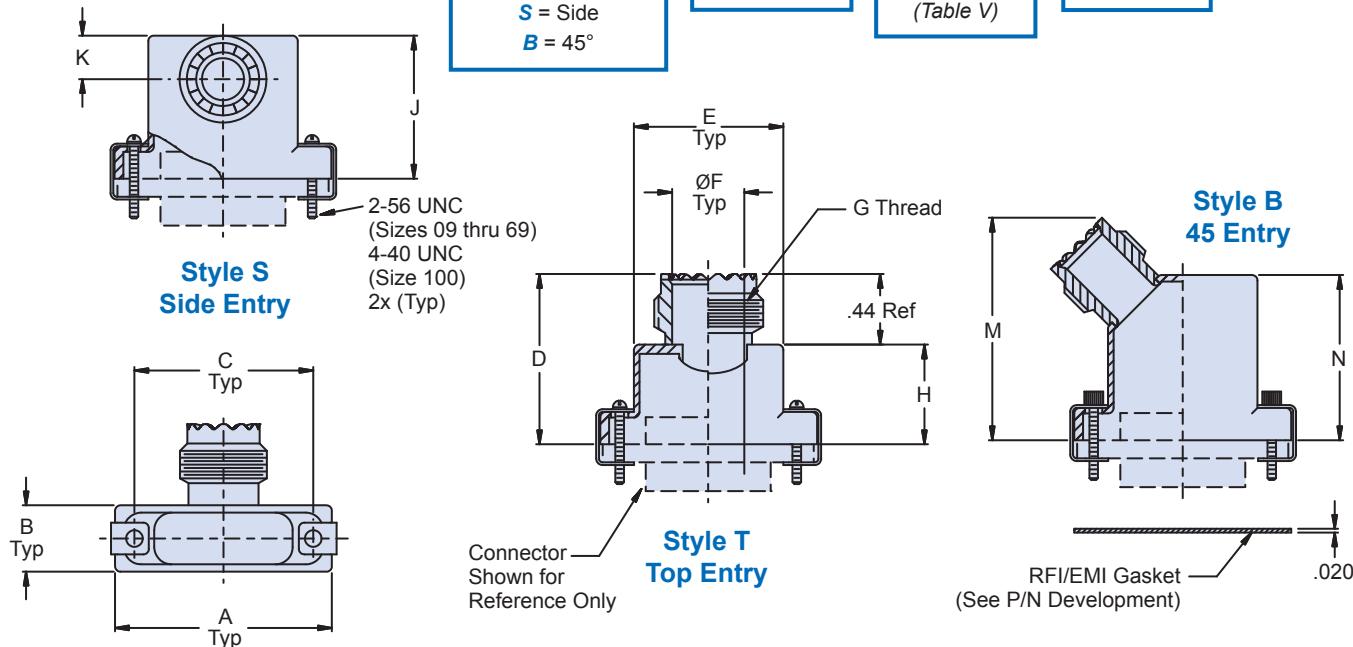
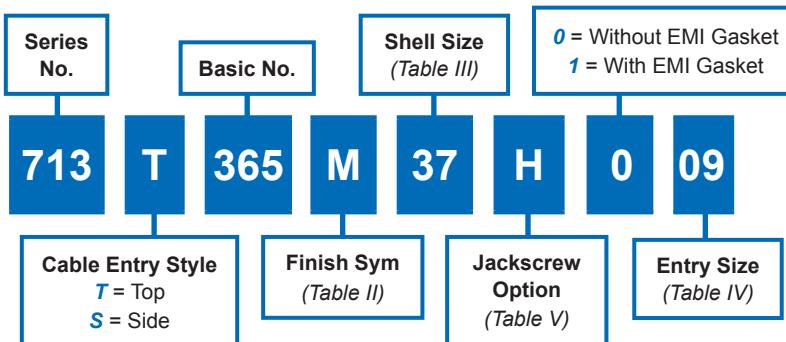
- MIL-DTL-38999, Series III accessory interface (Glenair Code H). Entry size corresponds to MIL-DTL-38999 series III shell size.
- For front mount, mating connector must be mounted to panel using M24308/26 female screw locks (float mounts cannot be used). For rear mounted applications, use 559-001.
- 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.



713-365
M83513 Micro-D Connector Adapter
Top, Side, 45° Entry

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

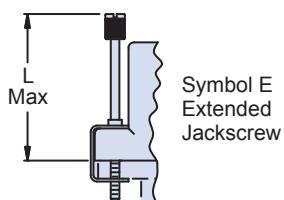
- Adapter: See Table II
- Retaining Clip, Washers, Jackscrews, Nuts, Jackposts: CRES/Passivate
- Gasket: Metex (Monel Mesh/Silicone) or equiv/NA

Notes

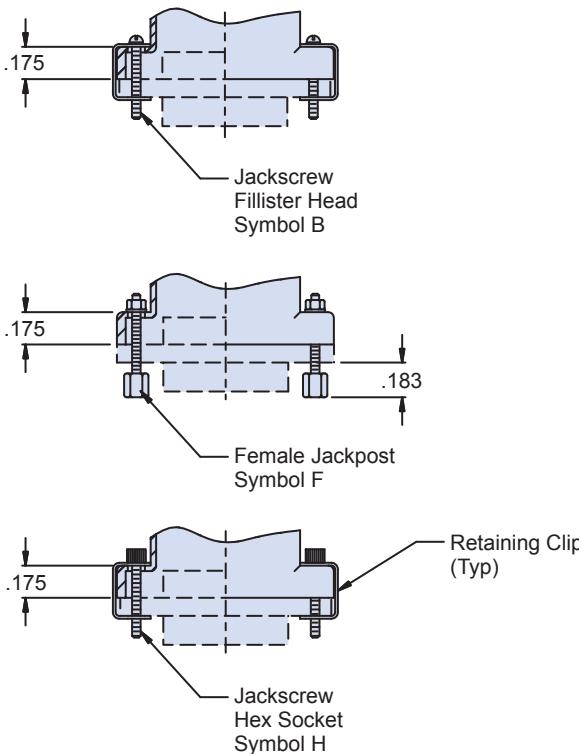
- MIL-DTL-38999, Series III accessory interface (Glenair Code H). Entry size corresponds to MIL-DTL-38999 Series III shell size.
- RFI/EMI Gasket (559-005) mounts between mating connector and panel.
- Symbol E hardware is not available with style B (45°) cable entries. Symbol E hardware on Style T cable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

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

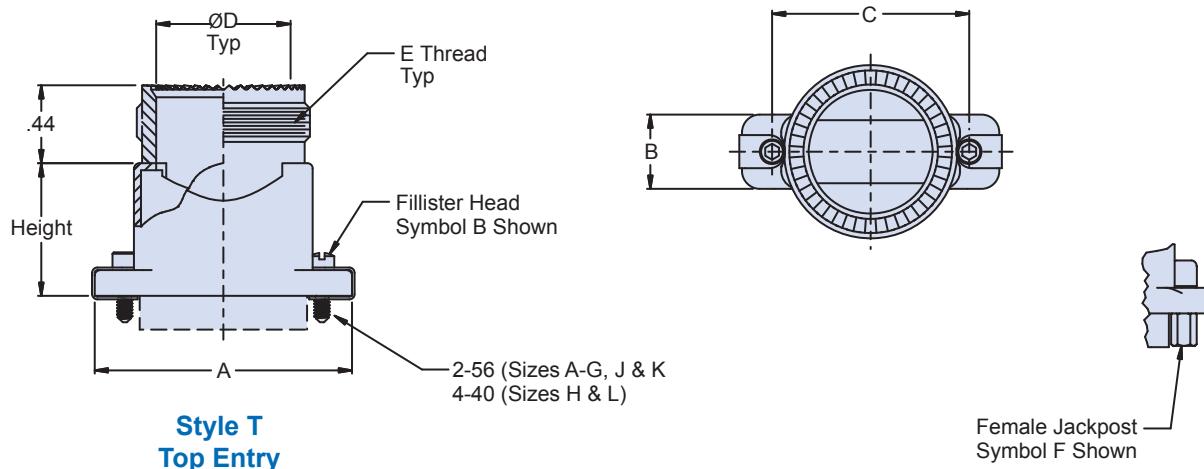
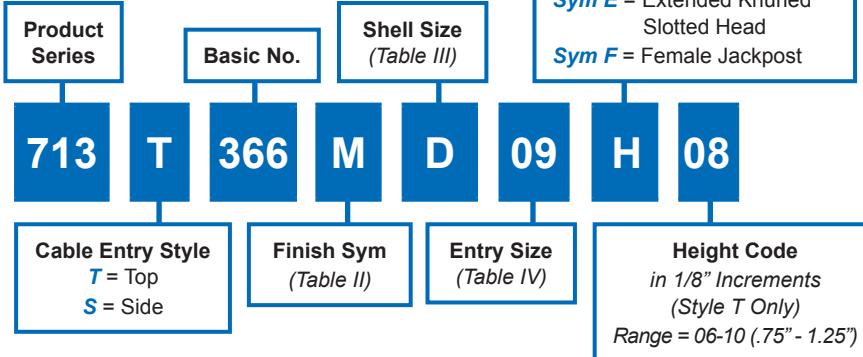
Sym	Material	Finish Description
B	Aluminum	Cadmium, Olive Drab
C		Anodize, Black
M		Electroless Nickel
MT		Nickel-PTFE
NF		Cadmium/Olive Drab Over Electroless Nickel
UCR		Zinc Cobalt/Black
ZN		Zinc Nickel/Olive Drab Over Electroless Nickel
ZNU		Zinc Nickel/Black Over Electroless Nickel
Z1	Stainless Steel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



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

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

How To Order



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

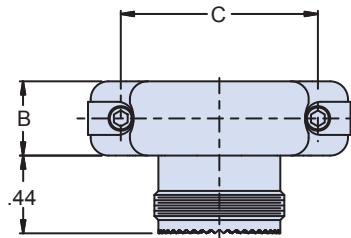


Table II: Finish		
Sym	Material	Finish Description
B	Aluminum	Cadmium, Olive Drab
C		Anodize, Black
M		Electroless Nickel
MT		Nickel-PTFE
NF		Cadmium/Olive Drab Over Electroless Nickel
UCR		Zinc Cobalt/Black
ZN		Zinc Nickel/Olive Drab Over Electroless Nickel
ZNU		Zinc Nickel/Black Over Electroless Nickel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

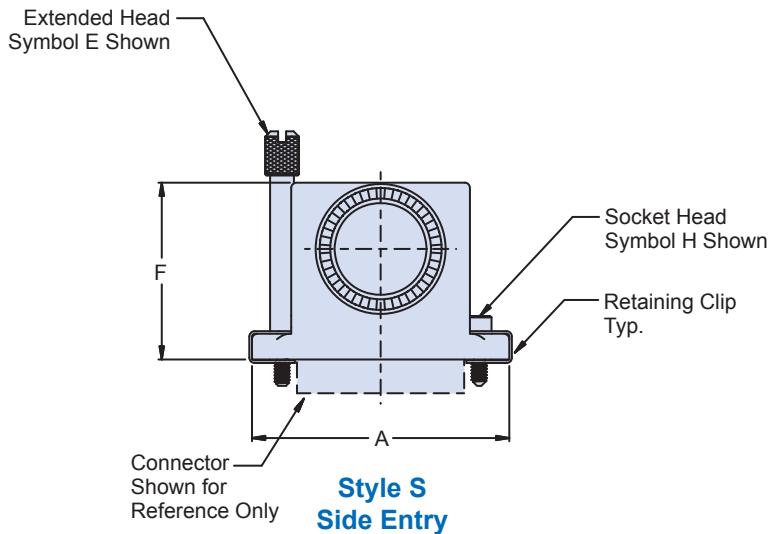
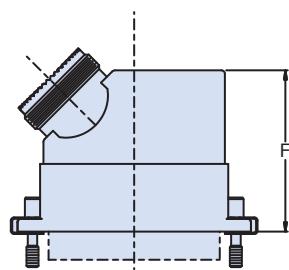
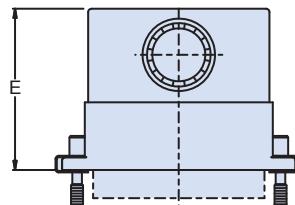
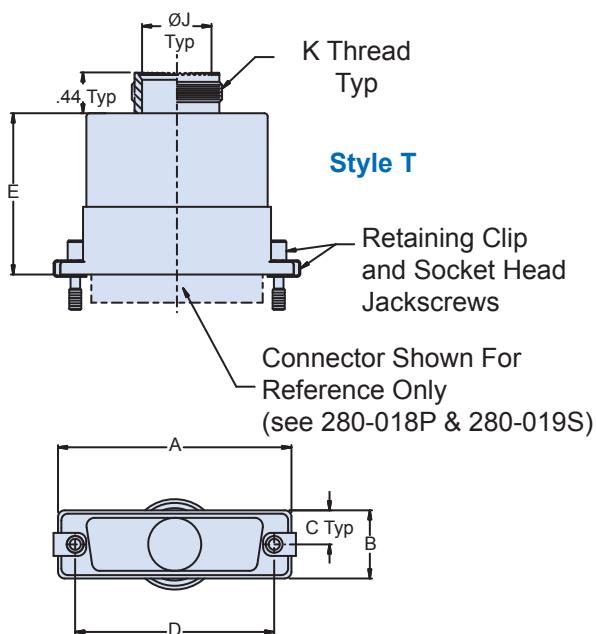
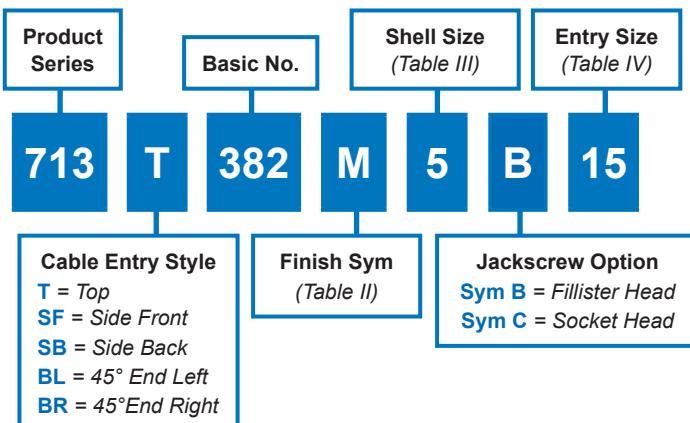


Table III: Shell Size				
Shell Size	A Max	B Max	C Dim	Max Entry
A	.935 (23.7)	.450 (11.4)	.565 (14.4)	09
B	1.085 (27.6)	.450 (11.4)	.715 (18.2)	11
C	1.235 (31.4)	.450 (11.4)	.865 (22.0)	11
D	1.335 (33.9)	.450 (11.4)	.965 (24.5)	13
E	1.485 (37.7)	.450 (11.4)	1.115 (28.3)	13
F	1.635 (41.5)	.450 (11.4)	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

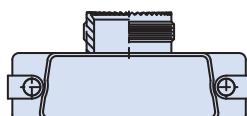
Glenair®

Table III

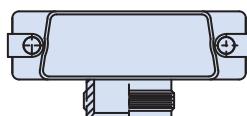
Shell Size	Com'l Shell Size Ref	A Max	B Max	C Ref	D ± .005	E Max	F Max	Max Entry
1	E/09	1.393 (35.4)	.624 (15.8)	.312 (7.92)	.984 (25.0)	1.31 (33.3)	1.69 (42.9)	13
2	A/15	1.709 (43.4)	.624 (15.8)	.312 (7.92)	1.312 (33.3)	1.47 (37.3)	1.79 (45.5)	15
3	B/25	2.265 (57.5)	.624 (15.8)	.312 (7.92)	1.852 (47.0)	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



Style SB



Style SF



Style BR



Style BL

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

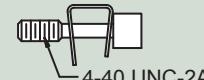
E

Fillister Head Jackscrew



B Option

Socket Head Jackscrew



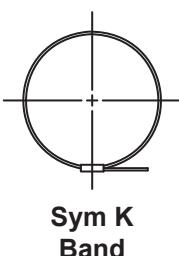
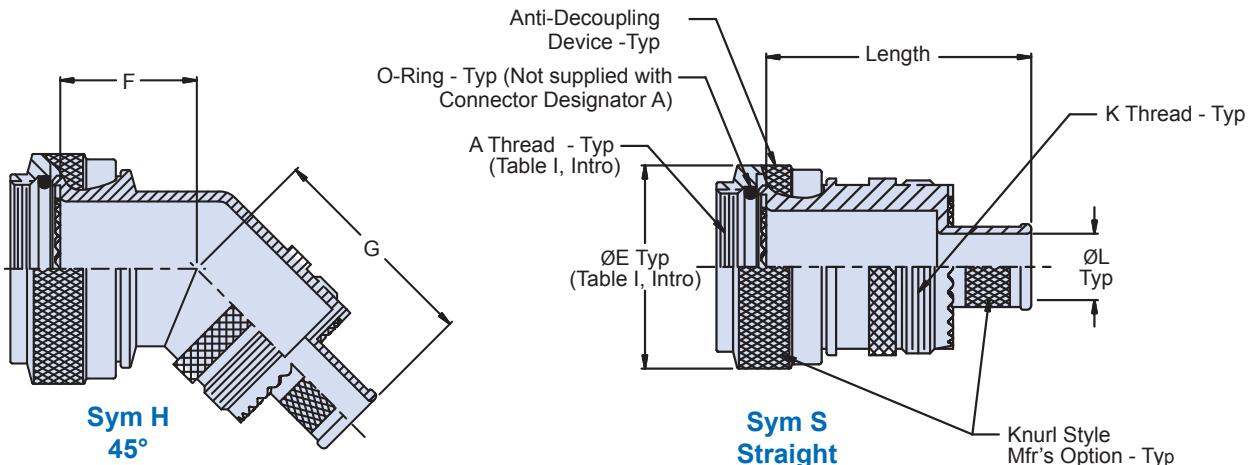
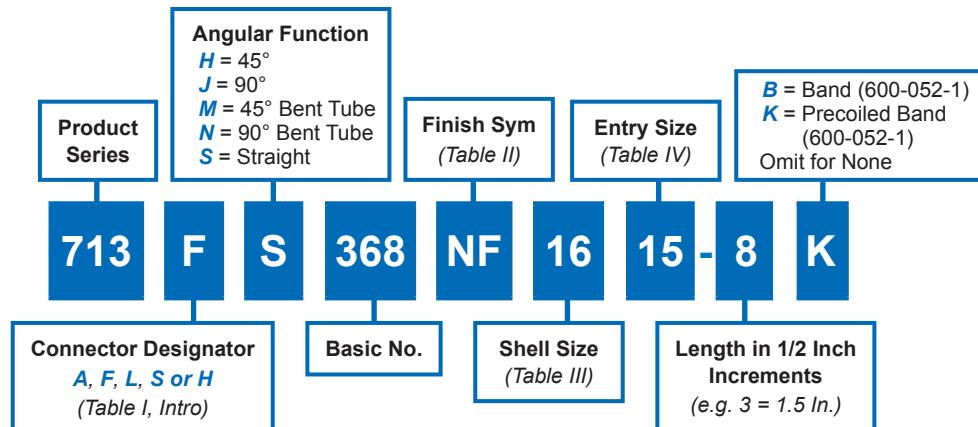
C Option



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

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



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.

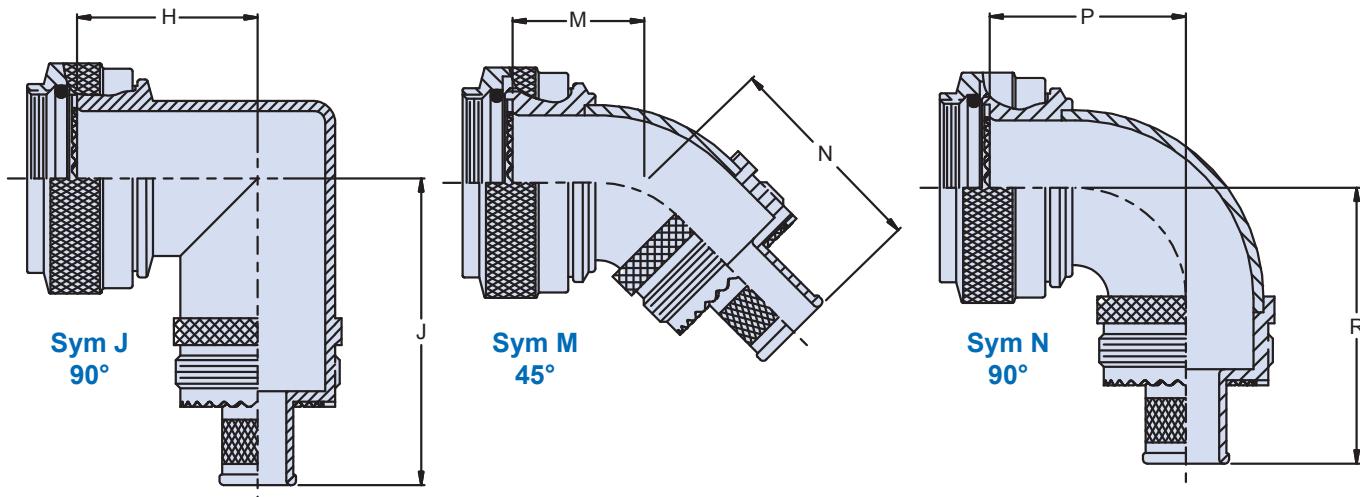


Table III: Shell Size/Dimensions

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)

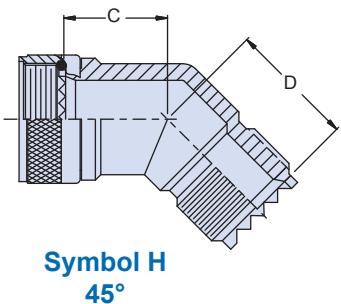
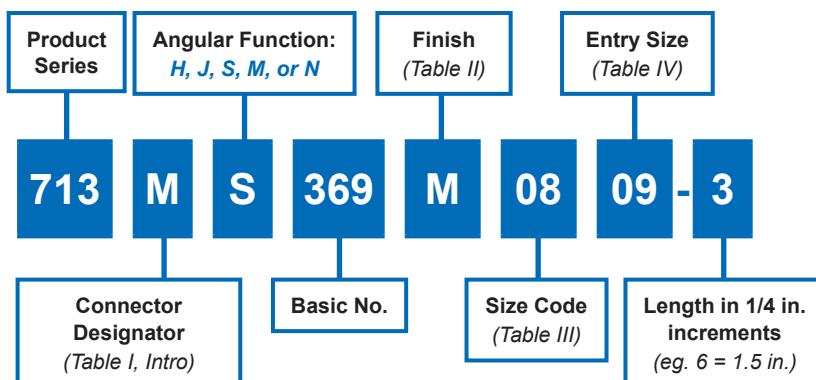
Sym	Material	Finish Description	Component
ZM	300 Series SST	Electroless Nickel	Adapter, Elbow
		Passivate	Coupling Nut
ZMT	300 Series SST	Nickel - PTFE	Adapter, Elbow
		Passivate	Coupling Nut
ZW	300 Series SST	Cadmium O.D. Over Electroless Nickel	Adapter, Elbow
		Cadmium Olive Drab	Coupling Nut



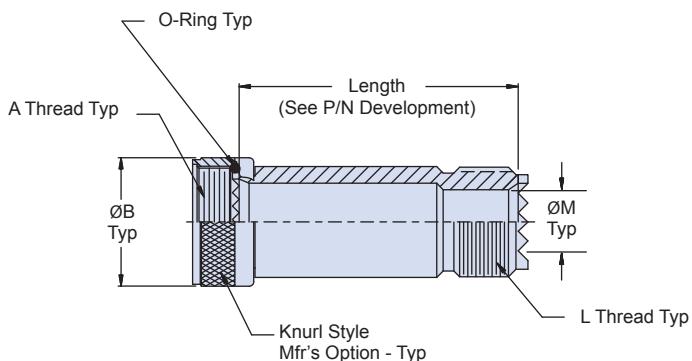
713M*369
Series 80 Mighty Mouse Connector Adapter/Extender
Environmental, Straight, 45°, 90°

Mighty Mouse adapter/extender with environmental O-Ring and Rear Mighty Mouse interface teeth and threads

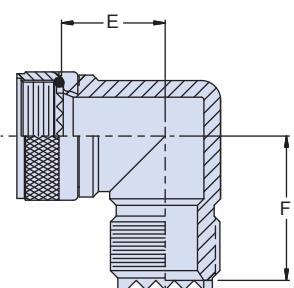
How To Order



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°

Glenair®

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	13/16-18 UNEF	21	23	1.387 (35.2)	.720 (18.3)	.830 (21.1)	1.010 (25.7)	1.160 (29.5)

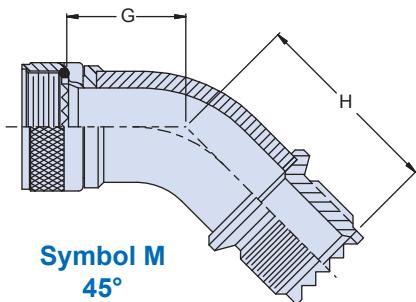


Table III (cont.)				
Size Code	G Max	H Max	J Max	K Max
05	.650 (16.5)	.727 (18.5)	.842 (21.4)	.919 (23.3)
06	.650 (16.5)	.727 (18.5)	.842 (21.4)	.919 (23.3)
11	.700 (17.8)	.777 (19.7)	.905 (23.0)	.982 (24.9)
07	.700 (17.8)	.777 (19.7)	.905 (23.0)	.982 (24.9)
08	.730 (18.5)	.807 (20.5)	.967 (24.6)	1.044 (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)

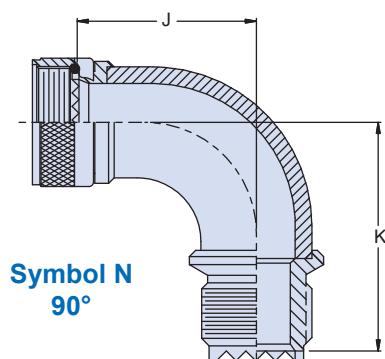
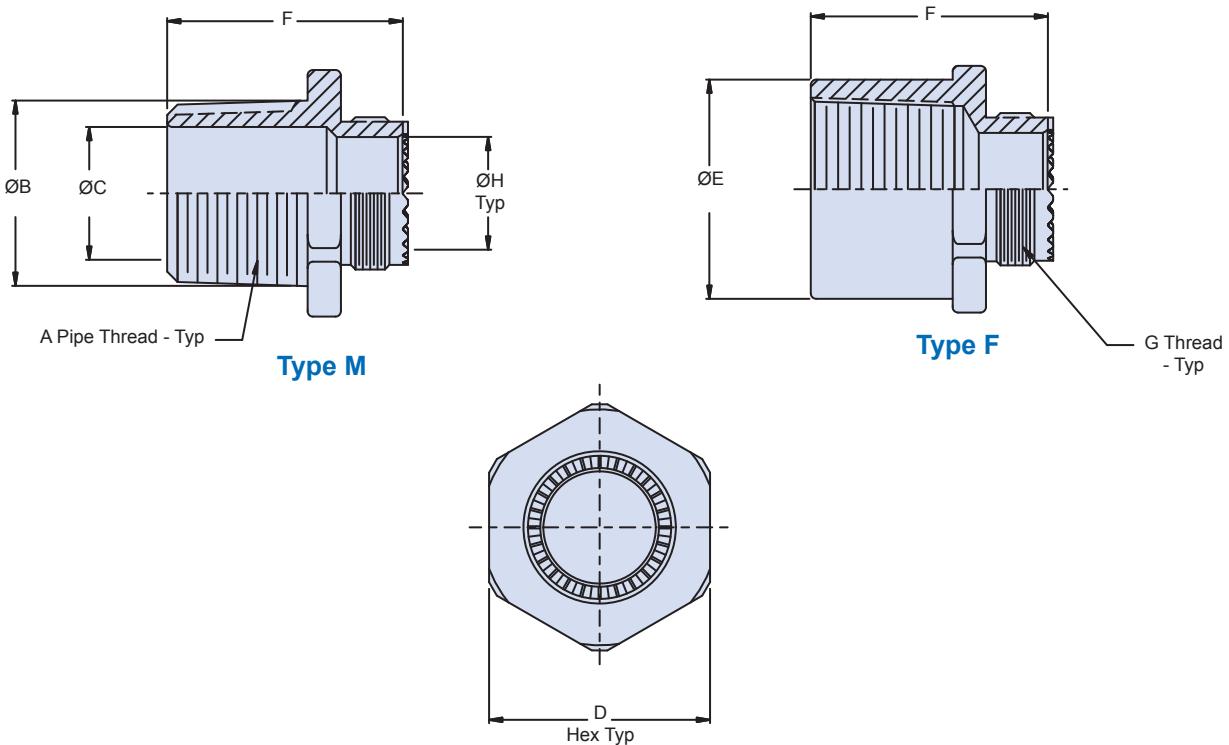
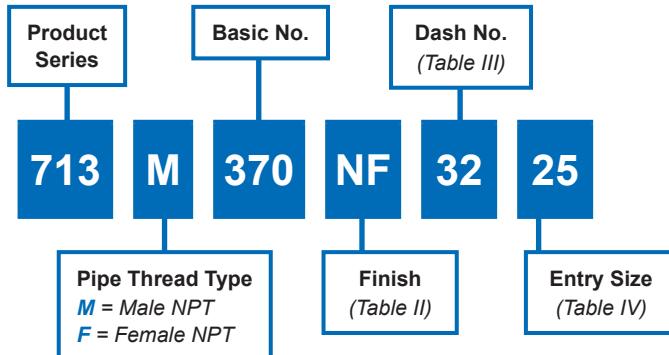


Table IV: Entry Size		
Entry Size	L Thread Class 2A	ØM
05	1/4-32 UNEF	.166 (4.2)
06	5/16-32 UNEF	.228 (5.8)
11	3/8-32 UNEF	.266 (6.8)
07	7/16-28 UNEF	.328 (8.3)
08	1/2-28 UNEF	.388 (9.9)
09	9/16-24 UNEF	.445 (11.3)
10	5/8-24 UNEF	.508 (12.9)
12	11/16-24 UNEF	.578 (14.7)
13	3/4-20 UNEF	.625 (15.9)
14	15/16-20 UNEF	.812 (20.6)
17	13/16-18 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

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	1/4	0.540 (13.7)	0.250 (6.4)	0.625 (15.9)	0.625 (15.9)	1.31 (33.3)	11
12	3/8	0.675 (17.1)	0.375 (9.5)	0.875 (22.2)	0.875 (22.2)	1.31 (33.3)	15
16	1/2	0.840 (21.3)	0.500 (12.7)	1.000 (25.4)	1.000 (25.4)	1.52 (38.6)	17
24	3/4	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 1/4	1.660 (42.2)	1.250 (31.8)	1.750 (44.5)	1.750 (44.5)	1.85 (47.0)	25
48	1 1/2	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

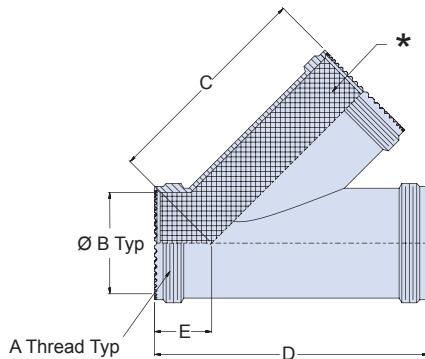
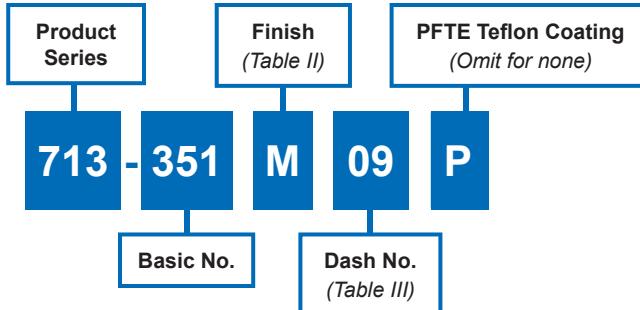
Table IV: Entry Size

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	Stainless Steel	Passivate
ZM		Electroless Nickel
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

Glenair®

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

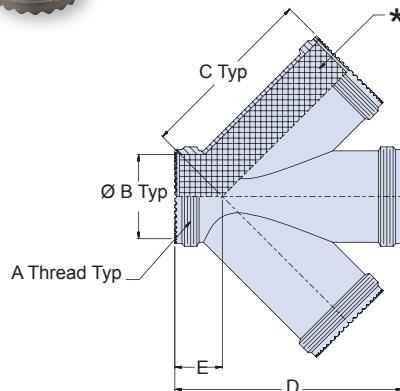
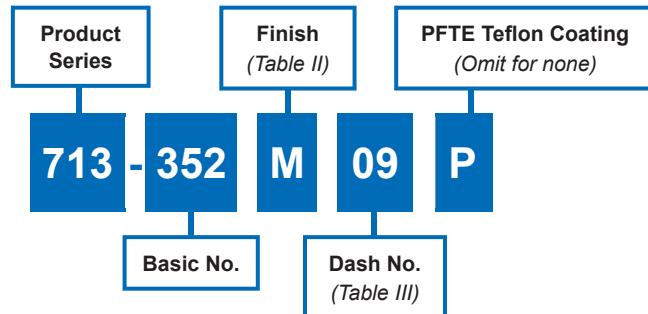


Table II: Material/Finish		
Sym	Material	Finish Description
M	Aluminum	Electroless Nickel
MT		Nickel-PTFE
NF		Cad/Olive Drab over Electroless Nickel
ZN		Zinc Nickel/Olive Drab over Electroless Nickel
ZNU		Zinc Nickel/Black over Electroless Nickel
Z1	Stainless Steel	Passivate

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.

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.

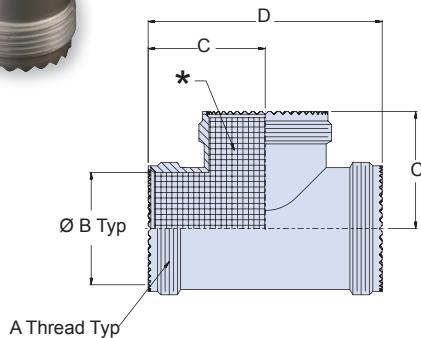
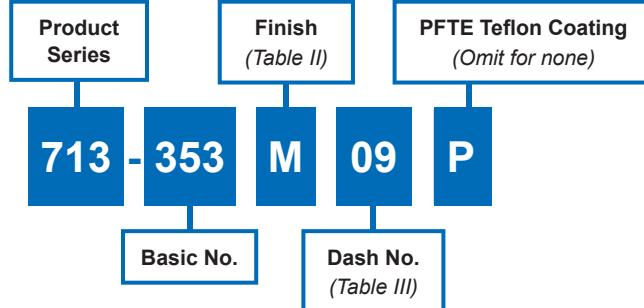

How To Order


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

Glenair®

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

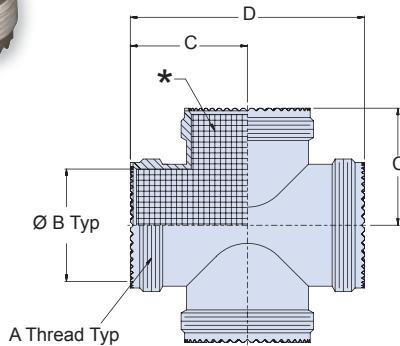
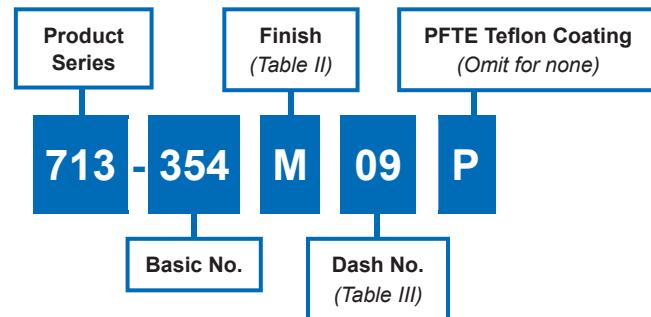


Table II: Material/Finish		
Sym	Material	Finish Description
M	Aluminum	Electroless Nickel
MT		Nickel-PTFE
NF		Cad/Olive Drab over Electroless Nickel
ZN		Zinc Nickel/Olive Drab over Electroless Nickel
ZNU		Zinc Nickel/Black over Electroless Nickel
Z1	Stainless Steel	Passivate

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.



710-100

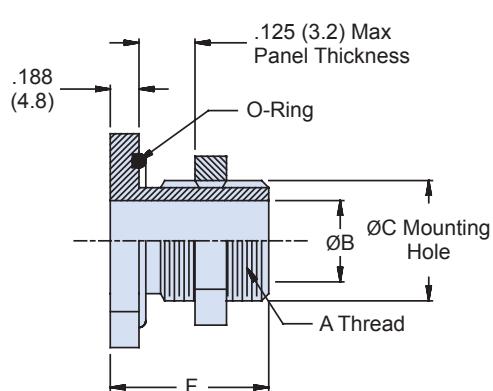
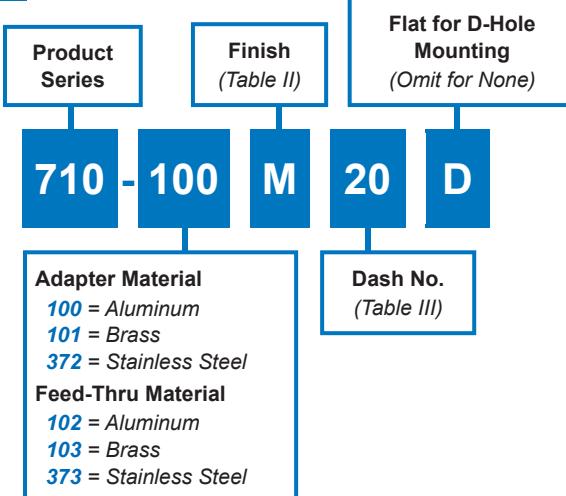
Metal Bulkhead Adapters & Feed-Throughs

for Series 72 & 74 Tubing and Series 75 Conduit

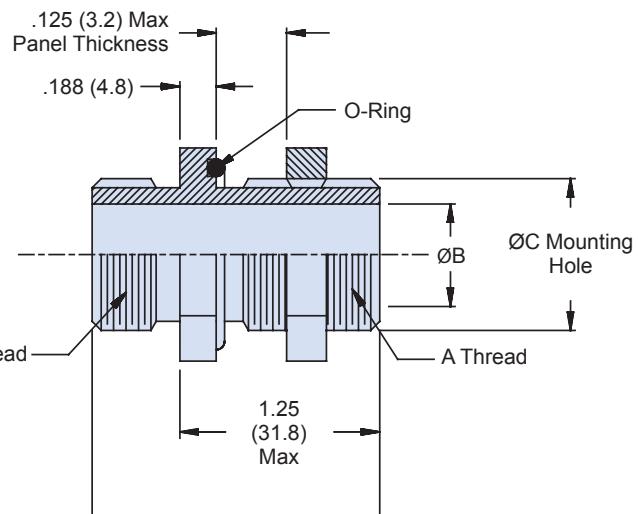
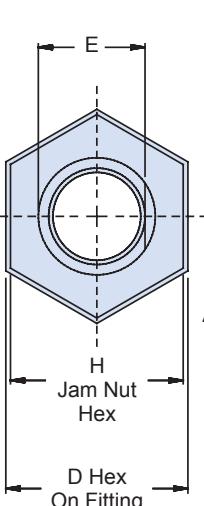
Metal bulkhead adapters & feed-throughs mate with transition fittings



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	\varnothing B $\pm .015$ (.4)	\varnothing C $\pm .030$ (.8) $-.000$ (.0)	D Hex Fitting	E $\pm .000$ (.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	-	13/16 - 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	15/16 - 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	11/2 - 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	13/4 - 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

E



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



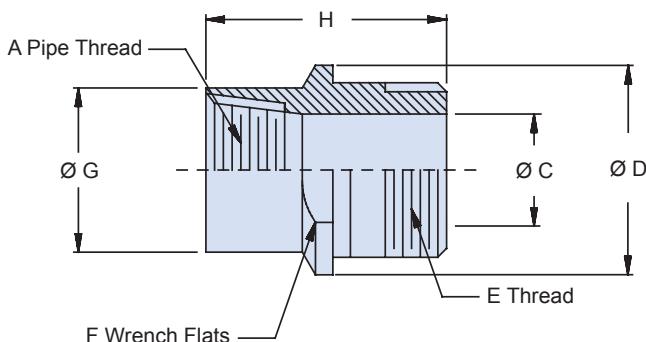
How To Order

Product Series	710 - 114	M	32
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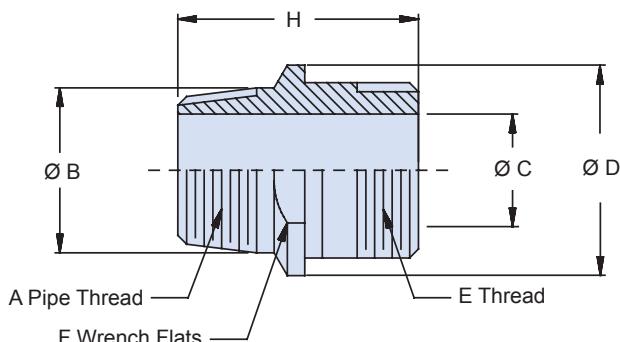
Male NPT Adapter 114 = Aluminum 115 = Brass 405 = Stainless Steel Female NPT Adapter 116 = Aluminum 117 = Brass 406 = Stainless Steel
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Finish (Table II) Conduit Dash No. (Table III)

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)	15/16 - 18 UNEF	1.500 (38.1)	1.500 (38.1)	1.83 (46.5)
40	11/4	1.660 (42.2)	1.250 (31.8)	2.02 (51.3)	11/2 - 18 UNEF	1.750 (44.5)	1.750 (44.5)	1.85 (47.0)
48	11/2	1.900 (48.3)	1.500 (38.1)	2.60 (66.0)	13/4 - 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)



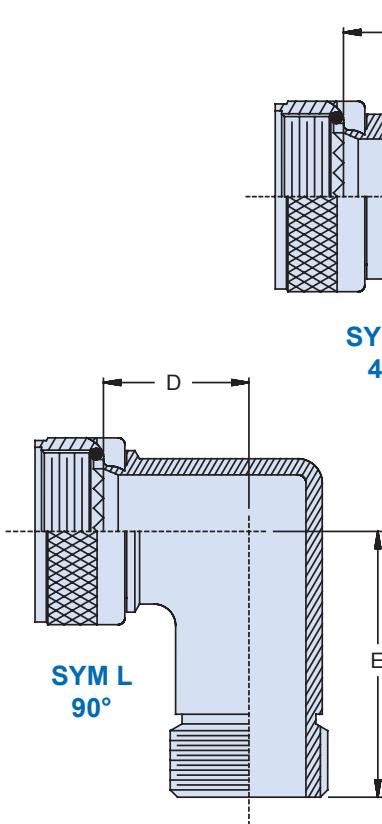
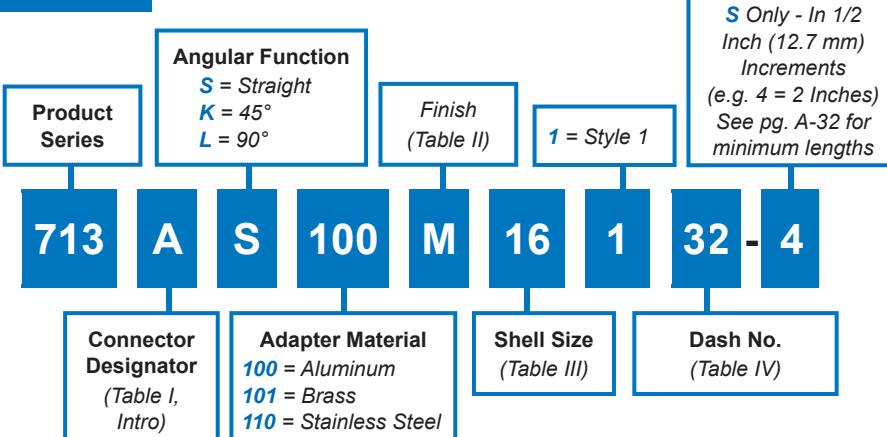
713-100

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



Table III: Shell Size/Dimensions

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.

Table IV: Conduit Size

Dash No.	Conduit Size (Ref)			H Thread Class 2A	\varnothing J $\pm .015 (.4)$
	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	-	13/16 - 18 UNEF	.880 (22.4)
32	32	32	32	15/16 - 18 UNEF	1.005 (25.5)
40	40	40	40	11/2 - 18 UNEF	1.255 (31.9)
48	48	48	48	13/4 - 18 UNS	1.505 (38.2)
56	-	56	56	2 - 18 UNS	1.755 (44.6)
64	-	64	64	21/4 - 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

Table II: Finish

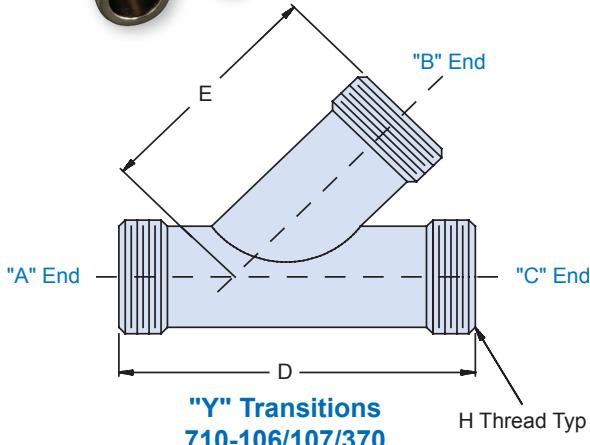
Sym	Finish
B	Olive Drab over Cadmium Plate
J	Gold Iridite over Cadmium Plate over Nickel
M	Electroless Nickel
N	Olive Drab over Cadmium Plate over Nickel
NC	Zinc Cobalt, Olive Drab
NF	Olive Drab over Cadmium Plate over Electroless Nickel (1000 Hour salt Spray)
T	Bright Dip Cadmium over Nickel
Z1	Passivate

E



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 - 106

Finish (Table II)

M

"B" End Dash No.

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.

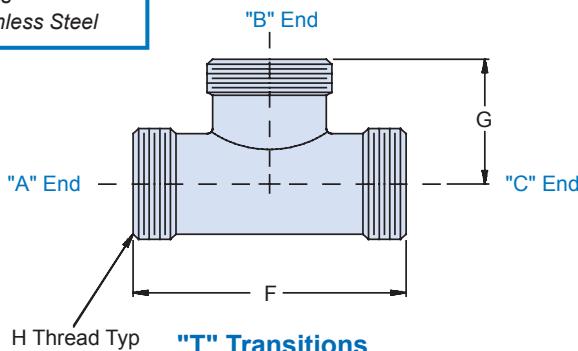


Table II: Finish

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	-	13/16 - 18 UNEF	3.06 (77.7)	2.09 (53.1)	2.09 (53.1)	1.16 (29.5)
32	32	32	32	15/16 - 18 UNEF	3.28 (83.3)	2.23 (56.6)	2.43 (61.7)	1.16 (29.5)
40	40	40	40	11/2 - 18 UNEF	3.59 (91.2)	2.50 (63.5)	2.65 (67.3)	1.28 (32.5)
48	48	48	48	13/4 - 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

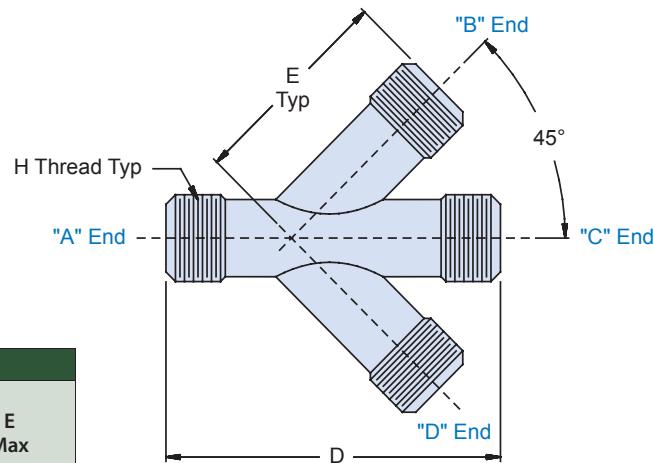
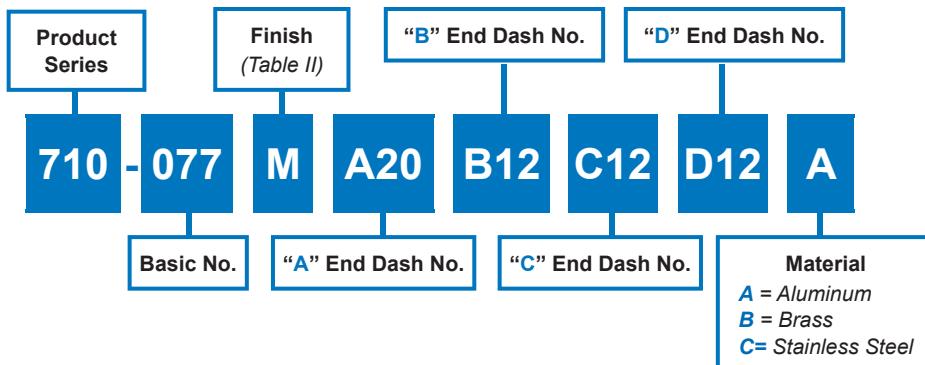
Glenair®

Adapters and
Transitions

Metal Multi-Branch Transitions for use with Transition Fittings



How To Order



E

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	-	13/16 - 18 UNEF	3.06 (77.7)	2.09 (53.1)
32	32	32	32	15/16 - 18 UNEF	3.28 (83.3)	2.23 (56.6)
40	40	40	40	11/2 - 18 UNEF	3.59 (91.2)	2.50 (63.5)
48	48	48	48	13/4 - 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



687-051
Split Bushing with Pin/Socket Snap Assembly
for Protection of Tie-Down Points for Series 74 Helical Conduit

Split bushing for series 74 Helical Conduit



How To Order

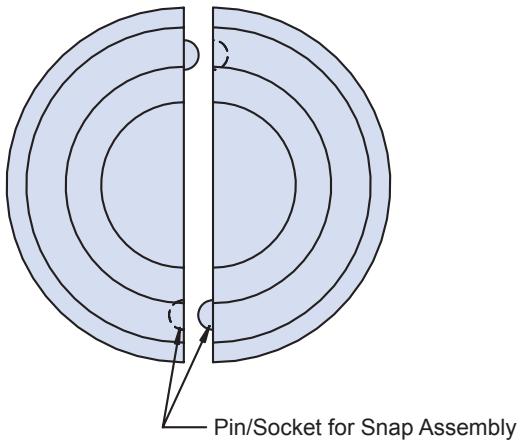
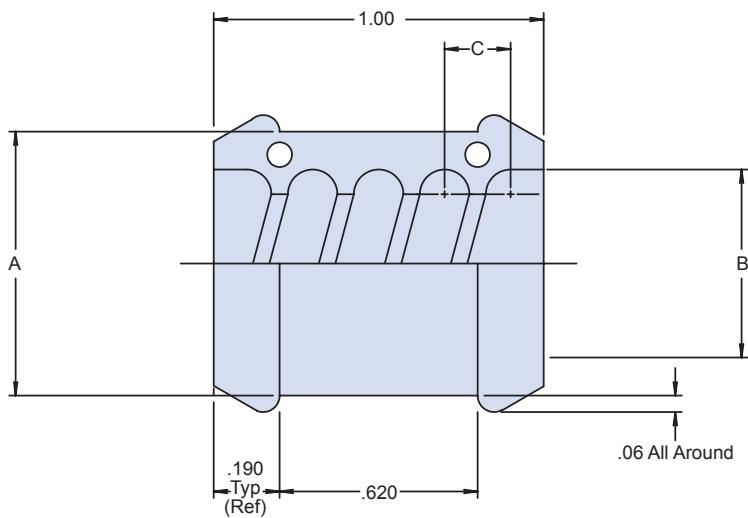
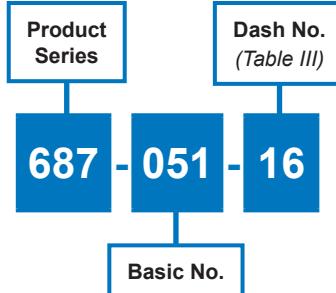


Table III: Dimensions				
Dash No.	A Ref	B Min	C Ref	Tube Size Ref
06	.450 (11.4)	.330 (8.42)	.100 (2.54)	3/16
09	.560 (14.2)	.439 (11.2)	.100 (2.54)	9/32
10	.580 (14.7)	.460 (11.7)	.100 (2.54)	5/16
12	.640 (16.3)	.517 (13.1)	.100 (2.54)	3/8
14	.700 (17.8)	.585 (14.9)	.100 (2.54)	7/16
16	.780 (19.8)	.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)	11/4

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**

Glenair®

Adapters and
Transitions

Split bushing for series 72 Annular Conduit

How To Order

**Basic
No.**

**Dash No.
(Table III)**

G70685 - 16

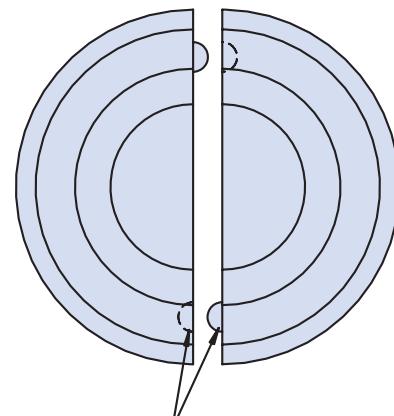
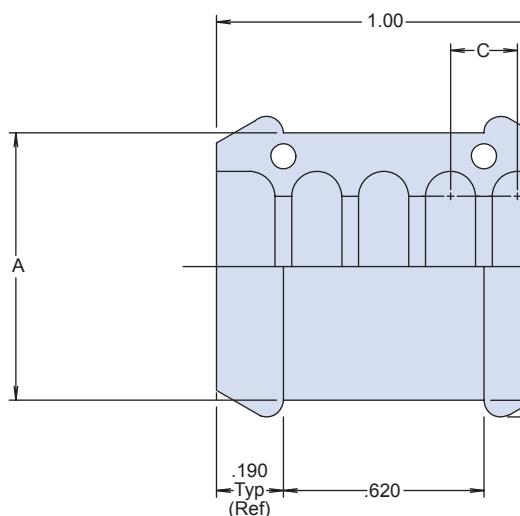


Table III: Dimensions			
Dash No.	A Ref	B Min	C Ref
09	0.55 (14.0)	0.425 (10.8)	0.150 (3.8)
12	0.65 (16.5)	0.525 (13.3)	0.155 (3.9)
14	0.73 (18.5)	0.605 (15.4)	0.175 (4.4)
16	0.80 (20.3)	0.670 (17.0)	0.175 (4.4)
20	0.92 (23.4)	0.790 (20.1)	0.175 (4.4)
24	1.08 (27.4)	0.950 (24.1)	0.175 (4.4)
28	1.21 (30.7)	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.

E

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 Conduit Products for Fiber Optics and Other Unique Applications

Glenair®

Special
Applications

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 Convolved Tubing, pages F-4 – F-5



PEEK Convolved 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.

Slit polymer core tubing



Reference Part No.

(Consult factory for additional materials and configurations)

120 - 144

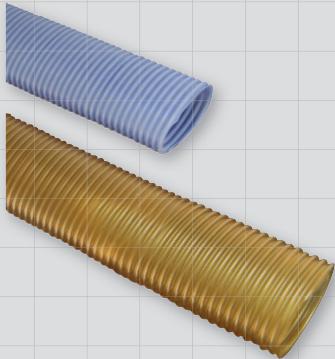
Any of Glenair's regular bulk helical or annular polymer-core tubings can be provided slit, for on-site installation or addition of wires in open wire loom applications. Use the Wire Loom Tool for easy wire insertion: simply gather the wires into the tool, insert into the slit conduit, and run the tool 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

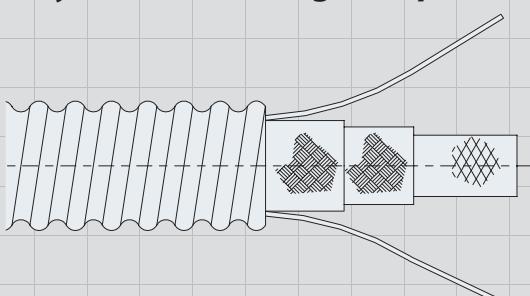
The Glenair "No Hal" tubing assembly is designed for applications where RoHS compliance or other environmental standards mandate a halogen-free configuration. Halogen-free PEEK tubing (with optional stainless steel wire reinforcement for crush strength) is combined with Glenair halogen-free Duralectric™ 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 Convoluted Tubing
IAW DMS 2024 Type II

Standard diameter low-smoke, zero-halogen tubing with outstanding crush resistance



How To Order

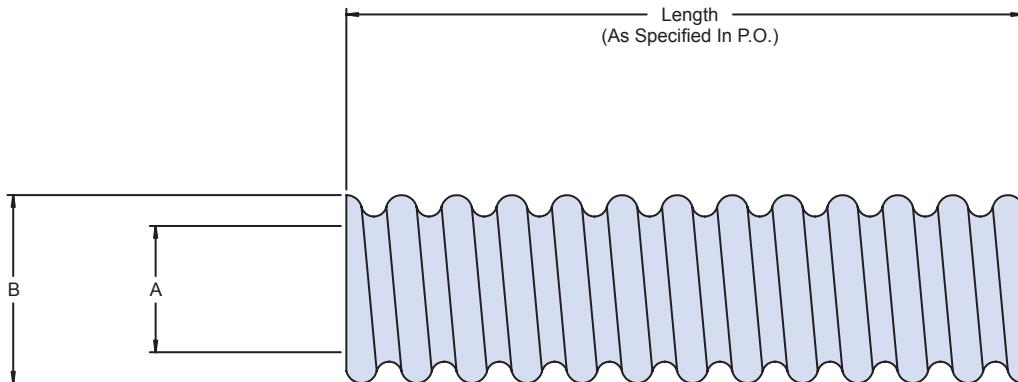
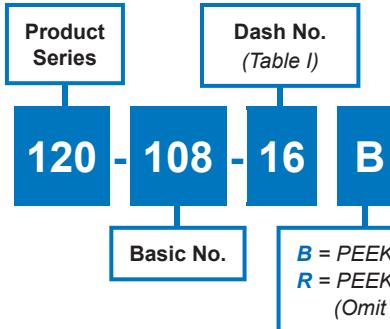


Table I				
Tubing Size	Fractional Size Ref	A Inside Dia		B Dia Max
		Min	Nom	
06	3/16	.181 (4.6)	.187 (4.7)	.307 (7.8)
09	9/32	.273 (6.9)	.281 (7.1)	.405 (1.3)
10	5/16	.300 (7.6)	.312 (7.9)	.440 (11.2)
12	3/8	.364 (9.2)	.375 (9.5)	.500 (12.7)
16	1/2	.485 (12.3)	.500 (12.7)	.630 (16.0)
20	5/8	.608 (15.4)	.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	11/4	1.220 (31.0)	1.250 (31.8)	1.500 (38.1)
48	11/2	1.480 (37.6)	1.500 (38.1)	1.780 (45.2)
56	13/4	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 Convoluted Tubing
for Fiber Optic applications

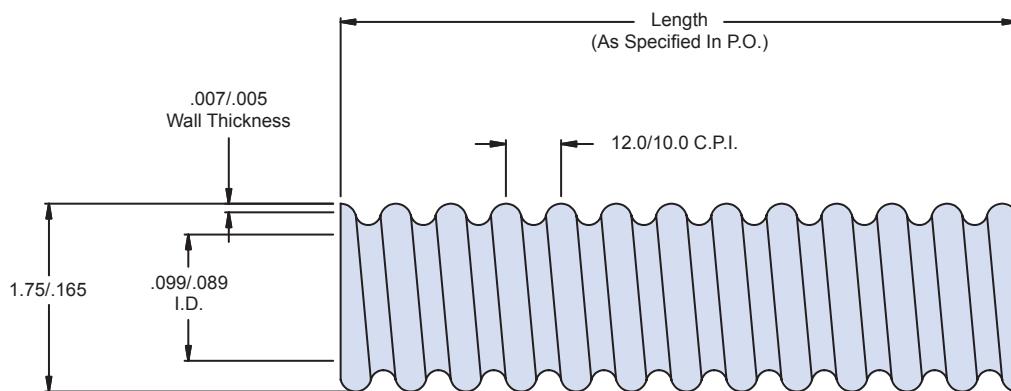
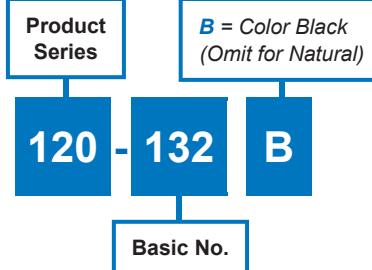
Glenair®

Special
Applications

Low-smoke, zero-halogen tubing with outstanding crush resistance and special purpose ultra small O.D. and I.D. for fiber optic applications



How To Order



F

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.

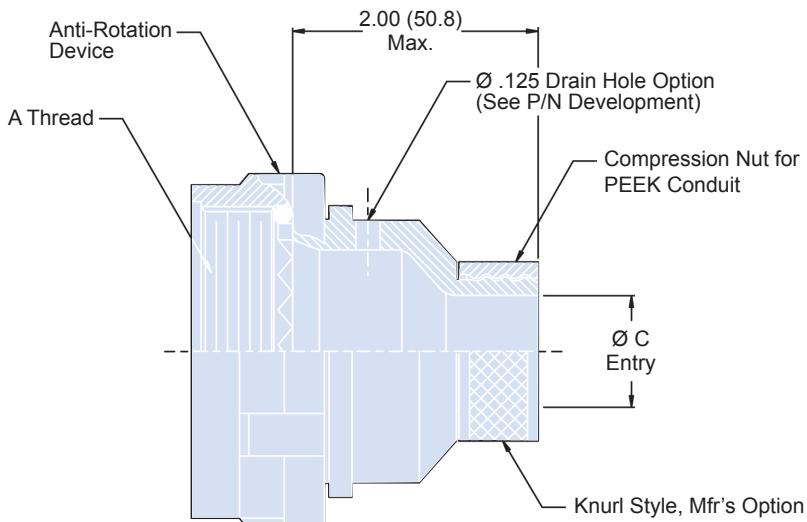
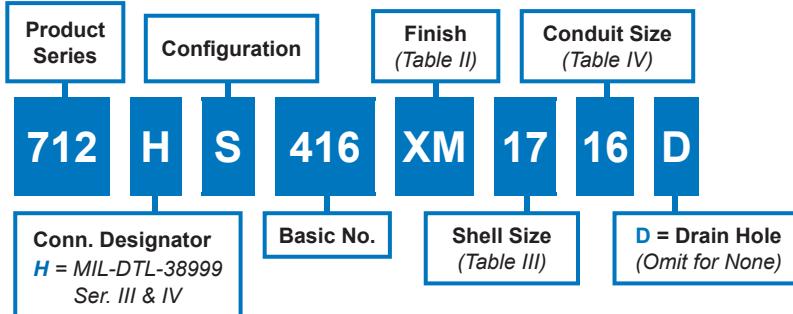


712-416
PEEK Convoluted Tubing-to-Connector Backshell
for MIL-DTL-38999 Series III & IV, Composite

Composite PEEK convoluted 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



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 Convoluted 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)

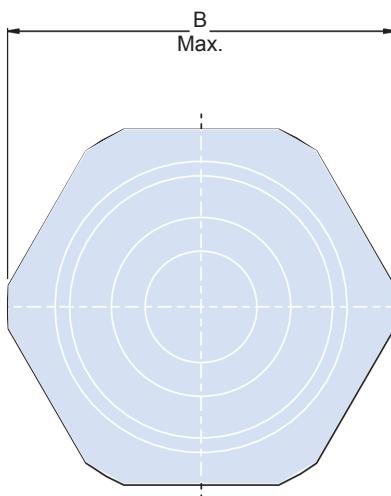


Table IV: PEEK Conduit Size

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

Product Series

377

Angular Function
S = Straight
W = 90° Solid Elbow
T = 45° Solid Elbow

H

S

014

**Finish Sym.
(Table II)**

XM

11

**Optional Entry Size
(Table IV)**
Omit for Std.
Table III

06

4

SYM T - Band Termination
Tubing Adapter for Series
74 Teflon type tubing
SYM K - Compression Nut
Tubing Adapter for PEEK
tubing
SYM TN - Compression Nut
Tubing Adapter for Series
74 Teflon type tubing

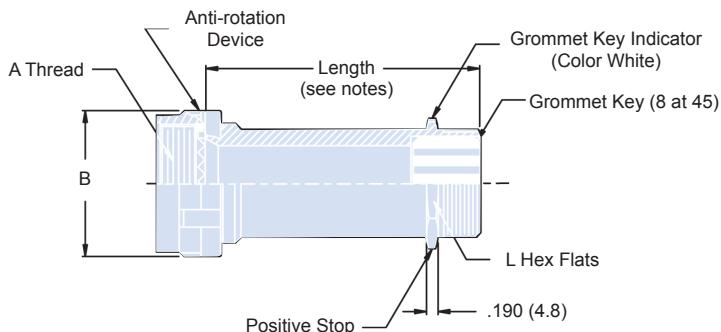
K

**Connector Designator,
MIL-DTL-38999,
Series III&IV**

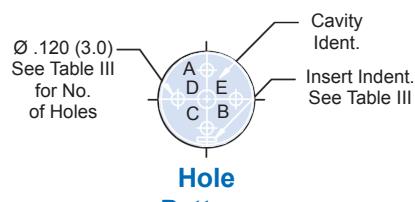
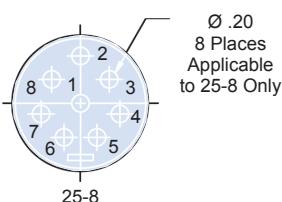
Basic No.

**Shell Size
(Table III)**

**Length In 1/2 Inch
Increments
(Example: 4 = 2 Inches)**



Sym S - Straight



Hole Pattern

Material and Finish

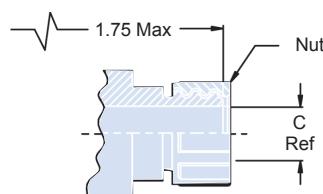
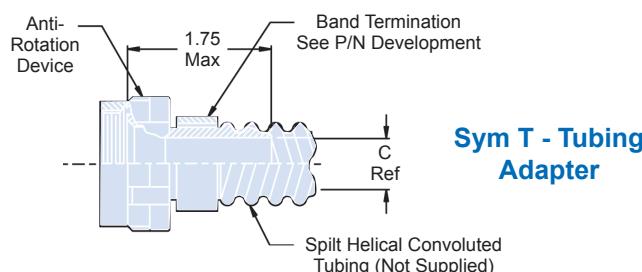
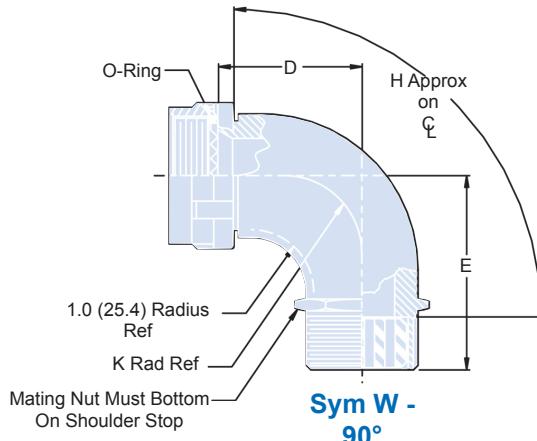
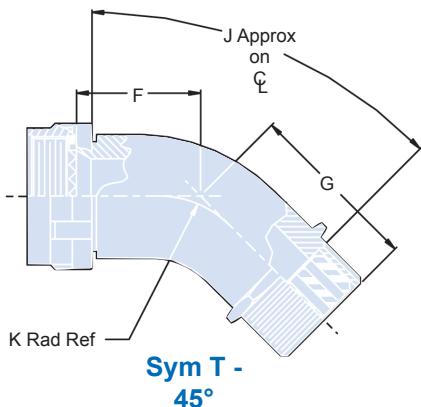
- Adapters, Elbows, Coupling Nut, Nut: Hi-grade engineering thermoplastic/see table II
- Grommet, O-Ring: Fluorosilicone/N.A.
- Anti-Rotation Device: Corrosion resistant material/N.A.

Notes

- Standard minimum length: 1.5 inches, for shorter length consult factory.
- For Sealing Plugs, see Glenair drawing 687-142.

377-014

Convoluted Tubing-to-Connector Backshell for Fiber Optic MIL-DTL-38999 Series III & IV Connectors



SYM K - Compression Nut Adapter, PEEK
SYM TN - Compression Nut Adapter, Teflon

Table III: Shell Size

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)	11/4	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)	11/4	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

Table IV: Entry Size

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)	11/4

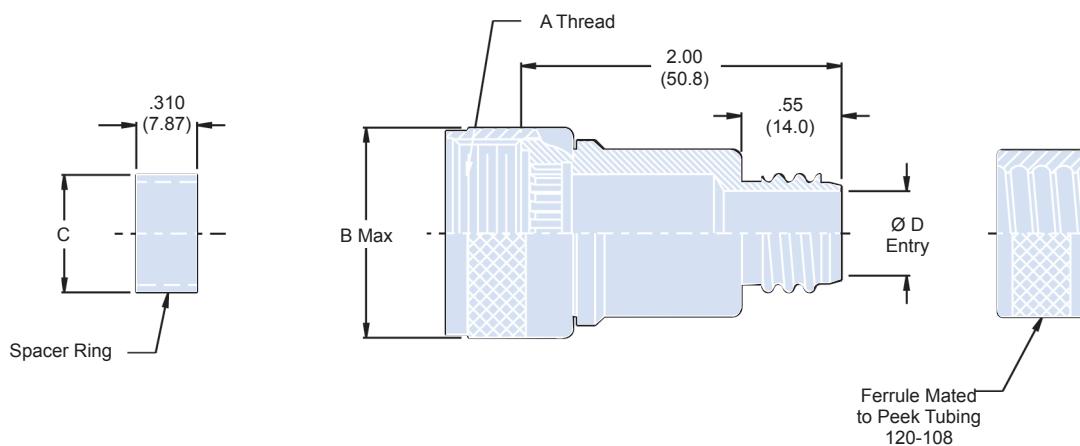
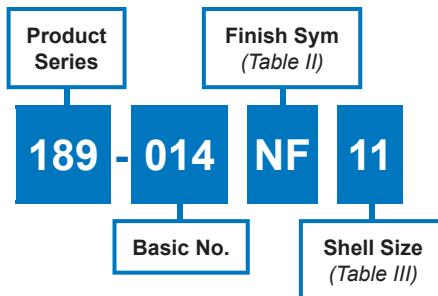
Table II: Finish Description

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)

MIL-PRF-28876 fiber optic backshell, straight, with compression nut for easy termination of PEEK convoluted tubing



How To Order



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 Convoluted Tubing
to be used with MIL-PRF-28876 Fiber Optic Connectors**



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	17/16-18 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)

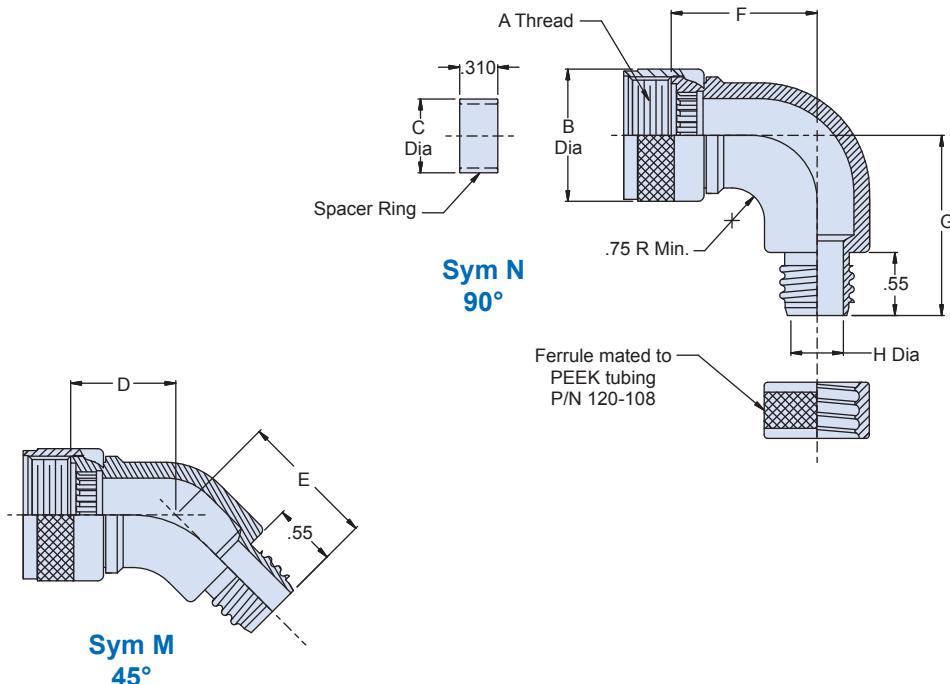
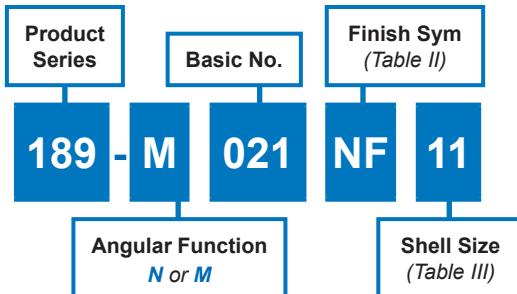
F



189-021
90° and 45° Backshell for PEEK Convoluted 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



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 Convoluted 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

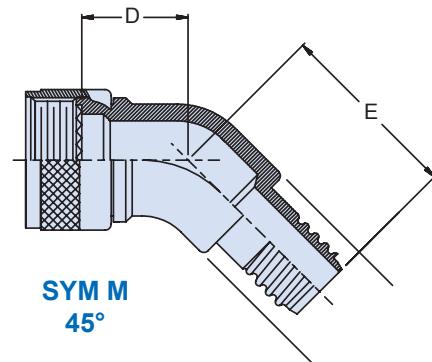
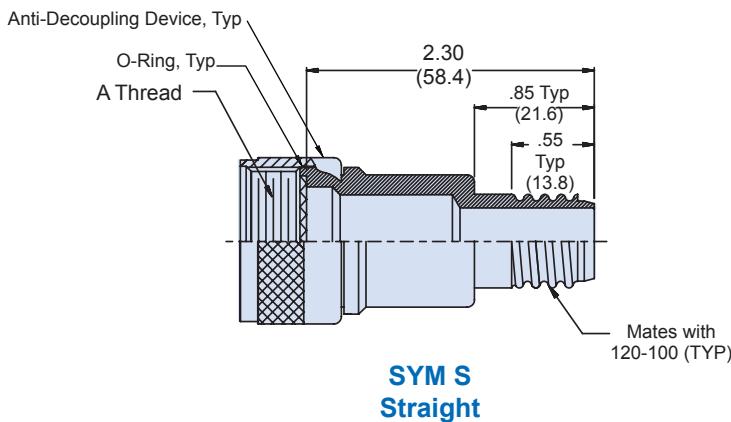
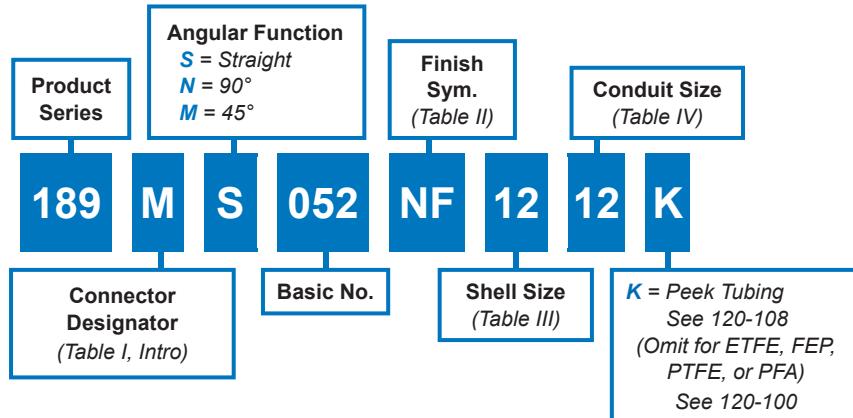
Table II: Material/Finish

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

Convoluted tubing-to-connector fiber optic backshell for Series 80 Mighty Mouse

How To Order



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
Convoluted Tubing Backshell
for Series 80 Mighty Mouse Fiber Optic Connectors

Glenair®

Special
Applications

Table III: Shell Size

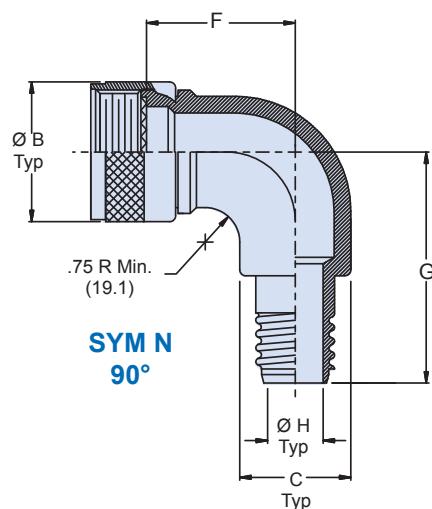
Shell Size	A Thread Class 2B	Ø B Max	C	D Max	E Max	F Max	G Max
12	.6875-24 UNEF-2A	.910 (23.1)	.620 (15.7)	.910 (23.1)	1.250 (31.8)	1.985 (50.4)	2.395 (60.8)
14	.9375-20 UNEF-2A	1.250 (31.8)	.875 (22.2)	1.020 (25.9)	1.370 (34.8)	2.115 (53.7)	2.465 (62.6)
15	.9375-20 UNEF-2A	1.250 (31.8)	.875 (22.2)	1.020 (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)



F

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 Convolved 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.

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 Duralectric™ in Black, Gray, and Desert Tan

EMI/RFI shielding options include standard tin/copper braid as well as ArmorLite™ Microfilament metal-clad ultra lightweight braid

All Guardian system conduit to connector adapters are Banding Platform equipped and optimized for easy EMI shield termination with **BAND-IT®** banding

"Y" and "T" transitions in composite thermoplastic and plated metal materials for easy routing of multi-branch wire assemblies

Convoluted tubing options in the Guardian system include Kynar®, PVDF, and Silitem

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 adapters are equipped with shrink boot grooves for easy environmental sealing and strain relief

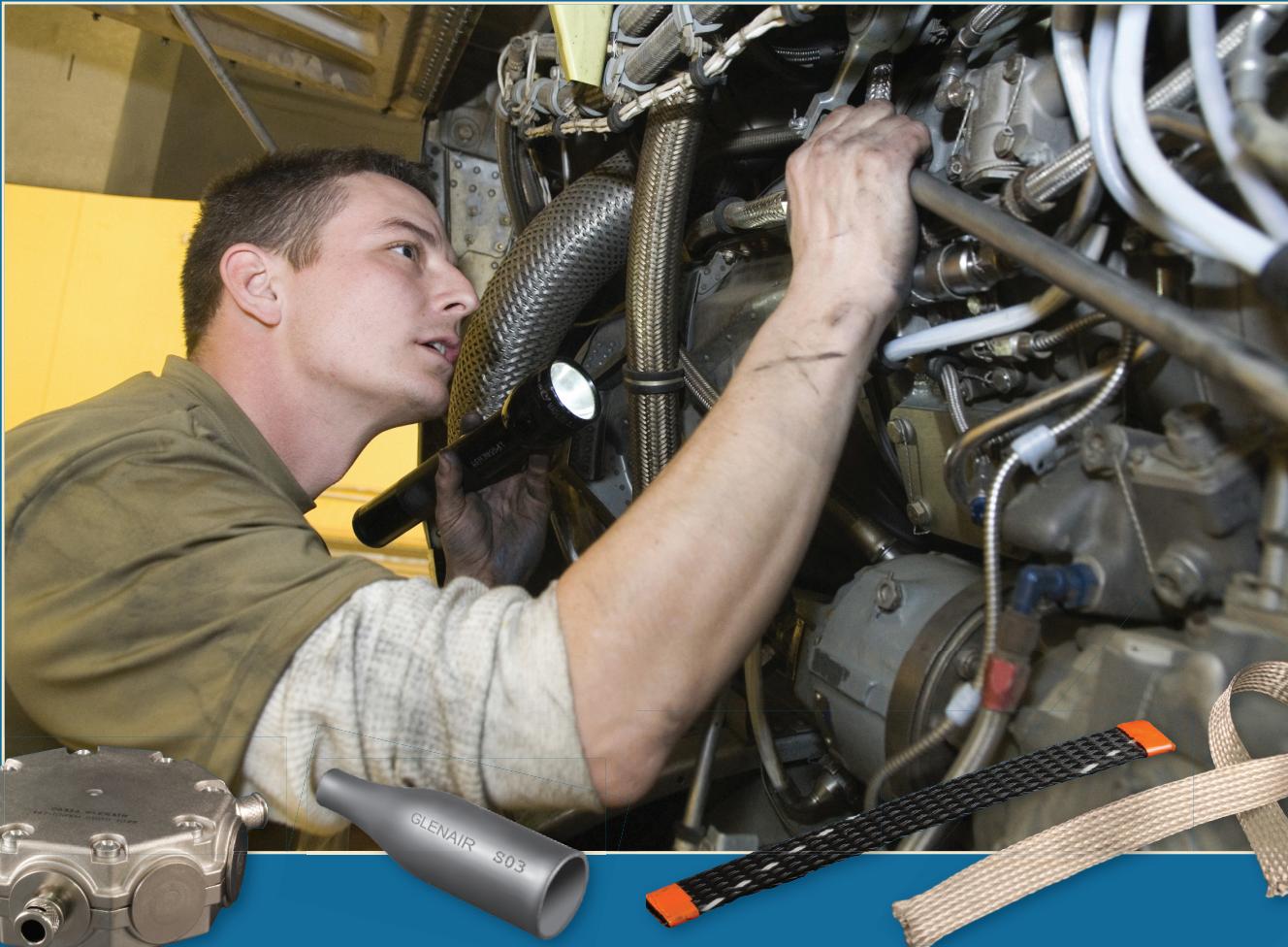
The heart of the Guardian system is its unique retaining clip assembly system, offering high speed assembly without the need for special tools. Environmental O-rings provide splash-proof level environmental sealing.



SERIES 72, 74 & 75

CONDUIT SYSTEM ACCESSORIES

FOR FLEXIBLE METAL-CORE AND CONVOLUTED POLYMER-CORE CONDUIT



Glenair offers a complete conduit system solution for even the most difficult wire routing applications. Our composite boxes and adapters solve wire routing issues in a weight-saving EMI shielded package. Our Series 77 Heat Shrink Boots provide environmental sealing and protection. Glenair can supply the tools you need for complete conduit system assembly and repair. And Glenair offers a wide range of braiding solutions, including metallic, non-metallic and weight saving composite microfilament configurations for mechanical and EMI/RFI protection of metal-core and polymer-core conduit systems.

Glenair®

**Flexible Metal-Core and Helical Polymer-Core
Conduit System Accessories**
**Special Jacketing, Braiding, Junction Boxes,
Boots, Tools, and More**

Glenair®

Conduit and Tubing
System Accessories

Jacketing, Braiding, Junction Boxes, Bands, Boots and Tools for Conduit Systems

Conduit and Tubing System Accessories include a broad selection of metallic, microfilament, and non-metallic braid; composite junction boxes to solve difficult wire-routing problems with weight savings and EMI protection; tools designed for all facets of conduit wire protection system assembly and repair; and Series 77 Heat-Shrink Boots to provide environmental sealing, electrical and mechanical protection to conduit.



Duraelectric™ Jacketing,
pages G-2 – G-3



Metallic, Microfilament,
and Non-Metallic Braids,
pages G-4 – G-11



Composite Junction Box and
adapters, pages G-12 – G-14



Banding and
Heat Shrink Boots
pages G-15 – G-22



Glenair Tools
pages G-23 – G-26

Part No.	Description	Page No.
	Duraelectric™ Jacketing Material and specifications	G-2 – G-3
Metallic, Microfilament, and Non-Metallic Braid		
100-001	Tin-Coated Copper Braid	G-4
100-002	Silver-Coated Copper Braid	G-4
100-003	Nickel-Plated Copper Braid	G-5
100-041	Tapered Tubular Braid	G-5
103-026	AmberStrand® Braid 100%	G-6
103-027	75%/25% AmberStrand®/Nickel Copper Braid	G-6
103-031	AmberStrand® Spooled Fiber	G-7
103-051	ArmorLite™ Braid	G-7
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102-001 & -002	Polyethylene Expandable Braid	G-8
102-020, -021, -022 & -023	Halar Expandable Braid	G-9
102-073	Dacron Braid	G-9
103-013	Nomex Braid	G-10
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102-072	Nylon Braid	G-11
Junction Boxes and Adapters		
140-200	8 Port Octagonal Composite Junction Box	G-12
712-856	AeroLite Composite junction box adapter	G-13
713-379	Hat Trick Composite junction box adapter	G-14
BandMaster™ATS and Environmental Shrink Boots		
	BandMaster™ ATS System	G-15
	Lipped Straight Environmental Shrink Boots	G-16 – G-19
	Shrink Boot Installation Guide	G-20 – G-22
Tools		
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TG69	Soft Jaw Pliers	G-24
TG70	Connector Strap Wrench with 3/8" Square Drive	G-25
600-164	Large Broad Blade Utility Shear	G-26



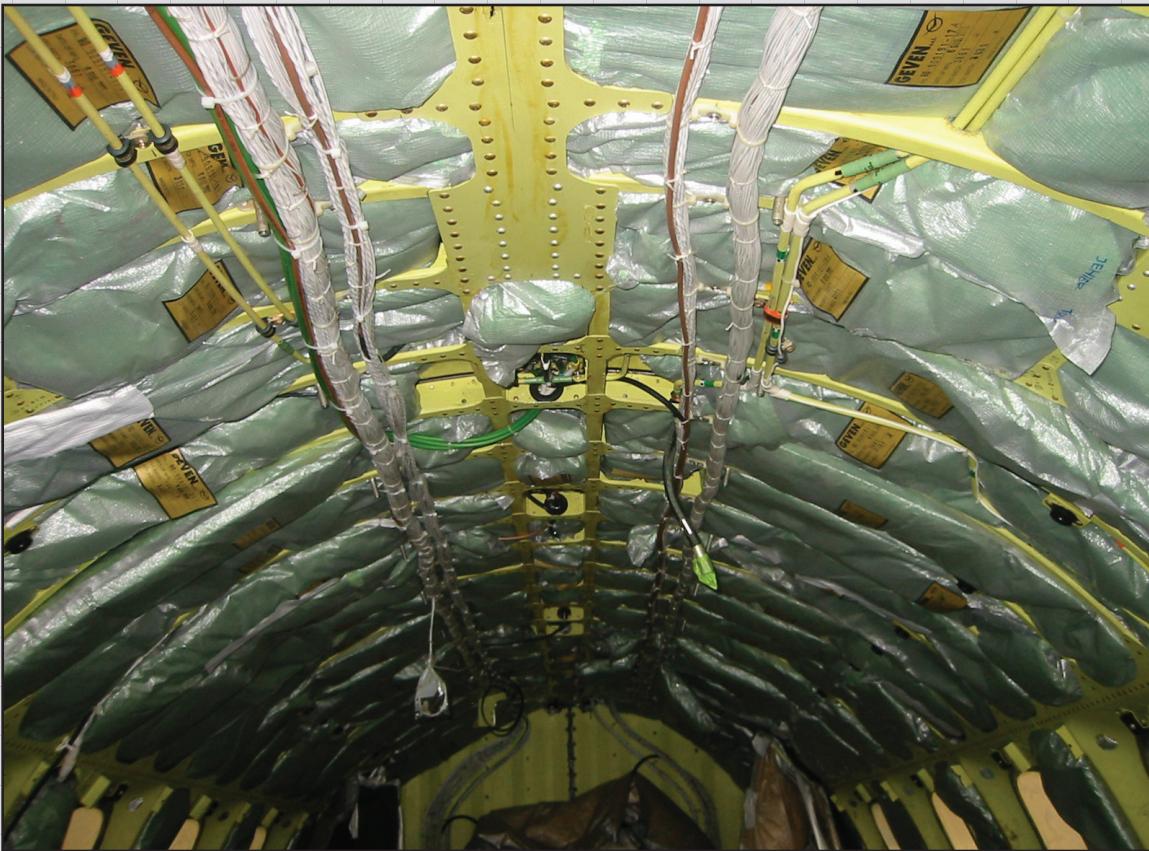
Duralectric™
**The Ultimate in Durable Wire, Cable
and Conduit Jacketing**

**Virtually Maintenance-Free Dielectric Jacketing Material Protects Wires, Cables
and Conduits in Mission-Critical Applications**



Duralectric (shown here in its desert tan color) is the perfect solution for wire protection conduits used in military vehicles, aircraft and other mission-critical applications.

Most wire and cable specifiers have simple expectations, such as dielectric materials that don't break down over time—requiring expensive replacement long before the lifetime of the ship, plane or vehicle is reached. They also want jacket materials that can withstand high heat, extreme UV radiation, demanding weather conditions and caustic chemicals and fluids. Glenair **Duralectric™** material delivers on these expectations—and a whole lot more. The dielectric material is a special formula with extremely-high durability in such measures as UV weathering, temperature tolerance, low smoke and toxicity index, flame resistance, and halogen free (IEC754-1) ratings.



G

Duralectric™ Material Specifications

Glenair®

Conduit and Tubing
System Accessories

Glenair Duralectric™ weatherproof jacketing is halogen free, flame resistant, and functional to 260°C. Duralectric™ far surpasses the accelerated solar weathering standards under IEC 60068-2-5, and is tested to 56 accelerated days, equivalent to 53 years of solar exposure. Glenair can supply the material in a variety of formats, including blown jacketing, as an extrusion over wire and cable, as an overmolding compound and as a self-vulcanizing repair tape.

Originally qualified to the US navy MIL-PRF-24758A specification, Duralectric™ is available in standard US Navy haze gray in accordance with Fed Std 595B #26270. Other colors are also standard including black, and Fed Std #3446 Desert Tan. Additional Made-to-Order colors are available. The material has the following performance characteristics:

Glenair Duralectric™ Material Specifications

Temperature rating: -70°C to +200°C (with excursions to 260°C)

Halogen free per IEC 60614-1. Less than 5mg of hcl per 1 gm of product tested.

Accelerated Weathering (Solar) per IEC 60068-2-5; 56 days exposure

Flame Resistant per IEC 60614-1; Material does not sustain combustion when the source of flame is removed.

Low Smoke Index per NES 711 (11.75); Minimum standard is 25. The Glenair tested level is 11.75. This makes the material acceptable for interior applications as well as topside.

Smoke Density Class F1 Per NF F 16-101 IAW DIN EN 60695-2-11:2001

Toxicity Index per NES 713 (1.9); Minimum standard is 5. The Glenair tested level is 1.9. This makes the material acceptable for interior applications as well as topside.

Colorable to Fed Std 595B

Markable IAW MIL-PRF-24758A

Oxygen Limiting Index = 45.1 Per EN ISO 4589-2:1999; Minimum is 28.

12 Sec Vertical Burn: (Pass) Per 14CFR Part 25.853(a) amdt 25-116 App F Part 1 (a)(1)(ii)

Fluids Per MIL STD 810F, Method 504

Fuel (MIL-T-83133): JPG

Fuel (MIL-T-83133): JPG

Hydraulic Fluid (MIL H 5606): ROYCO 756

Lube Oil (MIL-L-23699): ROYCO-500

Cleaner (MIL-C-85570): CALLA-855

Solvent (Isopropyl Alcohol): TT-I-735

De Icer (AMS-1432): E36 Runway Deicer

Coolant (MIL-C-87252): Coolanol 25R

Fire Extinguisher Foam: AMEREX AFFF

**MASTER
SEAL** Self-Vulcanizing
Sealing Tape



GLENAIR PART NO.
687-758

Duralectric™ material sealing tape designed for temporary repair of cable and conduit. Glenair Master Seal effectively stops water incursion until a permanent repair can be made.

Standard Color is Navy Haze Gray;
other colors are available.

G



Metallic Braid How-to-Order

100-001 Tubular Metal Braid QQ-B-575B/A-A-59569 ASTM B33 Tin Coated Copper

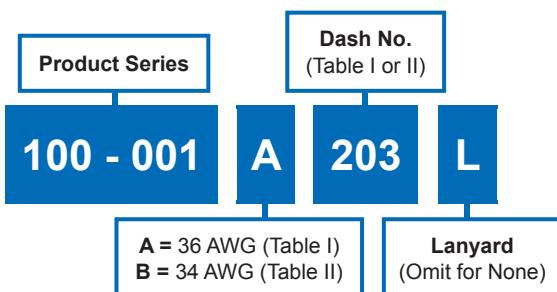
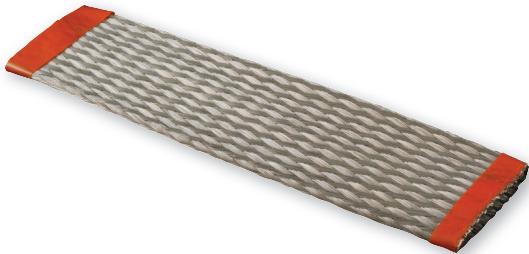


Table I: 36 AWG	
Part No.	I.D. (inches)
100-001 A 031	.031 (0.8)
100-001 A 062	.062 (1.6)
100-001 A 078	.078 (2.0)
100-001 A 109	.109 (2.8)
100-001 A 125	.125 (3.2)
100-001 A 156	.156 (4.0)
100-001 A 171	.171 (4.3)
100-001 A 188	.188 (4.8)
100-001 A 203	.203 (5.2)
100-001 A 250	.250 (6.4)
100-001 A 375	.375 (9.5)
100-001 A 500	.500 (12.7)
100-001 A 625	.625 (15.9)
100-001 A 781	.781 (19.8)
100-001 A 937	.937 (23.8)
100-001 A 1000	1.000 (25.4)
100-001 A 1125	1.125 (28.6)
100-001 A 1250	1.250 (31.8)
100-001 A 1375	1.375 (34.9)
100-001 A 1500	1.500 (38.1)
100-001 A 1562	1.562 (39.7)
100-001 A 2000	2 (50.8)
100-001 A 2300	2.300 (58.4)
100-001 A 2500	2.500 (63.5)
100-001 A 3375	3.375 (85.7)

Table II: 34 AWG	
Part No.	I.D. (inches)
100-001 B 062	.062 (1.6)
100-001 B 109	.109 (2.8)
100-001 B 125	.125 (3.2)
100-001 B 171	.171 (4.3)
100-001 B 203	.206 (5.2)
100-001 B 375	.375 (9.5)
100-001 B 437	.437 (11.1)
100-001 B 500	.500 (12.7)
100-001 B 781	.781 (19.8)
100-001 B 1000	1.000 (25.4)
100-001 B 1250	1.250 (31.8)

100-002 Tubular Metal Braid QQ-B-575B/A-A-59569 ASTM B33 Silver Coated Copper

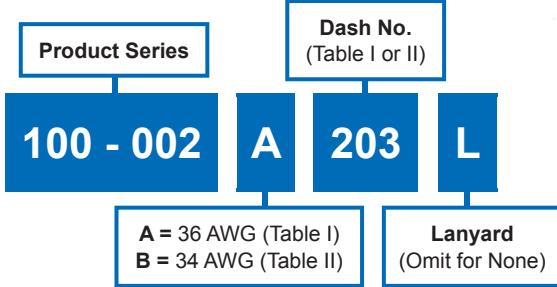


Table I: 36 AWG	
Part No.	I.D. (inches)
100-002 A 031	.031 (0.8)
100-002 A 062	.062 (1.6)
100-002 A 078	.078 (2.0)
100-002 A 109	.109 (2.8)
100-002 A 125	.125 (3.2)
100-002 A 156	.156 (4.0)
100-002 A 171	.171 (4.3)
100-002 A 188	.188 (4.8)
100-002 A 203	.203 (5.2)
100-002 A 250	.250 (6.4)
100-002 A 375	.375 (9.5)
100-002 A 500	.500 (12.7)
100-002 A 625	.625 (15.9)
100-002 A 781	.781 (19.8)
100-002 A 937	.937 (23.8)
100-002 A 1000	1.000 (25.4)
100-002 A 1250	1.125 (28.6)
100-002 A 1375	1.250 (31.8)
100-002 A 1500	1.375 (34.9)
100-002 A 2000	2 (50.8)
100-002 A 2500	2.500 (63.5)

Table II: 34 AWG	
Part No.	I.D. (inches)
100-002 B 062	.062 (1.6)
100-002 B 109	.109 (2.8)
100-002 B 125	.125 (3.2)
100-002 B 171	.171 (4.3)
100-002 B 203	.206 (5.2)
100-002 B 375	.375 (9.5)
100-002 B 437	.437 (11.1)
100-002 B 500	.500 (12.7)
100-002 B 781	.781 (19.8)
100-002 B 1000	1.000 (25.4)
100-002 B 1250	1.250 (31.8)

Minimum order length is 100 ft. (30.5 M). Metric dimensions (mm) are in parentheses.

Metallic Braid How-to-Order



100-003 Tubular Metal Braid ASTM B355 Class 4 OFHC Nickel Plated Copper

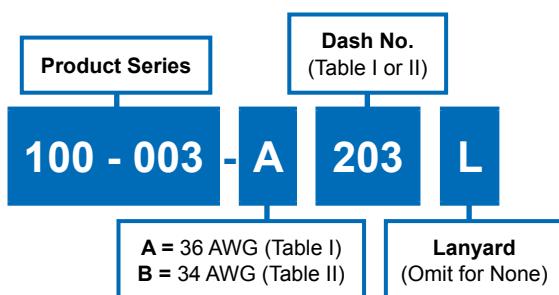


Table I: 36 AWG	
Part No.	I.D. (inches)
100-003 A 031	.031 (0.8)
100-003 A 062	.062 (1.6)
100-003 A 078	.078 (2.0)
100-003 A 109	.109 (2.8)
100-003 A 125	.125 (3.2)
100-003 A 156	.156 (4.0)
100-003 A 171	.171 (4.3)
100-003 A 188	.188 (4.8)
100-003 A 203	.203 (5.2)
100-003 A 250	.250 (6.4)
100-003 A 375	.375 (9.5)
100-003 A 500	.500 (12.7)
100-003 A 562	.562 (14.3)
100-003 A 625	.625 (15.9)
100-003 A 781	.781 (19.8)
100-003 A 937	.937 (23.8)
100-003 A 1000	1.000 (25.4)
100-003 A 1250	1.250 (31.8)
100-003 A 1375	1.375 (34.9)
100-003 A 1500	1.500 (38.1)
100-003 A 2000	2 (50.8)
100-003 A 2500	2.500 (63.5)

Table II: 34 AWG	
Part No.	I.D. (inches)
100-003 B 062	.062 (1.6)
100-003 B 109	.109 (2.8)
100-003 B 125	.125 (3.2)
100-003 B 171	.171 (4.3)
100-003 B 203	.203 (5.2)
100-003 B 375	.375 (9.5)
100-003 B 437	.437 (11.1)
100-003 B 500	.500 (12.7)
100-003 B 781	.781 (19.8)
100-003 B 1000	1.000 (25.4)
100-003 B 1250	1.250 (31.8)
100-003 B 1500	1.500 (38.1)
100-003 B 1750	1.750 (44.5)
100-003 B 2000	2 (50.8)

Minimum order length is 100 ft. (30.5 M).
Metric dimensions (mm) are in parentheses.

100-041 Tapered Tubular Metal Braid, AmberStrand®, ArmorLite™ Nickel/Copper, Silver/Copper or Tin/Copper



Dash nos. 02-12 flared or
folded back in this area

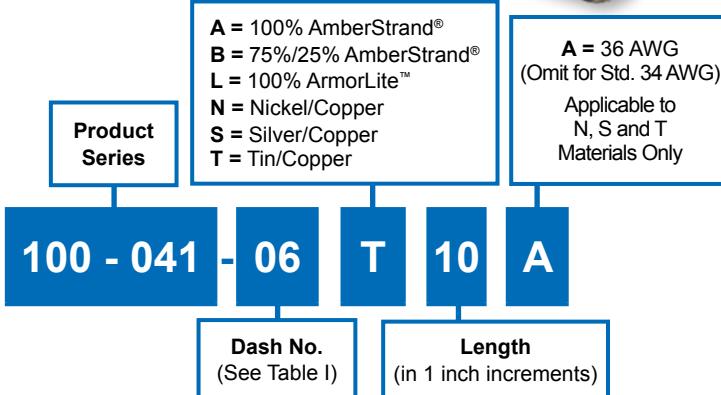


Table I: Part Numbers and Sizes

Part No.	A (large end dia.)		B (small end dia.)	
	+ .10 - .00	(2.5) (0.0)	+ .10 - .00	(2.5) (0.0)
100-041-01	.30	(7.6)	.15	(3.8)
100-041-02	.45	(11.4)	.30	(7.6)
100-041-03	.60	(15.2)	.30	(7.6)
100-041-04	.75	(19.1)	.30	(7.6)
100-041-05	.75	(19.1)	.50	(12.7)
100-041-06	1.05	(26.7)	.50	(12.7)
100-041-07	1.05	(26.7)	.75	(19.1)
100-041-08	1.20	(30.5)	.75	(19.1)
100-041-09	1.20	(30.5)	1.00	(25.4)
100-041-10	1.50	(38.1)	.75	(19.1)
100-041-11	1.50	(38.1)	1.00	(25.4)
100-041-12	1.50	(38.1)	1.20	(30.5)
100-041-13	.88	(22.4)	.50	(12.7)
100-041-14	1.38	(35.1)	.75	(19.1)

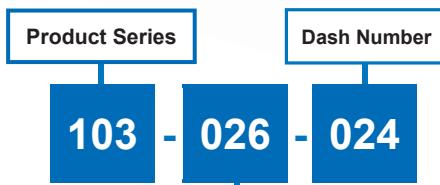
Length: 5.0 (127.0) Minimum, 12.0 (304.8) Maximum. Metric dimensions (mm) are in parentheses.



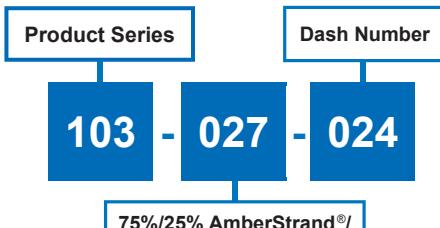
Microfilament Composite Braid How-to-Order

**103-026 and -027 AmberStrand® EMI/RFI Microfilament Composite Braided Shielding
100% Composite and 75%/25% Blended Versions**

AmberStrand®



100% AmberStrand®
Metal-Clad Composite*



75%/25% AmberStrand®/
Nickel Copper**

* Braid is made from nickel-plated
AmberStrand composite fibers.
AmberStrand is a registered trademark of
Syscom Advanced Materials, Inc.

**Nickel clad thermoplastic, silver color,
nickel plated copper wire/ASTM B355 CL 7
OFHC, 36 AWG

Specify length on purchase order. No minimums! Metric
dimensions (mm) are in parentheses.

103-026 100% Composite AmberStrand®			
Part No.	Inner Diameter	Ref. Wire Bundle Range	Approximate Grams Per Foot
103-026-004	.125 (3.2)	.093 (2.4)	1.0
		.140 (3.5)	
103-026-008	.250 (6.4)	.125 (3.2)	1.8
		.312 (7.9)	
103-026-012	.375 (9.5)	.325 (8.2)	2.3
		.437 (11.1)	
103-026-016	.500 (12.7)	.375 (9.5)	3.7
		.560 (14.2)	
103-026-020	.625 (15.9)	.375 (9.5)	4.4
		.700 (17.8)	
103-026-024	.750 (19.1)	.500 (12.7)	5.2
		.830 (21.1)	
103-026-032	1.000 (25.4)	.780 (19.8)	8.0
		1.100 (27.94)	
103-026-040	1.250 (31.8)	.938 (23.8)	10.0
		1.312 (33.3)	
103-026-048	1.500 (38.1)	1.187 (30.1)	15.2
		1.590 (40.37)	
103-026-064	2.000 (50.8)	1.312 (33.3)	22.0
		2.090 (53.08)	

103-027 75%/25% Blended Composite AmberStrand®/Nickel Copper			
Part No.	Inner Diameter	Ref. Wire Bundle Range	Approximate Grams Per Foot
103-027-004	.125 (3.2)	.093 (2.4)	1.5
		.140 (3.5)	
103-027-008	.250 (6.4)	.125 (3.2)	2.4
		.312 (7.9)	
103-027-012	.375 (9.5)	.250 (6.4)	3.9
		.437 (11.1)	
103-027-016	.500 (12.7)	.375 (9.5)	6.0
		.550 (13.9)	
103-027-020	.625 (15.9)	.375 (9.5)	6.4
		.700 (17.8)	
103-027-024	.750 (19.1)	.500 (12.7)	7.2
		.830 (21.1)	
103-027-032	1.000 (25.4)	.780 (19.8)	11.0
		1.100 (27.94)	
103-027-040	1.250 (31.8)	.938 (23.8)	15.0
		1.312 (33.3)	
103-027-048	1.500 (38.1)	1.187 (30.1)	25.2
		1.590 (40.37)	
103-027-064	2.000 (50.8)	1.312 (33.3)	32.0
		2.090 (53.08)	

Microfilament Composite Braid How-to-Order

Glenair®

Conduit and Tubing
System Accessories

103-031 AmberStrand® Lightweight Metal-Clad Spooled Fiber

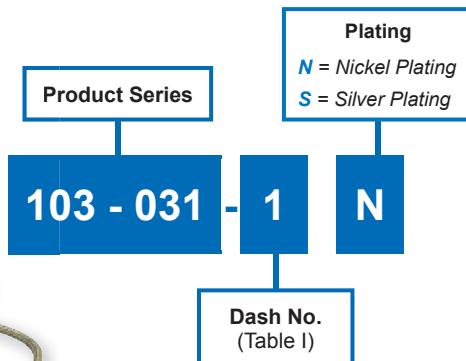
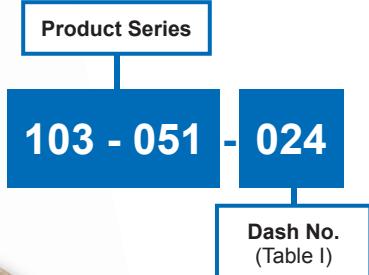


Table I	
Part Number	Spool Specification
103-031-1	Single End Spooled 3000 FT. Per Spool
103-031-2	Double End Spooled 1250 FT. Per Spool
103-031-3	Three End Spooled 833 FT. Per Spool
103-031-4	Four End Spooled 625 FT. Per Spool
103-031-5	Double End Spooled 500 FT. Per Spool
103-031-6	Six End Spooled 400 FT. Per Spool

103-051 ArmorLite™ Lightweight EMI/RFI Microfilament Stainless Steel Braided Shielding

ARMORLITE™



Specify length on purchase order. No minimums! Metric dimensions (mm) are in parentheses.

MATERIAL: Nickel clad/stainless steel, silver color.

Table I			
Part Number	Inner Diameter	Ref. Wire Bundle Range	Approximate Grams Per Foot
103-051-001	.031 (0.8)	.016 (0.4)	.5
		.047 (1.2)	
103-051-002	.062 (1.6)	.040 (1.0)	1.15
		.075 (1.9)	
103-051-004	.125 (3.2)	.093 (2.4)	1.5
		.140 (3.5)	
103-051-008	.250 (6.4)	.125 (3.2)	2.2
		.312 (7.9)	
103-051-012	.375 (9.5)	.250 (6.4)	2.9
		.406 (10.3)	
103-051-016	.500 (12.7)	.375 (9.5)	4.4
		.560 (14.2)	
103-051-020	.625 (15.9)	.375 (9.5)	4.8
		.700 (17.8)	
103-051-024	.750 (19.1)	.500 (12.7)	5.8
		.800 (20.3)	
103-051-032	1.000 (25.4)	.780 (19.8)	11.5
		1.100 (27.9)	
103-051-040	1.250 (31.8)	.938 (23.8)	14.0
		1.312 (33.3)	
103-051-048	1.500 (38.1)	1.187 (30.1)	17.3
		1.590 (40.4)	
103-051-064	2.000 (50.8)	1.312 (33.3)	22.8
		2.090 (53.1)	



Non-Metallic Braid How-to-Order

100-022 PTFE-Glass Tubular Braided Sleeving

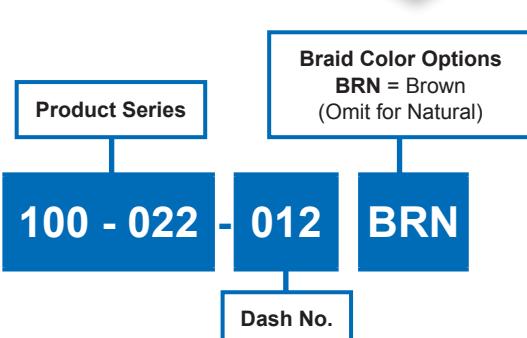
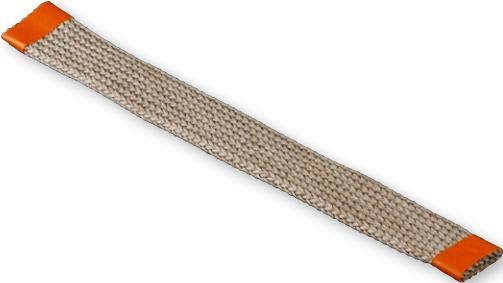


Table I	
Part No.	Nominal I.D.
100-022-004	.125 (3.2)
100-022-005	.156 (4.0)
100-022-006	.188 (4.7)
100-022-008	.250 (6.4)
100-022-012	.375 (9.5)
100-022-016	.500 (12.7)
100-022-020	.625 (15.9)
100-022-024	.750 (19.1)
100-022-032	1.000 (25.4)
100-022-040	1.250 (31.8)
100-022-048	1.500 (38.1)

102-001 and -002 Polyethylene Expandable Fabric Tubular Braided Sleeving

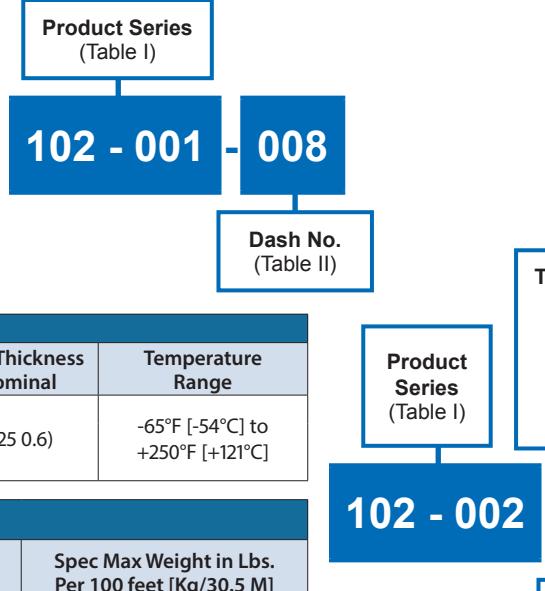


Table I					
Product Series	Color	Material	Material Dia.	Wall Thickness Nominal	Temperature Range
102-001	White	Polyethylene Terephthalate	.010 (0.25)	.025 (0.6)	-65°F [-54°C] to +250°F [+121°C]
102-002	Black				

Table II				
Dash No.	Ø Nom.	Ø A (before expansion) Min	Ø B (after expansion) Max	Spec Max Weight in Lbs. Per 100 feet [Kg/30.5 M]
-004	.125 (3.2)	.090 (0.25)	.250 (6.4)	.17 (0.08)
-008	.250 (6.4)	.125 (0.25)	.375 (9.5)	.26 (0.12)
-016	.500 (12.7)	.250 (6.4)	.750 (19.1)	.78 (0.35)
-024	.750 (19.1)	.500 (12.7)	1.250 (31.8)	1.20 (0.54)
-040	1.250 (31.8)	.750 (19.1)	1.500 (38.1)	1.60 (0.73)

Consult factory for sizes not shown

Tracer Color Options
G = Green
R = Red
W = White
Y = Yellow
(Omit for None)

102 - 002 - 008 R

Dash No.
(Table II)

Specify length on purchase order. No minimums!
Metric dimensions (mm) are in parentheses.

Non-Metallic Braid How-to-Order



102-020, -021, -022 and -023 Halar Expandable Fabric Tubular Braided Sleeving



Table I				
Product Series	Color	Material Dia.	Wall Thickness Nominal	Temperature Range
102-020	White with Black Tracer			
102-021	Black	.011 (0.28)	.030 (0.8)	-100°F [-73°C] to +302°F [+150°C]
102-022	Black with White Tracer			
102-023	White			

Product Series
(Table I)

102 - 021 - 008

Dash No.
(Table II)

Table II				
Dash No.	Ø Nom.	Ø A (before expansion) Min	Ø B (after expansion) Max	Spec Max Weight in Lbs. Per 100 feet [Kg/30.5]
-004	.125 (3.2)	.090 (0.25)	.250 (6.4)	.29 (0.13)
-008	.250 (6.4)	.125 (0.25)	.375 (9.5)	.39 (0.18)
-016	.500 (12.7)	.250 (6.4)	.750 (19.1)	1.17 (0.53)
-024	.750 (19.1)	.500 (12.7)	1.250 (31.8)	1.81 (0.82)
-040	1.250 (31.8)	.750 (19.1)	1.500 (38.1)	2.56 (1.16)

Consult factory for sizes not shown

Add mod code -645 to the end of any
102-001, 102-002, 102-020, 102-021, 102-022, 102-003 part number for split braid

102-073 Dacron Tubular Braid (Black)



Product Series
(Table I)

102 - 073 - 008

Dash No.
(Table I)

Part No.	Nominal I.D.	Wire Bundle Accommodation Range Ref.	
		Min.	Max.
Part No.	Nominal I.D.	Wire Bundle Accommodation Range Ref.	
		Min.	Max.
102-073-004	.125 (3.2)	.090 (2.3)	.250 (6.4)
102-073-008	.250 (6.4)	.125 (3.2)	.375 (9.5)
102-073-012	.375 (9.5)	.312 (7.9)	.500 (12.7)
102-073-016	.500 (12.7)	.250 (6.4)	.750 (19.1)
102-073-024	.750 (19.1)	.500 (12.7)	1.250 (31.8)
102-073-040	1.250 (31.8)	.750 (19.1)	1.500 (38.1)

Minimum order length is 100 ft. (30.5 M). Metric dimensions (mm) are in parentheses.



Non-Metallic Braid How-to-Order

103-013 Nomex Tubular Braid



Color:
W = White
R = Red
GN = Green
GY = Grey
TN = Desert Tan
(Omit for Black)

Product Series
(Table I)

103 - 013 - 008 W

Dash No.
(Table I)

Table I

Part No.	Nominal I.D.	Wire Bundle Accommodation Range Ref.	
		Min.	Max.
103-013-004	.125 (3.2)	.090 (2.3)	.250 (6.4)
103-013-008	.250 (6.4)	.125 (3.2)	.375 (9.5)
103-013-012	.375 (9.5)	.312 (7.9)	.500 (12.7)
103-013-016	.500 (12.7)	.250 (6.4)	.750 (19.1)
103-013-024	.750 (19.1)	.500 (12.7)	1.250 (31.8)
103-013-040	1.250 (31.8)	.750 (19.1)	1.500 (38.1)

102-051 PEEK Tubular Braid (Black)



Product Series
(Table I)

102 - 051 - 008

Dash No.
(Table I)

Table I

Part No.	Nominal I.D.	Wire Bundle Accommodation Range Ref.	
		Min.	Max.
102-051-004	.125 (3.2)	.125 (3.2)	.312 (7.9)
102-051-008	.250 (6.4)	.250 (6.4)	.500 (12.7)
102-051-016	.500 (12.7)	.375 (9.5)	.719 (18.3)
102-051-024	.750 (19.1)	.500 (12.7)	1.000 (25.4)
102-051-040	1.250 (31.8)	.750 (19.1)	1.250 (31.8)

Minimum order length is 100 ft. (30.5 M). Metric dimensions (mm) are in parentheses.

Non-Metallic Braid How-to-Order

Glenair®

102-061 Teflon Tubular Braid



Table II			
Dash No.	Nominal I.D.	Wire Bundle Accommodation Range Ref.	
		Min.	Max.
102-061-004	.125 (3.2)	.090 (2.3)	.250 (6.4)
102-061-008	.250 (6.4)	.125 (3.2)	.375 (9.5)
102-061-016	.500 (12.7)	.250 (6.4)	.750 (19.1)
102-061-024	.750 (19.1)	.500 (12.7)	1.250 (31.8)
102-061-040	1.250 (31.8)	.750 (19.1)	1.500 (38.1)

Product Series
(Table I)

102 - 061

C = Clear
(Omit for Natural)

008

C

Dash No.
(Table II)

102-071 Kevlar Tubular Braid (Natural)



Table I			
Part No.	Nominal I.D.	Wire Bundle Accommodation Range Ref.	
		Min.	Max.
102-071-004	.125 (3.2)	.090 (2.3)	.250 (6.4)
102-071-008	.250 (6.4)	.125 (3.2)	.375 (9.5)
102-071-012	.375 (9.5)	.312 (7.9)	.500 (12.7)
102-071-016	.500 (12.7)	.250 (6.4)	.750 (19.1)
102-071-024	.750 (19.1)	.500 (12.7)	1.250 (31.8)
102-071-040	1.250 (31.8)	.750 (19.1)	1.500 (38.1)

Product Series
(Table I)

102 - 071

008

Dash No.
(Table I)

102-072 Nylon Tubular Braid (Black)



Table I			
Part No.	Nominal I.D.	Wire Bundle Accommodation Range Ref.	
		Min.	Max.
102-072-004	.125 (3.2)	.090 (2.3)	.250 (6.4)
102-072-008	.250 (6.4)	.125 (3.2)	.375 (9.5)
102-072-012	.375 (9.5)	.312 (7.9)	.500 (12.7)
102-072-016	.500 (12.7)	.250 (6.4)	.750 (19.1)
102-072-024	.750 (19.1)	.500 (12.7)	1.250 (31.8)
102-072-040	1.250 (31.8)	.750 (19.1)	1.500 (38.1)

Product Series
(Table I)

102 - 072

008

Dash No.
(Table I)

G

Minimum order length is 100 ft. (30.5 M). Metric dimensions (mm) are in parentheses.



Series 140-200 Octagonal Junction Box

Octagonal junction box



How To Order

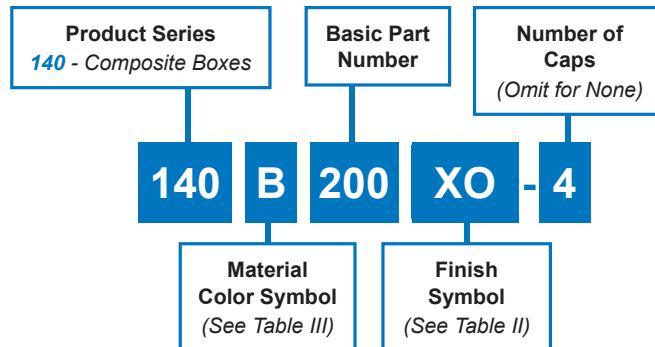
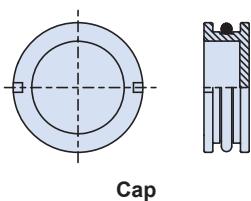
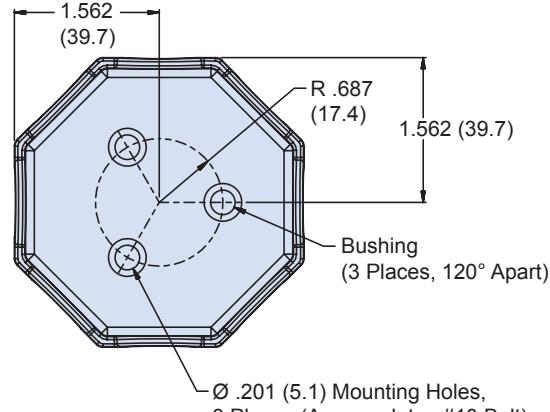
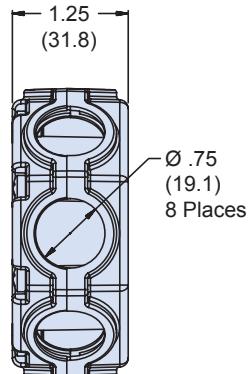
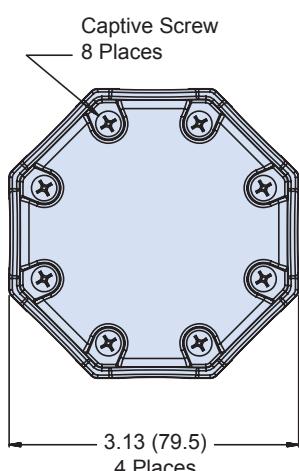


Table II - Finishes	
Symbol	Finish Description
XO	No Plating (Non-Conductive Finish)
XMS	Internal Surfaces - Electroless Nickel External Surfaces - See Table II
XM	All Surfaces - Electroless Nickel
XW	All Surfaces - Cadmium Olive Drab over Electroless Nickel
XZN	All Surfaces - Zinc Nickel/Black
XMT	All surfaces 2000 Hour corrosion resistant Ni-PTFE, Nickel-Fluoro-Carbon Polymer, 1000 Hour Gray™

Table III - Material Color & Finish		
Sym	Material & Color	Finish Options
B	Thermoplastic / Black	XO and XMS
G	Thermoplastic / Grey	XO and XMS
-	Thermoplastic / NA	XM, XW, XMT and XZN



Materials and Finishes

- Box and cap, see Tables II and III.
- Hardware and Bushing - CRES/passivated.
- O-Rings and Seals - Fluorosilicone/N.A.

712-856

AeroLite System Composite Junction Box Adapter

Straight, 45°, 90° For Series 74 Helical Plastic Conduit

 Conduit and Tubing
System Accessories

AeroLite System Composite Junction Box Adapter for Series 74 Conduit

How To Order

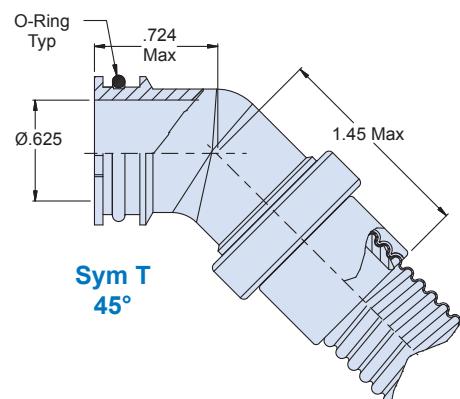
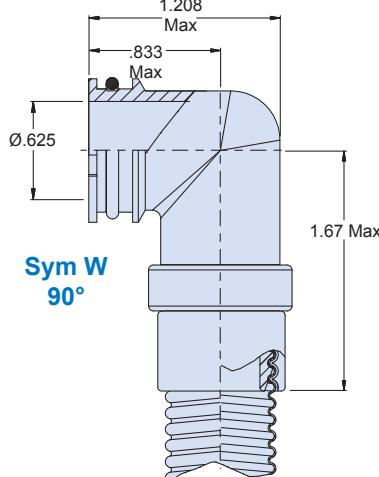
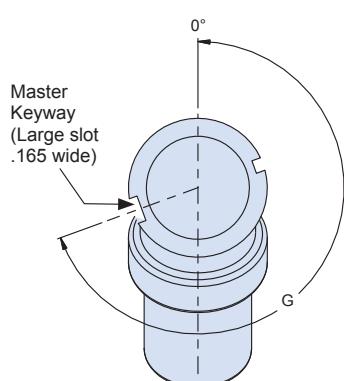
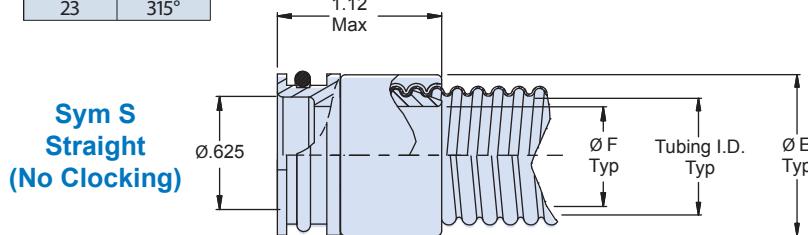
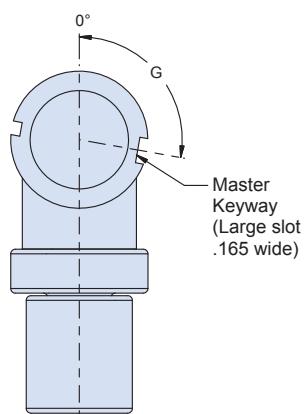
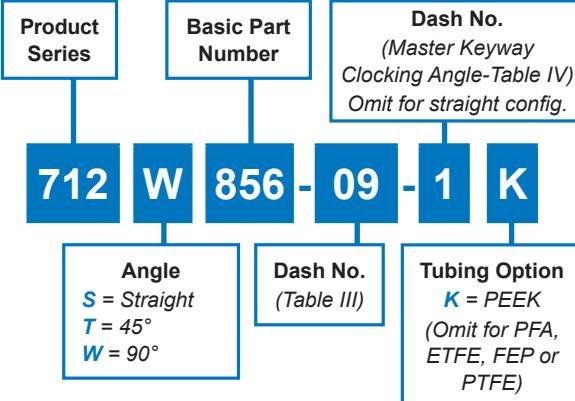
Master Keyway Clocking

Master keyway angle for angular assemblies is measured with adapter body as shown.

Table III: Dash No.			
Dash No	Tubing I.D. Nom	E Dia Max	F Dia ± .015 Entry
09	.281 (7.1)	.670 (17.0)	.250 (6.4)
12	.375 (9.5)	.770 (19.6)	.344 (8.7)
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)

Table IV: Master Keyway Clocking Angle

Dash No	G
1	0°
2	90°
3	270°
19	45°
20	135°
21	180°
22	225°
23	315°



Material/Finish

- Adapters, elbows, ferrules: High grade engineering thermoplastic, black/no plating (XB)
- O-Ring: fluorosilicone/NA

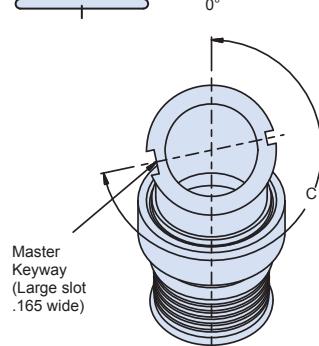
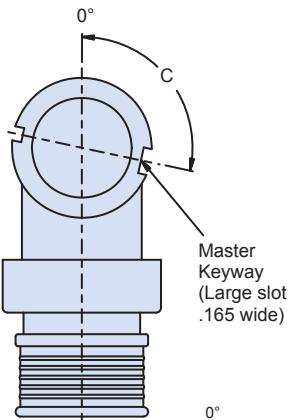
Notes

Mates to 120-100 Series conduit. Conduit to be ordered separately.

Hat Trick System Composite junction box adapter for Series 74 conduit with EMI/environmental banding and boot platform

Master Keyway Clocking

Master keyway angle for angular assemblies is measured with adapter body as shown.



How To Order

Product Series

713

Basic Part Number

379

Dash No. (Table III)

XB

Dash No. (Table IV)

09

-

1

B

K

T

Angle
S = Straight
T = 45°
W = 90°

Finish
 (Table II)

Dash No.
 (Master Keyway
 Clocking Angle-Table IV)
 Omit for straight config.

Tubing Option
K = PEEK
 (Omit for PFA, ETFE,
 FEP or PTFE)

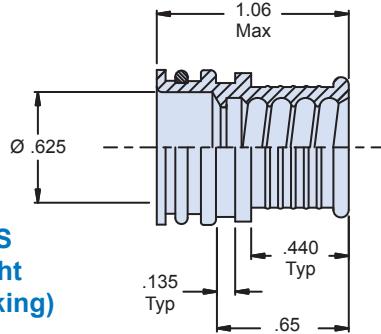
Band Option
B = Band (600-052)
C = Precoiled Band (600-052-1)
 (Omit for None)

Shrink Boot
T = Shrink Boot
 (Omit for None)

Table III: Dash No. and Shrink Boot

Dash No	Tubing I.D. Nom	B Dia	Shrink Boot
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 (2.6)	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 (31.3)	770-001S107
32	1.000 (25.4)	1.382 (35.1)	770-001S107

**Sym S
 Straight
 (no clocking)**



Sym W 90°

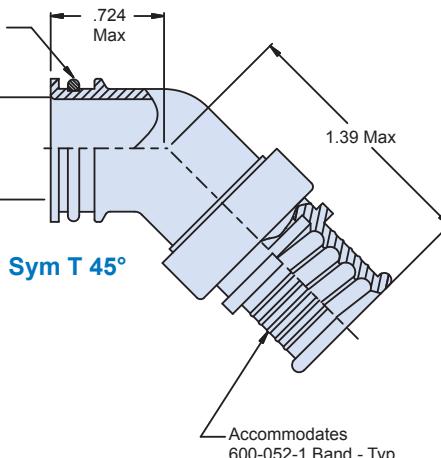
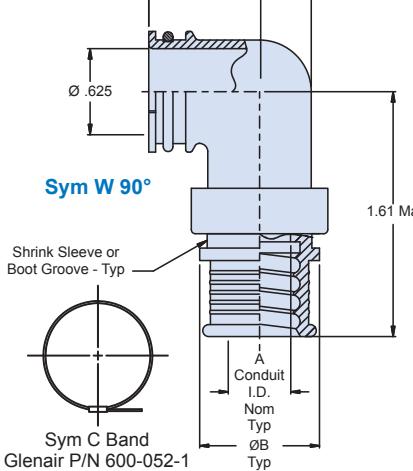


Table II: Finish	
Symbol	Finish Description
XMT	PTFE - Gray (1000 hr. salt spray)
XM	Electroless Nickel
XW	Cadmium Olive Drab over Electroless Nickel
XB	Black color/unplated

Table IV: Master Keyway Clocking Angle	
Dash No	G
1	0°
2	30°
3	45°
19	45°
20	135°
21	180°
22	225°
23	315°

Material/Finish

- Elbow, adapter: High grade engineering thermoplastic, black/table II
- O-Ring: silicone/NA

BAND-MASTER™ ATS Shield Termination System



Band-Master™ ATS shield termination system



Micro Band Tool
Part Number 600-061

Standard Band Tool
Part Number 600-058
1.18 lbs. / 6.75 Inches (172mm.) Length

Fast, Cost-Effective Shield Termination

Attach cable braid shields to EMI backshells with **Band-Master™ ATS** stainless steel straps. The **Band-Master™ ATS** system offers fast termination and the flexibility to handle different diameters with the same band.

IMPORTANT NOTE: ALWAYS DOUBLE-WRAP BANDS!

Contact Glenair or visit our website (glenair.com) to view our complete line of Band-Master™ ATS products, including pneumatic tools for high production and calibration kits.



Band Type	How To Order Bands						Use With Tool	Accommodates Dia.		
	Width		Length		Part Number			In.	mm.	
	In.	mm.	In.	mm.	Uncoiled	Coiled				
Micro Band, Standard Length	.120	3.05	8.125	206.38	600-057	600-057-1	600-061	.88	22.35	
Micro Band, Extended Length	.120	3.05	14.25	361.95	600-083	600-083-1	600-061	1.88	47.75	
Standard Band, Standard Length	.240	6.10	14.256	362.10	600-052	600-052-1	600-058	1.80	45.72	
Standard Band, Extended Length	.240	6.10	18.00	457.20	600-090	600-090-1	600-058	2.50	63.50	

Band-Master™ ATS Shield Termination Instructions

1. Prepare Cable Braid for termination process (Figure 1).
2. Push Braid forward over Adapter Retention Lip to the Adapter Incline Point (or .4" [10.2mm] minimum braid length). MILK Braid as required to remove slack and insure a snug fit around the shield termination area (Figure 2).
3. Prepare the Band in the following manner:
IMPORTANT: Due to Connector/Adapter circumference, it may be necessary to prepare the Band around the Cable or Retention Area.
 - A. Roll Band through the Buckle Slot twice. (Bands must be double-coiled.)
 - B. Pull on Band until Mark (▷) is within approximately .250 inch (6.4mm) of Buckle Slot (Figure 3). The Band may be tightened further if desired.

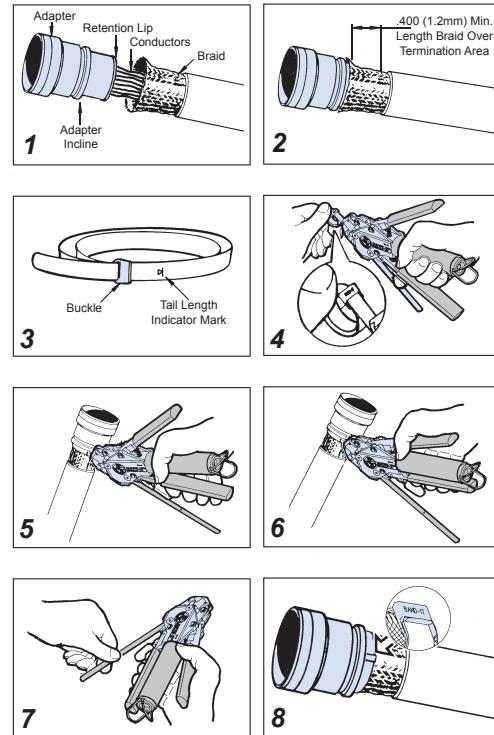
NOTE: Prepared Band should have (▷) Mark visible approximately where shown in Figure 3.

Shield Termination Clamping Process (Figures 4 thru 8)

NOTE: To free Tool Handles, move Holding Clips to center of Tool.

4. Squeeze Gripper Release Lever and insert Band into the front end opening of the Tool. (NOTE: Circular portion of looped band must always face downward.)
5. Aligning the Band and Tool with the Shield Termination Area, squeeze Black Pull-Up Handle repeatedly using short strokes until it locks against Tool Body. (This indicates the Band is compressed to the Tool Precalibrated Tension.)
6. Complete the Clamping Process by squeezing the Gray Cut-Off Handle.
7. Remove excess band from tool and dispose.
8. Inspect Shield Termination.

NOTE: If alignment of band and shield is unsatisfactory, tension on band can be relaxed by pushing on slotted release lever on top of tool. Make adjustments as necessary and again squeeze black pull-up handle.





Environmental Shrink Boots

Environmental Shrink Boots: Overview and materials selection



Protect Your Conduit Assembly with heat-shrinkable boots. These easy-to-use boots provide excellent electrical, mechanical and environmental protection. Heating the boot causes the boot to shrink onto the conduit fitting or transition. These lipped boots attach directly to some Series 72, 74 and 75 conduit fittings. After shrinking, the boot lip locks into the groove. Standard Series 72, 74 and 75 conduit system boots are Type 1 High Performance Elastomer for extreme temperature range performance, and excellent resistance to fuels and oils. The standard Series 72, 74 and 75 conduit boot also includes an eylet for attachment of dust caps or protective covers. Part numbers are shown in the table at right. Other boot materials, adhesives and options are shown in the following pages.

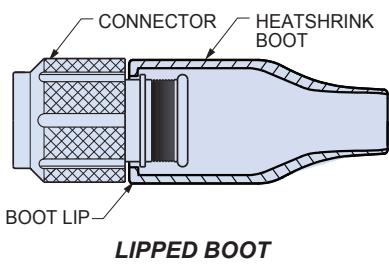
Standard Series 72, 74 & 75 Boots		
Boot Size	Part Number	Ref Conduit I.D. / Size
03	770-001S103	06, 08, 09
04	770-001S104	10, 12, 14, 16
05	770-001S105	16, 20
06	770-001S106	20, 24
07	770-001S107	28, 32
08	770-001S108	40, 48
09	770-001S109	48, 64

Material Selection Guide

Attribute	Type 1 High Performance Semi-Rigid Elastomer	Type 2 Zero Halogen Semi-Rigid Polyolefin	Type 3 Flexible Polyolefin
Continuous Operating Temp.	-75° to +150°C	-30° to +125°C	-55° to +135°
Resistance to Fuels, Oils	Excellent	Very Good	Good
Low Toxicity, Zero Halogen	No	Yes	No

Type 1 High Performance Elastomer

Semi-rigid high performance boots combine excellent resistance to fuels, oils and solvents with superior performance at extreme temperatures. Rated for 3000 hours continuous operation at +150° C, these boots fit directly to Series 72, 74 & 75 fittings and adapters for superior environmental protection and strain-relief. Material meets the requirements of VG95343 Part 6, BSG 198-5-DE, EN62329-102 and SAE AS5258 Type H. These boots are recommended for demanding applications such as military vehicles and petrochemical exploration. Black color.



Type 2 Zero Halogen

Halogen-free polyolefin boots meet low smoke and toxicity requirements of shipboard, transit and aircraft systems. These Low Smoke/Zero Halogen (LSZH) boots fit directly on all Series 74 & 75 system adapters and fittings. Oxygen index greater than 30%, smoke index less than 20, and toxicity index under 3 per 100 grams. Material meets requirements of NAVSEA 5617649, VG95343 Part 29, BSG 198-5-DF, EN62329-101 and SAE AS5258 Type G. Good resistance to oils, fuels and solvents. These boots provide strain relief and environmental protection to connector/conduit transitions. Temperature rating -30° to +125° C. Black color.

Type 3 Flexible Polyolefin

Economical flexible polyolefin boots fit directly on all Series 74 & 75 system adapters and fittings. These self-extinguishing boots meet the requirements of SAE AS81765/1 Type II. Good resistance to oils and fuels. Available with optional hot melt adhesive lining, these boots provide strain relief and environmental protection to connector/cable transitions. Temperature rating -55° to +135° C. Black color.

Lipped Straight Shrink Boots Type 1, 2, and 3



Lipped straight shrink boots



Straight boots with lip for attachment to standard circular connector adapters. After shrinking, the boot lip locks into adapter groove. Eyelet hole allows attachment of dust caps or protective covers. Choose Type 1 high performance elastomer for extreme temperatures and excellent resistance to fuels and oils, Type 2 non-halogenated flame-retardant polyolefin for use where limited fire hazard is required, or choose Type 3 general purpose polyolefin for use where occasional exposure to heat and chemicals may occur. Choose boot size based on adapter diameter and cable diameter.

Table II: Boot Size Selection Guide

Boot Size	Adapter Dia.				Min. Cable Diameter	
	In.		mm.		In.	mm.
Min	Max	Min	Max	.110	2.79	
00	.250	.325	6.35	8.26	.110	2.79
01	.325	.425	7.62	10.80	.150	3.81
02	.350	.600	8.89	15.24	.175	4.45
03	.450	.850	11.43	21.59	.225	5.72
04	.600	1.000	15.24	25.40	.275	6.99
05	.750	1.200	19.05	30.48	.300	7.62
06	.900	1.350	22.86	34.29	.375	9.53
07	1.250	1.650	31.75	41.91	.425	10.80
08	1.400	2.250	35.56	57.15	.625	15.88
09	1.870	2.470	47.50	62.70	.660	16.80

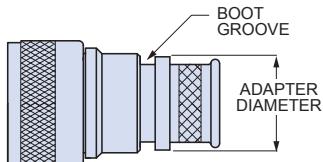


Table III: Material Selection Guide

Attribute	Type 1 High Performance Semi-Rigid Elastomer	Type 2 Zero Halogen Semi-Rigid Polyolefin	Type 3 General Purpose Flexible Polyolefin
Continuous Operating Temp.	-75° to +150°C	-30° to +125°C	-55° to +135°C
Resistance to Fuels, Oils	Excellent	Very Good	Good
Low Toxicity, Zero Halogen	No	Yes	No

Table IV: Pre-Coated Boots Adhesive Information

Attribute	W2 Standard Hot Melt Adhesive	W1 High Temperature Hot Melt Adhesive	R High Performance Epoxy Adhesive
Boot Material Compatibility	Types 1, 2 and 3	Types 1, 2 and 3	Type 1
Continuous Operating Temp.	-40° to +80°C	-55° to +105°C	-75° to +150°C
Resistance to Fuels, Oils, and Fluids	Good	Good	Excellent
Low Toxicity, Zero Halogen	Yes	Yes	Yes

Lipped straight shrink boots- Type 1 high performance elastomer

- 75° C to +150° C
- Excellent resistance to fuels, oils, solvents and heat.

Semi-rigid high performance boots combine excellent resistance to fuels, oils and solvents with superior performance at extreme temperatures. Rated for 3000 hours of continuous operation at +150° C, these boots fit most standard boot adapters for circular connectors. Material meets the requirements of VG95343 Type 6, BSG 198-5-DE, EN62329-102 and SAE AS5258 Type H. These boots are recommended for demanding applications such as military vehicles and petrochemical exploration. Choose standard length or short length if space is limited. Black color.

Boot Size	Part Number with Eyelet				Part Number without Eyelet				Ref Conduit I.D. / Size
	Series 72, 74 & 75 Standard Boots: No Adhesive Lining	Pre-Coated with W1 Hi-Temp Hot-Melt Adhesive	Pre-Coated with W2 Standard Hot-Melt Adhesive	Pre-Coated with R Epoxy Adhesive	No Adhesive Lining	Pre-Coated with W1 Hi-Temp Hot-Melt Adhesive	Pre-Coated with W2 Standard Hot-Melt Adhesive	Pre-Coated with R Epoxy Adhesive	
03	770-001S103	770-001S103W1	770-001S103W2	770-001S103R	770-003S103	770-003S103W1	770-003S103W2	770-003S103R	06, 08, 09
04	770-001S104	770-001S104W1	770-001S104W2	770-001S104R	770-003S104	770-003S104W1	770-003S104W2	770-003S104R	10, 12, 14, 16
05	770-001S105	770-001S105W1	770-001S105W2	770-001S105R	770-003S105	770-003S105W1	770-003S105W2	770-003S105R	16, 20
06	770-001S106	770-001S106W1	770-001S106W2	770-001S106R	770-003S106	770-003S106W1	770-003S106W2	770-003S106R	20, 24
07	770-001S107	770-001S107W1	770-001S107W2	770-001S107R	770-003S107	770-003S107W1	770-003S107W2	770-003S107R	28, 32
08	770-001S108	770-001S108W1	770-001S108W1	770-001S108R	770-003S108	770-003S108W1	770-003S108W2	770-003S108R	40, 48
09	770-001S109	770-001S109W1	770-001S109W1	770-001S109R	770-003S109	770-003S109W1	770-003S109W2	770-003S109R	48, 64



Lipped Straight Shrink Boots Type 1, 2, and 3

Lipped straight shrink boots- Type 2 zero halogen, semi-rigid



- Low Smoke, Zero Halogen
- Meets U.S. and E.U. toxicity requirements.

Halogen-free polyolefin boots meet low smoke and toxicity requirements of shipboard, transit and aircraft systems. These Low Smoke/Zero Halogen (LSZH) boots fit most standard shrink boot adapters, including M85049 types along with Glenair Series 31 and Series 44 adapters. Oxygen index greater than 30%, smoke index less than 20, and toxicity index under 3 per 100 grams. Material meets requirements of NAVSEA 5617649, VG95343 Part 29, BSG 198-5-DF, EN62329-101 and SAE AS5258 Type G. Good resistance to oils, fuels and solvents. Available high temperature hot melt adhesive lining, these boots provide strain relief and environmental protection to connector/cable transitions. Temperature rating -30° to +125° C. Black color.

Boot Size	Part Number with Eyelet				Part Number without Eyelet			
	No Adhesive Lining	Pre-Coated with W1 Hi-Temp Hot-Melt Adhesive	Pre-Coated with W2 Standard Hot-Melt Adhesive	No Adhesive Lining	Pre-Coated with W1 Hi-Temp Hot-Melt Adhesive	Pre-Coated with W2 Standard Hot-Melt Adhesive	Ref Conduit I.D. / Size	
03	770-001S203	770-001S203W1	770-001S203W2	770-003S203	770-003S203W1	770-003S203W2	06, 08, 09	
04	770-001S204	770-001S204W1	770-001S204W2	770-003S204	770-003S204W1	770-003S204W2	10, 12, 14, 16	
05	770-001S205	770-001S205W1	770-001S205W2	770-003S205	770-003S205W1	770-003S205W2	16, 20	
06	770-001S206	770-001S206W1	770-001S206W2	770-003S206	770-003S206W1	770-003S206W2	20, 24	
07	770-001S207	770-001S207W1	770-001S207W2	770-003S207	770-003S207W1	770-003S207W2	28, 32	
08	770-001S208	770-001S208W1	770-001S208W1	770-003S208	770-003S208W1	770-003S208W2	40, 48	
09	770-001S209	770-001S209W1	770-001S209W1	770-003S209	770-003S209W1	770-003S209W2	48, 64	

Lipped straight shrink boots- Type 3 polyolefin, flexible

- General purpose harnessing
- Economical, flexible
- -55° C to +135° C

Economical flexible polyolefin boots fit most standard shrink boot adapters, Glenair Series 31 and Series 44 adapters. These self-extinguishing boots meet the requirements of SAE AS81765/1 Type II. Good resistance to oils and fuels. Available with optional hot melt adhesive lining, these boots provide strain relief and environmental protection to connector/cable transitions. Temperature rating -55° to +135° C. Black color.

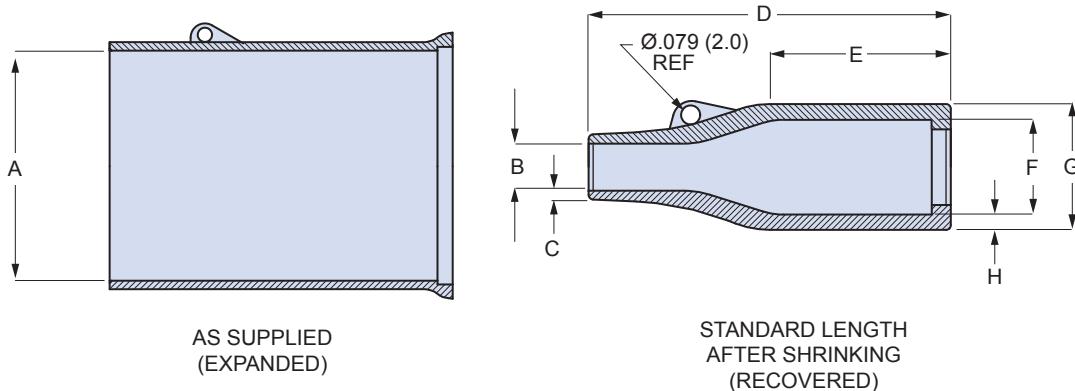
Boot Size	Part Number with Eyelet				Part Number without Eyelet			
	No Adhesive Lining	Pre-Coated with W1 Hi-Temp Hot-Melt Adhesive	Pre-Coated with W2 Standard Hot-Melt Adhesive	No Adhesive Lining	Pre-Coated with W1 Hi-Temp Hot-Melt Adhesive	Pre-Coated with W2 Standard Hot-Melt Adhesive	Ref Conduit I.D. / Size	
03	770-001S303	770-001S303W1	770-001S303W2	770-003S303	770-003S303W1	770-003S303W2	06, 08, 09	
04	770-001S304	770-001S304W1	770-001S304W2	770-003S304	770-003S304W1	770-003S304W2	10, 12, 14, 16	
05	770-001S305	770-001S305W1	770-001S305W2	770-003S305	770-003S305W1	770-003S305W2	16, 20	
06	770-001S306	770-001S306W1	770-001S306W2	770-003S306	770-003S306W1	770-003S306W2	20, 24	
07	770-001S307	770-001S307W1	770-001S307W2	770-003S307	770-003S307W1	770-003S307W2	28, 32	
08	770-001S308	770-001S308W1	770-001S308W1	770-003S308	770-003S308W1	770-003S308W2	40, 48	
09	770-001S309	770-001S309W1	770-001S309W1	770-003S309	770-003S309W1	770-003S309W2	48, 64	

Lipped Straight Shrink Boots Dimensions and Part Marking

Glenair®

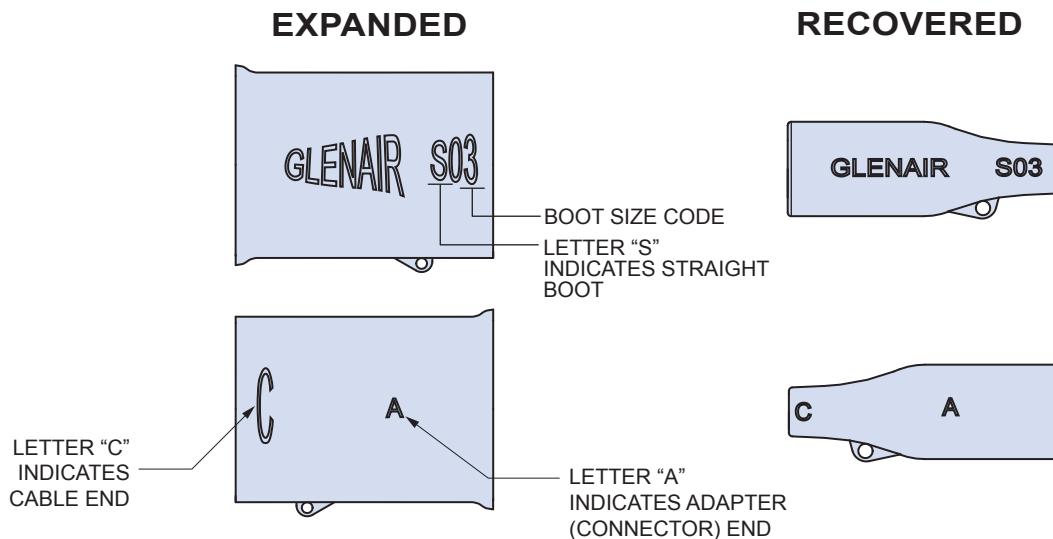
Conduit and Tubing
System Accessories

Lipped straight shrink boots- dimensions



Conduit Size Ref	Boot Size	A Min.		B Max.		C ± 20%		D ± 10%		E Ref.		F Max.		G Ref.		H ± 30%	
		In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
06, 08, 09	03	.945	24.0	.197	5.0	.035	0.9	1.496	38.0	.748	19.0	.413	10.5	.520	13.2	.063	1.6
10, 12, 14, 16	04	1.181	30.0	.236	6.0	.039	1.0	2.165	55.0	1.181	30.0	.551	14.0	.693	17.6	.071	1.8
16, 20	05	1.260	32.0	.276	7.0	.047	1.2	2.638	67.0	1.299	33.0	.709	18.0	.850	21.6	.071	1.8
20, 24	06	1.417	36.0	.335	8.5	.047	1.2	3.150	80.0	1.575	40.0	.866	22.0	.945	24.0	.079	2.0
28, 32	07	1.693	43.0	.394	10.0	.051	1.3	3.898	99.0	2.165	55.0	1.102	28.0	1.276	32.4	.087	2.2
40, 48	08	2.362	60.0	.591	15.0	.063	1.6	5.118	130.0	1.969	50.0	1.378	35.0	1.638	41.6	.130	3.3
48, 64	09	2.599	66.0	.661	16.8	.079	2.0	6.693	170.0	3.543	90.0	1.750	44.5	2.050	52.0	.150	3.8

Lipped straight shrink boots- part marking, raised lettering



PROCEDURE

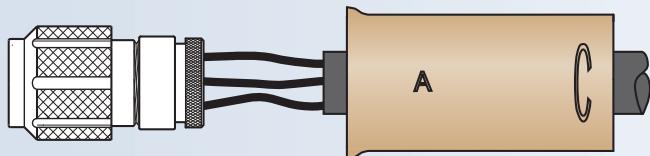
The following general instructions are applicable to all Glenair heat shrink boots. Specific instructions for surface preparation, the use of adhesive and specific conditions for each molding material are given in the relevant sections of the Series 77 Shrink Boot Catalog.

APPLICATION NOTE

When preheating of a connector or adapter is required because of size then care should be taken not to damage any insulation or plastic material on either the connector or the wire insulation. Heat should only be applied to metal areas. DO NOT PREHEAT COMPOSITE PARTS.

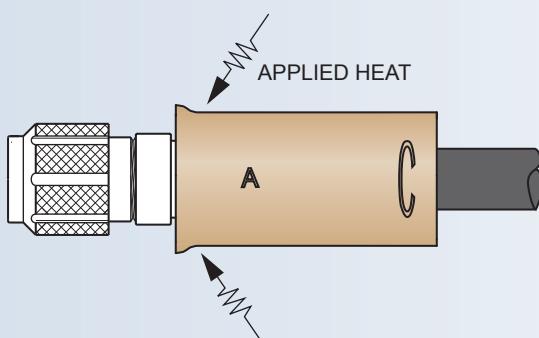
STEP 1: PLACE BOOT ON CABLE

Position the boot so that the lipped "A" end is toward the adapter and the "C" end is toward the cable .



STEP 2: APPLY HEAT TO ADAPTER END OF BOOT

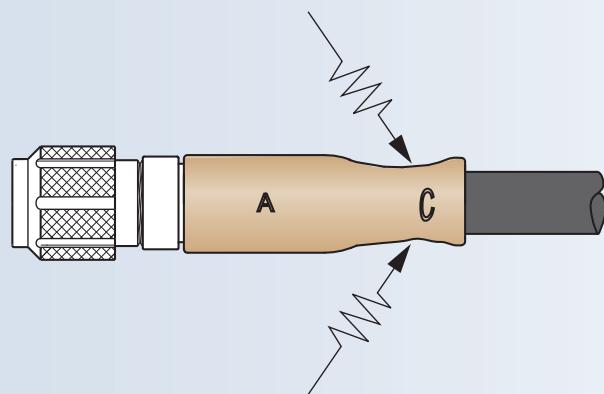
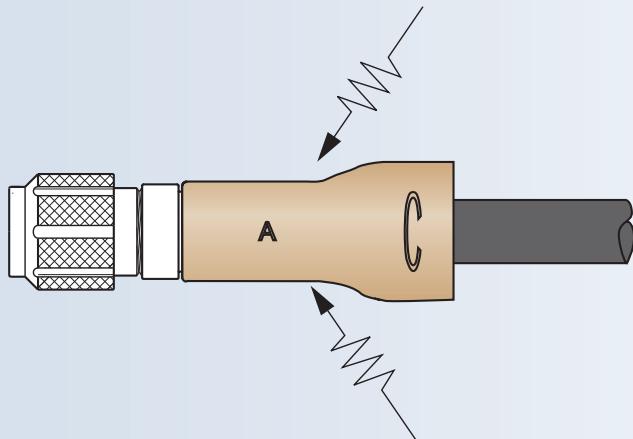
Position the boot so that the lipped "A" end will recover into the groove of the adapter. Apply heat evenly around the boot at the adapter end. Ensure the boot is fully recovered and the lip fits into the groove of the adapter. This will take approximately 30 seconds for a size 04 or 05 boot, less for smaller parts and longer for larger boots.



STEP 3: CONTINUE APPLY HEAT TOWARD THE "C" END OF BOOT

Great care must be taken to ensure the boot is not scorched or blistered or otherwise damaged during this process. The development of a high gloss is an indication that the part is reaching too high a temperature.

Continue to heat down the body of the boot towards the "C" end. Apply heat in brush-like strokes, ensuring the last part to recover is the "C" end. A feature of the Glenair boots is that, unlike other boots, they resist the tendency to fold over at the "C" end.



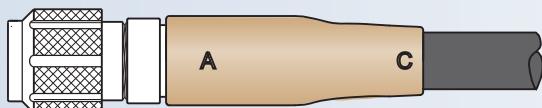
G

STEP 4: AFTER BOOT IS FULLY RECOVERED, APPLY FURTHER HEAT TO "A" END

After the boot is fully recovered, apply additional heat to the "A" and "C" ends to ensure adhesive melting and good adhesion. Typically this post heating will require 90-150 seconds depending on size. Care should be taken to avoid damaging the boot with excessive heat. Allow the parts to fully cool before handling.

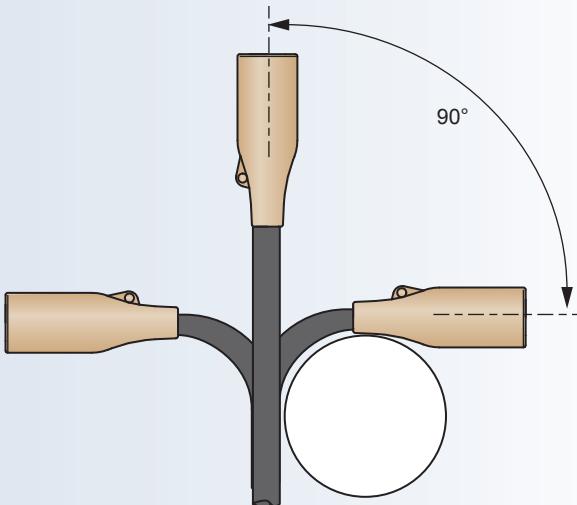
CAUTION

The recovered parts will remain hot for some time and will be capable of burning skin if touched. Molten adhesive may also cause burns and adhere to exposed skin.



STEP 5: INSPECTION OF INSTALLED HEATSHRINK BOOT

1. The boot should be free of blisters, scorch marks and essentially free from distortion.
2. Any excessive adhesive should be removed.
3. The boot lip should be seated into the adapter groove, and the boot should be properly oriented.
4. A small fillet of adhesive should be visible between the boot and the cable jacket.
5. The termination should be subjected to a 90° flex test in each of the four planes around a mandrel with a diameter equal to 6X the cable diameter. Note: this is a flex test and not subjected to a tensile force. The joint should not be flexed until the boot has fully cooled and the adhesive cured.



600-093
Expander Tool
for Teflon Helical Tubing

Glenair®

Expander Tool for Teflon Helical Tubing

How To Order

Product Series

Basic No.

600 - 093 - 03

Dash No., (Table III)
Omit for complete set (-01 thru -04)

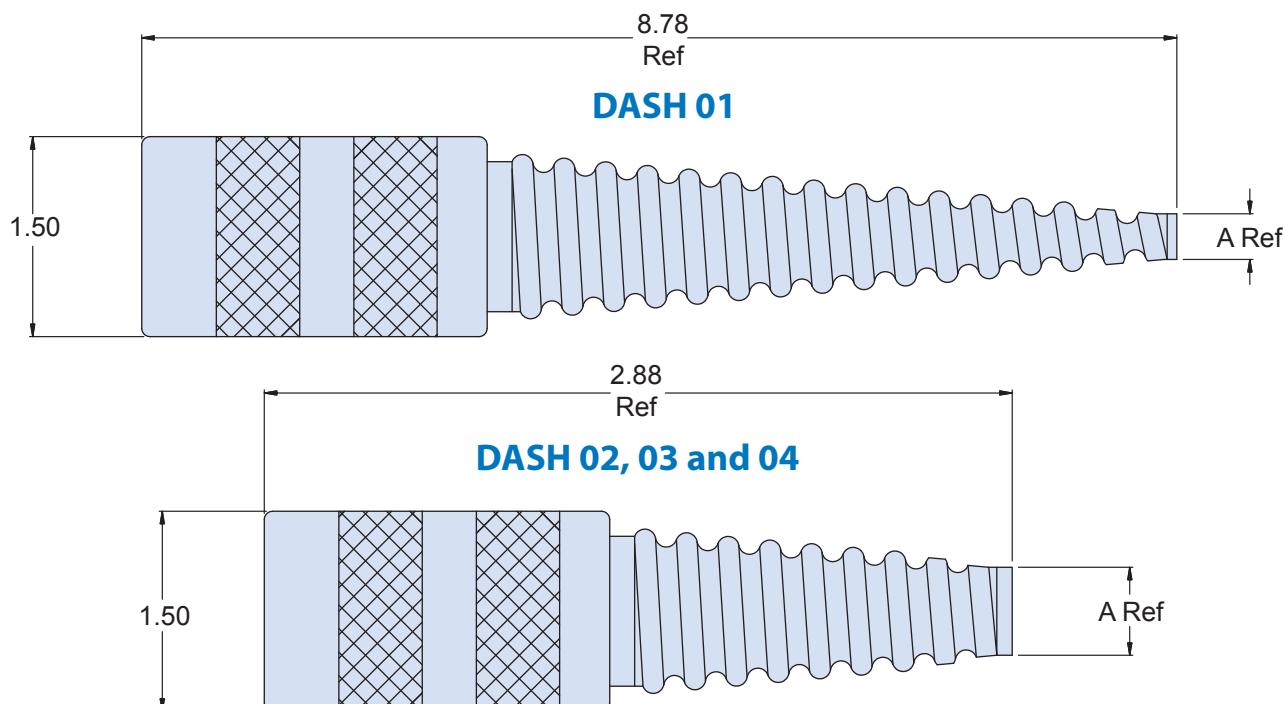


Table III: Dash No.

Dash No	A Ref	Expands Tube Size	Tube Dash No. Ref
01	.25	9/32, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8 inch	09, 10, 12, 14, 16, 20, 24, 28
02	.95	1 inch (6.4)	32
03	1.20	1 1/4 inch (31.8)	40
04	1.45	1 1/2 inch (38.1)	48

Material/Finish

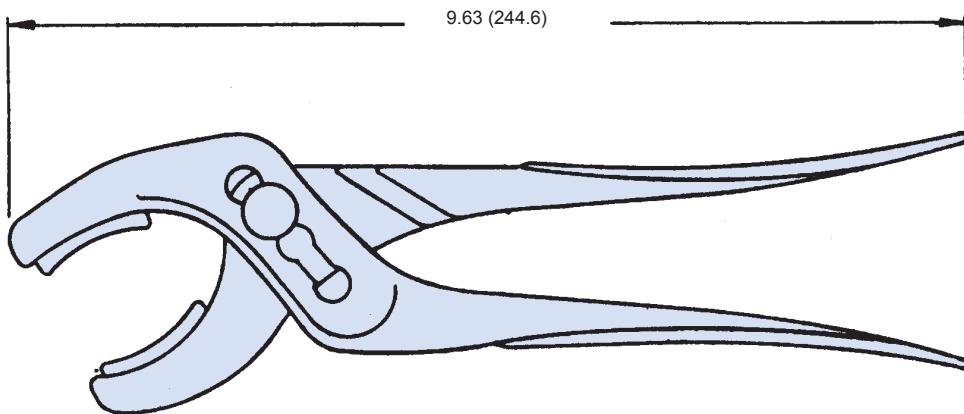
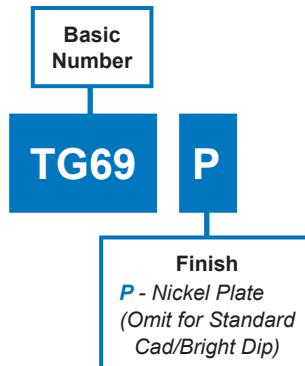
Al Alloy/Electroless Nickel



TG69 Soft Jaw Pliers

Soft Jaw Pliers

How To Order



Note: not recommended for composite coupling nuts (use 600-091 or 600-157)

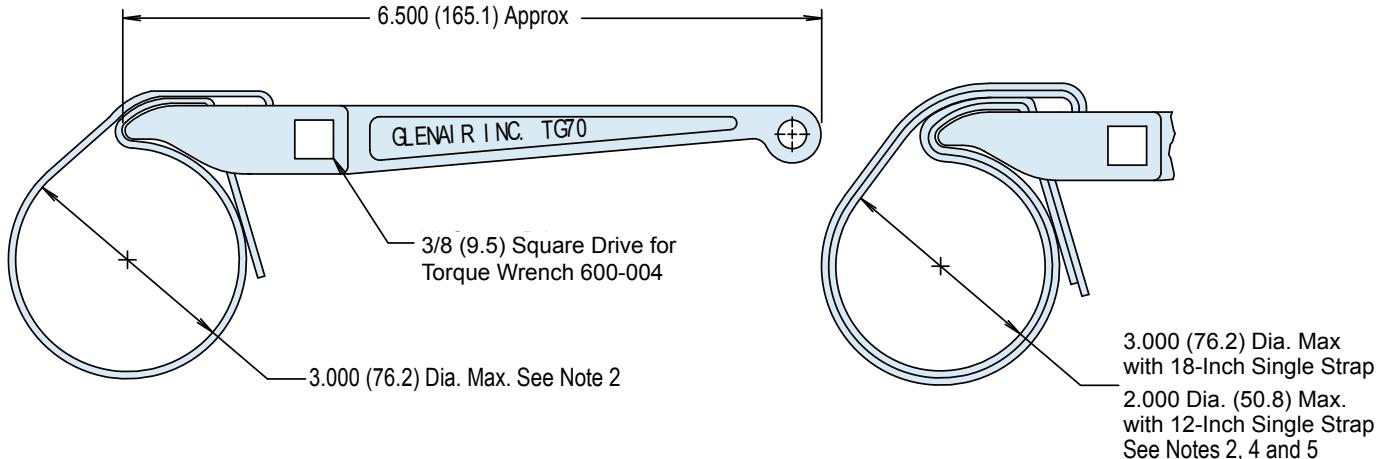
Notes:

- Assembly identified per MIL-STD-130
- Nylon replacement inserts: P/N G77015

TG70
Strap Wrench
with 3/8" Square Drive

Glenair®

Connector strap wrench



Basic Part Number	Torque Wrench (Omit for None)
TG70	- 1 - 18

Strap Length in Inches (See Notes 2 and 4)
Lengths Available: 12, 18, 24 and 36-Inch Only
Standard length is 12 Inches,
Omit Dash Number for Standard

APPLICATION NOTES

- These wrenches are made of the following materials:
Wrench Handle - Aluminum Alloy/Nickel Plate.
Wedge - Stainless Steel/Passivated.
Strap - Impregnated Fabric. Straps are 1/2 inch (12.7) in width.
- Replacement straps are available. Specify part number G70515-xx for 12, 18, 24 or 36-inch strap. 24 and 36 inch for double wrap.
- Metric dimensions (mm) are indicated in parentheses.
- Double wrap as shown for heavy duty range.
- Not recommended for composite coupling nuts (use 600-091 or 600-157).

VARIANCE CHART
TG-70 Strap Wrench Used with Glenair Torque Wrenches

Accessory Shell Size	Recommended Installation Torque			
	Light/Medium Duty ± 5 Inch Pounds		Heavy Duty ± 5 Inch Pounds	
	TG70 Torque	Part Torque	TG70 Torque	Part Torque
08/09	28	35	45	60
10/11	28	35	70	80
12/13	30	40	75	110 [80]
14/15	30	40	75	120 [80]
16/17	30	40	75	120 [80]
18/19	30	40	75	120 [80]
20/21	75	80	95	140 [100]
22/23	75	80	120*	140
24/25	75	80	120*	140
28			135*	150
32			150*	150
36			150*	150

* TG70 Not Recommended For Values of 120 Inch Lbs. or Greater.

VARIANCE CHART NOTES

- Recommended installation torque is approximately 80% of MIL-C-85049 accessory thread strength values.
- Heavy duty installation torque values may be difficult to attain with the TG70 Strap Wrench; the values shown in brackets [] are the maximum attainable with the TG70 Strap Wrench using a single wrap.
- Glenair recommends using 600 series torque tools whenever possible. When torque loading exceeds 75 inch pounds, or to attain the heavy duty torque values shown, a double wrap strap provides suitable friction to achieve torque values.
- Glenair recommends that heavy duty torque values be directly read through the connector shell body with the use of 600-005 connectors holding tools.



600-164
Large Broad Blade Utility Shear
for Cutting Metal-Clad Composite Braided Shielding,
Rubber, Cable Jacketing, Cable, Plastics and Rope

Broad blade utility shear

How To Order

Product
Series

600

Basic
Number

164



- Nickel Chrome Plating Resists Corrosion and Rusting
- Broad, Short Jaws Provide Powerful Cutting Action
- Extended Handle Provides Comfort and Cutting Leverage
- High Leverage Provides Powerful Cutting Action for Light Metals, Rubber and Heavy Fabrics
- Cuts Rubber, Cables, Light Metal, Wire Metal Screens and Braided EMI/EMP Shielding, Cordage, Plastics and Rope
- Weight: 0.55 Pounds
- Shear Cut Length: 2.000 (51.0)

Recommended EMI Braid Cutting Procedure



Note: When cutting braid, both metal and especially composite, open cutter blades to allow the full 2" cut. Place braid all the way back onto blades as shown.

Notes:

- Always wear approved eye protection
- Never use on or near live electrical circuits

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Convoluted 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, AmberStrand®, ArmorLite™ Dacron, etc.

Labelling & Marking Requirements:

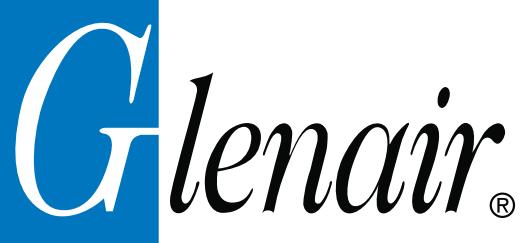
Turnkey

FACTORY TERMINATED CONDUIT ASSEMBLIES

FOR MISSION-CRITICAL APPLICATIONS



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