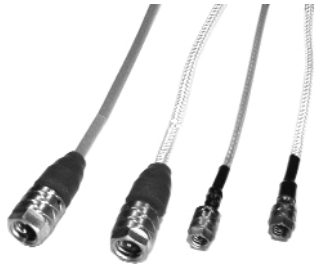
10-32 and M3-Terminated Miniature Coaxial Cable Assemblies

Endevco® Corporation

Endevco is offering coaxial cable assemblies based on the versaFLEX and hyperFLEX cable families. The cable assemblies are:

COAXIAL CABLE	ACCELEROMETER CONNECTOR	INSTRUMENTATION CONNECTOR
3090DHM12-xxx:	10-32 plug	BNC plug
3090DVM12-xxx:	10-32 plug	BNC plug
3053HM1-xxx:	M3 plug	BNC plug
3053VM1-xxx:	M3 plug	BNC plug
3053H-xxx:	M3 plug	10-32 plug
3053V-xxx:	M3 plug	10-32 plug
3090DH-xxx:	10-32 plug	10-32 plug
3090DV-xxx:	10-32 plug	10-32 plug



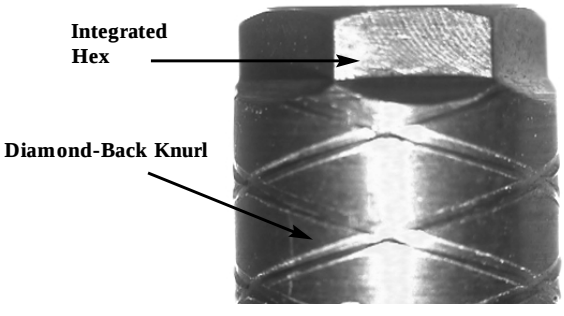
The advantages are noted below:

Improved Flexibility

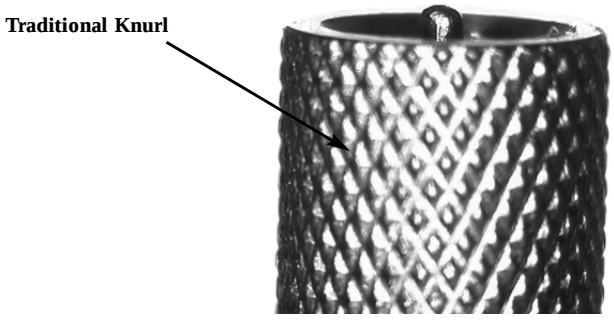
- The hyperFLEX versions of the 3090, the 3090DH and 3090DHM12, are 50% more flexible than the 3090C. The versaFLEX versions of the 3090, the 3090DV and 3090DVM12, are 20% more flexible than the 3090C. Similarly, the new 3053H/3053HM1 and 3053V/3053VM1 are 50% and 20% more flexible than the 3091F they are replacing.

New Coupling Nuts with Grippy Knurl and Integrated Hex

- All of those cable assemblies will utilize coupling nuts. They will utilize a unique diamond-back knurl that allows more torque to be applied to the nuts, providing for a more secure connection. For even more torque, or to comply with a specified torque, these coupling nuts also offer a hexagonal section that allows the use of a wrench (supplied with cable) or crow's foot.
- The nuts are made of an alloy that is less susceptible to galling. The old stainless-steel nut exhibited more friction between the other parts of the cable connectors, causing more susceptibility to the cable assembly twisting. These help to alleviate this problem.



New Coupling Nut

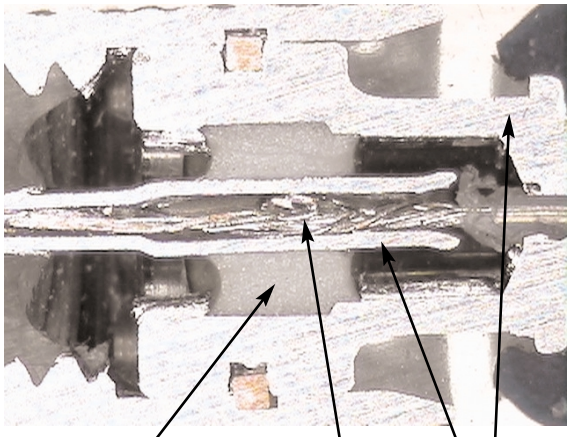


Old Coupling Nut

Hermetic Connectors

• As with the old design, the connectors will also utilize hermetic construction. Our hermetic connectors ensure an incredibly strong bond between pin and connector shell by means of a fired-glass insulator. Most of our competitors' miniature coaxial connectors are NOT hermetic. The insulator typically used for their connectors is Teflon. The center pin used is typically barbed and secured in the insulator by being press fit. Our competitors' press-fit pins are much more susceptible to pin pull-out and intermittent contact. We don't spare expenses with our cable assemblies because your data is worth it.

Endevco's Hermetic 10-32 Connector

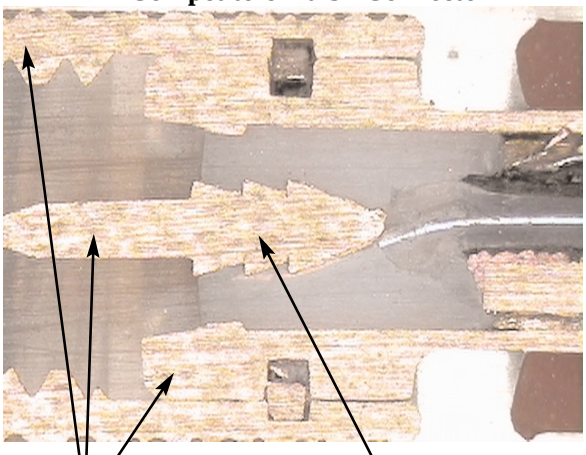


Glass insulator fired at over 800°C for superior mechanical strength. Pin pull-out is virtually nonexistent.

Stainless steel components

Center conductor is pulled through hollow pin and TIG welded at tip for durability, non-intermittency, and high-temperature operation

Competitors' 10-32 Connector



Brass components

Barbed center pin is press-fit into stranded center conductor through plastic insulator-a design much more susceptible to pin pull-out & intermittent contact

Waterproof Jacket

• Because the versaFLEX jacket is extruded, it is waterproof. Many miniature coaxial cable assemblies, like the 3090C, utilize a jacket that is tape-wrapped and sintered. The sintering process does not necessarily completely fuse the jacket material and, therefore, can be compromised by water penetration. Once water penetrates a cable jacket, it ties the shield to whatever potential the water is at, causing ground loops. With versaFLEX cable assemblies, this is not a concern.

Low-Outgassing

• Our versaFLEX cable assemblies are well suited for use in applications that require limited outgassing. They are built with materials that have a Total Mass Loss (TML) of 1% or less and a Collected Volatile Condensable Materials (CVCM) specification of 0.1% or less, as determined by testing in accordance with ASTM E595-77/84/90. For optimal performance in low-outgassing applications, our versaFLEX cables can be vacuum-baked and double-bagged in an inert gas for a slight additional fee.

Cursory Specifications

Cable	Connectors	Grams/ft.	Temperature Range	Low-Noise	Diameter	Min. Bend Radius	Comments
3090DH	10-32 plug / 10-32 plug	2.15	-185°C to 260°C	yes	1.78 mm	12.7 mm	35% lighter and 22% smaller diameter
3090DHM12	10-32 plug / BNC plug	2.15	-185°C to 260°C	yes	1.78 mm		than current 3090C
3090DV	10-32 plug / 10-32 plug	2.67	-185°C to 260°C	yes	1.88 mm	17.8 mm	19% lighter and 18% smaller diameter
3090DVM12	10-32 plug / BNC plug	2.67	-185°C to 260°C	yes	1.88 mm		than current 3090C
3053H	M3 plug / 10-32 plug	1.09	-185°C to 260°C	yes	1.45 mm	8.9 mm	27% lighter and 5% smaller diameter
3053HM1	M3 plug / BNC plug	1.09	-185°C to 260°C	yes	1.45 mm		than current 3091F
3053V	M3 plug / 10-32 plug	1.41	-185°C to 260°C	yes	1.37 mm	12.7 mm	6% lighter and 10% smaller diameter
3053VM1	M3 plug / BNC plug	1.41	-185°C to 260°C	yes	1.37 mm		than current 3091F