

EGS Flexible Metal Conduit



Nuclear Power Products and Services



Product Description

The EGS Flexible Metal Conduit is another member of the nuclear qualified EGS product line. In many cases, it is necessary to make electrical connections via a flexible conduit. For this application, the EGS Flexible Metal Conduit acts as a leak-tight pressure boundary in an accident environment. The flexible conduit utilizes all metallic construction (321 SST), thus eliminating concern for time-temperature/radiation aging effects. This lightweight conduit is available in 1/2" to 1-1/2" diameters. The ends may be equipped with male and female straight or swivel fittings (300 Series SST) as required. The conduit assembly is comprised entirely of stainless steel and is available in lengths from 18". Units are supplied in lengths as specified by the customer. Curtiss-Wright will assist, upon request, in selecting the proper length of conduit based on geometry and bend radius parameters of the various sizes of flexible conduit.

Design Features

- All stainless steel/welded construction
- Leak-tight pressure boundary
- Conduit diameters from 1/2" to 1-1/2"
- Lengths available from 18"
- Styles available with male, female or swivel fittings and integral reducers
- Lightweight
- Easy to install
- Useable temperature range from cryogenic to in excess of 1000°F (537.78°C)

Qualification Levels

- Radiation: Not affected by radiation due to all metallic construction
- Thermal Aging: Not affected by temperature due to all metallic construction
- Seismic: Tested in excess of 6.0g ZPA
- LOCA: tested to 412°F (211.1°C), 88 psig (708.1 kPa), chemical spray and 100% R.H.
- Supplied under a quality assurance program in accordance with ANSI N45.2 and 10CFR50, Appendix B

Qualification Standards

Successfully qualified by test in accordance with:

- IEEE 323-1974
- IEEE 344-1975
- IEEE 382-1980
- 10CFR50.49

Flexible Metal Conduit Parameters				
Diameter		Minimum Bend Radius (inches)		Wt/Ft (#/ft)
I.D. (inches)	O.D. (inches)	Flex Bend	Permanent Bend	
1/2	0.77	7.0	1.5	0.11
3/4	1.16	8.0	2.1	0.19
1	1.47	9.0	2.7	0.26
1-1/2	2.08	11.00	3.9	0.47

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How to Order

When ordering the flexible metal conduit, the following should be specified using the following part number scheme:

- A. Product Code
- B. Nominal Diameter
- C. Length
- D. First End Fitting
 - Style
 - Size
- E. Second End Fitting
 - Style
 - Size

Example: 841210 - 050 - 018 - 1CF - 1M

Stainless steel flexible metal conduit

A

Flex hose I.D.

B

Ref. No.	Size
050	0.50"
075	0.75"
100	1.00"
150	1.50"

Overall length (inches)
minimum length is 18".

C

Second end connection
(same identification as first end connection).

E

D First end connection

Ref. No.	Description
1-1/2SF	1-1/2" NPT Swivel Female
1-1/2M	1-1/2" NPT Male
1-1/2SM	1-1/2" NPT Swivel Male
1-1/2 90 SM	1-1/2" NPT 90° Swivel Male
1-1/2 45 SM	1-1/2" NPT 45° Swivel Male
1-3/4SM	1" to 3/4" NPT Swivel Male
1-3/4SF	1" to 3/4" NPT Swivel Female
1-1/2CF	1-1/2" NPT Coupling Female
1-3/4 90SM	1" to 3/4" NPT 90° Swivel Male
1-3/4 45SM	1-3/4" NPT 45° Swivel Male
1SF	1" NPT Swivel Female
1M	1" NPT Male
1SM	1" NPT Swivel Male
1 90 SM	1" NPT 90° Swivel Male
145 SM	1" NPT 45° Swivel Male
1CF	1" NPT Coupling Female
3/4F	3/4" NPT Female
3/4SF	3/4" NPT Swivel Female
3/4M	3/4" NPT Male
3/4SM	3/4" NPT Swivel Male
3/4 90 SM	3/4" NPT 90° Swivel Male
3/4 45 SM	3/4" NPT 45° Swivel Male
3/4CF	3/4" NPT Coupling Female
3/4-1/2SM	3/4" to 1/2" NPT Swivel Male
3/4-1/2SF	3/4" to 1/2" NPT Swivel Female
3/4-1SM	3/4" to 1" NPT Swivel Male
3/4-1/2 90SM	3/4" to 1/2" NPT 90° Swivel Male
3/4-1 90SM	3/4" to 1" NPT 90° Swivel Male
1/2F	1/2" NPT Female
1/2SF	1/2" NPT Swivel Female
1/2M	1/2" NPT Male
1/2SM	1/2" NPT Swivel Male
1/2 90 SM	1/2" NPT 90° Swivel Male
1/2 45 SM	1/2" NPT 45° Swivel Male
1/2CF	1/2" NPT Coupling Female
1/2 SE	1/2" NPT Street Elbow
1/2-3/4SM	1/2" to 3/4" NPT Swivel Male
1/2-3/4 90SM	1/2" to 3/4" NPT 90° Swivel

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