

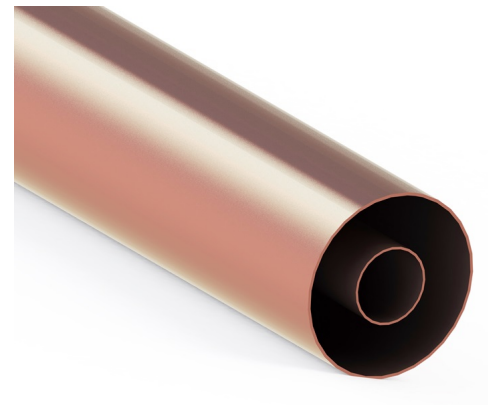


RFS manufactures a range of unflanged and flanged rigid coaxial transmission lines and accessories to meet all commonly used EIA/IEC standards from 1-5/8" to 8-3/16".

3-1/8" unflanged rigid line is a 50-ohm rigid coaxial transmission line, and is ideal for indoor connections between RF broadcasting equipment.

FEATURES / BENEFITS

- Inner conductor is of the highest purity copper (99.95% for inner, 99.9% for outer) for minimum attenuation and lowest operating temperature.
- Manufactured from hard drawn copper, milled to exact dimensions to ensure strict compliance with specifications and stable characteristic impedance.
- All spacers/insulators are of virgin PTFE for highest physical and electrical insulation properties.
- The rigid line is painted for a high quality long lasting finish, which also aids in heat dissipation.



3 1/8" Unflanged rigid Line

Technical features

STRUCTURE

Product Line		Rigid Line
Product Type		Unflanged rigid line, copper
Size		3-1/8"
Feeder Type		Rigid coaxial transmission line (unflanged)
Outer Conductor Material		C110000 Copper, 99.9% pure
Outer Conductor OD	mm (in)	79.4 (3.125)
Outer Conductor ID	mm (in)	76.8 (3.023)
Inner Conductor Material		C102000 Copper, 99.95% pure
Inner Conductor OD	mm (in)	33.4 (1.315)
Inner Conductor ID	mm (in)	31.3 (1.232)
Dielectric Material		Air, with PTFE spacers

ELECTRICAL SPECIFICATIONS

Maximum Frequency	MHz	1600
Impedance	Ω	50 +/- 0.5
Relative Propagation Velocity	%	99.8
Peak Power Rating	kW	920
RF Peak Voltage	kV	9.6

MECHANICAL SPECIFICATIONS

Weight	kg/m (lb/ft)	3.8 (2.6)
Finish		Acrylic paint
Recommended clamp spacing	m (ft)	2 (6)

ORDERING INFORMATION

Standard Lengths	mm (ft)	2750, 5500 (9, 18) [Note 3]
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ENVIRONMENTAL SPECIFICATIONS

Ambient Temperature Range	°C(°F)	-40 to + 60 (-40 to 140)
Humidity		95%, non condensing



ATTENUATION AND POWER RATING

Frequency, MHz	Attenuation, dB/ 100m	Attenuation, dB/ 100ft	Average Power kW (Note 1)	Average Power kW (Note 2)
50	0.23	0.069	71	96
88	0.30	0.092	54	72
98	0.32	0.097	51	68
108	0.33	0.101	49	65
150	0.39	0.119	41	55
202	0.45	0.139	36	48
240	0.50	0.151	33	44
300	0.55	0.169	29	39
400	0.64	0.195	25	34
470	0.69	0.212	23	31
500	0.72	0.218	23	30
520	0.73	0.222	22	30
600	0.78	0.239	21	28
665	0.83	0.252	20	26
719	0.86	0.262	19	25
800	0.91	0.276	18	24
820	0.92	0.279	18	24
862	0.94	0.286	17	23

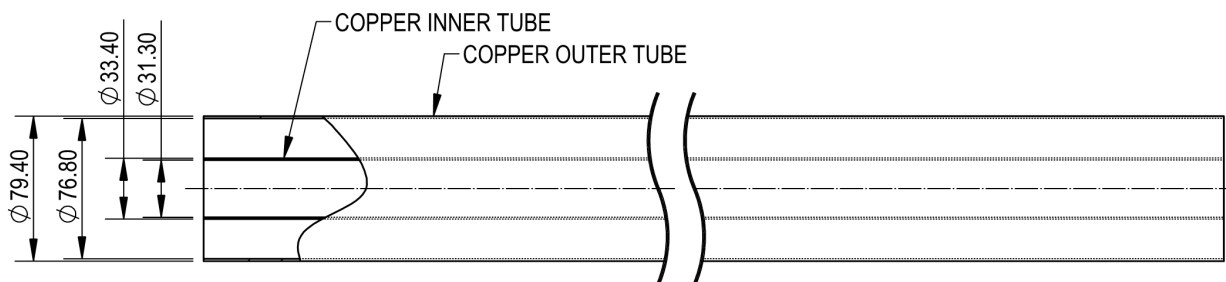
Attenuation at 20°C (68°F)

Mean power rating at 40°C (104°F) ambient temperature

Note 1. Outer temp rise 23°C (73°F), Inner temp rise 60°C (140°F)

Note 2. Outer temp rise 30°C (86°F), Inner temp rise 80°C (176°F)

Note 3. Custom lengths are available on request



3-1/8" Unflanged Outer and Inner Dimensions

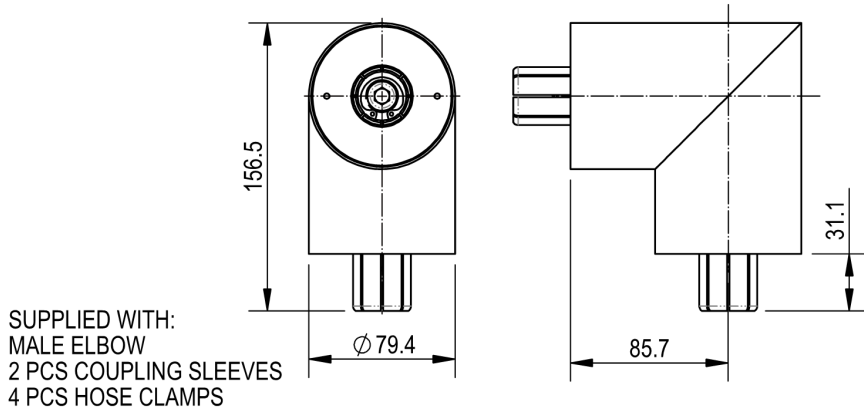


ELBOWS

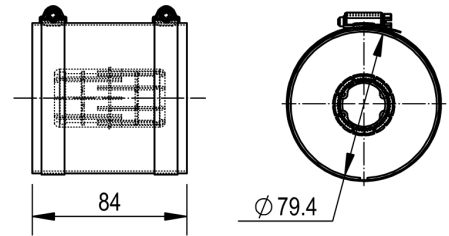
Elbow Model No		RL318-50U-EL
Elbow Type		3-1/8" Unflanged Elbow - male with coupling sleeves
Elbow Weight	kg (lb)	2.22 (4.89)

ACCESSORIES

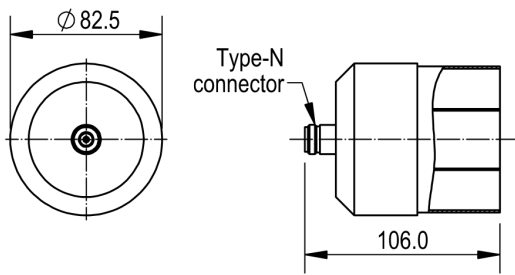
Accessory Model No		RL318-50U-STR	AD31U-N	RL318-50-FLA	RL318-50-IJK	RL318-50-SHR
Accessory Description		Straight Coupling - Inner & Outer	3-1/8" u/f - Type N Adaptor	Flange Adaptor- Clamp Type	EIA Inner Joining Kit	Suspension Hanger
Accessory Weight	kg (lb)	0.33 (0.73)	1.2 (2.65)	0.98 (2.16)	0.98 (2.16)	1.11 (2.25)



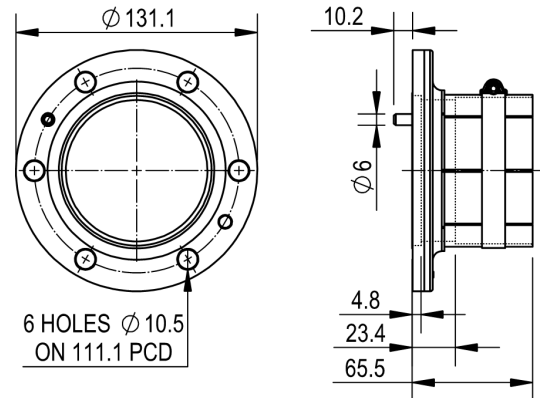
RL318-50U-EL Unflanged elbow - male with coupling sleeves



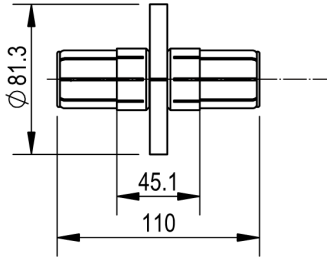
RL318-50U-STR Straight coupling



AD31U-N 3-1/8" unflanged - Type-N adaptor

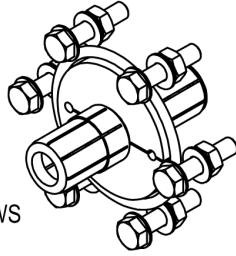


RL318-50-FLA Flange adaptor - clamp type

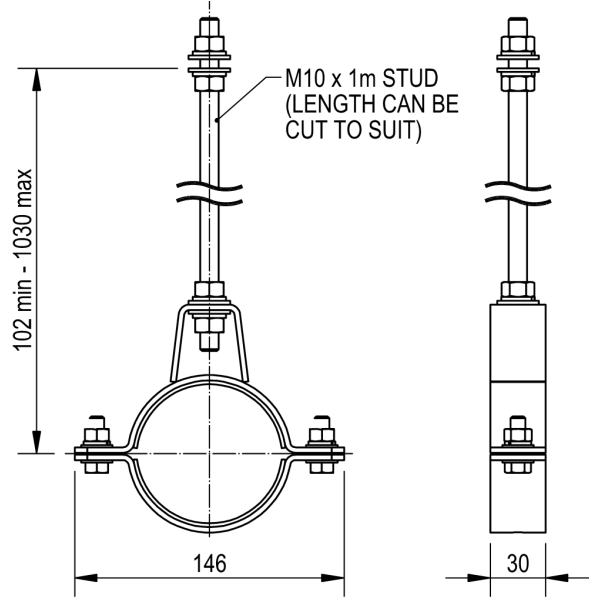


SUPPLIED WITH:

- SPIGOT
- SPACER
- O-RING
- 6 PCS M10 x 45 HEX HEAD SCREWS
- 6 PCS M10 SPRING WASHERS
- 12 PCS M10 FLAT WASHERS
- 6 PCS M10 HEX NUTS



RL318-50-IJK EIA Inner joining kit



RL318-50-SHR Suspension hanger

External Document Links

[RL318-50ALU datasheet](#)

[RL318-50 datasheet](#)