



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".

6-1/8" 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.



6 -1/8" Unflanged Rigid Line

**Technical features**

**STRUCTURE**

<b>Product Line</b>		Rigid Line
<b>Product Type</b>		Unflanged rigid line, copper
<b>Size</b>		6-1/8"
<b>Feeder Type</b>		Rigid coaxial transmission line (unflanged)
<b>Outer Conductor Material</b>		C110000 Copper, 99.9% pure
<b>Outer Conductor OD</b>	mm (in)	155.6 (6.125)
<b>Outer Conductor ID</b>	mm (in)	151.9 (5.98)
<b>Inner Conductor Material</b>		C102000 Copper, 99.95% pure
<b>Inner Conductor OD</b>	mm (in)	66 (2.598)
<b>Inner Conductor ID</b>	mm (in)	64 (2.52)
<b>Dielectric Material</b>		Air, with PTFE spacers

**ELECTRICAL SPECIFICATIONS**

<b>Maximum Frequency</b>	MHz	806
<b>Impedance</b>	Ω	50 +/- 0.5
<b>Relative Propagation Velocity</b>	%	99.8
<b>Peak Power Rating</b>	kW	3240
<b>RF Peak Voltage</b>	kV	18

**MECHANICAL SPECIFICATIONS**

<b>Weight</b>	kg/m (lb/ft)	10 (6.71)
<b>Finish</b>		Acrylic paint
<b>Recommended clamp spacing</b>	m (ft)	2 (6.5)

**ORDERING INFORMATION**

<b>Standard Lengths</b>	mm (ft)	2750, 5500 (9, 18) [Note 3]
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**ENVIRONMENTAL SPECIFICATIONS**

<b>Ambient Temperature Range</b>	°C(°F)	-40 to + 60 (-40 to 140)
<b>Humidity</b>		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	0.11	0.035	235	315
88	0.15	0.046	177	238
98	0.16	0.049	168	225
108	0.17	0.051	160	215
150	0.20	0.060	136	182
174	0.21	0.065	126	169
202	0.23	0.070	117	157
240	0.25	0.077	107	144
300	0.28	0.086	96	129
400	0.32	0.099	83	112
470	0.35	0.107	77	103
500	0.36	0.110	74	100
520	0.37	0.113	73	98
600	0.40	0.121	68	91
665	0.42	0.127	65	86
719	0.43	0.132	62	83
800	0.46	0.140	59	79

Attenuation at 20°C (68°F)

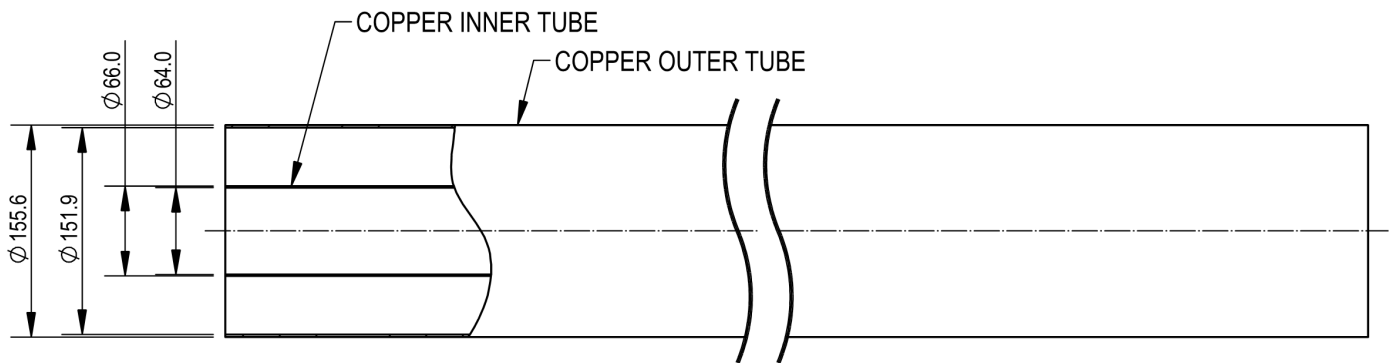
Mean power rating at 40°C (104°F) ambient temperature

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

Note 4. At UHF frequencies , a minimm length of line (151mm) is required between elbows, in order to achieve broadband UHF VSWR performance



6-1/8" Unflanged Rigid Line Dimensions

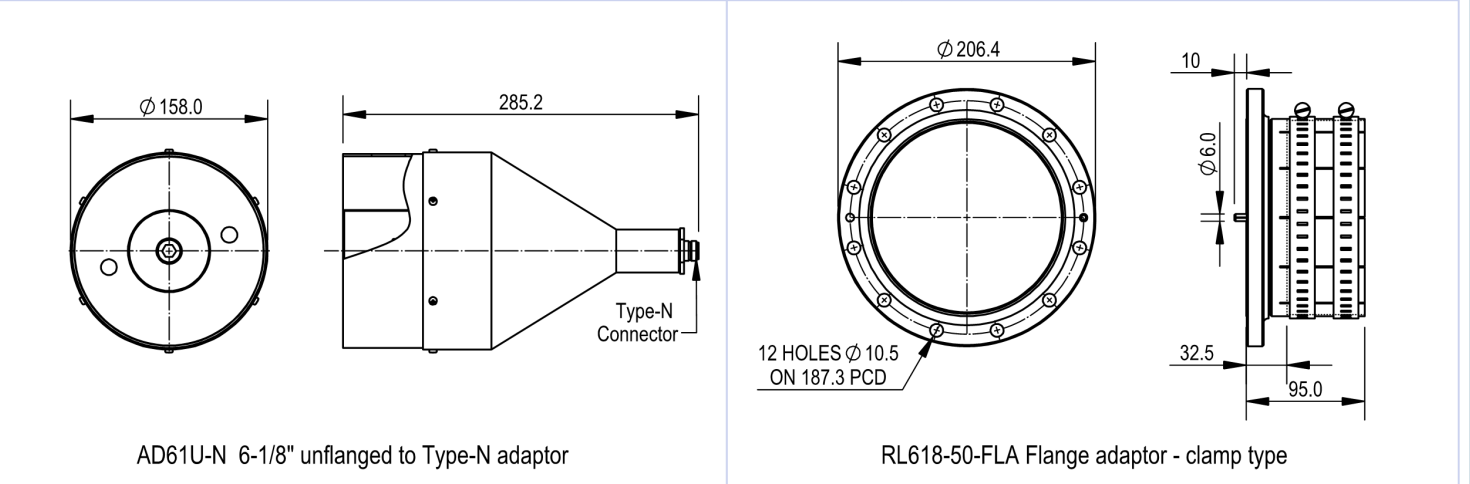
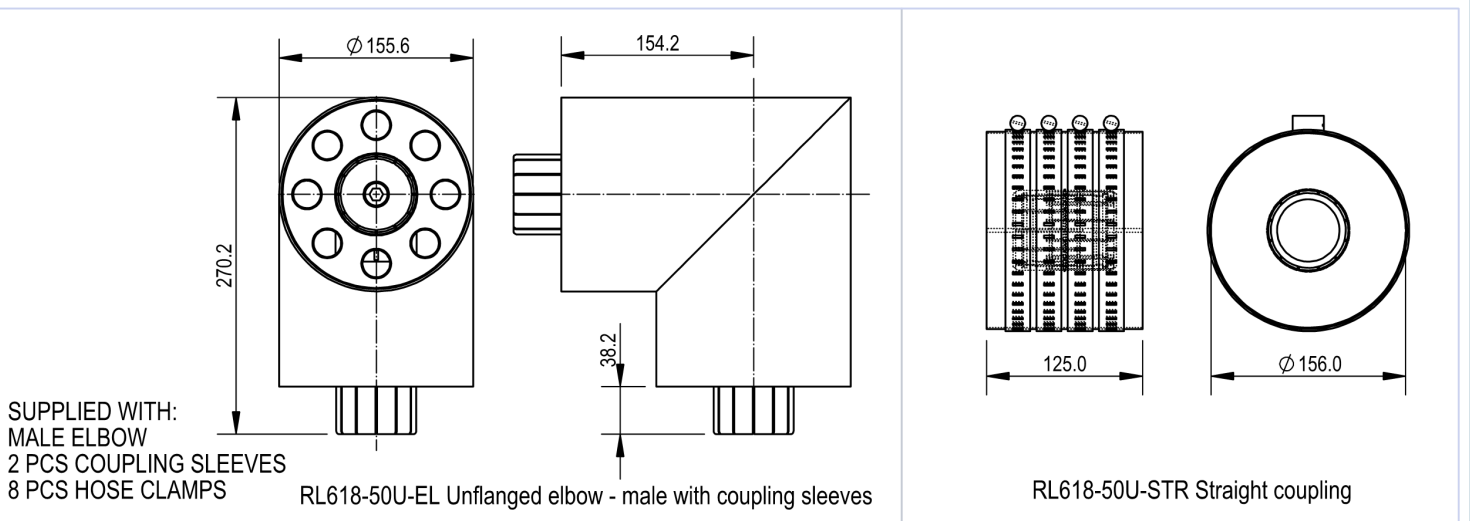


**ELBOWS**

Elbow Model No		RL618-50U-EL (Note 4)
Elbow Type		6-1/8" Unflanged Elbow
Elbow Weight	kg (lb)	10.5 (23.1)

**ACCESSORIES**

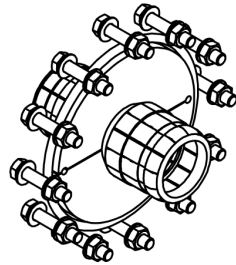
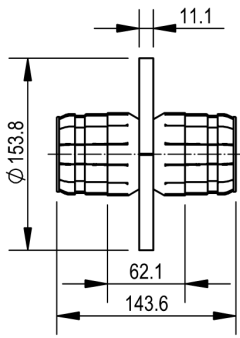
Accessory Model No		RL618-50U-STR	AD61U-N	RL618-50-FLA	RL618-50-IJK	RL618-50-SHR	RL618-50-FHS
Accessory Description		Straight Coupling	6-1/8" u/f to Type-N Adaptor	Flange Adaptor - clamp type	EIA Inner Joining Kit	Suspension Hanger	Flange Adaptor - hard solder
Accessory Weight	kg (lb)	1.6 (3.5)	5.0 (11.0)	2.4 (5.3)	2.1 (4.6)	1.3 (2.9)	1.6 (3.5)





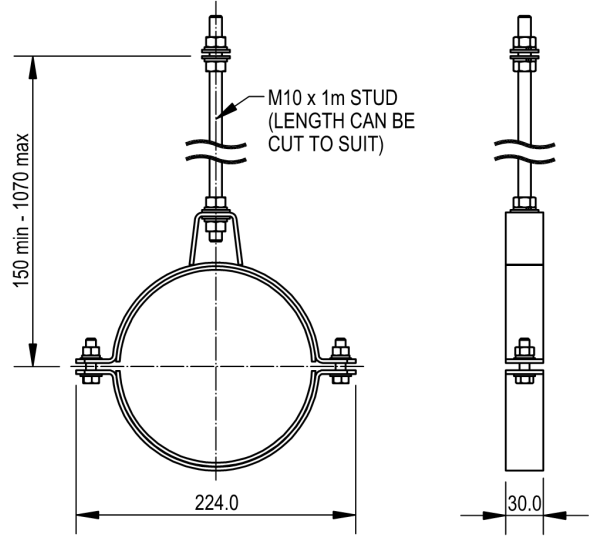
**RL618-50U**

6-1/8" Unflanged Rigid Line

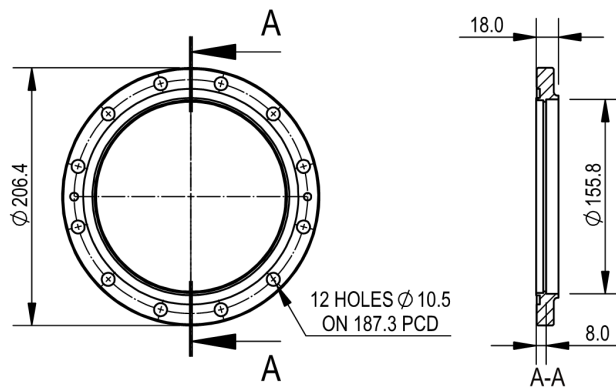


- SUPPLIED WITH:  
SPIGOT  
SPACER  
O-RING  
12 PCS M10 x 50 HEX HEAD SCREWS  
12 PCS M10 SPRING WASHERS  
24 PCS M10 FLAT WASHERS  
12 PCS M10 HAX NUTS

RL618-50-IJK EIA Inner joining kit



RL618-SHR Suspension hanger



RL618-50-FHS Flange adaptor - hard solder

External Document Links

[RL618-50 datasheet](#)