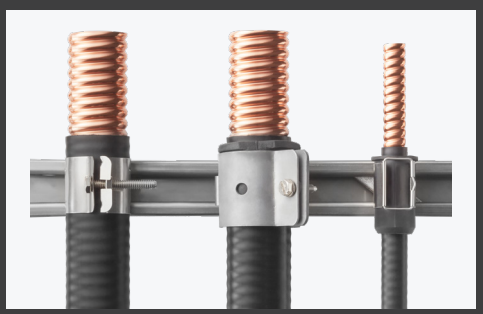
RADIO FREQUENCY SYSTEMS

WAVEGUIDES & ACCESSORIES SELECTION GUIDE

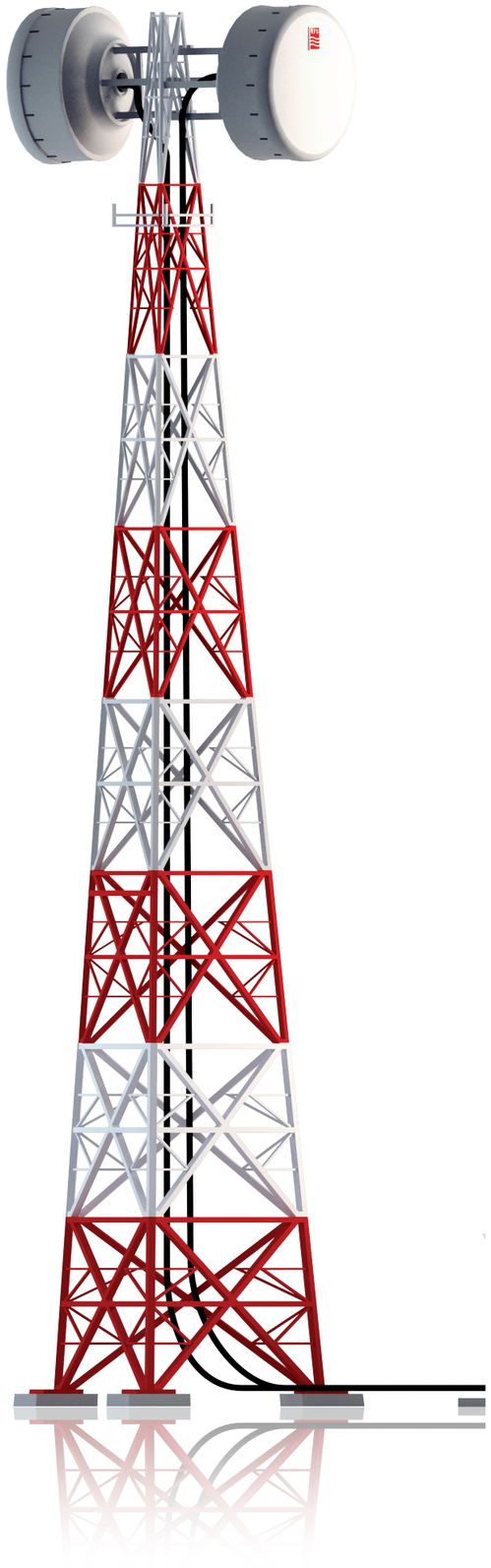
Edition 3 / 11.2022



RFS MICROWAVE ANTENNA SOLUTIONS

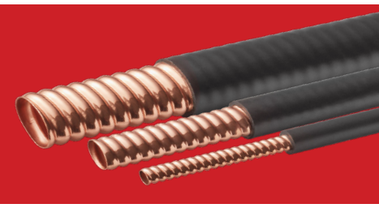
RADIO FREQUENCY SYSTEMS

TABLE OF CONTENTS



RFS OFFERS A COMPLETE PORTFOLIO OF THE **HIGHEST QUALITY & MOST RELIABLE WAVEGUIDES**

RFS provides trusted and reliable solutions for all long haul, mobile, satellite and radar application needs through its broad portfolio of high quality FLEXWELL® Elliptical Waveguides, Connectors, Components, Tools and Pressurization Products.



RFS is the originator and designer of continuous seam welded corrugated transmission lines. FLEXWELL® products have been used in thousands of successful installations worldwide. They are the highest quality, best performing, and most reliable elliptical waveguides in the industry.

For more than 40 years, FLEXWELL elliptical waveguides have successfully supplemented traditional rigid rectangular and circular waveguide configurations for the transmission of RF energy at microwave frequencies. Available in a wide variety of premium and standard models, FLEXWELL is constructed of longitudinally continuous seam welded, highly conductive copper tube, corrugated and precision formed into an elliptical cross section. It is manufactured in continuous lengths using a special seam welding process developed exclusively by RFS. With FLEXWELL, RFS customers benefit from:

- Portfolio of elliptical waveguides that cover the entire range of microwave frequencies
- Unique corrugation design for maximum strength and flexibility
- Excellent electrical performance
- Low attenuation and good return loss (VSWR as low as 1.06); highest average power
- 24 hour pressure test performed on every waveguide
- Reduced installation cost compared to rigid rectangular waveguides due to flexibility
- Easy transportation in coils or on drums
- Training and superior technical support

Additionally, RFS offers a full range of options, connectors, pressurization equipment and accessories to support your end-to-end radio link network. RFS offers tuneable connectors for premium performance waveguides and non-tuneable connectors for standard performance waveguides according to the EIA standard. These connectors are manufactured from brass forgings and are very simple and easy to install with basic hand tools, no expensive flanging tools are required. RFS connectors based on the IEC standard are all fixed tuned. Together with the dedicated flanging tools and premium performance waveguides, these connectors meet the highest VSWR / return loss requirements over the complete frequency band without tuning.

RFS offers the widest portfolio of standard and premium elliptical waveguides

Frequency GHz	4				5		6				7/8			10/11				13	15	18	23	28/30		38	
	3.1	3.4	3.6	4.2	4.4	5.0	5.6	5.9	6.425	7.1	7.125	7.75	8.5	9.0	10.0	10.7	11.7	13.25	13.4	15.35	17.3	19.7	21.2	23.6	27.5	33.4	37.5	39.5
RFS Antenna Frequency Code			36		44			59		65	71		78		103	107		127	142		180		220		280	320	380	
								W60			W71				W100													
Elliptical Waveguide Models – Standard	E38				ES46			E65								E130			E150		E185		E220		E300		E380	
							E60			E78					E105													
Elliptical Waveguide Models – Premium			EP38		ESP46			EP65						EP100		EP130			EP150		EP185							
							EP60			EP78					EP105													

FLEXWELL
ELLIPTICAL WAVEGUIDE

E38 Series: 3.1-4.2 GHz

ORDERING INFORMATION | IEC: R32, R40 | EIA: WR284, WR229

Maximum Frequency Band, GHz	Standard Waveguide Model Number	Premium Waveguide Model Number
3.00-4.20	E38J	EP38J

PRODUCT SPECIFICATIONS

GENERAL SPECIFICATIONS			
Dimensions over Jacket	mm, in	84 x 48	3.3 x 1.9
Weight	kg/m, lb/ft	2.1	1.4
Min. Bending Radii, without rebending E-Plane	mm, in	300	12
Min. Bending Radii, without rebending H-Plane	mm, in	800	31
Min. Bending Radii, with rebending E-Plane	mm, in	400	16
Min. Bending Radii, with rebending H-Plane	mm, in	1000	39
Jacket Type	J	PE, Black	
Max. Twist	degree, m, ft	1.5	0.46
Max. Operating Pressure	bar, psi	0.5	7
Max. Pulling Length per Hoisting Grip	m, ft	100	305
Standard Hanger Spacing	m, ft	1.2	4

TEMPERATURE SPECIFICATIONS			
Installation	°C, °F	-40 to 60	-40 to 140
Storage	°C, °F	-70 to 85	-94 to 185
Operation	°C, °F	-50 to 85	-58 to 185

ELECTRICAL SPECIFICATIONS			
		EP38J	E38J
Operating Frequency Band	GHz	3.6-4.2	3.1-4.2
Low Band Attenuation	dB/100m, dB/100ft	2.55, 0.78	2.9, 0.88
Mid Band Attenuation	dB/100m, dB/100ft	2.3, 0.7	2.4, 0.73
High Band Attenuation	dB/100m, dB/100ft	2.1, 0.64	
Max. VSWR / Return Loss	- / dB	1.083 / 28	1.15 / 23.1

ACCESSORIES

IEC Accessories

Model Number	Description
D32-038FP	Connector 154 IEC-PDR 32 (3.1-3.5 GHz)
D40-038FP-U	Connector 154 IEC-PDR 40 (3.6-4.2 GHz)
PW040-V-1	Pressure window, light type, UDR 40, brass
SHIM040-D-1	SHIM R 40 for PDR 40, copper beryllium
FDIE-U038	Flanging die for basic tool FTOOL-U038130
FTOOL-U038130	Basic Flanging Tool for E38 to E130 waveguide
P2000-002	Tube of Plast 2000 70ccm
P2000-003	Injection tool for Plast 2000
HOIST2-L08	Hoisting grip, open, E38

Standard Accessories

Model Number	Description
GKIT-24-038	Grounding kit, Grounding wire 6AWG (13 mm²) 24″
GKIT-60-038	Grounding kit, Grounding wire 6AWG (13 mm²) 60″
CLAMP-038	Clamp, bolt-on

Premium Accessories

Model Number	Description
GKIT-24-038P	Grounding kit, Grounding wire 7AWG (16 mm²) 24″
CLAMP-R-038	Universal clamp with clamp lining

Microwave Antenna Systems

FLEXWELL
ELLIPTICAL WAVEGUIDE

ES46 Series: 4.4-5.0 GHz

ORDERING INFORMATION | IEC: R48 | EIA: WR187

Maximum Frequency Band, GHz	Standard Waveguide Model Number	Premium Waveguide Model Number
3.90-5.00	ES46J	ESP46J

PRODUCT SPECIFICATIONS

GENERAL SPECIFICATIONS			
Dimensions over Jacket	mm, in	68 x 41	2.7 x 1.6
Weight	kg/m, lb/ft	1.6	1.08
Min. Bending Radii, without rebending E-Plane	mm, in	150	6
Min. Bending Radii, without rebending H-Plane	mm, in	500	20
Min. Bending Radii, with rebending E-Plane	mm, in	150	6
Min. Bending Radii, with rebending H-Plane	mm, in	600	24
Jacket Type	J JFN	PE, Black PE, Flame Retardant, Black	
Max. Twist	degree, m, ft	2	0.6
Max. Operating Pressure	bar, psi	0.5	7
Max. Pulling Length per Hoisting Grip	m, ft	100	305
Standard Hanger Spacing	m, ft	1.2	4

TEMPERATURE SPECIFICATIONS			
Installation	°C, °F	-40 to 60	-40 to 140
Storage	°C, °F	-70 to 85	-94 to 185
Operation	°C, °F	-50 to 85	-58 to 185

ELECTRICAL SPECIFICATIONS			
		ES46J	ESP46J
Operating Frequency Band	GHz	4.4-5.0	
Low Band Attenuation	dB/100m, dB/100ft	3.7, 1.13	
Mid Band Attenuation	dB/100m, dB/100ft	6.6, 1.1	
High Band Attenuation	dB/100m, dB/100ft	3.5, 1.07	
Max. VSWR / Return Loss	- / dB	1.15 / 23.1	1.073 / 29.1

ACCESSORIES

IEC Accessories

Model Number	Description
D48-S46FP	Connector 154 IEC-PDR 48 (4.4-5.0 GHz)
PW048-V-1	Pressure window, light type, UDR 48, brass
SHIM048-D-1	SHIM R 48 for PDR 48, copper beryllium
FDIE-US46	Flanging die for basic tool FTOOL-U038130
FTOOL-U038130	Basic Flanging Tool for E38 to E130 waveguide
P2000-001	Tube of Plast 2000 20ccm
HOIST1-214L	Hoisting grip, open, ES46

Standard Accessories

Model Number	Description
BOOT4-046	Wall-/Roof Feed-Through for Plate FTP4-xx
GKIT-24-046	Grounding kit, Grounding wire 6AWG (13 mm²) 24″
GKIT-60-046	Grounding kit, Grounding wire 6AWG (13 mm²) 60″
CLAMP-046	Clamp, bolt-on

EIA Accessories

Model Number	Description
C187-S46FG	Connector CPR 187G (4.4-5.0 GHz) non-tunable
C187-S46TG	Connector CPR 187G (4.4-5.0 GHz) tunable
PW187-C-1 or PW-C187	Pressure window CPR 187G, brass

Premium Accessories

Model Number	Description
GKIT-24-S46P	Grounding kit, Grounding wire 7AWG (16 mm²) 24″
CLAMP-R-S046	Universal clamp with clamp lining

FLEXWELL
ELLIPTICAL WAVEGUIDE

E60 Series: 5.6-6.425 GHz

ORDERING INFORMATION | IEC: R70 | EIA: WR137

Maximum Frequency Band, GHz	Standard Waveguide Model Number	Premium Waveguide Model Number
4.50-6.425	E60J	EP60J

PRODUCT SPECIFICATIONS

GENERAL SPECIFICATIONS			
Dimensions over Jacket	mm, in	55 x 33	2.2 x 1.3
Weight	kg/m, lb/ft	1.1	0.74
Min. Bending Radii, without rebending E-Plane	mm, in	200	8
Min. Bending Radii, without rebending H-Plane	mm, in	550	22
Min. Bending Radii, with rebending E-Plane	mm, in	300	12
Min. Bending Radii, with rebending H-Plane	mm, in	800	31
Jacket Type	J JFN	PE, Black PE, Flame Retardant, Black	
Max. Twist	degree, m, ft	4	1.2
Max. Operating Pressure	bar, psi	0.5	7
Max. Pulling Length per Hoisting Grip	m, ft	100	305
Standard Hanger Spacing	m, ft	0.9	3

TEMPERATURE SPECIFICATIONS			
Installation	°C, °F	-40 to 60	-40 to 140
Storage	°C, °F	-70 to 85	-94 to 185
Operation	°C, °F	-50 to 85	-58 to 185

ELECTRICAL SPECIFICATIONS			
		EP60J	E60J
Operating Frequency Band	GHz	5.6-6.425	
Low Band Attenuation	dB/100m, dB/100ft	4.15, 1.26	
Mid Band Attenuation	dB/100m, dB/100ft	3.95, 1.2	
High Band Attenuation	dB/100m, dB/100ft	3.8, 1.16	
Max. VSWR / Return Loss	- / dB	1.062 / 30.5	1.15 / 23.1

ACCESSORIES

IEC Accessories

Model Number	Description
D70-060FP-W	Connector 154 IEC-PDR 70 (5.6-6.425 GHz)
PW070-V-1	Pressure window, light type, UDR 70, brass
SHIM070-D-1	Shim for PDR 70, copper beryllium
FDIE-U060	Flanging die for basic tool FTOOL-U038130
FTOOL-U038130	Basic Flanging Tool for E38 to E130 waveguide
P2000-001	Tube of Plast 2000 20ccm
HOIST1-158L	Hoisting grip, open, E58, E60, E65

EIA Accessories

Model Number	Description
C137-060FG	Conn. CPR 137G (5.725-6.425 GHz) non-tunable
C137-060TG	Conn. CPR 137G (5.925-6.425 GHz) tunable
G343-060FG	Conn. UG-343/344U (5.925-6.425 GHz) non- tunable
PW137-C-1 or PW-C137	Pressure window CPR 137G, brass
PW137-G-1	Pressure window UG-343/344/U, brass

Standard Accessories

Model Number	Description
CLAMP-060	Clamp, bolt -on
GKIT-24-060	Grounding kit, Grounding wire 6AWG (13 mm²) 24”
GKIT-60-060	Grounding kit, Grounding wire 6AWG (13 mm²) 60”
BOOT4-060	Wall/Roof Feed-Trough for Plate FTP4-xx

Premium Accessories

Model Number	Description
CLAMP-R-060	Universal clamp with clamp lining
GKIT-24-060P	Grounding kit, Grounding wire 7AWG (16 mm²) 24”

Microwave Antenna Systems

FLEXWELL
ELLIPTICAL WAVEGUIDE

E65 Series: 5.9-7.125 GHz

ORDERING INFORMATION | IEC: R70 | EIA: WR137

Maximum Frequency Band, GHz	Standard Waveguide Model Number	Premium Waveguide Model Number
5.00-7.125	E65J / E65JFN*	EP65J / EP65JFN*

* Flame and fire retardant jacket optional with MOQ (1500 m) available

PRODUCT SPECIFICATIONS

GENERAL SPECIFICATIONS			
Dimensions over Jacket	mm, in	51 x 30	2.0 x 1.2
Weight	kg/m, lb/ft	0.75	0.5
Min. Bending Radii, without rebending E-Plane	mm, in	200	8
Min. Bending Radii, without rebending H-Plane	mm, in	500	20
Min. Bending Radii, with rebending E-Plane	mm, in	300	12
Min. Bending Radii, with rebending H-Plane	mm, in	600	24
Jacket Type	J JFN	PE, Black PE, Flame Retardant, Black	
Max. Twist	degree, m, ft	5	1.5
Max. Operating Pressure	bar, psi	0.5	7
Max. Pulling Length per Hoisting Grip	m, ft	100	305
Standard Hanger Spacing	m, ft	0.9	3

TEMPERATURE SPECIFICATIONS			
Installation	°C, °F	-40 to 60	-40 to 140
Storage	°C, °F	-70 to 85	-94 to 185
Operation	°C, °F	-50 to 85	-58 to 185

ELECTRICAL SPECIFICATIONS			
		EP65J	E65J
Operating Frequency Band	GHz	5.9-7.125	
Low Band Attenuation	dB/100m, dB/100ft	4.9, 1.49	
Mid Band Attenuation	dB/100m, dB/100ft	4.5, 1.37	
High Band Attenuation	dB/100m, dB/100ft	4.25, 1.3	
Max. VSWR / Return Loss	- / dB	1.062 / 30.5	1.15 / 23.1

ACCESSORIES

IEC Accessories

Model Number	Description
D70-065FG	Connector 154 IEC-PDR 70 (5.9-7.15 GHz)
PW070-V-1	Pressure window, light, type, UDR 70, brass
SHIM070-D-1	SHIM R 70 for PDR 70, copper beryllium
FDIE-U065	Flanging die for basic tool FTOOL-U038130
FTOOL-U038130	Basic Flanging Tool for E38 to E130 waveguide

EIA Accessories

Model Number	Description
C137-065FG	Conn. CPR 137G (5.725-7.125 GHz) non-tunable
C137-065TG	Conn. CPR 137G (5.725-7.125 GHz) tunable
G343-065FG	Conn. UG-343/344/U (6.425-7.125 GHz) non-tunable
G343-065TG	Conn. UG-343/344/U (5.725-7.125 GHz) tunable
PW137-C-1 or PW-C137	Pressure window CPR 137G, brass
PW137-G-1 or PW-G137	Pressure window UG-343/344/U, brass

Standard Accessories

Model Number	Description
BOOT4-065	Wall-/Roof Feed-Through for Plate FTP4-xx
GKIT-24-065	Grounding kit, Grounding wire 6AWG (13 mm²) 24”
GKIT-60-065	Grounding kit, Grounding wire 6AWG (13 mm²) 60”
CLAMP-114	Clamp, bolt-on

Premium Accessories

Model Number	Description
GKIT-24-065P	Grounding kit, Grounding wire 7AWG (16 mm²) 24”
CLAMP-R-065	Universal clamp with clamp lining

FLEXWELL
ELLIPTICAL WAVEGUIDE

E78 Series: 7.1-8.5 GHz

ORDERING INFORMATION | IEC: R70, R84 | EIA: WR137, WR112

Maximum Frequency Band, GHz	Standard Waveguide Model Number	Premium Waveguide Model Number
5.90-8.50	E78J	EP78J / EP78JFN*

* Flame and fire retardant jacket optional with MOQ (1500 m) available

PRODUCT SPECIFICATIONS

GENERAL SPECIFICATIONS			
Dimensions over Jacket	mm, in	44 x 26	1.7 x 1.0
Weight	kg/m, lb/ft	0.6	0.4
Min. Bending Radii, without rebending E-Plane	mm, in	200	8
Min. Bending Radii, without rebending H-Plane	mm, in	500	20
Min. Bending Radii, with rebending E-Plane	mm, in	250	10
Min. Bending Radii, with rebending H-Plane	mm, in	600	24
Jacket Type	J JFN	PE, Black PE, Flame Retardant, Black	
Max. Twist	degree, m, ft	5	1.5
Max. Operating Pressure	bar, psi	0.5	7
Max. Pulling Length per Hoisting Grip	m, ft	100	305
Standard Hanger Spacing	m, ft	0.9	3

TEMPERATURE SPECIFICATIONS			
Installation	°C, °F	-40 to 60	-40 to 140
Storage	°C, °F	-70 to 85	-94 to 185
Operation	°C, °F	-50 to 85	-58 to 185

ELECTRICAL SPECIFICATIONS			
		EP78J	E78J
Operating Frequency Band	GHz	7.1-8.5	
Low Band Attenuation	dB/100m, dB/100ft	6.2, 1.89	
Mid Band Attenuation	dB/100m, dB/100ft	5.8, 1.77	
High Band Attenuation	dB/100m, dB/100ft	5.6, 1.71	
Max. VSWR / Return Loss	- / dB	1.062 / 30.5	1.15 / 23.1

ACCESSORIES

IEC Accessories

Model Number	Description
D70-078FG	Connector 154 IEC-PDR 70 (7.1 - 8.5 GHz)
D84-078FG	Connector 154 IEC-PDR 84 (7.1 - 8.5 GHz)
B84-078FG	Connector 154 IEC-PBR 84 (7.1-8.5 GHz)
PW070-V-1	Pressure window, light type, UDR 70, brass
PW070-DV-1	Pressure window, heavy type, PDR/UDR 70, brass
PW084-V-1	Pressure window, light type, UDR 84, brass
PW084-W-1	Pressure window, light type, UBR 84, brass
PW084-DV-1	Pressure window, heavy type, PDR/UDR 84, brass
PW084-BW-1	Pressure window, heavy type, PBR/UBR 84, brass
SHIM070-D-1	Shim for PDR 70, copper beryllium
SHIM084-D-1	Shim for PDR 84, copper beryllium
FDIE-U078	Flanging die for basic tool FTOOL-U038130
FTOOL-U038130	Basic Flanging Tool for E38 to E130 waveguide
HOIST1-114L	Hoisting grip, open, E70, E78

Premium Accessories

Model Number	Description
GKIT-24-078P	Grounding kit, Grounding wire 7AWG (16 mm²) 24"
CLAMP-R-078-E	Universal clamp with clamp lining

EIA Accessories

Model Number	Description
C112-078FG	Connector CPR 112G (7.125-8.5 GHz) non-tunable
C112-078TG	Connector CPR 112G (7.125-8.5 GHz) tunable
C137-078FG	Connector CPR 137G (7.125-7.75 GHz) non-tunable
C137-078TG	Connector CPR 137G (7.125-7.75 GHz) tunable
G51-078FG	Conn. UG-51/52/U (7.125-8.5 GHz) non-tunable
G51-078TG	Connector UG-51/52/U (7.125-8.5 GHz) tunable
PW137-C-1 or PW-C137	Pressure window CPR 137G, brass
PW112-G-1 or PW-G112	Pressure window UG-51/52/U, brass

Standard Accessories

Model Number	Description
BOOT4-078	Wall-/Roof Feed-Through for Plate FTP4-xx
GKIT-24-078	Grounding kit, Grounding wire 6AWG (13 mm²) 24"
GKIT-60-078	Grounding kit, Grounding wire 6AWG (13 mm²) 60"
CLAMP-078	Clamp, bolt-on

Microwave Antenna Systems

FLEXWELL
ELLIPTICAL WAVEGUIDE

E100 Series: 8.5-10.00

ORDERING INFORMATION | IEC: R100 | EIA: WR90

Maximum Frequency Band, GHz	Standard Waveguide Model Number	Premium Waveguide Model Number
8.00-10.00	N/A	EP100J / EP100JFN*

* Flame and fire retardant jacket optional with MOQ (1500 m) available

PRODUCT SPECIFICATIONS

GENERAL SPECIFICATIONS			
Dimensions over Jacket	mm, in	34 x 23	1.3 x 0.9
Weight	kg/m, lb/ft	0.5	0.34
Min. Bending Radii, without rebending E-Plane	mm, in	150	6
Min. Bending Radii, without rebending H-Plane	mm, in	350	14
Min. Bending Radii, with rebending E-Plane	mm, in	200	8
Min. Bending Radii, with rebending H-Plane	mm, in	400	16
Jacket Type	J JFN	PE, Black PE, Flame Retardant, Black	
Max. Twist	degree, m, ft	6	1.8
Max. Operating Pressure	bar, psi	0.5	7
Max. Pulling Length per Hoisting Grip	m, ft	100	305
Standard Hanger Spacing	m, ft	0.6	2

TEMPERATURE SPECIFICATIONS			
Installation	°C, °F	-40 to 60	-40 to 140
Storage	°C, °F	-70 to 85	-94 to 185
Operation	°C, °F	-50 to 85	-58 to 185

ELECTRICAL SPECIFICATIONS		
		EP100J
Operating Frequency Band	GHz	8.5-10.0
Low Band Attenuation	dB/100m, dB/100ft	10.4, 3.17
Mid Band Attenuation	dB/100m, dB/100ft	9.5, 2.90
High Band Attenuation	dB/100m, dB/100ft	8.4, 2.56
Max. VSWR / Return Loss	- / dB	1.105 / 26

ACCESSORIES

IEC Accessories

Model Number	Description
B100-100FP-U	Connector 154 IEC-PBR 100 (9-10 GHz)
PW100-W-1	Pressure window, light type, UBR 100, brass
SHIM100-B-1	Shim for PBR 100, copper beryllium
FDIE-U100	Flanging die for basic tool FTOOL-U038130
FTOOL-U038130	Basic Flanging Tool for E38 to E130 waveguide
P2000-001	Tube of Plast 2000 20ccm
HOIST1-78L	Hoisting grip, open, E100, E105

Standard Accessories

Model Number	Description
BOOT4-105	Wall-/Roof Feed-Through for Plate FTP4-xx
CLAMP-105	Clamp, bolt-on

Premium Accessories

Model Number	Description
GKIT-24-100/105P	Grounding kit, Grounding wire 7AWG (16 mm²) 24"
RSB-100	RSB-Clip with clamp lining

FLEXWELL
ELLIPTICAL WAVEGUIDE

E105 Series: 10.0-11.7 GHz

ORDERING INFORMATION | IEC: R100 | EIA: WR90

Maximum Frequency Band, GHz	Standard Waveguide Model Number	Premium Waveguide Model Number
8.10-11.70	E105J	EP105J

PRODUCT SPECIFICATIONS

GENERAL SPECIFICATIONS			
Dimensions over Jacket	mm, in	33 x 20	1.3 x 0.8
Weight	kg/m, lb/ft	0.5	0.34
Min. Bending Radii, without rebending E-Plane	mm, in	130	5
Min. Bending Radii, without rebending H-Plane	mm, in	280	11
Min. Bending Radii, with rebending E-Plane	mm, in	150	6
Min. Bending Radii, with rebending H-Plane	mm, in	300	12
Jacket Type	J	PE, Black	
Max. Twist	degree, m, ft	6	1.8
Max. Operating Pressure	bar, psi	0.5	7
Max. Pulling Length per Hoisting Grip	m, ft	100	305
Standard Hanger Spacing	m, ft	0.6	2

TEMPERATURE SPECIFICATIONS			
Installation	°C, °F	-40 to 60	-40 to 140
Storage	°C, °F	-70 to 85	-94 to 185
Operation	°C, °F	-50 to 85	-58 to 185

ELECTRICAL SPECIFICATIONS			
		EP105J	E105J
Operating Frequency Band	GHz	10.0 - 11.7	
Low Band Attenuation	dB/100m, dB/100ft	9.4, 2.87	
Mid Band Attenuation	dB/100m, dB/100ft	9.1, 2.77	
High Band Attenuation	dB/100m, dB/100ft	8.9, 2.71	
Max. VSWR / Return Loss	- / dB	1.062 / 30.5	1.15 / 23.1

ACCESSORIES

EIA Accessories

Model Number	Description
C90-105FG	Connector CPR 90G (10.5-11.7 GHz) non-tunable
C90-105TG	Connector CPR 90G (10.5-11.7 GHz) tunable
PW090-C-1 or PW-C090	Pressure window CPR 90G, brass

Standard Accessories

Model Number	Description
BOOT4-105	Wall-/Roof Feed-Through for Plate FTP4-xx
GKIT-24-105	Grounding kit, Grounding wire 6AWG (13 mm²) 24″
GKIT-60-105	Grounding kit, Grounding wire 6AWG (13 mm²) 60″
CLAMP-105	Clamp, bolt-on

E105 is only available for sale in North America. Please contact sales for details.

Microwave Antenna Systems

FLEXWELL
ELLIPTICAL WAVEGUIDE

E130 Series: 10.7-13.25 GHz

ORDERING INFORMATION | IEC: R120 | EIA: WR75

Maximum Frequency Band, GHz	Standard Waveguide Model Number	Premium Waveguide Model Number
9.30-13.25	E130J	EP130J

PRODUCT SPECIFICATIONS

GENERAL SPECIFICATIONS			
Dimensions over Jacket	mm, in	29 x 18	1.1 x 0.7
Weight	kg/m, lb/ft	0.4	0.27
Min. Bending Radii, without rebending E-Plane	mm, in	130	5
Min. Bending Radii, without rebending H-Plane	mm, in	280	11
Min. Bending Radii, with rebending E-Plane	mm, in	150	6
Min. Bending Radii, with rebending H-Plane	mm, in	300	12
Jacket Type	J JFN	PE, Black PE, Flame Retardant, Black	
Max. Twist	degree, m, ft	6	1.8
Max. Operating Pressure	bar, psi	0.5	7
Max. Pulling Length per Hoisting Grip	m, ft	100	305
Standard Hanger Spacing	m, ft	0.6	2

TEMPERATURE SPECIFICATIONS			
Installation	°C, °F	-40 to 60	-40 to 140
Storage	°C, °F	-70 to 85	-94 to 185
Operation	°C, °F	-50 to 85	-58 to 185

ELECTRICAL SPECIFICATIONS			
		EP130J	E130J
Operating Frequency Band	GHz	10.7-13.25	
Low Band Attenuation	dB/100m, dB/100ft	12.7, 3.87	
Mid Band Attenuation	dB/100m, dB/100ft	11.5, 3.51	
High Band Attenuation	dB/100m, dB/100ft	11.2, 3.41	
Max. VSWR / Return Loss	- / dB	1.083 / 28	1.15 / 23.1

ACCESSORIES

IEC Accessories

Model Number	Description
D120-130FG-L	Connector 154 IEC-PDR 120 (10.7-12.75 GHz)
D120-130FG-U	Connector 154 IEC-PDR 120 (12.2-13.25 GHz)
B120-130FG-U	Connector 154 IEC-PBR 120 (12.2-13.25 GHz)
PW120-V-1	Pressure window, light type, UDR 120, brass
PW120-W-1	Pressure window, light type, UBR 120, brass
SHIM120-D-1	Shim for PDR 120, copper beryllium
SHIM120-B-1	Shim for PBR 120, copper beryllium
FDIE-C130	Flanging die for compact tool
FTOOL-C105380	Compact Flanging Tool for E105 to E380 waveguide
FDIE-U130	Flanging die for basic tool FTOOL-U038130
FTOOL-U038130	Basic Flanging Tool for E38 to E130 waveguide
HOIST1-58L	Hoisting grip, open, E130, E150

EIA Accessories

Model Number	Description
G75-130FG	Conn. WR75 choke/cover (11.7-13.25GHz) non-tun.
G75-130TG	Conn. WR75 choke/cover (11.7-13.25GHz) tunable
PW075-G-1 or PW-G075	Pressure window WR75 choke/cover, brass

Standard Accessories

Model Number	Description
BOOT4-130	Wall-/Roof Feed-Through for Plate FTP4-xx
GKIT-24-130	Grounding kit, Grounding wire 6AWG (13 mm²) 24″
GKIT-60-130	Grounding kit, Grounding wire 6AWG (13 mm²) 60″
CLAMP-130/150	Clamp, bolt-on

Premium Accessories

Model Number	Description
GKIT-24-130P	Grounding kit, Grounding wire 7AWG (16 mm²) 24″
RSB-130	RSB-Clip with clamp lining

FLEXWELL
ELLIPTICAL WAVEGUIDE

E150 Series: 13.4-15.35

ORDERING INFORMATION | IEC: R120, R140 | EIA: WR75, WR62

Maximum Frequency Band, GHz	Standard Waveguide Model Number	Premium Waveguide Model Number
10.80-15.35	E150J	EP150J

PRODUCT SPECIFICATIONS

GENERAL SPECIFICATIONS			
Dimensions over Jacket	mm, in	26 x 16	1.0 x 0.6
Weight	kg/m, lb/ft	0.4	0.27
Min. Bending Radii, without rebending E-Plane	mm, in	130	5
Min. Bending Radii, without rebending H-Plane	mm, in	280	11
Min. Bending Radii, with rebending E-Plane	mm, in	150	6
Min. Bending Radii, with rebending H-Plane	mm, in	300	12
Jacket Type	J JFN	PE, Black PE, Flame Retardant, Black	
Max. Twist	degree, m, ft	7	2.1
Max. Operating Pressure	bar, psi	0.5	7
Max. Pulling Length per Hoisting Grip	m, ft	100	305
Standard Hanger Spacing	m, ft	0.6	2

TEMPERATURE SPECIFICATIONS			
Installation	°C, °F	-40 to 60	-40 to 140
Storage	°C, °F	-70 to 85	-94 to 185
Operation	°C, °F	-50 to 85	-58 to 185

ELECTRICAL SPECIFICATIONS			
		EP150J	E150J
Operating Frequency Band	GHz	13.4-15.35	
Low Band Attenuation	dB/100m, dB/100ft	14.6, 4.45	
Mid Band Attenuation	dB/100m, dB/100ft	14.2, 4.33	
High Band Attenuation	dB/100m, dB/100ft	13.7, 4.18	
Max. VSWR / Return Loss	- / dB	1.083 / 28	1.15 / 23.1

ACCESSORIES

IEC Accessories

Model Number	Description
D120-150FP	Connector 154 IEC-PDR 120 (13.4-14.5 GHz)
B120-150FP	Connector 154 IEC-PBR 120 (14.0-14.5 GHz)
D140-150FP	Connector 154 IEC-PDR 140 (14.0-15.35 GHz)
B140-150FP	Connector 154 IEC-PBR 140 (14.0-15.35 GHz)
PW120-V-1	Pressure window, light type, UDR 120, brass
PW120-W-1	Pressure window, light type, UBR 120, brass
PW120-DV-1	Pressure window, heavy type, PDR/UDR 120, brass
PW120-BW-1	Pressure window, heavy type, PBR/UBR 120, brass
PW140-V-1	Pressure window, light type, UDR 140, brass
PW140-W-1	Pressure window, light type, UBR 140, brass
PW140-BW-1	Pressure window, heavy type, PBR/UBR 140, brass
SHIM120-D-1	Shim for PDR 120, copper beryllium
SHIM120-B-1	Shim for PBR 120, copper beryllium
SHIM140-D-1	Shim for PDR 140, copper beryllium
SHIM140-B-1	Shim for PBR 140, copper beryllium
FDIE-C150	Flanging die for compact tool
FTOOL-C105380	Compact Flanging Tool for E105 to E380 waveguide
P2000-001	Tube of Plast 2000 20ccm
HOIST1-58L	Hoisting grip, open, E130, E150

EIA Accessories

Model Number	Description
K75-150TG	Conn. WR75 contact (14.4-15.35 GHz) tunable
Z75-150FG	Conn. WR75 choke/cover (13.4-15.35GHz) non-tun.
Z75-150TG	Conn. WR75 choke/cover (13.4-14.5 GHz) tunable
PW062-G-1 or PW-G062	Pressure window UG-419/541/U, brass

Standard Accessories

Model Number	Description
BOOT4-150	Wall-/Roof Feed-Through for Plate FTP4-xx
GKIT-24-150	Grounding kit, Grounding wire 6AWG (13 mm²) 24”
GKIT-60-150	Grounding kit, Grounding wire 6AWG (13 mm²) 60”
CLAMP-130/150	Clamp, bolt-on

Premium Accessories

Model Number	Description
GKIT-24-150P	Grounding kit, Grounding wire 7AWG (16 mm²) 24”
RSB-150	RSB-Clip with clamp lining

Microwave Antenna Systems

FLEXWELL
ELLIPTICAL WAVEGUIDE

E185 Series: 17.3-19.7 GHz

ORDERING INFORMATION | IEC: R180, R220 | EIA: WR51, WR42

Maximum Frequency Band, GHz	Standard Waveguide Model Number	Premium Waveguide Model Number
13.70-19.70	E185J	EP185J

PRODUCT SPECIFICATIONS

GENERAL SPECIFICATIONS			
Dimensions over Jacket	mm, in	21 x 13	0.8 x 0.5
Weight	kg/m, lb/ft	0.3	0.2
Min. Bending Radii, without rebending E-Plane	mm, in	130	5
Min. Bending Radii, without rebending H-Plane	mm, in	280	11
Min. Bending Radii, with rebending E-Plane	mm, in	130	5
Min. Bending Radii, with rebending H-Plane	mm, in	300	12
Jacket Type	J	PE, Black	
Max. Twist	degree, m, ft	8	2.4
Max. Operating Pressure	bar, psi	0.5	7
Max. Pulling Length per Hoisting Grip	m, ft	100	305
Standard Hanger Spacing	m, ft	0.6	2

TEMPERATURE SPECIFICATIONS			
Installation	°C, °F	-40 to 60	-40 to 140
Storage	°C, °F	-70 to 85	-94 to 185
Operation	°C, °F	-50 to 85	-58 to 185

ELECTRICAL SPECIFICATIONS			
		EP185J	E185J
Operating Frequency Band	GHz	17.3-19.7	
Low Band Attenuation	dB/100m, dB/100ft	20.3, 6.19	
Mid Band Attenuation	dB/100m, dB/100ft	19.5, 5.94	
High Band Attenuation	dB/100m, dB/100ft	18.9, 5.76	
Max. VSWR / Return Loss	- / dB	1.083 / 28	1.15 / 23.1

ACCESSORIES

IEC Accessories

Model Number	Description
D180-185FP	Connector 154 IEC-PDR 180 (17.3-19.7 GHz)
B220-185FP	Connector 154 IEC-PBR 220 (17.7-19.7 GHz)
PW220-W-1	Pressure window, light type, UBR 220, brass
PW220-BW-1	Pressure window, heavy type, PBR/UBR 220, brass
SHIM180-D-1	Shim for PDR 180, copper beryllium
SHIM220-B-1	Shim for PBR 220, copper beryllium
FDIE-C185	Flanging die for compact tool
FTOOL-C105380	Compact Flanging Tool for E105 to E380 waveguide
P2000-001	Tube of Plast 2000 20ccm

EIA Accessories

Model Number	Description
G595-185TG	Connector UG-595/596/U (17.7-19.7 GHz) tunable
PW042-G-L-0 or PW-G042-L	Pressure window UG-595/596/U, brass (17.7-19.7 GHz)

Standard Accessories

Model Number	Description
BOOT4-185	Wall-/Roof Feed-Through for Plate FTP4-xx
GKIT-24-185	Grounding kit, Grounding wire 6AWG (13 mm²) 24”
GKIT-60-185	Grounding kit, Grounding wire 6AWG (13 mm²) 60”
CLAMP-185	Clamp, bolt-on

Premium Accessories

Model Number	Description
GKIT-24-185P	Grounding kit, Grounding wire 7AWG (16 mm²) 24”
RSB-185	RSB-Clip with clamp lining

FLEXWELL
ELLIPTICAL WAVEGUIDE

E220 Series: 21.2-23.6 GHz

ORDERING INFORMATION | IEC: R220 | EIA: WR42

Maximum Frequency Band, GHz	Standard Waveguide Model Number	Premium Waveguide Model Number
16.70-23.60	E220J	N/A

PRODUCT SPECIFICATIONS

GENERAL SPECIFICATIONS			
Dimensions over Jacket	mm, in	18 x 12	0.7 x 0.5
Weight	kg/m, lb/ft	0.3	0.2
Min. Bending Radii, without rebending E-Plane	mm, in	110	4
Min. Bending Radii, without rebending H-Plane	mm, in	230	9
Min. Bending Radii, with rebending E-Plane	mm, in	130	5
Min. Bending Radii, with rebending H-Plane	mm, in	250	10
Jacket Type	J JFN	PE, Black PE, Flame Retardant, Black	
Max. Twist	degree, m, ft	8	2.4
Max. Operating Pressure	bar, psi	0.5	7
Max. Pulling Length per Hoisting Grip	m, ft	100	305
Standard Hanger Spacing	m, ft	0.6	2

TEMPERATURE SPECIFICATIONS			
Installation	°C, °F	-40 to 60	-40 to 140
Storage	°C, °F	-70 to 85	-94 to 185
Operation	°C, °F	-50 to 85	-58 to 185

ELECTRICAL SPECIFICATIONS		
		E220J
Operating Frequency Band	GHz	21.2-23.6
Low Band Attenuation	dB/100m, dB/100ft	28.8, 8.78
Mid Band Attenuation	dB/100m, dB/100ft	28.3, 8.63
High Band Attenuation	dB/100m, dB/100ft	28.1, 8.56
Max. VSWR / Return Loss	- / dB	1.15 / 23.1

ACCESSORIES

IEC Accessories

Model Number	Description
B220-220FP	Connector 154 IEC-PBR 220 (21.2-23-6 GHz)
PW220-W-1	Pressure window, light type, UBR 220, brass
PW220-BW-1	Pressure window, heavy type, PBR/UBR 220, brass
SHIM220-B-1	Shim for PBR 220, copper beryllium
FDIE-C220	Flanging die for compact tool
FTOOL-C105380	Compact Flanging Tool for E105 to E380 waveguide
P2000-001	Tube of Plast 2000 20ccm
HOIST1-12L	Hoisting grip, open, E220, E300, E380

EIA Accessories

Model Number	Description
PW042-G-H-0	Pressure window UG-595/596/U, brass (21.2-23.6 GHz)

Premium Accessories

Model Number	Description
RSB-220	RSB-Clip with clamp lining

Microwave Antenna Systems

FLEXWELL
ELLIPTICAL WAVEGUIDE

E300 Series: 27.5-33.4 GHz

ORDERING INFORMATION | IEC: R220 | EIA: WR42

Maximum Frequency Band, GHz	Standard Waveguide Model Number	Premium Waveguide Model Number
24.00-33.40	E300J	N/A

PRODUCT SPECIFICATIONS

GENERAL SPECIFICATIONS			
Dimensions over Jacket	mm, in	14 x 10	0.55 x 0.4
Weight	kg/m, lb/ft	0.15	0.1
Min. Bending Radii, without rebending E-Plane	mm, in	90	4
Min. Bending Radii, without rebending H-Plane	mm, in	150	6
Min. Bending Radii, with rebending E-Plane	mm, in	100	4
Min. Bending Radii, with rebending H-Plane	mm, in	180	7
Jacket Type	J	PE, Black	
Max. Twist	degree, m, ft	8	2.4
Max. Operating Pressure	bar, psi	0.5	7
Max. Pulling Length per Hoisting Grip	m, ft	50	164
Standard Hanger Spacing	m, ft	0.5	1.6

TEMPERATURE SPECIFICATIONS			
Installation	°C, °F	-40 to 60	-40 to 140
Storage	°C, °F	-70 to 85	-94 to 185
Operation	°C, °F	-50 to 85	-58 to 185

ELECTRICAL SPECIFICATIONS		
		E300J
Operating Frequency Band	GHz	27.5-33.4
Low Band Attenuation	dB/100m, dB/100ft	50, 15.24
Mid Band Attenuation	dB/100m, dB/100ft	46, 14.02
High Band Attenuation	dB/100m, dB/100ft	44.4, 13.53
Max. VSWR / Return Loss	- / dB	1.15 / 23.1

ACCESSORIES

IEC Accessories

Model Number	Description
B320-300FP	Connector 154 IEC-PBR 320, gasket sealing
B260-300FP	Connector 154 IEC-PBR 260, gasket sealing
PW260-W-1	Pressure window, light type, UBR 260, brass
PW260-BW-1	Pressure window, heavy type, PBR/UBR 260, brass
PW320-W-1	Pressure window, light type, UBR 320, brass
PW320-BW-1	Pressure window, heavy type, PBR/UBR 320, brass
SHIM260-B-1	Shim for PBR 260, copper berylium
SHIM320-B-1	Shim for PBR 320, copper berylium
FDIE-C300	Flanging die for compact tool
FTOOL-C105380	Compact Flanging Tool for E105 to E380 waveguide
HOIST1-12L	Hoisting grip, open, E220, E300, E380

Premium Accessories

Model Number	Description
GKIT-24-300P	Grounding kit, Grounding wire 7AWG (16 mm²) 24”
RSB-300/380	RSB-Clip with clamp lining

FLEXWELL
ELLIPTICAL WAVEGUIDE

E380 Series: 37.0-39.5 GHz

ORDERING INFORMATION | IEC: R320 | EIA: WR28

Maximum Frequency Band, GHz	Standard Waveguide Model Number	Premium Waveguide Model Number
29.0-39.5	E380J	N/A

PRODUCT SPECIFICATIONS

GENERAL SPECIFICATIONS			
Dimensions over Jacket	mm, in	12 x 9	0.5 x 0.3
Weight	kg/m, lb/ft	0.1	0.07
Min. Bending Radii, without rebending E-Plane	mm, in	80	3
Min. Bending Radii, without rebending H-Plane	mm, in	140	6
Min. Bending Radii, with rebending E-Plane	mm, in	90	4
Min. Bending Radii, with rebending H-Plane	mm, in	150	6
Jacket Type	J	PE, Black	
Max. Twist	degree, m, ft	8	2.4
Max. Operating Pressure	bar, psi	0.5	7
Max. Pulling Length per Hoisting Grip	m, ft	50	164
Standard Hanger Spacing	m, ft	0.3	1

TEMPERATURE SPECIFICATIONS			
Installation	°C, °F	-40 to 60	-40 to 140
Storage	°C, °F	-70 to 85	-94 to 185
Operation	°C, °F	-50 to 85	-58 to 185

ELECTRICAL SPECIFICATIONS		
		E380J
Operating Frequency Band	GHz	37.0-39.5
Low Band Attenuation	dB/100m, dB/100ft	61.9, 18.87
Mid Band Attenuation	dB/100m, dB/100ft	60.7, 18.5
High Band Attenuation	dB/100m, dB/100ft	60, 18.29
Max. VSWR / Return Loss	- / dB	1.15 / 23.1

ACCESSORIES

IEC Accessories

Model Number	Description
B320-380FP	Connector 154 IEC-PBR 320, gasket sealing
PW320-W-1	Pressure window, light type, UBR 320, brass
PW320-BW-1	Pressure window, heavy type, PBR/UBR 320, brass
SHIM320-B-1	Shim for PBR 320, copper beryllium
FDIE-C380	Flanging die for compact tool
FTOOL-C105380	Compact Flanging Tool for E105 to E380 waveguide
HOIST1-12L	Hoisting grip, open, E220, E300, E380

Premium Accessories

Model Number	Description
GKIT-24-380P	Grounding kit, Grounding wire 7AWG (16 mm²) 24"
RSB-300/380	RSB-Clip with clamp lining

Microwave Antenna Systems

TWISTFLEX
SELECTION GUIDE

RFS twistflex is fabricated from spiral wound silver plated bronze strip. It has a pressure tight (15 psig) protective jacket. Allowable twist is 55°/ft (180º/m) for WR75 (R120) to 20º/ft (64°/m). for WR229 (R40). EIA twistflex includes mounting hardware for one flange connection except in cases where flanges are different on each end, hardware is supplied for both flanges. IEC twistflex includes gaskets and mounting hardware for both flanges.Standard lengths are 24" (60 cm), 36" (90 cm) and 48" (120 cm). Contact RFS for special lengths.

IEC Twistflex

Frequency, GHz	Twistflex	R	Flange 1	Flange 2	Plating	60	90	120
3.3 - 4.9	TF	040-	D	V	1-	060M	090M	-
3.95 - 5.85		048-	D	V		060M	090M	-
5.85 - 8.2		070-	D	V		060M	090M	120M
				D		-	090M	120M
7.05 - 10		084-	D	V		060M	090M	120M
				D		-	090M	120M
			B	W		060M	090M	120M
				B		060M	090M	120M
8.2 - 12.4		100-	D	V		060M	090M	120M
				D		060M	090M	120M
			B	W		060M	090M	120M
				B		-	090M	120M
10.0 - 15.0		120-	D	V		060M	090M	120M
			B	W		060M	090M	120M
				B		060M	090M	120M
12.4 - 18.0		140-	D	V		060M	090M	120M
			B	W		060M	090M	120M
				B		060M	090M	120M
18.0 - 26.5		220-	B	W		060M	090M	120M
				B		060M	090M	120M
22.0 - 33.0		260-	B	W		060M	090M	120M
				B		060M	090M	120M
26.5 - 40.0		320-	B	W		060M	090M	120M
				B		060M	090M	120M

EIA Twistflex

Frequency, GHz	Twistflex	WR	Flange 1	Flange 2	Plating	24	36	60
3.3 - 4.9	TF	229-	C	C	1-	024I	036I	-
3.95 - 5.85		187-	C	C		024I	036I	-
			U	Z		024I	036I	-
5.85 - 8.2		137-	C	C		024I	036I	048I
				M		024I	036I	-
				U		024I	036I	-
			M	U		024I	036I	-
			U	Z		024I	036I	-
7.05 - 10.0		112-	C	C		024I	036I	048I
				U		024I	-	-
			U	Z		024I	036I	-
8.2 - 12.4		090-	C	C		024I	036I	048I
			U	Z		024I	036I	-
12.2 - 13.2		075-	U	Z		024I	036I	-
17.7 - 23.6		042-	U	Z		024IL*	036IL*	-
						024IH**	036IH**	-

*Frequency range = 17.7-19.7 GHz
**Frequency range = 21.2-23.6 GHz

DEHYDRATION SYSTEMS
LARGE, MEDIUM AND SMALL CAPACITY

Prevent moisture, condensation and degradation in performance

The RFS digital dehydrator allows for increased system flexibility to suit individual customer requirements – easily configure options in the field as needed!

The APD-D Series Automatic Pressurization Dehydrator is available in standard system capacity and large system capacity models. The APD-D Series will provide reliable pressurization of elliptical waveguide, coaxial cable and rigid transmission line systems – and the new digital design will now enable easy on-site configuration of options such as humidity alarm, high pressure alarm, run time alarm and system purge.

The APD-D dehydrator includes a self-contained, completely automated air drying system that utilizes a pressure swing adsorption cycle to provide pressurized dry air while continuously purging the collected moisture to the atmosphere. It can be retrofitted into any existing RFS dehydrator installation, easily integrating with existing microwave antenna system equipment. It also supports easy option upgrades with no system downtime required by enabling options to be added to the base model or reset based on customer specifications in the factory or in the field by working with RFS.

For applications where only DC power is available, RFS offers medium and small capacity dehydrators operating with voltage between 48 and 60 VDC.

These fully automatic dehydrators are factory pre-configured and include low / high pressure, high humidity and system and power alarms. An optional module for remote monitoring over Ethernet is available. The LAB4 dehydrator has 4 pressure ports and the MINILAB is delivered with 6 pressure ports that can be individually opened and closed.

APD-D DIGITAL DEHYDRATOR SERIES

LAB4DC-B DEHYDRATOR

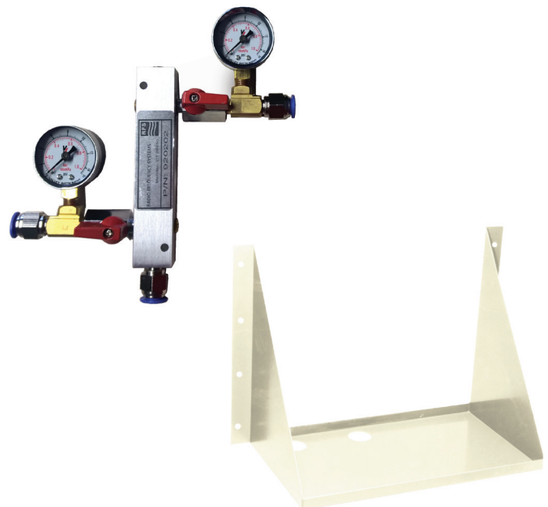
		Air Flow		Power Supply	Output Pressure	
Style	*Model Number*	*Nl/h*	*SCFM*	*V*	*kPa*	*psig*
Large Capacity	APD70-D	1190	0.7	115 AC/60Hz	6.9-68.9	1-10
	APD72-D	990	0.58	230 AC/50Hz	6.9-68.9	1-10
Medium Capacity	APD20-D	340	0.2	115 AC/60Hz	6.9-68.9	1-10
	APD22-D	280	0.17	230 AC/50Hz	6.9-68.9	1-10
	LAB4DC-B	300	0.18	48-60 DC	1-6	0.15-0.87
Small Capacity	MINILAB-DC	150	0.09	48-60 DC	2	0.3

PRESSURIZATION PRODUCTS
COMPLETE END-TO-END SOLUTIONS

A vast array of products for installation, operation and maintenance

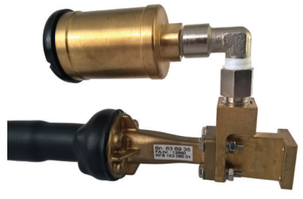
Gas Distribution Manifolds are used for pressure distribution to several transmission lines. They allow easy maintenance checks of individual lines. Includes 1/8" FPT input, distribution manifold block and one release valve. 0-15 psig pressure gauge, 15 ft. (4.5m) 3/8" plastic tubing for each outlet. Also included are four 3/8" plastic tubing racks (10 slots per rack), one roll of teflon tape and 24 nylon ties. Designate number of outlets by suffix number, i.e., GDM-2 for two outlets, GDM-4 for four outlets, etc.

PRODUCTS FOR APD DEHYDRATOR-SERIES	
Model Number	**Description**
GDM-2	Gas Distribution Manifold 2-ports
GDM-4	Gas Distribution Manifold 4-ports
GDM-6	Gas Distribution Manifold 6-ports
GDM-8	Gas Distribution Manifold 8-ports
SHELF-APD-D	Shelf, Wall / Rack Mount for APD-D series dehydrators



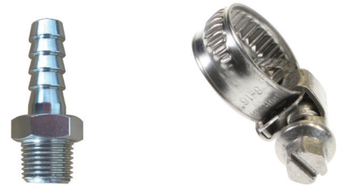
For waveguides with small air volume (< 2 liter) a humidity monitoring kit is deemed sufficient after filling the waveguide with dry air or nitrogen. For these applications RFS offers the cost-effective DC-Kits in several sizes. These kits can be used for 6m of RFS E105 waveguide and up to 75m of RFS E380 waveguide.

DESICCANT CATRIDGE KITS FOR MOISTURE MONITORING	
Model Number	**Description**
DC-KIT-B	For E100 to E220
DC-KIT-260	For E300 with connectors with PBR260 flange
DC-KIT-320	For E300 and E380 with connectors with PBR320 flange



RFS offers all the necessary components to connect the LAB4 and MINILAB dehydrators to the waveguide connectors. A flexible butyl hose is available in 10m and 50m length with all necessary adapters and clamps for secure air connection.

PRODUCTS FOR LAB AND MINILAB DEHYDRATOR-SERIES	
Model Number	**Description**
TUBE-01-010M	Butyl Hose, 6mm inner diameter, 10m length
TUBE-01-050M	Butyl Hose, 6mm inner diameter, 50m length
TUBE-01-G18	Tube Adaptor with G 1/8" thread for TUBE-01-xxxM
TUBE-SEAL	Teflon Sealing Tape
TUBE-0816	Hose Clamp from 8mm to 16mm



RECTANGULAR COMPONENTS
SELECTION GUIDE

During site renovations, it is not uncommon to come across a mixure of different connector types or sizes between the antenna and the transmitter. For these cases RFS offers a large variety of rectangular waveguide components like coaxial adaptors, straight sections and E- and H-Bends.

IEC Components

Component Type	R	Flange 1	Flange 2	Plating	Color	Length, cm	Product Description
HB	040-120	-D	V	-I	-B		90 degree H-Bend
	084-320	-B	W				
EB	040-120	-D	V				90 degree E-Bend
	084-320	-B	W				
SW	040-084	-D	V			-010M	Straight waveguide section
	084-320	-B	W			-010M	
NADP	040-140	-D					Waveguide to Coax adapter with N-female Connector
	084-140	-B					

EIA Components

Component Type	WR	Flange 1	Flange 2	Plating	Color	Length, cm	Product Description
NADP	137-090	-C		-1	-O		Waveguide to Coax adapter with N-female Connector
		-U					

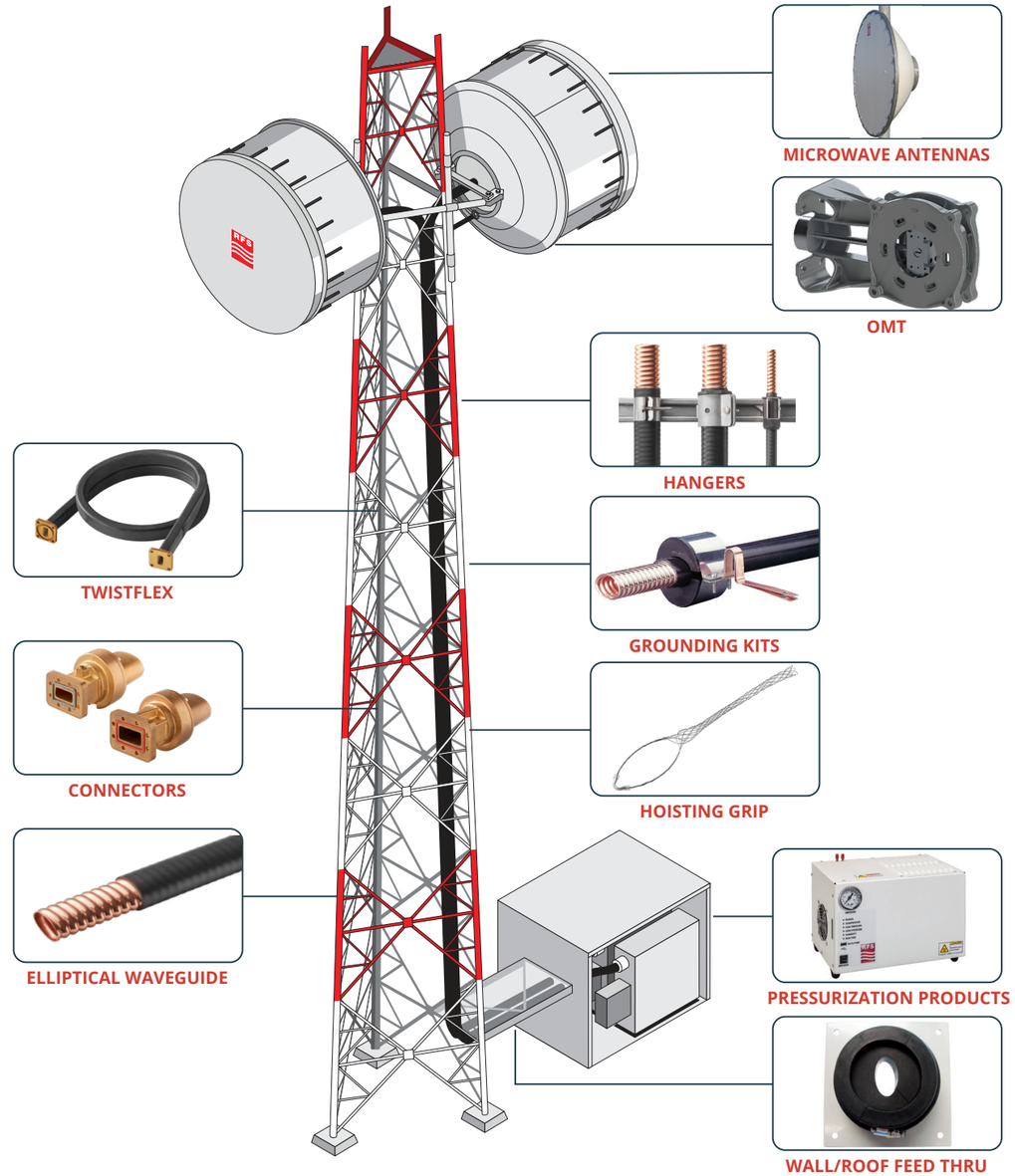
Coding for Flanges

IEC Flange	D	PDR
	V	UDR
	B	PBR
	W	UBR

EIA Flange	C	CPR G
	U	UG Cover

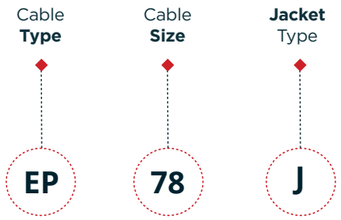
RFS END-TO-END
MICROWAVE SITE SOLUTIONS

RFS offers a full range of waveguides, connectors, twistflex, pressurization equipment, OMTs and accessories to support your end-to-end radio link network.



UNDERSTANDING
WAVEGUIDE MODEL NAMES

All RFS waveguide model names are based on a naming structure that tells you:



EP
CABLE TYPE

E	Standard version
ES	Standard version, super flexible
EP	Premium version
ESP	Premium version, super flexible

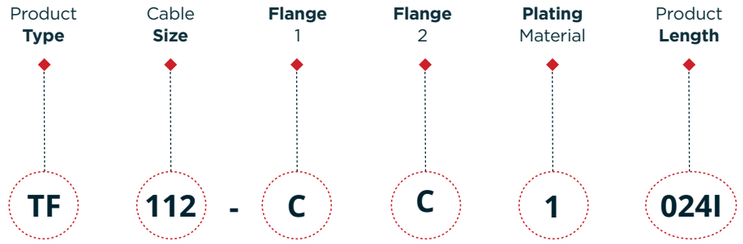
78
CABLE FREQUENCY

38	3.1 - 4.2 GHz	**130**	10.7 - 13.25 GHz
46	4.4 - 5.0 GHz	**150**	13.4 - 15.35 GHz
60	5.6 - 6.425 GHz	**185**	17.3 - 19.7 GHz
65	5.9 - 7.125 GHz	**220**	21.2 - 23.6 GHz
78	7.1 - 8.5 GHz	**300**	27.5 - 33.4 GHz
100	8.5 - 10.0 GHz	**380**	37.0 - 39.5 GHz
105	10.0 - 11.7 GHz		

J
JACKET TYPE

J	Standard PE jacket
JFN	Flame retardant LSZH jacket

All RFS twistflex model names are based on a naming structure that tells you:



112
CABLE SIZE
R – according to IEC spec

040	3.3 - 4.9 GHz
048	3.95 - 5.85 GHz
070	5.85 - 8.2 GHz
084	7.05 - 10.0 GHz
100	8.2 -12.4 GHz
120	10.0 -15.0 GHz
140	12.4 - 18.0 GHz
220	18.0 -26.5 GHz
260	22.0 -33.0 GHz
320	26.5 - 40.0 GHz

*only on request

112
CABLE SIZE
WR – according to EIA spec

229	3.3 - 4.9 GHz
187	3.95 - 5.85 GHz
137	5.85 - 8.2 GHz
112	7.05 - 10.0 GHz
090	8.2 -12.4 GHz
075	10.0 -15.0 GHz
042	18.0 -26.5 GHz

C | C
FLANGE 1 & 2

D	PDR
B	PBR
V	UDR
W	UBR
C	CPR
M	CMR
U	UG Cover
Z	UG Choke

1
PLATING MATERIAL

1	Brass coated
3	Tin plated*

024I
PRODUCT LENGTH

024I	24 inch
036I	36 inch
048I	48 inch
060M	60 cm
090M	90 cm
120M	120 cm

WHY RFS?

HERE ARE JUST A FEW OF THE REASONS CUSTOMERS CHOOSE RFS MICROWAVE ANTENNAS

Innovative Structural Design
RFS designs antennas that minimize materials without sacrificing mechanical stability. These lightweight, yet robust antennas reduce tower loading as well as installation costs and time.

Superior Mechanical Design
RFS designs are based on advanced calculation methods, such as the finite element method. Mechanical stability and higher wind resistance reduce maintenance requirements and increase antenna life span.

Lower Total Cost of Ownership
RFS' modular designs, low maintenance requirements and long-term reliability reduce your TCO.

Simple Installation Procedures
Streamline instructions accelerate installations and reduce training requirements.

Spun Backring Design
RFS TrunkLine, PrimeLine and Harsh Area antenna dishes 1.8m (6ft) and larger are manufactured with a spun backring design for increased mechanical stability and link security.

Rear-Mounted Feeds
This style simplifies installation and is available for most models.

High Performing Small Antennas
RFS' small antennas meet key radiation pattern requirements and can be used in place of larger antennas to simplify site negotiations and minimize leasing costs.

Extensive testing & qualification
With these procedures in place there are no compromises in performance or safety. Our customers have complete confidence in our microwave antennas.

Compact Packaging
By using lighter weight and more compact packaging, RFS helps you reduce transportation requirements and simplify logistics.

Optional Split-Reflector Designs
Choosing this option further reduces packaging and transportation requirements.

Customized Fittings
This detail allows specific radios and hot-standby couplers to be mounted directly on the antenna, eliminating the need for a waveguide link to the radio[1].

[1] RFS CompacetLine, CompactLineEasy and SerenityLine antennas support integrated radios.

RFS has been a leader in designing and manufacturing microwave antennas for more than 40 years and has deployed several million microwave antennas around the globe. With manufacturing facilities on 3 continents, RFS can ensure its customers enjoy low transportation costs and short lead times.

03

RADIO FREQUENCY SYSTEMS

WWW.RFSWORLD.COM