

# HFC Series

## Flexible Foam Dielectric Feeder



1/2"  
HFC 12D / HFC-FR 12D



7/8"  
HFC 22D / HFC-FR 22D



1-1/4"  
HFC 33D / HFC-FR 33D



1-5/8"  
HFC 42D / HFC-FR 42D

### Construction

		HFC 12D (1/2")	HFC 22D (7/8")	HFC 33D (1-1/4")	HFC 42D (1-5/8")
Inner Conductor	Material / Construction	Copper-Clad Aluminum Wire	Smooth Copper Tube	Smooth Copper Tube	Helically Corrugated Copper Tube
	Diameter (mm)	4.8	9.0	13.1	17.1
Dielectric	Material / Construction	Foamed Polyethylene	Foamed Polyethylene	Foamed Polyethylene	Foamed Polyethylene
	Diameter (mm)	12.0	22.1	32.4	42.5
Outer Conductor	Material / Construction	Annularly Corrugated Copper Tube	Annularly Corrugated Copper Tube	Annularly Corrugated Copper Tube	Annularly Corrugated Copper Tube
	Diameter (mm)	13.8	24.9	36.0	46.5
Jacket Diameter	Standard Jacket (mm)	16.0	27.9	39.0	50.0
	Halogen-Free / Flame-Retardant Jacket (mm)	16.0	27.9	39.0	50.0

### Mechanical Characteristics

		HFC 12D (1/2")	HFC 22D (7/8")	HFC 33D (1-1/4")	HFC 42D (1-5/8")
Min. Bending Radius (mm)		125	250	380	510
Recommended Operating Temperature	Standard Jacket (°C)	-40 ~ +80	-40 ~ +80	-40 ~ +80	-40 ~ +80
	Halogen-Free / Flame-Retardant Jacket (°C)	-30 ~ +80	-30 ~ +80	-30 ~ +80	-30 ~ +80
Nominal Weight	Standard Jacket (kg/km)	242	546	963	1,265
	Halogen-Free / Flame-Retardant Jacket (kg/km)	260	590	1,014	1,358
Flat Plate Crush Resistance (kg/mm)		2.0	1.8	2.4	2.7
Max. Pulling Force (kg)		113	147	260	250

## Electrical Characteristics

		HFC 12D (1/2")	HFC 22D (7/8")	HFC 33D (1-1/4")	HFC 42D (1-5/8")
DC Resistance $\Omega/1,000\text{m}$ ( $\Omega/1,000\text{ft}$ )	Inner Conductor	1.55 (0.47)	1.05 (0.32)	0.72 (0.22)	0.85 (0.26)
	Outer Conductor	1.9 (0.58)	1.05 (0.32)	0.45 (0.14)	0.36 (0.11)
Insulation Resistance ( $\text{m}\Omega \cdot \text{km}$ )		10,000	10,000	10,000	10,000
Dielectric Strength (for 1 Min.)		DC 4,000V	DC 6,000V	DC 9,000V	DC 11,000V
Velocity of Propagation (%)		88	88	88	88
Peak Power Rating (kW)		40	91	205	315
Max. Operating Frequency (GHz)		8.8	5	3.3	2.5
Characteristic Impedance ( $\Omega$ )		$50 \pm 1$	$50 \pm 1$	$50 \pm 1$	$50 \pm 1$
Return Loss (Typical Value) (dB)		28	28	28	28

## Attenuation (at 20°C) & Average Power Rating (at Ambient 40°C, Inner Conductor 100°C)

Frequency (MHz)		HFC 12D (1/2")	HFC 22D (7/8")	HFC 33D (1-1/4")	HFC 42D (1-5/8")
Attenuation dB/100m (dB/100ft)	30	1.17 (0.36)	0.64 (0.20)	0.44 (0.13)	0.36 (0.11)
	100	2.17 (0.66)	1.19 (0.36)	0.83 (0.25)	0.67 (0.20)
	150	2.67 (0.81)	1.47 (0.45)	1.03 (0.31)	0.84 (0.26)
	450	4.75 (1.45)	2.65 (0.81)	1.86 (0.57)	1.53 (0.47)
	824	6.49 (1.98)	3.68 (1.12)	2.62 (0.80)	2.17 (0.66)
	890	6.76 (2.05)	3.85 (1.18)	2.75 (0.84)	2.27 (0.69)
	960	7.04 (2.15)	4.01 (1.22)	2.86 (0.87)	2.38 (0.73)
	1,000	7.20 (2.19)	4.10 (1.25)	2.94 (0.90)	2.43 (0.74)
	1,700	9.61 (2.93)	5.54 (1.69)	4.01 (1.22)	3.35 (1.02)
	1,800	9.91 (3.02)	5.73 (1.75)	4.15 (1.26)	3.47 (1.06)
	2,000	10.70 (3.26)	6.09 (1.86)	4.43 (1.35)	3.71 (1.13)
	2,300	11.54 (3.52)	6.63 (2.02)	4.60 (1.40)	4.07 (1.24)
	3,000	13.44 (4.10)	7.81 (2.38)	5.43 (1.66)	–
	3,400	14.44 (4.40)	8.52 (2.59)	–	–
	4,000	15.81 (4.82)	9.42 (2.87)	–	–
	5,000	17.77 (5.42)	10.84 (3.30)	–	–
Average Power Rating (kW)	30	6.26	14.18	22.12	30.52
	100	3.43	7.63	11.73	16.40
	150	2.79	6.17	9.45	13.08
	450	1.56	3.43	5.23	6.95
	824	1.15	2.46	3.72	4.80
	890	1.10	2.35	3.54	4.62
	960	1.07	2.26	3.40	4.43
	1,000	1.04	2.20	3.31	4.31
	1,700	0.78	1.63	2.43	3.13
	1,800	0.75	1.53	2.35	2.98
	2,000	0.70	1.49	2.20	2.76
	2,300	0.65	1.36	1.50	2.51
	3,000	0.56	1.16	1.80	–
	3,400	0.52	1.06	–	–
	4,000	0.48	0.96	–	–
	5,000	0.43	0.83	–	–

\* Standard Conditions : V.S.W.R 1.0 ; Ambient Temperature 20°C