



FLANN MICROWAVE

Precision Direct Reading Attenuator Series 110

- Models now up to 500GHz (WM570)
- 0 to 60dB - Direct reading
- Attenuation accuracy 0.1dB or 1%
- Low insertion loss
- Very high repeatability
- Unsurpassed performance and reliability



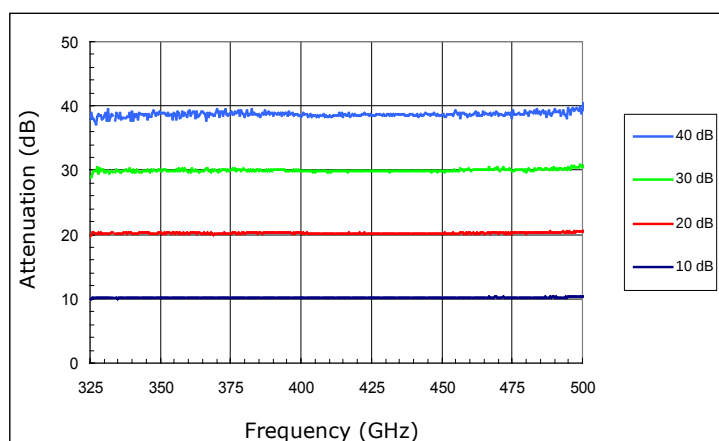
Model: 32110

For many years Flann Rotary Attenuators have been considered by many as the “Industry Standard”.

The range has now been extended to include models up to 500 GHz, offering unsurpassed performance.

Attenuation is independent of frequency and therefore Flann Series 110 Attenuators are ideally suited for attenuation transfer and verification standards.

Typical Attenuation for Model 570110



Related Products

Series	
020/080:	Calibrated Variable/Variable Attenuators
113:	Field usable Direct Reading Attenuators
580-584/081:	Precision Fixed/ Fixed Attenuators
620, 621:	Programmable Attenuators
CP2021:	Control Processor for all programmable products

Custom Design

Custom built instruments can be supplied; please contact the sales team for more information.

Ordering

Please specify the following:

WG designation	Series		Flange
10 - 570	110		See flann.com

Example: 17110 UBR120. A WG17 Precision Direct Reading Attenuator with UBR120 flanges.



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Microwave Specifications

WG Designation				Frequency Range (GHz)	Max VSWR	Max Insertion Loss (dB)	Max Power (W)	Attenuation Range (dB)	Attenuation Accuracy (whichever is greater)
WG	WM	R	WR						
10	-	32	284	2.6 - 3.95	1.15	0.25		0 - 60	0.1dB / 1%
11A	-	40	229	3.22 - 4.90	1.15	0.25	10		
12	-	48	187	3.94 - 5.99	1.15	0.25	10		
13	-	58	159	4.64 - 7.05	1.15	0.25	9		
14	-	70	137	5.38 - 8.18	1.15	0.25	8		
15	-	84	112	6.58 - 10.0	1.15	0.25	6		
16	-	100	90	8.20 - 12.5	1.15	0.25	4		
17	-	120	75	9.84 - 15.0	1.15	0.25	3		
18	-	140	62	11.9 - 18.0	1.15	0.3	2		
19	-	180	51	14.5 - 22.0	1.15	0.4	1.5		
20	-	220	42	17.6 - 26.7	1.15	0.6	1		
21	-	260	34	21.7 - 33.0	1.15	0.8	0.75		
22	-	320	28	26.4 - 40.1	1.15	0.9	0.5		
23	-	400	22	33.0 - 50.1	1.15	1.0	0.3		
24	-	500	19	39.3 - 59.7	1.15	1.0	0.25		
25	-	620	15	49.9 - 75.8	1.15	1.0	0.15		
26	-	740	12	60.5 - 92.0	1.15	1.3	0.1		
27	-	900	10	73.8 - 112	1.15	1.5	0.07		
28	-	1200	8	92.3 - 140	1.20	1.8	0.05		
29	-	1400	6	114 - 173	1.25	2.2	0.035		
30	-	1800	5	145 - 220	1.28	2.7	0.02	0 - 50	0.15dB / 1.2%
21	-	2200	4	172 - 261	1.40	3.0	0.015	0 - 45	0.2dB / 1.5%
32	-	2600	3	217 - 330	1.55	3.0	0.01	0 - 40	0.3dB / 1.5%
-	710	-	'2.8'	260 - 400	1.75	4.0	0.007	0 - 35	0.3dB / 2%
-	570	-	'2.2'	330 - 500	2.20	4.5	0.005	0 - 30	0.4dB / 2.5%

Scale Increment

Waveguide 10-27 Repeatability

Attenuation Scale Range (dB)	Scale Increment (dB)
1 - 4	0.01
4 - 30	0.1
30 - 40	0.2
40 - 60	0.5

Setting Attenuation (dB)	Repeatability (dB)
10	0.002
20	0.003
40	0.005
60	0.008

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