

# Calibrated Variable Attenuators Series 020

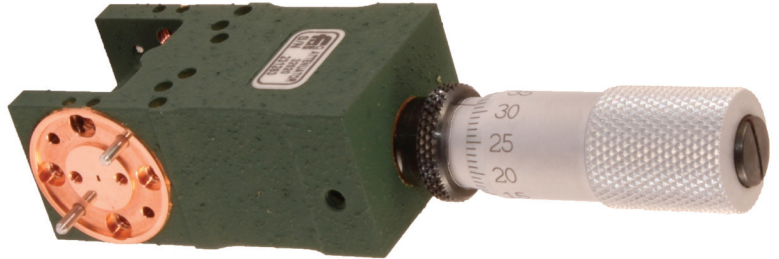
## Features

- Models from 1.72 GHz to 500 GHz
- 0 dB - 30 dB\* Calibrated Attenuation Range
- Low VSWR

The Flann Series 020 of Calibrated Variable attenuators are fitted with a stable precision attenuating elements driven across the waveguide section by a micrometer.

The micrometer drive is free from backlash, permitting attenuation calibration to a high accuracy. The micrometer is fitted with a locking device which enables the adjusting mechanism to be set and locked at any setting. The attenuating elements are constructed from an extremely stable ni-chromed glass composite.

\*WG29 - WM570 calibrated attenuation range 0 - 25 dB



Model 32020

On models 08020 to 21020 the vane is introduced transversely across the waveguide.

Models 22020 - 570020 have a vane introduced through a slot in the centre of the broad wall.

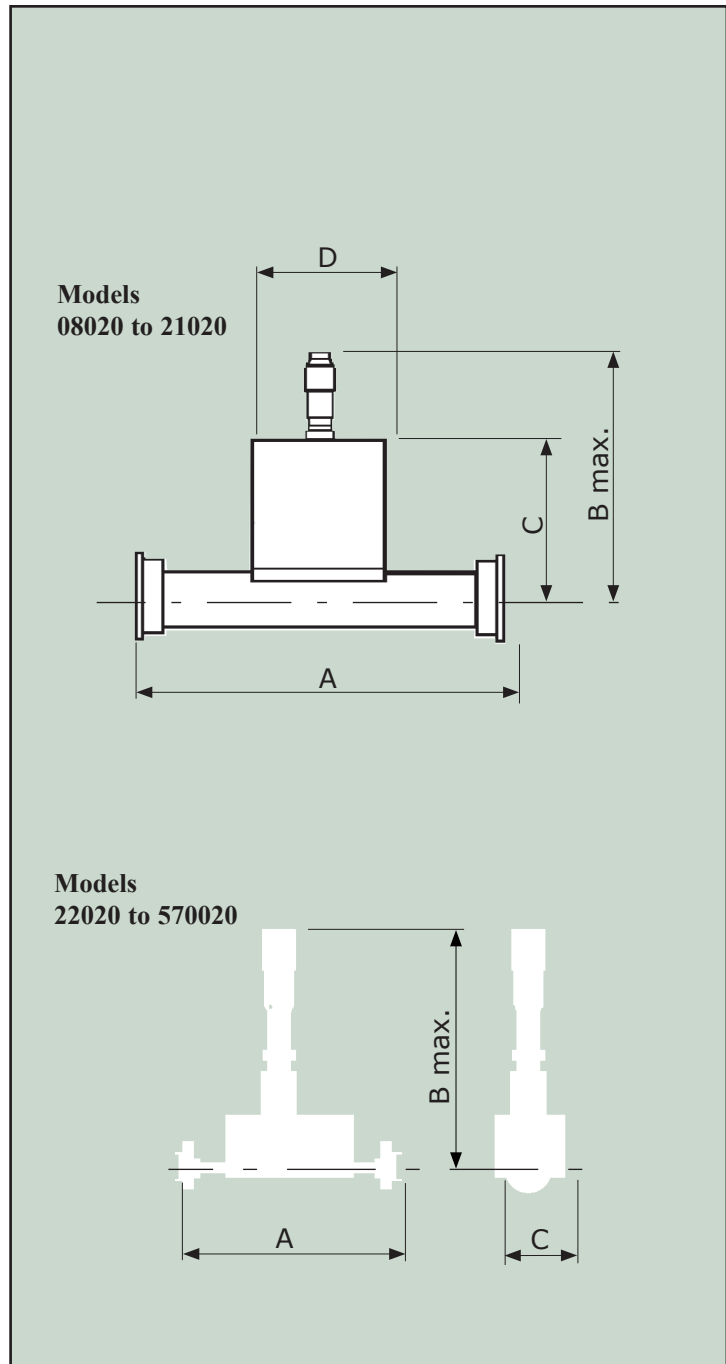
A calibration is provided at the centre band frequency unless otherwise specified.

Calibration at additional frequencies can be provided at extra cost.

Model	Frequency Range (GHz)	Waveguide				VSWR (Max)	Calibration Accuracy (±dB)	Calibration Frequency (GHz)	Maximum Insertion Loss (dB)	Maximum Power (Watts)
		WG	WM	R	WR					
08020	1.72 - 2.61	8	-	22	430	1.07	0.2	2.17	0.2	4.0
10020	2.60 - 3.95	10	-	32	284	1.07	0.2	3.28	0.2	2.5
11A020	3.22 - 4.90	11A	-	40	229	1.07	0.2	4.10	0.2	2.0
12020	3.94 - 5.99	12	-	48	187	1.07	0.2	4.97	0.2	2.0
13020	4.64 - 7.05	13	-	58	159	1.07	0.2	5.85	0.2	2.0
14020	5.38 - 8.18	14	-	70	137	1.07	0.2	6.78	0.2	1.0
15020	6.58 - 10.0	15	-	84	112	1.07	0.2	8.29	0.2	1.0
16020	8.20 - 12.5	16	-	100	90	1.07	0.2	10.35	0.2	1.0
17020	9.84 - 15.0	17	-	120	75	1.07	0.2	12.42	0.2	0.75
18020	11.9 - 18.0	18	-	140	62	1.07	0.3	14.95	0.3	0.75
19020	14.5 - 22.0	19	-	180	51	1.07	0.3	18.25	0.3	0.75
20020	17.6 - 26.7	20	-	220	42	1.07	0.3	22.15	0.3	0.5
21020	21.7 - 33.0	21	-	260	34	1.07	0.35	27.35	0.3	0.5
22020	26.4 - 40.1	22	-	320	28	1.07	0.4	33.25	0.4	0.4
23020	33.0 - 50.1	23	-	400	22	1.07	0.2	41.55	0.2	0.35
24020	39.3 - 59.7	24	-	500	19	1.07	0.2	49.50	0.2	0.3
25020	49.9 - 75.8	25	-	620	15	1.07	0.25	62.85	0.2	0.25
26020	60.5 - 92.0	26	-	740	12	1.07	0.3	76.25	0.3	0.2
27020	73.8 - 112	27	-	900	10	1.07	0.4	92.9	0.4	0.15
28020	92.3 - 140	28	-	1200	8	1.09	0.6	116.2	0.5	0.12
29020*	114 - 173	29	-	1400	6	1.11	0.9	140	0.7	0.1
30020*	145 - 220	30	-	1800	5	1.15	1.3	180	0.8	0.08
31020*	172 - 261	31	-	2200	4	1.18	1.0	215	0.7	0.06
32020*	217 - 330	32	-	2600	3	1.24	1.5	275	1.0	0.05
710020*	260 - 400	-	710	-	'2.8'	1.3	2.0	330	1.2	0.04
570020*	330 - 500	-	570	-	'2.2'	1.4	2.0	415	3.0	0.03

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Model	Dimensions (mm)			
	A	B Max	C	Dia D
10020	430	223	138	151
11A020	380	217	132	151
12020	370	145	92	86
13020	340	141	89	86
14020	310	138	86	64
15020	240	132	83	64
16020	180	127	79	64
17020	180	125	78	64
18020	150	100	54	35
19020	125	97	52	35
20020	80	95	51	35
21020	80	94	50	35
22020	80	90	31	-
23020	75	85	31	-
24020	75	85	31	-
25020	60	80	22	-
26020	60	80	22	-
27020	60	80	22	-
28020	60	80	22	-
29020	60	80	22	-
30020	30	80	22	-
31020	25	80	22	-
32020	25	80	22	-
710020	20	80	22	-
570020	20	80	22	-



## ORDERING INFORMATION

Model: description, calibration frequency (if different from centre band)

Example: Model 18020 calibrated variable attenuator, calibration frequency 14.95GHz

Series 020

For standard flange types and recommendations see pages 118 onwards