

Filter Q and Octave Bandwidth

$$Q = (2^{\{1/[2 \times K]\}}) / (2^{(1/K)} - 1)$$

K = 1/BW = number of divisions per octave

BW = Bandwidth

Example: 1/3 octave = Q of 4.3

Octave BW	Filter Q		Octave BW	Filter Q		Octave BW	Filter Q		Octave BW	Filter Q
1/100	144.3		1	1.41		4	0.267		7	0.089
1/90	129.8		1 1/4	1.12		4 1/4	0.242		7 1/4	0.082
1/80	115.4		1 1/3	1.04		4 1/3	0.234		7 1/3	0.079
1/70	101.0		1 1/2	0.92		4 1/2	0.220		7 1/2	0.075
1/60	86.6		1 2/3	0.82		4 2/3	0.207		7 2/3	0.071
1/50	72.1		1 3/4	0.78		4 3/4	0.200		7 3/4	0.068
1/40	57.7		2	0.67		5	0.182		8	0.063
1/30	43.3		2 1/4	0.58		5 1/4	0.166		8 1/4	0.058
1/25	36.1		2 1/3	0.56		5 1/3	0.161		8 1/3	0.056
1/20	28.9		2 1/2	0.51		5 1/2	0.152		8 1/2	0.053
1/16	23.1		2 2/3	0.47		5 2/3	0.143		8 2/3	0.050
1/12	17.3		2 3/4	0.45		5 3/4	0.139		8 3/4	0.048
1/10	14.4		3	0.40		6	0.127		9	0.044
1/8	11.5		3 1/4	0.36		6 1/4	0.116		9 1/4	0.041
1/6	8.7		3 1/3	0.35		6 1/3	0.113		9 1/3	0.039
1/5	7.2		3 1/2	0.33		6 1/2	0.106		9 1/2	0.037
1/4	5.8		3 2/3	0.30		6 2/3	0.100		9 2/3	0.035
1/3	4.3		3 3/4	0.29		6 3/4	0.097		9 3/4	0.034
1/2	2.9								10	0.031
2/3	2.1									
3/4	1.9									
1	1.4									

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