



# TECHNICAL SPECIFICATIONS FL103

## DESCRIPTION

A 3-way full range system in a dual vent, trapezoidal enclosure. Includes a 15-in woofer (vented), a 7-in midrange cone (separated vented subenclosure) and a 1-in exit compression driver on a Wave Guide Plate™. Powering mode is switchable: passive (3-way crossover) or biamplified (passive MF/HF crossover).

## APPLICATIONS

The FL103 delivers extremely high output and studio fidelity from a compact enclosure. True 3-way design dramatically improves the quality of speech reproduction. Midrange venting smooths response at LF/MF crossover. Low "Q" provides exceptionally natural reproduction in permanent or portable applications demanding the highest quality sound. Comprehensive mounting/suspension hardware. Six year warranty.

Applications include:

Concert Halls	Recital Halls
Theaters	MultiMedia
Small HOW's	Live Music Club

## DESCRIPTIVE DATA

Part Number	999066
Product Group	J
LF Subsystem & Loading	1x 15-in, Vented
MF Subsystem & Loading	1x 7-in Cone in Vented Subenclosure
HF Subsystem & Loading	1x 1-in Exit Compression Driver on Wave Guide Plate™
System Configuration	3-way, Full Range
Powering Configuration(s)	Switchable: Full Range (passive LF/MF/HF crossover) or Biamplified (passive MF/HF crossover)
Controls (switches, knobs)	Powering Mode Switch
Recommended High-Pass Frequency (24 dB/Octave)	30Hz
Cabinet Type (shape)	Trapezoidal
Enclosure Materials	Baltic Birch Plywood
Finish	Black Catalyzed Polyurethane
Connectors	2 Neutrik NL4 Speakon
Suspension Hardware	6x 3-position flytracks (2 each on top, bottom and back), 12x 3/8"-16 threaded mounting/suspension points (3 each top and bottom, 2 each sides and back) stand mount cup (bottom)
Grill	Vinyl Coated Perforated Steel
Options	CCEP Config MX200i-FL103 (biamplified mode) MX300i-FL103 (w/ SB528) MX300i-FLS18 (w/ SB180) 179001 Flyclip with ring 179002 Flyclip with hook



## NOMINAL DATA

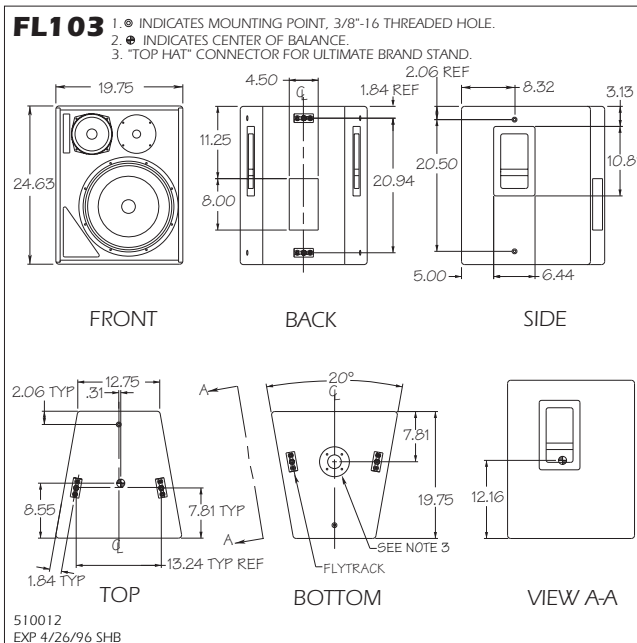
<b>Frequency Response (Hz)</b>		
±3 dB	50Hz to 18kHz	
-10 dB	38Hz	
<b>Axial Sensitivity (dB SPL/1 Watt/1m)</b>		
Full Range	95	
Biamplified MF/HF	95	
Biamplified LF	95	
<b>Impedance (Ohms)</b>		
Full Range Passive	8	
Biamplified MF/HF	8	
Biamplified LF	8	
<b>Power Handling, AES Standard (Watts)</b>		
Full Range	500	
Biamplified MF/HF	500	
Biamplified LF	800	
<b>Calculated Maximum Output (dB SPL, @ 1m)</b>		
Full Range Peak	128.0	
Biamplified MF/HF Peak	128.0	
Biamplified LF Peak	130.0	
Full Range Long Term	122.0	
Biamplified MF/HF Long term	122.0	
Biamplified LF Long Term	124.0	
<b>Nominal Coverage Angle / -6 dB points (degrees)</b>		
Horizontal	100	
Vertical	100	
<b>Recommended Complementary Systems</b>		
Sub	SB180/SB528	
<b>Dimensions</b>		
	<b>inches</b>	<b>millimeters</b>
Height	24.625	625
Width	19.75	502
Depth	19.75	502
Back Width	12.75	324
Trapezoid Angle	10 degrees per side	
<b>Weights</b>		
	<b>pounds</b>	<b>kilograms</b>
Net Weight	111	50.5
Shipping Weight	118	53.7





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## DIMENSIONAL DRAWING



## SERVICE ITEMS

<b>LF: Complete Cone Driver</b>	EAW Part No. 804055
<b>MF: Complete Cone Driver</b>	EAW Part No. 804050
<b>HF: Complete Compression Driver/Tweeter</b>	EAW Part No. 803001
<b>Filter/Crossover Network: Complete Assembly</b>	EAW Part No. 225068

## ARCHITECTURAL SPECIFICATIONS

The three-way full range loudspeaker systems shall incorporate a 15-in LF transducer, a 7-in cone MF transducer and a 1-in exit compression driver HF transducer.

The LF driver shall be mounted in a vented enclosure tuned for optimum low frequency response. The MF driver shall be mounted in a vented subenclosure. The HF driver shall be loaded on an axis-symmetrical wave guide plate with a nominal coverage pattern of 100° (conical). An internal passive filter network shall provide fourth order acoustical crossover and system equalization.

System frequency response shall vary no more than  $\pm 3$  dB from 50 Hz to 18 kHz measured on axis. In passive mode, the loudspeaker shall produce a Sound Pressure Level (SPL) of 95 dB SPL on axis at 1 meter with a power input of 1 Watt, and shall be capable of producing a peak output of 128 SPL on axis at 1 meter. The loudspeaker shall handle 500 Watts of amplifier power (AES Standard) and shall have a nominal impedance of 8 Ohms.

In biamped mode, the passive mid/high section shall meet all passive mode performance criteria. In biamped mode the LF section shall produce a Sound Pressure Level (SPL) of 95 dB on axis at 1 meter with a power input of 1 Watt, and shall be capable of producing a peak output of 130 SPL on axis at 1 meter. The LF section in biamped mode shall handle 800 Watts of amplifier power and shall have a nominal impedance of 8 Ohms.

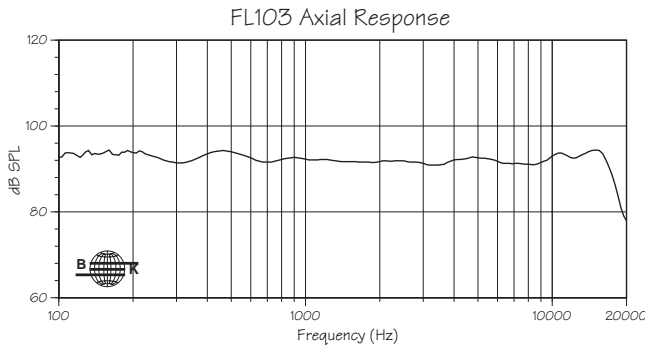
The loudspeaker enclosure shall be trapezoidal in shape. It shall be constructed of 15mm thickness void-free cross-grain-laminated Baltic birch plywood and shall employ extensive internal bracing. It shall be finished in black catalyzed polyurethane. Input connectors shall be dual Neutrik NL4 Speakon. The system shall include a switch allowing in to be operated in biamp or passive Powering mode. A total of six 3-position flytracks (2 each on top, bottom and back) plus twelve 3/8"-16 threaded mounting/suspension points (3 each top and bottom, 2 each sides and back) shall be provided. The system shall include a recessed cup to accept a standmount pole. The front of the loudspeaker shall be covered with a vinyl coated perforated steel grill.

The three-way full range loudspeaker shall be the EAW model FL103.

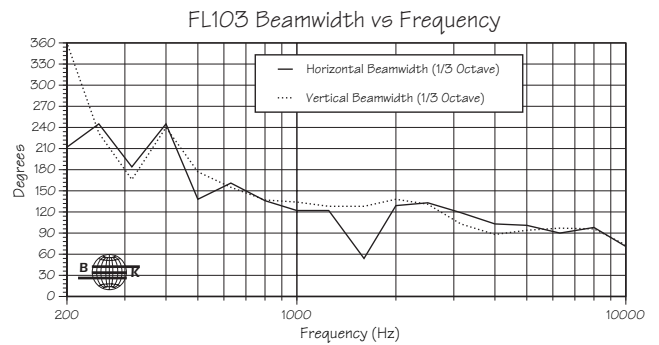


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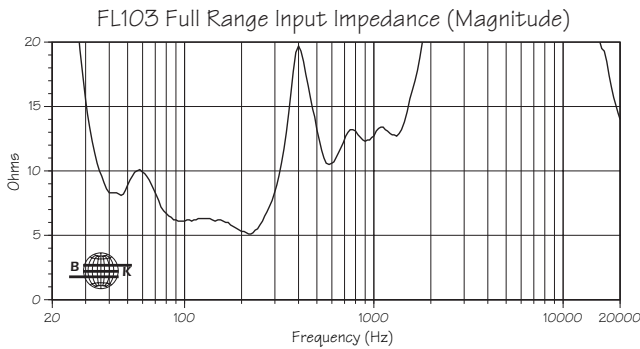
## FREQUENCY RESPONSE



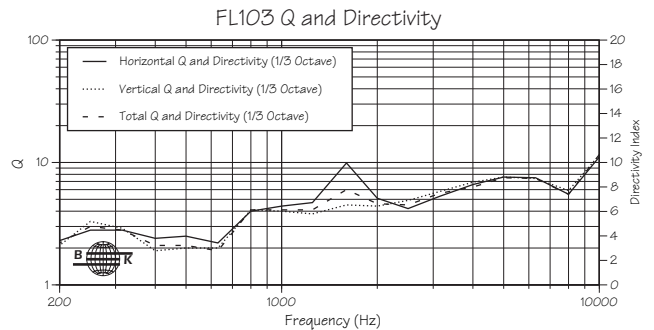
## BEAMWIDTH



## INPUT IMPEDANCE



## Q & DIRECTIVITY INDEX (DI)



## Q & BEAVERTICAL OFF-AXIS RESPONSE ON-AXIS

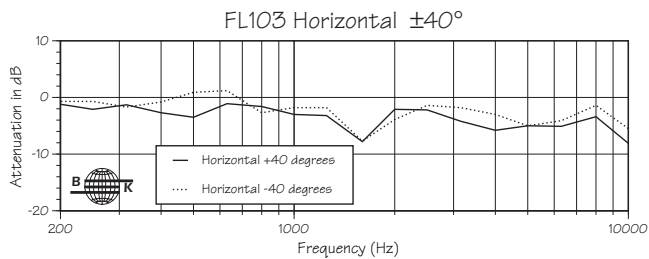
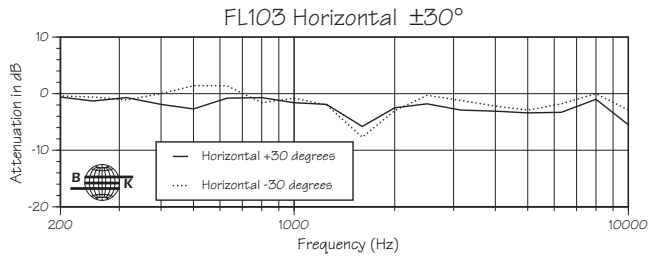
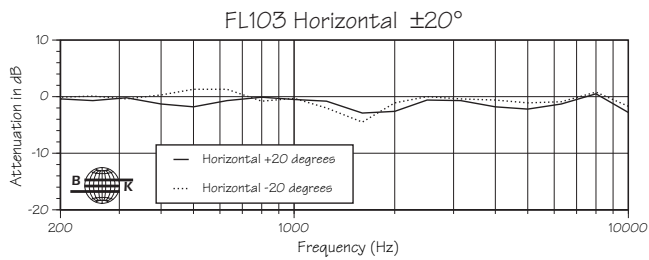
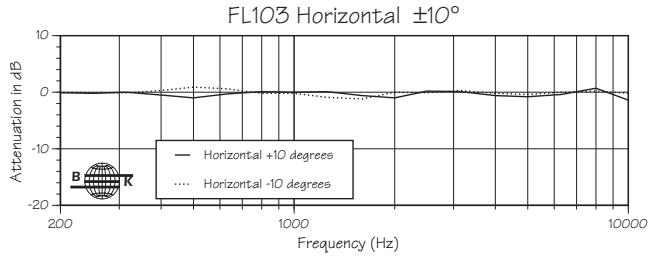
Freq	Hor Q & Dir	Ver Q & Dir	Tot Q & Dir	Hor Beamwidth	Ver Beamwidth
100	1.5	1.5	1.5	360	360
125	1.4	1.4	1.4	360	360
160	2.6	2.6	2.7	176	199
200	2.3	2.1	2.2	212	360
250	2.8	3.3	3	245	232
315	2.8	2.9	2.8	184	166
400	2.4	1.9	2.1	245	240
500	2.5	2	2.1	138	177
630	2.2	2	1.9	161	155
800	4	4.1	4.1	136	137
1000	4.4	4	4.1	122	134
1250	4.7	3.8	4.1	122	128
1600	9.9	4.5	6	54	128
2000	5.1	4.4	4.6	129	138
2500	4.2	4.9	4.5	133	131
3150	5.3	5.8	5.6	119	103
4000	6.6	6.9	6.3	103	88
5000	7.6	7.6	7.5	101	94
6300	7.5	7.4	7.4	90	97
8000	5.5	5.9	5.5	98	96
10000	11.1	11.5	11.6	71	73
12500	8.4	8.7	8.5	89	88
16000	10.8	10.9	10.9	78	78
20000	11.2	14.4	13.3	68	64



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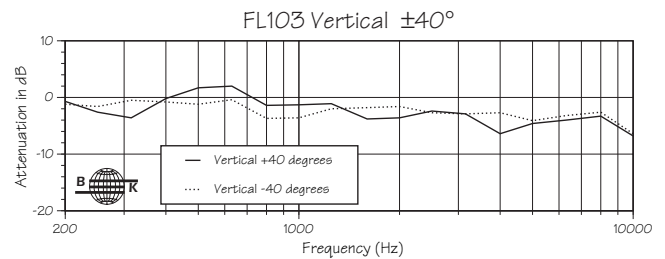
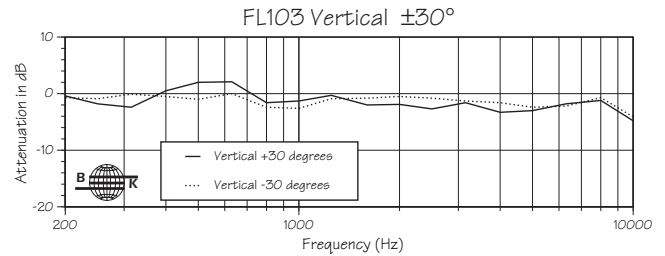
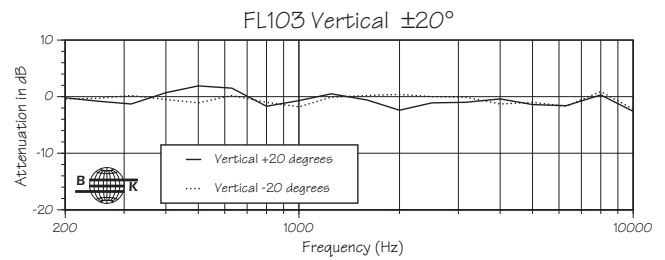
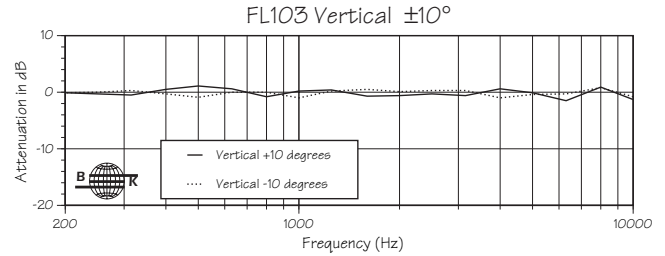
## HORIZONTAL OFF-AXIS RESPONSE

On-axis response normalized to 0 dB.



## VERTICAL OFF-AXIS RESPONSE

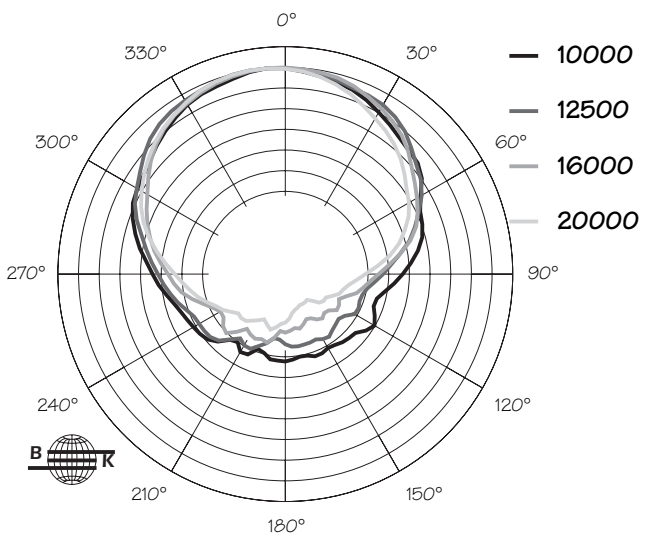
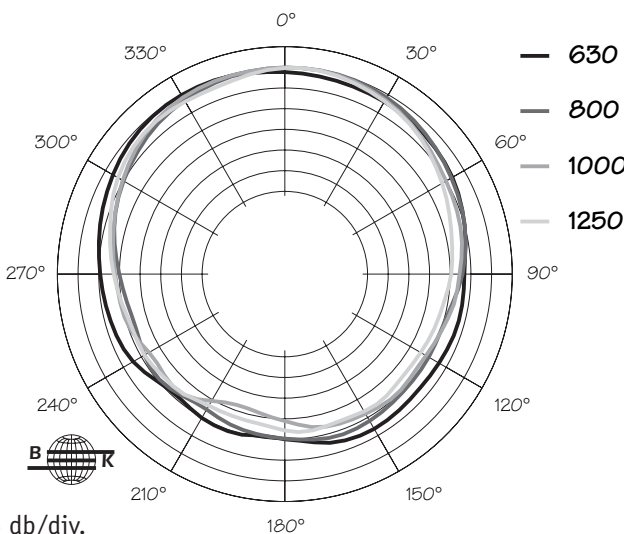
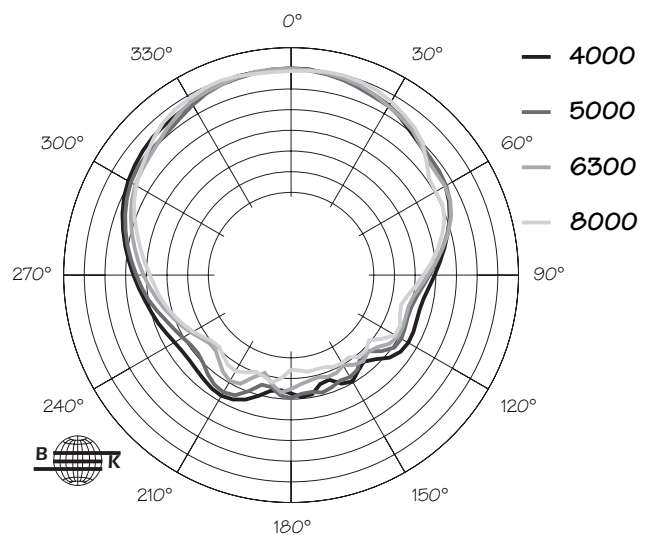
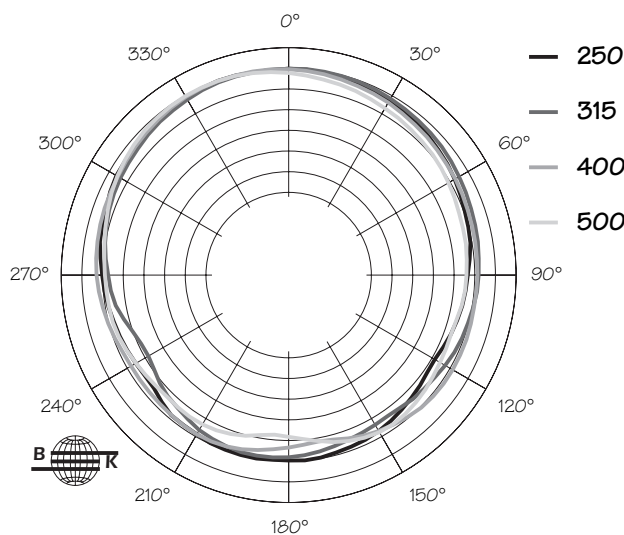
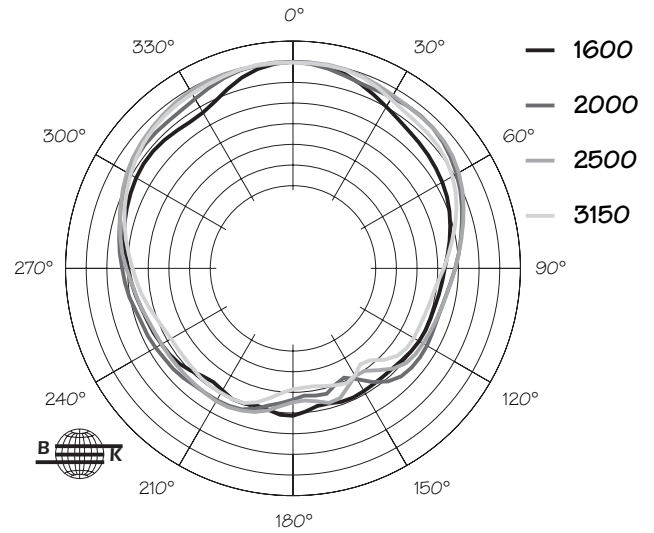
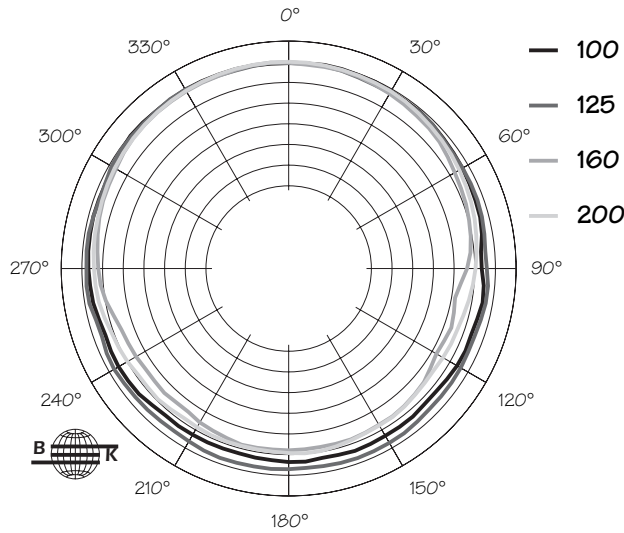
On-axis response normalized to 0 dB.





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## HORIZONTAL 1/3 OCTAVE POLAR DATA

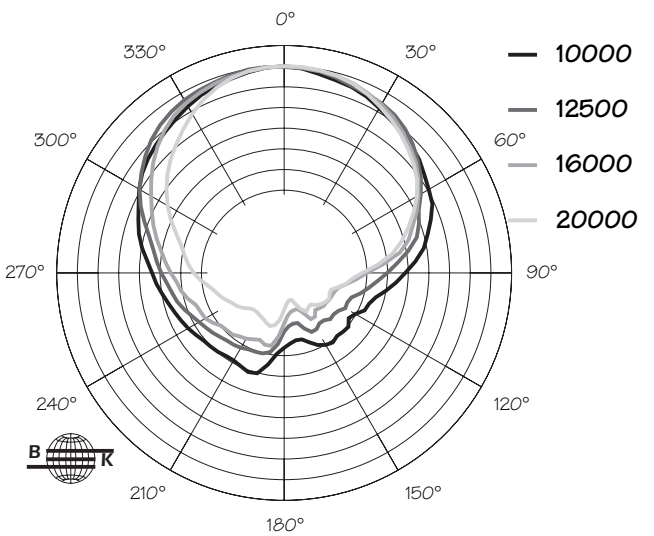
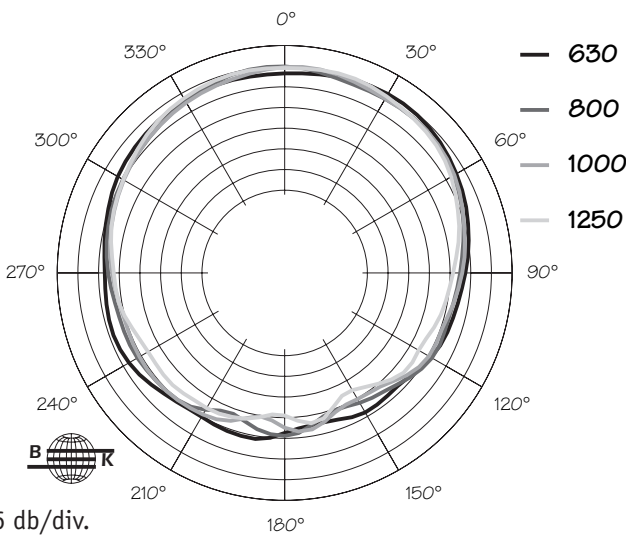
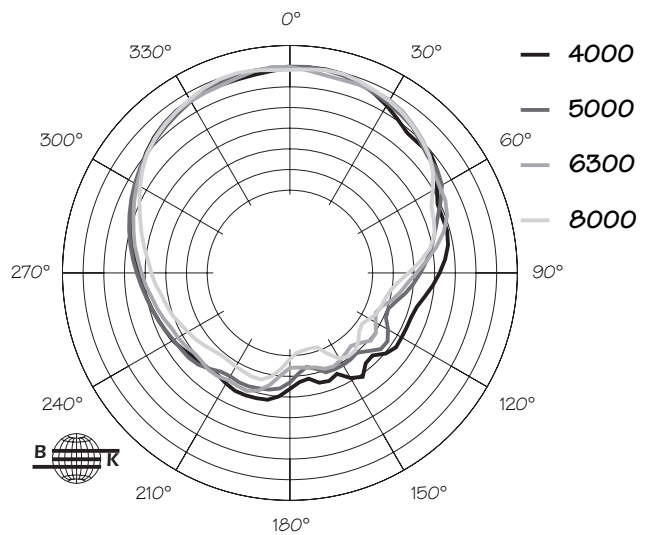
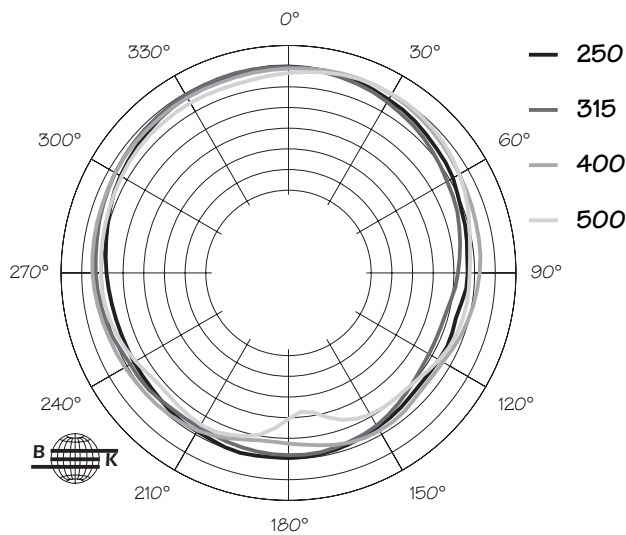
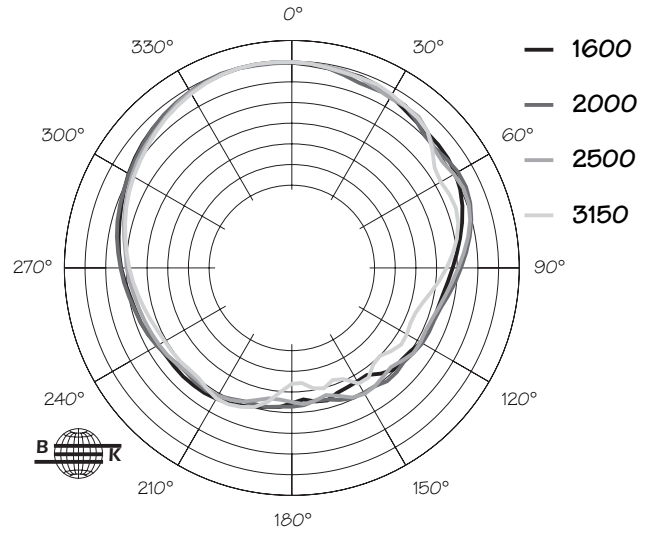
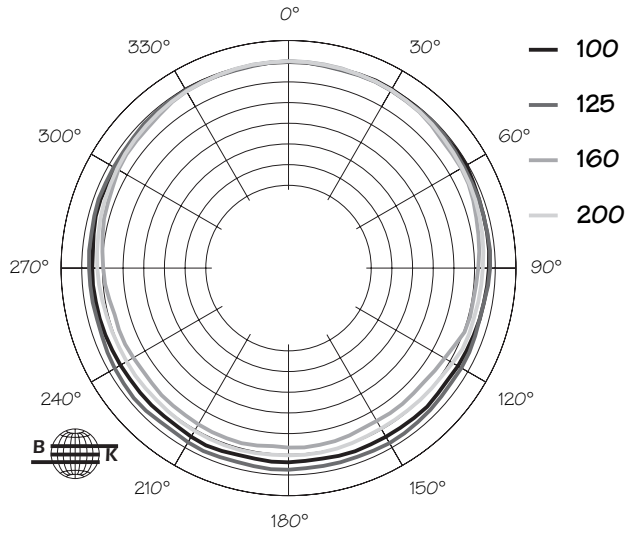


6 db/div.



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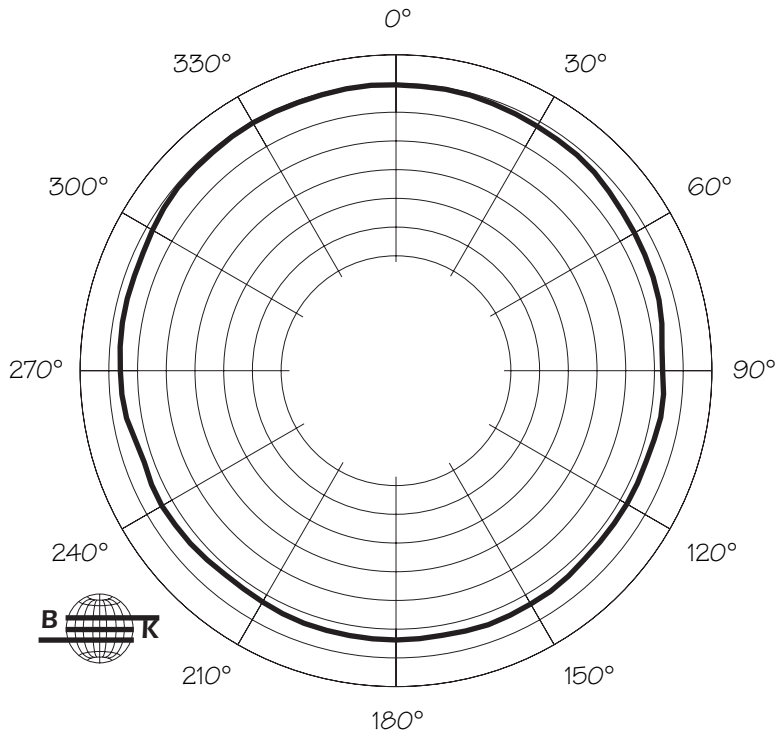


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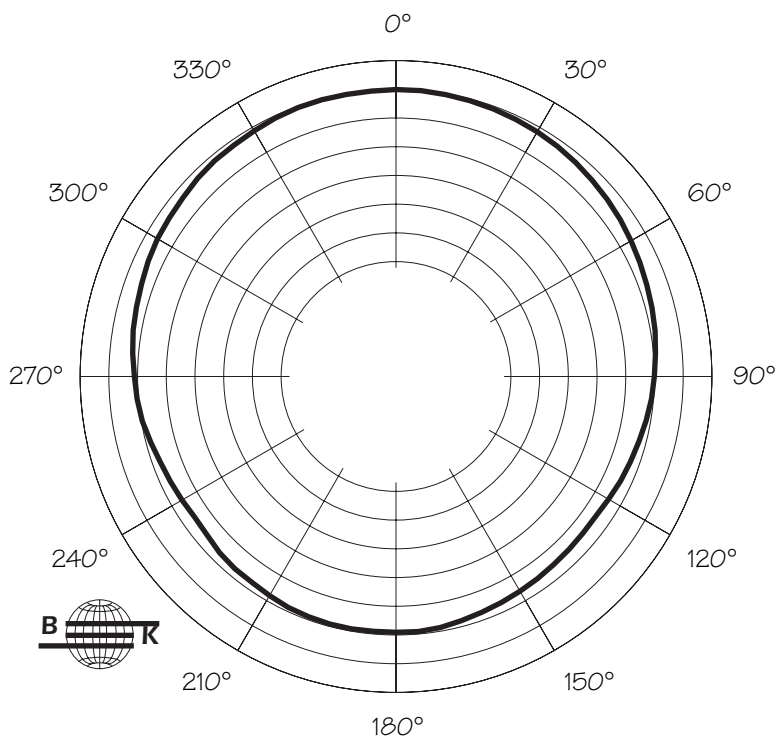


## HORIZONTAL OCTAVE POLAR DATA

### FL103 125 Hz Horizontal Octave Polar Data



### FL103 250 Hz Horizontal Octave Polar Data

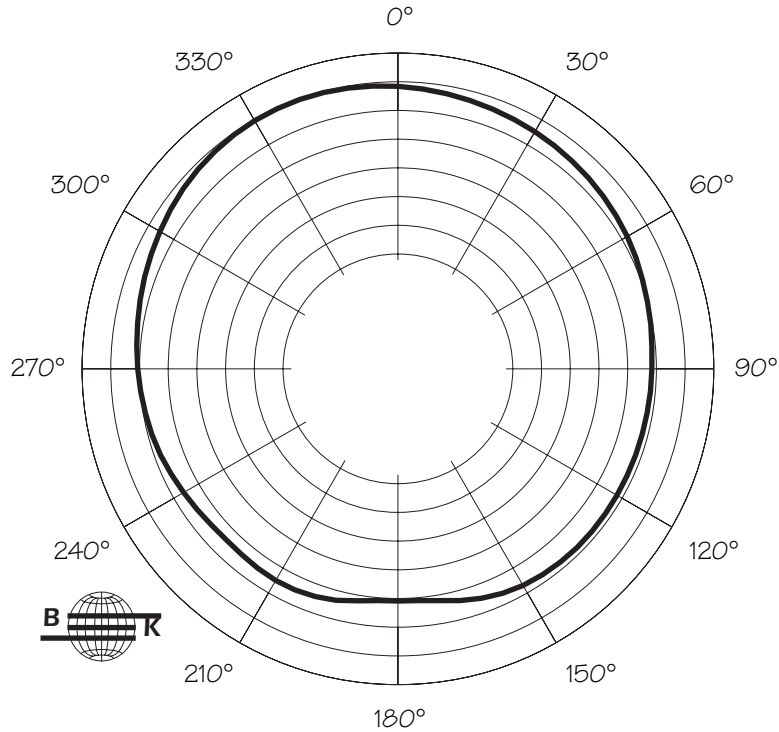


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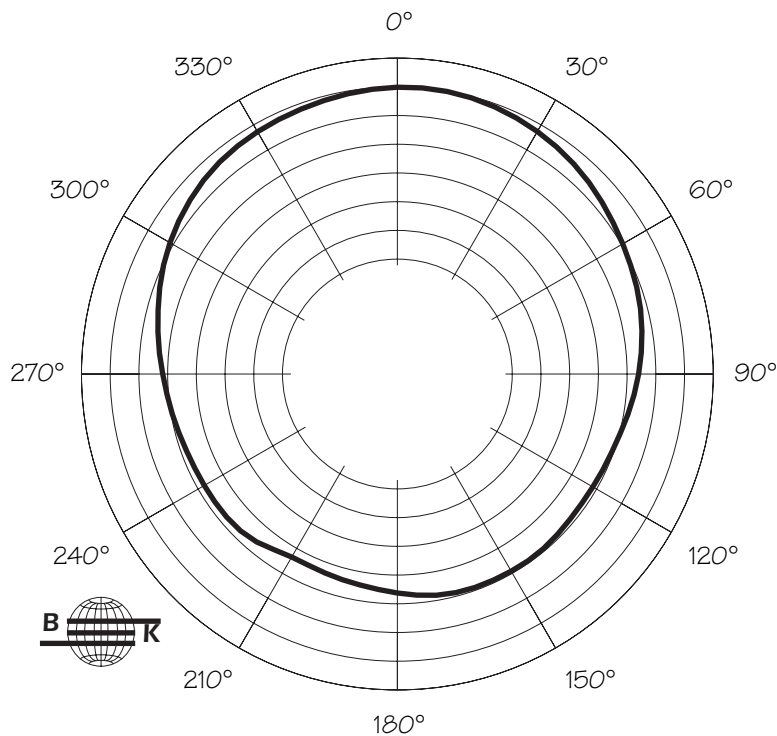


## HORIZONTAL OCTAVE POLAR DATA

### FL103 500 Hz Horizontal Octave Polar Data



### FL103 1000 Hz Horizontal Octave Polar Data



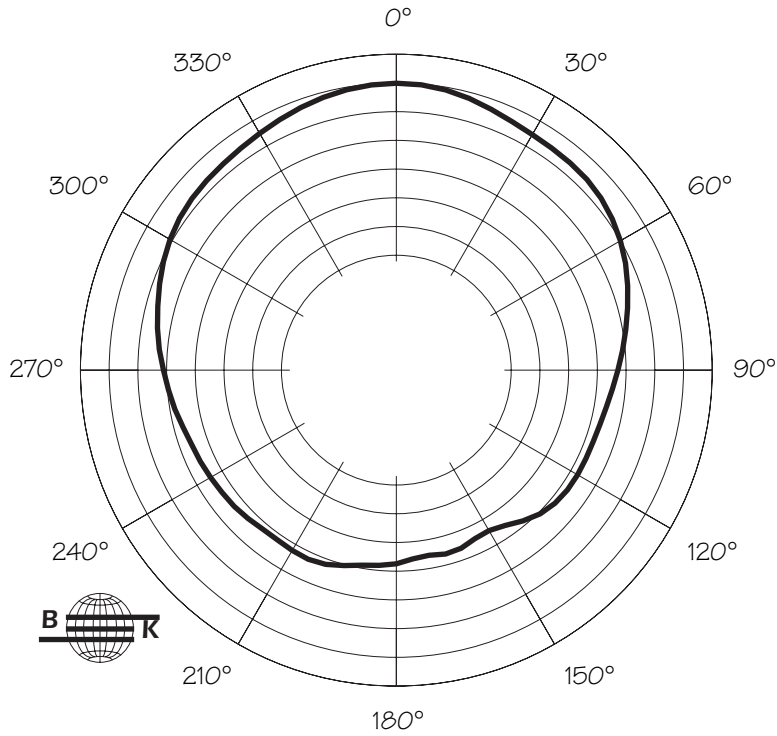
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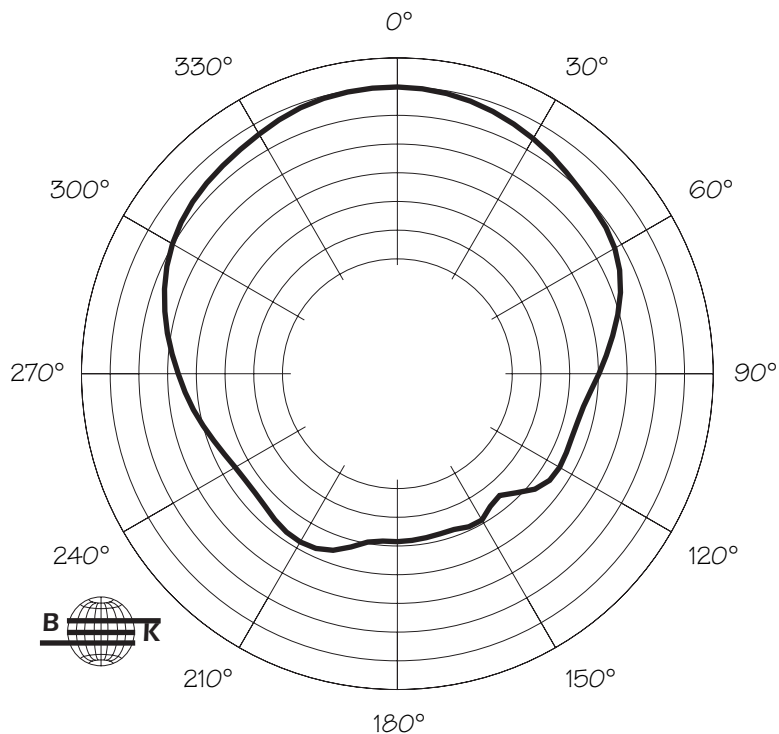


## HORIZONTAL OCTAVE POLAR DATA

### FL103 2000 Hz Horizontal Octave Polar Data



### FL103 4000 Hz Horizontal Octave Polar Data

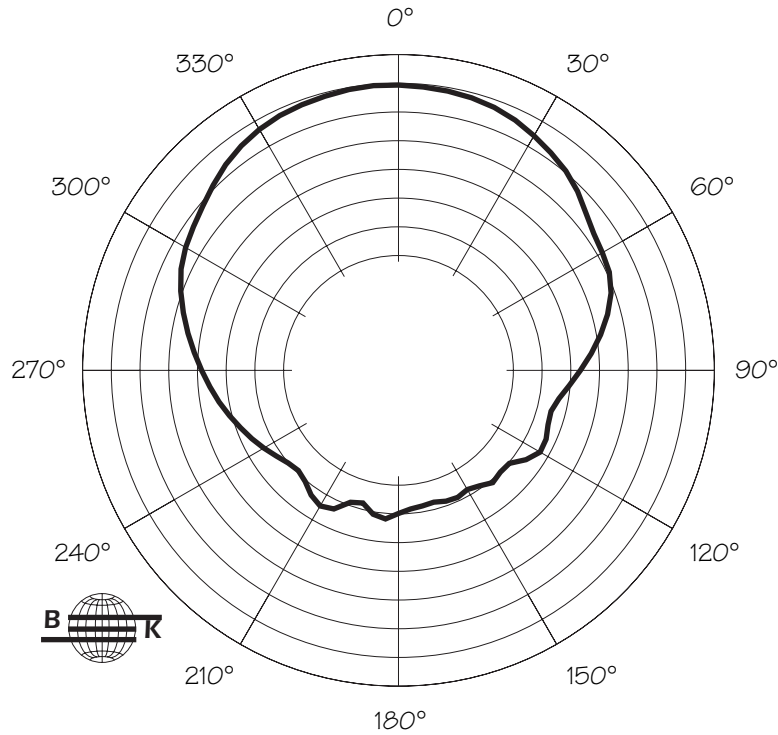


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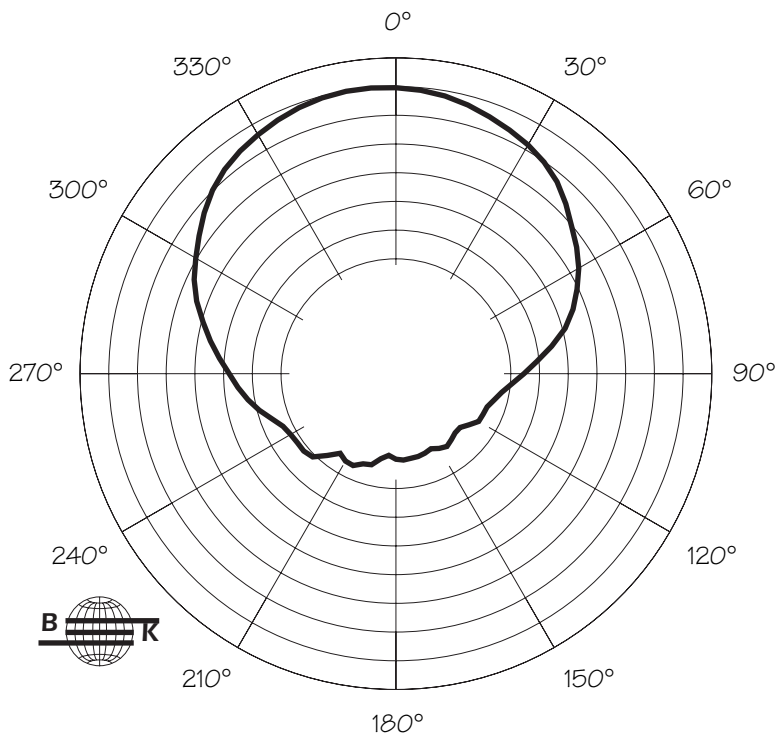


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### FL103 8000 Hz Horizontal Octave Polar Data



### FL103 16000 Hz Horizontal Octave Polar Data

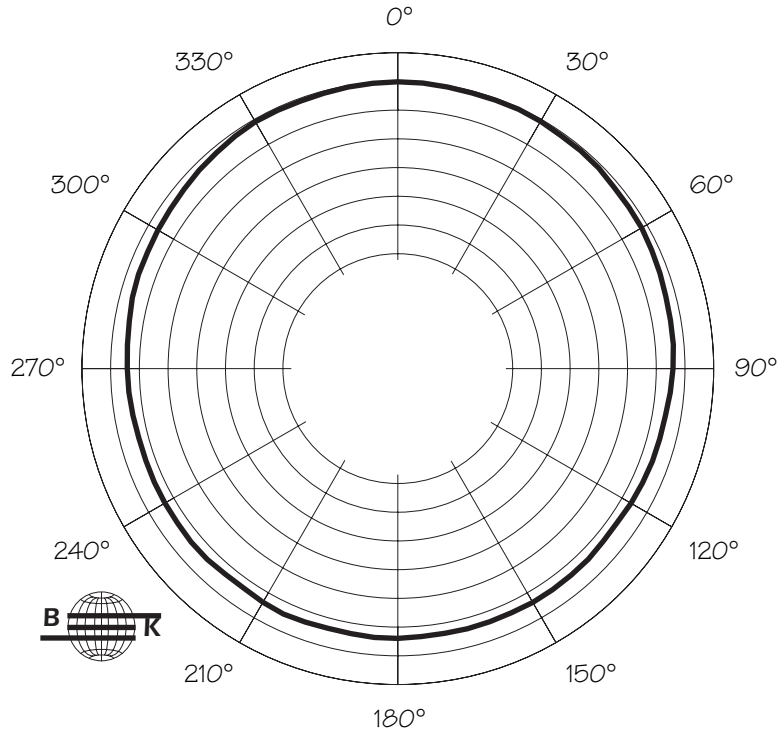


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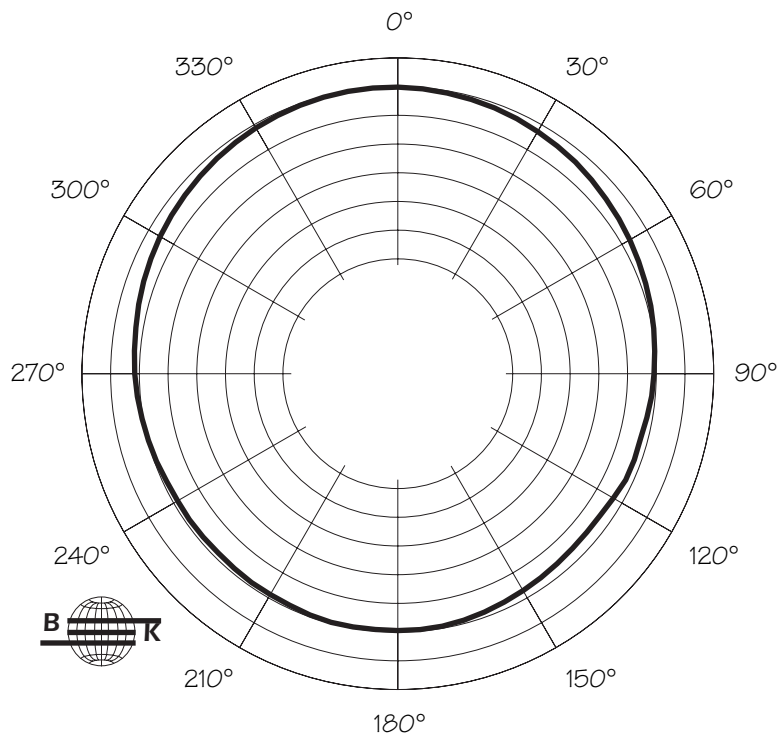


## VERTICAL OCTAVE POLAR DATA

### FL103 125 Hz Vertical Octave Polar Data



### FL103 250 Hz Vertical Octave Polar Data

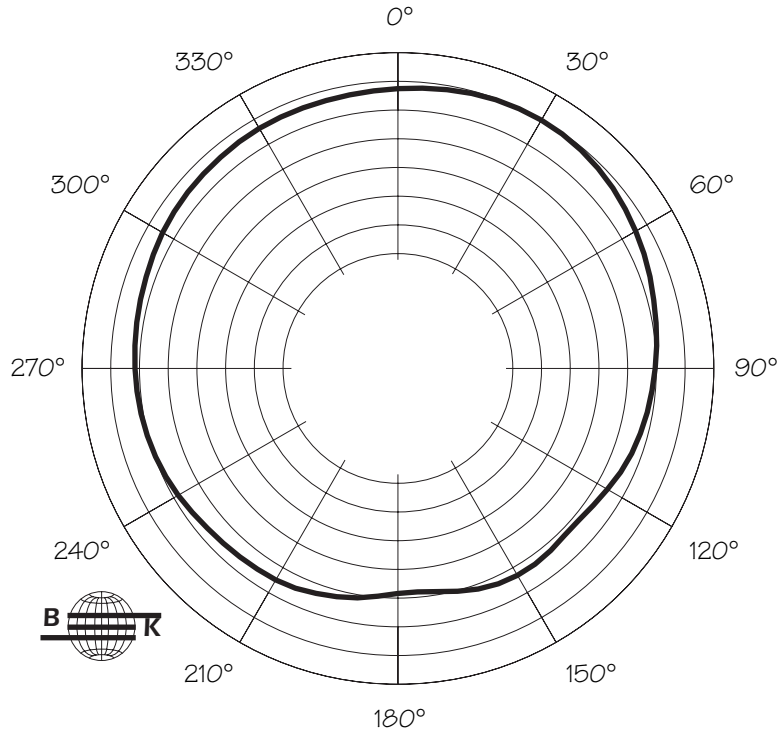


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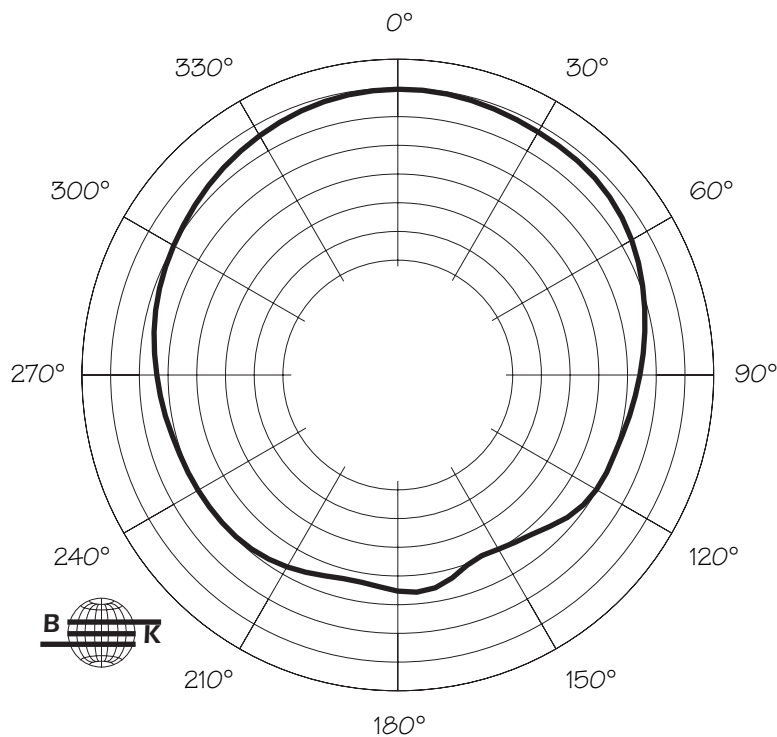


## VERTICAL OCTAVE POLAR DATA

### FL103 500 Hz Vertical Octave Polar Data



### FL103 1000 Hz Vertical Octave Polar Data

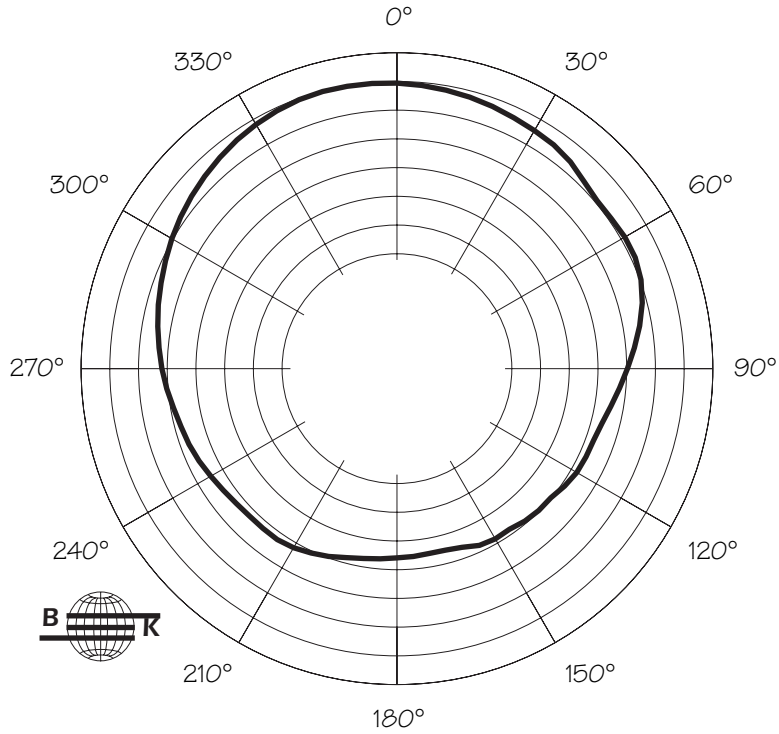


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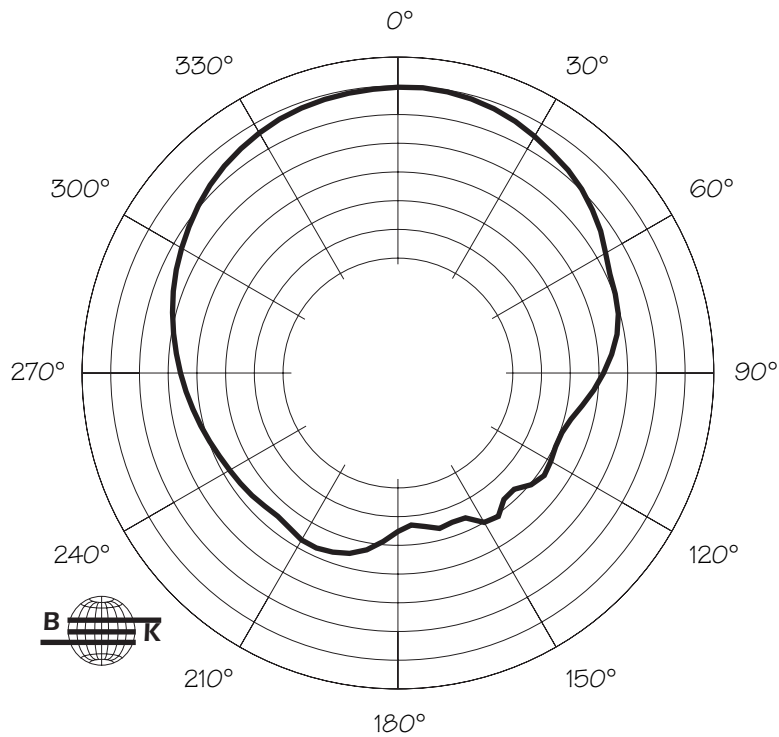


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### FL103 2000 Hz Vertical Octave Polar Data



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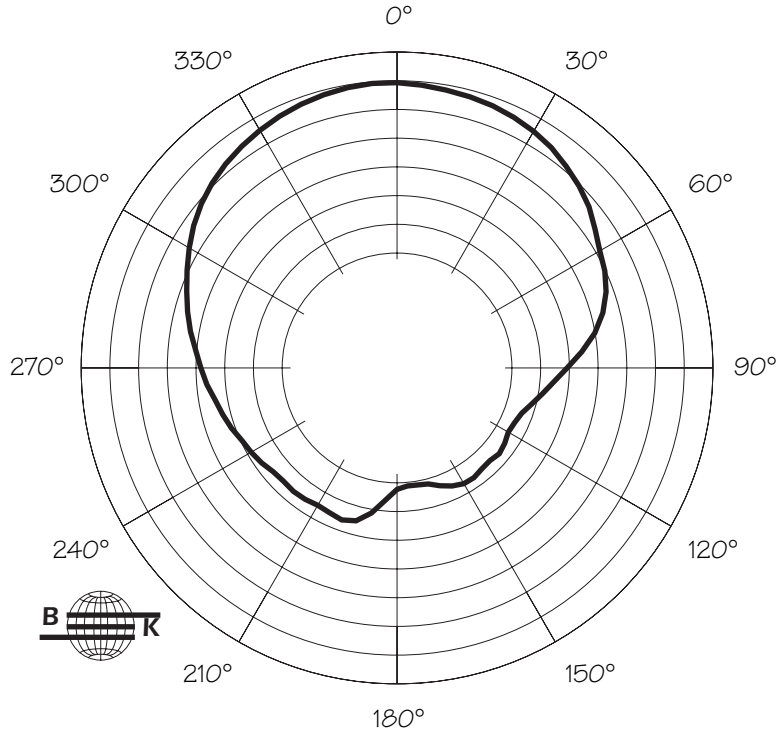


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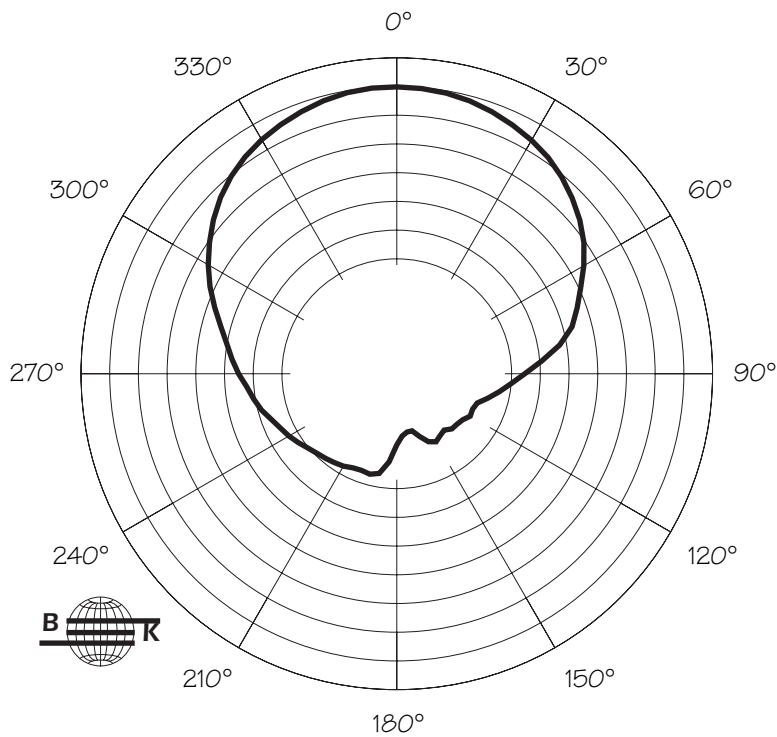


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6 db/div.