

# Motion primax™

## Technical Data

7px

5px

3px

2px

1px

### Motion SX / SA primax

#### Earhook damped

- 68 dB / 138 dB SPL (ear simulator)
- 60 dB / 130 dB SPL (2 ccm coupler)

#### ThinTube

- 61 dB / 130 dB SPL (ear simulator)
- 53 dB / 126 dB SPL (2 ccm coupler)

### Motion P primax

#### Earhook damped

- 77 dB / 137 dB SPL (ear simulator)
- 70 dB / 131 dB SPL (2 ccm coupler)



#### Earhook undamped

- 81 dB / 139 dB SPL (ear simulator)
- 77 dB / 135 dB SPL (2 ccm coupler)



#### ThinTube

- 68 dB / 132 dB SPL (ear simulator)
- 65 dB / 129 dB SPL (2 ccm coupler)



# Motion SX primax | Technical Data

Type	Earhook damped		ThinTube	
				
	2 ccm coupler	Ear simulator	2 ccm coupler	Ear simulator
Output sound pressure level				
at 1.6 kHz	–	135 dB SPL	–	121 dB SPL
Peak	130 dB SPL	138 dB SPL	126 dB SPL	130 dB SPL
HFA-OSPL 90	127 dB SPL	–	116 dB SPL	–
Gain				
Full on gain (FOG) at 1.6 kHz	–	59 dB	–	54 dB
Full on gain (Peak)	60 dB	68 dB	53 dB	61 dB
HFA-FOG	53 dB	–	47 dB	–
Reference test gain	50 dB	52 dB	39 dB	46 dB
Frequency, noise and directivity				
Frequency range 7px 5px / 3px	110-7700 Hz 110-7700 Hz	620-8200 Hz 620-8100 Hz	100-8100 Hz 100-8100 Hz	100-9600 Hz 100-8100 Hz
Equivalent input noise	16 dB SPL	16 dB SPL	18 dB SPL	18 dB SPL
Total harmonic distortion at 500 / 800 / 1600 Hz	2 / 2 / 1 %	2 / 2 / 1 %	1 / 1 / 2 %	1 / 1 / 2 %
Tinnitus noiser broadband	70 dB SPL	–	70 dB SPL	–
AI-DI	4.0 dB		4.0 dB	
Inductive coil sensitivity				
MASL (1 mA/m) at 1.6 kHz	–	85 dB SPL	–	76 dB SPL
HFA MASL (1 mA/m)	80 dB SPL	–	69 dB SPL	–
HFA SPLITS (left/right)	109 / 109 dB SPL	–	98 / 98 dB SPL	–
RSETS (left/right)	-1 / -1 dB	–	-1 / -1 dB	–
Battery				
Battery voltage	1.3 V		1.3 V	
Battery current drain	1.0 mA		1.1 mA	
Battery life (cell zinc air)	~220 h		~200 h	
Battery life (rechargeable)	up to 16 h		up to 16 h	
IRIL IEC 118-13:2011 (bystander)				
800-960 MHz	<-43 dB SPL		<-43 dB SPL	
1400-2000 MHz	<-45 dB SPL		<-45 dB SPL	
ANSI C63.19	M4 / T4		M4 / T4	

# Motion SA primax | Technical Data

Type	Earhook damped		ThinTube	
				
	2 ccm coupler	Ear simulator	2 ccm coupler	Ear simulator
<b>Output sound pressure level</b>				
at 1.6 kHz	–	135 dB SPL	–	121 dB SPL
Peak	130 dB SPL	138 dB SPL	126 dB SPL	130 dB SPL
HFA-OSPL 90	127 dB SPL	–	116 dB SPL	–
<b>Gain</b>				
Full on gain (FOG) at 1.6 kHz	–	59 dB	–	54 dB
Full on gain (Peak)	60 dB	68 dB	53 dB	61 dB
HFA-FOG	53 dB	–	47 dB	–
Reference test gain	50 dB	52 dB	39 dB	46 dB
<b>Frequency, noise and directivity</b>				
Frequency range 7px 5px / 3px / 2px / 1px	110-7700 Hz 110-7700 Hz	620-8200 Hz 620-8100 Hz	100-8100 Hz 100-8100 Hz	100-9600 Hz 100-8100 Hz
Equivalent input noise	16 dB SPL	16 dB SPL	18 dB SPL	18 dB SPL
Total harmonic distortion at 500 / 800 / 1600 Hz	2 / 2 / 1 %	2 / 2 / 1 %	1 / 1 / 2 %	1 / 1 / 2 %
Tinnitus noiser broadband	70 dB SPL	–	70 dB SPL	–
AI-DI	4.0 dB		4.0 dB	
<b>Inductive coil sensitivity</b>				
MASL (1 mA/m) at 1.6 kHz	–	85 dB SPL	–	76 dB SPL
HFA MASL (1 mA/m)	80 dB SPL	–	69 dB SPL	–
HFA SPLITS (left/right)	109 / 109 dB SPL	–	98 / 98 dB SPL	–
RSETS (left/right)	-1 / -1 dB	–	-1 / -1 dB	–
<b>Battery</b>				
Battery voltage	1.3 V		1.3 V	
Battery current drain	1.0 mA		1.1 mA	
Battery life (cell zinc air)	~220 h		~200 h	
Battery life (rechargeable)	–		–	
<b>IRIL IEC 118-13:2011 (bystander)</b>				
800-960 MHz	<-43 dB SPL		<-43 dB SPL	
1400-2000 MHz	<-45 dB SPL		<-45 dB SPL	
ANSI C63.19	M4 / T4		M4 / T4	

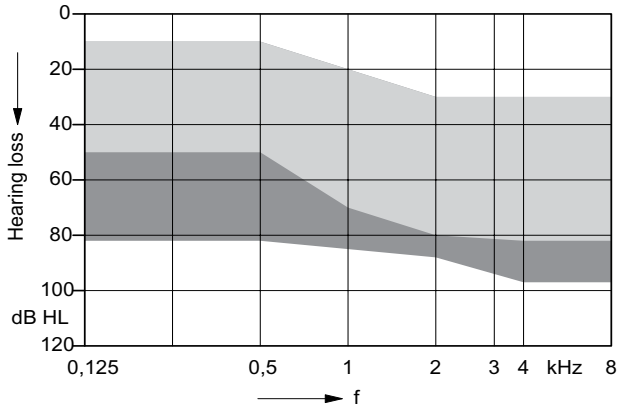
# Motion P primax | Technical Data

Type	Earhook damped		Earhook undamped		ThinTube	
						
	2 ccm coupler	Ear simulator	2 ccm coupler	Ear simulator	2 ccm coupler	Ear simulator
<b>Output sound pressure level</b>						
at 1.6 kHz	–	135 dB SPL*	–	137 dB SPL	–	123 dB SPL
Peak	131 dB SPL	137 dB SPL	135 dB SPL	139 dB SPL	129 dB SPL	132 dB SPL
HFA-OSPL 90	128 dB SPL	–	130 dB SPL	–	117 dB SPL	–
<b>Gain</b>						
Full on gain (FOG) at 1.6 kHz	–	74 dB*	–	78 dB	–	58 dB
Full on gain (Peak)	70 dB	77 dB	77 dB	81 dB	65 dB	68 dB
HFA-FOG	66 dB	–	71 dB	–	53 dB	–
Reference test gain	51 dB	60 dB*	53 dB	62 dB	40 dB	48 dB
<b>Frequency, noise and directivity</b>						
Frequency range 7px 5px / 3px / 2px / 1px	100-7000 Hz 100-7000 Hz	170-7400 Hz 170-7400 Hz	100-6000Hz 100-6000Hz	170-6500Hz 170-6500Hz	100-5500Hz 100-5500Hz	100-6000Hz 100-6000Hz
Equivalent input noise	16 dB SPL	15 dB SPL	18 dB SPL	14 dB SPL	22 dB SPL	19 dB SPL
Total harmonic distortion at 500 / 800 / 1600 Hz	4 / 3 / 1 %	3 / 3 / 3 %	4 / 3 / 1 %	6 / 4 / 2 %	2 / 2 / 1 %	1 / 1 / 2 %
Tinnitus noiser broadband	80 dB SPL	–	80 dB SPL	–	80 dB SPL	–
AI-DI	4.0 dB		4.0 dB		4.0 dB	
<b>Inductive coil sensitivity</b>						
MASL (1 mA/m) at 1.6 kHz	–	104 dB SPL*	–	108 dB SPL	–	89 dB SPL
HFA MASL (1 mA/m)	96 dB SPL	–	101 dB SPL	–	82 dB SPL	–
HFA SPLITS (left/right)	110 / 110 dB SPL	–	111 / 111 dB SPL	–	99 / 99 dB SPL	–
RSETS (left/right)	-1 / -1 dB	–	-2 / -2 dB	–	-1 / -1 dB	–
<b>Battery</b>						
Battery voltage	1.3 V		1.3 V		1.3 V	
Battery current drain	1.0 mA	1.2 mA	1.6 mA	1.2 mA	1.2 mA	1.2 mA
Battery life (cell zinc air)	~220 h	~180 h	~140 h	~180 h	~180 h	~180 h
Battery life (rechargeable)	–		–		–	
<b>IRIL IEC 118-13:2011 (bystander)</b>						
800-960 MHz	<-43 dB SPL		<-43 dB SPL		<-43 dB SPL	
1400-2000 MHz	<-43 dB SPL		<-43 dB SPL		<-43 dB SPL	
ANSI C63.19	M3 / T4		M3 / T4		M3 / T4	

\*measured at 2.5 kHz RTF

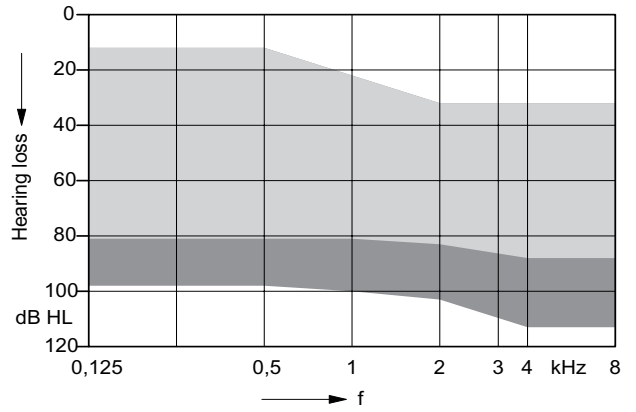
# Motion primax | Fitting Range

## Motion SX / SA primax



ThinTube double tip  
+ Earhook damped

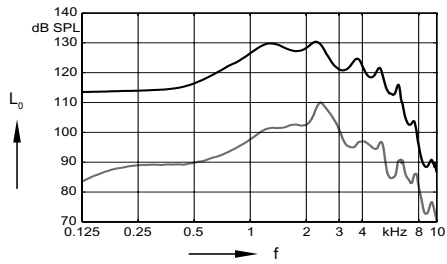
## Motion P primax



ThinTube double tip  
+ Earhook

# Motion SX / SA primax (Earhook damped) | Basic Data

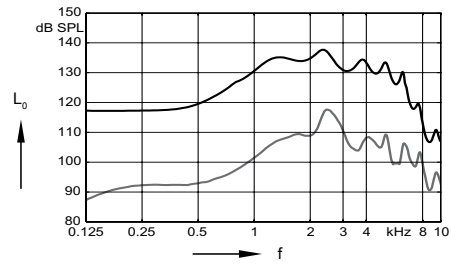
## 2 ccm coupler



**Output sound pressure level**  
( $L_1 = 90$  dB)

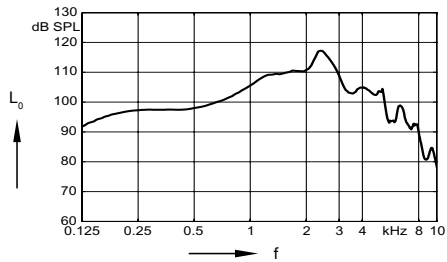
**Full on gain**  
( $L_1 = 50$  dB)

## Ear simulator

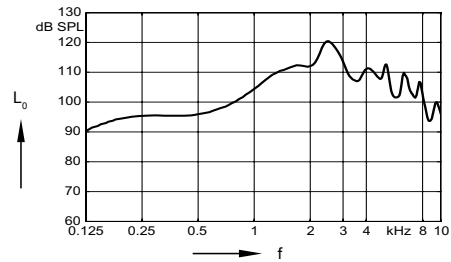


**Output sound pressure level**  
( $L_1 = 90$  dB)

**Full on gain**  
( $L_1 = 50$  dB)

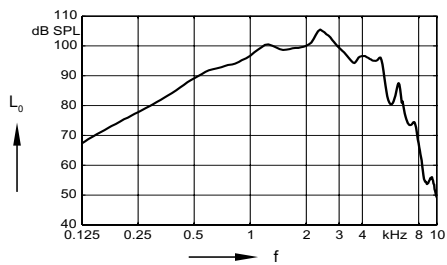


**Frequency response**  
( $L_1 = 60$  dB)

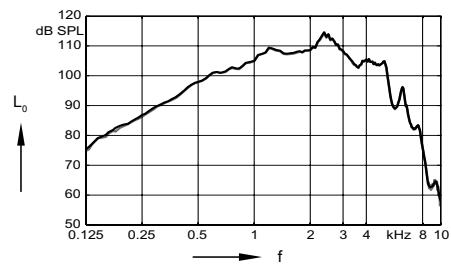


**Basic acoustic response**  
( $L_1 = 60$  dB)

## Inductive response



**Inductive response**  
( $H = 10$  mA/m)

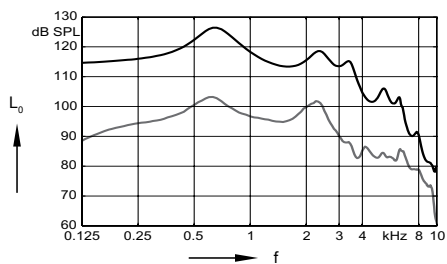


**SPLITS curve left**  
( $H = 31.6$  mA/m)

**SPLITS curve right**  
( $H = 31.6$  mA/m)

# Motion SX / SA primax (ThinTube) | Basic Data

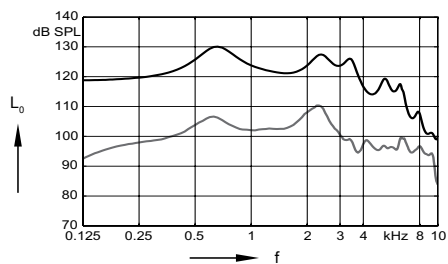
## 2 ccm coupler



Output sound pressure level  
( $L_1 = 90$  dB)

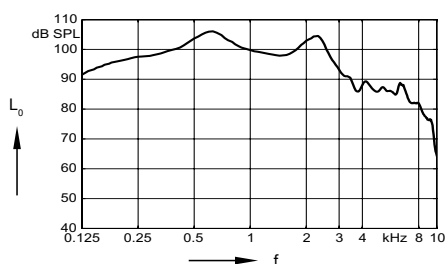
Full on gain  
( $L_1 = 50$  dB)

## Ear simulator

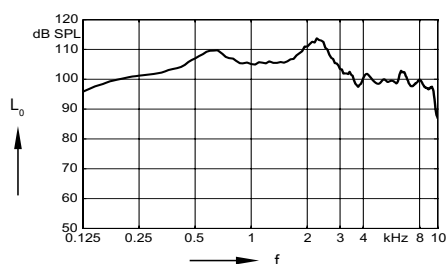


Output sound pressure level  
( $L_1 = 90$  dB)

Full on gain  
( $L_1 = 50$  dB)

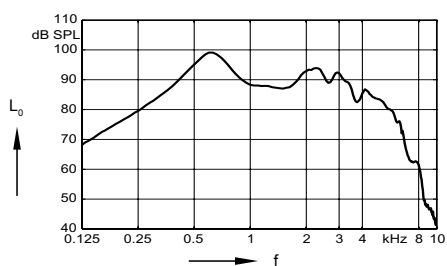


Frequency response  
( $L_1 = 60$  dB)

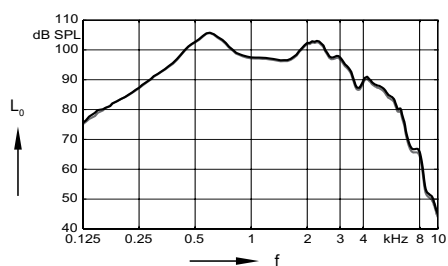


Basic acoustic response  
( $L_1 = 60$  dB)

## Inductive response



Inductive response  
( $H = 10$  mA/m)

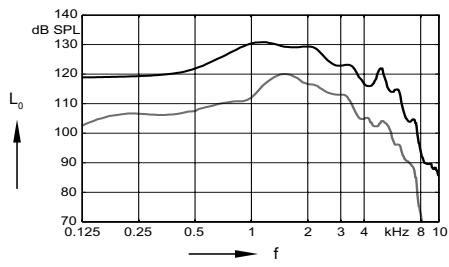


SPLITs curve left  
( $H = 31.6$  mA/m)

SPLITs curve right  
( $H = 31.6$  mA/m)

# Motion P primax (Earhook damped) | Basic Data

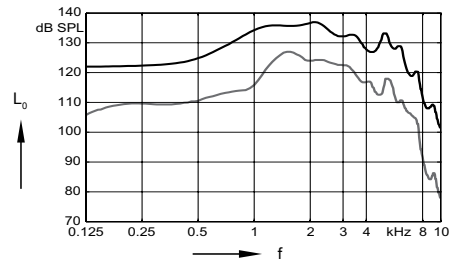
## 2 ccm coupler



Output sound pressure level  
( $L_i = 90$  dB)

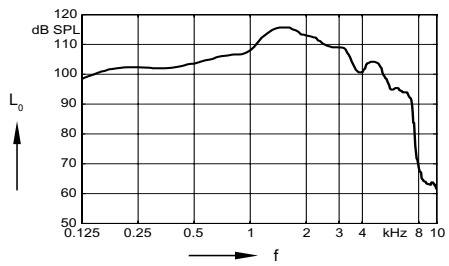
Full on gain  
( $L_i = 50$  dB)

## Ear simulator

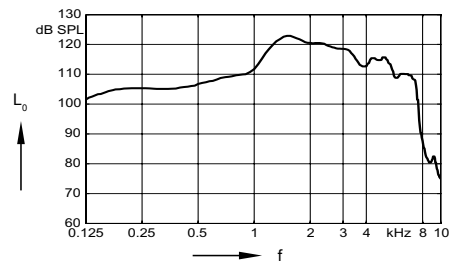


Output sound pressure level  
( $L_i = 90$  dB)

Full on gain  
( $L_i = 50$  dB)

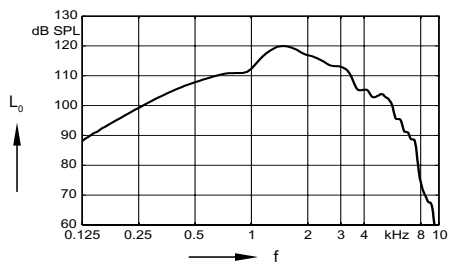


Frequency response  
( $L_i = 60$  dB)

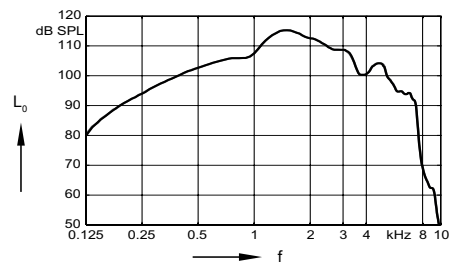


Basic acoustic response  
( $L_i = 60$  dB)

## Inductive response



Inductive response  
( $H = 10$  mA/m)



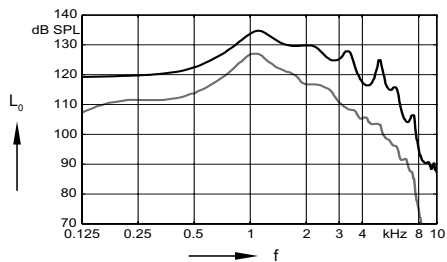
SPLITS curve left  
( $H = 31.6$  mA/m)

SPLITS curve right  
( $H = 31.6$  mA/m)



# Motion P primax (Earhook undamped) | Basic Data

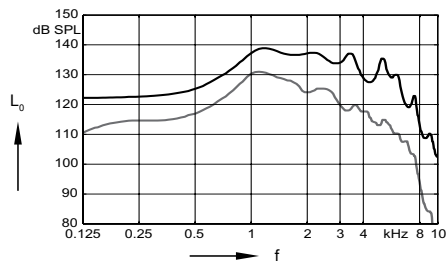
## 2 ccm coupler



Output sound pressure level  
( $L_1 = 90$  dB)

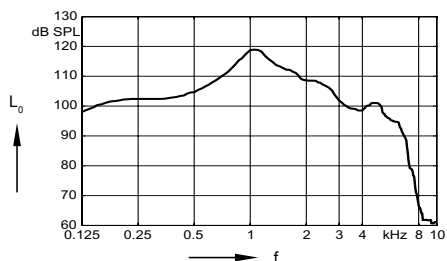
Full on gain  
( $L_1 = 50$  dB)

## Ear simulator

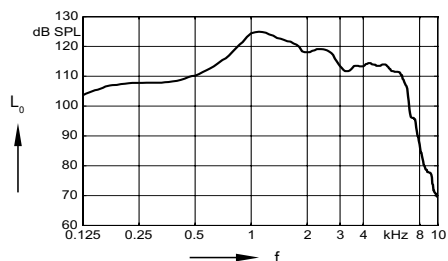


Output sound pressure level  
( $L_1 = 90$  dB)

Full on gain  
( $L_1 = 50$  dB)

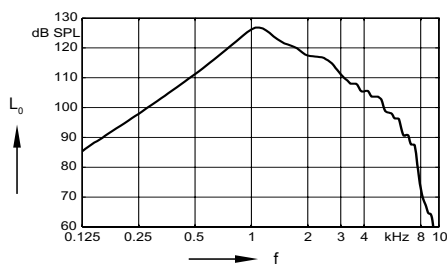


Frequency response  
( $L_1 = 60$  dB)

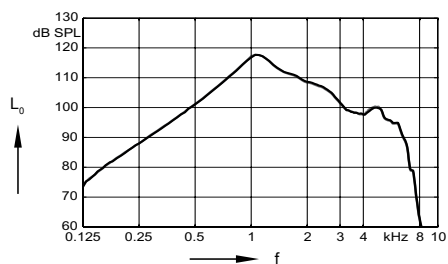


Basic acoustic response  
( $L_1 = 60$  dB)

## Inductive response



Inductive response  
( $H = 10$  mA/m)

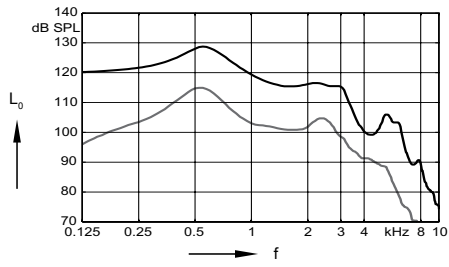


SPLITS curve left  
( $H = 31.6$  mA/m)

SPLITS curve right  
( $H = 31.6$  mA/m)

# Motion P primax (ThinTube) | Basic Data

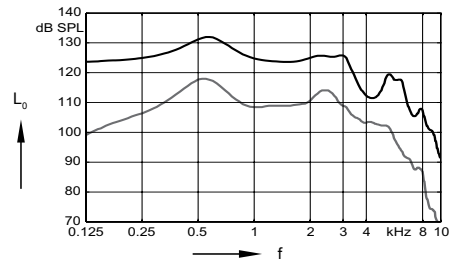
## 2 ccm coupler



Output sound pressure level  
( $L_1 = 90$  dB)

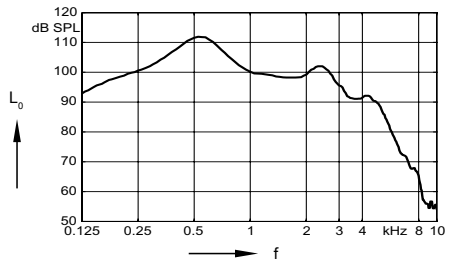
Full on gain  
( $L_1 = 50$  dB)

## Ear simulator

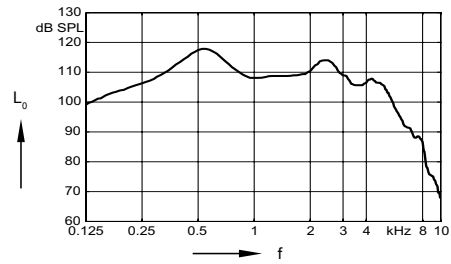


Output sound pressure level  
( $L_1 = 90$  dB)

Full on gain  
( $L_1 = 50$  dB)

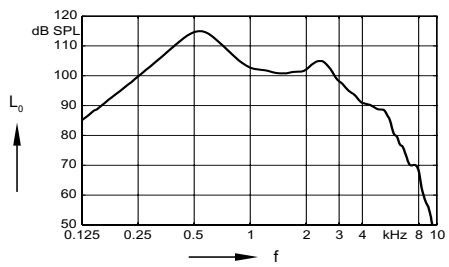


Frequency response  
( $L_1 = 60$  dB)

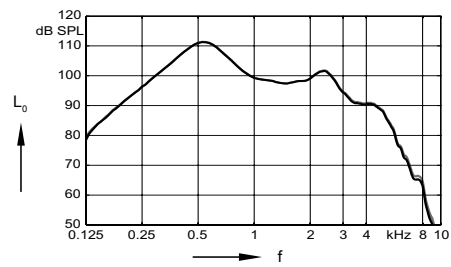


Basic acoustic response  
( $L_1 = 60$  dB)

## Inductive response



Inductive response  
( $H = 10$  mA/m)



SPLITS curve left  
( $H = 31.6$  mA/m)

SPLITS curve right  
( $H = 31.6$  mA/m)

# Motion primax | Features and Accessories

	7px	5px	3px	2px*	1px*
<b>Audiology</b>					
<b>Signal processing</b> (channels) / <b>Gain/MPO</b> (handles)	48 / 20	32 / 16	24 / 12	16 / 8	16 / 8
<b>Hearing programs</b>	6	6	6	4	4
<b>SpeechMaster</b>	●	●	●	●	●
<b>HD Music</b> (presets)	3	1	1	—	—
<b>TwinPhone</b> <sup>1)</sup>	●	●	●	—	—
<b>EchoShield</b>	●	—	—	—	—
<b>Wireless CROS/BICROS</b> <sup>2)</sup>	●	●	●	—	—
<b>Directionality</b> (channels)	48	32	24	16	16
<b>Narrow Directionality</b> <sup>1)</sup>	■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■	—	—
<b>Directional microphone</b>	■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■	■ ■	■ ■
<b>Spatial SpeechFocus</b> <sup>1)</sup>	■ ■ ■ ■ ■ ■	—	—	—	—
<b>SpeechFocus</b>	■ ■ ■ ■ ■	■ ■ ■ ■ ■	—	—	—
<b>TruEar</b> <sup>TM</sup>	■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■	—	—
<b>Frequency compression</b>	●	●	●	●	●
<b>Extended bandwidth</b>	●	—	—	—	—
<b>Feedback cancellation</b>	●	●	●	●	●
<b>eWindScreen binaural</b> <sup>1)</sup>	●	●	—	—	—
<b>eWindScreen</b> <sup>TM</sup> (steps)	3	3	on / off	on / off	—
<b>Noise Reduction</b> (channels / steps)	48 / 5	32 / 5	24 / 3	16 / 3	16 / on/off
<b>Speech and noise management</b> (steps)	7	5	3	3	on / off
<b>SoundSmoothing</b> <sup>TM</sup> (steps)	3	3	1	on / off	—
<b>Directional speech enhancement</b> (steps)	3	1	—	—	—
<b>Adaptive streaming volume</b> <sup>3)</sup>	●	—	—	—	—
<b>SoundBrilliance</b> <sup>TM 3)</sup>	●	●	—	—	—
<b>Sound equalizer</b> (classes)	6	3	1	—	—
<b>Spatial Configurator</b> <sup>1)</sup>	●	●	—	—	—
<b>Span</b> <sup>4)</sup>	●	●	—	—	—
<b>Direction</b> <sup>5)</sup>	●	●	—	—	—
<b>SoundBalance</b>	●	●	●	●	●
<b>Fitting</b>					
<b>Insitugram</b>	●	●	●	●	●
<b>Learning</b> (classes) / <b>Data logging</b>	6 / ●	3 / ●	1 / ●	— / ●	— / ●
<b>Acclimatization manager</b>	●	●	●	●	●
<b>Tinnitus</b>					
<b>Tinnitus noiser</b>					
<b>Static therapy signal</b> (handles / presets)	20 / 5	16 / 5	12 / 5	4 / 1	—
<b>Ocean Waves therapy signal</b> (presets)	4	4	4	—	—
<b>Notch therapy</b>	●	●	●	—	—

\*not for Motion SX primax

# Motion primax | Features and Accessories

	SX	SA	
	7px / 5px / 3px	7px / 5px / 3px	2px / 1px
<b>Style Specific Features</b>			
Ingress Protection Rating	IP67	IP67	IP67
Telecoil	●	●	●
AutoPhone™	●	●	—
Charging contacts	●	—	—
Battery Size	13	13	13
Battery door on/off function	●	●	●
Nanocoated housing	●	●	●
e2e wireless™ 3.0	●	●	●
Audio streaming with easyTek	●	●	●
User controls coupling via e2e	●	●	●
Wireless programming	●	●	●
<b>Instrument configurations</b>			
Flat cover	—	—	—
Push button	—	—	—
Rocker switch	●	●	●
Color conversion kit	○	○	○
Battery door – direct audio input	—	○	○
Battery door – child lock	—	—	—
Small earhook	—	—	—
<b>Programming Accessories</b>			
ConnexxAir, ConnexxLink™	●	●	●
Programming adapter / cable	size 13	size 13	size 13
<b>Accessories</b>			
miniPocket	○	○	○
CROS Pure	○	○	—
eCharger	○	—	—
easyPocket™	○	○	○
easyTek	○	○	○
TV Transmitter (req. easyTek)	○	○	○
Transmitter (req. easyTek)	○	○	○
VoiceLink™ (req. easyTek)	○	○	○
<b>App</b>			
easyTek App (req. easyTek)	○	○	○
touchControl App	○	○	○

● available ■■■■■ highest feature performance ○ optional — not available

<sup>1)</sup> req. bilateral fitting and e2e™ 3.0

<sup>2)</sup> req. CROS Pure accessory

<sup>3)</sup> streaming only, req. easyTek™

<sup>4)</sup> req. easyTek & easyTek App, touchControl App or rocker switch

<sup>5)</sup> req. easyTek & easyTek App or touchControl App

# Motion primax | Features and Accessories

	P	
	7px / 5px / 3px	2px / 1px
<b>Style Specific Features</b>		
Ingress Protection Rating	IP67	IP67
Telecoil	●	●
AutoPhone™	●	—
Charging contacts	—	—
Battery Size	13	13
Battery door on/off function	●	●
Nanocoated housing	●	●
e2e wireless™ 3.0	●	●
Audio streaming with easyTek	●	●
User controls coupling via e2e	●	●
Wireless programming	●	●
<b>Instrument configurations</b>		
Flat cover	—	—
Push button	—	—
Rocker switch	●	●
Color conversion kit	○	○
Battery door – direct audio input	○	○
Battery door – child lock	—	—
Small earhook	—	—
<b>Programming Accessories</b>		
ConnexxAir, ConnexxLink™	●	●
Programming adapter / cable	size 13	size 13
<b>Accessories</b>		
miniPocket	○	○
CROS Pure	○	—
eCharger	—	—
easyPocket™	○	○
easyTek	○	○
TV Transmitter (req. easyTek)	○	○
Transmitter (req. easyTek)	○	○
VoiceLink™ (req. easyTek)	○	○
<b>App</b>		
easyTek App (req. easyTek)	○	○
touchControl App	○	○

● available ■■■■■ highest feature performance ○ optional — not available

<sup>1)</sup> req. bilateral fitting and e2e™ 3.0

<sup>2)</sup> req. CROS Pure accessory

<sup>3)</sup> streaming only, req. easyTek™

<sup>4)</sup> req. easyTek & easyTek App, touchControl App or rocker switch

<sup>5)</sup> req. easyTek & easyTek App or touchControl App



# Abbreviations and Standards

## Abbreviations

The following abbreviations are used in this datasheet:


OSPL	Output Sound Pressure Level
HFA	High Frequency Average
FOG	Full-On Gain
MASL	Magneto Acoustical Sensitivity Level
SPLITS	Coupler SPL for an Inductive Telephone Simulator
RSETS	Relative Equivalent Telephone Sensitivity
AI-DI	Articulation Index - Directivity Index
IRIL	Input Related Interference Level
RTF	Reference Test Frequency

## Standards

- ▶ All measurements with the 2 ccm coupler were performed according to ANSI S3.22-2009 and IEC 60118-7:2005 if applicable.
- ▶ All measurements with an ear simulator were performed according to IEC 118-0/A1 and to DIN 45605 (frequency range) if applicable.
- ▶ Tinnitus noiser measurement conditions: all tinnitus single frequency sliders in max position, master volume slider in default position (0 dB) and local volume control in default position.
- ▶ The following ear pieces were used:
  - ThinTube
  - Earhook
- ▶ Extended frequency range up to 12 kHz for 7px devices only.

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The information in this document contains general descriptions of the technical options available, which do not always have to be present in individual cases and are subject to change without prior notice. The required features should therefore be specified in each individual case at the time of conclusion of the respective contract.

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### Warning

- Choking hazard posed by small parts.
- ▶ This instrument is not intended for the fitting of infants, children under 3 years and persons of mental incapacity.



### Warning

- Instrument has an output sound pressure level of 132 dB SPL or more.
- Risk of impairing the residual hearing of the user.
- ▶ Take special care when fitting this instrument.