



Emerald S 6C Emerald S 30/20 E1

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Data Sheet
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Emerald S 6C / 30/20 E1 · Technical Data

Type	S-Receiver		M-Receiver	
				
	2 ccm coupler	Ear simulator	2 ccm coupler	Ear simulator
Output sound pressure level				
at 1.6 kHz	-	109 dB SPL	-	122 dB SPL
Peak	108 dB SPL	119 dB SPL	119 dB SPL	129 dB SPL
HFA-OSPL 90	102 dB SPL	-	114 dB SPL	-
Gain				
Full on gain (FOG) at 1.6 kHz	-	43 dB	-	55 dB
Full on gain (peak)	45 dB	56 dB	60 dB	70 dB
HFA-FOG	37 dB	-	50 dB	-
Reference test gain	25 dB	34 dB	37 dB	47 dB
Frequency, noise and directivity				
Frequency range 80 6C 60 6C / 40 6C / 30 E1 / 20 E1	100 - 10000 Hz 100 - 8200 Hz	100 - 10500 Hz 100 - 8300 Hz	100 - 8800 Hz 100 - 8200 Hz	100 - 10000 Hz 100 - 8300 Hz
Equivalent input noise	18 dB SPL	22 dB SPL	19 dB SPL	23 dB SPL
Total harmonic distortion at 500 / 800 / 1600 Hz	1 / 1 / 1 %	1 / 1 / 2 %	1 / 1 / 2 %	1 / 3 / 3 %
Broadband tinnitus function	65 dB	-	70 dB	-
AI-DI	3.8 dB		3.8 dB	
Inductive coil sensitivity				
MASL (1 mA/m) at 1.6 kHz	-	75 dB SPL	-	85 dB SPL
HFA MASL (1 mA/m)	68 dB SPL	-	80 dB SPL	-
HFA SPLITS (left/right)	84 / 84 dB SPL	-	96 / 96 dB SPL	-
RSETS (left/right)	-1 / -1 dB SPL	-	-1 / -1 dB SPL	-
Battery				
Battery voltage	1.3 V		1.3 V	
Battery current drain	0.9 mA		1.0 mA	
Battery life (cell zinc air)	~130 h		~120 h	
Battery life (rechargeable)*	up to 16 h		-	
IRIL IEC 118-13:2011 (bystander)				
800-960 MHz	<-6 dB SPL		<-6 dB SPL	
1400-2000 MHz	<-24 dB SPL		<-24 dB SPL	
ANSI C63.19	M4 / T4		M4 / T4	

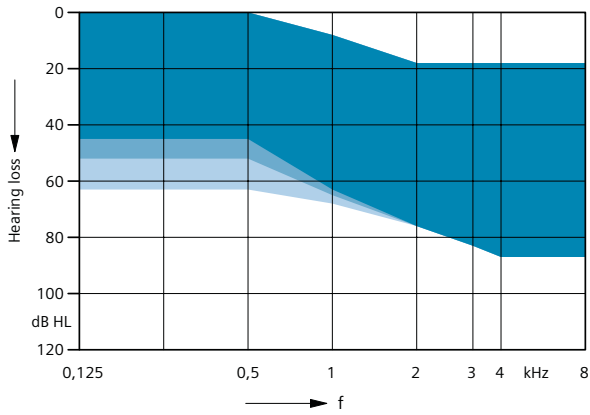
* 6C only

Emerald S 6C / 30/20 E1 · Technical Data

Type	P-Receiver		HP-Receiver	
				
	2 ccm coupler	Ear simulator	2 ccm coupler	Ear simulator
Output sound pressure level				
at 1.6 kHz	-	128 dB SPL	-	137 dB SPL
Peak	124 dB SPL	134 dB SPL	130 dB SPL	138 dB SPL
HFA-OSPL 90	120 dB SPL	-	124 dB SPL	-
Gain				
Full on gain (FOG) at 1.6 kHz	-	70 dB	-	82 dB
Full on gain (peak)	70 dB	80 dB	75 dB	82 dB
HFA-FOG	63 dB	-	68 dB	-
Reference test gain	43 dB	53 dB	48 dB	62 dB
Frequency, noise and directivity				
Frequency range 80 6C 60 6C / 40 6C / 30 E1 / 20 E1	100 - 7800 Hz 100 - 7800 Hz	100 - 8100 Hz 100 - 7800 Hz	100 - 7500 Hz 100 - 7400 Hz	250 - 5200 Hz 250 - 5200 Hz
Equivalent input noise	18 dB SPL	21 dB SPL	18 dB SPL	12 dB SPL
Total harmonic distortion at 500 / 800 / 1600 Hz	2 / 2 / 1 %	3 / 3 / 2 %	1 / 2 / 1 %	1 / 1 / 1 %
Broadband tinnitus function	75 dB	-	85 dB	-
AI-DI	3.8 dB		3.8 dB	
Inductive coil sensitivity				
MASL (1 mA/m) at 1.6 kHz	-	100 dB SPL	-	114 dB SPL
HFA MASL (1 mA/m)	91 dB SPL	-	99 dB SPL	-
HFA SPLITS (left/right)	102 / 102 dB SPL	-	107 / 107 dB SPL	-
RSETS (left/right)	-1 / -1 dB SPL	-	-1 / -1 dB SPL	-
Battery				
Battery voltage	1.3 V		1.3 V	
Battery current drain	1.0 mA		1.1 mA	
Battery life (cell zinc air)	~120 h		~110 h	
Battery life (rechargeable)	-		-	
IRIL IEC 118-13:2011 (bystander)				
800-960 MHz	<-6 dB SPL		<-6 dB SPL	
1400-2000 MHz	<-24 dB SPL		<-24 dB SPL	
ANSI C63.19	M4 / T4		M4 / T4	

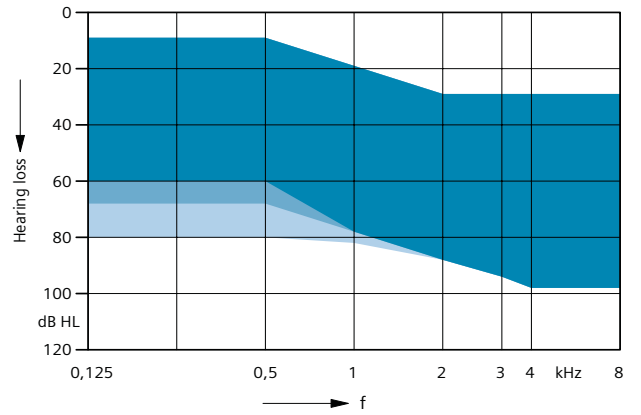
Fitting Range

S-Receiver



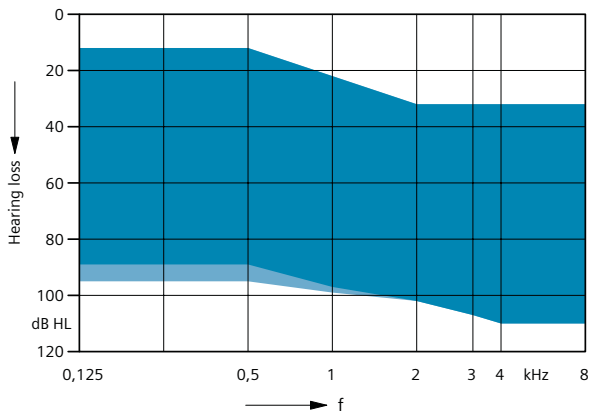
- Open Click Domes
- + Closed Click Domes
- + + Click Mold (no vent)

M-Receiver



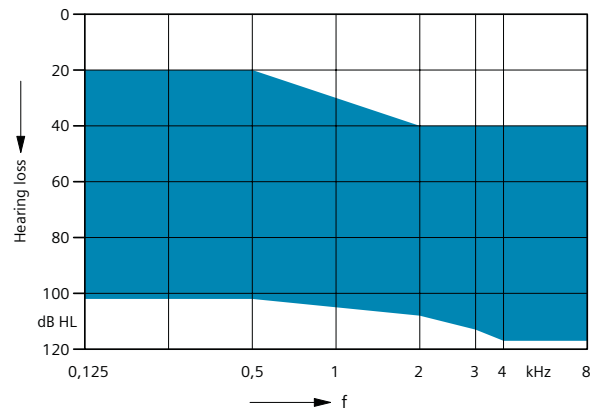
- Open Click Domes
- + Closed Click Domes
- + + Click Mold (no vent)

P-Receiver



- Double Click Domes
- + Click Mold (no vent)

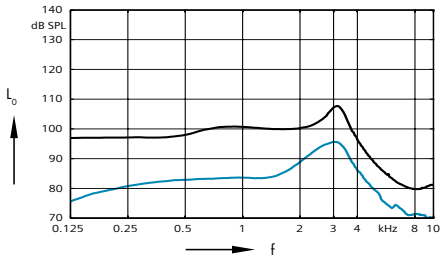
HP-Receiver



- Custom Shell (no vent)

S-Receiver (Closed Click Dome) · Basic Data

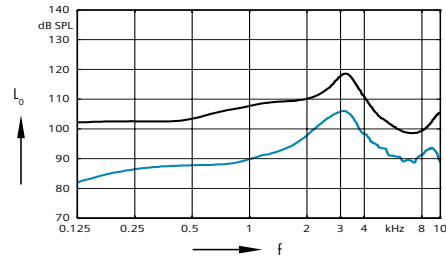
2 ccm coupler



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

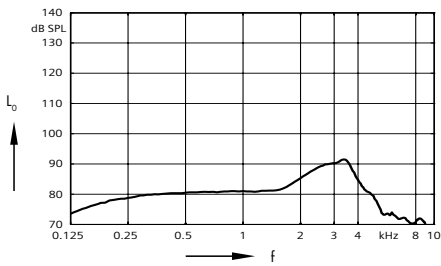
Full on gain
($L_i = 50$ dB)

Ear simulator

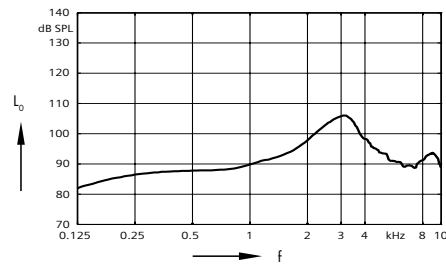


Output sound pressure level
($L_i = 90$ dB)

Full on gain
($L_i = 50$ dB)

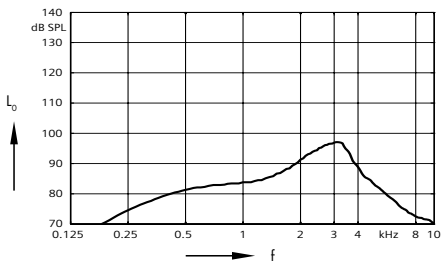


Frequency response
($L_i = 60$ dB)

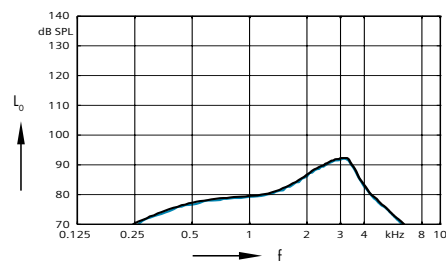


Basic acoustic response
($L_i = 60$ dB)

Inductive response



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

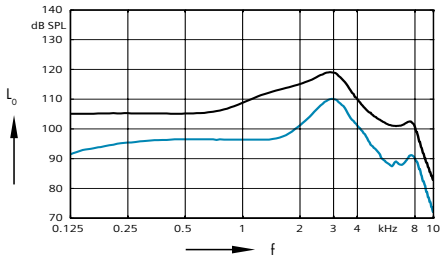


SPLITs curve left
($H = 31.6$ mA/m)

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

M-Receiver (Closed Click Dome) · Basic Data

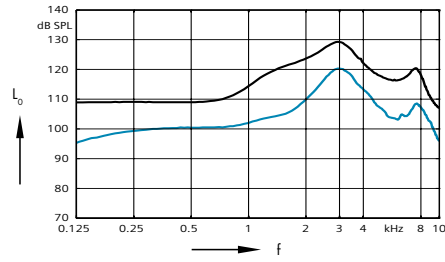
2 ccm coupler



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

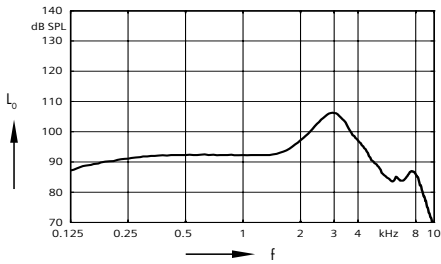
Full on gain
($L_i = 50$ dB)

Ear simulator

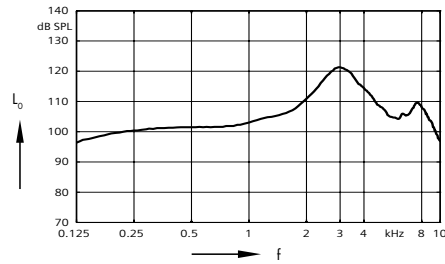


Output sound pressure level
($L_i = 90$ dB)

Full on gain
($L_i = 50$ dB)

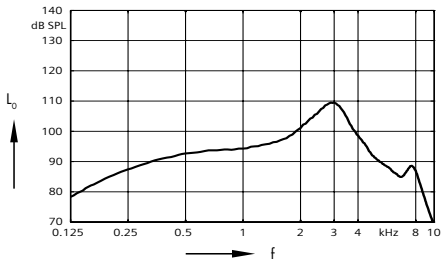


Frequency response
($L_i = 60$ dB)

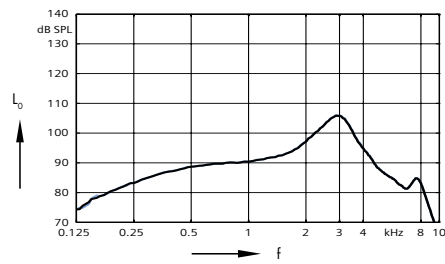


Basic acoustic response
($L_i = 60$ dB)

Inductive response



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

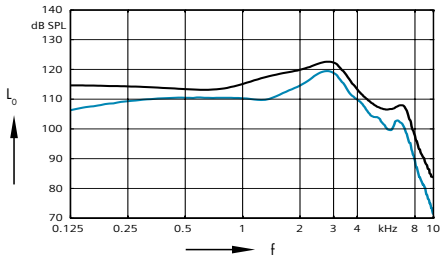


SPLITS curve left
($H = 31.6$ mA/m)

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

P-Receiver (Click mold) · Basic Data

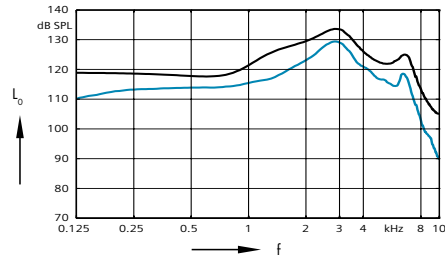
2 ccm coupler



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

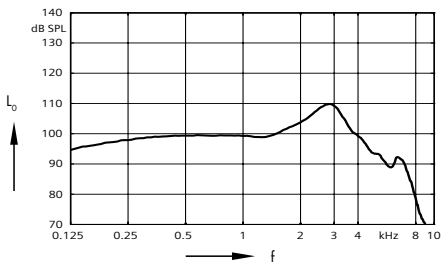
Full on gain
($L_i = 50$ dB)

Ear simulator

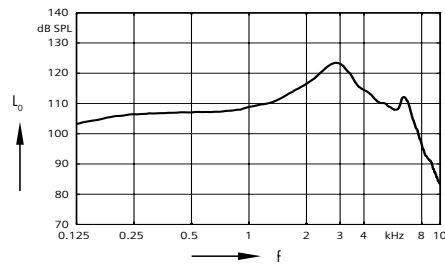


Output sound pressure level
($L_i = 90$ dB)

Full on gain
($L_i = 50$ dB)

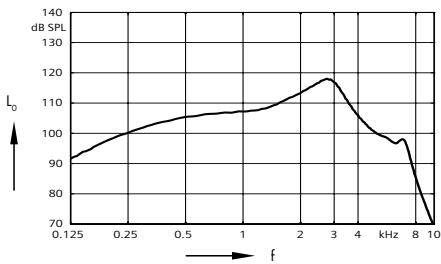


Frequency response
($L_i = 60$ dB)

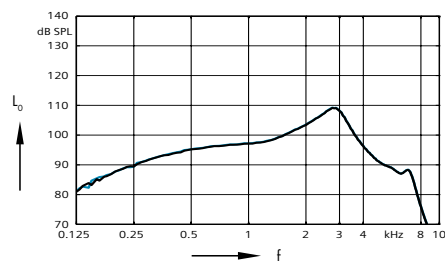


Basic acoustic response
($L_i = 60$ dB)

Inductive response



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

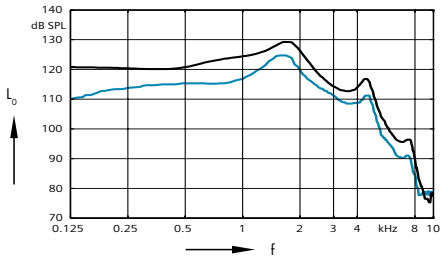


SPLITs curve left
($H = 31.6$ mA/m)

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

HP-Receiver (Custom Shell) · Basic Data

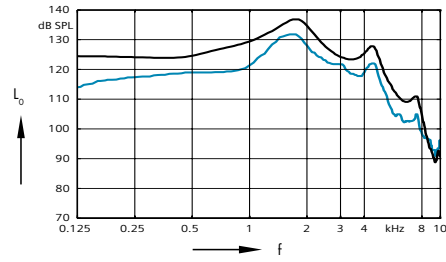
2 ccm coupler



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

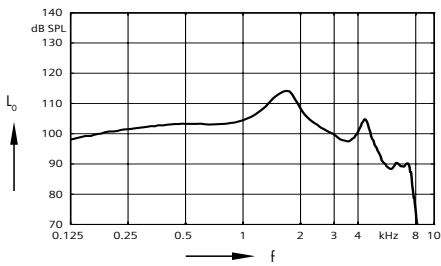
Full on gain
($L_i = 50$ dB)

Ear simulator

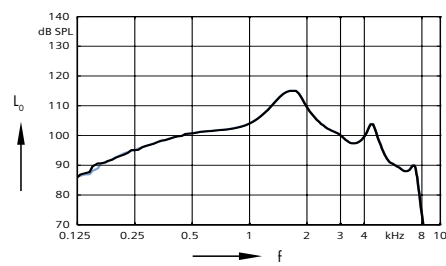


Output sound pressure level
($L_i = 90$ dB)

Full on gain
($L_i = 50$ dB)

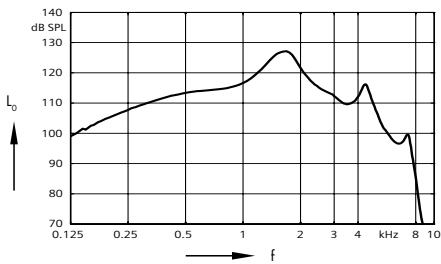


Frequency response
($L_i = 60$ dB)

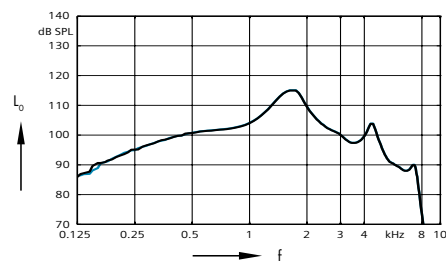


Basic acoustic response
($L_i = 60$ dB)

Inductive response



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



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

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

Emerald S 6C / 30/20 E1 | Features and Accessories

	80 6C	60 6C	40 6C	30 E1	20 E1
TruCore Platform					
Signal processing (channels) / Gain/MPO (handles)	40 / 20	32 / 16	24 / 12	16 / 8	16 / 8
Hearing programs	6	6	6	4	4
Wireless Sync ¹⁾	P	P	P	P	P
Volume and control coupling ¹⁾	P	P	P	P	P
TruCore Speech					
HD Bandwidth	P	–	–	–	–
iFocus 360 ¹⁾	P	–	–	–	–
Focus 360	P	P	–	–	–
HD Directionality	P	P	–	–	–
Directional iLock ¹⁾	P	H	S	–	–
Voice Ranger	P	P	P	P	P
XPhone ¹⁾	P	P	P	–	–
Multichannel Adaptive Directional Microphone	P	P	P	P	–
Automatic Directional Microphone	P	P	P	P	S
Fixed Directional Microphone	P	P	P	P	P
Bandwidth Compression	P	P	P	P	P
Feedback Preventer	P	P	P	P	S
TruCore Sound Quality And Comfort					
Auto Volume ²⁾	P	–	–	–	–
Microphone-Pattern adjustment ¹⁾	P	P	–	–	–
Reverb Reducer	P	–	–	–	–
Sound Radiance ²⁾	P	P	–	–	–
Music Enhancer	P	H	H	–	–
Sound Locator	P	P	P	–	–
Sound Smoothing	P	P	H	H	–
Wind Noise Cancellation	P ¹⁾	H ¹⁾	S	S	–
Tinnitus Function ³⁾	H	H	H	S	–
Noise Management	P	P	P	H	S
TruCore Automatic Optimization					
Smart Automatic Equalizer	P	P	H	–	–
Smart Automatic Acclimatization	P	P	H	H	S
Automatic Classifier	P	P	P	P	B
Data Logging	P	P	P	P	P

¹⁾ Bilateral fitting required

²⁾ Only in streaming mode, Smart Connect required

³⁾ Country-dependent

Performance levels: P= Premium H=High S=Standard B=Basic

Emerald S 6C / 30/20 E1 | Features and Accessories

	80 6C / 60 6C / 40 6C	30 E1 / 20 E1
Style Specific Features		
SecureTec protection	IP67	IP67
Telecoil	●	●
Autophone	●	–
Charging contacts	●	–
Battery Size	312	312
Battery door on/off function	●	●
Nanocoated housing	●	●
Audio streaming with Smart Connect	●	●
Instrument configurations		
Rocker switch / flat cover	● / ○	● / ○
Push button	○	○
Battery door - direct audio input	–	–
Battery door - child lock	–	–
Small earhook	–	–
Programming Accessories		
ConnexAir, ConnexLink	●	●
Programming adapter / cable	size 312	size 312
Accessories		
Smart Connect	○	○
Wireless CROS RIC	○	–
Smart Power charger	○	–
Smart Remote	○	○
Smart Key	○	○
Smart Transmitter (req. Smart Connect)	○	○
Transmitter (req. Smart Connect)	○	○
Speech Connect (requires Smart Connect)	○	○
App		
Smart Connect App (requires Smart Connect)	○	○
Smart Remote App	○	○

● available ○ optional – not available

Emerald S 6C / 30/20 E1

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 function 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:
 - S-Receiver Unit and M-Receiver Unit: Closed Click Dome
 - P-Receiver Unit: Click Mold
 - HP-Receiver Unit: Custom Shell
- ▶ HD Bandwidth up to 10 kHz for 80 6C devices only.

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.

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.