

6.5" Extended Woofer

PURE SOUND

Long Stroke driver with Ultra Low Distortion



PTT6.5X04-NAA-08 DATA SHEET

KEY SPECIFICATIONS

- ⊗ Negligible Force Factor Modulation and Surround Radiation Distortion
- ⊗ Low Magnetic Hysteresis Distortion
- ⊗ “Real” long-stroke Performance: Distortion remains low over full Excursion
- ⊗ Uncompromised Midrange Performance
- ⊗ Designed and Manufactured in Denmark

Driver size	6.5"
DC resistance, R_{DC}	3.7 Ω
Resonance freq., f_s	32 Hz
Total Q factor, Q_{ts}	0.35
Effective piston area	133 cm ²
Equivalent volume, V_{as}	21 L
SPL@2.83V _{rms} /1m	86.8 dB
Linear X_{max}	+/- 9.8 mm
Mechanical X_{max}	+/- 14.5 mm
IEC Power handling	250 W
Cone material	Black Anodized Aluminum

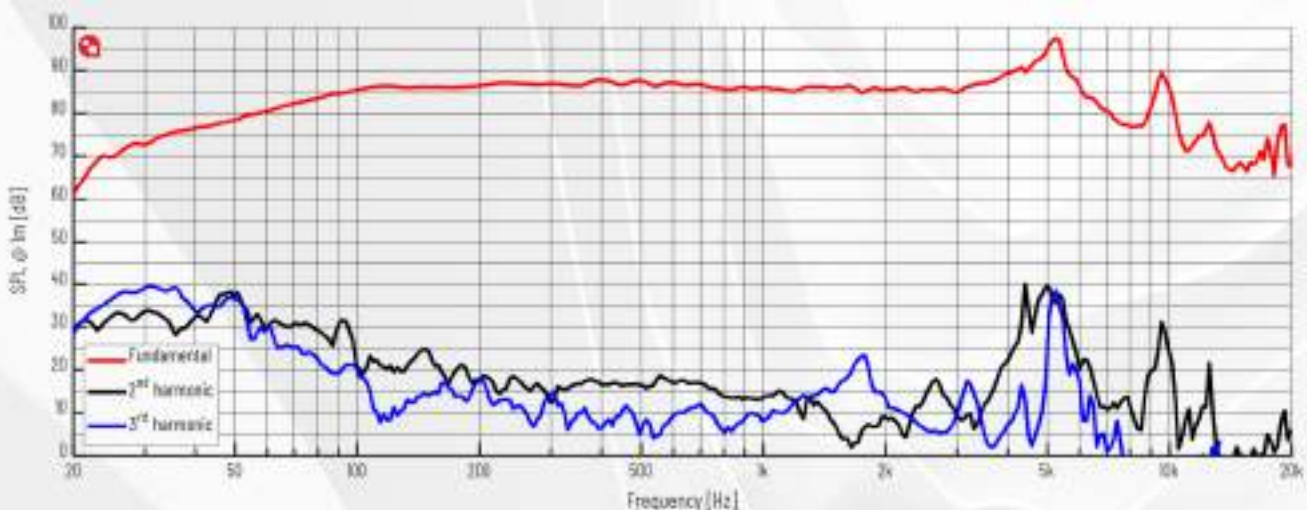


Figure 1 Frequency Response 2.84Vrms @1m

1 Specifications

1.1 Electrical & Acoustical Parameter

Parameter		Typ	Unit
Z_n	Nominal impedance	4	Ω
Z_{min}	Minimum impedance above resonance	4.2	Ω
f_{min}	Frequency for minimum impedance	242	Hz
Z_o	Maximum impedance	78	Ω
R_{DC}	DC resistance	3.7	Ω
L_e	Voice Coil inductance @ 1kHz 0mm	0.36	mH
SPL	SPL@2.83V _{rms} /1m, 300Hz-800Hz, ref. 20 μ Pa (infinite baffle / 2pi)	86.8	dB
	SPL@1W(Z_{min})/1m, 300Hz-800Hz, ref. 20 μ Pa (infinite baffle / 2pi)	84.0	dB

Table 1 Electrical & Acoustical Parameters

1.2 T/S & Lumped Parameters

Parameter		Typ	Unit
f_s	Resonance frequency	32	Hz
Q_{ms}	Mechanical Q factor	7.5	-
Q_{es}	Electrical Q factor	0.37	-
Q_{ts}	Total Q factor	0.35	-
V_{as}	Equivalent volume	20.5	L
S_d	Effective piston area	132.7	cm ²
D	Effective piston diameter	13.0	cm
Bl	Force factor	7.8	N/A
R_{ms}	Mechanical resistance	0.81	kg/s
M_{ms}	Moving mass	29.8	g
C_{ms}	Suspension compliance	0.82	mm/N

Table 2 T/S & Lumped Parameters

1.3 Mechanical Properties

Parameter		Typ	Unit
Excursion Properties			
X_{max}	Linear excursion = (Voice Coil length - Airgap height) / 2	+/-9.8	mm
	Mechanical excursion	+/-14.5	mm
Physical Dimensions			
	Basket diameter	176	mm
	Cutout diameter	148	mm
	Mounting hole pattern diameter	166	mm
	Mounting hole diameter	5.2	mm
	Magnet diameter	100	mm
	Outer flange height	3.6	mm
	Build-in depth	85.2	mm
	Weight	1.75	kg
Voice Coil Properties			
	Voice Coil diameter	39	mm
	Voice Coil length	23.6	mm
	Voice Coil layers	4	-
	Airgap height	4	mm
	Winding material	CCAW	-

Table 3 Mechanical Properties

1.4 Power Handling

Parameter		Typ	Unit
	Long term maximum power (IEC268-5 18.2)	250	W
	Rated noise power, 100h (IEC268-5 18.4)	80	W

Table 4 Power Handling



1.5 Typical Performance, Graphs

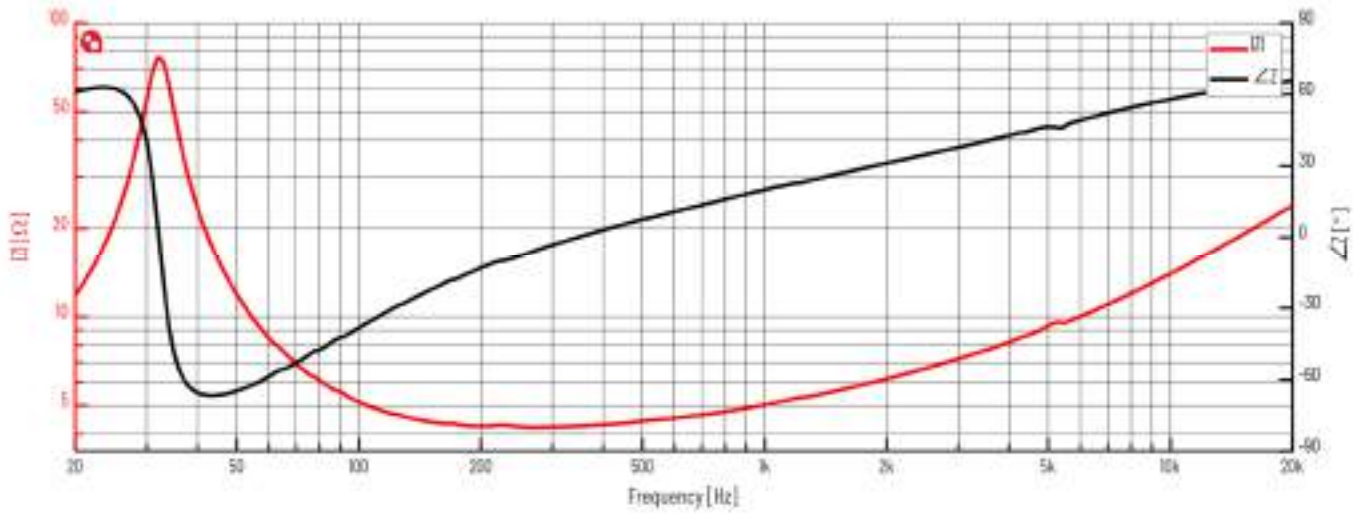


Figure 2 Impedance Response @ 2.83V

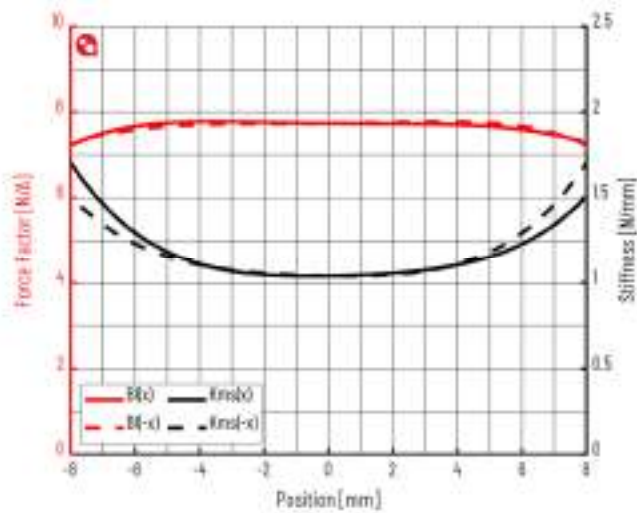


Figure 3 Force Factor and Stiffness vs Voice Coil Position

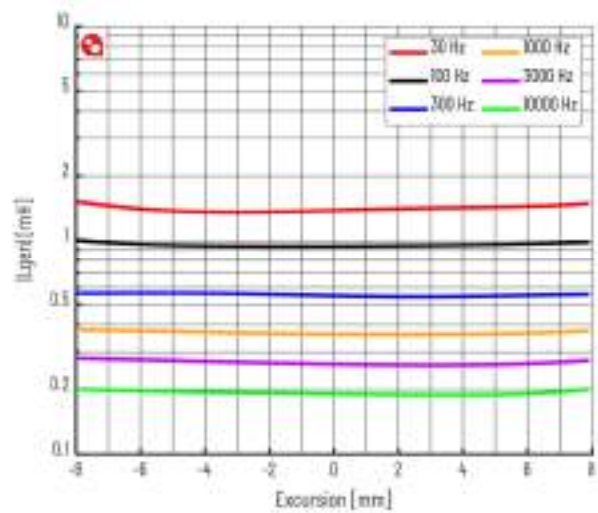


Figure 4 Inductance vs Voice Coil Position

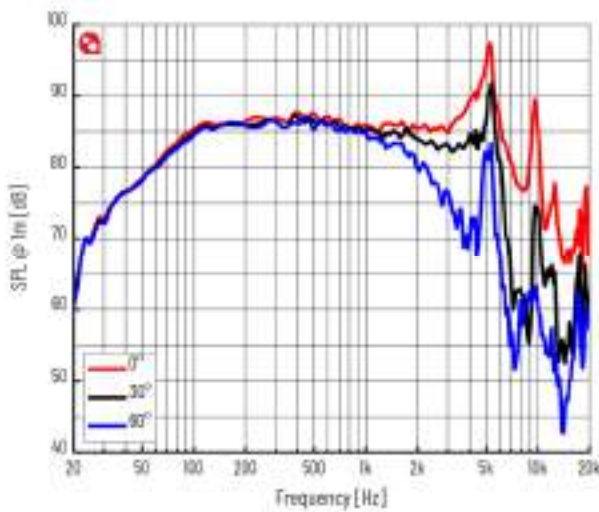


Figure 5 Axial Frequency Response @ 1m, 2.83Vrms

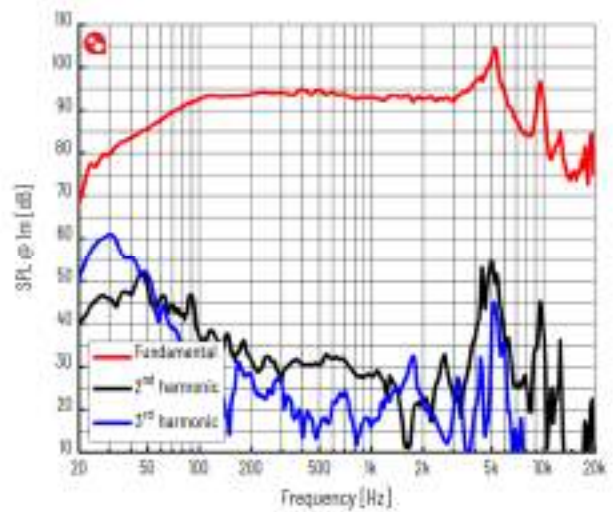


Figure 6 Frequency Response @ 1m, 94dB

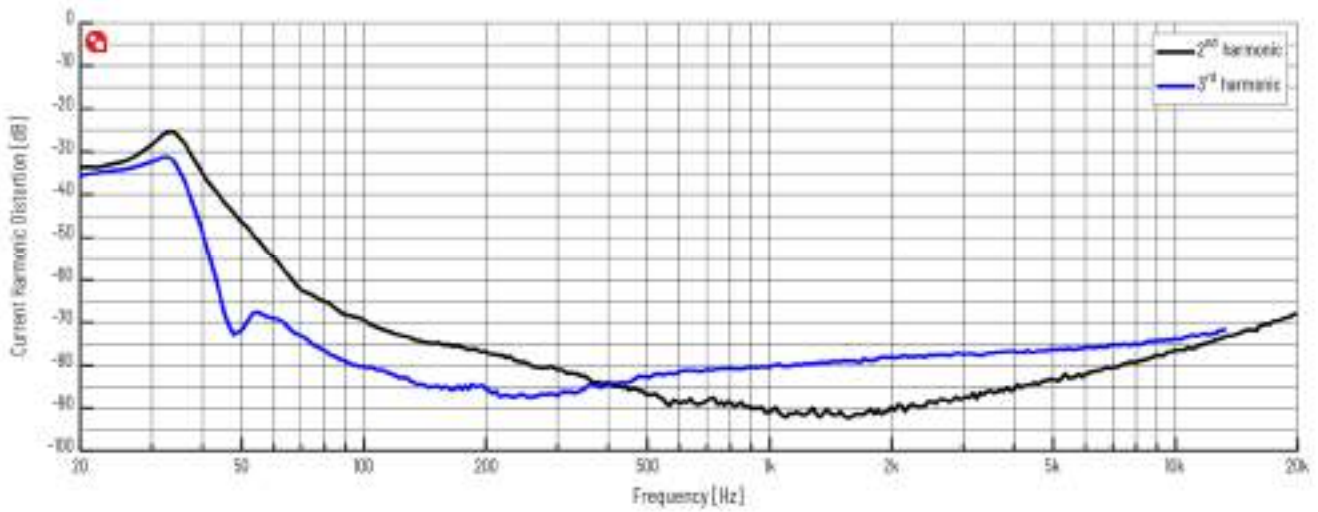


Figure 7 Current Harmonic Distortion @ 2.83Vrms

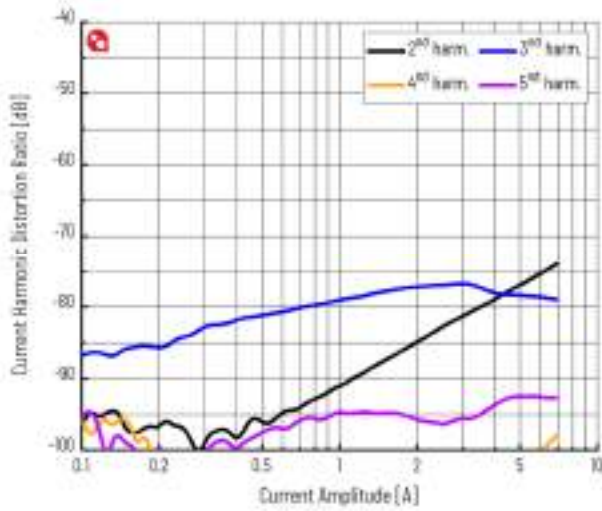


Figure 8 Current Harmonic Distortion @ 1kHz, 0-28.3Vrms

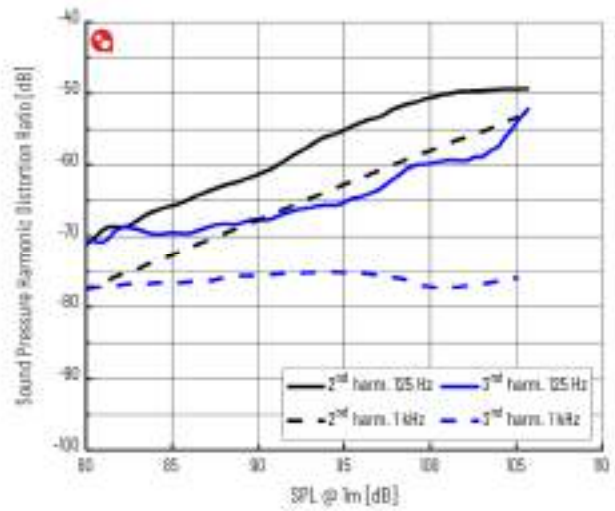


Figure 9 Sound Pressure Harmonic Distortion @ 1m, 0-28.3Vrms

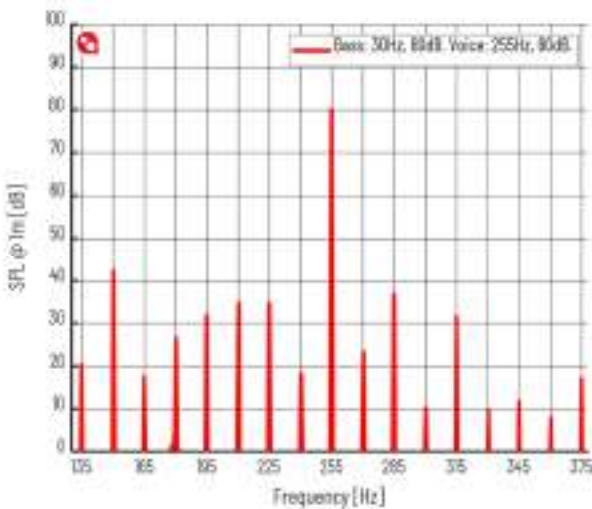


Figure 10 Intermodulation Distortion @ 30Hz 80dB, 255Hz 80dB

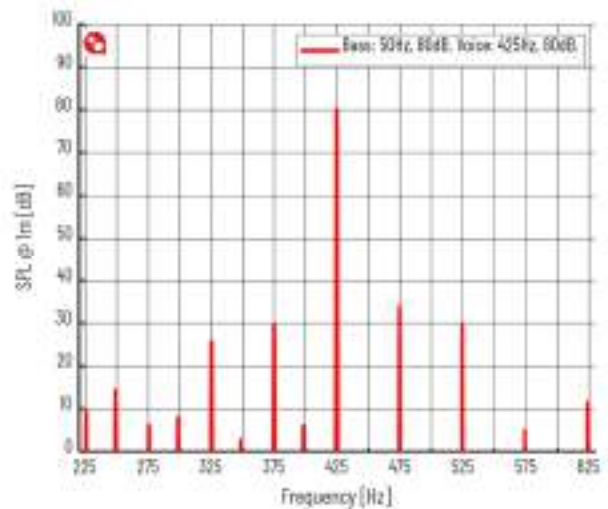
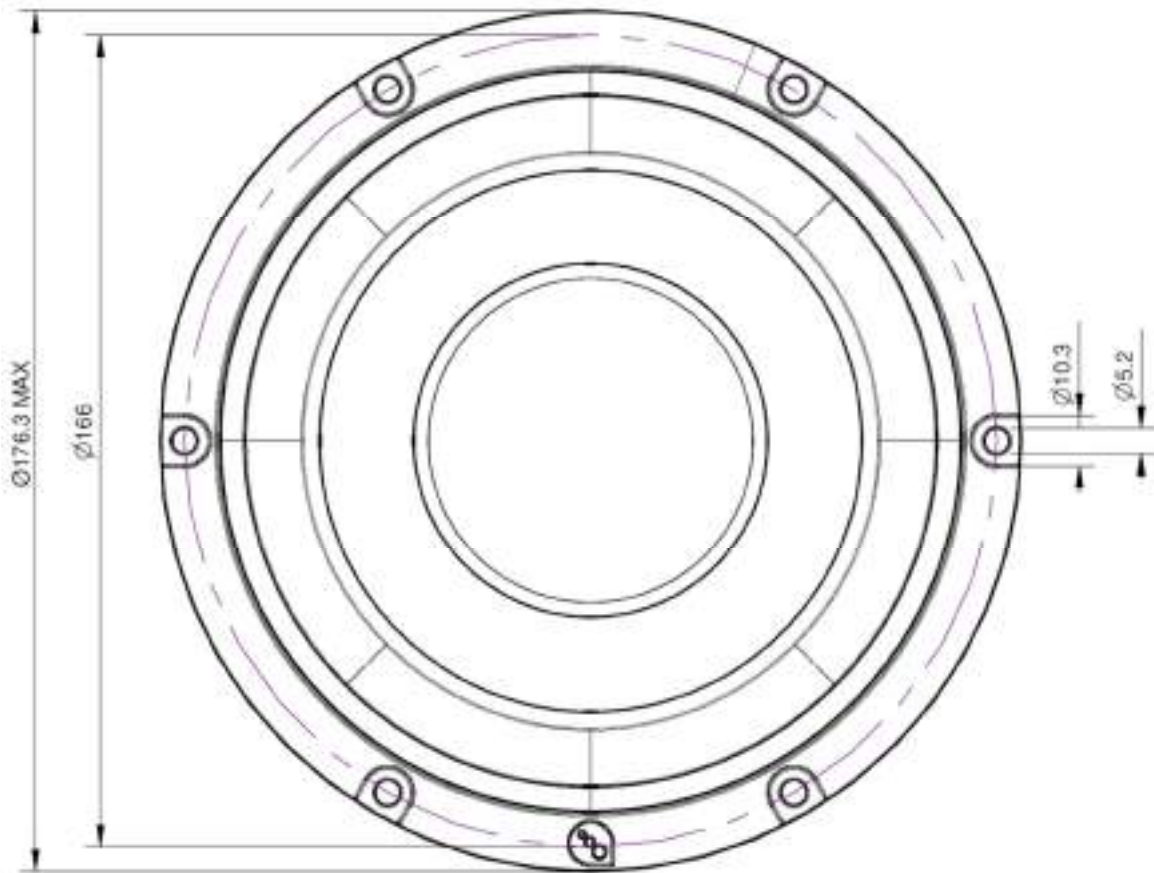
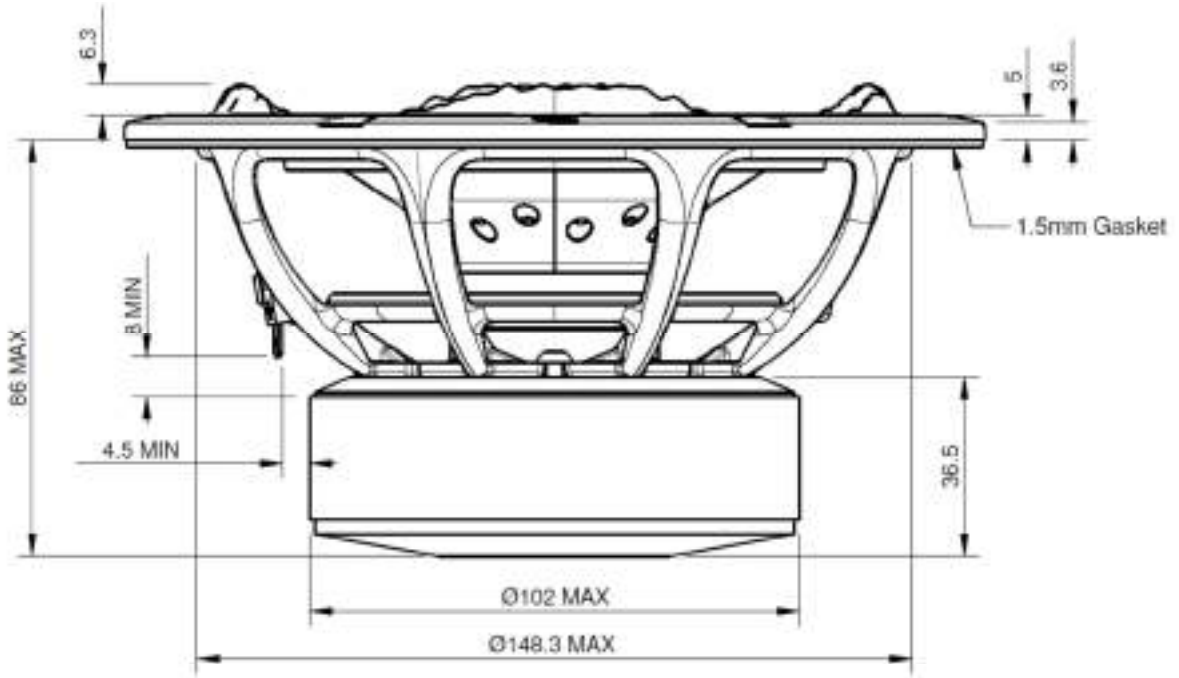


Figure 11 Intermodulation Distortion @ 50Hz 80dB, 425Hz 80dB

2 Drawings



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