

4.0" Woofer

PURE SOUND

Long Stroke driver with
Ultra Low Distortion and
High SPL Handling

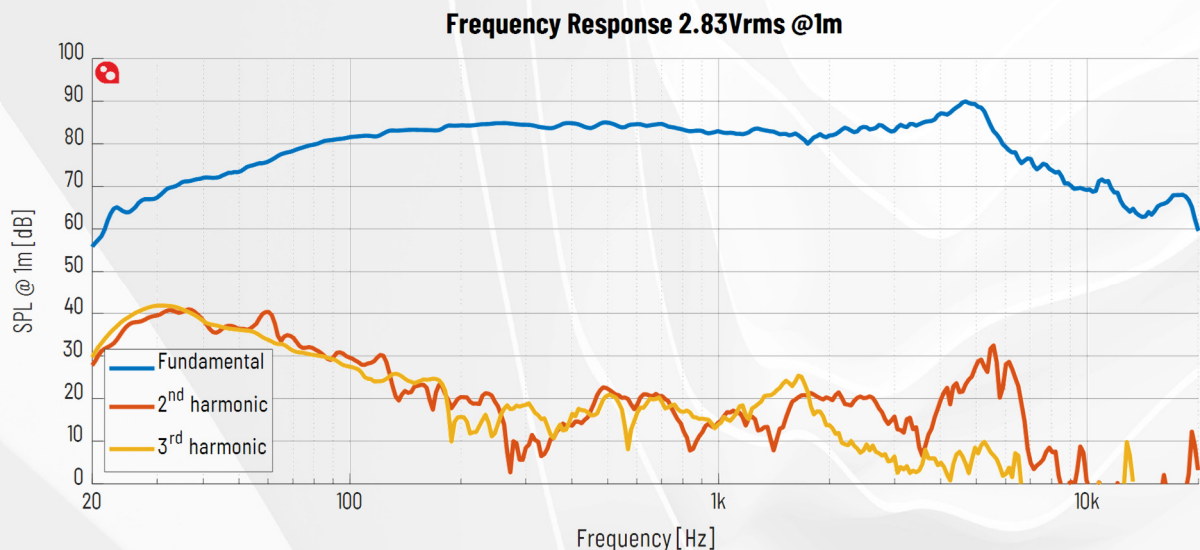


PTT4.0W04 DATA SHEET

- ⊙ 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

KEY SPECIFICATIONS

| | |
|------------------------------|-----------------------|
| Driver size | 4" |
| DC resistance, R_{DC} | 3.8 Ω |
| Resonance freq., f_s | 45 Hz |
| Total Q factor, Q_{ts} | 0.37 |
| Effective piston area | 57 cm ² |
| Equivalent volume, V_{as} | 4.6 L |
| SPL@2.83V _{rms} /1m | 84.3 dB |
| Linear X_{max} | +/- 8.5 mm |
| Mechanical X_{max} | +/- 13.7 mm |
| IEC Power handling | TBD |
| Cone material | Proprietary Fibre Mix |



1 Specifications

1.1 Electrical & Acoustical Parameter

| Parameter | | Typ | Unit |
|-----------|---|------|----------|
| Z_n | Nominal impedance | 4 | Ω |
| Z_{min} | Minimum impedance | 4.35 | Ω |
| Z_o | Maximum impedance | 71 | Ω |
| R_{DC} | DC resistance | 3.8 | Ω |
| L_e | Voice Coil inductance @ 1kHz 0mm | 0.38 | mH |
| SPL | SPL@2.83V _{rms} /1m, 300Hz-800Hz, ref. 20 μ Pa | 84.3 | dB |
| | SPL@1W(Z_{min})/1m, 300Hz-800Hz, ref. 20 μ Pa | 81.6 | dB |

Table 1 Electrical & Acoustical Parameters

1.2 T/S & Lumped Parameters

| Parameter | | Typ | Unit |
|-----------|---------------------------|------|-----------------|
| f_s | Resonance frequency | 45 | Hz |
| Q_{ms} | Mechanical Q factor | 5.1 | - |
| Q_{es} | Electrical Q factor | 0.39 | - |
| Q_{ts} | Total Q factor | 0.37 | - |
| Bl | Force factor | 5.85 | N/A |
| R_{ms} | Mechanical resistance | 0.69 | kg/s |
| M_{ms} | Moving mass | 12.5 | g |
| C_{ms} | Suspension compliance | 1.00 | mm/N |
| S_d | Effective piston area | 57 | cm ² |
| D | Effective piston diameter | 8.5 | cm |
| V_{as} | Equivalent volume | 4.6 | L |

Table 2 T/S & Lumped Parameters

1.3 Mechanical Properties

| Parameter | | Typ | Unit |
|------------------------------|--------------------------------|----------|------|
| Excursion Properties | | | |
| X_{max} | Linear excursion | +/- 8.5 | mm |
| | Mechanical excursion | +/- 13.7 | mm |
| Physical Dimensions | | | |
| | Basket diameter | 125 | mm |
| | Cutout diameter | 100 | mm |
| | Mounting hole pattern diameter | 115 | mm |
| | Mounting hole diameter | 4.2 | mm |
| | Magnet diameter | 90 | mm |
| | Outer flange height | 3.2 | mm |
| | Build-in depth | 73.5 | mm |
| Voice Coil Properties | | | |
| | VC diameter | 30 | mm |
| | VC length | 21.6 | mm |
| | VC 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) | TBD | W |
| | Rated noise power, 100h (IEC268-5 18.4) | TBD | W |

Table 4 Power Handling

1.5 Typical Performance, Graphs

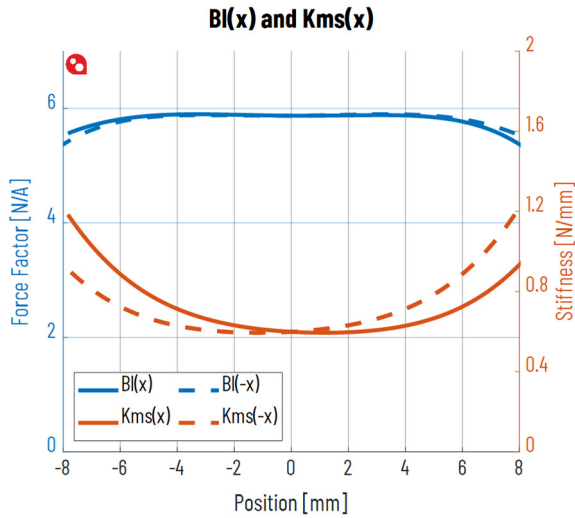


Figure 1 Force Factor and Stiffness vs Voice Coil Position

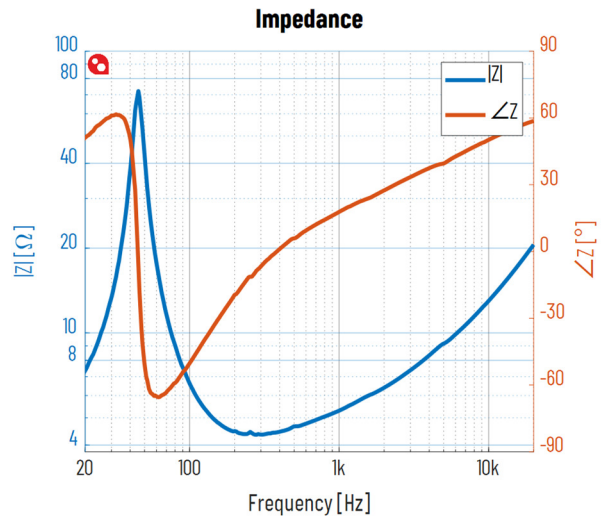


Figure 2 Impedance Response @ 0.5V

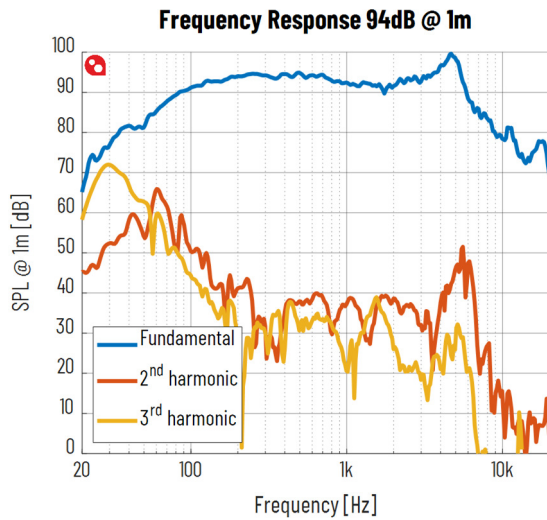


Figure 3 Frequency Response @ 1m, 94dB

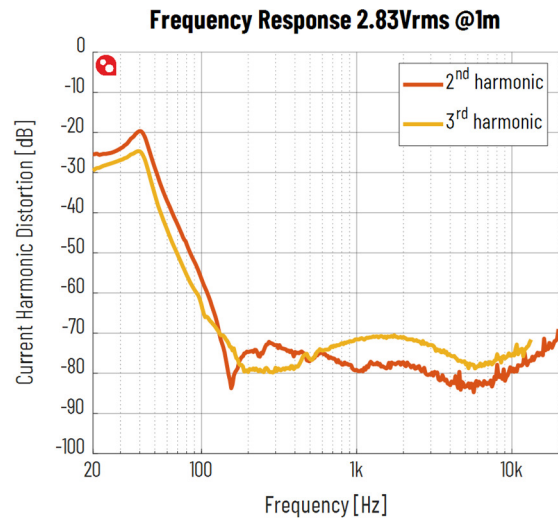


Figure 4 Current Harmonic Distortion Ratio @ 2.83Vrms

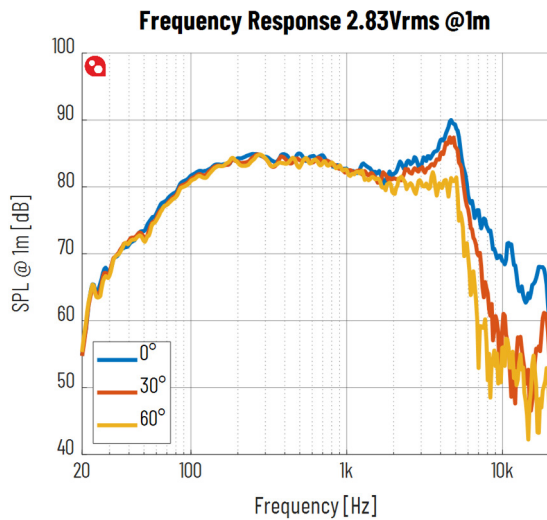


Figure 5 Axial Frequency Response @ 1m, 2.83Vrms

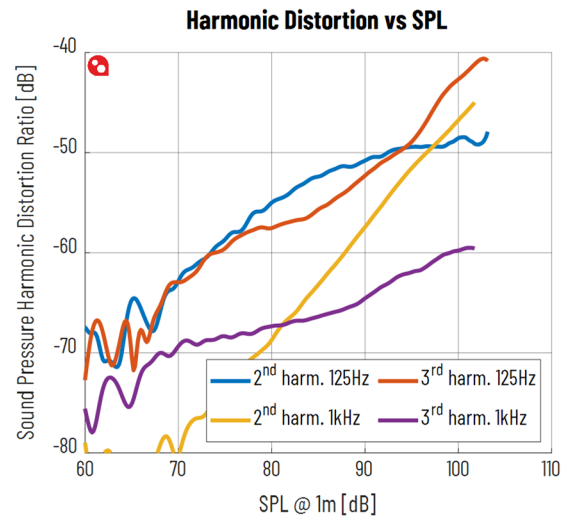
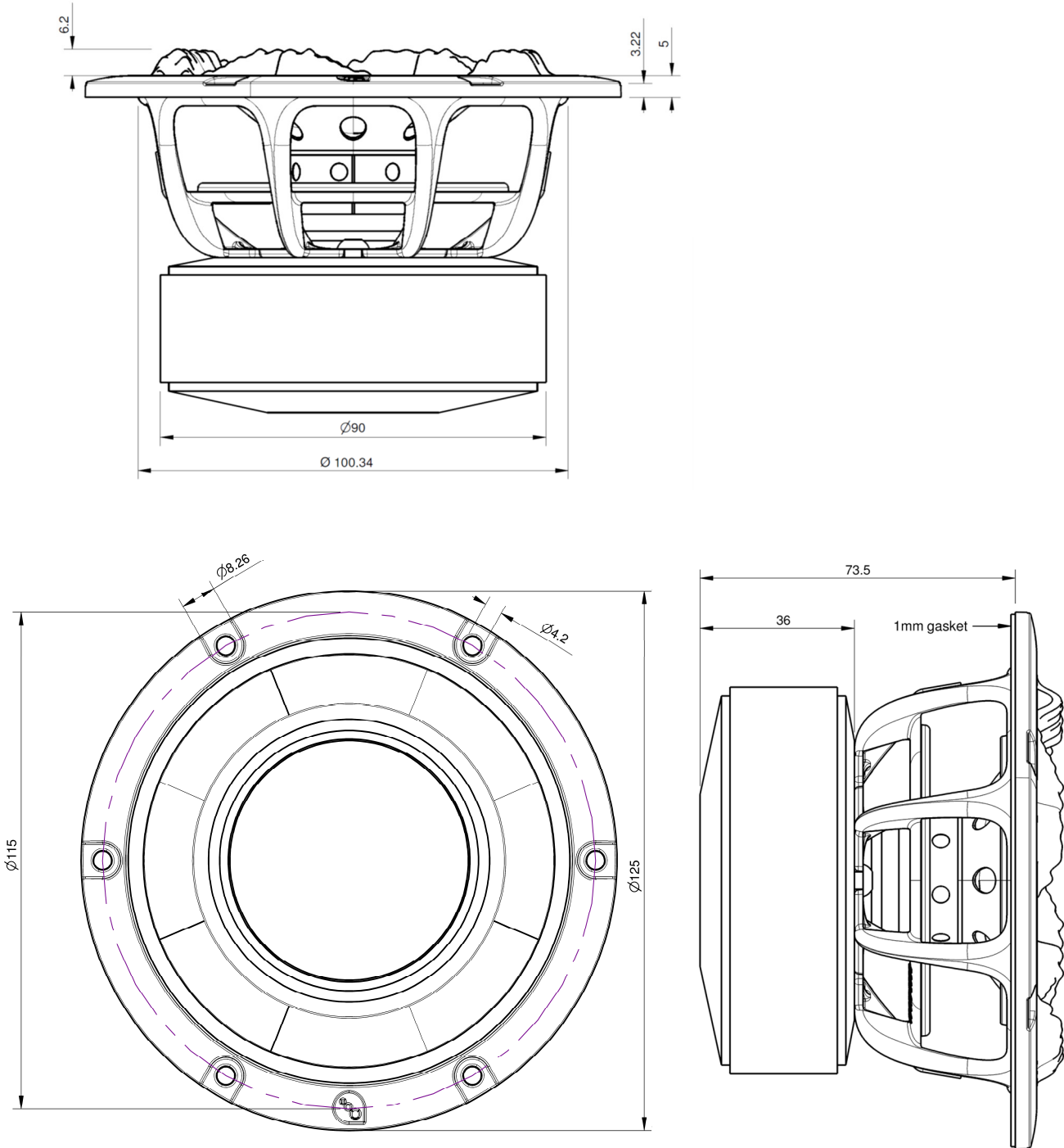


Figure 6 Sound Pressure Harmonic Distortion @ 1m, 0-28.3Vrms

2 Drawings



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