



4TR5A

Selenium Flex System consists on a three-way 4" pair of speakers developed to reproduce the whole range of audio frequencies: low, midbass and high frequencies. Whenever used with the right adaptor (if necessary), the three-way is the most indicated loudspeaker to be used in the original car places, avoiding any further work to assemble it. It presents the followings features:

- Polypropylene injected cones provide a bold appearance.
- The rubber surround, without a mechanical break, allowing a linear displacement in both directions assuring low distortion.
- Copper voice coil, with the copper bobbin for a better heat sink and dumping action, as well as special resins to support high temperatures.
- Steel stamped frame/basket, with a reinforced design and black epoxy finishing.
- Dynamic tweeter with PEI (Polyeter imida) diaphragm/dome and barium ferrite magnet assure a high performance product.
- The Piezoelectric tweeter has high efficiency at high frequency reproduction.
- 50W Musical program power is a big jump from the original low power speakers.



SPECIFICATIONS

| | | |
|--|--------------|---------|
| Nominal diameter | 102 (4) | mm (in) |
| Nominal impedance | 4 | |
| Minimum impedance @ 405 Hz | 3.9 | |
| Power handling | | |
| MAX ¹ | 50 | W |
| AES ² | 25 | W |
| Sensitivity (2.0 V@1m) averaged from 90 to 20,000 Hz | 86 | dB SPL |
| Power compression @ 0 dB (nom. power) | 5.8 | dB |
| Power compression @ -3 dB (nom. power)/2 | 1.5 | dB |
| Power compression @ -10 dB (nom. power)/10 | 0.3 | dB |
| Frequency response @ -10 dB | 90 to 20,000 | Hz |

¹ Power handling specifications refer to normal speech and/or music program material, reproduced by an amplifier producing no more than 5% distortion. Power is calculated as true RMS voltage squared divided by the nominal impedance of the loudspeaker.
² AES Standard (100 - 1000 Hz).

THIELE-SMALL PARAMETERS

| | | |
|---|---------------|------------------------------------|
| Fs | 118 | Hz |
| Vas | 1.50 (0.053) | l (ft ³) |
| Qts | 1.40 | |
| Qes | 1.85 | |
| Qms | 5.73 | |
| o (half space) | 0.13 | % |
| Sd | 0.0063 (9.76) | m ² (in ²) |
| Vd (Sd x Xmax) | 9.45 (0.57) | cm ³ (in ³) |
| Xmax (max. excursion (peak) with 10% distortion) | 1.5 (0.06) | mm (in) |
| Xlim (max. excursion (peak) before physical damage) | 5.25 (0.20) | mm (in) |

Atmospheric conditions at TS parameter measurements:

| | | |
|----------------------|-----------|---------|
| Temperature | 23 (73.4) | °C (°F) |
| Atmospheric pressure | 1,005 | mb |
| Humidity | 56 | % |

Thiele-Small parameters are measured after a 2-hour power test using half AES power. A variation of ± 17% is allowed.

ADDITIONAL PARAMETERS

| | | |
|--|-------------|-------------|
| L | 3.20 | Tm |
| Flux density | 0.82 | T |
| Voice coil diameter | 25.5 (1.0) | mm (in) |
| Voice coil winding length | 5.7 (18.70) | m (ft) |
| Wire temperature coefficient of resistance (25) | 0.00372 | 1/°C |
| Maximum voice coil operation temperature | 190 (374) | °C (°F) |
| vc (max. voice coil operation temp./max. power) | 3.8 (7.48) | °C/W (°F/W) |
| Hvc (voice coil winding depth) | 7.0 (0.27) | mm (in) |
| Hag (air gap height) | 4.0 (0.16) | mm (in) |
| Re | 3.7 | |
| Mms | 6.0 (0.013) | g (lb) |
| Cms | 260.0 | µm/N |
| Rms | 0.865 | kg/s |

NON-LINEAR PARAMETERS

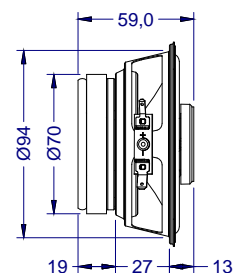
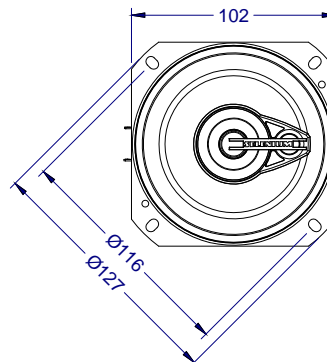
| | | |
|--|-------|----|
| Le @ Fs (voice coil inductance @ Fs) | 0.298 | mH |
| Le @ 1 kHz (voice coil inductance @ 1 kHz) | 0.191 | mH |
| Le @ 20 kHz (voice coil inductance @ 20 kHz) | 0.102 | mH |
| Red @ Fs | 0.099 | |
| Red @ 1 kHz | 0.891 | |
| Red @ 20 kHz | 20.09 | |
| Krm | 0.1 | m |
| Kxm | 1.2 | mH |
| Erm | 1.04 | |
| Exm | 0.79 | |

ADDITIONAL INFORMATION

| | |
|-------------------------------|---|
| Magnet material | Barium ferrite |
| Magnet weight | 160 (5.64) g (oz) |
| Magnet diameter x depth | 70 x 10 (2.75 x 0.39) mm (in) |
| Magnetic assembly weight | 395 (0.87) g (lb) |
| Frame material | Steel |
| Frame finish | Black epoxy |
| Voice coil material | Copper |
| Voice coil former material | Aluminum |
| Cone material | Polypropylene |
| Volume displaced by woofer | 0.23 (0.0081) l (ft ³) |
| Net weight | 485 (1.07) g (lb) |
| Gross weight | 770 (1.70) g (lb) |
| Carton dimensions (W x D x H) | 34.5x23.0x15.5 (13.6x9.05x6.10) cm (in) |

MOUNTING INFORMATION

| | |
|--|---|
| Number of bolt-holes | 4 |
| Bolt-hole dimension | 3.2 (0.12) and 5x6.3 (0.19x0.24) mm (in) |
| Bolt-circle diameter | 107 (4.21) and 114 (4.49) mm (in) |
| Baffle cutout diameter (front mount) | 100 (3.93) mm (in) |
| Baffle cutout diameter (rear mount) | 94 (3.70) mm (in) |
| Connectors | Push on terminals |
| Polarity | Positive voltage applied to the positive (+) terminal gives forward cone motion |
| Minimum clearance between the back of the magnetic assembly and the enclosure wall | N/A (-) mm (in) |

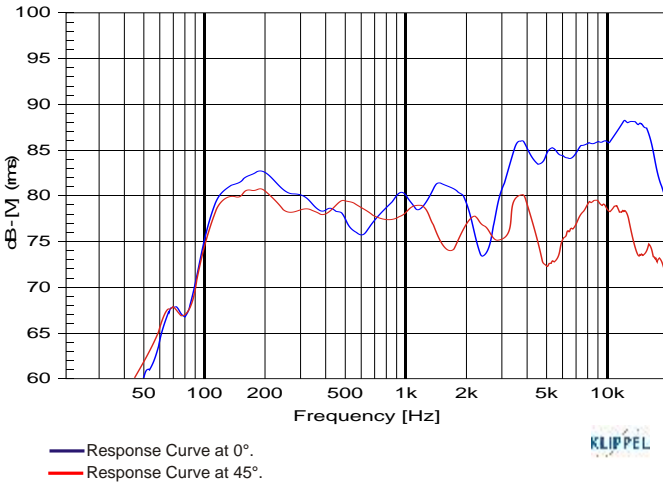


Dimensions in mm.

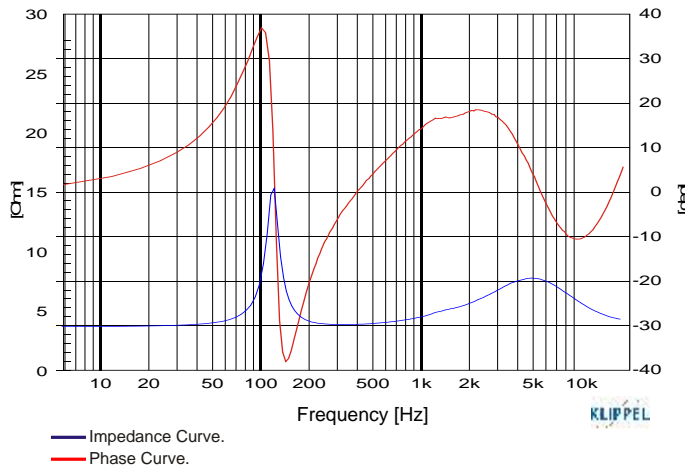


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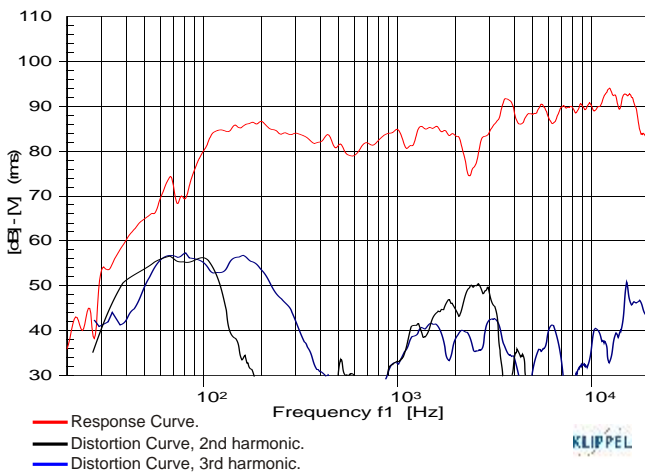
RESPONSE CURVE (0° AND 45°) IN A TEST ENCLOSURE INSIDE ANECHOIC CHAMBER, 1W/1 m



IMPEDANCE AND PHASE CURVE MEASURED IN FREE-AIR



HARMONIC DISTORTION CURVES MEASURED AT 10% AES INPUT POWER, 1 m



TEST ENCLOSURE

Closed box with 455 l.

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