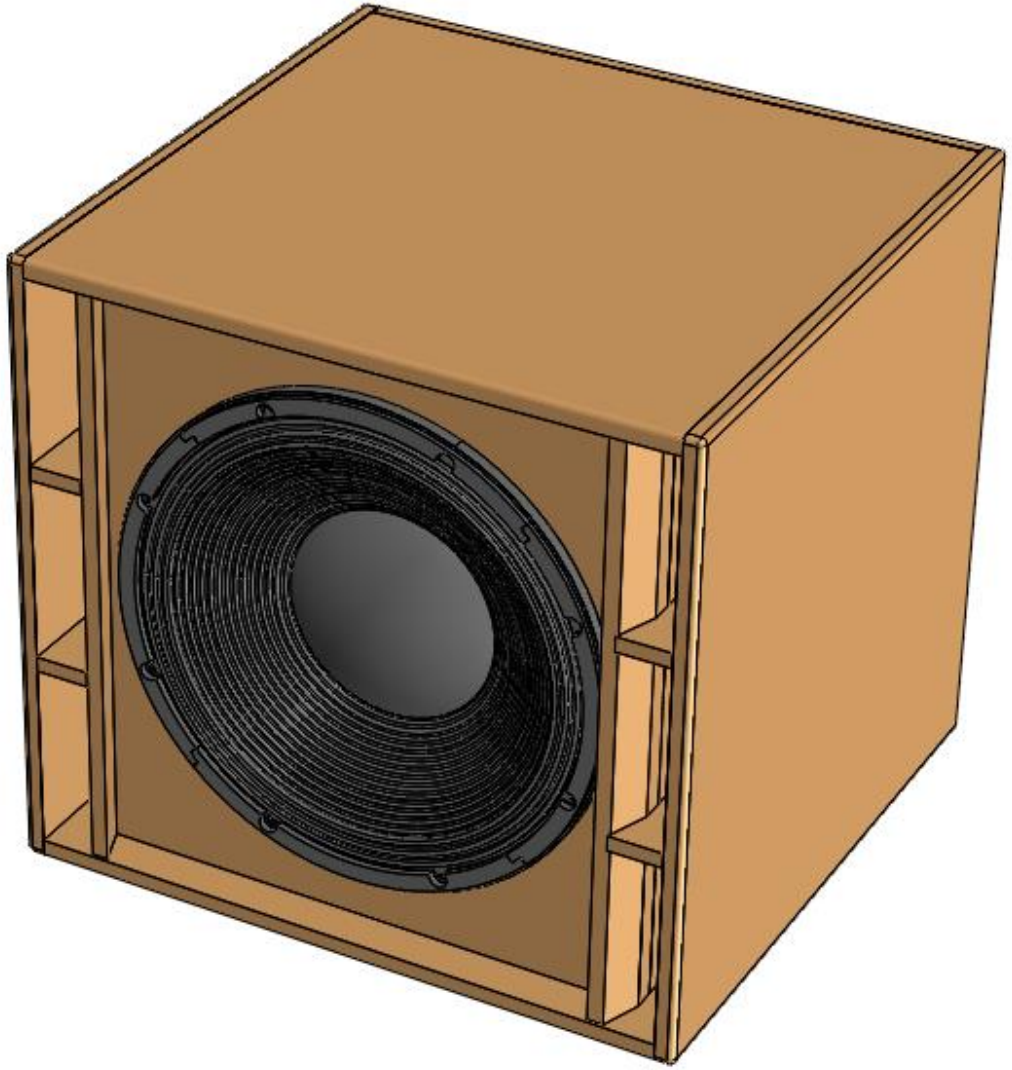
APPLICATION NOTE

HIGH PERFORMANCE COMPACT MONO 15’’ SUBWOOFER



KEY FEATURES

- An effective, high performance and easy to build subwoofer in a very compact and portable enclosure.

- Optimized for efficiency, compact dimensions, high punch and low port turbulence.

15NLW4500

SPECIFICATIONS

Nominal Impedance	8 Ω
Minimum Impedance	6.7 Ω
Nominal Power Handling[1]	1500 W
Continuous Power Handling[2]	3000 W
Sensitivity[3]	96.3 dB
Frequency Range	40 - 1000 Hz
Voice Coil Diameter	115 mm (4.53 in)

DESIGN

Magnet Material	Neo
Recommended Enclosure	50.0 dm^3 (1.77 ft^3)
Recommended Tuning	45 Hz

PARAMETERS[4]

Resonance Frequency	35 Hz
Re	5.4 Ω
Qes	0.27
Qms	7.8
Qts	0.26
Vas	111.0 dm^3 (3.92 ft^3)
Sd	881.0 cm^2 (136.56 in^2)
η_0	1.7 %
Xmax	14.5 mm
Xvar	12.0 mm
Mms	201.0 g
Bl	29.7 Txm
Le	1.62 mH
EBP	129 Hz

MOUNTING AND SHIPPING INFO

Overall Diameter	393 mm (15.47 in)
Bolt Circle Diameter	371 mm (14.61 in)
Baffle Cutout Diameter	356.0 mm (14.02 in)
Depth	199 mm (7.83 in)
Flange and Gasket Thickness	15 mm (0.61 in)
Net Weight	11.4 kg (25.13 lb)
Shipping Weight	12.6 kg (27.78 lb)

KEY FEATURES

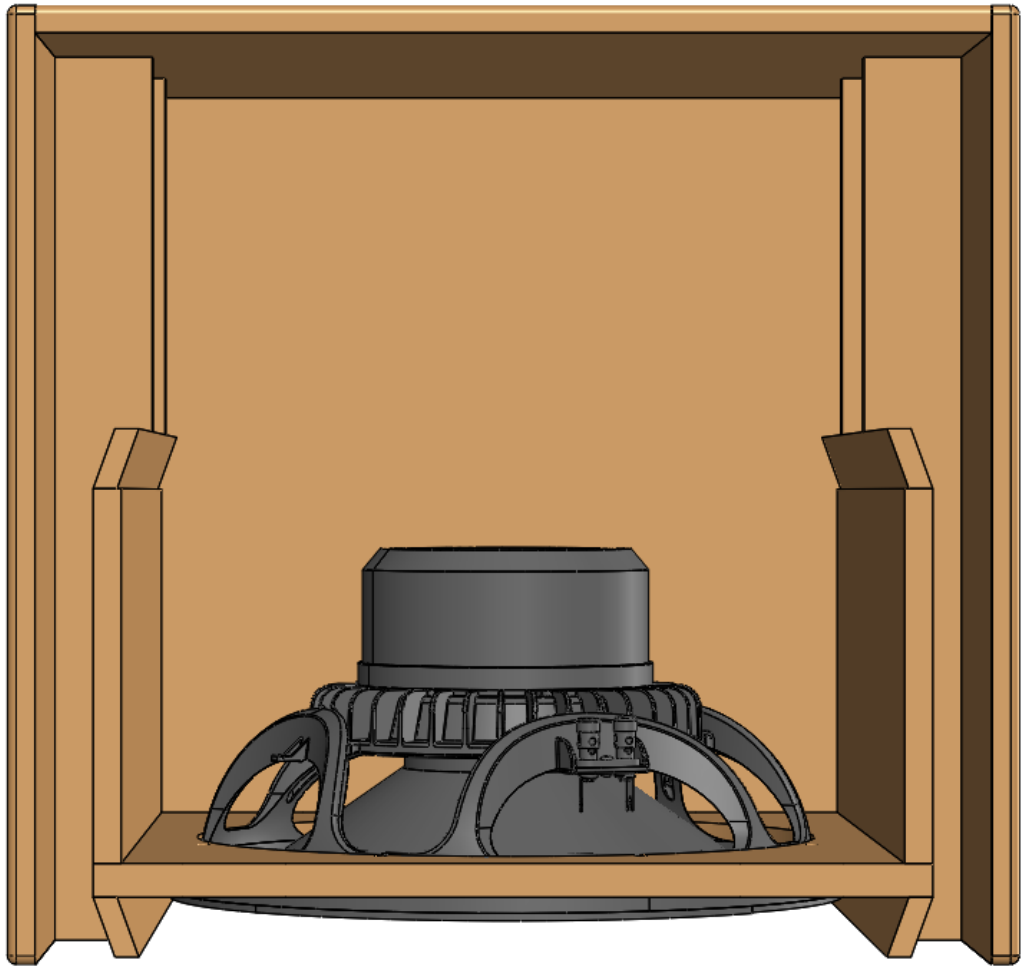
> The enclosure should be built from baltic birch plywood (15mm thick), with the exception of the baffle panel (18mm thick) and the ducts separators, which can be reduced to 12mm.

> M6 T-Nuts in conjunction with M6x35mm bolts are recommended.

> Thorough damping of the cabinet interior is recommended, with the exception of the port areas.

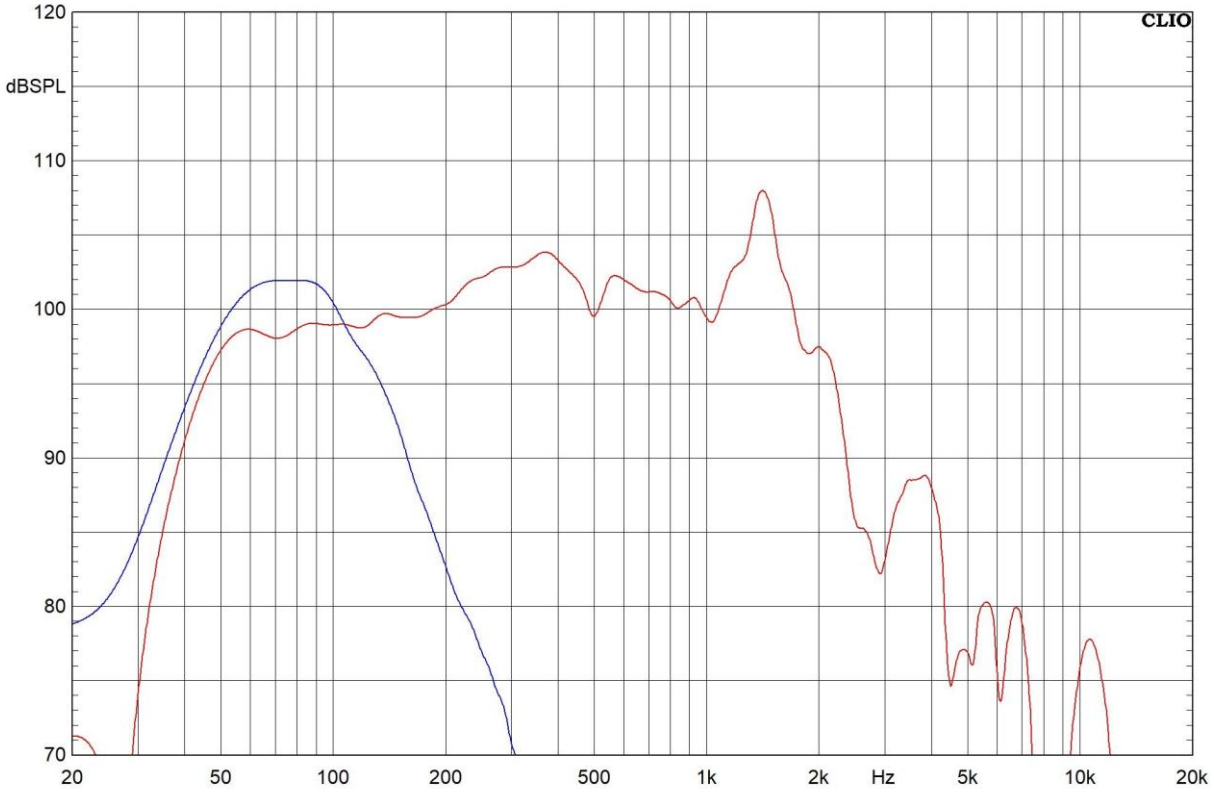
> A high-density damping material, such as Dacron or other synthetic fibers, is required for best acoustic performance.

> Handles, connectors, pole flange, and any other accessories can be added by the end user to complete the kit.

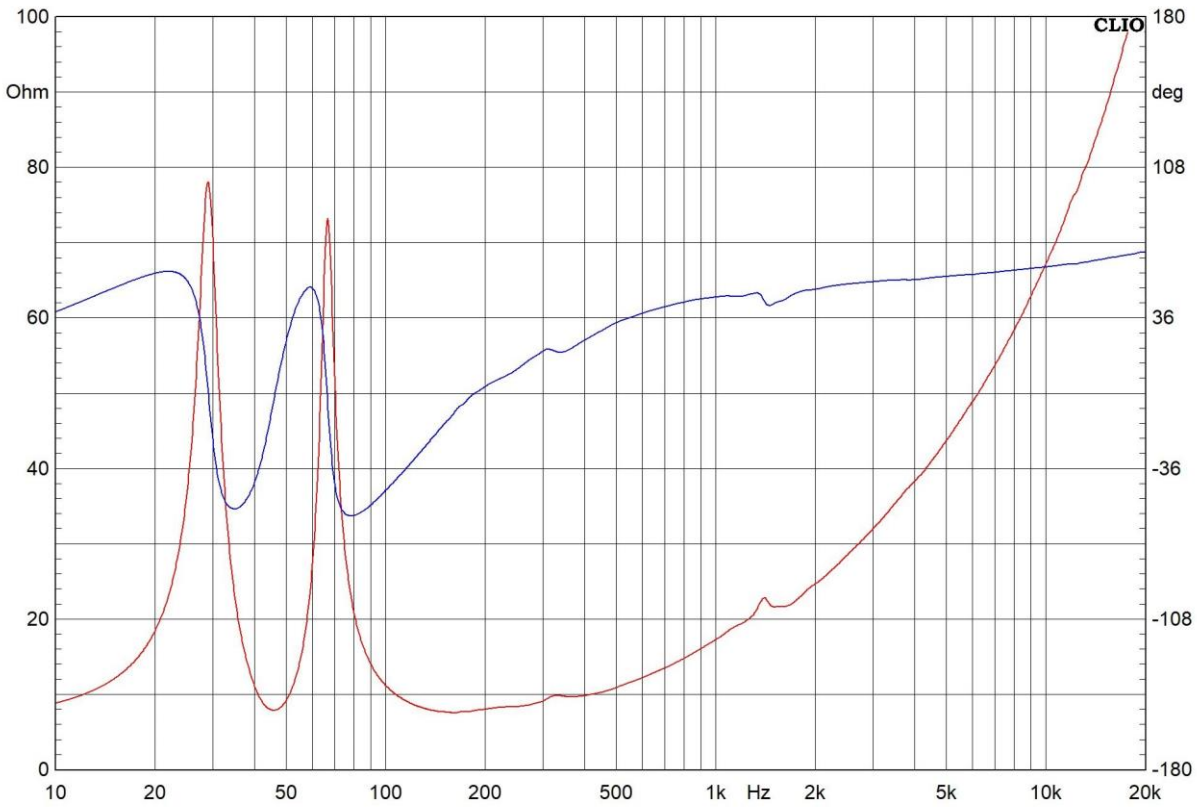


INTERNAL VIEW

MEASUREMENTS

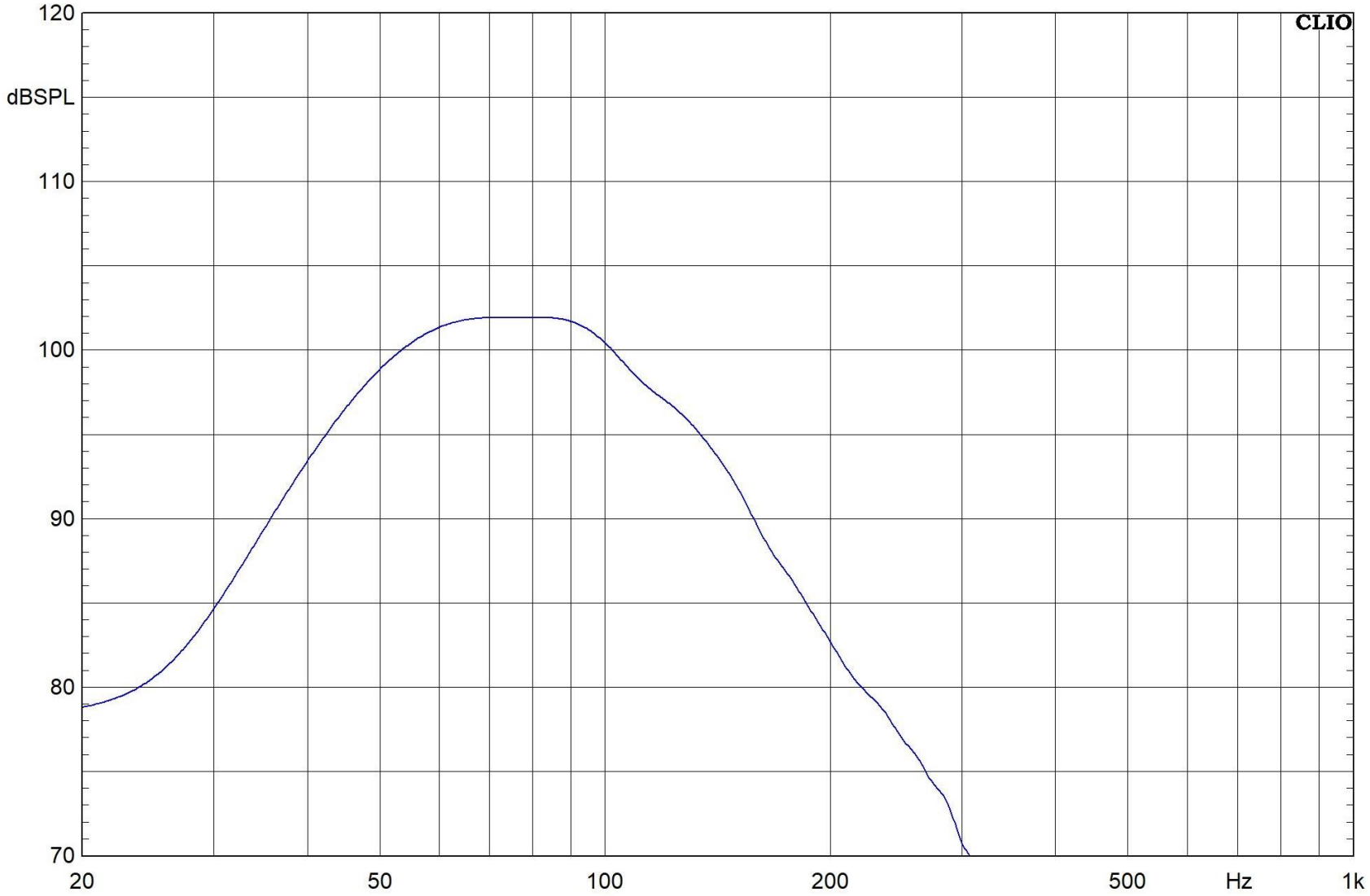


MAGNITUDE RESPONSE
(Red: unfiltered – Blue: with EQ)



IMPEDANCE + PHASE

MEASUREMENTS: 15NLW4500 – 8 ohm (with preset)



MAGNITUDE RESPONSE WITH PRESET
(-20dBU input @ 1 meter, on axis)

EQUALIZATION

Gain:+ 6dB

Highpass: 28hz BW 24dB

Bell: 45hz - Q:1 - Gain: +2dB

Bell: 80hz - Q:2 - Gain: +3dB

Low pass: 110hz - BW24

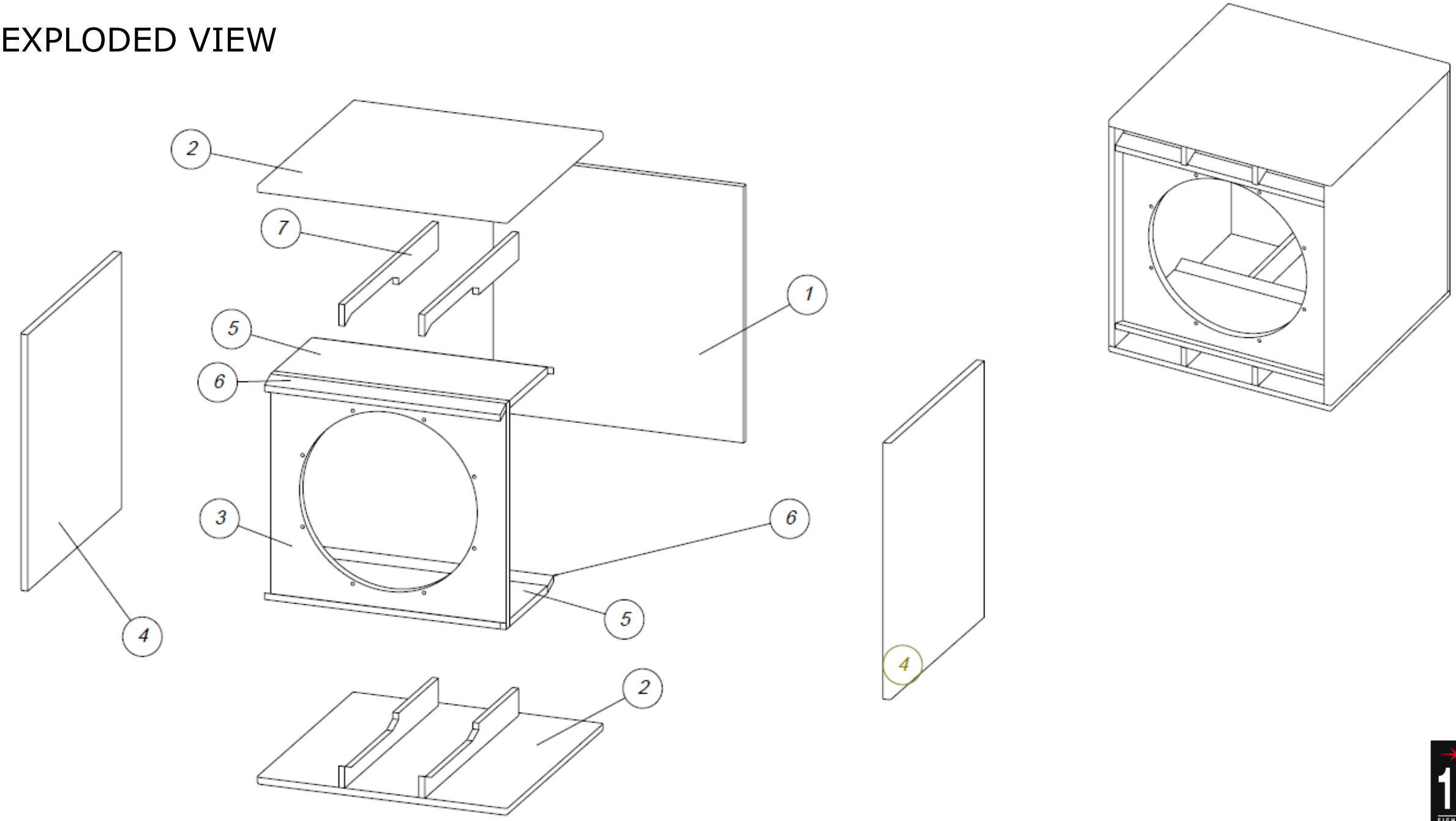
LIMITERS:

75V RMS - Attack 3sec –Rel 6sec

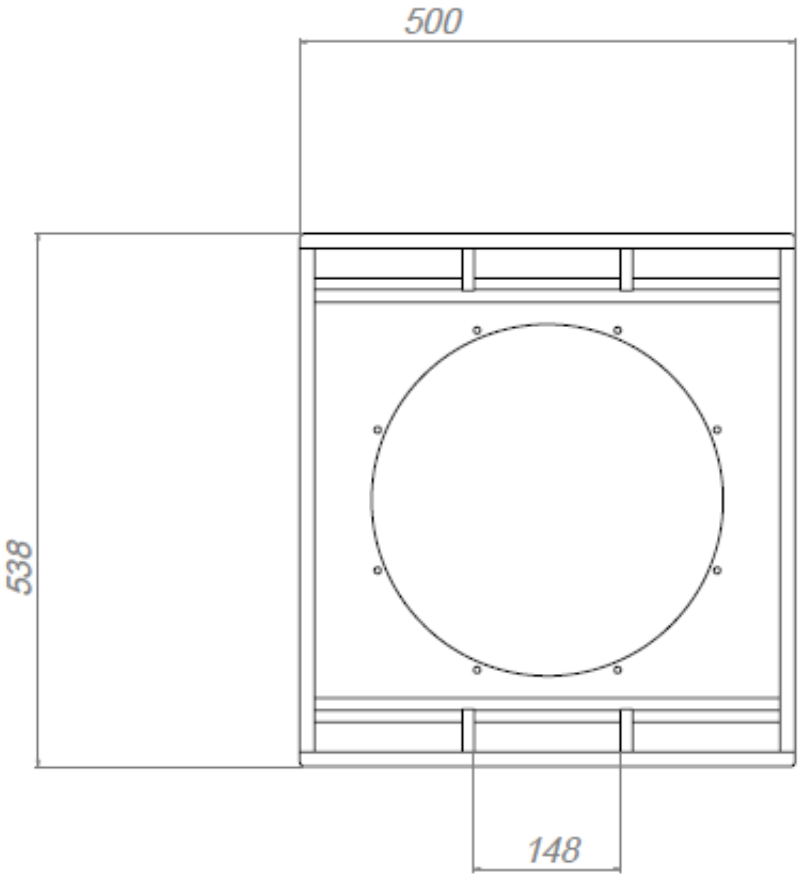
170V Peak – Attack20ms - Rel 200msec

220V Clip

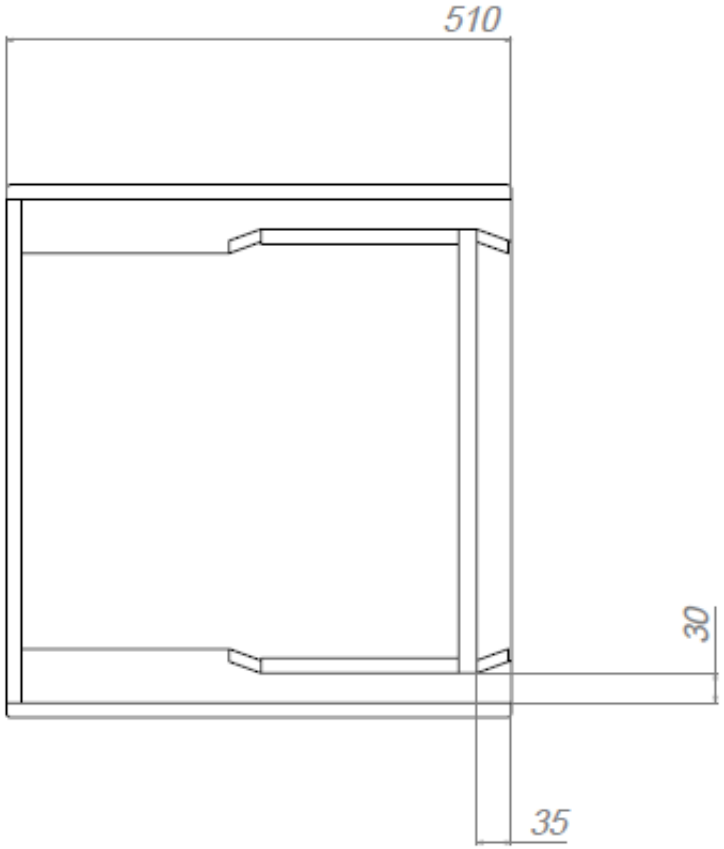
EXPLODED VIEW



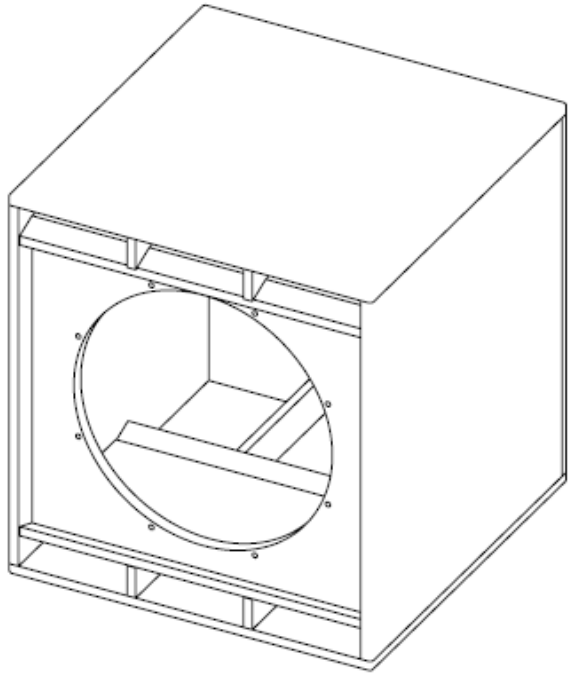
MOUNTING SCHEME DETAILS:



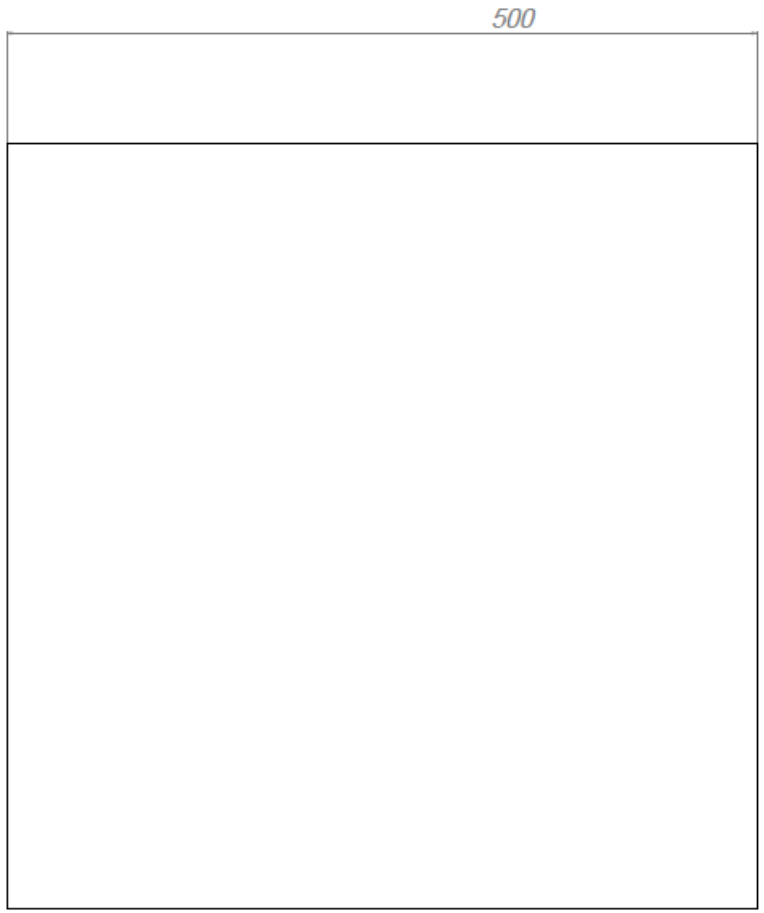
Front view

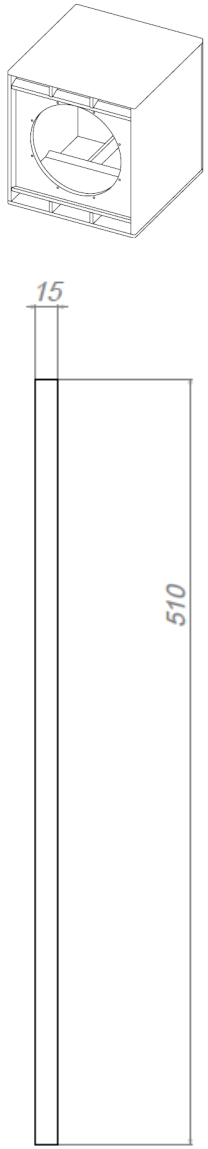


Side view
(internal)

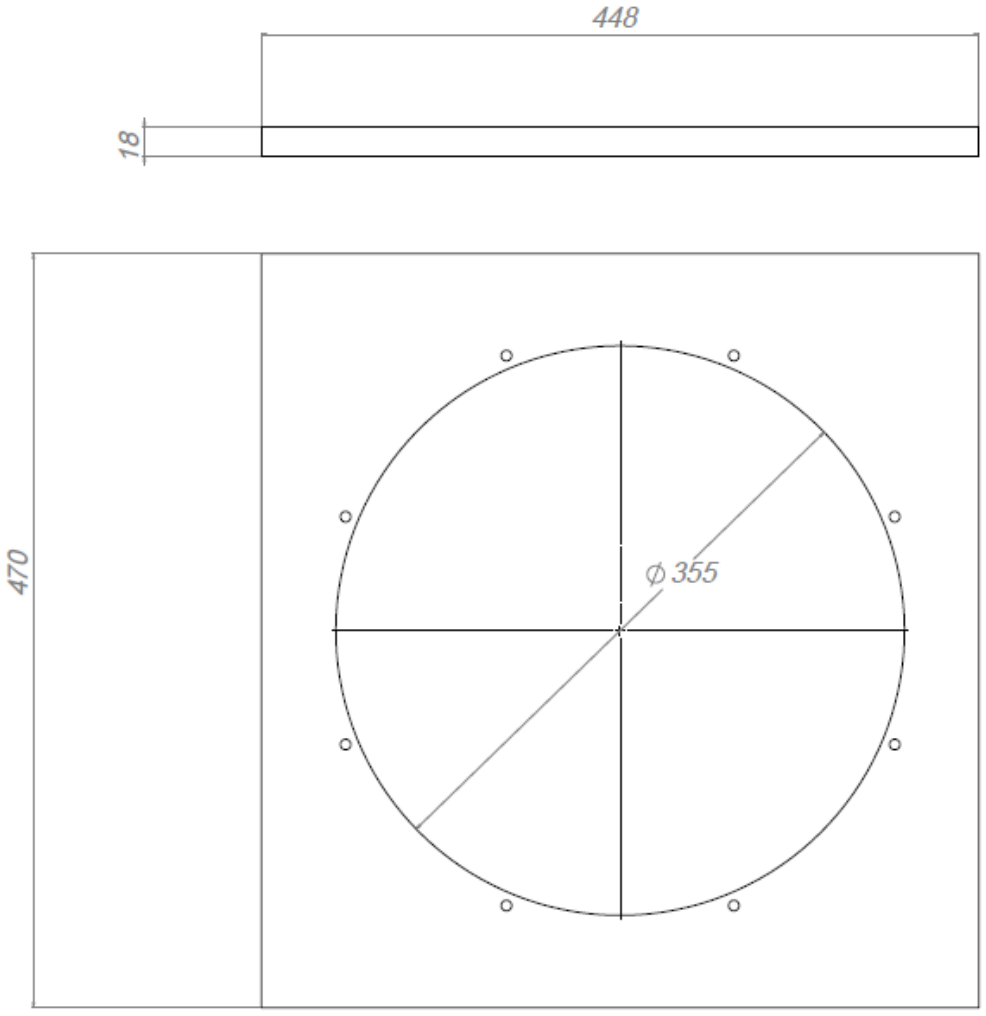


Part1 : Back panel



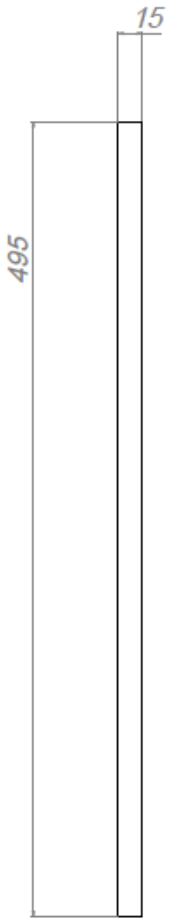


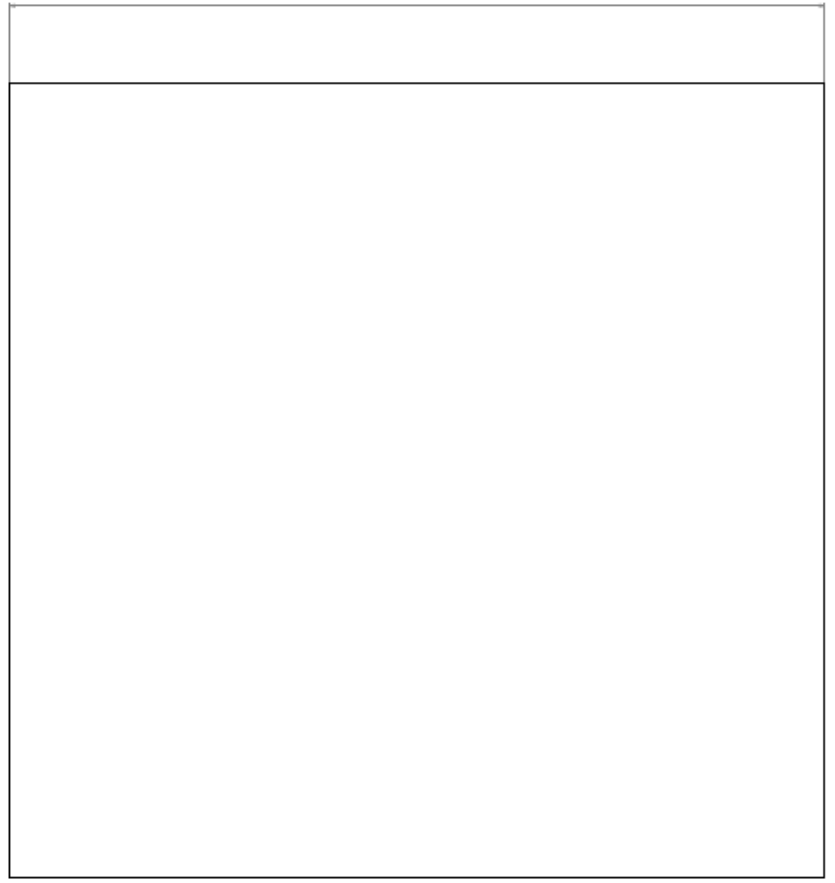
Part2 : Top/Bottom panels (2 pcs)

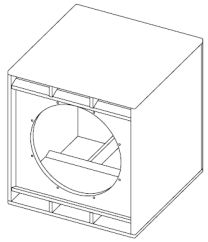


Part3 : Baffe panel

(18mm thickness suggested)

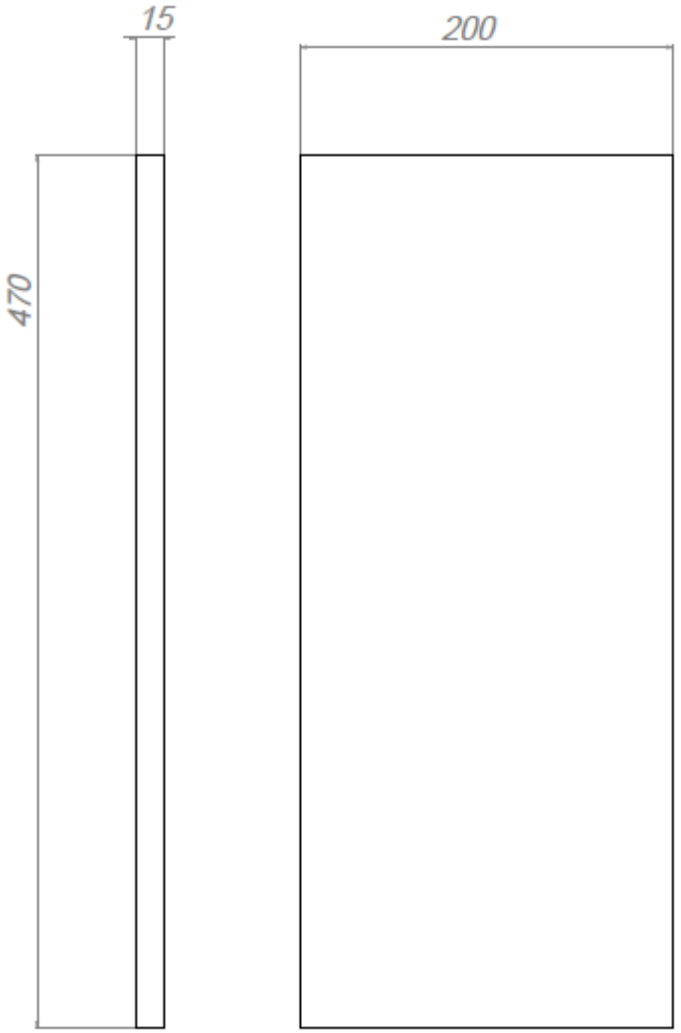




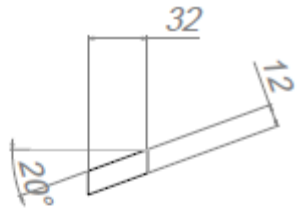


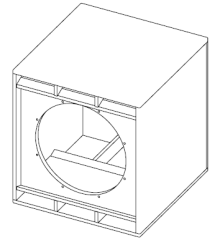
Part4 : Side panels

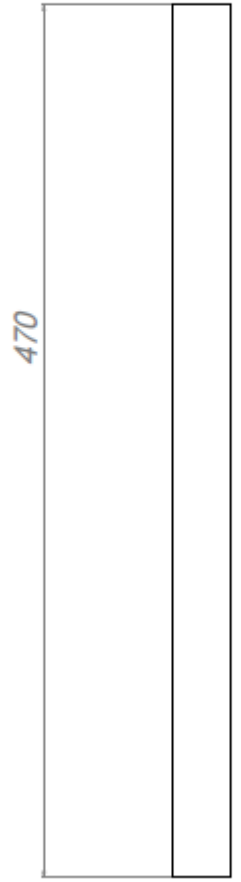
(2 pcs)



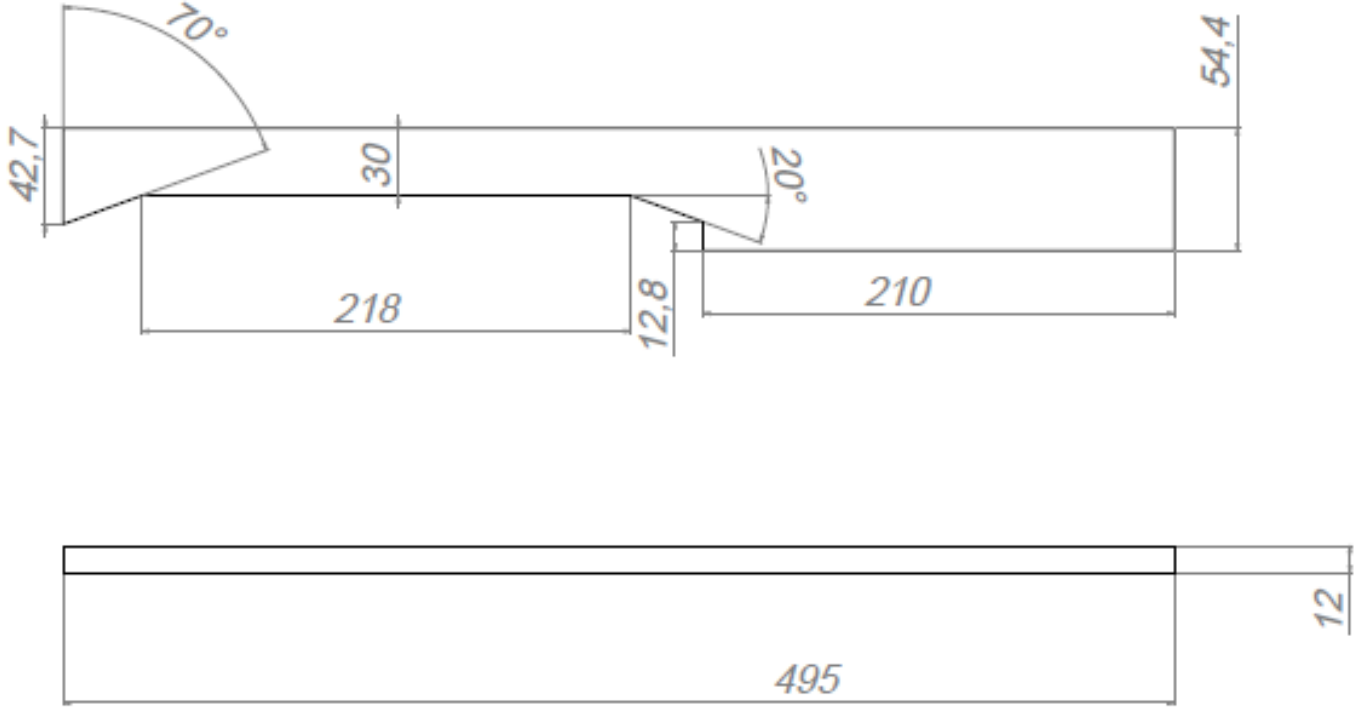
Part5 : Reflex ducts (2 pcs)







Part6 : Reflex ducts flares (4 pcs)



Part7 : Internal reinforcements and ducts separators (4pc).

12mm thickness suggested for weight reduction