

FP120 Sound Source

Omni-Directional Loudspeaker Noise Generator/Amplifier AP600

Applications

- Measurement of sound insulation in buildings and of building elements ISO 140
- Measurement of the reverberation time of rooms ISO 3382
- Measurement of sound absorption in a reverberation room ISO 354

Main characteristics

- Complete omni-directional radiation diagram
- 123 dB sound power level
- White, Pink and Pink filtered (1/3 octave band 50 – 5000 Hz) noise generator
- Forced ventilation cooling system with automatic fan turn off: Ideal for background noise measurements
- Remote control through cable or wireless (Bluetooth™)



The **FP120** Sound Source has two well defined parts: the Omni-directional Loudspeaker **BP012** and the Noise Generator / Amplifier **AP600**.

The **FP120** has been designed to satisfy the needs of professionals specialising in building and room acoustics. The **FP120** allows you to measure airborne sound insulation, reverberation time and sound absorption in accordance with the standards: ISO 3382, ISO 354 and ISO 140.

The **BP012** has 12 loudspeakers mounted on a dodecahedral housing. This ensures a complete omni-directional radiation diagram; that is to say, sound is radiated in a spherical distribution, as is required by the standards ISO 140 and ISO 3382 .

The **BP012** handles an electrical power of 600 W RMS developing 123 dB of sound power level in the third octave bands with centre frequency between 50 and 5,000 Hz. The loudspeaker has been designed to supply the maximum power for over an hour.

To facilitate handling the **BP012** includes 5 rubber pads for floor mounting, 1 hoisting eye for aerial suspension and 2 grips for ergonomic handling. The **BP012** is internally reinforced with an aluminium core that makes it robust and allows it to be adapted for the TR012 tripod.

The **AP600** is comprised of a White and Pink noise generator and a power amplifier. The **AP600** has been especially designed to generate the signal to be reproduced by the **BP012** .



Thanks to its internal noise output and its external noise input, the **AP600** can be used as a noise generator + amplifier, just as a noise generator or just as an amplifier. Also allows you to insert between the noise generator and the amplifier supplementary signal processing equipments as equalizers or compressors.

The **AP600** has an anticlip and thermal protection. The **AP600** can be operated directly from the keyboard or by a PC with the included software. This communication with the PC can be done through cable or through Bluetooth™ , wireless.

The forced ventilation cooling system of the **AP600** turns off the fan during one minute after the signal reproduction is stopped. This is efficient for the background noise measurements

FP120 Sound Source

Technical specifications

Omni-directional loudspeaker BP012



Transportation of the AP600



Flight case FL012

Standards

Complies with the following standards:

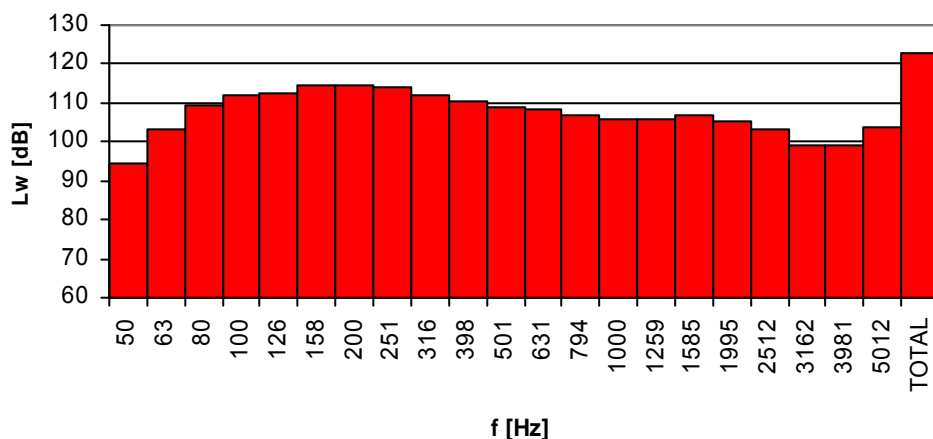
ISO 140

ISO 354

ISO 3382

Sound power level

123 dB PWL (with pink noise, 1/3 octave band with central frequencies between 50 – 5000 Hz) when fed by the AP600 amplifier. For the spectral distribution see the diagram.



Frequency distribution of the BP012 sound power level

Omni-directional

The directivity of the BP012 fulfils the directivity criteria required by ISO 140 and ISO 3382. See diagrams on the following page.

Operative frequency range

1/3 octave band with central frequencies between 50 – 5000 Hz.

Maximum input power

600 W rms

Nominal impedance

6 W

Connector

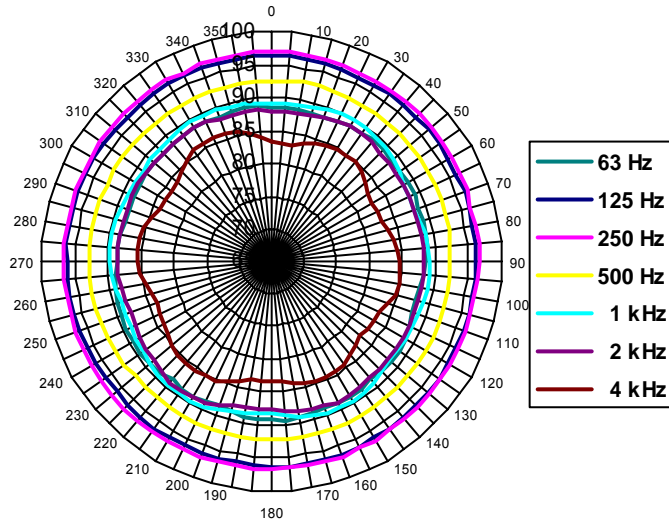
4 pins Speakon © de (+1, -1)

Dimensions and weight

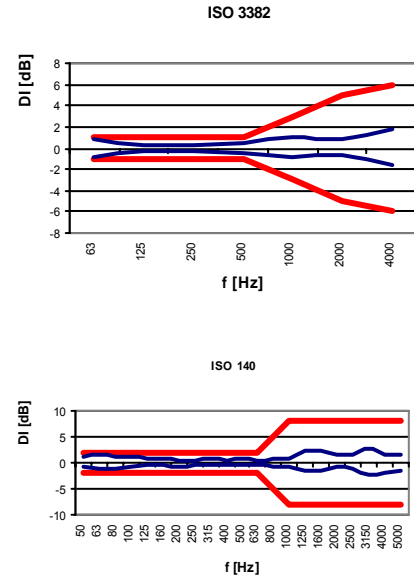
Diameter: 40 cm

Weight: 14,5 kg

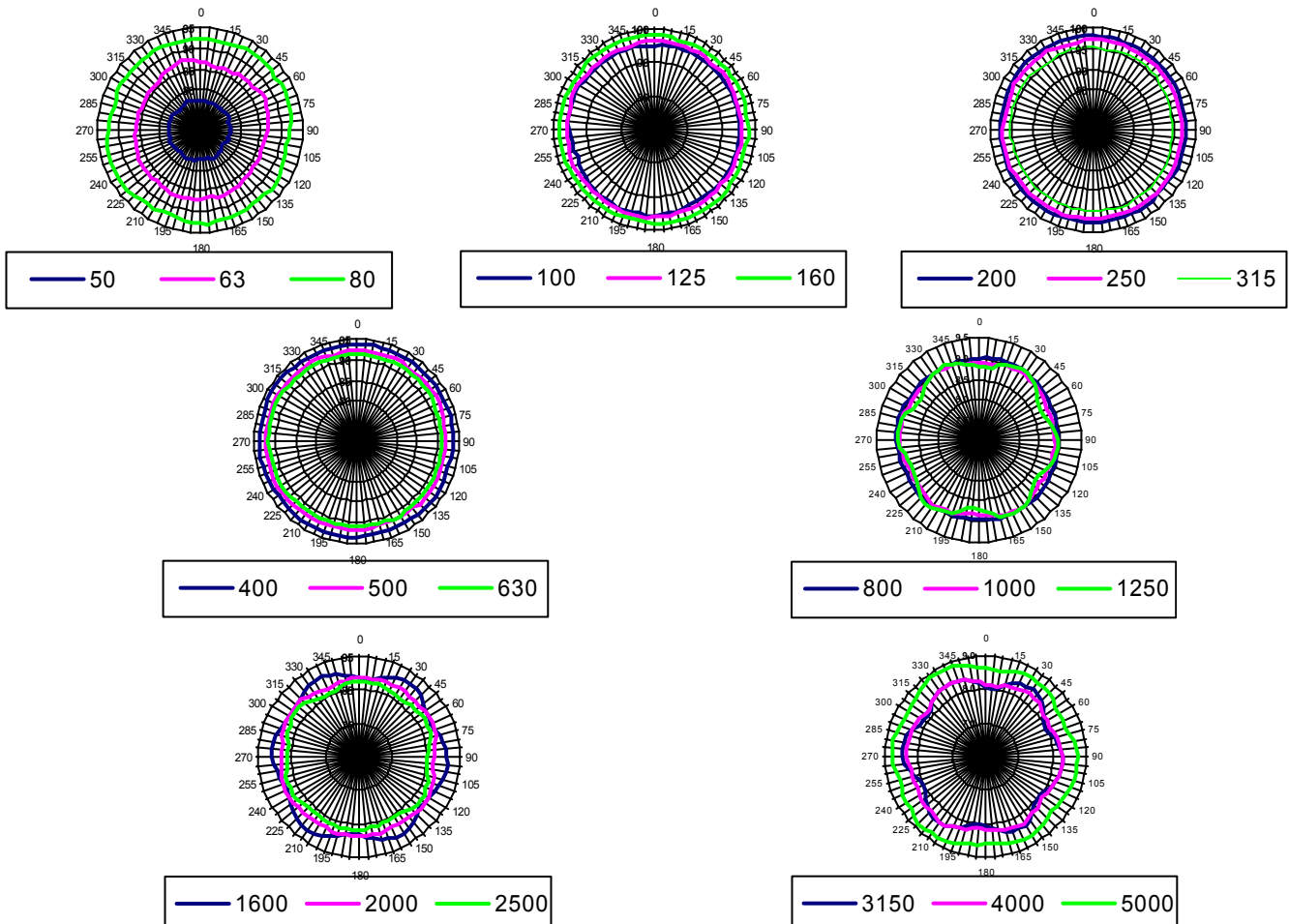
Directivity diagrams for the octave bands centred in 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz and 4 kHz:



Directivity (D) of BP012 in accordance with standards ISO 140 and ISO 3382 :



Directivity diagrams for the third octave bands centred in 50 Hz, 100 Hz, 125 Hz, 160 Hz, 200 Hz, 250 Hz, 315 Hz, 400 Hz, 500 Hz, 630 Hz, 800 Hz, 1000 Hz, 1250 Hz, 1600 Hz, 2000 Hz, 2500 Hz, 3150 Hz, 4000 Hz and 5000 Hz:



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Technical specifications Noise Generator AP600



FP120 Set



AP600 Noise Generator

Output power

4 Ω :	940	W
6 Ω :	680	W
8 Ω :	550	W

Frequency response

6 – 90000	Hz
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Total harmonic distortion

to 1kHz. and mean power < 0,07	%
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Signal to noise ratio

> 85	dB
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Damping Factor

to 1 kHz and 8W >	300
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Slew rate

± 80	V μ s
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Consumption

1560	VA
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Inputs and outputs: connectors

- Loudspeaker Signal Output: 4 pin Speakon[®] (+1, -1)
- Line Signal Output: Male XLR: pin 1 \rightarrow ground, pin2 \rightarrow hot, pin3 \rightarrow free.
- Line signal Input: Female XLR: pin 1 \rightarrow ground, pin2 \rightarrow hot, pin3 \rightarrow free.
- Output connector: 5 mm jack \varnothing ext, 2.1 mm \varnothing int, 9.5 mm
- RS-232 port: 9 pin female SubD
- Line signal output: USB type B

Indicators

CLIP: Clipping Indicator

TH: Thermal protection Indicator

PROT: Protection indicator

Dimensions and Weight

Dimensions:	585 x 455 x 215	cm
Weight:	25	kg



Tripod for the BP012



CN012 Cable

Tripod TR012: Support tripod for the BP012, height: from 1.0m to 2.5m

Tripod TR014: Support tripod for the BP012 with wheels, height: from 1.0m to 2.5m

AT002: Accessory to carry out the façade measurements for TR012 and TR014.

Flight case FL012: Carrying case in rack format to transport the BP012. The FL012 has been designed as a trolley to facilitate its mobility.

Cable CN012: 10 m loudspeaker cable with 4 pin speakon connector in the side connected to the BP012. The other connector is also a 4 pin speakon. Optionally different cables from the standard can be supplied.

Carrying bag BM012: Cloth bag to transport the BP012.

Software SF600: Software for the remote control of the AP600

Cable USB CN2US: USB cable for the communication of the AP600 with a computer.

Bluetooth™ Device BT001: Bluetooth device for the wireless communications of the AP600.

Accessories Supplied

FL012	Flight case
CN012	Loudspeaker cable
CN2US	USB cable

Optional Accessories

TR012	Tripod
TR014	Tripod
AT002	Accessory to carry out façade measurements
BM012	Carrying bag
BT001	Bluetooth™ device for the Sound Source
BT002	Bluetooth™ device for the PC

The characteristics, technical specifications and accessories may vary without prior notice