FP122

DATASHEET
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Omni-directional sound source:
BP012 Omni-directional loudspeaker for acoustic measurements
AP602 Amplifier for omni-directional sound source

PRESENTATION

The FP122 Sound Source has two well defined parts: the Omni-directional Loudspeaker BP012 and the Amplifier for omni-directional sound source AP602.

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 (see Fig. 2).

The AP602 comprises in a small size and lightweight White and Pink noise generator, 1/3 octave band Graphics equalizer and a power amplifier.

Also, the AP602 together with the BP012 become the most powerful omni-directional sound source on the present market.

APPLICATIONS

- Measurement of sound insulation in buildings and of building elements ISO 10140-2, ISO 140-4, ISO 16283-1
- Measurement of the reverberation time of rooms ISO 3382-1/-2
- Measurement of sound absorption in a reverberation room ISO 354

MAIN CHARACTERISTICS

- Complete omni-directional radiation diagram (BP012)
- 1/3 octave band graphic equalizer included (AP602)
- Reduced size: 350 x 300 x 150 mm (AP602)
- Lightweight: 4.75 kg (AP602) and 14.5 kg (BP012)
- Bluetooth® wireless technology incorporated
- MA001 Remote control included
- 123 dB PWL (AP602 + BP012)
GENERAL DESCRIPTION

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GENERAL DESCRIPTION OF EQUIPMENT

The FP122 (BP012 + AP602) has been designed to take airborne sound insulation, reverberation time and sound absorption measurements in accordance with the standards: ISO 3382, ISO 354, ISO 10140, ISO 16283-1 and ISO 140.

The BP012 can develop 123 dB of PWL 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 (see Fig. 1).

Thanks to its noise generator output and the signal input, the AP602 allows equalizing and amplifying the signal coming from an external noise generator or inserting additional signal processing equipments in the reproduction chain.

The AP602 has an intermittent operation mode to ease background noise measurements between reception measurements.

The AP602 screen shows all the information necessary to control it: reproduced noise type, internal or external configuration, equalizer on/off, playback status play/stop, numerical and graphical information about the noise volume, graphic equalizer curve, protection equipment status PROT (power and overload protection status) and CLIP (signal clipping).

The AP602 can be operated directly from the keyboard, through MA001 remote control (with AN001 antenna) or by a PC with the included software. This communication with the PC can be done through USB cable or through type1 included Bluetooth® wireless technology, up to 80 meters coverage.

Also the forced ventilation cooling system of the AP602 is efficient for the background noise measurements.
FP122

TECHNICAL SPECIFICATIONS

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TECHNICAL SPECIFICATIONS BP012

STANDARDS
ISO 10140-2
ISO 140-4
ISO 16283-1
ISO 3382-1/-2
ISO 354

POWER
Maximum input power: 600 W rms
Sound Power Level: 123 dB PWL
(pink noise, 1/3 octave bands from 50 to 5000 Hz)
Power distribution by 1/3 octave bands:

<table>
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<th>f [Hz]</th>
<th>DI [dB]</th>
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<tbody>
<tr>
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<td>-10</td>
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<tr>
<td>63</td>
<td>-8</td>
</tr>
<tr>
<td>80</td>
<td>-6</td>
</tr>
<tr>
<td>100</td>
<td>-4</td>
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<tr>
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</tr>
<tr>
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<td>2.5</td>
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<td>250</td>
<td>5</td>
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<tr>
<td>315</td>
<td>6.5</td>
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<tr>
<td>4000</td>
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TOTAL

<table>
<thead>
<tr>
<th>f [Hz]</th>
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<tbody>
<tr>
<td>50</td>
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<tr>
<td>2000</td>
<td>4000</td>
</tr>
</tbody>
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DIMENSIONS AND WEIGHT
Diameter: 400 mm
Weight: 14.5 kg

IMPEDANCE
Nominal impedance: 6 Ω

CONNECTOR
4 pins speakon® (+1, -1)

DIRECTIVITY

The characteristics, technical specifications and Accessories may vary without prior notice
**FP122**

**TECHNICAL SPECIFICATIONS / ACCESSORIES**

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**TECHNICAL SPECIFICATIONS AP602**

| STANDARDS          | ISO 10140-2, ISO 140-4, ISO 16283-1  
|--------------------|ISO 3382-1/-2  
|--------------------|ISO 354

| MAXIMUM OUTPUT POWER | Pink noise filtered between 6 Ω: 580 W  
|----------------------|50 and 5000 Hz 1/3 octave bands

| FREQUENCY RESPONSE (± 0.15 dB) | 20 – 20000 Hz

| TOTAL HARMONIC DISTORTION (THD) | 3 dB below the nominal power,  
|----------------------------------|20 Hz – 20 kHz and 8 Ω load < 0.05 %

| SIGNAL TO NOISE RATIO (SNR) | A weighting, 20 Hz – 20 kHz and 8 Ω load > 119 dB

| DAMPING FACTOR | < 1 kHz @ 8 Ω > 1000

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**ACCESSORIES**

| ACCESORIOS SUMINISTRADOS | CN2US | USB Cable for the communications of the AP602 with a computer.  
|--------------------------|-------|  
|                         | SF600 | Software for the remote control of the AP602  
|                         | MA001 | Remote control to control the AP602  
|                         | AN001 | Antenna to control the AP602 through the MA001  
|                         | FL012 | Flightcase: Carrying case as a trolley to facilitate the BP012 mobility.  
|                         | CN012 | Loudspeaker cable: 10 m cable with 4 pins speakon connectors (for different configurations please contact us)

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**TYPICAL POWER CONSUMPTION**

| MAINS | 120/230 ~ VAC  
|-------|50/60 Hz

| SIZE AND WEIGHT | 350 x 300 x 150 mm  
|-----------------|4750 kg

| INPUTS AND OUTPUTS: CONNECTORS | Loudspeaker signal output: 4-pin Speakon® (+1, -1)  
|--------------------------------|XLR male (unbalanced)  
|                                |pin1 → ground, pin2 → hot, pin3 → free  
| Line signal output:            |XLR female (unbalanced)  
|                                |pin1 → ground, pin2 → hot, pin3 → free  
| Line signal input:             |USB Port: Digital Type B complies with USB rev. 2.0  
|                                |Wireless communication: Bluetooth® class 1  
|                                |Coverage range: 80 m  
| MA001 Remote control communication: | Radiofrequency  
|                                |Coverage range (with antenna): 45 m

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**OPTIONAL ACCESSORIES**

| BT002 | Bluetooth® wireless technology device for PC  
|-------|  
| TR014 | Tripod with wheelsfor BP012: Can be positioned at different heights (from 1,0 m to 2,5 m).

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