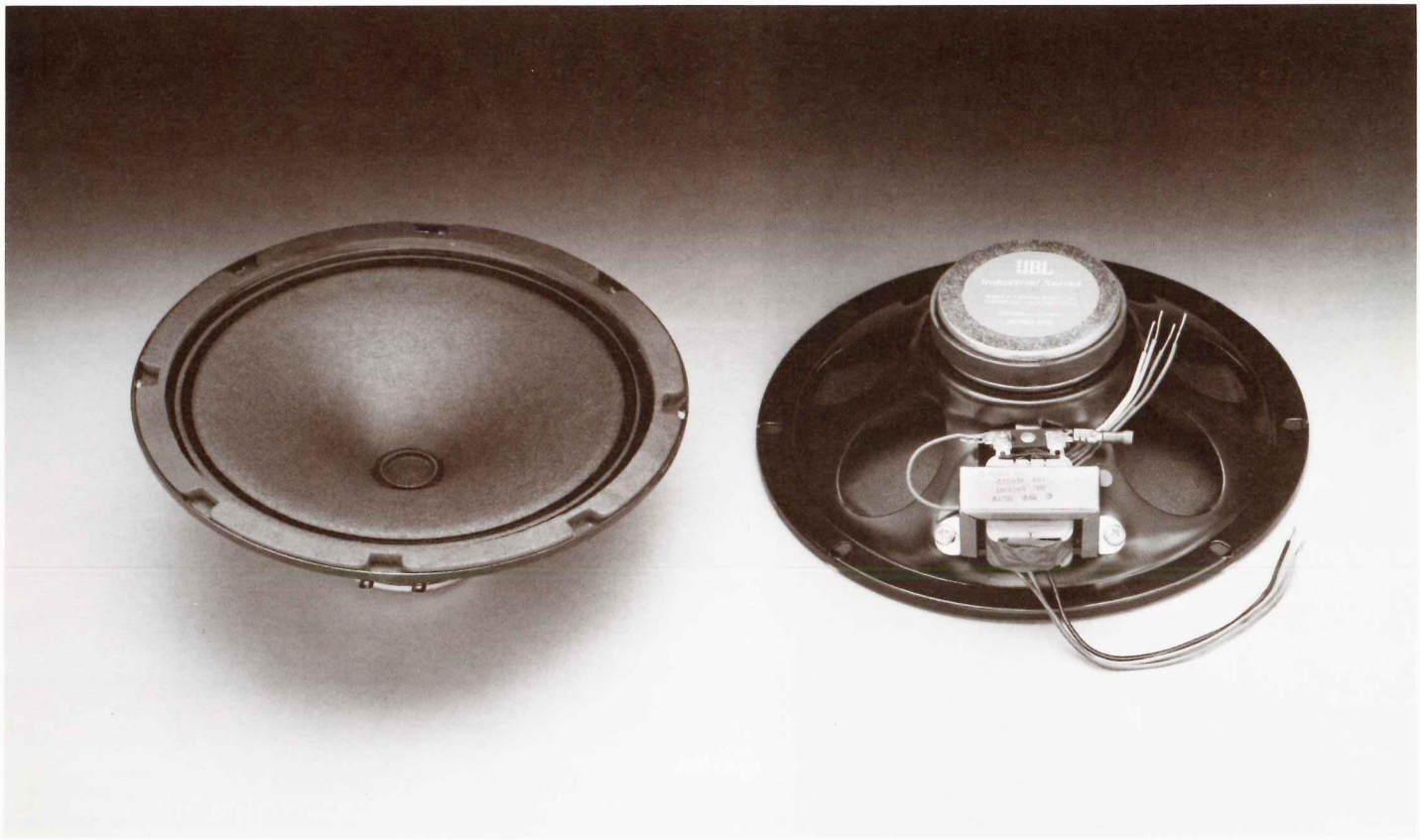
Industrial Series
JBL 8120H

200 mm (8 in)
Full Range Loudspeaker
142 g (5 oz) nominal magnet weight
19 mm (¾ in) voice coil diameter
96 dB sensitivity
30 W continuous program power capacity
30 Hz–18 kHz frequency range



JBL industrial series loudspeakers are designed for a variety of distributed sound applications including noise masking, paging, and music reproduction. The speakers offer wide dispersion, excellent power capacity, and unmatched intelligibility. Additionally, the speakers may be ordered in a wide range of configurations to match the requirements of virtually any installation.

Each speaker features a rugged frame fabricated of heavy-gauge steel as well as a cold-formed back plate that improves magnetic circuit performance. Aluminum voice coil forms are utilized for improved power handling and reliability. Supplementing the loudspeakers are the 9315HT high quality dual voltage transformer and the WB8 white metal ceiling baffle.

Built to traditional JBL standards of quality and precision, the loudspeakers are subjected to stringent environmental tests to ensure that the materials and adhesives will stand up to long-term use under even the most adverse conditions.

JBL

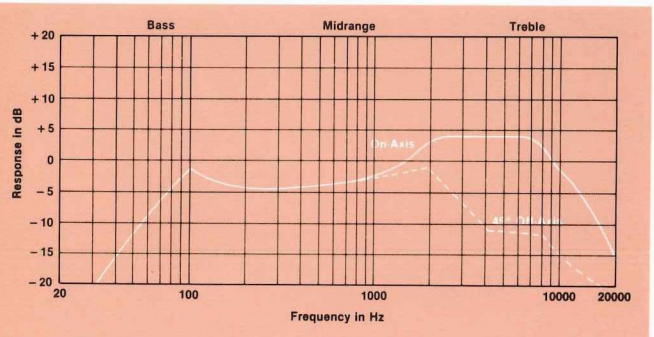
Model 8120H Full Range Transducer

Architectural Specifications

The loudspeaker shall have a nominal diameter of 200 mm (8 in), overall depth not greater than 70 mm (2¾ in), and weigh at least 0.65 kg (1.4 lb). The magnetic assembly shall utilize a ferrite magnet with a nominal weight of 142 g (5 oz). The voice coil shall be 19 mm (¾ in) in diameter and shall be made of two layers of round copper wire operating in a magnetic field of not less than 1.0 T (10,000 gauss).

Performance specifications of a typical production unit shall be as follows: Measured sensitivity (SPL at 1 m (3.3 ft.) with 1 W input, swept 500 Hz–2.5 kHz) shall be at least 96 dB on axis and 94 dB 45 degrees off axis. As an indication of electro-mechanical conversion efficiency, the BI product shall be 3.8 newtons per ampere. The half-space reference efficiency shall be 1.1%. Usable frequency response shall extend from 30 Hz–18 kHz. On-axis response, measured at a distance of 1.8 m (6 ft) or more under hemispherical free-field conditions, shall be ± 4 dB from 100 Hz to 10 kHz. Acoustic loading shall further extend the low frequency response. Nominal impedance shall be 8 ohms. Rated power capacity shall be at least 30 W normal program material.

The transducer shall be the JBL Model 8120H. Other loudspeakers will be considered for equivalency provided that submitted data from a recognized independent test laboratory verify that the above performance specifications are met.



Frequency response contour of the 8120H taken in a hemispherical free-field environment. Measured response of a typical production unit, including all peaks and dips, does not deviate more than 4 dB from the above curve. Additional acoustic loading will further extend bass response.

JBL continually engages in research related to product improvement. New materials production methods, and design refinements are introduced into existing products without notice as a routine expression of that philosophy. For this reason, any current JBL product may differ in some respect from its published description but will always equal or exceed the original design specifications unless otherwise stated.

Specifications

Nominal Diameter	200 mm	8 in
Rated Impedance	8 ohms	
Power Capacity[1]	30 W continuous program	
Sensitivity[2]	96 dB SPL, 1 W, 1 m	
Frequency Response (± 4 dB)	100 Hz - 10 kHz	
Effective Piston Diameter	163 mm	6.4 in
Maximum Excursion Before Damage	6 mm	¼ in peak to peak
Minimum Impedance	8 ohms	±10% @ 25°C
Voice Coil Diameter	19 mm	¾ in
Voice Coil Material	Round copper wire (two layers)	
Voice Coil Winding Depth	4.8 mm	0.188 in.
Magnetic Gap Depth	4.8 mm	0.188 in
Flux Density	1.0 T	10,000 gauss
BI Factor	3.8 N/A	
Effective Moving Mass	6.6 g	

Positive voltage on left terminal gives forward diaphragm motion (as viewed from the rear of the transducer, terminals at top).

Thiele-Small Parameters

f_s	95 Hz	
R_e	7.2 ohms	
Q_{ts}	1.57	
Q_{ms}	8.0	
Q_{es}	1.96	
V_{as}	27 L	0.94 ft^3
S_D	.021 m^2	32 in^2
X_{max}	2.5 mm	0.1 in
V_D	52.5 cm^3	3.2 in^3
L_e	0.2 mH	
η_0 (Half space)	1.1%	
P_e (Max)	15 W continuous sine wave	

Mounting Information

Overall Diameter	210 mm	8.25 in
Bolt Circle Diameter	194 mm	7.62 in
Baffle Cutout Diameter		
Front Mount	184 mm	7.25 in
Rear Mount	184 mm	7.25 in
Depth	70 mm	2.75 in
Net Weight	0.65 kg	1.4 lb

[1]Continuous program power is defined as 3 dB greater than continuous sine wave power and is a conservative expression of the transducer's ability to handle typical speech and music program material.

[2]Sensitivity measured with an input swept from 500 Hz to 2.5 kHz.

Please note: the 8120H speaker, 8120HT speaker with transformer, and 8120HTWB speaker with transformer and baffle attached are all bulk-packed in quantities of 16. They must therefore be ordered in multiples of 16.

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