

# SD-12 Low Frequency Transducer

# SD-Series



## Heavy Duty

This 12" high acoustic output transducer is packed with high technology with regards to materials, engineering, and manufacturing processes. Only the finest materials were utilized throughout this design. The acoustic package was totally analyzed and designed using the Finite Element Model. The result is an audio transducer that is second to none in performance, quality, and industrial design.

### SPECIFICATIONS

#### GENERAL

Nominal O.D:	12 in, 305 mm.
Nominal Impedance:	8 $\Omega$
Operating Bandwidth:	45 Hz - 2.5k Hz $\pm$ 5%
Power Handling (IEC):	500 (R.M.S.)
Sensitivity @ 1m, 2.83V:	94 dB
Transducer Mass:	11 kg
Terminals:	Gold Plated Push

#### PARAMETER

$f_s$	= 48 Hz $\pm$ 15%
$R_e$	= 4.9 $\Omega$ $\pm$ 5%
$S_d$	= 0.053 m <sup>2</sup>
$B_l$	= 22.0 Tm $\pm$ 10%
$\beta$	= (B <sub>l</sub> ) <sup>2</sup> /R <sub>e</sub> = 99 N <sup>2</sup> /W $\pm$ 15%
$\eta_0$	= 1.43 %
SPL0	= 94 dB $\pm$ 1 dB
$Q_{ms}$	= 6.45 $\pm$ 20%
$Q_{es}$	= 0.31 $\pm$ 10%
$Q_{ts}$	= 0.30 $\pm$ 10%
$V_{as}$	= 41.4 L $\pm$ 20%
$C_{ms}$	= 103.9 mm/N $\pm$ 20%
$M_{md}$	= 96.8 g $\pm$ 10%
$M_{ms}$	= 103.9 g $\pm$ 10%

#### RECOMMENDED ENCLOSURE

Enclosure Type:	4th Order High Pass
Net Enclosure Volume:	14.6 L (QB3 Alignment)
Number of Ports:	1
Port Inside Diameter (min):	91 mm
Port Inside Diameter (max):	139 mm
Port Length:	309 mm
Tuning Frequency (fb):	60 Hz

#### TYPICAL LINEAR X PARAMETERS

Levc @ 1 kHz	= 1.64 mH
Levc @ 20 kHz	= 0.62 mH
K <sub>rm</sub>	= 14.6 m $\Omega$
K <sub>xm</sub>	= 28.17 mH
Rem @ 1 kHz	= 6.51 $\Omega$
Rem @ 20 kHz	= 52.59 $\Omega$
E <sub>rm</sub>	= 0.69
E <sub>xm</sub>	= 0.67
H <sub>VC</sub>	= 25 mm
H <sub>ag</sub>	= 16 mm
X <sub>mx</sub>	= 5 mm

### MATERIALS

Basket :	Blue Die Cast Aluminium
Core and Dust Cap:	Paper
Front and Back Plates:	1008 Cold Roll Steel
Gaskets:	Foam
Magnet:	Ferrite
Surround:	SrO · 6Fe <sub>2</sub> O <sub>3</sub> ; 2.26 kg
Voice Coil Diameter:	Treated Cloth
Voice Coil Bobbin:	3.9" (99.3mm)
	Fiber Glass (Polyimide)
	High Temp. 400°C
	High Temp. 300°C
	Aluminium Ribbon Wire
Voice Coil Wire:	
Dimension (H x W x D):	360 x 360 x 250 (mm)
	14.2 in x 14.2 in x 10 in
	1.14 Cu.Ft
Net Weight:	11 kg (24.2 lb)
Shipping Weight:	11.8 kg (25.96 lb)

