

# **3FR30**

FULL RANGE FREQUENCY TRANSDUCER
Preliminary Data Sheet

#### **KEY FEATURES**

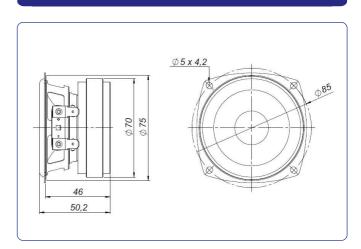
- 3" full-range compact ferrite loudspeaker
- 60 W program power
- Extended response and low distortion
- Paper cone and treated cloth surround
- Steel basket
- Ideal for beam-steering application (columns), portable array and compact applications



## TECHNICAL SPECIFICATIONS

Nominal diameter	77 mm 3 in
Rated impedance	8 Ω
Minimum impedance	6,5 Ω
Power capacity*	30 W <sub>AES</sub>
Program power	60 W
Sensitivity	91 dB 1W / 1m @ Z <sub>N</sub>
Frequency range	160 - 20.000 Hz
Voice coil diameter	20,3 mm 0,8 in
BI factor	4,9 N/A
Moving mass	0,0022 kg
Voice coil length	10,5 mm
Air gap height	3 mm

## **DIMENSION DRAWINGS**



### THIELE-SMALL PARAMETERS\*\*

Resonant frequency, f <sub>s</sub>	160 Hz
D.C. Voice coil resistance, R <sub>e</sub>	5,6 Ω
Mechanical Quality Factor, Q <sub>ms</sub>	8
Electrical Quality Factor, Q <sub>es</sub>	0,52
Total Quality Factor, Qts	0,49
Equivalent Air Volume to C <sub>ms</sub> , V <sub>as</sub>	0,67 l
Mechanical Compliance, C <sub>ms</sub>	430 μm / N
Mechanical Resistance, R <sub>ms</sub>	0,28 kg / s
Efficiency, η <sub>0</sub>	0,5 %
Effective Surface Area, S <sub>d</sub>	0,003 m <sup>2</sup>
Maximum Displacement, X <sub>max</sub> ***	4,5 mm
Displacement Volume, V <sub>d</sub>	13,5 cm <sup>3</sup>
Voice Coil Inductance, L <sub>e</sub> @ 1 kHz	0,25 mH

### **MOUNTING INFORMATION**

Overall diameter Bolt circle diameter	93,5 mm 85 mm	3,68 in 3,35 in
Baffle cutout diameter:	75,9 mm	2.98 in
- Front mount Depth	46 mm	1,81 in
Net weight	0,57 kg	1,25 lb
Shipping weight	0,70 kg	1,54 lb

#### Notes

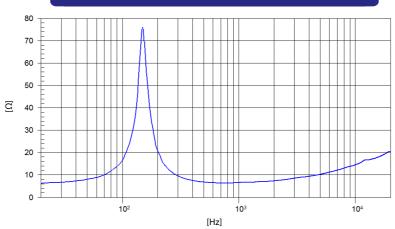
- \* The power capacity is determined according to AES2-1984 (r2003) standard. Program power is defined as the transducer's ability to handle normal music program material.
- \*\* T-S parameters are measured after an exercise period using a preconditioning power test. The measurements are carried out with a velocity-current laser transducer and will reflect the long term parameters (once the loudspeaker has been working for a short period of time).
- \*\*\* The  $X_{max}$  is calculated as  $(L_{vc}$   $H_{ag})/2$  +  $(H_{ag}/3,5)$ , where  $L_{vc}$  is the voice coil length and  $H_{ag}$  is the air gap height.



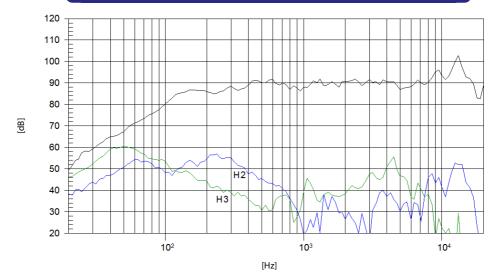
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# FREE AIR IMPEDANCE CURVE



#### FREQUENCY RESPONSE AND DISTORTION



Note: On axis frequency response measured with loudspeaker standing on infinite baffle in anechoic chamber, 1W @ 1m