SELENIUM

COAXIAL
15CO2P / 15CO2P-SLF*

Coaxial loudspeaker designed for professional use in touring or fixed applications. It employs a 1" titanium compression driver coupled with a 15" woofer damped and cooled with ferrofluid (Ferrosound®). High perfomance compact systems can be designed easily with the added advantage of the almost point source characteristic that a coaxial offers, virtually eliminating the delay problem between adjacent acoustic sources. This coaxial loudspeaker can be successfully used in floor monitor applications or in sound reinforcement systems. Any suitable designed, bi-amplified system will deliver outstanding power with a superb frequency response.

*15CO2P-SLF: Product without Selenium logo printed on the dust cap.

SPECIFICATIONS

Nominal diameter	380 (15)	mm (in)
Nominal impedance	8	Ω
Minimum impedance		
@ 200 Hz (woofer)	6.7	Ω
@ 2,900 Hz (driver)	7.4	Ω
Power handling		
Musical Program (woofer)[1]	500	W
Musical Program (driver w/ xover 1,200 Hz / oct)[2]	100	W
Sensitivity (2.83V @ 1m)		
averaged from 100 to 2,000 Hz (woofer)	96	dB SPL
averaged from 1,200 to 5,000 Hz (driver)	101	dB SPL
Frequency response @ -10 dB		
(woofer)	40 to 4,000	Hz
(driver)	800 to 18,000	Hz

[1] Power handling specifications refer to normal speech and/or music program material, reproduced by an amplifier producing no more than 5% distortion. Power is calculated as true RMS voltage squared divided by the nominal impedance of the loudspeaker.
[2] Power handling specifications refer to normal speech and/or music program material, reproduced by an amplifier producing no more than 5% distortion. Power is calculated as true RMS voltage squared divided by the nominal impedance of the loudspeaker. This voltage is measured at the input of the recommended passive crossover when placed between the power amplifier and loudspeaker.
Musical Program= 2 x W RMS.

THIELE-SMALL PARAMETERS (WOOFER)

Fs	41	Hz
Vas	229 (8.08)	l (ft^3)
Qts	0.58	
Qes	0.67	
Qms	4.09	
ηo (half space)	2.37	%
Sd	0.08605 (133.4)	m^2 (in^2)
Vd (Sd x Xmax)	258.2 (15.76)	cm^3 (in^3)
Xmax (max. excursion (peak) with 10% distortion)	3.0 (0.12)	mm (in)
Xlim (max.excursion (peak) before physical damage)	9.5 (0.37)	mm (in)
βL	12.6	Tm
Re	6.1	Ω

Atmospheric conditions at TS parameter measurements:

Temperature	28 (82)	°C (°F)
Atmospheric pressure	1,006	mb
Humidity	42	%

Thiele-Small parameters are measured after a 2-hour power test using half AES power . A variation of ± 15% is allowed.

NON-LINEAR PARAMETERS (WOOFER)

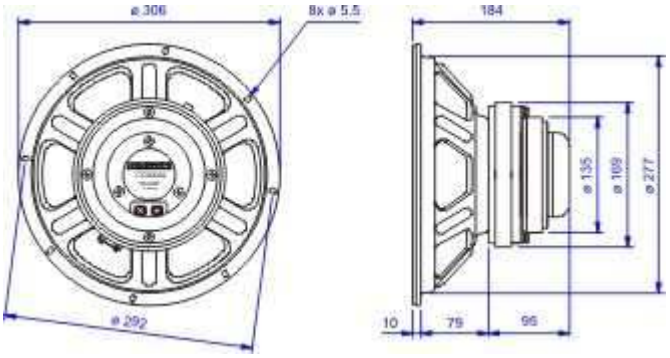
Le @ Fs (voice coil inductance @ Fs)	2.193	mH
Le @ 1 kHz (voice coil inductance @ 1 kHz)	0.855	mH
Le @ 20 kHz (voice coil inductance @ 20 kHz)	0.353	mH
Red @ Fs	0.17	Ω
Red @ 1 kHz	2.35	Ω
Red @ 20 kHz	28.47	Ω
Krm	1.625	mΩ
Kxm	11.311	mH
Erm	0.832	
Exm	0.705	

ADDITIONAL INFORMATION

Magnet material (woofer and driver)	Barium ferrite	
Magnet weight (woofer)	1,600 (57)	g (oz)
Magnet weight (driver)	920 (33)	g (oz)
Magnet diameter x depth (woofer)	169 x 19 (6.65 x 0.75)	mm (in)
Magnet diameter x depth (driver)	134 x 18 (5.28 x 0.71)	mm (in)
Magnetic assembly weight (woofer)	4,200 (9.26)	g (lb)
Magnetic assembly weight (driver)	2,500 (5.51)	g (lb)
Frame material (woofer)	Steel	
Housing material (driver)	Plastic	
Frame finish (woofer)	Black epoxy	
Housing finish (driver)	Black	
Voice coil material (woofer and driver)	Copper	
Voice coil former material (woofer and driver)	Polyimide (Kapton®)	
Cone material (woofer)	Long fiber pulp	
Diaphragm material (driver)	Titanium	
Volume displaced by coaxial	4.3 (0.152)	l (ft^3)
Net weight	8,800 (19.40)	g (lb)
Gross weight	10,250 (22.60)	g (lb)
Carton dimensions (W x D x H)	46 x 46 x 25 (18.11 x 18.11 x 9.84)	cm (in)

MOUNTING INFORMATION

Number of bolt-holes	8	
Bolt-hole diameter	5.5 (0.22)	mm (in)
Bolt-circle diameter	367 (14.45)	mm (in)
Baffle cutout diameter (front mount)	352 (13.86)	mm (in)
Baffle cutout diameter (rear mount)	348 (13.70)	mm (in)
Connectors	Silver-plated push teminals	
Polarity	Positive voltage applied to the positive (+) terminal gives forward cone motion	
Minimum clearance between the back of the magnetic assembly and the enclosure wall	75 (3)	mm (in)

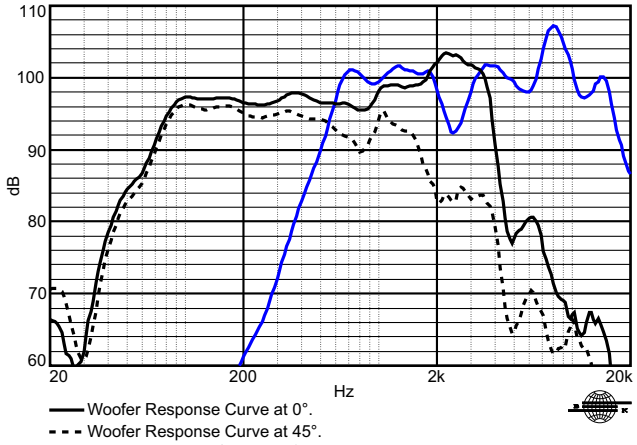


Dimensions in mm.

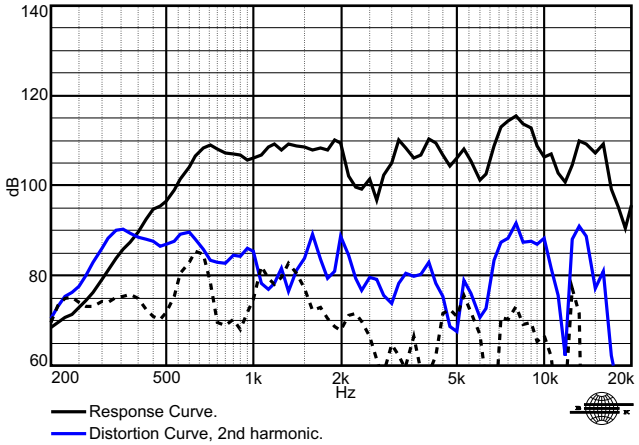
SELENIUM

COAXIAL
15CO2P / 15CO2P-SLF*

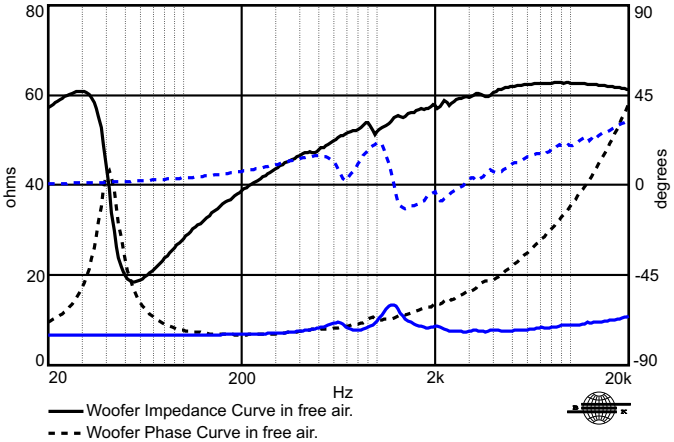
WOOFER AND DRIVER RESPONSE CURVES IN A TEST ENCLOSURE INSIDE AN ANECHOIC CHAMBER, 1 W / 1 m



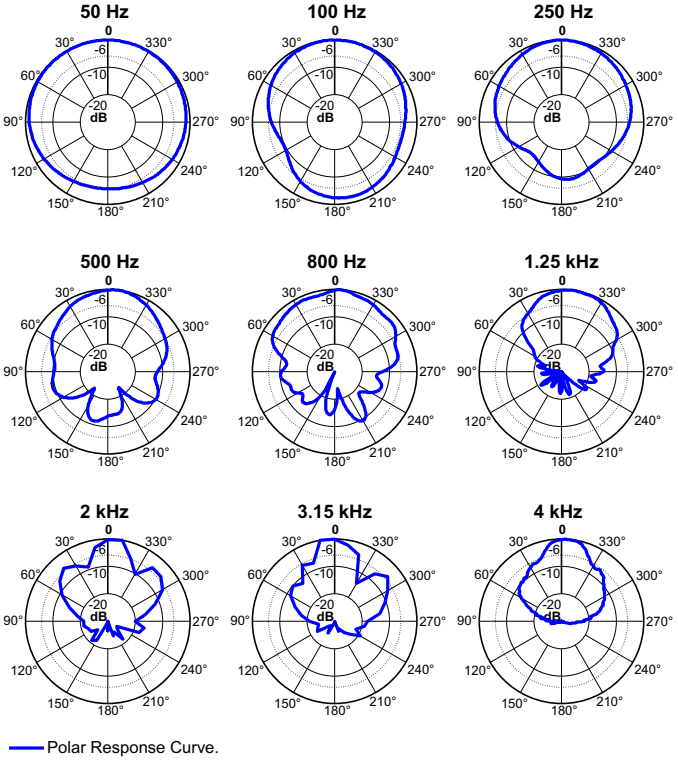
DRIVER HARMONIC DISTORTION CURVES, 5 W / 1 m.



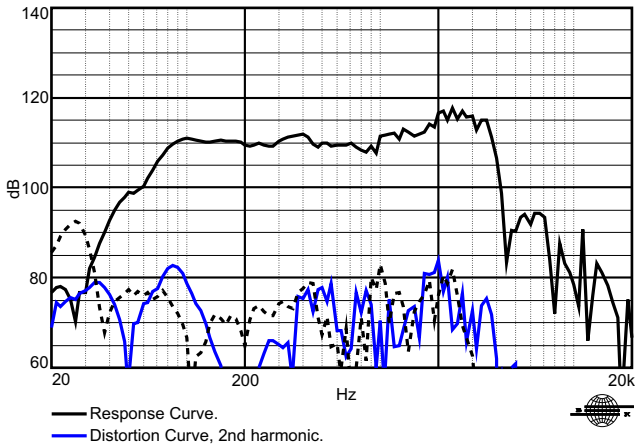
WOOFER AND DRIVER IMPEDANCE AND PHASE CURVES



POLAR RESPONSE CURVES



WOOFER HARMONIC DISTORTION CURVES MEASURED AT 10% AES INPUT POWER, 1 m



Kapton®: Du Pont trademark.
Ferrosound®: Ferrofluidics Corporation trademark.

TEST ENCLOSURE
65-liter volume with a duct ø 4" by 0.8" length.

HOW TO CHOOSE THE RIGHT AMPLIFIER
The power amplifier must be able to supply twice the RMS driver power. This 3 dB headroom is necessary to handle the peaks that are common to musical programs. When the amplifier clips those peaks, high distortion arises and this may damage the transducer due to excessive heat. The use of compressors is a good practice to reduce music dynamics to safe levels.

NON-LINEAR VOICE COIL PARAMETERS
Due to its close coupling with the magnetic assembly, the voice coil in electrodynamic loudspeakers is a very non-linear circuit. Using the non-linear modeling parameters Krm, Kxm, Erm, Exm from an empirical model, we can calculate voice coil impedance with good accuracy.

SUGGESTED PROJECTS

For additional project suggestions, please access our website.

Specifications subject to change without prior notice.

Cod.:152043 Rev.: 01- 10/04

ELETRÔNICA SELENIUM S.A.
BR 386 Km 435 - Nova Santa Rita/RS - Brasil -
CEP 92480-000
Tel.: 51. 479 4000 Fax: 51. 479 1150
www.selenium.com.br
Atendimento Técnico: 0800 514161

FILIAL SÃO PAULO
Rua Aquinos, 157 - São Paulo/SP - Brasil - CEP 05036-070
Tel.: 11.3611 3977 Fax: 11.3611 2941

SELENIUM USA / SELENIUM EUROPE
www.seleniumloudspeakers.com
Tool Free: 1800 5620510