



ULTIMO SC SUBWOOFER SERIES

Dear Valued Customer,

Thank you for choosing Morel's Ultimo SC subwoofer.

Consistent with Morel's philosophy, the Ultimo SC subwoofer was designed to deliver innovative engineering resulting in extraordinary combination of audiophile bass quality and high power handling.

We highly recommend installing the Ultimo SC by an Authorized Morel Dealer. Achieving optimal performance requires knowledge of car audio acoustics and box building expertise.

Please visit our website www.morelhifi.com to locate your Authorized Morel Dealer.

Choosing the correct enclosure

Enclosure selection depends both on the environment and on the desired performance. The power input and size of the vehicle play an important role in correctly installing the subwoofer, as does the preferred bass experience. The Ultimo SC subwoofer is designed to work optimally in both ported and sealed enclosures, however, each of these enclosure type will produce a slightly different sounding result.

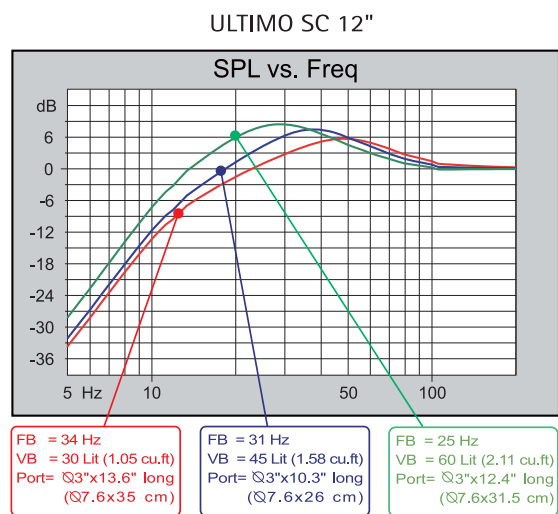
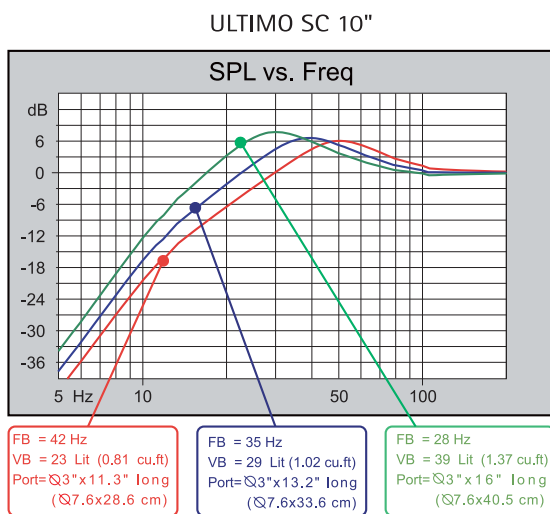
Morel's recommended enclosure volumes for ported and sealed enclosures

	ULTIMO SC 10	ULTIMO SC 12
Ported enclosure	23-39 lit (0.8-1.4 cu.ft)	30-60 lit (1-2.1 cu.ft)
Sealed enclosure	13-25 lit (0.5-0.9 cu.ft)	20-50 lit (0.7-1.8 cu.ft)

The following graphs simulate the Ultimo SC subwoofer's performance in different types of enclosures and sizes. These guidelines will enable you to choose the best option suited for you. Please note: the recommended enclosure sizes specified include driver displacement. Please consult you dealer if you have additional questions.

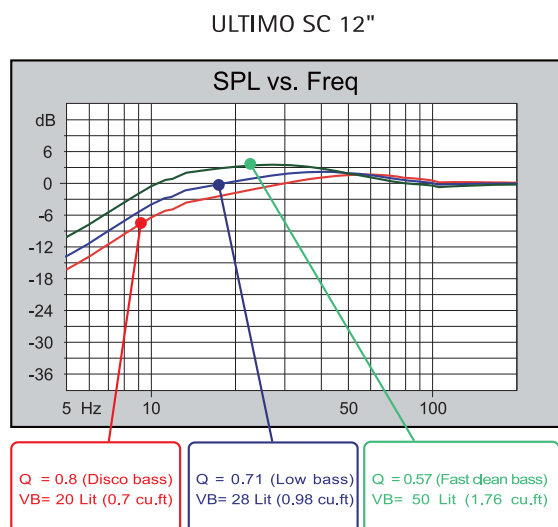
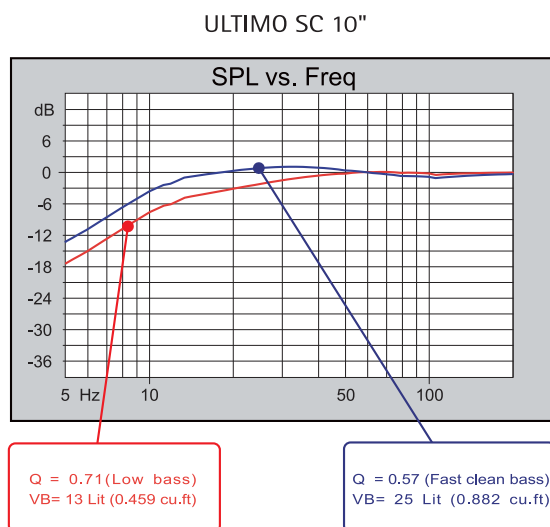
Ported (Bass reflex) enclosures

Ported enclosure for SPL application



Sealed enclosures

Sealed enclosure for high power application





ULTIMO SC SUBWOOFER SERIES

Tuning recommendation

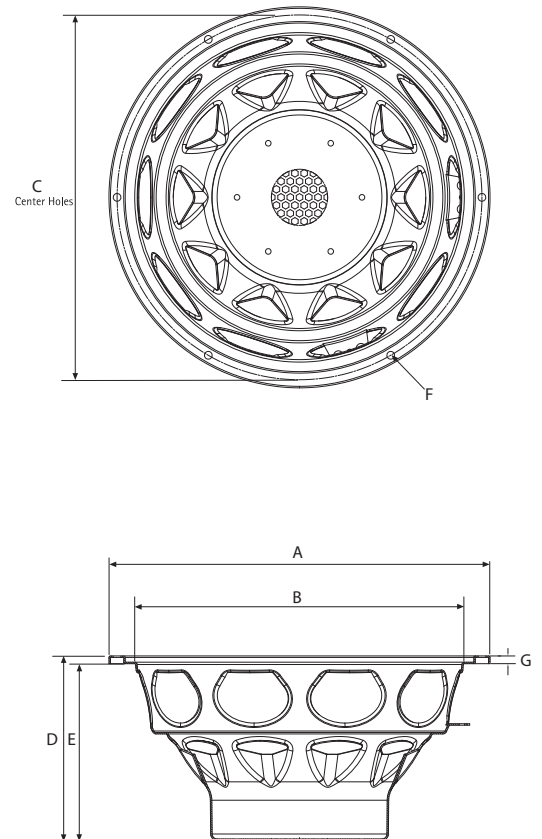
Once the proper enclosure has been constructed, please follow these tips to optimize the performance of your new Ultimo SC subwoofer. It is always suggested to consult your Authorized Morel Dealer for more specific guidance, if necessary.

1. Set your gain level control to ensure stable amplifier operation without distortion or saturation to prevent subwoofer damage.
2. Adjust the cut-off frequency according to the enclosure design and subwoofer specifications to ensure optimal performance.
3. Electronic acoustic corrective filters (e.g. equalizer) are not required, as long as the subwoofer enclosure is designed properly.
4. After listening to the subwoofer you may choose to invert the phase. Inverting the phase will affect the acoustic performance of the subwoofer. It is recommended to listen in both configurations in order to determine your preferred mode.
5. Before adjusting your sound system further, it is suggested to move the subwoofer enclosure to different locations in the car trunk. Placing the enclosure in different locations may provide the solution you seek.

SPECIFICATIONS

General data	ULTIMO SC 10		ULTIMO SC 12		
		2 Ohm	4 Ohm	2 Ohm	4 Ohm
Overall Dimensions	DxH	∅263mm (10.35") X 143 mm (5.63")		∅305mm (12") X 151.5 mm (5.96")	
Power Handling RMS	P	600 W		600 W	
Transient power 10ms		2000 W		2000 W	
Sensitivity 2.83Vrms/1M		95 dB	90.5 dB	95 dB	91.5 dB
Sensitivity 1W/1M		87 dB	86.5 dB	87 dB	87 dB
Frequency Response		10-900 Hz		10-900 Hz	
Cone Material		Carbon-fiber laminated paper		Carbon-fiber laminated paper	
Net Weight		6.1 Kg. (13.44 lb)		6.2 Kg. (13.66 lb)	
Driver displacement		2.34 Lit (0.08 cu.ft)		2.6 Lit (0.09 cu.ft)	
Voice Coil and Magnet Parameters					
Voice Coil Diameter		130 mm (5.1")		130 mm (5.1")	
Voice Coil Height		31mm (1.2")		31mm (1.2")	
Voice Coil Former		Aluminum		Aluminum	
Voice coil wire		Hexatech Aluminum		Hexatech Aluminum	
Number of layers		2		2	
Max. Linear excursion	X	±9.5 mm (0.37") (Each way)		±9.5 mm (0.37") (Each way)	
Magnet system type		Double magnet vented		Double magnet vented	
HE-Magnetic gap height	HE	12mm (0.47")		12mm (0.47")	
B flux density	B	6.4 T		6.4 T	
BL product	BXL	6.75 T.M	11 T.M	6.75 T.M	11 T.M
Electrical Data					
Nominal Impedance	Z	2.0 Ohm	4.0 Ohm	2.0 Ohm	4.0 Ohm
DC Resistance	RE	1.3 Ohm	3.0 Ohm	1.3 Ohm	3.0 Ohm
Voice Coil Inductance @ 1KHz	LBM	0.27 mH	0.85 mH	0.27 mH	0.85 mH
T-S Parameters					
Suspension Compliance	CMS	0.25	0.3	0.45	0.42
Mechanical Q Factor	QMS	1.8	1.84	1.73	1.93
Electrical Q Factor	QES	0.49	0.43	0.45	0.41
Total Q Factor	QTS	0.38	0.35	0.36	0.34
Mechanical Resistance	RMS	10.86	9.97	8.7	8.45
Moving Mass	MMS	91.6 gr.	101.7 gr.	103.2 gr.	112.2 gr.
Resonant Frequency	FS	33 Hz	29 Hz	23 Hz	23 Hz
Eq. Cas Air Load (liters)	VAS	42 Lit(1.48 cu.ft)	50 Lit(1.77 cu.ft)	121 Lit(4.27 cu.ft)	113 Lit(4.0 cu.ft)
Effective Piston Area	SD	0.0346 m ²		0.0471 m ²	

Overall Dimensions



	ULTIMO SC 10	ULTIMO SC 12
A	∅10.35" (263mm)	∅12" (305mm)
B	∅8.87" (225.15mm)	∅10.35" (263mm)
C	∅9.96" (253mm)	∅11.5" (292mm)
D	5.63" (143mm)	5.96" (151.5mm)
E	5.38" (136.6mm)	5.72" (145.3mm)
F	∅0.244" (6.2mm)	∅0.255" (6.5mm)
G	∅0.267" (6.8mm)	∅0.255" (6.5mm)