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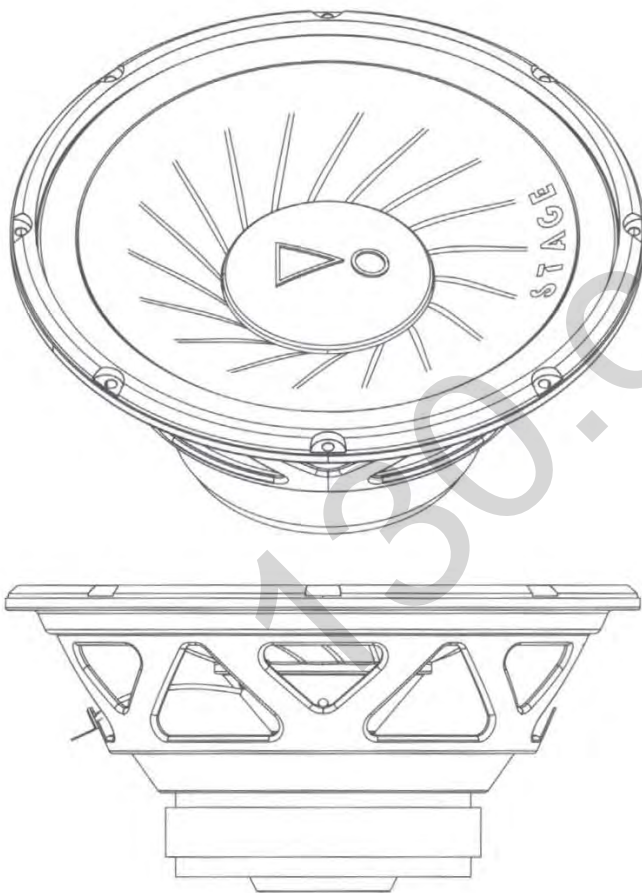


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# STAGE 82 / STAGE 102 / STAGE 122



**Subwoofer Owner's Manual**

**EN**

**Mode d'emploi du caisson de graves**

**FR**

**Manual del propietario del subwoofer**

**ES**

**Manual do proprietário do subwoofer**

**PT**

**Manuale utente del Subwoofer**

**IT**

**Subwoofer Bedienungsanleitung**

**DE**

**Руководство пользователя сабвуфера**

**RU**

**Bruksanvisning för subwoofer**

**SV**

**Alibassokaiuttimen ohjekirja**

**FI**

**Instrukcja obsługi subwoofera**

**PL**

**Subwoofer Gebruikershandleiding**

**NL**

**Buku Panduan Pemilik Subwoofer**

**ID**

**サブウーファーの取扱説明書**

**JP**

**서브우퍼 사용 설명서**

**KO**

**低音炮用户手册**

**CHS**

**重低音喇叭擁有者手冊**

**TW**

**Betjeningsvejledning til subwoofer**

**DA**

**Subwoofer Kullanım Kılavuzu**

**TR**





Пассивная акустическая система  
 Изготовитель: Харман Интернешнл Индастриз Инкорпорейтед, США, 06901 Коннектикут, г.Стэмфорд, Атлантик Стрит 400, офис 1500  
 Сделано в Китае  
 Импортёр: ООО "ХАРМАН РУС СиАйЭс", Россия, 127018, г.Москва, ул. Двинцев, д.12, к. 1  
 Гарантийный период: 1 год  
 Срок службы: 3 года  
 Информация о сервисных центрах: www.harman.com/ru  
 Техническая поддержка: 8 (800) 700 0467  
 Организация, уполномоченная на принятие претензий потребителей: ООО "ХАРМАН РУС СиАйЭс"  
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Дата изготовления устройства определяется по двум буквенным обозначениям из второй группы символов серийного номера изделия, следующих после разделительного знака «-». Кодировка соответствует порядку букв латинского алфавита, начиная с января 2010 года: 000000-MY0000000, где «M» - месяц производства (A - январь, B - февраль, C - март и т.д.) и «Y» - год производства (A - 2010, B - 2011, C - 2012 и т.д.).

## 哈曼产品保修卡

机身编号:

产品型号: \_\_\_\_\_

销售 (安装调试) 日期: 20\_\_年\_\_月\_\_日

发票号码: \_\_\_\_\_ (销售者印章)

用户姓名: \_\_\_\_\_

联系电话: \_\_\_\_\_

地址 (邮编): \_\_\_\_\_

重要提示: 根据国家“三包”规定, 您必须完整填写本凭证并与购买发票原件同时出示方可享受相关售后服务。为了保护您的权益, 请您购买产品时索取合法有效的发货票并请经销商在本凭证盖具包括名称、地址、电话等信息的印章。本凭证内容与商品实物标识不符或者涂改的将不提供售后服务, 请务必妥善保管。请您核对产品机身编号, 编号缺失、涂改或经查询非本公司授权经销商渠道销售产品均不提供售后服务。更多信息请您阅读下面的产品保修条例。

哈曼 (中国) 投资有限公司  
 公司地址: 上海市黄浦区南京西路288号3004室  
 中国大陆地区客服热线: 400 630 6678



合格证

### 产品保修期:

JBL/INFINITY汽车音响产品提供一年的保修期, 自消费者在本公司授权经销商、授权安装点购买之日 (即, 购买发票所述的日期) 起算。

扫描二维码获取全国联保

### 保修范围:

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### 下列情形不属于保修范围

包括但不限于未按产品使用说明书要求使用 (包括但不限于非汽车12V直流电源环境使用)、维护、保管而造成损坏的; 经本公司授权维修者以外人员拆卸、改装造成损坏的; 因不可抗力 (如自然灾害、虫害、雷击等) 造成损坏的; 非本公司产生的运输邮寄、压烂、液体浸入、外观损坏、磨损老化等人为原因造成损坏的; 已超过保修期; 无保修卡及有效的购买发票, 或购买发票与保修卡不符, 或购买发票被涂改或无法辨认均不提供保修服务, 但本公司及本公司授权维修站可按相关规定实行收费维修。

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由于汽车音响产品的安装属性, 产品发生故障后, 消费者必须先联系本产品最初的授权安装点检查并排除非产品质量原因导致的故障。无论是产品质量原因还是非质量原因导致的所有故障, 均由授权安装点负责: 拆卸故障产品, 送交授权维修站, 装回产品的工作。

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## 产品中有害物质的名称及含量

部件名称	目标部件	有害物质或元素					
		铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
扬声器	盆架、T铁、音盆、接线端子等	○	○	○	○	○	○
附件	说明书, 包装等	○	○	○	○	○	○

本表格依据SJ/T 11364的规定编制

○: 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下。

×: 表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求。



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圆圈中的数字代表产品的正常环保使用年限。



**THANK YOU** for choosing a JBL Stage subwoofer. These subwoofers are designed to suit a broad range of car audio applications and can be used in a wide variety of enclosure types to produce extended, powerful bass in a limited amount of vehicle space. To get the most performance from your new subwoofer, it is strongly recommended that you have a qualified professional install your subwoofer. Although this manual does provide general instructions about installing these Stage subwoofers, it does not include enclosure construction details or exact installation methods for any particular vehicle. If you do not feel that you have the necessary experience, do not attempt the installation yourself, but instead ask your authorized JBL dealer about professional installation options.

Remember to keep your sales receipt in a safe place, along with this manual, so that both are available for future reference.

**WARNING**

Playing loud music in a vehicle can hinder your ability to hear traffic and permanently damage your hearing. The maximum volume levels achievable by JBL speakers when combined with high-power amplification may exceed safe levels for extended listening. Using low volume levels is recommended when driving. JBL, Inc. accepts no liability for hearing loss, bodily injury, or property damage as a result of use or misuse of this product.

**REPRODUCING BASS IN VEHICLES**

Depending on the size of your vehicle's interior listening space, reproduced bass frequencies below 80Hz will be boosted by nearly 12dB per octave as frequency decreases. This phenomenon, known as the vehicle's transfer function (or cabin gain), plays an important role in shaping the subwoofer's frequency response in your vehicle.

**SUBWOOFER ENCLOSURE TYPE S**

The subwoofers are designed to perform best in moderately sized sealed enclosures, vented enclosures and prefabricated band-pass enclosures. Infinite-baffle mounting is possible, but the subwoofer's mechanical power handling will be reduced because there will be no volume of air to stiffen the subwoofer's suspension and prevent overexcursion. If you choose infinite-baffle mounting, consider the RMS and peak power-handling ratings to be half of what is listed in the specifications in this manual.

You should choose an enclosure type based on the amount of cargo space you can devote to the enclosure, the amount of power you will use to drive your subwoofer(s), and your listening habits.

**SEALED ENCLOSURES**

The air trapped inside a sealed enclosure is compressed when the subwoofer moves rearward and is rarefied when the subwoofer moves forward. In both cases, the air inside and outside the box will seek equilibrium by pushing and pulling on the subwoofer cone. The result is a stiffer suspension when compared to the subwoofer operating in free air. This means that the subwoofer's cone will be harder to move at low frequencies, a condition which protects the subwoofer from physical overexcursion, but requires more power than other designs to achieve a given acoustic output.

**SEALED-ENCLOSURE PERFORMANCE ADVANTAGES**

- The in-vehicle performance will have the flattest overall frequency response.
- The in-vehicle response will have the widest bandwidth. (Usable low-frequency response inside the vehicle will be below 20Hz.)
- An optimum sealed enclosure will always be smaller than an optimum enclosure of another type.

**SEALED-ENCLOSURE PERFORMANCE TRADE-OFFS**

- An optimum sealed enclosure will have lower overall efficiency than an optimum enclosure of another type.
- A subwoofer in an optimum sealed enclosure will require more amplifier power to achieve a given acoustic output than in an optimum enclosure of another type.

**SEALED-ENCLOSURE CONSTRUCTION**

Sealed-enclosure construction is straightforward and forgiving of errors in volume calculation, but air leaks should be avoided. Use medium-density fiberboard (MDF), glue and screws to construct the enclosure, and seal all joints with silicone caulk.

**RECOMMENDATION**

Subwoofers in sealed enclosures are recommended for enthusiasts who prefer accurate music reproduction and flat frequency response, for those who have a smaller space to devote to a subwoofer enclosure, and for those who have plenty of amplifier power devoted to driving the subwoofer. The sealed-enclosure design indicated in this manual represents the best compromise between low-frequency extension and flat response.

**VENTED ENCLOSURES**

A vented enclosure acts like a sealed enclosure at frequencies above its tuned (resonance) frequency. At resonance (which is defined by the vent), the vent produces the majority of sound – the subwoofer cone is nearly stationary while the air inside the vent vibrates. This provides greater mechanical power

handling at and above resonance, but reduced mechanical power handling below resonance. Since the subwoofer cone and voice coil don't move much at resonance, airflow across the voice coil is minimized and thermal power handling is reduced slightly at resonance.

Vented enclosures provide better efficiency in the 40Hz – 60Hz range, at the expense of sound output in the lowest octave (below 40Hz). The use of an infrasonic filter is recommended with vented enclosures. An optimum vented enclosure for a Stage subwoofer is larger than an optimum sealed enclosure.

**VENTED-ENCLOSURE PERFORMANCE ADVANTAGES**

- An optimum vented enclosure has greater efficiency and higher output in the 40Hz – 60Hz range than an optimum sealed enclosure.
- An optimum vented enclosure provides a greater sensation of bass than an optimum sealed enclosure.
- A subwoofer in an optimum vented enclosure will require less amplifier power to achieve a given acoustic output (down to the enclosure's resonance frequency) than in an optimum sealed enclosure.

**VENTED-ENCLOSURE PERFORMANCE TRADE-OFFS**

- Reduced output in the lowest octave (below 40Hz).
- Reduced mechanical power handling below the enclosure's resonance frequency. The use of an electronic infrasonic filter is strongly recommended to reduce the chance of overdriving the subwoofer below the enclosure's resonance frequency.
- An optimum vented enclosure will always be larger than an optimum sealed enclosure.

**VENTED-ENCLOSURE CONSTRUCTION**

Vented-enclosure construction is more difficult than the construction of a sealed enclosure. The enclosure volume and port dimensions have a specific relationship with the physical and electromechanical characteristics of the subwoofer, requiring that the recommended enclosure volume and port characteristics be strictly observed. As with sealed enclosures, use medium-density fiberboard (MDF), glue and screws to construct the enclosure, and seal all joints with silicone caulk.

**RECOMMENDATION**

Subwoofers in vented enclosures are recommended for enthusiasts who prefer accentuated bass response, for those who have plenty of cargo space to devote to a subwoofer enclosure and for those who will use a less powerful amplifier to drive their subwoofer. The volume and port

dimensions indicated must be followed precisely to ensure optimum performance.

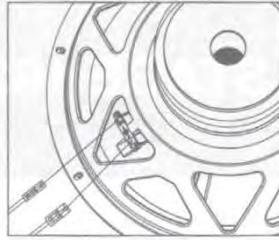
**MOUNTING THE SUBWOOFER**

The subwoofers should be mounted from the outside of the enclosure. Use the included foam mounting gasket to ensure a leak-free seal between the subwoofer frame and the enclosure.



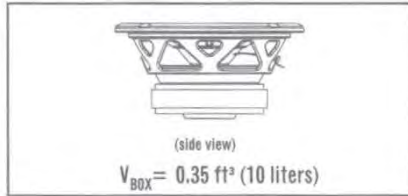
## CONNECTING THE AMPLIFIER

The subwoofer connectors are compatible with bare or finned wires. The recommended wire gauge is between 14AWG and 8AWG, depending on the length of the wire run between the amplifier and woofer. Heavier gauge wire is preferred for runs over 6' (2m).

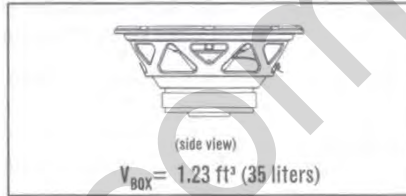


TECHNICAL DATA		STAGE 82	TECHNICAL DATA		STAGE 102	TECHNICAL DATA		STAGE 122
THIELE-SMALL PARAMETERS		4Ω	THIELE-SMALL PARAMETERS		4Ω	THIELE-SMALL PARAMETERS		4Ω
VOICE-COIL DC RESISTANCE:	REVC (OHMS)	3.6	VOICE-COIL DC RESISTANCE:	REVC (OHMS)	3.6	VOICE-COIL DC RESISTANCE:	REVC (OHMS)	3.6
VOICE-COIL INDUCTANCE @ 1kHz:	LEVC (MH)	1.48	VOICE-COIL INDUCTANCE @ 1kHz:	LEVC (MH)	1.5	VOICE-COIL INDUCTANCE @ 1kHz:	LEVC (MH)	2.3
DRIVER RADIATING AREA:	S <sub>D</sub> (IN <sup>2</sup> )	32.34	DRIVER RADIATING AREA:	S <sub>D</sub> (IN <sup>2</sup> )	56.79	DRIVER RADIATING AREA:	S <sub>D</sub> (IN <sup>2</sup> )	82.29
	S <sub>D</sub> (CM <sup>2</sup> )	208.67		S <sub>D</sub> (CM <sup>2</sup> )	366.44		S <sub>D</sub> (CM <sup>2</sup> )	530.93
MOTOR FORCE FACTOR:	BL (TA)	12.00	MOTOR FORCE FACTOR:	BL (TA)	12.4	MOTOR FORCE FACTOR:	BL (TA)	13.6
COMPLIANCE VOLUME:	V <sub>AS</sub> (FT <sup>3</sup> )	0.56	COMPLIANCE VOLUME:	V <sub>AS</sub> (FT <sup>3</sup> )	1.46	COMPLIANCE VOLUME:	V <sub>AS</sub> (FT <sup>3</sup> )	2.28
	V <sub>AS</sub> (LITERS)	15.9		V <sub>AS</sub> (LITERS)	41.5		V <sub>AS</sub> (LITERS)	64.6
SUSPENSION COMPLIANCE:	CMS (μM/N)	0.26	SUSPENSION COMPLIANCE:	CMS (μM/N)	0.22	SUSPENSION COMPLIANCE:	CMS (μM/N)	0.16
MOVING MASS, AIR LOAD:	MMS (GRAMS)	56.2	MOVING MASS, AIR LOAD:	MMS (GRAMS)	83.3	MOVING MASS, AIR LOAD:	MMS (GRAMS)	154.3
FREE-AIR RESONANCE:	F <sub>S</sub> (HZ)	41.6	FREE-AIR RESONANCE:	F <sub>S</sub> (HZ)	37.1	FREE-AIR RESONANCE:	F <sub>S</sub> (HZ)	31.7
MECHANICAL Q:	QMS	5.46	MECHANICAL Q:	QMS	5.92	MECHANICAL Q:	QMS	6.64
ELECTRICAL Q:	QES	0.37	ELECTRICAL Q:	QES	0.46	ELECTRICAL Q:	QES	0.6
TOTAL Q:	QTS	0.35	TOTAL Q:	QTS	0.42	TOTAL Q:	QTS	0.55
MAGNETIC-GAP HEIGHT:	H <sub>AG</sub> (IN)	0.31	MAGNETIC-GAP HEIGHT:	H <sub>AG</sub> (IN)	0.31	MAGNETIC-GAP HEIGHT:	H <sub>AG</sub> (IN)	0.31
	H <sub>AG</sub> (MM)	8.00		H <sub>AG</sub> (MM)	8.00		H <sub>AG</sub> (MM)	8.00
VOICE-COIL HEIGHT:	H <sub>VC</sub> (IN)	0.8	VOICE-COIL HEIGHT:	H <sub>VC</sub> (IN)	0.8	VOICE-COIL HEIGHT:	H <sub>VC</sub> (IN)	1.21
	H <sub>VC</sub> (MM)	20.3		H <sub>VC</sub> (MM)	20.3		H <sub>VC</sub> (MM)	30.7
MAXIMUM EXCURSION:	X <sub>MAX</sub> (IN)	0.24	MAXIMUM EXCURSION:	X <sub>MAX</sub> (IN)	0.24	MAXIMUM EXCURSION:	X <sub>MAX</sub> (IN)	0.45
	X <sub>MAX</sub> (MM)	6.15		X <sub>MAX</sub> (MM)	6.15		X <sub>MAX</sub> (MM)	11.35

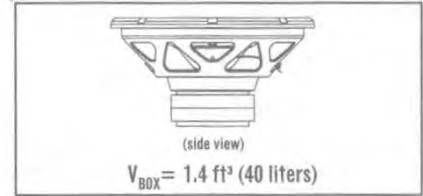
### SEALED-BOX VOLUME (INCLUDES DRIVER DISPLACEMENT)



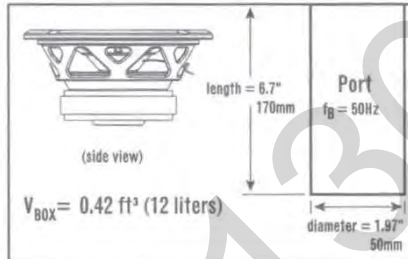
### SEALED-BOX VOLUME (INCLUDES DRIVER DISPLACEMENT)



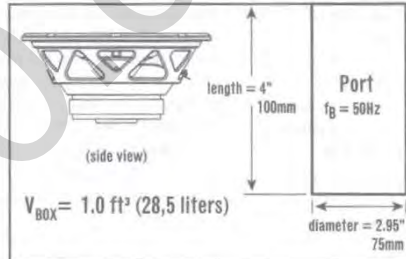
### SEALED-BOX VOLUME (INCLUDES DRIVER DISPLACEMENT)



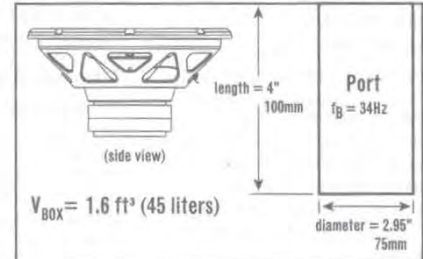
### VENTED-BOX VOLUME (INCLUDES DRIVER/PORT DISPLACEMENTS)



### VENTED-BOX VOLUME (INCLUDES DRIVER/PORT DISPLACEMENTS)

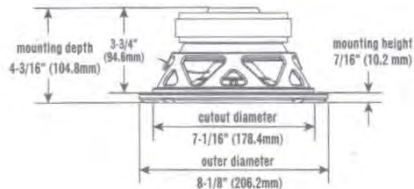


### VENTED-BOX VOLUME (INCLUDES DRIVER/PORT DISPLACEMENTS)



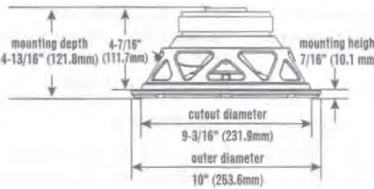
### SPECIFICATIONS

DIAMETER: 8" (200MM)  
 SENSITIVITY (2.83V @ 1M): 88dB  
 POWER HANDLING: 200 Wrms (800W PEAK)  
 FREQUENCY RESPONSE: 38Hz ~ 200Hz  
 NOMINAL IMPEDANCE: 4 OHMS  
 VOICE-COIL DIAMETER: 1.5" (38.8MM)  
 DIMENSIONS:



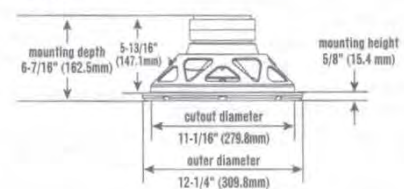
### SPECIFICATIONS

DIAMETER: 10" (250MM)  
 SENSITIVITY (2.83V @ 1M): 89dB  
 POWER HANDLING: 225 Wrms (900W PEAK)  
 FREQUENCY RESPONSE: 35Hz ~ 200Hz  
 NOMINAL IMPEDANCE: 4 OHMS  
 VOICE-COIL DIAMETER: 1.5" (38.8MM)  
 DIMENSIONS:



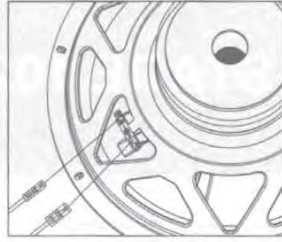
### SPECIFICATIONS

DIAMETER: 12" (300MM)  
 SENSITIVITY (2.83V @ 1M): 91dB  
 POWER HANDLING: 250 Wrms (1000W PEAK)  
 FREQUENCY RESPONSE: 34Hz ~ 200Hz  
 NOMINAL IMPEDANCE: 4 OHMS  
 VOICE-COIL DIAMETER: 2" (50.8MM)  
 DIMENSIONS:



## AMPLİFİKATÖRÜ BAĞLAMA

Subwoofer konektörler çıplak veya kalaylı teller ile uyumludur. Amplifikatör ve woofer arasında çekilen tel uzunluğuna bağlı olarak, tavsiye edilen tel çapı 14 AWG ile 8AWG arasındadır. Daha kalın ölçüde tel 6'(2m) üzerinde çekilenler için tercih edilir.



TEKNİK VERİ		STAGE 82	TEKNİK VERİ		STAGE 102	TEKNİK VERİ		STAGE 122
THIELE KÜÇÜK PARAMETRELERİ		4Ω	THIELE KÜÇÜK PARAMETRELERİ		4Ω	THIELE KÜÇÜK PARAMETRELERİ		4Ω
SES BOBİNİ DC DİRENCİ:	Revc (OHMS)	3.6	SES BOBİNİ DC DİRENCİ:	Revc (OHMS)	3.6	SES BOBİNİ DC DİRENCİ:	Revc (OHMS)	3.6
1KHZ'DE SES BOBİNİ İNDÜKTANSI:	Levc (MH)	1.48	1KHZ'DE SES BOBİNİ İNDÜKTANSI:	Levc (MH)	1.5	1KHZ'DE SES BOBİNİ İNDÜKTANSI:	Levc (MH)	2.3
SÜRÜCÜ YAYILMA ALANI:	S <sub>D</sub> (M <sup>2</sup> )	32.34	SÜRÜCÜ YAYILMA ALANI:	S <sub>D</sub> (M <sup>2</sup> )	58.79	SÜRÜCÜ YAYILMA ALANI:	S <sub>D</sub> (M <sup>2</sup> )	82.29
	S <sub>D</sub> (CM <sup>2</sup> )	208.67		S <sub>D</sub> (CM <sup>2</sup> )	366.44		S <sub>D</sub> (CM <sup>2</sup> )	530.93
MOTOR GÜCÜ FAKTÖRÜ:	Bl (TA)	12.00	MOTOR GÜCÜ FAKTÖRÜ:	Bl (TA)	12.4	MOTOR GÜCÜ FAKTÖRÜ:	Bl (TA)	13.6
UYUM HACMİ:	V <sub>AS</sub> (FT <sup>3</sup> )	0.56	UYUM HACMİ:	V <sub>AS</sub> (FT <sup>3</sup> )	1.46	UYUM HACMİ:	V <sub>AS</sub> (FT <sup>3</sup> )	2.28
	V <sub>AS</sub> (LITERS)	15.9		V <sub>AS</sub> (LITERS)	41.5		V <sub>AS</sub> (LITERS)	64.6
SÜSPANSİYON UYUMU:	C <sub>MUS</sub> (µM/N)	0.26	SÜSPANSİYON UYUMU:	C <sub>MUS</sub> (µM/N)	0.22	SÜSPANSİYON UYUMU:	C <sub>MUS</sub> (µM/N)	0.16
HAREKETLİ KÜTLE, HAVA YÜKÜ:	M <sub>MUS</sub> (GRAMS)	58.2	HAREKETLİ KÜTLE, HAVA YÜKÜ:	M <sub>MUS</sub> (GRAMS)	83.3	HAREKETLİ KÜTLE, HAVA YÜKÜ:	M <sub>MUS</sub> (GRAMS)	154.3
SERBEST HAVA REZONANSI:	F <sub>S</sub> (Hz)	41.6	SERBEST HAVA REZONANSI:	F <sub>S</sub> (Hz)	37.1	SERBEST HAVA REZONANSI:	F <sub>S</sub> (Hz)	31.7
MEKANİK Q:	Q <sub>MUS</sub>	5.46	MEKANİK Q:	Q <sub>MUS</sub>	5.92	MEKANİK Q:	Q <sub>MUS</sub>	6.64
ELEKTRİKSEL Q:	Q <sub>ES</sub>	0.37	ELEKTRİKSEL Q:	Q <sub>ES</sub>	0.46	ELEKTRİKSEL Q:	Q <sub>ES</sub>	0.6
TOPLAM Q:	Q <sub>TS</sub>	0.35	TOPLAM Q:	Q <sub>TS</sub>	0.42	TOPLAM Q:	Q <sub>TS</sub>	0.55
MANYETİK BOŞLUK YÜKSEKLİĞİ:	H <sub>AG</sub> (IN)	0.31	MANYETİK BOŞLUK YÜKSEKLİĞİ:	H <sub>AG</sub> (IN)	0.31	MANYETİK BOŞLUK YÜKSEKLİĞİ:	H <sub>AG</sub> (IN)	0.31
	H <sub>AG</sub> (MM)	8.00		H <sub>AG</sub> (MM)	8.00		H <sub>AG</sub> (MM)	8.00
SES BOBİNİ YÜKSEKLİĞİ:	H <sub>VC</sub> (IN)	0.8	SES BOBİNİ YÜKSEKLİĞİ:	H <sub>VC</sub> (IN)	0.8	SES BOBİNİ YÜKSEKLİĞİ:	H <sub>VC</sub> (IN)	1.21
	H <sub>VC</sub> (MM)	20.3		H <sub>VC</sub> (MM)	20.3		H <sub>VC</sub> (MM)	30.7
MAKSİMUM GEZİNİM:	X <sub>MAX</sub> (IN)	0.24	MAKSİMUM GEZİNİM:	X <sub>MAX</sub> (IN)	0.24	MAKSİMUM GEZİNİM:	X <sub>MAX</sub> (IN)	0.45
	X <sub>MAX</sub> (MM)	6.15		X <sub>MAX</sub> (MM)	6.15		X <sub>MAX</sub> (MM)	11.35

### KAPALI KUTU HACMİ (SÜRÜCÜ DEPLASMANI DÂHİL)



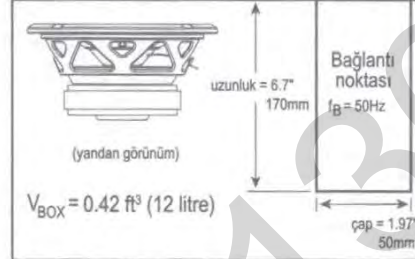
### KAPALI KUTU HACMİ (SÜRÜCÜ DEPLASMANI DÂHİL)



### KAPALI KUTU HACMİ (SÜRÜCÜ DEPLASMANI DÂHİL)



### HAVALANDIRMALI KUTU HACMİ (SÜRÜCÜ/BAĞLANTI NOKTASI DEPLASMANI DÂHİL)



### HAVALANDIRMALI KUTU HACMİ (SÜRÜCÜ/BAĞLANTI NOKTASI DEPLASMANI DÂHİL)

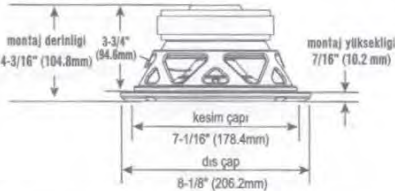


### HAVALANDIRMALI KUTU HACMİ (SÜRÜCÜ/BAĞLANTI NOKTASI DEPLASMANI DÂHİL)



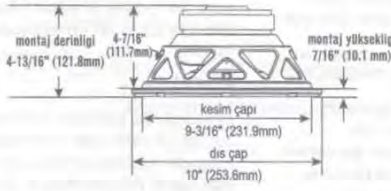
## TEKNİK ÖZELLİKLER

ÇAP:	8" (200MM)
HASSASİYET (M'DE 2,83V):	88dB
GÜÇ KULLANMA:	200 Wrms (800W TEPE)
FREKANS YANITI:	38HZ ~ 200HZ
NOMİNAL EMPEDANS:	4 OHM
SES BOBİNİ ÇAPİ:	1.5" (38.8MM)
BOYUTLAR:	



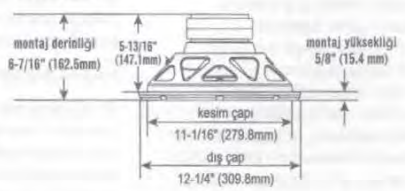
## TEKNİK ÖZELLİKLER

ÇAP:	10" (250MM)
HASSASİYET (M'DE 2,83V):	89dB
GÜÇ KULLANMA:	225 Wrms (900W TEPE)
FREKANS YANITI:	35HZ ~ 200HZ
NOMİNAL EMPEDANS:	4 OHM
SES BOBİNİ ÇAPİ:	1.5" (38.8MM)
BOYUTLAR:	



## TEKNİK ÖZELLİKLER

ÇAP:	12" (300MM)
HASSASİYET (M'DE 2,83V):	91dB
GÜÇ KULLANMA:	250 Wrms (1000W TEPE)
FREKANS YANITI:	34HZ ~ 200HZ
NOMİNAL EMPEDANS:	4 OHM
SES BOBİNİ ÇAPİ:	2" (50.8MM)
BOYUTLAR:	



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