Performance Installation Guide

Kinetic

KS804
KS104
KS124

Dear Customer,

Thank you for selecting Morel Kinetic subwoofers to fulfill your bass needs!

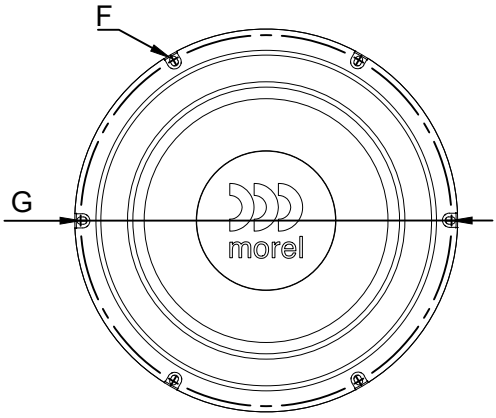
For nearly five decades, Morel has been committed to producing speakers and audio drivers that set new benchmarks for sound quality. The Kinetic subwoofers reflect this dedication, offering flexible enclosure options, natural sound, impressive accuracy, and exceptional bass performance.

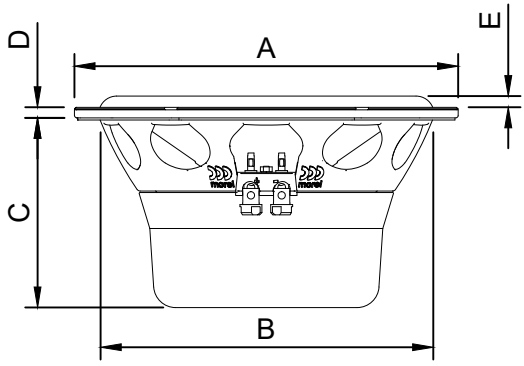
We hope you enjoy your Kinetic subwoofers for many years to come! If you need assistance with installation, your local authorized Morel retailer is ready to help. You can also reach our support team at:

info@morelhifi.com
info@morelamerica.com

Make every drive unforgettable with years of powerful sound from your Kinetic subwoofers.

Dimensions





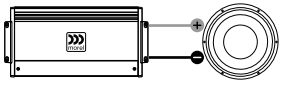
	KS 804	KS 104	KS 124
A	8.74" (222 mm)	10.32" (262 mm)	12" (304 mm)
B	7.8" (198 mm)	9.05" (230 mm)	10.75" (273 mm)
C	4.1" (103.5 mm)	5.1" (129 mm)	5.6" (142 mm)
D	0.27" (6.7 mm)	0.28" (7.2 mm)	0.3" (7.8 mm)
E	0.26" (6.54 mm)	0.3" (7.7 mm)	0.32" (7.9 mm)
F	0.19" (5 mm)	0.19" (5 mm)	0.23" (6 mm)
G	8.35" (212mm)	10" (254 mm)	11.5" (292 mm)

Recommended Power

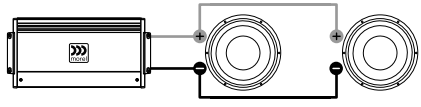
MODEL	MINIMUM	MAXIMUM
KS 804	125 w	250 w
KS 104	150 w	300 w
KS 124	175 w	350 w

Voice coil wired in parallel (1-2 woofers)

4 Ω Load

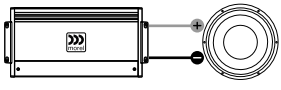


2 Ω Load

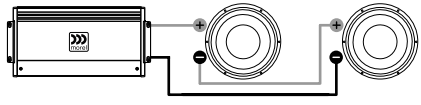


Voice coil wired in series (1-2 woofers)

4 Ω Load



8 Ω Load



Enclosure Recommendations

The Kinetic series subwoofers were designed to perform, without compromise, in both vented (ported) and sealed enclosures. So how do you choose? If you are wanting to maximize the overall performance of your subwoofer, Morel highly advocates using a vented enclosure. However, if space is limited in your vehicle thus limiting it to a small enclosure, a sealed box is the desirable option.

Below are the recommended enclosures optimized to achieve a linear in-car bass response down to the lowest octave while optimizing power handling. For special enclosure recommendations, or for enclosures for multiple subwoofers, please contact the Morel technical department at info@morelamerica.com or tech@morelamerica.com.

Enclosure Construction Guidelines

Use 3/4" (1.9 cm) or thicker MDF (Medium Density Fiberboard) for building the enclosure, and be sure to seal all joints with silicone to maintain an airtight seal. For improved rigidity and to minimize panel vibration, it is strongly recommended to brace the interior of the enclosure. A simple and effective method is to install triangular braces between each large, unsupported panel.

Port Clearance Recommendations

Do not position the port opening against any solid surface, such as an internal brace, back panel, vehicle trunk wall, seat, or other interior surface. The port opening must remain completely unobstructed to perform properly.

To ensure this, take the smallest internal dimension of the rectangular port (P1 in our enclosure designs) and multiply it by 1.5. This number represents the minimum distance the port opening should be from any solid surface.

Custom Enclosure Designing

If you are designing your own enclosure, refer to the recommended airspace ranges in this manual for best performance. Following the optimal design will result in the most efficient use of space and maximize sound quality.

Note: Enclosures with less airspace than recommended may negatively affect low-frequency extension, and power handling.

All airspace measurements listed in this manual already include the displacement of the subwoofer.

Port Displacement Calculation (for Vented Enclosures)

For vented enclosures, the displacement of the port must also be calculated and added to the internal airspace to determine the total (gross) enclosure volume.

Most commonly, a rectangular port is used for ease of construction. If calculating the displacement of the port:

1. Account for port wall thickness between the width (W) and height (H) dimensions. Example, if using 3/4" (1.9 cm) MDF, add this thickness where applicable.

2. Multiply:

$$\text{Width} \times \text{Height} \times \text{Length} = \text{Port Volume in in}^3$$

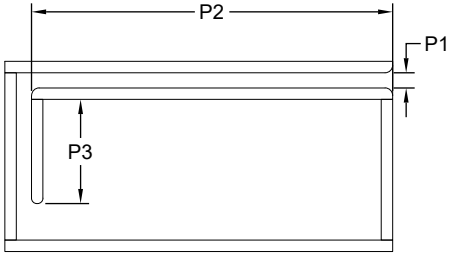
3. Convert the result to cubic feet:

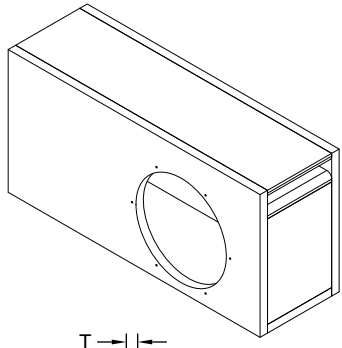
$$\text{Port Volume (ft}^3) = \frac{\text{in}^3}{1728}$$

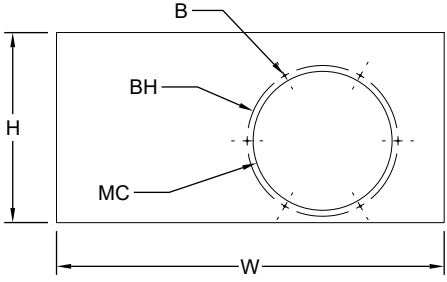
4. Add the port volume to the subwoofer's required airspace to determine the gross total enclosure volume.

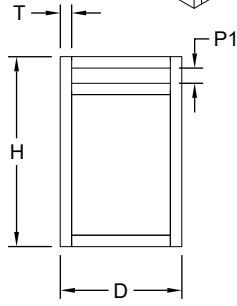
Recommended (Vented) Ported Enclosure

MODEL	VOLUME NET	PORTED	TUNED TO
KS 804	0.5 cuft 14 L	W 5″ x H 1.125″ x L 23″ W 127mm x H 31.75mm L 584.2mm	32 Hz
KS 104	0.75 cuft 21.2 L	W 6.5″ x H 1″ x L 32.25″ W 165mm x H 25.4mm L 819.25mm	27 Hz
KS 124	1.5 cuft 42.5 L	W 8.75″ x H 1.375″ x L 31.375″ W 222mm x H 35mm L 797mm	27 Hz







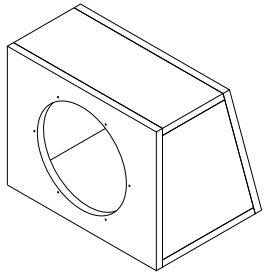


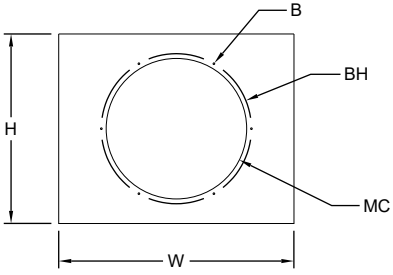
	KS804	KS104	KS124
H	8.62″ (219 mm)	12.5″ (317.5 mm)	14.75″ (374.65 mm)
W	20.75″ (527 mm)	25.5″ (647.7 mm)	29″ (736.6 mm)
D	6.5″ (165.1 mm)	8″ (203.2 mm)	10.25″ (260.35 mm)
MC	Ø7.7″ (195 mm)	Ø9.05″ (230 mm)	Ø10.7″ (271 mm)
BH	Ø8.42″ (214 mm)	Ø10″ (254 mm)	Ø11.6″ (294 mm)
B	6x Ø0.125″ (3.18 mm)	6x Ø0.125″ (3.18 mm)	6x Ø0.125″ (3.18 mm)
P1	1.25″ (31.75 mm)	1″ (25.4 mm)	1.375″ (34.93 mm)
P2	19.13″ (485.78 mm)	23.75″ (603.25 mm)	26.875″ (682.63 mm)
P3	1.75″ (44.5 mm)	6.85″ (174 mm)	0.75″ (19.05 mm)
T	0.75″ (19 mm)	0.75″ (19 mm)	0.75″ (19 mm)

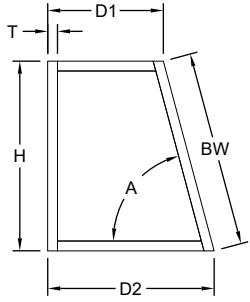
* Please note that enclosure volumes are provided as net internal volumes. Any internal bracing must added to the net internal volume. If building a vented (ported) enclosure, be sure to add the total displacement of the vent including the construction materials used within the enclosure.

Recommended Sealed Enclosure

MODEL	VOLUME NET	F3
KS 804	0.45 cuft 12.7 L	45 Hz
KS 104	0.65 cuft 18.4 L	45 Hz
KS 124	1.2 cuft 34 L	41 Hz







	KS804	KS104	KS124
H	11.25" (285.75 mm)	12.5" (317.15 mm)	14.5" (368.3 mm)
W	14" (355.6 mm)	16" (406.4 mm)	18" (457.2 mm)
D1	7.21" (183.2 mm)	7.38" (187.4 mm)	8.84" (224.6 mm)
D2	10.23" (259.8 mm)	10.73" (272.48 mm)	12.73" (323.3 mm)
BW	11.65" (295.8 mm)	12.94" (328.7 mm)	15.01" (381.3 mm)
A	75°	75°	75°
MC	Ø7.8" (198 mm)	Ø9.13" (232 mm)	Ø10.75" (273 mm)
BH	Ø8.35" (212 mm)	Ø9.92" (252 mm)	Ø11.50" (292 mm)
B	6x Ø0.125" (3.18 mm)	6x Ø0.125" (3.18 mm)	6x Ø0.125" (3.18 mm)
T	0.75" (19 mm)	0.75" (19 mm)	0.75" (19 mm)

* Please note that enclosure volumes are provided as net internal volumes. Any internal bracing must added to the net internal volume. If building a vented (ported) enclosure, be sure to add the total displacement of the vent including the construction materials used within the enclosure.

Important Safety Warning

To ensure safe operation and protect your audio system and vehicle, please follow these safety guidelines.

Continuous operation of an amplifier, speaker, or subwoofer at excessive volume—especially when the signal is distorted, clipped, or overpowered—can cause the system to overheat. This may result in component failure, fire, or serious damage to your vehicle. Amplifiers must be installed with at least 4 inches (10 cm) of open space around them to ensure adequate ventilation. Subwoofers should be mounted with a minimum of 1 inch (2.5 cm) of clearance between the front of the speaker and any surface to allow proper movement and airflow.

The Kinetic subwoofers are capable of generating extremely high sound pressure levels. Listening at high volumes for prolonged periods can lead to permanent hearing loss. If the audio becomes painful or uncomfortable to listen to, lower the volume immediately. Always use common sense and practice responsible listening to protect your hearing and ensure safe system performance.

Dimensions

KINETIC	KS 804	KS 104	KS 124
Overall Dimensions	8″	10″	12″
Power Handling Wrms	250	300	350
Max. Trans. Pwr Handling Wrms	500	600	700
Sensitivity (2.83 V/1M) dB	82.1	84.4	86
Frequency response Hz	20-500	15-500	10-500
Resonance Freq. Fs Hz	34.5	28	27.9
Voice Coil Diameter mm (inch)	51 (2.0)	51 (2.0)	51 (2.0)
Voice Coil Height mm (inch)	23 (0.9)	29.2 (1.1)	29.2 (1.1)
Voice Coil Type/Former	Aluminium	Aluminium	Aluminium
Voice Coil Wire	Copper	Copper	Copper
DC Resistance (ohm) * VC in parallel	3.6	3.6	3.6
Voice Coil Induct. @1 kHz (mH)	1.5	1.9	1.9
Magnet System	Double magnet vented	Double magnet vented	Double magnet vented
HE-Magnetic Gap Height mm (inch)	8 (0.3)	8 (0.3)	8 (0.3)
BL Product/BXL	10.3	12.3	12.9
Max. Linear Ex./Xmax mm (inch)	±8mm (0.3)	±8mm (0.3)	±8mm (0.3)
Electrical Q Factor QES	0.67	0.51	0.58
QTS	0.61	0.47	0.52
QMS	6.43	5.61	5.82
Moving Mass MMS - gr/os	94.3 (3.3)	124.2 (4.4)	152.6 (5.4)
Equiv. Can Air Load VAS - L (cu.ft³)	17.2 (0.6)	40.9 (1.4)	66.6 (2.3)
Effective Piston Area SD sq.cm (sq.inch)	232.3 (36)	330.1 (20.1)	470 (72.8)
Cone Type	One piece formed	One piece formed	One piece formed
Cone Material	Damped Polymer	Damped Polymer	Damped Polymer
Unit Diameter mm(inch)	222 (8.8)	262 (10.3)	304 (12)
Mounting Depth mm (inch)	103.5 (4.1)	129 (5.1)	142 (5.6)
Mounting Cutout	198 (7.8)	230 (9.1)	273 (72.88)

* Morel is constantly developing new technology and processes to improve its products. Morel reserves the right to modify specifications or change product design without notice.

Wishing you many years of sound enjoyment!

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