

Industrial **Hearing Protection**



WE KNOW WHAT'S AT STAKE.

Industrial Hearing Protection and Communication Systems

MSA has an impressive line of hearing protection and communication system products for nearly every industrial application. In fact, MSA offers what customers want most: economical options, quality, and outstanding performance.

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Noise Reduction Rating (NRR) describes average sound level reduction (attenuation) provided by hearing protectors within a laboratory setting. Because NRR reflects lab (and perhaps not real-world) usage, the Occupational Safety and Health Administration (OSHA), recommends de-rating the NRR to help account for incorrect fit and inconsistent wear time on worksites. OSHA’s methodology for Estimating Hearing Protector Attenuation²:

- 1. 8-hour Time Weighted Exposure (TWA) = 94 dBA
- 2. NRR of hearing protector = 31 dBA
- 3. Subtract 7 dB from the NRR = 31 dB – 7 dB is 24 dB
- 4. Reduce value by 50% = 12 dB
- 5. Subtract this value from the TWA = 82 dB (Estimated Protection)
- 6. Decide if Estimated Protection works for your environment!

¹Encyclopedia of Environmental Health, “Effects of Low Frequency Noise and Vibrations: Environmental and Occupational Perspectives,” J.O. Nriagu, K.P. Waye, 2011.
²https://www.osha.gov/dts/osta/otm/noise/hcp/attenuation_estimation.html

Helmet-Mounted

SoundControl Classic Helmet-Mounted Hearing Protection for MSA *Slotted* Helmets

Markets: General industry, manufacturing, repair and maintenance, construction, oil and gas, forestry, shipbuilding, mining

Applications: Confined space, sanding/grinding, power tool use, occupations with non-impulse noise, demolition, assembly

Standards: Meets ANSI S3.19-1974 and CSA Class A Standards

Compatible PPE: V-Gard Slotted and Universal Frames—no additional parts needed

Most V-Gard Visors

MSA slotted cap-style or full-brim helmets, as indicated in the attenuation charts on the following page

	Product Name	Part No.	NRR	Product Features
	SoundControl HPE	10061272	Varies in accordance with MSA cap-style helmet used—see attenuation chart on page 4	• For use with MSA slotted cap-style hard hats • Excellent protection against low frequency noises, such as road vehicles, aircraft or wind turbines. • Easy to adjust cups—even with gloves on • Spring arm design provides proper closure and low pressure
	SoundControl EXC	10061230	Varies in accordance with MSA cap-style helmet used—see attenuation chart on page 4	• For use with MSA slotted cap-style hard hats • Provide excellent attenuation and maximum ear space • Three distinct wearing positions
	SoundControl XLS	10061535	Varies in accordance with MSA cap-style helmet used—see attenuation chart on page 4	• For use with MSA slotted cap-style hard hats • Easy to remove ear cushions for quick replacement
	SoundControl SH	10129327	Varies in accordance with MSA full-brim helmet used—see attenuation chart on page 4	• For use with MSA slotted full-brim helmets • Does not interfere with Class E rating of MSA slotted full-brim helmets • Three wearing positions

	Product Name	Part No.	Product Features
	HPE Hygiene Kit	10061291	• Foam cushions and inserts • For Classic hearing protection helmet-mounted or headband products
	EXC Hygiene Kit	10061292	
	XLS Hygiene Kit	10061537	
	SoundControl SH Hygiene Kit	10003360	

Attenuation Charts: SoundControl Classic Helmet-Mounted Hearing Protection

SoundControl HPE

Helmet	NRR	CSA Class		Frequency (Hz)								
				125	250	500	1000	2000	3150	4000	6300	8000
V-Gard Cap (medium)	27	A	Mean	23.4	25.5	31.0	32.9	33.9	38.0	39.7	42.8	42.6
			Std Dev (dBA)	2.6	2.6	2.5	2.2	2.6	2.6	2.0	3.7	2.4
V-Gard 500 Cap	26	A	Mean	23.2	25.2	29.9	33.5	33.0	39.0	39.7	44.7	43.6
			Std Dev (dBA)	3.1	3.5	2.7	2.2	2.5	3.1	2.2	3.4	2.6
Topgard Cap	26	A	Mean	22.6	24.7	31.8	33.6	32.8	38.0	39.9	42.9	42.4
			Std Dev (dBA)	2.5	3.1	3.2	2.7	2.3	3.8	2.7	4.1	3.5
Thermalgard Cap	27	A	Mean	23.9	25.4	32.4	33.0	33.7	36.1	39.9	43.4	43.2
			Std Dev (dBA)	2.7	3.3	2.8	2.3	1.9	2.7	2.2	3.3	3.5
Vanguard II Cap	26	A	Mean	20.1	24.4	31.5	34.0	33.4	37.5	38.0	40.4	41.3
			Std Dev (dBA)	3.4	2.9	3.1	2.8	2.2	2.3	2.1	2.7	3.3
V-Gard H1 Cap	25	A	Mean	18.1	21.2	28.8	33.8	35.0	39.1	40.6	42.6	42.2
			Std Dev (dBA)	3.1	2.6	2.6	2.5	3.0	1.5	2.8	3.2	2.9

SoundControl EXC

Helmet	NRR	CSA Class		Frequency (Hz)								
				125	250	500	1000	2000	3150	4000	6300	8000
V-Gard Cap (medium)	25	A	Mean	18.2	21.9	28.9	32.0	33.7	36.2	39.0	42.1	40.6
			Std Dev (dBA)	2.6	2.2	2.3	2.6	2.5	3.4	3.5	4.3	3.6
V-Gard 500 Cap	24	A	Mean	16.3	21.9	28.9	32.3	33.3	37.4	38.9	43.6	42.1
			Std Dev (dBA)	3.5	3.0	3.0	2.4	2.3	2.7	2.6	3.4	3.2
Topgard Cap	24	A	Mean	18.1	22.4	28.1	32.0	32.6	35.3	38.0	42.0	41.4
			Std Dev (dBA)	3.8	2.9	2.6	2.7	2.2	2.7	1.5	3.8	3.7
Thermalgard Cap	23	A	Mean	16.1	21.0	29.8	31.8	33.4	35.4	39.0	41.3	41.3
			Std Dev (dBA)	2.7	2.4	2.6	3.2	4.2	3.7	4.5	3.6	3.7
Vanguard II Cap	24	A	Mean	17.1	21.0	29.6	32.4	32.6	35.5	37.2	39.3	40.3
			Std Dev (dBA)	3.3	2.1	2.8	3.3	2.4	2.0	2.6	3.1	3.4

SoundControl XLS

Helmet	NRR	CSA Class		Frequency (Hz)								
				125	250	500	1000	2000	3150	4000	6300	8000
V-Gard Cap (medium)	23	A	Mean	17.3	21.6	27.9	30.6	32.7	35.2	37.9	40.1	40.5
			Std Dev (dBA)	3.9	2.8	3.4	2.3	3.1	3.9	2.6	3.5	3.7
V-Gard 500 Cap	22	A	Mean	16.6	20.7	28.0	31.4	32.6	36.6	38.0	40.6	41.7
			Std Dev (dBA)	4.3	3.4	2.8	2.4	2.4	3.8	3.1	4.1	4.1
Topgard Cap	23	A	Mean	18.2	21.3	26.4	31.0	32.7	35.9	38.6	41.2	41.3
			Std Dev (dBA)	3.5	2.5	2.3	3.4	2.9	3.3	3.2	3.7	4.1
Thermalgard Cap	22	A	Mean	18.3	20.4	28.0	31.3	32.6	34.8	37.3	40.7	40.7
			Std Dev (dBA)	3.4	2.6	3.6	3.2	3.7	3.8	3.4	3.9	4.3
Vanguard II Cap	23	A	Mean	16.8	20.2	28.8	32.7	32.9	37.1	38.7	41.3	40.5
			Std Dev (dBA)	3.5	2.7	3.2	2.5	2.8	4.4	4.1	2.5	3.6
V-Gard H1 Cap	23	A	Mean	15.7	19.1	26.5	32.0	35.3	39.6	40.0	39.3	38.3
			Std Dev (dBA)	3.1	2.7	2.9	2.2	2.0	2.4	3.1	2.8	3.3

SoundControl SH

Helmet	NRR	CSA Class		Frequency (Hz)								
				125	250	500	1000	2000	3150	4000	6300	8000
V-Gard Slotted Full-Brim Hat	25	A	Mean	16.6	20.9	31.3	34.9	34.6	37.2	39.4	41.1	40.3
			Std Dev (dBA)	2.5	1.9	2.1	2.8	3.1	3.2	2.7	2.0	3.0

Helmet-Mounted

left/RIGHT® Helmet-Mounted Hearing Protection for MSA *Slotted Cap-Style* Helmets

MSA left/RIGHT earmuffs are different from any other on the market: the cups are designed to account for the asymmetrical position of each ear on the head. MSA left/RIGHT cups can be adjusted to the angle of the ear, and also independently raised or lowered.

Markets: General industry, manufacturing, repair and maintenance, construction, OGP, forestry, shipbuilding, mining

Applications: Heavy mechanical industries, compression rooms, airports (HIGH)

Utilities, construction, general industry (MEDIUM)

Food manufacturing, automotive, light industry (LOW)

Standards: Meets ANSI S3.19-1974 and CSA Class A Standards

Compatible PPE: V-Gard Slotted and Universal Frames—no additional parts needed

Most V-Gard Visors

MSA slotted cap-style helmets, as indicated in the attenuation charts on the following pages

	Product Name	Part No.	NRR	Product Features
	left/RIGHT (HIGH)	10087422	Varies in accordance with MSA cap-style helmet used—see attenuation chart on page 6	• For use with MSA slotted cap-style helmets • For use in high-noise environments, such as paper mills, foundries, mines and airports • Cups are sized and shaped to provide space for most ear sizes
	left/RIGHT (MEDIUM)	10087429	Varies in accordance with MSA cap-style helmet used—see attenuation chart on page 7	• For use with MSA slotted cap-style helmets • For use in medium-noise environments, such as oil, gas and petrochemical, forestry and agriculture • Cups are sized and shaped to provide space for most ear sizes
	left/RIGHT (LOW)	10087439	Varies in accordance with MSA cap-style helmet used—see attenuation chart on page 7	• For use with MSA slotted cap-style helmets • For use in low-noise environments, such as pharmaceuticals and outside maintenance, where overprotection is a concern

	Product Name	Part No.	Product Features
	left/RIGHT (HIGH) Hygiene Kit	10092880	• Cushions and inserts • Works with left/RIGHT passive helmet-mounted or headband products
	left/RIGHT (MEDIUM) Hygiene Kit	10092879	
	left/RIGHT (LOW) Hygiene Kit	10092878	

Helmet-Mounted

Attenuation Charts: left/RIGHT Helmet-Mounted Hearing Protection

left/RIGHT Low

Helmet	NRR	CSA Class		Frequency (Hz)								
				125	250	500	1000	2000	3150	4000	6300	8000
V-Gard Cap (medium)	21	B	Mean	13.6	17.3	25.1	31.3	32.1	32.6	35.0	35.0	34.6
			Std Dev (dBA)	2.9	2.8	2.3	3.0	2.8	2.4	2.1	2.8	2.7
V-Gard 500 Cap	21	B	Mean	14.5	19.6	25.4	31.5	31.6	32.2	34.8	36.1	34.6
			Std Dev (dBA)	2.7	3.1	2.6	2.5	2.5	3.1	3.6	2.7	3.7
Topgard Cap	21	B	Mean	13.9	17.4	25.4	32.1	31.3	32.6	36.0	34.7	33.7
			Std Dev (dBA)	3.5	2.8	2.1	3.0	3.1	2.0	2.6	2.5	2.6
Thermalgard Cap	21	B	Mean	15.0	18.0	25.8	30.8	31.6	31.7	34.7	35.1	34.7
			Std Dev (dBA)	3.2	2.9	2.4	2.9	2.3	2.6	3.5	3.0	2.6
Vanguard II Cap	20	B	Mean	13.0	17.4	24.6	30.0	29.9	32.1	34.2	35.2	34.7
			Std Dev (dBA)	3.0	2.4	3.0	3.0	2.6	2.5	2.1	3.0	2.9
Super-V Cap	20	B	Mean	13.5	17.1	25.0	31.9	32.3	32.5	35.0	35.5	35.2
			Std Dev (dBA)	2.8	2.7	2.9	3.5	3.4	3.0	2.7	2.5	3.4
V-Gard Cap (small)	21	B	Mean	15.1	18.5	36.7	32.8	31.1	31.0	35.1	35.3	34.4
			Std Dev (dBA)	3.7	2.8	3.0	3.7	3.0	2.3	3.2	2.8	2.9
V-Gard H1 Cap	21	B	Mean	12.1	15.6	23.0	34.9	32.9	32.8	33.3	33.7	32.0
			Std Dev (dBA)	2.2	2.1	2.5	2.5	2.2	2.6	2.4	1.8	1.7



Low Frequency Noise (LFN, 20–200 Hz) in work environments is the irritating, throbbing “background noise” emitted from sources such as road vehicles, aircraft, and ventilation or air conditioning units.

Poor worksite acoustics, coupled with a multitude of LFN sources, creates adverse health effects such as headaches, unusual tiredness, lack of concentration, irritation, and reduced work output¹. Reduce effects of these by selecting hearing protection designed to eliminate LFN.

Helmet-Mounted

Attenuation Charts: left/RIGHT Helmet-Mounted Hearing Protection

left/RIGHT Medium

Helmet	NRR	CSA Class		Frequency (Hz)								
				125	250	500	1000	2000	3150	4000	6300	8000
V-Gard Cap (medium)	25	A	Mean	16.8	21.5	29.1	36.0	36.5	38.7	37.6	40.4	39.4
			Std Dev (dBA)	3.0	2.2	2.1	3.1	3.3	2.8	2.9	3.8	4.4
V-Gard 500 Cap	24	A	Mean	16.7	22.8	28.8	35.0	36.5	39.6	38.6	39.9	39.1
			Std Dev (dBA)	3.8	3.3	2.8	2.4	2.6	3.2	3.1	3.4	4.4
Topgard Cap	24	A	Mean	14.9	20.9	29.4	35.0	34.9	38.1	38.5	38.0	38.0
			Std Dev (dBA)	2.9	2.7	2.6	3.4	3.0	3.4	2.9	3.3	3.6
Thermalgard Cap	24	A	Mean	17.9	22.8	29.1	33.4	35.3	38.4	37.2	38.5	38.7
			Std Dev (dBA)	3.9	3.1	2.7	3.1	3.1	3.5	3.6	3.4	3.4
Vanguard II Cap	24	A	Mean	16.1	20.3	28.6	33.6	34.7	37.2	35.4	37.5	37.0
			Std Dev (dBA)	2.7	2.4	2.3	2.9	3.2	3.1	2.2	3.9	3.7
Super-V Cap	24	A	Mean	15.8	20.8	29.6	35.1	36.0	38.5	36.2	38.6	39.1
			Std Dev (dBA)	2.0	2.8	3.3	3.3	3.3	2.6	3.5	5.0	4.7
V-Gard Cap (small)	24	A	Mean	16.5	20.7	29.2	35.5	35.4	38.3	38.7	37.6	38.7
			Std Dev (dBA)	3.4	3.0	2.8	3.1	2.6	2.7	3.0	3.6	3.5
V-Gard H1 Cap	23	A	Mean	15.0	19.1	27.6	37.6	38.4	37.9	36.2	34.9	36.6
			Std Dev (dBA)	3.1	2.3	3.0	3.5	3.0	2.7	3.2	3.2	4.1

left/RIGHT High

Helmet	NRR	CSA Class		Frequency (Hz)								
				125	250	500	1000	2000	3150	4000	6300	8000
V-Gard Cap (medium)	28	AL	Mean	19.8	26.0	33.2	38.8	37.8	36.8	38.0	39.8	38.8
			Std Dev (dBA)	2.6	1.9	2.1	3.3	3.1	2.9	2.8	2.1	3.3
V-Gard 500 Cap	27	AL	Mean	20.5	26.4	33.7	36.1	36.3	37.2	36.6	39.3	39.2
			Std Dev (dBA)	3.8	2.5	2.8	3.1	2.3	3.1	3.1	2.9	4.0
Topgard Cap	27	A	Mean	19.3	25.4	32.8	37.3	36.6	37.2	36.2	37.1	36.3
			Std Dev (dBA)	2.7	2.4	2.5	3.0	2.9	2.9	2.9	2.7	3.2
Thermalgard Cap	27	AL	Mean	20.4	26.3	32.8	36.0	36.1	37.1	37.0	38.9	37.7
			Std Dev (dBA)	3.0	2.6	3.3	3.2	2.8	2.7	2.0	3.1	3.7
Vanguard II Cap	26	A	Mean	18.7	24.5	31.9	36.2	36.1	37.3	36.9	37.4	37.3
			Std Dev (dBA)	3.3	2.9	3.1	3.0	2.6	2.7	2.6	3.4	2.8
Super-V Cap	27	AL	Mean	20.2	25.9	33.4	37.1	37.0	37.7	35.8	38.5	37.7
			Std Dev (dBA)	2.9	3.1	3.1	2.8	3.4	2.8	2.2	3.4	3.9
V-Gard Cap (small)	27	AL	Mean	20.0	25.7	33.3	38.6	37.9	36.9	37.7	37.2	37.9
			Std Dev (dBA)	2.4	2.5	3.2	2.8	3.7	3.0	2.6	3.0	2.7
V-Gard H1 Cap	27	AL	Mean	20.3	23.2	32.5	40.1	38.6	38.0	37.6	37.9	39.0
			Std Dev (dBA)	3.5	2.2	3.1	2.4	2.8	3.3	3.7	3.5	3.3

Helmet-Mounted

SoundControl Classic Helmet-Mounted Hearing Protection for MSA *Non-Slotted* Hard Hats

Markets: General industry, manufacturing, repair and maintenance, construction, oil and gas, forestry, shipbuilding, mining

Applications: High-noise environments, industrial plants, construction sites

Standards: Meets ANSI S3.19-1974 and CSA Class A Standards

Compatible PPE: V-Gard Slotted and Universal Frames—no additional parts needed

Most V-Gard Visors

MSA non-slotted hard hats

	Product Name	Part No.	NRR	Product Features
	Sound Blocker™ 26	10022021	26 dBA	• For use with MSA non-slotted cap-style hard hats • Requires drilling into the helmet to mount the muffs • The ANSI/ISEA Z89.1 class rating of a drilled helmet is Class C
	Soprano™	10034487	25 dBA	• For use with MSA non-slotted full-brim hard hats • Requires drilling into the helmet to mount the muffs • The ANSI/ISEA Z89.1 class rating of a drilled helmet is Class C

	Product Name	Part No.	Product Features
	SoundBlocker 26 Hygiene Kit	10003360	• Foam cushions and inserts

Headbands

Economuff Hearing Protection

- Markets:** Repair and operation (MRO), mining, food and beverage manufacturing, metalfabrication, oil & gas, general manufacturing
- Applications:** Facility maintenance, grinding, machine operations, sanding, welding, demolition, painting, assembly, cleaning
- Compatible PPE:** MSA Helmets¹
- Standards:** Meets ANSI S3.19-1974 and CSA Class B Standards

	Product Name	Part No.	NRR	Product Features
	Econommuff Multi-Position	10061273	23 dBA (under chin/ behind head) 24 dBA (over the head)	• Offers three positions: under the chin, behind the head or over the head • Under the chin or behind the head positions allow use of head protection • Durable design for use in tough environments • No metal parts • Padded headband makes longer wear possible • One size fits most
	Econommuff	10004291	24 dBA	• Soft wide cushions maintain comfortable pressure around the ears • Lightweight • One size fits most • No metal parts • Most economical option



An earmuff's attenuation depends upon the muff's fit against the head and around the pinnae (i.e., seal tightness). Gaps, including those caused by safety glasses, provide an easy path for sound to travel, reducing protection levels. To reduce this effect, try not to put anything under the cup (such as pencils, hair, etc.). But if you must wear protective eyewear, select either those items with a thin strap or very thin temple. If the gap is noticeable, the protection level is compromised.

¹Econommuff multi-position worn in behind-the-head or under-the-chin positions only.

Headbands

SoundControl® Classic Hearing Protection

Markets: General industry, manufacturing, repair and maintenance, construction, oil and gas, forestry, shipbuilding, mining, metal processing, automotive

Applications: Confined space, sanding/grinding, power tool use, occupations with non-impulse noise (such as machine operations), demolition, assembly

Standards: Meets ANSI S3.19-1974 and CSA Class A Standards

	Product Name	Part No.	NRR	Product Features
	SoundControl HPE	10061271	26 dBA	• Lightweight, low-profile earmuffs are ideal for a variety of noisy applications • High attenuation and excellent sealing for reliable protection • Headband design and two-point cup mounting distributes weight evenly, offering outstanding balance and comfort • No metal parts • Cups can be moved to a range of wearing positions for a custom fit
	SoundControl EXC	10061229	24 dBA	• For use with MSA non-slotted full brim hats • Requires drilling into the helmet to mount the muffs • The ANSI/ISEA Z89.1 class rating of a drilled helmet is Class C

	Product Name	Part No.	Product Features
	HPE Hygiene Kit	10061291	• Foam cushions and inserts • Works with Classic helmet-mounted or headband products
	EXC Hygiene Kit	10061292	

Headbands

left/RIGHT® Hearing Protection

MSA left/RIGHT headband hearing products offer three levels of NRR values ranging from 21 to 28 dBA, making it simple to match the attenuation of the earmuff with the noise exposure of the worker.

Markets: General industry, manufacturing, repair and maintenance, construction, OGP, forestry, shipbuilding, mining

Applications: Heavy mechanical industries, compression rooms, airports (HIGH)

Utilities, construction, general industry (MEDIUM)

Food manufacturing, automotive, light industry (LOW)

Standards: Meets ANSI S3.19-1974 and CSA Class A Standards

	Product Name	Part No.	NRR	Product Features
	left/RIGHT (HIGH)	10087399	28 dBA	• For use in high-noise environments, such as paper mills, foundries, mines and airports • Cups are sized and shaped to provide space for most ear sizes
	left/RIGHT (MEDIUM)	10087426	25 dBA	• For use in medium-noise environments, such as oil, gas and petrochemical, forestry and agriculture • Cups are sized and shaped to provide space for most ear sizes
	left/RIGHT (LOW)	10087436	21 dBA	• For use in low-noise environments, such pharmaceuticals and outside maintenance, where overprotection is a concern

	Product Name	Part No.	Product Features
	left/RIGHT (HIGH) Hygiene Kit	10092880	• Cushions and inserts • Works with left/RIGHT passive helmet-mounted or headband products
	left/RIGHT (MEDIUM) Hygiene Kit	10092879	
	left/RIGHT (LOW) Hygiene Kit	10092878	

MSA—The Safety Company

Our business is safety. We've been the world's leading manufacturer of high-quality safety products since 1914. MSA products may be simple to use and maintain, but they're also highly sophisticated devices and protective gear—the result of countless R&D hours, relentless testing and an unwavering commitment to quality that saves lives and protects millions of hard working men and women each and every day. Many of our most popular products integrate multiple combinations of electronics, mechanical systems and advanced materials to help ensure that users around the world remain protected in even the most hazardous of situations.

Our Mission

MSA's mission is to see to it that men and women may work in safety and that they, their families and their communities may live in health throughout the world.

MSA: WE KNOW WHAT'S AT STAKE.

Note: This Bulletin contains only a general description of the products shown. While product uses and performance capabilities are generally described, the products shall not, under any circumstances, be used by untrained or unqualified individuals. The products shall not be used until the product instructions/user manual, which contains detailed information concerning the proper use and care of the products, including any warnings or cautions, have been thoroughly read and understood. Specifications are subject to change without prior notice.

MSA operates in over 40 countries worldwide. To find an MSA office near you, please visit **[MSAsafety.com/offices](https://www.MSA.com/offices)**.