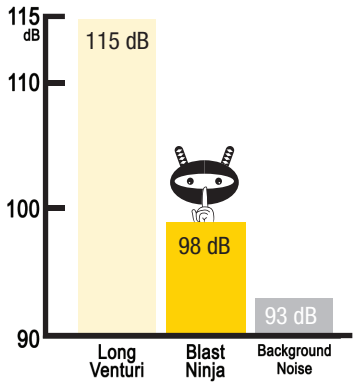
BLAST NINJA

The New Industry Standard for
Worker Safety and Performance.

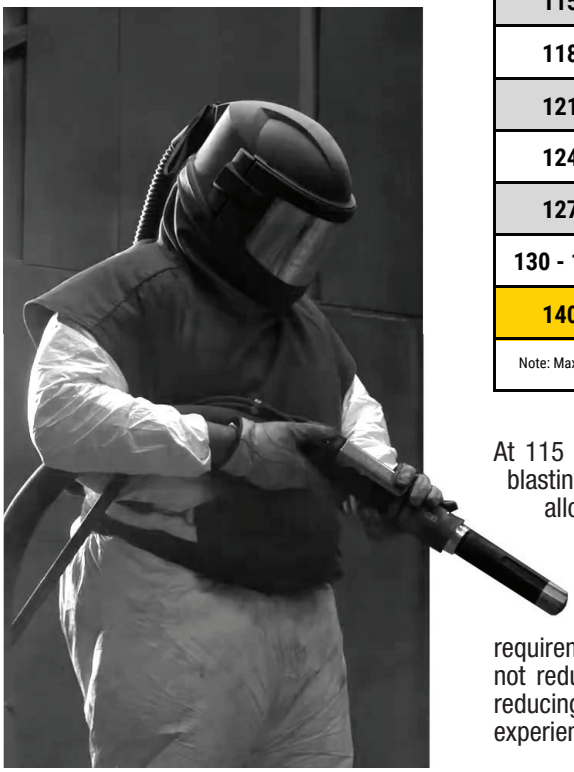
Reduce Noise. Improve Performance.

Blast Ninja™ is the new industry standard in hearing protection and worker performance for surface preparation. The proprietary technology leverages years of aero-acoustic research conducted on jet engine noise reduction and was created in partnership with the U.S. Air Force and Office of Naval Research.

Less Noise. Incredible Performance.



Blast Ninja™ reduces nozzle air exit velocity while maintaining particle velocity – therefore reducing noise production at the source while maintaining blasting production. Oceanit performed many years of extensive fluid dynamic modeling, lab analysis, field trials, and rigorous operator testing in various conditions to arrive at the final Blast Ninja™ product.



OSHA Advantage - Longer Blast Times

OSHA has implemented noise exposure limits for the worker's health and safety. Exposure to high levels of noise can lead to: hearing loss, tinnitus (ringing in the ear), stress, anxiety, high blood pressure, gastrointestinal problems, and chronic fatigue. As a rule of thumb, **every 3 dB change represents a halving** of sound energy. The table below provides guidance on how long someone can be safely exposed to different noise levels without wearing hearing protection.

Noise Level dB(A)	Maximum Exposure Time (in an 8-hour working day/shift)
85	8 hours (Wearing hearing protection in the workplace is mandatory)
88	4 hours
91	2 hours
94	1 hour
97	30 minutes
100	15 minutes
103	7.5 minutes
106	3.7 minutes
109	112 seconds
112	56 seconds
115	28 seconds
118	14 seconds
121	7 seconds
124	3 seconds
127	1 second
130 - 140	Less than 1 second
140	NO EXPOSURE (Human pain threshold)

Note: Maximum exposure time halves with every increase of 3dB(A).

At 115 dB, the average volume of abrasive blasting operations, OSHA regulations allow for just 15 minutes of exposure. In certain conditions, Blast Ninja™ can meet OSHA's noise standard compliance 29 CFR 1910.95 of four hours of exposure. Per OSHA requirements, better hearing protection does not reduce worker noise exposure. Only by reducing sound at its source will a worker experience non-hazardous noise.

In certain conditions, Blast Ninja™ can meet OSHA's noise standard compliance 29 CFR 1910.95 of four hours of exposure, meaning that operators are protected, and productive work time is improved. The standard uses a 5 dBA exchange rate; so for every 5 dBA TWA increase in noise permissible exposure time is cut in half. The reduction in employee exposure to hazardous noise to below the OSHA 8-Hour Time Weighted Average alleviates employer's need to modify employees' current practices, reduces the likelihood of injury in the case of PPE failure, and ensures that personnel in adjacent "safe zones" are guaranteed to be safe from exposure.

Blast Ninja™ Increases Nozzle Production Rates

In certain conditions, Blast Ninja™ nozzles have been shown to increase production rates compared with conventional venturi nozzles, delivering additional value to the blast operator and business.

Advantages:

- Reduction in hazardous noise exposure by up to 17 dB(A)
- Expected nozzle life similar to conventional tungsten carbide and silicon nitride nozzles
- Strip rate equal to, or better than standard venturi nozzles
- Stand further back with an improved blast pattern
- Greatly reduced incidence of operator hearing damage
- Reduced OSHA noise citations

Blast Ninja™ nozzles set the new standard in performance, worker safety, and productivity.

The Blast Ninja™ Family of Nozzles

Choosing the right blast nozzle for each application is a matter of understanding the variables that affect cleaning performance, time, and costs. For maximum productivity, operators should select the nozzle bore size based on the desired blast pressure and the available air pressure and flow.

Blast Ninja™ is available in a range of nozzle orifice sizes to suit most jobs. Optimal performance is attained when the blast nozzle size is properly matched to the blast machine piping, blast hose, and air hose. The hose Inner-Diameter should be three to four times the size of the nozzle orifice.

Performance and figures may vary depending on working conditions and environmental factors. To maintain desired air pressure as nozzle orifice wears, air consumption increases. The effects of nozzle wear on air consumption must be considered when selecting nozzles and the compressors that support them.

Avoid dropping the nozzle or banging it against objects as nozzle materials can break.

Catalog Number	Bore Diameter	Color	Threads	Liner Materials	Thread Style
SH-4AP	1/4"	Black	Polyurethane	Tungsten Carbide	1-1/4"
SH-450AP	1/4"	Black	Polyurethane	Tungsten Carbide	50mm
SH-5AP	5/16"	Black	Polyurethane	Tungsten Carbide	1-1/4"
SH-550AP	5/16"	Black	Polyurethane	Tungsten Carbide	50mm
SH-6AP	3/8"	Black	Polyurethane	Tungsten Carbide	1-1/4"
SH-650AP	3/8"	Black	Polyurethane	Tungsten Carbide	50mm
SH-4P-PRO	1/4"	Red	Brass	BP200 SiAlON	1-1/4"
SH-450P-PRO	1/4"	Red	Aluminum	BP200 SiAlON	50mm
SH-5P-PRO	5/16"	Red	Brass	BP200 SiAlON	1-1/4"
SH-550P-PRO	5/16"	Red	Aluminum	BP200 SiAlON	50mm
SH-6P-PRO	3/8"	Red	Brass	BP200 SiAlON	1-1/4"
SH-650P-PRO	3/8"	Red	Aluminum	BP200 SiAlON	50mm

Always use a new gasket or washer with your Blast Ninja™ nozzle. This can help prevent the nozzle's entry throat from being eroded away. Inspect and, if necessary, replace the gasket or washer after every 10 to 20 hours of use.

WARNING: Always inspect nozzles before use for damage and wear. Never used a cracked or damaged nozzle. If nozzle is worn, blasting efficiency will be reduced.