Elcometer's range of high performance blast nozzles are both rugged and lightweight and are designed to minimise operator fatigue.

SELECTING A BLAST NOZZLE - it's as easy as 1, 2, 3

1. Choose Your Nozzle Bore Size

For maximum productivity, select the nozzle bore size from the table below, based on the desired blast pressure, available air pressure and volume of air flow. Elcometer supply a wide range of nozzle orifice sizes from 3.2mm (⅛") to 19mm (¾") internal diameter.

Nozzle Bore Size

Using a larger nozzle orifice size produces a greater blast coverage area but requires a greater air capacity (cfm or m^3/min) to 'power' the nozzle. A smaller nozzle size will typically produce a narrower blast pattern and consume less air. To maximise the potential benefits of using a larger nozzle diameter it is essential to 'supply' the nozzle with the correct air & media mix at sufficient speed and pressure. The choice of nozzle is therefore determined by the available air flow produced by the compressor. If a larger nozzle is chosen then to blast efficiently, a higher air capacity is required.

The table below shows the correlation between volume of air, nozzle size and nozzle pressure and is often used in the industry to select nozzle size. Its real benefit is to select the optimum nozzle size for the nozzle pressure required to carry out the job. If the user requires a nozzle pressure of 100psi (6.89bar) for optimum blasting and is using a ½" #8 nozzle diameter then they would need a 340cfm (9.63m^3/min) rated compressor. If a 222cfm compressor was used then the resultant nozzle pressure using the same #8 nozzle would be reduced from 100psi to 60psi (4.14bar), meaning the blast efficiency would be reduced by 50%.

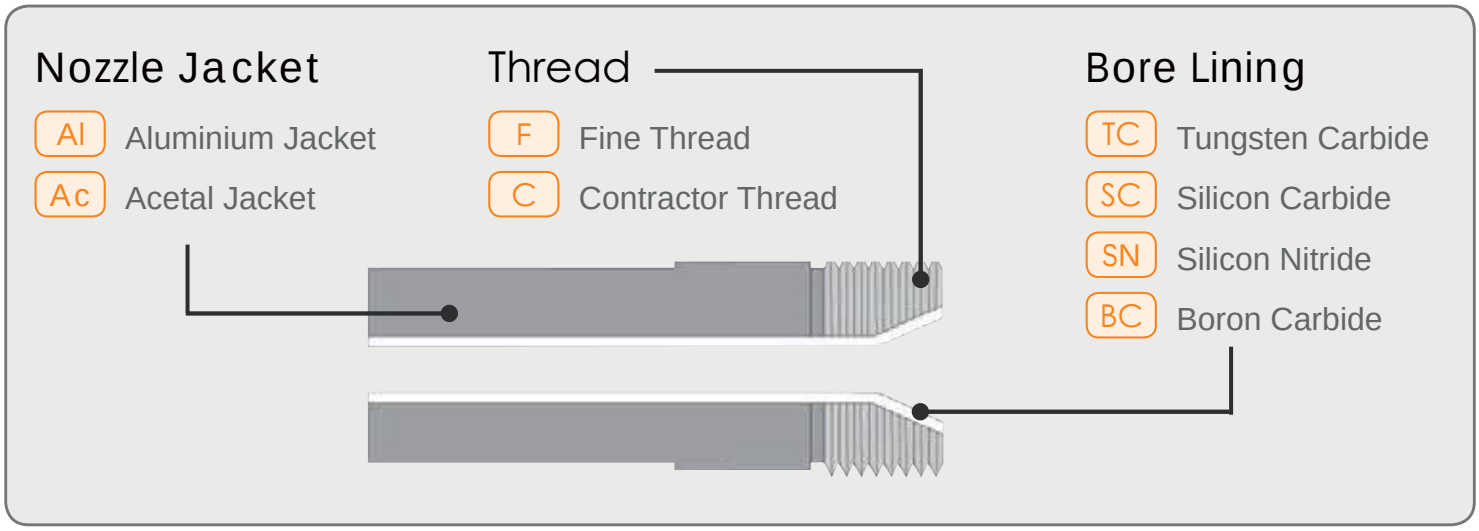
Volume of Air - cfm (m^3/min)	Nozzle Pressure psi (bar)								Nozzle Size & Orifice Diameter
	50 (3.45)	**60 (4.14)**	**70 (4.83)**	**80 (5.52)**	**90 (6.21)**	**100 (6.89)**	**125 (8.62)**	**150 (10.34)**	
	12 (0.34)	13 (0.37)	15 (0.42)	17 (0.48)	19 (0.54)	21 (0.59)	25 (0.71)	29 (0.82)	**#2** 3.2mm - ⅛"
	25 (0.71)	30 (0.85)	34 (0.96)	38 (1.10)	42 (1.19)	46 (1.30)	56 (1.59)	67 (1.90)	**#3** 4.8mm - 3⁄16"
	47 (1.33)	54 (1.53)	61 (1.73)	68 (1.93)	75 (2.12)	81 (2.30)	98 (2.77)	115 (3.26)	**#4** 6.35mm - ¼"
	76 (2.15)	89 (2.52)	101 (2.86)	114 (3.22)	126 (3.56)	138 (3.90)	169 (4.78)	200 (5.66)	**#5** 8mm 5⁄16"
	107 (3.02)	125 (3.54)	143 (4.04)	161 (4.55)	179 (5.06)	197 (5.57)	242 (6.85)	287 (8.12)	**#6** 9.5mm - ⅜"
	149 (4.21)	171 (4.84)	193 (5.46)	215 (6.09)	237 (6.71)	259 (7.33)	314 (8.89)	369 (10.44)	**#7** 11mm - 7⁄16"
	193 (5.46)	222 (6.28)	252 (7.13)	281 (7.95)	310 (8.77)	340 (9.63)	412 (11.66)	485 (13.73)	**#8** 12.5mm - ½"
	305 (8.63)	353 (9.99)	401 (11.35)	449 (12.71)	497 (14.07)	545 (15.43)	665 (18.83)	785 (22.22)	**#10** 16mm - ⅝"
	401 (11.35)	488 (13.81)	574 (16.25)	661 (18.71)	747 (21.15)	833 (23.58)	1050 (29.73)	1266 (35.84)	**#12** 19mm - ¾"

The figures in the table are approximate calculations based on a new/unused nozzle.

SELECTING A BLAST NOZZLE

2. Choose Your Thread, Jacket and Lining

Once you have determined the nozzle size, you now need to choose the material of the bore lining inside the nozzle and the material of the jacket protecting the bore. You also need to consider which style of thread best suits your needs; fine thread or contractor thread.



Nozzle Jacket

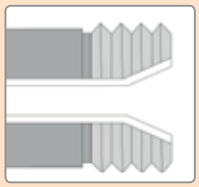
Ac Acetal Jacket

Elcometer's acetal jackets are lightweight whilst still providing impact protection.

Al Aluminium Jacket

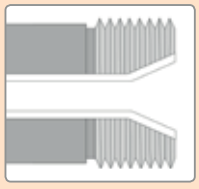
Elcometer's aluminium jackets offer a very high level of protection against impact damage.

Threads



C Contractor Thread 51mm (2") Thread

The contractor thread has become the industry standard, at 4½ threads per inch (TPI), this style greatly reduces the chance of cross threading and is much easier to attach than a fine thread. Contractor threads are safer at high pressures and reduces chance of binding/ galling.



F Fine Thread 19mm (¾") Thread

Fine threads are typically used on smaller diameter hoses and are used with the Elcometer 1020 Abrasive Blast Machine.

Bore Lining

TC Tungsten Carbide

The least durable of the carbide nozzles, but relatively inexpensive & resistant to impact. Ideal for areas when rough handling can't be avoided and mineral, glass or coal slag abrasives are being used.

SC Silicon Carbide

Impact resistant and durable, like tungsten carbide, but approximately one-third of the weight, causing less operator strain. Ideal for jobs that require long periods of blasting.

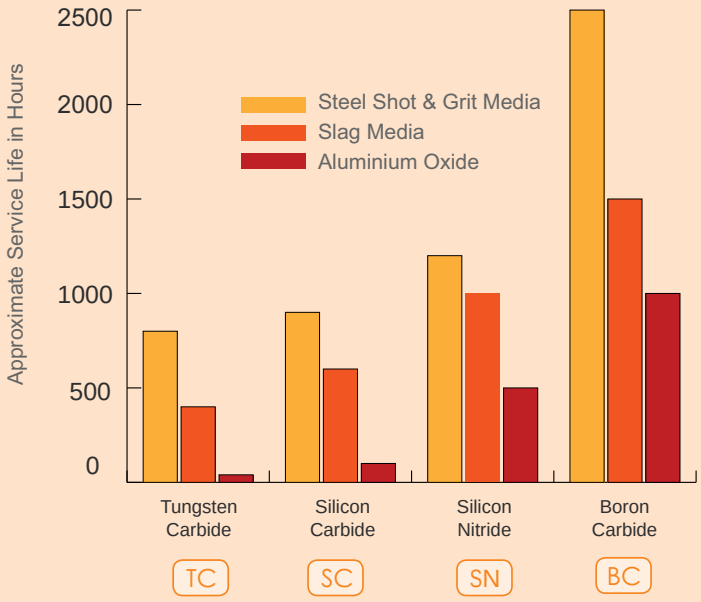
SN Silicon Nitride

Silicon Nitride has outstanding wear resistant properties and as it is up to 50% lighter than other nozzles of the same size, can significantly reduce operator fatigue.

BC Boron Carbide

Extremely hard wearing, durable and up to ten times the longevity of tungsten carbide. Ideal for aggressive abrasives.

Nozzle Service Life in Hours*



Replacing Your Blast Nozzle

A small increase in the nozzle size will result in a very large increase in air and abrasive consumption and adversely affect blasting efficiency. To ensure your nozzle provides continuous high production, as a general rule, replace your nozzle when the orifice wears by 1 nozzle size, when a #2 nozzle becomes the size of a #3 nozzle, for example.

The **Elcometer 103 Blast Nozzle Gauge** can accurately and easily measure your blast nozzle's orifice size. See **page 9-2** for more information.

*Estimated values for comparison. Actual service life will vary depending on blast pressure, media size and particle shape.

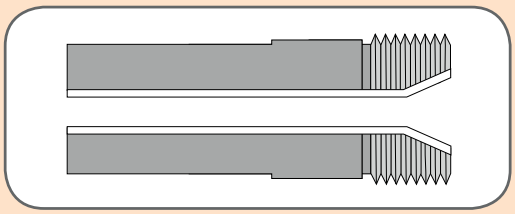
SELECTING A BLAST NOZZLE

3. Choose Your Bore Shape

In order to achieve maximum blast performance it is important to choose the correct bore shape for your application. A nozzle's bore shape determines its blast pattern. Nozzles come in two basic shapes: straight bore and Venturi bore, with several variations of Venturi bore nozzles available.

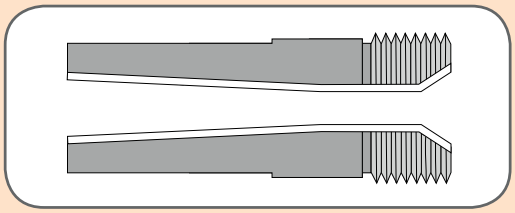
SB Straight Bore Nozzles

Straight bore nozzles create a tight blast pattern for spot blasting or blast cabinet work. Ideal for smaller jobs such as parts cleaning, weld seam shaping, cleaning handrails, steps, grillwork or carving stone and other materials.



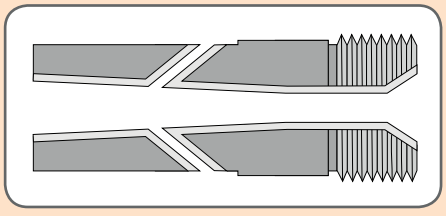
VB Venturi Bore Nozzles

Featuring a converging entry and a diverging exit, Venturi nozzles create a wide blast pattern and increase abrasive velocity. Venturi nozzles are ideal for greater productivity when blasting larger surfaces.



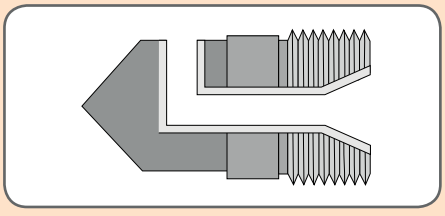
Other Nozzles

As well as the standard straight and Venturi nozzles, Elcometer also supply double Venturi nozzles, angled nozzles and nozzles with water jet systems, to suit your specific application.



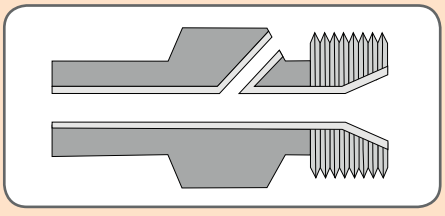
DV Double Venturi

Featuring a wide exit opening with holes at the diverging end to allow the insertion of atmospheric air into the downstream segment, increasing the size of the blast pattern and abrasive velocity.



AN Angled Nozzles

Angled blast nozzles are ideal for when blasting is required inside pipes, behind ledges, flanges of beams, inside cavities or other hard-to-reach places.



WJ Water Jet System

The water jet system mixes water with the abrasive inside a chamber within the jacket, reducing the amount of dust placed into the atmosphere. Ideal for harder abrasives when dust control is needed.

Tungsten Carbide Venturi Blast Nozzle with Aluminium Jacket

Designed to create a wide blast pattern and increased velocity, the Tungsten Carbide Venturi Blast Nozzle with Aluminium Jacket is ideal for blasting large surfaces. Supplied with a rubber gasket, this general purpose blast nozzle features a tungsten carbide insert and aluminium jacket providing durability and toughness.

TC Al VB

Technical Specification

Part Number Contractor Thread	Nozzle No.	Orifice Diameter	Length	Entry Diameter
MT28318-3C	#3	4.8mm (3⁄16")	140mm (5.51")	32mm (1.26")
MT28318-4C	#4	6.35mm (1⁄4")	140mm (5.51")	32mm (1.26")
MT28318-5C	#5	8mm (5⁄16")	150mm (5.9")	32mm (1.26")
MT28318-6C	#6	9.5mm (3⁄8")	175mm (6.89")	32mm (1.26")
MT28318-7C	#7	11mm (7⁄16")	205mm (8.07")	32mm (1.26")
MT28318-8C	#8	12.5mm (1⁄2")	235mm (9.25")	32mm (1.26")
MT28318-10C	#10	16mm (5⁄8")	235mm (9.25")	32mm (1.26")
MT28318-12C	#12	19mm (3⁄4")	235mm (9.25")	32mm (1.26")

Tungsten Carbide Venturi Blast Nozzle with Acetal Jacket

Built to be impact resistant and long wearing, the Tungsten Carbide Venturi Blast Nozzle with Acetal Jacket is ideal for use with aggressive abrasives. Supplied with a rubber gasket, the nozzle's acetal jacket protects the tungsten carbide liner, prolonging it's lifespan whilst keeping the nozzle lightweight, causing less operator strain and increasing productivity.

TC Ac VB

Technical Specification

Part Number Contractor Thread	Nozzle No.	Orifice Diameter	Length	Entry Diameter
MT28337-3C	#3	4.8mm (3⁄16")	140mm (5.51")	32mm (1.26")
MT28337-4C	#4	6.35mm (1⁄4")	140mm (5.51")	32mm (1.26")
MT28337-5C	#5	8mm (5⁄16")	150mm (5.9")	32mm (1.26")
MT28337-6C	#6	9.5mm (3⁄8")	175mm (6.89")	32mm (1.26")
MT28337-7C	#7	11mm (7⁄16")	205mm (8.07")	32mm (1.26")
MT28337-8C	#8	12.5mm (1⁄2")	235mm (9.25")	32mm (1.26")
MT28337-10C	#10	16mm (5⁄8")	235mm (9.25")	32mm (1.26")
MT28337-12C	#12	19mm (3⁄4")	235mm (9.25")	32mm (1.26")

TC Tungsten Carbide Al Aluminium Jacket Ac Acetal Jacket VB Venturi Bore

Tungsten Carbide Double Venturi Blast Nozzle with Aluminium Jacket

This nozzle offers a 35% larger blast pattern than a standard Venturi nozzle with only a small loss in abrasive velocity. Designed to be used on jobs where a more even dispersion of abrasive is required through a larger blast pattern. Supplied with a rubber gasket, it is ideally suited for use with plastic and cereal type abrasive media.

TC AI DV

Technical Specification

Part Number Contractor Thread	Nozzle No.	Orifice Diameter	Length	Entry Diameter
MT28346-4C	#4	6.35mm (¼")	149mm (5.86")	25mm (0.98")
MT28346-5C	#5	8mm (5⁄16")	162mm (6.37")	25mm (0.98")
MT28346-6C	#6	9.5mm (⅜")	176mm (6.92")	25mm (0.98")
MT28346-7C	#7	11mm (7⁄16")	216mm (8.50")	25mm (0.98")
MT28346-8C	#8	12.5mm (½")	235mm (9.25")	25mm (0.98")

Tungsten Carbide Straight Bore Nozzle (for 10") with Aluminium Jacket

Ideal for close up cleaning of small parts, this blast nozzle features a tungsten carbide liner encased in an aluminium jacket, offering the greatest resistance to impact or flexing. Supplied with a rubber gasket, these nozzles are suitable for use with the Elcometer 1020 Abrasive Blast Machine.

TC AI SB

Technical Specification

Part Number ¾" (19mm) Fine Thread	Nozzle No.	Orifice Diameter	Length	Entry Diameter
MT29472-2F	#2	3.2mm (⅛")	45mm (1.77")	13mm (0.51")
MT29472-3F	#3	4.8mm (3⁄16")	45mm (1.77")	13mm (0.51")
MT29472-4F	#4	6.35mm (¼")	45mm (1.77")	13mm (0.51")
MT29472-5F	#5	8mm (5⁄16")	45mm (1.77")	13mm (0.51")
MT29472-6F	#6	9.5mm (⅜")	45mm (1.77")	13mm (0.51")
MT29472-8F	#8	12.5mm (½")	45mm (1.77")	13mm (0.51")

TC Tungsten Carbide AI Aluminium Jacket DV Double Venturi SB Straight Bore

Tungsten Carbide 45° Angled Liner with Aluminium Jacket

Ideal for getting inside tight or hard to reach places such as behind flanges, around corners or inside pipes, this angled nozzle with rubber gasket is compact, shoots out abrasive at a 45° angle and has an aluminium jacket providing strength and endurance.

TC Al AN

Technical Specification

Part Number Contractor Thread	Nozzle No.	Orifice Diameter	Number of Holes	Length	Entry Diameter
MT28442-2C	#2	3.2mm (⅛")	1	88mm (3.46")	25mm (0.98")
MT28443-2C	#2	3.2mm (⅛")	2	88mm (3.46")	25mm (0.98")
MT28444-2C	#2	3.2mm (⅛")	3	88mm (3.46")	25mm (0.98")
MT28442-3C	#3	4.8mm (3⁄16")	1	88mm (3.46")	25mm (0.98")
MT28443-3C	#3	4.8mm (3⁄16")	2	88mm (3.46")	25mm (0.98")
MT28444-3C	#3	4.8mm (3⁄16")	3	88mm (3.46")	25mm (0.98")
MT28442-4C	#4	6.35mm (¼")	1	88mm (3.46")	25mm (0.98")
MT28443-4C	#4	6.35mm (¼")	2	88mm (3.46")	25mm (0.98")
MT28444-4C	#4	6.35mm (¼")	3	88mm (3.46")	25mm (0.98")
MT28442-5C	#5	8mm (5⁄16")	1	88mm (3.46")	25mm (0.98")
MT28443-5C	#5	8mm (5⁄16")	2	88mm (3.46")	25mm (0.98")
MT28444-5C	#5	8mm (5⁄16")	3	88mm (3.46")	25mm (0.98")
MT28442-6C	#6	9.5mm (⅜")	1	88mm (3.46")	25mm (0.98")
MT28443-6C	#6	9.5mm (⅜")	2	88mm (3.46")	25mm (0.98")
MT28444-6C	#6	9.5mm (⅜")	3	88mm (3.46")	25mm (0.98")

Silicon Carbide Venturi Nozzle with Acetal Jacket

The Silicon Carbide Venturi Nozzle features an acetal jacket offering high impact protection. Designed to have a prolonged lifespan, this nozzle is ideal for use with harder abrasives such as chilled iron and aluminium oxide. Supplied with a rubber gasket, the nozzles have a silicon carbide liner which offers impact resistance and durability whilst remaining lightweight.

SC Ac VB

Technical Specification

Part Number Contractor Thread	Nozzle No.	Orifice Diameter	Length	Entry Diameter
MT28324-3C	#3	4.8mm (3⁄16")	140mm (5.51")	32mm (1.26")
MT28324-4C	#4	6.35mm (¼")	140mm (5.51")	32mm (1.26")
MT28324-5C	#5	8mm (5⁄16")	150mm (5.9")	32mm (1.26")
MT28324-6C	#6	9.5mm (⅜")	175mm (6.89")	32mm (1.26")
MT28324-7C	#7	11mm (7⁄16")	205mm (8.07")	32mm (1.26")
MT28324-8C	#8	12.5mm (½")	235mm (9.25")	32mm (1.26")

TC Tungsten Carbide SC Silicon Carbide Al Aluminium Jacket Ac Acetal Jacket VB Venturi Bore AN Angled Nozzle

Silicon Nitride “Syalon" Venturi Nozzle with Acetal Jacket

Designed to be hard wearing and long lasting, these blast nozzles feature a silicon nitride liner which reduces nozzle weight by approximately 50%. Supplied with a rubber gasket, the nozzle offers high temperature resistant properties, making it resistant to corrosion by many acids and alkalis. The acetal jacket also offers improved impact protection.

SN Ac VB

Technical Specification

Part Number Contractor Thread	Nozzle No.	Orifice Diameter	Length	Entry Diameter
MT28446-4C	#4	6.35mm (¼")	140mm (5.51")	32mm (1.26")
MT28446-5C	#5	8mm (5⁄16")	150mm (5.9")	32mm (1.26")
MT28446-6C	#6	9.5mm (⅜")	175mm (6.89")	32mm (1.26")
MT28446-7C	#7	11mm (7⁄16")	205mm (8.07")	32mm (1.26")
MT28446-8C	#8	12.5mm (½")	235mm (9.25")	32mm (1.26")

Boron Carbide Venturi Nozzle with Aluminium Jacket and Rubber Sleeve

Featuring a liner made from hot-pressed boron carbide, this nozzle offers chemical and wear resistance properties, making it ideal for abrasives such as garnet, aluminium oxide and steel grit. As well as being heat and corrosion resistant, the nozzle’s aluminium jacket makes it lightweight and its rubber sleeve is shock absorbent, preserving the internal liner. The nozzles are supplied with a rubber gasket.

BC Al VB

Technical Specification

Part Number Contractor Thread	Nozzle No.	Orifice Diameter	Length	Entry Diameter
MT28418-3C	#3	4.8mm (3⁄16")	135mm (5.31")	32mm (1.26")
MT28418-4C	#4	6.35mm (¼")	140mm (5.51")	32mm (1.26")
MT28418-5C	#5	8mm (5⁄16")	145mm (5.70")	32mm (1.26")
MT28418-6C	#6	9.5mm (⅜")	170mm (6.69")	32mm (1.26")
MT28418-7C	#7	11mm (7⁄16")	190mm (7.48")	32mm (1.26")
MT28418-8C	#8	12.5mm (½")	220mm (8.66")	32mm (1.26")
The following nozzles are longer in length (350mm/13.77"):				
MT28439-6XLC	#6	9.5mm (⅜")	350mm (13.77")	32mm (1.26")
MT28439-7XLC	#7	11mm (7⁄16")	350mm (13.77")	32mm (1.26")
MT28439-8XLC	#8	12.5mm (½")	350mm (13.77")	32mm (1.26")

SN Silicon Nitride BC Baron Carbide Al Aluminium Jacket Ac Acetal Jacket VB Venturi Bore

Tungsten Carbide Venturi Liner with Aluminium Jacket & Water Jet System

Ideal for use in situations when dust control is needed, this nozzle mixes water with the abrasive, reducing the amount of dust displaced into the atmosphere. Featuring an aluminium jacket which provides strength and endurance, this nozzle is recommended for use with harder abrasives. The nozzles are supplied with a rubber gasket.

TC AI WJ

Technical Specification

Part Number Contractor Thread	Nozzle No.	Orifice Diameter	Length	Entry Diameter
MT28326-3C	#3	4.8mm (3⁄16")	120mm (4.72")	25mm (0.98")
MT28326-4C	#4	6.35mm (1⁄4")	150mm (5.9")	25mm (0.98")
MT28326-5C	#5	8mm (5⁄16")	160mm (6.3")	25mm (0.98")
MT28326-6C	#6	9.5mm (3⁄8")	175mm (6.89")	25mm (0.98")
MT28326-7C	#7	11mm (7⁄16")	210mm (8.27")	25mm (0.98")
MT28326-8C	#8	12.5mm (1⁄2")	230mm (9.05")	25mm (0.98")

Rubber Nozzle Gaskets

All Elcometer blast nozzles are supplied with a rubber gasket which is suitable for use with nylon blast nozzle holders. Elcometer aluminium blast nozzle holders are supplied with the correct rubber gasket for use with Elcometer blast nozzles. Please refer to the table below for compatibility of replacement gaskets.

Available in packs of 5 or 25 and a range of sizes, Elcometer rubber gaskets should be placed in between the nozzle and the nozzle holder to help reduce loss of pressure.

Technical Specification

Part Number		Blast Nozzle		Compatible with Blast Nozzle Holder	
Pack of 5	Pack of 25	Entry Diameter	Thread Type	Nylon	Aluminium
MT29212-13F-5	MT29212-13F-25	13mm (0.51")	¾" (19mm) Fine	●	●
MT29212-25CN-5	MT29212-25CN-25	25mm (0.98")	2" (51mm) Contractor	●	
MT29212-2532CA-5	MT29212-2532CA-25	25mm (0.98")	2” (51mm) Contractor		●
MT29212-32CN-5	MT29212-32CN-25	32mm (1.26")	2” (51mm) Contractor	●	
MT29212-2532CA-5	MT29212-2532CA-25	32mm (1.26")	2” (51mm) Contractor		●

TC Tungsten Carbide AI Aluminium Jacket WJ Water Jet System