

# NOZZLES

## Abrasive Blast Nozzles



# Abrasive Blast Nozzles

Productivity in the  
Most Demanding  
Environments







## Setting the Standard in Abrasive Nozzle Technology

Every day throughout the world, abrasive waterjet and blasting nozzles from Kennametal set the standard in performance and productivity.

With our unique family of tungsten carbide, boron carbide, SiAlON and ROCTEC® composite carbide nozzles, Kennametal delivers exceptional wear resistance and unmatched performance for your most demanding environments.

Our exclusive ROCTEC® line of abrasive waterjet nozzles are made using our proprietary manufacturing processes and composite carbide material. Created with a unique blend of “binderless”, ultra-fine sub-micron grades, ROCTEC® nozzles are proven to last up to 30% longer than industry standard.

Longer tool life enables you to experience greater dimensional accuracy, faster cutting speeds, and less downtime for replacement — increasing the productivity of your applications.

## Kennametal Delivers Value with Abrasive Blast Nozzles

Kennametal is a leading manufacturer of blast nozzles and related flow control devices for contractor abrasive blasting in the construction industry, and for suction and pressure blast cabinets in the manufacturing industry. Offering tungsten carbide, BP200 SiAlON, boron carbide, and aluminum oxide nozzles and inserts in hundreds of sizes and styles, Kennametal can provide the solution to meet your every need.

### ■ Selection

We offer standard replacement products as well as higher performance upgrades for most OEM products to allow you to achieve optimum blasting effectiveness and efficiency.

### ■ Quality

We specialize in understanding material systems from the microstructural level to the finished part. Our materials are engineered to match the finished nozzle design — and we utilize only the finest raw materials and expert workmanship to deliver the highest quality products for your applications.

### ■ Expertise

When you call us for help, you gain instant access to our nozzle experts to diagnose and solve your toughest blasting challenges. Our sales staff has a vast array of nozzle knowledge and blasting applications experience.

### ■ Quick Response Time

When a nozzle fails, you need a replacement fast. That's why we ship nearly all of our orders within 24 hours.



## Your Source for Engineered Wear Solutions

Kennametal also manufactures a host of advanced ceramic-engineered wear parts for the automotive, aerospace, utility, electronics, and machine tool industries. These products consistently deliver unsurpassed wear resistance in abrasion, erosion, corrosion, and thermal heat management.

## High Quality, High Performance

At Kennametal, performance is designed into every nozzle we manufacture. We select only high-performance materials to provide extended durability, and use optimum manufacturing methods including hot pressing, sintering, and rapid omnidirectional compaction (ROC) technologies that result in consistent, high-quality part performance.

## The Wear Parts Experts

Our mission is to offer outstanding performance and value in everything we do. As a global leader in complex metallurgy and material science, our resources allow us to solve your most complex wear and performance problems.

Advanced materials, innovative design, and an uncompromising adherence to rigorous quality-control procedures have made Kennametal the industry benchmark for cost-effective performance.

Kennametal offers abrasive and flow control nozzles for every application:

- Abrasive Waterjet
- Dry Blasting
- Wet Blasting
- Suction Blast
- Mirco Abrasive
- Scrubber
- Descaling
- Slurry Jet
- Spray Drying
- Centrifuge





**Increase production  
without adding cost.  
That's Different Thinking.  
That's Kennametal.**

XL Performance nozzles are manufactured with BP200 SiAlON material to minimize nozzle weight and overall operator fatigue. These products increase production without adding cost, making your application more efficient.

## **Innovation, Knowledge & Strength**

Inside you'll find nozzles for nearly every abrasive blasting job. You'll also find tips and guidelines on nozzle selection to optimize your investment in our products.



To download the Kennametal Abrasive Blast Nozzle catalog, take advantage of technical support (featuring frequently asked questions), benefit from our blast nozzle cross reference guide, and request an online quotation for any special nozzles or applications please visit **[www.kennametal.com](http://www.kennametal.com)**.





# LESS ENVIRONMENTAL IMPACT

To learn more about our sustainable solutions for your industry, please contact your Kennametal Representative or Authorized Kennametal Distributor, or visit [www.kennametal.com](http://www.kennametal.com).

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| ■ BP200 SiAlON Wide Throat     |    |
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| ■ Boron Carbide                |    |
| BLVE Series                    | 22 |
| ■ Boron Carbide Wide Throat    |    |
| B159 Series                    | 24 |

#### Medium Nozzles

|                    |    |
|--------------------|----|
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| T120 Series        | 24 |
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|--------------------|----|
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|-------------------|----|

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|--------------------|----|
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## Important Safety Information

Increase production without adding cost.



That's **Different Thinking.**

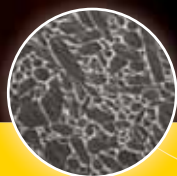
### XL Performance nozzles

are manufactured with **BP200 SiAlON** material to minimize nozzle weight and overall operator fatigue. These products increase production without adding cost, making your application more efficient.

A blast nozzle that weighs less and works harder. Now that's Different Thinking. That's Kennametal.

#### Microstructure of BP200 SiAlON

Elongated grains provide increased toughness over competitive lightweight ceramic nozzles



Increased abrasive velocity

Increased production

Reduced abrasive and labor costs

Lightweight/minimized fatigue

Standard air requirements

Lower compressor fuel costs



[www.kennametal.com](http://www.kennametal.com)

## A Guide to Blasting Nozzle Selection

Choosing the right blast nozzle for each application is simply a matter of understanding the variables that affect cleaning performance and job costs. There are four basic questions to answer for optimum cost/performance.

### 1. What Blast Pattern Do You Want?

A nozzle's bore shape determines its blast pattern. Nozzles generally have either a straight bore or a restricted venturi bore. **Straight Bore Nozzles** (Figure 1, Number 1) create a tight blast pattern for spot blasting or blast cabinet work. These are best for smaller jobs such as parts cleaning, weld seam shaping, cleaning handrails, steps, grillwork, or carving stone, and other materials. **Venturi Bore Nozzles** (Figure 1, Numbers 2 and 3) create a wide blast pattern and increase abrasive velocity as much as 100% for a given pressure. Venturi nozzles are the best choice for greater productivity when blasting larger surfaces. Long venturi style nozzles like the BRUISER™ blasting nozzles, for example, yield about a 40% increase in productivity compared to straight bore nozzles, while abrasive consumption can be cut approximately 40%.

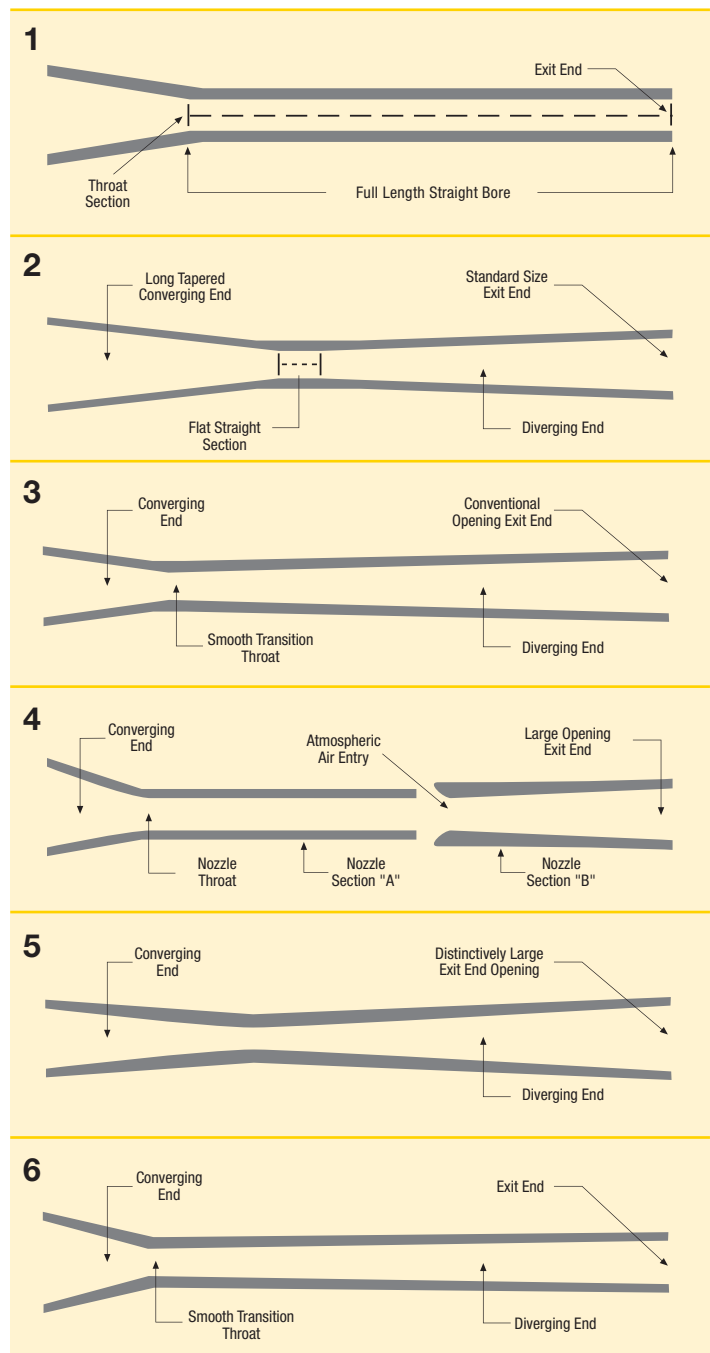
Double venturi and wide throat nozzles are enhanced versions of the long venturi style nozzle.

The **Double Venturi** style (Figure 1, Number 4) can be thought of as two nozzles in a series with a gap and holes in between to allow the insertion of atmospheric air into the downstream segment of the nozzle. The exit end is also wider than a conventional nozzle. Both modifications are made to increase the size of the blast pattern and minimize the loss of abrasive velocity.

**Wide Throat Nozzles** (Figure 1, Number 5) feature a large entry throat and a large, diverging exit bore. When matched with the same sized

■ **Figure 1. Nozzle Types**

- |                                     |                   |
|-------------------------------------|-------------------|
| 1. Straight Bore                    | 4. Double Venturi |
| 2. Conventional Design Long Venturi | 5. High Pressure  |
| 3. Laminar Flow Design Long Venturi | 6. High Velocity  |



hose they can provide a 15% increase in productivity over nozzles with a smaller throat. When wide throat nozzles also feature a larger diverging exit bore (e.g., BAZOOKA™ nozzle), they can be used at higher pressures to yield up to a 60% larger pattern with lower abrasive use.

**XL Performance** (Figure 1, Number 6) nozzles increase abrasive particle velocity, allowing for increased stand-off distance, resulting in improved production rates and efficiencies.

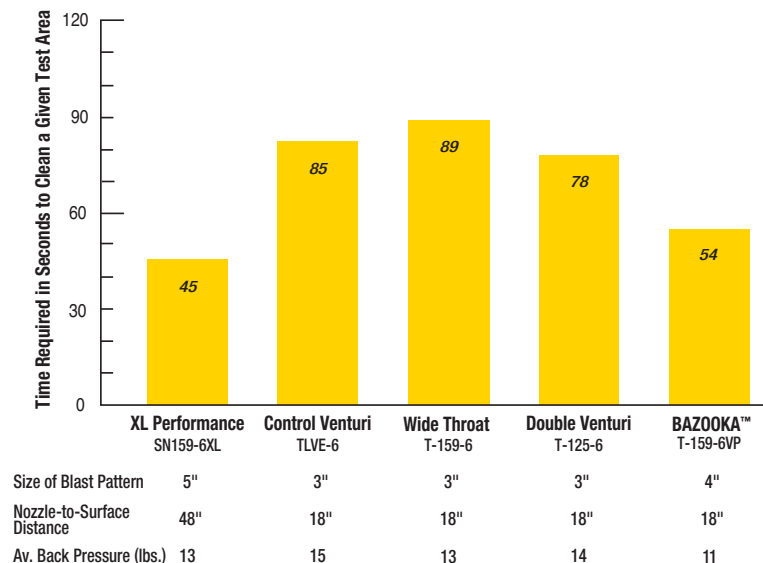
It's also a good idea to have angle nozzles available for tight spots like bridge lattice, behind flanges, or inside pipes. Many operators waste abrasive and time waiting for ricochet to get the job done. The little time it takes to switch to an angle nozzle is always quickly recovered, and total time on the job is reduced.

## 2. Can Your Compressed Air Supply Support the Nozzle?

As a general rule, the air supply system should be able to provide at least 50% more air volume (cfm) than a new nozzle in order to develop the required working blasting pressure, whether that is 100 psi or 140 psi. This ensures a nozzle can continue to provide good service even after it is slightly worn. Remember, excessive wear should be avoided to prevent a dramatic decrease in productivity.

In addition, the nozzle entry throat must match the inside diameter of your air supply hose. The wrong size combination can lead to wear points, pressure drop, and excessive internal turbulence.

**Figure 2. Nozzle Performance Comparison**



Data compares the time required for different nozzles to clean a given test area based on the nozzle's blast pattern. Also shown is the average back pressure exerted by each nozzle, an indicator of the effect of nozzle selection on operator fatigue.

**Matching Nozzle Size and Compressor Size for Required Production Rate**

| production rate required (sq. ft./hr) | blast nozzle orifice | production rate at 100 psi nozzle pressure | production rate at 90 psi nozzle pressure | production rate at 80 psi nozzle pressure | compressor size cfm at 100 psi nozzle pressure |
|---------------------------------------|----------------------|--------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------|
| Up to 100                             | 1/4"                 | 100                                        | 85                                        | 70                                        | 185 cfm 40 – 50 h,p,                           |
| 101 – 160                             | 5/16"                | 160                                        | 136                                       | 112                                       | 250 cfm 60 – 75 h,p,                           |
| 161 – 230                             | 3/8"                 | 230                                        | 195                                       | 161                                       | 375 cfm 75 – 100 h,p,                          |
| 231 – 317                             | 7/16"                | 317                                        | 270                                       | 222                                       | 450 cfm 125 h,p,                               |
| 318 – 400                             | 1/2"                 | 400                                        | 340                                       | 280                                       | 600 cfm 150 h,p,                               |

This chart is estimated and based upon use of a long venturi nozzle, SSPC-6 commercial blast specification.

**Nozzle Pressure, Abrasive Velocity, and Efficiency**

| blast nozzle pressure | estimated abrasive velocity | estimated efficiency factor |
|-----------------------|-----------------------------|-----------------------------|
| 140 psi               | 588 mph                     | 160%                        |
| 125 psi               | 525 mph                     | 138%                        |
| 110 psi               | 462 mph                     | 115%                        |
| 100 psi               | 420 mph                     | 100%                        |
| 95 psi                | 400 mph                     | 93%                         |
| 90 psi                | 365 mph                     | 85%                         |
| 85 psi                | 330 mph                     | 78%                         |
| 80 psi                | 270 mph                     | 70%                         |
| 75 psi                | 210 mph                     | 63%                         |
| 70 psi                | 190 mph                     | 55%                         |



## Nozzle Air and Pressure Requirements Chart

### ■ Nozzle Pressure – PSI (Bar)

| nozzle orifice<br>mm (in)   | air, power,<br>and abrasive<br>requirements | 50 psi<br>(3,45 bar) | 60 psi<br>(4,14 bar) | 70 psi<br>(4,83 bar) | 80 psi<br>(5,52 bar) | 90 psi<br>(6,21 bar) | 100 psi<br>(6,89 bar) | 125 psi<br>(8,62 bar) |
|-----------------------------|---------------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-----------------------|-----------------------|
| <b>3,2</b><br><b>(1/8)</b>  | air: cu m/min<br>(cu ft/min)                | 0,34<br>(12)         | 0,37<br>(13)         | 0,42<br>(15)         | 0,51<br>(18)         | 0,54<br>(19)         | 0,59<br>(21)          | 0,74<br>(26)          |
|                             | horsepower: kw<br>(hp)                      | 1,30<br>(1,75)       | 1,49<br>(2)          | 1,86<br>(2,5)        | 2,24<br>(3)          | 2,61<br>(3,5)        | 2,98<br>(4)           | 4,47<br>(6)           |
|                             | abrasive: kg/hr<br>(lb/hr)                  | 32<br>(70)           | 36<br>(80)           | 41<br>(90)           | 45<br>(100)          | 50<br>(110)          | 54<br>(120)           | 61<br>(135)           |
| <b>4,8</b><br><b>(3/16)</b> | air: cu m/min<br>(cu ft/min)                | 0,71<br>(25)         | 0,85<br>(30)         | 0,99<br>(35)         | 1,13<br>(40)         | 1,22<br>(43)         | 1,27<br>(45)          | 1,70<br>(60)          |
|                             | horsepower: kw<br>(hp)                      | 3,73<br>(5)          | 5,97<br>(8)          | 6,71<br>(9)          | 7,08<br>(9,5)        | 7,46<br>(10)         | 7,83<br>(10,5)        | 11,93<br>(16)         |
|                             | abrasive: kg/hr<br>(lb/hr)                  | 68<br>(150)          | 77<br>(170)          | 91<br>(200)          | 98<br>(215)          | 109<br>(240)         | 118<br>(260)          | 145<br>(320)          |
| <b>6,35</b><br><b>(1/4)</b> | air: cu m/min<br>(cu ft/min)                | 1,42<br>(50)         | 1,56<br>(55)         | 1,70<br>(60)         | 1,98<br>(70)         | 2,12<br>(75)         | 2,27<br>(80)          | 2,69<br>(95)          |
|                             | horsepower: kw<br>(hp)                      | 7,46<br>(10)         | 8,95<br>(12)         | 9,69<br>(13)         | 11,93<br>(16)        | 12,68<br>(17)        | 13,42<br>(18)         | 18,64<br>(25)         |
|                             | abrasive: kg/hr<br>(lb/hr)                  | 122<br>(270)         | 136<br>(300)         | 159<br>(350)         | 181<br>(400)         | 204<br>(450)         | 227<br>(500)          | 306<br>(675)          |
| <b>8</b><br><b>(5/16)</b>   | air: cu m/min<br>(cu ft/min)                | 2,27<br>(80)         | 2,55<br>(90)         | 2,83<br>(100)        | 3,26<br>(115)        | 3,54<br>(125)        | 3,96<br>(140)         | 5,38<br>(190)         |
|                             | horsepower: kw<br>(hp)                      | 12,68<br>(17)        | 14,91<br>(20)        | 18,64<br>(25)        | 20,13<br>(27)        | 20,88<br>(28)        | 22,37<br>(30)         | 26,85<br>(36)         |
|                             | abrasive: kg/hr<br>(lb/hr)                  | 213<br>(470)         | 240<br>(530)         | 272<br>(600)         | 306<br>(675)         | 340<br>(750)         | 374<br>(825)          | 454<br>(1000)         |
| <b>9,5</b><br><b>(3/8)</b>  | air: cu m/min<br>(cu ft/min)                | 3,12<br>(110)        | 3,54<br>(125)        | 4,11<br>(145)        | 4,53<br>(160)        | 4,96<br>(175)        | 5,66<br>(200)         | 7,79<br>(275)         |
|                             | horsepower: kw<br>(hp)                      | 18,64<br>(25)        | 21,63<br>(29)        | 23,86<br>(32)        | 26,10<br>(35)        | 29,83<br>(40)        | 33,56<br>(45)         | 42,50<br>(57)         |
|                             | abrasive: kg/hr<br>(lb/hr)                  | 306<br>(675)         | 352<br>(775)         | 397<br>(875)         | 442<br>(975)         | 481<br>(1060)        | 499<br>(1100)         | 612<br>(1350)         |
| <b>11</b><br><b>(7/16)</b>  | air: cu m/min<br>(cu ft/min)                | 4,25<br>(150)        | 4,81<br>(170)        | 5,66<br>(200)        | 6,09<br>(215)        | 6,80<br>(240)        | 7,22<br>(255)         | 8,92<br>(315)         |
|                             | horsepower: kw<br>(hp)                      | 26,10<br>(35)        | 29,83<br>(40)        | 33,56<br>(45)        | 37,28<br>(50)        | 41,01<br>(55)        | 44,74<br>(60)         | 52,20<br>(70)         |
|                             | abrasive: kg/hr<br>(lb/hr)                  | 408<br>(900)         | 454<br>(1000)        | 544<br>(1200)        | 590<br>(1300)        | 635<br>(1400)        | 703<br>(1550)         | 816<br>(1800)         |
| <b>12,7</b><br><b>(1/2)</b> | air: cu m/min<br>(cu ft/min)                | 5,66<br>(200)        | 6,37<br>(225)        | 7,08<br>(250)        | 7,79<br>(275)        | 8,50<br>(300)        | 9,63<br>(340)         | 12,18<br>(430)        |
|                             | horsepower: kw<br>(hp)                      | 33,56<br>(45)        | 37,28<br>(50)        | 41,01<br>(55)        | 46,98<br>(63)        | 52,20<br>(70)        | 55,93<br>(75)         | 70,84<br>(95)         |
|                             | abrasive: kg/hr<br>(lb/hr)                  | 544<br>(1200)        | 612<br>(1350)        | 680<br>(1500)        | 771<br>(1700)        | 839<br>(1850)        | 919<br>(2025)         | 1145<br>(2525)        |
| <b>16</b><br><b>(5/8)</b>   | air: cu m/min<br>(cu ft/min)                | 8,50<br>(300)        | 9,91<br>(350)        | 11,33<br>(400)       | 12,74<br>(450)       | 14,16<br>(500)       | 15,58<br>(550)        | 19,82<br>(700)        |
|                             | horsepower: kw<br>(hp)                      | 52,20<br>(70)        | 59,66<br>(80)        | 67,11<br>(90)        | 74,57<br>(100)       | 82,03<br>(110)       | 89,48<br>(120)        | 111,85<br>(150)       |
|                             | abrasive: kg/hr<br>(lb/hr)                  | 862<br>(1900)        | 998<br>(2200)        | 1089<br>(2400)       | 1225<br>(2700)       | 1361<br>(3000)       | 1497<br>(3300)        | 1814<br>(4000)        |
| <b>19</b><br><b>(3/4)</b>   | air: cu m/min<br>(cu ft/min)                | 12,18<br>(430)       | 14,16<br>(500)       | 16,28<br>(575)       | 18,41<br>(650)       | 19,82<br>(700)       | 22,66<br>(800)        | 31,15<br>(1100)       |
|                             | horsepower: kw<br>(hp)                      | 74,57<br>(100)       | 85,76<br>(115)       | 96,94<br>(130)       | 108,13<br>(145)      | 119,31<br>(160)      | 130,50<br>(175)       | 160,33<br>(215)       |
|                             | abrasive: kg/hr<br>(lb/hr)                  | 1225<br>(2700)       | 1406<br>(3100)       | 1588<br>(3500)       | 1769<br>(3900)       | 1950<br>(4300)       | 2132<br>(4700)        | 2586<br>(5700)        |

This table is to be used as reference only. Actual results may vary depending on specific abrasive medium used. This table is based on abrasive with a bulk density of 100 pounds per cubic foot.

### 3.) What bore size do you need?

For maximum productivity, select the nozzle bore size based on the desired blast pressure and the available air pressure and flow. For example, assume you are running a 375 cfm compressor at 80% capacity. In addition to the blast cleaning nozzle, the compressor is supplying air to an air helmet and other components such as air motors and pneumatic controls, leaving 250 cfm available for the nozzle. Referring to the chart on the previous page, you can see that 250 cfm is sufficient for a 7/16" nozzle operating at 100 psi. A larger nozzle, or a worn 7/16" nozzle, will require more air flow to maintain 100 psi. This extra flow requirement will either overwork your compressor or decrease productivity. On the other hand, choosing a nozzle with a bore smaller than your compressor can supply will result in less than maximum productivity from the system.

### 4.) What are the Various Nozzle Material Choices?

Nozzle material selection depends on the abrasive you choose, how often you blast, the size of the job, and the rigors of the job site. Here are general application guidelines for various materials.

#### Aluminum Oxide "Alumina" (Ceramic) Nozzles

offer good service life at a lower price than other materials. They are a good choice for low usage applications where unit price is a primary factor and nozzle life is less important.

**Tungsten Carbide Nozzles** offer long life and economy when rough handling can not be avoided and mineral or coal slag abrasives are used. All tungsten carbide nozzles are not equal — Kennametal nozzles feature top wear grade material and durable construction.

**BP200 SiAlON Nozzles** offer service life and durability similar to tungsten carbide, but are only about half the weight.

BP200 SiAlON nozzles are an excellent choice when operators are on the job for long periods and prefer a lightweight nozzle.

**Boron Carbide Nozzles** provide long life with optimum air and abrasive use. Boron carbide is ideal for aggressive abrasives such as aluminum oxide and selected mineral aggregates when rough handling can be avoided. Boron carbide will typically outwear tungsten carbide by five to ten times.

**ROCTEC® Composite Carbide Nozzles** provide even longer life than that of boron carbide nozzles. We currently offer two grades of this popular "binderless" tungsten carbide hard material: ROCTEC® 100 and ROCTEC® 500. This nozzle material is ideal for applications using aggressive abrasives like aluminum oxide and silicon carbide. Special angle nozzles, industrial gun inserts for the popular styles, etching nozzles, and pencil blast nozzles are a few special types of nozzles currently available. Contact us when you have precision requirements in blasting, drilling, or cutting to see if your current nozzle styles are available in ROCTEC®.

### ■ Service Life Comparisons

Approximate Service Life in Hours

| nozzle material  | steel shot/grit | slag         | aluminum oxide |
|------------------|-----------------|--------------|----------------|
| Aluminum Oxide   | 20 – 40         | 10 – 30      | 1 – 4          |
| Tungsten Carbide | 500 – 800       | 300 – 400    | 20 – 40        |
| BP200 SiAlON     | 500 – 800*      | 300 – 400    | 50 – 100       |
| Boron Carbide    | 1500 – 2500     | 750 – 1500   | 200 – 1000     |
| ROCTEC®          | 2500 – 5000+    | 1500 – 3000+ | 1000 – 2000+   |

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

\* Not recommended for 'H' hardness steel shot/grit.

## Reduce Nozzle Replacement Costs

Kennametal's nozzle replacements may cost more initially, but provide much longer service life. The per-hour cost with Kennametal nozzles can be a fraction of the cost of cheaper nozzles.

## Proven Methods to Increase Nozzle Service Life

1. Avoid dropping or banging nozzles against anything — materials can break.
2. Be sure to use a nozzle designed for your application and the abrasive you wish to use.
3. Always use the new gasket or washer supplied with your nozzle or nozzle insert. It can help prevent the nozzle's entry throat from being blasted away. Inspect and replace, if necessary, the gasket, or washer after every 10 to 20 hours of use.
4. If you are using a Kennametal nozzle in a flanged holder, rotate the nozzle a quarter turn each week. This will help to ensure more uniform wear and prolong nozzle life.

## Inspect and Replace Nozzles

How much wear is too much?

Here are three simple tests:

1. Insert a drill bit of a size that matches the original bore of the nozzle. If there's any slop, it's time to replace it. Nozzle wear means pressure loss. Pressure loss means lost productivity, there is a 1-1/2% loss of productivity for every pound of air pressure lost.
2. Hold an open nozzle up to the light and look down the bore. Any ripple or orange peel effect inside the carbide liner will create internal turbulence that reduces abrasive velocity. If you notice any uneven wear or pressure drop, it's time to replace.
3. Check the nozzle's exterior, too. The materials used to build nozzles are tough, but can be brittle. Nozzle jacketing materials are designed to help protect breakable liners from impact damage. If the jacket is cracked or dented, chances are the liner is also cracked. If the liner is fractured, even with hairline cracks, the nozzle should be replaced immediately. It is not safe to use a cracked nozzle.

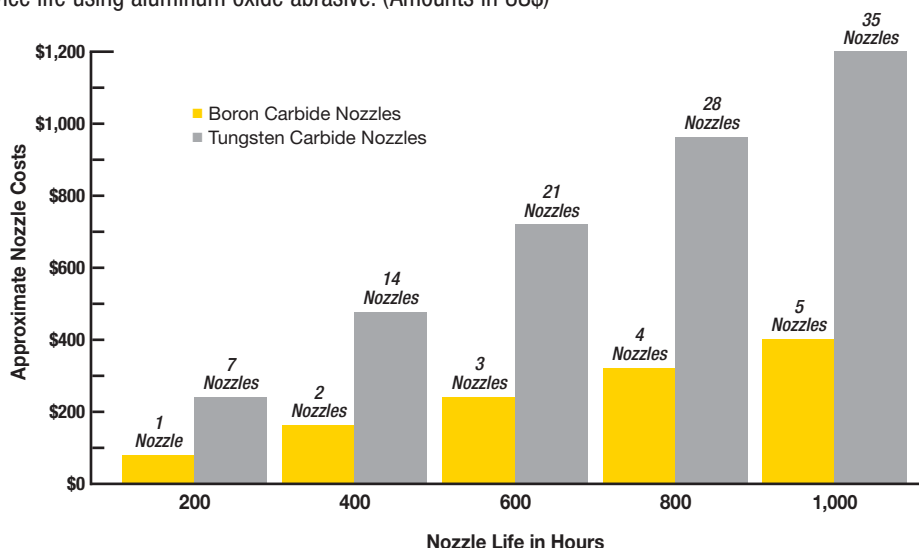
Remember that all nozzles will eventually wear out. Keep a supply of back-up nozzles on hand to minimize down time.

## ■ Comparing Nozzle Costs

Based on approximate nozzle service life using aluminum oxide abrasive. (Amounts in US\$)

|                         | Boron Carbide | Tungsten Carbide |
|-------------------------|---------------|------------------|
| approximate nozzle cost | \$80          | \$35             |
| nozzle life in hours*   | 200           | 28               |
| cost per hour*          | \$0.40        | \$1.20           |

\*Performance may vary based upon pressure, abrasive grit size, quality, and other variables. These data are based on comparative testing under controlled conditions.

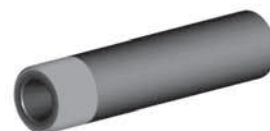
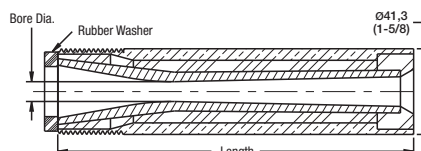


## Tungsten Carbide Long

Long venturi style nozzles yield about a 40% greater production rate than straight bore nozzles. The internally tapered design of the venturi nozzle accelerates and evenly distributes the abrasive over the entire blast pattern. These nozzles are designed for use with a 1" I.D. blast hose for maximum cutting action on hard-to-clean surfaces.

Dimensions below are shown in millimeters and (inches).

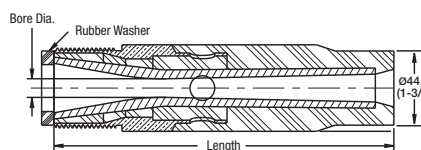
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- For the most physically demanding operations.
- Greatest resistance against breakage.
- All-brass outer body.
- Polyurethane inner cushion.



### ■ TLVE-Bruiser™ Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939481      | B1915630       | TLVE-3       | 4,8           | 3/16 | 108    | 4-1/4 |
| 2939480      | B1915640       | TLVE-4       | 6,4           | 1/4  | 136,5  | 5-3/8 |
| 2939479      | B1915650       | TLVE-5       | 7,9           | 5/16 | 146,1  | 5-3/4 |
| 2939478      | B1915660       | TLVE-6       | 9,5           | 3/8  | 171,5  | 6-3/4 |
| 2939477      | B1915670       | TLVE-7       | 11,1          | 7/16 | 203,2  | 8     |
| 2939476      | B1915680       | TLVE-8       | 12,7          | 1/2  | 228,6  | 9     |

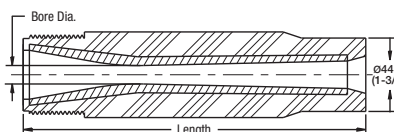
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- For physically demanding operations.
- Less resistance against breakage.
- Brass threads.
- Reinforced polyurethane upper body.



### ■ TLVE-P Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939396      | B2015630       | TLVE-3P      | 4,8           | 3/16 | 111,1  | 4-3/8 |
| 2939392      | B2015640       | TLVE-4P      | 6,4           | 1/4  | 139,7  | 5-1/2 |
| 2939388      | B2015650       | TLVE-5P      | 7,9           | 5/16 | 149,2  | 5-7/8 |
| 2939384      | B2015660       | TLVE-6P      | 9,5           | 3/8  | 174,6  | 6-7/8 |
| 2939380      | B2015670       | TLVE-7P      | 11,1          | 7/16 | 206,4  | 8-1/8 |
| 2939376      | B2015680       | TLVE-8P      | 12,7          | 1/2  | 231,8  | 9-1/8 |

- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Recommended where low price is most important.
- Polyurethane jacket.
- Polyurethane threads.
- Competitive price without sacrificing quality.



### ■ TLVE-AP Series

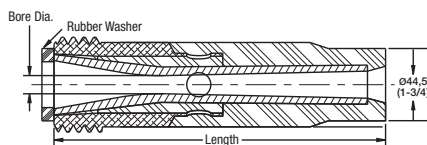
| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939394      | B2015633       | TLVE-3AP     | 4,8           | 3/16 | 114,3  | 4-1/2 |
| 2939390      | B2015643       | TLVE-4AP     | 6,4           | 1/4  | 139,7  | 5-1/2 |
| 2939386      | B2015653       | TLVE-5AP     | 7,9           | 5/16 | 152,4  | 6     |
| 2939382      | B2015663       | TLVE-6AP     | 9,5           | 3/8  | 177,8  | 7     |
| 2939378      | B2015673       | TLVE-7AP     | 11,1          | 7/16 | 209,6  | 8-1/4 |
| 2939374      | B2015683       | TLVE-8AP     | 12,7          | 1/2  | 235    | 9-1/4 |

\*Contact your Kennametal representative or customer service for quote.



Dimensions below are shown in millimeters and (inches).

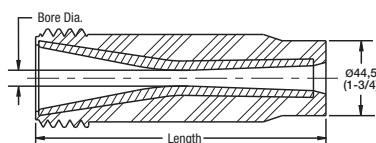
- Thread style: 50mm.
- Polyurethane jacket.
- Aluminum threads.
- Reinforced polyurethane upper body.



### ■ TLVE 50mm Contractor Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939395      | B2015632       | TLVE-350P    | 4,8           | 3/16 | 111,1  | 4-3/8 |
| 2939391      | B2015642       | TLVE-450P    | 6,4           | 1/4  | 139,7  | 5-1/2 |
| 2939387      | B2015652       | TLVE-550P    | 7,9           | 5/16 | 149,2  | 5-7/8 |
| 2939383      | B2015662       | TLVE-650P    | 9,5           | 3/8  | 174,6  | 6-7/8 |
| 2939379      | B2015672       | TLVE-750P    | 11,1          | 7/16 | 206,4  | 8-1/8 |
| 2939375      | B2015682       | TLVE-850P    | 12,7          | 1/2  | 231,8  | 9-1/8 |

- Thread style: 50mm.
- Polyurethane jacket.
- Polyurethane threads.
- Competitive price in "economy" nozzles without sacrificing quality.



### ■ TLVE-AP 50mm Contractor Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939393      | B2015634       | TLVE-350AP   | 4,8           | 3/16 | 114,3  | 4-1/2 |
| 2939389      | B2015644       | TLVE-450AP   | 6,4           | 1/4  | 139,7  | 5-1/2 |
| 2939385      | B2015654       | TLVE-550AP   | 7,9           | 5/16 | 152,4  | 6     |
| 2939381      | B2015664       | TLVE-650AP   | 9,5           | 3/8  | 177,8  | 7     |
| 2939377      | B2015674       | TLVE-750AP   | 11,1          | 7/16 | 209,6  | 8-1/4 |
| 2939373      | B2015684       | TLVE-850AP   | 12,7          | 1/2  | 235    | 9-1/4 |

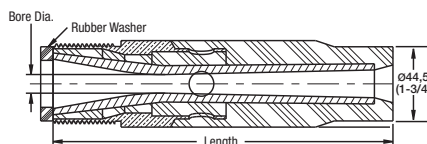
\*Contact your Kennametal representative or customer service for quote.

## BP200 SiAlON Long

Kennametal's exclusive BP200 SiAlON high-performance long venturi nozzles are designed to replace both silicon carbide and silicon nitride. These nozzles resist breakage better than silicon carbide and are as durable as tungsten carbide. **They are lighter in weight to reduce operator fatigue.**

Dimensions below are shown in millimeters and (inches).

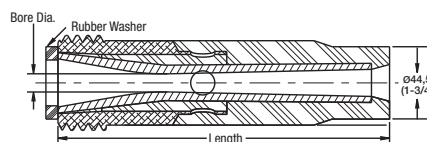
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Lightest weight BP200 SiAlON liner.
- Polyurethane jacket.
- Brass threads.



### ■ SN156-P Series

| order number | catalog number | model number | bore diameter |      | length |      |
|--------------|----------------|--------------|---------------|------|--------|------|
|              |                |              | mm            | in   | mm     | in   |
| 2939149      | B2615630       | SN156-3P     | 4,8           | 3/16 | 106,2  | 4,18 |
| 2939145      | B2615640       | SN156-4P     | 6,4           | 1/4  | 135,4  | 5,33 |
| 2939140      | B2615650       | SN156-5P     | 7,9           | 5/16 | 144,8  | 5,70 |
| 2939134      | B2615660       | SN156-6P     | 9,5           | 3/8  | 170,2  | 6,70 |
| 2939128      | B2615670       | SN156-7P     | 11,1          | 7/16 | 202,0  | 7,95 |
| 2969203      | B2615680       | SN156-8P     | 12,7          | 1/2  | 228,6  | 9    |

- Thread style: 50mm.
- Lightest weight.
- Polyurethane jacket.
- Aluminum threads.



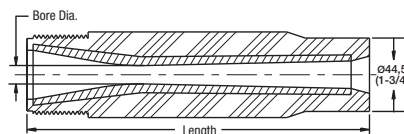
### ■ SN156-P 50mm Contractor Series

| order number | catalog number | model number | bore diameter |      | length |      |
|--------------|----------------|--------------|---------------|------|--------|------|
|              |                |              | mm            | in   | mm     | in   |
| 2939148      | B2615632       | SN156-350P   | 4,8           | 3/16 | 106,2  | 4,18 |
| 2939144      | B2615642       | SN156-450P   | 6,4           | 1/4  | 135,4  | 5,33 |
| 2939139      | B2615652       | SN156-550P   | 7,9           | 5/16 | 144,8  | 5,70 |
| 2939133      | B2615662       | SN156-650P   | 9,5           | 3/8  | 170,2  | 6,70 |
| 2939127      | B2615672       | SN156-750P   | 11,1          | 7/16 | 202,0  | 7,95 |
| 2939123      | B2615682       | SN156-850P   | 12,7          | 1/2  | 228,6  | 9    |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

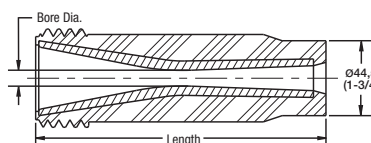
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Lightest weight.
- Polyurethane jacket.
- Polyurethane threads.



### ■ SN156-AP Series

| order number | catalog number | model number | bore diameter |      | length |      |
|--------------|----------------|--------------|---------------|------|--------|------|
|              |                |              | mm            | in   | mm     | in   |
| 2939147      | B2615633       | SN156-3AP    | 4,8           | 3/16 | 110,0  | 4,33 |
| 2939143      | B2615643       | SN156-4AP    | 6,4           | 1/4  | 138,4  | 5,45 |
| 2939138      | B2615653       | SN156-5AP    | 7,9           | 5/16 | 148,1  | 5,83 |
| 2939132      | B2615663       | SN156-6AP    | 9,5           | 3/8  | 173,5  | 6,83 |
| 2939126      | B2615673       | SN156-7AP    | 11,1          | 7/16 | 205,0  | 8,07 |
| 2939122      | B2615683       | SN156-8AP    | 12,7          | 1/2  | 232,2  | 9,14 |

- Thread style: 50mm.
- Lightest weight.
- Polyurethane jacket.
- Polyurethane threads.



### ■ SN156-AP 50mm Contractor Series

| order number | catalog number | model number | bore diameter |      | length |      |
|--------------|----------------|--------------|---------------|------|--------|------|
|              |                |              | mm            | in   | mm     | in   |
| 2939146      | B2615634       | SN156-350AP  | 4,8           | 3/16 | 110,0  | 4,33 |
| 2939142      | B2615644       | SN156-450AP  | 6,4           | 1/4  | 138,4  | 5,45 |
| 2939137      | B2615654       | SN156-550AP  | 7,9           | 5/16 | 148,1  | 5,83 |
| 2939131      | B2615664       | SN156-650AP  | 9,5           | 3/8  | 173,5  | 6,83 |
| 2939125      | B2615674       | SN156-750AP  | 11,1          | 7/16 | 205,0  | 8,07 |
| 2939121      | B2615684       | SN156-850AP  | 12,7          | 1/2  | 232,2  | 9,14 |

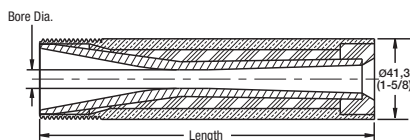
\*Contact your Kennametal representative or customer service for quote.

## Tungsten Carbide Wide Throat Long

These nozzles have a 1-1/4" entry in a flanged design, standard 1-1/4" threaded design or 50mm thread. The wider throat opening in this nozzle offers a 15% increase in production over a standard venturi by eliminating restriction and turbulence upstream of the venturi section of the nozzle. All of our wide throat nozzles are designed to be used with 1-1/4" I.D. blast hose.

Dimensions below are shown in millimeters and (inches).

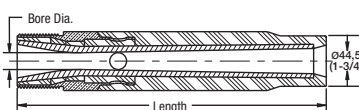
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Brass jacket.
- Brass threads.



### T159 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939472      | B1915950       | T159-5       | 7,9           | 5/16 | 146,1  | 5-3/4 |
| 2939471      | B1915960       | T159-6       | 9,5           | 3/8  | 171,5  | 6-3/4 |
| 2939469      | B1915970       | T159-7       | 11,1          | 7/16 | 203,2  | 8     |
| 2939467      | B1915980       | T159-8       | 12,7          | 1/2  | 231,8  | 9-1/8 |

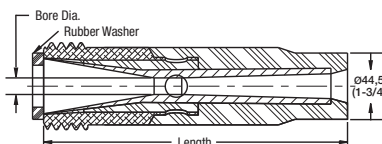
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Polyurethane jacket.
- Brass threads.



### T159-P Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939364      | B2015950       | T159-5P      | 7,9           | 5/16 | 149,2  | 5-7/8 |
| 2939362      | B2015960       | T159-6P      | 9,5           | 3/8  | 174,6  | 6-7/8 |
| 2939357      | B2015970       | T159-7P      | 11,1          | 7/16 | 206,4  | 8-1/8 |
| 2939353      | B2015980       | T159-8P      | 12,7          | 1/2  | 231,8  | 9-1/8 |
| 2939372      | B2015910       | T159-10P     | 15,9          | 5/8  | 235    | 9-1/4 |
| 2939369      | B2015912       | T159-12P     | 19,1          | 3/4  | 235    | 9-1/4 |

- Thread style: 50mm.
- Polyurethane jacket.
- Aluminum threads.



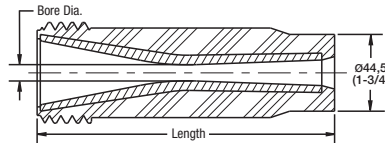
### T159-P 50mm Contractor Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939263      | B2085952       | T159-550P    | 7,9           | 5/16 | 149,2  | 5-7/8 |
| 2939262      | B2085962       | T159-650P    | 9,5           | 3/8  | 174,6  | 6-7/8 |
| 2939261      | B2085972       | T159-750P    | 11,1          | 7/16 | 206,4  | 8-1/8 |
| 2939260      | B2085982       | T159-850P    | 12,7          | 1/2  | 228,6  | 9     |
| 2939370      | B20159105      | T159-1050P   | 15,9          | 5/8  | 235    | 9-1/4 |
| 3323810      | B20159125      | T159-1250P   | 19,1          | 3/4  | 235    | 9-1/4 |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

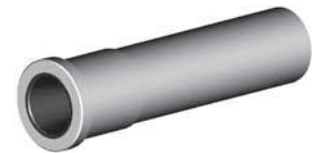
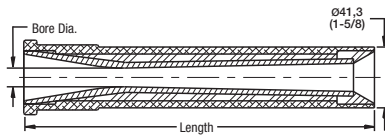
- Thread style: 50mm.
- Polyurethane jacket.
- Polyurethane threads.



### ■ T159-AP 50mm Contractor Series

| order number | catalog number | model number | bore diameter |      | length |        |
|--------------|----------------|--------------|---------------|------|--------|--------|
|              |                |              | mm            | in   | mm     | in     |
| 2939363      | B2015954       | T159-550AP   | 7,9           | 5/16 | 152,4  | 6      |
| 2939358      | B2015964       | T159-650AP   | 9,5           | 3/8  | 177,8  | 7      |
| 2939354      | B2015974       | T159-750AP   | 11,1          | 7/16 | 209,6  | 8-1/4  |
| 2939349      | B2015984       | T159-850AP   | 12,7          | 1/2  | 236,5  | 9-5/16 |
| 2939371      | B20159104      | T159-1050AP  | 15,9          | 5/8  | 241,3  | 9-1/2  |
| 3353513      | B20159124      | T159-1250AP  | 19,1          | 3/4  | 241,3  | 9-1/2  |

- Flanged aluminum jacket.



### ■ T159-F Series

| order number | catalog number | model number | bore diameter |      | length |        |
|--------------|----------------|--------------|---------------|------|--------|--------|
|              |                |              | mm            | in   | mm     | in     |
| 2939470      | B1915961       | T159-6F      | 9,5           | 3/8  | 171,5  | 6-3/4  |
| 2939468      | B1915971       | T159-7F      | 11,1          | 7/16 | 203,2  | 8      |
| 2939466      | B1915981       | T159-8F      | 12,7          | 1/2  | 230,2  | 9-1/16 |
| 2939475      | B1915910       | T159-10F     | 15,9          | 5/8  | 235    | 9-1/4  |
| 3092074      | B1915912       | T159-12F     | 19,1          | 3/4  | 235    | 9-1/4  |

\*Contact your Kennametal representative or customer service for quote.

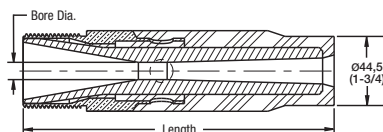


## BP200 SiAlON Wide Throat Long

Kennametal's exclusive BP200 SiAlON high-performance wide entry long venturi nozzles are designed to replace both silicon carbide and silicon nitride. These nozzles resist breakage better than silicon carbide. Designed to be used with 32mm (1-1/4") I.D. hose.

*Dimensions below are shown in millimeters and (inches).*

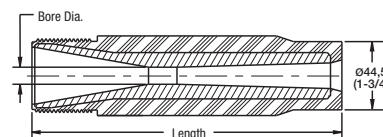
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Lightest weight.
- Polyurethane jacket.
- Brass threads.



### ■ SN159-P Series

| order number | catalog number | model number | bore diameter |      | length |      |
|--------------|----------------|--------------|---------------|------|--------|------|
|              |                |              | mm            | in   | mm     | in   |
| 2939113      | B2615950       | SN159-5P     | 7,9           | 5/16 | 144,8  | 5,70 |
| 2939108      | B2615960       | SN159-6P     | 9,5           | 3/8  | 170,2  | 6,70 |
| 2939101      | B2615970       | SN159-7P     | 11,1          | 7/16 | 202,0  | 7,95 |
| 2939096      | B2615980       | SN159-8P     | 12,7          | 1/2  | 228,6  | 9    |
| 2939119      | B2615910       | SN159-10P    | 15,9          | 5/8  | 230,4  | 9,07 |
| 2939116      | B2615912       | SN159-12P    | 19,1          | 3/4  | 230,4  | 9,07 |

- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Lightest weight.
- Polyurethane jacket.
- Polyurethane threads.



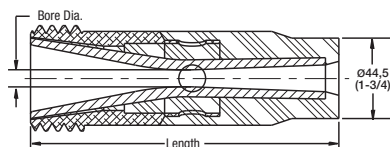
### ■ SN159-AP Series

| order number | catalog number | model number | bore diameter |      | length |      |
|--------------|----------------|--------------|---------------|------|--------|------|
|              |                |              | mm            | in   | mm     | in   |
| 2939110      | B2615953       | SN159-5AP    | 7,9           | 5/16 | 148,1  | 5,83 |
| 2939103      | B2615963       | SN159-6AP    | 9,5           | 3/8  | 173,5  | 6,83 |
| 2939098      | B2615973       | SN159-7AP    | 11,1          | 7/16 | 205,0  | 8,07 |
| 2939091      | B2615983       | SN159-8AP    | 12,7          | 1/2  | 232,2  | 9,14 |

*\*Contact your Kennametal representative or customer service for quote.*

Dimensions below are shown in millimeters and (inches).

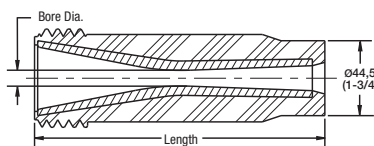
- Thread style: 50mm.
- Lightest weight.
- Polyurethane jacket.
- Aluminum threads.



### ■ SN159-P 50mm Contractor Series

| order number | catalog number | model number | bore diameter |      | length |      |
|--------------|----------------|--------------|---------------|------|--------|------|
|              |                |              | mm            | in   | mm     | in   |
| 2939111      | B2615952       | SN159-550P   | 7,9           | 5/16 | 144,8  | 5,70 |
| 2939104      | B2615962       | SN159-650P   | 9,5           | 3/8  | 170,2  | 6,70 |
| 2939099      | B2615972       | SN159-750P   | 11,1          | 7/16 | 202,0  | 7,95 |
| 2939092      | B2615982       | SN159-850P   | 12,7          | 1/2  | 228,6  | 9    |
| 2939118      | B26159102      | SN159-1050P  | 15,9          | 5/8  | 230,4  | 9,07 |
| 3759599      | B26159122      | SN159-1250P  | 19,1          | 3/4  | 230,4  | 9,07 |

- Thread style: 50mm.
- Lightest weight.
- Most popular internationally.
- Polyurethane jacket.
- Polyurethane threads.



### ■ SN159-AP 50mm Contractor Series

| order number | catalog number | model number | bore diameter |      | length |      |
|--------------|----------------|--------------|---------------|------|--------|------|
|              |                |              | mm            | in   | mm     | in   |
| 2939109      | B2615954       | SN159-550AP  | 7,9           | 5/16 | 148,1  | 5,83 |
| 2939102      | B2615964       | SN159-650AP  | 9,5           | 3/8  | 173,5  | 6,83 |
| 2939097      | B2615974       | SN159-750AP  | 11,1          | 7/16 | 205,0  | 8,07 |
| 2939090      | B2615984       | SN159-850AP  | 12,7          | 1/2  | 232,2  | 9,14 |
| 2939117      | B26159104      | SN159-1050AP | 15,9          | 5/8  | 230,4  | 9,07 |
| 3579592      | B26159124      | SN159-1250AP | 19,1          | 3/4  | 230,4  | 9,07 |

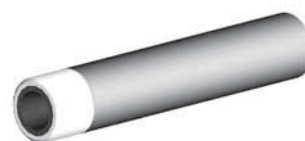
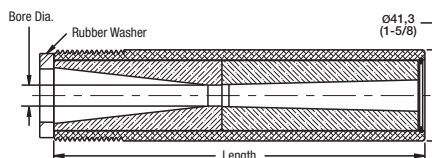
\*Contact your Kennametal representative or customer service for quote.

## Boron Carbide Long

Boron carbide nozzles offer the longest wear life of any standard nozzle material. Peak nozzle production performance is maintained for longer periods with optimum consumption of air and abrasive. Boron carbide nozzles typically outwear tungsten carbide nozzles by five to ten times. Boron carbide nozzles are recommended for use with abrasives such as aluminum oxide and aggressive mineral aggregates.

Dimensions below are shown in millimeters and (inches).

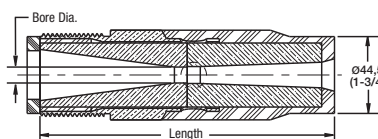
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- High performance.
- 1" entry bore.
- Aluminum jacket.
- Aluminum threads.



### ■ BLVE Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940171      | B1510045       | BLVE-4       | 6,4           | 1/4  | 133,4  | 5-1/4 |
| 2940170      | B1510056       | BLVE-5       | 7,9           | 5/16 | 139,7  | 5-1/2 |
| 2940169      | B1510067       | BLVE-6       | 9,5           | 3/8  | 165,1  | 6-1/2 |
| 2940168      | B1510078       | BLVE-7       | 11,1          | 7/16 | 200    | 7-7/8 |
| 2940167      | B1510089       | BLVE-8       | 12,7          | 1/2  | 219    | 8-5/8 |

- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- High performance.
- 1" entry bore.
- Polyurethane jacket.
- Brass threads.



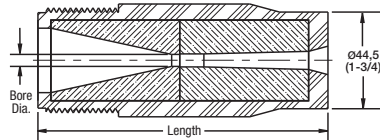
### ■ BLVE-P Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940161      | B1510245       | BLVE-4P      | 6,4           | 1/4  | 133,4  | 5-1/4 |
| 2940160      | B1510256       | BLVE-5P      | 7,9           | 5/16 | 139,7  | 5-1/2 |
| 2940159      | B1510267       | BLVE-6P      | 9,5           | 3/8  | 165,1  | 6-1/2 |
| 2940158      | B1510278       | BLVE-7P      | 11,1          | 7/16 | 200    | 7-7/8 |
| 3013201      | B1510289       | BLVE-8P      | 12,7          | 1/2  | 219    | 8-5/8 |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

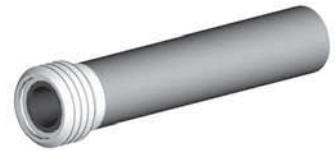
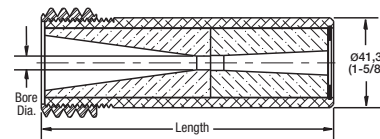
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- High performance.
- 1" entry bore.
- Polyurethane jacket.
- Polyurethane threads.



### ■ BLVE-AP Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940157      | B1510345       | BLVE-4AP     | 6,4           | 1/4  | 133,4  | 5-1/4 |
| 2940156      | B1510356       | BLVE-5AP     | 7,9           | 5/16 | 139,7  | 5-1/2 |
| 2940155      | B1510367       | BLVE-6AP     | 9,5           | 3/8  | 165,1  | 6-1/2 |
| 2940154      | B1510378       | BLVE-7AP     | 11,1          | 7/16 | 200    | 7-7/8 |
| 2940153      | B1510389       | BLVE-8AP     | 12,7          | 1/2  | 219    | 8-5/8 |

- Thread style: 50mm.
- High performance.
- 1" entry bore.
- Aluminum jacket.
- Steel threads.



### ■ BLVE 50mm Contractor Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940166      | B1510145       | BLVE-450     | 6,4           | 1/4  | 133,4  | 5-1/4 |
| 2940165      | B1510156       | BLVE-550     | 7,9           | 5/16 | 139,7  | 5-1/2 |
| 2940164      | B1510167       | BLVE-650     | 9,5           | 3/8  | 165,1  | 6-1/2 |
| 2940163      | B1510178       | BLVE-750     | 11,1          | 7/16 | 200    | 7-7/8 |
| 2940162      | B1510189       | BLVE-850     | 12,7          | 1/2  | 219    | 8-5/8 |

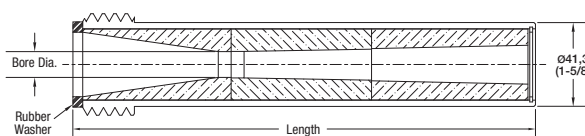
\*Contact your Kennametal representative or customer service for quote.

## Boron Carbide Wide Throat Long

Wider throat open offers 15% increase in production over standard venturi by eliminating restriction upstream of the venturi section of the nozzle. Designed to be used with 32mm (1-1/4") I.D. hose.

*Dimensions below are shown in millimeters and (inches).*

- Thread style: 50mm.
- High performance.
- 1-1/4" entry.
- Aluminum jacket.
- Aluminum threads.



### ■ B159 50mm Contractor Series

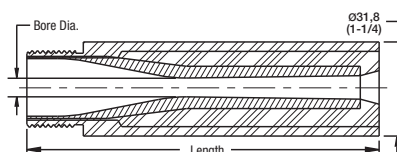
| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 5317816      | B1515951       | B159-550     | 8,0           | 5/16 | 140    | 5-1/2 |
| 5317817      | B1515961       | B159-650     | 9,5           | 3/8  | 165    | 6-1/2 |
| 3884325      | B1515971       | B159-750     | 11,1          | 7/16 | 200,2  | 7-7/8 |
| 3884326      | B1515981       | B159-850     | 12,7          | 1/2  | 222,3  | 8-3/4 |
| 3082372      | B15159101      | B159-1050    | 15,9          | 5/8  | 222,3  | 8-3/4 |
| 5097138      | B15159102      | B159-1250    | 19,1          | 3/4  | 222,3  | 8-3/4 |

## Tungsten Carbide Medium

Medium length venturi nozzles are most effective on jobs where the nozzles are held close to the surface being blasted (18" or less).

*Dimensions below are shown in millimeters and (inches).*

- Thread style: 3/4 – 14 N.P.S.M.
- Steel jacket.
- Steel threads.
- Excellent for use with spin blasters and pressure cabinets.



### ■ T120 Series

| order number | catalog number | model number | bore diameter |      | length |         |
|--------------|----------------|--------------|---------------|------|--------|---------|
|              |                |              | mm            | in   | mm     | in      |
| 2939554      | B1912030       | T120-3       | 4,8           | 3/16 | 88,9   | 3-1/2   |
| 2939553      | B1912040       | T120-4       | 6,4           | 1/4  | 119,1  | 4-11/16 |
| 2939552      | B1912050       | T120-5       | 7,9           | 5/16 | 119,1  | 4-11/16 |

*\*Contact your Kennametal representative or customer service for quote.*

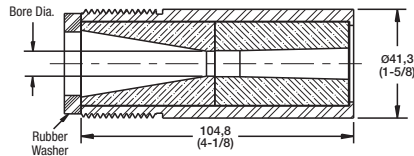


## Boron Carbide Medium

Medium length venturi nozzles are most effective on jobs where the nozzles are held close to the surface being blasted (18" or less).

Dimensions below are shown in millimeters and (inches).

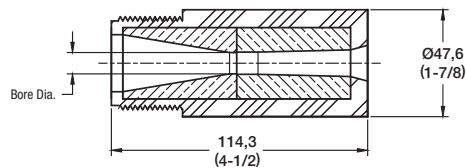
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Steel jacket.
- Steel threads.



### ■ F Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940239      | B1504034       | B3M4-F       | 4,8           | 3/16 | 104,8  | 4-1/8 |
| 2940237      | B1504044       | B4M4-F       | 6,4           | 1/4  | 104,8  | 4-1/8 |
| 2940234      | B1504054       | B5M4-F       | 7,9           | 5/16 | 104,8  | 4-1/8 |
| 2940232      | B1504064       | B6M4-F       | 9,5           | 3/8  | 104,8  | 4-1/8 |
| 2940230      | B1504074       | B7M4-F       | 11,1          | 7/16 | 104,8  | 4-1/8 |
| 2940229      | B1504084       | B8M4-F       | 12,7          | 1/2  | 104,8  | 4-1/8 |

- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Polyurethane jacket.
- Polyurethane threads.



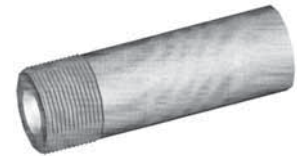
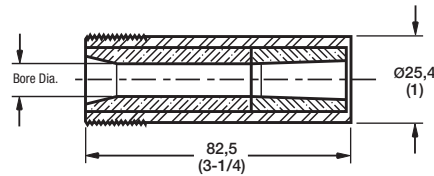
### ■ F-AP Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940238      | B1504035       | B3M4-FAP     | 4,8           | 3/16 | 114,3  | 4-1/2 |
| 2940236      | B1504045       | B4M4-FAP     | 6,4           | 1/4  | 114,3  | 4-1/2 |
| 2940233      | B1504055       | B5M4-FAP     | 7,9           | 5/16 | 114,3  | 4-1/2 |
| 2940231      | B1504065       | B6M4-FAP     | 9,5           | 3/8  | 114,3  | 4-1/2 |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

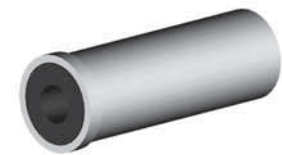
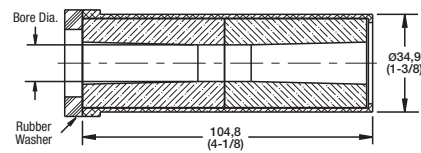
- Thread style: 3/4 – 14 N.P.S.M.
- Steel jacket.
- Steel threads.
- Excellent for use in spin blasters and cabinets



### ■ GV Series • Medium

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 3126354      | B1505533       | B3M3-GV      | 4,8           | 3/16 | 82,5   | 3-1/4 |
| 2940218      | B1505543       | B4M3-GV      | 6,4           | 1/4  | 82,5   | 3-1/4 |
| 2964617      | B1505553       | B5M3-GV      | 7,9           | 5/16 | 82,5   | 3-1/4 |
| 2964618      | B1505563       | B6M3-GV      | 9,5           | 3/8  | 82,5   | 3-1/4 |

- 1-1/2" O.D. flange
- Aluminum jacket.



### ■ K Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940186      | B1508034       | B3M4-K       | 4,8           | 3/16 | 104,8  | 4-1/8 |
| 2940185      | B1508044       | B4M4-K       | 6,4           | 1/4  | 104,8  | 4-1/8 |
| 2940184      | B1508054       | B5M4-K       | 7,9           | 5/16 | 104,8  | 4-1/8 |
| 3489304      | B1508064       | B6M4-K       | 9,5           | 3/8  | 104,8  | 4-1/8 |
| *            | B1508074       | B7M4-K       | 11,1          | 7/16 | 104,8  | 4-1/8 |
| *            | B1508084       | B8M4-K       | 12,7          | 1/2  | 104,8  | 4-1/8 |

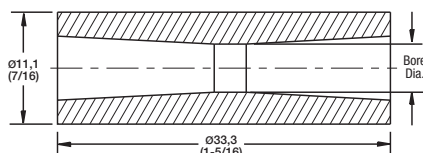
\*Contact your Kennametal representative or customer service for quote.

## Tungsten Carbide Short

Short venturi nozzles offer the widest possible pattern at close range. Use these nozzles when blasting 12" or less from the surface.

Dimensions below are shown in millimeters and (inches).

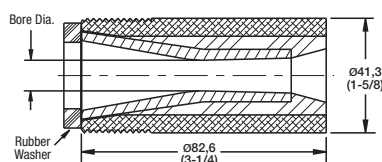
- 7/16" O.D. insert.



### TL108 Series

| order number | catalog number | model number | bore diameter |      | length |        |
|--------------|----------------|--------------|---------------|------|--------|--------|
|              |                |              | mm            | in   | mm     | in     |
| 2939908      | B1710821       | TL108-2      | 3,4           | 1/8  | 33,3   | 1-5/16 |
| 2939907      | B1710831       | TL108-3      | 4,8           | 3/16 | 33,3   | 1-5/16 |
| 2939906      | B1710841       | TL108-4      | 6,4           | 1/4  | 33,3   | 1-5/16 |

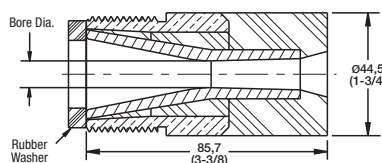
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Aluminum jacket.
- Aluminum threads.



### T121 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939550      | B1912130       | T121-3       | 4,8           | 3/16 | 82,6   | 3-1/4 |
| 2939549      | B1912140       | T121-4       | 6,4           | 1/4  | 82,6   | 3-1/4 |
| 2939548      | B1912150       | T121-5       | 7,9           | 5/16 | 82,6   | 3-1/4 |
| 2939547      | B1912160       | T121-6       | 9,5           | 3/8  | 82,6   | 3-1/4 |
| 2939546      | B1912170       | T121-7       | 11,1          | 7/16 | 82,6   | 3-1/4 |
| 2939545      | B1912180       | T121-8       | 12,7          | 1/2  | 82,6   | 3-1/4 |
| 5109811      | B1912190       | T121-10      | 15,9          | 5/8  | 82,6   | 3-1/4 |
| 2939551      | B1912112       | T121-12      | 19,1          | 3/4  | 82,6   | 3-1/4 |

- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Polyurethane jacket.
- Brass threads.



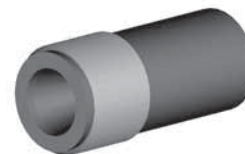
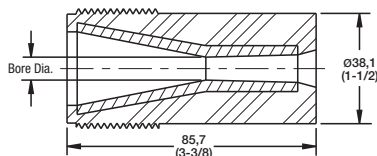
### T121-P Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939311      | B2082130       | T121-3P      | 4,8           | 3/16 | 85,7   | 3-3/8 |
| 2939306      | B2082140       | T121-4P      | 6,4           | 1/4  | 85,7   | 3-3/8 |
| 2939301      | B2082150       | T121-5P      | 7,9           | 5/16 | 85,7   | 3-3/8 |
| 2939296      | B2082160       | T121-6P      | 9,5           | 3/8  | 85,7   | 3-3/8 |
| 2939291      | B2082170       | T121-7P      | 11,1          | 7/16 | 85,7   | 3-3/8 |
| 2939287      | B2082180       | T121-8P      | 12,7          | 1/2  | 85,7   | 3-3/8 |
| 2939283      | B2082190       | T121-10P     | 15,9          | 5/8  | 85,7   | 3-3/8 |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

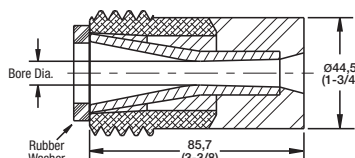
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Polyurethane jacket.
- Polyurethane threads.



## ■ T121-AP Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939309      | B2082133       | T121-3AP     | 4,8           | 3/16 | 85,7   | 3-3/8 |
| 2939304      | B2082143       | T121-4AP     | 6,4           | 1/4  | 85,7   | 3-3/8 |
| 2939299      | B2082153       | T121-5AP     | 7,9           | 5/16 | 85,7   | 3-3/8 |
| 2939294      | B2082163       | T121-6AP     | 9,5           | 3/8  | 85,7   | 3-3/8 |
| 2939289      | B2082173       | T121-7AP     | 11,1          | 7/16 | 85,7   | 3-3/8 |
| 2939285      | B2082183       | T121-8AP     | 12,7          | 1/2  | 85,7   | 3-3/8 |
| 2939282      | B2082193       | T121-10AP    | 15,9          | 5/8  | 85,7   | 3-3/8 |
| 2939312      | B2082114       | T121-12AP    | 19,1          | 3/4  | 85,7   | 3-3/8 |

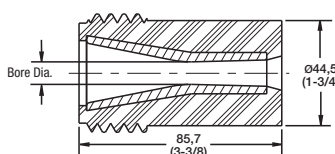
- Thread style: 50mm.
- Polyurethane jacket.
- Aluminum threads.



## ■ T121-P 50mm Contractor Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939310      | B2082132       | T121-350P    | 4,8           | 3/16 | 85,7   | 3-3/8 |
| 2939305      | B2082142       | T121-450P    | 6,4           | 1/4  | 85,7   | 3-3/8 |
| 2939300      | B2082152       | T121-550P    | 7,9           | 5/16 | 85,7   | 3-3/8 |
| 2939295      | B2082162       | T121-650P    | 9,5           | 3/8  | 85,7   | 3-3/8 |
| 2939290      | B2082172       | T121-750P    | 11,1          | 7/16 | 85,7   | 3-3/8 |
| 2939286      | B2082182       | T121-850P    | 12,7          | 1/2  | 85,7   | 3-3/8 |
| *            | B2082192       | T121-1050P   | 15,9          | 5/8  | 85,7   | 3-3/8 |
| 2939313      | B2082112       | T121-1250P   | 19,1          | 3/4  | 85,7   | 3-3/8 |

- Thread style: 50mm.
- Polyurethane jacket.
- Polyurethane threads.



## ■ T121-AP 50mm Contractor Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939307      | B2082135       | T121-350AP   | 4,8           | 3/16 | 85,7   | 3-3/8 |
| 2939302      | B2082145       | T121-450AP   | 6,4           | 1/4  | 85,7   | 3-3/8 |
| 2939297      | B2082155       | T121-550AP   | 7,9           | 5/16 | 85,7   | 3-3/8 |
| 2939292      | B2082165       | T121-650AP   | 9,5           | 3/8  | 85,7   | 3-3/8 |
| 3743432      | B2082175       | T121-750AP   | 11,1          | 7/16 | 85,7   | 3-3/8 |
| 2939284      | B2082185       | T121-850AP   | 12,7          | 1/2  | 85,7   | 3-3/8 |
| 3949236      | B20821105      | T121-1050AP  | 15,9          | 5/8  | 85,7   | 3-3/8 |
| 3871787      | B20821125      | T121-1250AP  | 19,1          | 3/4  | 85,7   | 3-3/8 |

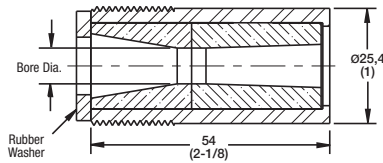
\*Contact your Kennametal representative or customer service for quote.

## Boron Carbide Short Venturi Nozzles

Short venturi nozzles offer the widest possible pattern at close range. Use these nozzles when blasting 12" or less from the surface.

*Dimensions below are shown in millimeters and (inches).*

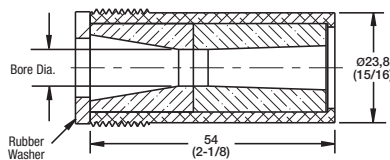
- Thread style: 3/4 – 14 N.P.S.M.
- Steel jacket.
- Steel threads.



### ■ GV Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940220      | B1505532       | B3S2-GV      | 4,8           | 3/16 | 54     | 2-1/8 |
| 2940219      | B1505542       | B4S2-GV      | 6,4           | 1/4  | 54     | 2-1/8 |
| 2940217      | B1505552       | B5S2-GV      | 7,9           | 5/16 | 54     | 2-1/8 |
| 2940216      | B1505562       | B6S2-GV      | 9,5           | 3/8  | 54     | 2-1/8 |

- Thread style: 1 – 14 N.P.S.M.
- Aluminum jacket.
- Aluminum threads.



### ■ LV Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940175      | B1509532       | B3S2-LV      | 4,8           | 3/16 | 54     | 2-1/8 |
| 2940174      | B1509542       | B4S2-LV      | 6,4           | 1/4  | 54     | 2-1/8 |
| 2940173      | B1509552       | B5S2-LV      | 7,9           | 5/16 | 54     | 2-1/8 |
| 2940172      | B1509562       | B6S2-LV      | 9,5           | 3/8  | 54     | 2-1/8 |

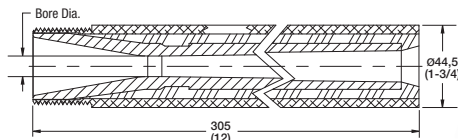
*\*Contact your Kennametal representative or customer service for quote.*

## XL Performance BP200 SiAlON

The XL Performance nozzles increase abrasive particle velocity, resulting in improved production rates and efficiencies. The XL Performance nozzles will utilize the same air (CFM) requirements as our standard long venturi products for the same given bore size, resulting in lower compressed air operating costs per square foot / meter. These products are produced in our popular lightweight BP200 SiAlON material, helping minimize nozzle weight and overall operator fatigue.

*Dimensions below are shown in millimeters and (inches).*

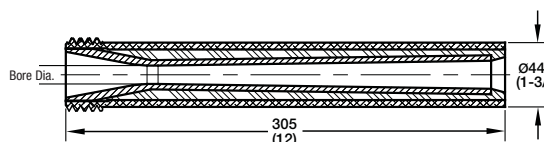
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Lightest weight.
- Aluminum jacket.
- Aluminum threads.



### ■ SN159-XL12 Series

| order number | catalog number | model number | bore diameter |      | length |    |
|--------------|----------------|--------------|---------------|------|--------|----|
|              |                |              | mm            | in   | mm     | in |
| 3133535      | B2615940XL12   | SN159-4XL 12 | 6,4           | 1/4  | 305    | 12 |
| 3488188      | B2615950XL12   | SN159-5XL 12 | 8,0           | 5/16 | 305    | 12 |
| 3019499      | B2615960XL12   | SN159-6XL 12 | 9,5           | 3/8  | 305    | 12 |
| 3787286      | B2615970XL12   | SN159-7XL 12 | 11,1          | 7/16 | 305    | 12 |
| 2938629      | B2615980XL12   | SN159-8XL12  | 12,7          | 1/2  | 305    | 12 |

- Thread style: 50mm.
- Lightest weight
- Aluminum jacket.
- Aluminum threads.



### ■ SN159-XL12 50mm Contractor Series

| order number | catalog number | model number    | bore diameter |      | length |    |
|--------------|----------------|-----------------|---------------|------|--------|----|
|              |                |                 | mm            | in   | mm     | in |
| 3103289      | B2615942XL12   | SN159-450XL 12  | 6,4           | 1/4  | 305    | 12 |
| 3864279      | B2615952XL12   | SN159-550XL 12  | 8,0           | 5/16 | 305    | 12 |
| 3033375      | B2615962XL12   | SN159-650XL 12  | 9,5           | 3/8  | 305    | 12 |
| 3864280      | B2615972XL12   | SN159-750XL 12  | 11,1          | 7/16 | 305    | 12 |
| 2989326      | B2615982XL12   | SN159-850XL 12  | 12,7          | 1/2  | 305    | 12 |
| 3289985      | B26159102XL12  | SN159-1050XL 12 | 15,9          | 5/8  | 305    | 12 |

*\*Contact your Kennametal representative or customer service for quote.*

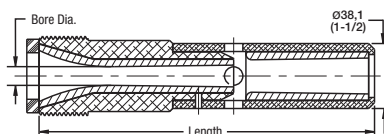


## Tungsten Carbide Double

The double venturi offers a 35% larger blast pattern than a standard long venturi with only a slight loss in abrasive velocity. Designed to be used on jobs where medium cutting action is required with a more even dispersion of abrasive throughout the larger blast pattern. Excellent for plastic or agricultural abrasives.

*Dimensions below are shown in millimeters and (inches).*

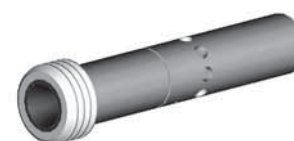
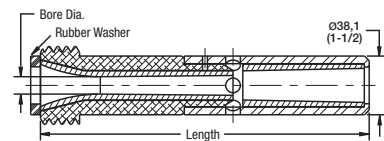
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Metal jacket.
- Aluminum threads.



### ■ T125 Series

| order number | catalog number | model number | bore diameter |      | length |        |
|--------------|----------------|--------------|---------------|------|--------|--------|
|              |                |              | mm            | in   | mm     | in     |
| 2939534      | B1912530       | T125-3       | 4,8           | 3/16 | 127    | 5      |
| 2939532      | B1912540       | T125-4       | 6,4           | 1/4  | 149,2  | 5-7/8  |
| 2939528      | B1912550       | T125-5       | 7,9           | 5/16 | 160,3  | 6-5/16 |
| 2939524      | B1912560       | T125-6       | 9,5           | 3/8  | 174,6  | 6-7/8  |
| 2939520      | B1912570       | T125-7       | 11,1          | 7/16 | 215,9  | 8-1/2  |
| 2939516      | B1912580       | T125-8       | 12,7          | 1/2  | 235    | 9-1/4  |

- Thread style: 50mm.
- Metal jacket.
- Aluminum threads.

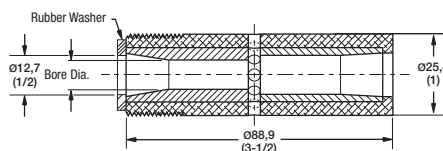


### ■ T125 50mm Contractor Series

| order number | catalog number | model number | bore diameter |      | length |        |
|--------------|----------------|--------------|---------------|------|--------|--------|
|              |                |              | mm            | in   | mm     | in     |
| 2939531      | B1912543       | T125-450     | 6,4           | 1/4  | 149,2  | 5-7/8  |
| 2939527      | B1912553       | T125-550     | 7,9           | 5/16 | 160,3  | 6-5/16 |
| 2939523      | B1912563       | T125-650     | 9,5           | 3/8  | 174,6  | 6-7/8  |
| 2939519      | B1912573       | T125-750     | 11,1          | 7/16 | 215,9  | 8-1/2  |
| 2939515      | B1912583       | T125-850     | 12,7          | 1/2  | 235    | 9-1/4  |

## Tungsten Carbide Air Induction

- Thread style: 3/4 – 14 N.P.S.M.
- Aluminum jacket.
- Aluminum threads.



### ■ T124 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939537      | B1912430       | T124-3       | 4,8           | 3/16 | 88,9   | 3-1/2 |
| 2939536      | B1912440       | T124-4       | 6,4           | 1/4  | 88,9   | 3-1/2 |
| 2939535      | B1912450       | T124-5       | 7,9           | 5/16 | 88,9   | 3-1/2 |
| 2978250      | B1912460       | T124-6       | 9,5           | 3/8  | 88,9   | 3-1/2 |

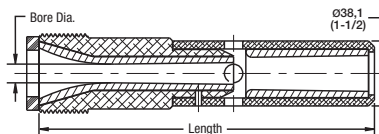
*\*Contact your Kennametal representative or customer service for quote.*

## BP200 SiAlON Double

Offers a 35% larger blast pattern than standard long venturi with only a slight loss in abrasive velocity. Designed for jobs where medium cutting action is required and a more even dispersion of abrasive throughout the larger blast pattern. These nozzles are produced in our popular lightweight BP200 SiAlON material, helping minimize nozzle weight and overall operator fatigue.

Dimensions below are shown in millimeters and (inches).

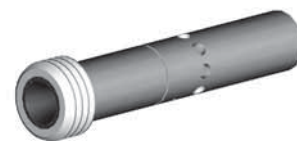
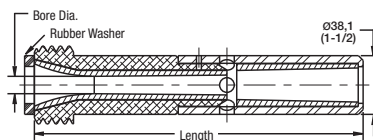
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Lightest weight.
- Aluminum jacket.
- Aluminum threads.



### ■ SN125 Series

| order number | catalog number | model number | bore diameter |      | length |        |
|--------------|----------------|--------------|---------------|------|--------|--------|
|              |                |              | mm            | in   | mm     | in     |
| 2939169      | B2612540       | SN125-4      | 6,5           | 1/4  | 127    | 5      |
| 2939165      | B2612550       | SN125-5      | 7,9           | 5/16 | 149,2  | 5-7/8  |
| 2939161      | B2612560       | SN125-6      | 9,5           | 3/8  | 160,3  | 6-5/16 |
| 2939157      | B2612570       | SN125-7      | 11,1          | 7/16 | 174,6  | 6-7/8  |
| 2939153      | B2612580       | SN125-8      | 12,7          | 1/2  | 215,9  | 8-1/2  |
| 2938654      | B2612512       | SN125-12     | 19,1          | 3/4  | 237    | 9,35   |

- Thread style: 50mm.
- Lightest weight.
- Aluminum jacket.
- Aluminum threads.



### ■ SN125 50mm Contractor Series

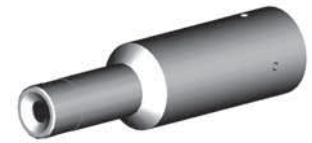
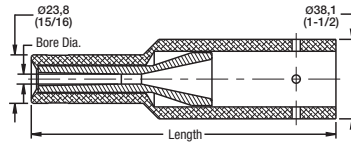
| order number | catalog number | model number | bore diameter |      | length |        |
|--------------|----------------|--------------|---------------|------|--------|--------|
|              |                |              | mm            | in   | mm     | in     |
| 2939168      | B2612543       | SN125-450    | 6,5           | 1/4  | 149,2  | 5-7/8  |
| 2939164      | B2612553       | SN125-550    | 7,9           | 5/16 | 160,3  | 6-5/16 |
| 2939160      | B2612563       | SN125-650    | 9,5           | 3/8  | 174,6  | 6-7/8  |
| 2939156      | B2612573       | SN125-750    | 11,1          | 7/16 | 215,9  | 8-1/2  |
| 2939152      | B2612583       | SN125-850    | 12,7          | 1/2  | 235    | 9-1/4  |
| 3562895      | B2612513       | SN125-1250   | 19,1          | 3/4  | 237    | 9,35   |

\*Contact your Kennametal representative or customer service for quote.

## Tungsten Carbide Slip-On

Dimensions below are shown in millimeters and (inches).

- Aluminum jacket.
- Slip-on assembly.



### T101 Series

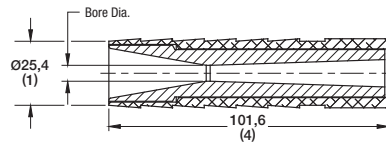
| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939585      | B1910130       | T101-3       | 4,8           | 3/16 | 146,1  | 5-3/4 |
| 2939583      | B1910140       | T101-4       | 6,4           | 1/4  | 187,3  | 7-3/8 |

\*Contact your Kennametal representative or customer service for quote.

## Tungsten Carbide Hose Inserts

Dimensions below are shown in millimeters and (inches).

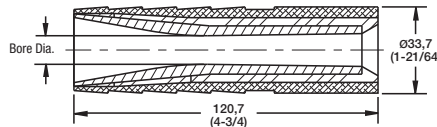
- Aluminum jacket.
- Designed for use with 25mm (1") I.D. hose.



### T131 Series

| order number | catalog number | model number | bore diameter |      | length |    |
|--------------|----------------|--------------|---------------|------|--------|----|
|              |                |              | mm            | in   | mm     | in |
| 2954177      | B1913140       | T131-4       | 6,4           | 1/4  | 101,6  | 4  |
| 2939032      | B1913150       | T131-5       | 7,9           | 5/16 | 101,6  | 4  |
| 2954176      | B1913160       | T131-6       | 9,5           | 3/8  | 101,6  | 4  |
| 5326009      | B1913170       | T131-7       | 11,1          | 7/16 | 101,6  | 4  |

- Aluminum jacket.
- Designed for use with 32mm (1-1/4") I.D. hose.



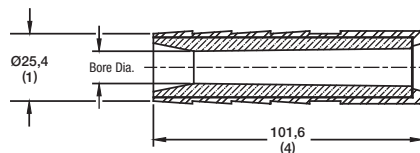
### T132 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939508      | B1913250       | T132-5       | 7,9           | 5/16 | 120,7  | 4-3/4 |
| 2939507      | B1913260       | T132-6       | 9,5           | 3/8  | 120,7  | 4-3/4 |
| 2939506      | B1913270       | T132-7       | 11,1          | 7/16 | 120,7  | 4-3/4 |
| 2939505      | B1913280       | T132-8       | 12,7          | 1/2  | 120,7  | 4-3/4 |

## Boron Carbide Hose Inserts

Dimensions below are shown in millimeters and (inches).

- Steel jacket.
- Designed for use with 25mm (1") I.D. hose.



### B131 Series

| order number | catalog number | model number | bore diameter |      | length |    |
|--------------|----------------|--------------|---------------|------|--------|----|
|              |                |              | mm            | in   | mm     | in |
| 3374195      | B1513140       | B131-4       | 6,4           | 1/4  | 101,6  | 4  |
| 3343184      | B1513150       | B131-5       | 7,9           | 5/16 | 101,6  | 4  |
| 3374196      | B1513160       | B131-6       | 9,5           | 3/8  | 101,6  | 4  |
| 3374197      | B1513170       | B131-7       | 11,1          | 7/16 | 101,6  | 4  |

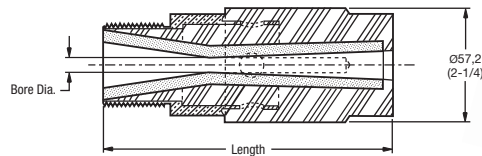
\*Contact your Kennametal representative or customer service for quote.

## Tungsten Carbide Square Bore

The Square Shooter™ blast nozzle production rate is faster than the conventional long venturi high production nozzles. The Square Shooter™ nozzle requires only a 10% to 20% overlap as compared to a long venturi nozzle which requires a 50% overlap. This increase results in abrasive savings due to less abrasive consumption as well as productivity savings.

*Dimensions below are shown in millimeters and (inches).*

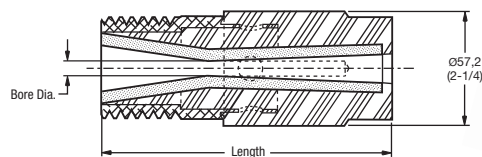
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Polyurethane jacket.
- Brass threads.



### ■ Square Shooter™ Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939348      | B2020040       | SS-4         | 6,4           | 1/4  | 139,7  | 5-1/2 |
| 2939346      | B2020050       | SS-5         | 7,9           | 5/16 | 152,4  | 6     |
| 2939344      | B2020060       | SS-6         | 9,5           | 3/8  | 171,5  | 6-3/4 |

- Thread style: 50mm.
- Polyurethane jacket.
- Aluminum threads.



### ■ Square Shooter™ 50mm Contractor Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939347      | B2020042       | SS-450       | 6,4           | 1/4  | 139,7  | 5-1/2 |
| 2939345      | B2020052       | SS-550       | 7,9           | 5/16 | 152,4  | 6     |
| 2939343      | B2020062       | SS-650       | 9,5           | 3/8  | 171,5  | 6-3/4 |

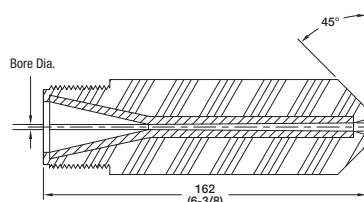
*\*Contact your Kennametal representative or customer service for quote.*

## Fan Nozzles

Excellent for medium cleaning and stripping applications where an even dispersion of the abrasive throughout the wide uniform blast pattern is required. Acceptable for use with most types of abrasives. Designed to be used with 25mm (1") I.D. blast hose.

*Dimensions below are shown in millimeters and (inches).*

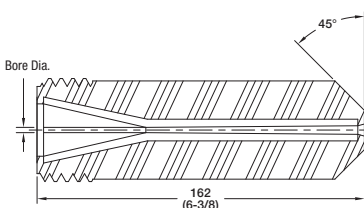
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Lightest weight.
- Polyurethane jacket.
- Polyurethane threads.



### ■ SN FAN-AP Series • BP200 SiAlON

| order number | catalog number | model number | Bore Diameter |     | Length |       |
|--------------|----------------|--------------|---------------|-----|--------|-------|
|              |                |              | mm            | in  | mm     | in    |
| 3656970      | B2616063       | SN FAN-6AP   | 9,5           | 3/8 | 162    | 6-3/8 |

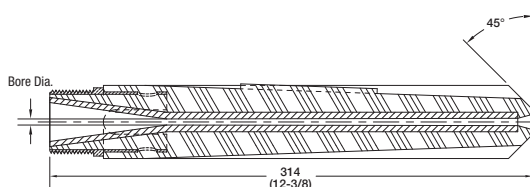
- Thread style: 50mm.
- Lightest weight.
- Polyurethane jacket.
- Polyurethane threads.



### ■ SN FAN-AP 50mm Contractor Series • BP200 SiAlON

| order number | catalog number | model number | Bore Diameter |     | Length |       |
|--------------|----------------|--------------|---------------|-----|--------|-------|
|              |                |              | mm            | in  | mm     | in    |
| 3656969      | B2616064       | SN FAN-650AP | 9,5           | 3/8 | 162    | 6-3/8 |

- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Lightest weight.
- Polyurethane jacket.
- Brass threads.



### ■ SN FAN-P Series • BP200 SiAlON

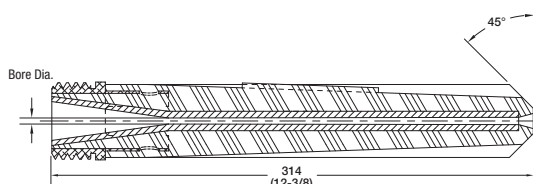
| order number | catalog number | model number | Bore Diameter |     | Length |        |
|--------------|----------------|--------------|---------------|-----|--------|--------|
|              |                |              | mm            | in  | mm     | in     |
| 3860113      | B1986908       | SN FAN-8P    | 12,7          | 1/2 | 314    | 12-3/8 |

\*Contact your Kennametal representative or customer service for quote.



Dimensions below are shown in millimeters and (inches).

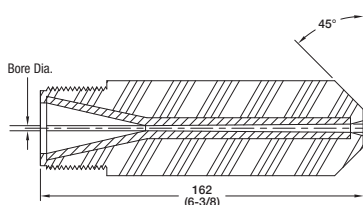
- Thread style: 50mm.
- Lightest weight.
- Polyurethane jacket.
- Aluminum threads.



### ■ SN FAN-P 50mm Contractor Series • BP200 SiAlON

| order number | catalog number | model number | Bore Diameter |     | Length |        |
|--------------|----------------|--------------|---------------|-----|--------|--------|
|              |                |              | mm            | in  | mm     | in     |
| 5294520      | B1986912       | SN FAN-850P  | 12,7          | 1/2 | 314    | 12-3/8 |

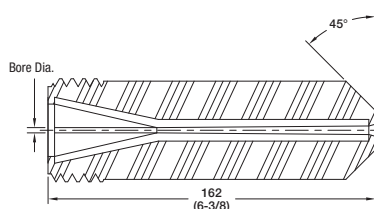
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Polyurethane jacket.
- Polyurethane threads.



### ■ FAN-AP Series • Tungsten Carbide

| order number | catalog number | model number | Bore Diameter |     | Length |       |
|--------------|----------------|--------------|---------------|-----|--------|-------|
|              |                |              | mm            | in  | mm     | in    |
| 2938948      | B2016063       | FAN-6AP      | 9,5           | 3/8 | 162    | 6-3/8 |

- Thread style: 50mm.
- Polyurethane jacket.
- Polyurethane threads.



### ■ FAN-AP 50mm Contractor Series • Tungsten Carbide

| order number | catalog number | model number | Bore Diameter |     | Length |       |
|--------------|----------------|--------------|---------------|-----|--------|-------|
|              |                |              | mm            | in  | mm     | in    |
| 3392345      | B2016064       | FAN-650AP    | 9,5           | 3/8 | 162    | 6-3/8 |

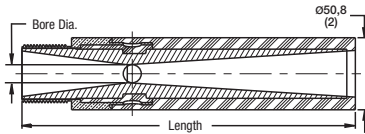
\*Contact your Kennametal representative or customer service for quote.

## Tungsten Carbide BAZOOKA™

For white metal or near white metal blast use at 125 to 150 psi nozzle pressure. For commercial or sweep blast use at 90 to 100 psi nozzle pressure. The BAZOOKA™ yields a 60% larger blast pattern with minimal operator fatigue.

*Dimensions below are shown in millimeters and (inches).*

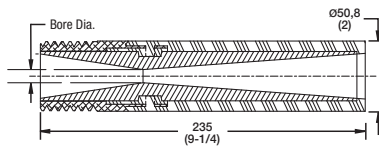
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Polyurethane jacket.
- Brass threads.



### ■ T159-VP Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939366      | B2015940V      | T159-4VP     | 6,4           | 1/4  | 155,6  | 6-1/8 |
| 2939360      | B2015960V      | T159-6VP     | 9,5           | 3/8  | 235    | 9-1/4 |
| 2939356      | B2015970V      | T159-7VP     | 11,1          | 7/16 | 235    | 9-1/4 |
| 2939351      | B2015980V      | T159-8VP     | 12,7          | 1/2  | 235    | 9-1/4 |
| 2939368      | B2015912V      | T159-12VP    | 19,1          | 3/4  | 235    | 9-1/4 |

- Thread style: 50mm.
- Polyurethane jacket.
- Aluminum threads.



### ■ T159-VP 50mm Contractor Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939359      | B2015961       | T159-650VP   | 9,5           | 3/8  | 235    | 9-1/4 |
| 2939355      | B2015971       | T159-750VP   | 11,1          | 7/16 | 235    | 9-1/4 |
| 2939350      | B2015981       | T159-850VP   | 12,7          | 1/2  | 235    | 9-1/4 |
| 2939367      | B2015913       | T159-1250VP  | 19,1          | 3/4  | 235    | 9-1/4 |

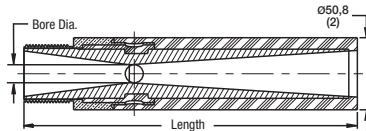
*\*Contact your Kennametal representative or customer service for quote.*

## BP200 SiAION BAZOOKA™

For white metal or near white metal blast use at 125 to 150 psi nozzle pressure. For commercial or sweep blast use at 90 to 100 psi nozzle pressure. The BAZOOKA™ yields a 60% larger blast pattern. These nozzles are produced in our popular lightweight BP200 SiAION material, helping minimize nozzle weight and overall operator fatigue.

Dimensions below are shown in millimeters and (inches).

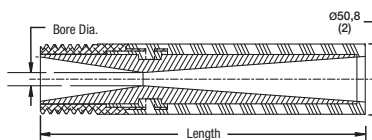
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Lightest weight.
- Polyurethane jacket.
- Brass threads.



### ■ SN159-VP Series

| order number | catalog number | model number | bore diameter |      | length |        |
|--------------|----------------|--------------|---------------|------|--------|--------|
|              |                |              | mm            | in   | mm     | in     |
| 3040529      | B2615940V      | SN159-4VP    | 6,4           | 1/4  | 152    | 6      |
| 2939107      | B2615960V      | SN159-6VP    | 9,5           | 3/8  | 230    | 9-1/16 |
| 2939100      | B2615970V      | SN159-7VP    | 11,1          | 7/16 | 230    | 9-1/16 |
| 2939094      | B2615980V      | SN159-8VP    | 12,7          | 1/2  | 230    | 9-1/16 |

- Thread style: 50mm.
- Lightest weight.
- Polyurethane jacket.
- Aluminum threads.



### ■ SN159-VP 50mm Contractor Series

| order number | catalog number | model number | bore diameter |      | length |        |
|--------------|----------------|--------------|---------------|------|--------|--------|
|              |                |              | mm            | in   | mm     | in     |
| 3396112      | B2615941V      | SN159-450VP  | 6,4           | 1/4  | 152    | 6      |
| 2939105      | B2615961V      | SN159-650VP  | 9,5           | 3/8  | 230    | 9-1/16 |
| 2958545      | B2615971V      | SN159-750VP  | 11,1          | 7/16 | 230    | 9-1/16 |
| 2939093      | B2615981V      | SN159-850VP  | 12,7          | 1/2  | 230    | 9-1/16 |

\*Contact your Kennametal representative or customer service for quote.

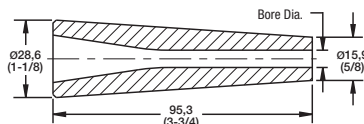
Straight bore nozzles are made for close-range spot blasting. With small blast patterns and little overblast, they are good for cleaning small areas: weldments, grillwork, and railings. If your equipment calls for a non-standard nozzle, we can produce it for you. For special needs, contact us.

## Aluminum Oxide (Ceramic)

Kennametal supplies a full line of premium-grade aluminum oxide ceramic nozzles for immediate delivery.

Dimensions below are shown in millimeters and (inches).

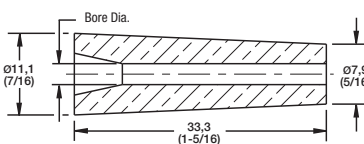
- 1-1/8" O.D., tapered to 5/8" O.D.



### C1 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940320      | B1213010       | C1-1         | 2,4           | 3/32 | 95,3   | 3-3/4 |
| 2940318      | B1213020       | C1-2         | 3,2           | 1/8  | 95,3   | 3-3/4 |
| 2940316      | B1213025       | C1-2-1/2     | 4             | 5/32 | 95,3   | 3-3/4 |
| 2940314      | B1213030       | C1-3         | 4,8           | 3/16 | 95,3   | 3-3/4 |
| 2940312      | B1213040       | C1-4         | 6,4           | 1/4  | 95,3   | 3-3/4 |
| 2940310      | B1213050       | C1-5         | 7,9           | 5/16 | 95,3   | 3-3/4 |
| 2940308      | B1213060       | C1-6         | 9,5           | 3/8  | 95,3   | 3-3/4 |

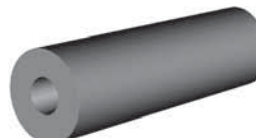
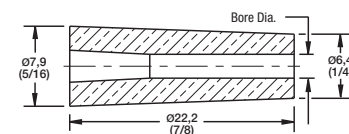
- 7/16" O.D., tapered to 5/16" O.D.



### C2 Series

| order number | catalog number | model number | bore diameter |      | length |        |
|--------------|----------------|--------------|---------------|------|--------|--------|
|              |                |              | mm            | in   | mm     | in     |
| 2940306      | B1214010       | C2-1         | 2,4           | 3/32 | 33,3   | 1-5/16 |
| 2940304      | B1214015       | C2-1-1/2     | 2,8           | 7/64 | 33,3   | 1-5/16 |
| 2940302      | B1214020       | C2-2         | 3,2           | 1/8  | 33,3   | 1-5/16 |
| 2940300      | B1214025       | C2-2-1/2     | 4             | 5/32 | 33,3   | 1-5/16 |

- 5/16" O.D., tapered to 1/4" O.D.



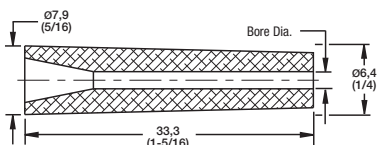
### C3 Series

| order number | catalog number | model number | bore diameter |      | length |     |
|--------------|----------------|--------------|---------------|------|--------|-----|
|              |                |              | mm            | in   | mm     | in  |
| 2940299      | B1214515       | C3-1-1/2     | 2,4           | 3/32 | 22,2   | 7/8 |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

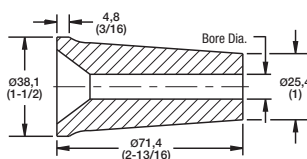
- 5/16" O.D., tapered to 1/4" O.D.



## C3L Series

| order number | catalog number | model number | bore diameter |      | length |        |
|--------------|----------------|--------------|---------------|------|--------|--------|
|              |                |              | mm            | in   | mm     | in     |
| 2940295      | B1215510       | C3L-1-1/4    | 2             | 5/64 | 33,3   | 1-5/16 |
| 2940293      | B1215515       | C3L-1-1/2    | 2,4           | 3/32 | 33,3   | 1-5/16 |

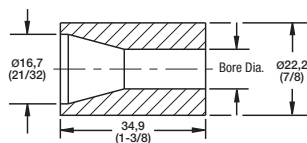
- 1-1/2" O.D. flange, tapered to 1" O.D.



## CB Series

| order number | catalog number | model number | bore diameter |     | length |         |
|--------------|----------------|--------------|---------------|-----|--------|---------|
|              |                |              | mm            | in  | mm     | in      |
| 2940297      | B1215060       | CB-6         | 9,5           | 3/8 | 71,4   | 2-13/16 |
| 2940296      | B1215080       | CB-8         | 12,7          | 1/2 | 71,4   | 2-13/16 |

- 7/8" O.D. insert.



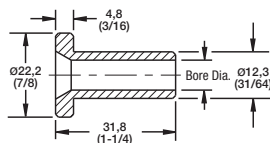
## CL166 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940291      | B1216640       | CL166-4      | 6,4           | 1/4  | 34,9   | 1-3/8 |
| 2940290      | B1216650       | CL166-5      | 7,9           | 5/16 | 34,9   | 1-3/8 |
| 2940289      | B1216660       | CL166-6      | 9,5           | 3/8  | 34,9   | 1-3/8 |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

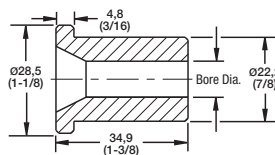
- 7/8" O.D. flange.



### CL197 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940287      | B1219740       | CL197-4      | 6,4           | 1/4  | 31,8   | 1-1/4 |
| 2940286      | B1219750       | CL197-5      | 7,9           | 5/16 | 31,8   | 1-1/4 |

- 1-1/8" O.D. flange.



### CL198 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940284      | B1219840       | CL198-4      | 6,4           | 1/4  | 34,9   | 1-3/8 |
| 2940283      | B1219850       | CL198-5      | 7,9           | 5/16 | 34,9   | 1-3/8 |
| 2940282      | B1219860       | CL198-6      | 9,5           | 3/8  | 34,9   | 1-3/8 |
| 2940281      | B1219870       | CL198-7      | 11,1          | 7/16 | 34,9   | 1-3/8 |
| 2940280      | B1219880       | CL198-8      | 12,7          | 1/2  | 34,9   | 1-3/8 |

\*Contact your Kennametal representative or customer service for quote.

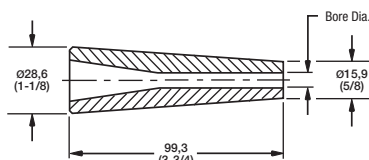


## Tungsten Carbide

Tungsten carbide nozzles offer the greatest resistance to impact or flexing.

Dimensions below are shown in millimeters and (inches).

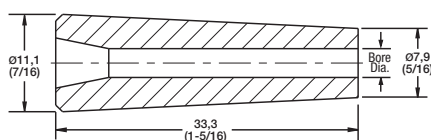
- 1-1/8" O.D., tapered to 5/8" O.D.



### TC1 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2958558      | B1713020       | TC1-2        | 3,2           | 1/8  | 95,3   | 3-3/4 |
| 2958557      | B1713030       | TC1-3        | 4,8           | 3/16 | 95,3   | 3-3/4 |
| 2958556      | B1713040       | TC1-4        | 6,4           | 1/4  | 95,3   | 3-3/4 |
| 3155642      | B1713050       | TC1-5        | 7,9           | 5/16 | 95,3   | 3-3/4 |
| 3786713      | B1713060       | TC1-6        | 9,5           | 3/8  | 95,3   | 3-3/4 |

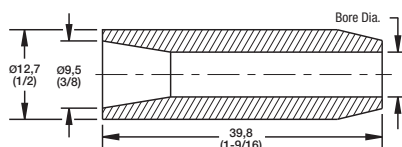
- 7/16" O.D., tapered to 5/16" O.D.



### TL2 Series

| order number | catalog number | model number | bore diameter |      | length |        |
|--------------|----------------|--------------|---------------|------|--------|--------|
|              |                |              | mm            | in   | mm     | in     |
| 2939847      | B1730010       | TL2-05       | 1,57          | 1/16 | 33,3   | 1-5/16 |
| 2939846      | B1730011       | TL2-1        | 2,4           | 3/32 | 33,3   | 1-5/16 |
| 2939845      | B1730012       | TL2-2        | 3,4           | 1/8  | 33,3   | 1-5/16 |

- 1/2" O.D. insert.



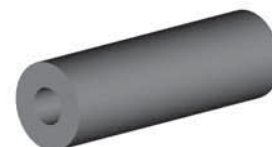
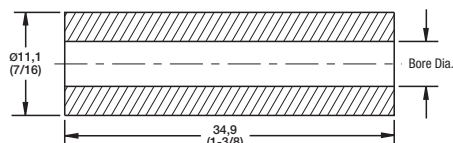
### TL016-4 Series

| order number | catalog number | model number | bore diameter |      | length |        |
|--------------|----------------|--------------|---------------|------|--------|--------|
|              |                |              | mm            | in   | mm     | in     |
| 2939823      | B1731621       | TL016-2      | 3,4           | 1/8  | 39,8   | 1-9/16 |
| 2939822      | B1731631       | TL016-3      | 4,8           | 3/16 | 39,8   | 1-9/16 |
| 2939821      | B1731641       | TL016-4      | 6,4           | 1/4  | 39,8   | 1-9/16 |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

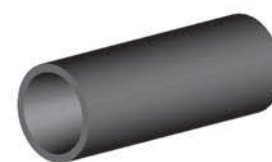
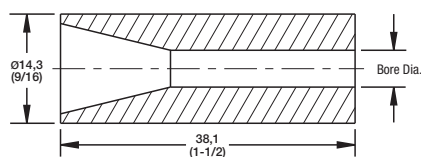
- Air jet insert.



### ■ TL100 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939844      | B1730021       | TL100-2      | 3,4           | 1/8  | 34,9   | 1-3/8 |
| 2939843      | B1730031       | TL100-3      | 4,8           | 3/16 | 34,9   | 1-3/8 |
| 2939842      | B1730041       | TL100-4      | 6,4           | 1/4  | 34,9   | 1-3/8 |

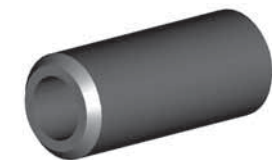
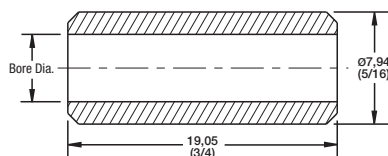
- 9/16" O.D. insert.



### ■ TL104 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939910      | B1710431       | TL104-3      | 4,8           | 3/16 | 38,1   | 1-1/2 |
| 2939837      | B1730441       | TL104-4      | 6,4           | 1/4  | 38,1   | 1-1/2 |
| 2939909      | B1710451       | TL104-5      | 7,9           | 5/16 | 38,1   | 1-1/2 |

- 5/16" O.D. air jet insert.



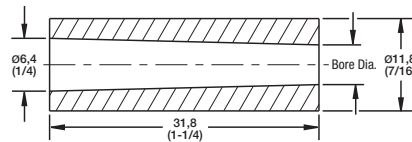
### ■ TL107 Series

| order number | catalog number | model number | bore diameter |      | length |     |
|--------------|----------------|--------------|---------------|------|--------|-----|
|              |                |              | mm            | in   | mm     | in  |
| 2939827      | B1730721       | TL107-2      | 3,2           | 1/8  | 19,1   | 3/4 |
| 2939826      | B1730725       | TL107-2-1/2  | 3,95          | 5/32 | 19,1   | 3/4 |
| 2939825      | B1730731       | TL107-3      | 4,8           | 3/16 | 19,1   | 3/4 |
| 2939824      | B1730741       | TL107-4      | 6,4           | 1/4  | 19,1   | 3/4 |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

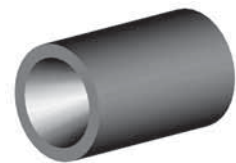
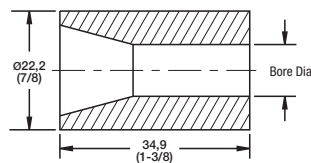
- 7/16" O.D., tapered I.D. air jet insert.



### ■ TL117 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939819      | B1731721       | TL117-2      | 3,4           | 1/8  | 31,8   | 1-1/4 |
| 2939818      | B1731731       | TL117-3      | 4,8           | 3/16 | 31,8   | 1-1/4 |

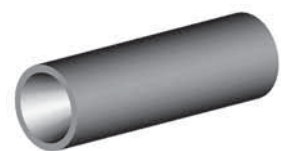
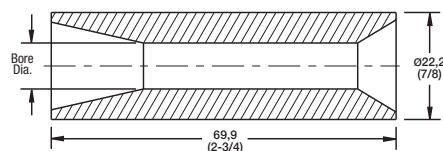
- 7/8" O.D. insert.



### ■ TL166 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 3398654      | B1736631       | TL166-3      | 4,8           | 3/16 | 34,9   | 1-3/8 |
| 2939816      | B1736641       | TL166-4      | 6,4           | 1/4  | 34,9   | 1-3/8 |
| 2939815      | B1736651       | TL166-5      | 8,0           | 5/16 | 34,9   | 1-3/8 |
| 2939814      | B1736661       | TL166-6      | 9,5           | 3/8  | 34,9   | 1-3/8 |
| 2939813      | B1736671       | TL166-7      | 11,1          | 7/16 | 34,9   | 1-3/8 |
| 2939812      | B1736681       | TL166-8      | 12,7          | 1/2  | 34,9   | 1-3/8 |

- 7/8" O.D. insert.



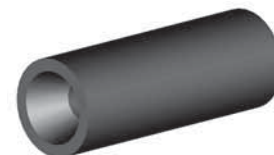
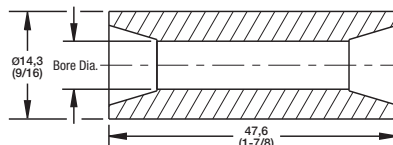
### ■ TL170 Series

| order number | catalog number | model number | bore diameter |     | length |       |
|--------------|----------------|--------------|---------------|-----|--------|-------|
|              |                |              | mm            | in  | mm     | in    |
| 2939866      | B1717061       | TL170-6      | 9,5           | 3/8 | 69,9   | 2-3/4 |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

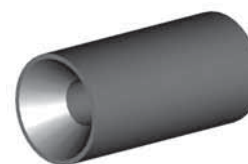
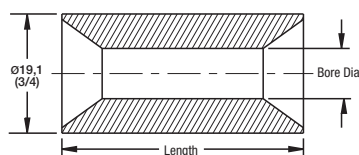
- 9/16" O.D. insert.



#### ■ TL171 Series

| order number | catalog number | model number | bore diameter |     | length |       |
|--------------|----------------|--------------|---------------|-----|--------|-------|
|              |                |              | mm            | in  | mm     | in    |
| 2939811      | B1737141       | TL171-4      | 6,4           | 1/4 | 47,6   | 1-7/8 |

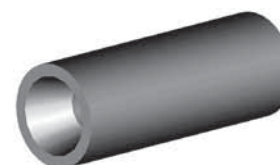
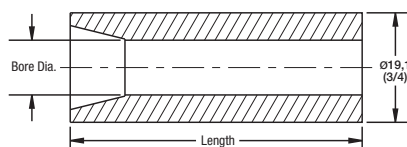
- 3/4" O.D. wide spray insert.



#### ■ TL172 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939810      | B1737251       | TL172-5      | 7,9           | 5/16 | 38,1   | 1-1/2 |
| 2939809      | B1737271       | TL172-7      | 11,1          | 7/16 | 47,6   | 1-7/8 |

- 3/4" O.D. insert.



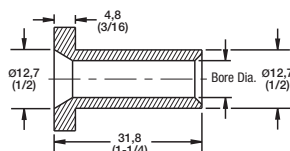
#### ■ TL175 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939808      | B1737541       | TL175-4      | 6,4           | 1/4  | 50,8   | 2     |
| 2939807      | B1737551       | TL175-5      | 7,9           | 5/16 | 50,8   | 2     |
| 2939806      | B1737561       | TL175-6      | 9,5           | 3/8  | 50,8   | 2     |
| 2939805      | B1737582       | TL175-8      | 12,7          | 1/2  | 44,5   | 1-3/4 |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

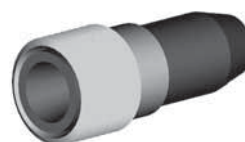
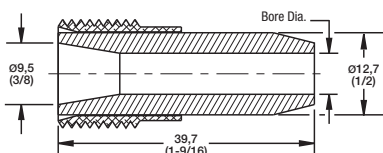
- 7/8" flange insert.



### TL197 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939863      | B1719741       | TL197-4      | 6,4           | 1/4  | 31,8   | 1-1/4 |
| 2939862      | B1719751       | TL197-5      | 7,9           | 5/16 | 31,8   | 1-1/4 |

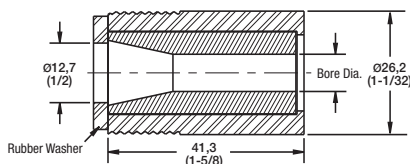
- Thread style: 3/8 – 18 N.P.S.M.
- Brass threads.



### T016 Series

| order number | catalog number | model number | bore diameter |     | length |        |
|--------------|----------------|--------------|---------------|-----|--------|--------|
|              |                |              | mm            | in  | mm     | in     |
| 2939556      | B1911640       | T016-4       | 6,4           | 1/4 | 39,7   | 1-9/16 |

- Thread style: 3/4 – 14 N.P.S.M.
- Steel jacket.
- Steel threads.



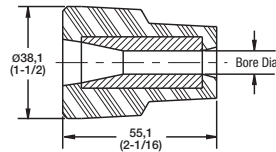
### T106 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939582      | B1910610       | T106-1       | 1,6           | 1/16 | 41,3   | 1-5/8 |
| 2939580      | B1910615       | T106-1-1/2   | 2,4           | 3/32 | 41,3   | 1-5/8 |
| 2939579      | B1910620       | T106-2       | 3,4           | 1/8  | 41,3   | 1-5/8 |
| 2939577      | B1910630       | T106-3       | 4,8           | 3/16 | 41,3   | 1-5/8 |
| 2939575      | B1910640       | T106-4       | 6,4           | 1/4  | 41,3   | 1-5/8 |
| 2939573      | B1910650       | T106-5       | 7,9           | 5/16 | 41,3   | 1-5/8 |
| 2939571      | B1910660       | T106-6       | 9,5           | 3/8  | 41,3   | 1-5/8 |
| 2939567      | B1910670       | T106-7       | 11,1          | 7/16 | 41,3   | 1-5/8 |
| 2939566      | B1910680       | T106-8       | 12,7          | 1/2  | 41,3   | 1-5/8 |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

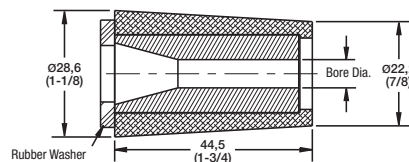
- Flanged polyurethane jacket.



### T106-FAP Series

| order number | catalog number | model number | bore diameter |      | length |        |
|--------------|----------------|--------------|---------------|------|--------|--------|
|              |                |              | mm            | in   | mm     | in     |
| 2939410      | B2010620       | T106-2FAP    | 3,2           | 1/8  | 55     | 2-1/16 |
| 2939409      | B2010630       | T106-3FAP    | 4,8           | 3/16 | 55     | 2-1/16 |
| 2939408      | B2010640       | T106-4FAP    | 6,4           | 1/4  | 55     | 2-1/16 |
| 2939407      | B2010650       | T106-5FAP    | 7,9           | 5/16 | 55     | 2-1/16 |

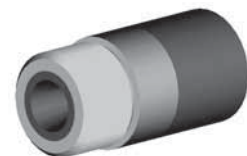
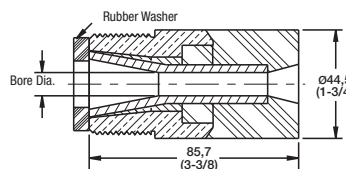
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Aluminum jacket.



### T109 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939564      | B1910910       | T109-1       | 1,6           | 1/16 | 44,5   | 1-3/4 |
| 2939563      | B1910915       | T109-1-1/2   | 2,4           | 3/32 | 44,5   | 1-3/4 |
| 2939562      | B1910920       | T109-2       | 3,2           | 1/8  | 44,5   | 1-3/4 |
| 2939561      | B1910930       | T109-3       | 4,8           | 3/16 | 44,5   | 1-3/4 |
| 2939560      | B1910940       | T109-4       | 6,4           | 1/4  | 44,5   | 1-3/4 |
| 2939559      | B1910950       | T109-5       | 7,9           | 5/16 | 44,5   | 1-3/4 |
| 2939558      | B1910960       | T109-6       | 9,5           | 3/8  | 44,5   | 1-3/4 |

- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Polyurethane jacket.
- Brass threads.



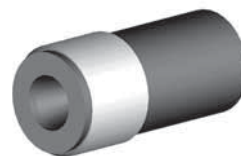
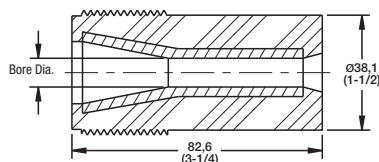
### T122-P Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939281      | B2082230       | T122-3P      | 4,8           | 3/16 | 85,7   | 3-3/8 |
| 2939279      | B2082240       | T122-4P      | 6,4           | 1/4  | 85,7   | 3-3/8 |
| 2939277      | B2082250       | T122-5P      | 7,9           | 5/16 | 85,7   | 3-3/8 |
| 2939275      | B2082260       | T122-6P      | 9,5           | 3/8  | 85,7   | 3-3/8 |
| 2939273      | B2082270       | T122-7P      | 11,1          | 7/16 | 85,7   | 3-3/8 |
| 2939271      | B2082280       | T122-8P      | 12,7          | 1/2  | 85,7   | 3-3/8 |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

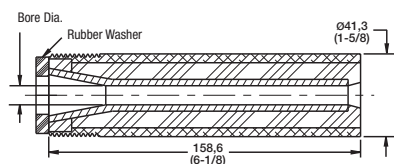
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Polyurethane jacket.
- Polyurethane threads.



### ■ T122-AP Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939280      | B2082233       | T122-3AP     | 4,8           | 3/16 | 82,6   | 3-1/4 |
| 2939278      | B2082243       | T122-4AP     | 6,4           | 1/4  | 82,6   | 3-1/4 |
| 2939276      | B2082253       | T122-5AP     | 7,9           | 5/16 | 82,6   | 3-1/4 |
| 2939274      | B2082263       | T122-6AP     | 9,5           | 3/8  | 82,6   | 3-1/4 |
| 2939272      | B2082273       | T122-7AP     | 11,1          | 7/16 | 82,6   | 3-1/4 |
| 2939270      | B2082283       | T122-8AP     | 12,7          | 1/2  | 82,6   | 3-1/4 |

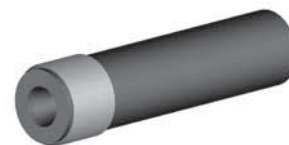
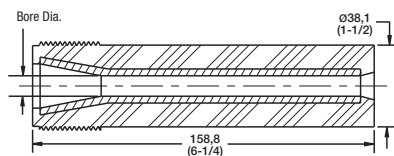
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Aluminum jacket.
- Aluminum threads.



### ■ T123 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939544      | B1912330       | T123-3       | 4,8           | 3/16 | 155,6  | 6-1/8 |
| 2939543      | B1912340       | T123-4       | 6,4           | 1/4  | 155,6  | 6-1/8 |
| 2939542      | B1912350       | T123-5       | 7,9           | 5/16 | 155,6  | 6-1/8 |
| 2939541      | B1912360       | T123-6       | 9,5           | 3/8  | 155,6  | 6-1/8 |
| 2939540      | B1912370       | T123-7       | 11,1          | 7/16 | 155,6  | 6-1/8 |
| 2939539      | B1912380       | T123-8       | 12,7          | 1/2  | 155,6  | 6-1/8 |

- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Polyurethane jacket.
- Polyurethane threads.



### ■ T123-AP Series

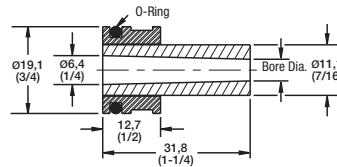
| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2964040      | B2082333       | T123-3AP     | 4,8           | 3/16 | 158,8  | 6-1/4 |
| 2939269      | B2082343       | T123-4AP     | 6,4           | 1/4  | 158,8  | 6-1/4 |
| 2939268      | B2082353       | T123-5AP     | 7,9           | 5/16 | 158,8  | 6-1/4 |
| 2939267      | B2082363       | T123-6AP     | 9,5           | 3/8  | 158,8  | 6-1/4 |
| 2939266      | B2082373       | T123-7AP     | 11,1          | 7/16 | 158,8  | 6-1/4 |
| 2939265      | B2082383       | T123-8AP     | 12,7          | 1/2  | 158,8  | 6-1/4 |

\*Contact your Kennametal representative or customer service for quote.



Dimensions below are shown in millimeters and (inches).

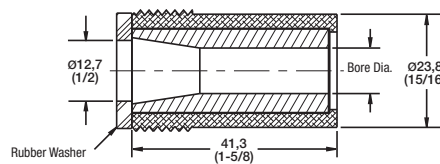
- 3/4" O.D., tapered I.D. air jet assembly.
- Steel, grooved jacket.
- Rubber O-ring.



### ■ T130 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939511      | B1913020       | T130-2       | 3,2           | 1/8  | 31,8   | 1-1/4 |
| 2939510      | B1913030       | T130-3       | 4,8           | 3/16 | 31,8   | 1-1/4 |
| 2939509      | B1913040       | T130-4       | 6,4           | 1/4  | 31,8   | 1-1/4 |

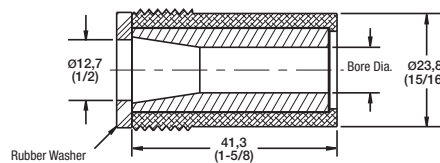
- Thread style: 1 – 14 N.F.
- Aluminum jacket.
- Aluminum threads.



### ■ T133 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939504      | B1913330       | T133-3       | 4,8           | 3/16 | 41,3   | 1-5/8 |
| 2939503      | B1913340       | T133-4       | 6,4           | 1/4  | 41,3   | 1-5/8 |
| 2939502      | B1913350       | T133-5       | 7,9           | 5/16 | 41,3   | 1-5/8 |
| 2939501      | B1913360       | T133-6       | 9,5           | 3/8  | 41,3   | 1-5/8 |
| 2939500      | B1913370       | T133-7       | 11,1          | 7/16 | 41,3   | 1-5/8 |
| 2939499      | B1913380       | T133-8       | 12,7          | 1/2  | 41,3   | 1-5/8 |

- Thread style: 1 – 14 N.F.
- Polyurethane jacket.
- Polyurethane threads.

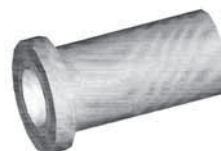
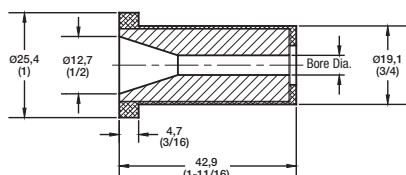


### ■ T133-AP Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 5180672      | B2013333       | T133-3AP     | 4,8           | 3/16 | 41,3   | 1-5/8 |
| 5180673      | B2013343       | T133-4AP     | 6,4           | 1/4  | 41,3   | 1-5/8 |
| 2939405      | B2013353       | T133-5AP     | 7,9           | 5/16 | 41,3   | 1-5/8 |
| 2939404      | B2013363       | T133-6AP     | 9,5           | 3/8  | 41,3   | 1-5/8 |
| *            | B2013373       | T133-7AP     | 11,1          | 7/16 | 41,3   | 1-5/8 |
| 2939403      | B2013383       | T133-8AP     | 12,7          | 1/2  | 41,3   | 1-5/8 |

\*Contact your Kennametal representative or customer service for quote.

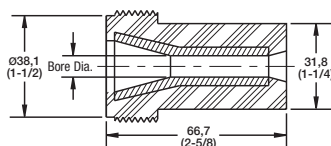
- 1" O.D. flange.
- Aluminum jacket.



### ■ T134 Series

| order number | catalog number | model number | bore diameter |      | length |         |
|--------------|----------------|--------------|---------------|------|--------|---------|
|              |                |              | mm            | in   | mm     | in      |
| 3775674      | B1913410       | T134-1       | 1,6           | 1/16 | 42,9   | 1-11/16 |
| 4033336      | B1913420       | T134-2       | 3,2           | 1/8  | 42,9   | 1-11/16 |
| 2939498      | B1913430       | T134-3       | 4,8           | 3/16 | 42,9   | 1-11/16 |
| 4033340      | B1913440       | T134-4       | 6,4           | 1/4  | 42,9   | 1-11/16 |
| 4033341      | B1913450       | T134-5       | 7,9           | 5/16 | 42,9   | 1-11/16 |
| 4033342      | B1913460       | T134-6       | 9,5           | 3/8  | 42,9   | 1-11/16 |

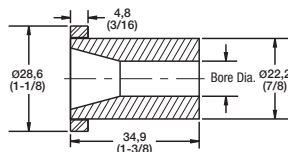
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Polyurethane jacket.
- Polyurethane threads.



### ■ T137 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939402      | B2013730       | T137-3AP     | 4,8           | 3/16 | 66,7   | 2-5/8 |
| 2939401      | B2013740       | T137-4AP     | 6,4           | 1/4  | 66,7   | 2-5/8 |
| 2939400      | B2013750       | T137-5AP     | 7,9           | 5/16 | 66,7   | 2-5/8 |
| 2939399      | B2013760       | T137-6AP     | 9,5           | 3/8  | 66,7   | 2-5/8 |
| 2939397      | B2013780       | T137-8AP     | 12,7          | 1/2  | 66,7   | 2-5/8 |

- 1-1/8" flanged insert.



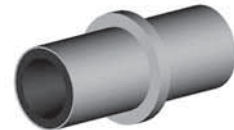
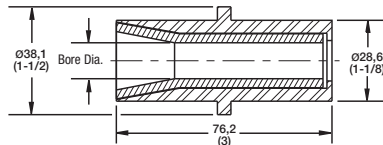
### ■ T198 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939456      | B1919840       | T198-4       | 6,4           | 1/4  | 34,9   | 1-3/8 |
| 2939455      | B1919850       | T198-5       | 7,9           | 5/16 | 34,9   | 1-3/8 |
| 2939454      | B1919860       | T198-6       | 9,5           | 3/8  | 34,9   | 1-3/8 |
| 2939453      | B1919870       | T198-7       | 11,1          | 7/16 | 34,9   | 1-3/8 |
| 2939452      | B1919880       | T198-8       | 12,7          | 1/2  | 34,9   | 1-3/8 |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

- Steel jacket.
- 1-1/2" mid-flange insert.



#### T222 Series

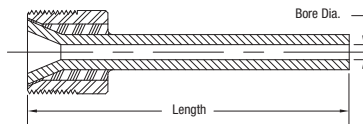
| order number | catalog number | model number | bore diameter |     | length |    |
|--------------|----------------|--------------|---------------|-----|--------|----|
|              |                |              | mm            | in  | mm     | in |
| 2939447      | B1922260       | T222-6       | 9,5           | 3/8 | 76,2   | 3  |
| 3327934      | B1922280       | T222-8       | 12,7          | 1/2 | 76,2   | 3  |

## Hozzle Nozzles

Hozzle nozzles are excellent for aerospace, aviation and automotive component-related applications where minimal access or clearance are an issue. **We have the capability to manufacture other hozzle nozzle designs. Please contact us to discuss your requirements.**

Dimensions below are shown in millimeters and (inches).

- Thread style: 3/4 – 14 N.S.P.M.
- 7/16" O.D. insert.
- Steel threads.



#### Hozzle Nozzle

| order number | catalog number | bore diameter |      | length |    |
|--------------|----------------|---------------|------|--------|----|
|              |                | mm            | in   | mm     | in |
| 5115972      | B2728844       | 4,8           | 3/16 | 101,6  | 4  |
| 3994486      | BB29271A       | 4,8           | 3/16 | 152,4  | 6  |
| 3025048      | B1900002       | 4,8           | 3/16 | 254    | 10 |

We have the capability to manufacture other hozzle nozzle sizes. Please contact us to discuss your requirements.

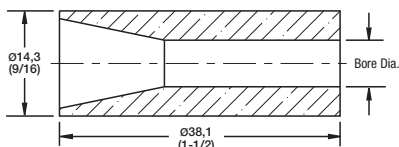
\*Contact your Kennametal representative or customer service for quote.

## Boron Carbide Nozzles

Boron carbide is ideal for aggressive abrasives such as aluminum oxide and selected mineral aggregates when rough handling can be avoided.

Dimensions below are shown in millimeters and (inches).

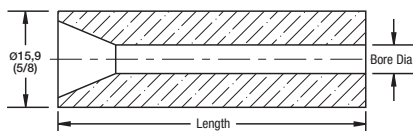
- 9/16" O.D. insert.



### 60 Series

| order number | catalog number | model number | bore diameter |     | length |       |
|--------------|----------------|--------------|---------------|-----|--------|-------|
|              |                |              | mm            | in  | mm     | in    |
| 2940350      | B1162040       | B4S-60       | 6,4           | 1/4 | 38,1   | 1-1/2 |

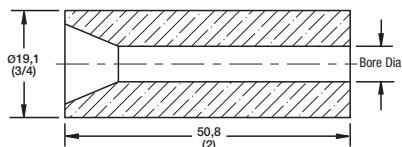
- 5/8" O.D. insert.



### 62 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940347      | B1162820       | B2L-62       | 3,4           | 1/8  | 50,8   | 2     |
| 2940346      | B1162825       | B2-1/2L-62   | 4             | 5/32 | 50,8   | 2     |
| 2940345      | B1162830       | B3L-62       | 4,8           | 3/16 | 50,8   | 2     |
| 2940344      | B1162840       | B4L-62       | 6,4           | 1/4  | 50,8   | 2     |
| 2940343      | B1162850       | B5L-62       | 7,9           | 5/16 | 50,8   | 2     |
| 2940348      | B1162450       | B5M-62       | 7,9           | 5/16 | 38,1   | 1-1/2 |

- 3/4" O.D. insert.



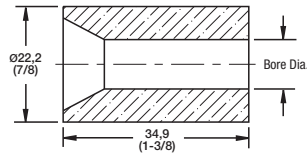
### 75 Series

| order number | catalog number | model number | bore diameter |      | length |    |
|--------------|----------------|--------------|---------------|------|--------|----|
|              |                |              | mm            | in   | mm     | in |
| 2940341      | B1175820       | B2L-75       | 3,4           | 1/8  | 50,8   | 2  |
| 2940340      | B1175830       | B3L-75       | 4,8           | 3/16 | 50,8   | 2  |
| 2940339      | B1175835       | B3-1/2L-75   | 5,6           | 7/32 | 50,8   | 2  |
| 2940338      | B1175840       | B4L-75       | 6,4           | 1/4  | 50,8   | 2  |
| 2940337      | B1175850       | B5L-75       | 7,9           | 5/16 | 50,8   | 2  |
| 2940336      | B1175860       | B6L-75       | 9,5           | 3/8  | 50,8   | 2  |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

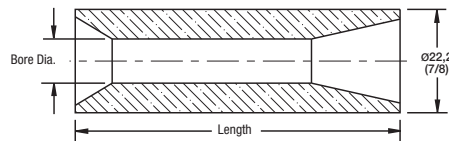
- 7/8" O.D. insert.



### 87 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940327      | B1187340       | B4S-87       | 6,4           | 1/4  | 34,9   | 1-3/8 |
| 2940325      | B1187350       | B5S-87       | 7,9           | 5/16 | 34,9   | 1-3/8 |
| 2940324      | B1187360       | B6S-87       | 9,5           | 3/8  | 34,9   | 1-3/8 |
| 2940323      | B1187370       | B7S-87       | 11,1          | 7/16 | 34,9   | 1-3/8 |
| 2940322      | B1187380       | B8S-87       | 12,7          | 1/2  | 34,9   | 1-3/8 |

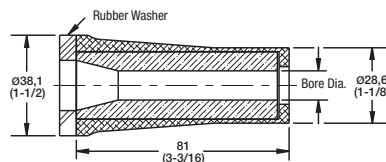
- 7/8" O.D. wide spray gun insert.



### BVI Series

| order number | catalog number | model number | bore diameter |      | length |         |
|--------------|----------------|--------------|---------------|------|--------|---------|
|              |                |              | mm            | in   | mm     | in      |
| 3059579      | B1127040       | BVI-4        | 6,4           | 1/4  | 71,4   | 2-13/16 |
| 2940354      | B1127050       | BVI-5        | 7,9           | 5/16 | 71,4   | 2-13/16 |
| 2940353      | B1127060       | BVI-6        | 9,5           | 3/8  | 69,9   | 2-3/4   |
| 2940352      | B1127070       | BVI-7        | 11,1          | 7/16 | 71,4   | 2-13/16 |
| 2940351      | B1127080       | BVI-8        | 12,7          | 1/2  | 71,4   | 2-13/16 |

- Flange tapered aluminum jacket.
- 1-1/2" O.D., tapered to 1-1/8" O.D.



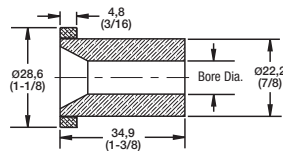
### SB Series

| order number | catalog number | model number | bore diameter |      | length |        |
|--------------|----------------|--------------|---------------|------|--------|--------|
|              |                |              | mm            | in   | mm     | in     |
| 2940277      | B1415060       | SB-6         | 9,5           | 3/8  | 81     | 3-3/16 |
| 3680995      | B1415070       | SB-7         | 11,1          | 7/16 | 81     | 3-3/16 |
| 2940276      | B1415080       | SB-8         | 12,7          | 1/2  | 81     | 3-3/16 |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

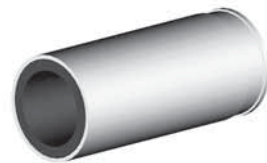
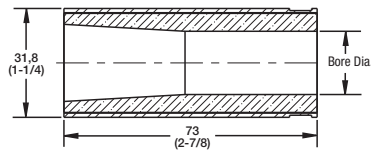
- 1-1/8" flange.



## S198 Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940275      | B1419840       | S198-4       | 6,4           | 1/4  | 34,9   | 1-3/8 |
| 2940274      | B1419850       | S198-5       | 7,9           | 5/16 | 34,9   | 1-3/8 |
| 2940273      | B1419860       | S198-6       | 9,5           | 3/8  | 34,9   | 1-3/8 |
| 2940272      | B1419870       | S198-7       | 11,1          | 7/16 | 34,9   | 1-3/8 |
| 5018290      | B1419880       | S198-8       | 12,7          | 1/2  | 34,9   | 1-3/8 |

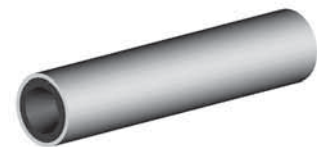
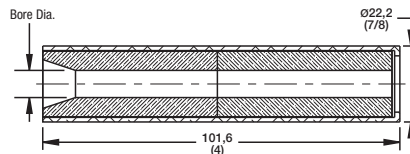
- Vacuum blast retainer.
- Steel jacket with groove.



## S258 Series

| order number | catalog number | model number | bore diameter |       | length |       |
|--------------|----------------|--------------|---------------|-------|--------|-------|
|              |                |              | mm            | in    | mm     | in    |
| 2940271      | B1425812       | S258-12      | 18,3          | 23/32 | 73     | 2-7/8 |

- Aluminum jacket.



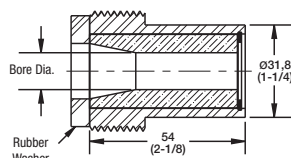
## S261 Series

| order number | catalog number | model number | bore diameter |     | length |    |
|--------------|----------------|--------------|---------------|-----|--------|----|
|              |                |              | mm            | in  | mm     | in |
| 2940269      | B1426160       | S261-6       | 9,5           | 3/8 | 101,6  | 4  |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

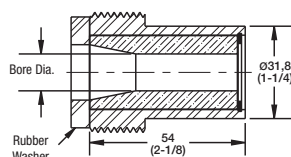
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Steel jacket.
- Steel threads.



### ■ E Series • Short

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940257      | B1503022       | B2S2-E       | 3,4           | 1/8  | 54     | 2-1/8 |
| 2940255      | B1503032       | B3S2-E       | 4,8           | 3/16 | 54     | 2-1/8 |
| 2940253      | B1503042       | B4S2-E       | 6,4           | 1/4  | 54     | 2-1/8 |
| 2940250      | B1503052       | B5S2-E       | 7,9           | 5/16 | 54     | 2-1/8 |
| 2940247      | B1503062       | B6S2-E       | 9,5           | 3/8  | 54     | 2-1/8 |
| 2940243      | B1503082       | B8S2-E       | 12,7          | 1/2  | 54     | 2-1/8 |

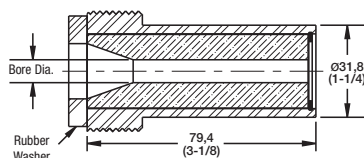
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Polyurethane jacket.
- Polyurethane threads.



### ■ E-AP Series • Short

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| *            | B1503022AP     | B2S2-EAP     | 3,4           | 1/8  | 54     | 2-1/8 |
| *            | B1503032AP     | B3S2-EAP     | 4,8           | 3/16 | 54     | 2-1/8 |
| 3859009      | B1503042AP     | B4S2-EAP     | 6,4           | 1/4  | 54     | 2-1/8 |
| 3597011      | B1503052AP     | B5S2-EAP     | 7,9           | 5/16 | 54     | 2-1/8 |
| *            | B1503062AP     | B6S2-EAP     | 9,5           | 3/8  | 54     | 2-1/8 |
| 4155292      | B1503082AP     | B8S2-EAP     | 12,7          | 1/2  | 54     | 2-1/8 |

- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Steel jacket.
- Steel threads.



### ■ E Series • Medium

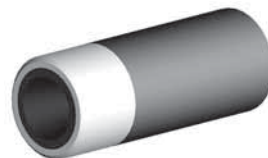
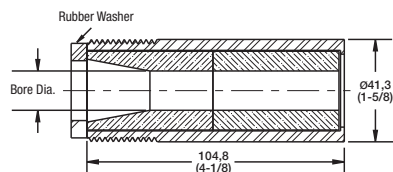
| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940256      | B1503023       | B2M3-E       | 3,4           | 1/8  | 79,4   | 3-1/8 |
| 2940254      | B1503033       | B3M3-E       | 4,8           | 3/16 | 79,4   | 3-1/8 |
| 2940252      | B1503043       | B4M3-E       | 6,4           | 1/4  | 79,4   | 3-1/8 |
| 2940249      | B1503053       | B5M3-E       | 7,9           | 5/16 | 79,4   | 3-1/8 |
| 2940246      | B1503063       | B6M3-E       | 9,5           | 3/8  | 79,4   | 3-1/8 |
| 2940242      | B1503083       | B8M3-E       | 12,7          | 1/2  | 79,4   | 3-1/8 |

\*Contact your Kennametal representative or customer service for quote.



Dimensions below are shown in millimeters and (inches).

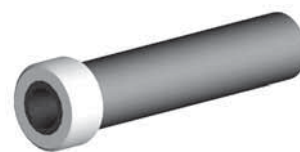
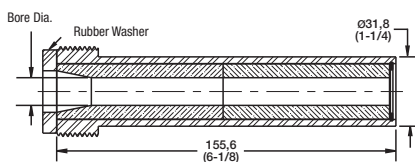
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Steel jacket.
- Steel threads.



### ■ E Series • 4-1/8 Medium

| order number | catalog number | model number | bore diameter |     | length |       |
|--------------|----------------|--------------|---------------|-----|--------|-------|
|              |                |              | mm            | in  | mm     | in    |
| 2940240      | B1503104       | B10M4-E      | 15,9          | 5/8 | 104,8  | 4-1/8 |

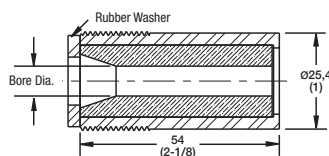
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Steel jacket.
- Steel threads.



### ■ E Series • Long

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940251      | B1503046       | B4L6-E       | 6,4           | 1/4  | 155,6  | 6-1/8 |
| 2940248      | B1503056       | B5L6-E       | 7,9           | 5/16 | 155,6  | 6-1/8 |
| 2940245      | B1503066       | B6L6-E       | 9,5           | 3/8  | 155,6  | 6-1/8 |
| 2940244      | B1503076       | B7L6-E       | 11,1          | 7/16 | 155,6  | 6-1/8 |
| 2940241      | B1503086       | B8L6-E       | 12,7          | 1/2  | 155,6  | 6-1/8 |

- Thread style: 3/4 – 14 N.P.S.M.
- Steel jacket.
- Steel threads.



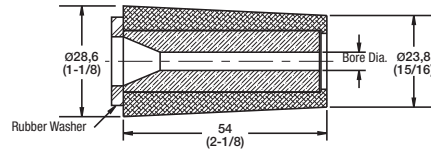
### ■ G Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940228      | B1505022       | B2S2-G       | 3,4           | 1/8  | 54     | 2-1/8 |
| 2940227      | B1505032       | B3S2-G       | 4,8           | 3/16 | 54     | 2-1/8 |
| 2940225      | B1505042       | B4S2-G       | 6,4           | 1/4  | 54     | 2-1/8 |
| 2940223      | B1505052       | B5S2-G       | 7,9           | 5/16 | 54     | 2-1/8 |
| 2940222      | B1505062       | B6S2-G       | 9,5           | 3/8  | 54     | 2-1/8 |
| 2940221      | B1505082       | B8S2-G       | 12,7          | 1/2  | 54     | 2-1/8 |

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Dimensions below are shown in millimeters and (inches).

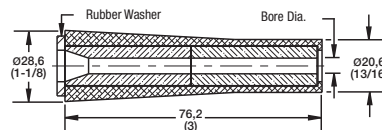
- Aluminum jacket.



### H Series • Short

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940215      | B1506022       | B2S2-H       | 3,4           | 1/8  | 54     | 2-1/8 |
| 2940214      | B15060221      | B2-1/2S2-H   | 4             | 5/32 | 54     | 2-1/8 |
| 2940209      | B1506032       | B3S2-H       | 4,8           | 3/16 | 54     | 2-1/8 |
| 2940204      | B1506042       | B4S2-H       | 6,4           | 1/4  | 54     | 2-1/8 |
| 2940200      | B1506050       | B5S2-H       | 7,9           | 5/16 | 54     | 2-1/8 |

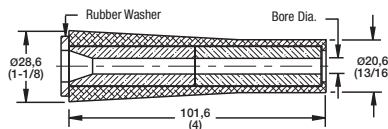
- Aluminum jacket.



### H Series • Medium

| order number | catalog number | model number | bore diameter |      | length |    |
|--------------|----------------|--------------|---------------|------|--------|----|
|              |                |              | mm            | in   | mm     | in |
| 2940213      | B1506023       | B2M3-H       | 3,4           | 1/8  | 76,2   | 3  |
| 2940212      | B15060231      | B2-1/2M3-H   | 4             | 5/32 | 76,2   | 3  |
| 2940208      | B1506033       | B3M3-H       | 4,8           | 3/16 | 76,2   | 3  |
| 2940203      | B1506043       | B4M3-H       | 6,4           | 1/4  | 76,2   | 3  |

- Aluminum jacket.



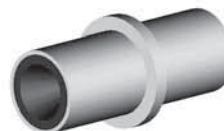
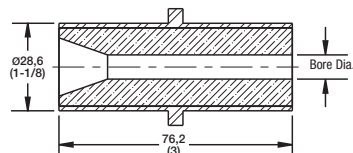
### H Series • Long

| order number | catalog number | model number | bore diameter |      | length |    |
|--------------|----------------|--------------|---------------|------|--------|----|
|              |                |              | mm            | in   | mm     | in |
| 2940211      | B1506024       | B2L4-H       | 3,4           | 1/8  | 101,6  | 4  |
| 2940210      | B15060241      | B2-1/2L4-H   | 4             | 5/32 | 101,6  | 4  |
| 2940206      | B1506034       | B3L4-H       | 4,8           | 3/16 | 101,6  | 4  |
| 2940202      | B1506044       | B4L4-H       | 6,4           | 1/4  | 101,6  | 4  |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

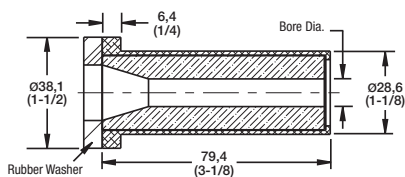
- 1-1/2" middle flange.
- Steel jacket.



## I Series

| order number | catalog number | model number | bore diameter |      | length |    |
|--------------|----------------|--------------|---------------|------|--------|----|
|              |                |              | mm            | in   | mm     | in |
| *            | B1511023       | B2M3-I       | 3,4           | 1/8  | 76,2   | 3  |
| 3848285      | B1511033       | B3M3-I       | 4,8           | 3/16 | 76,2   | 3  |
| 2954332      | B1511043       | B4M3-I       | 6,4           | 1/4  | 76,2   | 3  |
| 2940152      | B1511053       | B5M3-I       | 7,9           | 5/16 | 76,2   | 3  |
| 2940151      | B1511063       | B6M3-I       | 9,5           | 3/8  | 76,2   | 3  |
| *            | B1511073       | B7M3-I       | 11,1          | 7/16 | 76,2   | 3  |
| 2940149      | B1511083       | B8M3-I       | 12,7          | 1/2  | 76,2   | 3  |

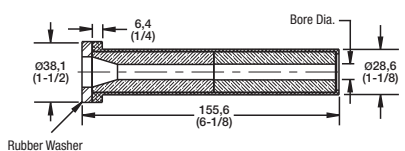
- Flanged aluminum jacket.



## J Series • Medium

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940194      | B1507033       | B3M3-J       | 4,8           | 3/16 | 79,4   | 3-1/8 |
| 2940193      | B1507043       | B4M3-J       | 6,4           | 1/4  | 79,4   | 3-1/8 |
| 2954333      | B1507053       | B5M3-J       | 7,9           | 5/16 | 79,4   | 3-1/8 |
| 2940190      | B1507063       | B6M3-J       | 9,5           | 3/8  | 79,4   | 3-1/8 |
| 2940188      | B1507083       | B8M3-J       | 12,7          | 1/2  | 79,4   | 3-1/8 |

- Flanged aluminum jacket.



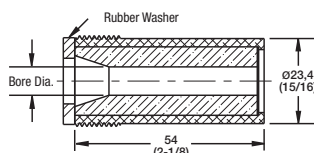
## J Series • Long

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| *            | B1507046       | B4L6-J       | 6,4           | 1/4  | 155,6  | 6-1/8 |
| 2940192      | B1507056       | B5L6-J       | 7,9           | 5/16 | 155,6  | 6-1/8 |
| 2940189      | B1507066       | B6L6-J       | 9,5           | 3/8  | 155,6  | 6-1/8 |
| 2940187      | B1507086       | B8L6-J       | 12,7          | 1/2  | 155,6  | 6-1/8 |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

- Thread style: 1 – 14 N.F.
- Aluminum jacket.
- Aluminum threads.



### ■ L Series

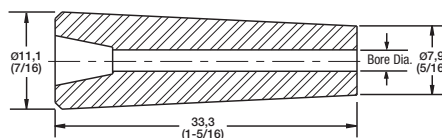
| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2940183      | B1509022       | B2S2-L       | 3,4           | 1/8  | 54     | 2-1/8 |
| 2940182      | B1509032       | B3S2-L       | 4,8           | 3/16 | 54     | 2-1/8 |
| 2940181      | B1509042       | B4S2-L       | 6,4           | 1/4  | 54     | 2-1/8 |
| 2940180      | B1509052       | B5S2-L       | 7,9           | 5/16 | 54     | 2-1/8 |
| 2940179      | B1509062       | B6S2-L       | 9,5           | 3/8  | 54     | 2-1/8 |
| 2940177      | B1509082       | B8S2-L       | 12,7          | 1/2  | 54     | 2-1/8 |

## ROCTEC®

ROCTEC® composite carbide nozzles provide even longer life than boron carbide nozzles. They are ideal for applications using aggressive abrasive like aluminum oxide and silicon carbide.

Dimensions below are shown in millimeters and (inches).

- 7/16" O.D., tapered to 5/16" O.D.



### ■ RL2 Series

| order number | catalog number | model number | bore diameter |      | length |        |
|--------------|----------------|--------------|---------------|------|--------|--------|
|              |                |              | mm            | in   | mm     | in     |
| 3111103      | B1930010       | RL2-0,5      | 1,57          | 1/16 | 33,3   | 1-5/16 |
| 2939427      | B1930011       | RL2-1        | 2,4           | 3/32 | 33,3   | 1-5/16 |
| 2939426      | B1930012       | RL2-2        | 3,4           | 1/8  | 33,3   | 1-5/16 |

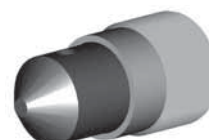
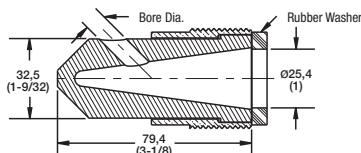
\*Contact your Kennametal representative or customer service for quote.

## Tungsten Carbide

These nozzles are excellent for getting inside tight places like bridge lattice, behind flanges or inside pipe. Many operators waste abrasive and time waiting for ricochet to get the job done. No nozzle tool chest should be without an angle nozzle. These nozzles are available in tungsten carbide, boron carbide, and ROCTEC® featuring long life blast outputs between 0° and 125° relative to the input openings. Available with single, double, triple, or quadruple outlets. **We have the capability to manufacture additional angle nozzle designs. Please contact us to discuss your requirements.**

Dimensions below are shown in millimeters and (inches).

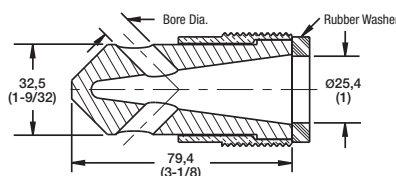
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Brass threads.



### ■ T045 Series • Single Outlet 45°

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939649      | B1904530       | T045-3       | 4,8           | 3/16 | 79,4   | 3-1/8 |
| 2939641      | B1904540       | T045-4       | 6,4           | 1/4  | 79,4   | 3-1/8 |
| 2939632      | B1904550       | T045-5       | 7,9           | 5/16 | 79,4   | 3-1/8 |
| 2939623      | B1904560       | T045-6       | 9,5           | 3/8  | 79,4   | 3-1/8 |
| 3576844      | B1904570       | T045-7       | 11,1          | 7/16 | 79,4   | 3-1/8 |
| 2939614      | B1904580       | T045-8       | 12,7          | 1/2  | 79,4   | 3-1/8 |

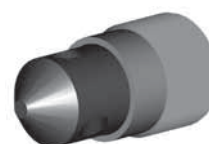
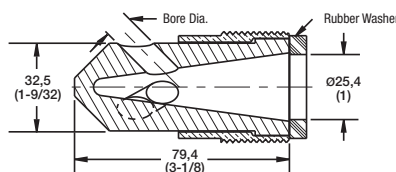
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Brass threads.



### ■ T045 Series • Double Outlet 45°

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939647      | B1904532       | T045-32      | 4,8           | 3/16 | 79,4   | 3-1/8 |
| 2939639      | B1904542       | T045-42      | 6,4           | 1/4  | 79,4   | 3-1/8 |
| 2939630      | B1904552       | T045-52      | 7,9           | 5/16 | 79,4   | 3-1/8 |
| 2939621      | B1904562       | T045-62      | 9,5           | 3/8  | 79,4   | 3-1/8 |
| 2939613      | B1904582       | T045-82      | 12,7          | 1/2  | 79,4   | 3-1/8 |

- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Brass threads.



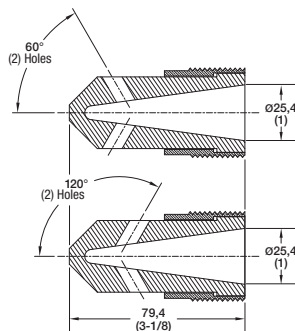
### ■ T045 Series • Triple Outlet 45°

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939646      | B1904533       | T045-33      | 4,8           | 3/16 | 79,4   | 3-1/8 |
| 2939638      | B1904543       | T045-43      | 6,4           | 1/4  | 79,4   | 3-1/8 |
| 2939629      | B1904553       | T045-53      | 7,9           | 5/16 | 79,4   | 3-1/8 |
| 2939620      | B1904563       | T045-63      | 9,5           | 3/8  | 79,4   | 3-1/8 |
| 2939612      | B1904583       | T045-83      | 12,7          | 1/2  | 79,4   | 3-1/8 |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

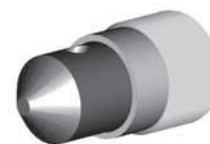
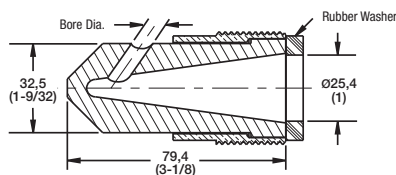
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Brass threads.
- Four outlets, two at 60° and two at 120°



### ■ T045 Series • Quad Outlet 60°/120°

| order number | catalog number | model number    | bore diameter |      | length |       |
|--------------|----------------|-----------------|---------------|------|--------|-------|
|              |                |                 | mm            | in   | mm     | in    |
| 2939607      | B1904599       | T045-2.5 60/120 | 4             | 5/32 | 79,4   | 3-1/8 |
| 2939633      | B1904549       | T045-4 60/120   | 6,4           | 1/4  | 79,4   | 3-1/8 |
| 3660505      | B1904559       | T045-5 60/120   | 7,9           | 5/16 | 79,4   | 3-1/8 |
| 2939615      | B1904569       | T045-6 60/120   | 9,5           | 3/8  | 79,4   | 3-1/8 |

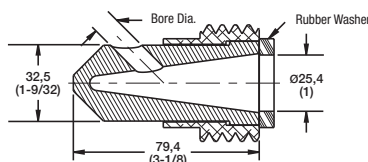
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Brass threads.
- Single, double, or triple outlets.



### ■ T045 Series • Reverse Outlet 125°

| order number | catalog number | model number | bore diameter |          | length |       |
|--------------|----------------|--------------|---------------|----------|--------|-------|
|              |                |              | mm            | in       | mm     | in    |
| 2939648      | B1904530R      | T045-3R      | 4,8           | 3/16     | 79,4   | 3-1/8 |
| 2939640      | B1904540R      | T045-4R      | 6,4           | 1/4      | 79,4   | 3-1/8 |
| 2939637      | B1904543R      | T045-43R     | 6,4 x 3       | 1/4 x 3  | 79,4   | 3-1/8 |
| 2939631      | B1904553R      | T045-53R     | 7,9 x 3       | 5/16 x 3 | 79,4   | 3-1/8 |
| 2939628      | B1904560R      | T045-6R      | 9,5           | 3/8      | 79,4   | 3-1/8 |
| 2939622      | B1904580R      | T045-8R      | 12,7          | 1/2      | 79,4   | 3-1/8 |

- Thread style: 50mm.
- Aluminum threads.



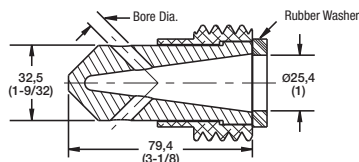
### ■ T045 50mm Contractor Series • Single Outlet 45°

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 3553884      | B1904534       | T045-350     | 4,8           | 3/16 | 79,4   | 3-1/8 |
| 2939636      | B1904544       | T045-450     | 6,4           | 1/4  | 79,4   | 3-1/8 |
| 2939627      | B1904554       | T045-550     | 7,9           | 5/16 | 79,4   | 3-1/8 |
| 2939619      | B1904564       | T045-650     | 9,5           | 3/8  | 79,4   | 3-1/8 |
| 3640404      | B1904574       | T045-750     | 11,1          | 7/16 | 79,4   | 3-1/8 |
| 2939611      | B1904584       | T045-850     | 12,7          | 1/2  | 79,4   | 3-1/8 |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

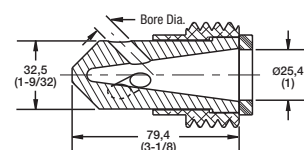
- Thread style: 50mm.
- Aluminum threads.



## ■ T045 50mm Contractor Series • Double Outlet 45°

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 5048345      | B1904535       | T045-32-50mm | 4,8           | 3/16 | 79,4   | 3-1/8 |
| 3046871      | B1904545       | T045-42-50mm | 6,4           | 1/4  | 79,4   | 3-1/8 |
| 2939626      | B1904555       | T045-52-50mm | 7,9           | 5/16 | 79,4   | 3-1/8 |
| 2939618      | B1904565       | T045-62-50mm | 9,5           | 3/8  | 79,4   | 3-1/8 |
| 2954301      | B1904585       | T045-82-50mm | 12,7          | 1/2  | 79,4   | 3-1/8 |

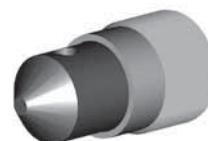
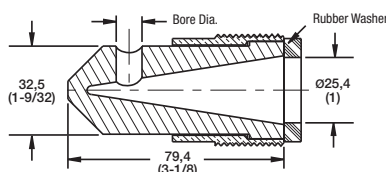
- Thread style: 50mm.
- Aluminum threads.



## ■ T045 50mm Contractor Series • Triple Outlet 45°

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939644      | B1904536       | T045-33-50mm | 4,8           | 3/16 | 79,4   | 3-1/8 |
| 2939635      | B1904546       | T045-43-50mm | 6,4           | 1/4  | 79,4   | 3-1/8 |
| 2939625      | B1904556       | T045-53-50mm | 7,9           | 5/16 | 79,4   | 3-1/8 |
| 2939617      | B1904566       | T045-63-50mm | 9,5           | 3/8  | 79,4   | 3-1/8 |

- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Brass threads.



## ■ T090 Series • Single Outlet 90°

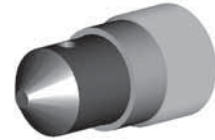
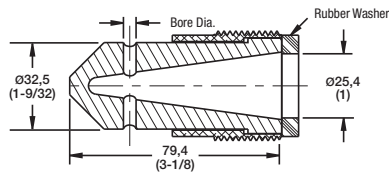
| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939605      | B1909030       | T090-3       | 4,8           | 3/16 | 79,4   | 3-1/8 |
| 2939603      | B1909040       | T090-4       | 6,4           | 1/4  | 79,4   | 3-1/8 |
| 2939598      | B1909050       | T090-5       | 7,9           | 5/16 | 79,4   | 3-1/8 |
| 2939594      | B1909060       | T090-6       | 9,5           | 3/8  | 79,4   | 3-1/8 |
| 4120022      | B1909070       | T090-7       | 11,1          | 7/16 | 79,4   | 3-1/8 |
| 2939589      | B1909080       | T090-8       | 12,7          | 1/2  | 79,4   | 3-1/8 |

\*Contact your Kennametal representative or customer service for quote.



Dimensions below are shown in millimeters and (inches).

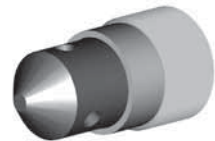
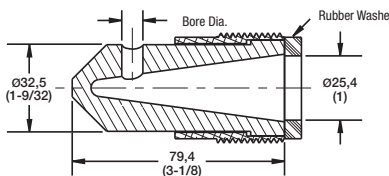
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Brass threads.



#### ■ T090 Series • Double Outlet 90°

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 3088735      | B1909032       | T090-32      | 4,8           | 3/16 | 79,4   | 3-1/8 |
| 2939602      | B1909042       | T090-42      | 6,4           | 1/4  | 79,4   | 3-1/8 |
| 2939597      | B1909052       | T090-52      | 7,9           | 5/16 | 79,4   | 3-1/8 |
| 2939593      | B1909062       | T090-62      | 9,5           | 3/8  | 79,4   | 3-1/8 |
| 2939588      | B1909082       | T090-82      | 12,7          | 1/2  | 79,4   | 3-1/8 |

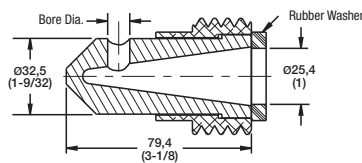
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Brass threads.



#### ■ T090 Series • Triple Outlet 90°

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939604      | B1909033       | T090-33      | 4,8           | 3/16 | 79,4   | 3-1/8 |
| 2939601      | B1909043       | T090-43      | 6,4           | 1/4  | 79,4   | 3-1/8 |
| 2939596      | B1909053       | T090-53      | 7,9           | 5/16 | 79,4   | 3-1/8 |
| 2939592      | B1909063       | T090-63      | 9,5           | 3/8  | 79,4   | 3-1/8 |
| 2939583      | B1909083       | T090-83      | 12,7          | 1/2  | 79,4   | 3-1/8 |

- Thread style: 50mm.
- Aluminum threads.



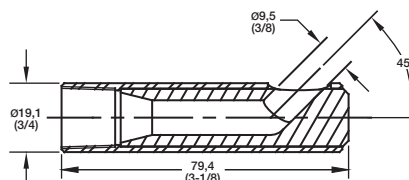
#### ■ T090 50mm Contractor Series • Single Outlet 90°

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 3735700      | B1909034       | T090-350     | 4,8           | 3/16 | 79,4   | 3-1/8 |
| 2939600      | B1909044       | T090-450     | 6,4           | 1/4  | 79,4   | 3-1/8 |
| 2939595      | B1909054       | T090-550     | 7,9           | 5/16 | 79,4   | 3-1/8 |
| 2939591      | B1909064       | T090-650     | 9,5           | 3/8  | 79,4   | 3-1/8 |
| 2939586      | B1909084       | T090-850     | 12,7          | 1/2  | 79,4   | 3-1/8 |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

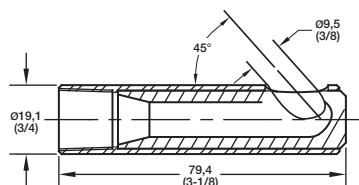
- Thread style: Female 3/8 – 18 N.P.T.
- Steel jacket.
- Steel threads.



### ■ T144 Series • 45°

| order number | catalog number | model number | bore diameter |         | length |       |
|--------------|----------------|--------------|---------------|---------|--------|-------|
|              |                |              | mm            | in      | mm     | in    |
| 2939495      | B1914460       | T144-6       | 9,5           | 3/8     | 79,4   | 3-1/8 |
| 2939493      | B1914462       | T144-62      | 9,5 x 2       | 3/8 x 2 | 79,4   | 3-1/8 |

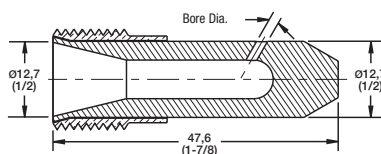
- Thread style: Female 3/8 – 18 N.P.T.
- Steel jacket.
- Steel threads.



### ■ T144 Series • Reverse 135°

| order number | catalog number | model number | bore diameter |     | length |       |
|--------------|----------------|--------------|---------------|-----|--------|-------|
|              |                |              | mm            | in  | mm     | in    |
| 2939494      | B1914460R      | T144-6R      | 9,5           | 3/8 | 79,4   | 3-1/8 |

- Thread style: 3/8 – 18 N.P.S.M.
- Brass threads.
- Single, double, triple, or quad outlets.



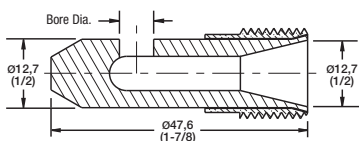
### ■ T145 Series • 60°

| order number | catalog number | model number | bore diameter |         | length |       |
|--------------|----------------|--------------|---------------|---------|--------|-------|
|              |                |              | mm            | in      | mm     | in    |
| 2939492      | B1914520       | T145-2       | 3,2           | 1/8     | 47,6   | 1-7/8 |
| 2939491      | B1914522       | T145-22      | 3,2 x 2       | 1/8 x 2 | 47,6   | 1-7/8 |
| 2939490      | B1914523       | T145-23      | 3,2 x 3       | 1/8 x 3 | 47,6   | 1-7/8 |
| 2939489      | B1914524       | T145-24      | 3,2 x 4       | 1/8 x 4 | 47,6   | 1-7/8 |
| 2939486      | B1914530       | T145-3       | 4,8           | 3/16    | 47,6   | 1-7/8 |
| 2939485      | B1914540       | T145-4       | 6,4           | 1/4     | 47,6   | 1-7/8 |
| 2939484      | B1914542       | T145-42      | 6,4 x 2       | 1/4 x 2 | 47,6   | 1-7/8 |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

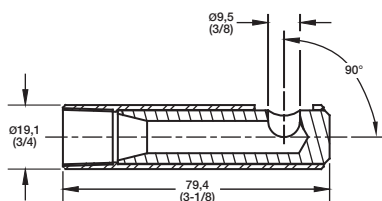
- Thread style: 3/8 – 18 N.P.S.M.
- Brass threads.
- Single, triple, or quad outlets.



### ■ T190 Series • 90°

| order number | catalog number | model number | bore diameter |         | length |       |
|--------------|----------------|--------------|---------------|---------|--------|-------|
|              |                |              | mm            | in      | mm     | in    |
| 2939463      | B1919020       | T190-2       | 3,2           | 1/8     | 47,6   | 1-7/8 |
| 2939462      | B1919023       | T190-23      | 3,2 x 3       | 1/8 x 3 | 47,6   | 1-7/8 |
| 2939461      | B1919024       | T190-24      | 3,2 x 4       | 1/8 x 4 | 47,6   | 1-7/8 |
| 2939460      | B1919030       | T190-3       | 4,8           | 3/16    | 47,6   | 1-7/8 |
| 2939459      | B1919040       | T190-4       | 6,4           | 1/4     | 47,6   | 1-7/8 |

- Thread style: Female 3/8 – 18 N.P.T.
- Steel jacket.
- Steel threads.



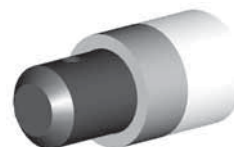
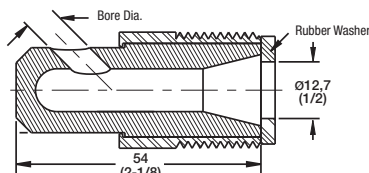
### ■ T194 Series • 90°

| order number | catalog number | model number | bore diameter |     | length |       |
|--------------|----------------|--------------|---------------|-----|--------|-------|
|              |                |              | mm            | in  | mm     | in    |
| 2939457      | B1919460       | T194-6       | 9,5           | 3/8 | 79,4   | 3-1/8 |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

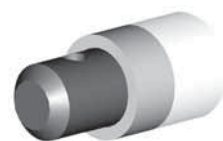
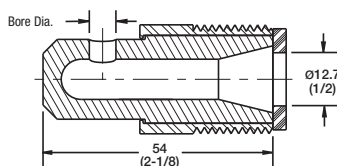
- Thread style: 3/4 – 14 N.P.S.M.
- Steel threads.
- Single, double, or triple outlets.



### ■ T245 Series • 45°

| order number | catalog number | model number | bore diameter |          | length |       |
|--------------|----------------|--------------|---------------|----------|--------|-------|
|              |                |              | mm            | in       | mm     | in    |
| 2939446      | B1924521       | T245-2       | 3,2           | 1/8      | 54     | 2-1/8 |
| 2939445      | B1924523       | T245-23      | 3,2 x 3       | 1/8 x 3  | 54     | 2-1/8 |
| 2939443      | B1924531       | T245-3       | 4,8           | 3/16     | 54     | 2-1/8 |
| 2575727      | B1924533       | T245-33      | 4,8 x 3       | 3/16 x 3 | 54     | 2-1/8 |
| 2939442      | B1924541       | T245-4       | 6,4           | 1/4      | 54     | 2-1/8 |
| 2575728      | B1924542       | T245-42      | 6,4 x 2       | 1/4 x 2  | 54     | 2-1/8 |
| 2939439      | B1924551       | T245-5       | 7,9           | 5/16     | 54     | 2-1/8 |
| 2939438      | B1924561       | T245-6       | 9,5           | 3/8      | 54     | 2-1/8 |
| 5199639      | B1924562       | T245-62      | 9,5 x 2       | 3/8 x 2  | 54     | 2-1/8 |

- Thread style: 3/4 – 14 N.P.S.M.
- Steel threads.
- Single, double, triple, or quad outlets.



### ■ T290 Series • 90°

| order number | catalog number | model number | bore diameter |          | length |       |
|--------------|----------------|--------------|---------------|----------|--------|-------|
|              |                |              | mm            | in       | mm     | in    |
| 2939437      | B1929021       | T290-2       | 3,2           | 1/8      | 54     | 2-1/8 |
| 2939436      | B1929022       | T290-22      | 3,2 x 2       | 1/8 x 2  | 54     | 2-1/8 |
| 2939435      | B1929031       | T290-3       | 4,8           | 3/16     | 54     | 2-1/8 |
| 2939434      | B1929033       | T290-33      | 4,8 x 3       | 3/16 x 3 | 54     | 2-1/8 |
| 2939433      | B1929041       | T290-4       | 6,4           | 1/4      | 54     | 2-1/8 |
| 2939431      | B1929042       | T290-42      | 6,4 x 2       | 1/4 x 2  | 54     | 2-1/8 |
| 3879301      | B1929043       | T290-43      | 6,4 x 3       | 1/4 x 3  | 54     | 2-1/8 |
| 2939430      | B1929044       | T290-44      | 6,4 x 4       | 1/4 x 4  | 54     | 2-1/8 |
| 2939429      | B1929051       | T290-5       | 7,9           | 5/16     | 54     | 2-1/8 |
| 2939428      | B1929061       | T290-6       | 9,5           | 3/8      | 54     | 2-1/8 |

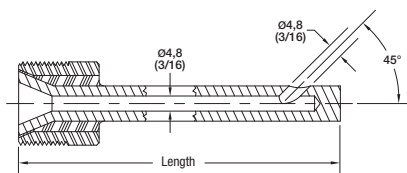
\*Contact your Kennametal representative or customer service for quote.

## Hozzle Angle Nozzles

Hozzle nozzles are excellent for aerospace, aviation and automotive component-related applications where minimal access or clearance are an issue. **We have the capability to manufacture other hozzle nozzle designs. Please contact us to discuss your requirements.**

Dimensions below are shown in millimeters and (inches).

- Thread style: 3/4 – 14 N.P.S.M.
- 7/16" O.D. insert.
- Steel threads.

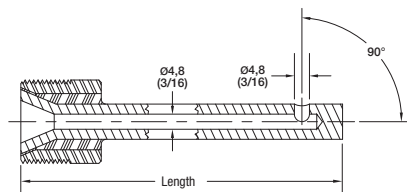


### ■ Hozzle Nozzle Series • 45°

| order number | catalog number | Bore Diameter |      | Length |    |
|--------------|----------------|---------------|------|--------|----|
|              |                | mm            | in   | mm     | in |
| 4063486      | B2008477       | 4,8           | 3/16 | 101,6  | 4  |
| 4063487      | B2008479       | 4,8           | 3/16 | 152,4  | 6  |
| 2958531      | B1900007       | 4,8           | 3/16 | 254    | 10 |

We have the capability to manufacture other hozzle nozzle sizes. Please contact us to discuss your requirements.

- Thread style: 3/4 – 14 N.P.S.M.
- 7/16" O.D. insert.
- Steel threads.

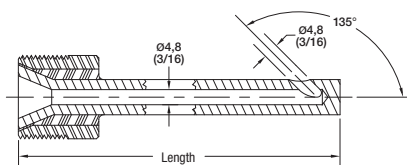


### ■ Hozzle Nozzle Series • 90°

| order number | catalog number | Bore Diameter |      | Length |    |
|--------------|----------------|---------------|------|--------|----|
|              |                | mm            | in   | mm     | in |
| 5115971      | B2728840       | 4,8           | 3/16 | 101,6  | 4  |
| 5115973      | B2728842       | 4,8           | 3/16 | 152,4  | 6  |
| 3056789      | B1900003       | 4,8           | 3/16 | 254    | 10 |

We have the capability to manufacture other hozzle nozzle sizes. Please contact us to discuss your requirements.

- Thread style: 3/4 – 14 N.P.S.M.
- 7/16" O.D. insert.
- Steel threads.



### ■ Hozzle Nozzle Series • 135°

| order number | catalog number | Bore Diameter |      | Length |    |
|--------------|----------------|---------------|------|--------|----|
|              |                | mm            | in   | mm     | in |
| 5136723      | B2748600       | 4,8           | 3/16 | 101,6  | 4  |
| 5136724      | B2748602       | 4,8           | 3/16 | 152,4  | 6  |
| 5034182      | B2005186       | 4,8           | 3/16 | 254    | 10 |

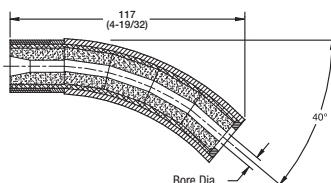
We have the capability to manufacture other hozzle nozzle sizes. Please contact us to discuss your requirements.

\*Contact your Kennametal representative or customer service for quote.

## Boron Carbide

Dimensions below are shown in millimeters and (inches).

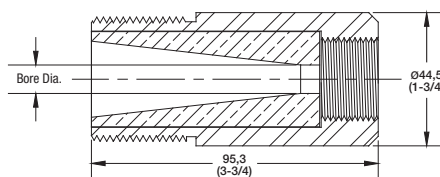
- Thread style: 3/4 – 14 N.P.S.M.
- Metal jacket.
- Metal threads.



### ■ 40° Banana Series

| order number | catalog number | model number       | bore diameter |      | length |     |
|--------------|----------------|--------------------|---------------|------|--------|-----|
|              |                |                    | mm            | in   | mm     | in  |
| 2911312      | B1502510       | 6mm Banana Nozzle  | 6             | .236 | 117    | 4.6 |
| 2940259      | B1502515       | 8mm Banana Nozzle  | 8             | .315 | 117    | 4.6 |
| 2940258      | B1502520       | 10mm Banana Nozzle | 10            | .374 | 117    | 4.6 |

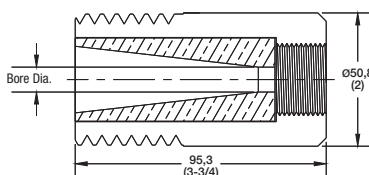
- Adapter: 1-1/4" – 3/4" N.P.S.M.
- Boron Carbide lined.



### ■ 1-1/4" to 3/4" Adapter

| order number | catalog number | model number |
|--------------|----------------|--------------|
| 2958539      | B1502501       | 1502501      |

- Thread style: 50mm.
- Adapter: 50mm – 3/4" N.P.S.M.
- Boron Carbide lined.



### ■ 50mm to 3/4" Adapter

| order number | catalog number | model number |
|--------------|----------------|--------------|
| 3092894      | B1502500       | 1502500      |

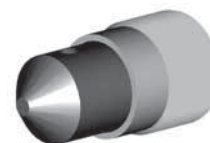
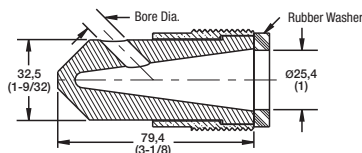
\*Contact your Kennametal representative or customer service for quote.

## ROCTEC®

These nozzles provide 15 to 25 times longer service life than standard tungsten carbide versions when used with aggressive abrasives like aluminum oxide or silicon carbide.

Dimensions below are shown in millimeters and (inches).

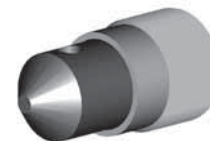
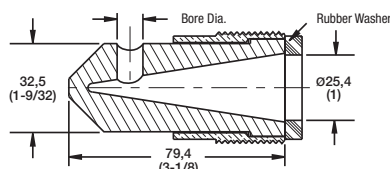
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Brass threads.
- Single, double, or triple outlets.



### ■ R045 Series • 45°

| order number | catalog number | model number | bore diameter |          | length |       |
|--------------|----------------|--------------|---------------|----------|--------|-------|
|              |                |              | mm            | in       | mm     | in    |
| 5299575      | B19504530      | R045-3       | 4,8           | 3/16     | 79,4   | 3-1/8 |
| *            | B19504532      | R045-32      | 4,8 x 2       | 3/16 x 2 | 79,4   | 3-1/8 |
| *            | B19504533      | R045-33      | 4,8 x 3       | 3/16 x 3 | 79,4   | 3-1/8 |
| 2939421      | B19504540      | R045-4       | 6,4           | 1/4      | 79,4   | 3-1/8 |
| 2938793      | B19504542      | R045-42      | 6,4 x 2       | 1/4 x 2  | 79,4   | 3-1/8 |
| 3758177      | B19504543      | R045-43      | 6,4 x 3       | 1/4 x 3  | 79,4   | 3-1/8 |
| 3863621      | B19504550      | R045-5       | 7,9           | 5/16     | 79,4   | 3-1/8 |
| *            | B19504552      | R045-52      | 7,9 x 2       | 5/16 x 2 | 79,4   | 3-1/8 |
| 3642697      | B19504553      | R045-53      | 7,9 x 3       | 5/16 x 3 | 79,4   | 3-1/8 |
| 2939420      | B19504560      | R045-6       | 9,5           | 3/8      | 79,4   | 3-1/8 |
| *            | B19504562      | R045-62      | 9,5 x 2       | 3/8 x 2  | 79,4   | 3-1/8 |
| 3642698      | B19504563      | R045-63      | 9,5 x 3       | 3/8 x 3  | 79,4   | 3-1/8 |
| 2938791      | B19504580      | R045-8       | 12,7          | 1/2      | 79,4   | 3-1/8 |

- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Brass threads.
- Single, double, or triple outlets.



### ■ R090 Series • 90°

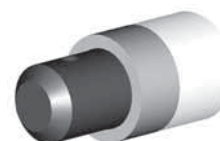
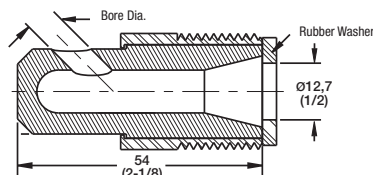
| order number | catalog number | model number | bore diameter |          | length |       |
|--------------|----------------|--------------|---------------|----------|--------|-------|
|              |                |              | mm            | in       | mm     | in    |
| 3960775      | B19509030      | R090-3       | 4,8           | 3/16     | 79,4   | 3-1/8 |
| *            | B19509032      | R090-32      | 4,8 x 2       | 3/16 x 2 | 79,4   | 3-1/8 |
| *            | B19509033      | R090-33      | 4,8 x 3       | 3/16 x 3 | 79,4   | 3-1/8 |
| 5026895      | B19509040      | R090-4       | 6,4           | 1/4      | 79,4   | 3-1/8 |
| 2939417      | B19509042      | R090-42      | 6,4 x 2       | 1/4 x 2  | 79,4   | 3-1/8 |
| 2939416      | B19509043      | R090-43      | 6,4 x 3       | 1/4 x 3  | 79,4   | 3-1/8 |
| 3951369      | B19509050      | R090-5       | 7,9           | 5/16     | 79,4   | 3-1/8 |
| 5402829      | B19509052      | R090-52      | 7,9 x 2       | 5/16 x 2 | 79,4   | 3-1/8 |
| 5402890      | B19509053      | R090-53      | 7,9 x 3       | 5/16 x 3 | 79,4   | 3-1/8 |
| 2939413      | B19509060      | R090-6       | 9,5           | 3/8      | 79,4   | 3-1/8 |
| 4119670      | B19509062      | R090-62      | 9,5 x 2       | 3/8 x 2  | 79,4   | 3-1/8 |
| 5068390      | B19509063      | R090-63      | 9,5 x 3       | 3/8 x 3  | 79,4   | 3-1/8 |
| 3596824      | B19509080      | R090-8       | 12,7          | 1/2      | 79,4   | 3-1/8 |

\*Contact your Kennametal representative or customer service for quote.



Dimensions below are shown in millimeters and (inches).

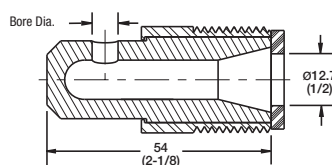
- Thread style: 3/4 – 14 N.P.S.M.
- Steel threads.
- Single, double, or triple outlets.



### ■ R245 Series • 45°

| order number | catalog number | model number | bore diameter |          | length |       |
|--------------|----------------|--------------|---------------|----------|--------|-------|
|              |                |              | mm            | in       | mm     | in    |
| 3387778      | B19524530      | R245-3       | 4,8           | 3/16     | 54     | 2-1/8 |
| 3898619      | B19524532      | R245-32      | 4,8 x 2       | 3/16 x 2 | 54     | 2-1/8 |
| 3387779      | B19524533      | R245-33      | 4,8 x 3       | 3/16 x 3 | 54     | 2-1/8 |
| 2938664      | B19524540      | R245-4       | 6,4           | 1/4      | 54     | 2-1/8 |
| 2938666      | B19524542      | R245-42      | 6,4 x 2       | 1/4 x 2  | 54     | 2-1/8 |
| 3396156      | B19524550      | R245-5       | 7,9           | 5/16     | 54     | 2-1/8 |
| 3582392      | B19524560      | R245-6       | 9,5           | 3/8      | 54     | 2-1/8 |

- Thread style: 3/4 – 14 N.P.S.M.
- Steel threads.
- Single, double, or triple outlets.



### ■ R290 Series • 90°

| order number | catalog number | model number | bore diameter |          | length |       |
|--------------|----------------|--------------|---------------|----------|--------|-------|
|              |                |              | mm            | in       | mm     | in    |
| 3898620      | B19529030      | R290-3       | 4,8           | 3/16     | 54     | 2-1/8 |
| 3898622      | B19529032      | R290-32      | 4,8 x 2       | 3/16 x 2 | 54     | 2-1/8 |
| 3752938      | B19529033      | R290-33      | 4,8 x 3       | 3/16 x 3 | 54     | 2-1/8 |
| 3451518      | B19529040      | R290-4       | 6,4           | 1/4      | 54     | 2-1/8 |
| 4091645      | B19529042      | R290-42      | 6,4 x 2       | 1/4 x 2  | 54     | 2-1/8 |
| 3396157      | B19529050      | R290-5       | 7,9           | 5/16     | 54     | 2-1/8 |
| 2938662      | B19529060      | R290-6       | 9,5           | 3/8      | 54     | 2-1/8 |

\*Contact your Kennametal representative or customer service for quote.

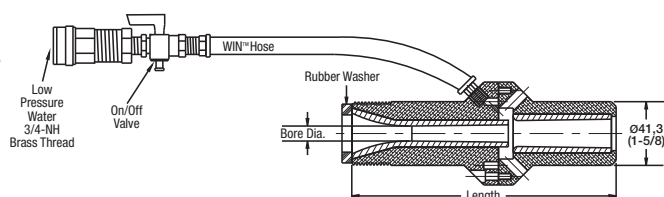
## WIN™ (Water Induction Nozzle)

The WIN™ (Water Induction Nozzle) System is a simple, proprietary solution for high-production, wet abrasive blasting that can be used with your existing pressure blast equipment. The system can be used with water from a tap or with rust inhibitors introduced through any simple pump. No special equipment is required. The WIN™ System offers the highest performance possible in wet abrasive blasting technology.

We offer the most popular sizes in both tungsten carbide and our lightweight BP200 SiAlON. Water consumption with these nozzles is much less than with other wet blast systems, only 3/4 to 6 quarts per minute depending on the level of dust suppression desired.

*Dimensions below are shown in millimeters and (inches).*

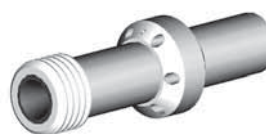
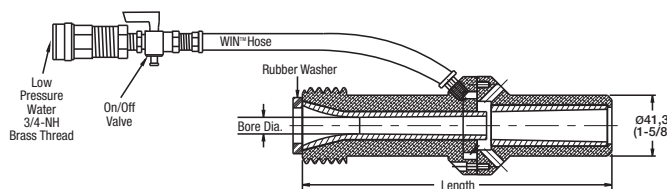
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Aluminum jacket.
- Aluminum threads.



### WIN™ System Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939533      | B1912535       | WIN-3        | 4,8           | 3/16 | 127    | 5     |
| 2939530      | B1912545       | WIN-4        | 6,4           | 1/4  | 146,1  | 5-3/4 |
| 2939526      | B1912555       | WIN-5        | 7,9           | 5/16 | 158,8  | 6-1/4 |
| 2939522      | B1912565       | WIN-6        | 9,5           | 3/8  | 171,5  | 6-3/4 |
| 2939518      | B1912575       | WIN-7        | 11,1          | 7/16 | 209,6  | 8-1/4 |
| 2939514      | B1912585       | WIN-8        | 12,7          | 1/2  | 228,6  | 9     |

- Thread style: 50mm.
- Aluminum jacket.
- Aluminum threads.



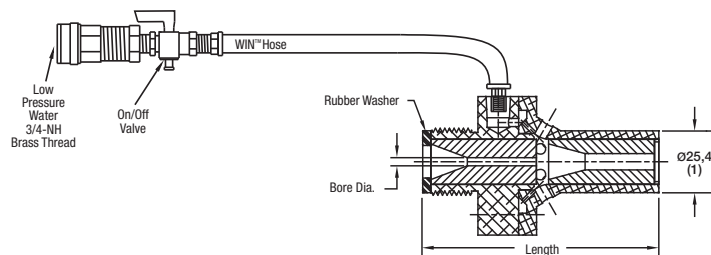
### WIN™ 50mm Contractor Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 2939529      | B1912547       | WIN-450      | 6,4           | 1/4  | 146,1  | 5-3/4 |
| 2939525      | B1912557       | WIN-550      | 7,9           | 5/16 | 158,8  | 6-1/4 |
| 2939521      | B1912567       | WIN-650      | 9,5           | 3/8  | 171,5  | 6-3/4 |
| 2939517      | B1912577       | WIN-750      | 11,1          | 7/16 | 209,6  | 8-1/4 |
| 2939513      | B1912587       | WIN-850      | 12,7          | 1/2  | 228,6  | 9     |

*\*Contact your Kennametal representative or customer service for quote.*

Dimensions below are shown in millimeters and (inches).

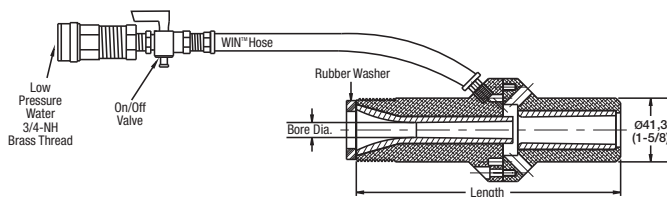
- Thread style: 3/4 – 14 N.P.S.M.
- Aluminum jacket.
- Aluminum threads.
- Use with 1/2" I.D. hose.



### ■ Mini WIN™ Series

| order number | catalog number | model number | bore diameter |      | length |       |
|--------------|----------------|--------------|---------------|------|--------|-------|
|              |                |              | mm            | in   | mm     | in    |
| 3020075      | B1912425       | Mini WIN-2   | 3,2           | 1/8  | 88,9   | 3-1/2 |
| 2964622      | B1912435       | Mini WIN-3   | 4,8           | 3/16 | 88,9   | 3-1/2 |
| 2964633      | B1912445       | Mini WIN-4   | 6,4           | 1/4  | 88,9   | 3-1/2 |
| 2964634      | B1912455       | Mini WIN-5   | 7,9           | 5/16 | 88,9   | 3-1/2 |
| 2964635      | B1912465       | Mini WIN-6   | 9,5           | 3/8  | 88,9   | 3-1/2 |

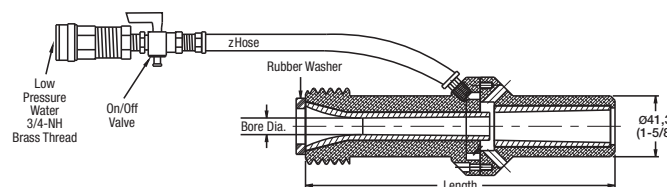
- Thread style: 1-1/4 – 11-1/2 N.P.S.M.
- Lightest weight.
- Aluminum jacket.
- Aluminum threads.



### ■ SN-BP200 WIN™ SiAlON Series

| order number | catalog number | model number   | bore diameter |      | length |      |
|--------------|----------------|----------------|---------------|------|--------|------|
|              |                |                | mm            | in   | mm     | in   |
| 2939167      | B2612545       | SN BP200 WIN-4 | 6,4           | 1/4  | 146,1  | 5.75 |
| 2939163      | B2612555       | SN BP200 WIN-5 | 7,9           | 5/16 | 158,8  | 6.25 |
| 2939159      | B2612565       | SN BP200 WIN-6 | 9,5           | 3/8  | 171,2  | 6.74 |
| 2939155      | B2612575       | SN BP200 WIN-7 | 11,1          | 7/16 | 210,1  | 8.27 |
| 2939151      | B2612585       | SN BP200 WIN-8 | 12,7          | 1/2  | 229,9  | 9.05 |

- Thread style: 50mm.
- Lightest weight.
- Aluminum jacket.
- Aluminum threads.



### ■ SN-BP200 WIN™ SiAlON 50mm Contractor Series

| order number | catalog number | model number     | bore diameter |      | length |      |
|--------------|----------------|------------------|---------------|------|--------|------|
|              |                |                  | mm            | in   | mm     | in   |
| 2939166      | B2612547       | SN BP200 WIN-450 | 6,4           | 1/4  | 146,1  | 5.75 |
| 2939162      | B2612557       | SN BP200 WIN-550 | 7,9           | 5/16 | 158,8  | 6.25 |
| 2939158      | B2612567       | SN BP200 WIN-650 | 9,5           | 3/8  | 171,2  | 6.74 |
| 2939154      | B2612577       | SN BP200 WIN-750 | 11,1          | 7/16 | 210,1  | 8.27 |
| 2939150      | B2612587       | SN BP200 WIN-850 | 12,7          | 1/2  | 229,9  | 9.05 |

\*Contact your Kennametal representative or customer service for quote.

## RS-2000 Abrasive Blasting Guns

Kennametal engineers have created an ergonomically designed abrasive blasting gun to allow operators to complete cleaning applications faster, easier, and more economically. This lightweight, durable one-piece gun is constructed of high-density polyurethane, with a palm grip and thumb hole to give enhanced control and comfort. Weighing only 14 ounces, this device reduces operator fatigue and gives greater control of high-pressure blasting than other systems. Available in right- and left-hand models.

*Dimensions below are shown in millimeters and (inches).*

- Right- or left-handed gun body.
- Nozzle.
- Matching air jet.
- Cartridge.
- Gun fitting kit.
- Screws.



### ■ RS-2000 Suction Blast Gun

| order number | catalog number | model number | bore diameter |      | nozzle           | gun body   |
|--------------|----------------|--------------|---------------|------|------------------|------------|
|              |                |              | mm            | in   |                  |            |
| 2939960      | B16106BR       | B16106BR     | 6,4           | 1/4  | tungsten carbide | right hand |
| *            | B16106BL       | B16106BL     | 6,4           | 1/4  | tungsten carbide | left hand  |
| 2939966      | B16103BR       | B16103BR     | 6,4           | 1/4  | boron carbide    | right hand |
| 3125491      | B16103BL       | B16103BL     | 6,4           | 1/4  | boron carbide    | left hand  |
| 2939962      | B16105BR       | B16105BR     | 7,9           | 5/16 | tungsten carbide | right hand |
| 2939963      | B16105BL       | B16105BL     | 7,9           | 5/16 | tungsten carbide | left hand  |
| 2939967      | B16102BR       | B16102BR     | 7,9           | 5/16 | boron carbide    | right hand |
| 4083480      | B16102BL       | B16102BL     | 7,9           | 5/16 | boron carbide    | left hand  |
| 2939965      | B16104BR       | B16104BR     | 9,5           | 3/8  | tungsten carbide | right hand |
| 3017239      | B16104BL       | B16104BL     | 9,5           | 3/8  | tungsten carbide | left hand  |
| 2939968      | B16101BR       | B16101BR     | 9,5           | 3/8  | boron carbide    | right hand |
| 2939969      | B16101BL       | B16101BL     | 9,5           | 3/8  | boron carbide    | left hand  |
| 2939957      | B16108BR       | B16108BR     | 12,7          | 1/2  | tungsten carbide | right hand |
| 5102327      | B16108BL       | B16108BL     | 12,7          | 1/2  | tungsten carbide | left hand  |
| 2939958      | B16107BR       | B16107BR     | 12,7          | 1/2  | boron carbide    | right hand |
| *            | B16107BL       | B16107BL     | 12,7          | 1/2  | boron carbide    | left hand  |

*\*Contact your Kennametal representative or customer service for quote.*

## RS-2000 Blast Gun Replacement Parts, Nozzles and Air Jets

RS-2000 components and replacements may also be purchased separately. Air jets and nozzles are available in tungsten carbide or boron carbide in a variety of sizes.

*Dimensions below are shown in millimeters and (inches).*

- Right- or left-handed.
- Two tie straps.
- Polyurethane.



- 10ft 1/2" I.D. compressed air hose.
- 10ft 5/8" I.D. polyurethane abrasive feed hose.
- Air fitting: 1/2" I.D. brass hose connection.
- Abrasive fitting: 5/8" I.D. steel hose.
- Two tie straps.
- Two stainless steel hose clamps.



### ■ RS-2000 Pressure Blast Gun

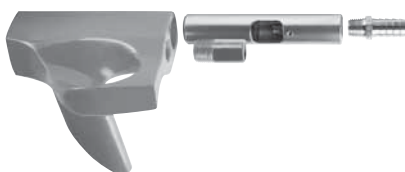
| order number | catalog number | model number | gun body   |
|--------------|----------------|--------------|------------|
| 2914083      | B1300301       | B1300301     | right hand |
| 2909762      | B1300302       | B1300302     | left hand  |

### ■ Hose Kit

| order number | catalog number | model number |
|--------------|----------------|--------------|
| 2933154      | B1600501       | B1600501     |

### ■ Suction Blast Air Requirements (SCFM)

| nozzle |      | air jet |      | pressure (psi) |    |    |    |    |    |    |     |
|--------|------|---------|------|----------------|----|----|----|----|----|----|-----|
| mm     | in.  | mm      | in.  | 30             | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 6,4    | 1/4  | 3,2     | 1/8  | 10             | 12 | 15 | 17 | 19 | 21 | 23 | 26  |
| 7,9    | 5/16 | 4       | 5/32 | 15             | 19 | 23 | 27 | 31 | 37 | 38 | 42  |
| 9,5    | 3/8  | 4,8     | 3/16 | 22             | 26 | 30 | 35 | 40 | 45 | 49 | 54  |
| 12,7   | 1/2  | 6,4     | 1/4  | 36             | 45 | 53 | 60 | 67 | 74 | 81 | 87  |



### ■ RS-2000 Replacement Parts

| order number | catalog number | model number | description                                                                |
|--------------|----------------|--------------|----------------------------------------------------------------------------|
| 2914084      | B130030        | B130030      | Gun fitting kit: 2 hose clamps, 2-1/2" air fittings, 5/8" abrasive fitting |
| 2914086      | B130017        | B130017      | Metal cartridge body 1/4", 5/16", 3/8" nozzles                             |
| 2914085      | B130028        | B130028      | Metal cartridge body, 1/2" bore nozzles                                    |
| 2911460      | B130117        | B130117      | Set screw for air jet assembly                                             |
| 2911476      | B130011        | B130011      | Mounting screw for gun body/cartridge                                      |
| 2911475      | B130012        | B130012      | Tie strap                                                                  |
| 2914088      | B1300007       | B1300007     | Gun body, polyurethane, right hand                                         |
| 2914087      | B1300008       | B1300008     | Gun body, polyurethane, left hand                                          |

*\*Contact your Kennametal representative or customer service for quote.*

## Tungsten Carbide Air Jets for RS-2000

Dimensions below are shown in millimeters and (inches).

- Straight bore.
- 5/16" O.D. air jet insert.



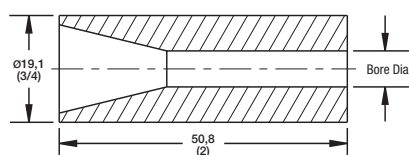
### TL107 Series

| order number | catalog number | model number | bore diameter |      | length |     |
|--------------|----------------|--------------|---------------|------|--------|-----|
|              |                |              | mm            | in   | mm     | in  |
| 2939827      | B1730721       | TL107-2      | 3,4           | 1/8  | 19,1   | 3/4 |
| 2939826      | B1730725       | TL107-2-1/2  | 4             | 5/32 | 19,1   | 3/4 |
| 2939825      | B1730731       | TL107-3      | 4,8           | 3/16 | 19,1   | 3/4 |
| 2939824      | B1730741       | TL107-4      | 6,4           | 1/4  | 19,1   | 3/4 |

## Tungsten Carbide Nozzles for RS-2000

Dimensions below are shown in millimeters and (inches).

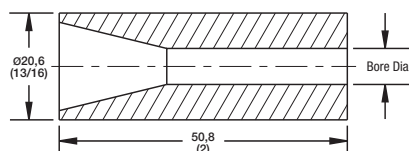
- RS2000 gun insert.
- Use with cartridge body B130017.



### TL175 Series

| order number | catalog number | model number | bore diameter |      | length |    |
|--------------|----------------|--------------|---------------|------|--------|----|
|              |                |              | mm            | in   | mm     | in |
| 2939808      | B1737541       | TL175-4      | 6,4           | 1/4  | 50,8   | 2  |
| 2939807      | B1737551       | TL175-5      | 7,9           | 5/16 | 50,8   | 2  |
| 2939806      | B1737561       | TL175-6      | 9,5           | 3/8  | 50,8   | 2  |

- RS2000 gun insert.
- Use with cartridge body B130028.



### TL175-8 Series

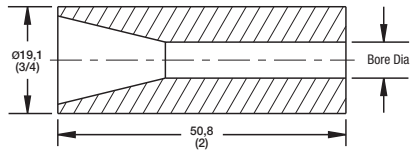
| order number | catalog number | model number | bore diameter |     | length |    |
|--------------|----------------|--------------|---------------|-----|--------|----|
|              |                |              | mm            | in  | mm     | in |
| 2939805      | B1737581       | TL175-8      | 12,7          | 1/2 | 50,8   | 2  |

\*Contact your Kennametal representative or customer service for quote.

## Boron Carbide Nozzles for RS-2000

Dimensions below are shown in millimeters and (inches).

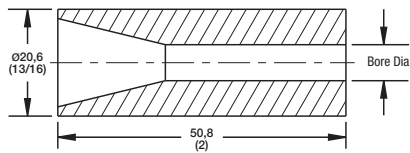
- RS2000 gun insert.
- Use with cartridge body B130017.



### ■ 75 Series

| order number | catalog number | model number | bore diameter |      | length |    |
|--------------|----------------|--------------|---------------|------|--------|----|
|              |                |              | mm            | in   | mm     | in |
| 2940338      | B1175840       | B4L-75       | 6,4           | 1/4  | 50,8   | 2  |
| 2940337      | B1175850       | B5L-75       | 7,9           | 5/16 | 50,8   | 2  |
| 2940336      | B1175860       | B6L-75       | 9,5           | 3/8  | 50,8   | 2  |

- RS2000 gun insert.
- Use with cartridge body B130028.



### ■ L230-8 Series

| order number | catalog number | model number | bore diameter |     | length |    |
|--------------|----------------|--------------|---------------|-----|--------|----|
|              |                |              | mm            | in  | mm     | in |
| 2940361      | B1123080       | L230-8       | 12,7          | 1/2 | 50,8   | 2  |

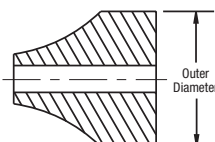
\*Contact your Kennametal representative or customer service for quote.



Dimensions below are shown in millimeters and (inches).

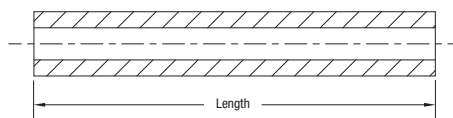
### Rubber Washers/Gaskets

| order number | catalog number | model number | size       | outer diameter |       | inner diameter |       |
|--------------|----------------|--------------|------------|----------------|-------|----------------|-------|
|              |                |              |            | mm             | in    | mm             | in    |
| 2913917      | B130110        | 130110       | Small      | 25,4           | 1     | 12,7           | 1/2   |
| 2913916      | B130111        | 130111       | Medium     | 38,1           | 1-1/2 | 19,0           | 3/4   |
| 2913915      | B130112        | 130112       | Large      | 38,1           | 1-1/2 | 25,4           | 1     |
| 2913914      | B130102        | 130103       | Wide Entry | 41,3           | 1-5/8 | 31,8           | 1-1/4 |



### Deflector Tips for Hollo-Blast

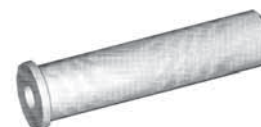
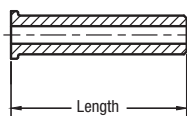
| order number | catalog number | deflector tip materials | outer diameter |     |
|--------------|----------------|-------------------------|----------------|-----|
|              |                |                         | mm             | in  |
| 2939801      | B1740095       | Tungsten Carbide – Sr.  | 21,1           | .83 |
| 3653968      | B1110095       | Boron Carbide – Sr.     | 21,1           | .83 |
| 2939657      | B1888900       | ROCTEC® 500 Sr.         | 21,1           | .37 |
| 4062481      | B1740074       | Tungsten Carbide – Jr.  | 9,5            | .37 |
| 3063343      | B1888902       | ROCTEC® 500 Jr.         | 9,5            | .37 |



### Protection Sleeves for Hollo-Blast

| order number | catalog number | deflector tip materials          | length |       |
|--------------|----------------|----------------------------------|--------|-------|
|              |                |                                  | mm     | in    |
| 5090844      | 5090844        | Stem Extension; Tungsten Carbide | 50,8   | 2     |
| 3690493      | B1888931       | Stem Extension; ROCTEC® 500      | 50,8   | 2     |
| 5090778      | 5090778        | Throat; Tungsten Carbide         | 63,5   | 2-1/2 |
| 3852823      | B1888933       | Throat; ROCTEC® 500              | 63,5   | 2-1/2 |
| *            | *              | One-Piece; Tungsten Carbide      | 114,3  | 4-1/2 |
| 3952007      | B1888928       | One-Piece; ROCTEC® 500           | 114,3  | 4-1/2 |

- Tungsten carbide extension.



### BNP Suction Gun Extension

| order number | catalog number | bore diameter |      | length |       |
|--------------|----------------|---------------|------|--------|-------|
|              |                | mm            | in   | mm     | in    |
| 3582509      | B1700044       | 8,0           | 5/16 | 79,2   | 3-1/8 |
| 2938934      | B1700066       | 8,0           | 5/16 | 155,5  | 6-1/8 |
| 4088134      | B1700088       | 8,0           | 5/16 | 241,3  | 9-1/2 |

\*Contact your Kennametal representative or customer service for quote.

Dimensions below are shown in millimeters and (inches).

### ■ Hose for WIN™ System

| order number | catalog number | model number | item      |
|--------------|----------------|--------------|-----------|
| 2932648      | B1912500       | 1912500      | WIN™ Hose |

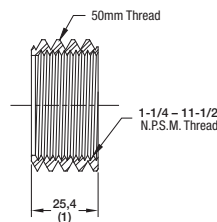
### ■ Nozzle Holders

Kennametal carries a wide variety of nozzle holders, please contact your Kennametal Representative or Authorized Kennametal Distributor for more information.

## Thread Adapters

Dimensions below are shown in millimeters and (inches).

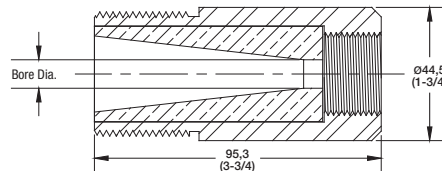
- Thread style: 50mm.
- Adapter: 1-1/4" to 50mm.



### ■ 1-1/4" to 50mm Adapter

| order number | catalog number | model number |
|--------------|----------------|--------------|
| 2913964      | B130784        | 130784       |

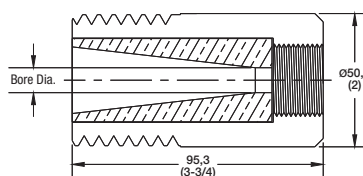
- Adapter: 1-1/4" – 3/4" N.P.S.M.
- Boron Carbide lined.



### ■ 1-1/4" to 3/4" Adapter

| order number | catalog number | model number |
|--------------|----------------|--------------|
| 2958539      | B1502501       | 1502501      |

- Thread style: 50mm.
- Adapter: 50mm – 3/4" N.P.S.M.
- Boron Carbide lined.



### ■ 50mm to 3/4" Adapter

| order number | catalog number | model number |
|--------------|----------------|--------------|
| 3092894      | B1502500       | 1502500      |

\*Contact your Kennametal representative or customer service for quote.

## Important Safety Information

Read and understand these warnings.

DANGER indicates a hazardous situation, which, if not avoided, will result in serious injury or death.

WARNING indicates a hazardous situation, which, if not avoided, can result in serious injury or death.



### ■ Breathing Hazard

Abrasive blasting produces dusts that can cause serious or fatal diseases, including silicosis, heavy-metal lung disease, and lead poisoning. Dusts may remain suspended in the air for hours after blasting operations have stopped. Always wear a NIOSH-approved, supplied air respirator when blasting, handling abrasive, or in the blasting area.

Consult NIOSH and OSHA regulations for the proper respirator for your application. See [www.osha.gov](http://www.osha.gov) and [www.cdc.gov/niosh](http://www.cdc.gov/niosh) for more information.

### ■ Blast Stream Hazard

High-pressure blast streams can cause serious injury. Always point blast nozzle in a safe direction. Never point nozzle at another person or at any part of your body.

Always wear appropriate Personal Protective Equipment, including abrasive-resistant blast suit, safety boots, footwear, leather gloves, eye and ear protection, and supplied air appropriate respirator.

Use only blast equipment equipped with a remote control (dead-man switch) that must be manually depressed to operate nozzle. Never defeat the remote control!



### ■ Recoil Hazard

Blast equipment operates under high pressure that can cause a recoil effect. Before operating nozzle, be sure your footing is solid and you are prepared for the recoil. Never operate blast equipment from a ladder. Always point nozzle in a safe direction and bleed off residual pressure after blast equipment has been shut down. Lock nozzle in closed position when transporting.

### ■ Breakage Hazard

Inspect nozzle before use for damage and wear. Never use a cracked or damaged nozzle. If the nozzle breaks, broken pieces of the nozzle may enter the blast stream or the blast stream may be directed through the side of the nozzle toward the operator rather than through the discharge end. If nozzle is worn, blasting efficiency will be reduced. See Tips on Maintenance (page 13) for more information on how to inspect nozzles.



To learn more, contact your Kennametal Representative or Authorized Kennametal Distributor at:

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Fax: 800.662.2132 or 231.946.3025

Email: [traversecity.service@kennametal.com](mailto:traversecity.service@kennametal.com)

Photos on the front cover right, page 1 and page 3  
courtesy of Progressive Surface.

# Abrasive Blast Nozzles

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