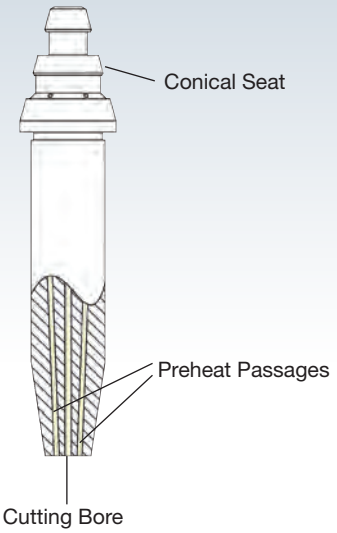
# Nozzles
## Cutting Nozzles

### ANM and ANME

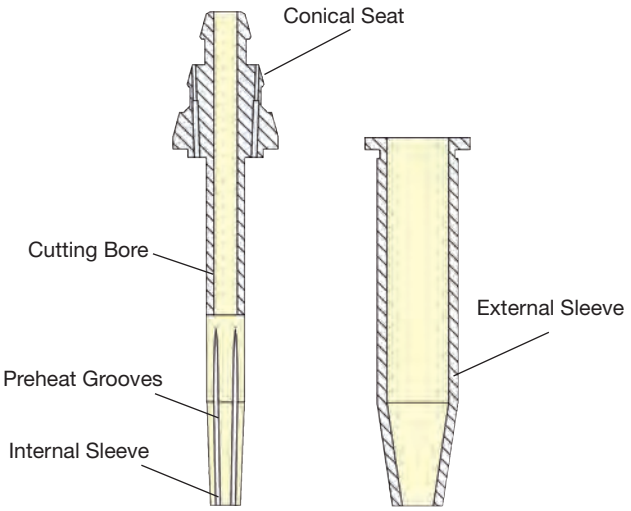
- Solid, one piece construction manufactured from high grade tellurium copper
- Always for use with acetylene
- Unique mandrel swaging process produces smooth and accurate gas passages giving the best conditions for optimum flame stability and efficiency.
- 'Diamond' turned seats guarantees the necessary metal-to-metal connection required for maximum backfire resistance




**Acetylene nozzle mix cross section**

### PNM and PNME

- PNM's differ from ANM nozzles as different gas mixing criteria apply
- Two piece design consisting of a brass inner nozzle and a hollow copper outer sheath
- Turbulence must be created between the inner and outer parts of the nozzle to obtain adequate mixing of the propane and oxygen
- The volume of mixed Oxy-Propane needs to be more than double that of Oxy-Acetylene for the same useable heat
- This extra volume is achieved by very large channels that are present on the brass inner nozzle which conduct the greater volumes of gas




**2 piece, propane nozzle mix cross section**

### Nozzle Operating Data

**Important notes**

- All operating data relating to consumption, usage and other such information is there as a guide
- Condition of goods, hose length and diameter, provision of non return valves, flashback arrestors and their fitness for use, will have an effect on the flows obtainable at the nozzle
- The condition of which the operating data is derived, is listed below each nozzle table

# Cutting Nozzles

## ■ Acetylene Nozzle Mix – ANM and ANM-E (Extended)

### ANM Cutting Nozzles Ordering Information

| Metal Thickness | | Nozzle Size in. | Part Number | Operating Pressure | | | | Gas Consumption | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Oxygen | | Fuel Gas | | Cutting Oxygen | | Heating Oxygen | | Fuel Gas | |
| mm | in. | | | bar | lbf/in² | bar | lbf/in² | L/M | ft³/H | L/M | ft³/H | L/M | ft³/H |
| 3-6 | 1/4 | 1/32 | 0700016610 | 1.4 | 20 | 0.30 | 4 | 14.15 | 30 | 8.5 | 18 | 8.0 | 17 |
| 5-12 | 1/2 | 3/64 | 0700016611 | 2.1 | 30 | 0.35 | 5 | 30.7 | 65 | 10.4 | 22 | 9.4 | 20 |
| 10-75 | 1-3 | 1/16 | 0700016612 | 3.5 | 50 | 0.40 | 6 | 88.7 | 188 | 13.2 | 28 | 11.8 | 25 |
| 70-100 | 4 | 5/64 | 0700016613 | 3.1 | 45 | 0.31 | 4.5 | 121 | 256 | 14.6 | 31 | 13.2 | 28 |
| 90-150 | 6 | 3/32 | 0700016614 | 3.1 | 45 | 0.40 | 6 | 175 | 370 | 20.0 | 43 | 18.4 | 39 |
| 190-300 | 12 | 1/8 | 0700016615 | 6.2 | 90 | 0.45 | 6.5 | 434 | 920 | 26.0 | 55 | 23.5 | 50 |

Nozzle type ANM / ANME using 6.3mm x 10m fitted hose with resettable flashback arrestors in new condition.
Pressure & consumption rates are based using the nozzle size listed next to it cutting the thickest material in the metal thickness column.
Acetylene cylinders must be manifolded when consumption rates of Acetylene exceed 16.5 litres per minute (35ft³/H).

### ANM-E Cutting Nozzles Ordering Information

| Metal Thickness | | Nozzle Size in. | Part Number | Operating Pressure | | | | Gas Consumption | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Oxygen | | Fuel Gas | | Cutting Oxygen | | Heating Oxygen | | Fuel Gas | |
| mm | in. | | | bar | lbf/in² | bar | lbf/in² | L/M | ft³/H | L/M | ft³/H | L/M | ft³/H |
| 3-6 | 1/4 | 1/32 | 0700016616 | 1.4 | 20 | 0.30 | 4 | 14.15 | 30 | 8.5 | 18 | 8.0 | 17 |
| 5-12 | 1/2 | 3/64 | 0700016617 | 2.1 | 30 | 0.35 | 5 | 30.7 | 65 | 10.4 | 22 | 9.4 | 20 |
| 10-75 | 1-3 | 1/16 | 0700016618 | 3.5 | 50 | 0.40 | 6 | 88.7 | 188 | 13.2 | 28 | 11.8 | 25 |
| 70-100 | 4 | 5/64 | 0700016619 | 3.1 | 45 | 0.31 | 4.5 | 121 | 256 | 14.6 | 31 | 13.2 | 28 |
| 90-150 | 6 | 3/32 | 0700016620 | 3.1 | 45 | 0.40 | 6 | 175 | 370 | 20.0 | 43 | 18.4 | 39 |
| 190-300 | 12 | 1/8 | 0700016621 | 6.2 | 90 | 0.45 | 6.5 | 434 | 920 | 26.0 | 55 | 23.5 | 50 |

Nozzle type ANM / ANME using 6.3mm x 10m fitted hose with resettable flashback arrestors in new condition.
Pressure & consumption rates are based using the nozzle size listed next to it cutting the thickest material in the metal thickness column.
Acetylene cylinders must be manifolded when consumption rates of Acetylene exceed 16.5 litres per minute (35ft³/H).

**Both ANM and ANM-E nozzles can be used with the NM cutting torches.**

## ■ Acetylene Nozzle Mix – AFN

### AFN Cutting Nozzles Ordering Information

| Metal Thickness | | Nozzle Size in. | Part Number | Operating Pressure | | | | Gas Consumption | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Oxygen | | Fuel Gas | | Cutting Oxygen | | Heating Oxygen | | Fuel Gas | |
| mm | in. | | | bar | lbf/in² | bar | lbf/in² | L/M | ft³/H | L/M | ft³/H | L/M | ft³/H |
| 3-6 | 1/4 | 1/32 | 0700144735 | 2.0 | 30 | 0.14 | 2 | 18.8 | 25 | 4.2 | 9 | 3.8 | 8 |
| 6-20 | 1/2 | 3/64 | 0700144736 | 2.0 | 30 | 0.20 | 3 | 23.5 | 50 | 4.2 | 9 | 3.8 | 8 |

Nozzle type AFN using 6.3mm x 10m fitted hose with resettable flashback arrestors in new condition.
Pressure & consumption rates are based using the nozzle size listed next to it cutting the thickest material in the metal thickness column.
Acetylene cylinders must be manifolded when consumption rates of Acetylene exceed 16.5 litres per minute (35ft³/H).

**AFN cutting nozzles are suitable for use with ESAB DH Torch.**

# Cutting Nozzles

## ■ Propane Nozzle Mix – PNM and PNM-E (Extended)

### PNM Cutting Nozzles Ordering Information

| Metal Thickness | | Nozzle Size in. | Part Number | Operating Pressure | | | | Gas Consumption | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Oxygen | | Fuel Gas | | Cutting Oxygen | | Heating Oxygen | | Fuel Gas | |
| mm | in. | | | bar | lbf/in² | bar | lbf/in² | L/M | ft³/H | L/M | ft³/H | L/M | ft³/H |
| 3-6 | 1/4 | 1/32 | 0700016622 | 2.0 | 30 | 0.20 | 3 | 14.15 | 30 | 22.6 | 48 | 5.7 | 12 |
| 5-12 | 1/2 | 3/64 | 0700016623 | 2.0 | 30 | 0.20 | 3 | 30.6 | 65 | 25.5 | 54 | 6.6 | 14 |
| 10-75 | 1-3 | 1/16 | 0700016624 | 3.4 | 50 | 0.30 | 4 | 99 | 210 | 41.5 | 88 | 10.4 | 22 |
| 70-100 | 4 | 5/64 | 0700016625 | 3.4 | 50 | 0.30 | 4 | 113 | 240 | 41.5 | 88 | 10.4 | 22 |
| 90-150 | 6 | 3/32 | 0700016626 | 4.1 | 60 | 0.40 | 6 | 160 | 340 | 56.6 | 120 | 14.2 | 30 |
| 190-300 | 12 | 1/8 | 0700016627 | 6.2 | 90 | 0.62 | 9 | 425 | 900 | 75.0 | 160 | 18.9 | 40 |

Nozzle type PNM / PNME using 6.3mm x 10m fitted hose with resettable flashback arrestors in new condition.
Pressure & consumption rates are based using the nozzle size listed next to it cutting the thickest material in the metal thickness column.

### PNM-E Cutting Nozzles Ordering Information

| Metal Thickness | | Nozzle Size in. | Part Number | Operating Pressure | | | | Gas Consumption | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Oxygen | | Fuel Gas | | Cutting Oxygen | | Heating Oxygen | | Fuel Gas | |
| mm | in. | | | bar | lbf/in² | bar | lbf/in² | L/M | ft³/H | L/M | ft³/H | L/M | ft³/H |
| 3-6 | 1/4 | 1/32 | 0700016628 | 2.0 | 30 | 0.20 | 3 | 14.15 | 30 | 22.6 | 48 | 5.7 | 12 |
| 5-12 | 1/2 | 3/64 | 0700016629 | 2.0 | 30 | 0.20 | 3 | 30.6 | 65 | 25.5 | 54 | 6.6 | 14 |
| 10-75 | 1-3 | 1/16 | 0700016630 | 3.4 | 50 | 0.30 | 4 | 99 | 210 | 41.5 | 88 | 10.4 | 22 |
| 70-100 | 4 | 5/64 | 0700016631 | 3.4 | 50 | 0.30 | 4 | 113 | 240 | 41.5 | 88 | 10.4 | 22 |
| 90-150 | 6 | 3/32 | 0700016632 | 4.1 | 60 | 0.40 | 6 | 160 | 340 | 56.6 | 120 | 14.2 | 30 |
| 190-300 | 12 | 1/8 | 0700016633 | 6.2 | 90 | 0.62 | 9 | 425 | 900 | 75.0 | 160 | 18.9 | 40 |

Nozzle type PNM / PNME using 6.3mm x 10m fitted hose with resettable flashback arrestors in new condition.
Pressure & consumption rates are based using the nozzle size listed next to it cutting the thickest material in the metal thickness column.

**Both PNM and PNM-E nozzles can be used with the NM cutting torches.**

### Bulldog Cutting Nozzles Ordering Information

| Metal Thickness | | | Model Number | Cutting Oxygen Pressure | | Preheat Oxygen | Fuel Pressure | | Part Number |
|---|---|---|---|---|---|---|---|---|---|
| mm | in. | swg | | BAR | LPM | LPM | BAR | LPM | |
| 63.5 | 2.5 | 20 | VBN-3 | 2.7-3.4 | 70-94 | 11-66 | 0.4-0.8 | 6-30 | 6700C0710 |
| 203.2 | 8 | 12 | VBN-6 | 3.8-4.5 | 212-236 | 11-66 | 0.4-0.8 | 6-30 | 6700C0713 |
| 304.8 | 12 | 8 | VBN-10 | 3.1-3.8 | 472-566 | 21-113 | 0.7-1.2 | 10-52 | 6700C0716 |