



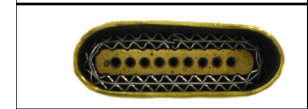
## PILOTED AIR FISHTAIL BURNER TIPS

Carlisle Piloted Air Fishtail Burner Tips are manufactured of brass with stainless steel corrugated ribbon used for the piloting. They can be used on a number of different hand torches, on machines, or in custom manifolds such as a crossfire setup. Carlisle tips are manufactured for use with a mixture of air and either natural gas, propane, or mixed gas. Although these Carlisle tips can be used with a gas air mixture with oxygen bled in for increased heat potential, they are not meant for a pure gas oxygen mixture.

Fishtail Burners can have one of two types of flames, depending on the port configurations. These two types are parallel and divergent. A Fishtail Burner's flame is parallel when the drilled porting that makes up the burner are all drilled at the same level so that all focal points are parallel with one another. The flame is considered divergent if the porting is at different angles causing the flame to fan out to a wider focus than the face of the head.

Piloting allows the flame produced by a burner to experience increased stability. Carlisle Piloted Air Fishtail Burner Tips achieve this effect through a ring of stainless steel corrugated ribbon around the main porting. This low level of burning gas forms a sort of supporting foundation around the center flame. Due to the increased stability, an operator is able to push the burner harder without the flame moving off of the face of the burner. The "N" style that is offered by Carlisle features two rings of piloting. This style was offered for use with natural gas. It was found that the "N" style also works equally well with mixed gases and propane. The now obsolete "O" style, which was made for mixed gases, had only one ring of piloting. All "O" style burners are compatible and replaceable by their "N" counterparts. An example of this would be that the 104-O burner can be replaced with the 104-N burner without compromising the flame characteristics.

Some of the Carlisle Piloted Air Fishtail Burner Tips can be manufactured out of stainless steel. Please contact your Carlisle Sales Representative with your special needs.



420-BN  
19D011-0000



228-FN  
19D002-0000



332-N  
19D008-0000

### BULLETIN REFERENCES

Hand Torches- Bulletins 22A, 22B, 22C, 22D, 22E  
Adapters- Bulletin 24C

Carlisle Piloted Air Fishtail Burner Tips are pre-mixed. As with any pre-mixed burner, be sure to use the proper equipment:

Mixers- Bulletins 17C, 16E  
Controls- Bulletins 16A, 16E

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**Toll Free In Continental US (800) 922-1167**



# BURNER TIP SERIES SPECIFICATIONS CHARTS

The following section of charts gives specific information concerning Carlisle Piloted Air Fishtail Burner Tips. The brief summary that follows will define a few of the chart's fields. If there are any further questions concerning these charts, contact Carlisle directly and our sales staff will be happy to help you.

| CATALOG NUMBER | BURNER NUMBER | HEIGHT  | WIDTH   | THREAD SIZE | PORT SIZE | # OF PORTS | FOCAL LENGTH | OVERALL FLAME | TYPE OF FLAME | BTU/HR @ 12 W.C. NATURAL GAS & AIR MIX |
|----------------|---------------|---------|---------|-------------|-----------|------------|--------------|---------------|---------------|--|
| 19D001-0000    | 228-N         | 1"      | 5/8"    | 1/4"-27M    | #64       | 4          | 1/2"         | 2"            | D             | 1,575                                  |
| 19D002-0000    | 228-FN        | 1"      | 5/8"    | 1/4"-27M    | #71       | 5          | 3/8"         | 3"            | P             | 1,100                                  |
| 19D003-0000    | 81-AN         | 1 5/16" | 7/8"    | 1/8" NPTM   | #64       | 9          | 3/4"         | 2 1/4"        | D             | 2,865                                  |
| 19D004-0000    | 81-BN         | 1 5/16" | 7/8"    | 1/8" NPTM   | #64       | 8          | 3/4"         | 4"            | P             | 2,900                                  |
| 19D005-0000    | 81-QN         | 1 5/16" | 7/8"    | 1/8" NPTM   | #59       | 6          | 1"           | 3 1/2"        | P             | 2,625                                  |
| 19D006-0000    | 81-WN         | 1 5/16" | 7/8"    | 1/8" NPTM   | #60       | 5          | 1"           | 3 1/2"        | P             | 3,050                                  |
| 19D007-0000    | 104-N         | 1 1/2"  | 1 1/16" | 1/4" NPTM   | #54       | 7          | 1"           | 2 1/2"        | D             | 4,575                                  |
| 19D008-0000    | 332-N         | 1 1/2"  | 1 1/16" | 1/4" NPTM   | #64       | 12         | 7/16"        | 2 1/4"        | D             | 3,450                                  |
| 19D009-0000    | 332-DN        | 1 1/2"  | 1 1/16" | 1/4" NPTM   | #60       | 8          | 1"           | 3 1/2"        | P             | 3,535                                  |
| 19D010-0000    | 332-FN        | 1 1/2"  | 1 1/16" | 1/4" NPTM   | #61       | 10         | 1 1/4"       | 2"            | D             | 4,510                                  |
| 19D011-0000    | 420-BN        | 1 1/2"  | 1 3/16" | 1/4" NPTM   | #54       | 9          | 7/8"         | 2 1/4"        | P             | 5,250                                  |
| 19D012-0000    | 420-CN        | 1 1/2"  | 1 3/16" | 1/4" NPTM   | #54       | 9          | 7/8"         | 2 1/4"        | D             | 5,250                                  |
| 19D013-0000    | 420-DN        | 1 1/2"  | 1 3/16" | 1/4" NPTM   | #64       | 14         | 5/8"         | 2 1/8"        | D             | 4,730                                  |
| 19D014-0000    | 420-RN        | 1 1/2"  | 1 3/16" | 1/4" NPTM   | #68       | 14         | 3/4"         | 2 1/4"        | D             | 4,920                                  |
| 19D015-0000    | 420-SN        | 1 1/2"  | 1 3/16" | 1/4" NPTM   | #53       | 9          | 1 1/2"       | 2 1/4"        | D             | 5,550                                  |
|                |               |         |         |             |           |            |              |               |               |  |

*CATALOG NUMBER*  
*BURNER NUMBER*  
*FOCAL LENGTH*  
*OVERALL FLAME LENGTH*  
*TYPE OF FLAME*  
*BTU/HR*

This represents Carlisle's number by which the burner tip can be ordered.  
 This number works as the burner's model number.  
 This is the length of the smaller focused blue flame under normal operation.  
 This is the length from the face of the tip to the very end of the flame.  
 Whether port configuration is parallel (P) or divergent (D).  
 The approximate BTU/HR of the tip at 12" W.C. natural gas and air mixture.

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