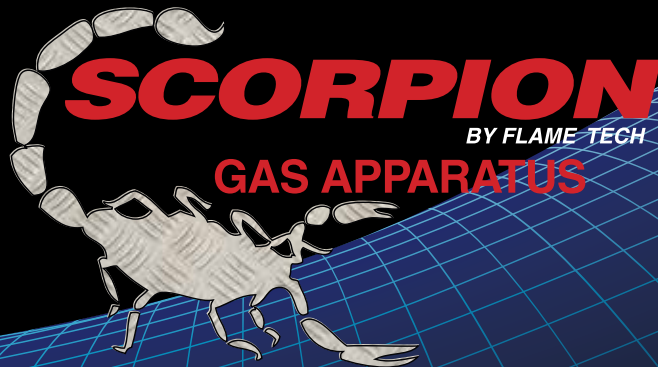
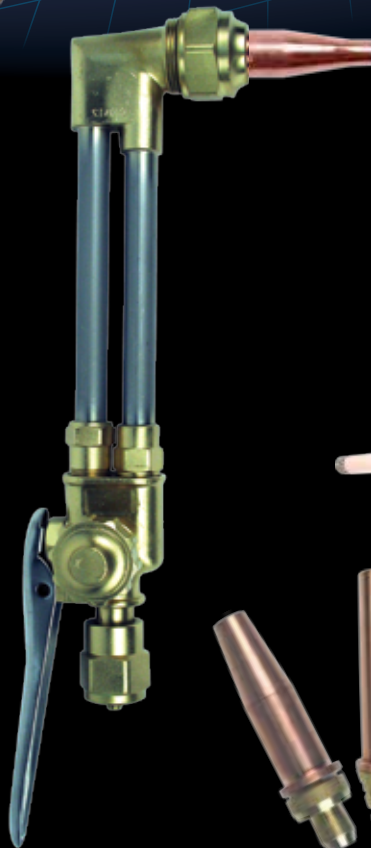


# FLAME TECH®



**SCORPION**  
BY FLAME TECH  
GAS APPARATUS



## EQUIPMENT CATALOG

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Updated 01/24/17.

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# FLAME TECH<sup>®</sup>

Innovators of High-Production,  
Cost Efficient Gas Equipment

## *Certificate of Quality*

Meeting and exceeding customer expectations with quality products and services while constantly focusing on continuous improvements are Flame Technologies, Inc. commitments to our valued partners. Our quality goal is continuously improving our business processes, including our production processes to be more efficient, and produce reliable products. Our senior management works to enhance the satisfaction of all parties.

Quality and cost consciousness have been complementary considerations in the development of our company since 1980. These processes begin with quality raw materials from ISO 9000 and UL approved vendors. The production is managed with integrated manufacturing software system by 26-year-old metals industry vendor. Seamless systems to meet the users' demands are absolutely mandatory instruments to this goal.

The Flame Technologies quality management system follows a strict business process approach and is logically structured with the quality relevant activities. One of the most important principles in our system is to manufacture product quality and 100% testing of all products for warranty. We give priority to preventing and avoiding defects. The necessary information for efficient quality management is taken from company database systems, systematically analyzed and evaluated. The effectiveness of the system is verified by internal audits. Safety, agility, reliability and increased efficiency are what Flame Technologies, Inc. builds into our complete line of gas apparatus products. Customer satisfaction is the gauge of success for the quality of our products.

***Founded 1980***

***President: Michael "Shawn" Toops***

***703 Cypress Creek Road***

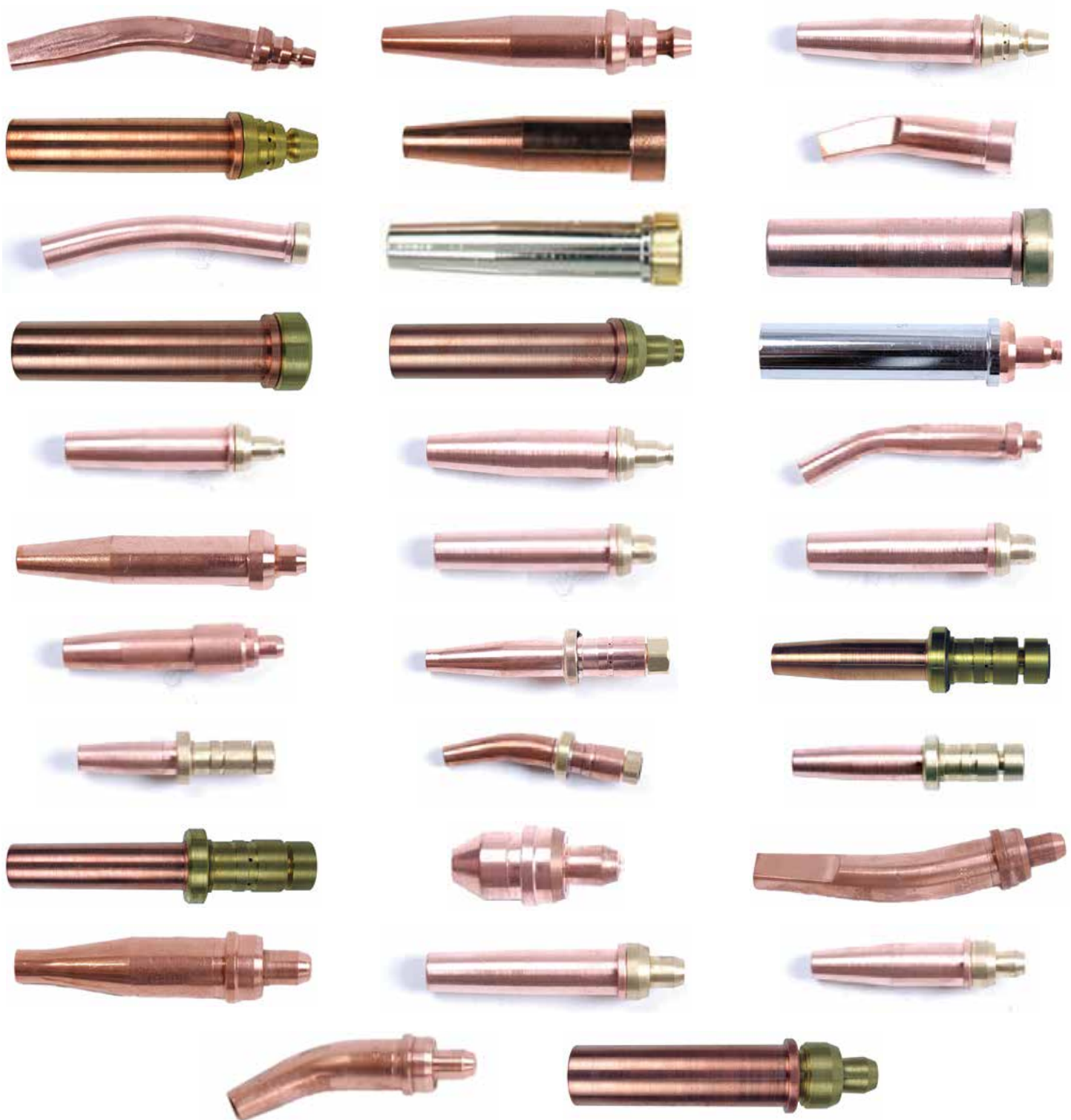
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***Web: [www.flametechnologies.com](http://www.flametechnologies.com)***

***Quality inspected and certified by Steve Dodge,  
Vice President of Operations***



# Direct Replacement Cutting Tips





Currently there is no standard method among Original Equipment Manufacturers (OEM) to designate tip sizes. The following charts are designed to provide operational data for the user, regardless of OEM, by utilizing the common denominators, "Oxygen Orifice Drill Size" and "Metal Thickness." Using information you have available, the following charts can help find information you need.

**You Know the Tip Size:** Use the Cross Reference Chart to find drill size of OEM tip to be used, and then refer to Operation and Performance Chart to determine operating parameters. Check "Metal Thickness" column to be sure tip is correct size for the cut.

**You Know the Metal Thickness:** Use the Operational and Performance Chart to determine drill size needed to cut specific thickness of metal. Select OEM tip and size from Cross Reference Chart.

STANDARD PRESSURE TIP SIZE CROSS-REFERENCE (OEM SIZE TO OXYGEN ORIFICE DRILL SIZE)

| O.E.M.                   | TIP STYLES         | OXYGEN ORIFICE DRILL SIZES |     |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------------------|--------------------|----------------------------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|                          |                    | 74                         | 71  | 68  | 64  | 62  | 60  | 58 | 56 | 54 | 52 | 50 | 48 | 44 | 39 | 31 | 28 | 25 | 19 | 13 |
| Airco®                   | 144                |                            |     | 00  |     | 0   |     |    | 1  | 2  | 3  |    | 4  | 5  | 6  |    |    |    |    |    |
|                          | 164                |                            |     | 00  |     | 0   |     |    | 1  | 2  | 3  |    | 4  | 5  | 6  | 8  | 9  |    | 10 |    |
|                          | 261                | 00                         |     | 0   |     |     | 1   |    | 2  | 3  |    |    |    | 5  | 7  | 8  |    |    | 10 |    |
|                          | 263                |                            |     |     | 0   |     | 1   |    | 2  |    |    | 4  |    | 5  | 7  | 8  |    |    | 10 |    |
|                          | AFS                |                            |     | 68  | 65  |     | 60  |    | 56 | 54 | 52 |    | 49 | 44 | 38 | 31 | 29 |    | 19 |    |
|                          | Stinger 200 Series |                            | 00  | 0   |     | 1   |     |    | 2  | 3  | 4  |    | 5  |    | 6  | 7  |    |    | 8  |    |
| Harris®                  | NX                 |                            |     | 000 | 00  |     | 0   |    | 1  |    | 2  |    | 3  | 4  | 5  | 6  | 7  | 8  |    |    |
|                          | NFF                |                            |     |     |     |     |     |    | 1  | 2  | 3  |    | 4  |    | 5  | 6  |    |    |    |    |
|                          | NH                 |                            |     |     |     |     |     |    |    |    |    |    |    |    | 5  | 6  | 7  | 8  |    |    |
|                          | 6290, 2490         |                            |     | 00  | 00  |     | 0   |    | 1  |    | 2  |    | 3  | 4  |    |    |    |    |    |    |
|                          | 6290S, 2490S       |                            |     |     |     |     |     |    | 1  |    | 2  |    | 3  | 4  | 5  | 6  |    |    |    |    |
| Koike®                   | 103                |                            |     | 00  |     | 0   | 1   |    |    | 2  | 3  |    | 4  | 5  | 6  |    | 7  |    | 8  |    |
|                          | 106                |                            |     | 00  |     | 0   | 1   |    |    | 2  | 3  |    | 4  | 5  | 6  |    | 7  |    | 8  |    |
|                          | 107                |                            |     | 00  |     | 0   | 1   |    |    | 2  | 3  |    | 4  | 5  | 6  |    | 7  |    | 8  |    |
| Meco®                    | LM                 |                            |     |     |     | 0   |     |    | 1  | 2  | 3  |    | 4  |    | 5  |    |    |    |    |    |
| Oxweld®                  | 1502               |                            |     | 3   |     |     | 4   |    |    | 6  |    |    |    | 8  | 10 | 12 |    |    | 16 |    |
|                          | 1534               | 2                          |     | 3   |     |     | 4   |    |    | 5  |    |    |    | 8  | 10 | 12 |    |    | 16 | 20 |
|                          | 1564               |                            |     |     |     |     | 4   |    |    |    | 6  |    |    | 8  |    | 10 |    | 12 |    |    |
|                          | 1567               | 1/8                        |     | 1/4 | 1/2 |     | 3/4 |    |    | 1  | 2  | 3  |    |    |    | 10 |    | 14 |    |    |
| Purox®                   | 4202               |                            |     | 3   |     |     | 4   |    |    | 5  |    | 7  |    | 9  |    | 13 |    |    |    |    |
|                          | 4213               |                            |     | 3   |     |     | 4   |    |    | 5  |    |    | 7  | 8  | 10 |    |    |    |    |    |
|                          | 4216               |                            |     | 3   |     |     | 4   |    |    |    | 6  |    | 8  |    | 10 | 12 |    |    |    |    |
| Rego®                    | KX105              |                            |     | 68  |     | 62  |     |    | 56 | 53 | 51 |    | 46 | 42 | 35 | 30 |    | 25 | 18 |    |
| Flame Tech®<br>Scorpion® | All Styles         | 5/0                        | 4/0 | 000 | 00  | 00½ | 0   | 0½ | 1  | 1½ | 2  | 2½ | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 |
| Smith®                   | SC40, 50, 60, 90   |                            |     | 00  |     | 0   |     |    | 1  | 2  | 3  |    |    | 4  | 5  | 6  | 7  |    | 8  |    |
| Victor®                  | GP (N, P)          |                            | 000 | 00  |     |     | 0   |    | 1  | 2  |    | 3  | 3  | 4  | 5  | 6  | 7  |    | 8  | 10 |
|                          | BT (N, P)          |                            |     |     |     |     |     |    |    |    |    |    |    | 4  | 5  | 6  |    |    |    |    |
|                          | HP (N, P)          |                            |     |     |     |     |     |    | 1  | 2  |    | 3  | 3  | 4  | 5  | 6  | 7  |    | 8  | 10 |
|                          | 3GP (N, P)         |                            | 000 | 00  |     |     | 0   |    | 1  | 2  |    | 3  | 3  | 4  | 5  |    |    |    |    |    |
|                          | 1-101              |                            | 000 | 00  |     |     | 0   |    | 1  |    | 2  |    | 3  | 4  | 5  | 6  | 7  | 8  |    |    |
|                          | 3-101, 303M        |                            |     | 00  |     |     | 0   |    | 1  |    | 2  |    | 3  | 4  | 5  | 6  |    |    |    |    |

HIGH PRESSURE (DIVERGED) TIP SIZE CROSS-REFERENCE (OEM SIZE TO OXYGEN ORIFICE DRILL SIZE)

| O.E.M.                | TIP STYLES    | OXYGEN ORIFICE DRILL SIZES |     |     |     |     |    |    |    |    |    |    |    |    |     |     |  |  |
|-----------------------|---------------|----------------------------|-----|-----|-----|-----|----|----|----|----|----|----|----|----|-----|-----|--|--|
|                       |               | 74                         | 71  | 68  | 64  | 62  | 60 | 58 | 56 | 54 | 52 | 50 | 48 | 44 | 42  | 39  |  |  |
| Airco®                | 361           | 0                          |     | 1   | 2   |     |    |    | 3  | 4  | 6  |    | 8  |    |     |     |  |  |
|                       | 363           |                            |     |     |     |     | 1  |    | 2  | 3  | 4  |    | 5  | 6  |     |     |  |  |
|                       | AFH           |                            |     | 68  | 65  |     | 60 |    | 56 | 54 | 52 |    | 49 | 44 | 38  |     |  |  |
|                       | Stinger (375) |                            |     | 0   |     | 1   |    | 1  | 2  | 3  | 4  |    | 5  |    |     |     |  |  |
| Harris®               | VVC           | 5/0                        |     | 4/0 | 000 |     | 0  | 0½ | 1  | 1½ | 2  | 2½ | 3  | 4  | 5   | 5½  |  |  |
| Koike®                | 103D7         |                            | 00  | 0   | 1   |     |    |    | 2  | 3  | 4  | 5  | 6  |    | 7   | 8   |  |  |
|                       | 106D7         |                            | 00  | 0   | 1   |     |    |    | 2  | 3  | 4  | 5  | 6  |    | 7   | 8   |  |  |
|                       | 107D7         |                            | 00  | 0   | 1   |     |    |    | 2  | 3  | 4  | 5  | 6  |    | 7   | 8   |  |  |
| Oxweld®               | 1535          |                            |     | 31  |     |     | 4  | 43 | 47 | 52 | 60 |    | 80 |    | 100 | 120 |  |  |
|                       | 1566          |                            |     | 1/2 | 3/4 |     | 1  |    | 1½ | 2  | 4  |    | 5  | 8  | 10  | 14  |  |  |
| Rego®                 | KX205         |                            |     | 68  |     |     | 60 |    |    | 53 |    |    |    |    |     |     |  |  |
| Flame Tech® Scorpion® | All Styles    | 5/0                        | 4/0 | 000 | 00  | 00½ | 0  | 0½ | 1  | 1½ | 2  | 2½ | 3  | 4  | 5   | 6   |  |  |
| Smith®                | SC12A         | 00                         |     | 0   | 1   |     |    | 2  | 3  | 4  |    | 6  | 6  | 8  |     |     |  |  |
| Victor®               | MTH (N, P)    |                            | 000 | 00  |     |     | 0  |    | 1  |    | 2  |    | 3  | 4  | 5   |     |  |  |

\*\*\* MAPP gas is no longer produced. Flame Tech does not make MAPP specific tips. Propylene tips may be used if needed. \*\*\*

# GENERAL OPERATION AND PERFORMANCE DATA FOR FLAME TECH® TIPS

## STANDARD PRESSURE

| METAL THICKNESS INCHES | TIP SIZE |                        | DRILL CLEANER SIZE | WYPO CLEANER NUMBER | OXYGEN         |                | FUEL GAS P.S.I. | SPEED I.P.M. | KERF WIDTH INCHES |
|------------------------|----------|------------------------|--------------------|---------------------|----------------|----------------|-----------------|--------------|-------------------|
|                        | NUMBER   | CUTTING OXYGEN ORIFICE |                    |                     | CUTTING P.S.I. | PREHEAT P.S.I. |                 |              |                   |
| 1/8                    | 5/0      | 74                     | 75                 | 7                   | 20-30          | 5-9            | 2-5             | 18-26        | 0.035             |
| 3/16                   | 4/0      | 71                     | 72                 | 8                   | 30-40          | 5-9            | 2-5             | 18-25        | 0.04              |
| 1/4                    | 000      | 68                     | 69                 | 10                  | 30-40          | 5-9            | 3-5             | 17-24        | 0.05              |
| 3/8                    | 00       | 64                     | 65                 | 14                  | 35-45          | 5-10           | 3-5             | 17-23        | 0.06              |
| 1/2                    | 1/2      | 62                     | 63                 | 15                  | 35-45          | 5-10           | 3-6             | 16-22        | 0.06              |
| 5/8                    | 0        | 60                     | 61                 | 15                  | 35-45          | 5-10           | 3-6             | 15-20        | 0.07              |
| 3/4                    | 1/2      | 58                     | 59                 | 17                  | 35-50          | 5-10           | 3-6             | 15-19        | 0.07              |
| 1                      | 1        | 56                     | 57                 | 18                  | 35-50          | 5-10           | 3-6             | 14-18        | 0.08              |
| 1 1/2                  | 1 1/2    | 54                     | 55                 | 22                  | 40-55          | 10-17          | 4-8             | 12-16        | 0.09              |
| 2                      | 2        | 52                     | 53                 | 24                  | 40-55          | 10-17          | 4-8             | 10-14        | 0.1               |
| 2 1/2                  | 2 1/2    | 50                     | 51                 | 26                  | 40-55          | 10-17          | 5-9             | 9-13         | 0.11              |
| 3                      | 3        | 48                     | 49                 | 28                  | 45-60          | 10-17          | 6-10            | 8-11         | 0.11              |
| 4                      | 4        | 44                     | 45                 | 32                  | 50-65          | 10-17          | 6-10            | 7-10         | 0.13              |
| 5                      | 4        | 44                     | 45                 | 32                  | 50-65          | 10-17          | 6-10            | 6-9          | 0.13              |
| 6                      | 5        | 39                     | 36                 | 42                  | 60-75          | 10-17          | 8-12            | 5-8          | 0.15              |
| 8                      | 6        | 31                     | 32                 | 44                  | 60-85          | 30-43          | 9-15            | 4-6          | 0.19              |
| 10                     | 7        | 28                     | 29                 |                     | 30-60          | 30-43          | 9-15            | 3-5          | 0.22              |
| 12                     | 8        | 25                     | 26                 |                     | 25-55          | 30-43          | 9-15            | 3-4          | 0.24              |
| 14                     | 9        | 19                     | 20                 |                     | 25-55          | 30-43          | 9-15            | 2-3          | 0.26              |
| 15                     | 10       | 13                     | 14                 |                     | 25-50          | 30-43          | 10-18           | 2-3          | 0.34              |
| 16                     | 11       | 9                      | 10                 |                     | 25-50          | 30-43          | 10-18           | 1 1/2-2 1/2  | 0.37              |
| 18                     | 12       | 5                      | 6                  |                     | 25-45          | 30-43          | 10-18           | 1-2          | 0.4               |

The highlighted sizes will cover most applications.

\*\* Acetylene not to exceed 15 P.S.I.

## HIGH PRESSURE (DIVERGED)

| METAL THICKNESS INCHES | TIP SIZE |                        | DRILL CLEANER SIZE | WYPO CLEANER NUMBER | OXYGEN         |                | FUEL GAS P.S.I. | SPEED I.P.M. | KERF WIDTH INCHES |
|------------------------|----------|------------------------|--------------------|---------------------|----------------|----------------|-----------------|--------------|-------------------|
|                        | NUMBER   | CUTTING OXYGEN ORIFICE |                    |                     | CUTTING P.S.I. | PREHEAT P.S.I. |                 |              |                   |
| 1/8                    | 5/0      | 74                     | 75                 | 7                   | 40-50          | 5-10           | 2-5             | 24-30        | 0.035             |
| 3/16                   | 4/0      | 71                     | 72                 | 8                   | 50-60          | 5-10           | 2-5             | 23-29        | 0.04              |
| 1/4                    | 000      | 68                     | 69                 | 10                  | 70-80          | 8-15           | 2-5             | 21-28        | 0.045             |
| 3/8                    | 00       | 64                     | 65                 | 14                  | 80-90          | 8-15           | 3-5             | 19-26        | 0.05              |
| 5/8                    | 1/2      | 62                     | 63                 | 15                  | 80-90          | 8-15           | 3-5             | 19-26        | 0.05              |
| 3/4                    | 0        | 60                     | 61                 | 15                  | 80-100         | 8-15           | 3-5             | 18-26        | 0.055             |
| 7/8                    | 1/2      | 58                     | 59                 | 17                  | 80-100         | 8-15           | 3-5             | 17-25        | 0.06              |
| 1                      | 1        | 56                     | 57                 | 18                  | 80-100         | 8-15           | 3-6             | 16-24        | 0.06              |
| 1 1/2                  | 1        | 56                     | 57                 | 18                  | 80-100         | 8-15           | 3-6             | 15-20        | 0.06              |
| 2                      | 1 1/2    | 54                     | 57                 | 18                  | 80-100         | 8-15           | 3-6             | 12-16        | 0.06              |
| 2 1/2                  | 1 1/2    | 54                     | 55                 | 22                  | 80-100         | 10-20          | 4-8             | 10-15        | 0.07              |
| 3                      | 2        | 52                     | 55                 | 22                  | 80-100         | 10-20          | 4-8             | 9-13         | 0.07              |
| 4                      | 2        | 52                     | 53                 | 24                  | 80-100         | 15-25          | 4-8             | 9-12         | 0.08              |
| 5                      | 2 1/2    | 50                     | 53                 | 24                  | 80-100         | 15-25          | 4-8             | 8-11         | 0.08              |
| 5 1/2                  | 2 1/2    | 50                     | 51                 | 26                  | 80-100         | 15-25          | 5-9             | 8-11         | 0.09              |
| 6                      | 3        | 48                     | 49                 | 28                  | 80-100         | 15-25          | 6-10            | 8-10         | 0.1               |
| 8                      | 4        | 44                     | 45                 | 32                  | 80-100         | 20-30          | 8-12            | 6-8          | 0.11              |
| 9                      | 5H       | 42                     | 43                 | 34                  | 80-100         | 25-35          | 8-12            | 5-7          | 0.13              |
| 10                     | 6H       | 39                     | 40                 | 37                  | 80-100         | 25-40          | 9-15            | 4-6          | 0.17              |

\* NOTE: If using propylene, use high side range of this chart. If using natural gas use low side of range.

NOTE: Data was compiled using mild steel as test material. This data should be used as a guide only. Your specific job may require slightly different pressures and speeds. However, the data will provide you with an excellent starting point if you begin on the low side and work up to the optimum speeds for maximum production. For thin plate through 3/8", slightly feathered or carburizing preheat flames are recommended. For heavy plate cutting, strong oxidizing preheat flames are recommended for piercing or starting the cut.

The data on this chart was gathered using a 3-hose torch. All pressures were measured at the regulator using 25' of 1/4" diameter hose for sizes 5/0 through 5 and 25' of 3/8" hose for sizes 6 and larger. For hose lengths longer than 25', the drop is about 3 PSI per 25'. Therefore, pressures at the regulator must be adjusted accordingly.

Values shown are for optimum results with FLAME TECH® tips. Check for the actual requirements of your torch in that they vary for equal pressure versus injector type design and from one OEM to another.

## Classic, Contractor and Cutter Kits

- Economical and beautiful box
- Easy and sturdy stacking
- Converts to display mode
- Parts protected by clear plastic shell while on display
- Content details on both top and front for stocking short or tall

*Display boxes not available for FTPTK-18 or FTVLD-18CS.*



*Closed Kit*



*Displayed Kit with Protective Shell Removed (for photograph)*



*Displayed Kit with Protective Clear Shell (close-up)*

**Don't see what you're looking for?  
Call us today to discuss custom kit options!**



## CLASSIC KITS

FTVHD-21

(CGA 510)  
STANDARD

FTVHD-21-300

(CGA 300)



### COMPLETE HEAVY DUTY CUTTING, WELDING & HEATING OUTFIT

COMPATIBLE WITH VICTOR® PRODUCTS | **OXY-ACETYLENE**

#### CAPACITY

- Cuts up to 8", welds up to 3" steel with optional larger tips

#### CONTAINS

- Heavy duty acetylene (VHAR-21) and oxygen (VHOR-21) regulators
- Heavy duty torch handle (VTHH-21) and cutting attachment (VCAH-21)
- Cutting tip (1-1-101) cuts up to 3/4"
- Heating head (8-MFA)
- Welding nozzles (1-W, 3-W, 5-W) welds up to 1/2" with largest tip
- 15' of 1/4" twin "T" grade hose with CGA "B" fittings
- Tip cleaner, Glasses, Spark lighter & Check valves



FTVSP-23

(CGA 510)  
STANDARD

FTVSP-23-300

(CGA 300)



### COMPLETE MEDIUM/HEAVY DUTY CUTTING, WELDING & HEATING OUTFIT

COMPATIBLE WITH VICTOR® PRODUCTS | **OXY-ACETYLENE**

#### CAPACITY

- Cuts up to 6", welds up to 3" steel with optional larger tips

#### CONTAINS

- Medium/heavy duty acetylene (ARSP-23) and oxygen (ORSP-23) regulators
- Heavy duty torch handle (VTHH-21) and cutting attachment (VCAH-21)
- Cutting tip (1-1-101) cuts up to 3/4"
- Welding nozzle (2-W) welds up to 1/8"
- 15' of 1/4" twin "T" grade hose with CGA "B" fittings
- Tip Cleaner, Glasses, Spark Lighter & Check Valves



**FTVMD-22**  
(CGA 510)  
STANDARD

**FTVMD-22-300**  
(CGA 300)



## COMPLETE MEDIUM DUTY CUTTING, WELDING & HEATING OUTFIT

COMPATIBLE WITH VICTOR® PRODUCTS | **OXY-ACETYLENE**

### CAPACITY

- Cuts up to 5", welds up to 1.25" steel with optional larger tips

### CONTAINS

- Medium duty acetylene (VMAR-22) and oxygen (VMOR-22) regulators
- Medium duty torch handle (VTHM-22) and cutting attachment (VCAM-22)
- Cutting tip (0-3-101) cuts up to 1/2"
- Heating head (8-MFA-1)
- Welding nozzles (0-W-1, 2-W-1, 4-W-1) welds up to 1/4" with largest tip
- 15' of 1/4" twin "T" grade hose with CGA "B" fittings
- Tip cleaner, Glasses, Spark Lighter & Check Valves



**FTVMDUK-20**  
(CGA 510)  
STANDARD

**FTVMDUK-20-300**  
(CGA 300)



## MEDIUM DUTY UTILITY KIT FOR CUTTING & WELDING

COMPATIBLE WITH VICTOR® PRODUCTS | **OXY-ACETYLENE**

### CAPACITY

- Cuts up to 5", welds up to 1.25" steel with optional larger tips

### CONTAINS

- Medium duty acetylene (VMAR-22) and oxygen regulators (VMOR-22)
- Medium duty torch handle (VTHM-22) and cutting attachment (VCAM-22)
- Cutting tip (0-3-101) cuts up to 1/2"
- Welding nozzle (0-W-1) welds up to 1/8"
- 15' of 3/16" twin "T" grade hose with CGA "B" fittings
- Glasses, Spark Lighter & Check valves





### PORTABLE TORCH KIT **CYLINDERS NOT INCLUDED**

COMPATIBLE WITH VICTOR® PRODUCTS | **OXY-ACETYLENE**

#### CAPACITY

- Cuts up to 4", welds up to 1.25" steel with optional larger tips

#### CONTAINS

- Light duty acetylene (VLAR-18) and oxygen (VLOR-18) rear mount regulators
- Medium duty torch handle (VTHM-22) and cutting attachment (VCAM-22)
- Cutting tip (O-3-101) cuts up to 1/2"
- Welding nozzle with mixer (O-W-1) welds up to 5/64"
- 12.5' of 3/16" twin "T" grade hose with CGA "B" fittings
- Glasses, Spark Lighter & Check Valves
- Cylinders not included**

#### PORTABLE TOTE

Order the tote *only* as part number **PT-18**



### MEDIUM/LIGHT DUTY KIT FOR CUTTING & WELDING

COMPATIBLE WITH VICTOR® PRODUCTS | **OXY-ACETYLENE**

#### CAPACITY

- Cuts up to 4", welds up to 1.25" steel with optional larger tips

#### CONTAINS

- Light duty acetylene (VLAR-18S) and oxygen (VLOR-18S) side-mount regulators
- Medium duty torch handle (VTHM-22) and cutting attachment (VCAM-22)
- Cutting tip (O-3-101) cuts up to 1/2"
- Welding nozzle with mixer (O-W-1) welds up to 5/64"
- 12.5' of 3/16" twin "T" grade hose with CGA "B" fittings
- Goggles, Spark Lighter & Check valves



**FTHSP-30**  
(CGA 510)  
STANDARD

**FTHSP-30-300**  
(CGA 300)



## COMPLETE HEAVY DUTY CUTTING & WELDING OUTFIT

COMPATIBLE WITH HARRIS® PRODUCTS | **OXY-ACETYLENE**

### CAPACITY

- Cuts up to 6", welds up to 3" steel with optional larger tips

### CONTAINS

- Heavy duty acetylene (HHAR-30) and oxygen (HHOR-30) regulators
- Heavy duty torch handle (HHTH-30) and cutting attachment (HHCA-30)
- Cutting tip (6290-1) cuts up to 3/4"
- Welding nozzle with mixer (23-A-90-3) welds up to 1/8"
- 15' of 3/16" twin "T" grade hose with CGA "B" fittings
- Tip Cleaner, Glasses, Spark Lighter & Check Valves



## CONTRACTOR KITS

**FTVHD-A1**  
(CGA 510)  
STANDARD

**FTVHD-A1-300**  
(CGA 300)



## HEAVY DUTY CONTRACTOR KIT

COMPATIBLE WITH VICTOR® PRODUCTS | **OXY-ACETYLENE**

### CAPACITY

- Cuts up to 8" with optional tips, can weld up to 3" steel with optional nozzles

### CONTAINS

- Heavy duty acetylene (VHAR-21) and oxygen (VHOR-21) regulators
- Heavy duty torch handle (VTHH-21) and cutting attachment (VCAH-21)
- Cutting tip (1-1-101) cuts up to 3/4"
- Check valves





**FTVHD-F1**  
(CGA 510)  
STANDARD



**FREE  
TOOL BAG**



## HEAVY DUTY CONTRACTOR KIT

COMPATIBLE WITH VICTOR® PRODUCTS | **ALT. FUEL GASES**

### CAPACITY

- Cuts up to 8" with optional tips, can weld up to 3" steel with optional nozzles

### CONTAINS

- Heavy duty alternative fuel gas (VHFR-21) and oxygen (VHOR-21) regulators
- Heavy duty torch handle (VTHH-21) and cutting attachment (VCAH-21)
- Cutting tip (1-GPN) cuts up to 3/4"
- Check valves

**FTVMD-A1**  
(CGA 510)  
STANDARD

**FTVMD-A1-300**  
(CGA 300)



**FREE  
TOOL BAG**



## MEDIUM DUTY CONTRACTOR KIT

COMPATIBLE WITH VICTOR® PRODUCTS | **OXY-ACETYLENE**

### CAPACITY

- Cuts up to 5" with optional tips, can weld up to 1.25" steel with optional nozzles

### CONTAINS

- Medium duty acetylene (VMAR-22) and oxygen (VMOR-22) regulators
- Medium duty torch handle (VTHM-22) and cutting attachment (VCAM-22)
- Cutting tip (0-3-101) cuts up to 1/2"
- Check valves

**FTHHD-A1**  
(CGA 510)  
STANDARD

**FTHHD-A1-300**  
(CGA 300)



**FREE  
TOOL BAG**



## HEAVY DUTY CONTRACTOR KIT

COMPATIBLE WITH HARRIS® PRODUCTS | **OXY-ACETYLENE**

### CAPACITY

- Cuts up to 6" with optional tips, can weld up to 3" steel with optional nozzles

### CONTAINS

- Heavy duty acetylene (HHAR-30) and oxygen (HHOR-30) regulators
- Heavy duty torch handle (HHTH-30) and cutting attachment (HHCA-30)
- Cutting tip (6290-1) cuts up to 3/4"
- Check valves

**FTHHD-F1**  
(CGA 510)  
STANDARD



**FREE  
TOOL BAG**



## HEAVY DUTY CONTRACTOR KIT

COMPATIBLE WITH HARRIS® & VICTOR® PRODUCTS | **ALT. FUEL GASES**

### CAPACITY

- Cuts up to 8" with optional tips, can weld up to 3" steel with optional nozzles

### CONTAINS

- Heavy duty alternative fuel gas (VHFR-21) and oxygen (VHOR-21) regulators \*
- Heavy duty torch handle (HHTH-30) and cutting attachment (HHCA-30)
- Cutting tip (6290-1NX) cuts up to 3/4"
- Check valves

\* *Harris® compatible alternative fuel gas regulators are not available.*

## CUTTER KITS

**FTVHD-CK-F1**  
(CGA 510)  
STANDARD



**FREE LARGE  
TOOL BAG**



### HEAVY DUTY CUTTER KIT

COMPATIBLE WITH VICTOR® PRODUCTS | **ALT. FUEL GASES**

#### CAPACITY

- Cuts up to 8" with optional tips

#### CONTAINS

- Heavy duty acetylene (VHFR-21) and oxygen (VHOR-21) regulators
- 21" straight torch w/90° head (6321-F90)
- Cutting tip (1-GPN) cuts up to 3/4"
- Check valves

**FTVMD-CK-A1**  
(CGA 510)  
STANDARD

**FTVMD-CK  
-A1-300**  
(CGA 300)



**FREE LARGE  
TOOL BAG**



### MEDIUM DUTY CUTTER KIT

COMPATIBLE WITH VICTOR® PRODUCTS | **OXY-ACETYLENE**

#### CAPACITY

- Cuts up to 5" with optional tips

#### CONTAINS

- Medium duty acetylene (VMAR-22) and oxygen (VMOR-22) regulators
- 21" straight torch w/90° head (6321-A90)
- Cutting tip (1-1-101) cuts up to 1/2"
- Check valves

**FTHHD-CK-F1**  
(CGA 510)  
STANDARD



**FREE LARGE  
TOOL BAG**



**HEAVY DUTY CUTTER KIT**

COMPATIBLE WITH HARRIS® & VICTOR® PRODUCTS | **ALT. FUEL GASES**

**CAPACITY**

- Cuts up to 8" with optional tips

**CONTAINS**

- Heavy duty alternative fuel gas (VHFR-21) and oxygen (VHOR-21) regulators \*
- 21" straight torch w/90° head (6221-F90)
- Cutting tip (6290-1NX) cuts up to 3/4"
- Check valves

\* *Harris® compatible alternative fuel gas regulators are not available.*



**FTHHD-CK-A1**  
(CGA 510)  
STANDARD

**FTHHD-CK  
-A1-300**  
(CGA 300)



**FREE LARGE  
TOOL BAG**



**HEAVY DUTY CUTTER KIT**

COMPATIBLE WITH HARRIS® PRODUCTS | **OXY-ACETYLENE**

**CAPACITY**

- Cuts up to 6" with optional tips

**CONTAINS**

- Heavy duty acetylene (HHAR-30 and oxygen (HHOR-30) regulators
- 21" straight torch w/90° head (6221-A90)
- Cutting tip (6290-1) cuts up to 3/4"
- Check valves





# Regulation & Flow Control

## OEM COMPATIBLE SINGLE STAGE CYLINDER REGULATORS

### FEATURES

- Forged brass body & bonnet for maximum strength
- Oxygen with safety relief valve for safe operation
- Sintered metal inlet filter to trap impurities
- Easy to read dual scale gauges with hardy acrylic screw-on lens

### DELIVERY PRESSURE

- Acetylene: 2-15 psi
- Alt. Fuel Gas: 2-40 psi
- Oxygen: 5-125 psi

### MAX CYLINDER PRESSURE

- Acetylene: 400 psi
- Alt. Fuel Gas: 400 psi
- Oxygen: 4000 psi



**BOX PACKAGING**



**CLAMSHELL PACKAGING**

| OEM COMPAT. | DUTY       | GAS           | BOX P/N | BOX P/N (CGA 300) | CLAMSHELL P/N | CLAMSHELL P/N (CGA 300) |
|-------------|------------|---------------|---------|-------------------|---------------|-------------------------|
| Victor®     | Heavy      | Acetylene     | VHAR-21 | VHAR-21-300       | VHAR-21CS     | VHAR-21-300CS           |
| Victor®     | Heavy      | Alt. Fuel Gas | VHFR-21 | n/a               | VHFR-21CS     | n/a                     |
| Victor®     | Heavy      | Oxygen        | VHOR-21 | n/a               | VHOR-21CS     | n/a                     |
| Victor®     | Medium     | Acetylene     | VMAR-22 | VMAR-22-300       | VMAR-22CS     | VMAR-22-300CS           |
| Victor®     | Medium     | Alt. Fuel Gas | VMFR-22 | n/a               | VMFR-22CS     | n/a                     |
| Victor®     | Medium     | Oxygen        | VMOR-22 | n/a               | VMOR-22CS     | n/a                     |
| Victor®     | Med./Heavy | Acetylene     | ARSP-23 | ARSP-23-300       | n/a           | n/a                     |
| Victor®     | Med./Heavy | Oxygen        | ORSP-23 | n/a               | n/a           | n/a                     |
| Victor®     | Light      | Acetylene     | VLAR-18 | n/a               | n/a           | n/a                     |
| Victor®     | Light Duty | Oxygen        | VLOR-18 | n/a               | n/a           | n/a                     |
| Harris®     | Heavy      | Acetylene     | HHAR-30 | HHAR-30-300       | n/a           | n/a                     |
| Harris®     | Heavy      | Oxygen        | HHOR-30 | n/a               | n/a           | n/a                     |

## FLOWMETER REGULATORS

### FEATURES

- Economy style combination regulator and flowmeter in one unit
- Preset pressure output at 50 PSI, machined brass body, polycarbonate flow tube and outer cover are impact resistant for maximum durability
- Compact lightweight construction
- Designed for MIG & TIG applications providing accurate regulation of gas flow
- Dual scale gauge with impact resistant polycarbonate lens for durability

### SPECIFICATIONS

- 0-60 SCFH Flow, Preset output 50 PSI for Argon & CO<sub>2</sub>, Weight 1 lb. 6 oz
- Outlet fitting: 5/8"-18 RH Female CGA "B"

### PACKAGING

#### BOX

100-FL-AR-60-580 (Argon)

100-FL-CD-60-320 (CO<sub>2</sub>)

#### CLAMSHELL

100-FL-AR-60-580C (Argon)

100-FL-AR-60-580H (Argon—includes 10-foot single hose)



## FLOW GAUGE REGULATORS

### FEATURES

- Easy to read 2-inch, dual-scale gauges
- Safety relief valve to protect equipment
- Sintered metal inlet filter to trap impurities
- Forged brass body with nickel-chrome plating on bonnet

### IDEAL FOR

- MIG/TIG operations—where flowmeters are not ideal
- Designed for small to medium operations, with flow of 8–45 SCFH
- Argon cylinder fitting: CGA 580
- CO<sub>2</sub> cylinder fitting: CGA 320

### PACKAGING

#### BOX

FTFG-25-AR (Argon)

FTFG-25-CD (CO<sub>2</sub>)

#### CLAMSHELL

FTFG-25-ARCS (Argon)

FTFG-25-CDCS (CO<sub>2</sub>)



## SPECIALTY REGULATORS (BOXED ONLY)

### INERT GAS MEDIUM DUTY

*Comparable to Victor® TPR250 Series*

#### MDR-IN-350-580

- 15–350 PSI Delivery
- 1/4" - 37° Flare Outlet
- 2" Gauges
- CGA 580 Inlet
- 3,000 PSI Max Inlet



### INERT GAS HIGH PRESSURE

*A Flame Tech Classic*

#### HPPR-IN-700-580

- Piston Style Regulator
- 50–700 PSI Delivery
- 1/4" - 37° Flare Outlet
- 2" Gauges
- CGA 580 Inlet
- 3,000 PSI Max Inlet



### INERT GAS HIGH FLOW

*Comparable to Victor® SR600 Series*

#### HDR600-IN-350-580

- 5–350 PSI Delivery
- 1/4" Swagelok Outlet
- 2 1/2" Gauges
- CGA 580 Inlet
- 3,000 PSI Max Inlet



### DELUXE HELIUM BALLOON FILLER

#### H580BF

- Cylinder Contents Gauge
- Rugged all brass body
- "Piston Type" mechanism
- Plastic hand tight CGA 580 inlet connection
- Drilled and tapped for tie hook and string cutter







# Torch Handles & Cutting Attachments

## VICTOR® COMPATIBLE MEDIUM & HEAVY DUTY



**BOX PACKAGING**



**CLAMSHELL PACKAGING**

### CUTTING ATTACHMENTS

- Double O-ring to form a perfect gas-tight seal
- Head & body are forged brass for longer life
- Two stainless steel tubes and lever for strength

### TORCH HANDLES

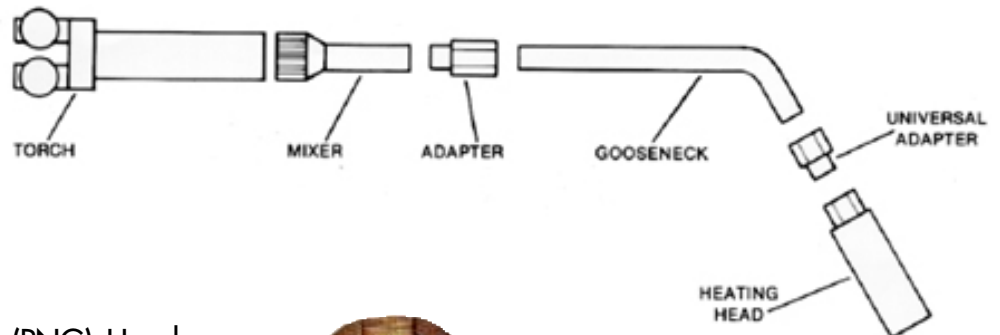
- Tough extruded brass handle for durability
- Stainless steel needle valves for accurate adjustment

| PART NUMBER | DESCRIPTION                    | PACKAGING |
|-------------|--------------------------------|-----------|
| VCAH-21     | Heavy Duty Cutting Attachment  | Box       |
| VTHH-21     | Heavy Duty Torch Handle        | Box       |
| VCAM-22     | Medium Duty Cutting Attachment | Box       |
| VTHM-22     | Medium Duty Torch Handle       | Box       |
| VCAH-21CS   | Heavy Duty Cutting Attachment  | Clamshell |
| VTHH-21CS   | Heavy Duty Torch Handle        | Clamshell |
| VCAM-22CS   | Medium Duty Cutting Attachment | Clamshell |
| VTHM-22CS   | Medium Duty Torch Handle       | Clamshell |



# Heating & Welding/Brazing Components

## INFERNO™ HEATING EQUIPMENT



### PNG HEATING HEADS

Inferno™ Propane, Natural Gas (PNG) Heads are designed to operate with propane or natural gas. Shells are machined from solid copper bar stock. Internals are machined from brass which is press fit and pinned to prevent separation during backfire. A wide selection of sizes delivers from 200,000 to 1,200,000 BTU's.



### HD HEATING HEADS

Inferno™ Heavy Duty (HD) Heads are designed to operate with MPS gas, propylene, propane and natural gas. A wide selection of sizes delivers from 20,000 to 1,200,000 BTU's. HD heads are machined from solid bar stock. Internals are press fit and pinned with a large brass pin to prevent separation during backfire.



### SPOT HEATING HEADS

Inferno™ Spot Heads are designed to operate with MPS gas, propylene, propane and natural gas. Spot heads are designed to provide a very concentrated flame. This new tool is useful for specialized heating, bending and washing applications. A wide selection of sizes delivers from 70,000 to 513,000 BTU's.




### MAGNUM MIXERS

Flame Tech Magnum™ mixers are designed for use with Victor®, Harris®, Airco®, Purox®, and Smith® torches. Using the "Magnum" mixer eliminates the need for mixer to gooseneck adapters and provides greater flow than original manufacturers' mixers.



## HEATING HEADS

 Large heating assemblies require high volumes of gas to keep flames burning properly. "Starving" the flame will overheat the tip and cause a backfire or flashback (hissing sound inside the head.) If additional flow capacity is required, use a manifold system of sufficient size to supply the necessary gas volume. Consult your gas supplier for withdrawal rates for other fuel gases. Refer to the chart below for recommended pressure settings and consumption data.

**IF A FLASHBACK OCCURS, IMMEDIATELY CLOSE THE OXYGEN VALVE FIRST, AND THEN CLOSE THE FUEL VALVE.**

\* Heating heads marked with an asterisk must be used with 3/8" ID hose and a heavy duty torch handle.

**PNG** for use with natural gas/propane

| MODEL | HEAD SIZE | NATURAL GAS/<br>PROPANE<br>PRESSURE (PSI)<br>MIN-MAX | OXYGEN<br>PRESSURE (PSI)<br>MIN-MAX | NATURAL GAS/<br>PROPANE<br>CONSUMPTION (CFH)<br>MIN-MAX | OXYGEN<br>CONSUMPTION<br>(CFH)<br>MIN-MAX | BTU PER HOUR  |
|-------|-----------|--|-------------------------------------|---|---|---|
| PNG   | 10        | 2-10   | 30-45                               | 55-110  | 180-210                                   | CFH (Gas)<br>×<br>BTU per cu. ft.<br>(see BTU info) |
| PNG   | 20*       | 2-12   | 40-60                               | 90-180  | 310-330                                   |   |
| PNG   | 30*       | 2-15   | 60-80                               | 170-260   | 450-600                                   |   |
| PNG   | 40*       | 2-10   | 80-100                              | 240-290   | 550-800                                   |   |
| PNG   | 50*       | 10-25  | 90-110                              | 280-450   | 780-980                                   | See BTU chart                                       |

**HD** for use with any commercial fuel gas except acetylene

| MODEL | HEAD SIZE | NATURAL GAS/<br>PROPANE<br>PRESSURE (PSI)<br>MIN-MAX | OXYGEN<br>PRESSURE (PSI)<br>MIN-MAX | NATURAL GAS/<br>PROPANE<br>CONSUMPTION (CFH)<br>MIN-MAX | OXYGEN<br>CONSUMPTION<br>(CFH)<br>MIN-MAX | BTU PER HOUR  |
|-------|-----------|--|-------------------------------------|---|---|---|
| HD    | 1         | 5-10   | 40-60                               | 70-100  | 100-180                                   | CFH (Gas)<br>×<br>BTU per cu. ft.<br>(see BTU info) |
| HD    | 2*        | 10-15  | 50-70                               | 100-150   | 200-300                                   |   |
| HD    | 3*        | 15-25  | 70-100                              | 150-200   | 350-460                                   |   |
| HD    | 4*        | 20-35  | 90-120                              | 250-350   | 600-800                                   |   |
| HD    | 5*        | 30-50  | 100-150                             | 400-500   | 900-1150                                  | See BTU chart                                       |

**SPOT** for use with any commercial fuel gas except acetylene

| MODEL | HEAD SIZE | NATURAL GAS/<br>PROPANE<br>PRESSURE (PSI)<br>MIN-MAX | OXYGEN<br>PRESSURE (PSI)<br>MIN-MAX | NATURAL GAS/<br>PROPANE<br>CONSUMPTION (CFH)<br>MIN-MAX | OXYGEN<br>CONSUMPTION<br>(CFH)<br>MIN-MAX | BTU PER HOUR                      |
|-------|-----------|--|-------------------------------------|---|---|-----------------------------------|
| SPOT  | 1         | 5-15   | 40-55                               | 70-150  | 120-300                                   | CFH (Gas)<br>×<br>BTU per cu. ft. |
| SPOT  | 2*        | 7-20   | 45-65                               | 80-175  | 150-350                                   |                                   |
| SPOT  | 3*        | 10-25  | 50-80                               | 100-200   | 200-400                                   |                                   |

APPROXIMATE GROSS BTUS PER CUBIC FOOT

Natural Gas=1000

Propane=2498

Propylene=2371

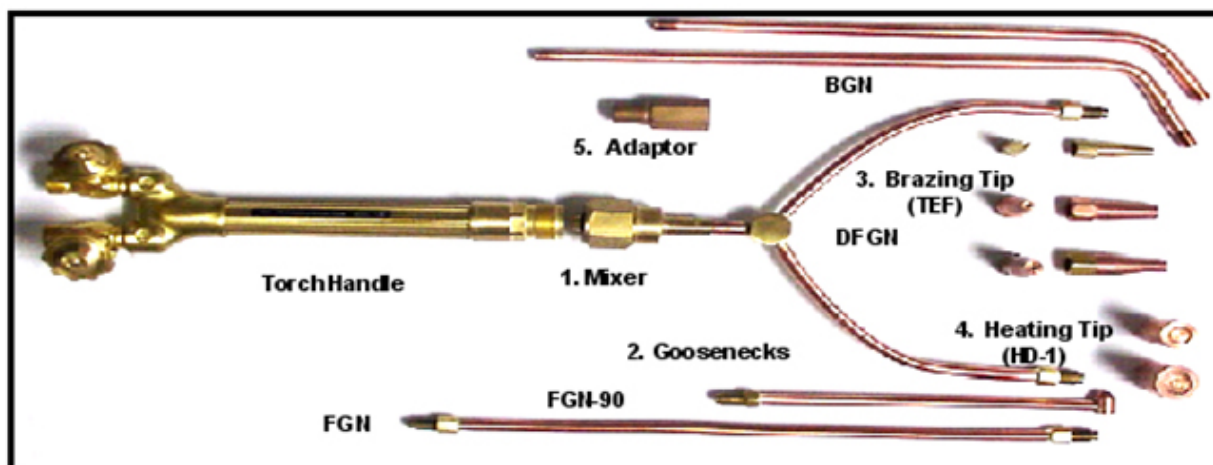
## GOOSENECKS FOR HEATING HEADS

Flame Tech® stainless steel goosenecks fit Flame Tech® "Magnum" mixers and Victor® 1/2" mixers without the need for an adaptor. Other OEM mixers will require adaptors. All PNG, HD and SPOT heating heads screw onto the 1/2-20 end of Flame Tech® goosenecks.

Available in 10", 12", 16", 18", 24", 28" & 36" lengths.

Gooseneck heating assemblies are available for many OEMs. Assemblies include a mixer, for the requested OEM type available, an adaptor to the gooseneck (if needed), the gooseneck of specified length and the heating head. Adaptors are available for Flame Tech® heating heads to fit onto many OEM goosenecks. See the price book for more details.

## LIGHT DUTY BRAZING

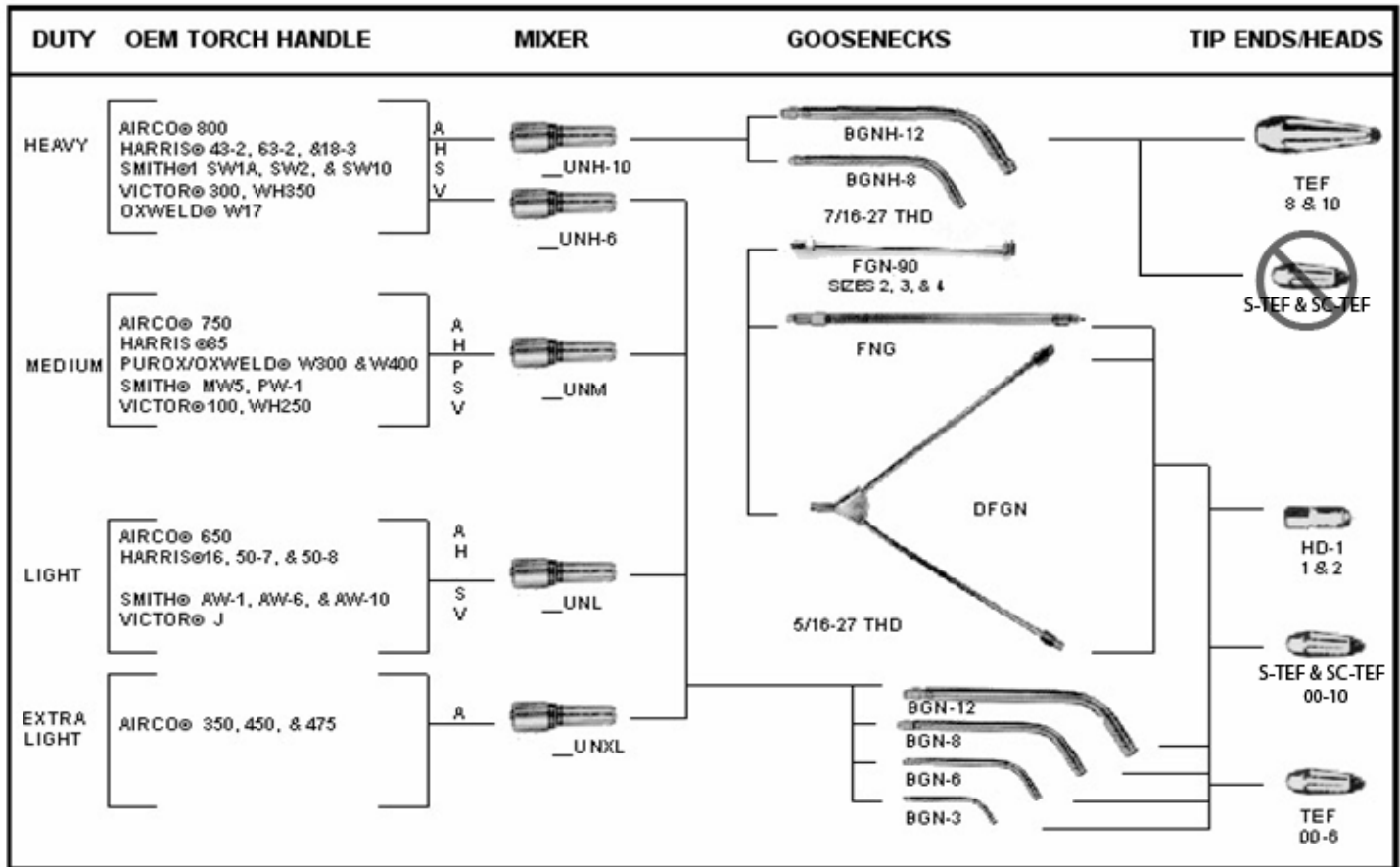


This brazing & heating equipment enhances the use of fuel gas for applications that previously required acetylene. The same philosophy we use for our heavy duty heating equipment is used in the design of this equipment. The special fuel gas mixers, designed for use with all the popular OEM torch handles, utilize the same accessories. This standardizes purchasing, reduces inventory, makes the components more cost effective and gives the craftsman tremendous flexibility. **NOT FOR USE WITH ACETYLENE.**

1. MIXER – Designed to enhance the performance of all Fuel Gases. Available for all popular torches.
2. GOOSENECKS – The wide variety of gooseneck accessories cover most applications.
3. BRAZING TIPS – The TEF (Tip End Fuel) gas brazing tips were designed to overcome most of the problems encountered while brazing with fuel gases. These TEF tips will flow from 25 to 50 percent more gas than single orifice welding tips designed for acetylene before becoming unstable and blowing away from the tip.
4. HEATING TIPS – The HD-1-1 or HD-1-2 series heating tips allow the use of fuel gases with minimum & light duty torches for heating applications that previously required acetylene. The HD-1-1 or HD-1-2 head will yield from 120,000 to 375,000 BTUs per hour, which covers the smallest to the largest traditional multi-flame acetylene heating assemblies.
5. ADAPTORS – 5/16-27 thread to 1/4" tubing allows for customized goosenecks to fit individual needs.

| TORCH HANDLE     | MIXERS   |          |                |          |          | ACCESSORIES   |
|------------------|----------|----------|----------------|----------|----------|---|
|                  | AIRCO    | HARRIS   | PUROX/OXWELD   | SMITH    | VICTOR   |   |
| Heavy Duty       | A-UNH-10 | H-UNH-10 | O-UNH-10       | S-UNH-10 | V-UNH-10 | BGNH Bent Gooseneck Heavy Duty Lengths: 8" & 12"<br>TEF Tip End Fuel. Sizes: 8 & 10 |
|                  | A-UNH-6  | H-UNH-6  | O-UNH-6        | S-UNH-6  | V-UNH-6  | BGN Bent Gooseneck Lengths: 3", 6", 8", 12"<br>TEF Tip End Fuel                     |
| Medium Duty      | A-UNM    | H-UNM    | P-UNM          | S-UNM    | V-UNM    | HD-1 Heating Heads. Sizes: 1 & 2<br>DFGN Dual Flex Gooseneck Length: 6"             |
| Light Duty       | A-UNL    | H-UNL    | (discontinued) | S-UNL    | V-UNL    | FGN Flexible Gooseneck Length: 11"  |
| Extra Light Duty | A-UNXL   | NONE     | NONE           | NONE     | NONE     | FGN-90 Flexible Gooseneck with 90° Head. Length: 6"                                 |

## LIGHT DUTY BRAZING



FLAME TECH TEF (TIP END FUEL GAS) BRAZING AND HEATING NOZZLE CROSS REFERENCE & FLOW DATA

| FLAME TECH PART NO. | ACETYLENE EQUIVALENT | DRILL SIZE | TEF SIZE | FUEL GAS (PSI) | OXYGEN (PSI) | FUEL GAS FLOW (CFH)* |
|---------------------|----------------------|------------|----------|----------------|--------------|----------------------|
| TEF-00              | 000                  | 75 (.022") | 00       | 3-6            | 3-6          | 2-7                  |
| TEF-0               | 00                   | 70 (.028") | 0        | 3-6            | 3-6          | 4-9                  |
| TEF-1               | 0                    | 65 (.035") | 1        | 3-6            | 4-8          | 6-12                 |
| TEF-2               | 1                    | 60 (.040") | 2        | 3-6            | 5-10         | 9-18                 |
| TEF-3               | 2                    | 56 (.046") | 3        | 4-8            | 8-15         | 10-20                |
| TEF-4               | 3                    | 53 (.060") | 4        | 5-10           | 10-25        | 12-24                |
| TEF-5               | 4                    | 49 (.073") | 5        | 6-12           | 15-30        | 10-40                |
| TEF-6               | 5                    | 43 (.084") | 6        | 7-14           | 20-40        | 30-75                |
| TEF-8               | 6                    | 36 (.106") | 8        | 9-18           | 30-50        | 60-120               |
| TEF-8               | 7                    | 30 (.128") | 8        | 12-24          | 40-70        | 90-180               |
| TEF-10              | 8                    | 29 (.136") | 10       | 18-36          | 50-80        | 160-320              |
| TEF-10              | 10                   | 27 (.144") | 10       | 20-40          | 50-80        | 200-400              |
| HD-1-1              | MFA-12               | n/a        | HD-1-1   | 5-10           | 40-60        | 70-100               |
| HD-1-2              | MFA-15               | n/a        | HD-1-2   | 10-15          | 50-70        | 100-150              |

The highlighted sizes will cover most applications.

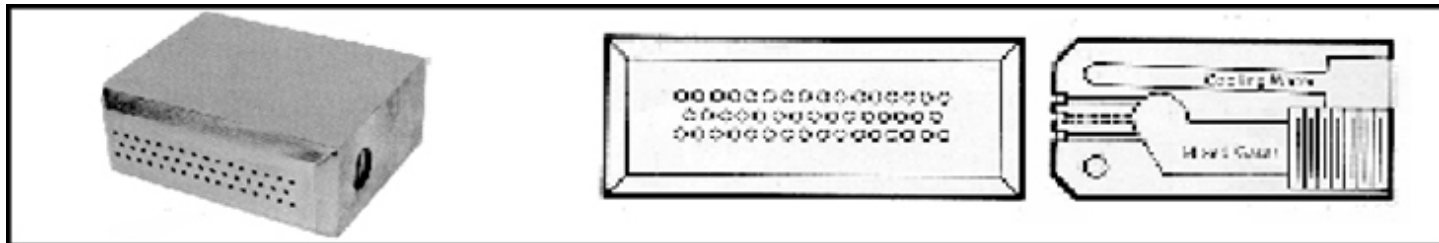
\* Oxygen consumption (CFH) is about 2.0 times the fuel gas under neutral flame conditions.



## STANDARD FLAME HARDENING HEADS

### WATER-COOLED HEADS FOR FLAME TECH GOOSENECKS

Water is circulated through the head for cooling purposes only. Quenching of the work piece must come from another source. Internal threads are provided at the back of each head for mounting purposes.

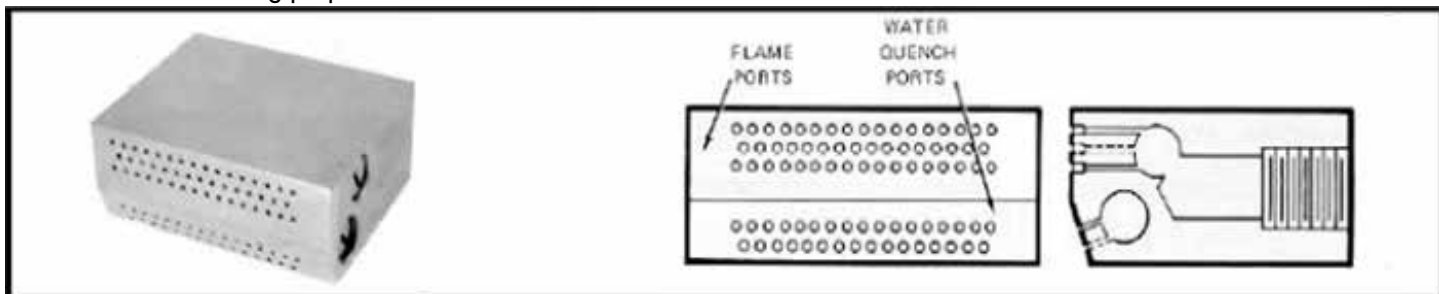


FUEL GAS INLET IS 1/4" NPT – WATER INLET IS 1/8" NPT (NOTE: TO MOUNT ON A FLAME TECH GOOSENECK, USE UAD-10 ADAPTOR.)

| ITEM NUMBER | HEATING AREA WIDTH | HEAD SIZE      | NUMBER OF FLAME PORTS | OXYGEN FLOW (CFH) | FUEL FLOW (CFH) |
|-------------|--------------------|----------------|-----------------------|-------------------|-----------------|
| WC 10       | 1"                 | 1 x 2 x 1 3/4" | 23                    | 130-155           | 35-50           |
| WC 15       | 1 1/2"             | 1 x 2 x 2 1/4" | 35                    | 200-235           | 50-80           |
| WC 20       | 2"                 | 1 x 2 x 2 3/4" | 47                    | 270-315           | 70-110          |
| WC 25       | 2 1/2"             | 1 x 2 x 3 1/4" | 59                    | 340-400           | 80-135          |
| WC 30       | 3"                 | 1 x 2 x 3 3/4" | 71                    | 400-475           | 110-165         |
| WC 35       | 3 1/2"             | 1 x 2 x 4 1/4" | 83                    | 475-560           | 125-190         |
| WC 40       | 4"                 | 1 x 2 x 4 3/4" | 95                    | 550-640           | 140-220         |

### WATER-QUENCHING HEADS TO FIT FLAME TECH GOOSENECKS

Water is provided to quench the work piece as well as cooling the head. Internal threads are provided at the back and at each side of the head for mounting purposes.



FUEL GAS INLET IS 1/4" NPT – WATER INLET IS 1/8" NPT (NOTE: TO MOUNT ON A FLAME TECH GOOSENECK, USE UAD-10 ADAPTOR.)

| ITEM NUMBER | HEATING AREA WIDTH | HEAD SIZE      | NUMBER OF FLAME PORTS | OXYGEN FLOW (CFH) | FUEL FLOW (CFH) |
|-------------|--------------------|----------------|-----------------------|-------------------|-----------------|
| WQ 10       | 1"                 | 1 x 2 x 1 3/4" | 23                    | 130-155           | 35-50           |
| WQ 15       | 1 1/2"             | 1 x 2 x 2 1/4" | 35                    | 200-235           | 50-80           |
| WQ 20       | 2"                 | 1 x 2 x 2 3/4" | 47                    | 270-315           | 70-110          |
| WQ 25       | 2 1/2"             | 1 x 2 x 3 1/4" | 59                    | 340-400           | 80-135          |
| WQ 30       | 3"                 | 1 x 2 x 3 3/4" | 71                    | 400-475           | 110-165         |
| WQ 35       | 3 1/2"             | 1 x 2 x 4 1/4" | 83                    | 475-560           | 125-190         |
| WQ 40       | 4"                 | 1 x 2 x 4 3/4" | 95                    | 550-640           | 140-220         |

## NON-STANDARD FLAME HARDENING HEADS

Non-standard heads for any flame hardening application and gas are quoted on an individual basis. Submit customer drawing and specifications of head and/or work piece to be hardened. Our on-staff engineering department is available to help design specialty products to meet customer needs.

## ABOUT FLAME HARDENING

### WHAT IS FLAME HARDENING

Flame hardening includes any process that uses an oxy-fuel gas flame to heat carbon or alloy steel, tool steel, cast iron or a hardenable stainless steel above a certain "critical" temperature. A rapid quench follows, causing the material to harden to some depth below its surface. Flame hardening works in a depth range of 1/64 to 1/4 inch. The success of any flame hardening process depends on several variables, including the type of iron or steel selected, the fuel, the design and operation of the flame head, the quenching medium and how it's used.

### WHY USE FLAME HARDENING

It is a rapid, economical method for selectively hardening specific areas on the surface of a part. The process is applied only to the flame hardenable materials, principally carbon and alloys steels, certain stainless steels and cast irons. Flame hardening differs from other heat treating processes because only the surface, and a thin layer of the work piece below the surface, are hardened.

Flame hardening is more economical than induction hardening, because equipment and maintenance costs are lower. Operating costs are about the same for both methods depending on the size of the production run and work piece configuration. It is also more versatile than induction hardening.

### EXAMPLES FOR SELECTING FLAME HARDENING

- Parts are too large for conventional furnace heating and quenching. Typical examples include large gears, machine ways, large dies and mill rolls.
- Only a small segment of a work piece requires heat treatment, because heating the entire part would be detrimental.

### DIFFERENT QUENCHING PROCESSES

Cooling speed during the quenching depends on the type and temperature of quenching medium used and how fast it is agitated.

Self-quenching is the slowest method and produces the lowest surface hardness. Self-quenching occurs when a part has a sufficiently large, cool mass to draw heat away from the surface, causing the part to quench itself.

Forced air is a mild quench that rapidly cools the work piece with minimum risk of surface cracking, especially in higher-carbon steels.

Oil and soluble-oil mixtures give relatively high hardness without too severe of a cooling rate.

Water is a severe quenchant, and brine is even more severe. They produce high hardness, but also may cause surface cracking if not used carefully. Water gives a higher hardness than oil when surface cracking is not likely to be a problem—as it is in very high carbon steels.

# Heating & Welding/Brazing Assemblies

## OXYACETYLENE HEATING NOZZLES

| STYLE   | SIZE | COMPLETE NOZZLE |
|---|------|-----------------|
| <b>MFA</b><br>For use with Flame Tech® VTHH-21 heavy duty torch handle or Victor® HD handle.    | 4    | 4-MFA           |
|   | 6    | 6-MFA           |
|   | 8    | 8-MFA           |
|   | 10   | 10-MFA          |
|   | 12   | 12-MFA          |
|   | 15   | 15-MFA          |
| <b>MFA-1</b><br>For use with Flame Tech® VTHM-22 medium duty torch handle or Victor® MD handle. | 2    | 2-MFA-1         |
|   | 4    | 4-MFA-1         |
|   | 6    | 6-MFA-1         |
|   | 8    | 8-MFA-1         |
| <b>MFA-J</b><br>For use with J-Torch.   | 2    | 2-MFA-J         |
|   | 4    | 4-MFA-J         |
|   | 6    | 6-MFA-J         |



| STYLE   | SIZE       | COMPLETE NOZZLE |
|---|------------|-----------------|
| <b>MFN</b><br>For use with Flame Tech® VTHH-21 heavy duty torch handle or Victor® HD torch handle.<br><b>*3/8" hose is required</b> | 8          | 8-MFN           |
|   | 10         | 10-MFN          |
|   | <b>12*</b> | <b>12-MFN</b>   |
|   | <b>15*</b> | <b>15-MFN</b>   |
| <b>MFN-1</b><br>For use with Flame Tech® VTHM-22 medium duty torch handle or Victor® MD torch handle.                               | 6          | 6-MFN-1         |
|   | 8          | 8-MFN-1         |

**WARNING:** MFN & MFN-1 heating nozzles are for alternative fuel gases only; they are not for use with acetylene.



| TIP SIZE | OXYGEN PRESSURE (PSI) | ALT. FUEL GAS PRESSURE (PSI) | ACETYLENE PRESSURE (PSI) | OXYGEN CONSUMPTION (SCFH) | ALT. FUEL GAS CONSUMPTION (SCFH) | ACETYLENE CONSUMPTION (SCFH) |
|----------|-----------------------|------------------------------|--------------------------|---------------------------|----------------------------------|------------------------------|
| 2        | 4-8                   | —                            | 4-8                      | 3-10                      | —                                | 3-9                          |
| 4        | 8-12                  | —                            | 6-10                     | 7-22                      | —                                | 6-20                         |
| 6        | 10-15                 | 2-10                         | 8-12                     | 15-44                     | 5.5-20                           | 15-50                        |
| 8        | 20-30                 | 10-15                        | 10-15                    | 33-88                     | 10-35                            | 30-80                        |
| 10       | 30-40                 | 12-20                        | 12-15                    | 44-110                    | 20-80                            | 40-100                       |
| 12       | 50-60                 | 13-25                        | 12-15                    | 66-165                    | 30-160                           | 60-150                       |
| 15       | 50-60                 | 13-25                        | 12-15                    | 99-244                    | 50-200                           | 90-220                       |

NOTE: Oxygen consumption (SCFH) is 1.1 times that of acetylene, under neutral flame conditions.

Oxygen consumption (SCFH) is about 2.0 times that of alt. fuel gases, under neutral flame conditions.

**OXYACETYLENE WELDING NOZZLES**

| STYLE  | SIZE | COMPLETE NOZZLE |
|--|------|-----------------|
| <b>W</b><br>For use with Flame Tech®<br>VTHH-21 heavy duty<br>torch handle or Victor®<br>HD handle.    | 000  | 000-W           |
|  | 00   | 00-W            |
|  | 0    | 0-W             |
|  | 1    | 1-W             |
|  | 2    | 2-W             |
|  | 3    | 3-W             |
|  | 4    | 4-W             |
|  | 5    | 5-W             |
| <b>W-1</b><br>For use with Flame Tech®<br>VTHM-22 medium duty<br>torch handle or Victor®<br>MD handle. | 000  | 000-W-1         |
|  | 00   | 00-W-1          |
|  | 0    | 0-W-1           |
|  | 1    | 1-W-1           |
|  | 2    | 2-W-1           |
|  | 3    | 3-W-1           |
|  | 4    | 4-W-1           |
|  | 5    | 5-W-1           |
| <b>W-J</b><br>For use with J-Torch.  | 000  | 000-W-J         |
|  | 00   | 00-W-J          |
|  | 0    | 0-W-J           |
|  | 1    | 1-W-J           |
|  | 2    | 2-W-J           |
|  | 3    | 3-W-J           |
|  | 4    | 4-W-J           |
|  | 5    | 5-W-J           |
|  | 6    | 6-W-J           |



| METAL THICKNESS | TIP SIZE | DRILL SIZE | OXYGEN (PSI) | ACETYLENE (PSI) | ACETYLENE (SCFH) |
|-----------------|----------|------------|--------------|-----------------|------------------|
| Up to 1/32"     | 000      | 75 (.022)  | 3-5          | 3-5             | 1-2              |
| 1/16" to 3/64"  | 00       | 70 (.028)  | 3-5          | 3-5             | 1.5-3            |
| 1/32" to 5/64"  | 0        | 65 (.035)  | 3-5          | 3-5             | 2-4              |
| 3/64" to 3/32"  | 1        | 60 (.040)  | 3-5          | 3-5             | 3-6              |
| 1/6" to 1/8"    | 2        | 56 (.056)  | 3-5          | 3-5             | 5-10             |
| 1/8" to 3/16"   | 3        | 53 (.060)  | 4-7          | 3-5             | 8-18             |
| 3/16" to 1/4"   | 4        | 49 (.073)  | 5-10         | 4-7             | 10-25            |
| 1/4" to 1/2"    | 5        | 43 (.089)  | 6-12         | 5-8             | 15-35            |
| 1/2" to 3/4"    | 6        | 36 (.106)  | 7-14         | 6-9             | 25-45            |



# Safety Accessories

## WHAT ARE FLASHBACK ARRESTORS

Flashback Arrestors prevent reverse flow of gases with built-in check valves and extinguishes flashback fire with a stainless steel sintered element.

## HOW FLASHBACK ARRESTORS WORK



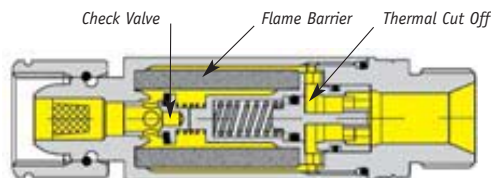
Torch Type  
(GG)



Regulator Type  
(DGN)

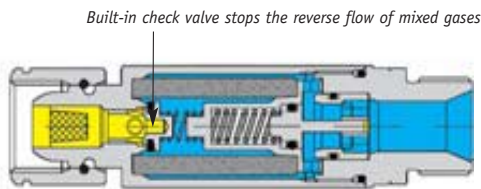


High Volume Type  
for In-Line and  
Point of Supply  
(SIMAX 3 & 5)



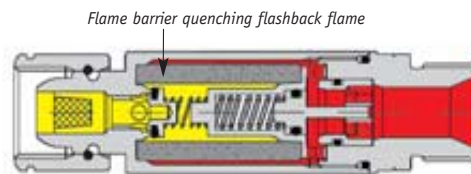
Normal Gas Flow →

Normal gas flow shown in yellow flowing through the flashback arrestor to torch, hose, or pipeline.



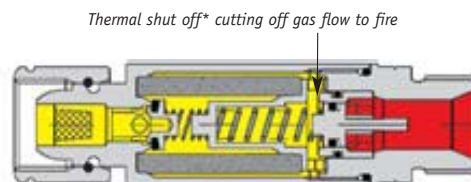
Reverse Gas Flow ←

Here the reverse flow of an explosive mixture of gases depicted in blue is stopped by the flashback arrestor's built in check valve. Reverse flow of gases is often caused by operator error, improper gas pressures, faulty or defective equipment, and/or obstruction at or after the point where gases mixed.



Flashback ←

The next step is the ignition of the mixed gases called a flashback shown here in red. The flashback causes a rapid flame propagation upstream to the equipment and gas supply. Here it is stopped by the flame barrier. Flashback can cause serious personal injury and/or equipment damage.



Hose Burn Back ←

Hose burn back shown here in red is an oxygen enriched fire or fuel gas decomposition in the hose or pipeline which flows back to the equipment and gas supply. In the illustration the hose burn back is stopped by the thermal cut off.

\* Regulator and Point of Supply (in line) arrestors only



## TORCH & REGULATOR FLASHBACK ARRESTORS

Prevent reverse flow of gases with built-in check valves. Extinguishes flashback fire with sintered element.

### FEATURES

- GG/DGN Series: For use up to size 6 cutting tip.
- DG91UA/DG91N Series: For use up to size 12 cutting tip.
- Quality Manufactured – internal valve and spring made from stainless steel for longer life.
- 100% flame tested.
- Conforms to OSHA Regulations

### STANDARD FLOW (UP TO SIZE 6 CUTTING TIP)

GG AIRFLOW

| INLET PRESSURE<br>(PSI) | AIRFLOW<br>(CFH) |
|-------------------------|------------------|
| 7.3                     | 100.0            |
| 14.5                    | 197.0            |
| 21.8                    | 309.0            |
| 36.3                    | 521.0            |
| 72.7                    | 929.0            |

DGN AIRFLOW

| INLET PRESSURE<br>(PSI) | AIRFLOW<br>(CFH) |
|-------------------------|------------------|
| 7.3                     | 141.0            |
| 14.5                    | 268.0            |
| 21.8                    | 390.0            |
| 36.3                    | 651.0            |
| 72.7                    | 1153.0           |

Torch Type  
(GG)Regulator Type  
(DGN)

*Chrome plated casing for improved corrosion resistance—longer lasting!  
(Set only. Individuals not chromed.)*

### HIGH FLOW (UP TO SIZE 12 TIP)

DG91N &amp; DG91UA AIRFLOW

| INLET PRESSURE<br>(PSI) | AIRFLOW<br>(CFH) |
|-------------------------|------------------|
| 7.3                     | 231.0            |
| 14.5                    | 465.0            |
| 21.8                    | 725.0            |
| 36.3                    | 1041.0           |
| 72.7                    | 1933.0           |

Torch Type  
(DG91UA)Regulator Type  
(DG91N)



## IN LINE AND POINT OF SUPPLY—DEMAX SERIES

The DEMAX Flame Tech Flash Arrestors are ideal for high volume gas flow applications in pipelines, manifolds and regulators. The DEMAX includes an inlet filter, reverse flow check valve, flame barrier, and thermal cut off in one compact brass body.

### APPROVAL & SPECIFICATIONS

- Meets ANSI Z49.1 1999 Safety Guide Lines, OSHA, NFPA Guide Lines.
- UL Listed 23Y5.

### SAFETY ELEMENTS

- One Inlet Filter Included (100 micron)
- Reverse Flow Check Valve
- Flame Barrier
- Thermal Cut Off

### MATERIALS

- BODY: Brass, Alloy 360
- INTERNALS: Brass
- FLAME BARRIER: Stainless Steel
- ELASTOMERS: Neoprene (NPR)



DEMAX AIR FLOW

| INLET PRESSURE (PSI) | AIRFLOW (CFH) |
|----------------------|---------------|
| 4.6                  | 265           |
| 14.6                 | 920           |
| 21.9                 | 1593          |
| 36                   | 2100          |
| 72                   | 4000          |
| 109                  | 6125          |
| 145                  | 8200          |
| 290                  | 13,000        |

### PART NUMBERS

- 0901-7000 Fuel Gas, 1" Female NPT Inlet/Outlet, DEMAX Style
- 0901-7001 Oxygen, 1" Female NPT Inlet/Outlet, DEMAX Style

WORKING PRESSURE

| GAS       | PSI |
|-----------|-----|
| ACETYLENE | 15  |
| HYDROGEN  | 50  |
| LPG       | 50  |
| OXYGEN    | 143 |



## IN LINE AND POINT OF SUPPLY—SIMAX SERIES

The (SIMAX) Flame Tech Flash Arrestor series provide a full range of dry type (no water or fluid to check or replenish) flashback, gas reverse flow, and hose burn back protection in a compact economical package. SIMAX series flashback arrestors are approved safety devices under ANSI Z49.1999 safety guidelines and help meet OSHA, NFPA, and other strict industry Safety standards (see listings of approvals and specifications below). They are ideal for high volume gas flow applications in pipelines and manifolds. SIMAX units available in sizes 3, 5 & 8 with optional pipe away relief valve assemblies.

### APPROVAL & SPECIFICATIONS

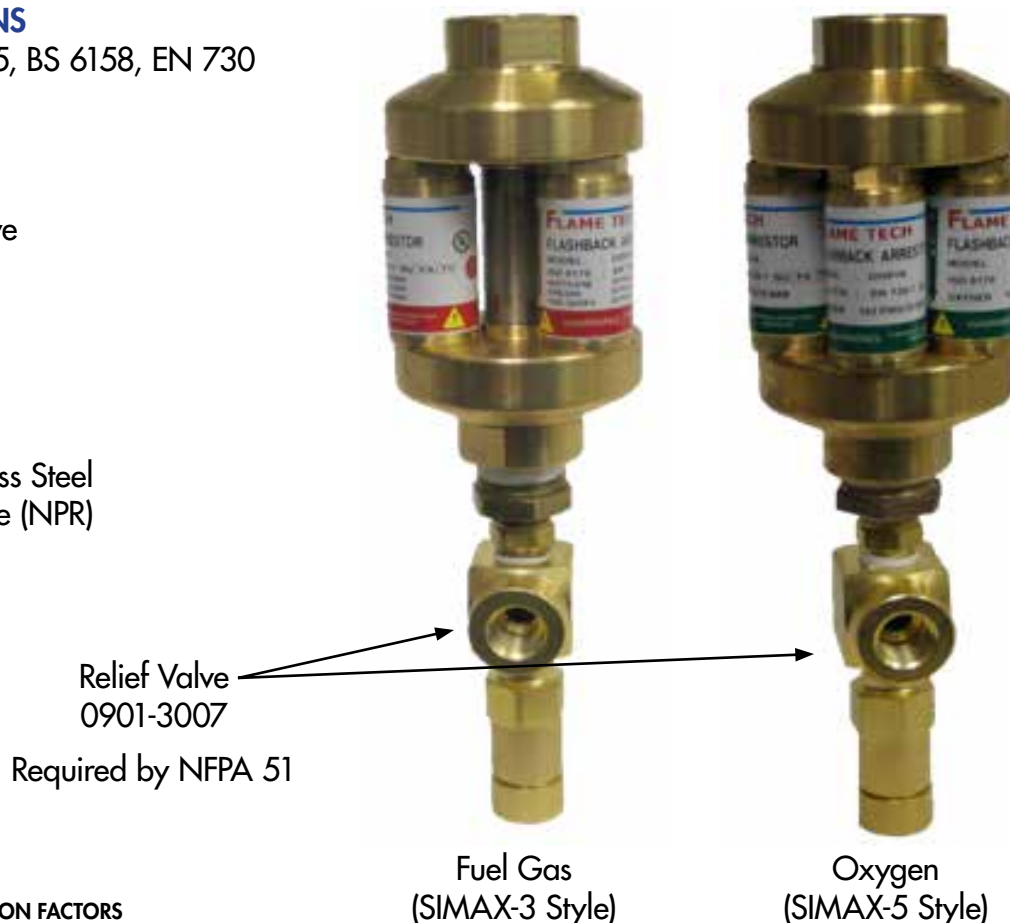
- UL Listed 23Y5, ISO 5175, BS 6158, EN 730 (BAM / DIN), AS 4603

### SAFETY ELEMENTS

- Inlet filter (100 micron)
- Reverse Flow Check Valve
- Flame Barrier
- Thermal Cut Off Valve

### MATERIALS

- BODY: Brass, Alloy 360
- INTERNALS: Brass
- FLAME BARRIER: Stainless Steel
- ELASTOMERS: Neoprene (NPR)



GAS TYPE CONVERSION FACTORS

| GAS TYPE            | FACTOR |
|---------------------|--------|
| ACETYLENE           | 1.05   |
| BUTANE              | 0.70   |
| HYDROGEN            | 3.79   |
| PROPYLENE           | 0.82   |
| METHANE/NATURAL GAS | 1.34   |
| OXYGEN              | 0.95   |
| PROPANE             | 0.80   |

AIR FLOW (CFH)

| PSI     | 21.9 | 36.5 | 73    | 145.9 | 286   |
|---------|------|------|-------|-------|-------|
| BAR     | 1.5  | 2.5  | 5     | 10    | 20    |
| SIMAX-3 | 1904 | 2618 | 5202  | 9860  | 20400 |
| SIMAX-5 | 3060 | 4352 | 8670  | 16150 | 33150 |
| SIMAX-8 | 5168 | 5670 | 13872 | 26180 | 53040 |



## QUICK CONNECTORS

### FEATURES

- Long lasting stainless steel pin connection
- Automatic gas cut off feature to positively shut off the gas supply when disconnecting
- All brass construction with durable stainless steel coupling pins reduces breakage and wear plus they meet ISO 7289, EN561 standards
- Double O-ring seal
- Color coded for gas service
- Quick connectors available with built-in flashback arrestors

### TORCH TYPE QUICK CONNECTORS

DKG/D1 CGA "B" Size, 9/16" UNF. Fuel Gas & Oxygen with Automatic Gas Shut-Off Quick Disconnect System.



Oxygen  
Fuel Gas  
Oxy-Fuel Set

0901-8101  
0901-8100  
0901-0092

### PINS

For Torches use D1 Pin.  
For Regulators use D4 Pin.



D1 Torch



D4 Regulator

D1 Pin Oxygen  
D1 Pin Fuel Gas  
D4 Pin Oxygen  
D4 Pin Fuel Gas

0901-0008  
0901-0003  
0901-0009  
0901-0005

GKD/G1 "C" Size, 7/8" UNF.  
Fuel Gas & Oxygen with  
Automatic Gas Shut-Off  
Quick Disconnect System. For use  
with 3/8" hose.



GKD/G1 Oxygen  
GKD/G1 Fuel Gas  
G1 Pin Oxygen  
G1 Pin Fuel Gas

0901-6001  
0901-6000  
0901-0004  
0901-0006

# Inline Filters

For installation in the oxygen & gas supply lines to protect flash arrestors, regulators and equipment against contaminations. Aids in increasing the service life of downstream fittings and equipment.

Requires complete disconnection from pipe to change cartridges. One replacement cartridge required per filter.

## GENERAL DESIGN

- Brass Body
- Exchangeable Sintered Brass Cartridges
- 80 Micron Filtering
- 580 PSI Max Working Pressure  
(withstands up to 600 PSI)

## CONNECTIONS

- 1" NPTF / 1" NPTF Standard
- Custom connections available

## OXYGEN MODEL USABLE GASES

- Oxygen
- Inert

## FUEL MODEL USABLE GASES

- Acetylene
- Natural Gas
- Propane
- Alternate Fuel Gases

## OXYGEN FILTER

Complete Assembly P/N: 0901-6515

Replacement Cartridge P/N: 0901-6335

## FUEL GAS FILTER

Complete Assembly P/N: 0901-6500

Replacement Cartridge P/N: 0901-6330



## REPLACEMENT CARTRIDGES FOR DISCONTINUED FILTER MODELS

Replacement Oxygen Cartridge P/N: **0901-5335**

Replacement Fuel Gas Cartridge P/N: **0901-5330**

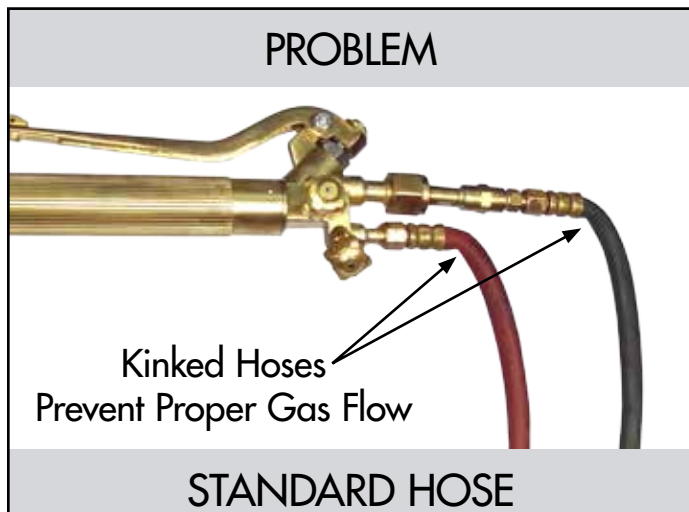
*"T" style filter assemblies with removable canisters are discontinued.  
Replacement cartridges may still be purchased.*



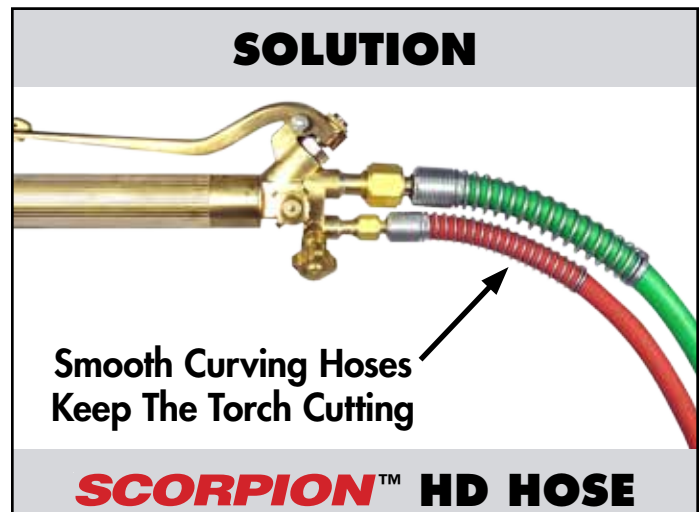
Discontinued Models

## Heavy Duty T-Grade Hose

# STOP STARVING YOUR TORCHES!



Cutting failures occur when hoses are kinked and gases can not flow properly. Extensive kinking shortens hose life by creating cracks and dangerous gas leaks.



Ensure full flow of gases and improve cutting performance with a longer lasting, heavy duty hose. **SCORPION™ HEAVY DUTY HOSES** are tough and won't let you down.

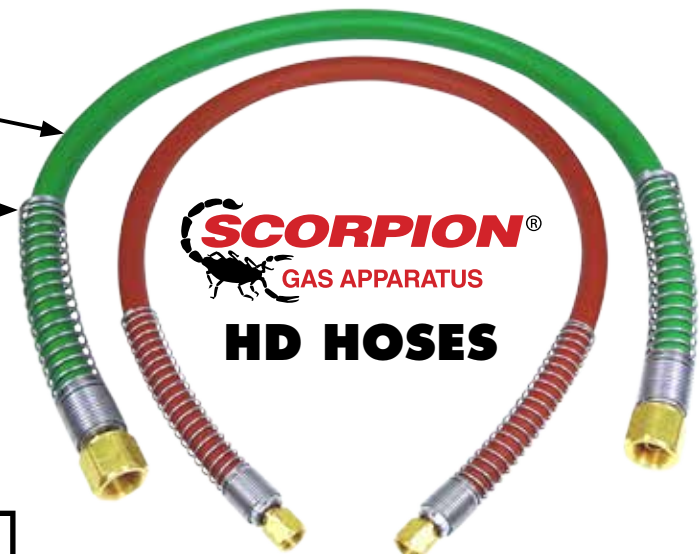


Outer sleeve available for protection against high temperatures and extreme conditions.

Ask your sales rep!

**Heavy Duty Mill Grade Material**  
Hoses Last 2-3x Longer

**Strain Relief Devices**  
Prevent Kinking & Cracking




**Readily available lengths:** 25', 50', 100'

**Readily available sizes:** 1/4" twin, 3/8" twin, 3/8" single oxygen or fuel, 1/2" single oxygen or fuel

**Ask Us About Custom Lengths & Bulk Hose**

# SCORPION™ HD HOSE

## Stock Sizes (custom available)

|                                 |          |             |            | NO OUTER SLEEVE |  WITH OUTER SLEEVE |
|---------------------------------|----------|-------------|------------|-----------------|---|
| LENGTH                          | GAS TYPE | CONNECTION  | DISC. CODE | PART NO.        | PART NO.  |
| <b>TWIN HOSE T-GRADE 1/4"</b>   |          |             |            |                 |   |
| 25 ft.                          | Oxy/Fuel | CGA B RH/LH | F          | <b>71801425</b> | 71801425-S  |
| 50 ft.                          | Oxy/Fuel | CGA B RH/LH | F          | <b>71801450</b> | 71801450-S  |
| 100 ft.                         | Oxy/Fuel | CGA B RH/LH | F          | <b>71814100</b> | 71814100-S  |
| <b>SINGLE HOSE T-GRADE 3/8"</b> |          |             |            |                 |   |
| 25 ft.                          | Oxygen   | CGA B RH    | F          | <b>71838251</b> | 71838251-S  |
| 25 ft.                          | Fuel     | CGA B LH    | F          | <b>71838250</b> | 71838250-S  |
| 50 ft.                          | Oxygen   | CGA B RH    | F          | <b>71838501</b> | 71838501-S  |
| 50 ft.                          | Fuel     | CGA B LH    | F          | <b>71838500</b> | 71838500-S  |
| 100 ft.                         | Oxygen   | CGA B RH    | F          | <b>71838100</b> | 71838100-S  |
| 100 ft.                         | Fuel     | CGA B LH    | F          | <b>71800384</b> | 71800384-S  |
| <b>TWIN HOSE T-GRADE 3/8"</b>   |          |             |            |                 |   |
| 25 ft.                          | Oxy/Fuel | CGA B RH/LH | F          | <b>71800027</b> | 71800027-S  |
| 50 ft.                          | Oxy/Fuel | CGA B RH/LH | F          | <b>71800032</b> | 71800032-S  |
| 100 ft.                         | Oxy/Fuel | CGA B RH/LH | F          | <b>71800385</b> | 71800385-S  |
| <b>SINGLE HOSE T-GRADE 1/2"</b> |          |             |            |                 |   |
| 25 ft.                          | Oxygen   | CGA C RH    | F          | <b>71800028</b> | 71800028-S  |
| 50 ft.                          | Oxygen   | CGA C RH    | F          | <b>71812500</b> | 71812500-S  |
| 100 ft.                         | Oxygen   | CGA C RH    | F          | <b>71800121</b> | 71800121-S  |

*\*All hoses above include strain relief devices.*

**Custom hose sizes/lengths available.**

**Outer sleeves are resistant to high temperatures, fire, abrasion and chemicals.**

Please call Flame Tech for availability and pricing of custom hoses.



# Machine Cutting Torches



## MCT200 SERIES

| FT MODEL #  | BARREL LENGTH | QTY HOSES | GEAR RACK LENGTH | CUTTING RANGE | DESCRIPTION          |
|-------------|---------------|-----------|------------------|---------------|----------------------|
| MCT200-5A   | 5-1/2"        | 2         | n/a              | 8"            | Acetylene Only       |
| MCT200-5F   | 5-1/2"        | 2         | n/a              | 8"            | Alternative Fuel Gas |
| MCT200-5AR  | 5-1/2"        | 2         | 4-1/2"           | 8"            | Acetylene Only       |
| MCT200-5FR  | 5-1/2"        | 2         | 4-1/2"           | 8"            | Alternative Fuel Gas |
| MCT200-10A  | 10"           | 2         | n/a              | 8"            | Acetylene Only       |
| MCT200-10F  | 10"           | 2         | n/a              | 8"            | Alternative Fuel Gas |
| MCT200-10AR | 10"           | 2         | 7"               | 8"            | Acetylene Only       |
| MCT200-10FR | 10"           | 2         | 7"               | 8"            | Alternative Fuel Gas |



## MCT300 SERIES

| FT MODEL #  | BARREL LENGTH | QTY HOSES | GEAR RACK LENGTH | CUTTING RANGE | DESCRIPTION          |
|-------------|---------------|-----------|------------------|---------------|----------------------|
| MCT300-10A  | 10"           | 3         | n/a              | 12"           | Acetylene Only       |
| MCT300-10F  | 10"           | 3         | n/a              | 12"           | Alternative Fuel Gas |
| MCT300-10AR | 10"           | 3         | 7"               | 12"           | Acetylene Only       |
| MCT300-10FR | 10"           | 3         | 7"               | 12"           | Alternative Fuel Gas |
| MCT300-18A  | 18"           | 3         | n/a              | 12"           | Acetylene Only       |
| MCT300-18F  | 18"           | 3         | n/a              | 12"           | Alternative Fuel Gas |
| MCT300-18AR | 18"           | 3         | 15"              | 12"           | Acetylene Only       |
| MCT300-18FR | 18"           | 3         | 15"              | 12"           | Alternative Fuel Gas |

## Heavy Duty Hand Cutting Torches

Designed for rugged environments and customized the way you want it.

Hand cutting torches suggested for scrap yards, mills and foundries.



**6500 SERIES CUTS UP TO 8" OF STEEL**

**7500 SERIES CUTS UP TO 14" OF STEEL**



**8600 SERIES CUTS UP TO 36" OF STEEL**



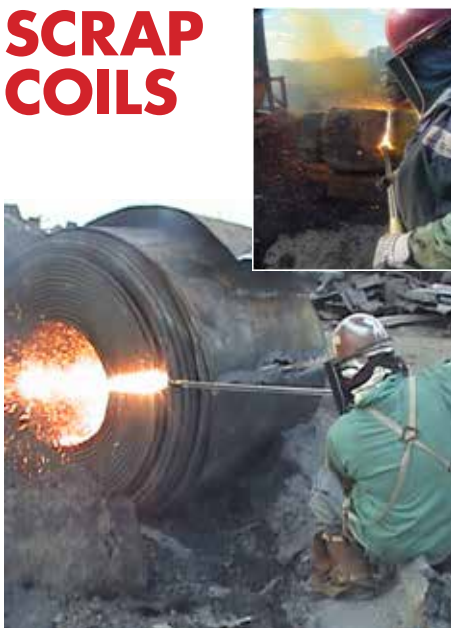


## 9600 SERIES CUTS UP TO 48" OF STEEL



## LADLE SKULLS

## SCRAP COILS



## HC48L SERIES CUTS UP TO 48" OF STEEL

## SAFER, LIGHTER & STRONGER



See our complete selection of  
acetylene & alternate fuel gas tips.  
Ask about our famous Scorpion® Tips!

**2621-90 TORCH CUTS UP TO 8", FOR USE WITH ANY GAS**

COMPATIBLE WITH VICTOR® SERIES 1 CUTTING TIPS



Flame Tech's Scorpion 2621-90 torch is designed for heavy duty hand held applications for the fabshop, foundry or scrap yard environment where up to 8" cutting is required. Universal mixer provides optimal performance with any fuel gas.

**BUILT-IN FLASHBACK ARRESTORS & CHECK VALVES**

- Replace with Flame Tech flashback arrestor/check valve cartridges *only*.
- **DO NOT** use other brand cartridges, as they may not seal correctly and cause gas leaks.

**SOLID BRASS FORGED HEAD**

- Forged brass head for long life
- Maximum service with minimum maintenance

**UNIVERSAL MIXER**

- Provides optimal performance with any fuel gas

**OEM COMPATIBILITY**

- Compatible with Victor® Series 1 cutting tips

**HEAVY DUTY, STAINLESS TUBES**

Do **NOT** use this torch without the built-in flashback arrestor cartridges!



Use only Flame Tech branded flashback arrestor cartridges!



Flashback Arrestor/Check Valves Cartridges  
Fuel: 77100010, Oxygen: 77100020



## 6000 SERIES—CUTS UP TO 8", GAS TYPE IS MODEL DEPENDENT (SEE BELOW)

CGA "B" Oxygen &  
CGA "B" Left-hand Fuel Inlets

Knurled Brass Handle

Solid Bronze Forged Head

6000 Series comes with a set of  
replaceable check valves.

Light Weight Stainless Steel Tubing  
¼ lb. lighter per foot with reinforcing every 8"

70° Head

180° Head

### SOLID BRONZE FORGED HEAD

- Long life, resists distortion from abuse
- Maximum service with minimum maintenance

### INJECTOR/MIXER

- Mixer in head to reduce burn back in tubes
- Safer than tube mixing designs

### EXTERNAL CHECK VALVES

- Easily replaced on the job & prevents reverse flow.
  - Flame Tech® recommends flash arrestors style GG/DGN
- See check valves & flash arrestors section in this catalog.

### LIGHT WEIGHT, STAINLESS TUBES

- Maximum design strength—¼ lb. per foot lighter

## MODELS & SIZES

Flame Tech's 6000 series torches are designed for heavy duty hand held applications for the steel mill, foundry or scrap yard environment where up to 8" cutting is required. These torches come in 21, 27, 36, 48, 72, 96, & 120 inch lengths. Custom lengths are also available upon request. See our 7000, 8000 and 9000 series for 14", 36" & 48" cutting capabilities. These torches have built-in mixers, and as such must be ordered according to the gas type to be used. Different gas usage requires a different torch. See "Part Numbering Example."

## ORDERING & PART NUMBERS

Flame Tech® uses an identification system that consists of numbers and letters to identify the manufacture model, size, gas, and style head on our torches. Below are examples for our Heavy Duty Hand Torches. See our price list for complete offering.

### OEM COMPATIBILITY

- 6200 Series—Compatible with Harris® Seat
- 6300 Series—Compatible with Victor® Seat
- 6400 Series—Compatible with Oxweld® Seat



### PART NUMBERING EXAMPLE

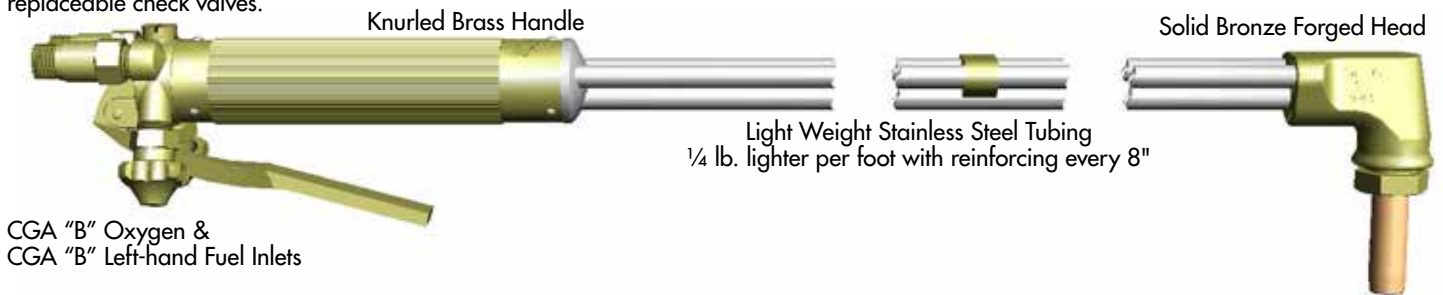
- 6321-A90 = "63" indicates the series of torch you are ordering (Victor® compatible torch)
- 6321-A90 = "21" indicates the length of torch you are ordering (21" long)
- 6321-A90 = "A" indicates Acetylene gas
- 6321-A90 = "F" indicates alternate Fuel gases only (not for acetylene) for maximum performance
- 6321-A90 = "90" indicates the degree of the head (70°, 90°, or 180°\* available)

\*Flame Tech does not offer 180° heads for use with acetylene.

» SEE PAGE 40 FOR SCRAPER TIP INFORMATION

**6500 SERIES—CUTS UP TO 8", USES ACETYLENE OR ALT. FUEL GASES**

6500 Series comes with a set of replaceable check valves.

**FEATURES**

- Solid Bronze Head
- Heavy Duty Tip-Mixing Torch
- Three Stainless Tubes in Triangular Format
- Light Weight Multi-Tasking Torch

**BENEFITS**

- Safety First – Reduced Flashback
- Maximum Strength, Greater Rigidity
- Low Maintenance, Longer Lasting
- Ease of Operation

**CAPABILITIES**

Flame Tech's 6500 Hand Cutting Torch is a heavy duty torch designed for rugged environments. This torch features a safe, tip-mix design. The 6500 series torch uses Flame Tech's "A-Scraper" or Airco® compatible cutting tips, and is ideal for heavy cutting in scrap yards and steel mill operations. This heavy duty torch when using these tips can hand cut up to 8" of steel.

- Can be used with any Fuel Gas
- Single lever actuated torch control
- Uses common CGA "B" size oxygen supply and LH CGA "B" size fuel supply to minimize the hose and regulator requirements.

**PART NUMBERING EXAMPLE**

- 6548-70 = "65" indicates the torch series you are ordering
- 6548-70 = "48" indicates the length of the torch you are ordering (48" long)
- 6548-70 = "70" indicates the degree of the head (70°, 90°, or 180°)

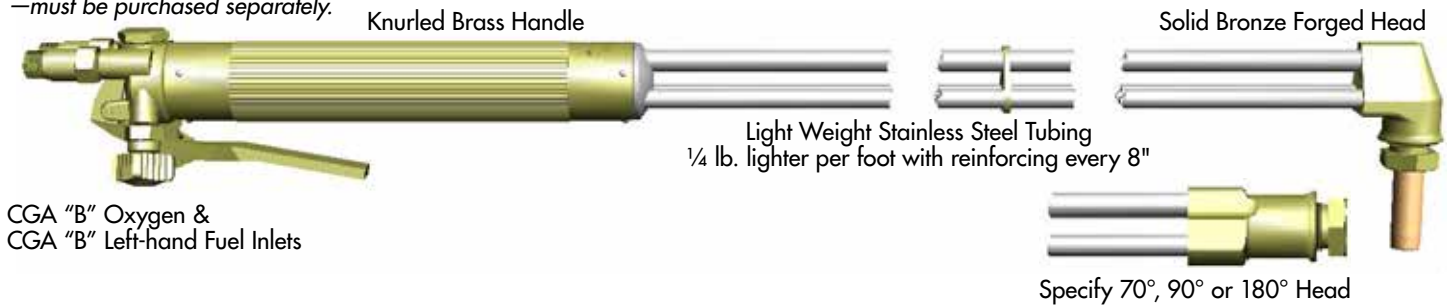
Standard lengths are 21, 27, 36, 48, 60, 72, 96 & 120 inches. Custom lengths available. 70°, 90° or 180° available.

**» SEE PAGE 40 FOR SCRAPER TIP INFORMATION**



## 7500 SERIES—CUTS UP TO 14", USES ACETYLENE OR ALT. FUEL GASES

Check valves are recommended  
—must be purchased separately.



### FEATURES

- Solid Bronze Head
- Heavy Duty Nozzle Mixing Torch
- Three Stainless Tubes in Triangular Format
- Light Weight Multi-Tasking Torch

### BENEFITS

- Safety First – Reduced Flashback
- Maximum Strength, Greater Rigidity
- Low Maintenance, Longer Lasting
- Ease of Operation

### CAPABILITIES

Flame Tech's 7500 Hand Cutting Torch is a heavy duty torch designed for rugged environments. This torch features a safe, tip-mix design. The 7500 series torch uses Flame Tech's "A-Scraper" or Airco® compatible cutting tips, and is ideal for heavy cutting in scrap yards and steel mill operations. This heavy duty torch when using these tips can hand cut up to 14" of steel.

- Can be used with any Fuel Gas
- Single lever actuated torch control
- Uses common CGA "B" size oxygen supply and LH CGA "B" size fuel supply to minimize the hose and regulator requirements

### PART NUMBERING EXAMPLE

- 7548-70 = "75" indicates the torch series you are ordering
- 7548-70 = "48" indicates the length of the torch you are ordering (48" long)
- 7548-70 = "70" indicates the degree of the head (70°, 90° or 180°)

Standard lengths are 21, 27, 36, 48, 60, 72, 96 & 120 inches. Custom lengths available. 70°, 90° or 180° available.

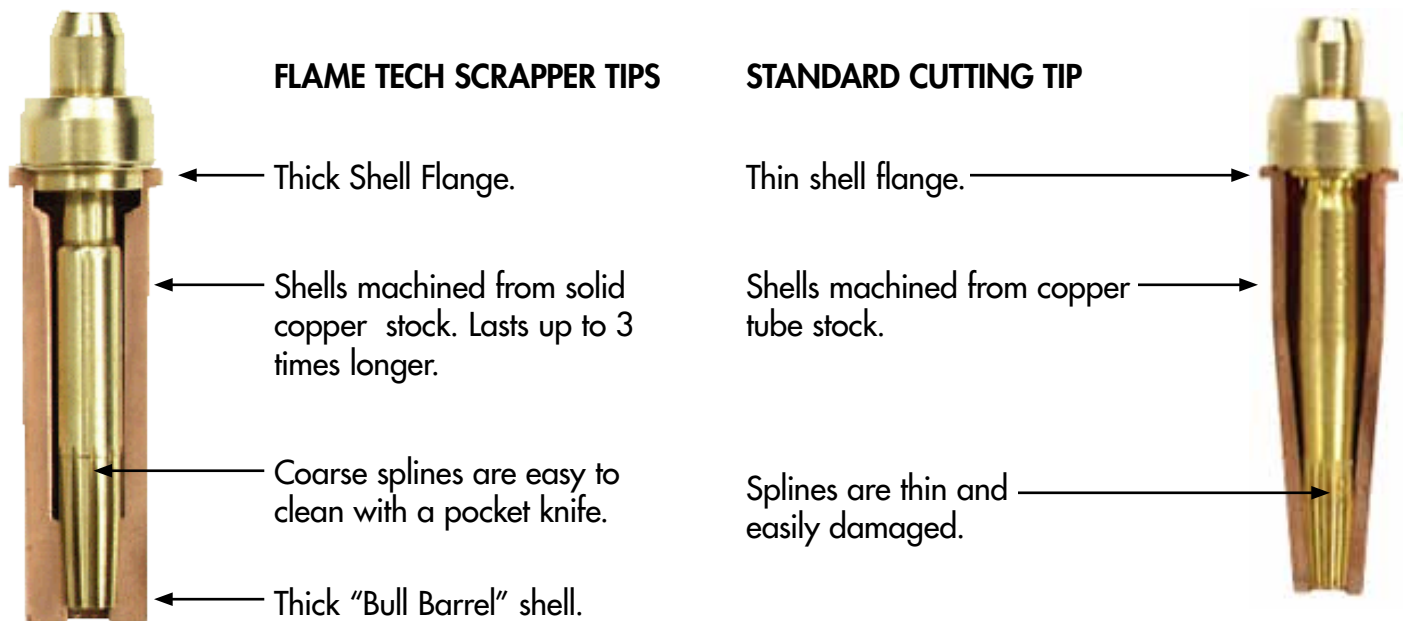
» **SEE PAGE 40 FOR SCRAPER TIP INFORMATION**



## FLAME TECH® SCRAPPER TIPS—6000, 6500 & 7500 SERIES TORCHES

### SEE THE DIFFERENCE YOURSELF WITH FLAME TECH'S FAMOUS "SCRAPPER" CUTTING TIPS

- Larger preheats reduce start time and help to "maintain the cut."
- Coarse "V" internal splines do not clog easily and can be cleaned with a pocket knife.
- Ideal for working on rusty, scaly, painted surfaces.
- Compatible with standard OEM torches.



| METAL THICKNESS (INCHES) | TIP SIZE | DRILL SIZE | CUTTING OXYGEN |           | FUEL GAS |        | SPEED IPM | KERF WIDTH |
|--------------------------|----------|------------|----------------|-----------|----------|--------|-----------|------------|
|                          |          |            | PSI            | SCFH      | PSI      | SCFH   |           |            |
| 2                        | 2        | 52         | 40-50          | 150-200   | 6-12     | 12-65  | 10-14     | .10        |
| 2½                       | 2½       | 50         | 40-50          | 150-200   | 6-12     | 12-65  | 9-13      | .105       |
| 3                        | 3        | 48         | 40-50          | 150-200   | 6-12     | 12-65  | 8-11      | .11        |
| 4                        | 4        | 44         | 40-50          | 210-250   | 6-12     | 12-65  | 7-10      | .13        |
| 6                        | 5        | 39         | 45-55          | 300-360   | 6-12     | 12-65  | 5-8       | .15        |
| 8                        | 6        | 31         | 55-65          | 450-500   | 6-12     | 12-65  | 4-6       | .19        |
| 9                        | 7        | 28         | 55-65          | 450-500   | 6-12     | 22-110 | 3-5       | .22        |
| 10                       | 8        | 25         | 60-70          | 750-850   | 10-18    | 22-110 | 3-4       | .24        |
| 12                       | 10       | 13         | 45-60          | 1000-1200 | 10-18    | 22-110 | 2-3       | .34        |
| 14                       | 12       | 5          | 40-55          | 1150-1350 | 10-18    | 22-110 | 1-2       | .40        |



## 8600 SERIES—CUTS UP TO 36", USES BI-METAL & TRI-METAL TIP SERIES

Check valves are recommended  
—must be purchased separately.



### FEATURES

- Solid Bronze Head
- Heavy Duty Nozzle Mixing Torch
- Three Stainless Tubes in Triangular Format
- Uses Flame Tech® Designed BI-METAL or TRI-METAL 80 Series Tip-Mixing Nozzles
- Light Weight Multi-Tasking Torch

### BENEFITS

- Safety First – Reduced Flashback
- Maximum Strength, Greater Rigidity
- Low Maintenance, Longer Lasting
- Ease of Operation

### CAPABILITIES

Flame Tech's 8600 Hand Cutting Torch is a heavy duty torch designed for rugged environments. This torch features a safe, tip-mix design. The 8600 series torch uses Flame Tech's proprietary BI-METAL or TRI-METAL cutting nozzles, and is ideal for heavy cutting in scrap yards and steel mill operations. This heavy duty torch, when using the BI-METAL or TRI-METAL 80 series nozzles, can hand cut up to 36" of steel.

- Single lever actuated torch control.
- Uses CGA "C" size oxygen supply and LH CGA "B" size fuel supply to minimize the hose and regulator requirements.
- For alternative fuel only – NOT FOR ACETYLENE.

### PART NUMBERING EXAMPLE

- 8648-70 = "86" indicates the torch series you are ordering
- 8648-70 = "48" indicates the length of the torch you are ordering (48" long)
- 8648-70 = "70" indicates the degree of the head (70°, 90° or 180°)

Standard lengths are 36, 48, 60, 72, 96 & 120 inches. Custom lengths available. 70°, 90° or 180° available.

» **SEE PAGE 42 FOR 80 SERIES BI-METAL & TRI-METAL TIP INFORMATION**



**80 SERIES BI-METAL & TRI-METAL TIP-MIX CUTTING NOZZLES****HOSE & REGULATOR REQUIREMENTS**

When cutting over 20", use 1/2" ID hose.

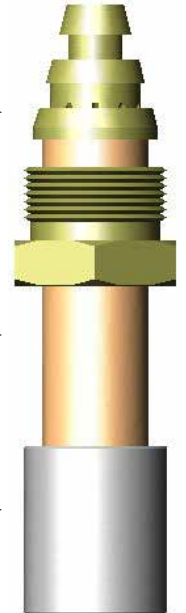
Oxygen supply and oxygen regulator must be capable of flows mentioned on cutting tip chart shown below.



← Brass seat for longer life and better structural integrity. Brass increases quality over copper in the drilling of the seat mixer.

← Copper barrel for better transference and dissipation of heat away from the cutting zone.

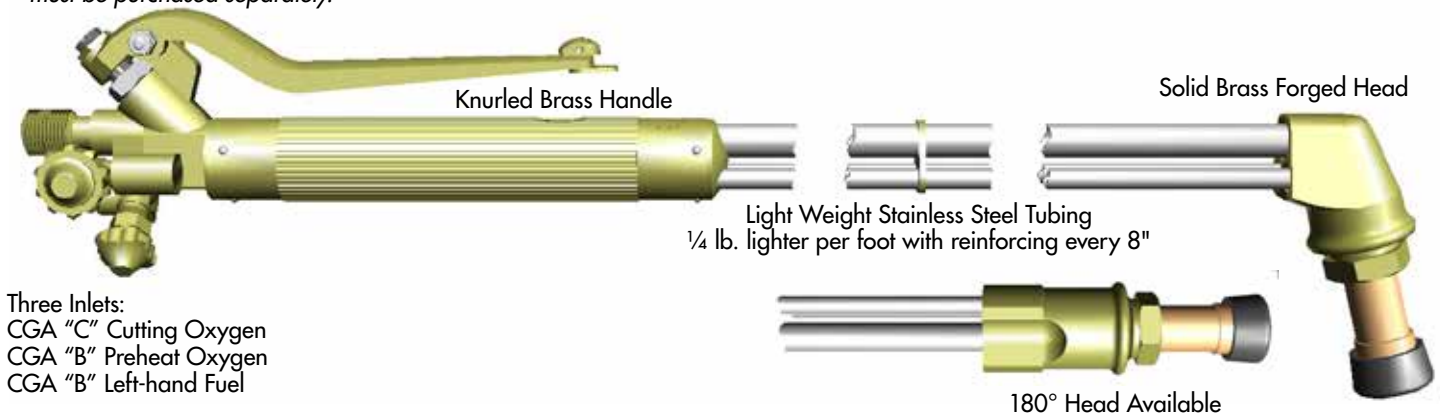
Stainless wear ring for longer life. →



| 80 SERIES NOZZLES |              |               |                 | GAS PRESSURE (PSI) |          | GAS CONSUMPTION (CFH) |          |
|-------------------|--------------|---------------|-----------------|--------------------|----------|-----------------------|----------|
| SIZE              | BI-METAL P/N | TRI-METAL P/N | METAL THICKNESS | OXYGEN             | FUEL GAS | OXYGEN                | FUEL GAS |
| 12                | BM80-12      | TM80-12       | 10-12           | 60-100             | 5-15     | 750-1650              | 80-120   |
| 16                | BM80-16      | TM80-16       | 12-16           | 60-100             | 5-15     | 1000-1950             | 80-120   |
| 20                | BM80-20      | TM80-20       | 16-20           | 60-100             | 5-15     | 1600-2500             | 100-160  |
| 24                | BM80-24      | TM80-24       | 20-24           | 60-100             | 5-15     | 1800-3000             | 100-160  |
| 36                | BM80-36      | TM80-36       | 24-36           | 60-100             | 5-15     | 2100-3600             | 100-160  |

## 9600 SERIES—CUTS UP TO 48", USES BI-METAL & TRI-METAL TIP SERIES

Check valves are recommended  
—must be purchased separately.



### FEATURES

- Solid Brass Head
- Heavy Duty Nozzle Mixing Torch
- Three Stainless Tubes in Triangular Format
- Uses Flame Tech® Designed BI-METAL or TRI-METAL 90 Series Tip-Mixing Nozzles
- Light Weight Multi-Tasking Torch

### BENEFITS

- Safety First – Reduced Flashback
- Maximum Strength, Greater Rigidity
- Low Maintenance, Longer Lasting
- Ease of Operation

### CAPABILITIES

Flame Tech's 9600 Hand Cutting Torch is a heavy duty torch designed for rugged steel mill environments. This heavy duty torch features a safe, tip-mix design. The 9600 series torch uses the Flame Tech's BI-METAL or TRI-METAL nozzles can hand cut up to 48" of steel.

- Three hose input into tail body.
- Uses common CGA "C" cutting oxygen supply , CGA "B" preheat oxygen, LH CGA "B" fuel inlets.
- Single lever actuated torch control.
- For alternative fuel only – NOT FOR ACETYLENE

### PART NUMBERING EXAMPLE

- 9648-70 = 96 indicates the torch series you are ordering
- 9648-70 = 48 indicates the length of the torch you are ordering (48" long)
- 9648-70 = 70 indicates the degree of the head (70° or 180°)

Standard lengths are 36, 48, 60, 72, 96 & 120 inches. Custom lengths available. 70° and 180° only.

» **SEE PAGE 44 FOR 90 SERIES BI-METAL & TRI-METAL TIP INFORMATION**



**90 SERIES BI-METAL & TRI-METAL TIP-MIX CUTTING NOZZLES****HOSE & REGULATOR REQUIREMENTS**

When cutting over 20", use 1/2" ID hose.

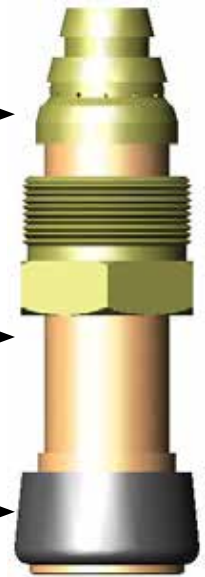
Oxygen supply and oxygen regulator must be capable of flows mentioned on cutting tip chart shown below.



Brass seat for longer life and better structural integrity. Brass increases quality over copper in the drilling of the seat mixer.

Copper barrel for better transference and dissipation of heat away from the cutting zone.

Stainless wear ring for longer life.



**CAUTION**  
ALWAYS USE  
FLASHBACK ARRESTORS  
(purchased separately)

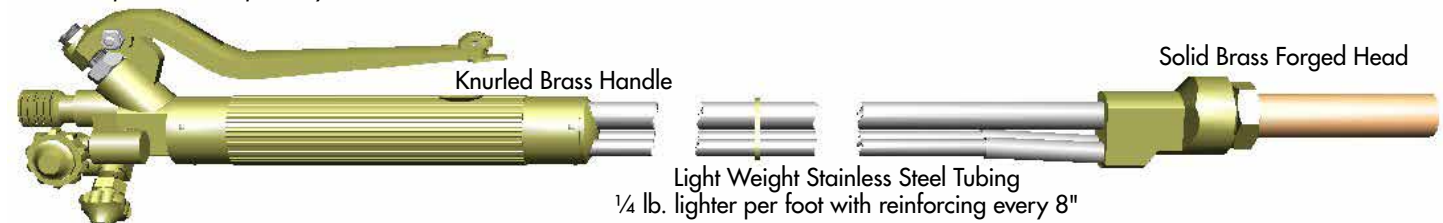


| 90 SERIES NOZZLES |              |               |                 | GAS PRESSURE (PSI) |                 |          | GAS CONSUMPTION (CFH) |          |
|-------------------|--------------|---------------|-----------------|--------------------|-----------------|----------|-----------------------|----------|
| SIZE              | BI-METAL P/N | TRI-METAL P/N | METAL THICKNESS | OXYGEN             | PRE-HEAT OXYGEN | FUEL GAS | OXYGEN                | FUEL GAS |
| 24                | BM90-24      | TM90-24       | 18-24           | 25-45              | 25-50           | 13-25    | 2200-3400             | 80-160   |
| 30                | BM90-30      | TM90-30       | 24-30           | 20-40              | 25-50           | 13-25    | 2200-3800             | 80-160   |
| 36                | BM90-36      | TM90-36       | 30-36           | 20-40              | 25-50           | 13-25    | 2300-4400             | 80-160   |
| 48                | BM90-48      | TM90-48       | 36-48           | 15-35              | 25-50           | 13-25    | 2400-5000             | 80-160   |



## HC48 HIGH CAPACITY SCRAPER TORCH—CUTS UP TO 48"

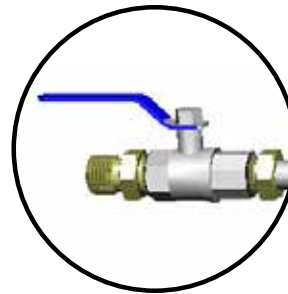
Check valves are recommended  
—must be purchased separately.



Three Inlets:  
CGA "C" Cutting Oxygen  
CGA "B" Preheat Oxygen  
CGA "B" Left-hand Fuel

### FEATURES

- Three Stainless Tubes in Triangular Format
- Separate cutting & preheat oxygen—decreases preheat time and increases cutting speed
- Suitable replacement for Victor® HC 1500
- Cuts up to 48 inches of steel with 2-285 series cutting nozzles (alternate fuel gases)
- *Not for use with acetylene!*



AVAILABLE WITH BALL VALVE  
For ball valve style,  
remove "L" from part  
number (see below.)

### HIGH CAPACITY HAND CUTTING TORCH FOR VICTOR® COMPATIBLE 2-285N NOZZLES

Flame Tech's HC series hand cutting torch is designed for rugged, heavy duty applications in foundries, scrap yards and steel mills. It is ideal for emergency billet cutting, removes skulls and risers or any heavy hand cutting requirements. Off-set 180° head allows the operator to widen the cut kerf by rotating the head and deepening the cut.

### ORDERING INFORMATION

- HC48L-60-180 = 60" long, 180° Head with Lever
- HC48-60-180 = 60" long, 180° Head with Ball Valve

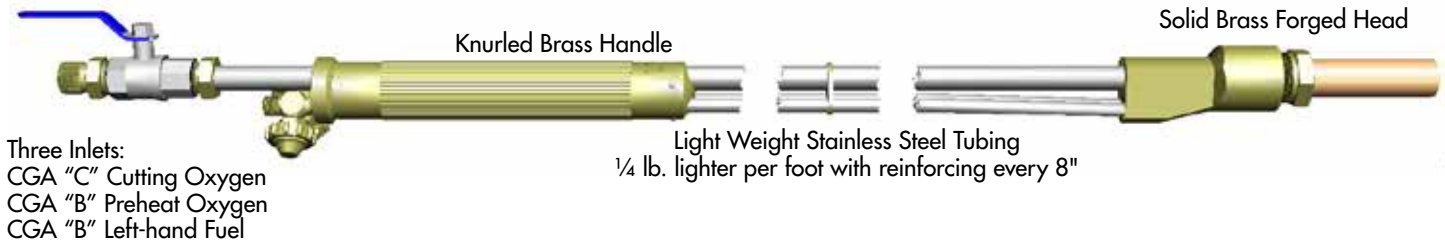
Standard length is 60 inches. Custom lengths available. 180° only.

» SEE PAGE 47 FOR HIGH CAPACITY CUTTING NOZZLES

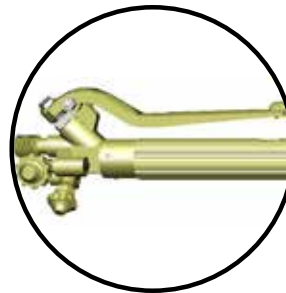


**HC60 HIGH CAPACITY SCRAPER TORCH—CUTS UP TO 48"**

Check valves are recommended  
—must be purchased separately.

**FEATURES**

- Three Stainless Tubes in Triangular Format
- Separate cutting & preheat oxygen—decreases preheat time and increases cutting speed
- Suitable replacement for Oxweld® C-63
- Cuts up to 48 inches of steel with Oxweld® C-63 1808 style cutting nozzles (propane/NG)
- *Not for use with acetylene!*



AVAILABLE WITH LEVER  
For lever style, add "L" to part number (see below.)

**HIGH CAPACITY HAND CUTTING TORCH FOR ESAB® AND VICTOR® COMPATIBLE 1808 NOZZLES**

Flame Tech's HC series hand cutting torch is designed for rugged, heavy duty applications in foundries, scrap yards and steel mills. It is ideal for emergency billet cutting, removes skulls and risers or any heavy hand cutting requirements. Off-set 180° head allows the operator to widen the cut kerf by rotating the head and deepening the cut.

**ORDERING INFORMATION**

- HC60L-60-180 = 60" long, 180° Head with Lever
- HC60-60-180 = 60" long, 180° Head with Ball Valve

Standard length is 60 inches. Custom lengths available. 180° only.

**» SEE PAGE 47 FOR HIGH CAPACITY CUTTING NOZZLES**



## HIGH CAPACITY CUTTING NOZZLES—HC SERIES TORCHES

### 2-285N CUTTING NOZZLE

2-285N series nozzles are made from two pieces, with a solid copper shell & a brass internal, designed for fast starts and lower gas consumption. For use with alternate fuel gases only. *Not for use with acetylene!*



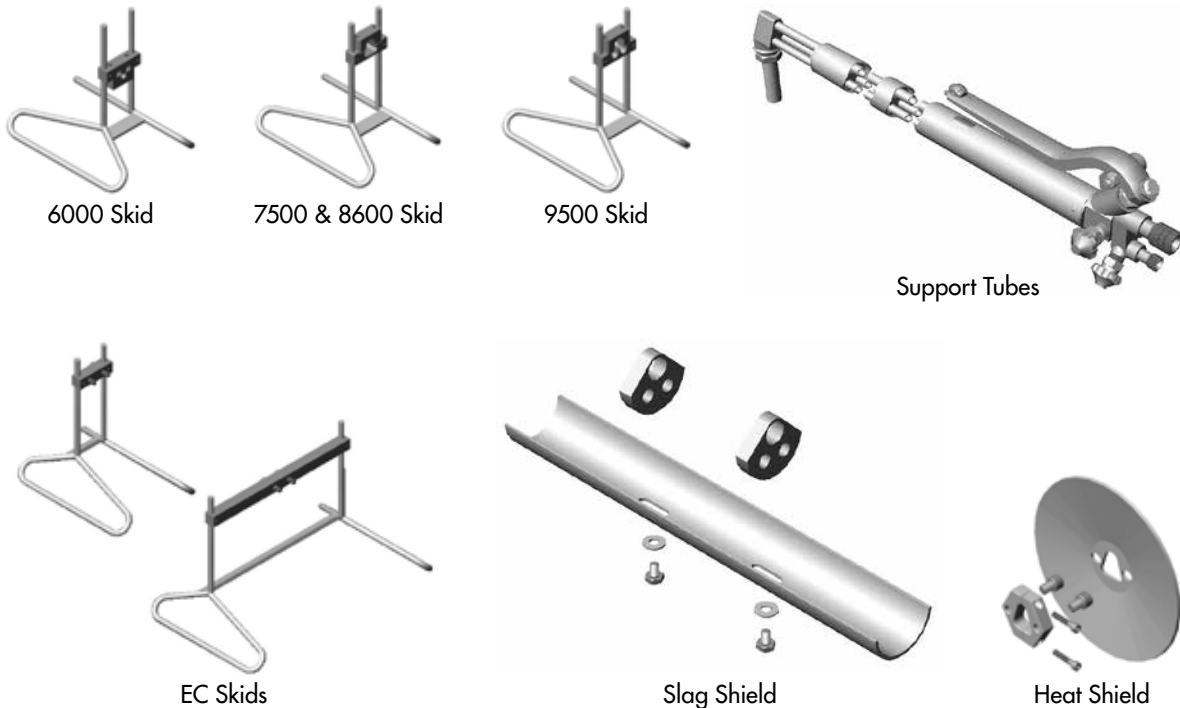
| NOZZLE                  |             |                 | GAS PRESSURE (PSI) |          |                 | GAS CONSUMPTION (CFH) |          |                 |
|-------------------------|-------------|-----------------|--------------------|----------|-----------------|-----------------------|----------|-----------------|
| CUTTING OXYGEN DIAMETER | P/N         | METAL THICKNESS | CUTTING OXYGEN     | FUEL GAS | PRE-HEAT OXYGEN | CUTTING OXYGEN        | FUEL GAS | PRE-HEAT OXYGEN |
| .250                    | .250-2-285N | 14"-20"         | 25-45              | 15-25    | 25-50           | 1500-2400             | 60-120   | 250-400         |
| .312                    | .312-2-285N | 20"-26"         | 25-45              | 15-25    | 25-50           | 2300-3500             | 60-120   | 250-401         |
| .375                    | .375-2-285N | 26"-34"         | 25-45              | 15-25    | 25-50           | 2300-3900             | 60-121   | 250-402         |
| .437                    | .437-2-285N | 34"-48"         | 25-45              | 15-25    | 25-50           | 2400-4500             | 60-122   | 250-403         |

### 1808 CUTTING NOZZLE

1808 series nozzles are single piece solid copper nozzles. The single piece solid copper design allows for rapid heat transfer and longer rugged life. For use with Propane or Natural Gas only. *Not for use with acetylene!*



| NOZZLE |         |                 | GAS PRESSURE (PSI) |             | GAS CONSUMPTION (CFH) |             | CLEANING DRILL SIZE |         |
|--------|---------|-----------------|--------------------|-------------|-----------------------|-------------|---------------------|---------|
| SIZE   | P/N     | METAL THICKNESS | OXYGEN             | NATURAL GAS | OXYGEN                | NATURAL GAS | PREHEAT             | CUTTING |
| 30     | 1808-30 | 20"-40"         | 65                 | 21          | 5400                  | 330         | #50                 | 19/64"  |
| 40     | 1808-40 | 40"-50"         | 70                 | 23          | 7700                  | 360         | #49                 | "X"     |
| 50     | 1808-50 | OVER 50"        | 75                 | 24          | 9700                  | 375         | #47                 | 1/2"    |

**CUTTING TORCH SKID ASSEMBLIES & ACCESSORIES**

| PART #    | DESCRIPTION   |
|-----------|---|
| 84925003  | SKID ASSEMBLY FOR 9500 & 9600 SERIES TORCHES              |
| 84901011  | SKID CLAMP ONLY FOR 9500 & 9600 SERIES TORCHES            |
| 84925002  | SKID ASSEMBLY FOR 6500, 8600 & 7500 SERIES                |
| 84901010  | SKID CLAMP ONLY FOR 6500, 8600 & 7500 SERIES TORCHES      |
| 84980001  | SKID ASSEMBLY FOR 6000 SERIES TORCHES, EXCEPT 6500        |
| 84901012  | SKID CLAMP ONLY FOR 6000 SERIES TORCHES, EXCEPT 6500      |
| 84901005  | SKID ONLY FOR 6000, 7500, 8500, 8600, 9500 & 9600 TORCHES |
| EC-SKID   | SKID ASSEMBLY FOR EC SERIES TORCH                         |
| 84901013  | SKID ONLY FOR EC TORCH - WIDE                             |
| 84901007  | CLAMP ONLY FOR EC TORCH - WIDE                            |
| EC-L-SKID | SKID ASSEMBLY FOR EC SERIES 34" LONG FOR "I" BEAM BILLETS |
| 84901009  | SKID ONLY FOR 34" LONG FOR EC-L TORCH                     |
| 84901015  | CLAMP ONLY FOR EC 34 FOR EC-L TORCH                       |
| 83900002  | SLAG SHIELD   |
| 93001129  | SUPPORT TUBE  |
| 82700005  | HEAT SHIELD ASSEMBLY                                      |
| 82700002  | HEAT SHIELD CLAMP ONLY FOR 82700005                       |
| 82700001  | HEAT SHIELD ONLY FOR 82700005                             |



## Scorpion EZ-CUT

### Straight & Clean Torch Cuts. Every Time.



- Consistent push or pull cutting with pre-set mechanized speed controller.
- Reduces grinding and rework.
- Bevel cut up to 60°.
- Strong magnets allow operation on horizontal or vertical surfaces.
- Available in 15"-48" cutting lengths.
- No electricity required.

| P/N      | DESCRIPTION  |
|----------|--|
| FTEZ-15  | EZ-CUT Complete Assembly with Case, 15" Cut Length |
| FTEZ-24T | EZ-CUT <b>Track Section</b> Only, 24" Cut Length   |
| FTEZ-36T | EZ-CUT <b>Track Section</b> Only, 36" Cut Length   |
| FTEZ-48T | EZ-CUT <b>Track Section</b> Only, 48" Cut Length   |

See the video at <http://www.flametechnologies.com/index.php/products/videos>



# Heavy Duty Line & Station Equipment

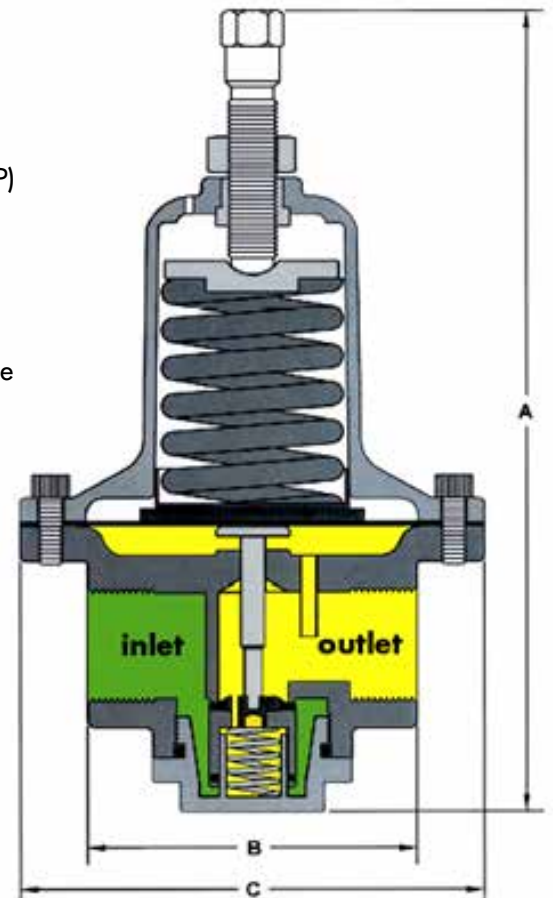
## FLAME TECH® LINE REGULATORS (FTLR) SERIES

FTLR regulators provide reliable, precise pressure control in the most demanding applications. Flame Tech's FTLR regulators have a fully balanced design which virtually eliminates delivery pressure fluctuations due to inlet pressure variations. All regulators are 100% factory tested.



### MATERIALS

- Body & Spring Chamber: Forged Brass
- Diaphragm: Ethylene Propylene (EP) Rubber Diaphragm
- Adjustment Spring: Color-Coded, Chrome Vanadium
- Valve Spring: 302 Stainless Steel
- Other Valve Parts: Brass
- Seat & O-Rings: Ethylene Propylene (EP) Rubber is standard



### FEATURES

Optimized venturi and spring design assures high flow with extremely low droop characteristics.

Solid non-tied diaphragm and all brass construction guarantees leak-free long lasting performance.

Maintains a steady down stream pressure across a range of inlet pressures commonly provided by a cryogenic bulk tank.

Corrosion resistant stainless steel trim.

### TECHNICAL DATA

Maximum inlet pressure is 400 PSI.

Effect of inlet pressure variation less than .25 PSI/100 PSI change.

Cleaned per CGA G-4.1 for oxygen service.

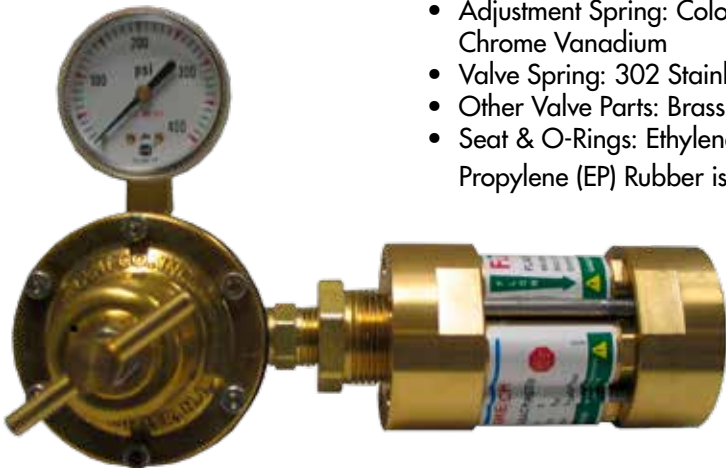
FLAME TECH® STATION REGULATORS (FTSR) SERIES

Flame Tech® Station Regulators (FTSR) series provide reliable, precise pressure control in the most demanding applications. Flame Tech’s FTSR regulators have a fully balanced design which virtually eliminates delivery pressure fluctuations due to inlet pressure variations. All regulators are 100% factory tested.

FTSR12-C Heavy Duty Oxygen Station Regulator with CGA "C" Hose Fitting



FTSR12-C Heavy Duty Cutting Oxygen Station Regulator with Flame Tech's High-Flow DEMAX Flashback Arrestor (see safety accessories for DEMAX)



MATERIALS

- Body & Spring Chamber: Forged Brass
- Diaphragm: Ethylene Propylene (EP) Rubber Diaphragm
- Adjustment Spring: Color-Coded, Chrome Vanadium
- Valve Spring: 302 Stainless
- Other Valve Parts: Brass
- Seat & O-Rings: Ethylene Propylene (EP) Rubber is standard

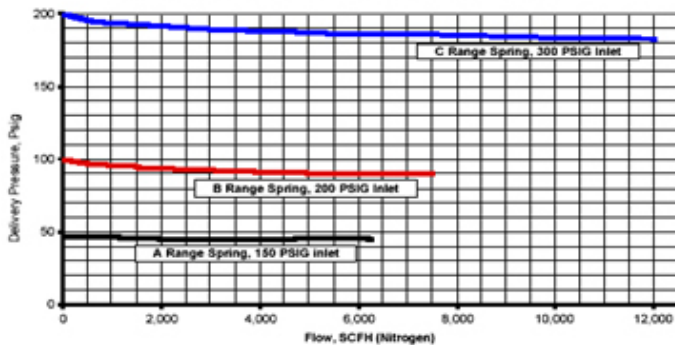
|          | P/N      | DESCRIPTION   |
|----------|----------|---|
| Fuel Gas | FTSR12-A | 5-55 PSI REGULATOR, ½"NPT INLET, LH CGA "B" HOSE FITTING COMPLETE WITH FT5575-GP PRESSURE GAUGE, 1-60 PSI RANGE       |
| Oxygen   | FTSR12-B | 40-110 PSI REGULATOR, ½"NPT INLET, RH CGA "B" HOSE FITTING, COMPLETE WITH FTS1679 PRESSURE GAUGE, 1-200 PSI RANGE     |
|          | FTSR12-C | 100-200 PSI REGULATOR, ½"NPT INLET, RH CGA "C" HOSE FITTING, COMPLETE WITH FT15578-GP PRESSURE GAUGE, 1-400 PSI RANGE |

## HEAVY DUTY STATION REGULATORS

Flame Tech® Station Regulators (FTSR) series provide reliable, precise pressure control in the most demanding applications. Flame Tech's FTSR regulators have a fully balanced design which virtually eliminates delivery pressure fluctuations due to inlet pressure variations. All regulators are 100% factory tested.

### FLOW CURVE

FTLR14 (1/4") & FTLR12 (1/2")



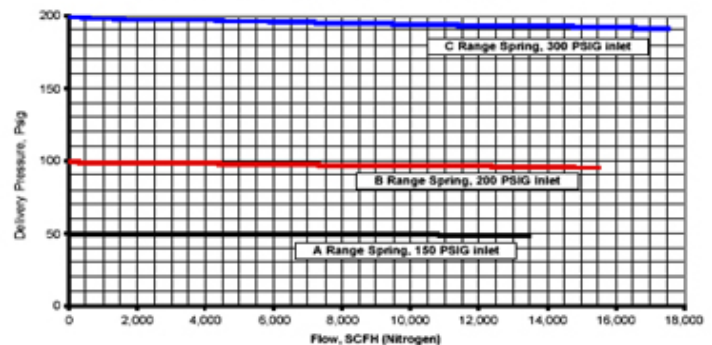
### Dimensional Data

| Size                               | A          | B          | C         | Cv  |
|------------------------------------|------------|------------|-----------|-----|
| 1/4", 3/8" & 1/2"<br>2BSPT & 4BSPT | 5 - 11/16" | 2 - 25/32" | 3 - 3/16" | 3.6 |

Cv is stated at maximum inlet pressure and valve full open

### FLOW CURVE

FTLR34 (3/4") & FTLR1 (1")



| Size                       | A        | B          | C          | Cv  |
|----------------------------|----------|------------|------------|-----|
| 3/4" & 1"<br>6BSPT & 8BSPT | 8 - 7/8" | 3 - 11/32" | 4 - 11/16" | 5.8 |

### ORDERING INFORMATION FTLR SERIES REGULATORS

| FLAME TECH | DELIVERY PRESSURE RANGE (PSI) | PRESSURE GAUGE RANGE (PSI)* | GAUGE PART # | INLET & OUTLET (FNPT) |
|------------|-------------------------------|-----------------------------|--------------|-----------------------|
| FTLR12A    | 5-55                          | 1-60                        | FT5575-GP    | 1/2"                  |
| FTLR12B    | 40-110                        | 1-200                       | FTS1679      | 1/2"                  |
| FTLR12C    | 100-200                       | 1-400                       | FT15578      | 1/2"                  |
| FTLR34A    | 5-55                          | 1-60                        | FT5575-GP    | 3/4"                  |
| FTLR34B    | 40-110                        | 1-200                       | FTS1679      | 3/4"                  |
| FTLR34C    | 100-200                       | 1-400                       | FT15578      | 3/4"                  |
| FTLR1A     | 5-55                          | 1-60                        | FT5575-GP    | 1"                    |
| FTLR1B     | 40-110                        | 1-200                       | FTS1679      | 1"                    |
| FTLR1C     | 100-200                       | 1-400                       | FT15578      | 1"                    |

## GAUGES

Gauges are sold separately. Order recommended gauge with selected regulator.

- FT5575-GP 0-60 PSI
- FTS1679 0-200 PSI
- FT15578 0-400 PSI



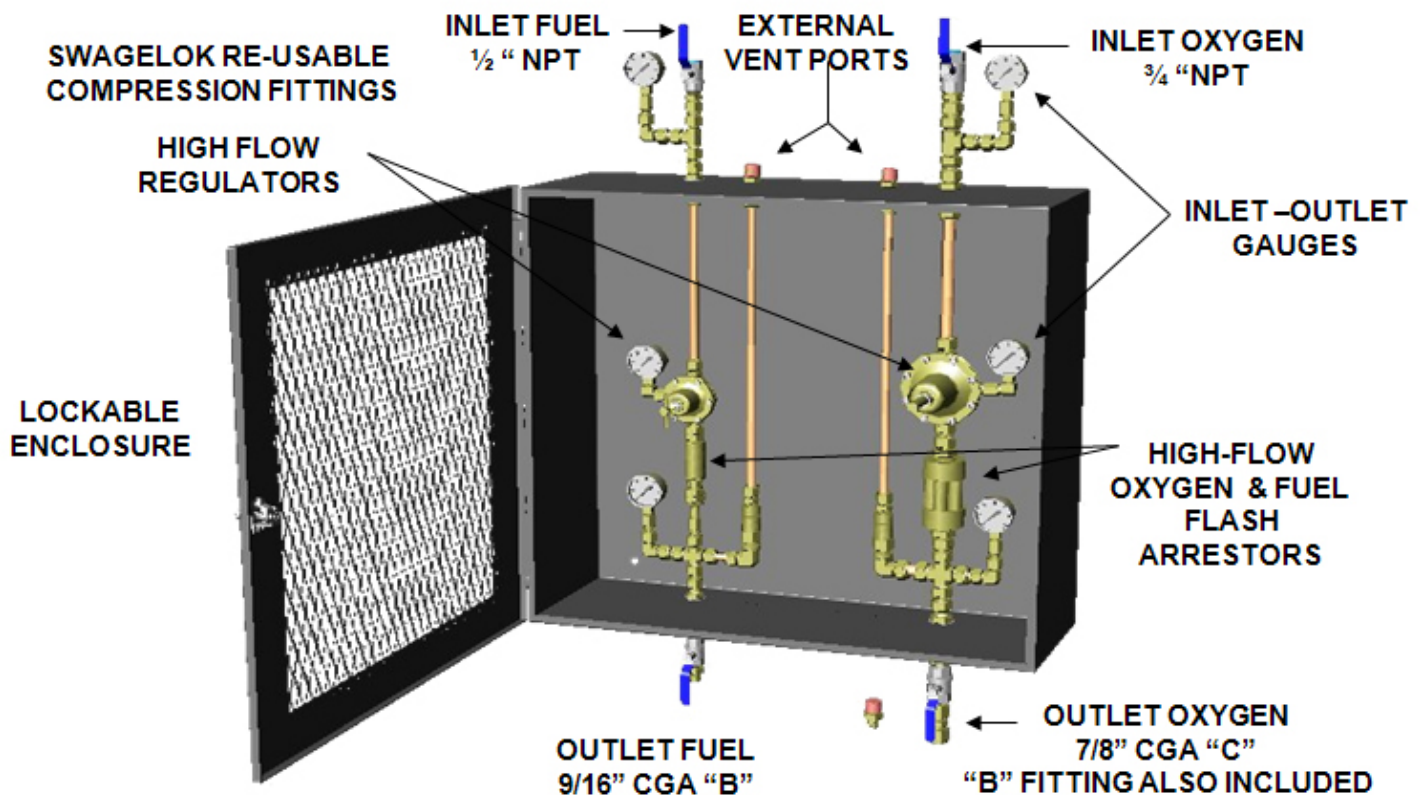


# Drop Station Regulator Enclosures

## 2 HOSE OPERATION (DSE-2)

The DSE-2 contains one high flow preheat/cutting oxygen regulator and one high flow fuel gas regulator. The DSE-2 also contains one DG91N (fuel) and one DEMAX (oxygen) Flash Arrestors as well as shutoff ball valves mounted outside the DSE-2 enclosure. Relief valves with an external vent port are connected to the fuel and oxygen lines. Swagelok re-usable compression fittings are used throughout the system to eliminate Teflon thread tape and to allow quick replacement of failed components. A lockable enclosure with an expanded-metal viewport allows operators to view the pressure gauges while allowing ventilation of the cabinet for safety purposes. Outlet valves come with end caps. The standard connector configuration for the DSE-2 is as follows:

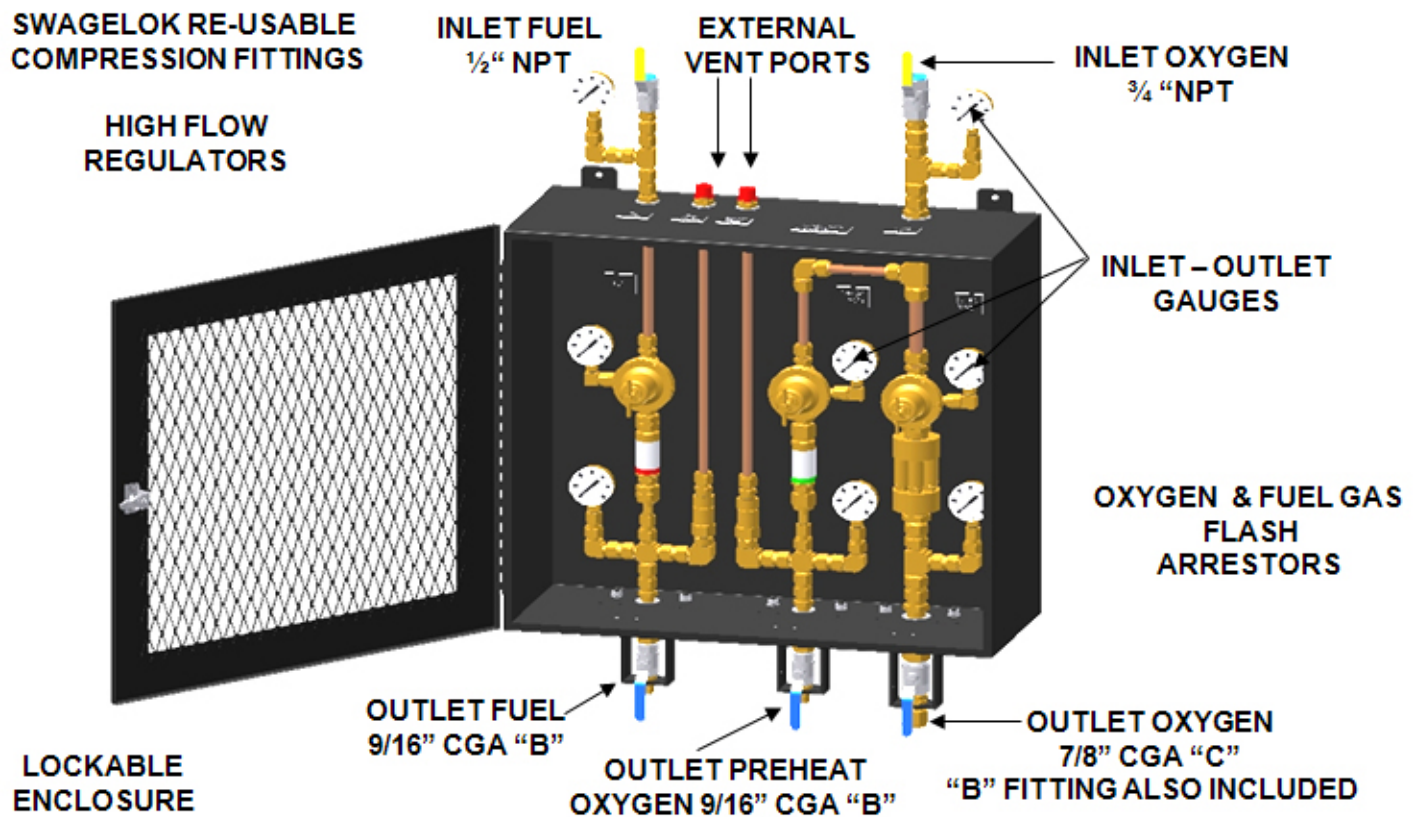
- 3/4" NPT Female oxygen inlet connection
- CGA "B" Male (9/16-18 UNF) oxygen outlet connection
- CGA "C" Male (7/8-14 UNF) adapter fitting is included with the DSE-2 to allow connections to CGA "C" hose fittings.
- 1/2" NPT Female fuel gas inlet connection
- CGA "B" LH Male (9/16-18 LH UNF) fuel gas outlet connection



### 3 HOSE OPERATION (DSE-3)

The DSE-3 contains one high flow cutting oxygen regulator, one high flow pre-heat oxygen regulator and one high flow fuel gas regulator. The DSE-3 also contains two DG91N Flash Arrestors (one pre-heat oxygen, one fuel) and one each DEMAX Cutting Oxygen Flash Arrestor as well as shutoff ball valves mounted outside the DSE-3 enclosure. Relief valves with external vent ports are connected to the fuel line and pre-heat oxygen lines. Swagelok re-usable compression fittings are used throughout the system to allow quick replacement of failed components. A lockable enclosure with an expanded-metal viewport allows operators to view the pressure gauges while allowing ventilation of the cabinet for safety purposes. Multiple pressure gauges provide readings on supply pressures, regulator pressures, and post-flash arrestor pressures to provide accurate readings throughout the system. The standard connector configuration for the DSE-3 is as follows:

- 3/4" NPT Female oxygen inlet connection
- CGA "C" Male (7/8-14 UNF) cutting oxygen outlet connection
- CGA "B" Male (9/16-18 UNF) pre-heat oxygen outlet connection
- 1/2" NPT Female fuel gas inlet connection
- CGA "B" LH Male (9/16-18 LH UNF) fuel gas outlet connection

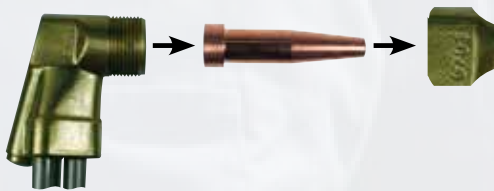


# INFERNO-X

## EXOTHERMIC TORCH ADAPTER

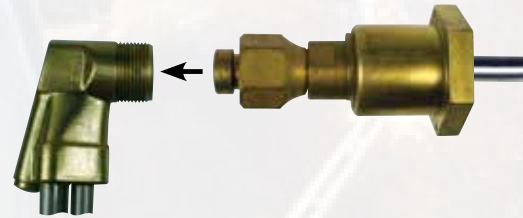
### One Torch. Two Applications.

Oxy-Fuel Cutting Torch



1. Remove the cutting tip and tip nut from the oxy-fuel torch.

Exothermic Cutting Torch



2. Insert the Inferno-X adapter into the oxy-fuel torch.

3. Now the oxy-fuel torch becomes an exothermic torch, using the oxy-fuel torch's cutting oxygen.

### BENEFITS

#### **Patented Torch Adapter:**

Patented adapter allows for existing oxy-fuel torches to be used as an exothermic torch.

#### **Adapter for Most Torches:**

Patented adapters are available for Harris®, Victor®, Airco®, Smith® or Oxweld® compatible torches.

#### **Cuts through almost anything:**

Cut through steel, stainless, iron, brick, concrete, aluminum, and much more.

#### **Single O<sub>2</sub> Source—Space Saver:**

Using the cutting torch oxygen source eliminates the need for a dedicated oxygen supply, as is required with a conventional exothermic torch.



Flame Tech's Inferno-X is a patented adapter that allows a standard oxy-fuel cutting torch to be used both as a standard cutting torch using cutting tips -or- as an exothermic torch using burning bars.

Inferno-X is a money saver, as it uses existing torches & cutting oxygen tanks. It also saves space, since there is no need to keep additional dedicated torches and oxygen tanks for exothermic cutting applications.

Adapters are available for most major OEM torches and Flame Tech's torches.

DO NOT use battery spark ignition with Inferno-X products. Another torch or tube igniters (sold in boxed quantities) may be used to ignite Inferno-X products.

Inferno-X does not require an additional torch. Flame Tech is able to supply a torch for this product, if you do not already have one. Download our equipment catalog at our web site or contact our customer service department via the toll free numbers listed below for additional details about available torches.

| <b>P/N</b>  | <b>DESCRIPTION</b>                                   |
|-------------|--|
| INF-X-V-KIT | Inferno-X kit to convert Victor® compatible torches  |
| INF-X-A-KIT | Inferno-X kit to convert Airco® compatible torches   |
| INF-X-H-KIT | Inferno-X kit to convert Harris® compatible torches  |
| INF-X-S-KIT | Inferno-X kit to convert Smith® compatible torches   |
| INF-X-O-KIT | Inferno-X kit to convert Oxyweld® compatible torches |

*Each of the above kits includes:*

*1 adapter; 3 collets (3/8", 1/4" & 3/16"); 6 rubber washers, 1 shield (not shown)*

For additional Inferno-X options or replacement parts, check our standard price book. Ask customer service for assistance with obtaining our price book and your discount schedule.



# Carbon Arc Gouging

# STORM<sup>torch</sup>

BY **GOUGE TECH®**  
a Division of Flame Technologies, Inc.

## **STORM TORCH (ST4000)**

Utilizing superior designs and quality craftsmanship, the Storm Torch™ is the best choice when choosing an arc gouging torch. Storm Torch® works with the normal motions and angles of the wrist and arm to enable easy, comfortable metal removal while arc gouging. This quality tool delivers performance and reliability. Combined with Gouge Tech® high performance hollow carbon Lightning Rods™, the Storm Torch™ is the optimal performer!



**Natural 15° Torch Angle**  
Greater Operator Comfort

**360° Swivel Cable**  
Less Cable Twist

**Positive Grip Handle**  
Less Strain On Operator

**Balanced Weight**  
Optimum Cable and Torch Weight to Minimize Fatigue

**High Quality Cable Hose**  
Best Quality Cable Hose Offers High Heat  
and Abrasion Resistance

**Rugged Construction**  
Overall Rugged Construction for the Harsh Environment

# STORM<sup>torch</sup>

### **ACCEPTS**

- Pointed Carbons:  
5/32" (4mm) to 1/2" (13mm)
- Flat Carbons:  
3/8" (10mm) to 5/8" (16mm)

### **AMPERAGE**

- Maximum 1000 Amps

### **COMPRESSED AIR**

- Pressure:  
80 PSI (5.6 Kg/cm<sup>2</sup>)
- Flow Rate:  
28 cfm (0.79 m<sup>3</sup>/min)

### **TORCH & CABLE WEIGHT**

- 5.4 lbs. (2.4 Kg)

**LIGHTNING RODS™ FOR STORM TORCH™**

# LIGHTNING ROD

- 50%+ Faster Compared to Solid DC Copper Coated Rods
- More Gouging-Inches Per Minute of Operation (*Increased Productivity*)
- Cleaner, Smoother, Reduced Smoke

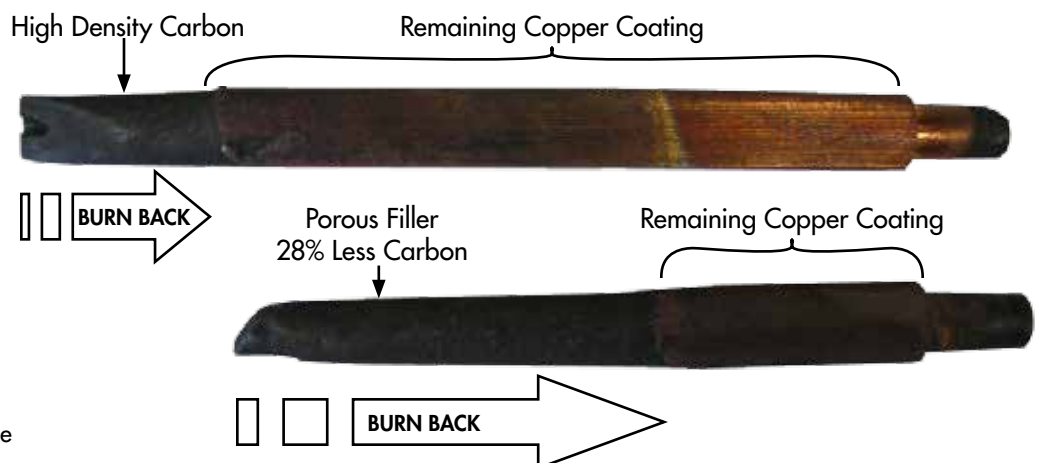


With larger diameter rods, the Lightning Rod™ doesn't turn red and burn back as fast as conventional rods. The Lightning Rod™ uses high density carbon surrounded by a thicker layer of copper. This feature provides enhanced arc stability and increased current for faster metal removal with less stub end loss. Picture below illustrates the burn back properties of the Lightning Rod™ versus standard carbon rods. The Lightning Hollow Core Jointed Rods have a tighter joint connection allowing efficient current transfer. With standard jointed rods the connection is loose causing the joint to heat-up, turn red and prematurely break off during the gouging process.

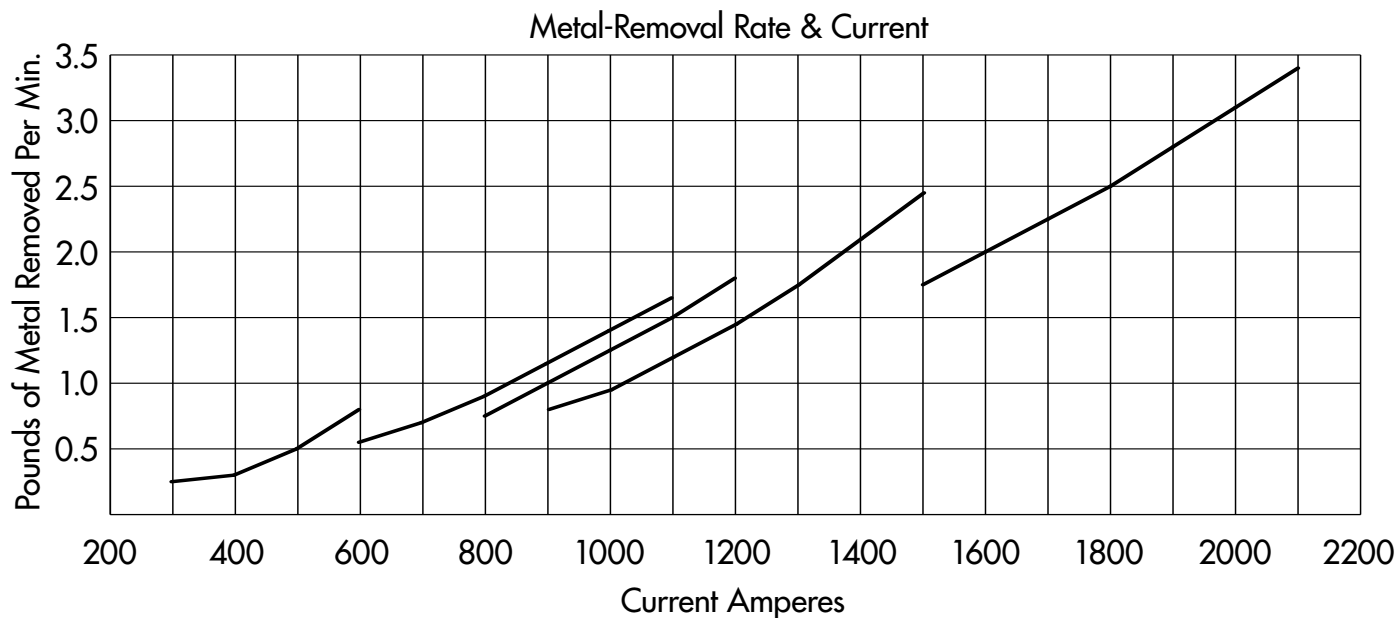
## Gouge Tech® Hollow Core Lightning Rod™

## Popular Brand Solid Core Rod

Both 1/2" rods are were run at the same amperage, for the same length of time.



## THE LIGHTNING ROD™ ADVANTAGE



Metal-removal rate is directly related to current. As shown in graph above, when current doubles, the metal removal rate increases four times. For example, at 1,400 amps a 3/4 inch rod removes twice as much metal per minute as at 1,000 amps. The graph is based on typical foundry conditions. Specific applications may extend or limit the range of any rod

diameter or length actually used. The Lightning Rods™ can carry increased currents of 15 to 20% more due to the copper coating, high density carbon and the extruded hole. This has shown to provide smooth arc stability on all metals. When your prime requirement is a smooth finish, select the largest diameter Lightning Rod™ for the available power supply.

### CURRENT REQUIREMENTS

| LIGHTNING ROD™ DIAMETER | 5/32" (4MM) | 3/16" (5MM) | 1/4" (6MM) | 5/16" (8MM) | 3/8" (10MM) | 1/2" (13MM) | 5/8" (16MM) | 3/4" (19MM) | 1" (25MM) |
|-------------------------|-------------|-------------|------------|-------------|-------------|-------------|-------------|-------------|-----------|
| Min. Amps               | 90          | 200         | 300        | 350         | 450         | 800         | 1000        | 1250        | 1600      |
| Max. Amps               | 150         | 250         | 400        | 450         | 600         | 1000        | 1250        | 1600        | 2200      |

### RECOMMENDED AIR REQUIREMENTS

| TYPE OF TORCH | AIR PRESSURE |     | AIR CONSUMPTION |       | CONTINUOUS |      | ASME RECEIVER SIZE |      |
|---------------|--------------|-----|-----------------|-------|------------|------|--------------------|------|
|               | PSI          | KPA | CFM             | L/MIN | HP         | KW   | GAL                | LIT. |
| Light Duty    | 40           | 280 | 8               | 227   | 1.5        | 1.1  | 60                 | 227  |
| General Duty  | 80           | 550 | 25              | 708   | 7.5        | 5.6  | 80                 | 303  |
| Multipurpose  | 80           | 550 | 33              | 934   | 10         | 7.5  | 80                 | 303  |
| Automatic     | 60           | 414 | 46              | 1303  | 15         | 11.2 | 80                 | 303  |

## LIGHTNING ROD™ ORDERING INFORMATION

When purchasing rods, they must be ordered in **quantities equal to whole cartons or whole cases**. However, you will need to **tell the customer service person the total number of rods you wish to order**, not the number of cartons or cases. Please refer to the chart below to declare how many rods you wish to order.

### MINIMUM ORDER SIZE IS ONE WHOLE CARTON QUANTITY OF RODS

#### HOW PACKAGING WORKS

- Rods are packed into boxes. Boxes are the smallest quantity sold to end users.
- Boxes are packed into cartons, so as to create a stable and safe package. This prevents rods from breaking while in shipment.
- Cartons are packed into cases for easier handling of many cartons.

#### Sizes and Ordering Quantities Chart

| STANDARD RODS               | Part Number | Rods/Box | CARTON PACKAGING |             |              | CASE PACKAGING |           |              |
|-----------------------------|-------------|----------|------------------|-------------|--------------|----------------|-----------|--------------|
|                             |             |          | Boxes/Carton     | Rods/Carton | Weight (lbs) | Cartons/Case   | Rods/Case | Weight (lbs) |
| 5/32" × 12" (4.0mm × 305mm) | GT532X12    | 100      | 5                | 500         | 9            | 4              | 2,000     | 33           |
| 3/16" × 12" (4.8mm × 305mm) | GT316X12    | 50       | 5                | 250         | 7            | 8              | 2,000     | 53           |
| 1/4" × 12" (6.4mm × 305mm)  | GT14X12     | 50       | 5                | 250         | 12           | 4              | 1,000     | 48           |
| 5/16" × 12" (7.9mm × 305mm) | GT516X12    | 50       | 5                | 250         | 16           | 4              | 1,000     | 64           |
| 3/8" × 12" (9.5mm × 305mm)  | GT38X12     | 50       | 5                | 250         | 17           | 2              | 500       | 33           |
| 1/2" × 12" (12.7mm × 305mm) | GT12X12     | 50       | 5                | 250         | 38           | 1              | 250       | 38           |

| JOINTED RODS                | Part Number | Rods/Box | CARTON PACKAGING |             |              | NO CASE PACKAGING |           |              |
|-----------------------------|-------------|----------|------------------|-------------|--------------|-------------------|-----------|--------------|
|                             |             |          | Boxes/Carton     | Rods/Carton | Weight (lbs) | Cartons/Case      | Rods/Case | Weight (lbs) |
| 3/8" × 17" (9.5mm × 431mm)  | GTJ38X17    | 50       | 6                | 300         | 41           | N/A               | N/A       | N/A          |
| 1/2" × 17" (12.7mm × 431mm) | GTJ12X17    | 50       | 4                | 200         | 45           | N/A               | N/A       | N/A          |
| 3/4" × 17" (19.1mm × 431mm) | GTJ34X17    | 25       | 4                | 100         | 45           | N/A               | N/A       | N/A          |



## Flame Tech Warranty

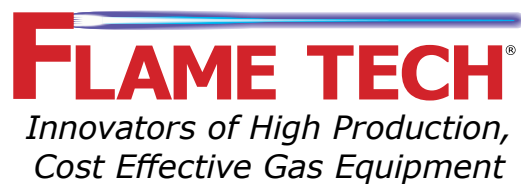
This warranty is extended solely to the original purchaser.

If a **Flame Tech®** product fails because of defect in material or workmanship under normal use and maintenance within one year from date of shipment by us, we will, at our option and after inspection, repair or replace the defective product or repay the full purchase price you paid us.

In order for this warranty to apply, you must return the defective product to us within one year from the date we shipped it to you. Please be sure to properly identify the complaint regarding the returned product. All products must receive an (RMA) Return Material Authorization number from the factory prior to the return. Products will not be accepted without an RMA.







For customer support or to place an order

Call Toll Free: 800-749-3682

Fax Toll Free: 800-460-8474

SERVICE: [customerservice@flametechnologies.com](mailto:customerservice@flametechnologies.com)

PURCHASE ORDERS: [orders@flametechnologies.com](mailto:orders@flametechnologies.com)

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