

# Tube Removal





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●-Recommended

○-Suitable

# One-Revolution Tube Cutter

## Tube Size

- 0.500" to 2.500"  
(12.7 to 63.5mm) OD

Elliott's 9060 Series One-Revolution Tube Cutters cut tubes quickly in both heat exchangers and boilers. *Recommended for hand use only* with the employment of a ratchet or wrench, these Tube Cutters are ideal for puncturing tubes prior to tube plugging. This tool is intended for use on all non-ferrous tube materials and some steel tubes. See Tube Plug catalog for more information on Elliott's tube plug offering.

The standard One-Revolution Tube Cutters have a 6" (152.4mm) reach. The Cutting Blades are manufactured from premium quality tool steel. For longer reach cutters, contact Customer Service for details.

## Features & Benefits:

- Quick set-up and use - greater productivity.
- Hex head drive - lower capital investment for drive motor.

## How To Order:

1. Specify tube size(s) to be cut. *See table on opposite page.*
2. Choose spares & accessories.

Each 9060 One-Revolution Series Tube Cutter includes:

- Cutter Blade
- Cutter Pin

## Spares & Accessories:

- Cutter Blade: Recommend quantity of 1 per 100 brass or copper tube cuts or 1 per 50 tube cuts of other materials.
- Cutter Pin: Recommend quantity of 1 pin for every 2 cutter blades.
- Cutter Lubricant: P8790A for 4 oz (0.118 liter) or P8790B for 1.000 gallon (3.785 liter). Recommended to maximize cutter blade life when applied to blade.



## Specifications:

- See table on opposite page for specifications.

# One-Revolution Tube Cutter

| Tube ID Range |      | BWG   | Body OD |      | Part #   | Drive Shank Size | Cutter Blade | Cutter Pin |
|---------------|------|-------|---------|------|----------|------------------|--------------|------------|
| Inch          | mm   |       | Inch    | mm   |          |                  |              |            |
| 1-1/2"        | 38.1 | 10-11 | 1.217   | 30.9 | 9060-309 | 7/8" Hex         | 9060N1500-1  | 9060P3     |
|               |      | 12-13 | 1.260   | 32.0 | 9060-320 |                  |              |            |
|               |      | 14-15 | 1.311   | 33.3 | 9060-333 |                  |              |            |
|               |      | 16-17 | 1.335   | 33.9 | 9060-339 |                  |              |            |
|               |      | 18-19 | 1.378   | 35.0 | 9060-350 |                  |              |            |
| 1-3/4"        | 44.5 | 10-11 | 1.453   | 36.9 | 9060-369 | 1" Hex           | 9060N1500-1  | 9060P3     |
|               |      | 12-14 | 1.508   | 38.3 | 9060-383 |                  |              |            |
|               |      | 15-16 | 1.587   | 40.3 | 9060-403 |                  |              |            |
|               |      | 17-18 | 1.614   | 41.0 | 9060-410 |                  |              |            |
|               |      | 10    | 1.713   | 43.5 | 9060-435 |                  |              |            |
| 2"            | 50.8 | 11    | 1.740   | 44.2 | 9060-442 | 1" Hex           | 9060N1500-1  | 9060P3     |
|               |      | 12-13 | 1.760   | 44.7 | 9060-447 |                  |              |            |
|               |      | 14-15 | 1.799   | 45.7 | 9060-457 |                  |              |            |
|               |      | 16-17 | 1.843   | 46.8 | 9060-468 |                  |              |            |
|               |      | 18-19 | 1.874   | 47.6 | 9060-476 |                  |              |            |
| 2-1/4"        | 57.2 | 10    | 1.957   | 49.7 | 9060-497 | 1 1/4" Hex       | 9060N2250-1  | 9060P4     |
|               |      | 11    | 1.988   | 50.5 | 9060-505 |                  |              |            |
|               |      | 12-13 | 2.012   | 51.1 | 9060-511 |                  |              |            |
|               |      | 14-15 | 2.063   | 52.4 | 9060-524 |                  |              |            |
|               |      | 16-17 | 2.098   | 53.3 | 9060-533 |                  |              |            |
| 2-1/2"        | 63.5 | 18-19 | 2.130   | 54.1 | 9060-541 | 1 1/4" Hex       | 9060N2250-1  | 9060P4     |
|               |      | 10    | 2.213   | 56.2 | 9060-562 |                  |              |            |
|               |      | 11    | 2.240   | 56.9 | 9060-569 |                  |              |            |
|               |      | 12-13 | 2.252   | 57.2 | 9060-572 |                  |              |            |
|               |      | 14-15 | 2.303   | 58.5 | 9060-585 |                  |              |            |
|               |      | 16-17 | 2.346   | 59.6 | 9060-596 |                  |              |            |
|               |      | 18-19 | 2.370   | 60.2 | 9060-602 |                  |              |            |

| Tube OD Range |      | BWG   | Body OD |      | Part #   | Drive Shank Size | Cutter Blade | Cutter Pin |
|---------------|------|-------|---------|------|----------|------------------|--------------|------------|
| Inch          | mm   |       | Inch    | mm   |          |                  |              |            |
| 3/8"          | 9.5  | 18    | 0.272   | 6.9  | 9060-050 | 7/32" Hex        | 9060N375-1*  | 9060P5     |
| 1/2"          | 12.7 | 18-19 | 0.394   | 10.0 | 9060-100 | 3/8" Hex         | 9060N625-1   | 9060P1     |
|               |      | 20    | 0.425   | 10.8 | 9060-108 |                  | 9060N625-4   |            |
|               |      | 14    | 0.445   | 11.3 | 9060-113 |                  | 9060N625-3   |            |
| 5/8"          | 15.9 | 15-16 | 0.469   | 11.9 | 9060-119 | 1/2" Hex         | 9060N625-2   | 9060P1     |
|               |      | 17-18 | 0.484   | 12.3 | 9060-123 |                  | 9060N750-2   |            |
|               |      | 19-21 | 0.516   | 13.1 | 9060-131 |                  | 9060N625-2   |            |
|               |      | 22    | 0.547   | 13.9 | 9060-139 |                  | 9060N750-2   |            |
|               |      | 12-13 | 0.516   | 13.1 | 9060-131 |                  | 9060N750-2   |            |
| 3/4"          | 19.1 | 14-15 | 0.571   | 14.5 | 9060-145 | 5/8" Hex         | 9060N1000-1  | 9060P2     |
|               |      | 16    | 0.594   | 15.1 | 9060-151 |                  |              |            |
|               |      | 17-18 | 0.602   | 15.3 | 9060-153 |                  |              |            |
| 7/8"          | 22.2 | 19-20 | 0.642   | 16.3 | 9060-163 | 3/4" Hex         | 9060N1000-2  | 9060P3     |
|               |      | 12-13 | 0.642   | 16.3 | 9060-163 |                  |              |            |
|               |      | 14-15 | 0.685   | 17.4 | 9060-174 |                  |              |            |
|               |      | 16-17 | 0.724   | 18.4 | 9060-184 |                  |              |            |
|               |      | 18    | 0.748   | 19.0 | 9060-190 |                  |              |            |
| 1"            | 25.4 | 19-20 | 0.760   | 19.3 | 9060-193 | 7/8" Hex         | 9060N1000-2  | 9060P3     |
|               |      | 12-13 | 0.760   | 19.3 | 9060-193 |                  |              |            |
|               |      | 14    | 0.807   | 20.5 | 9060-205 |                  |              |            |
|               |      | 15    | 0.827   | 21.0 | 9060-210 |                  |              |            |
|               |      | 16-17 | 0.846   | 21.5 | 9060-215 |                  |              |            |
| 1-1/4"        | 31.8 | 18-21 | 0.878   | 22.3 | 9060-223 | 7/8" Hex         | 9060N1000-2  | 9060P3     |
|               |      | 22    | 0.913   | 23.2 | 9060-232 |                  |              |            |
|               |      | 10-11 | 0.965   | 24.5 | 9060-245 |                  |              |            |
|               |      | 12    | 1.004   | 25.5 | 9060-255 |                  |              |            |
|               |      | 13-14 | 1.039   | 26.4 | 9060-264 |                  |              |            |
|               |      | 15-16 | 1.079   | 27.4 | 9060-274 |                  |              |            |
|               |      | 17-19 | 1.114   | 28.3 | 9060-283 |                  |              |            |

\*Recommend quantity of 1 per 30 brass or copper tube cuts.

# PTTC Series Tube Cutter

## Tube Size

- 0.625" to 2.500"  
(15.9 to 63.5mm) OD

Elliott's PTTC (Push Type Tube Cutter) Series Cutters accommodate heat exchangers and boilers with tube OD sizes 0.625" to 2.500" (15.9 to 63.5mm) with tube sheets up to 5" (127.0mm) thick. The adjustable collar allows tubes to be cut or scored just beyond the tube sheet. The cutting blades are specially coated to increase longevity. Elliott offers two blade styles for Non-Ferrous Steel and Stainless Steel to achieve optimum cutting efficiency.

Each PTTC Tube Cutter Assembly is supplied with an installed blade, complete pilot set, and Allen wrenches. The 1/2" hex drive shank on cutters up to 1" OD allows the use of common Jacobs drill chucks for driver connection. 1-1/4" to 2-1/2" OD cutters require a 3/4" square drive and adapter.

## Features & Benefits:

- Quick set-up and use - greater productivity.
- Includes complete pilot set for wide range of gauges - lower tooling expense.
- Hex head drive on cutters up to 1" OD - lower capital investment for drive motor.

## How To Order:

1. Specify tube size(s) to be cut. *See table on opposite page for quantity supplied.*
2. Choose spares & accessories.

Each PTTC Series Tube Cutter includes:

- Tube Cutter
- (1-2) Cutter Blades with Pin *See table on opposite page for quantity supplied.*
- (3-5) Tube Cutter Pilots *See table on opposite page for quantity supplied.*

## Spares & Accessories:

- Non-Ferrous / Steel Cutter Blades: For tube ODs less than 7/8" (22.2mm) OD recommend quantity of 3 blades per 100 tubes. For tube ODs greater than 7/8" (22.2mm) OD recommend quantity of 4 blades per 100 tubes.
- Stainless Steel Cutter Blades: For tube ODs less than 7/8" (22.2mm) OD recommend quantity of 3 blades per 100 tubes. For tube ODs greater than 7/8" (22.2mm) OD recommend quantity of 4 blades per 100 tubes.
- Cutter Pins: Recommend quantity of 1 pin for every 2 cutter blades.
- Cutter Lubricant: P8790A for 4 oz (0.118 liter) or P8790B for 1.000 gallon (3.785 liter). Recommended to maximize cutter blade life when applied to blade.
- Electric and Pneumatic Tube Cutter Drive Motors: *See opposite page.*
  - Morse Taper Adapter: Included with Electric Drive Motor
  - Drive Socket: Included with Electric Drive Motor
  - Jacobs Chuck



## Specifications:

- See table on opposite page for specifications.

# PTTC Series Tube Cutter Spares & Accessories

| Tube OD            | Cutter Kit #<br>(Includes Pilot Set) | Drive<br>Shank<br>Size | Non-Ferrous<br>/ Steel Blade<br>with Pin # | Stainless Steel<br>Blade with<br>Pin # | # of<br>Blades | *Cutter Pin # | Number of<br>Pilots in a<br>Set | Tube Gauge Sizes for<br>Pilot        |
|--------------------|--------------------------------------|------------------------|--------------------------------------------|----------------------------------------|----------------|---------------|---------------------------------|--------------------------------------|
| 5/8"<br>(15.9mm)   | PTTC625K                             | 1/2" Hex               | PTTC25186                                  | PTTC25186S1                            | 1              | PTTC625CP     | 3                               | 16-17, 18-19, 20-22                  |
| 3/4"<br>(19.1mm)   | PTTC750K                             | 1/2" Hex               | PTTC25186-1                                | PTTC25186S2                            | 1              | PTTC750CP     | 4                               | 14-15, 16-17, 18-19,<br>20-22        |
| 7/8"<br>(22.2mm)   | PTTC875K                             | 1/2" Hex               | PTTC25194                                  | PTTC25194S1                            | 1              | PTTC875CP     | 5                               | 12-13, 14-15, 16-17,<br>18-19, 20-22 |
| 1"<br>(25.4mm)     | PTTC1000K                            | 1/2" Hex               | PTTC25199                                  | PTTC25199S1                            | 2              | PTTC1000CP    | 5                               | 12-13, 14-15, 16-17,<br>18-19, 20-22 |
| 1-1/4"<br>(31.8mm) | PTTC1250K                            | 3/4" Sq                | PTTC25206                                  | PTTC25206S1                            | 2              | PTTC1250CP    | 4                               | 12-13, 14-15, 16-17,<br>18-19        |
| 1-1/2"<br>(38.1mm) | PTTC1500K                            | 3/4" Sq                | PTTC25206-1                                | PTTC25206S2                            | 2              | PTTC1500CP    | 4                               | 10-11, 12-13, 14-15,<br>16-17        |
| 2"<br>(50.8mm)     | PTTC2000K                            | 3/4" Sq                | PTTC25221                                  | PTTC25221S1                            | 2              | PTTC2000CP    | 5                               | 10, 11, 12, 13, 14                   |
| 2-1/2"<br>(63.5mm) | PTTC2500K                            | 3/4" Sq                | PTTC25223                                  | PTTC25223S1                            | 2              | PTTC2500CP    | 5                               | 10, 11, 12, 13, 14                   |

*\*Note: Included with cutter blade but can be purchased separately.*

## PTTC Series Tube Cutter Drive Motors

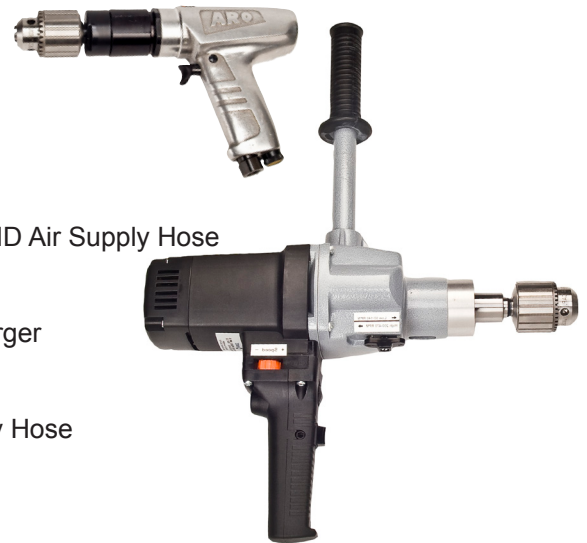
Elliott's Tube Cutter Drive Motors are used to power the PTTC Series Tube Cutter. They are available in both electric and pneumatic models to suit your application needs.

### Specifications (Electric):

- 447000: 5/8" - 2-1/2" OD
  - 110V, 50/60Hz, 16 Amp
  - 2 Speed variable motor
    - 60-140 RPM
    - 200-470 RPM
  - Weight: 16 lbs. (7.3 Kg.)
- 447000-220: 5/8" - 2-1/2" OD
  - 220V, 50/60Hz, 8 Amp
  - 2 Speed variable motor
    - 60-140 RPM
    - 200-470 RPM
  - Weight: 16 lbs. (7.3 Kg.)

### Specifications (Pneumatic):

- P5154: 5/8" - 1" OD
  - 23 CFM @ 90 PSI (6.2 bar)
  - 325 RPM
  - 1/4" NPTF - 5/16" (8.0mm) ID Air Supply Hose
  - Weight: 5.5 lbs. (2.5 Kg.)
- 445L1753-190: 1 1/4" OD & larger
  - 70 CFM @ 90 PSI (6.2 bar)
  - 190 RPM
  - 3/4" (19.1mm) ID Air Supply Hose
  - Weight: 13 lbs. (5.8 Kg.)



### How To Order:

1. Specify Tube Cutter Drive Motor(s) required.
2. Choose spares & accessories.

The 447000 (110V) and 447000-220 (220V) electric motors include:

- 5/8" (15.9mm) Jacobs Chuck
- 3/4" (19.1mm) Square Female Socket Adapter
- Morse Taper Adapter

The P5154 (325 RPM) and P5476C (100 RPM) pneumatic motors include:

- 1/2" (12.7mm) Jacobs Chuck

### Spares & Accessories:

- 830-12-3-075 Morse Taper Adapter
- 71S0C 3/4" (19.1mm) Square Female Socket Adapter
- 4470JA Jacobs Chuck for the 447000 and 447000-220 electric motors
- P5476CH Jacobs Chuck for the P5154 and P5476C pneumatic motors

# 376 / 396 Series Boiler Tube Cutter

## Tube Size

- 2.000" to 3.000"  
(50.8 to 76.2mm) OD

Elliott's 376 / 396 Series Boiler Tube Cutters are power driven to cut those tubes in firetube and watertube boilers. The Series' primary purpose is to cut tubes to length on the common end of a firetube boiler. It is extremely important to cut tubes to a uniform length prior to beading the tubes when using a roll beading expander.

The 376 / 396 Boiler Tube Cutters have a 1" (25.4mm) male square drive that is easily adapted to tube rolling motors that are 150 RPM or less. The cutters may also be employed with a ratchet for applications in space restricted areas.

The wheel style boiler cutters are designed to have a long tool life, giving you years of trouble-free service.

## How To Order:

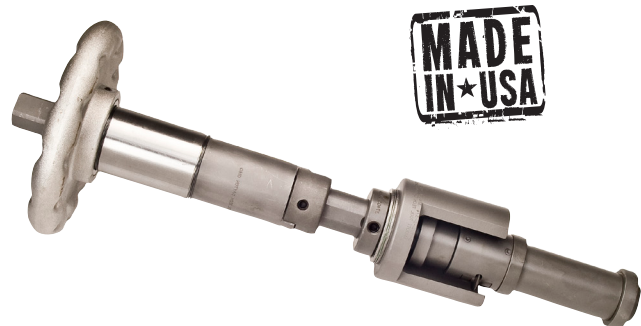
1. Specify tube size(s) to be cut. *See table on the right.*
2. Choose spares & accessories.

Each 376 / 396 Series Boiler Tube Cutter includes:

- Cutter Wheel
- Cutter Pin
- Feed Wedge
- Feed Rod

## Spares & Accessories:

- Cutter Blade: Recommend quantity of 1 per 100 tube cuts.
- 37419P20000 Cutter Pin: Recommend quantity of 1 pin for every 2 cutter wheels.
- Feed Wedge *See table on the right.*
- 374170-20000 Feed Rod
- Pneumatic Motors: Are highly recommended over electric motors for use with boiler tube cutters. *See previous page.*
- Drive Socket required for use with Drive Motor. See Installation Catalog for more information.



## Specifications:

- See table on opposite page for recommended cutting speed specifications.

## Features & Benefits:

- Rugged tool design - long tool life.
- Places tube to length before rolling - reduces operator error.
- Creates a non-abrasive cut which:
  - Eliminates prep time - less labor costs.
  - Operator can easily insert new tubes - less labor costs.
- Cuts tubes chip-free so no need to clean out vessel - less labor costs.

| Tube OD |      | BWG   | Tube Cutter Part # | Weight |      |
|---------|------|-------|--------------------|--------|------|
| Inch    | mm   |       |                    | Lbs.   | Kg.  |
| 2"      | 50.8 | 10-16 | 376-00-20000       | 15     | 6.8  |
| 2-1/2"  | 63.5 | 10-16 | 376-00-20102       | 18     | 8.2  |
| 3"      | 76.2 | 10-16 | 396-00-30000       | 40     | 18.2 |

| Tube OD |      | BWG   | Cutter Wheel | Feed Wedge   |
|---------|------|-------|--------------|--------------|
| Inch    | mm   |       |              |              |
| 2"      | 50.8 | 10-16 | 374190-20000 | 374180-20000 |
| 2-1/2"  | 63.5 | 10-16 | 374190-20104 |              |
| 3"      | 76.2 | 10-16 |              | 375FW30000   |

# Recommended Cutting Speed Specifications

## Revolutions Per Minute

To obtain maximum cutting performance and cutter blade life, refer to the table below for the recommended cutting RPM. A slower RPM is recommended when the optimum cannot be obtained to maximize cutter blade life.

| Tube OD | Inconel 10 SFM | Hastelloy 20 SFM | 300 Series Stainless Steel 30 SFM | Monel 40 SFM | 400 Series Stainless Steel 50 SFM | Titanium 60 SFM | Carbon Steel 80 SFM | Copper 90 SFM | Copper Nickel 100 SFM | Red Brass 200 SFM | Admiralty Brass 225 SFM | Aluminum 250 SFM |
|---------|----------------|------------------|-----------------------------------|--------------|-----------------------------------|-----------------|---------------------|---------------|-----------------------|-------------------|-------------------------|------------------|
| 1/4"    | 153            | 306              | 458                               | 611          | 764                               | 917             | 1222                | 1376          | 1528                  | 3056              | 3438                    | 3818             |
| 5/16"   | 122            | 244              | 367                               | 489          | 611                               | 733             | 978                 | 1100          | 1222                  | 2445              | 2750                    | 3055             |
| 3/8"    | 102            | 204              | 306                               | 408          | 509                               | 611             | 815                 | 916           | 1018                  | 2037              | 2292                    | 2545             |
| 7/16"   | 87             | 175              | 262                               | 349          | 437                               | 524             | 699                 | 786           | 874                   | 1746              | 1964                    | 2182             |
| 1/2"    | 76             | 153              | 229                               | 306          | 382                               | 459             | 611                 | 688           | 764                   | 1528              | 1719                    | 1909             |
| 9/16"   | 68             | 137              | 204                               | 272          | 340                               | 407             | 543                 | 611           | 679                   | 1358              | 1528                    | 1697             |
| 5/8"    | 61             | 122              | 184                               | 245          | 306                               | 367             | 489                 | 552           | 612                   | 1222              | 1375                    | 1527             |
| 11/16"  | 55             | 112              | 167                               | 222          | 278                               | 333             | 444                 | 500           | 555                   | 1111              | 1250                    | 1388             |
| 3/4"    | 51             | 102              | 153                               | 203          | 254                               | 306             | 408                 | 458           | 508                   | 1019              | 1146                    | 1273             |
| 13/16"  | 47             | 95               | 142                               | 190          | 237                               | 284             | 379                 | 427           | 474                   | 940               | 1058                    | 1175             |
| 7/8"    | 44             | 87               | 131                               | 175          | 219                               | 262             | 349                 | 392           | 438                   | 873               | 982                     | 1091             |
| 1"      | 38             | 76               | 115                               | 153          | 191                               | 229             | 306                 | 344           | 382                   | 764               | 859                     | 955              |
| 1-1/8"  | 34             | 68               | 102                               | 136          | 170                               | 204             | 272                 | 306           | 340                   | 679               | 764                     | 848              |
| 1-1/4"  | 31             | 61               | 92                                | 123          | 153                               | 183             | 245                 | 274           | 306                   | 611               | 688                     | 764              |
| 1-3/8"  | 28             | 56               | 83                                | 111          | 139                               | 167             | 222                 | 250           | 278                   | 556               | 625                     | 694              |
| 1-1/2"  | 25             | 51               | 76                                | 102          | 127                               | 153             | 204                 | 230           | 254                   | 509               | 573                     | 636              |
| 1-3/4"  | 22             | 44               | 66                                | 88           | 109                               | 131             | 175                 | 196           | 218                   | 437               | 491                     | 545              |
| 2"      | 19             | 38               | 57                                | 76           | 96                                | 115             | 153                 | 172           | 191                   | 382               | 430                     | 477              |
| 2-1/2"  | 15             | 31               | 46                                | 61           | 76                                | 92              | 122                 | 137           | 153                   | 305               | 344                     | 382              |
| 3"      | 13             | 25               | 38                                | 51           | 64                                | 76              | 102                 | 115           | 127                   | 255               | 286                     | 318              |
| 4"      | 10             | 19               | 29                                | 38           | 48                                | 57              | 76                  | 86            | 95                    | 191               | 215                     | 239              |

## Cut tough jobs down to size.

Equipped with a rugged Baldor® Motor and the highly productive Automatic Cutting Force Control, Elliott's SpeedCut is a quick and cost effective way to cut through tube bundles in a single pass. It features a heavy-duty frame and powerful drivetrain to withstand the rigors of a production environment. Safe and efficient operation is possible without the need for a constant attendant.

The unit offers Automatic Cutting Force Control as a standard feature. The cutting cross section of the vessel is smaller at the top and bottom rows because there are fewer tubes per row. During larger portions of the cutting cycle the saw feed automatically pauses while maintaining constant cutting force. The result is that overall cutting time is reduced without sacrificing blade life.

Set-up is easy. Simply position and secure the tube bundle (an optional Support Table with Binding Straps is available). If necessary the operator can adjust the blade tension with a simple torque wrench. Minimal attendance by the operator of the unit is enabled by three control systems that constantly monitor the cutting cycle. Should the blade break or stall, the system automatically stops the blade.

An MQL (Minimum Quantity Lubricant) Mist Lubrication System is a standard feature on the SpeedCut. A very thin film of lubricant is spread on the teeth of the blade just before the blade contacts the tube. As the heat from the cut is absorbed by the lubricant, the liquid is dissipated from the blade and the resulting chip. Environmental hazards and disposal costs are minimized, the cutting speed is increased, and the blade life is prolonged.



Control Panel

### How To Order:

1. Review the Specifications to ensure the unit meets your vessel size and workspace needs.
2. Specify power requirement: Specify 3 Phase voltage.
3. Choose spares & accessories.

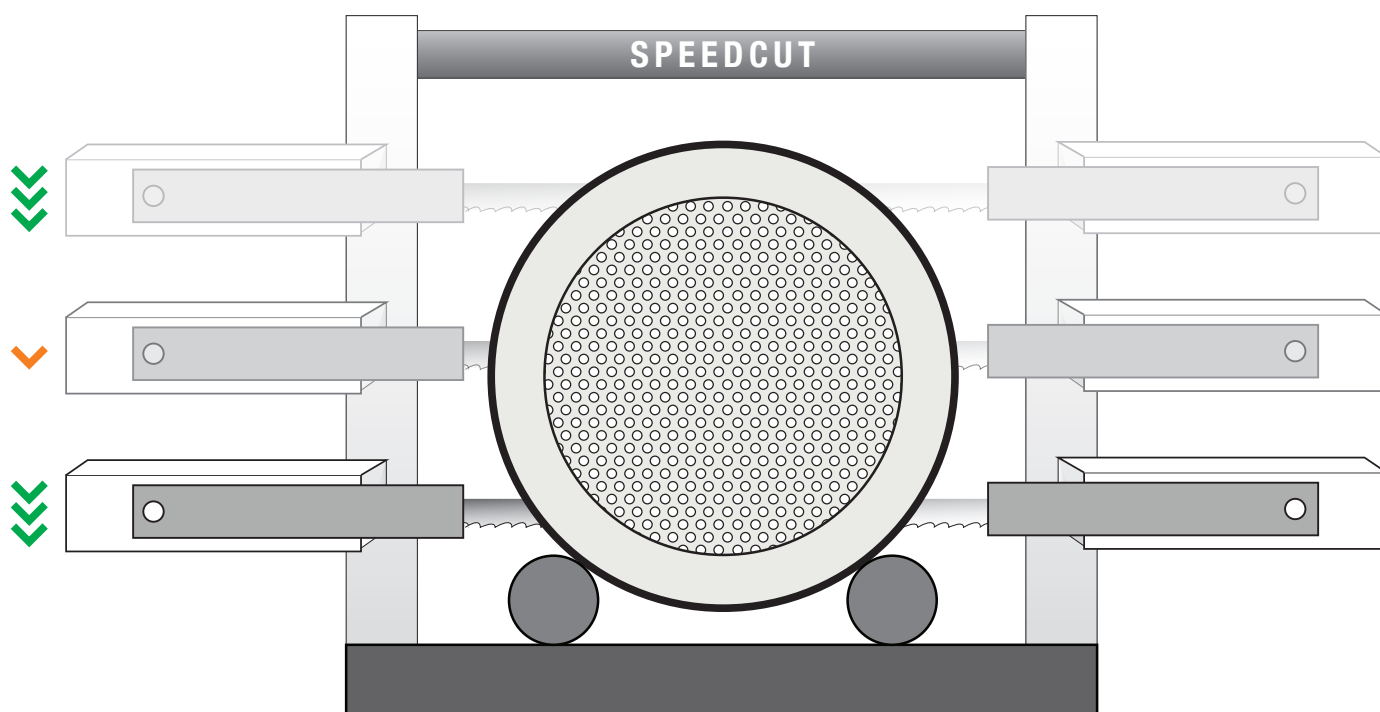
## Features & Benefits:

- The Hydraulic Feed Rate Control combined with the Automatic Cutting Force Control optimizes saw feed while maintaining consistent cutting force.
- Powerful 7.5 or 10 HP Baldor® Blade Drive Motor quickly cuts through a wide variety of tough materials.
- Heavy Duty Cone Drive® gearbox with powerful “Double Enveloping”® gearset for increased torque.
- Low voltage operator controls front mounted and easily accessible to operator.
- Remote Pedestal Control Console for added safety and convenience.
- Convenient digital bandspeed display.
- Control Legend Plates in English or Spanish (other languages available upon request).
- Hour Meter: Allows for more precisely scheduled preventative maintenance which lowers operating costs.
- Includes Machine Leveling Bolts.
- Three control systems and Blade Break/Stall Proximity Switch features enable safe unattended operation.
- Overload and under voltage protection.

- Maintenance Lockout for operator safety and protection during maintenance.
- MQL Mist Lubrication System to minimize disposal costs and prolong blade life.
- Rotary Blade Brush cleans and extends blade life.

## Spares & Accessories:

- Bi-Metal Bandsaw Blades: Long-life, high-quality blades for most materials, including copper, stainless steel and exotic materials.
- Bundle Support Table & Ratchet Straps: Helps to secure the bundle during cutting operation.
- Clamp System: Allows for improved stability of the tube sheet during the sawing process and an added measure of safety for the crew and the machine.
- MQL System Lubricant: Specially formulated for use with the SpeedCut.
- Recommended Spares Kit: Includes spare maintenance parts for quick replacement and no down time. Includes: Blade Brushes, Drive Belt, Gear Oil, Bearings, Fuses, Roller Axles, and Roller Supports.



## Automatic Cutting Force Control:

During larger sections of the vessel, the saw feed automatically pauses while maintaining consistent cutting force to increase productivity without sacrificing blade life.

|                                 | SpeedCut 78                                    | SpeedCut 98                                   |
|---------------------------------|------------------------------------------------|-----------------------------------------------|
| Power                           |                                                |                                               |
| Blade Motor                     | 7.5 HP (5.6kW)                                 | 10 HP (7.5kW)                                 |
| Hydraulic Motor                 | 1 HP (.75kW)                                   |                                               |
| Hydraulic Capacity              | 10 gal                                         |                                               |
| Power Requirement               | 3 Phase - 50/60 Hz (Select from 208V - 600V)   |                                               |
| Cutting                         |                                                |                                               |
| Cutting Capacity (round)        | 78.5" (2,000mm)                                | 98.5" (2,500mm)                               |
| Cutting Capacity (rectangular)  | 78.5" (2,000mm) height                         | 98.5" (2,500mm) height                        |
|                                 | 85" (2,160mm) width                            | 98.5" (2,500mm) width                         |
| Cutting Depth/Throat            | 33.75" (857mm)                                 |                                               |
| Blade Speed (typical speed)     | 50 - 275 FPM Infinitely Variable (15 - 84 mpm) |                                               |
| Blade Size                      | 1.5" x .05" x 375"<br>(38mm x 1mm x 9,779mm)   | 1.5" x .05" x 402"<br>(38mm x 1mm x 10,211mm) |
| Typical Bundle Cutting Time     | 20 - 60 minutes                                |                                               |
| Dimensions & Weight             |                                                |                                               |
| Working Area                    | 168" (4,267mm) height                          | 213" (5,410mm) height                         |
|                                 | 178" (4,521mm) width                           | 192" (4,877mm) width                          |
|                                 | 87" (2,210mm) depth                            |                                               |
| Minimum Height                  | 117" (2,972mm)                                 | 134" (3,404mm)                                |
| Bandwheels                      | 36" (914mm) cast iron                          |                                               |
| Weight                          | 6,000 lbs. (2,722Kg)                           | 6,600 lbs. (2,994Kg)                          |
| Shipping Dimensions (Crated)    | 130" (3,302mm) height                          | 143" (3,632mm) height                         |
|                                 | 186" (4,724mm) width                           | 199" (5,054mm) width                          |
|                                 | 100" (2,540mm) depth                           |                                               |
| Shipping Weight (Crated)        | 7,400 lbs. (3,357Kg)                           | 10,600 lbs. (4,808Kg)                         |
| Bundle Support Table (uncrated) | 20" (508mm) height                             |                                               |
|                                 | 33" (838mm) width                              |                                               |
|                                 | 36" (914mm) depth                              |                                               |
| Support Table Weight (uncrated) | 225lbs (102Kg)                                 |                                               |



Automatic Cutting Force Control



Cutting Speed

|                                                                                                                                                                                     | SpeedCut 78   | SpeedCut 98 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------|
| Spares & Accessories                                                                                                                                                                |               |             |
| Bi-Metal Bandsaw Blades*                                                                                                                                                            | SCT78B1       | SCT98B1     |
|                                                                                                                                                                                     | SCT78B2       | SCT98B2     |
|                                                                                                                                                                                     | SCT78B3       | SCT98B3     |
| MQL Lubricant                                                                                                                                                                       | SCT100318-028 |             |
| Bundle Support Table                                                                                                                                                                | SCTBT         |             |
| Clamp System                                                                                                                                                                        | SCTMC         |             |
| Tube Sheet Support Table                                                                                                                                                            | SCTST         |             |
| Recommended Spares Kit                                                                                                                                                              | SCT155291     |             |
| *For help with blade selection, use the Blade Selection Tool at <a href="http://www.elliott-tool.com/speedcut">www.elliott-tool.com/speedcut</a> or contact Elliott for assistance. |               |             |



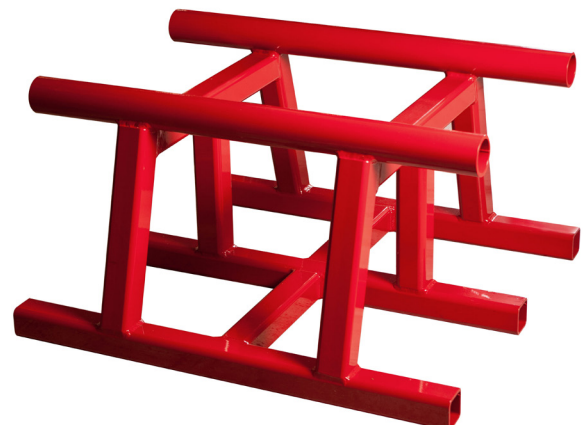
Heavy Duty Gearbox



Safety Shutoff Sensor



Clamp System



Bundle Support Table (optional)

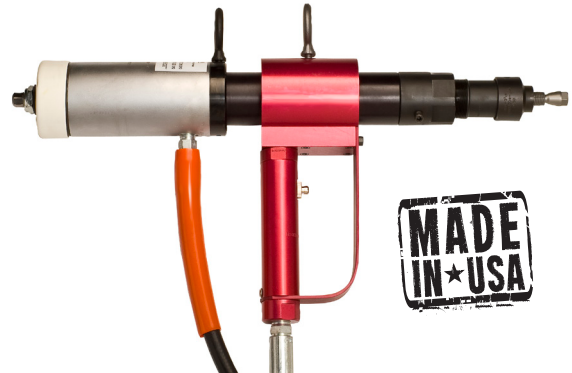
## Tube Size

- 0.625" to 1.000"  
(15.9 to 25.4mm) OD

Elliott's Model B10552-00 Collet Style Tube Tugger was designed especially for fast and efficient tube removal in condensers, chiller, and other heat exchangers.

With its 6 Ton pulling capacity, the Collet Style Tube Tugger automatically grips, pulls, and releases the tube in a matter of seconds. The puller's compact design allows access to confined work areas. Additionally, the 360° Positioning Handle enables access to those hard-to-reach tubes that are near channel plates and water box conditions.

The Collet Style Tube Tugger can quickly and successfully pull over 100 tube stubs in less than an hour! To allow for even faster tube pulling, use Elliott's Cyclgrip Semi-Continuous Tube Puller – the perfect partner for the Collet Style Tube Tugger.



## Specifications:

- Pulling capacity: 6 Ton
- Stroke: 3" (76.0mm) Pulling Stroke 2.25" (57.2mm)
- Weight: 25 Lbs. (11 Kg)
- Overall Length:
  - Retracted: 20.5" (520.7mm)
  - Extended: 21.75" (552.6mm)

## Features & Benefits:

- Quick stroke cylinder - increases productivity.
- Light weight pulling ram - reduces operator fatigue.
- Wide gripping range - less tooling expense.
- 360 degree positioning handle - more access to tubes.

## How To Order:

1. Specify tube size(s) to be cut.
2. Choose spares & accessories.

The B10552-00 Collet Style Tube Tugger kit includes:

- B10552 Collet Style Tube Tugger Assembly
- B10552D5-750 Collet Retainer for 5/8" (15.9mm) and 3/4" (19.1mm) tube ODs
- B10552D7-750 Pull Rod for 5/8" (15.9mm) and 3/4" (19.1mm) tube ODs
- B10552D5-1000 Collet Retainer for 7/8" (22.2mm) and 1" (25.4mm) tube ODs
- B10552D7-1000 Pull Rod for 7/8" (22.2mm) and 1" (25.4mm) tube ODs
- B10552D20 15 ft. (4.6M) Hydraulic Hose Assembly

## Spares & Accessories:

- M5783-00 110V Electric Hydraulic Pump:  
You must have this pump in order to properly operate the Collet Style Tube Tugger.
- M5783-00-220 220V Electric Hydraulic Pump:  
You must either purchase or already have this pump on order to properly operate the Collet Style Tube Tugger.
- Tool Kit: Consists of (1) Collet Set, (1) Draw Bar, and (1) Nose Piece.  
Recommend quantity of 1 for each tube puller purchased.
- Collet Set: Consists of (1) Collet, (1) Flat Spring, and (1) O-ring.  
Recommend quantity of 2 per 1,000 tubes to be pulled.
- Draw Bar: Recommend quantity of 1 per 1,000 tubes to be pulled.
- Nose Piece: Recommend quantity of 1 per 10,000 tubes to be pulled.
- TCB20-33 Counter Balance.

| Tube OD | BWG   | *Tool Kit      | **Collet Set  | Draw Bar      | Nose Piece    | Flat Spring   | O-Ring   |
|---------|-------|----------------|---------------|---------------|---------------|---------------|----------|
| 5/8"    | 18-20 | B10552-625KIT  | B10552D3-625  | B10552D2-625  | B10552D4-625  | B10552D31-62  | P8309-8A |
| 3/4"    | 16-20 | B10552-750KIT  | B10552D3-750  | B10552D2-750  | B10552D4-750  | B10552D31-62  | P8309-8A |
| 7/8"    | 16-20 | B10552-875KIT  | B10552D3-875  | B10552D2-1000 | B10552D4-875  | B10552D31-87  | P8309-11 |
| 1"      | 16-20 | B10552-1000KIT | B10552D3-1000 | B10552D2-1000 | B10552D4-1000 | B10552D31-100 | P8309-11 |

# Cyclgrip Semi-Continuous Tube Puller

## Tube Size

- 0.500" to 1.000"  
(12.7 to 25.4mm) OD

Elliott's M5630-00 Cyclgrip Semi-Continuous Tube Puller is an engineered product that continuously pulls chiller, heat exchanger, and condenser tubes after the tubes have been pulled free from the tube sheet, making it the ideal companion for the Collet Style Tube Tugger. The Cyclgrip's unique design allows it to adjust to tube sizes without any additional tooling or tool adjustments. The puller's slim profile allows side tube mounting adjacent to water box and channel plates.

Additionally, the Cyclgrip easily pulls tubes that have been expanded into baffle or support plates, eliminating the use of tiresome slam hammers and accelerating the tube removal.

## Features & Benefits:

- Lightweight & compact design - easy to move in tight areas.
- 10 ft (3.3M) per minute pulling action - greater productivity.
- Simple design - easy to maintain.
- No extra tooling required - lower tooling expense.

## How To Order:

1. Choose the M5630-00 Cyclgrip Semi-Continuous Tube Puller Package.
2. Choose spares & accessories.

The M5630-00 Cyclgrip Semi-Continuous Tube Puller package includes:

- Extractor Unit
- 15 ft (4.6M) Hydraulic Hose
- Control Cable
- Carrying Case

## Spares & Accessories:

- M5783-00 110V Electric Hydraulic Pump: You must either purchase or already have this pump on order to properly operate the Cyclgrip.
- M5783-00-220 220V Electric Hydraulic Pump: You must either purchase or already have this pump on order to properly operate the Cyclgrip.
- TCB20-33 Counter Balance.



## Specifications:

- Pulled tube projection required: 3" (76.2mm)
- Face plate dimensions: 3.75" (95.3mm) wide x 2.94" (74.7mm) high
- Stroke length: 5" (127.0mm)
- Pulling rate: 10'/min. (3.3M/min.)
- Height: 10.75" (273.0mm)
- Length: 8.44" (214.4mm)
- Width: 4.13" (104.9mm)
- Weight: 16 Lbs. (7.3 Kg)

## Tube Size

- 0.625" to 1.250"  
(15.9 to 31.8mm) OD

Elliott's Model 80-40125 Tube Tugger is a powerful continuous hydraulic tube pulling system for removing any type of tube material effortlessly from heat exchangers, chillers, and other heat transfer vessels.

With its 30 Ton pulling capacity, the Elliott Tube Tugger breaks expanded tube sheet joint bonds. The tugger then takes over and continuously pulls the tube when any obstructions are met. In many applications, tubes can be pulled from both tube sheets from one end of the heat exchanger.

The Tube Tugger's compact length of 15" (381.0mm) allows it to be used in confined space areas. For close clearance conditions or for extended reach, Nose Piece Extensions are available. Contact Customer Service for details.

### Features & Benefits:

- Portable ram & pump - easy to move in tight areas.
- High production pulling action - lower labor cost.
- Best value - more productivity & less capital investment.

### How To Order:

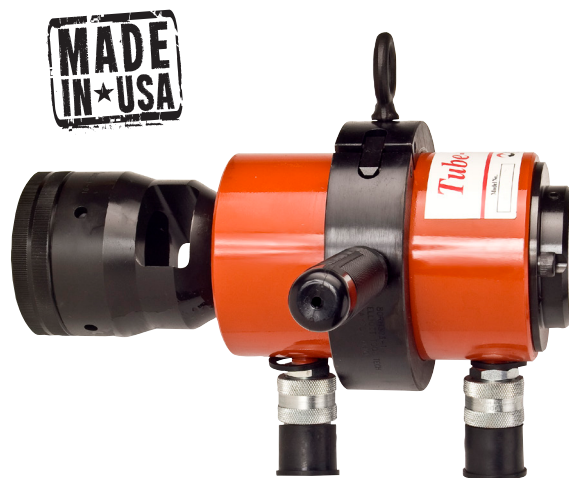
1. Specify tube size(s) to be pulled *See table on page 16.*
2. Choose spares & accessories.

The 80-40125 Tube Tugger kit includes:

- Tube Pulling Hydraulic Cylinder
- Suspension Bracket Assembly with Side Handles
- Collet Holder Assembly
- (2) 15 ft. (4.6M) Hydraulic Hose
- Release Fork
- Set of Spanner Wrenches

### Spares & Accessories:

- Hydraulic Pump: M5773-00 110V Electric Pump, M5776-00 220V Electric Pump, M5775-00 Pneumatic Pump. You must either purchase or already have one of these pumps in order to properly operate the Tube Tugger.
- TCB48-66 Counter Balance
- Spear: Recommend quantity of 1 per 200 tubes pulled in light applications; 1 per 75 tubes for heavy applications. *See table on page 16.*
- Collet Set: Recommend quantity of 1 per 1,000 tubes pulled in light applications; 1 per 250 tubes for heavy applications. *See table on page 16.*
- Nose Piece: Recommend quantity of 1 per 10,000 tubes pulled. *See table on page 16.*



### Specifications:

- Capacity: 30 Ton (27.2Mt).
- Stroke: 3.000" (76.2mm).
- Tugger Diameter: 6.500" (165.1mm).
- Lengths:
  - Collapsed: 12.940" (329.0mm).
  - Extended: 15.940" (405.0mm).
- Length Across Handles: 18.250" (464.0mm).
- Weight: 46 Lbs. (21.0Kg).

# Super Tube Tugger

## Tube Size

- 1.500" to 2.000"  
(38.1 to 50.8mm) OD

Elliott's Model 80-40200 Super Tube Tugger is a powerful continuous hydraulic tube pulling system for removing any type of tube material effortlessly from boilers and surface condensers.

With its 60 Ton pulling capacity, the Elliott Super Tube Tugger breaks expanded tube sheet joint bonds. The tugger then takes over and continuously pulls the tube when any obstructions are met.

The Super Tube Tugger's compact length of 18" (457.0mm) allows it to be used in confined space areas.

## Features & Benefits:

- Portable ram & pump - easy to maneuver in tight areas.
- High production pulling action - lower labor cost.
- High tonnage - makes difficult job easy.

## How To Order:

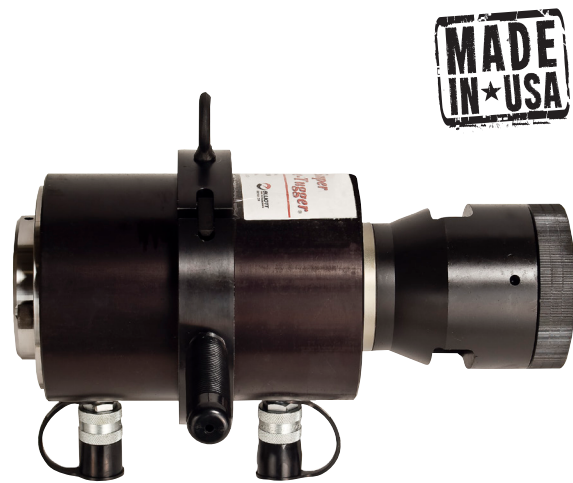
1. Specify tube size(s) to be pulled *See table on page 16.*
2. Choose spares & accessories.

The 80-40200 Super Tube Tugger kit includes:

- Tube Pulling Hydraulic Cylinder
- Suspension Bracket Assembly with Side Handles
- Collet Holder Assembly
- (2) 15 ft. (4.6M) Hydraulic Hose
- Release Fork
- Set of Spanner Wrenches

## Spares & Accessories:

- Hydraulic Pump: M5773-00 110V Electric Pump, M5776-00 220V Electric Pump, M5775-00 Pneumatic Pump. You must either purchase or already have one of these pumps in order to properly operate the Super Tube Tugger.
- TCB66-88 Counter Balance
- Spear: Recommend quantity of 1 per 200 tubes pulled in light applications; 1 per 75 tubes for heavy applications. *See table on page 16.*
- Collet Set: Recommend quantity of 1 per 1,000 tubes pulled in light applications; 1 per 250 tubes for heavy applications. *See table on page 16.*
- Nose Piece: Recommend quantity of 1 per 10,000 tubes pulled. *See table on page 16.*



## Specifications:

- Capacity: 60 Ton (54.4Mt).
- Stroke: 4.000" (101.0mm).
- Tugger Diameter: 8.500" (215.9mm).
- Lengths:
  - Collapsed: 18.000" (457.0mm).
  - Extended: 22.000" (559.0mm).
- Length Across Handles: 18.250" (464.0mm).
- Weight: 62 Lbs. (28.0Kg).

### Tube Size

- 0.625" to 2.000" (15.9 to 50.8mm) OD

Elliott's TT Spears are used with the Elliott Tube Tugger or Super Tube Tugger to successfully pull tubes in chillers, heat exchangers, condensers, fin fan coolers, and boilers.

Simply size the spear, apply spear lubricant on the pulling teeth, and then set the spear by employing a hand ratchet or impact wrench. To relieve pressure, back the spear off and then employ the Tube Tugger or Super Tube Tugger to successfully remove the tube.

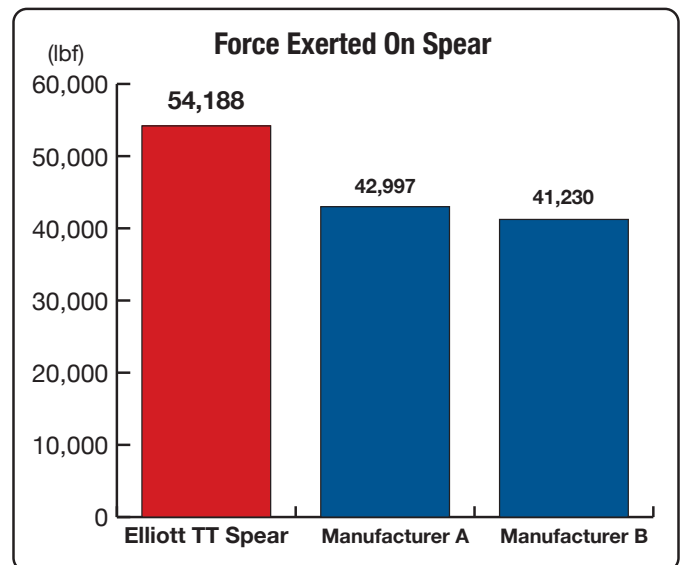


### Features & Benefits:

- New, innovative design means the best tool life possible at a competitive price.
- The best value spear on the market.
- Engineered design lowers the chance that the gripping end of the spear will break off in the tube, saving time, money and hassle.

### How To Order:

1. Specify tube size(s) to be pulled.
2. Choose spares & accessories.



### Spares & Accessories:

- P8788 Spear Lubricant: Highly recommended for use on spear threads to greatly increase spear life.

# Tube Tugger and Super Tube Tugger Spares & Accessories

| Tube OD         | BWG   | Spear     | Minimum Spear<br>*Diameter |      | Maximum Spear<br>*Diameter |      | Male Sq.<br>Size | Nose Piece   | *Collet Set with O-Ring |
|-----------------|-------|-----------|----------------------------|------|----------------------------|------|------------------|--------------|-------------------------|
|                 |       |           | Inch                       | mm   | Inch                       | mm   |                  |              |                         |
| 5/8" (15.9mm)   | 7     | TT625-7   | 0.245                      | 6.2  | 0.385                      | 9.8  | 1/2"             | 80-40125N062 | 80-40125C062            |
|                 | 8-9   | TT625-8   | 0.280                      | 7.1  | 0.432                      | 11.0 |                  |              |                         |
|                 | 10-12 | TT625-10  | 0.342                      | 8.7  | 0.482                      | 12.2 |                  |              |                         |
|                 | 13-15 | TT625-13  | 0.425                      | 10.8 | 0.545                      | 13.8 |                  |              |                         |
|                 | 16-18 | TT625-16  | 0.485                      | 12.3 | 0.589                      | 15.0 |                  |              |                         |
|                 | 19-24 | TT625-19  | 0.531                      | 13.5 | 0.615                      | 15.6 |                  |              |                         |
| 3/4" (19.1mm)   | 7     | TT750-7   | 0.370                      | 9.4  | 0.528                      | 13.4 | 5/8"             | 80-40125N075 | 80-40125C075            |
|                 | 8-9   | TT750-8   | 0.405                      | 10.3 | 0.576                      | 14.6 |                  |              |                         |
|                 | 10-12 | TT750-10  | 0.467                      | 11.9 | 0.625                      | 15.9 |                  |              |                         |
|                 | 13-15 | TT750-13  | 0.550                      | 14.0 | 0.685                      | 17.4 |                  |              |                         |
|                 | 16-18 | TT750-16  | 0.610                      | 15.5 | 0.727                      | 18.5 |                  |              |                         |
|                 | 19-24 | TT750-19  | 0.656                      | 16.7 | 0.750                      | 19.1 |                  |              |                         |
| 7/8" (22.2mm)   | 7     | TT875-7   | 0.495                      | 12.6 | 0.653                      | 16.6 |                  | 80-40125N087 | 80-40125C087            |
|                 | 8-9   | TT875-8   | 0.530                      | 13.5 | 0.701                      | 17.8 |                  |              |                         |
|                 | 10-12 | TT875-10  | 0.592                      | 15.0 | 0.750                      | 19.1 |                  |              |                         |
|                 | 13-15 | TT875-13  | 0.675                      | 17.1 | 0.810                      | 20.6 |                  |              |                         |
|                 | 16-18 | TT875-16  | 0.735                      | 18.7 | 0.852                      | 21.6 |                  |              |                         |
|                 | 19-24 | TT875-19  | 0.781                      | 19.8 | 0.875                      | 22.2 |                  |              |                         |
| 1" (25.4mm)     | 7     | TT1000-7  | 0.620                      | 15.7 | 0.778                      | 19.8 | 3/4"             | 80-40125N100 | 80-40125C100            |
|                 | 8-9   | TT1000-8  | 0.655                      | 16.6 | 0.826                      | 21.0 |                  |              |                         |
|                 | 10-12 | TT1000-10 | 0.717                      | 18.2 | 0.875                      | 22.2 |                  |              |                         |
|                 | 13-15 | TT1000-13 | 0.800                      | 20.3 | 0.935                      | 23.7 |                  |              |                         |
|                 | 16-18 | TT1000-16 | 0.860                      | 21.8 | 0.977                      | 24.8 |                  |              |                         |
|                 | 19-24 | TT1000-19 | 0.906                      | 23.0 | 1.000                      | 25.4 |                  |              |                         |
| 1-1/4" (31.8mm) | 7     | TT1250-7  | 0.870                      | 22.1 | 1.028                      | 26.1 | 1"               | 80-40125N125 | 80-40125C125            |
|                 | 8-9   | TT1250-8  | 0.905                      | 23.0 | 1.076                      | 27.3 |                  |              |                         |
|                 | 10-12 | TT1250-10 | 0.967                      | 24.6 | 1.125                      | 28.6 |                  |              |                         |
|                 | 13-15 | TT1250-13 | 1.050                      | 26.7 | 1.185                      | 30.1 |                  |              |                         |
|                 | 16-18 | TT1250-16 | 1.110                      | 28.2 | 1.227                      | 31.2 |                  |              |                         |
|                 | 19-24 | TT1250-19 | 1.156                      | 29.4 | 1.250                      | 31.8 |                  |              |                         |
| 1-1/2" (38.1mm) | 7     | TT1500-7  | 1.120                      | 28.4 | 1.278                      | 32.5 |                  | 80-40200N150 | 80-40200C150            |
|                 | 8-9   | TT1500-8  | 1.155                      | 29.3 | 1.326                      | 33.7 |                  |              |                         |
|                 | 10-12 | TT1500-10 | 1.217                      | 30.9 | 1.375                      | 34.9 |                  |              |                         |
|                 | 13-15 | TT1500-13 | 1.300                      | 33.0 | 1.435                      | 36.4 |                  |              |                         |
|                 | 16-18 | TT1500-16 | 1.360                      | 34.5 | 1.477                      | 37.5 |                  |              |                         |
|                 | 19-24 | TT1500-19 | 1.406                      | 35.7 | 1.500                      | 38.1 |                  |              |                         |
| 1-3/4" (44.5mm) | 7     | TT1750-7  | 1.370                      | 34.8 | 1.528                      | 38.8 |                  | 80-40200N175 | 80-40200C175            |
|                 | 8-9   | TT1750-8  | 1.405                      | 35.7 | 1.576                      | 40.0 |                  |              |                         |
|                 | 10-12 | TT1750-10 | 1.467                      | 37.3 | 1.625                      | 41.3 |                  |              |                         |
|                 | 13-15 | TT1750-13 | 1.550                      | 39.4 | 1.685                      | 42.8 |                  |              |                         |
|                 | 16-18 | TT1750-16 | 1.610                      | 40.9 | 1.727                      | 43.9 |                  |              |                         |
|                 | 19-24 | TT1750-19 | 1.656                      | 42.1 | 1.750                      | 44.5 |                  |              |                         |
| 2" (50.8mm)     | 7     | TT2000-7  | 1.620                      | 41.1 | 1.778                      | 45.2 |                  | 80-40200N200 | 80-40200C200            |
|                 | 8-9   | TT2000-8  | 1.655                      | 42.0 | 1.826                      | 46.4 |                  |              |                         |
|                 | 10-12 | TT2000-10 | 1.717                      | 43.6 | 1.875                      | 47.6 |                  |              |                         |
|                 | 13-15 | TT2000-13 | 1.800                      | 45.7 | 1.935                      | 49.1 |                  |              |                         |
|                 | 16-18 | TT2000-16 | 1.860                      | 47.2 | 1.977                      | 50.2 |                  |              |                         |
|                 | 19-24 | TT2000-19 | 1.906                      | 48.4 | 2.000                      | 50.8 |                  |              |                         |

\* O-Ring number P8309-225 is supplied with all Collet Sets.

Spears are also available in 48" reach. Contact customer service for details.

Elliott highly recommends using P8788 Spear Lubricant with your spears to greatly increase spear life. Simply brush the lubricant on the spear teeth after every tube.

## Tube Size

- 0.375" to 3.000"  
(9.5 to 63.5mm) OD

Elliott's Model 80-40130 Stub Tugger is a powerful hydraulic tube pulling system for removing tubes from both heat exchangers and boilers.

The Elliott Stub Tugger is compatible with other competitive spear type tube pullers and its compact length of 18" (457.0mm) allows it to be used in confined space areas.

## Features & Benefits:

- Extensive OD tube range - more versatility.
- Uses E-series spears - lower tooling cost.
- Hydraulic Cylinder Strike Plate - tool can be used as a slide hammer while still protecting the piston and seals, which increases convenience and efficiency.

## How To Order:

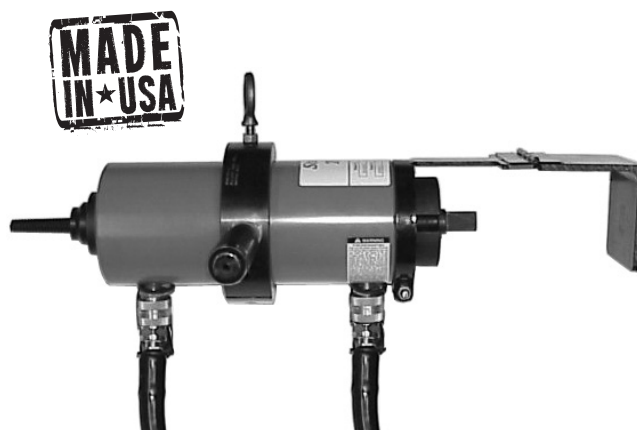
1. Specify tube size(s) to be pulled.
2. Choose spares & accessories.

The 80-40130 Stub Tugger kit includes:

- Tube Pulling Hydraulic Cylinder
- Suspension Bracket Assembly with Side Handles
- Nose Piece Adapter
- Load Cap
- Safety Shield
- (2) 15 ft. (4.6M) Hydraulic Hose

## Spares & Accessories:

- Hydraulic Pump: M5773-00 110V Electric Pump, M5776-00 220V Electric Pump, M5775-00 Pneumatic Pump, or 80-36102D3 Hand Pump. You must either purchase or already have one of these pumps in order to properly operate the Stub Tugger.
- TCB48-66 Counter Balance.
- Spear: Recommend quantity of 1 per 250 tubes pulled in light applications; 1 per 100 tubes for heavy applications *See table on page 21.*
- Spear Extension *See table on page 22.*
- Extension Chair *See table on page 22.*
- 80-3055-3-00 Spear Adapter: Recommend 1 spare always plus quantity of 1 per 500 tubes pulled in light applications; 1 per 200 tubes for heavy applications *See table on page 22.*
- 80-3055-4 Horseshoe Lock: Recommend quantity of 1 per 10,000 tubes pulled *See table on page 22.*



## Specifications:

- Capacity: 30 Ton (27.2Mt).
- Stroke: 6.000" (152.4mm).
- Tugger Diameter: 6.500" (152.4mm).
- Lengths:
  - Collapsed: 18.000" (457.0mm).
  - Extended: 22.000" (559.0mm).
- Length Across Handles: 18.250" (464.0mm).
- Weight: 40 Lbs. (18.0Kg).

# Hydraulic Pumps

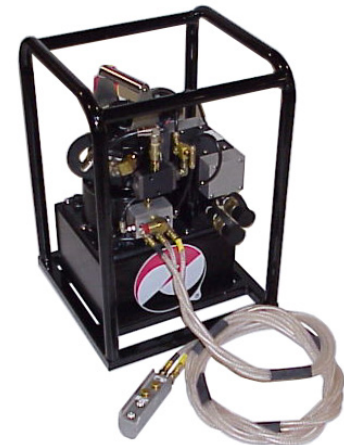
Elliott's hydraulic pumps are used to power the Collet Style Tube Tugger, Cyclgrip Semi-Continuous Puller, Tube Tuggers, and Stub Tugger. The hydraulic pumps' compact design is ideal for use in confined work areas. Other key features include an integral gauge, protective roll cage, and hydraulic quick disconnect.

## Features & Benefits:

- Hydraulic Pump Run & Pressure On Demand - pump only runs when pendant switch is activated to reduce the size of the oil reservoir and increase efficiency.

## How To Order:

- Determine which Elliott puller(s) you will be using since this determines which hydraulic pump you will require.
- Choose your preference of hydraulic pump type: 110V electric, 220V electric, pneumatic, or hand driven.



| Elliott Puller Used | Pump Type     | Part Number  | HP   | Maximum Operating Pressure (psi) | Power Requirement | Weight |      |
|---------------------|---------------|--------------|------|----------------------------------|-------------------|--------|------|
|                     |               |              |      |                                  |                   | Lbs.   | Kg.  |
| Collet Style        | 110V Electric | M5783-00     | 1.13 | 5,000                            | 25 Amps @110V     | 80     | 36.3 |
|                     | 220V Electric | M5783-00-220 | 1.13 | 5,000                            | 15 Amps @220V     | 80     | 36.3 |
| Cyclgrip            | 110V Electric | M5783-00     | 1.13 | 5,000                            | 25 Amps @110V     | 80     | 36.3 |
|                     | 220V Electric | M5783-00-220 | 1.13 | 5,000                            | 15 Amps @220V     | 80     | 36.3 |
| Tube Tugger         | 110V Electric | M5773-00     | 1.13 | 10,000                           | 25 Amps @110V     | 88     | 39.9 |
|                     | 220V Electric | M5776-00     | 1.13 | 10,000                           | 15 Amps @220V     | 88     | 39.9 |
|                     | Pneumatic     | M5775-00     | 3    | 10,000                           | 50 cfm @80 psi    | 91     | 41.3 |
| Super Tube Tugger   | 110V Electric | M5773-00     | 1.13 | 10,000                           | 25 Amps @110V     | 88     | 39.9 |
|                     | 220V Electric | M5776-00     | 1.13 | 10,000                           | 15 Amps @220V     | 88     | 39.9 |
|                     | Pneumatic     | M5775-00     | 1.13 | 10,000                           | 50 cfm @80 psi    | 91     | 41.3 |
| Stub Tugger         | 110V Electric | M5773-00     | 1.13 | 10,000                           | 25 Amps @110V     | 88     | 39.9 |
|                     | 220V Electric | M5776-00     | 1.13 | 10,000                           | 15 Amps @220V     | 88     | 39.9 |
|                     | Pneumatic     | M5775-00     | 3    | 10,000                           | 50 cfm @80 psi    | 91     | 41.3 |
|                     | Manual        | 80-36102D3   | NA   | 10,000                           | NA                | 28     | 12.7 |

Tube Size

- 3/8" to 1"  
(9.5 to 25.4mm) OD

Elliott's Model 904500 Manual Tube Puller is ideal for pulling a limited number of tubes in heat exchangers, chillers, fin fan coolers, and surface condensers.

The Manual Tube Puller incorporates a socket and thrust bearing to allow for use with an impact wrench. Elliott's manual tube puller is a great value because the puller works on tube ODs 3/8" to 1" (9.5 to 25.4mm) - all you need to purchase is a nose piece for each tube OD. With most competitor pullers, you need to buy a separate puller for each tube size! E Series spears must be purchased separately.

The easy to use 904500 Manual Tube Puller allows you to pull tubes at a minimum tooling cost!



*Spear and nose pieces must be purchased separately.*

Features & Benefits:

- One puller accommodates tube OD sizes 3/8" to 1" (9.5 to 25.4mm) - only need to purchase nose piece.
- Uses standard spears - lower tool cost.
- Minimum investment - lower tool cost.
- Manual tool - no capital expense for pump & ram.
- Compact - easy to store.

How To Order:

1. Specify tube size(s) to be cut.
2. Choose spares & accessories.

| Tube OD | Nose Piece |
|---------|------------|
| 3/8"    | 904502-05  |
| 1/2"    | 904502-04  |
| 5/8"    | 904502-01  |
| 3/4"    | 904502-02  |
| 7/8"    | 904502-06  |
| 1"      | 904502-03  |

Spares & Accessories:

- Spears: Recommend quantity of 1 per 250 tubes to be pulled. *See table on page 21.*
- Nose Pieces: Recommend quantity of 1 per 10,000 tubes to be pulled. *See table above.*

# E-Series Hex Spears

## Stub Tugger & Manual Tube Puller Accessories

### Tube Size

- 0.375" to 3.000" (9.5 to 76.2mm) OD

Elliott's E Series Hex Spears are used with the Elliott Stub Tugger or Manual Tube Puller to successfully pull tubes in chillers, heat exchangers, condensers, fin fan coolers, and boilers.

Simply size the spear, apply spear lubricant on the pulling teeth, and then set the spear by employing a hand ratchet or impact wrench. To aid in the removal of the tube stub from the spear, back the spear off and then employ the Stub Tugger or Manual Tube Puller to successfully remove the tube.

### Features & Benefits:

- New, innovative design means the best tool life possible at a competitive price.
- The best value spear on the market.
- Each spear is rated to withstand a minimum of 120,000 psi tensile strength to increase pulling capacity and tool life.
- Engineered design lowers the chance that the gripping end of the spear will break off in the tube, saving time, money and hassle.

### How To Order:

1. Specify tube size(s) to be pulled.

*Recommend quantity of 1 per 250 tubes pulled in light applications, 1 per 100 for heavy applications.*

2. Choose spares & accessories.

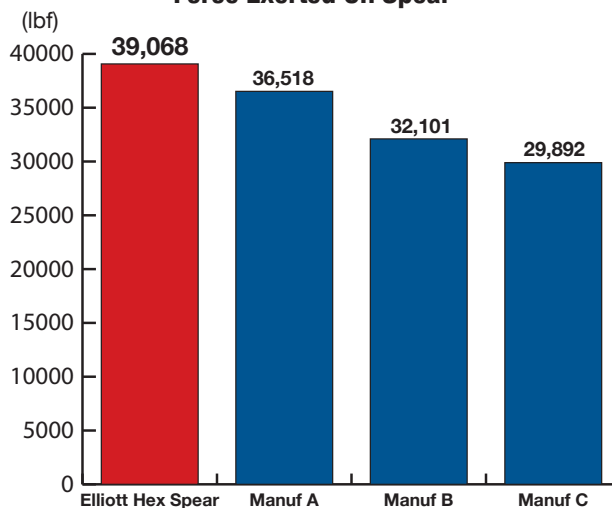
### 1" (25.4mm) and Smaller Spears with Male Adapter Threads



### 1-1/4" (31.8mm) and Larger Spears with Female Adapter Threads



### Force Exerted On Spear



### Spares & Accessories:

- P8788 Spear Lubricant: Highly recommended for use on spear threads to greatly increase spear life.

# E-Series Hex Spears

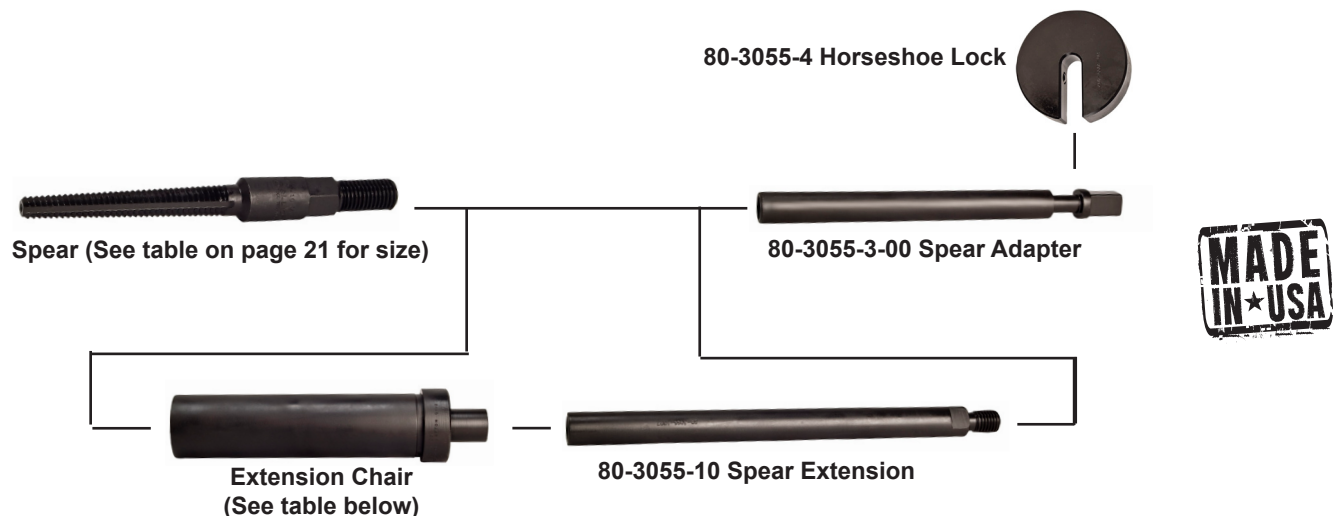
## Stub Tugger & Manual Tube Puller Accessories

| Tube OD | BWG   | Part #   | "A" Ø |      | Hex Size  |
|---------|-------|----------|-------|------|-----------|
|         |       |          | Inch  | mm   |           |
| 3/8"    | 16-17 | E375-16  | 0.240 | 6.1  | 5/8" Flat |
|         | 18-19 | E375-18  | 0.272 | 6.9  |           |
|         | 20-22 | E375-20  | 0.295 | 7.5  |           |
| 1/2"    | 16-17 | E500-16  | 0.365 | 9.3  | 7/8"      |
|         | 18-19 | E500-18  | 0.397 | 10.1 |           |
|         | 20-22 | E500-20  | 0.427 | 10.9 |           |
| 5/8"    | 12-13 | E625-12  | 0.402 | 10.2 |           |
|         | 14-15 | E625-14  | 0.454 | 11.5 |           |
|         | 16-17 | E625-16  | 0.489 | 12.4 |           |
|         | 18-19 | E625-18  | 0.521 | 13.2 |           |
| 3/4"    | 20-22 | E625-20  | 0.545 | 13.8 |           |
|         | 8-9   | E750-8   | 0.410 | 10.4 |           |
|         | 10-11 | E750-10  | 0.470 | 11.9 |           |
|         | 12-13 | E750-12  | 0.520 | 13.2 |           |
|         | 14-15 | E750-14  | 0.579 | 14.7 |           |
|         | 16-17 | E750-16  | 0.614 | 15.6 |           |
| 7/8"    | 18-19 | E750-18  | 0.646 | 16.4 |           |
|         | 20-22 | E750-20  | 0.670 | 17.0 |           |
|         | 12-13 | E875-12  | 0.652 | 16.6 |           |
|         | 14-15 | E875-14  | 0.699 | 17.8 |           |
|         | 16-17 | E875-16  | 0.740 | 18.8 |           |
| 1"      | 18-19 | E875-18  | 0.760 | 19.3 |           |
|         | 20-22 | E875-20  | 0.800 | 20.3 |           |
|         | 8-9   | E1000-8  | 0.660 | 16.8 |           |
|         | 10-11 | E1000-10 | 0.720 | 18.3 |           |
|         | 12-13 | E1000-12 | 0.777 | 19.7 |           |
|         | 14-15 | E1000-14 | 0.829 | 21.1 |           |
| 1-1/4"  | 16-17 | E1000-16 | 0.864 | 22.0 |           |
|         | 18-19 | E1000-18 | 0.896 | 22.8 |           |
|         | 20-22 | E1000-20 | 0.920 | 23.3 |           |
|         | 8-9   | E1250-8  | 0.900 | 22.9 | 1-1/8"    |
|         | 10-11 | E1250-10 | 0.977 | 24.8 |           |
|         | 12-13 | E1250-12 | 1.027 | 26.1 |           |
| 1-1/2"  | 14-15 | E1250-14 | 1.079 | 27.4 |           |
|         | 16-17 | E1250-16 | 1.115 | 28.3 |           |
|         | 18-19 | E1250-18 | 1.145 | 29.1 |           |
| 1-3/4"  | 8-9   | E1500-8  | 1.165 | 29.6 | 1-1/4"    |
|         | 10-11 | E1500-10 | 1.227 | 31.2 |           |
|         | 12-13 | E1500-12 | 1.277 | 31.9 |           |
|         | 14-15 | E1500-14 | 1.329 | 33.8 |           |
| 2"      | 16-17 | E1500-16 | 1.365 | 34.7 | 1-5/8"    |
|         | 10-11 | E1750-10 | 1.462 | 37.1 |           |
|         | 12-13 | E1750-12 | 1.512 | 38.4 |           |
|         | 14-15 | E1750-14 | 1.564 | 39.7 |           |
| 2-1/2"  | 16-17 | E1750-16 | 1.600 | 40.6 |           |
|         | 7-9   | E2000-7  | 1.620 | 41.2 |           |
|         | 10-11 | E2000-10 | 1.710 | 43.4 |           |
|         | 12-13 | E2000-12 | 1.770 | 45.0 |           |
|         | 14-15 | E2000-14 | 1.820 | 46.2 |           |
|         | 16-17 | E2000-16 | 1.865 | 47.4 |           |
| 3"      | 18-19 | E2000-18 | 1.897 | 48.2 | 2-1/4"    |
|         | 7-9   | E2500-7  | 2.120 | 53.9 |           |
|         | 10-11 | E2500-10 | 2.220 | 56.4 |           |
|         | 12-13 | E2500-12 | 2.270 | 57.7 |           |
|         | 14-15 | E2500-14 | 2.320 | 58.9 | 2-3/4"    |
|         | 10-11 | E3000-10 | 2.722 | 69.1 |           |
|         | 12-13 | E3000-12 | 2.772 | 70.4 |           |
|         | 14-15 | E3000-14 | 2.820 | 71.6 |           |

# Stub Tugger & Manual Tube Puller

## Spares & Accessories

Spear and accessory items required for tube OD sizes 3/8" (9.5mm) thru 1" (25.4mm).



80-3055-10 Spear Extension and 80-3055-7 Extension Chair are recommended to allow the operator to work from the outside of the water box and channel plate applications.

Spear and accessory items required for tube OD sizes 1-1/4" (31.8mm) thru 2-1/2" (63.5mm).



| Spear Accessories                                                                   | Part #       | Description                                              |
|-------------------------------------------------------------------------------------|--------------|----------------------------------------------------------|
|  | 80-3055-3-00 | Spear Adapter                                            |
|  | 80-3055-4    | Horseshoe Lock                                           |
|  | 80-3055-5    | Male X Male Spear Extension                              |
|  | 80-3055-10   | Male X Female Spear Extension                            |
|  | 80-3055-7    | Extension Chair 1-1/4" (31.8mm) OD                       |
|                                                                                     | 80-36307     | Extension Chair 1-1/2" thru 1-3/4" (38.1 thru 44.5mm) OD |
|                                                                                     | 80-36308     | Extension Chair 2" (50.8mm) OD                           |
|                                                                                     | 80-36309     | Extension Chair 2-1/4" thru 2-1/2" (57.2 thru 63.5mm) OD |
|                                                                                     | 80-36311     | Extension Chair 3" (76.2mm) OD                           |

## Tube Size

- 0.375" to 2.000"  
(9.5 to 50.8mm) OD

Elliott's 430G Pneumatic Hammer is the recommended driving tool for Elliott's Knockout Tools and Collapsing Tools to remove tube stubs in heat exchangers or beading tubes in firetube boilers.

Knockout Tools are used to punch the tubes out of the tube sheet while Collapsing Tools collapse tubes from one end of a heat exchanger and then the tube is pulled from the other end.

The 430G Pneumatic Hammer accepts Type No. 6 0.680" (17.3mm) diameter by 2-3/8" (60.3mm) long shanks.

### Features & Benefits:

- Lightweight & compact design - easy to move in tight areas.
- Used also for tube collapsing and flaring - greater productivity.

### How To Order:

1. Choose the 430G Pneumatic Hammer package.
2. Choose spares & accessories.

The 430G Pneumatic Hammer package includes:

- Hose Whip
- Filter-Lubricator
- Carrying Case

### Spares & Accessories:

- 6070 Filter-Lubricator: Included with the 430G Pneumatic Hammer package.
- Knockout Tools: *See table on next page.*
- Collapsing Tools: *See table on next page.*



### Specifications:

- Piston Diameter & Stroke: 1-1/8" X 2" (28.6 X 50.8mm).
- Length (Overall): 14" (355.6mm).
- Blows per minute: 2,300.
- Net Weight: 17 lbs. (7 Kg.).
- Air Requirement: 30 CFM @ 90 PSI.
- Hose Diameter: 1/2" (12.7mm).

# Pneumatic Hammer

## Spares & Accessories

Elliott's Knockout Tools, also known as tube drifts, are used to punch the tubes out of a tube sheet with the 430G Pneumatic Hammer.

The Type No. 6 Shank 0.680 (17.3mm) diameter by 2-3/8" (60.3mm) long with retainer is the standard shank supplied with these tools. Other style shanks are available. Contact Customer Service for details.



Elliott's Collapsing Tools are used to collapse one end of the tube; then the tube is pulled from the other end of the heat exchanger. Collapsing tools may either be used by hand or with the 430G Pneumatic Hammer.

The Collapsing Tool with the 430G Pneumatic Hammer can also be used as a tube ripper. Simply place the ripping edge of the chisel into one of the flutes of the tube pulling spear and press the trigger, then run the chisel down the spear's flute to the end. The tube can then be easily removed from the spear by hand.

The Type No. 6 Shank 0.680 (17.3mm) diameter by 2-3/8" (60.3mm) long with retainer is the standard shank supplied with these tools. Other style shanks are available. Contact Customer Service for details.



| Tube OD          | BWG | Part #    |
|------------------|-----|-----------|
| 1/2"<br>(12.7mm) | 15  | 8496-29T6 |
|                  | 16  | 8496-30T6 |
|                  | 17  | 8496-31T6 |
|                  | 18  | 8496-32T6 |
|                  | 19  | 8496-33T6 |
|                  | 20  | 8496-34T6 |
| 5/8"<br>(15.9mm) | 10  | 8496-45T6 |
|                  | 11  | 8496-46T6 |
|                  | 12  | 8496-47T6 |
|                  | 13  | 8496-48T6 |
|                  | 14  | 8496-49T6 |
|                  | 15  | 8496-50T6 |
|                  | 16  | 8496-51T6 |
|                  | 17  | 8496-52T6 |
|                  | 18  | 8496-53T6 |
|                  | 19  | 8496-54T6 |
|                  | 20  | 8496-55T6 |
|                  | 8   | 8496-67T6 |
| 3/4"<br>(19.1mm) | 9   | 8496-68T6 |
|                  | 10  | 8496-69T6 |
|                  | 11  | 8496-70T6 |
|                  | 12  | 8496-71T6 |
|                  | 13  | 8496-72T6 |
|                  | 14  | 8496-73T6 |
|                  | 15  | 8496-74T6 |
|                  | 16  | 8496-75T6 |

| Tube OD          | BWG | Part #     |
|------------------|-----|------------|
| 3/4"<br>(19.1mm) | 17  | 8496-76T6  |
|                  | 18  | 8496-77T6  |
|                  | 19  | 8496-78T6  |
|                  | 20  | 8496-79T6  |
|                  | 10  | 8496-87T6  |
| 7/8"<br>(22.2mm) | 11  | 8496-88T6  |
|                  | 12  | 8496-89T6  |
|                  | 13  | 8496-90T6  |
|                  | 14  | 8496-91T6  |
|                  | 15  | 8496-92T6  |
|                  | 16  | 8496-93T6  |
|                  | 17  | 8496-94T6  |
|                  | 18  | 8496-95T6  |
|                  | 19  | 8496-96T6  |
|                  | 20  | 8496-97T6  |
|                  | 21  | 8496-98T6  |
|                  | 22  | 8496-99T6  |
| 1"<br>(25.4mm)   | 10  | 8496-102T6 |
|                  | 11  | 8496-103T6 |
|                  | 12  | 8496-104T6 |
|                  | 13  | 8496-105T6 |
|                  | 14  | 8496-106T6 |
|                  | 15  | 8496-107T6 |
|                  | 16  | 8496-108T6 |
|                  | 17  | 8496-109T6 |
|                  | 18  | 8496-110T6 |

| Tube OD | Part #    | Maximum Sheet |
|---------|-----------|---------------|
| 3/8"    | 8637-6T6  | 1-3/4"        |
| 1/2"    | 8637-8T6  | 2-1/2"        |
| 5/8"    | 8637-10T6 | 2-1/2"        |
| 3/4"    | 8637-12T6 | 2-5/8"        |
| 7/8"    | 8637-14T6 | 2-3/4"        |
| 1"      | 8637-16T6 | 3"            |
| 1-1/8"  | 8637-18T6 | 3-1/4"        |

| Tube OD | Part #    | Maximum Sheet |
|---------|-----------|---------------|
| 1-1/4"  | 8637-20T6 | 3-1/4"        |
| 1-3/8"  | 8637-22T6 | 3-1/4"        |
| 1-1/2"  | 8637-24T6 | 3-1/4"        |
| 1-5/8"  | 8637-26T6 | 3-3/8"        |
| 1-3/4"  | 8637-28T6 | 3-1/2"        |
| 1-7/8"  | 8637-30T6 | 4"            |
| 2"      | 8637-32T6 | 4-1/4"        |

## Tube Size

- 0.625" to 2.500"  
(15.9 to 63.5mm) OD

Elliott's 430D Jumbo Tube Buster is the recommended driving tool for Elliott's Jumbo Knockout Tools to remove tube stubs in heat exchangers, firetube boilers, and watertube boilers.

Jumbo Knockout Tools are used to punch the tubes out of the tube sheet and are available in either 8" (203.0mm) or 16" (406.0mm) reach. The tools are piloted to prevent damage to the tube sheet.

The 430D Jumbo Tube Buster uses a number 15 shank. The tool features a barrel design that captures the compression piston and the inside trigger feature permits throttle control of the tool.

## Features & Benefits:

- Lightweight & compact design - easy to move in tight areas.
- Uses retainers on tools - improved operator safety.
- Used also for tube collapsing, belling, and flaring - greater productivity.

## How To Order:

1. Choose the 430D Jumbo Tube Buster package.
2. Choose spares & accessories.

The 430D Jumbo Tube Buster package includes:

- Hose Whip
- Filter-Lubricator
- Carrying Case

## Spares & Accessories:

- 6070 Filter-Lubricator: Included with the 430D Jumbo Tube Buster package.
- Knockout Tools: Available with 8" (203.0mm) or 16" (406.0mm) reaches. *See table on next page.*



## Specifications:

- Piston Diameter & Stroke: 1-3/16" X 8"  
(30.2 X 203.2mm).
- Net Weight: 30 lbs. (13.6 Kg.).
- Air Requirement: 42 CFM @ 90 PSI.
- Hose Diameter: 1/2" (12.7mm) NPT.

# Jumbo Tube Buster Spares & Accessories

Elliott's Jumbo Knockout Tools, also known as tube drifts, are used to punch the tubes out of a tube sheet with the 430D Jumbo Tube Buster.



The 430D Jumbo Tube Buster uses shank number 15. The Jumbo Knockout Tools are available in reaches of both 8" (203.2mm) and 16" (406.4mm).

| 8" (203.2mm) Reach Jumbo Knockout Tools (Tube Drifts) |              |              |              |              |              |
|-------------------------------------------------------|--------------|--------------|--------------|--------------|--------------|
| Tube OD                                               | Gauges 10-11 | Gauges 12-13 | Gauges 14-15 | Gauges 16-17 | Gauges 18-19 |
| 5/8" (15.9mm)                                         | 8777-1010    | 8777-1012    | 8777-1014    | 8777-1016    | 8777-1018    |
| 3/4" (19.1mm)                                         | 8777-1210    | 8777-1212    | 8777-1214    | 8777-1216    | 8777-1218    |
| 7/8" (22.2mm)                                         | 8777-1410    | 8777-1412    | 8777-1414    | 8777-1416    | 8777-1418    |
| 1" (25.4mm)                                           | 8777-1610    | 8777-1612    | 8777-1614    | 8777-1616    | 8777-1618    |
| 1-1/4" (31.8mm)                                       | 8777-2010    | 8777-2012    | 8777-2014    | 8777-2016    | 8777-2018    |
| 1-1/2" (38.1mm)                                       | 8777-2410    | 8777-2412    | 8777-2414    | 8777-2416    | 8777-2418    |
| 1-3/4" (44.5mm)                                       | 8777-2810    | 8777-2812    | 8777-2814    | 8777-2816    | 8777-2818    |
| 2" (50.8mm)                                           | 8777-3210    | 8777-3212    | 8777-3214    | 8777-3216    | 8777-3218    |
| 2-1/2" (63.5mm)                                       | 8777-4010    | 8777-4012    | 8777-4014    | 8777-4016    | 8777-4018    |

| 16" (406.4mm) Reach Jumbo Knockout Tools (Tube Drifts) |              |              |              |              |              |
|--------------------------------------------------------|--------------|--------------|--------------|--------------|--------------|
| Tube OD                                                | Gauges 10-11 | Gauges 12-13 | Gauges 14-15 | Gauges 16-17 | Gauges 18-19 |
| 5/8" (15.9mm)                                          | 8777-1010-16 | 8777-1012-16 | 8777-1014-16 | 8777-1016-16 | 8777-1018-16 |
| 3/4" (19.1mm)                                          | 8777-1210-16 | 8777-1212-16 | 8777-1214-16 | 8777-1216-16 | 8777-1218-16 |
| 7/8" (22.2mm)                                          | 8777-1410-16 | 8777-1412-16 | 8777-1414-16 | 8777-1416-16 | 8777-1418-16 |
| 1" (25.4mm)                                            | 8777-1610-16 | 8777-1612-16 | 8777-1614-16 | 8777-1616-16 | 8777-1618-16 |
| 1-1/4" (31.8mm)                                        | 8777-2010-16 | 8777-2012-16 | 8777-2014-16 | 8777-2016-16 | 8777-2018-16 |
| 1-1/2" (38.1mm)                                        | 8777-2410-16 | 8777-2412-16 | 8777-2414-16 | 8777-2416-16 | 8777-2418-16 |
| 1-3/4" (44.5mm)                                        | 8777-2810-16 | 8777-2812-16 | 8777-2814-16 | 8777-2816-16 | 8777-2818-16 |
| 2" (50.8mm)                                            | 8777-3210-16 | 8777-3212-16 | 8777-3214-16 | 8777-3216-16 | 8777-3218-16 |
| 2-1/2" (63.5mm)                                        | 8777-4010-16 | 8777-4012-16 | 8777-4014-16 | 8777-4016-16 | 8777-4018-16 |

Note: Split Sleeve 430D1 is required for operating 1" (25.4mm) and larger Jumbo Knockout Tools.

## Chart to Determine Inside Diameter of Tubes\*

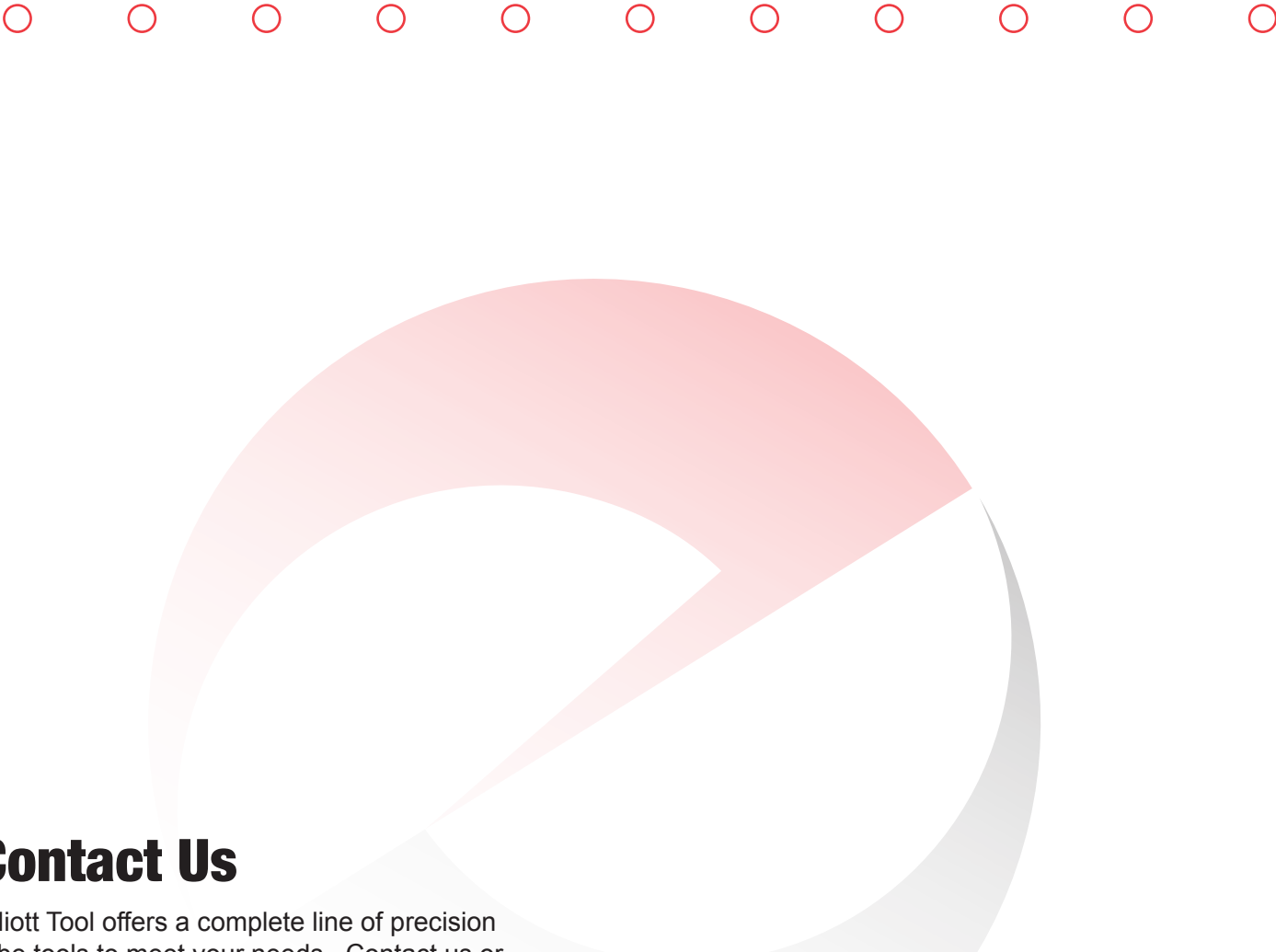
| B.W.G. | Wall Thickness | Outside Diameter Tubes |       |       |       |       |       |       |        |        |        |       |        |        |        |       |        |        |        |        |        |        |        |
|--------|----------------|------------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|-------|--------|--------|--------|-------|--------|--------|--------|--------|--------|--------|--------|
|        |                | 1/4"                   | 3/8"  | 1/2"  | 5/8"  | 3/4"  | 7/8"  | 1"    | 1 1/4" | 1 1/2" | 1 3/4" | 2"    | 2 1/4" | 2 1/2" | 2 3/4" | 3"    | 3 1/4" | 3 1/2" | 3 3/4" | 4"     | 4 1/4" | 4 1/2" |        |
|        |                | 6.35                   | 9.52  | 12.70 | 15.87 | 19.05 | 22.22 | 25.40 | 31.75  | 38.10  | 44.45  | 50.80 | 57.15  | 63.50  | 69.85  | 76.20 | 82.55  | 88.90  | 95.25  | 101.60 | 107.95 | 114.30 |        |
| 00     | inch           | 0.380                  |       |       |       |       |       | 0.115 | 0.240  | 0.490  | 0.740  | 0.990 | 1.240  | 1.490  | 1.740  | 1.990 | 2.240  | 2.490  | 2.740  | 2.990  | 3.240  | 3.490  | 3.740  |
|        | mm             | 9.65                   |       |       |       |       |       | 2.92  | 6.10   | 12.45  | 18.80  | 25.15 | 31.50  | 37.85  | 44.20  | 50.55 | 56.90  | 63.25  | 69.60  | 75.95  | 82.30  | 88.65  | 95.00  |
| 0      | inch           | 0.340                  |       |       |       | 0.070 | 0.195 | 0.320 | 0.570  | 0.820  | 1.070  | 1.320 | 1.570  | 1.820  | 2.070  | 2.320 | 2.570  | 2.820  | 3.070  | 3.320  | 3.570  | 3.820  |        |
|        | mm             | 8.64                   |       |       |       | 1.78  | 4.95  | 8.13  | 14.48  | 20.83  | 27.18  | 33.53 | 39.88  | 46.23  | 52.58  | 58.93 | 65.28  | 71.63  | 77.98  | 84.33  | 90.68  | 97.03  |        |
| 1      | inch           | 0.300                  |       |       | 0.025 | 0.150 | 0.275 | 0.400 | 0.650  | 0.900  | 1.150  | 1.400 | 1.650  | 1.900  | 2.150  | 2.400 | 2.650  | 2.900  | 3.150  | 3.400  | 3.650  | 3.900  |        |
|        | mm             | 7.62                   |       |       | 0.64  | 3.81  | 6.99  | 10.16 | 16.51  | 22.86  | 29.21  | 35.56 | 41.91  | 48.26  | 54.61  | 60.96 | 67.31  | 73.66  | 80.01  | 86.36  | 92.71  | 99.06  |        |
| 2      | inch           | 0.284                  |       |       | 0.057 | 0.182 | 0.307 | 0.432 | 0.682  | 0.932  | 1.182  | 1.432 | 1.682  | 1.932  | 2.182  | 2.432 | 2.682  | 2.932  | 3.182  | 3.432  | 3.682  | 3.932  |        |
|        | mm             | 7.21                   |       |       | 1.45  | 4.62  | 7.80  | 10.97 | 17.32  | 23.67  | 30.02  | 36.37 | 42.72  | 49.07  | 55.42  | 61.77 | 68.12  | 74.47  | 80.82  | 87.17  | 93.52  | 99.87  |        |
| 3      | inch           | 0.259                  |       |       | 0.107 | 0.232 | 0.357 | 0.482 | 0.732  | 0.982  | 1.232  | 1.482 | 1.732  | 1.982  | 2.232  | 2.482 | 2.732  | 2.982  | 3.232  | 3.482  | 3.732  | 3.982  |        |
|        | mm             | 6.58                   |       |       | 2.72  | 5.89  | 9.07  | 12.24 | 18.59  | 24.94  | 31.29  | 37.64 | 43.99  | 50.34  | 56.69  | 63.04 | 69.39  | 75.74  | 82.09  | 88.44  | 94.79  | 101.14 |        |
| 4      | inch           | 0.238                  |       | 0.024 | 0.149 | 0.274 | 0.399 | 0.524 | 0.774  | 1.024  | 1.274  | 1.524 | 1.774  | 2.024  | 2.274  | 2.524 | 2.774  | 3.024  | 3.274  | 3.524  | 3.774  | 4.024  |        |
|        | mm             | 6.05                   |       | 0.61  | 3.78  | 6.96  | 10.13 | 13.31 | 19.66  | 26.01  | 32.36  | 38.71 | 45.06  | 51.41  | 57.76  | 64.11 | 70.46  | 76.81  | 83.16  | 89.51  | 95.86  | 102.21 |        |
| 5      | inch           | 0.220                  |       | 0.060 | 0.185 | 0.310 | 0.435 | 0.560 | 0.810  | 1.060  | 1.310  | 1.560 | 1.810  | 2.060  | 2.310  | 2.560 | 2.810  | 3.060  | 3.310  | 3.560  | 3.810  | 4.060  |        |
|        | mm             | 5.59                   |       | 1.52  | 4.70  | 7.87  | 11.05 | 14.22 | 20.57  | 26.92  | 33.27  | 39.62 | 45.97  | 52.32  | 58.67  | 65.02 | 71.37  | 77.72  | 84.07  | 90.42  | 96.77  | 103.12 |        |
| 6      | inch           | 0.203                  |       | 0.094 | 0.219 | 0.344 | 0.469 | 0.594 | 0.844  | 1.094  | 1.344  | 1.594 | 1.844  | 2.094  | 2.344  | 2.594 | 2.844  | 3.094  | 3.344  | 3.594  | 3.844  | 4.094  |        |
|        | mm             | 5.16                   |       | 2.39  | 5.56  | 8.74  | 11.91 | 15.09 | 21.44  | 27.79  | 34.14  | 40.49 | 46.84  | 53.19  | 59.54  | 65.89 | 72.24  | 78.59  | 84.94  | 91.29  | 97.64  | 103.99 |        |
| 7      | inch           | 0.180                  |       | 0.140 | 0.265 | 0.390 | 0.515 | 0.640 | 0.890  | 1.140  | 1.390  | 1.640 | 1.890  | 2.140  | 2.390  | 2.640 | 2.890  | 3.140  | 3.390  | 3.640  | 3.890  | 4.140  |        |
|        | mm             | 4.57                   |       | 3.56  | 6.73  | 9.91  | 13.08 | 16.26 | 22.61  | 28.96  | 35.31  | 41.66 | 48.01  | 54.36  | 60.71  | 67.06 | 73.41  | 79.76  | 86.11  | 92.46  | 98.81  | 105.16 |        |
| 8      | inch           | 0.165                  | 0.045 | 0.170 | 0.295 | 0.420 | 0.545 | 0.670 | 0.920  | 1.170  | 1.420  | 1.670 | 1.920  | 2.170  | 2.420  | 2.670 | 2.920  | 3.170  | 3.420  | 3.670  | 3.920  | 4.170  |        |
|        | mm             | 4.19                   | 1.14  | 4.32  | 7.49  | 10.67 | 13.84 | 17.02 | 23.37  | 29.72  | 36.07  | 42.42 | 48.77  | 55.12  | 61.47  | 67.82 | 74.17  | 80.52  | 86.87  | 93.22  | 99.57  | 105.92 |        |
| 9      | inch           | 0.148                  | 0.079 | 0.204 | 0.329 | 0.454 | 0.579 | 0.704 | 0.954  | 1.204  | 1.454  | 1.704 | 1.954  | 2.204  | 2.454  | 2.704 | 2.954  | 3.204  | 3.454  | 3.704  | 3.954  | 4.204  |        |
|        | mm             | 3.76                   | 2.01  | 5.18  | 8.36  | 11.53 | 14.71 | 17.88 | 24.23  | 30.58  | 36.93  | 43.28 | 49.63  | 55.98  | 62.33  | 68.68 | 75.03  | 81.38  | 87.73  | 94.08  | 100.43 | 106.78 |        |
| 10     | inch           | 0.134                  | 0.107 | 0.232 | 0.357 | 0.482 | 0.607 | 0.732 | 0.982  | 1.232  | 1.482  | 1.732 | 1.982  | 2.232  | 2.482  | 2.732 | 2.982  | 3.232  | 3.482  | 3.732  | 3.982  | 4.232  |        |
|        | mm             | 3.40                   | 2.72  | 5.89  | 9.07  | 12.24 | 15.42 | 18.59 | 24.94  | 31.29  | 37.64  | 43.99 | 50.34  | 56.69  | 63.04  | 69.39 | 75.74  | 82.09  | 88.44  | 94.79  | 101.14 | 107.49 |        |
| 11     | inch           | 0.120                  | 0.135 | 0.260 | 0.385 | 0.510 | 0.635 | 0.760 | 1.010  | 1.260  | 1.510  | 1.760 | 2.010  | 2.260  | 2.510  | 2.760 | 3.010  | 3.260  | 3.510  | 3.760  | 4.010  | 4.260  |        |
|        | mm             | 3.05                   | 3.43  | 6.60  | 9.78  | 12.95 | 16.13 | 19.30 | 25.65  | 32.00  | 38.35  | 44.70 | 51.05  | 57.40  | 63.75  | 70.10 | 76.45  | 82.80  | 89.15  | 95.50  | 101.85 | 108.20 |        |
| 12     | inch           | 0.109                  | 0.032 | 0.157 | 0.282 | 0.407 | 0.532 | 0.657 | 0.782  | 1.032  | 1.282  | 1.532 | 1.782  | 2.032  | 2.282  | 2.532 | 2.782  | 3.032  | 3.282  | 3.532  | 3.782  | 4.032  | 4.282  |
|        | mm             | 2.77                   | 0.81  | 3.99  | 7.16  | 10.34 | 13.51 | 16.69 | 19.86  | 26.21  | 32.56  | 38.91 | 45.26  | 51.61  | 57.96  | 64.31 | 70.66  | 77.01  | 83.36  | 89.71  | 96.06  | 102.41 | 108.76 |
| 13     | inch           | 0.095                  | 0.060 | 0.185 | 0.310 | 0.435 | 0.560 | 0.685 | 0.810  | 1.060  | 1.310  | 1.560 | 1.810  | 2.060  | 2.310  | 2.560 | 2.810  | 3.060  | 3.310  | 3.560  | 3.810  | 4.060  | 4.310  |
|        | mm             | 2.41                   | 1.52  | 4.70  | 7.87  | 11.05 | 14.22 | 17.40 | 20.57  | 26.92  | 33.27  | 39.62 | 45.97  | 52.32  | 58.67  | 65.02 | 71.37  | 77.72  | 84.07  | 90.42  | 96.77  | 103.12 | 109.47 |
| 14     | inch           | 0.083                  | 0.084 | 0.209 | 0.334 | 0.459 | 0.584 | 0.709 | 0.834  | 1.084  | 1.334  | 1.584 | 1.834  | 2.084  | 2.334  | 2.584 | 2.834  | 3.084  | 3.334  | 3.584  | 3.834  | 4.084  | 4.334  |
|        | mm             | 2.11                   | 2.13  | 5.31  | 8.48  | 11.66 | 14.83 | 18.01 | 21.18  | 27.53  | 33.88  | 40.23 | 46.58  | 52.93  | 59.28  | 65.63 | 71.98  | 78.33  | 84.68  | 91.03  | 97.38  | 103.73 | 110.08 |
| 15     | inch           | 0.072                  | 0.106 | 0.231 | 0.356 | 0.481 | 0.606 | 0.731 | 0.856  | 1.106  | 1.356  | 1.606 | 1.856  | 2.106  | 2.356  | 2.606 | 2.856  | 3.106  | 3.356  | 3.606  | 3.856  | 4.106  | 4.356  |
|        | mm             | 1.83                   | 2.69  | 5.87  | 9.04  | 12.22 | 15.39 | 18.57 | 21.74  | 28.09  | 34.44  | 40.79 | 47.14  | 53.49  | 59.84  | 66.19 | 72.54  | 78.89  | 85.24  | 91.59  | 97.94  | 104.29 | 110.64 |
| 16     | inch           | 0.065                  | 0.120 | 0.245 | 0.370 | 0.495 | 0.620 | 0.745 | 0.870  | 1.120  | 1.370  | 1.620 | 1.870  | 2.120  | 2.370  | 2.620 | 2.870  | 3.120  | 3.370  | 3.620  | 3.870  | 4.120  | 4.370  |
|        | mm             | 1.65                   | 3.05  | 6.22  | 9.40  | 12.57 | 15.75 | 18.92 | 22.10  | 28.45  | 34.80  | 41.15 | 47.50  | 53.85  | 60.20  | 66.55 | 72.90  | 79.25  | 85.60  | 91.95  | 98.30  | 104.65 | 111.00 |
| 17     | inch           | 0.058                  | 0.134 | 0.259 | 0.384 | 0.509 | 0.634 | 0.759 | 0.884  | 1.134  | 1.384  | 1.634 | 1.884  | 2.134  | 2.384  | 2.634 | 2.884  | 3.134  | 3.384  | 3.634  | 3.884  | 4.134  | 4.384  |
|        | mm             | 1.47                   | 3.40  | 6.58  | 9.75  | 12.93 | 16.10 | 19.28 | 22.45  | 28.80  | 35.15  | 41.50 | 47.85  | 54.20  | 60.55  | 66.90 | 73.25  | 79.60  | 85.95  | 92.30  | 98.65  | 105.00 | 111.35 |
| 18     | inch           | 0.049                  | 0.152 | 0.277 | 0.402 | 0.527 | 0.652 | 0.777 | 0.902  | 1.152  | 1.402  | 1.652 | 1.902  | 2.152  | 2.402  | 2.652 | 2.902  | 3.152  | 3.402  | 3.652  | 3.902  | 4.152  | 4.402  |
|        | mm             | 1.24                   | 3.86  | 7.04  | 10.21 | 13.39 | 16.56 | 19.74 | 22.91  | 29.26  | 35.61  | 41.96 | 48.31  | 54.66  | 61.01  | 67.36 | 73.71  | 80.06  | 86.41  | 92.76  | 99.11  | 105.46 | 111.81 |
| 19     | inch           | 0.042                  | 0.166 | 0.291 | 0.416 | 0.541 | 0.666 | 0.791 | 0.916  | 1.166  | 1.416  | 1.666 | 1.916  |        |        |       |        |        |        |        |        |        |        |
|        | mm             | 1.07                   | 4.22  | 7.39  | 10.57 | 13.74 | 16.92 | 20.09 | 23.27  | 29.62  | 35.97  | 42.32 | 48.67  |        |        |       |        |        |        |        |        |        |        |
| 20     | inch           | 0.035                  | 0.180 | 0.305 | 0.430 | 0.555 | 0.680 | 0.805 | 0.930  | 1.180  | 1.430  | 1.680 | 1.930  |        |        |       |        |        |        |        |        |        |        |
|        | mm             | 0.89                   | 4.57  | 7.75  | 10.92 | 14.10 | 17.27 | 20.45 | 23.62  | 29.97  | 36.32  | 42.67 | 49.02  |        |        |       |        |        |        |        |        |        |        |
| 21     | inch           | 0.032                  | 0.186 | 0.311 | 0.436 | 0.561 | 0.686 | 0.811 | 0.936  | 1.186  | 1.436  | 1.686 | 1.936  |        |        |       |        |        |        |        |        |        |        |
|        | mm             | 0.81                   | 4.72  | 7.90  | 11.07 | 14.25 | 17.42 | 20.60 | 23.77  | 30.12  | 36.47  | 42.82 | 49.15  |        |        |       |        |        |        |        |        |        |        |
| 22     | inch           | 0.028                  | 0.194 | 0.319 | 0.444 | 0.569 | 0.694 | 0.819 | 0.944  | 1.194  | 1.444  | 1.694 | 1.944  |        |        |       |        |        |        |        |        |        |        |
|        | mm             | 0.71                   | 4.93  | 8.10  | 11.28 | 14.45 | 17.63 | 20.80 | 23.98  | 30.33  | 36.68  | 43.03 | 49.38  |        |        |       |        |        |        |        |        |        |        |
| 23     | inch           | 0.025                  | 0.200 | 0.325 | 0.450 | 0.575 | 0.700 | 0.825 | 0.950  | 1.200  | 1.450  | 1.700 | 1.950  |        |        |       |        |        |        |        |        |        |        |
|        | mm             | 0.64                   | 5.08  | 8.26  | 11.43 | 14.61 | 17.78 | 20.96 | 24.13  | 30.48  | 36.83  | 43.18 | 49.53  |        |        |       |        |        |        |        |        |        |        |
| 24     | inch           | 0.022                  | 0.206 | 0.331 | 0.456 | 0.581 | 0.706 | 0.831 | 0.956  | 1.206  | 1.456  | 1.706 | 1.956  |        |        |       |        |        |        |        |        |        |        |
|        | mm             | 0.56                   | 5.23  | 8.41  | 11.58 | 14.76 | 17.93 | 21.11 | 24.28  | 30.63  | 36.98  | 43.33 | 49.68  |        |        |       |        |        |        |        |        |        |        |

\*Above table does not allow for tube mill tolerance.

## Table to Determine Pipe Size and Schedule Number

| Nominal Pipe Size (in.) | O.D. (in.) | Schedule Number for Pipe Sizes Wall Thickness / Inside Diameter (Inches) |  |
|-------------------------|------------|--------------------------------------------------------------------------|--|
|-------------------------|------------|--------------------------------------------------------------------------|--|





## Contact Us

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