

**ATP**  
Air Tools & Parts

**©ZAT**  
Impact Sockets

**Thor**  
Construction Tools

**THAXTON**  
Hydrostatic Test Plugs

**QUALITY GEAR**  
Custom Gears

***Pneumatic Tools. Parts. Motors. Accessories.***



Divisions of: **HY-TECH**  
ENGINEERED SOLUTIONS





# ATP

**Super Duty Industrial  
Pneumatic Tools,  
Parts and Accessories  
Since 1923**

# ○ZAT

**Super Strength Impact  
Sockets, Striking Wrenches  
and Accessories  
Since 1969**

# Thor

**Legendary Construction  
Air Tools Since 1886**

# THAXTON

**High Pressure  
Hydrostatic Test Plugs  
[thaxtonplugs.com](http://thaxtonplugs.com)**

## About **HY-TECH** *ENGINEERED SOLUTIONS*

Hy-Tech started manufacturing air tool parts in Pittsburgh, PA in 1923. Our products under the brand names of **ATP, Ozat, Thor and Thaxton** are sold in the U.S. and international markets.

We manufacture over **20,000** replacement parts offering the highest quality alternative to OEM parts and tools for many recognized brand names such as Ingersoll Rand, Chicago Pneumatic, Cleco, Top Cat and others. All parts and Ozat sockets, striking wrenches and accessories are backed by our lifetime warranty against defects in material and workmanship. Our tools have a one year warranty against defects in material and workmanship.

### **Hy-Tech's manufacturing capabilities include the following:**

- Specialize in small to mid-size precision component manufacturing
- 5-axis machining capability
- A combination of 100 CNC and manual machines
- In house gear design with cutting, broaching, shaping, and hobbing capabilities
- 3D solid modeling design software
- Dynamometer for motor performance testing
- In house certified welding capabilities
- High capability vendors for heat treating, plating, and castings (sand, investment, and die) within a 90 mile radius of our plant
- Full turn key supplier capabilities

Additional company information can be viewed at [www.hy-techinc.com](http://www.hy-techinc.com)

# **HY-TECH** *ENGINEERED SOLUTIONS*

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## The World's Most Extensive Line of Super Duty Impact Tools

Impact tools provide rotary motion from an air motor to an impact mechanism, delivering a series of impacting blows to apply torque to a threaded fastener.

Impact tools do not transmit torque reaction back to the operator enabling fasteners to be safely tightened to high torque values. Torque output is determined by the size of the tool, air pressure and SCFM, and the length of time the tool is impacting on the fastener.

### Impact Tool Applications

Impact tools are used in applications in refineries, petrochemical plants, power generation plants, railroads, paper mills, heavy off-road equipment repair, mining, steel mills, steel fabrication and structural steel erection.

### ATP Impact Mechanism / Clutch Basics

#### Twin Hammer:

Twin hammers strike balanced blows for more torque per pound than other mechanism designs. This simplified design performs well on both hard and soft draw applications, is less sensitive to air pressure changes, and has lower cost of maintenance.

#### Single "Jumbo" Hammer:

The single hammer mechanism performs similarly to the Twin Hammer, but uses a single hammer in operation.

#### Ball and Cam:

The precision ball and cam mechanism used in larger high output impact tools delivers powerful rotary impacts for high output and durability, and is ideal for soft draw applications.

#### Two Jaw:

The two jaw clutch delivers high energy per blow torque output with a high power to weight ratio. Excellent choice for tough MRO and assembly applications. Very good on soft and hard draw applications.

#### Model Nomenclature References:

|                               |                                |
|-------------------------------|--------------------------------|
| PT = Pistol Grip/Trigger      | TH = Through Hole Square Drive |
| EI = End Grip/Inside Trigger  | 5S = 5 Spline                  |
| EO = End Grip/Outside Trigger | RR = Ring Retainer             |
| LT = Lever Throttle           | 1H = 1" Square Through Hole    |

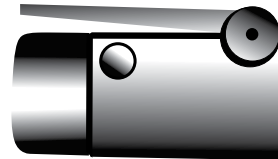
Example:

ATP 7560PT-TH = 3/4" drive, pistol grip, through hole anvil.

Where Impact Tool Models are Referenced:

- CP is a registered trademark of Chicago Pneumatic
- IR is a registered trademark of Ingersoll Rand

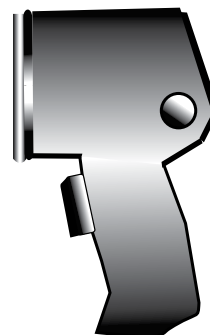
Lever Throttle



End Grip  
Outside Trigger



Pistol Grip



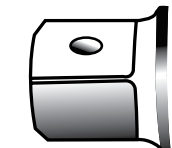
End Grip  
Inside Trigger



Spline Drive



Square Drive



# Impact Tool Selection Guide

## The Best Impact Tools are Easy to Choose

The impact tool selection guide makes it easy to choose the correct tool for your applications.

### 1/2" - 3/4" Bolt Capacity (16mm - 19mm)

| Model Series | Torque Range ft lb (Nm)*      | Page |
|--------------|-------------------------------|------|
| 50PT         | 275 (373) - 450 (610)         | 3    |
| 7560         | 560 (760) - 1,025 (1,389)     | 3    |
| 7520         | 800 (1,085) - 1,100 (1,491)   | 3    |
| 7525         | 1,100 (1,492) - 1,600 (2,169) | 3    |

### 1" - 1-3/8" Bolt Capacity (25mm - 35mm)

| Model Series | Torque Range ft lb (Nm)*      | Page |
|--------------|-------------------------------|------|
| 1011         | 1,800 (2,440) - 2,800 (3,796) | 4    |
| 1034         | 1,100 (1,491) - 1,600 (2,169) | 5    |
| 1034B9       | 500 (678) - 750 (1,000)       | 5    |
| 1040         | 1,600 (2,169) - 2,000 (2,711) | 5    |
| 1041         | 1,650 (2,240) - 2,500 (3,390) | 6    |
| 1042         | 1,900 (2,576) - 3,200 (4,338) | 6    |

### 1-3/8" - 1-1/2" Bolt Capacity (35mm - 38mm)

| Model Series | Torque Range ft lb (Nm)*      | Page |
|--------------|-------------------------------|------|
| 1550         | 2,500 (3,400) - 3,000 (4,067) | 7    |
| 1552         | 3,300 (4,474) - 4,000 (5,424) | 7    |
| 1520         | 2,500 (3,400) - 3,000 (4,067) | 7    |

### 1-1/2" - 4" Bolt Capacity (38mm - 102mm)

| Model Series | Torque Range ft lb (Nm)*           | Page |
|--------------|------------------------------------|------|
| 1578         | 5,500 (7,456) - 10,000 (13,560)    | 8    |
| 1580         | 5,900 (8,000) - 13,560 (18,383)    | 8    |
| 2582         | 10,000 (13,560) - 20,000 (27,114)  | 8    |
| 2588         | 25,000 (33,892) - 50,000 (67,784)  | 8    |
| 3599         | 42,000 (57,000) - 80,000 (108,500) | 8    |

\* Torque Range = Working Torque - Max Torque



# Super Duty 1/2" & 3/4" Class Impact Tools

3/4" models available with 1" and #4 Spline Drives



**50PT-PR**



**7560PT-TH**



**7520PT-1H**



**7525PT-TH**

## 1/2" - 3/4" Bolt Capacity (16mm - 19mm)

| Models            | Working Torque<br>ft lb (Nm) | Max Torque<br>ft lb (Nm) | Handle<br>Type | Drive<br>Size | Socket<br>Retainer | Length<br>in (mm) | Weight<br>lb (kg) | Air Inlet /<br>Hose ID in (mm) | Comparable<br>To  |
|-------------------|------------------------------|--------------------------|----------------|---------------|--------------------|-------------------|-------------------|--------------------------------|-------------------|
| <b>50PT-PR</b>    | 275 (373)                    | 450 (610)                | Pistol Grip    | 1/2" Sq.      | Pin & Ring Combo   | 6-13/16 (172.7)   | 5.6 (2.5)         | 1/4 NPT 3/8 (10)               | IR2707P1          |
| <b>7560PT-TH</b>  | 560 (760)                    | 1,000 (1,356)            | Pistol Grip    | 3/4" Sq.      | Through Hole       | 7-5/8 (193)       | 11.6 (5.2)        | 3/8 NPT 1/2 (13)               | CP6060-SASAB      |
| <b>7560PT-1H</b>  | 575 (780)                    | 1,025 (1,389)            | Pistol Grip    | 1" Sq.        | Through Hole       | 7-5/8 (193)       | 11.7 (5.3)        | 3/8 NPT 1/2 (13)               | CP6060-SASAK      |
| <b>7560PT-RR</b>  | 560 (760)                    | 1,000 (1,356)            | Pistol Grip    | 3/4" Sq.      | Ring Retainer      | 7-5/8 (193)       | 11.6 (5.2)        | 3/8 NPT 1/2 (13)               | CP6060-SASAR      |
| <b>7560PT-4S</b>  | 575 (780)                    | 1,025 (1,389)            | Pistol Grip    | #4 Spline     | Button             | 7-5/8 (193)       | 11.7 (5.3)        | 3/8 NPT 1/2 (13)               | CP6060-SASAL      |
| <b>7520PT-TH</b>  | 800 (1,085)                  | 1,100 (1,491)            | Pistol Grip    | 3/4" Sq.      | Through Hole       | 12-1/2 (317.5)    | 12 (5.4)          | 3/8 NPT 1/2 (13)               | IR2920P1          |
| <b>7520PT-1H</b>  | 800 (1,085)                  | 1,100 (1,491)            | Pistol Grip    | 1" Sq.        | Through Hole       | 12-1/2 (317.5)    | 12 (5.4)          | 3/8 NPT 1/2 (13)               | IR2920P3          |
| <b>7525PT-TH</b>  | 1,100 (1,492)                | 1,450 (1,966)            | Pistol Grip    | 3/4" Sq.      | Through Hole       | 8-15/16 (226)     | 12.5 (5.6)        | 3/8 NPT 1/2 (13)               | IR2925P1Ti        |
| <b>7525PT-1H</b>  | 1,100 (1,492)                | 1,450 (1,966)            | Pistol Grip    | 1" Sq.        | Through Hole       | 8-15/16 (226)     | 12.5 (5.6)        | 3/8 NPT 1/2 (13)               | IR2925P3Ti        |
| <b>7525RB-TH*</b> | 1,400 (1,898)                | 1,600 (2,169) rev        | Pistol Grip    | 3/4" Sq.      | Through Hole       | 8-15/16 (226)     | 12.5 (5.6)        | 3/8 NPT 1/2 (13)               | IR2925RBP1Ti      |
| <b>7525RB-1H*</b> | 1,400 (1,898)                | 1,600 (2,169) rev        | Pistol Grip    | 1" Sq.        | Through Hole       | 8-15/16 (226)     | 12.5 (5.6)        | 3/8 NPT 1/2 (13)               | IR2925RBP3Ti      |
| <b>7525PT-4S</b>  | 1,100 (1,492)                | 1,450 (1,966)            | Pistol Grip    | #4 Spline     | Button             | 8-15/16 (226)     | 12.5 (5.6)        | 3/8 NPT 1/2 (13)               | IR2925P/#4 Spline |

\* Reverse Bias Power Models. All models available with extended anvil. Contact ATP Customer Service for more information.  
See Ozat Sockets starting on page 36. Socket retaining accessories are provided for all sockets in the Ozat section.

# Super Duty 1" Drive Class Impact Tools

Available with #5 Spline Drive



**1011PT-TH**



## 1011 Series

- Two jaw clutch transfers high power
- Three piece housing for ease of repair
- Steel housing clutch design
- Integral muffler for noise reduction
- Great power to weight ratio
- Great for hard and soft draw applications

**1011EI-5S**



## 1" - 1-3/8" Bolt Capacity (25mm - 35mm)

| Models           | Working Torque<br>ft lb (Nm) | Max Torque<br>ft lb (Nm) | Handle<br>Type | Drive<br>Size | Socket<br>Retainer | Length<br>in (mm) | Weight<br>lb (kg) | Air Inlet /<br>Hose ID in (mm) | Comparable<br>To |
|------------------|------------------------------|--------------------------|----------------|---------------|--------------------|-------------------|-------------------|--------------------------------|------------------|
| <b>1011PT-TH</b> | 1,800 (2,440)                | 2,800 (3,796)            | Pistol Grip    | 1" Sq.        | Through Hole       | 10-11/16 (271.7)  | 23.1 (10.4)       | 1/2 NPT 3/4 (19)               | CP0611-PRS       |
| <b>1011PT-5S</b> | 1,800 (2,440)                | 2,800 (3,796)            | Pistol Grip    | #5 Spline     | Button             | 10-11/16 (271.7)  | 23.1 (10.4)       | 1/2 NPT 3/4 (19)               | CP0611           |
| <b>1011EI-TH</b> | 1,800 (2,440)                | 2,800 (3,796)            | End Grip I-T   | 1" Sq.        | Through Hole       | 12-1/2 (317.5)    | 22.5 (10.2)       | 1/2 NPT 3/4 (19)               | CP0611-PASED     |
| <b>1011E0-TH</b> | 1,800 (2,440)                | 2,800 (3,796)            | End Grip O-T   | 1" Sq.        | Through Hole       | 12-1/2 (317.5)    | 22.5 (10.2)       | 1/2 NPT 3/4 (19)               | CP0611-GASED     |
| <b>1011EI-5S</b> | 1,800 (2,440)                | 2,800 (3,796)            | End Grip I-T   | #5 Spline     | Button             | 12-1/2 (317.5)    | 22.5 (10.2)       | 1/2 NPT 3/4 (19)               | CP0611-PASEL     |
| <b>1011E0-5S</b> | 1,800 (2,440)                | 2,800 (3,796)            | End Grip O-T   | #5 Spline     | Button             | 12-1/2 (317.5)    | 22.5 (10.2)       | 1/2 NPT 3/4 (19)               | CP0611-GASEL     |

All models available with extended anvil. Contact ATP Customer Service for more information.

See Ozat Sockets starting on page 36. Socket retaining accessories are provided for all sockets in the Ozat section.

# Super Duty 1" Drive Class Impact Tools

Available with #5 Spline Drive



**1034EI-THB9**

## 1034 & 1040 Series

- High output twin hammer mechanisms
- Bronze end plates for increased motor durability
- Integral muffler for noise reduction
- Steel hammer case
- Three piece housing for ease of repair
- Available in pistol grip and end grip models



**1040EI-TH**

## 1" - 1-3/8" Bolt Capacity (25mm - 35mm)

| Models             | Working Torque<br>ft lb (Nm) | Max Torque<br>ft lb (Nm) | Handle<br>Type | Drive<br>Size | Socket<br>Retainer | Length<br>in (mm) | Weight<br>lb (kg) | Air Inlet /<br>Hose ID in (mm) | Comparable<br>To |
|--------------------|------------------------------|--------------------------|----------------|---------------|--------------------|-------------------|-------------------|--------------------------------|------------------|
| <b>1034EI-TH</b>   | 1,100 (1,491)                | 1,500 (2,034)            | End Grip I-T   | 1" Sq.        | Through Hole       | 11-1/4 (285.7)    | 19 (8.6)          | 1/2 NPT 3/4 (19)               | IR2934B2         |
| <b>1034EO-TH</b>   | 1,100 (1,491)                | 1,500 (2,034)            | End Grip O-T   | 1" Sq.        | Through Hole       | 11-1/4 (285.7)    | 19 (8.6)          | 1/2 NPT 3/4 (19)               | IR2934A2         |
| <b>1034EI-5S</b>   | 1,100 (1,491)                | 1,600 (2,169)            | End Grip I-T   | #5 Spline     | Button             | 11-1/4 (285.7)    | 19 (8.6)          | 1/2 NPT 3/4 (19)               | IR2934B1         |
| <b>1034EO-5S</b>   | 1,100 (1,491)                | 1,600 (2,169)            | End Grip O-T   | #5 Spline     | Button             | 11-1/4 (285.7)    | 19 (8.6)          | 1/2 NPT 3/4 (19)               | IR2934A1         |
| <b>1034EI-THB9</b> | 500 (678)                    | 750 (1,000)              | End Grip I-T   | 1" Sq.        | Through Hole       | 18-3/4 (476.2)    | 35.7 (16.1)       | 1/2 NPT 3/4 (19)               | IR2934B9         |
| <b>1040PT-TH</b>   | 1,600 (2,169)                | 2,000 (2,711)            | Pistol Grip    | 1" Sq.        | Through Hole       | 9-7/8 (250.9)     | 24 (10.8)         | 1/2 NPT 3/4 (19)               | IR2940P2         |
| <b>1040PT-5S</b>   | 1,600 (2,169)                | 2,000 (2,711)            | Pistol Grip    | #5 Spline     | Button             | 9-7/8 (250.9)     | 24 (10.8)         | 1/2 NPT 3/4 (19)               | IR2940P1         |
| <b>1040EI-TH</b>   | 1,600 (2,169)                | 2,000 (2,711)            | End Grip I-T   | 1" Sq.        | Through Hole       | 12-7/16 (314.9)   | 24 (10.8)         | 1/2 NPT 3/4 (19)               | IR2940B2         |
| <b>1040EO-TH</b>   | 1,600 (2,169)                | 2,000 (2,711)            | End Grip O-T   | 1" Sq.        | Through Hole       | 12-7/16 (314.9)   | 24 (10.8)         | 1/2 NPT 3/4 (19)               | IR2940A2         |
| <b>1040EI-5S</b>   | 1,600 (2,169)                | 2,000 (2,711)            | End Grip I-T   | #5 Spline     | Button             | 12-7/16 (314.9)   | 24 (10.8)         | 1/2 NPT 3/4 (19)               | IR2940B1         |
| <b>1040EO-5S</b>   | 1,600 (2,169)                | 2,000 (2,711)            | End Grip O-T   | #5 Spline     | Button             | 12-7/16 (314.9)   | 24 (10.8)         | 1/2 NPT 3/4 (19)               | IR2940A1         |

All models available with extended anvil. Contact ATP Customer Service for more information.

See Ozat Sockets starting on page 36. Socket retaining accessories are provided for all sockets in the Ozat section.



# Super Duty 1" Drive Class Impact Tools

Available with #5 Spline Drive



## High Output Impact Tool Series

### 1041 & 1042 Series

- High output twin hammer mechanisms
- Bronze end plates for increased motor durability
- High output 7 vane motor
- Steel hammer case
- Integral muffler for noise reduction
- Three piece housing for ease of repair



**1041EI-TH**



**1042PT-TH**

### 1" - 1-3/8" Bolt Capacity (25mm - 35mm)

| Models           | Working Torque<br>ft lb (Nm) | Max Torque<br>ft lb (Nm) | Handle<br>Type | Drive<br>Size | Socket<br>Retainer | Length<br>in (mm) | Weight<br>lb (kg) | Air Inlet /<br>Hose ID in (mm) | Comparable<br>To |
|------------------|------------------------------|--------------------------|----------------|---------------|--------------------|-------------------|-------------------|--------------------------------|------------------|
| <b>1041EI-TH</b> | 1,650 (2,240)                | 2,500 (3,390)            | End Grip I-T   | 1" Sq.        | Through Hole       | 11-1/4 (285.7)    | 19 (8.6)          | 1/2 NPT 3/4 (19)               | IR3940B2Ti       |
| <b>1041EO-TH</b> | 1,650 (2,240)                | 2,500 (3,390)            | End Grip O-T   | 1" Sq.        | Through Hole       | 11-1/4 (285.7)    | 19 (8.6)          | 1/2 NPT 3/4 (19)               | IR3940A2Ti       |
| <b>1041EI-5S</b> | 1,650 (2,240)                | 2,500 (3,390)            | End Grip I-T   | #5 Spline     | Button             | 11-1/4 (285.7)    | 19 (8.6)          | 1/2 NPT 3/4 (19)               | IR3940B1Ti       |
| <b>1041EO-5S</b> | 1,650 (2,240)                | 2,500 (3,390)            | End Grip O-T   | #5 Spline     | Button             | 11-1/4 (285.7)    | 19 (8.6)          | 1/2 NPT 3/4 (19)               | IR3940A1Ti       |
| <b>1042PT-TH</b> | 1,900 (2,576)                | 3,200 (4,338)            | Pistol Grip    | 1" Sq.        | Through Hole       | 9-13/16 (250.9)   | 24.6 (11.1)       | 1/2 NPT 3/4 (19)               | IR3942P2Ti       |
| <b>1042PT-5S</b> | 1,900 (2,576)                | 3,200 (4,338)            | Pistol Grip    | #5 Spline     | Button             | 9-13/16 (250.9)   | 24.6 (11.1)       | 1/2 NPT 3/4 (19)               | IR3942P1Ti       |
| <b>1042EI-TH</b> | 1,900 (2,576)                | 3,200 (4,338)            | End Grip I-T   | 1" Sq.        | Through Hole       | 12-7/16 (314.9)   | 24.2 (10.9)       | 1/2 NPT 3/4 (19)               | IR3942B2Ti       |
| <b>1042EO-TH</b> | 1,900 (2,576)                | 3,200 (4,338)            | End Grip O-T   | 1" Sq.        | Through Hole       | 12-7/16 (314.9)   | 24.2 (10.9)       | 1/2 NPT 3/4 (19)               | IR3942A2Ti       |
| <b>1042EI-5S</b> | 1,900 (2,576)                | 3,200 (4,338)            | End Grip I-T   | #5 Spline     | Button             | 12-7/16 (314.9)   | 24.2 (10.9)       | 1/2 NPT 3/4 (19)               | IR3942B1Ti       |
| <b>1042EO-5S</b> | 1,900 (2,576)                | 3,200 (4,338)            | End Grip O-T   | #5 Spline     | Button             | 12-7/16 (314.9)   | 24.2 (10.9)       | 1/2 NPT 3/4 (19)               | IR3942A1Ti       |

All models available with extended anvil. Contact ATP Customer Service for more information.

See Ozat Sockets starting on page 36. Socket retaining accessories are provided for all sockets in the Ozat section.

# Super Duty 1-1/2" Drive Class Impact Tools

Available with #5 Spline Drive



## 1550 & 1552 High Output Series

- High output twin hammer mechanisms
- Bronze end plates for increased motor durability
- Model 1552 high output 7 vane motor
- Steel hammer case
- Integral muffler for noise reduction
- Three piece housing for ease of repair

## 1520 Series

- Two jaw clutch transfers high power
- Steel clutch housing
- Great for hard and soft draw applications
- Integral muffler for noise reduction
- Three piece housing for ease of repair



## 1-3/8" - 1-1/2" Bolt Capacity (35mm - 38mm)

| Models           | Working Torque<br>ft lb (Nm) | Max Torque<br>ft lb (Nm) | Handle<br>Type | Drive<br>Size | Socket<br>Retainer | Length<br>in (mm) | Weight<br>lb (kg) | Air Inlet /<br>Hose ID in (mm) | Comparable<br>To |
|------------------|------------------------------|--------------------------|----------------|---------------|--------------------|-------------------|-------------------|--------------------------------|------------------|
| <b>1550EI-TH</b> | 2,500 (3,400)                | 3,000 (4,067)            | End Grip I-T   | 1-1/2" Sq.    | Through Hole       | 14-1/2 (368.3)    | 33 (14.9)         | 1/2 NPT 3/4 (19)               | IR2950B7         |
| <b>1550EO-TH</b> | 2,500 (3,400)                | 3,000 (4,067)            | End Grip O-T   | 1-1/2" Sq.    | Through Hole       | 14-1/2 (368.3)    | 33 (14.9)         | 1/2 NPT 3/4 (19)               | IR2950A7         |
| <b>1550EI-5S</b> | 2,500 (3,400)                | 3,000 (4,067)            | End Grip I-T   | #5 Spline     | Button             | 14-1/2 (368.3)    | 33 (14.9)         | 1/2 NPT 3/4 (19)               | IR2950B1         |
| <b>1550EO-5S</b> | 2,500 (3,400)                | 3,000 (4,067)            | End Grip O-T   | #5 Spline     | Button             | 14-1/2 (368.3)    | 33 (14.9)         | 1/2 NPT 3/4 (19)               | IR2950A1         |
| <b>1552EO-TH</b> | 3,300 (4,474)                | 4,000 (5,424)            | End Grip O-T   | 1-1/2" Sq.    | Through Hole       | 14-1/2 (368.3)    | 33 (14.9)         | 1/2 NPT 3/4 (19)               | IR3955A2Ti       |
| <b>1552EI-5S</b> | 3,300 (4,474)                | 4,000 (5,424)            | End Grip I-T   | #5 Spline     | Button             | 14-1/2 (368.3)    | 33 (14.9)         | 1/2 NPT 3/4 (19)               | IR3955B1Ti       |
| <b>1552EI-TH</b> | 3,300 (4,474)                | 4,000 (5,424)            | End Grip I-T   | 1-1/2" Sq.    | Through Hole       | 14-1/2 (368.3)    | 33 (14.9)         | 1/2 NPT 3/4 (19)               | IR3955B2Ti       |
| <b>1520EI-TH</b> | 2,500 (3,400)                | 3,000 (4,067)            | End Grip I-T   | 1-1/2" Sq.    | Through Hole       | 14-11/16 (373.3)  | 33.7 (15.2)       | 1/2 NPT 3/4 (19)               | CP6120-PASED     |
| <b>1520EI-5S</b> | 2,500 (3,400)                | 3,000 (4,067)            | End Grip I-T   | #5 Spline     | Button             | 14-11/16 (373.3)  | 33.7 (15.2)       | 1/2 NPT 3/4 (19)               | CP6120-PASEL     |
| <b>1520EO-5S</b> | 2,500 (3,400)                | 3,000 (4,067)            | End Grip I-T   | #5 Spline     | Button             | 14-11/16 (373.3)  | 33.7 (15.2)       | 1/2 NPT 3/4 (19)               | CP6120-PASEL     |

All models available with extended anvil. Contact ATP Customer Service for more information.

See Ozat Sockets starting on page 36. Socket retaining accessories are provided for all sockets in the Ozat section.

# Super Duty “Heavy Hitters” Impact Tools

Available in 1-1/2”, 2-1/2” and 3-1/2” Drive Sizes



**1580LT-TH**

## 1578 & 1580 Series

- Precision ball and cam mechanism
- Built-in lubricator
- Vertical and horizontal hangers
- Assist handle



**2588LT-TH**

## 2582 & 2588 Series

- Precision ball and cam mechanism
- Built-in lubricator
- Vertical and horizontal hangers
- Assist handle



**3599LT-TH**

## 3599 Series

“The Worlds Most Powerful Impact Tool”

- Precision ball and cam mechanism
- Built-in lubricator
- Vertical and horizontal hangers
- Assist handle

## 1-1/2” - 4” Bolt Capacity (38mm - 102mm)

| Models           | Working Torque<br>ft lb (Nm) | Max Torque<br>ft lb (Nm) | Handle<br>Type | Drive<br>Size | Socket<br>Retainer | Length<br>in (mm) | Weight<br>lb (kg) | Air Inlet /<br>Hose ID in (mm) | Comparable<br>To |
|------------------|------------------------------|--------------------------|----------------|---------------|--------------------|-------------------|-------------------|--------------------------------|------------------|
| <b>1578LT-TH</b> | 5,500 (7,456)                | 10,000 (13,560)          | T-Handle Lever | 1-1/2” Sq.    | Through Hole       | 23 (584.2)        | 86 (39)           | 3/4 NPT 1 (25)                 | IR578A1          |
| <b>1580LT-TH</b> | 5,900 (8,000)                | 13,560 (18,383)          | T-Handle Lever | 1-1/2” Sq.    | Through Hole       | 23 (584.2)        | 88 (39.9)         | 3/4 NPT 1 (25)                 | IR5980A1         |
| <b>2582LT-TH</b> | 10,000 (13,560)              | 20,000 (27,114)          | T-Handle Lever | 2-1/2” Sq.    | Through Hole       | 25-7/16 (645)     | 120 (54.4)        | 3/4 NPT 1 (25)                 | IR5982A1         |
| <b>2588LT-TH</b> | 25,000 (33,892)              | 50,000 (67,784)          | T-Handle Lever | 2-1/2” Sq.    | Through Hole       | 26-5/8 (675.6)    | 215 (97.5)        | 1 NPT 1 (25)                   | IR588A1          |
| <b>3599LT-TH</b> | 42,000 (57,000)              | 80,000 (108,500)         | T-Handle Lever | 3-1/2” Sq.    | Through Hole       | 37-1/2 (952.5)    | 599 (271.7)       | 1-1/4 NPT 1-1/2 (38)           | IR599A1          |

See Ozat Sockets starting on page 36. Socket retaining accessories are provided for all sockets in the Ozat section.

See Retaining Rings and Pins for 2-1/2” on page 73, and 3-1/2” drives on page 75.



# ATP Die Grinders

## .5 and 1 HP Tools

ATP collet and threaded arbor straight grinders are a complete range of tools in three horsepower offerings, to help you get the job done in the most demanding applications and environments.

These tools excel in metal finishing applications powering mounted burrs and type 1 grinding wheels.



**DG122S-1/4**



**DG122S-1/4-E**



**4420**

## Straight Grinder Specifications

| Models              | Rated<br>HP<br>(kW) | Free<br>Speed<br>RPM | Throttle<br>Lever<br>Type | Spindle<br>Output | Wheel<br>Diameter<br>in (mm) | Wheel Type<br>Maximum<br>Thickness | Overall<br>Length<br>in (mm) | Net<br>Weight<br>lb (kg) | Air Inlet /<br>Hose ID<br>in (mm) | Exhaust |
|---------------------|---------------------|----------------------|---------------------------|-------------------|------------------------------|------------------------------------|------------------------------|--------------------------|-----------------------------------|---------|
| <b>4420</b>         | .5 (.37)            | 23,000               | Lever                     | 1/4" Collet       | *N/R                         | Mounted Burrs                      | 6-13/16 (173)                | 1.7 (.76)                | 1/4 NPT 3/8 (10)                  | Front   |
| <b>DG122S-1/4</b>   | 1 (.75)             | 22,000               | Lever                     | 1/4" Collet       | *N/R                         | Mounted Burrs                      | 6-1/2 (166)                  | 2.6 (1.2)                | 1/4 NPT 3/8 (10)                  | Front   |
| <b>DG122S-1/4-E</b> | 1 (.75)             | 22,000               | Lever                     | 1/4" Collet       | *N/R                         | Mounted Burrs                      | 12-9/32 (315)                | 3.6 (1.6)                | 1/4 NPT 3/8 (10)                  | Front   |

\*N/R: Not Required

# ATP Horizontal Grinders

## 1.2 HP 1200 Series

ATP 1200 series horizontal grinders have set the standard for high performance rugged production grinders used in fabrication shops, fabricated metal plants, petrochemical maintenance, shipyards, foundries, and many other markets.

The extensive product range offers speeds and spindle configurations to improve operator productivity.



**1215S-C**



**1215S-R4**



**1215S-1/4**

### Horizontal Grinder Specifications

| Models           | Rated HP (kW) | Free Speed RPM | Throttle Lever Type | Spindle Output | Wheel Guard Dia. in (mm) | Wheel Type Maximum Thickness | Overall Length in (mm) | Net Weight lb (kg) | Air Inlet Hose ID in (mm) | Exhaust |
|------------------|---------------|----------------|---------------------|----------------|--------------------------|------------------------------|------------------------|--------------------|---------------------------|---------|
| <b>1215S-1/4</b> | 1.2 (.9)      | 15,000         | Lever               | 1/4" Collet    | *N/R                     | Mounted Burrs                | 17-1/2 (444)           | 5.5 (2.5)          | 3/8 NPT 3/8 (10)          | Side    |
| <b>1215S-3/8</b> | 1.2 (.9)      | 15,000         | Lever               | 3/8" Collet    | *N/R                     | Mounted Burrs                | 17-1/2 (444)           | 5.5 (2.5)          | 3/8 NPT 3/8 (10)          | Side    |
| <b>1215S-C</b>   | 1.2 (.9)      | 15,000         | Lever               | 3/8"-24        | Cone                     | Cone Wheels                  | 16-1/8 (410)           | 5.3 (2.4)          | 3/8 NPT 3/8 (10)          | Side    |
| <b>1215S-R3</b>  | 1.2 (.9)      | 15,000         | Lever               | 3/8"-24        | 3" (76)                  | 1 (1/2")                     | 16-3/4 (425)           | 5.9 (2.7)          | 3/8 NPT 3/8 (10)          | Side    |
| <b>1215S-R4</b>  | 1.2 (.9)      | 15,000         | Lever               | 3/8"-24        | 4" (101)                 | 1 (1/4")                     | 16-3/4 (425)           | 6 (2.7)            | 3/8 NPT 3/8 (10)          | Side    |
| <b>1218S-1/4</b> | 1.2 (.9)      | 18,000         | Lever               | 1/4" Collet    | *N/R                     | Mounted Burrs                | 17-1/2 (444)           | 5.5 (2.5)          | 3/8 NPT 3/8 (10))         | Side    |
| <b>1218S-3/8</b> | 1.2 (.9)      | 18,000         | Lever               | 3/8" Collet    | *N/R                     | Mounted Burrs                | 17-1/2 (444)           | 5.5 (2.5)          | 3/8 NPT 3/8 (10)          | Side    |
| <b>1218S-C</b>   | 1.2 (.9)      | 18,000         | Lever               | 3/8"-24        | Cone                     | Cone Wheels                  | 16-1/8 (410)           | 5.3 (2.4)          | 3/8 NPT 3/8 (10)          | Side    |
| <b>1218S-R3</b>  | 1.2 (.9)      | 18,000         | Lever               | 3/8"-24        | 3" (76)                  | 1 (1/2")                     | 16-3/4 (425)           | 5.9 (2.7)          | 3/8 NPT 3/8 (10)          | Side    |

Standard equipment on all models: standard guard size per wheel diameter (guard not required with collet tools)

All 1200 series tools have governed motors.

\*N/R: Not Required

### Other Model Options Available: Build your desired model

| Series    | Free Speed RPM | Side Exhaust | Spindle Output       |
|-----------|----------------|--------------|----------------------|
| <b>12</b> | 09 = 9,000     | S            | 1/4 = 1/4" Collet    |
| <b>12</b> | 12 = 12,000    | S            | 3/8 = 3/8" Collet    |
| <b>12</b> | 15 = 15,000    | S            | C = Cone Wheel       |
| <b>12</b> | 18 = 18,000    | S            | R3 = 3" Type 1 Guard |
|           |                |              | R4 = 4" Type 1 Guard |

Model Example: 1209S-3/8 = 12 series, 9000 rpm, side exhaust, 3/8" collet

# ATP Heavy Duty Extended Horizontal Grinders

## 1.2 HP E1200HD Series



ATP E1200HD series heavy duty extended horizontal grinders have set the standard for high performance rugged production grinders used in finishing castings in foundries and other unique applications. **The heavy duty double row spindle bearing and dust cover provide robust durability in the most demanding metal finishing applications.**

The extensive product range offers heavy duty extensions of 7", 13", 26", and 36" in speeds and spindle configurations to allow the operator to work in confined longer reach applications.



**E1215S-13HD-1/4**



**Heavy Duty Double Row Spindle Bearing and Cover on all HD Models**



**E1212S-26HD-1/4**

### Extended Grinder Specifications

| Models                 | Rated HP (kW) | Free Speed RPM | Throttle Type | Spindle Output | Overall Length in (mm) | Extension Length in (mm) | Net Weight lb (kg) | Extension Diameter in | Air Inlet / Hose ID in (mm) | Exhaust |
|------------------------|---------------|----------------|---------------|----------------|------------------------|--------------------------|--------------------|-----------------------|-----------------------------|---------|
| <b>E1218S-7HD-1/4</b>  | 1.2 (.9)      | 18,000         | Lever         | 1/4" Collet    | 20-1/2 (520)           | 7 (178)                  | 5.6 (2.5)          | 1-3/8                 | 3/8 NPT 3/8 (10)            | Side    |
| <b>E1218S-7HD-C</b>    | 1.2 (.9)      | 18,000         | Lever         | 3/8"-24        | 19 (483)               | 7 (178)                  | 5.4 (2.4)          | 1-3/8                 | 3/8 NPT 3/8 (10)            | Side    |
| <b>E1215S-13HD-1/4</b> | 1.2 (.9)      | 15,000         | Lever         | 1/4" Collet    | 26-1/2 (673)           | 13 (330)                 | 7.2 (3.3)          | 1-3/8                 | 3/8 NPT 3/8 (10)            | Side    |
| <b>E1215S-13HD-3/8</b> | 1.2 (.9)      | 15,000         | Lever         | 3/8" Collet    | 26-1/2 (673)           | 13 (330)                 | 7.2 (3.3)          | 1-3/8                 | 3/8 NPT 3/8 (10)            | Side    |
| <b>E1212S-26HD-1/4</b> | 1.2 (.9)      | 12,000         | Lever         | 1/4" Collet    | 40 (1,016)             | 26 (660)                 | 9.4 (4.3)          | 1-3/8                 | 3/8 NPT 3/8 (10)            | Side    |
| <b>E1212S-26HD-C</b>   | 1.2 (.9)      | 12,000         | Lever         | 3/8"-24        | 38-1/2 (978)           | 26 (660)                 | 9.2 (4.2)          | 1-3/8                 | 3/8 NPT 3/8 (10)            | Side    |
| <b>E1212S-36HD-3/8</b> | 1.2 (.9)      | 12,000         | Lever         | 3/8" Collet    | 50 (1,270)             | 36 (914)                 | 11.3 (5.1)         | 1-3/8                 | 3/8 NPT 3/8 (10)            | Side    |
| <b>E1212S-36HD-C</b>   | 1.2 (.9)      | 12,000         | Lever         | 3/8"-24        | 48-1/2 (1,232)         | 36 (914)                 | 11.1 (5.0)         | 1-3/8                 | 3/8 NPT 3/8 (10)            | Side    |

All E1200 series tools have governed motors.

### Other Model Options Available: Build your desired model

| Series     | Free Speed RPM | Side Exhaust | Extension Length | Spindle Output    |
|------------|----------------|--------------|------------------|-------------------|
| <b>E12</b> | 09 = 9,000     | S            | 7HD = 7"         | 1/4 = 1/4" Collet |
| <b>E12</b> | 12 = 12,000    | S            | 13HD = 13"       | 3/8 = 3/8" Collet |
| <b>E12</b> | 15 = 15,000    | S            | 26HD = 26"       | C = Cone Wheel    |
| <b>E12</b> | 18 = 18,000    | S            | 36HD = 36"       |                   |

**Model Example:** E1209S-13HD-C = E12 series, 9,000 rpm, side exhaust, 13" heavy bearing extended housing, cone wheel

**Non standard lengths available upon request**

# ATP Extended Horizontal Grinders

## 1.2 HP E1200 Series



ATP E1200 series extended horizontal grinders have set the standard for high performance rugged production grinders used in finishing castings in foundries and other unique finishing applications.

The extensive product range offers extensions of 7", 13", 26", and 36" in speeds and spindle configurations to allow the operator to work in confined longer reach applications.



**E1212S-26-1/4**



**E1218S-7-C**

### Extended Grinder Specifications

| Models               | Rated HP (kW) | Free Speed RPM | Throttle Type | Spindle Output | Overall Length in (mm) | Extension Length in (mm) | Net Weight lb (kg) | Extension Diameter in | Air Inlet / Hose ID in (mm) | Exhaust |
|----------------------|---------------|----------------|---------------|----------------|------------------------|--------------------------|--------------------|-----------------------|-----------------------------|---------|
| <b>E1218S-7-1/4</b>  | 1.2 (.9)      | 18,000         | Lever         | 1/4" Collet    | 20-1/2 (520)           | 7 (178)                  | 5.6 (2.5)          | 1                     | 3/8 NPT 3/8 (10)            | Side    |
| <b>E1218S-7-C</b>    | 1.2 (.9)      | 18,000         | Lever         | 3/8"-24        | 19 (483)               | 7 (178)                  | 5.4 (2.4)          | 1                     | 3/8 NPT 3/8 (10)            | Side    |
| <b>E1215S-13-1/4</b> | 1.2 (.9)      | 15,000         | Lever         | 1/4" Collet    | 26-1/2 (673)           | 13 (330)                 | 7.2 (3.3)          | 1                     | 3/8 NPT 3/8 (10)            | Side    |
| <b>E1215S-13-3/8</b> | 1.2 (.9)      | 15,000         | Lever         | 3/8" Collet    | 26-1/2 (673)           | 13 (330)                 | 7.2 (3.3)          | 1                     | 3/8 NPT 3/8 (10)            | Side    |
| <b>E1212S-26-1/4</b> | 1.2 (.9)      | 12,000         | Lever         | 1/4" Collet    | 40 (1,016)             | 26 (660)                 | 9.4 (4.3)          | 1                     | 3/8 NPT 3/8 (10)            | Side    |
| <b>E1212S-26-C</b>   | 1.2 (.9)      | 12,000         | Lever         | 3/8"-24        | 38-1/2 (978)           | 26 (660)                 | 9.2 (4.2)          | 1                     | 3/8 NPT 3/8 (10)            | Side    |
| <b>E1212S-36-3/8</b> | 1.2 (.9)      | 12,000         | Lever         | 3/8" Collet    | 50 (1,270)             | 36 (914)                 | 11.3 (5.1)         | 1                     | 3/8 NPT 3/8 (10)            | Side    |
| <b>E1212S-36-C</b>   | 1.2 (.9)      | 12,000         | Lever         | 3/8"-24        | 48-1/2 (1,232)         | 36 (914)                 | 11.1 (5.0)         | 1                     | 3/8 NPT 3/8 (10)            | Side    |

All E1200 series tools have governed motors.

**Other Model Options Available: Build your desired model**

| Series     | Free Speed RPM | Side Exhaust | Extension Length | Spindle Output    |
|------------|----------------|--------------|------------------|-------------------|
| <b>E12</b> | 09 = 9,000     | S            | 7 = 7"           | 1/4 = 1/4" Collet |
| <b>E12</b> | 12 = 12,000    | S            | 13 = 13"         | 3/8 = 3/8" Collet |
| <b>E12</b> | 15 = 15,000    | S            | 26 = 26"         | C = Cone Wheel    |
| <b>E12</b> | 18 = 18,000    | S            | 36 = 36"         |                   |

**Model Example:** E1209S-13-C = E12 series, 9,000 rpm, side exhaust, 13" standard bearing extended housing, cone wheel

**Non standard lengths available upon request**



# ATP Vertical Grinders

## 3 HP 356 Series



ATP 3 HP vertical grinders continue to stand the test of time as high performance durable tools used in the most demanding heavy metal removal and finishing applications.

### Features

- Safety lock-off lever throttle
- Stainless steel corrosion resistant governors
- Rugged sand cast housings are highly durable in extreme environments
- Ease of service design
- "Techalloy" housing provides the ultimate in reduced weight and strength



**356VSL-60-6**



**356VSL-60-7**

### Vertical Grinder Specifications

| Models             | Rated HP (kW) | Free Speed rpm | Wheel Type | Wheel Diameter in (mm) | Weight Less Guard lb (kg) | Height to Flange Bottom in (mm) | Side to Center in (mm) | Spindle Thread in | Air Inlet / Hose ID in (mm) |
|--------------------|---------------|----------------|------------|------------------------|---------------------------|---------------------------------|------------------------|-------------------|-----------------------------|
| <b>356VSL-45-7</b> | 3 (2.2)       | 4,500          | 27 & 28    | 7 (178)                | 7.2 (3.2)                 | 5-1/2 (145)                     | 1-11/16 (43)           | 5/8-11            | 1/2 NPT 1/2 (13)            |
| <b>356VSL-60-6</b> | 3 (2.2)       | 6,000          | 6" Cup     | 6 (152)                | 7.2 (3.2)                 | 5-1/2 (145)                     | 1-11/16 (43)           | 5/8-11            | 1/2 NPT 1/2 (13)            |
| <b>356VSL-60-7</b> | 3 (2.2)       | 6,000          | 27 & 28    | 7 (178)                | 7.2 (3.2)                 | 5-1/2 (145)                     | 1-11/16 (43)           | 5/8-11            | 1/2 NPT 1/2 (13)            |
| <b>356VSL-60-9</b> | 3 (2.2)       | 6,000          | 27 & 28    | 9 (229)                | 7.2 (3.2)                 | 5-1/2 (145)                     | 1-11/16 (43)           | 5/8-11            | 1/2 NPT 1/2 (13)            |
| <b>356VSL-80-7</b> | 3 (2.2)       | 8,000          | 27 & 28    | 7 (178)                | 7.2 (3.2)                 | 5-1/2 (145)                     | 1-11/16 (43)           | 5/8-11            | 1/2 NPT 1/2 (13)            |

**Standard equipment on all models:** standard guard size per wheel diameter, 2" wheel flange and spindle nut, spindle wrench 1100-200 (2") and 1102-015 (5/32") allen type wrench

**Equipment at extra price:** spindle / wheel retention screw and retention screw collar 650-60, optional wheel guards

# ATP Vertical Grinders

## 4 HP 466 Series



ATP 4 HP vertical grinders continue to stand the test of time as high performance durable tools used in the most demanding heavy metal removal and finishing applications.

### Features

- Safety lock-off lever throttle
- Stainless steel corrosion resistant governors
- Rugged sand cast housings are highly durable in extreme environments
- Ease of service design
- "Techalloy" housing provides the ultimate in reduced weight and strength



**466VSL-60-9**



**466VSL-60-6**

### Vertical Grinder Specifications

| Models             | Rated<br>hp<br>(kW) | Free<br>Speed<br>rpm | Wheel<br>Type | Wheel<br>Diameter<br>in (mm) | Weight<br>Less Guard<br>lb (kg) | Height to<br>Flange Bottom<br>in (mm) | Side to<br>Center<br>in (mm) | Spindle<br>Thread<br>in | Air Inlet /<br>Hose ID<br>in (mm) |
|--------------------|---------------------|----------------------|---------------|------------------------------|---------------------------------|---------------------------------------|------------------------------|-------------------------|-----------------------------------|
| <b>466VSL-45-7</b> | 4 (3)               | 4,500                | 27 & 28       | 7 (178)                      | 9.5 (4.3)                       | 6-7/16 (174)                          | 1-7/8 (48)                   | 5/8-11                  | 1/2 NPT 1/2 (13)                  |
| <b>466VSL-60-6</b> | 4 (3)               | 6,000                | 6" Cup        | 6 (152)                      | 9.5 (4.3)                       | 6-7/16 (174)                          | 1-7/8 (48)                   | 5/8-11                  | 1/2 NPT 1/2 (13)                  |
| <b>466VSL-60-7</b> | 4 (3)               | 6,000                | 27 & 28       | 7 (178)                      | 9.5 (4.3)                       | 6-7/16 (174)                          | 1-7/8 (48)                   | 5/8-11                  | 1/2 NPT 1/2 (13)                  |
| <b>466VSL-60-9</b> | 4 (3)               | 6,000                | 27 & 28       | 9 (229)                      | 9.5 (4.3)                       | 6-7/16 (174)                          | 1-7/8 (48)                   | 5/8-11                  | 1/2 NPT 1/2 (13)                  |
| <b>466VSL-80-7</b> | 4 (3)               | 8,000                | 27 & 28       | 7 (178)                      | 9.5 (4.3)                       | 6-7/16 (174)                          | 1-7/8 (48)                   | 5/8-11                  | 1/2 NPT 1/2 (13)                  |

**Standard equipment on all models:** standard guard size per wheel diameter, 2" wheel flange and spindle nut, spindle wrench 1100-200 (2") and 1102-015 (5/32") allen type wrench

**Equipment at extra price:** spindle /wheel retention screw and retention screw collar 650-60, optional wheel guards

# ATP Horizontal Grinders

## 3 and 4 HP ATP 356 and 465 Series



ATP horizontal series of grinders continue to stand the test of time as high performance durable tools used in the most demanding heavy metal removal and finishing applications.

### Features

- Safety lock-off lever throttle
- Stainless steel corrosion resistant governors
- Rugged sand cast housings are highly durable in extreme environments
- Ease of service design
- "Techalloy" housing provides the ultimate in reduced weight and strength.



**465HG-60-6**



**356HSL-60-6**

### Horizontal Grinder Specifications

| Models             | Handle Type | Rated hp (kW) | Free Speed RPM | Wheel Guard Size | Wheel Type and Size | Weight Less Guard lb (kg) | Length to Flange in (mm) | Side to Center in (mm) | Spindle Thread in | Air Inlet / Hose ID in (mm) |
|--------------------|-------------|---------------|----------------|------------------|---------------------|---------------------------|--------------------------|------------------------|-------------------|-----------------------------|
| <b>356HSL-45-8</b> | Lever       | 3 (2.2)       | 4,500          | 8"               | 1 - 8" x 1"         | 10.5 (4.8)                | 20-1/8 (524)             | 1-1/4 (32)             | 5/8-11            | 1/2 NPT 1/2 (13)            |
| <b>356HSL-60-6</b> | Lever       | 3 (2.2)       | 6,000          | 6"               | 1 - 6" x 1"         | 10.5 (4.8)                | 20-1/8 (524)             | 1-1/4 (32)             | 5/8-11            | 1/2 NPT 1/2 (13)            |
| <b>356HG-45-8</b>  | Grip        | 3 (2.2)       | 4,500          | 8"               | 1 - 8" x 1"         | 10.5 (4.8)                | 20-1/8 (524)             | 1-1/4 (32)             | 5/8-11            | 1/2 NPT 1/2 (13)            |
| <b>356HG-60-6</b>  | Grip        | 3 (2.2)       | 6,000          | 6"               | 1 - 6" x 1"         | 10.5 (4.8)                | 20-1/8 (524)             | 1-1/4 (32)             | 5/8-11            | 1/2 NPT 1/2 (13)            |
| <b>465HSL-45-8</b> | Lever       | 4 (3.3)       | 4,500          | 8"               | 1 - 8" x 1"         | 10.5 (4.8)                | 20-7/8 (530)             | 1-1/4 (32)             | 5/8-11            | 1/2 NPT 1/2 (13)            |
| <b>465HSL-60-6</b> | Lever       | 4 (3.3)       | 6,000          | 6"               | 1 - 6" x 1"         | 12.5 (5.7)                | 20-7/8 (530)             | 1-1/4 (32)             | 5/8-11            | 1/2 NPT 1/2 (13)            |
| <b>465HG-45-8</b>  | Grip        | 4 (3.3)       | 4,500          | 8"               | 1 - 8" x 1"         | 12.5 (5.7)                | 20-7/8 (530)             | 1-1/4 (32)             | 5/8-11            | 1/2 NPT 1/2 (13)            |
| <b>465HG-60-6</b>  | Grip        | 4 (3.3)       | 6,000          | 6"               | 1 - 6" x 1"         | 12.5 (5.7)                | 20-7/8 (530)             | 1-1/4 (32)             | 5/8-11            | 1/2 NPT 1/2 (13)            |

**Standard equipment on all models:** standard guard size per wheel diameter (guard not required with cone wheels), 2" wheel flange and spindle nut, spindle wrench 1100-200 (2") and 1102-015 (5/32") allen type wrench.

**Equipment at extra price:** spindle /wheel retention screw and retention screw collar 650-60, optional wheel guards.

# ATP Rammers



ATP rammers are ideally suited for foundry and refractory applications.

## Features

### T2BA:

- Adjustable packing nut to reduce air blow-by for maximum power.
- Aluminum backhead to reduce weight.

### T241F:

- Self cleaning rocker valve for increased performance.
- Adjustable packing nut to reduce air blow by for maximum power.
- Muffler to reduce noise to the operator.

**T241F-3-1/4R**

**T2BA**

## Rammer Specifications

| Models              | Bore x Stroke<br>in (mm) x in (mm) | BPM   | Length<br>in (mm) | Weight<br>lb (kg) | Butt Diameter<br>in (mm) | Air Inlet /<br>Hose ID in (mm) |
|---------------------|------------------------------------|-------|-------------------|-------------------|--------------------------|--------------------------------|
| <b>T2BA</b>         | 1 (25) x 2-1/2 (63)                | 1,725 | 15-3/4 (400)      | 7.7 (3.5)         | 2-1/2 (64)               | 1/4 NPT 3/8 (10)               |
| <b>T241F-3-1/4R</b> | 1-5/16 (33) x 4 (102)              | 1,590 | 52-3/4 (1,370)    | 28.9 (13.1)       | 3-1/4 (76)               | 1/2 NPT 1/2 (13)               |

**Standard Butts:** Rubber

**T2BA Optional Butts:**

1-3/4" Rubber

2-1/2" Steel

5" Rubber

Other butt sizes available upon request

**T241F Optional Butts:**

3" Rubber

3" Malleable

3" Aluminum

5" Rubber

Other butt sizes available upon request



# ATP Scaler Tools

ATP needle and chisel scalers are offered in a compact design for close quarter work removing weld flux, paint, scale, weld spatter, rust and other residue from a variety of irregular surfaces in fabrication shops, shipyards foundries, refineries, construction sites and MRO applications.

## Features

- Rugged design and precision manufacturing specifications make these scalers last longer with low maintenance costs.
- Model A-1ALT scaler quickly converts to a needle scaler for better tool utilization.



**A-1 ALT**  
**Weld Flux Scaler**



**A-1 ALTNS**  
**Needle Scaler**

## Scaler Specifications

| Models          | Scaler Model Type | Throttle Type | Bore x Stroke<br>in (mm) x in (mm) | BPM   | Weight<br>lb (kg) | Length<br>in (mm) | Air Inlet /<br>Hose ID in (mm) |
|-----------------|-------------------|---------------|------------------------------------|-------|-------------------|-------------------|--------------------------------|
| <b>A-1ALT</b>   | Weld Flux Scaler  | Lever         | 1 (25.4) x 1-1/8 (28.8)            | 4,600 | 4.5 (2.17)        | 9-1/2 (243)       | 1/4 NPT 3/8 (10)               |
| <b>A-1ALTNS</b> | Needle Scaler     | Lever         | 1 (25.4) x 1-1/8 (28.8)            | 4,600 | 6 (2.7)           | 17-1/2 (448)      | 3/8 NPT 3/8 (10)               |

# ATP Chipping Hammers

## ATP's Heavy Duty Chipping Hammers

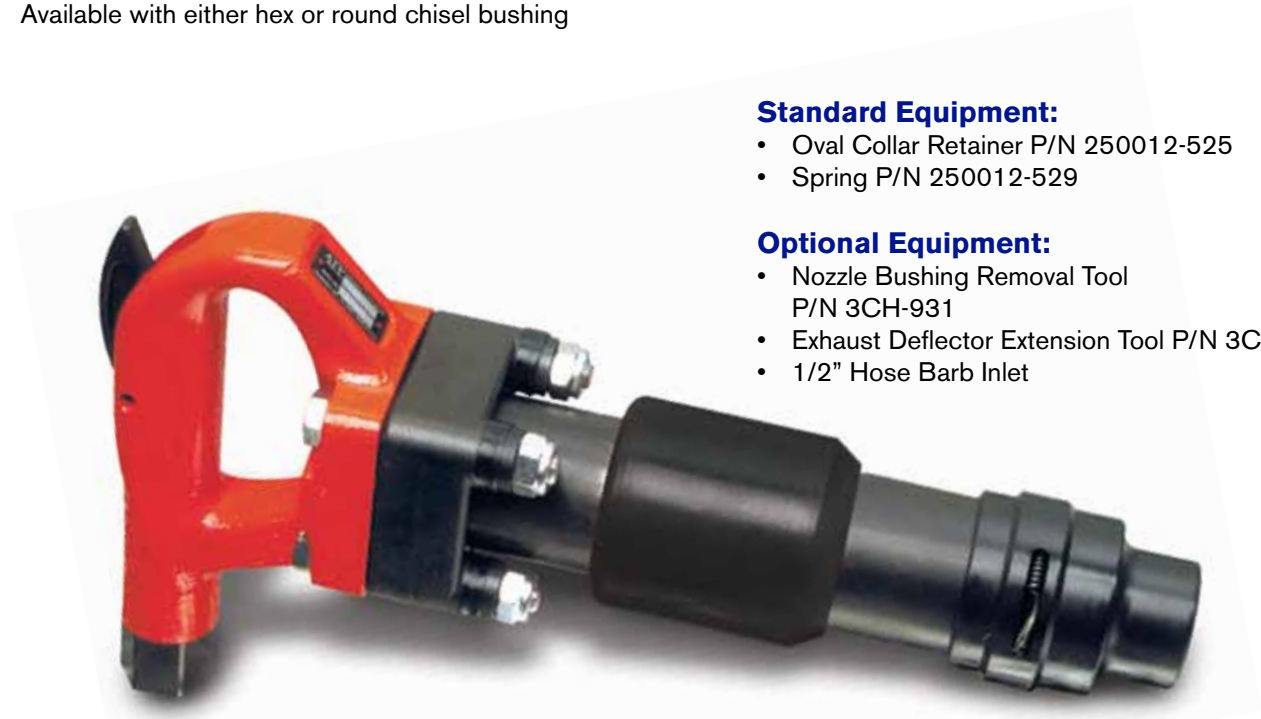
Favored by contractors and industrial users alike, ATP Chippers set new standards for pneumatic tools. Their crisp, smooth valve operation produces extra hard hitting power, while the heat treated alloy steel cylinder and piston provide long life.

Additionally, ATP Chippers are ergonomically advanced in design, the closed grip handle locates the operator's hand and arm in-line with the chisel for maximum effectiveness and operator comfort. This makes the ATP Chippers much easier to handle and less fatiguing when used over long periods of time.

If you need a **RUGGED, RELIABLE PERFORMER** on your job site, you can't do better than the **ATP ERGONOMIC CHIPPING HAMMER**.

### Features

- Heavy duty steel handles
- Available in the popular 2"-3"-4" stroke versions
- Available with either hex or round chisel bushing



### Standard Equipment:

- Oval Collar Retainer P/N 250012-525
- Spring P/N 250012-529

### Optional Equipment:

- Nozzle Bushing Removal Tool P/N 3CH-931
- Exhaust Deflector Extension Tool P/N 3CH-932
- 1/2" Hose Barb Inlet

### Chipping Hammer Specifications

| Models     | Weight<br>lb (kg) | Overall Length<br>in (mm) | BPM   | Bore x Stroke<br>in | Chisel<br>Bushing | CFM    | Air Inlet /<br>Hose ID in (mm) |
|------------|-------------------|---------------------------|-------|---------------------|-------------------|--------|--------------------------------|
| <b>2HB</b> | 17.2 (7.8)        | 14 (365)                  | 2,200 | 1-1/8 x 3.03        | .580 Hex          | 34 cfm | 3/8 NPT 1/2 (13)               |
| <b>2RB</b> | 17.2 (7.8)        | 14 (365)                  | 2,200 | 1-1/8 x 3.03        | .680 Round        | 34 cfm | 3/8 NPT 1/2 (13)               |
| <b>3HB</b> | 18.5 (8.4)        | 15-1/4 (400)              | 1,900 | 1-1/8 x 3.70        | .580 Hex          | 33 cfm | 3/8 NPT 1/2 (13)               |
| <b>3RB</b> | 18.5 (8.4)        | 15-1/4 (400)              | 1,900 | 1-1/8 x 3.70        | .680 Round        | 33 cfm | 3/8 NPT 1/2 (13)               |
| <b>4HB</b> | 19.5 (8.8)        | 16-1/2 (425)              | 1,500 | 1-1/8 x 4.02        | .580 Hex          | 30 cfm | 3/8 NPT 1/2 (13)               |
| <b>4RB</b> | 19.5 (8.8)        | 16-1/2 (425)              | 1,500 | 1-1/8 x 4.02        | .680 Round        | 30 cfm | 3/8 NPT 1/2 (13)               |

# Thor Breakers



® **Legendary Construction**  
Air Tools Since 1886

## Thor Breakers

Thor Breakers, available in the 30, 60 and 90 lb Class, are "Tools as Tough as their name". The 30 lb class Thor 17 Breakers are light weight rugged tools designed for light to medium construction and plant maintenance work such as demolition of floors, pavement, masonry walls, black top and frozen dirt. The 17 is also an excellent choice for bridge deck demolition work.

The 60 lb class Thor 234 and the 90 lb class Thor 125 breakers are designed to deliver the performance and endurance necessary for a variety of heavy duty construction and plant maintenance applications, such as breaking rock, concrete, reinforced concrete, frozen earth and pavement.

### Features of all Thor Breakers:

- Alloy steel forgings
- Precision American machined parts for long life
- Rugged 4 bolt design for extra duty service
- Continuous lubrication provided by internal oilers for long service life
- Air inlet swivel for maneuverability



**17**  
**(30lb Class)**



**234-1.125**  
**(60lb Class)**



**125-1.125**  
**(90lb Class)**

## Paving Breaker Specifications

| Models           | Chuck Size<br>in | Bore x Stroke<br>in (mm) x in (mm) | BPM   | Length<br>in (mm) | Weight<br>lb (kg) | CFM | Air Inlet     |
|------------------|------------------|------------------------------------|-------|-------------------|-------------------|-----|---------------|
| <b>17</b>        | 7/8 x 3-1/4      | 1-3/4 (44) x 3-3/8 (86)            | 1,550 | 22-1/2 (572)      | 32 (14.5)         | 46  | 3/8 NPT, male |
| <b>17-1</b>      | 1 x 4-1/4        | 1-3/4 (44) x 3-3/8 (86)            | 1,550 | 22-1/2 (572)      | 32 (14.5)         | 46  | 3/8 NPT, male |
| <b>234-1.125</b> | 1-1/8 x 6        | 2-1/4 (57) x 4-3/32 (104)          | 1,400 | 25-5/8 (651)      | 67 (30)           | 60  | 3/8 NPT, male |
| <b>234-1.25</b>  | 1-1/4 x 6        | 2-1/4 (57) x 4-3/32 (104)          | 1,400 | 25-5/8 (651)      | 67 (30)           | 60  | 3/8 NPT, male |
| <b>125-1.125</b> | 1-1/8 x 6        | 2-5/8 (66.67) x 6-1/16 (154)       | 1,250 | 28-3/4 (730)      | 92 (42)           | 80  | 3/8 NPT, male |
| <b>125-1.25</b>  | 1-1/4 x 6        | 2-5/8 (66.67) x 6-1/16 (154)       | 1,250 | 28-3/4 (730)      | 92 (42)           | 80  | 3/8 NPT, male |

# Thor Clay Diggers



® Legendary Construction  
Air Tools Since 1886

## Thor 18 “Digger”

Thor 18 CD is a dropped forged clay digger recommended for digging clay in packed soil from around footings, forms and other construction areas. It's 29 lb weight makes it a hard hitting tool, making quick work of the task at hand.

### Features

- Alloy steel forgings
- Heat treated alloy steel components
- Slim design for work in tight areas
- Latch retainer for positive retention and quick change of accessories
- Swivel air inlet for operator comfort
- Closed grip handle with lever throttle



**18CD-.875**

## Clay Digger Specifications

| Models           | Chuck Size<br>in | Bore<br>in (mm) | BPM   | Length<br>in (mm) | Weight<br>lb (kg) | CFM | Air Inlet     |
|------------------|------------------|-----------------|-------|-------------------|-------------------|-----|---------------|
| <b>18CD-.875</b> | 7/8 Hex x 3-1/4  | 1-3/4 (44.8)    | 1,500 | 22-3/4 (583)      | 29 (13)           | 38  | 3/8 NPT, male |
| <b>18CD-1</b>    | 1 Hex x 4-1/4    | 1-3/4 (44.8)    | 1,500 | 22-3/4 (583)      | 29 (13)           | 38  | 3/8 NPT, male |



# Thor Rivet Busters

## 8" and 11" Stroke Models



Thor RB-08 and RB-11 demolition tools are ideal for medium to heavy concrete demolition on bridge decks, parking garage columns, bridge pillars, and rivet and bolt cutting applications.

### Features

- Closed grip with inside trigger provides operator comfort and trigger protection
- Hardened steel piston and cylinder for excellent wear and life
- Uses industry standard 11x Jumbo steel
- Tease throttle for exceptional start and control
- Internal piston safety retainer



**RB-11**

### Rivet Buster Specifications

| Models       | Bore x Stroke<br>in (mm) x in (mm) | BPM | Length<br>in (mm) | Weight<br>lb (kg) | Chisel<br>Shank | CFM | Air Inlet /<br>Hose ID in (mm) |
|--------------|------------------------------------|-----|-------------------|-------------------|-----------------|-----|--------------------------------|
| <b>RB-08</b> | 1-3/16 (30) x 8 (203)              | 980 | 22-1/2 (572)      | 30 (13.61)        | Jumbo           | 44  | 1/2 NPT 1/2 (13)               |
| <b>RB-11</b> | 1-3/16 (30) x 11 (279)             | 850 | 25-1/2 (648)      | 33 (15)           | Jumbo           | 50  | 1/2 NPT 1/2 (13)               |

# Thor Back Fill Tamper

Thor's 6T Backfill Tamper is a 40 lb Class Tamper that has also "Stood the Test of Time". It's powerful 800 Blows Per Minute (BPM) is easily guided by one person due to its smooth operation and superb balance. The 6T is designed to effectively compact soil around foundations and other structures and for compacting backfill in trenches and other construction holes requiring compaction.

### Features

- High power to weight operation
- Powerful blows quickly compacts clay, gravel and other backfill materials
- Heat treated cylinder and piston for long service life
- Hex head bolt clamp for easy tamper butt changes
- Lever throttle operation

### Backfill Tamper Specifications

| Model     | Taper     | Bore x Stroke<br>in (mm) x in (mm) | BPM | Length<br>in (mm) | Weight<br>lb (kg) | CFM | Air Inlet |
|-----------|-----------|------------------------------------|-----|-------------------|-------------------|-----|-----------|
| <b>6T</b> | 804 Taper | 1-1/2 (38) x 5-1/2 (140)           | 800 | 48-1/4 (1,226)    | 40 (18)           | 38  | 1/2 NPT   |

**6T**



# ATP Air Centrifugal Sump Pump



**551P**

## ATP 551P Sump Pump

The 551P is a light weight, portable, air operated, fully submersible sump pump with the power to pump up to 216 gallons of water per minute.

This non-clogging, self-cleaning pump for clean or dirty water, sewage, oil and sludge is capable of handling all your pumping requirements. The rugged cast iron housing is built to take life's hard knocks. The built in oiler will handle up to 16 hours of continuous air motor lubrication.

Convenient carry handles make this versatile pump easy to handle at the job site. The adjustable governor prevents "run-away" when sump is pumped dry or if the impeller clears water while it is in operation.

### Features

- Submersible
- Portable
- Cast iron housing construction
- Steel impeller
- Built in oiler

### Maximum Performance:

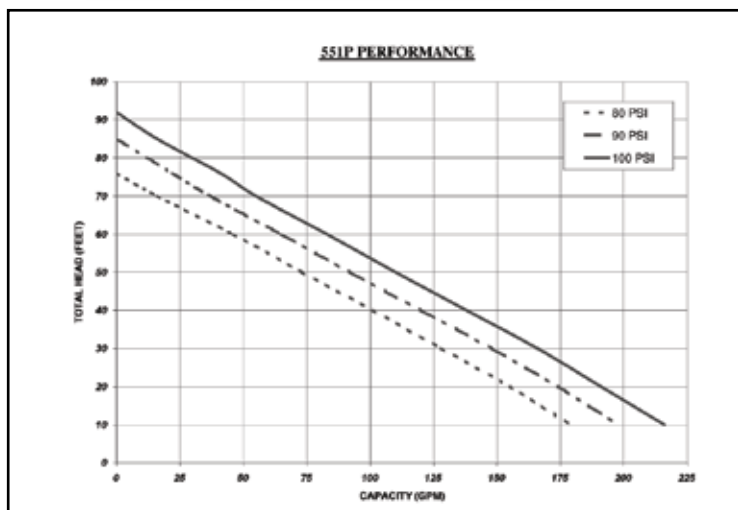
- Max Flow - 216 GPM
- Max Head - 92 Feet

### Standard Equipment:

- Built in oiler
- Extended exhaust pipe with check valve to prevent water from entering the motor through the exhaust

### Optional Equipment:

- Air valve, lever type for remote operation. (at additional cost)



## Pump Specifications

| Model | Height<br>in (mm) | Weight<br>lb (Kg) | Opening Pump<br>Will Enter | Discharge<br>Opening in | Pump Housing<br>Material | CFM | Air Inlet |
|-------|-------------------|-------------------|----------------------------|-------------------------|--------------------------|-----|-----------|
| 551P  | 20 (513)          | 41 (18.6)         | 8-5/8" x 10-1/2"           | 2-1/2 NPT               | Cast Iron                | 75  | 1/2 NPT   |

\*interchanges with Thor 51T

# ATP Air Chain Hoists

## 500 to 4000 lb. Capacity

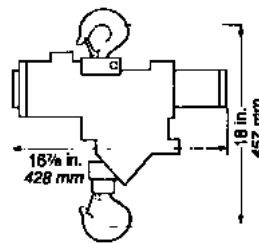


### Features

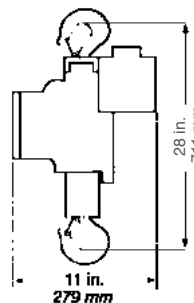
- Self-locking worm gear design eliminates the need for a break (including break repairs and brake adjustments). When air flow to the motor stops, the worm gear stops and holds the load securely
- Heat-treated alloy steel chain provides strength and flexibility
- Powerful air motor provides positive high-torque starting characteristics
- All rotating parts supported on anti-friction bearings for smooth operation
- Housing of sectioned aluminum "Techalloy" castings provide extra strength and durability
- Automatic, adjustable limit stops - prevent over-travel, even at high speeds
- Withstands frequent stopping, starting and stalling - without damage or overheating
- Operator controlled speed - for precise load spotting
- Remote pendent control - available in all sizes
- Top hook swivels 360°
- Standard safety cable attachment point provides secure installation

### Applications:

The 91200 extra heavy duty hoist series is designed to lift raw or processed materials in steel manufacturing plants, heavy assemblies in automobile, truck and tractor factories, aircraft, aerospace industries, heavy machinery manufacture, petrochemical plants and food processing operations.



91200 (500-2000 lb.)



91200 (4000 lb.)



91200

### Air Hoist Specifications

| Models    | Control Description | Rated Capacity lb (kg) | Lifting Hook Speed at Rated Capacity ft./min (m/min) | Standard Lift Length ft (m) | Standard Control Length ft (m) | Net Weight lb (kg) | Air Inlet / Hose ID in (mm) |
|-----------|---------------------|------------------------|------------------------------------------------------|-----------------------------|--------------------------------|--------------------|-----------------------------|
| 91200-DC  | Pull Chain          | 500 (227)              | 44 (13.4)                                            | 15 (4.6)                    | 10 (3.1)                       | 60 (27.3)          | 1/2 NPT 3/4 (19)            |
| 91200-DP  | Pendent             | 500 (227)              | 44 (13.4)                                            | 15 (4.6)                    | 10 (3.1)                       | 63 (28.6)          | 1/2 NPT 3/4 (19)            |
| 91200-MC  | Pull Chain          | 1,000 (454)            | 20 (6.1)                                             | 15 (4.6)                    | 10 (3.1)                       | 60 (27.3)          | 1/2 NPT 3/4 (19)            |
| 91200-MP  | Pendent             | 1,000 (454)            | 20 (6.1)                                             | 15 (4.6)                    | 10 (3.1)                       | 63 (28.6)          | 1/2 NPT 3/4 (19)            |
| 91200-2MC | Pull Chain          | 2,000 (907)            | 12 (3.7)                                             | 15 (4.6)                    | 10 (3.1)                       | 60 (27.3)          | 1/2 NPT 3/4 (19)            |
| 91200-2MP | Pendent             | 2,000 (907)            | 12 (3.7)                                             | 15 (4.6)                    | 10 (3.1)                       | 63 (28.6)          | 1/2 NPT 3/4 (19)            |
| 91200-4MC | Pull Chain          | 4,000 (1,814)          | 5 (1.5)                                              | 15 (4.6)                    | 10 (3.1)                       | 109 (49.4)         | 1/2 NPT 3/4 (19)            |
| 91200-4MP | Pendent             | 4,000 (1,814)          | 5 (1.5)                                              | 15 (4.6)                    | 10 (3.1)                       | 112 (50.8)         | 1/2 NPT 3/4 (19)            |

**Standard Equipment:** swivel top latch hooks, built-in lubricators and air strainer, exhaust muffler

**Optional Equipment at Extra Cost:** chain container bucket C088945, additional chain lift and pendent control beyond standard lengths.

# ATP Large Air Drills



## ATP 2122 Series Drills

The 2122 series drills are designed for RUGGED HEAVY DUTY drilling, reaming, tapping and tube rolling applications in heavy fabrication, petrochemical, general industrial, and construction industries.

### Features

- Ball bearing support for long life and smooth operation
- Roll throttle for excellent speed control
- Governor-controlled motor conserves air at light loads, holds speed at peak horse power under heavy loading
- Internal oil reservoir reduces "downtime"
- External grease fitting for easy lubrication
- Self closing roll throttle with independent reverse

### Standard Equipment:

- Breast plate, assist handle, 1/2" shank, wood bore chuck

### Optional Equipment:

- #2 and #3 morse tapers, 1/2" and 3/4" drill chucks

## ATP 3500 Drills

3500 drills are used for extra heavy duty drilling, reaming, tapping and tube rolling applications in petrochemical, heavy fabrication, general industrial, shipbuilding and construction industries.

### Features

- Reversible self-closing roll throttle for one-hand throttle control and reversing
- Governor controlled motor conserves air at light loads, holds speed at heavier loads while increasing power
- Heavy-duty ball bearings for long life
- 5.9 horse power motor and rugged gearing provides maximum power output
- Integral #4 and #5 morse taper female sockets for fast, easy change overs and positive drill bit retention
- Feed screw for drilling or reaming down force



**2122-725WB**

\*Shown with optional 1/2" Drill Chuck and Morse Taper Spindle.



**3500RAFYM**

## 2122 Drill Specifications

| Models              | Free Speed RPM | Weight lb (Kg) | Height Over Spindle in (mm) | Side To Center Distance in (mm) | CFM | Spindle and Spindle Chuck           | Air Inlet / Hose ID in (mm) |
|---------------------|----------------|----------------|-----------------------------|---------------------------------|-----|-------------------------------------|-----------------------------|
| <b>2122-725WB</b>   | 725            | 14.4 (6.53)    | 17.25 (438)                 | 1-7/16 (36)                     | 50  | Threaded, 1/2" Shank Wood Bit Chuck | 1/2 NPT 3/4 (19)            |
| <b>2122-360-1/2</b> | 360            | 14.4 (6.53)    | 17.25 (438)                 | 1-7/16 (36)                     | 50  | 1/2" Chuck                          | 1/2 NPT 3/4 (19)            |

Also available in 280 rpm, 350 rpm and 375 rpm models

## 3500 Drill Specifications

| Models           | Free Speed RPM | Weight lb (Kg) | Height Over Spindle in (mm) | Side To Center Distance in (mm) | CFM | Spindle and Spindle Chuck | Air Inlet / Hose ID in (mm) |
|------------------|----------------|----------------|-----------------------------|---------------------------------|-----|---------------------------|-----------------------------|
| <b>3500RAFUL</b> | 100            | 69 (31.4)      | 23.25 (591)                 | 2.75 (69.9)                     | 165 | #4MT                      | 1 NPT 1 (25)                |
| <b>3500RAFYM</b> | 60             | 69 (31.4)      | 23.25 (591)                 | 2.75 (69.9)                     | 165 | #5MT                      | 1 NPT 1 (25)                |



# ATP Air Motors

## Productivity in Motion



### ATP Air Motors

Use ATP air motors whenever you need a rugged and reliable power source for the most demanding requirements. We offer a wide range of air motors to fit your needs.

- **ATP Air Motors are 100% U.S.A. Manufactured**
- **ATP can also custom design motors for your unique applications**

Contact ATP's customer service team for a motor quotation.



### Features:

- **Optional 2 movement safety trigger**
- **Variable speed and torque control**
- **High output durable vane motor**
  - **Rugged planetary gearing**
  - **Mounts in any position**
  - **Keyed output shaft**

### 3400 Series Specifications

| Models          | Max Power |      | Speed at   | Free Speed | Starting Torque |      | Stall Torque |      | Air Consumption |        | Weight |      |
|-----------------|-----------|------|------------|------------|-----------------|------|--------------|------|-----------------|--------|--------|------|
|                 | (hp)      | (kW) | Max. Power |            | (ft lb)         | (Nm) | (ft lb)      | (Nm) | At Max. Power   |        | (lb)   | (kg) |
|                 |           |      | (RPM)      | (RPM)      |                 |      |              |      | (CFM)           | (m3/m) |        |      |
| <b>CML 3460</b> | 1.14      | .085 | 180        | 260        | 40              | 54   | 56           | 76   | 45              | 1.27   | 7.3    | 3.3  |
| <b>CML 3488</b> | 1.14      | .085 | 90         | 130        | 85              | 115  | 110          | 149  | 45              | 1.27   | 7.3    | 3.3  |



### Features:

- **Variable speed and torque control**
- **High output durable vane motor**
  - **Rugged planetary gearing**
  - **Keyed output drive shaft**
  - **Six hole face mounting**
  - **Mounts in any position**

### 3800 Series Specifications

| Models                                                                                               | Max Power |      | Speed at   | Free Speed | Starting Torque |       | Stall Torque |       | Air Consumption |        | Weight |      |
|------------------------------------------------------------------------------------------------------|-----------|------|------------|------------|-----------------|-------|--------------|-------|-----------------|--------|--------|------|
|                                                                                                      | (hp)      | (kW) | Max. Power |            | (ft lb)         | (Nm)  | (ft lb)      | (Nm)  | At Max. Power   |        | (lb)   | (kg) |
|                                                                                                      |           |      | (RPM)      | (RPM)      |                 |       |              |       | (CFM)           | (m3/m) |        |      |
| <b>Non-Reversible</b> (Direction of rotation is counterclockwise when facing the shaft end of motor) |           |      |            |            |                 |       |              |       |                 |        |        |      |
| <b>ATP 3800P</b>                                                                                     | 1.45      | 1.08 | 285        | 600        | 42              | 57.0  | 56.5         | 76.6  | 48              | 1.36   | 8.5    | 3.86 |
| <b>ATP 3800Q</b>                                                                                     | 1.45      | 1.08 | 180        | 375        | 62              | 84.0  | 83.5         | 113.0 | 48              | 1.36   | 8.5    | 3.86 |
| <b>ATP 3800R</b>                                                                                     | 1.45      | 1.08 | 150        | 320        | 72              | 98.0  | 96.0         | 130.0 | 48              | 1.36   | 8.5    | 3.86 |
| <b>ATP 3800S</b>                                                                                     | 1.45      | 1.08 | 120        | 255        | 88              | 119.0 | 118.0        | 160.0 | 48              | 1.36   | 8.5    | 3.86 |
| <b>ATP 3800U</b>                                                                                     | 1.45      | 1.08 | 105        | 220        | 105             | 142.0 | 140.0        | 189.0 | 48              | 1.36   | 8.5    | 3.86 |
| <b>Reversible</b>                                                                                    |           |      |            |            |                 |       |              |       |                 |        |        |      |
| <b>ATP 3840P</b>                                                                                     | 1.35      | 1.01 | 215        | 440        | 40              | 54.2  | 53.5         | 72.6  | 44              | 1.25   | 8.75   | 3.97 |
| <b>ATP 3840Q</b>                                                                                     | 1.35      | 1.01 | 130        | 280        | 60              | 81.4  | 80.0         | 108.0 | 44              | 1.25   | 8.75   | 3.97 |
| <b>ATP 3840R</b>                                                                                     | 1.35      | 1.01 | 122        | 238        | 69              | 93.0  | 92.0         | 125.0 | 44              | 1.25   | 8.75   | 3.97 |
| <b>ATP 3840S</b>                                                                                     | 1.35      | 1.01 | 100        | 190        | 86              | 116.0 | 115.0        | 156.0 | 44              | 1.25   | 8.75   | 3.97 |
| <b>ATP 3840U</b>                                                                                     | 1.35      | 1.01 | 83         | 162        | 100             | 135.0 | 134.0        | 181.0 | 44              | 1.25   | 8.75   | 3.97 |

# ATP Air Motors

Productivity in Motion



## Features:

- Variable speed and torque control
- High output durable vane motor
  - Rugged planetary gearing
  - Keyed output drive shaft
  - Six hole face mounting
  - Mounts in any position

## 4800 Series Specifications

| Models                                                                                               | Max Power |      | Speed at   | Free Speed | Starting Torque |      | Stall Torque |      | Air Consumption |        | Weight |      |
|------------------------------------------------------------------------------------------------------|-----------|------|------------|------------|-----------------|------|--------------|------|-----------------|--------|--------|------|
|                                                                                                      | (hp)      | (kW) | Max. Power |            | (ft lb)         | (Nm) | (ft lb)      | (Nm) | At Max. Power   |        | (lb)   | (kg) |
|                                                                                                      |           |      | (RPM)      | (RPM)      |                 |      |              |      | (CFM)           | (m3/m) |        |      |
| <b>Non-Reversible</b> (Direction of rotation is counterclockwise when facing the shaft end of motor) |           |      |            |            |                 |      |              |      |                 |        |        |      |
| ATP 4800K                                                                                            | 3.7       | 2.76 | 821        | 1,538      | 35.3            | 47.8 | 47           | 63.7 | 95              | 2.69   | 15.25  | 6.92 |
| ATP 4800M                                                                                            | 3.7       | 2.76 | 560        | 1,050      | 51              | 69.2 | 69           | 93.6 | 95              | 2.69   | 15.25  | 6.92 |
| ATP 4800N                                                                                            | 3.7       | 2.76 | 387        | 726        | 75              | 102  | 100          | 136  | 95              | 2.69   | 15.25  | 6.92 |
| ATP 4800P                                                                                            | 3.7       | 2.76 | 260        | 510        | 98              | 133  | 131          | 178  | 95              | 2.69   | 19.75  | 9.0  |
| ATP 4800Q                                                                                            | 3.5       | 2.61 | 194        | 375        | 129             | 175  | 173          | 235  | 95              | 2.69   | 19.75  | 9.0  |
| ATP 4800S                                                                                            | 3.5       | 2.61 | 146        | 275        | 178             | 241  | 238          | 323  | 95              | 2.69   | 19.75  | 9.0  |
| ATP 4800U                                                                                            | 3.5       | 2.61 | 97         | 185        | 265             | 359  | 354          | 480  | 95              | 2.69   | 19.75  | 9.0  |
| <b>Reversible</b>                                                                                    |           |      |            |            |                 |      |              |      |                 |        |        |      |
| ATP 4840K                                                                                            | 3.2       | 2.39 | 711        | 1,429      | 32              | 43.4 | 42.7         | 57.9 | 95              | 2.69   | 15.25  | 6.92 |
| ATP 4840M                                                                                            | 3.2       | 2.39 | 485        | 975        | 47.3            | 64   | 63           | 85.4 | 95              | 2.69   | 15.25  | 6.92 |
| ATP 4840N                                                                                            | 3.2       | 2.39 | 336        | 675        | 67.7            | 91.7 | 90.2         | 122  | 95              | 2.69   | 15.25  | 6.92 |
| ATP 4840P                                                                                            | 3         | 2.24 | 228        | 475        | 93              | 126  | 125          | 170  | 95              | 2.69   | 20.125 | 9.13 |
| ATP 4840Q                                                                                            | 3         | 2.24 | 167        | 350        | 123             | 167  | 165          | 224  | 95              | 2.69   | 20.125 | 9.13 |
| ATP 4840S                                                                                            | 3         | 2.24 | 125        | 255        | 161             | 218  | 215          | 292  | 95              | 2.69   | 20.125 | 9.13 |
| ATP 4840U                                                                                            | 3         | 2.24 | 83         | 170        | 225             | 305  | 300          | 407  | 95              | 2.69   | 20.125 | 9.13 |

## Features:

- With or without reverse, CW or CCW rotation
- Custom designed for multiple applications
  - Keyed or tapered output drive shaft
  - Variable speed and torque control
  - High output durable vane motor
  - Fixture mount in any position
  - Rugged planetary gearing



## 7600 Series Specifications

| Models    | Max Power |      | Speed at   | Free Speed | Starting Torque |      | Stall Torque |      | Air Consumption |        | Weight |      |
|-----------|-----------|------|------------|------------|-----------------|------|--------------|------|-----------------|--------|--------|------|
|           | (hp)      | (kW) | Max. Power |            | (ft lb)         | (Nm) | (ft lb)      | (Nm) | At Max. Power   |        | (lb)   | (kg) |
|           |           |      | (RPM)      | (RPM)      |                 |      |              |      | (CFM)           | (m3/m) |        |      |
| 7667-400  | .45       | .34  | 210        | 400        | 11.3            | 15.3 | 22           | 29.8 | 25              | .71    | 2.5    | 1.13 |
| 7667-600  | .45       | .34  | 425        | 600        | 6.4             | 8.68 | 11           | 14.9 | 25              | .71    | 2.5    | 1.13 |
| 7667-1000 | .45       | .34  | 600        | 1,000      | 4.8             | 6.5  | 7.5          | 10.2 | 25              | .71    | 2.5    | 1.13 |

# ATP Air Motors

Productivity in Motion



## Features:

- Variable speed and torque control
- High output durable vane motor
  - Keyed output shaft
  - Flange mounts

## 318 Series Specifications

| Models      | Max Power |      | Speed at   | Free Speed | Torque @  |        | Stall Torque |        | Air Consumption |        | Weight |       |
|-------------|-----------|------|------------|------------|-----------|--------|--------------|--------|-----------------|--------|--------|-------|
|             | (hp)      | (kW) | Max. Power |            | Max power | (Nm)   | (ft lb)      | (Nm)   | At Max. Power   | (m3/m) | (lb)   | (kg)  |
|             |           |      | (RPM)      | (RPM)      | (ft lb)   | (Nm)   | (ft lb)      | (Nm)   | (CFM)           |        |        |       |
| 318-RSM3000 | 2.90      | 2.16 | 3,450      | *          | 4.5       | 6.10   | 9.0          | 12.20  | 135             | 3.80   | 20     | 9.07  |
| 318-RSM300  | 2.90      | 2.16 | 370        | *          | 42.0      | 57.0   | 75.0         | 101.69 | 45              | 1.27   | 35     | 15.88 |
| 318-RSM125  | 2.90      | 2.16 | 155        | *          | 99.0      | 134.23 | 175.0        | 237.27 | 135             | 3.80   | 60     | 27.22 |
| 318-RSM40   | 2.90      | 2.16 | 59         | *          | 262.50    | 356.0  | 525.0        | 711.80 | 135             | 3.80   | 60     | 27.22 |

\* Ungoverned stationary motors must be use in applications where the motor will always run under load.



## Features:

- Variable speed and torque control
- High output durable vane motor
  - Rugged spur gearing
  - Keyed output shaft
  - Foot mounting

## 3501 Series Specifications

| Models       | Max Power |      | Speed at   | Free Speed | Torque @  |        | Stall Torque |          | Air Consumption |        | Weight |       |
|--------------|-----------|------|------------|------------|-----------|--------|--------------|----------|-----------------|--------|--------|-------|
|              | (hp)      | (kW) | Max. Power |            | Max Power | (Nm)   | (ft lb)      | (Nm)     | At Max. Power   | (m3/m) | (lb)   | (kg)  |
|              |           |      | (RPM)      | (RPM)      | (ft lb)   | (Nm)   | (ft lb)      | (Nm)     | (CFM)           |        |        |       |
| 3501-RSM3600 | 7.0       | 5.22 | 3,500      | 7,100      | 10.0      | 13.56  | 17.0         | 23.05    | 190             | 5.38   | 26     | 11.79 |
| 3501-RSM1800 | 7.0       | 5.22 | 1,590      | 3,180      | 23.0      | 31.18  | 38.0         | 51.52    | 190             | 5.38   | 65     | 29.48 |
| 3501-RSM1000 | 7.0       | 5.22 | 900        | 1,820      | 41.0      | 55.59  | 68.0         | 92.20    | 190             | 5.38   | 65     | 29.48 |
| 3501-RSM400  | 7.0       | 5.22 | 350        | 710        | 105.0     | 142.36 | 175.0        | 237.27   | 190             | 5.38   | 65     | 29.48 |
| 3501-RSM310  | 7.0       | 5.22 | 280        | 570        | 130.0     | 176.26 | 220.0        | 298.28   | 190             | 5.38   | 65     | 29.48 |
| 3501-RSM200  | 7.0       | 5.22 | 185        | 370        | 200.0     | 271.16 | 330.0        | 447.42   | 190             | 5.38   | 65     | 29.48 |
| 3501-RSM150  | 7.0       | 5.22 | 150        | 275        | 245.09    | 332.30 | 450.0        | 610.12   | 190             | 5.38   | 65     | 29.48 |
| 3501-RSM100  | 7.0       | 5.22 | 99         | 180        | 347.0     | 470.47 | 620.0        | 840.61   | 210             | 5.95   | 77     | 34.93 |
| 3501-RSM60   | 7.0       | 5.22 | 52         | 95         | 710.0     | 962.63 | 1,200.0      | 1,626.98 | 210             | 5.95   | 77     | 34.93 |

# Jet Air Fan “Moving More Air by Design”

## ATP-JA20 High Performance Air Mover

**ATP's JET AIR** produces superior air flow. Thanks to the engineering of our trailing edge design, the blades pull more air through the fan in the forward direction like a Jet Prop. The result, we move more air at lower fan speeds using less energy than the competition does!

### Features:

- Used for general ventilation where compressed air power source is available
- Designed for fixtured applications, easily mounting to a 20" API flange
- Dynamically balanced 4 blade design for smoother operation
- High visibility orange - powder coated stainless steel fan shroud for safety
- Manufactured to aircraft tolerances & specifications
- Moves more air by design, at air pressures between 40-110 psi (2.75 - 7.6 bar)
- Reduces air turbulence by design, smoother air flow at all RPM's using only 2 rotating parts
- Hy-Tech bearing grease used in all high speed Jet Air Bearings
- Can be used as a blower or exhauster by turning it around

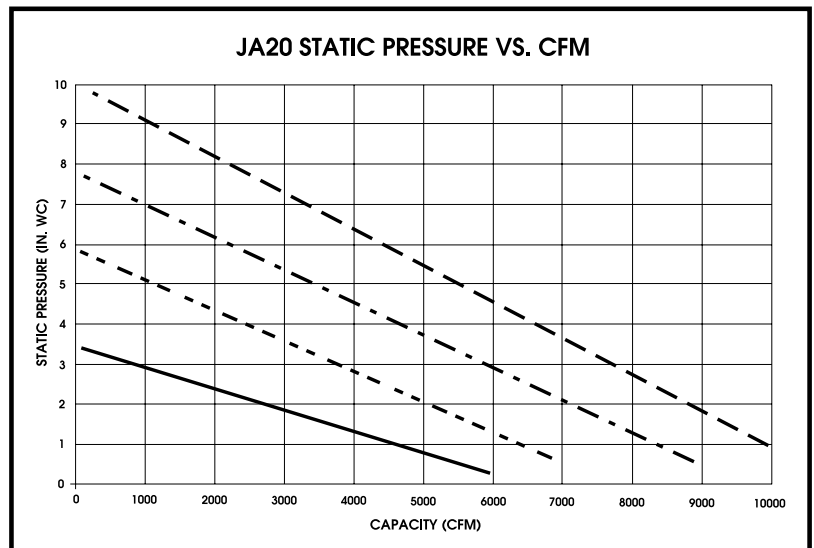


### Ventilation Applications and Industries:

- Removal of hazardous fumes from tanks, process vessels, welding, sandblasting and other operations in confined areas
- Used in Refineries, Chemical Plants, Shipyards, Power Generation, Paper Mills and Steel Fabrication Plants

### Specifications:

- Fan assembly shaft rotates on permanently sealed ball bearings
- Air consumption at 60 PSI, 115 CFM @ 2,700 RPM
- Fits 20" (508 mm) API tank opening bolt circle
- Delivery - up to 11,200 CFM (19,029 m3/hr)
- Max 120 PSI, Working pressure 40-110 PSI
- Weight 103 lbs (Shipping weight 113 lbs)
- Mounting slots 1-1/8" diameter
- Air inlet 3/4" NPT
- Rebuild Kit: JA20RK
- Grounding Clamp: JA20GC





# ATP Venturi Air Movers “Air Horns”

**10VAM**



## Features:

- Used for portable ventilation where compressed air is available as a power source
- Rugged “Tech-Alloy” aluminum casting
- No moving parts to replace
- Periodic steam cleaning for easy maintenance
- Can pull air from confined areas or blow fresh air into area
- Grounding wire and clamp - standard equipment
- Will operate on compressed air or steam

## Ventilation Applications and Industries:

- Removal of hazardous fumes from tanks, process vessels, welding, sandblasting and other operations in confined areas
- Cooling personnel, machinery or production product with a blast of air
- Used in Refineries, Chemical Plants, Shipyards, Power Generation, Paper Mills and Steel Fabrication Plants

| Models       | Length<br>in (mm) | Base<br>Diameter<br>in (mm) | Top<br>Diameter<br>in (mm) | Air<br>Inlet in | Weight<br>lb (kg) | CFM Flow<br>@ 80 PSI | CFM Used<br>@ 80 PSI |
|--------------|-------------------|-----------------------------|----------------------------|-----------------|-------------------|----------------------|----------------------|
| <b>3VAMS</b> | 16.75 (425.5)     | 7.31 (185.7)                | 6.0 (152.4)                | 1/2 NPT         | 5.5 (2.5)         | 1,180                | 65                   |
| <b>3VAM</b>  | 30.5 (774.7)      | 7.31 (185.7)                | 7.0 (178.0)                | 1/2 NPT         | 8.5 (3.8)         | 1,450                | 65                   |
| <b>6VAM</b>  | 44.25 (1124.0)    | 11.25 (285.8)               | 12.5 (317.5)               | 1 NPT           | 22.0 (9.9)        | 3,350                | 125                  |
| <b>8VAM</b>  | 46.0 (1168.4)     | 14.37 (365.0)               | 14.25 (362.0)              | 1 NPT           | 36.0 (16.3)       | 4,930                | 195                  |
| <b>10VAM</b> | 48.0 (1219.2)     | 17.0 (432.0)                | 15.75 (400.05)             | 1 NPT           | 42.0 (19.05)      | 7,300                | 275                  |

Strict precautions may be required when using any air horn. To reduce the risk of injury, all operators and maintenance personnel must read and follow the safety instructions before operating the air horns. Failure to read and follow the safety instructions could result in serious injury or death. **Product Safety Note:** Always attach a grounding cable. Grounding clamp and wire must be used to prevent static electricity build up which could cause a spark.

# ATP Air Tool Lubricants

## Oil and Grease



### ATP Ice Free “BLUE MAGIC” Air Tool Lubricant For Pneumatic Tools

This oil is especially compounded for lubricating Air Impact Tools, Hammers, Drills, Grinders, Pumps, Breakers, Air Motors and other Pneumatic Tools. Moisture in compressed air will rapidly wash away most lubricating oils used in air tools. “BLUE MAGIC” oil, has additives that absorb such moisture into the lubricant, forming a stable emulsion which clings to the inside of the tool. It not only lubricates and rustproofs, but it prevents “ice” from forming in the tool’s exhaust, and is good to -40 degrees F reducing the need for most cold weather air line additives. During idle time, there is no separation of moisture and oil. This constantly maintained protective film prevents rust and corrosion in the inside of air tools.

#### IMPORTANT:

When using “BLUE MAGIC” Ice Free Oil in Air Line Lubricators, adjust the feed rate to approximately 1/3 of that used with regular oil. “BLUE MAGIC” oil does not wash out of air tools as rapidly as regular oils do.

### Blue Magic Oil

| Models   | Container Size | Case Quantity |
|----------|----------------|---------------|
| P-137646 | Pint           | 24            |
| P-137145 | Quart          | 12            |
| P-089507 | Gallon         | 4             |

Sold as each



### Impact Mechanism (Clutch) Lubricant “Pure Gold”

A superior synthetic moly-based extreme pressure lubricant for use in all types of grease lubricated impact mechanisms, anvil bushings and high speed air motor bearings.

### Pure Gold Lubricant

| Models    | Container Size    |
|-----------|-------------------|
| CA-131898 | 14.5 oz Cartridge |
| C-131689  | 7-1/2 lb Pail     |



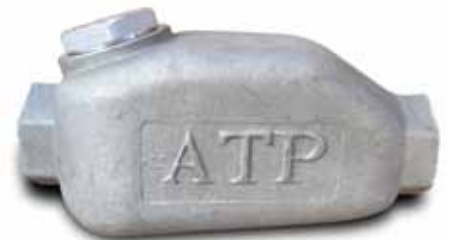
# ATP Air Line Accessories

## ATP Automatic In-line Oilers

The ATP (football type) automatic in-line oilers are designed to supply oil for tool lubrication anywhere stationary lubricators are not feasible to use. Automatic in-line oilers should be installed as close to the air tool as possible. The ATP automatic in-line oilers have an adjustable needle valve flow control to permit easy regulation of oil flow. Oil flow while using ATP's ice free "BLUE MAGIC" air tool lubricant should be set at approximately one drop per minute. The rugged cast housing provides long service life under the most severe service conditions.



**ATP OL**



**ATP 1L**



**ATP 2L**



**ATP 3L**

## In-line Oiler Specifications

| Models        | Thread<br>NPT/Hose<br>Barb Pipe in | Max. Working<br>Pressures<br>(PSI) | Recommended Oil<br>Wt./Capacity<br>(FL. OZ.) |
|---------------|------------------------------------|------------------------------------|----------------------------------------------|
| <b>ATP OL</b> | 1/2 NPT                            | 500                                | ATP Blue Magic/5 Wt. 1.4 Fl. Oz.             |
| <b>ATP 1L</b> | 3/4 NPT                            | 260                                | ATP Blue Magic/5 Wt. 4.0 Fl. Oz.             |
| <b>ATP 2L</b> | 3/4 NPT                            | 300                                | ATP Blue Magic/5 Wt. 11.0 Fl. Oz.            |
| <b>ATP 3L</b> | 1 NPT                              | 250                                | ATP Blue Magic/5 Wt. 16.0 Fl. Oz.            |

Repair kit for in-line oiler ATP-LRK

# ATP Air Line Accessories

## Sahara Moisture Separator With Automatic Drain

### Features

- Removes 100% of visible moisture from air lines
- Will pass 180 CFM through 3/4" NPT fittings at 90 PSI
- Can be mounted on a portable frame
- No need for changing filter units
- Suitable for up to 100 PSI
- No moving parts



| Model      | Inlet in | Outlet in | Rated Pressure   |
|------------|----------|-----------|------------------|
| <b>S7F</b> | 3/4 NPT  | 3/4 NPT   | 100 PSI or 7 BAR |

Weight: 11 lbs

Dimensions: 6" Dia. x 9.5"

## ATP Whip Hoses

ATP whip hoses are made of high strength and durable hydraulic hose, with 360° inlet swivels, in-line oilers, and Chicago quick connect fittings. Whip hoses are 6' in total length.



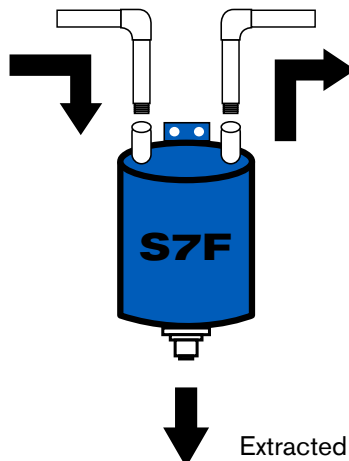
## Whip Hose Specifications

| Models      | Tool Inlet Size in | Hose Size in |
|-------------|--------------------|--------------|
| <b>WH-4</b> | 1/4 Inlet          | 1/2          |
| <b>WH-6</b> | 3/8 Inlet          | 1/2          |
| <b>WH-5</b> | 1/2 Inlet          | 1/2          |

## Sahara Separator Installation

### Air Flow

Compressed air enters the separator with moisture in the air.



Compressed air leaves separator free of moisture supplied to tools and other air powered equipment.

Extracted moisture collected in the sump is dissipated through a drain valve.



# ATP Air Line Accessories



## Standard Universal Hose Couplings

ATP Universal Hose Couplings are a rugged rust proof one-piece design with the convenience of a quarter turn connect/disconnect feature. The design increases holding power and seal with increase in air pressure. The gaskets will not blow or fall out. The same size coupling end is used on all sizes making for easy interchange of different size hose assemblies. The coupling gaskets are made of high grade materials that retain their effective resiliency indefinitely. Gaskets are easily installed using only your fingers. No special tools are required for installation!



**WARNING: ALWAYS** use a coupling lock pin (part number C-142110) to prevent injury from accidental uncoupling of universal hose couplings. Whip hoses can cause serious injury!

## Special Large Size Universal Couplings:

These have the same advantages of the Standard Universal Couplings except there is no interconnect ability with standard sizes.



| Bronze Models  | Description            |
|----------------|------------------------|
| C-015145 1-1/2 | NPT Male Pipe Thread   |
| C-015175 1-1/2 | NPT Female Pipe Thread |
| C-015176 1-1/2 | Diameter Hose I.D.     |

Rubber gasket for large Universal Couplings, C-015071

\*One gasket supplied with each coupling

## Coupling Accessories

|                |          |
|----------------|----------|
| Dead End Cap   | C-035019 |
| 3 Way Coupling | C-035021 |
| Rubber Gasket  | C-035138 |

## Male Thread Coupling

| Bronze Models | NPT Male Pipe Thread in |
|---------------|-------------------------|
| C-015123      | 3/8                     |
| C-015122      | 1/2                     |
| C-015121      | 3/4                     |
| C-015120      | 1                       |

## Female Thread Coupling

| Bronze Models | NPT Female Pipe Thread in |
|---------------|---------------------------|
| C-015128      | 3/8                       |
| C-015127      | 1/2                       |
| C-015126      | 3/4                       |
| C-015125      | 1                         |

## Hose End Coupling

| Bronze Models | Hose I.D. in |
|---------------|--------------|
| C-015134      | 3/8          |
| C-015132      | 1/2          |
| C-015131      | 3/4          |
| C-015130      | 1            |



# Air Tool Replacement Parts



## The Performance Upgrade: Fix It To Last.

In addition to spare parts for ATP and Thor brands, we also manufacture many replacement parts for Ingersoll Rand, Chicago Pneumatic, Cleco, Top Cat, Sullair, and other leading brands.

Our products have been manufactured in the U.S.A. since 1923 and engineered at or above the most current OEM specifications and standards producing;

- Less down time
- Fewer change outs
- Reduced maintenance costs

Repairing your tools with high quality ATP replacement parts gives you the confidence your tools will get the job done.

With over **20,000** OEM part numbers in stock, the next time you need quality replacement parts, demand ATP.



# ATP Air Tool Tune Up Kits



## ATP Tune Up Kits

ATP Tune Up Kits contain those items which are essential to a professional tool Tune-Up, and assures maximum productivity and utilization of your tools. Selected vanes, bearings, gaskets, and seals are packaged for ease of use and storage.

| PART #          | FITS MODELS                               |
|-----------------|-------------------------------------------|
| C-101077        | CP20                                      |
| C-101083        | CP3440                                    |
| C-101088        | CP606                                     |
| C-101089        | CP610                                     |
| C-101090        | CP612                                     |
| C-101091        | CP365                                     |
| C-101614        | CP614                                     |
| C-101987        | CP6120                                    |
| C-115811        | CP611                                     |
| C-118984        | CP606                                     |
| C-119108        | CP612                                     |
| C-132252        | CP365                                     |
| C-137568        | CP6060                                    |
| CA-131501       | CP797                                     |
| 1710B/1710P-TK3 | IR1710                                    |
| 1712B/1712P-TK3 | IR1712                                    |
| 1720B-TK2       | IR1720B                                   |
| 1720P-TK2       | IR1720P                                   |
| 261-TK2         | IR261                                     |
| 2906P-TK1       | IR2906P                                   |
| 2908-TK1        | IR2908                                    |
| 2908P-TK2       | IR2908P                                   |
| 2910-TK4        | IR2910                                    |
| 2920B-TK2       | IR2920B                                   |
| 2920P-TK2       | IR2920P                                   |
| 2921P-TK2       | IR2921P                                   |
| 2925-TK2        | IR2925                                    |
| 2934-TK3        | IR2934                                    |
| 2940-TK3        | IR2940                                    |
| 2945-TK2        | IR2945                                    |
| 2950-TK2        | IR2950                                    |
| 3940-TK1        | IR3940                                    |
| 3941-TK1        | IR3941                                    |
| 3942-TK1        | IR3942                                    |
| 3955-TK1        | IR3955                                    |
| 599-TK1         | IR599                                     |
| 99V/99H-TK3     | IR99V & IR99H Grinders                    |
| 270-1700        | ATSCO V3000 Grinders                      |
| 270-1900        | ATSCO V4000 Grinders                      |
| 270-2500        | ATSCO A712S & 725S Die and Angle Grinders |
| 270-6500        | ATSCO 1200 Series Horizontal Grinders     |





**Super Strength Impact Sockets.  
Striking Wrenches and Accessories**

**WORLD'S MOST EXTENSIVE PRODUCT LINE**

**ELECTRO CHEMICALLY MACHINED (ECM)**

**LESS STRESS DESIGN**



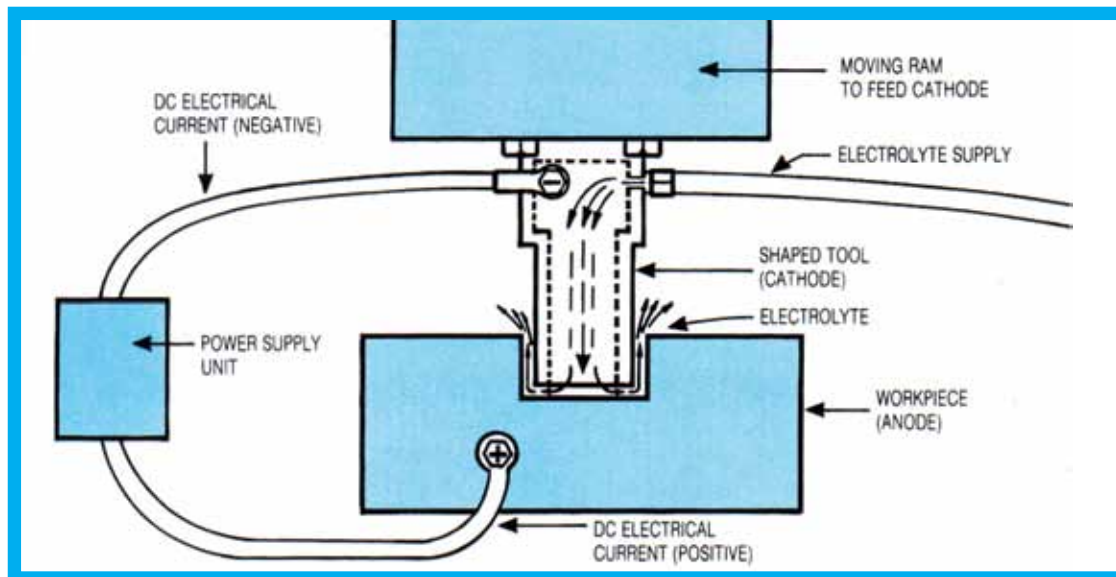
**OZAT is a Division of Hy-Tech Machine, Inc.**

## Electro Chemically Machined (ECM):

Electro Chemical Machining (ECM) is a process in which electrical and chemical energy sources are used for efficient and cost-effective metal removal. The process features:

- Fast machining of complex geometries and hard metals
- Smooth surface finishing
- Stress-free performance
- Absence of thermal strain
- High accuracy
- Automatic deburring

## Sockets Are Fully Machined From Bar Stock



*ECM Process Illustration*

The cathode tool is shaped to provide the form desired in the work-piece. A low voltage is delivered by the power supply unit and an electrolyte is pumped under high pressure between the tool and the work-piece. A mechanically driven ram feeds the tool at a consistent rate into the work-piece to machine the desired shape or cavity.





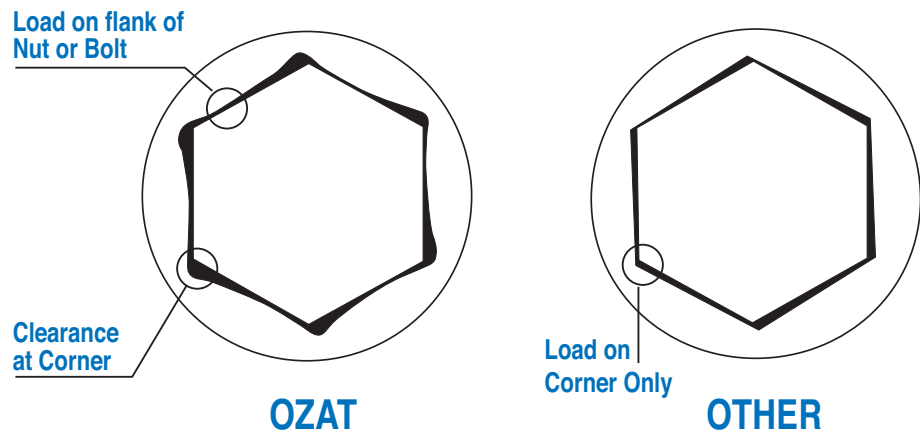
## Less Stress Design:

OZAT socket design is clearly superior to most other sockets available. Their state of the art electro-chemically machined process makes it possible for OZAT to produce all of their sockets in the **less-stress™** design illustrated below.

Without these special machining capabilities, cost of producing the preferred less-stress sockets becomes prohibitive. While other manufacturers, who use the normal broaching method to achieve the hex pattern in their sockets, may have to compromise in their selection of suitable steel, OZAT is able to specify the most perfectly matched material from which to manufacture the most durable and reliable sockets available.

The OZAT difference results in longer socket and fastener life and cost savings to the user.

## OZAT VS. OTHER SOCKETS



## Availability:

ATP / OZAT Sockets are available in 1/2" through 3-1/2" Square Drive and in #4 and #5 Spline sizes, in 4 point, 6 point, 8 point, 12 point, Standard depth, Deep length, Thin walls, Hex bit, "In-Star" type bits, Magnetic bits, Railroad sockets and Torsion bars.

**Custom sockets quoted upon request, see page 83.**

## Statement of Warranty:

The OZAT warranty provides for free replacement, to the original purchaser, of any qualifying socket found to be defective in either material or workmanship, as indicated by breakage or premature wear. Determination of free replacement will be made after examination by ATP. Impact sockets, by their application, are subject to extreme stresses. Therefore special application sockets such as thinwall, hex driver, In-Star driver, and accessories are specifically excluded from the replacement warranty.

Products returned to ATP for warranty consideration must be shipped prepaid, with an ATP returned goods authorization (RGA) number issued by the customer service department. ATP/OZAT impact sockets and accessories are available exclusively through leading industrial distributors nationwide.

**For the name of a distributor in your area contact ATP at 1-800-245-1148.**

|                                                |           |
|------------------------------------------------|-----------|
| <b>1/2 Inch Square Drive</b>                   | <b>41</b> |
| Six Point Impact Sockets                       |           |
| In-star Drivers & Sockets                      |           |
| Hex Driver and 12 Point Sockets                |           |
| Ret Rings                                      |           |
| Power Line Utility Sockets                     |           |
| <b>5/8 Inch Square Drive</b>                   | <b>48</b> |
| Six Point Impact Sockets                       |           |
| Accessories                                    |           |
| <b>3/4 Inch Square Drive</b>                   | <b>50</b> |
| Six Point Impact Sockets                       |           |
| BUDD Wheel Sockets                             |           |
| Hex Driver Sockets                             |           |
| Double Square Impact Sockets                   |           |
| 12 Point Sockets                               |           |
| Accessories                                    |           |
| <b>Railroad Sockets</b>                        | <b>57</b> |
| <b>1 Inch Square Drive</b>                     | <b>58</b> |
| Six Point Impact Sockets                       |           |
| Hex Driver Sockets                             |           |
| Double Square Impact Sockets                   |           |
| BUDD Wheel Sockets                             |           |
| 12 Point Sockets                               |           |
| Accessories                                    |           |
| <b>1-1/2 Inch Square Drive</b>                 | <b>65</b> |
| Six Point Impact Sockets                       |           |
| 12 Point Sockets                               |           |
| Accessories                                    |           |
| <b>2-1/2 Inch Square Drive</b>                 | <b>70</b> |
| Six Point Impact Sockets                       |           |
| Accessories                                    |           |
| <b>3-1/2 Inch Square Drive</b>                 | <b>74</b> |
| Six Point Impact Sockets                       |           |
| Accessories                                    |           |
| <b>#5 Spline Drive</b>                         | <b>76</b> |
| <b>#4 Spline Sockets &amp; Universal Joint</b> | <b>78</b> |
| Six Point Impact Sockets                       |           |
| 74BUDD Wheel Sockets                           |           |
| Accessories for #5 Spline Drive                |           |
| Flat Striking Wrenches (12 Point Opening)      | <b>79</b> |
| Offset Striking Wrenches (12 Point Opening)    | <b>81</b> |
| Striking Wrench Adapter                        | <b>81</b> |
| Torque Multipliers                             | <b>82</b> |
| Request for Quote (Special Socket Order)       | <b>83</b> |



### Safety For Productivity

- Users and bystanders must wear safety glasses conforming to ANSI Z87.1
- Do not hold sockets, extensions, and accessories while impacting or powering to avoid injury
- ¾" drive and larger sizes require the use of ret rings or a Pin & O-ring to secure the socket to the drive
- Never use a nail or homemade pin to secure a socket to a drive
- Never exceed the manufacturer's air tool pressure rating, and hydraulic pressure rating
- Never use a hand chrome socket for impacting or striking applications
- Impact sockets are used to tighten or loosen fasteners powered by air, hydraulic or electric tools
- Never dwell on a socket after it has stopped turning, this can damage both the socket and fastener
- Ensure the socket is fully engaged on the fastener before activating the power tool source
- Impact adapter strength is limited to the smallest drive size or connection point
- Always limit the joints and extensions between the socket and power tool to reduce failure
- Sockets must be properly sized and fitted to the fastener prior to use
- Large drive impact sockets are inherently heavy and care needs to be taken in handling
- Socket openings need to be inspected before each use, and discarded if significant wear or deterioration is present
- Inspect and discard worn or cracked sockets at the drive opening and across the flats
- Striking wrenches must be properly sized and fitted to the fastener prior to use
- Striking to the wrench should only occur on the striking lug end, opposite the fastener engaged end
- Operators hand must be as far away from the striking lug during striking
- Striking wrench must be fully engaged on the fastener prior to striking
- The linear surface on a flat or offset striking wrench must be a true horizontal axis prior to striking
- Striking wrenches must be inspected prior to each use, and discarded if significant wear, cracks or other damage is visually evident across the flats and striking lug surface
- Large size striking wrenches are inherently heavy and care needs to be taken in handling



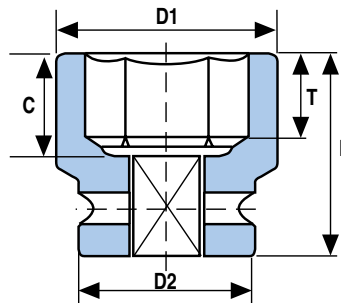
# 1/2" SQUARE DRIVE

## SIX POINT IMPACT SOCKETS

*OZAT 1/2" Drive impact sockets are preferred in many industrial applications where long lasting sockets are required for severe applications. From assembly lines to plant maintenance to busy tire shops, OZAT sockets reduce cost and downtime.*

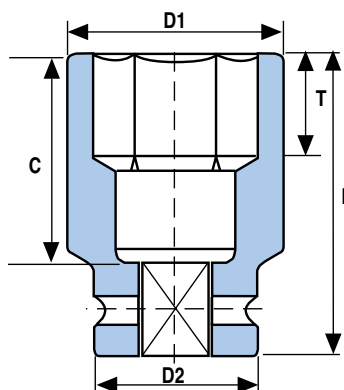
### Standard Fractional Sizes

| SIZE<br>in | PART#  | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in |
|------------|--------|----------|----------|---------|---------|---------|
| 3/8        | Z-0806 | .630     | .984     | 1.482   | .157    | .595    |
| 7/16       | Z-0807 | .748     | .984     | 1.482   | .236    | .595    |
| 1/2        | Z-0808 | .787     | .984     | 1.482   | .236    | .674    |
| 9/16       | Z-0809 | .866     | .984     | 1.482   | .276    | .674    |
| 5/8        | Z-0810 | .984     | 1.181    | 1.482   | .315    | .753    |
| 11/16      | Z-0811 | 1.102    | 1.181    | 1.482   | .354    | .753    |
| 3/4        | Z-0812 | 1.102    | 1.181    | 1.482   | .335    | .753    |
| 13/16      | Z-0813 | 1.181    | 1.181    | 1.482   | .433    | .832    |
| 7/8        | Z-0814 | 1.181    | 1.181    | 1.482   | .512    | .91     |
| 15/16      | Z-0815 | 1.378    | 1.181    | 1.482   | .512    | .91     |
| 1          | Z-0816 | 1.496    | 1.181    | 1.482   | .512    | .95     |
| 1-1/16     | Z-0817 | 1.496    | 1.181    | 1.950   | .512    | .95     |
| 1-1/8      | Z-0818 | 1.614    | 1.181    | 1.560   | .643    | 1.107   |
| 1-3/16     | Z-0819 | 1.614    | 1.181    | 1.950   | .643    | 1.107   |
| 1-1/4      | Z-0820 | 1.732    | 1.378    | 1.560   | .669    | 1.107   |
| 1-5/16     | Z-0821 | 1.732    | 1.378    | 1.677   | .748    | 1.186   |
| 1-3/8      | Z-0822 | 1.929    | 1.378    | 1.560   | .748    | 1.265   |
| 1-7/16     | Z-0823 | 1.929    | 1.732    | 1.950   | .748    | 1.265   |
| 1-1/2      | Z-0824 | 2.047    | 1.732    | 1.950   | .846    | 1.344   |



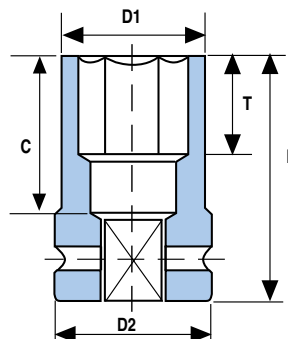
### Deep Fractional Sizes

| SIZE<br>in | PART#   | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in |
|------------|---------|----------|----------|---------|---------|---------|
| 3/8        | Z-0806L | .630     | .984     | 3.042   | .157    | 2.721   |
| 7/16       | Z-0807L | .748     | .984     | 3.042   | .236    | 2.721   |
| 1/2        | Z-0808L | .787     | .984     | 3.042   | .236    | 2.721   |
| 9/16       | Z-0809L | .866     | .984     | 3.042   | .276    | 2.721   |
| 5/8        | Z-0810L | .984     | 1.181    | 3.042   | .315    | 2.721   |
| 11/16      | Z-0811L | 1.102    | 1.181    | 3.042   | .354    | 2.721   |
| 3/4        | Z-0812L | 1.102    | 1.181    | 3.042   | .335    | 2.721   |
| 13/16      | Z-0813L | 1.181    | 1.181    | 3.042   | .433    | 2.721   |
| 7/8        | Z-0814L | 1.181    | 1.181    | 3.042   | .512    | 2.721   |
| 15/16      | Z-0815L | 1.378    | 1.181    | 3.042   | .512    | 2.721   |
| 1          | Z-0816L | 1.496    | 1.181    | 3.042   | .512    | 2.721   |
| 1-1/16     | Z-0817L | 1.496    | 1.181    | 3.042   | .512    | 2.721   |
| 1-1/8      | Z-0818L | 1.614    | 1.181    | 3.042   | .643    | 2.721   |
| 1-3/16     | Z-0819L | 1.614    | 1.181    | 3.042   | .643    | 2.721   |
| 1-1/4      | Z-0820L | 1.732    | 1.378    | 3.042   | .669    | 2.721   |
| 1-5/16     | Z-0821L | 1.732    | 1.378    | 3.042   | .748    | 2.721   |
| 1-3/8      | Z-0822L | 1.929    | 1.378    | 3.042   | .748    | 2.721   |
| 1-7/16     | Z-0823L | 1.929    | 1.732    | 3.042   | .748    | 2.721   |
| 1-1/2      | Z-0824L | 2.047    | 1.732    | 3.042   | .846    | 2.721   |



### Standard Fractional Thinwall Sizes

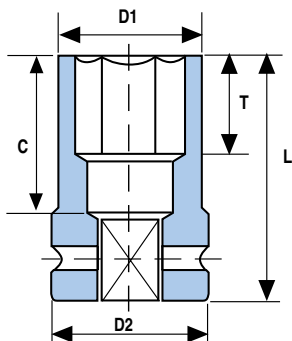
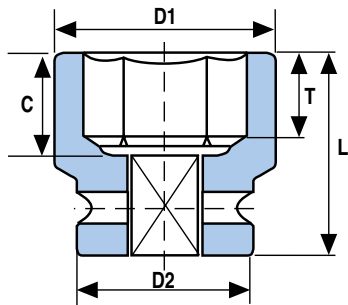
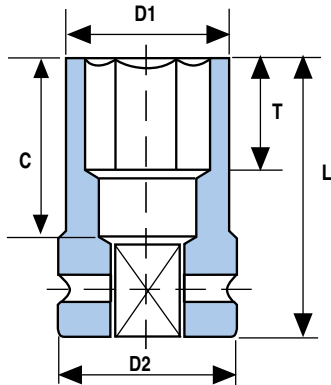
| SIZE<br>in | PART#   | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in |
|------------|---------|----------|----------|---------|---------|---------|
| 9/16       | Z-0809T | .866     | .984     | 1.482   | .551    | .700    |
| 5/8        | Z-0810T | .984     | .984     | 1.482   | .551    | .750    |
| 11/16      | Z-0811T | .984     | .984     | 1.482   | .551    | .750    |
| 3/4        | Z-0812T | 1.102    | 1.181    | 1.482   | .551    | .750    |
| 13/16      | Z-0813T | 1.102    | 1.181    | 1.482   | .551    | .780    |
| 7/8        | Z-0814T | 1.181    | 1.181    | 1.482   | .551    | .780    |
| 15/16      | Z-0815T | 1.299    | 1.181    | 1.482   | .551    | .810    |





# 1/2" SQUARE DRIVE

## SIX POINT IMPACT SOCKETS



### Deep Fractional Thinwall Sizes

| SIZE<br>in | PART#    | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in |
|------------|----------|----------|----------|---------|---------|---------|
| 9/16       | Z-0809LT | .866     | .984     | 3.042   | .551    | 2.721   |
| 5/8        | Z-0810LT | .984     | .984     | 3.042   | .551    | 2.721   |
| 11/16      | Z-0811LT | .984     | .984     | 3.042   | .551    | 2.721   |
| 3/4        | Z-0812LT | 1.102    | 1.181    | 3.042   | .551    | 2.721   |
| 13/16      | Z-0813LT | 1.102    | 1.181    | 3.042   | .551    | 2.721   |
| 7/8        | Z-0814LT | 1.181    | 1.181    | 3.042   | .551    | 2.721   |
| 15/16      | Z-0815LT | 1.299    | 1.181    | 3.042   | .551    | 2.721   |

### Standard Metric Sizes

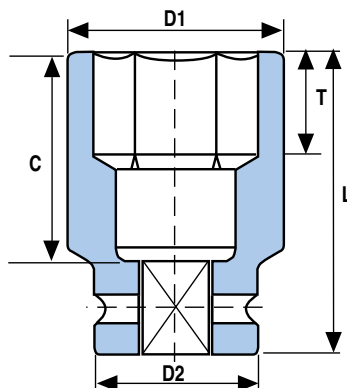
| SIZE<br>mm | PART#   | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | C<br>mm |
|------------|---------|----------|----------|---------|---------|---------|
| 8          | Z-08M8  | 15       | 25       | 38      | 4       | 15      |
| 9          | Z-08M9  | 16       | 25       | 38      | 4       | 15      |
| 10         | Z-08M10 | 17       | 25       | 38      | 5       | 15      |
| 11         | Z-08M11 | 19       | 21       | 38      | 5       | 15      |
| 12         | Z-08M12 | 20       | 25       | 38      | 6       | 17      |
| 13         | Z-08M13 | 21       | 25       | 38      | 6       | 17      |
| 14         | Z-08M14 | 22       | 25       | 38      | 7       | 17      |
| 15         | Z-08M15 | 24       | 30       | 38      | 7       | 19      |
| 16         | Z-08M16 | 25       | 30       | 38      | 7       | 19      |
| 17         | Z-08M17 | 26       | 30       | 38      | 9       | 19      |
| 18         | Z-08M18 | 28       | 30       | 38      | 9       | 19      |
| 19         | Z-08M19 | 28       | 30       | 38      | 9.5     | 19      |
| 20         | Z-08M20 | 30       | 30       | 38      | 10      | 21      |
| 21         | Z-08M21 | 30       | 30       | 38      | 10      | 21      |
| 22         | Z-08M22 | 33       | 30       | 38      | 10      | 21      |
| 23         | Z-08M23 | 35       | 30       | 38      | 12      | 23      |
| 24         | Z-08M24 | 35       | 30       | 45      | 12      | 23      |
| 25         | Z-08M25 | 35       | 30       | 45      | 13      | 24      |
| 26         | Z-08M26 | 38       | 5        | 50      | 13      | 24      |
| 27         | Z-08M27 | 38       | 35       | 50      | 13      | 24      |
| 28         | Z-08M28 | 38       | 35       | 50      | 14      | 25      |
| 29         | Z-08M29 | 41       | 35       | 50      | 14      | 28      |
| 30         | Z-08M30 | 41       | 35       | 50      | 16.5    | 28      |
| 31         | Z-08M31 | 44       | 35       | 50      | 16.5    | 28      |
| 32         | Z-08M32 | 44       | 35       | 50      | 16.5    | 28      |
| 33         | Z-08M33 | 44       | 35       | 50      | 17      | 28      |
| 34         | Z-08M34 | 49       | 35       | 46      | 17      | 30      |
| 35         | Z-08M35 | 49       | 35       | 50      | 19      | 31      |
| 36         | Z-08M36 | 49       | 44       | 50      | 19      | 31      |
| 37         | Z-08M37 | 52       | 44       | 47      | 19      | 31      |
| 38         | Z-08M38 | 52       | 44       | 50      | 22      | 34      |

### Standard Metric Thinwall Sizes

| SIZE<br>mm | PART#    | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | C<br>mm |
|------------|----------|----------|----------|---------|---------|---------|
| 13         | Z-08M13T | 21       | 25       | 38      | 6       | 18      |
| 14         | Z-08M14T | 22       | 25       | 38      | 7       | 18      |
| 15         | Z-08M15T | 24       | 30       | 38      | 7       | 19      |
| 16         | Z-08M16T | 25       | 30       | 38      | 7       | 19      |
| 17         | Z-08M17T | 25       | 30       | 38      | 9       | 19      |
| 18         | Z-08M18T | 25       | 30       | 38      | 9       | 19      |
| 19         | Z-08M19T | 28       | 30       | 38      | 9       | 19      |
| 20         | Z-08M20T | 28       | 30       | 38      | 10      | 20      |
| 21         | Z-08M21T | 30       | 30       | 38      | 10      | 20      |
| 22         | Z-08M22T | 30       | 30       | 38      | 10      | 20      |
| 23         | Z-08M23T | 33       | 30       | 38      | 12      | 20      |
| 24         | Z-08M24T | 33       | 30       | 45      | 12      | 20      |

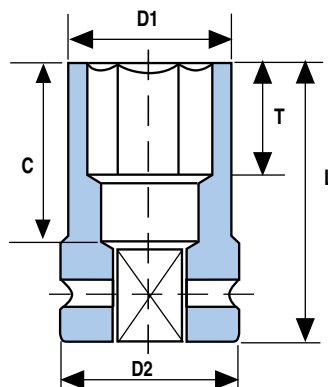
### Deep Metric Sizes

| SIZE<br>mm | PART#    | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | C<br>mm |
|------------|----------|----------|----------|---------|---------|---------|
| 8          | Z-08M8L  | 15       | 25       | 78      | 4       | 69      |
| 9          | Z-08M9L  | 16       | 25       | 78      | 4       | 69      |
| 10         | Z-08M10L | 17       | 25       | 78      | 5       | 69      |
| 11         | Z-08M11L | 19       | 25       | 78      | 5       | 69      |
| 12         | Z-08M12L | 20       | 25       | 78      | 6       | 69      |
| 13         | Z-08M13L | 21       | 25       | 78      | 6       | 69      |
| 14         | Z-08M14L | 22       | 25       | 78      | 7       | 69      |
| 15         | Z-08M15L | 24       | 30       | 78      | 7       | 69      |
| 16         | Z-08M16L | 25       | 30       | 78      | 7       | 69      |
| 17         | Z-08M17L | 26       | 30       | 78      | 9       | 69      |
| 18         | Z-08M18L | 28       | 30       | 78      | 9       | 69      |
| 19         | Z-08M19L | 28       | 30       | 78      | 9.5     | 69      |
| 20         | Z-08M20L | 30       | 30       | 78      | 10      | 69      |
| 21         | Z-08M21L | 30       | 30       | 78      | 10      | 69      |
| 22         | Z-08M22L | 33       | 30       | 78      | 10      | 69      |
| 23         | Z-08M23L | 35       | 30       | 78      | 12      | 69      |
| 24         | Z-08M24L | 35       | 30       | 78      | 12      | 69      |
| 25         | Z-08M25L | 35       | 30       | 78      | 13      | 69      |
| 26         | Z-08M26L | 38       | 35       | 78      | 13      | 69      |
| 27         | Z-08M27L | 38       | 35       | 78      | 13      | 69      |
| 28         | Z-08M28L | 38       | 35       | 78      | 14      | 69      |
| 29         | Z-08M29L | 41       | 35       | 78      | 14      | 69      |
| 30         | Z-08M30L | 41       | 35       | 78      | 16.5    | 69      |
| 31         | Z-08M31L | 44       | 35       | 78      | 16.5    | 69      |
| 32         | Z-08M32L | 44       | 35       | 78      | 16.5    | 69      |
| 33         | Z-08M33L | 44       | 35       | 78      | 17      | 69      |
| 34         | Z-08M34L | 49       | 35       | 78      | 17      | 69      |
| 35         | Z-08M35L | 49       | 35       | 78      | 19      | 69      |
| 36         | Z-08M36L | 49       | 44       | 78      | 19      | 69      |
| 37         | Z-08M37L | 52       | 44       | 78      | 19      | 69      |
| 38         | Z-08M38L | 52       | 44       | 78      | 22      | 69      |



### Deep Metric Thinwall Sizes

| SIZE<br>mm | PART#     | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | C<br>mm |
|------------|-----------|----------|----------|---------|---------|---------|
| 13         | Z-08M13LT | 21       | 25       | 78      | 6       | 69      |
| 14         | Z-08M14LT | 22       | 25       | 78      | 7       | 69      |
| 15         | Z-08M15LT | 24       | 30       | 78      | 7       | 69      |
| 16         | Z-08M16LT | 25       | 30       | 78      | 7       | 69      |
| 17         | Z-08M17LT | 25       | 30       | 78      | 9       | 69      |
| 18         | Z-08M18LT | 25       | 30       | 78      | 9       | 69      |
| 19         | Z-08M19LT | 28       | 30       | 78      | 9       | 69      |
| 20         | Z-08M20LT | 28       | 30       | 78      | 10      | 69      |
| 21         | Z-08M21LT | 30       | 30       | 78      | 10      | 69      |
| 22         | Z-08M22LT | 30       | 30       | 78      | 10      | 69      |
| 23         | Z-08M23LT | 33       | 30       | 78      | 12      | 69      |
| 24         | Z-08M24LT | 33       | 30       | 78      | 12      | 69      |

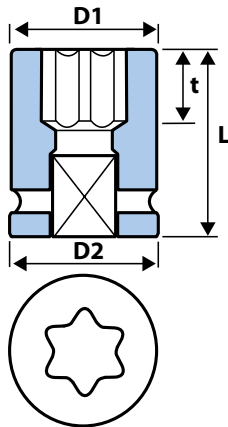


# 1/2" SQUARE DRIVE

## HEX DRIVER SOCKETS

### Bit Holders

| PART#   | DESCRIPTION                    |
|---------|--------------------------------|
| Z-08H11 | 1/2" Sq. x 11mm Hex Bit Holder |
| Z-08H16 | 1/2" Sq. x 16mm Hex Bit Holder |



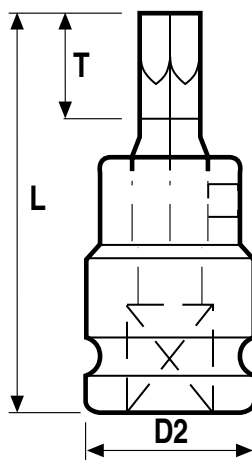
### In-Star Impact Socket Sizes

| TORX® | PART#   | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | WEIGHT<br>gr |
|-------|---------|----------|----------|---------|---------|--------------|
| E10   | Z-08E10 | 15       | 25       | 38      | 9       | 85           |
| E11   | Z-08E11 | 15.5     | 25       | 38      | 9       | 85           |
| E12   | Z-08E12 | 16       | 25       | 38      | 10      | 91           |
| E14   | Z-08E14 | 18.5     | 25       | 38      | 12      | 91           |
| E16   | Z-08E16 | 20       | 25       | 38      | 12      | 95           |
| E18   | Z-08E18 | 22       | 25       | 38      | 12      | 95           |
| E20   | Z-08E20 | 25       | 30       | 38      | 13      | 140          |
| E22   | Z-08E22 | 26.5     | 30       | 45      | 15      | 158          |
| E24   | Z-08E24 | 28.5     | 30       | 45      | 17      | 161          |

### In-Star Socket Driver Sizes

| TORX® | PART#   | D2<br>mm | L<br>mm | T<br>mm | Weight<br>gr | REPLACEMENT<br>TORX® BIT | BIT DESCRIPTION |
|-------|---------|----------|---------|---------|--------------|--------------------------|-----------------|
| T30   | Z-08T30 | 25       | 57      | 3.19    | 110          | HT30                     | 11 mm HEX x 30  |
| T40   | Z-08T40 | 25       | 57      | 3.3     | 110          | HT40                     | 11 mm HEX x 40  |
| T50   | Z-08T50 | 25       | 57      | 4.57    | 110          | HT50                     | 11 mm HEX x 50  |
| T55   | Z-08T55 | 25       | 57      | 5.08    | 110          | HT55                     | 16 mm HEX x 55  |
| T60   | Z-08T60 | 30       | 60      | 7.62    | 160          | HT60                     | 16 mm HEX x 60  |
| T70   | Z-08T70 | 30       | 60      | 8.89    | 170          | HT70                     | 16 mm HEX x 70  |

TORX® is a Registered Trademark of Cam Car



# 1/2" SQUARE DRIVE

## HEX DRIVER SOCKETS

### Fractional Sizes

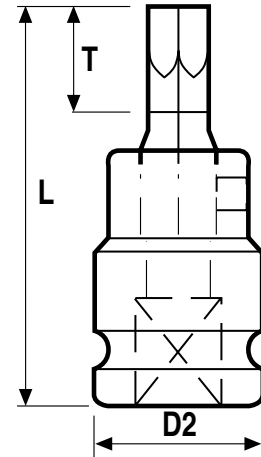
| SIZE<br>in | PART#    | D2<br>in | L<br>in | T<br>in |
|------------|----------|----------|---------|---------|
| 1/8        | Z-0802H  | .984     | 1.716   | .748    |
| 5/32       | Z-08005H | .984     | 1.716   | .748    |
| 3/16       | Z-0803H  | .984     | 1.716   | .748    |
| 7/32       | Z-08007H | .984     | 1.716   | .748    |
| 1/4        | Z-0804H  | .984     | 1.716   | .748    |
| 5/16       | Z-0805H  | .984     | 1.716   | .748    |
| 3/8        | Z-0806H  | .984     | 1.833   | .866    |
| 7/16       | Z-0807H  | .984     | 1.950   | .984    |
| 1/2        | Z-0808H  | 1.181    | 1.950   | .984    |
| 9/16       | Z-0809H  | 1.181    | 1.950   | .984    |
| 5/8        | Z-0810H  | 1.181    | 1.950   | .984    |

Note: 1 piece construction

### Metric Sizes

| SIZE<br>mm | PART#    | D2<br>mm | L<br>mm | T<br>mm |
|------------|----------|----------|---------|---------|
| 3          | Z-08M3H  | 25       | 44      | 19      |
| 4          | Z-08M4H  | 25       | 44      | 19      |
| 5          | Z-08M5H  | 25       | 44      | 19      |
| 6          | Z-08M6H  | 25       | 44      | 19      |
| 8          | Z-08M8H  | 25       | 44      | 19      |
| 10         | Z-08M10H | 25       | 47      | 22      |
| 12         | Z-08M12H | 30       | 50      | 25      |
| 14         | Z-08M14H | 30       | 50      | 25      |
| 17         | Z-08M17H | 30       | 50      | 25      |
| 19         | Z-08M19H | 33       | 50      | 25      |

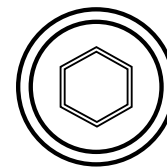
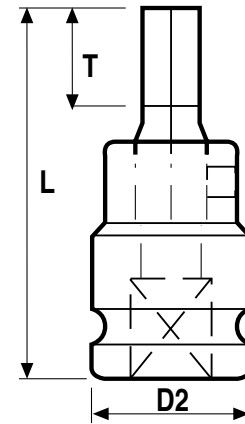
Note: 1 piece construction



### 2-Part In-Hex Sizes

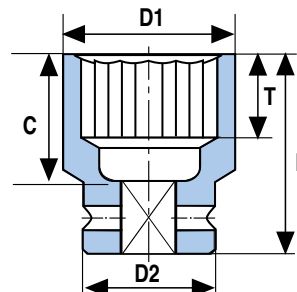
| HEX<br>in | HEX<br>mm | PART#    | D2<br>mm | L<br>mm | T<br>mm | Weight<br>gr | REPLACEMENT<br>HEX BIT |
|-----------|-----------|----------|----------|---------|---------|--------------|------------------------|
| 1/8       |           | Z-0802V  | 25       | 54      | 6       | 90           | H02                    |
| 5/32      |           | Z-08025V | 25       | 54      | 6       | 90           | H025                   |
| 3/16      |           | Z-0803V  | 25       | 54      | 8       | 90           | H03                    |
| 7/32      |           | Z-08035V | 25       | 54      | 9       | 90           | H035                   |
| 1/4       |           | Z-0804V  | 25       | 57      | 12      | 100          | H04                    |
| 5/16      |           | Z-0805V  | 25       | 57      | 12      | 100          | H05                    |
| 3/8       |           | Z-0806V  | 25       | 57      | 16      | 100          | H06                    |
| 7/16      |           | Z-0807V  | 25       | 57      | 18      | 100          | H07                    |
| 1/2       |           | Z-0808V  | 30       | 57      | 19      | 150          | H08                    |
| 9/16      |           | Z-0809V  | 30       | 57      | 21      | 150          | H09                    |
| 5/8       |           | Z-0810V  | 30       | 57      | 24      | 150          | H10                    |
|           | 3         | Z-08M03V | 25       | 54      | 5       | 90           | HM03                   |
|           | 4         | Z-08M04V | 25       | 54      | 6       | 90           | HM04                   |
|           | 5         | Z-08M05V | 25       | 54      | 8       | 90           | HM05                   |
|           | 6         | Z-08M06V | 25       | 54      | 9       | 100          | HM06                   |
|           | 8         | Z-08M08V | 25       | 57      | 12      | 100          | HM08                   |
|           | 10        | Z-08M10V | 25       | 57      | 16      | 100          | HM10                   |
|           | 12        | Z-08M12V | 30       | 57      | 18      | 150          | HM12                   |
|           | 14        | Z-08M14V | 30       | 57      | 21      | 150          | HM14                   |
|           | 17        | Z-08M17V | 30       | 57      | 26      | 150          | HM17                   |
|           | 19        | Z-08M19V | 30       | 72      | 26      | 150          | HM19                   |

Note: 2 piece construction



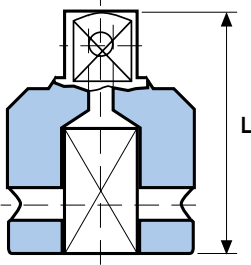
### 12 Point Impact Socket Sizes

| SIZE<br>in | SIZE<br>mm | PART#      | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | Weight<br>gr |
|------------|------------|------------|----------|----------|---------|---------|--------------|
| 3/4        | 19         | DH-0812M19 | 28       | 30       | 38      | 9.5     | 130          |
| 13/16      |            | DH-0813    | 30       | 30       | 38      | 11      | 130          |
| 7/8        |            | DH-0814    | 32       | 32       | 38      | 13      | 140          |
| 15/16      |            | DH-0815    | 35       | 35       | 38      | 13      | 160          |
| 1          |            | DH-0816    | 38       | 35       | 38      | 13      | 200          |
| 1-1/16     | 27         | DH-0817M27 | 38       | 35       | 50      | 13      | 200          |
| 1-1/8      |            | DH-0818    | 41       | 35       | 40      | 16.5    | 290          |
| 1 3/16     | 30         | DH-0819M30 | 41       | 35       | 50      | 16.5    | 290          |
| 1-1/4      |            | DH-0820    | 44       | 35       | 40      | 17      | 350          |
| 1-5/16     |            | DH-0821    | 49       | 35       | 43      | 19      | 370          |
| 1-3/8      | 35         | DH-0822M35 | 49       | 35       | 50      | 19      | 370          |
| 1-7/16     |            | DH-0823    | 49       | 44       | 50      | 19      | 370          |
| 1-1/2      | 38         | DH-0824M38 | 52       | 44       | 50      | 22      | 400          |



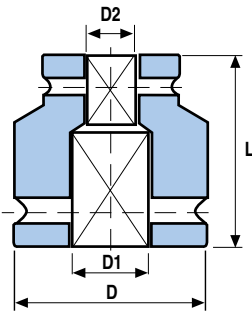
# 1/2" SQUARE DRIVE

## ACCESSORIES



### Adapters

| PART# | FEMALE<br>in | MALE<br>in | L<br>in |
|-------|--------------|------------|---------|
| A0810 | 1/2          | 5/8        | 1.38    |
| A0812 | 1/2          | 3/4        | 1.69    |



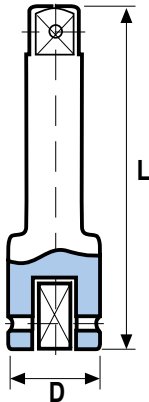
### Double Ended Female Adapters

| PART#  | D1<br>in | D2<br>in | L<br>in | D<br>in |
|--------|----------|----------|---------|---------|
| AN0808 | 1/2      | 1/2      | 1.29    | .984    |
| AN1008 | 5/8      | 1/2      | 1.61    | 1.38    |
| AN1208 | 3/4      | 1/2      | 1.93    | 1.73    |



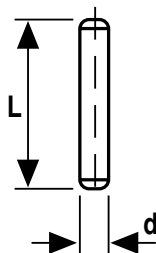
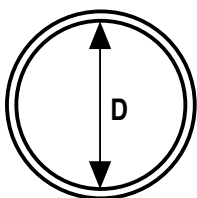
### Universal Joint

| SIZE<br>in | PART# |
|------------|-------|
| 1/2        | U0808 |



### Extensions

| PART# | D<br>in | L<br>in |
|-------|---------|---------|
| E0803 | 1.181   | 3       |
| E0805 | 1.181   | 5       |
| E0810 | 1.181   | 10      |



### Retaining Pins and Rings

| SQUARE<br>DRIVE | SOCKET<br>SIZES              | PIN#  | RING# | d<br>in | L<br>in | D<br>in |
|-----------------|------------------------------|-------|-------|---------|---------|---------|
| 1/2             | Up To 9/16" (14mm)           | P0825 | R0825 | .117    | .780    | .741    |
| 1/2             | From 9/16" To 1-3/16" (30mm) | P0830 | R0830 | .117    | .975    | .936    |
| 1/2             | Above 1-3/16" (30mm)         | P0835 | R0835 | .117    | 1.17    | 1.17    |



# 1/2" SQUARE DRIVE

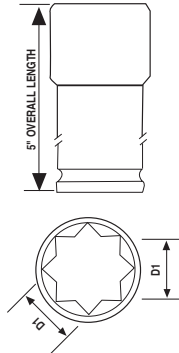
## UTILITY SOCKETS

### UTILITY SOCKETS (POWER LINE SOCKETS)

Z-081315S5 - 13/16" x 15/16"

Z-081618S5 - 1" X 1-1/8"

Specifically designed for hydraulic wrenches and impact wrenches



## SQUARE DRIVE ADAPTER



### Double Ended Male Adapters 7/16" Hex to 1/2" Square

| PART#       | D1<br>in | L<br>in |
|-------------|----------|---------|
| S-084874    | .881     | 3       |
| S-084874-HD | .881     | 2.25    |



## RETAINING RING ®

Ret Rings are tool accessories used to attach impact sockets to the square drive anvil. The ret ring is a one piece design socket retainer with a steel insert encapsulated to reinforce a stress point between the socket and anvil.

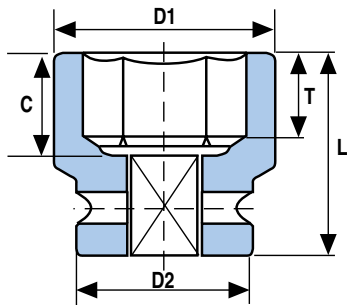
Specific application part numbers have been provided for each socket type, starting with 3/4" drive.



# 5/8" SQUARE DRIVE

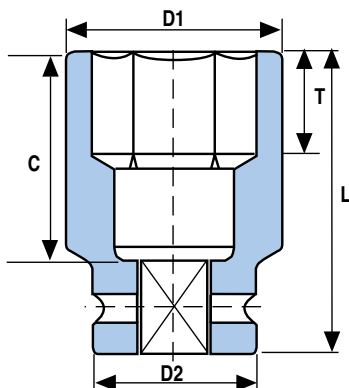
## SIX POINT IMPACT SOCKETS

*Why 5/8" drive? This unusual drive size was originally introduced in the 1930's to eliminate the "disappearing socket syndrome." It remains popular in several applications today for the heavier wall thickness than comparable 1/2" drive sockets.*



### Standard Fractional Sizes

| SIZE<br>in | PART#  | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in |
|------------|--------|----------|----------|---------|---------|---------|
| 1/2        | Z-1008 | .906     | 1.378    | 1.365   | .236    | .753    |
| 9/16       | Z-1009 | .945     | 1.378    | 1.365   | .275    | .753    |
| 5/8        | Z-1010 | 1.024    | 1.378    | 1.365   | .315    | .753    |
| 11/16      | Z-1011 | 1.142    | 1.378    | 1.482   | .354    | .871    |
| 3/4        | Z-1012 | 1.220    | 1.378    | 1.482   | .375    | .871    |
| 13/16      | Z-1013 | 1.299    | 1.378    | 1.482   | .433    | .871    |
| 7/8        | Z-1014 | 1.378    | 1.378    | 1.560   | .512    | .950    |
| 15/16      | Z-1015 | 1.378    | 1.378    | 1.560   | .512    | .950    |
| 1          | Z-1016 | 1.496    | 1.378    | 1.600   | .512    | .989    |
| 1-1/16     | Z-1017 | 1.614    | 1.378    | 1.600   | .512    | .989    |
| 1-1/8      | Z-1018 | 1.614    | 1.378    | 1.638   | .650    | 1.147   |
| 1-3/16     | Z-1019 | 1.732    | 1.378    | 1.638   | .650    | 1.147   |
| 1-1/4      | Z-1020 | 1.732    | 1.378    | 1.794   | .669    | 1.186   |
| 1-5/16     | Z-1021 | 1.929    | 1.378    | 1.911   | .748    | 1.265   |
| 1-3/8      | Z-1022 | 1.929    | 1.378    | 1.989   | .748    | 1.383   |
| 1-7/16     | Z-1023 | 2.047    | 1.732    | 1.989   | .748    | 1.383   |
| 1-1/2      | Z-1024 | 2.126    | 1.732    | 1.989   | .866    | 1.383   |



### Deep Fractional Sizes

| SIZE<br>in | PART#   | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in |
|------------|---------|----------|----------|---------|---------|---------|
| 1/2        | Z-1008L | .906     | 1.378    | 3.465   | .236    | 2.84    |
| 9/16       | Z-1009L | .945     | 1.378    | 3.465   | .275    | 2.84    |
| 5/8        | Z-1010L | 1.024    | 1.378    | 3.465   | .315    | 2.84    |
| 11/16      | Z-1011L | 1.142    | 1.378    | 3.465   | .354    | 2.84    |
| 3/4        | Z-1012L | 1.220    | 1.378    | 3.465   | .375    | 2.84    |
| 13/16      | Z-1013L | 1.299    | 1.378    | 3.465   | .433    | 2.84    |
| 7/8        | Z-1014L | 1.378    | 1.378    | 3.465   | .512    | 2.84    |
| 15/16      | Z-1015L | 1.378    | 1.378    | 3.465   | .512    | 2.84    |
| 1          | Z-1016L | 1.496    | 1.378    | 3.465   | .512    | 2.84    |
| 1-1/16     | Z-1017L | 1.614    | 1.378    | 3.465   | .512    | 2.84    |
| 1-1/8      | Z-1018L | 1.614    | 1.378    | 3.465   | .650    | 2.84    |
| 1-3/16     | Z-1019L | 1.732    | 1.378    | 3.465   | .650    | 2.84    |
| 1-1/4      | Z-1020L | 1.732    | 1.378    | 3.465   | .669    | 2.84    |
| 1-5/16     | Z-1021L | 1.929    | 1.378    | 3.465   | .748    | 2.84    |
| 1-3/8      | Z-1022L | 1.929    | 1.378    | 3.465   | .748    | 2.84    |
| 1-7/16     | Z-1023L | 2.047    | 1.732    | 3.465   | .748    | 2.84    |
| 1-1/2      | Z-1024L | 2.126    | 1.732    | 3.465   | .866    | 2.84    |

# 5/8" SQUARE DRIVE

## SIX POINT IMPACT SOCKETS

### Standard Metric Sizes

| SIZE<br>mm | PART#   | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | C<br>mm |
|------------|---------|----------|----------|---------|---------|---------|
| 13         | Z-10M13 | 23       | 35       | 35      | 6       | 19      |
| 14         | Z-10M14 | 24       | 35       | 35      | 7       | 19      |
| 15         | Z-10M15 | 26       | 35       | 35      | 7       | 19      |
| 16         | Z-10M16 | 26       | 35       | 35      | 7       | 19      |
| 17         | Z-10M17 | 28       | 35       | 38      | 9       | 22      |
| 18         | Z-10M18 | 30       | 35       | 38      | 9       | 22      |
| 19         | Z-10M19 | 31       | 35       | 38      | 9.5     | 22      |
| 20         | Z-10M20 | 32       | 35       | 38      | 10      | 22      |
| 21         | Z-10M21 | 33       | 35       | 38      | 10      | 22      |
| 22         | Z-10M22 | 35       | 35       | 40      | 10      | 24      |
| 23         | Z-10M23 | 35       | 35       | 40      | 12      | 24      |
| 24         | Z-10M24 | 35       | 35       | 40      | 12      | 24      |
| 25         | Z-10M25 | 38       | 35       | 41      | 13      | 25      |
| 26         | Z-10M26 | 38       | 35       | 41      | 13      | 25      |
| 27         | Z-10M27 | 41       | 35       | 42      | 13      | 25      |
| 28         | Z-10M28 | 41       | 35       | 42      | 14      | 26      |
| 29         | Z-10M29 | 41       | 35       | 45      | 14      | 29      |
| 30         | Z-10M30 | 44       | 35       | 45      | 16.5    | 29      |
| 31         | Z-10M31 | 44       | 35       | 46      | 16.5    | 42      |
| 32         | Z-10M32 | 44       | 35       | 47      | 16.5    | 42      |
| 33         | Z-10M33 | 44       | 35       | 47      | 17      | 31      |
| 34         | Z-10M34 | 49       | 35       | 50      | 17      | 34      |
| 35         | Z-10M35 | 49       | 35       | 51      | 19      | 35      |
| 36         | Z-10M36 | 52       | 35       | 51      | 19      | 35      |
| 37         | Z-10M37 | 54       | 44       | 51      | 19      | 35      |
| 38         | Z-10M38 | 54       | 44       | 51      | 22      | 35      |

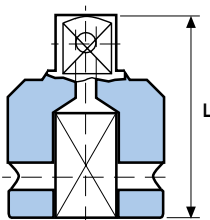
### Deep Metric Sizes

| SIZE<br>mm | PART#    | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | C<br>mm |
|------------|----------|----------|----------|---------|---------|---------|
| 13         | Z-10M13L | 23       | 35       | 88      | 6       | 72      |
| 14         | Z-10M14L | 24       | 35       | 88      | 7       | 72      |
| 15         | Z-10M15L | 26       | 35       | 88      | 7       | 72      |
| 16         | Z-10M16L | 26       | 35       | 88      | 7       | 72      |
| 17         | Z-10M17L | 28       | 35       | 88      | 9       | 72      |
| 18         | Z-10M18L | 30       | 35       | 88      | 9       | 72      |
| 19         | Z-10M19L | 31       | 35       | 88      | 9.5     | 72      |
| 20         | Z-10M20L | 32       | 35       | 88      | 10      | 72      |
| 21         | Z-10M21L | 33       | 35       | 88      | 10      | 72      |
| 22         | Z-10M22L | 35       | 35       | 88      | 10      | 72      |
| 23         | Z-10M23L | 35       | 35       | 88      | 12      | 72      |
| 24         | Z-10M24L | 35       | 35       | 88      | 12      | 72      |
| 25         | Z-10M25L | 38       | 35       | 88      | 13      | 72      |
| 26         | Z-10M26L | 38       | 35       | 88      | 13      | 72      |
| 27         | Z-10M27L | 41       | 35       | 88      | 13      | 72      |
| 28         | Z-10M28L | 41       | 35       | 88      | 14      | 72      |
| 29         | Z-10M29L | 41       | 35       | 88      | 14      | 72      |
| 30         | Z-10M30L | 44       | 35       | 88      | 16.5    | 72      |
| 31         | Z-10M31L | 44       | 35       | 88      | 16.5    | 72      |
| 32         | Z-10M32L | 44       | 35       | 88      | 16.5    | 72      |
| 33         | Z-10M33L | 44       | 35       | 88      | 17      | 72      |
| 34         | Z-10M34L | 49       | 35       | 88      | 17      | 72      |
| 35         | Z-10M35L | 49       | 35       | 88      | 19      | 72      |
| 36         | Z-10M36L | 52       | 35       | 88      | 19      | 72      |
| 37         | Z-10M37L | 54       | 44       | 88      | 19      | 72      |
| 38         | Z-10M38L | 54       | 44       | 88      | 22      | 72      |

## ACCESSORIES

### Adapters

| PART# | FEMALE<br>in | MALE<br>in | L<br>in |
|-------|--------------|------------|---------|
| A1008 | 5/8          | 1/2        | 1.90    |
| A1012 | 5/8          | 3/4        | 1.77    |



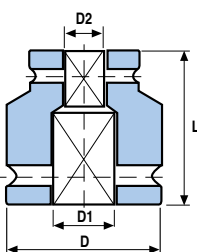
### Universal Joint

| SIZE<br>in | PART# |
|------------|-------|
| 5/8        | U1010 |



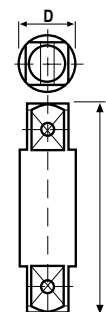
### Double Ended Female Adapters

| PART#  | D1<br>in | D2<br>in | L<br>in | D<br>in |
|--------|----------|----------|---------|---------|
| AN1008 | 5/8      | 1/2      | 1.61    | 1.38    |
| AN1010 | 5/8      | 5/8      | 1.38    | 1.38    |
| AN1210 | 3/4      | 5/8      | 1.97    | 1.73    |



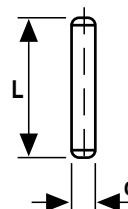
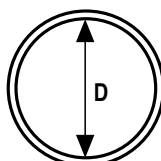
### Double Ended Male Extensions

| PART# | D<br>in | L<br>in |
|-------|---------|---------|
| Z1002 | 0.830   | 2       |
| Z1003 | 0.830   | 3       |
| Z1006 | 0.830   | 6       |
| Z1012 | 0.83    | 12      |



### Retaining Pins and Rings

| SQUARE<br>DRIVE | SOCKET<br>SIZES      | PIN#  | RING# | d<br>in | L<br>in | D<br>in |
|-----------------|----------------------|-------|-------|---------|---------|---------|
| 5/8             | Up To 1-3/16" (30mm) | P1035 | R1035 | .117    | 1.070   | 1.092   |
| 5/8             | Above 1-3/16" (30mm) | P1044 | R1044 | .117    | 1.521   | 1.443   |



# 3/4" SQUARE DRIVE

## SIX POINT IMPACT SOCKETS

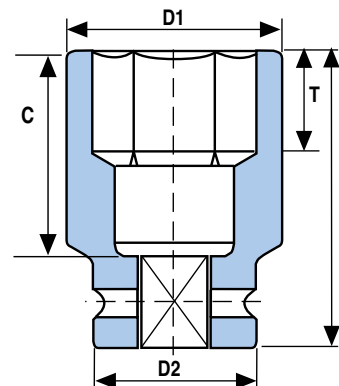
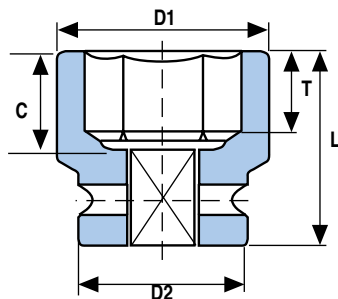
*OZAT 3/4" drive sockets (and larger) are also available by special order as Spark Resistant for use in mines, chemical plants, grain processors and anywhere explosive conditions exist.*

### Standard Fractional Sizes

| SIZE<br>in | PART#  | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in | RET<br>RING |
|------------|--------|----------|----------|---------|---------|---------|-------------|
| 1/2        | Z-1208 | .945     | 1.732    | 1.755   | .236    | .772    | 10032S      |
| 9/16       | Z-1209 | .984     | 1.732    | 1.755   | .276    | .772    | 10032S      |
| 5/8        | Z-1210 | 1.102    | 1.732    | 1.755   | .315    | .772    | 10032S      |
| 11/16      | Z-1211 | 1.142    | 1.732    | 1.755   | .354    | .772    | 10032S      |
| 3/4        | Z-1212 | 1.260    | 1.732    | 1.755   | .372    | .772    | 10032S      |
| 13/16      | Z-1213 | 1.378    | 1.732    | 1.794   | .433    | .890    | 10032S      |
| 7/8        | Z-1214 | 1.496    | 1.732    | 1.794   | .512    | .890    | 10032S      |
| 15/16      | Z-1215 | 1.575    | 1.732    | 1.794   | .512    | .890    | 10032S      |
| 1          | Z-1216 | 1.614    | 1.732    | 1.794   | .512    | .890    | 10032S      |
| 1-1/16     | Z-1217 | 1.732    | 1.732    | 2.028   | .512    | 1.047   | 10032S      |
| 1-1/8      | Z-1218 | 1.732    | 1.732    | 2.028   | .650    | 1.047   | 10032S      |
| 1-3/16     | Z-1219 | 1.732    | 1.732    | 2.028   | .650    | 1.047   | 10032S      |
| 1-1/4      | Z-1220 | 1.929    | 1.732    | 2.028   | .650    | 1.047   | 10032S      |
| 1-5/16     | Z-1221 | 1.929    | 1.732    | 2.145   | .748    | 1.165   | 10032S      |
| 1-3/8      | Z-1222 | 2.047    | 1.732    | 2.145   | .748    | 1.165   | 10032S      |
| 1-7/16     | Z-1223 | 2.047    | 1.732    | 2.184   | .748    | 1.205   | 10032S      |
| 1-1/2      | Z-1224 | 2.126    | 1.732    | 2.301   | .866    | 1.283   | 10032S      |
| 1-9/16     | Z-1225 | 2.244    | 1.732    | 2.301   | .866    | 1.283   | 10032S      |
| 1-5/8      | Z-1226 | 2.244    | 1.732    | 2.301   | .866    | 1.283   | 10032S      |
| 1-11/16    | Z-1227 | 2.480    | 1.732    | 2.496   | .984    | 1.441   | 10032S      |
| 1-3/4      | Z-1228 | 2.480    | 1.732    | 2.496   | .995    | 1.480   | 10032S      |
| 1-13/16    | Z-1229 | 2.638    | 1.732    | 2.496   | .995    | 1.480   | 10032S      |
| 1-7/8      | Z-1230 | 2.638    | 2.126    | 2.613   | 1.062   | 1.598   | 10010S      |
| 1-15/16    | Z-1231 | 2.756    | 2.126    | 2.613   | 1.062   | 1.598   | 10010S      |
| 2          | Z-1232 | 2.874    | 2.126    | 2.613   | 1.062   | 1.598   | 10010S      |
| 2-1/16     | Z-1233 | 2.874    | 2.126    | 2.769   | 1.181   | 1.756   | 10010S      |
| 2-1/8      | Z-1234 | 2.874    | 2.126    | 2.769   | 1.181   | 1.795   | 10010S      |
| 2-3/16     | Z-1235 | 3.071    | 2.126    | 2.886   | 1.260   | 1.795   | 10010S      |
| 2-1/4      | Z-1236 | 3.228    | 2.126    | 2.925   | 1.299   | 1.913   | 10010S      |
| 2-5/16     | Z-1237 | 3.228    | 2.126    | 2.925   | 1.299   | 1.953   | 10010S      |
| 2-3/8      | Z-1238 | 3.228    | 2.126    | 2.925   | 1.378   | 1.953   | 10010S      |

### Deep Fractional Sizes

| SIZE<br>in | PART#   | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in | RET<br>RING |
|------------|---------|----------|----------|---------|---------|---------|-------------|
| 1/2        | Z-1208L | .945     | 1.732    | 3.510   | .236    | 2.543   | 10032S      |
| 9/16       | Z-1209L | .984     | 1.732    | 3.510   | .276    | 2.543   | 10032S      |
| 5/8        | Z-1210L | 1.102    | 1.732    | 3.510   | .315    | 2.543   | 10032S      |
| 11/16      | Z-1211L | 1.142    | 1.732    | 3.510   | .354    | 2.543   | 10032S      |
| 3/4        | Z-1212L | 1.260    | 1.732    | 3.510   | .372    | 2.543   | 10032S      |
| 13/16      | Z-1213L | 1.378    | 1.732    | 3.510   | .433    | 2.543   | 10032S      |
| 7/8        | Z-1214L | 1.496    | 1.732    | 3.510   | .512    | 2.543   | 10032S      |
| 15/16      | Z-1215L | 1.575    | 1.732    | 3.510   | .512    | 2.543   | 10032S      |
| 1          | Z-1216L | 1.614    | 1.732    | 3.510   | .512    | 2.543   | 10032S      |
| 1-1/16     | Z-1217L | 1.732    | 1.732    | 3.510   | .512    | 2.543   | 10032S      |
| 1-1/8      | Z-1218L | 1.732    | 1.732    | 3.510   | .650    | 2.543   | 10032S      |
| 1-3/16     | Z-1219L | 1.732    | 1.732    | 3.510   | .650    | 2.543   | 10032S      |
| 1-1/4      | Z-1220L | 1.929    | 1.732    | 3.510   | .669    | 2.543   | 10032S      |
| 1-5/16     | Z-1221L | 1.929    | 1.732    | 3.510   | .748    | 2.543   | 10032S      |
| 1-3/8      | Z-1222L | 2.047    | 1.732    | 3.510   | .748    | 2.543   | 10032S      |
| 1-7/16     | Z-1223L | 2.047    | 1.732    | 3.510   | .748    | 2.543   | 10032S      |
| 1-1/2      | Z-1224L | 2.126    | 1.732    | 3.510   | .866    | 2.543   | 10032S      |
| 1-9/16     | Z-1225L | 2.244    | 1.732    | 3.510   | .866    | 2.543   | 10032S      |
| 1-5/8      | Z-1226L | 2.244    | 1.732    | 3.510   | .866    | 2.543   | 10032S      |
| 1-11/16    | Z-1227L | 2.480    | 1.732    | 3.510   | .984    | 2.543   | 10032S      |
| 1-3/4      | Z-1228L | 2.480    | 1.732    | 3.510   | .995    | 2.543   | 10032S      |
| 1-13/16    | Z-1229L | 2.638    | 1.732    | 3.510   | .995    | 2.543   | 10032S      |
| 1-7/8      | Z-1230L | 2.638    | 2.126    | 3.510   | 1.062   | 2.543   | 10010S      |
| 1-15/16    | Z-1231L | 2.756    | 2.126    | 3.510   | 1.062   | 2.543   | 10010S      |
| 2          | Z-1232L | 2.874    | 2.126    | 3.510   | 1.062   | 2.543   | 10010S      |
| 2-1/16     | Z-1233L | 2.874    | 2.126    | 3.666   | 1.181   | 2.701   | 10010S      |
| 2-1/8      | Z-1234L | 2.874    | 2.126    | 3.666   | 1.181   | 2.740   | 10010S      |
| 2-3/16     | Z-1235L | 3.071    | 2.126    | 3.666   | 1.260   | 2.740   | 10010S      |
| 2-1/4      | Z-1236L | 3.228    | 2.126    | 3.822   | 1.299   | 2.858   | 10010S      |
| 2-5/16     | Z-1237L | 3.228    | 2.126    | 3.822   | 1.299   | 2.898   | 10010S      |
| 2-3/8      | Z-1238L | 3.228    | 2.126    | 3.822   | 1.378   | 2.898   | 10010S      |



# 3/4" SQUARE DRIVE

## SIX POINT IMPACT SOCKETS

### Standard Metric Sizes

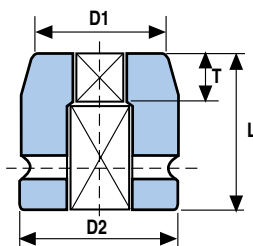
| SIZE<br>mm | PART#   | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | C<br>mm | RET<br>RING |
|------------|---------|----------|----------|---------|---------|---------|-------------|
| 13         | Z-12M13 | 25       | 44       | 45      | 6       | 20      | 10032S      |
| 14         | Z-12M14 | 25       | 44       | 45      | 7       | 20      | 10032S      |
| 15         | Z-12M15 | 28       | 44       | 45      | 7       | 20      | 10032S      |
| 16         | Z-12M16 | 29       | 44       | 45      | 7       | 20      | 10032S      |
| 17         | Z-12M17 | 29       | 44       | 45      | 9       | 20      | 10032S      |
| 18         | Z-12M18 | 32       | 44       | 45      | 9.5     | 20      | 10032S      |
| 19         | Z-12M19 | 32       | 44       | 45      | 9.5     | 20      | 10032S      |
| 20         | Z-12M20 | 35       | 44       | 46      | 10      | 21      | 10032S      |
| 21         | Z-12M21 | 35       | 44       | 46      | 10      | 21      | 10032S      |
| 22         | Z-12M22 | 38       | 44       | 46      | 10      | 21      | 10032S      |
| 23         | Z-12M23 | 38       | 44       | 46      | 12      | 21      | 10032S      |
| 24         | Z-12M24 | 40       | 44       | 46      | 12      | 21      | 10032S      |
| 25         | Z-12M25 | 41       | 44       | 46      | 13      | 21      | 10032S      |
| 26         | Z-12M26 | 41       | 44       | 46      | 13      | 21      | 10032S      |
| 27         | Z-12M27 | 41       | 44       | 48      | 13      | 23      | 10032S      |
| 28         | Z-12M28 | 44       | 44       | 48      | 14      | 23      | 10032S      |
| 29         | Z-12M29 | 44       | 44       | 52      | 14      | 27      | 10032S      |
| 30         | Z-12M30 | 44       | 44       | 52      | 16.5    | 27      | 10032S      |
| 31         | Z-12M31 | 49       | 44       | 52      | 16.5    | 27      | 10032S      |
| 32         | Z-12M32 | 49       | 44       | 52      | 16.5    | 27      | 10032S      |
| 33         | Z-12M33 | 49       | 44       | 55      | 17      | 30      | 10032S      |
| 34         | Z-12M34 | 52       | 44       | 55      | 17      | 30      | 10032S      |
| 35         | Z-12M35 | 52       | 44       | 55      | 19      | 30      | 10032S      |
| 36         | Z-12M36 | 52       | 44       | 56      | 19      | 31      | 10032S      |
| 37         | Z-12M37 | 54       | 44       | 56      | 19      | 31      | 10032S      |
| 38         | Z-12M38 | 54       | 44       | 59      | 22      | 34      | 10032S      |
| 39         | Z-12M39 | 57       | 44       | 59      | 21.5    | 34      | 10032S      |
| 40         | Z-12M40 | 57       | 44       | 59      | 21.5    | 34      | 10032S      |
| 41         | Z-12M41 | 57       | 44       | 59      | 22      | 34      | 10032S      |
| 42         | Z-12M42 | 60       | 44       | 59      | 21.5    | 34      | 10032S      |
| 43         | Z-12M43 | 63       | 44       | 64      | 25      | 39      | 10032S      |
| 44         | Z-12M44 | 63       | 44       | 64      | 21.5    | 39      | 10032S      |
| 45         | Z-12M45 | 63       | 44       | 64      | 21.5    | 39      | 10032S      |
| 46         | Z-12M46 | 67       | 44       | 64      | 25.5    | 39      | 10032S      |
| 47         | Z-12M47 | 67       | 54       | 64      | 23.5    | 39      | 10010S      |
| 48         | Z-12M48 | 67       | 54       | 67      | 23.5    | 42      | 10010S      |
| 49         | Z-12M49 | 70       | 54       | 67      | 27      | 42      | 10010S      |
| 50         | Z-12M50 | 70       | 54       | 67      | 23.5    | 42      | 10010S      |
| 51         | Z-12M51 | 73       | 54       | 67      | 27      | 42      | 10010S      |
| 52         | Z-12M52 | 73       | 54       | 70      | 27      | 45      | 10010S      |
| 54         | Z-12M54 | 78       | 54       | 71      | 30      | 46      | 10010S      |
| 55         | Z-12M55 | 78       | 54       | 71      | 27      | 46      | 10010S      |
| 56         | Z-12M56 | 78       | 54       | 74      | 28      | 49      | 10010S      |
| 57         | Z-12M57 | 82       | 54       | 75      | 33      | 50      | 10010S      |
| 58         | Z-12M58 | 82       | 54       | 75      | 28      | 50      | 10010S      |
| 59         | Z-12M59 | 82       | 54       | 75      | 33      | 50      | 10010S      |
| 60         | Z-12M60 | 82       | 54       | 75      | 28      | 50      | 10010S      |
| 61         | Z-12M61 | 86       | 54       | 75      | 28      | 50      | 10010S      |

### Deep Metric Sizes

| SIZE<br>mm | PART#    | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | C<br>mm | RET<br>RING |
|------------|----------|----------|----------|---------|---------|---------|-------------|
| 13         | Z-12M13L | 25       | 44       | 90      | 6       | 65      | 10032S      |
| 14         | Z-12M14L | 25       | 44       | 90      | 7       | 65      | 10032S      |
| 15         | Z-12M15L | 28       | 44       | 90      | 7       | 65      | 10032S      |
| 16         | Z-12M16L | 29       | 44       | 90      | 7       | 65      | 10032S      |
| 17         | Z-12M17L | 29       | 44       | 90      | 9       | 65      | 10032S      |
| 18         | Z-12M18L | 32       | 44       | 90      | 9       | 65      | 10032S      |
| 19         | Z-12M19L | 32       | 44       | 90      | 9.5     | 65      | 10032S      |
| 20         | Z-12M20L | 35       | 44       | 90      | 10      | 65      | 10032S      |
| 21         | Z-12M21L | 35       | 44       | 90      | 10      | 65      | 10032S      |
| 22         | Z-12M22L | 38       | 44       | 90      | 10      | 65      | 10032S      |
| 23         | Z-12M23L | 38       | 44       | 90      | 12      | 65      | 10032S      |
| 24         | Z-12M24L | 40       | 44       | 90      | 12      | 65      | 10032S      |
| 25         | Z-12M25L | 41       | 44       | 90      | 13      | 65      | 10032S      |
| 26         | Z-12M26L | 41       | 44       | 90      | 13      | 65      | 10032S      |
| 27         | Z-12M27L | 41       | 44       | 90      | 13      | 65      | 10032S      |
| 28         | Z-12M28L | 44       | 44       | 90      | 14      | 65      | 10032S      |
| 29         | Z-12M29L | 44       | 44       | 90      | 14      | 65      | 10032S      |
| 30         | Z-12M30L | 44       | 44       | 90      | 16.5    | 65      | 10032S      |
| 31         | Z-12M31L | 49       | 44       | 90      | 16.5    | 65      | 10032S      |
| 32         | Z-12M32L | 49       | 44       | 90      | 16.5    | 65      | 10032S      |
| 33         | Z-12M33L | 49       | 44       | 90      | 17      | 65      | 10032S      |
| 34         | Z-12M34L | 52       | 44       | 90      | 17      | 65      | 10032S      |
| 35         | Z-12M35L | 52       | 44       | 90      | 19      | 65      | 10032S      |
| 36         | Z-12M36L | 52       | 44       | 90      | 19      | 65      | 10032S      |
| 37         | Z-12M37L | 54       | 44       | 90      | 19      | 65      | 10032S      |
| 38         | Z-12M38L | 54       | 44       | 90      | 22      | 65      | 10032S      |
| 39         | Z-12M39L | 57       | 44       | 90      | 21.5    | 65      | 10032S      |
| 40         | Z-12M40L | 57       | 44       | 90      | 21.5    | 65      | 10032S      |
| 41         | Z-12M41L | 57       | 44       | 90      | 22      | 65      | 10032S      |
| 42         | Z-12M42L | 60       | 44       | 90      | 21.5    | 65      | 10032S      |
| 43         | Z-12M43L | 63       | 44       | 90      | 25      | 65      | 10032S      |
| 44         | Z-12M44L | 63       | 44       | 90      | 21.5    | 65      | 10032S      |
| 45         | Z-12M45L | 63       | 44       | 90      | 21.5    | 65      | 10032S      |
| 46         | Z-12M46L | 67       | 44       | 90      | 25.5    | 65      | 10032S      |
| 47         | Z-12M47L | 67       | 54       | 90      | 23.5    | 65      | 10010S      |
| 48         | Z-12M48L | 67       | 54       | 90      | 23.5    | 65      | 10010S      |
| 49         | Z-12M49L | 70       | 54       | 90      | 27      | 65      | 10010S      |
| 50         | Z-12M50L | 70       | 54       | 90      | 23.5    | 65      | 10010S      |
| 51         | Z-12M51L | 73       | 54       | 94      | 27      | 65      | 10010S      |
| 52         | Z-12M52L | 73       | 54       | 94      | 27      | 65      | 10010S      |
| 54         | Z-12M54L | 78       | 54       | 94      | 30      | 69      | 10010S      |
| 55         | Z-12M55L | 78       | 54       | 94      | 27      | 69      | 10010S      |
| 56         | Z-12M56L | 78       | 54       | 98      | 28      | 69      | 10010S      |
| 57         | Z-12M57L | 82       | 54       | 98      | 33      | 73      | 10010S      |
| 58         | Z-12M58L | 82       | 54       | 98      | 28      | 73      | 10010S      |
| 59         | Z-12M59L | 82       | 54       | 98      | 33      | 73      | 10010S      |
| 60         | Z-12M60L | 82       | 54       | 98      | 28      | 73      | 10010S      |
| 61         | Z-12M61L | 86       | 54       | 98      | 28      | 73      | 10010S      |

### Budd Wheel Socket Sizes

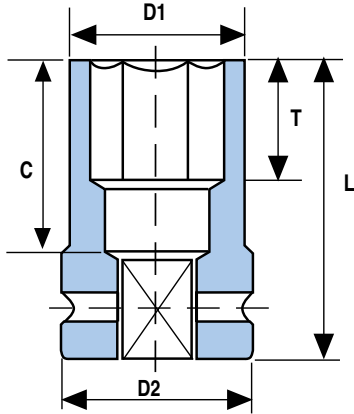
| SIZE<br>in     | PART#    | D1<br>in | D2<br>in | L<br>in | T<br>in | RET<br>RING |
|----------------|----------|----------|----------|---------|---------|-------------|
| 13/16          | Z-1213B  | 1.653    | 1.732    | 1.950   | .433    | 10032S      |
| 13/16          | Z-1213BL | 1.653    | 1.732    | 3.510   | .433    | 10032S      |
| 13/16 X 1-1/12 | Z-1224BS | 2.126    | 1.732    | 3.510   | .571    | 10032S      |





# 3/4" SQUARE DRIVE

## SIX POINT IMPACT SOCKETS



### Standard Fractional Thinwall Sizes



| SIZE<br>in | PART#   | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in | RET<br>RING |
|------------|---------|----------|----------|---------|---------|---------|-------------|
| 11/16      | Z-1211T | 1.102    | 1.732    | 1.755   | .354    | .969    | 10032S      |
| 3/4        | Z-1212T | 1.181    | 1.732    | 1.755   | .375    | .969    | 10032S      |
| 13/16      | Z-1213T | 1.378    | 1.732    | 1.794   | .433    | .969    | 10032S      |
| 7/8        | Z-1214T | 1.378    | 1.732    | 1.794   | .512    | .969    | 10032S      |
| 15/16      | Z-1215T | 1.378    | 1.732    | 1.794   | .512    | .969    | 10032S      |
| 1          | Z-1216T | 1.496    | 1.732    | 1.794   | .512    | .969    | 10032S      |
| 1-1/16     | Z-1217T | 1.614    | 1.732    | 1.872   | .512    | 1.047   | 10032S      |
| 1-1/8      | Z-1218T | 1.614    | 1.732    | 2.028   | .650    | 1.047   | 10032S      |
| 1-3/16     | Z-1219T | 1.732    | 1.732    | 2.028   | .650    | 1.047   | 10032S      |
| 1-1/4      | Z-1220T | 1.732    | 1.732    | 2.028   | .669    | 1.047   | 10032S      |
| 1-5/16     | Z-1221T | 1.929    | 1.732    | 2.145   | .748    | 1.165   | 10032S      |
| 1-3/8      | Z-1222T | 2.047    | 1.732    | 2.145   | .748    | 1.165   | 10032S      |
| 1-7/16     | Z-1223T | 2.047    | 1.732    | 2.184   | .748    | 1.205   | 10032S      |
| 1-1/2      | Z-1224T | 2.126    | 1.732    | 2.301   | .866    | 1.283   | 10032S      |
| 1-9/16     | Z-1225T | 2.126    | 1.732    | 2.301   | .866    | 1.283   | 10032S      |
| 1-5/8      | Z-1226T | 2.126    | 1.732    | 2.301   | .866    | 1.283   | 10032S      |
| 1-11/16    | Z-1227T | 2.362    | 1.732    | 2.496   | .984    | 1.441   | 10032S      |
| 1-3/4      | Z-1228T | 2.362    | 1.732    | 2.496   | .995    | 1.480   | 10032S      |
| 1-13/16    | Z-1229T | 2.480    | 1.732    | 2.496   | .995    | 1.480   | 10032S      |

### Standard Metric Thinwall Sizes



| SIZE<br>in | PART#    | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in | RET<br>RING |
|------------|----------|----------|----------|---------|---------|---------|-------------|
| 17         | Z-12M17T | 28       | 44       | 45      | 9       | 20      | 10032S      |
| 18         | Z-12M18T | 30       | 44       | 45      | 9       | 20      | 10032S      |
| 19         | Z-12M19T | 30       | 44       | 45      | 9.5     | 21      | 10032S      |
| 20         | Z-12M20T | 30       | 44       | 46      | 10      | 21      | 10032S      |
| 21         | Z-12M21T | 35       | 44       | 46      | 10      | 21      | 10032S      |
| 22         | Z-12M22T | 35       | 44       | 46      | 10      | 21      | 10032S      |
| 23         | Z-12M23T | 35       | 44       | 46      | 12      | 21      | 10032S      |
| 24         | Z-12M24T | 38       | 44       | 46      | 12      | 21      | 10032S      |
| 25         | Z-12M25T | 38       | 44       | 46      | 13      | 21      | 10032S      |
| 26         | Z-12M26T | 41       | 44       | 46      | 13      | 21      | 10032S      |
| 27         | Z-12M27T | 41       | 44       | 48      | 13      | 23      | 10032S      |
| 28         | Z-12M28T | 41       | 44       | 48      | 14      | 23      | 10032S      |
| 29         | Z-12M29T | 41       | 44       | 52      | 14      | 27      | 10032S      |
| 30         | Z-12M30T | 41       | 44       | 52      | 16.5    | 27      | 10032S      |
| 31         | Z-12M31T | 44       | 44       | 52      | 16.5    | 27      | 10032S      |
| 32         | Z-12M32T | 48       | 44       | 52      | 16.5    | 27      | 10032S      |
| 33         | Z-12M33T | 48       | 44       | 55      | 17      | 30      | 10032S      |
| 34         | Z-12M34T | 49       | 44       | 55      | 17      | 30      | 10032S      |
| 35         | Z-12M35T | 50       | 44       | 55      | 19      | 30      | 10032S      |
| 36         | Z-12M36T | 52       | 44       | 56      | 19      | 31      | 10032S      |
| 37         | Z-12M37T | 52       | 44       | 56      | 19      | 31      | 10032S      |
| 38         | Z-12M38T | 52       | 44       | 59      | 22      | 34      | 10032S      |
| 39         | Z-12M39T | 54       | 44       | 59      | 21.5    | 34      | 10032S      |
| 40         | Z-12M40T | 54       | 44       | 59      | 21.5    | 34      | 10032S      |
| 41         | Z-12M41T | 54       | 44       | 59      | 22      | 34      | 10032S      |
| 42         | Z-12M42T | 57       | 44       | 59      | 21.5    | 34      | 10032S      |
| 43         | Z-12M43T | 60       | 44       | 64      | 25      | 39      | 10032S      |
| 44         | Z-12M44T | 60       | 44       | 64      | 21.5    | 39      | 10032S      |
| 45         | Z-12M45T | 60       | 44       | 64      | 21.5    | 39      | 10032S      |
| 46         | Z-12M46T | 63       | 44       | 64      | 25.5    | 39      | 10032S      |

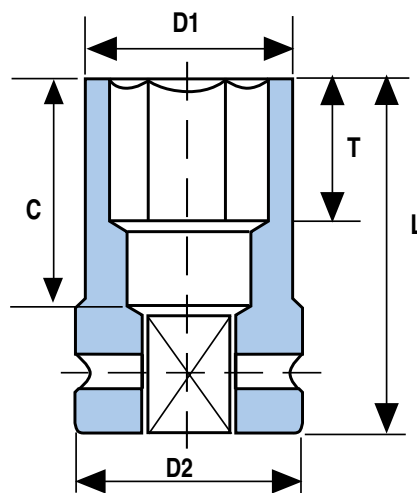


## 3/4" SQUARE DRIVE

## SIX POINT IMPACT SOCKETS

### Deep Fractional Thinwall Sizes

| SIZE<br>in | PART#    | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in | RET<br>RING |
|------------|----------|----------|----------|---------|---------|---------|-------------|
| 11/16      | Z-1211LT | 1.102    | 1.732    | 3.510   | 0.709   | 2.543   | 10032S      |
| 3/4        | Z-1212LT | 1.181    | 1.732    | 3.510   | 0.748   | 2.543   | 10032S      |
| 13/16      | Z-1213LT | 1.378    | 1.732    | 3.510   | 0.866   | 2.543   | 10032S      |
| 7/8        | Z-1214LT | 1.378    | 1.732    | 3.510   | 1.024   | 2.543   | 10032S      |
| 15/16      | Z-1215LT | 1.378    | 1.732    | 3.510   | 1.024   | 2.543   | 10032S      |
| 1          | Z-1216LT | 1.496    | 1.732    | 3.510   | 1.024   | 2.543   | 10032S      |
| 1-1/16     | Z-1217LT | 1.614    | 1.732    | 3.510   | 1.024   | 2.543   | 10032S      |
| 1-1/8      | Z-1218LT | 1.614    | 1.732    | 3.510   | 1.299   | 2.543   | 10032S      |
| 1-3/16     | Z-1219LT | 1.732    | 1.732    | 3.510   | 1.299   | 2.543   | 10032S      |
| 1-1/4      | Z-1220LT | 1.732    | 1.732    | 3.510   | 1.339   | 2.543   | 10032S      |
| 1-5/16     | Z-1221LT | 1.929    | 1.732    | 3.510   | 1.496   | 2.543   | 10032S      |
| 1-3/8      | Z-1222LT | 2.047    | 1.732    | 3.510   | 1.496   | 2.543   | 10032S      |
| 1-7/16     | Z-1223LT | 2.047    | 1.732    | 3.510   | 1.496   | 2.543   | 10032S      |
| 1-1/2      | Z-1224LT | 2.126    | 1.732    | 3.510   | 1.732   | 2.543   | 10032S      |
| 1-9/16     | Z-1225LT | 2.126    | 1.732    | 3.510   | 1.732   | 2.543   | 10032S      |
| 1-5/8      | Z-1226LT | 2.126    | 1.732    | 3.510   | 1.732   | 2.543   | 10032S      |
| 1-11/16    | Z-1227LT | 2.362    | 1.732    | 3.510   | 1.969   | 2.543   | 10032S      |
| 1-3/4      | Z-1228LT | 2.362    | 1.732    | 3.510   | 2.008   | 2.543   | 10032S      |
| 1-13/16    | Z-1229LT | 2.480    | 1.732    | 3.510   | 2.008   | 2.543   | 10032S      |



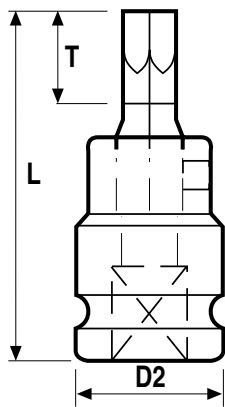
### Deep Metric Thinwall Sizes

| SIZE<br>in | PART#     | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in | RET<br>RING |
|------------|-----------|----------|----------|---------|---------|---------|-------------|
| 17         | Z-12M17LT | 28       | 44       | 90      | 18      | 65      | 10032S      |
| 18         | Z-12M18LT | 30       | 44       | 90      | 18      | 65      | 10032S      |
| 19         | Z-12M19LT | 30       | 44       | 90      | 19      | 65      | 10032S      |
| 20         | Z-12M20LT | 30       | 44       | 90      | 20      | 65      | 10032S      |
| 21         | Z-12M21LT | 35       | 44       | 90      | 20      | 65      | 10032S      |
| 22         | Z-12M22LT | 35       | 44       | 90      | 20      | 65      | 10032S      |
| 23         | Z-12M23LT | 35       | 44       | 90      | 24      | 65      | 10032S      |
| 24         | Z-12M24LT | 38       | 44       | 90      | 24      | 65      | 10032S      |
| 25         | Z-12M25LT | 38       | 44       | 90      | 26      | 65      | 10032S      |
| 26         | Z-12M26LT | 41       | 44       | 90      | 26      | 65      | 10032S      |
| 27         | Z-12M27LT | 41       | 44       | 90      | 26      | 65      | 10032S      |
| 28         | Z-12M28LT | 41       | 44       | 90      | 28      | 65      | 10032S      |
| 29         | Z-12M29LT | 41       | 44       | 90      | 28      | 65      | 10032S      |
| 30         | Z-12M30LT | 41       | 44       | 90      | 33      | 65      | 10032S      |
| 31         | Z-12M31LT | 44       | 44       | 90      | 33      | 65      | 10032S      |
| 32         | Z-12M32LT | 48       | 44       | 90      | 33      | 65      | 10032S      |
| 33         | Z-12M33LT | 48       | 44       | 90      | 34      | 65      | 10032S      |
| 34         | Z-12M34LT | 49       | 44       | 90      | 34      | 65      | 10032S      |
| 35         | Z-12M35LT | 50       | 44       | 90      | 38      | 65      | 10032S      |
| 36         | Z-12M36LT | 52       | 44       | 90      | 38      | 65      | 10032S      |
| 37         | Z-12M37LT | 52       | 44       | 90      | 38      | 65      | 10032S      |
| 38         | Z-12M38LT | 52       | 44       | 90      | 44      | 65      | 10032S      |
| 39         | Z-12M39LT | 54       | 44       | 90      | 43      | 65      | 10032S      |
| 40         | Z-12M40LT | 54       | 44       | 90      | 43      | 65      | 10032S      |
| 41         | Z-12M41LT | 54       | 44       | 90      | 44      | 65      | 10032S      |
| 42         | Z-12M42LT | 57       | 44       | 90      | 43      | 65      | 10032S      |
| 43         | Z-12M43LT | 60       | 44       | 90      | 50      | 65      | 10032S      |
| 44         | Z-12M44LT | 60       | 44       | 90      | 43      | 65      | 10032S      |
| 45         | Z-12M45LT | 60       | 44       | 90      | 43      | 65      | 10032S      |
| 46         | Z-12M46LT | 63       | 44       | 90      | 51      | 65      | 10032S      |



# 3/4" SQUARE DRIVE

## HEX DRIVER SOCKETS



### Fractional Sizes

| SIZE<br>in | PART#   | D2<br>in | L<br>in | T<br>in | RET<br>RING |
|------------|---------|----------|---------|---------|-------------|
| 3/8        | Z-1206H | 1.496    | 2.637   | 1.130   | 10005S      |
| 7/16       | Z-1207H | 1.496    | 2.637   | 1.13    | 10005S      |
| 1/2        | Z-1208H | 1.496    | 2.637   | 1.130   | 10005S      |
| 9/16       | Z-1209H | 1.496    | 2.637   | 1.130   | 10005S      |
| 5/8        | Z-1210H | 1.496    | 2.637   | 1.130   | 10005S      |
| 3/4        | Z-1212H | 1.732    | 2.637   | 1.130   | 10032S      |
| 13/16      | Z-1213H | 1.732    | 2.795   | 1.295   | 10032S      |
| 7/8        | Z-1214H | 1.732    | 2.795   | 1.295   | 10032S      |
| 1          | Z-1216H | 1.732    | 2.795   | 1.295   | 10032S      |

Note: 1 piece construction

### Metric Sizes

| SIZE<br>mm | PART#    | D2<br>mm | L<br>mm | T<br>mm | RET<br>RING |
|------------|----------|----------|---------|---------|-------------|
| 10         | Z-12M10H | 38       | 67      | 29      | 10005S      |
| 12         | Z-12M12H | 38       | 67      | 29      | 10005S      |
| 14         | Z-12M14H | 38       | 67      | 29      | 10005S      |
| 17         | Z-12M17H | 38       | 67      | 29      | 10005S      |
| 19         | Z-12M19H | 44       | 67      | 29      | 10032S      |
| 22         | Z-12M22H | 44       | 71      | 33      | 10032S      |
| 24         | Z-12M24H | 44       | 71      | 33      | 10032S      |

Note: 1 piece construction

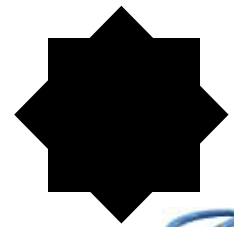
### 2-Part In-Hex Sizes

| HEX<br>in | HEX<br>mm | PART#    | D2<br>mm | L<br>mm | T<br>mm | Weight<br>gr | RET<br>RING | REPLACEMENT<br>HEX BIT |
|-----------|-----------|----------|----------|---------|---------|--------------|-------------|------------------------|
| 3/8       |           | Z-1206V  | 38       | 69      | 16      | 310          | 10005S      | H06                    |
| 7/16      |           | Z-1207V  | 38       | 69      | 18      | 310          | 10005S      | H07                    |
| 1/2       |           | Z-1208V  | 38       | 69      | 19      | 310          | 10005S      | H08                    |
| 9/16      |           | Z-1209V  | 38       | 69      | 21      | 310          | 10005S      | H09                    |
| 5/8       |           | Z-1210V  | 38       | 69      | 24      | 310          | 10005S      | H10                    |
| 3/4       |           | Z-1212V  | 44       | 69      | 26      | 630          | 10032S      | H12                    |
| 13/16     |           | Z-1213V  | 44       | 84      | 26      | 630          | 10032S      | H13                    |
| 7/8       |           | Z-1214V  | 44       | 84      | 26      | 630          | 10032S      | H14                    |
| 1         |           | Z-1216V  | 44       | 104     | 30      | 630          | 10032S      | H16                    |
|           | 10        | Z-12M10V | 38       | 69      | 16      | 310          | 10005S      | HM10                   |
|           | 12        | Z-12M12V | 38       | 69      | 18      | 310          | 10005S      | HM12                   |
|           | 14        | Z-12M14V | 38       | 69      | 21      | 310          | 10005S      | HM14                   |
|           | 17        | Z-12M17V | 38       | 69      | 26      | 310          | 10005S      | HM17                   |
|           | 19        | Z-12M19V | 44       | 84      | 26      | 630          | 10032S      | HM19                   |
|           | 22        | Z-12M22V | 44       | 84      | 26      | 630          | 10032S      | HM22                   |
|           | 24        | Z-12M24V | 44       | 84      | 26      | 630          | 10032S      | HM24                   |

Note: 2 piece construction



## DOUBLE SQUARE EIGHT POINT IMPACT SOCKETS



### Standard Fractional Sizes

| SIZE<br>in | PART#   | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in | RET<br>RING |
|------------|---------|----------|----------|---------|---------|---------|-------------|
| 1-1/4      | DS-1220 | 2.362    | 1.732    | 2.067   | .669    | 1.087   | 10032S      |
| 1-5/16     | DS-1221 | 2.480    | 1.732    | 2.067   | .748    | 1.087   | 10032S      |
| 1-3/8      | DS-1222 | 2.638    | 1.732    | 2.067   | .748    | 1.087   | 10032S      |
| 1-7/16     | DS-1223 | 2.638    | 1.732    | 2.223   | .748    | 1.244   | 10032S      |
| 1-1/2      | DS-1224 | 2.638    | 1.732    | 2.223   | .866    | 1.244   | 10032S      |
| 1-9/16     | DS-1225 | 3.071    | 2.126    | 2.223   | .866    | 1.244   | 10010S      |
| 1-5/8      | DS-1226 | 3.071    | 2.126    | 2.223   | .866    | 1.244   | 10010S      |
| 1-11/16    | DS-1227 | 3.228    | 2.126    | 2.418   | .984    | 1.441   | 10010S      |
| 1-3/4      | DS-1228 | 3.228    | 2.126    | 2.457   | 1.005   | 1.480   | 10010S      |
| 1-13/16    | DS-1229 | 3.228    | 2.126    | 2.457   | 1.005   | 1.480   | 10010S      |
| 1-7/8      | DS-1230 | 3.228    | 2.126    | 2.535   | 1.063   | 1.559   | 10010S      |

### Deep Fractional Sizes

| SIZE<br>in | PART#    | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in | RET<br>RING |
|------------|----------|----------|----------|---------|---------|---------|-------------|
| 1-1/4      | DS-1220L | 2.362    | 1.732    | 3.159   | .669    | 2.189   | 10032S      |
| 1-5/16     | DS-1221L | 2.480    | 1.732    | 3.159   | .748    | 2.189   | 10032S      |
| 1-3/8      | DS-1222L | 2.638    | 1.732    | 3.159   | .748    | 2.189   | 10032S      |
| 1-7/16     | DS-1223L | 2.638    | 1.732    | 3.159   | .748    | 2.189   | 10032S      |
| 1-1/2      | DS-1224L | 2.638    | 1.732    | 3.159   | .866    | 2.189   | 10032S      |
| 1-9/16     | DS-1225L | 3.071    | 2.126    | 3.159   | .866    | 2.189   | 10010S      |
| 1-5/8      | DS-1226L | 3.071    | 2.126    | 3.159   | .866    | 2.189   | 10010S      |
| 1-11/16    | DS-1227L | 3.228    | 2.126    | 3.159   | .984    | 2.189   | 10010S      |
| 1-3/4      | DS-1228L | 3.228    | 2.126    | 3.159   | 1.005   | 2.189   | 10010S      |
| 1-13/16    | DS-1229L | 3.228    | 2.126    | 3.159   | 1.005   | 2.189   | 10010S      |
| 1-7/8      | DS-1230L | 3.228    | 2.126    | 3.159   | 1.063   | 2.189   | 10010S      |

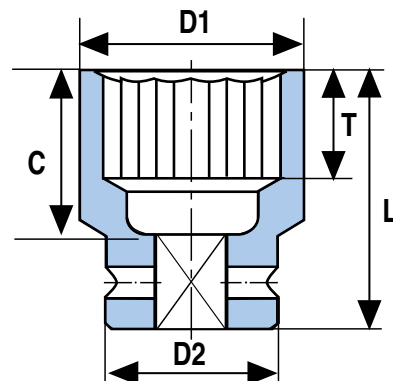
# 3/4" SQUARE DRIVE

## 12 POINT IMPACT SOCKETS

### 12 Point Impact Socket Sizes



| SIZE<br>in | SIZE<br>mm | PART#      | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | Weight<br>gr | RET<br>RING |
|------------|------------|------------|----------|----------|---------|---------|--------------|-------------|
| 3/4        | 19         | DH-1212M19 | 32       | 44       | 45      | 9.5     | 290          | 10032S      |
| 15/16      |            | DH-1215    | 40       | 44       | 46      | 13.0    | 340          | 10032S      |
| 1          |            | DH-1216    | 41       | 44       | 46      | 13.0    | 340          | 10032S      |
| 1-1/16     | 27         | DH-1217M27 | 41       | 44       | 48      | 13.0    | 340          | 10032S      |
| 1-1/8      |            | DH-1218    | 44       | 44       | 52      | 16.5    | 380          | 10032S      |
| 1-3/16     | 30         | DH-1219M30 | 44       | 44       | 52      | 16.5    | 380          | 10032S      |
| 1-1/4      |            | DH-1220    | 49       | 44       | 52      | 17.0    | 420          | 10032S      |
| 1-5/16     |            | DH-1221    | 49       | 44       | 55      | 19.0    | 430          | 10032S      |
|            | 33         | DH-12M33   | 49       | 44       | 55      | 17.0    | 430          | 10032S      |
|            | 34         | DH-12M34   | 52       | 44       | 55      | 19.0    | 460          | 10032S      |
| 1-3/8      | 35         | DH-1222M35 | 52       | 44       | 55      | 19.0    | 460          | 10032S      |
|            | 36         | DH-12M36   | 52       | 44       | 55      | 19.0    | 460          | 10032S      |
| 1-7/16     |            | DH-1223    | 52       | 44       | 56      | 19.0    | 460          | 10032S      |
|            | 37         | DH-12M37   | 54       | 44       | 56      | 19.0    | 490          | 10032S      |
| 1-1/2      | 38         | DH-1224M38 | 54       | 44       | 59      | 22.0    | 490          | 10032S      |
|            | 39         | DH-12M39   | 57       | 44       | 59      | 22.0    | 520          | 10032S      |
| 1-9/16     |            | DH-1225    | 57       | 44       | 59      | 22.0    | 520          | 10032S      |
|            | 40         | DH-12M40   | 57       | 44       | 59      | 22.0    | 520          | 10032S      |
| 1-5/8      | 41         | DH-1226M41 | 57       | 44       | 59      | 22.0    | 520          | 10032S      |
|            | 42         | DH-12M42   | 60       | 44       | 59      | 22.0    | 520          | 10032S      |
| 1-11/16    | 43         | DH-1227M43 | 63       | 44       | 64      | 25.0    | 600          | 10032S      |
|            | 44         | DH-12M44   | 63       | 44       | 64      | 25.0    | 600          | 10032S      |
| 1-3/4      |            | DH-1228    | 63       | 44       | 64      | 25.0    | 600          | 10032S      |
|            | 45         | DH-12M45   | 63       | 44       | 64      | 25.0    | 600          | 10032S      |
| 1-13/16    | 46         | DH-1229M46 | 67       | 44       | 64      | 25.0    | 850          | 10032S      |
|            | 47         | DH-12M47   | 67       | 54       | 64      | 25.0    | 850          | 10010S      |
| 1-7/8      |            | DH-1230    | 67       | 54       | 67      | 27.0    | 910          | 10010S      |
|            | 48         | DH-12M48   | 67       | 54       | 67      | 27.0    | 910          | 10010S      |
| 1-15/16    | 49         | DH-1231M49 | 70       | 54       | 67      | 27.0    | 950          | 10010S      |
|            | 50         | DH-12M50   | 70       | 54       | 67      | 27.0    | 950          | 10010S      |
| 2          | 51         | DH-1232M51 | 73       | 54       | 67      | 27.0    | 1040         | 10010S      |
|            | 52         | DH-12M52   | 73       | 54       | 70      | 27.0    | 1040         | 10010S      |
| 2-1/16     |            | DH-1233    | 73       | 54       | 71      | 30.0    | 1040         | 10010S      |
| 2-1/8      | 54         | DH-1234M54 | 73       | 54       | 71      | 30.0    | 1040         | 10010S      |
|            | 55         | DH-12M55   | 78       | 54       | 71      | 30.0    | 1200         | 10010S      |
| 2-3/16     |            | DH-1235    | 78       | 54       | 74      | 32.0    | 1200         | 10010S      |
|            | 56         | DH-12M56   | 78       | 54       | 74      | 32.0    | 1200         | 10010S      |
| 2-1/4      | 57         | DH-1236M57 | 82       | 54       | 75      | 33.0    | 1320         | 10010S      |
|            | 58         | DH-12M58   | 82       | 54       | 75      | 33.0    | 1320         | 10010S      |
| 2-5/16     | 59         | DH-1237M59 | 82       | 54       | 75      | 33.0    | 1320         | 10010S      |
|            | 60         | DH-12M60   | 82       | 54       | 75      | 33.0    | 1320         | 10010S      |
| 2-3/8      |            | DH-1238    | 82       | 54       | 75      | 35.0    | 1320         | 10010S      |
|            | 61         | DH-12M61   | 86       | 54       | 75      | 35.0    | 1430         | 10010S      |



# 3/4" SQUARE DRIVE

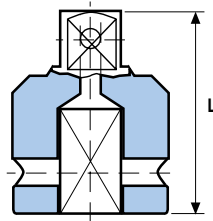
## ACCESSORIES



### Universal Joint



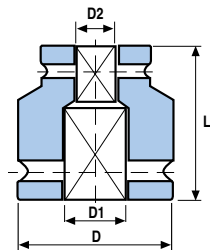
| SIZE<br>in | PART# | RET<br>RING |
|------------|-------|-------------|
| 3/4        | U1212 | 10032S      |



### Adapters



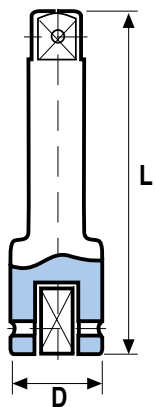
| PART# | FEMALE<br>in | MALE<br>in | L<br>in | RET<br>RING |
|-------|--------------|------------|---------|-------------|
| A1208 | 3/4          | 1/2        | 2.165   | 10032S      |
| A1210 | 3/4          | 5/8        | 2.244   | 10032S      |
| A1216 | 3/4          | 1          | 2.322   | 10032S      |



### Double Ended Female Adapters



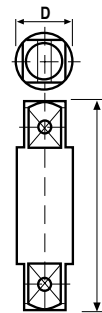
| PART#  | D1<br>in | D2<br>in | L<br>in | D<br>in | RET RINGS<br>(D1) (D2) |
|--------|----------|----------|---------|---------|------------------------|
| AN1208 | 3/4      | 1/2      | 1.93    | 1.73    | 10032S 10005S          |
| AN1210 | 3/4      | 5/8      | 1.97    | 1.73    | 10032S 10005S          |
| AN1212 | 3/4      | 3/4      | 1.93    | 1.73    | 10032S 10032S          |
| AN1612 | 1        | 3/4      | 2.48    | 2.13    | 10008S 10032S          |



### Extensions

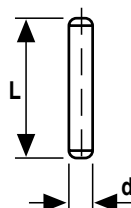
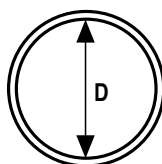


| PART# | D<br>in | L<br>in | RET<br>RING |
|-------|---------|---------|-------------|
| E1203 | 1.732   | 3       | 10032S      |
| E1204 | 1.732   | 4       | 10032S      |
| E1205 | 1.732   | 5       | 10032S      |
| E1207 | 1.732   | 7       | 10032S      |
| E1213 | 1.732   | 13      | 10032S      |



### Double Ended Male Extensions

| PART# | D<br>in | L<br>in |
|-------|---------|---------|
| Z1202 | 1       | 2       |
| Z1203 | 1       | 3       |
| Z1204 | 1       | 4       |
| Z1205 | 1       | 5       |
| Z1207 | 1       | 7       |
| Z1210 | 1       | 10      |
| Z1213 | 1       | 13      |
| Z1215 | 1       | 15      |
| Z1216 | 1       | 16      |

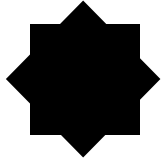


### Retaining Pins and Rings

| SQUARE<br>DRIVE | SOCKET<br>SIZES       | PIN#  | RING# | d<br>in | L<br>in | D<br>in |
|-----------------|-----------------------|-------|-------|---------|---------|---------|
| 3/4             | Up To 1-13/16" (46mm) | P1244 | R1244 | .156    | 1.365   | 1.404   |
| 3/4             | Above 1-13/16" (46mm) | P1254 | R1254 | .156    | 1.750   | 1.794   |



# RAILROAD SOCKETS



## 3/4" SQUARE DRIVE: DOUBLE SQUARE EIGHT POINT IMPACT SOCKETS

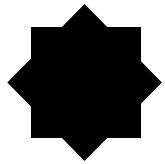


### Standard Fractional Sizes

| SIZE<br>in | PART#   | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in | RET<br>RING |
|------------|---------|----------|----------|---------|---------|---------|-------------|
| 1-1/4      | DS-1220 | 2.362    | 1.732    | 2.067   | .669    | 1.087   | 10032S      |
| 1-5/16     | DS-1221 | 2.480    | 1.732    | 2.067   | .748    | 1.087   | 10032S      |
| 1-3/8      | DS-1222 | 2.638    | 1.732    | 2.067   | .748    | 1.087   | 10032S      |
| 1-7/16     | DS-1223 | 2.638    | 1.732    | 2.223   | .748    | 1.244   | 10032S      |
| 1-1/2      | DS-1224 | 2.638    | 1.732    | 2.223   | .866    | 1.244   | 10032S      |
| 1-9/16     | DS-1225 | 3.071    | 2.126    | 2.223   | .866    | 1.244   | 10010S      |
| 1-5/8      | DS-1226 | 3.071    | 2.126    | 2.223   | .866    | 1.244   | 10010S      |
| 1-11/16    | DS-1227 | 3.228    | 2.126    | 2.418   | .984    | 1.441   | 10010S      |
| 1-3/4      | DS-1228 | 3.228    | 2.126    | 2.457   | 1.005   | 1.480   | 10010S      |
| 1-13/16    | DS-1229 | 3.228    | 2.126    | 2.457   | 1.005   | 1.480   | 10010S      |
| 1-7/8      | DS-1230 | 3.228    | 2.126    | 2.535   | 1.063   | 1.559   | 10010S      |

### Deep Fractional Sizes

| SIZE<br>in | PART#    | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in | RET<br>RING |
|------------|----------|----------|----------|---------|---------|---------|-------------|
| 1-1/4      | DS-1220L | 2.362    | 1.732    | 3.159   | .669    | 2.189   | 10032S      |
| 1-5/16     | DS-1221L | 2.480    | 1.732    | 3.159   | .748    | 2.189   | 10032S      |
| 1-3/8      | DS-1222L | 2.638    | 1.732    | 3.159   | .748    | 2.189   | 10032S      |
| 1-7/16     | DS-1223L | 2.638    | 1.732    | 3.159   | .748    | 2.189   | 10032S      |
| 1-1/2      | DS-1224L | 2.638    | 1.732    | 3.159   | .866    | 2.189   | 10032S      |
| 1-9/16     | DS-1225L | 3.071    | 2.126    | 3.159   | .866    | 2.189   | 10010S      |
| 1-5/8      | DS-1226L | 3.071    | 2.126    | 3.159   | .866    | 2.189   | 10010S      |
| 1-11/16    | DS-1227L | 3.228    | 2.126    | 3.159   | .984    | 2.189   | 10010S      |
| 1-3/4      | DS-1228L | 3.228    | 2.126    | 3.159   | 1.005   | 2.189   | 10010S      |
| 1-13/16    | DS-1229L | 3.228    | 2.126    | 3.159   | 1.005   | 2.189   | 10010S      |
| 1-7/8      | DS-1230L | 3.228    | 2.126    | 3.159   | 1.063   | 2.189   | 10010S      |



## 1" SQUARE DRIVE: DOUBLE SQUARE EIGHT POINT IMPACT SOCKETS



### Standard Fractional Sizes

| SIZE<br>in | PART#   | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in | RET<br>RING |
|------------|---------|----------|----------|---------|---------|---------|-------------|
| 1-5/16     | DS-1621 | 2.480    | 2.126    | 2.262   | .748    | 1.283   | 10010S      |
| 1-3/8      | DS-1622 | 2.638    | 2.362    | 2.262   | .748    | 1.283   | 10015S      |
| 1-7/16     | DS-1623 | 2.638    | 2.362    | 2.262   | .748    | 1.283   | 10015S      |
| 1-1/2      | DS-1624 | 2.756    | 2.362    | 2.418   | .866    | 1.441   | 10015S      |
| 1-9/16     | DS-1625 | 3.071    | 2.362    | 2.418   | .866    | 1.441   | 10015S      |
| 1-5/8      | DS-1626 | 3.071    | 2.362    | 2.418   | .866    | 1.441   | 10015S      |
| 1-11/16    | DS-1627 | 3.228    | 2.362    | 2.613   | .984    | 1.638   | 10015S      |
| 1-3/4      | DS-1628 | 3.228    | 2.362    | 2.613   | 1.005   | 1.638   | 10015S      |
| 1-13/16    | DS-1629 | 3.386    | 2.362    | 2.613   | 1.005   | 1.638   | 10015S      |
| 1-7/8      | DS-1630 | 3.386    | 2.362    | 2.730   | 1.063   | 1.756   | 10015S      |
| 2          | DS-1632 | 3.622    | 2.362    | 2.730   | 1.063   | 1.756   | 10015S      |
| 2-1/8      | DS-1634 | 3.937    | 2.362    | 2.925   | 1.181   | 1.953   | 10015S      |
| 2-3/16     | DS-1635 | 3.937    | 2.362    | 3.042   | 1.260   | 2.071   | 10015S      |
| 2-1/4      | DS-1636 | 3.937    | 2.362    | 3.042   | 1.260   | 2.071   | 10015S      |
| 2-3/8      | DS-1638 | 4.134    | 2.362    | 3.198   | 1.378   | 2.228   | 10015S      |
| 2-1/2      | DS-1640 | 4.291    | 2.362    | 3.432   | 1.378   | 2.465   | 10015S      |

Note: Metric Sizes 35, 38, 41, 46, 51, 54, 57 are also available by special order. (POR)

### Deep Fractional Sizes

| SIZE<br>in | PART#    | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in | RET<br>RING |
|------------|----------|----------|----------|---------|---------|---------|-------------|
| 1-5/16     | DS-1621L | 2.480    | 2.126    | 3.159   | .748    | 2.189   | 10010S      |
| 1-3/8      | DS-1622L | 2.638    | 2.362    | 3.159   | .748    | 2.189   | 10015S      |
| 1-7/16     | DS-1623L | 2.638    | 2.362    | 3.159   | .748    | 2.189   | 10015S      |
| 1-1/2      | DS-1624L | 2.756    | 2.362    | 3.393   | .866    | 2.322   | 10015S      |
| 1-9/16     | DS-1625L | 3.071    | 2.362    | 3.432   | .866    | 2.322   | 10015S      |
| 1-5/8      | DS-1626L | 3.071    | 2.362    | 3.432   | .866    | 2.322   | 10015S      |
| 1-11/16    | DS-1627L | 3.228    | 2.362    | 3.432   | .984    | 2.322   | 10015S      |
| 1-3/4      | DS-1628L | 3.228    | 2.362    | 3.432   | 1.005   | 2.322   | 10015S      |
| 1-13/16    | DS-1629L | 3.386    | 2.362    | 3.432   | 1.005   | 2.322   | 10015S      |
| 1-7/8      | DS-1630L | 3.386    | 2.362    | 3.432   | 1.063   | 2.322   | 10015S      |
| 2          | DS-1632L | 3.622    | 2.362    | 3.432   | 1.063   | 2.322   | 10015S      |
| 2-1/8      | DS-1634L | 3.937    | 2.362    | 3.783   | 1.181   | 2.819   | 10015S      |
| 2-3/16     | DS-1635L | 3.937    | 2.362    | 3.783   | 1.260   | 2.819   | 10015S      |
| 2-1/4      | DS-1636L | 3.937    | 2.362    | 3.900   | 1.260   | 2.937   | 10015S      |
| 2-3/8      | DS-1638L | 4.134    | 2.362    | 3.900   | 1.378   | 2.937   | 10015S      |
| 2-1/2      | DS-1640L | 4.291    | 2.362    | 3.900   | 1.378   | 2.937   | 10015S      |

Note: Metric Sizes 35, 38, 41, 46, 51, 54, 57 are also available by special order. (POR)

## SPECIAL RAILROAD SOCKETS

| PART#       | DESCRIPTION                             | RET<br>RING |
|-------------|-----------------------------------------|-------------|
| Z-161418RTL | 7/8 X 1-1/8 Rectangle X 1 sq.           | 10008S      |
| Z-16T70     | 70mm X 1 sq. Torx Bit Socket            | 10008S      |
| N7167A      | Domed Head Socket w/ Pins, 1" sq. drive | 10015S      |

Railroad Sockets are also available in square 4 point and rectangular 4 point tapered to fit Lag Screws by special order. (POR)

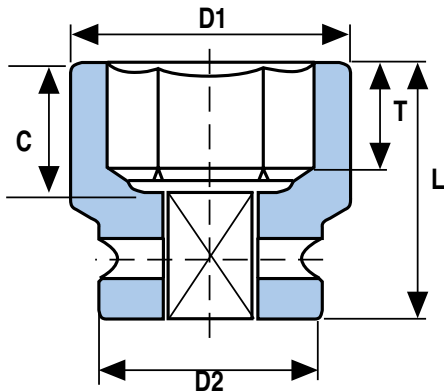
| Part#  | Description                 | Size                | Length |
|--------|-----------------------------|---------------------|--------|
| AN2424 | Double ended female adaptor | 1-1/2" x 1-1/2" sq. | 3.35"  |
| Z2410  | Double ended male adaptor   | 1-1/2" x 1-1/2" sq. | 10"    |

| Part#    | Female     | Male Taper             | Length |
|----------|------------|------------------------|--------|
| HEX-3    | 1-1/2" sq. | 3/4" sq. to 1-7/8" sq  | 10"    |
| HEX-3-10 | 1-1/2" sq. | 3/4" sq. to 1/7/8" sq. | 20"    |
| HEX-12   | 2-1/2" sq. | 3/4" sq. to 1-7/8" sq  | 12"    |

# 1" SQUARE DRIVE

## SIX POINT IMPACT SOCKETS

*ATP maintains "in stock" one of the broadest ranges of 1" drive sockets available to industry. OZAT 1" drive sizes are equally well suited for construction, maintenance, and heavy assembly applications, as well as for precision bolting with hydraulic bolting equipment.*



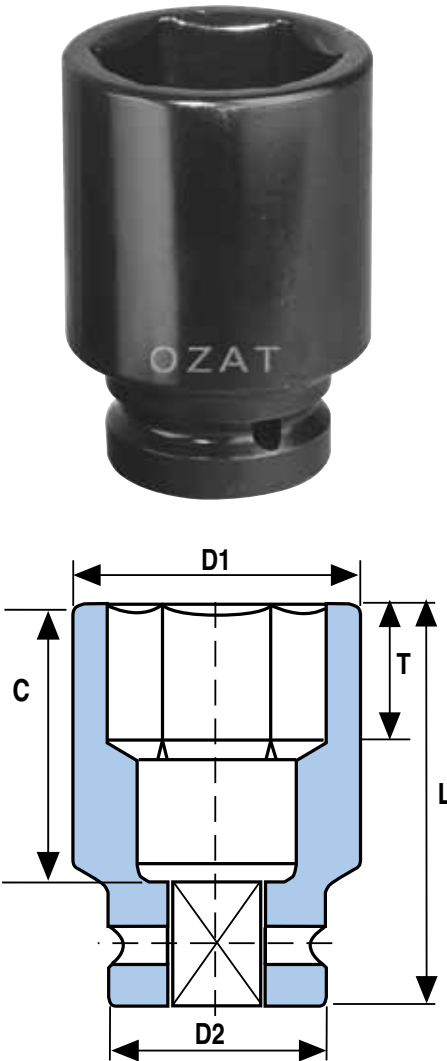
### Standard Fractional Sizes

| SIZE<br>in | PART#  | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in | RET<br>RING |
|------------|--------|----------|----------|---------|---------|---------|-------------|
| 3/4        | Z-1612 | 1.417    | 2.126    | 2.145   | .374    | 1.040   | 10010S      |
| 13/16      | Z-1613 | 1.496    | 2.126    | 2.145   | .433    | 1.040   | 10010S      |
| 7/8        | Z-1614 | 1.575    | 2.126    | 2.145   | .551    | 1.040   | 10010S      |
| 15/16      | Z-1615 | 1.614    | 2.126    | 2.145   | .551    | 1.040   | 10010S      |
| 1          | Z-1616 | 1.693    | 2.126    | 2.145   | .551    | 1.119   | 10010S      |
| 1-1/16     | Z-1617 | 1.811    | 2.126    | 2.145   | .551    | 1.119   | 10010S      |
| 1-1/8      | Z-1618 | 1.890    | 2.126    | 2.223   | .650    | 1.119   | 10010S      |
| 1-3/16     | Z-1619 | 1.969    | 2.126    | 2.223   | .650    | 1.119   | 10010S      |
| 1-1/4      | Z-1620 | 2.008    | 2.126    | 2.223   | .669    | 1.119   | 10010S      |
| 1-5/16     | Z-1621 | 2.126    | 2.126    | 2.340   | .748    | 1.198   | 10010S      |
| 1-3/8      | Z-1622 | 2.126    | 2.126    | 2.340   | .748    | 1.198   | 10010S      |
| 1-7/16     | Z-1623 | 2.126    | 2.126    | 2.340   | .748    | 1.198   | 10010S      |
| 1-1/2      | Z-1624 | 2.362    | 2.126    | 2.496   | .866    | 1.316   | 10010S      |
| 1-9/16     | Z-1625 | 2.362    | 2.126    | 2.496   | .866    | 1.316   | 10010S      |
| 1-5/8      | Z-1626 | 2.480    | 2.126    | 2.496   | .866    | 1.316   | 10010S      |
| 1-11/16    | Z-1627 | 2.638    | 2.126    | 2.691   | .984    | 1.513   | 10010S      |
| 1-3/4      | Z-1628 | 2.756    | 2.126    | 2.691   | 1.004   | 1.592   | 10010S      |
| 1-13/16    | Z-1629 | 2.756    | 2.126    | 2.691   | 1.004   | 1.592   | 10010S      |
| 1-7/8      | Z-1630 | 2.756    | 2.126    | 2.808   | 1.062   | 1.631   | 10010S      |
| 1-15/16    | Z-1631 | 2.874    | 2.126    | 2.808   | 1.062   | 1.631   | 10010S      |
| 2          | Z-1632 | 2.874    | 2.126    | 2.808   | 1.062   | 1.631   | 10010S      |
| 2-1/16     | Z-1633 | 3.071    | 2.126    | 2.964   | 1.181   | 1.828   | 10010S      |
| 2-1/8      | Z-1634 | 3.228    | 2.126    | 2.964   | 1.181   | 1.828   | 10010S      |
| 2-3/16     | Z-1635 | 3.228    | 2.126    | 3.120   | 1.259   | 1.946   | 10010S      |
| 2-1/4      | Z-1636 | 3.228    | 2.126    | 3.120   | 1.299   | 1.946   | 10010S      |
| 2-5/16     | Z-1637 | 3.386    | 2.126    | 3.198   | 1.299   | 2.025   | 10010S      |
| 2-3/8      | Z-1638 | 3.386    | 2.126    | 3.315   | 1.378   | 2.418   | 10010S      |
| 2-7/16     | Z-1639 | 3.622    | 2.126    | 3.315   | 1.378   | 2.418   | 10010S      |
| 2-1/2      | Z-1640 | 3.622    | 2.126    | 3.315   | 1.378   | 2.418   | 10010S      |
| 2-9/16     | Z-1641 | 3.622    | 2.126    | 3.315   | 1.378   | 2.458   | 10010S      |
| 2-5/8      | Z-1642 | 3.622    | 2.126    | 3.432   | 1.496   | 2.536   | 10010S      |
| 2-11/16    | Z-1643 | 3.780    | 2.126    | 3.432   | 1.496   | 2.576   | 10010S      |
| 2-3/4      | Z-1644 | 3.780    | 2.126    | 3.432   | 1.496   | 2.615   | 10010S      |
| 2-13/16    | Z-1645 | 3.937    | 3.386    | 3.588   | 1.575   | 2.615   | 10021S      |
| 2-7/8      | Z-1646 | 3.937    | 3.386    | 3.588   | 1.614   | 2.615   | 10021S      |
| 2-15/16    | Z-1647 | 3.937    | 3.386    | 3.588   | 1.614   | 2.615   | 10021S      |
| 3          | Z-1648 | 4.134    | 3.386    | 3.783   | 1.732   | 2.655   | 10021S      |
| 3-1/16     | Z-1649 | 4.134    | 3.386    | 3.783   | 1.732   | 2.655   | 10021S      |
| 3-1/8      | Z-1650 | 4.134    | 3.386    | 3.783   | 1.732   | 2.655   | 10021S      |
| 3-3/16     | Z-1651 | 4.291    | 3.386    | 3.900   | 1.850   | 2.812   | 10021S      |
| 3-1/4      | Z-1652 | 4.291    | 3.386    | 3.900   | 1.850   | 2.812   | 10021S      |
| 3-5/16     | Z-1653 | 4.291    | 3.386    | 3.900   | 1.850   | 2.812   | 10021S      |
| 3-3/8      | Z-1654 | 4.291    | 3.386    | 4.056   | 1.929   | 2.930   | 10021S      |
| 3-7/16     | Z-1655 | 4.764    | 3.386    | 4.056   | 1.929   | 2.930   | 10021S      |
| 3-1/2      | Z-1656 | 4.764    | 3.386    | 4.056   | 1.929   | 2.930   | 10021S      |
| 3-9/16     | Z-1657 | 5.000    | 3.386    | 4.056   | 1.890   | 2.930   | 10021S      |
| 3-5/8      | Z-1658 | 5.118    | 3.386    | 4.056   | 1.929   | 2.930   | 10021S      |
| 3-11/16    | Z-1659 | 5.118    | 3.386    | 4.056   | 1.929   | 2.930   | 10021S      |
| 3-3/4      | Z-1660 | 5.315    | 3.386    | 4.134   | 1.929   | 3.245   | 10021S      |
| 3-13/16    | Z-1661 | 5.315    | 3.386    | 4.368   | 2.125   | 3.245   | 10021S      |
| 3-7/8      | Z-1662 | 5.315    | 3.386    | 4.368   | 2.125   | 3.245   | 10021S      |
| 3-15/16    | Z-1663 | 5.315    | 3.386    | 4.368   | 2.125   | 3.245   | 10021S      |
| 4          | Z-1664 | 5.512    | 5.000    | 4.368   | 2.125   | 3.245   | *           |
| 4-1/16     | Z-1665 | 4.512    | 5.000    | 4.368   | 2.125   | 3.245   | *           |
| 4-1/8      | Z-1666 | 5.709    | 5.000    | 4.368   | 2.125   | 3.245   | *           |
| 4-3/16     | Z-1667 | 5.709    | 5.000    | 4.758   | 2.441   | 3.245   | *           |
| 4-1/4      | Z-1668 | 5.709    | 5.000    | 4.758   | 2.441   | 3.599   | *           |
| 4-5/16     | Z-1669 | 5.906    | 5.000    | 4.758   | 2.441   | 3.599   | *           |
| 4-3/8      | Z-1670 | 5.906    | 5.000    | 4.758   | 2.441   | 3.599   | *           |
| 4-7/16     | Z-1671 | 6.102    | 5.000    | 4.758   | 2.441   | 3.599   | *           |
| 4-1/2      | Z-1672 | 6.102    | 5.000    | 4.758   | 2.441   | 3.599   | *           |

\* Requires retaining pin and ring, Pin = P16127, Ring = R16127

# 1" SQUARE DRIVE

## SIX POINT IMPACT SOCKETS



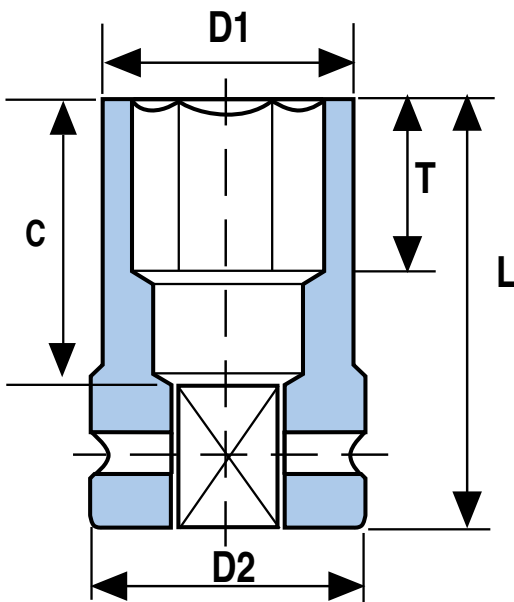
### Deep Fractional Sizes

| SIZE<br>in | PART#   | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in | RET<br>RING |
|------------|---------|----------|----------|---------|---------|---------|-------------|
| 3/4        | Z-1612L | 1.417    | 2.126    | 3.900   | 0.374   | 2.812   | 10010S      |
| 13/16      | Z-1613L | 1.496    | 2.126    | 3.900   | 0.433   | 2.812   | 10010S      |
| 7/8        | Z-1614L | 1.575    | 2.126    | 3.900   | 0.551   | 2.812   | 10010S      |
| 15/16      | Z-1615L | 1.614    | 2.126    | 3.900   | 0.551   | 2.812   | 10010S      |
| 1          | Z-1616L | 1.693    | 2.126    | 3.900   | 0.551   | 2.812   | 10010S      |
| 1-1/16     | Z-1617L | 1.811    | 2.126    | 3.900   | 0.551   | 2.812   | 10010S      |
| 1-1/8      | Z-1618L | 1.890    | 2.126    | 3.900   | 0.650   | 2.812   | 10010S      |
| 1-3/16     | Z-1619L | 1.969    | 2.126    | 3.900   | 0.650   | 2.812   | 10010S      |
| 1-1/4      | Z-1620L | 2.008    | 2.126    | 3.900   | 0.669   | 2.812   | 10010S      |
| 1-5/16     | Z-1621L | 2.126    | 2.126    | 3.900   | 0.748   | 2.812   | 10010S      |
| 1-3/8      | Z-1622L | 2.126    | 2.126    | 3.900   | 0.748   | 2.812   | 10010S      |
| 1-7/16     | Z-1623L | 2.126    | 2.126    | 3.900   | 0.748   | 2.812   | 10010S      |
| 1-1/2      | Z-1624L | 2.362    | 2.126    | 3.900   | 0.866   | 2.812   | 10010S      |
| 1-9/16     | Z-1625L | 2.362    | 2.126    | 3.900   | 0.866   | 2.812   | 10010S      |
| 1-5/8      | Z-1626L | 2.480    | 2.126    | 3.900   | 0.866   | 2.812   | 10010S      |
| 1-11/16    | Z-1627L | 2.638    | 2.126    | 3.900   | 0.984   | 2.812   | 10010S      |
| 1-3/4      | Z-1628L | 2.756    | 2.126    | 3.900   | 1.004   | 2.812   | 10010S      |
| 1-13/16    | Z-1629L | 2.756    | 2.126    | 3.900   | 1.004   | 2.812   | 10010S      |
| 1-7/8      | Z-1630L | 2.756    | 2.126    | 3.900   | 1.062   | 2.812   | 10010S      |
| 1-15/16    | Z-1631L | 2.874    | 2.126    | 3.900   | 1.062   | 2.812   | 10010S      |
| 2          | Z-1632L | 2.874    | 2.126    | 3.900   | 1.062   | 2.812   | 10010S      |
| 2-1/16     | Z-1633L | 3.071    | 2.126    | 3.900   | 1.181   | 2.969   | 10010S      |
| 2-1/8      | Z-1634L | 3.228    | 2.126    | 4.056   | 1.181   | 2.969   | 10010S      |
| 2-3/16     | Z-1635L | 3.228    | 2.126    | 4.095   | 1.259   | 3.088   | 10010S      |
| 2-1/4      | Z-1636L | 3.228    | 2.126    | 4.095   | 1.299   | 3.088   | 10010S      |
| 2-5/16     | Z-1637L | 3.386    | 2.126    | 4.368   | 1.299   | 3.166   | 10010S      |
| 2-3/8      | Z-1638L | 3.386    | 2.126    | 4.368   | 1.378   | 3.560   | 10010S      |
| 2-7/16     | Z-1639L | 3.622    | 2.126    | 4.602   | 1.378   | 3.560   | 10010S      |
| 2-1/2      | Z-1640L | 3.622    | 2.126    | 4.602   | 1.378   | 3.560   | 10010S      |
| 2-9/16     | Z-1641L | 3.622    | 2.126    | 4.602   | 1.378   | 3.599   | 10010S      |
| 2-5/8      | Z-1642L | 3.622    | 2.126    | 4.602   | 1.496   | 3.678   | 10010S      |
| 2-11/16    | Z-1643L | 3.780    | 2.126    | 4.836   | 1.496   | 3.718   | 10010S      |
| 2-3/4      | Z-1644L | 3.780    | 2.126    | 4.836   | 1.496   | 3.757   | 10010S      |
| 2-13/16    | Z-1645L | 3.937    | 3.386    | 4.836   | 1.575   | 3.757   | 10021S      |
| 2-7/8      | Z-1646L | 3.937    | 3.386    | 4.836   | 1.614   | 3.757   | 10021S      |
| 2-15/16    | Z-1647L | 3.937    | 3.386    | 4.836   | 1.614   | 3.757   | 10021S      |
| 3          | Z-1648L | 4.134    | 3.386    | 5.07    | 1.732   | 3.796   | 10021S      |
| 3-1/16     | Z-1649L | 4.134    | 3.386    | 5.07    | 1.732   | 3.796   | 10021S      |
| 3-1/8      | Z-1650L | 4.134    | 3.386    | 5.148   | 1.732   | 3.796   | 10021S      |
| 3-3/16     | Z-1651L | 4.291    | 3.386    | 5.148   | 1.850   | 3.954   | 10021S      |
| 3-1/4      | Z-1652L | 4.291    | 3.386    | 5.148   | 1.850   | 3.954   | 10021S      |
| 3-5/16     | Z-1653L | 4.291    | 3.386    | 5.148   | 1.850   | 3.954   | 10021S      |
| 3-3/8      | Z-1654L | 4.291    | 3.386    | 5.460   | 1.929   | 4.072   | 10021S      |
| 3-7/16     | Z-1655L | 4.764    | 3.386    | 5.460   | 1.929   | 4.072   | 10021S      |
| 3-1/2      | Z-1656L | 4.764    | 3.386    | 5.460   | 1.929   | 4.072   | 10021S      |
| 3-9/16     | Z-1657L | 5.000    | 3.386    | 5.460   | 1.890   | 4.072   | 10021S      |
| 3-5/8      | Z-1658L | 5.118    | 3.386    | 5.460   | 1.929   | 4.072   | 10021S      |
| 3-11/16    | Z-1659L | 5.118    | 3.386    | 5.460   | 1.929   | 4.072   | 10021S      |
| 3-3/4      | Z-1660L | 5.315    | 3.386    | 5.460   | 1.929   | 4.387   | 10021S      |
| 3-13/16    | Z-1661L | 5.315    | 3.386    | 5.577   | 2.125   | 4.387   | 10021S      |
| 3-7/8      | Z-1662L | 5.315    | 3.386    | 5.577   | 2.125   | 4.387   | 10021S      |
| 3-15/16    | Z-1663L | 5.315    | 3.386    | 5.577   | 2.125   | 4.387   | 10021S      |
| 4          | Z-1664L | 5.512    | 5.000    | 5.577   | 2.125   | 4.387   | *           |
| 4-1/16     | Z-1665L | 4.512    | 5.000    | 5.577   | 2.125   | 4.387   | *           |
| 4-1/8      | Z-1666L | 5.709    | 5.000    | 5.577   | 2.125   | 4.387   | *           |
| 4-3/16     | Z-1667L | 5.709    | 5.000    | 5.811   | 2.441   | 4.387   | *           |
| 4-1/4      | Z-1668L | 5.709    | 5.000    | 5.811   | 2.441   | 4.741   | *           |
| 4-5/16     | Z-1669L | 5.906    | 5.000    | 5.811   | 2.441   | 4.741   | *           |
| 4-3/8      | Z-1670L | 5.906    | 5.000    | 5.811   | 2.441   | 4.741   | *           |
| 4-7/16     | Z-1671L | 6.102    | 5.000    | 5.811   | 2.441   | 4.741   | *           |
| 4-1/2      | Z-1672L | 6.102    | 5.000    | 5.811   | 2.441   | 4.741   | *           |

\* Requires retaining pin and ring, Pin = P16127, Ring = R16127

# 1" SQUARE DRIVE

## SIX POINT IMPACT SOCKETS



### Deep Fractional Thinwall Sizes

| SIZE<br>in | PART#    | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in | RET<br>RING |
|------------|----------|----------|----------|---------|---------|---------|-------------|
| 7/8        | Z-1614LT | 1.496    | 2.126    | 3.937   | .500    | 2.812   | 10010S      |
| 15/16      | Z-1615LT | 1.496    | 2.126    | 3.937   | .500    | 2.812   | 10010S      |
| 1          | Z-1616LT | 1.614    | 2.126    | 3.937   | .500    | 2.812   | 10010S      |
| 1-1/16     | Z-1617LT | 1.732    | 2.126    | 3.937   | .500    | 2.812   | 10010S      |
| 1-1/8      | Z-1618LT | 1.732    | 2.126    | 3.937   | .500    | 2.812   | 10010S      |
| 1-3/16     | Z-1619LT | 1.929    | 2.126    | 3.937   | 1.299   | 2.812   | 10010S      |
| 1-1/4      | Z-1620LT | 1.929    | 2.126    | 3.937   | 1.339   | 2.812   | 10010S      |
| 1-5/16     | Z-1621LT | 2.047    | 2.126    | 3.937   | 1.496   | 2.812   | 10010S      |
| 1-3/8      | Z-1622LT | 2.047    | 2.126    | 3.937   | 1.496   | 2.812   | 10010S      |
| 1-7/16     | Z-1623LT | 2.126    | 2.126    | 3.937   | 1.496   | 2.812   | 10010S      |
| 1-1/2      | Z-1624LT | 2.224    | 2.126    | 3.937   | 1.732   | 2.812   | 10010S      |
| 1-9/16     | Z-1625LT | 2.244    | 2.126    | 3.937   | 1.732   | 2.812   | 10010S      |
| 1-5/8      | Z-1626LT | 2.362    | 2.126    | 3.937   | 1.732   | 2.812   | 10010S      |
| 1-11/16    | Z-1627LT | 2.480    | 2.126    | 3.937   | 1.968   | 2.812   | 10010S      |
| 1-3/4      | Z-1628LT | 2.638    | 2.126    | 3.937   | 2.008   | 2.812   | 10010S      |
| 1-13/16    | Z-1629LT | 2.638    | 2.126    | 3.937   | 2.008   | 2.812   | 10010S      |

### Deep Metric Thinwall Sizes

| SIZE<br>mm | PART#     | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | C<br>mm | RET<br>RING |
|------------|-----------|----------|----------|---------|---------|---------|-------------|
| 22         | Z-16M22LT | 38       | 54       | 100     | 20      | 71      | 10010S      |
| 23         | Z-16M23LT | 38       | 54       | 100     | 24      | 71      | 10010S      |
| 24         | Z-16M24LT | 38       | 54       | 100     | 24      | 71      | 10010S      |
| 25         | Z-16M25LT | 41       | 54       | 100     | 26      | 71      | 10010S      |
| 26         | Z-16M26LT | 44       | 54       | 100     | 26      | 71      | 10010S      |
| 27         | Z-16M27LT | 44       | 54       | 100     | 26      | 71      | 10010S      |
| 28         | Z-16M28LT | 44       | 54       | 100     | 28      | 71      | 10010S      |
| 29         | Z-16M29LT | 44       | 54       | 100     | 28      | 71      | 10010S      |
| 30         | Z-16M30LT | 49       | 54       | 100     | 33      | 71      | 10010S      |
| 31         | Z-16M31LT | 49       | 54       | 100     | 33      | 71      | 10010S      |
| 32         | Z-16M32LT | 49       | 54       | 100     | 33      | 71      | 10010S      |
| 33         | Z-16M33LT | 52       | 54       | 100     | 34      | 71      | 10010S      |
| 34         | Z-16M34LT | 52       | 54       | 100     | 34      | 71      | 10010S      |
| 35         | Z-16M35LT | 52       | 54       | 100     | 38      | 71      | 10010S      |
| 36         | Z-16M36LT | 54       | 54       | 100     | 38      | 71      | 10010S      |
| 37         | Z-16M37LT | 54       | 54       | 100     | 38      | 71      | 10010S      |
| 38         | Z-16M38LT | 54       | 54       | 100     | 43      | 71      | 10010S      |
| 39         | Z-16M39LT | 54       | 54       | 100     | 43      | 71      | 10010S      |
| 40         | Z-16M40LT | 54       | 54       | 100     | 43      | 71      | 10010S      |
| 41         | Z-16M41LT | 54       | 54       | 100     | 44      | 71      | 10010S      |
| 42         | Z-16M42LT | 54       | 54       | 100     | 44      | 71      | 10010S      |
| 43         | Z-16M43LT | 54       | 54       | 100     | 50      | 71      | 10010S      |
| 44         | Z-16M44LT | 54       | 54       | 100     | 50      | 71      | 10010S      |
| 45         | Z-16M45LT | 54       | 54       | 100     | 51      | 71      | 10010S      |
| 46         | Z-16M46LT | 54       | 54       | 100     | 51      | 71      | 10010S      |

See page 83 for information on "special" sockets. OZAT routinely manufactures extra deep, extra heavy, spark resistant, special shape, or special drive type sockets.

# 1" SQUARE DRIVE

# SIX POINT IMPACT SOCKETS

## Standard Metric Sizes

| SIZE<br>mm | PART#    | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | C<br>mm | RET<br>RING |
|------------|----------|----------|----------|---------|---------|---------|-------------|
| 19         | Z-16M19  | 36       | 54       | 55      | 9.5     | 26      | 10010S      |
| 20         | Z-16M20  | 37       | 54       | 55      | 10      | 26      | 10010S      |
| 21         | Z-16M21  | 38       | 54       | 55      | 10      | 26      | 10010S      |
| 22         | Z-16M22  | 40       | 54       | 55      | 10      | 26      | 10010S      |
| 23         | Z-16M23  | 41       | 54       | 55      | 12      | 26      | 10010S      |
| 24         | Z-16M24  | 42       | 54       | 55      | 12      | 26      | 10010S      |
| 25         | Z-16M25  | 43       | 54       | 55      | 13      | 26      | 10010S      |
| 26         | Z-16M26  | 45       | 54       | 55      | 13      | 26      | 10010S      |
| 27         | Z-16M27  | 46       | 54       | 55      | 13      | 26      | 10010S      |
| 28         | Z-16M28  | 47       | 54       | 55      | 14      | 26      | 10010S      |
| 29         | Z-16M29  | 48       | 54       | 57      | 14      | 28      | 10010S      |
| 30         | Z-16M30  | 50       | 54       | 57      | 16.5    | 28      | 10010S      |
| 31         | Z-16M31  | 51       | 54       | 57      | 16.5    | 28      | 10010S      |
| 32         | Z-16M32  | 51       | 54       | 57      | 16.5    | 28      | 10010S      |
| 33         | Z-16M33  | 54       | 54       | 57      | 17      | 28      | 10010S      |
| 34         | Z-16M34  | 54       | 54       | 60      | 19      | 31      | 10010S      |
| 35         | Z-16M35  | 54       | 54       | 60      | 19      | 31      | 10010S      |
| 36         | Z-16M36  | 54       | 54       | 60      | 19      | 31      | 10010S      |
| 37         | Z-16M37  | 57       | 54       | 60      | 19      | 31      | 10010S      |
| 38         | Z-16M38  | 60       | 54       | 64      | 22      | 35      | 10010S      |
| 39         | Z-16M39  | 60       | 54       | 64      | 21.5    | 35      | 10010S      |
| 40         | Z-16M40  | 63       | 54       | 64      | 21.5    | 35      | 10010S      |
| 41         | Z-16M41  | 63       | 54       | 64      | 22      | 35      | 10010S      |
| 42         | Z-16M42  | 63       | 54       | 64      | 21.5    | 35      | 10010S      |
| 43         | Z-16M43  | 67       | 54       | 69      | 25      | 40      | 10010S      |
| 44         | Z-16M44  | 67       | 54       | 69      | 21.5    | 40      | 10010S      |
| 45         | Z-16M45  | 70       | 54       | 69      | 21.5    | 40      | 10010S      |
| 46         | Z-16M46  | 70       | 54       | 69      | 25.5    | 40      | 10010S      |
| 47         | Z-16M47  | 70       | 54       | 69      | 23.5    | 40      | 10010S      |
| 48         | Z-16M48  | 73       | 54       | 72      | 23.5    | 43      | 10010S      |
| 49         | Z-16M49  | 73       | 54       | 72      | 27      | 43      | 10010S      |
| 50         | Z-16M50  | 73       | 54       | 72      | 23.5    | 43      | 10010S      |
| 51         | Z-16M51  | 73       | 54       | 72      | 27      | 43      | 10010S      |
| 52         | Z-16M52  | 78       | 54       | 72      | 27      | 43      | 10010S      |
| 54         | Z-16M54  | 82       | 54       | 76      | 30      | 47      | 10010S      |
| 55         | Z-16M55  | 82       | 54       | 76      | 27      | 47      | 10010S      |
| 56         | Z-16M56  | 82       | 54       | 75      | 28      | 46      | 10010S      |
| 57         | Z-16M57  | 82       | 54       | 80      | 33      | 51      | 10010S      |
| 58         | Z-16M58  | 86       | 54       | 75      | 28      | 46      | 10010S      |
| 59         | Z-16M59  | 86       | 54       | 82      | 33      | 53      | 10010S      |
| 60         | Z-16M60  | 86       | 54       | 75      | 28      | 46      | 10010S      |
| 61         | Z-16M61  | 88       | 54       | 85      | 28      | 56      | 10010S      |
| 62         | Z-16M62  | 92       | 54       | 85      | 35      | 56      | 10010S      |
| 65         | Z-16M65  | 92       | 54       | 85      | 35      | 56      | 10010S      |
| 67         | Z-16M67  | 92       | 54       | 88      | 38      | 62      | 10010S      |
| 70         | Z-16M70  | 96       | 54       | 88      | 38      | 79      | 10010S      |
| 73         | Z-16M73  | 100      | 86       | 92      | 41      | 83      | 10021S      |
| 75         | Z-16M75  | 100      | 86       | 92      | 41      | 83      | 10021S      |
| 76         | Z-16M76  | 105      | 86       | 97      | 44      | 68      | 10021S      |
| 80         | Z-16M80  | 105      | 86       | 97      | 37      | 59      | 10021S      |
| 85         | Z-16M85  | 115      | 86       | 100     | 40      | 63      | 10021S      |
| 86         | Z-16M86  | 115      | 86       | 104     | 49      | 75      | 10021S      |
| 90         | Z-16M90  | 127      | 86       | 104     | 43      | 68      | 10021S      |
| 95         | Z-16M95  | 135      | 86       | 106     | 49      | 77      | 10021S      |
| 100        | Z-16M100 | 135      | 86       | 112     | 54      | 83      | 10021S      |
| 105        | Z-16M105 | 145      | 127      | 112     | 54      | 83      | *           |
| 110        | Z-16M110 | 150      | 127      | 122     | 62      | 93      | *           |
| 115        | Z-16M115 | 155      | 127      | 122     | 57      | 91      | *           |

\* Requires retaining pin and ring, Pin = P16127, Ring = R16127

## Deep Metric Sizes

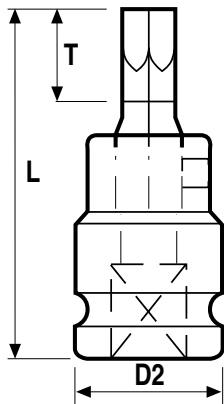
| SIZE<br>mm | PART#     | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | C<br>mm | RET<br>RING |
|------------|-----------|----------|----------|---------|---------|---------|-------------|
| 19         | Z-16M19L  | 36       | 54       | 100     | 9.5     | 71      | 10010S      |
| 20         | Z-16M20L  | 37       | 54       | 100     | 10      | 71      | 10010S      |
| 21         | Z-16M21L  | 38       | 54       | 100     | 10      | 71      | 10010S      |
| 22         | Z-16M22L  | 40       | 54       | 100     | 10      | 71      | 10010S      |
| 23         | Z-16M23L  | 41       | 54       | 100     | 12      | 71      | 10010S      |
| 24         | Z-16M24L  | 42       | 54       | 100     | 12      | 71      | 10010S      |
| 25         | Z-16M25L  | 43       | 54       | 100     | 13      | 71      | 10010S      |
| 26         | Z-16M26L  | 45       | 54       | 100     | 13      | 71      | 10010S      |
| 27         | Z-16M27L  | 46       | 54       | 100     | 13      | 71      | 10010S      |
| 28         | Z-16M28L  | 47       | 54       | 100     | 14      | 71      | 10010S      |
| 29         | Z-16M29L  | 48       | 54       | 100     | 14      | 71      | 10010S      |
| 30         | Z-16M30L  | 50       | 54       | 100     | 16.5    | 71      | 10010S      |
| 31         | Z-16M31L  | 51       | 54       | 100     | 16.5    | 71      | 10010S      |
| 32         | Z-16M32L  | 51       | 54       | 100     | 16.5    | 71      | 10010S      |
| 33         | Z-16M33L  | 54       | 54       | 100     | 17      | 71      | 10010S      |
| 34         | Z-16M34L  | 54       | 54       | 100     | 19      | 71      | 10010S      |
| 35         | Z-16M35L  | 54       | 54       | 100     | 19      | 71      | 10010S      |
| 36         | Z-16M36L  | 54       | 54       | 100     | 19      | 71      | 10010S      |
| 37         | Z-16M37L  | 57       | 54       | 100     | 19      | 71      | 10010S      |
| 38         | Z-16M38L  | 60       | 54       | 100     | 22      | 71      | 10010S      |
| 39         | Z-16M39L  | 60       | 54       | 100     | 21.5    | 71      | 10010S      |
| 40         | Z-16M40L  | 63       | 54       | 100     | 21.5    | 71      | 10010S      |
| 41         | Z-16M41L  | 63       | 54       | 100     | 22      | 71      | 10010S      |
| 42         | Z-16M42L  | 63       | 54       | 100     | 21.5    | 71      | 10010S      |
| 43         | Z-16M43L  | 67       | 54       | 100     | 25      | 71      | 10010S      |
| 44         | Z-16M44L  | 67       | 54       | 100     | 21.5    | 71      | 10010S      |
| 45         | Z-16M45L  | 70       | 54       | 100     | 21.5    | 71      | 10010S      |
| 46         | Z-16M46L  | 70       | 54       | 100     | 25.5    | 71      | 10010S      |
| 47         | Z-16M47L  | 70       | 54       | 100     | 23.5    | 71      | 10010S      |
| 48         | Z-16M48L  | 73       | 54       | 100     | 23.5    | 71      | 10010S      |
| 49         | Z-16M49L  | 73       | 54       | 100     | 27      | 71      | 10010S      |
| 50         | Z-16M50L  | 73       | 54       | 100     | 23.5    | 71      | 10010S      |
| 51         | Z-16M51L  | 73       | 54       | 100     | 27      | 71      | 10010S      |
| 52         | Z-16M52L  | 78       | 54       | 100     | 27      | 71      | 10010S      |
| 54         | Z-16M54L  | 82       | 54       | 104     | 30      | 75      | 10010S      |
| 55         | Z-16M55L  | 82       | 54       | 104     | 27      | 75      | 10010S      |
| 56         | Z-16M56L  | 82       | 54       | 105     | 28      | 76      | 10010S      |
| 57         | Z-16M57L  | 82       | 54       | 105     | 33      | 76      | 10010S      |
| 58         | Z-16M58L  | 86       | 54       | 105     | 28      | 76      | 10010S      |
| 59         | Z-16M59L  | 86       | 54       | 112     | 33      | 83      | 10010S      |
| 60         | Z-16M60L  | 86       | 54       | 105     | 28      | 83      | 10010S      |
| 61         | Z-16M61L  | 88       | 54       | 112     | 28      | 83      | 10010S      |
| 62         | Z-16M62L  | 92       | 54       | 118     | 35      | 89      | 10010S      |
| 65         | Z-16M65L  | 92       | 54       | 118     | 35      | 89      | 10010S      |
| 67         | Z-16M67L  | 92       | 54       | 118     | 38      | 89      | 10010S      |
| 70         | Z-16M70L  | 96       | 54       | 124     | 38      | 95      | 10010S      |
| 73         | Z-16M73L  | 100      | 86       | 124     | 41      | 95      | 10021S      |
| 75         | Z-16M75L  | 100      | 86       | 124     | 41      | 95      | 10021S      |
| 76         | Z-16M76L  | 105      | 86       | 130     | 44      | 101     | 10021S      |
| 80         | Z-16M80L  | 105      | 86       | 132     | 37      | 103     | 10021S      |
| 85         | Z-16M85L  | 115      | 86       | 132     | 40      | 103     | 10021S      |
| 86         | Z-16M86L  | 115      | 86       | 140     | 49      | 111     | 10021S      |
| 90         | Z-16M90L  | 127      | 86       | 140     | 43      | 111     | 10021S      |
| 95         | Z-16M95L  | 135      | 86       | 140     | 49      | 111     | 10021S      |
| 100        | Z-16M100L | 135      | 86       | 143     | 54      | 114     | 10021S      |
| 105        | Z-16M105L | 145      | 127      | 143     | 54      | 114     | *           |
| 110        | Z-16M110L | 150      | 127      | 149     | 62      | 120     | *           |
| 115        | Z-16M115L | 155      | 127      | 149     | 57      | 120     | *           |

\* Requires retaining pin and ring, Pin = P16127, Ring = R16127



# 1" SQUARE DRIVE

## HEX DRIVER SOCKETS



### Fractional Sizes

| SIZE<br>in | PART#   | D2<br>in | L<br>in | T<br>in | RET<br>RING |
|------------|---------|----------|---------|---------|-------------|
| 1/2        | Z-1608H | 2.126    | 2.91    | 1.16    | 10010S      |
| 9/16       | Z-1609H | 2.126    | 2.91    | 1.16    | 10010S      |
| 5/8        | Z-1610H | 2.126    | 2.91    | 1.16    | 10010S      |
| 3/4        | Z-1612H | 2.126    | 2.91    | 1.16    | 10010S      |
| 13/16      | Z-1613H | 2.126    | 3.07    | 1.32    | 10010S      |
| 7/8        | Z-1614H | 2.126    | 3.07    | 1.32    | 10010S      |
| 1          | Z-1616H | 2.126    | 3.07    | 1.32    | 10010S      |
| 1-1/16     | Z-1617H | 2.126    | 3.23    | 1.48    | 10010S      |
| 1-1/8      | Z-1618H | 2.126    | 3.23    | 1.48    | 10010S      |
| 1-3/16     | Z-1619H | 2.126    | 3.23    | 1.48    | 10010S      |
| 1-1/4      | Z-1620H | 2.126    | 3.43    | 1.68    | 10010S      |

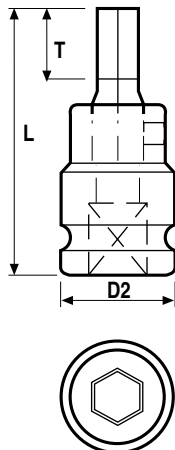
Note: 1 piece construction

### Metric Sizes

| SIZE<br>mm | PART#    | D2<br>mm | L<br>mm | T<br>mm | RET<br>RING |
|------------|----------|----------|---------|---------|-------------|
| 10         | Z-16M10H | 2.126    | 2.91    | 1.16    | 10010S      |
| 12         | Z-16M12H | 2.126    | 2.91    | 1.16    | 10010S      |
| 14         | Z-16M14H | 2.126    | 2.91    | 1.16    | 10010S      |
| 17         | Z-16M17H | 2.126    | 2.91    | 1.16    | 10010S      |
| 19         | Z-16M19H | 2.126    | 2.91    | 1.16    | 10010S      |
| 22         | Z-16M22H | 2.126    | 3.07    | 1.32    | 10010S      |
| 24         | Z-16M24H | 2.126    | 3.07    | 1.32    | 10010S      |
| 27         | Z-16M27H | 2.126    | 3.23    | 1.48    | 10010S      |
| 30         | Z-16M30H | 2.126    | 3.23    | 1.48    | 10010S      |
| 32         | Z-16M32H | 2.126    | 3.43    | 1.68    | 10010S      |

Note: 1 piece construction

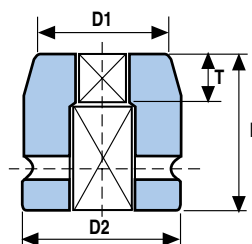
### 2-Part In-Hex Sizes



| HEX<br>in | HEX<br>mm | PART#    | D2<br>mm | L<br>mm | T<br>mm | Weight<br>gr | RET<br>RING | REPLACEMENT<br>HEX BIT |
|-----------|-----------|----------|----------|---------|---------|--------------|-------------|------------------------|
| 1/2       |           | Z-1608V  | 54       | 74      | 19      | 800          | 10010S      | H08                    |
| 9/16      |           | Z-1609V  | 54       | 74      | 21      | 800          | 10010S      | H09                    |
| 5/8       |           | Z-1610V  | 54       | 74      | 24      | 800          | 10010S      | H10                    |
| 3/4       |           | Z-1612V  | 54       | 74      | 26      | 800          | 10010S      | H12                    |
| 13/16     |           | Z-1613V  | 54       | 89      | 26      | 900          | 10010S      | H13                    |
| 7/8       |           | Z-1614V  | 54       | 89      | 26      | 900          | 10010S      | H14                    |
| 1         |           | Z-1616V  | 54       | 109     | 30      | 1000         | 10010S      | H16                    |
| 1-1/6     |           | Z-1617V  | 54       | 111     | 32      | 1000         | 10010S      | H17                    |
| 1-1/8     |           | Z-1618V  | 54       | 111     | 32      | 1000         | 10010S      | H18                    |
| 1-3/16    |           | Z-1619V  | 54       | 115     | 36      | 1000         | 10010S      | H19                    |
| 1-1/4     |           | Z-1620V  | 54       | 117     | 38      | 1000         | 10010S      | H20                    |
|           | 10        | Z-16M10V | 54       | 74      | 16      | 800          | 10010S      | HM10                   |
|           | 12        | Z-16M12V | 54       | 74      | 18      | 800          | 10010S      | HM12                   |
|           | 14        | Z-16M14V | 54       | 74      | 21      | 800          | 10010S      | HM14                   |
|           | 17        | Z-16M17V | 54       | 74      | 26      | 800          | 10010S      | HM17                   |
|           | 19        | Z-16M19V | 54       | 89      | 26      | 900          | 10010S      | HM19                   |
|           | 22        | Z-16M22V | 54       | 89      | 26      | 900          | 10010S      | HM22                   |
|           | 24        | Z-16M24V | 54       | 89      | 26      | 900          | 10010S      | HM24                   |
|           | 27        | Z-16M27V | 54       | 111     | 32      | 1000         | 10010S      | HM27                   |
|           | 30        | Z-16M30V | 54       | 115     | 36      | 1000         | 10010S      | HM30                   |
|           | 32        | Z-16M32V | 54       | 117     | 38      | 1000         | 10010S      | HM32                   |

Note: 2 piece construction

### Budd Wheel Socket Sizes



| SIZE            | PART#    | D1    | D2     | L      | T      | RET<br>RING |
|-----------------|----------|-------|--------|--------|--------|-------------|
| 17 mm           | Z-16M17B | 40 mm | 54 mm  | 55 mm  | 9 mm   | 10010S      |
| 21 mm           | Z-16M21B | 47 mm | 54 mm  | 55 mm  | 10 mm  | 10010S      |
| 13/16"          | Z-1613B  | 1.85" | 2.126" | 2.145" | 0.472" | 10010S      |
| 15/16"          | Z-1615B  | 2.07" | 2.126" | 2.340" | 0.512" | 10010S      |
| 13/16"          | Z-1613BL | 1.85" | 2.126" | 3.900" | 0.472" | 10010S      |
| 15/16"          | Z-1615BL | 2.07" | 2.126" | 3.900" | 0.512" | 10010S      |
| 13/16" X 1-1/2" | Z-1624BS | 2.24" | 2.126" | 3.900" | 0.571" | 10010S      |

# 1" SQUARE DRIVE

## Standard Socket Sizes

| SIZE<br>in | SIZE<br>mm | PART#       | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | Weight<br>gr | RET<br>RING |
|------------|------------|-------------|----------|----------|---------|---------|--------------|-------------|
| 3/4        | 19         | DH-1612DM19 | 36       | 54       | 55      | 9.5     | 600          | 10010S      |
| 13/16      |            | DH-1613     | 38       | 54       | 55      | 11.0    | 600          | 10010S      |
| 7/8        |            | DH-1614     | 40       | 54       | 55      | 13.0    | 600          | 10010S      |
| 15/16      |            | DH-1615     | 41       | 54       | 55      | 13.0    | 600          | 10010S      |
| 1          |            | DH-1616     | 43       | 54       | 55      | 13.0    | 600          | 10010S      |
| 1-1/16     | 27         | DH-1617M27  | 46       | 54       | 55      | 13.0    | 600          | 10010S      |
| 1-1/8      |            | DH-1618     | 48       | 54       | 57      | 16.5    | 630          | 10010S      |
| 1-3/16     | 30         | DH-1619M30  | 50       | 54       | 57      | 16.5    | 630          | 10010S      |
| 1-1/4      |            | DH-1620     | 51       | 54       | 57      | 17.0    | 630          | 10010S      |
| 1-5/16     |            | DH-1621     | 54       | 54       | 60      | 19.0    | 650          | 10010S      |
| 1-3/8      | 35         | DH-1622M35  | 54       | 54       | 60      | 19.0    | 650          | 10010S      |
| 1-7/16     |            | DH-1623     | 54       | 54       | 60      | 19.0    | 650          | 10010S      |
| 1-1/2      | 38         | DH-1624M38  | 60       | 54       | 64      | 22.0    | 760          | 10010S      |
| 1-9/16     |            | DH-1625     | 60       | 54       | 64      | 22.0    | 760          | 10010S      |
| 1-5/8      | 41         | DH-1626M41  | 63       | 54       | 64      | 22.0    | 800          | 10010S      |
| 1-11/16    | 43         | DH-1627M43  | 67       | 54       | 69      | 25.0    | 950          | 10010S      |
| 1-3/4      |            | DH-1628     | 70       | 54       | 69      | 25.5    | 1000         | 10010S      |
| 1-13/16    | 46         | DH-1629M46  | 70       | 54       | 69      | 25.5    | 1000         | 10010S      |
| 1-7/8      |            | DH-1630     | 70       | 54       | 72      | 27.0    | 1000         | 10010S      |
| 1-15/16    | 49         | DH-1631M49  | 73       | 54       | 72      | 27.0    | 1080         | 10010S      |
| 2          | 51         | DH-1632M51  | 73       | 54       | 72      | 27.0    | 2080         | 10010S      |
| 2-1/16     |            | DH-1633     | 78       | 54       | 76      | 30.0    | 1240         | 10010S      |
| 2-1/8      | 54         | DH-1634M54  | 82       | 54       | 76      | 30.0    | 1400         | 10010S      |
| 2-3/16     |            | DH-1635     | 82       | 54       | 80      | 32.0    | 1400         | 10010S      |
| 2-1/4      | 57         | DH-1636M57  | 82       | 54       | 80      | 33.0    | 1400         | 10010S      |
| 2-5/16     | 59         | DH-1637M59  | 86       | 54       | 82      | 33.0    | 1500         | 10010S      |
| 2-3/8      |            | DH-1638     | 86       | 54       | 85      | 35.0    | 1500         | 10010S      |
| 2-7/16     | 62         | DH-1639M62  | 92       | 54       | 85      | 35.0    | 1800         | 10010S      |
| 2-1/2      |            | DH-1640     | 92       | 54       | 85      | 35.0    | 1800         | 10010S      |
| 2-9/16     | 65         | DH-1641M65  | 92       | 54       | 85      | 25.0    | 1800         | 10010S      |
| 2-5/8      | 67         | DH-1642M67  | 92       | 54       | 88      | 38.0    | 1800         | 10010S      |
| 2-11/16    |            | DH-1643     | 96       | 54       | 88      | 38.0    | 1800         | 10010S      |
| 2-3/4      | 70         | DH-1644M70  | 96       | 54       | 88      | 38.0    | 1800         | 10010S      |
| 2-13/16    |            | DH-1645     | 100      | 86       | 92      | 40.0    | 2700         | 10021S      |
| 2-7/8      | 73         | DH-1646M73  | 100      | 86       | 92      | 41.0    | 2700         | 10021S      |
| 2-15/16    | 75         | DH-1647M75  | 100      | 86       | 92      | 41.0    | 2700         | 10021S      |
| 3          | 76         | DH-1648M76  | 105      | 86       | 97      | 44.0    | 3200         | 10021S      |

## DOUBLE SQUARE EIGHT POINT SOCKETS

### Standard Fractional Sizes

| SIZE<br>in | PART#   | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in | RET<br>RING |
|------------|---------|----------|----------|---------|---------|---------|-------------|
| 1-5/16     | DS-1621 | 2.480    | 2.126    | 2.262   | .748    | 1.283   | 10010S      |
| 1-3/8      | DS-1622 | 2.638    | 2.362    | 2.262   | .748    | 1.283   | 10015S      |
| 1-7/16     | DS-1623 | 2.638    | 2.362    | 2.262   | .748    | 1.283   | 10015S      |
| 1-1/2      | DS-1624 | 2.756    | 2.362    | 2.418   | .866    | 1.441   | 10015S      |
| 1-9/16     | DS-1625 | 3.071    | 2.362    | 2.418   | .866    | 1.441   | 10015S      |
| 1-5/8      | DS-1626 | 3.071    | 2.362    | 2.418   | .866    | 1.441   | 10015S      |
| 1-11/16    | DS-1627 | 3.228    | 2.362    | 2.613   | .984    | 1.638   | 10015S      |
| 1-3/4      | DS-1628 | 3.228    | 2.362    | 2.613   | 1.005   | 1.638   | 10015S      |
| 1-13/16    | DS-1629 | 3.386    | 2.362    | 2.613   | 1.005   | 1.638   | 10015S      |
| 1-7/8      | DS-1630 | 3.386    | 2.362    | 2.730   | 1.063   | 1.756   | 10015S      |
| 2          | DS-1632 | 3.622    | 2.362    | 2.730   | 1.063   | 1.756   | 10015S      |
| 2-1/8      | DS-1634 | 3.937    | 2.362    | 2.925   | 1.181   | 1.953   | 10015S      |
| 2-3/16     | DS-1635 | 3.937    | 2.362    | 3.042   | 1.260   | 2.071   | 10015S      |
| 2-1/4      | DS-1636 | 3.937    | 2.362    | 3.042   | 1.260   | 2.071   | 10015S      |
| 2-3/8      | DS-1638 | 4.134    | 2.362    | 3.198   | 1.378   | 2.228   | 10015S      |
| 2-1/2      | DS-1640 | 4.291    | 2.362    | 3.432   | 1.378   | 2.465   | 10015S      |

Note: Metric Sizes 35, 38, 41, 46, 51, 54, 57 are also available by special order. (POR)

# 12 POINT IMPACT SOCKETS

## Standard Socket Sizes Cont.

| SIZE<br>in | SIZE<br>mm | PART#       | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | Weight<br>gr | RET<br>RING |
|------------|------------|-------------|----------|----------|---------|---------|--------------|-------------|
| 3-1/16     |            | DH-1649     | 105      | 86       | 97      | 44.0    | 3200         | 10021S      |
| 3-1/8      |            | DH-1650     | 105      | 86       | 97      | 44.0    | 3200         | 10021S      |
| 3-3/16     |            | DH-1651     | 109      | 86       | 100     | 47.0    | 3200         | 10021S      |
| 3-1/4      |            | DH-1652     | 109      | 86       | 100     | 47.0    | 3200         | 10021S      |
| 3-5/16     |            | DH-1653     | 109      | 86       | 100     | 47.0    | 3200         | 10021S      |
| 3-3/8      | 86         | DH-1654M86  | 115      | 86       | 104     | 49.0    | 3500         | 10021S      |
| 3-7/16     |            | DH-1655     | 121      | 86       | 104     | 49.0    | 4120         | 10021S      |
| 3-1/2      |            | DH-1656     | 121      | 86       | 104     | 49.0    | 4120         | 10021S      |
| 3-9/16     |            | DH-1657     | 127      | 86       | 104     | 49.5    | 4400         | 10021S      |
| 3-5/8      |            | DH-1658     | 130      | 86       | 104     | 49.0    | 4700         | 10021S      |
| 3-11/16    |            | DH-1659     | 130      | 86       | 104     | 49.0    | 4700         | 10021S      |
| 3-3/4      | 95         | DH-1660M95  | 135      | 86       | 106     | 49.0    | 5200         | 10021S      |
| 3-13/16    |            | DH-1661     | 135      | 86       | 112     | 54.0    | 5200         | 10021S      |
| 3-7/8      |            | DH-1662     | 135      | 86       | 112     | 54.0    | 5200         | 10021S      |
| 3-15/16    | 100        | DH-1663M100 | 135      | 86       | 112     | 54.0    | 5200         | 10021S      |
| 4          |            | DH-1664     | 140      | 127      | 112     | 54.0    | 5500         | *           |
| 4-1/16     |            | DH-1665     | 140      | 127      | 112     | 54.0    | 5500         | *           |
| 4-1/8      | 105        | DH-1666M105 | 145      | 127      | 112     | 54.0    | 7700         | *           |
| 4-3/16     |            | DH-1667     | 145      | 127      | 122     | 62.0    | 8100         | *           |
| 4-1/4      |            | DH-1668     | 145      | 127      | 122     | 62.0    | 8100         | *           |
| 4-5/16     | 110        | DH-1669M110 | 150      | 127      | 122     | 62.0    | 8200         | *           |
| 4-3/8      |            | DH-1670     | 150      | 127      | 122     | 62.0    | 8200         | *           |
| 4-7/16     |            | DH-1671     | 150      | 127      | 122     | 62.0    | 9060         | *           |
| 4-1/2      |            | DH-1672     | 150      | 127      | 122     | 62.0    | 9060         | *           |

\* Requires retaining pin and ring, Pin = P16127, Ring = R16127

## Deep Fractional Sizes

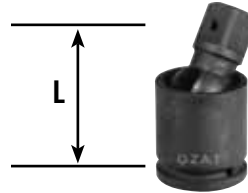
| SIZE<br>in | PART#     | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in | RET<br>RING |
|------------|-----------|----------|----------|---------|---------|---------|-------------|
| 2          | DH-11632L | 2.874    | 2.126    | 3.900   | 1.062   | 2.812   | 10010S      |
| 2-3/16     | DH-1635L  | 3.228    | 2.126    | 4.095   | 1.259   | 3.088   | 10010S      |
| 2-3/8      | DH-1638L  | 3.386    | 2.126    | 4.368   | 1.378   | 3.560   | 10010S      |
| 2-9/16     | DH-1641L  | 3.622    | 2.126    | 4.602   | 1.378   | 3.599   | 10010S      |
| 2-3/4      | DH-1644L  | 3.780    | 2.126    | 4.836   | 1.496   | 3.757   | 10010S      |
| 2-15/16    | DH-1647L  | 3.937    | 3.386    | 4.836   | 1.614   | 3.757   | 10021S      |
| 3-1/8      | DH-1650L  | 4.291    | 3.386    | 5.460   | 1.929   | 4.072   | 10021S      |

## Deep Fractional Sizes

| SIZE<br>in | PART#    | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in | RET<br>RING |
|------------|----------|----------|----------|---------|---------|---------|-------------|
| 1-5/16     | DS-1621L | 2.480    | 2.126    | 3.159   | .748    | 2.189   | 10010S      |
| 1-3/8      | DS-1622L | 2.638    | 2.362    | 3.159   | .748    | 2.189   | 10015S      |
| 1-7/16     | DS-1623L | 2.638    | 2.362    | 3.159   | .748    | 2.189   | 10015S      |
| 1-1/2      | DS-1624L | 2.756    | 2.362    | 3.393   | .866    | 2.322   | 10015S      |
| 1-9/16     | DS-1625L | 3.071    | 2.362    | 3.432   | .866    | 2.322   | 10015S      |
| 1-5/8      | DS-1626L | 3.071    | 2.362    | 3.432   | .866    | 2.322   | 10015S      |
| 1-11/16    | DS-1627L | 3.228    | 2.362    | 3.432   | .984    | 2.322   | 10015S      |
| 1-3/4      | DS-1628L | 3.228    | 2.362    | 3.432   | 1.005   | 2.322   | 10015S      |
| 1-13/16    | DS-1629L | 3.386    | 2.362    | 3.432   | 1.005   | 2.322   | 10015S      |
| 1-7/8      | DS-1630L | 3.386    | 2.362    | 3.432   | 1.063   | 2.322   | 10015S      |
| 2          | DS-1632L | 3.622    | 2.362    | 3.432   | 1.063   | 2.322   | 10015S      |
| 2-1/8      | DS-1634L | 3.937    | 2.362    | 3.783   | 1.181   | 2.819   | 10015S      |
| 2-3/16     | DS-1635L | 3.937    | 2.362    | 3.783   | 1.260   | 2.819   | 10015S      |
| 2-1/4      | DS-1636L | 3.937    | 2.362    | 3.900   | 1.260   | 2.937   | 10015S      |
| 2-3/8      | DS-1638L | 4.134    | 2.362    | 3.900   | 1.378   | 2.937   | 10015S      |
| 2-1/2      | DS-1640L | 4.291    | 2.362    | 3.900   | 1.378   | 2.937   | 10015S      |

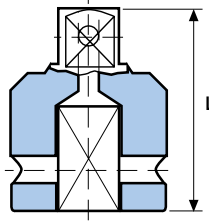
Note: Metric Sizes 35, 38, 41, 46, 51, 54, 57 are also available by special order. (POR)

# 1" SQUARE DRIVE ACCESSORIES



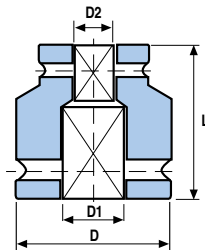
## Universal Joint

| SIZE<br>in | PART# | L (hole to hole)<br>in | RET<br>RING |
|------------|-------|------------------------|-------------|
| 1          | U1616 | 4.25                   | 10010S      |



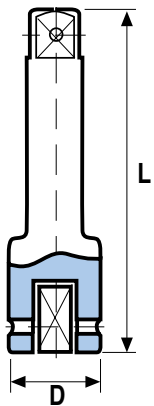
## Adapters

| PART# | FEMALE<br>in | MALE<br>in | L<br>in | RET<br>RING |
|-------|--------------|------------|---------|-------------|
| A1612 | 1            | 3/4        | 2.750   | 10010S      |
| A1624 | 1            | 1-1/2      | 3.346   | 10010S      |
| A1695 | 1            | #5 Spline  | 4.330   | 10010S      |



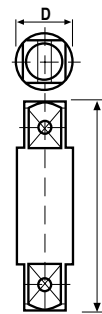
## Double Ended Female Adapters

| PART#  | D1<br>in | D2<br>in | L<br>in | D<br>in | RET RINGS<br>(D1) (D2) |        |
|--------|----------|----------|---------|---------|------------------------|--------|
| AN1612 | 1        | 3/4      | 2.48    | 2.13    | 10010S                 | 10006S |
| AN1616 | 1        | 1        | 2.32    | 2.13    | 10010S                 | 10010S |
| AN2416 | 1-1/2    | 1        | 3.27    | 3.39    | 10020S                 | 10010S |



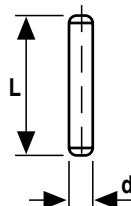
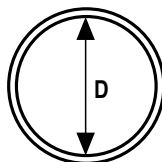
## Extensions

| PART# | D<br>in | L<br>in | RET<br>RING |
|-------|---------|---------|-------------|
| E1604 | 2.125   | 4       | 10010S      |
| E1605 | 2.125   | 5       | 10010S      |
| E1607 | 2.125   | 7       | 10010S      |
| E1610 | 2.125   | 10      | 10010S      |
| E1613 | 2.125   | 13      | 10010S      |



## Double Ended Male Extensions

| PART# | D<br>in | L<br>in |
|-------|---------|---------|
| Z1603 | 1.3     | 3       |
| Z1604 | 1.3     | 4       |
| Z1605 | 1.3     | 5       |
| Z1606 | 1.3     | 6       |
| Z1607 | 1.3     | 7       |
| Z1610 | 1.3     | 10      |
| Z1613 | 1.3     | 13      |
| Z1615 | 1.3     | 15      |
| Z1616 | 1.3     | 16      |
| Z1617 | 1.3     | 17      |



## Retaining Pins and Rings

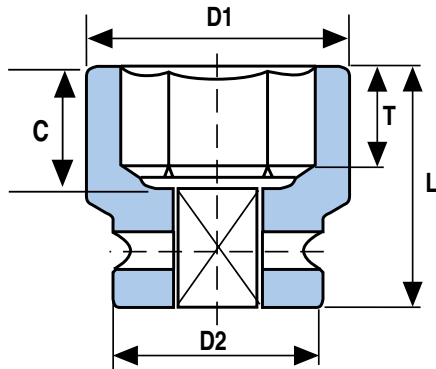
| SQUARE<br>DRIVE | SOCKET<br>SIZES                 | PIN#   | RING#  | d<br>in | L<br>in | D<br>in |
|-----------------|---------------------------------|--------|--------|---------|---------|---------|
| 1               | Up To 2-3/4" (70mm)             | P1654  | R1654  | .195    | 1.750   | 1.750   |
| 1               | From 2-3/4" To 3-15/16" (100mm) | P1686  | R1686  | .195    | 3.000   | 3.000   |
| 1               | Above 3-15/16" (100mm)          | P16127 | R16127 | .195    | 4.600   | 4.600   |

# 1-1/2" SQUARE DRIVE

## SIX POINT IMPACT SOCKETS

*The exceptional strength of the OZAT 1-1/2" drive sockets often makes them the preferred choice of hydraulic bolting specialists.*

*Specialty sockets for the precision bolting market are available from ATP*



### Standard Fractional Sizes

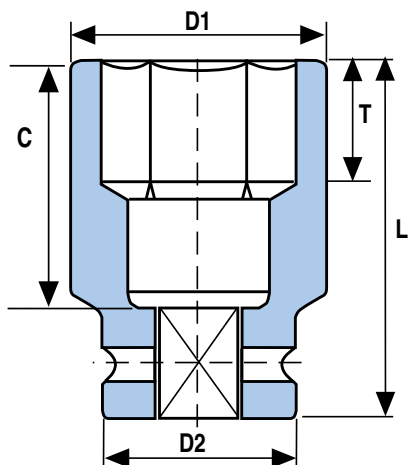


| SIZE<br>in | PART#  | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in | RET<br>RING |
|------------|--------|----------|----------|---------|---------|---------|-------------|
| 1-5/16     | Z-2421 | 2.402    | 3.386    | 2.925   | .748    | 1.328   | 10021S      |
| 1-3/8      | Z-2422 | 2.480    | 3.386    | 2.925   | .748    | 1.328   | 10021S      |
| 1-7/16     | Z-2423 | 2.520    | 3.386    | 3.120   | .748    | 1.525   | 10021S      |
| 1-1/2      | Z-2424 | 2.520    | 3.386    | 3.120   | .866    | 1.525   | 10021S      |
| 1-9/16     | Z-2425 | 2.677    | 3.386    | 3.120   | .866    | 1.525   | 10021S      |
| 1-5/8      | Z-2426 | 2.795    | 3.386    | 3.120   | .866    | 1.525   | 10021S      |
| 1-11/16    | Z-2427 | 2.874    | 3.386    | 3.120   | .984    | 1.525   | 10021S      |
| 1-3/4      | Z-2428 | 2.953    | 3.386    | 3.120   | 1.004   | 1.525   | 10021S      |
| 1-13/16    | Z-2429 | 2.953    | 3.386    | 3.120   | 1.004   | 1.525   | 10021S      |
| 1-7/8      | Z-2430 | 3.150    | 3.386    | 3.198   | 1.036   | 1.603   | 10021S      |
| 1-15/16    | Z-2431 | 3.150    | 3.386    | 3.198   | 1.063   | 1.603   | 10021S      |
| 2          | Z-2432 | 3.150    | 3.386    | 3.198   | 1.063   | 1.603   | 10021S      |
| 2-1/16     | Z-2433 | 3.386    | 3.386    | 3.471   | 1.181   | 1.840   | 10021S      |
| 2-1/8      | Z-2434 | 3.386    | 3.386    | 3.471   | 1.181   | 1.840   | 10021S      |
| 2-3/16     | Z-2435 | 3.386    | 3.386    | 3.588   | 1.260   | 1.958   | 10021S      |
| 2-1/4      | Z-2436 | 3.386    | 3.386    | 3.588   | 1.280   | 1.958   | 10021S      |
| 2-5/16     | Z-2437 | 3.622    | 3.386    | 3.588   | 1.300   | 1.958   | 10021S      |
| 2-3/8      | Z-2438 | 3.622    | 3.386    | 3.744   | 1.378   | 2.115   | 10021S      |
| 2-7/16     | Z-2439 | 3.780    | 3.386    | 3.744   | 1.378   | 2.115   | 10021S      |
| 2-1/2      | Z-2440 | 3.937    | 3.386    | 3.744   | 1.378   | 2.115   | 10021S      |
| 2-9/16     | Z-2441 | 3.937    | 3.386    | 3.744   | 1.378   | 2.115   | 10021S      |
| 2-5/8      | Z-2442 | 3.937    | 3.386    | 3.939   | 1.496   | 2.312   | 10021S      |
| 2-11/16    | Z-2443 | 4.134    | 3.386    | 3.939   | 1.496   | 2.312   | 10021S      |
| 2-3/4      | Z-2444 | 4.134    | 3.386    | 3.939   | 1.496   | 2.312   | 10021S      |
| 2-13/16    | Z-2445 | 4.291    | 3.386    | 4.095   | 1.575   | 2.509   | 10021S      |
| 2-7/8      | Z-2446 | 4.291    | 3.386    | 4.095   | 1.614   | 2.509   | 10021S      |
| 2-15/16    | Z-2447 | 4.291    | 3.386    | 4.095   | 1.614   | 2.509   | 10021S      |
| 3          | Z-2448 | 4.528    | 3.386    | 4.290   | 1.732   | 2.706   | 10021S      |
| 3-1/16     | Z-2449 | 4.528    | 3.386    | 4.290   | 1.732   | 2.706   | 10021S      |
| 3-1/8      | Z-2450 | 4.528    | 3.386    | 4.290   | 1.770   | 2.706   | 10021S      |
| 3-3/16     | Z-2451 | 4.764    | 3.386    | 4.524   | 1.850   | 3.099   | 10021S      |
| 3-1/4      | Z-2452 | 4.764    | 3.386    | 4.524   | 1.850   | 3.099   | 10021S      |
| 3-5/16     | Z-2453 | 4.764    | 3.386    | 4.524   | 1.850   | 3.099   | 10021S      |
| 3-3/8      | Z-2454 | 5.000    | 3.386    | 4.524   | 1.930   | 3.099   | 10021S      |
| 3-7/16     | Z-2455 | 5.000    | 3.386    | 4.602   | 1.930   | 3.099   | 10021S      |
| 3-1/2      | Z-2456 | 5.118    | 3.386    | 4.602   | 1.930   | 3.099   | 10021S      |
| 3-9/16     | Z-2457 | 5.118    | 3.386    | 4.602   | 1.930   | 3.099   | 10021S      |
| 3-5/8      | Z-2458 | 5.315    | 5.000    | 4.602   | 1.930   | 3.099   | *           |
| 3-11/16    | Z-2459 | 5.315    | 5.000    | 4.602   | 1.930   | 3.099   | *           |
| 3-3/4      | Z-2460 | 5.315    | 5.000    | 4.602   | 1.930   | 3.296   | *           |
| 3-13/16    | Z-2461 | 5.512    | 5.000    | 4.875   | 2.125   | 3.296   | *           |
| 3-7/8      | Z-2462 | 5.512    | 5.000    | 4.875   | 2.125   | 3.296   | *           |
| 3-15/16    | Z-2463 | 5.512    | 5.000    | 4.875   | 2.125   | 3.296   | *           |
| 4          | Z-2464 | 5.709    | 5.000    | 4.875   | 2.125   | 3.296   | *           |
| 4-1/16     | Z-2465 | 5.709    | 5.000    | 4.875   | 2.125   | 3.296   | *           |
| 4-1/8      | Z-2466 | 5.906    | 5.000    | 4.875   | 2.126   | 3.296   | *           |
| 4-3/16     | Z-2467 | 5.906    | 5.000    | 5.343   | 2.440   | 3.296   | *           |
| 4-1/4      | Z-2468 | 5.906    | 5.000    | 5.343   | 2.440   | 3.690   | *           |
| 4-5/16     | Z-2469 | 6.102    | 5.000    | 5.343   | 2.440   | 3.690   | *           |
| 4-3/8      | Z-2470 | 6.102    | 5.000    | 5.343   | 2.440   | 3.690   | *           |
| 4-7/16     | Z-2471 | 6.102    | 5.000    | 5.343   | 2.440   | 3.690   | *           |
| 4-1/2      | Z-2472 | 6.299    | 5.000    | 5.343   | 2.440   | 3.690   | *           |
| 4-5/8      | Z-2474 | 6.496    | 5.000    | 5.577   | 2.640   | 4.084   | *           |
| 4-3/4      | Z-2476 | 6.693    | 5.000    | 5.655   | 2.640   | 4.084   | *           |
| 4-7/8      | Z-2478 | 6.693    | 5.000    | 5.655   | 2.640   | 4.084   | *           |
| 5          | Z-2480 | 7.087    | 5.000    | 5.850   | 2.830   | 4.281   | *           |
| 5-1/8      | Z-2482 | 7.087    | 5.000    | 6.162   | 2.990   | 4.674   | *           |
| 5-3/16     | Z-2483 | 7.087    | 5.000    | 6.162   | 2.990   | 4.674   | *           |
| 5-1/4      | Z-2484 | 7.480    | 5.000    | 6.162   | 2.980   | 4.574   | *           |
| 5-3/8      | Z-2486 | 7.480    | 5.000    | 6.162   | 2.990   | 4.674   | *           |

\* Requires retaining pin and ring, Pin = P24127, Ring = R24127

# 1-1/2" SQUARE DRIVE

## SIX POINT IMPACT SOCKETS



### Deep Fractional Sizes

| SIZE<br>in | PART#   | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in | RET<br>RING |
|------------|---------|----------|----------|---------|---------|---------|-------------|
| 1-5/16     | Z-2421L | 2.402    | 3.386    | 5.460   | .748    | 3.887   | 10021S      |
| 1-3/8      | Z-2422L | 2.480    | 3.386    | 5.460   | .748    | 3.887   | 10021S      |
| 1-7/16     | Z-2423L | 2.520    | 3.386    | 5.460   | .748    | 3.887   | 10021S      |
| 1-1/2      | Z-2424L | 2.520    | 3.386    | 5.460   | .866    | 3.887   | 10021S      |
| 1-9/16     | Z-2425L | 2.677    | 3.386    | 5.460   | .866    | 3.887   | 10021S      |
| 1-5/8      | Z-2426L | 2.795    | 3.386    | 5.460   | .866    | 3.887   | 10021S      |
| 1-11/16    | Z-2427L | 2.874    | 3.386    | 5.460   | .984    | 3.887   | 10021S      |
| 1-3/4      | Z-2428L | 2.953    | 3.386    | 5.460   | 1.004   | 3.887   | 10021S      |
| 1-13/16    | Z-2429L | 2.953    | 3.386    | 5.460   | 1.004   | 3.887   | 10021S      |
| 1-7/8      | Z-2430L | 3.150    | 3.386    | 5.460   | 1.036   | 3.887   | 10021S      |
| 1-15/16    | Z-2431L | 3.150    | 3.386    | 5.460   | 1.063   | 3.887   | 10021S      |
| 2          | Z-2432L | 3.150    | 3.386    | 5.460   | 1.063   | 3.887   | 10021S      |
| 2-1/16     | Z-2433L | 3.386    | 3.386    | 5.460   | 1.181   | 3.887   | 10021S      |
| 2-1/8      | Z-2434L | 3.386    | 3.386    | 5.460   | 1.181   | 3.887   | 10021S      |
| 2-3/16     | Z-2435L | 3.386    | 3.386    | 5.460   | 1.260   | 3.887   | 10021S      |
| 2-1/4      | Z-2436L | 3.386    | 3.386    | 5.460   | 1.280   | 3.887   | 10021S      |
| 2-5/16     | Z-2437L | 3.622    | 3.386    | 5.460   | 1.300   | 3.887   | 10021S      |
| 2-3/8      | Z-2438L | 3.622    | 3.386    | 5.460   | 1.378   | 3.887   | 10021S      |
| 2-7/16     | Z-2439L | 3.780    | 3.386    | 5.460   | 1.378   | 3.887   | 10021S      |
| 2-1/2      | Z-2440L | 3.937    | 3.386    | 5.460   | 1.378   | 3.887   | 10021S      |
| 2-9/16     | Z-2441L | 3.937    | 3.386    | 5.460   | 1.378   | 3.887   | 10021S      |
| 2-5/8      | Z-2442L | 3.937    | 3.386    | 5.460   | 1.496   | 3.887   | 10021S      |
| 2-11/16    | Z-2443L | 4.134    | 3.386    | 5.460   | 1.496   | 3.887   | 10021S      |
| 2-3/4      | Z-2444L | 4.134    | 3.386    | 5.460   | 1.496   | 3.887   | 10021S      |
| 2-13/16    | Z-2445L | 4.291    | 3.386    | 5.460   | 1.575   | 3.887   | 10021S      |
| 2-7/8      | Z-2446L | 4.291    | 3.386    | 5.460   | 1.614   | 3.887   | 10021S      |
| 2-15/16    | Z-2447L | 4.291    | 3.386    | 5.460   | 1.614   | 3.887   | 10021S      |
| 3          | Z-2448L | 4.528    | 3.386    | 5.460   | 1.732   | 3.887   | 10021S      |
| 3-1/16     | Z-2449L | 4.528    | 3.386    | 5.460   | 1.732   | 3.887   | 10021S      |
| 3-1/8      | Z-2450L | 4.528    | 3.386    | 5.460   | 1.770   | 3.887   | 10021S      |
| 3-3/16     | Z-2451L | 4.764    | 3.386    | 5.460   | 1.850   | 3.887   | 10021S      |
| 3-1/4      | Z-2452L | 4.764    | 3.386    | 5.460   | 1.850   | 3.887   | 10021S      |
| 3-5/16     | Z-2453L | 4.764    | 3.386    | 5.460   | 1.850   | 3.887   | 10021S      |
| 3-3/8      | Z-2454L | 5.000    | 3.386    | 5.460   | 1.930   | 3.887   | 10021S      |
| 3-7/16     | Z-2455L | 5.000    | 3.386    | 5.460   | 1.930   | 3.887   | 10021S      |
| 3-1/2      | Z-2456L | 5.118    | 3.386    | 5.460   | 1.930   | 3.887   | 10021S      |
| 3-9/16     | Z-2457L | 5.118    | 3.386    | 5.460   | 1.930   | 3.887   | 10021S      |
| 3-5/8      | Z-2458L | 5.315    | 5.000    | 5.460   | 1.930   | 3.887   | *           |
| 3-11/16    | Z-2459L | 5.315    | 5.000    | 5.460   | 1.930   | 4.281   | *           |
| 3-3/4      | Z-2460L | 5.315    | 5.000    | 5.850   | 1.930   | 4.281   | *           |
| 3-13/16    | Z-2461L | 5.512    | 5.000    | 5.850   | 2.125   | 4.281   | *           |
| 3-7/8      | Z-2462L | 5.512    | 5.000    | 5.850   | 2.125   | 4.281   | *           |
| 3-15/16    | Z-2463L | 5.512    | 5.000    | 5.850   | 2.125   | 4.281   | *           |
| 4          | Z-2464L | 5.709    | 5.000    | 5.850   | 2.125   | 4.281   | *           |
| 4-1/16     | Z-2465L | 5.709    | 5.000    | 5.850   | 2.125   | 4.281   | *           |
| 4-1/8      | Z-2466L | 5.906    | 5.000    | 5.850   | 2.126   | 4.281   | *           |
| 4-3/16     | Z-2467L | 5.906    | 5.000    | 5.850   | 2.440   | 4.281   | *           |
| 4-1/4      | Z-2468L | 5.906    | 5.000    | 6.240   | 2.440   | 4.674   | *           |
| 4-5/16     | Z-2469L | 6.102    | 5.000    | 6.240   | 2.440   | 4.674   | *           |
| 4-3/8      | Z-2470L | 6.102    | 5.000    | 6.240   | 2.440   | 4.674   | *           |
| 4-7/16     | Z-2471L | 6.102    | 5.000    | 6.240   | 2.440   | 4.674   | *           |
| 4-1/2      | Z-2472L | 6.299    | 5.000    | 6.240   | 2.440   | 4.674   | *           |
| 4-5/8      | Z-2474L | 6.496    | 5.000    | 6.630   | 2.640   | 5.068   | *           |
| 4-3/4      | Z-2476L | 6.693    | 5.000    | 6.630   | 2.640   | 5.068   | *           |
| 4-7/8      | Z-2478L | 6.693    | 5.000    | 6.630   | 2.640   | 5.068   | *           |
| 5          | Z-2480L | 7.087    | 5.000    | 7.020   | 2.830   | 5.462   | *           |
| 5-1/8      | Z-2482L | 7.087    | 5.000    | 7.215   | 2.990   | 5.658   | *           |
| 5-3/16     | Z-2483L | 7.087    | 5.000    | 7.215   | 2.990   | 5.658   | *           |
| 5-3/8      | Z-2486L | 7.480    | 5.000    | 7.215   | 2.990   | 5.658   | *           |

\* Requires retaining pin and ring, Pin = P24127, Ring = R24127



## Standard Metric Sizes

| SIZE<br>mm | PART#    | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | C<br>mm | RET<br>RING |
|------------|----------|----------|----------|---------|---------|---------|-------------|
| 32         | Z-24M32  | 60       | 86       | 75      | 16.5    | 34      | 10021S      |
| 33         | Z-24M33  | 60       | 86       | 75      | 17      | 34      | 10021S      |
| 34         | Z-24M34  | 60       | 86       | 75      | 17      | 34      | 10021S      |
| 35         | Z-24M35  | 60       | 86       | 75      | 19      | 34      | 10021S      |
| 36         | Z-24M36  | 64       | 86       | 80      | 19      | 39      | 10021S      |
| 37         | Z-24M37  | 64       | 86       | 80      | 19      | 39      | 10021S      |
| 38         | Z-24M38  | 64       | 86       | 80      | 22      | 39      | 10021S      |
| 39         | Z-24M39  | 70       | 86       | 80      | 21.5    | 39      | 10021S      |
| 40         | Z-24M40  | 70       | 86       | 80      | 21.5    | 39      | 10021S      |
| 41         | Z-24M41  | 70       | 86       | 80      | 22      | 39      | 10021S      |
| 42         | Z-24M42  | 70       | 86       | 80      | 21.5    | 39      | 10021S      |
| 43         | Z-24M43  | 75       | 86       | 80      | 25      | 39      | 10021S      |
| 44         | Z-24M44  | 75       | 86       | 80      | 21.5    | 39      | 10021S      |
| 45         | Z-24M45  | 75       | 86       | 80      | 21.5    | 39      | 10021S      |
| 46         | Z-24M46  | 75       | 86       | 80      | 25.5    | 39      | 10021S      |
| 47         | Z-24M47  | 75       | 86       | 80      | 23.5    | 39      | 10021S      |
| 48         | Z-24M48  | 80       | 86       | 82      | 23.5    | 41      | 10021S      |
| 49         | Z-24M49  | 80       | 86       | 82      | 27      | 41      | 10021S      |
| 50         | Z-24M50  | 80       | 86       | 82      | 23.5    | 41      | 10021S      |
| 51         | Z-24M51  | 80       | 86       | 82      | 27      | 41      | 10021S      |
| 52         | Z-24M52  | 80       | 86       | 82      | 27      | 41      | 10021S      |
| 54         | Z-24M54  | 86       | 86       | 89      | 30      | 47      | 10021S      |
| 55         | Z-24M55  | 86       | 86       | 89      | 27      | 47      | 10021S      |
| 56         | Z-24M56  | 86       | 86       | 92      | 28      | 50      | 10021S      |
| 57         | Z-24M57  | 86       | 86       | 92      | 32.5    | 50      | 10021S      |
| 58         | Z-24M58  | 92       | 86       | 92      | 28      | 50      | 10021S      |
| 59         | Z-24M59  | 92       | 86       | 92      | 33      | 50      | 10021S      |
| 60         | Z-24M60  | 92       | 86       | 92      | 28      | 50      | 10021S      |
| 61         | Z-24M61  | 96       | 86       | 96      | 28      | 54      | 10021S      |
| 62         | Z-24M62  | 96       | 86       | 96      | 35      | 54      | 10021S      |
| 65         | Z-24M65  | 100      | 86       | 96      | 35      | 54      | 10021S      |
| 67         | Z-24M67  | 100      | 86       | 101     | 38      | 59      | 10021S      |
| 70         | Z-24M70  | 105      | 86       | 101     | 38      | 59      | 10021S      |
| 73         | Z-24M73  | 109      | 86       | 105     | 41      | 64      | 10021S      |
| 75         | Z-24M75  | 109      | 86       | 105     | 41      | 64      | 10021S      |
| 76         | Z-24M76  | 115      | 86       | 110     | 44      | 69      | 10021S      |
| 80         | Z-24M80  | 115      | 86       | 110     | 37      | 69      | 10021S      |
| 85         | Z-24M85  | 121      | 86       | 116     | 40      | 79      | 10021S      |
| 86         | Z-24M86  | 127      | 86       | 116     | 49      | 79      | 10021S      |
| 90         | Z-24M90  | 130      | 86       | 118     | 43      | 79      | 10021S      |
| 95         | Z-24M95  | 135      | 127      | 118     | 49      | 84      | *           |
| 100        | Z-24M100 | 140      | 127      | 125     | 54      | 84      | *           |
| 105        | Z-24M105 | 150      | 127      | 125     | 54      | 84      | *           |
| 110        | Z-24M110 | 155      | 127      | 137     | 62      | 94      | *           |
| 115        | Z-24M115 | 160      | 127      | 137     | 57      | 94      | *           |
| 120        | Z-24M120 | 165      | 127      | 145     | 67      | 104     | *           |
| 125        | Z-24M125 | 170      | 127      | 145     | 67      | 104     | *           |
| 130        | Z-24M130 | 180      | 127      | 158     | 76      | 119     | *           |

\* Requires retaining pin and ring, Pin = P24127, Ring = R24127

## Deep Metric Sizes

| SIZE<br>mm | PART#     | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | C<br>mm | RET<br>RING |
|------------|-----------|----------|----------|---------|---------|---------|-------------|
| 32         | Z-24M32L  | 60       | 86       | 140     | 16.5    | 99      | 10021S      |
| 33         | Z-24M33L  | 60       | 86       | 140     | 17      | 99      | 10021S      |
| 34         | Z-24M34L  | 60       | 86       | 140     | 17      | 99      | 10021S      |
| 35         | Z-24M35L  | 60       | 86       | 140     | 19      | 99      | 10021S      |
| 36         | Z-24M36L  | 64       | 86       | 140     | 19      | 99      | 10021S      |
| 37         | Z-24M37L  | 64       | 86       | 140     | 19      | 99      | 10021S      |
| 38         | Z-24M38L  | 64       | 86       | 140     | 22      | 99      | 10021S      |
| 39         | Z-24M39L  | 70       | 86       | 140     | 21.5    | 99      | 10021S      |
| 40         | Z-24M40L  | 70       | 86       | 140     | 21.5    | 99      | 10021S      |
| 41         | Z-24M41L  | 70       | 86       | 140     | 22      | 99      | 10021S      |
| 42         | Z-24M42L  | 70       | 86       | 140     | 21.5    | 99      | 10021S      |
| 43         | Z-24M43L  | 75       | 86       | 140     | 25      | 99      | 10021S      |
| 44         | Z-24M44L  | 75       | 86       | 140     | 21.5    | 99      | 10021S      |
| 45         | Z-24M45L  | 75       | 86       | 140     | 21.5    | 99      | 10021S      |
| 46         | Z-24M46L  | 75       | 86       | 140     | 25.5    | 99      | 10021S      |
| 47         | Z-24M47L  | 75       | 86       | 140     | 23.5    | 99      | 10021S      |
| 48         | Z-24M48L  | 80       | 86       | 140     | 23.5    | 99      | 10021S      |
| 49         | Z-24M49L  | 80       | 86       | 140     | 27      | 99      | 10021S      |
| 50         | Z-24M50L  | 80       | 86       | 140     | 23.5    | 99      | 10021S      |
| 51         | Z-24M51L  | 80       | 86       | 140     | 27      | 99      | 10021S      |
| 52         | Z-24M52L  | 80       | 86       | 140     | 27      | 99      | 10021S      |
| 54         | Z-24M54L  | 86       | 86       | 140     | 30      | 99      | 10021S      |
| 55         | Z-24M55L  | 86       | 86       | 140     | 27      | 99      | 10021S      |
| 56         | Z-24M56L  | 86       | 86       | 140     | 28      | 99      | 10021S      |
| 57         | Z-24M57L  | 86       | 86       | 140     | 32.5    | 99      | 10021S      |
| 58         | Z-24M58L  | 92       | 86       | 140     | 28      | 99      | 10021S      |
| 59         | Z-24M59L  | 92       | 86       | 140     | 33      | 99      | 10021S      |
| 60         | Z-24M60L  | 92       | 86       | 140     | 28      | 99      | 10021S      |
| 61         | Z-24M61L  | 96       | 86       | 140     | 28      | 99      | 10021S      |
| 62         | Z-24M62L  | 96       | 86       | 140     | 35      | 99      | 10021S      |
| 65         | Z-24M65L  | 100      | 86       | 140     | 35      | 99      | 10021S      |
| 67         | Z-24M67L  | 100      | 86       | 140     | 38      | 99      | 10021S      |
| 70         | Z-24M70L  | 105      | 86       | 140     | 38      | 99      | 10021S      |
| 73         | Z-24M73L  | 109      | 86       | 140     | 41      | 99      | 10021S      |
| 75         | Z-24M75L  | 109      | 86       | 140     | 41      | 99      | 10021S      |
| 76         | Z-24M76L  | 115      | 86       | 140     | 44      | 99      | 10021S      |
| 80         | Z-24M80L  | 115      | 86       | 140     | 37      | 99      | 10021S      |
| 85         | Z-24M85L  | 121      | 86       | 140     | 40      | 99      | 10021S      |
| 86         | Z-24M86L  | 127      | 86       | 140     | 49      | 99      | 10021S      |
| 90         | Z-24M90L  | 130      | 86       | 140     | 43      | 99      | 10021S      |
| 95         | Z-24M95L  | 135      | 127      | 150     | 49      | 109     | *           |
| 100        | Z-24M100L | 140      | 127      | 150     | 54      | 109     | *           |
| 105        | Z-24M105L | 150      | 127      | 150     | 54      | 109     | *           |
| 110        | Z-24M110L | 155      | 127      | 160     | 62      | 119     | *           |
| 115        | Z-24M115L | 160      | 127      | 160     | 57      | 119     | *           |
| 120        | Z-24M120L | 165      | 127      | 170     | 67      | 129     | *           |
| 125        | Z-24M125L | 170      | 127      | 170     | 67      | 129     | *           |
| 130        | Z-24M130L | 180      | 127      | 185     | 76      | 144     | *           |

\* Requires retaining pin and ring, Pin = P24127, Ring = R24127

# 1-1/2" SQUARE DRIVE

# 12 POINT IMPACT SOCKETS

Standard Socket Sizes

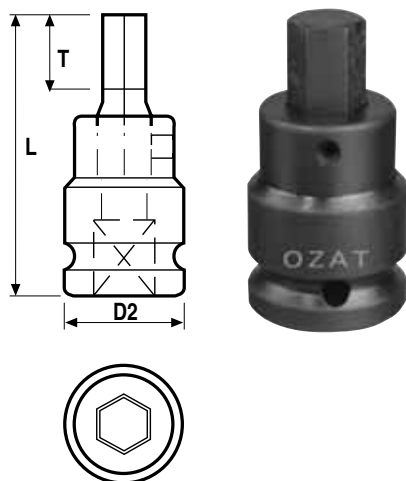
| SIZE<br>in | SIZE<br>mm | PART#      | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | Weight<br>gr | RET<br>RING |
|------------|------------|------------|----------|----------|---------|---------|--------------|-------------|
| 1-5/16     |            | DH-2421    | 60       | 86       | 75      | 19      | 1800         | 10021S      |
| 1-3/8      | 35         | DH-2422M35 | 60       | 86       | 75      | 19      | 1800         | 10021S      |
| 1-7/16     |            | DH-2423    | 64       | 86       | 80      | 19      | 2200         | 10021S      |
| 1-1/2      | 38         | DH-2424M38 | 64       | 86       | 80      | 22      | 2200         | 10021S      |
| 1-9/16     |            | DH-2425    | 70       | 86       | 80      | 22      | 2200         | 10021S      |
| 1-5/8      | 41         | DH-2426M41 | 70       | 86       | 80      | 22      | 2200         | 10021S      |
| 1-11/16    | 43         | DH-2427M43 | 75       | 86       | 80      | 25      | 2200         | 10021S      |
| 1-3/4      |            | DH-2428    | 75       | 86       | 80      | 25.5    | 2200         | 10021S      |
| 1-13/16    | 46         | DH-2429M46 | 75       | 86       | 80      | 25.5    | 2200         | 10021S      |
| 1-7/8      |            | DH-2430    | 80       | 86       | 82      | 27      | 2300         | 10021S      |
| 1-15/16    | 49         | DH-2431M49 | 80       | 86       | 82      | 27      | 2300         | 10021S      |
| 2          | 51         | DH-2432M51 | 80       | 86       | 82      | 27      | 2300         | 10021S      |
| 2-1/16     |            | DH-2433    | 86       | 86       | 89      | 30      | 2500         | 10021S      |
| 2-1/8      | 54         | DH-2434M54 | 86       | 86       | 89      | 30      | 2500         | 10021S      |
|            | 55         | DH-24M55   | 86       | 86       | 89      | 30      | 2500         | 10021S      |
| 2-3/16     |            | DH-2435    | 86       | 86       | 92      | 32      | 2500         | 10021S      |
| 2-1/4      | 57         | DH-2436M57 | 86       | 86       | 92      | 32.5    | 2500         | 10021S      |
| 2-5/16     | 59         | DH-2437M59 | 92       | 86       | 92      | 33      | 2800         | 10021S      |
| 2-3/8      |            | DH-2438    | 92       | 86       | 96      | 35      | 2800         | 10021S      |
| 2-7/16     | 62         | DH-2439M62 | 96       | 86       | 96      | 35      | 3200         | 10021S      |
| 2-1/2      |            | DH-2440    | 100      | 86       | 96      | 35      | 3350         | 10021S      |
| 2-9/16     | 65         | DH-2441M65 | 100      | 86       | 96      | 35      | 3350         | 10021S      |
| 2-5/8      | 67         | DH-2442M67 | 100      | 86       | 101     | 38      | 3350         | 10021S      |
| 2-3/4      | 70         | DH-2444M70 | 105      | 86       | 101     | 38      | 3600         | 10021S      |
| 2-7/8      | 73         | DH-2446M73 | 105      | 86       | 101     | 44      | 3900         | 10021S      |
| 2-15/16    | 75         | DH-2447M75 | 105      | 86       | 101     | 44      | 3900         | 10021S      |
| 2-13/16    |            | DH-2445    | 105      | 86       | 105     | 44      | 3900         | 10021S      |
| 3          | 76         | DH-2448M76 | 115      | 86       | 110     | 44      | 4500         | 10021S      |
| 3-1/8      |            | DH-2450    | 115      | 86       | 110     | 44      | 4500         | 10021S      |
| 3-3/16     |            | DH-2451    | 121      | 86       | 116     | 47      | 5100         | 10021S      |

Standard Socket Sizes Cont.

| SIZE<br>in | SIZE<br>mm | PART#       | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | Weight<br>gr | RET<br>RING |
|------------|------------|-------------|----------|----------|---------|---------|--------------|-------------|
| 3-1/4      |            | DH-2452     | 121      | 86       | 116     | 47      | 5100         | 10021S      |
| 3-5/16     |            | DH-2453     | 121      | 86       | 116     | 47      | 5100         | 10021S      |
| 3-3/8      | 86         | DH-2454M86  | 127      | 86       | 116     | 49      | 5500         | 10021S      |
| 3-7/16     |            | DH-2455     | 127      | 86       | 118     | 49      | 5500         | 10021S      |
| 3-1/2      |            | DH-2456     | 130      | 86       | 118     | 49      | 5600         | 10021S      |
| 3-9/16     |            | DH-2457     | 130      | 86       | 118     | 49      | 5600         | 10021S      |
| 3-5/8      |            | DH-2458     | 135      | 127      | 118     | 49      | 7900         | *           |
| 3-11/16    |            | DH-2459     | 135      | 127      | 118     | 49      | 7900         | *           |
| 3-3/4      | 95         | DH-2460M95  | 135      | 127      | 118     | 49      | 7900         | *           |
| 3-13/16    |            | DH-2461     | 140      | 127      | 125     | 54      | 8500         | *           |
| 3-7/8      |            | DH-2462     | 140      | 127      | 125     | 54      | 8500         | *           |
| 3-15/16    | 100        | DH-2463M100 | 140      | 127      | 125     | 54      | 8500         | *           |
| 4          |            | DH-2464     | 145      | 127      | 125     | 54      | 9000         | *           |
| 4-1/16     |            | DH-2465     | 145      | 127      | 125     | 54      | 9000         | *           |
| 4-1/8      | 105        | DH-2466M105 | 150      | 127      | 125     | 54      | 9500         | *           |
| 4-3/16     |            | DH-2467     | 150      | 127      | 137     | 54      | 10200        | *           |
| 4-1/4      |            | DH-2468     | 150      | 127      | 137     | 62      | 10200        | *           |
| 4-5/16     | 110        | DH-2469M110 | 155      | 127      | 137     | 62      | 10400        | *           |
| 4-3/8      |            | DH-2470     | 155      | 127      | 137     | 62      | 10400        | *           |
| 4-7/16     |            | DH-2471     | 155      | 127      | 137     | 62      | 10400        | *           |
| 4-1/2      |            | DH-2472     | 160      | 127      | 137     | 62      | 11500        | *           |
| 4-5/8      |            | DH-2474     | 165      | 127      | 143     | 67      | 12000        | *           |
| 4-3/4      |            | DH-2476     | 165      | 127      | 145     | 67      | 12000        | *           |
| 4-7/8      |            | DH-2478     | 170      | 127      | 145     | 67      | 12200        | *           |
| 5          |            | DH-2480     | 180      | 127      | 150     | 72      | 14800        | *           |
| 5-1/8      | 130        | DH-2482M130 | 180      | 127      | 158     | 76      | 14800        | *           |
| 5-3/16     |            | DH-2483     | 180      | 127      | 158     | 76      | 14800        | *           |
| 5-3/8      |            | DH-2486     | 190      | 127      | 158     | 76      | 16700        | *           |

\* Requires retaining pin and ring, Pin = P24127, Ring = R24127

2-Part In-Hex Sizes



| HEX<br>in | HEX<br>mm | PART#    | D2<br>mm | L<br>mm | T<br>mm | Weight<br>gr | RET<br>RING | REPLACEMENT<br>HEX BIT |
|-----------|-----------|----------|----------|---------|---------|--------------|-------------|------------------------|
| 1         |           | Z-2416V  | 86       | 116     | 25      | 2600         | 10021S      | H16                    |
| 1-1/8     |           | Z-2418V  | 86       | 119     | 28      | 2600         | 10021S      | H18                    |
| 1-1/4     |           | Z-2420V  | 86       | 123     | 32      | 2800         | 10021S      | H20                    |
| 1-3/8     |           | Z-2422V  | 86       | 126     | 35      | 3400         | 10021S      | H22                    |
| 1-1/2     |           | Z-2424V  | 86       | 129     | 38      | 3400         | 10021S      | H24                    |
| 1-5/8     |           | Z-2426V  | 86       | 132     | 41      | 3520         | 10021S      | H26                    |
| 1-3/4     |           | Z-2428V  | 86       | 135     | 44      | 3520         | 10021S      | H28                    |
| 1-13/16   |           | Z-2429V  | 86       | 137     | 46      | 4700         | 10021S      | H29                    |
| 1-7/8     |           | Z-2430V  | 86       | 139     | 48      | 4900         | 10021S      | H30                    |
| 2         |           | Z-2432V  | 86       | 142     | 51      | 4900         | 10021S      | H32                    |
| 2-1/8     |           | Z-2434V  | 86       | 145     | 54      | 5100         | 10021S      | H34                    |
|           | 22        | Z-24M22V | 86       | 113     | 22      | 2600         | 10021S      | HM22                   |
|           | 24        | Z-24M24V | 86       | 115     | 24      | 2600         | 10021S      | HM24                   |
|           | 27        | Z-24M27V | 86       | 118     | 27      | 2600         | 10021S      | HM27                   |
|           | 30        | Z-24M30V | 86       | 121     | 30      | 2800         | 10021S      | HM30                   |
|           | 32        | Z-24M32V | 86       | 123     | 32      | 2800         | 10021S      | HM32                   |
|           | 36        | Z-24M36V | 86       | 127     | 36      | 3400         | 10021S      | HM36                   |
|           | 38        | Z-24M38V | 86       | 129     | 38      | 3400         | 10021S      | HM38                   |
|           | 41        | Z-24M41V | 86       | 132     | 41      | 3520         | 10021S      | HM41                   |
|           | 46        | Z-24M46V | 86       | 137     | 46      | 4700         | 10021S      | HM46                   |
|           | 50        | Z-24M50V | 86       | 141     | 50      | 4900         | 10021S      | HM50                   |
|           | 55        | Z-24M55V | 86       | 146     | 55      | 5100         | 10021S      | HM55                   |

Note: 2 piece construction

# 1-1/2" SQUARE DRIVE

## ACCESSORIES

### Universal Joint



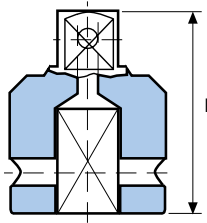
| SIZE<br>in | PART# | RET<br>RING |
|------------|-------|-------------|
| 1-1/2      | U2424 | 10020S      |



### Adapters



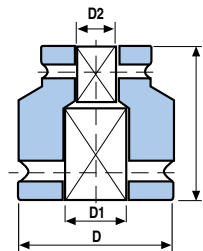
| PART# | FEMALE<br>in | MALE<br>in | L<br>in | RET<br>RING |
|-------|--------------|------------|---------|-------------|
| A2416 | 1-1/2        | 1          | 3.75    | 10020S      |
| A2440 | 1-1/2        | 2-1/2      | 3.50    | 10020S      |
| A2495 | 1-1/2        | #5 Spline  | 4.33    | 10020S      |



### Double Ended Female Adapters

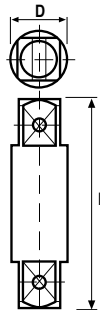


| PART#  | D1<br>in | D2<br>in | L<br>in | D<br>in | RET RINGS<br>(D1) (D2) |
|--------|----------|----------|---------|---------|------------------------|
| AN2416 | 1-1/2    | 1        | 3.27    | 3.39    | 10020S 10008S          |
| AN2424 | 1-1/2    | 1-1/2    | 3.35    | 3.39    | 10020S 10020S          |
| AN4024 | 2-1/2    | 1-1/2    | 4.53    | 5.00    | 10035S 10020S          |



### Double Ended Male Extensions

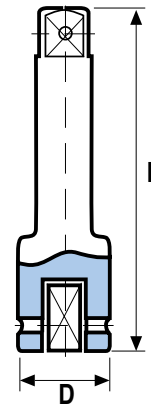
| PART# | D<br>in | L<br>in |
|-------|---------|---------|
| Z2404 | 1.93    | 4       |
| Z2405 | 1.93    | 5       |
| Z2410 | 1.93    | 10      |
| Z2420 | 1.93    | 20      |



### Extensions

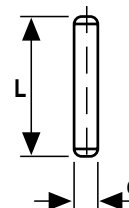
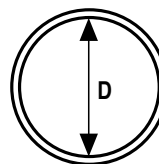


| PART# | D<br>in | L<br>in | RET<br>RING |
|-------|---------|---------|-------------|
| E2406 | 3.385   | 6       | 10020S      |
| E2412 | 3.385   | 12      | 10020S      |



### Retaining Pins and Rings

| SQUARE<br>DRIVE | SOCKET<br>SIZES      | PIN#   | RING#  | d<br>in | L<br>in | D<br>in |
|-----------------|----------------------|--------|--------|---------|---------|---------|
| 1-1/2           | Up To 3-9/16" (90mm) | P2486  | R2486  | .234    | 2.925   | 2.925   |
| 1-1/2           | Above 3-9/16" (90mm) | P24127 | R24127 | .234    | 4.525   | 4.525   |



# 2-1/2" SQUARE DRIVE

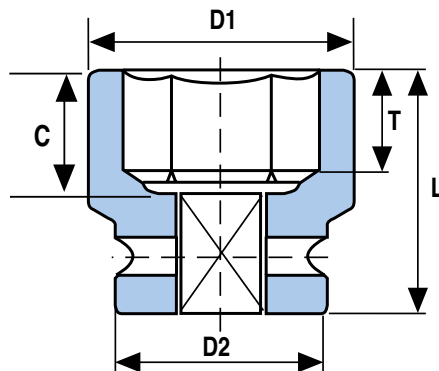
## SIX POINT IMPACT SOCKETS

Standard Fractional Sizes

| SIZE<br>in | PART#  | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in |
|------------|--------|----------|----------|---------|---------|---------|
| 1-5/8      | Z-4026 | 4.094    | 5.000    | 4.485   | 0.846   | 2.349   |
| 1-11/16    | Z-4027 | 4.094    | 5.000    | 4.485   | 0.984   | 2.349   |
| 1-3/4      | Z-4028 | 4.094    | 5.000    | 4.485   | 1.000   | 2.349   |
| 1-13/16    | Z-4029 | 4.094    | 5.000    | 4.485   | 1.000   | 2.349   |
| 1-7/8      | Z-4030 | 4.094    | 5.000    | 4.485   | 1.062   | 2.349   |
| 1-15/16    | Z-4031 | 4.094    | 5.000    | 4.485   | 1.062   | 2.349   |
| 2          | Z-4032 | 4.094    | 5.000    | 4.485   | 1.062   | 2.349   |
| 2-1/16     | Z-4033 | 4.094    | 5.000    | 4.485   | 1.181   | 2.349   |
| 2-1/8      | Z-4034 | 4.094    | 5.000    | 4.485   | 1.181   | 2.349   |
| 2-3/16     | Z-4035 | 4.094    | 5.000    | 4.485   | 1.260   | 2.349   |
| 2-1/4      | Z-4036 | 4.094    | 5.000    | 4.485   | 1.280   | 2.349   |
| 2-5/16     | Z-4037 | 4.094    | 5.000    | 4.485   | 1.299   | 2.349   |
| 2-3/8      | Z-4038 | 4.094    | 5.000    | 4.485   | 1.378   | 2.349   |
| 2-7/16     | Z-4039 | 4.094    | 5.000    | 4.485   | 1.378   | 2.349   |
| 2-1/2      | Z-4040 | 4.094    | 5.000    | 4.485   | 1.378   | 2.349   |
| 2-9/16     | Z-4041 | 4.094    | 5.000    | 4.485   | 1.378   | 2.349   |
| 2-5/8      | Z-4042 | 4.094    | 5.000    | 4.485   | 1.496   | 2.349   |
| 2-11/16    | Z-4043 | 4.094    | 5.000    | 4.485   | 1.496   | 2.349   |
| 2-3/4      | Z-4044 | 4.094    | 5.000    | 4.485   | 1.496   | 2.349   |
| 2-13/16    | Z-4045 | 4.094    | 5.000    | 4.870   | 1.575   | 2.349   |
| 2-7/8      | Z-4046 | 4.094    | 5.000    | 4.870   | 1.614   | 2.349   |
| 2-15/16    | Z-4047 | 4.094    | 5.000    | 4.870   | 1.614   | 2.349   |
| 3          | Z-4048 | 4.094    | 5.000    | 4.870   | 1.732   | 2.349   |
| 3-1/16     | Z-4049 | 4.094    | 5.000    | 4.870   | 1.732   | 2.349   |
| 3-1/8      | Z-4050 | 4.094    | 5.000    | 4.870   | 1.732   | 2.349   |
| 3-3/16     | Z-4051 | 5.000    | 5.000    | 5.070   | 1.850   | 2.743   |
| 3-1/4      | Z-4052 | 5.000    | 5.000    | 5.070   | 1.850   | 2.743   |
| 3-5/16     | Z-4053 | 5.000    | 5.000    | 5.070   | 1.850   | 2.743   |
| 3-3/8      | Z-4054 | 5.000    | 5.000    | 5.070   | 1.930   | 2.743   |
| 3-7/16     | Z-4055 | 5.315    | 5.000    | 5.140   | 1.930   | 2.822   |
| 3-1/2      | Z-4056 | 5.315    | 5.000    | 5.140   | 1.930   | 2.822   |
| 3-9/16     | Z-4057 | 5.315    | 5.000    | 5.140   | 1.930   | 2.822   |
| 3-5/8      | Z-4058 | 5.315    | 5.000    | 5.140   | 1.930   | 2.822   |
| 3-11/16    | Z-4059 | 5.315    | 5.000    | 5.140   | 1.930   | 2.822   |
| 3-3/4      | Z-4060 | 5.512    | 5.000    | 5.140   | 1.930   | 2.822   |
| 3-13/16    | Z-4061 | 5.709    | 5.000    | 5.500   | 2.125   | 3.137   |
| 3-7/8      | Z-4062 | 5.709    | 5.000    | 5.500   | 2.125   | 3.137   |
| 3-15/16    | Z-4063 | 5.709    | 5.000    | 5.500   | 2.125   | 3.137   |
| 4          | Z-4064 | 5.906    | 5.000    | 5.500   | 2.125   | 3.137   |
| 4-1/16     | Z-4065 | 5.906    | 5.000    | 5.500   | 2.125   | 3.137   |
| 4-1/8      | Z-4066 | 6.102    | 5.000    | 5.500   | 2.125   | 3.137   |
| 4-3/16     | Z-4067 | 6.102    | 5.000    | 5.850   | 2.440   | 3.491   |
| 4-1/4      | Z-4068 | 6.102    | 5.000    | 5.850   | 2.440   | 3.491   |

Standard Fractional Sizes Cont.

| SIZE<br>in | PART#   | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in |
|------------|---------|----------|----------|---------|---------|---------|
| 4-5/16     | Z-4069  | 6.299    | 5.000    | 5.850   | 2.440   | 3.49    |
| 4-3/8      | Z-4070  | 6.299    | 5.000    | 5.850   | 2.440   | 3.491   |
| 4-7/16     | Z-4071  | 6.496    | 5.000    | 5.850   | 2.440   | 3.49    |
| 4-1/2      | Z-4072  | 6.496    | 5.000    | 5.850   | 2.440   | 3.491   |
| 4-5/8      | Z-4074  | 6.693    | 5.000    | 6.160   | 2.640   | 3.806   |
| 4-3/4      | Z-4076  | 6.693    | 5.000    | 6.160   | 2.640   | 3.806   |
| 4-7/8      | Z-4078  | 6.693    | 5.000    | 6.160   | 2.640   | 3.806   |
| 5          | Z-4080  | 7.087    | 5.000    | 6.435   | 2.830   | 4.121   |
| 5-1/8      | Z-4082  | 7.087    | 5.000    | 6.430   | 2.990   | 4.436   |
| 5-3/16     | Z-4083  | 7.087    | 5.000    | 6.780   | 2.909   | 4.436   |
| 5-1/4      | Z-4084  | 7.480    | 5.000    | 6.780   | 2.99    | 4.436   |
| 5-3/8      | Z-4086  | 7.480    | 5.000    | 6.780   | 2.99    | 4.436   |
| 5-1/2      | Z-4088  | 7.480    | 5.000    | 6.860   | 3.11    | 4.790   |
| 5-5/8      | Z-4090  | 7.874    | 5.906    | 7.090   | 3.27    | 4.790   |
| 5-3/4      | Z-4092  | 7.874    | 5.906    | 7.090   | 3.27    | 4.790   |
| 5-7/8      | Z-4094  | 8.268    | 5.906    | 7.410   | 3.46    | 5.105   |
| 6          | Z-4096  | 8.268    | 5.906    | 7.410   | 3.46    | 5.105   |
| 6-1/8      | Z-4098  | 8.268    | 5.906    | 7.410   | 3.46    | 5.105   |
| 6-1/4      | Z-40100 | 8.661    | 5.906    | 7.560   | 3.58    | 5.263   |
| 6-3/8      | Z-40102 | 8.661    | 5.906    | 7.560   | 3.58    | 5.263   |
| 6-1/2      | Z-40104 | 9.055    | 6.890    | 7.830   | 3.70    | 5.735   |
| 6-5/8      | Z-40106 | 9.055    | 6.890    | 7.830   | 3.70    | 5.735   |
| 6-3/4      | Z-40108 | 9.055    | 6.890    | 8.110   | 3.90    | 5.735   |
| 6-7/8      | Z-40110 | 9.449    | 6.890    | 8.110   | 3.90    | 5.735   |
| 7          | Z-40112 | 9.449    | 6.890    | 8.340   | 4.09    | 6.050   |
| 7-1/8      | Z-40114 | 9.843    | 6.890    | 8.340   | 4.09    | 6.050   |
| 7-1/4      | Z-40116 | 9.843    | 6.890    | 8.340   | 4.09    | 6.050   |
| 7-3/8      | Z-40118 | 9.843    | 6.890    | 8.500   | 4.21    | 6.208   |
| 7-1/2      | Z-40120 | 10.236   | 6.890    | 8.500   | 4.21    | 6.208   |
| 7-5/8      | Z-40122 | 10.236   | 6.890    | 8.650   | 4.29    | 6.365   |
| 7-3/4      | Z-40124 | 10.630   | 6.890    | 8.810   | 4.41    | 6.523   |
| 7-13/16    | Z-40125 | 10.630   | 6.890    | 8.810   | 4.41    | 6.523   |
| 7-7/8      | Z-40126 | 10.630   | 6.890    | 8.810   | 4.41    | 6.523   |
| 8          | Z-40128 | 10.630   | 6.890    | 9.040   | 4.53    | 7.034   |
| 8-1/8      | Z-40130 | 11.024   | 6.890    | 9.040   | 4.53    | 7.034   |
| 8-1/4      | Z-40132 | 11.024   | 6.890    | 9.040   | 4.53    | 7.034   |
| 8-3/8      | Z-40134 | 11.417   | 6.890    | 9.320   | 4.72    | 7.034   |
| 8-1/2      | Z-40136 | 11.417   | 6.890    | 9.750   | 4.80    | 7.782   |
| 8-3/4      | Z-40140 | 11.811   | 6.890    | 9.870   | 4.88    | 7.782   |
| 8-7/8      | Z-40142 | 11.811   | 6.890    | 10.062  | 4.96    | 7.782   |
| 9          | Z-40144 | 12.205   | 6.890    | 10.062  | 5.04    | 7.782   |
| 9-1/8      | Z-40146 | 12.205   | 6.890    | 10.062  | 5.16    | 7.782   |
| 9-1/4      | Z-40148 | 12.205   | 6.890    | 10.725  | 5.24    | 9.515   |



# 2-1/2" SQUARE DRIVE

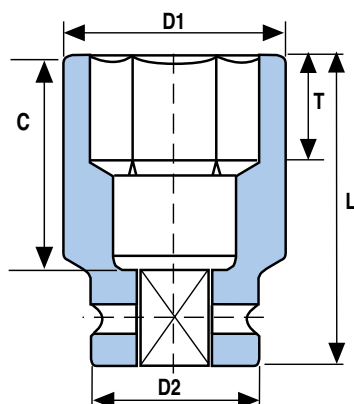
# SIX POINT IMPACT SOCKETS

## Deep Fractional Sizes

| SIZE<br>in | PART#   | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in |
|------------|---------|----------|----------|---------|---------|---------|
| 1-5/8      | Z-4026L | 4.094    | 5.000    | 7.480   | 0.846   | 5.184   |
| 1-11/16    | Z-4027L | 4.094    | 5.000    | 7.480   | 0.984   | 5.184   |
| 1-3/4      | Z-4028L | 4.094    | 5.000    | 7.480   | 1.000   | 5.184   |
| 1-13/16    | Z-4029L | 4.094    | 5.000    | 7.480   | 1.000   | 5.184   |
| 1-7/8      | Z-4030L | 4.094    | 5.000    | 7.480   | 1.062   | 5.184   |
| 1-15/16    | Z-4031L | 4.094    | 5.000    | 7.480   | 1.062   | 5.184   |
| 2          | Z-4032L | 4.094    | 5.000    | 7.480   | 1.062   | 5.184   |
| 2-1/16     | Z-4033L | 4.094    | 5.000    | 7.480   | 1.181   | 5.184   |
| 2-1/8      | Z-4034L | 4.094    | 5.000    | 7.480   | 1.181   | 5.184   |
| 2-3/16     | Z-4035L | 4.094    | 5.000    | 7.480   | 1.260   | 5.184   |
| 2-1/4      | Z-4036L | 4.094    | 5.000    | 7.480   | 1.280   | 5.184   |
| 2-5/16     | Z-4037L | 4.094    | 5.000    | 7.480   | 1.299   | 5.184   |
| 2-3/8      | Z-4038L | 4.094    | 5.000    | 7.480   | 1.378   | 5.184   |
| 2-7/16     | Z-4039L | 4.094    | 5.000    | 7.480   | 1.378   | 5.184   |
| 2-1/2      | Z-4040L | 4.094    | 5.000    | 7.480   | 1.378   | 5.184   |
| 2-9/16     | Z-4041L | 4.094    | 5.000    | 7.480   | 1.378   | 5.184   |
| 2-5/8      | Z-4042L | 4.094    | 5.000    | 7.480   | 1.496   | 5.184   |
| 2-11/16    | Z-4043L | 4.094    | 5.000    | 7.480   | 1.496   | 5.184   |
| 2-3/4      | Z-4044L | 4.094    | 5.000    | 7.480   | 1.496   | 5.184   |
| 2-13/16    | Z-4045L | 4.094    | 5.000    | 7.480   | 1.575   | 5.184   |
| 2-7/8      | Z-4046L | 4.094    | 5.000    | 7.480   | 1.614   | 5.184   |
| 2-15/16    | Z-4047L | 4.094    | 5.000    | 7.480   | 1.614   | 5.184   |
| 3          | Z-4048L | 4.094    | 5.000    | 7.480   | 1.732   | 5.184   |
| 3-1/16     | Z-4049L | 4.094    | 5.000    | 7.480   | 1.732   | 5.184   |
| 3-1/8      | Z-4050L | 4.094    | 5.000    | 7.480   | 1.732   | 5.184   |
| 3-3/16     | Z-4051L | 5.000    | 5.000    | 7.480   | 1.850   | 5.184   |
| 3-1/4      | Z-4052L | 5.000    | 5.000    | 7.480   | 1.850   | 5.184   |
| 3-5/16     | Z-4053L | 5.000    | 5.000    | 7.480   | 1.850   | 5.184   |
| 3-3/8      | Z-4054L | 5.000    | 5.000    | 7.480   | 1.930   | 5.184   |
| 3-7/16     | Z-4055L | 5.315    | 5.000    | 7.480   | 1.930   | 5.184   |
| 3-1/2      | Z-4056L | 5.315    | 5.000    | 7.480   | 1.930   | 5.184   |
| 3-9/16     | Z-4057L | 5.315    | 5.000    | 7.480   | 1.930   | 5.184   |
| 3-5/8      | Z-4058L | 5.315    | 5.000    | 7.480   | 1.930   | 5.184   |
| 3-11/16    | Z-4059L | 5.315    | 5.000    | 7.480   | 1.930   | 5.184   |
| 3-3/4      | Z-4060L | 5.512    | 5.000    | 7.480   | 1.930   | 5.184   |
| 3-13/16    | Z-4061L | 5.709    | 5.000    | 7.720   | 2.125   | 5.420   |
| 3-7/8      | Z-4062L | 5.709    | 5.000    | 7.720   | 2.125   | 5.420   |
| 3-15/16    | Z-4063L | 5.709    | 5.000    | 7.720   | 2.125   | 5.420   |
| 4          | Z-4064L | 5.906    | 5.000    | 7.720   | 2.125   | 5.420   |
| 4-1/16     | Z-4065L | 5.906    | 5.000    | 7.720   | 2.125   | 5.420   |
| 4-1/8      | Z-4066L | 6.102    | 5.000    | 7.720   | 2.125   | 5.420   |
| 4-3/16     | Z-4067L | 6.102    | 5.000    | 8.070   | 2.440   | 5.775   |
| 4-1/4      | Z-4068L | 6.102    | 5.000    | 8.070   | 2.440   | 5.775   |

## Deep Fractional Sizes Cont.

| SIZE<br>in | PART#    | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in |
|------------|----------|----------|----------|---------|---------|---------|
| 4-5/16     | Z-4069L  | 6.299    | 5.000    | 8.070   | 2.44    | 5.775   |
| 4-3/8      | Z-4070L  | 6.299    | 5.000    | 8.070   | 2.44    | 5.775   |
| 4-7/16     | Z-4071L  | 6.496    | 5.000    | 8.070   | 2.44    | 5.775   |
| 4-1/2      | Z-4072L  | 6.496    | 5.000    | 8.070   | 2.44    | 5.775   |
| 4-5/8      | Z-4074L  | 6.693    | 5.000    | 8.380   | 2.64    | 6.090   |
| 4-3/4      | Z-4076L  | 6.693    | 5.000    | 8.380   | 2.64    | 6.090   |
| 4-7/8      | Z-4078L  | 6.693    | 5.000    | 8.380   | 2.64    | 6.090   |
| 5          | Z-4080L  | 7.087    | 5.000    | 8.700   | 2.83    | 6.405   |
| 5-1/8      | Z-4082L  | 7.087    | 5.000    | 9.000   | 2.99    | 6.719   |
| 5-3/16     | Z-4083L  | 7.087    | 5.000    | 9.000   | 2.99    | 6.719   |
| 5-1/4      | Z-4084L  | 7.480    | 5.000    | 9.000   | 2.99    | 6.719   |
| 5-3/8      | Z-4086L  | 7.480    | 5.000    | 9.000   | 2.99    | 6.719   |
| 5-1/2      | Z-4088L  | 7.480    | 5.000    | 9.120   | 3.110   | 7.074   |
| 5-5/8      | Z-4090L  | 7.874    | 5.906    | 9.360   | 3.270   | 7.074   |
| 5-3/4      | Z-4092L  | 7.874    | 5.906    | 9.360   | 3.270   | 7.074   |
| 5-7/8      | Z-4094L  | 8.268    | 5.906    | 9.670   | 3.460   | 7.389   |
| 6          | Z-4096L  | 8.268    | 5.906    | 9.670   | 3.460   | 7.389   |
| 6-1/8      | Z-4098L  | 8.268    | 5.906    | 9.670   | 3.460   | 7.389   |
| 6-1/4      | Z-40100L | 8.661    | 5.906    | 9.820   | 3.580   | 7.546   |
| 6-3/8      | Z-40102L | 8.661    | 5.906    | 9.820   | 3.580   | 7.546   |
| 6-1/2      | Z-40104L | 9.055    | 6.890    | 10.140  | 3.700   | 8.019   |
| 6-5/8      | Z-40106L | 9.055    | 6.890    | 10.140  | 3.700   | 8.019   |
| 6-3/4      | Z-40108L | 9.055    | 6.890    | 10.300  | 3.900   | 8.019   |
| 6-7/8      | Z-40110L | 9.449    | 6.890    | 10.300  | 3.900   | 8.019   |
| 7          | Z-40112L | 9.449    | 6.890    | 10.600  | 4.090   | 8.334   |
| 7-1/8      | Z-40114L | 9.843    | 6.890    | 10.600  | 4.090   | 8.334   |
| 7-1/4      | Z-40116L | 9.843    | 6.890    | 10.600  | 4.090   | 8.334   |
| 7-3/8      | Z-40118L | 9.843    | 6.890    | 10.760  | 4.210   | 8.491   |
| 7-1/2      | Z-40120L | 10.236   | 6.890    | 10.760  | 4.210   | 8.491   |
| 7-5/8      | Z-40122L | 10.236   | 6.890    | 10.920  | 4.290   | 8.649   |
| 7-3/4      | Z-40124L | 10.630   | 6.890    | 10.070  | 4.410   | 8.806   |
| 7-13/16    | Z-40125L | 10.630   | 6.890    | 10.070  | 4.410   | 8.806   |
| 7-7/8      | Z-40126L | 10.630   | 6.890    | 10.070  | 4.410   | 8.806   |
| 8          | Z-40128L | 10.630   | 6.890    | 11.310  | 4.530   | 9.318   |
| 8-1/8      | Z-40130L | 11.024   | 6.890    | 11.310  | 4.530   | 9.318   |
| 8-1/4      | Z-40132L | 11.024   | 6.890    | 11.310  | 4.530   | 9.318   |
| 8-3/8      | Z-40134L | 11.417   | 6.890    | 11.580  | 4.720   | 9.318   |
| 8-1/2      | Z-40136L | 11.417   | 6.890    | 12.320  | 4.800   | 10.066  |
| 8-3/4      | Z-40140L | 11.811   | 6.890    | 12.320  | 4.880   | 10.066  |
| 8-7/8      | Z-40142L | 11.811   | 6.890    | 12.320  | 4.960   | 10.066  |
| 9          | Z-40144L | 12.205   | 6.890    | 12.320  | 5.040   | 10.066  |
| 9-1/8      | Z-40146L | 12.205   | 6.890    | 12.320  | 5.160   | 10.066  |
| 9-1/4      | Z-40148L | 12.205   | 6.890    | 12.980  | 5.240   | 11.798  |





## Standard Metric Sizes

| SIZE<br>mm | PART#    | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | C<br>mm |
|------------|----------|----------|----------|---------|---------|---------|
| 41         | Z-40M41  | 104      | 127      | 115     | 21.5    | 60      |
| 42         | Z-40M42  | 104      | 127      | 115     | 21.5    | 60      |
| 43         | Z-40M43  | 104      | 127      | 115     | 25      | 60      |
| 44         | Z-40M44  | 104      | 127      | 115     | 21.5    | 60      |
| 45         | Z-40M45  | 104      | 127      | 115     | 21.5    | 60      |
| 46         | Z-40M46  | 104      | 127      | 115     | 25.5    | 60      |
| 47         | Z-40M47  | 104      | 127      | 115     | 23.5    | 60      |
| 48         | Z-40M48  | 104      | 127      | 115     | 23.5    | 60      |
| 49         | Z-40M49  | 104      | 127      | 115     | 27      | 60      |
| 50         | Z-40M50  | 104      | 127      | 115     | 23.5    | 60      |
| 51         | Z-40M51  | 104      | 127      | 115     | 27      | 60      |
| 52         | Z-40M52  | 104      | 127      | 115     | 27      | 60      |
| 54         | Z-40M54  | 104      | 127      | 115     | 30      | 60      |
| 55         | Z-40M55  | 104      | 127      | 115     | 27      | 60      |
| 56         | Z-40M56  | 104      | 127      | 115     | 28      | 60      |
| 57         | Z-40M57  | 104      | 127      | 115     | 32.5    | 60      |
| 58         | Z-40M58  | 104      | 127      | 115     | 28      | 60      |
| 59         | Z-40M59  | 104      | 127      | 115     | 33      | 60      |
| 60         | Z-40M60  | 104      | 127      | 115     | 28      | 60      |
| 61         | Z-40M61  | 104      | 127      | 115     | 28      | 60      |
| 62         | Z-40M62  | 104      | 127      | 115     | 35      | 60      |
| 65         | Z-40M65  | 104      | 127      | 115     | 35      | 60      |
| 67         | Z-40M67  | 104      | 127      | 115     | 38      | 60      |
| 70         | Z-40M70  | 104      | 127      | 115     | 38      | 60      |
| 73         | Z-40M73  | 115      | 127      | 125     | 41      | 70      |
| 75         | Z-40M75  | 115      | 127      | 125     | 41      | 70      |
| 76         | Z-40M76  | 115      | 127      | 125     | 44      | 70      |
| 80         | Z-40M80  | 115      | 127      | 125     | 37      | 70      |
| 85         | Z-40M85  | 127      | 127      | 130     | 40      | 75      |
| 86         | Z-40M86  | 127      | 127      | 130     | 49      | 75      |
| 90         | Z-40M90  | 135      | 127      | 132     | 43      | 77      |
| 95         | Z-40M95  | 140      | 127      | 132     | 49      | 77      |
| 100        | Z-40M100 | 145      | 127      | 141     | 54      | 86      |
| 105        | Z-40M105 | 150      | 127      | 141     | 54      | 86      |
| 110        | Z-40M110 | 160      | 127      | 150     | 62      | 95      |
| 115        | Z-40M115 | 165      | 127      | 158     | 57      | 103     |
| 120        | Z-40M120 | 170      | 127      | 158     | 67      | 103     |
| 125        | Z-40M125 | 170      | 127      | 158     | 67      | 103     |
| 130        | Z-40M130 | 180      | 127      | 174     | 76      | 119     |
| 135        | Z-40M135 | 190      | 127      | 174     | 76      | 119     |
| 140        | Z-40M140 | 190      | 127      | 176     | 79      | 121     |
| 145        | Z-40M145 | 200      | 150      | 182     | 83      | 127     |
| 150        | Z-40M150 | 210      | 150      | 190     | 88      | 135     |
| 155        | Z-40M155 | 210      | 150      | 190     | 88      | 135     |
| 160        | Z-40M160 | 220      | 150      | 194     | 91      | 139     |
| 165        | Z-40M165 | 230      | 175      | 201     | 94      | 146     |
| 170        | Z-40M170 | 230      | 175      | 201     | 94      | 146     |
| 175        | Z-40M175 | 240      | 175      | 208     | 99      | 153     |
| 180        | Z-40M180 | 240      | 175      | 214     | 104     | 159     |
| 185        | Z-40M185 | 250      | 175      | 214     | 104     | 159     |
| 190        | Z-40M190 | 260      | 175      | 218     | 107     | 163     |
| 195        | Z-40M195 | 260      | 175      | 222     | 109     | 167     |
| 200        | Z-40M200 | 270      | 175      | 226     | 112     | 171     |
| 210        | Z-40M210 | 280      | 175      | 232     | 115     | 177     |
| 215        | Z-40M215 | 290      | 175      | 239     | 120     | 184     |
| 225        | Z-40M225 | 300      | 175      | 258     | 126     | 203     |
| 235        | Z-40M235 | 310      | 175      | 275     | 131     | 220     |

## Deep Metric Sizes

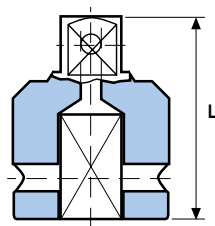
| SIZE<br>mm | PART#     | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | C<br>mm |
|------------|-----------|----------|----------|---------|---------|---------|
| 41         | Z-40M41L  | 104      | 127      | 192     | 21.5    | 132     |
| 42         | Z-40M42L  | 104      | 127      | 192     | 21.5    | 132     |
| 43         | Z-40M43L  | 104      | 127      | 192     | 25      | 132     |
| 44         | Z-40M44L  | 104      | 127      | 192     | 21.5    | 132     |
| 45         | Z-40M45L  | 104      | 127      | 192     | 21.5    | 132     |
| 46         | Z-40M46L  | 104      | 127      | 192     | 25.5    | 132     |
| 47         | Z-40M47L  | 104      | 127      | 192     | 23.5    | 132     |
| 48         | Z-40M48L  | 104      | 127      | 192     | 23.5    | 132     |
| 49         | Z-40M49L  | 104      | 127      | 192     | 27      | 132     |
| 50         | Z-40M50L  | 104      | 127      | 192     | 23.5    | 132     |
| 51         | Z-40M51L  | 104      | 127      | 192     | 27      | 132     |
| 52         | Z-40M52L  | 104      | 127      | 192     | 27      | 132     |
| 54         | Z-40M54L  | 104      | 127      | 192     | 30      | 132     |
| 55         | Z-40M55L  | 104      | 127      | 192     | 27      | 132     |
| 56         | Z-40M56L  | 104      | 127      | 192     | 28      | 132     |
| 57         | Z-40M57L  | 104      | 127      | 192     | 32.5    | 132     |
| 58         | Z-40M58L  | 104      | 127      | 192     | 28      | 132     |
| 59         | Z-40M59L  | 104      | 127      | 192     | 33      | 132     |
| 60         | Z-40M60L  | 104      | 127      | 192     | 28      | 132     |
| 61         | Z-40M61L  | 104      | 127      | 192     | 28      | 132     |
| 62         | Z-40M62L  | 104      | 127      | 192     | 35      | 132     |
| 65         | Z-40M65L  | 104      | 127      | 192     | 35      | 132     |
| 67         | Z-40M67L  | 104      | 127      | 192     | 38      | 132     |
| 70         | Z-40M70L  | 104      | 127      | 192     | 38      | 132     |
| 73         | Z-40M73L  | 115      | 127      | 192     | 41      | 132     |
| 75         | Z-40M75L  | 115      | 127      | 192     | 41      | 132     |
| 76         | Z-40M76L  | 115      | 127      | 192     | 44      | 132     |
| 80         | Z-40M80L  | 115      | 127      | 192     | 37      | 132     |
| 85         | Z-40M85L  | 127      | 127      | 192     | 40      | 132     |
| 86         | Z-40M86L  | 127      | 127      | 192     | 49      | 132     |
| 90         | Z-40M90L  | 135      | 127      | 192     | 43      | 132     |
| 95         | Z-40M95L  | 140      | 127      | 192     | 49      | 132     |
| 100        | Z-40M100L | 145      | 127      | 198     | 54      | 138     |
| 105        | Z-40M105L | 150      | 127      | 198     | 54      | 138     |
| 110        | Z-40M110L | 160      | 127      | 207     | 62      | 147     |
| 115        | Z-40M115L | 165      | 127      | 207     | 57      | 147     |
| 120        | Z-40M120L | 170      | 127      | 215     | 67      | 155     |
| 125        | Z-40M125L | 170      | 127      | 215     | 67      | 155     |
| 130        | Z-40M130L | 180      | 127      | 223     | 76      | 163     |
| 135        | Z-40M135L | 190      | 127      | 231     | 76      | 151     |
| 140        | Z-40M140L | 190      | 127      | 234     | 79      | 174     |
| 145        | Z-40M145L | 200      | 150      | 240     | 83      | 180     |
| 150        | Z-40M150L | 210      | 150      | 248     | 88      | 188     |
| 155        | Z-40M155L | 210      | 150      | 248     | 88      | 188     |
| 160        | Z-40M160L | 220      | 150      | 252     | 91      | 192     |
| 165        | Z-40M165L | 230      | 175      | 260     | 94      | 200     |
| 170        | Z-40M170L | 230      | 175      | 260     | 94      | 200     |
| 175        | Z-40M175L | 240      | 175      | 264     | 99      | 204     |
| 180        | Z-40M180L | 240      | 175      | 272     | 104     | 212     |
| 185        | Z-40M185L | 250      | 175      | 272     | 104     | 212     |
| 190        | Z-40M190L | 260      | 175      | 276     | 107     | 216     |
| 195        | Z-40M195L | 260      | 175      | 280     | 109     | 220     |
| 200        | Z-40M200L | 270      | 175      | 284     | 112     | 224     |
| 210        | Z-40M210L | 280      | 175      | 290     | 115     | 230     |
| 215        | Z-40M215L | 290      | 175      | 316     | 120     | 256     |
| 225        | Z-40M225L | 300      | 175      | 316     | 126     | 256     |
| 235        | Z-40M235L | 310      | 175      | 333     | 131     | 273     |

*No one offers a broader line of 2-1/2" drive sockets than OZAT for the heaviest bolting applications in construction, plant maintenance, power generation, shipbuilding and refining.*

*OZAT sockets prove their value. They are guaranteed for hydraulic bolting jobs as well as for large impact wrenches. OZAT has a socket to exactly match your application. If not available from our standard product range, we'll custom design one for you [see page 83].*

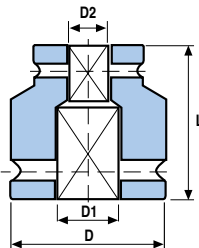
### Adapters

| PART# | FEMALE<br>in | MALE<br>in | L<br>in |
|-------|--------------|------------|---------|
| A4024 | 2-1/2        | 1-1/2      | 5.380   |
| A4056 | 2-1/2        | 3-1/2      | 5.538   |



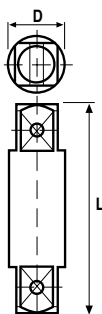
### Double Ended Female Adapters

| PART#  | D1<br>in | D2<br>in | L<br>in | D<br>in |
|--------|----------|----------|---------|---------|
| AN4024 | 2-1/2    | 1-1/2    | 4.53    | 5.00    |
| AN4040 | 2-1/2    | 2-1/2    | 4.61    | 5.00    |
| AN5640 | 3-1/2    | 2-1/2    | 6.34    | 6.89    |



### Double Ended Male Extensions

| PART# | D<br>in | L<br>in |
|-------|---------|---------|
| Z4005 | 3.31    | 5       |
| Z4006 | 3.31    | 6       |
| Z4008 | 3.31    | 8       |
| Z4010 | 3.31    | 10      |
| Z4015 | 3.31    | 15      |
| Z4020 | 3.31    | 20      |
| Z4026 | 3.31    | 26      |



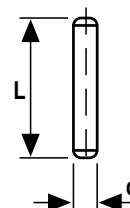
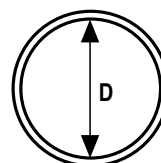
### Universal Joint

| SIZE<br>in | PART# |
|------------|-------|
| 2-1/2      | U4040 |



### Retaining Pins and Rings

| SQUARE DRIVE | SOCKET SIZES                          | PIN#   | RING#  | d<br>in | L<br>in | D<br>in |
|--------------|---------------------------------------|--------|--------|---------|---------|---------|
| 2-1/2        | Up To 5-1/2" (140mm)                  | P40127 | R40127 | .312    | 4.290   | 4.446   |
| 2-1/2        | From 5-1/2" (140mm) To 6-3/8" (160mm) | P40150 | R40150 | .312    | 5.187   | 5.309   |
| 2-1/2        | Above 6-3/8" (160mm)                  | P40175 | R40175 | .312    | 6.162   | 6.318   |



# 3-1/2" SQUARE DRIVE

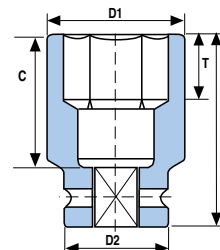
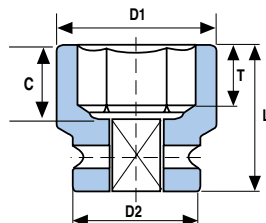
# SIX POINT IMPACT SOCKETS

## Standard Fractional Sizes

| SIZE<br>in | PART#   | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in |
|------------|---------|----------|----------|---------|---------|---------|
| 3-7/8      | Z-5662  | 6.890    | 6.890    | 6.435   | 2.125   | 3.371   |
| 3-15/16    | Z-5663  | 6.890    | 6.890    | 6.435   | 2.125   | 3.725   |
| 4          | Z-5664  | 6.890    | 6.890    | 6.435   | 2.125   | 3.725   |
| 4-1/16     | Z-5665  | 6.890    | 6.890    | 6.435   | 2.125   | 3.725   |
| 4-1/8      | Z-5666  | 6.890    | 6.890    | 6.435   | 2.125   | 3.725   |
| 4-3/16     | Z-5667  | 6.890    | 6.890    | 6.786   | 2.440   | 3.725   |
| 4-1/4      | Z-5668  | 6.890    | 6.890    | 6.786   | 2.440   | 3.725   |
| 4-5/16     | Z-5669  | 6.890    | 6.890    | 6.786   | 2.440   | 4.040   |
| 4-3/8      | Z-5670  | 6.890    | 6.890    | 6.786   | 2.440   | 4.040   |
| 4-7/16     | Z-5671  | 6.890    | 6.890    | 6.786   | 2.440   | 4.040   |
| 4-1/2      | Z-5672  | 6.890    | 6.890    | 6.786   | 2.440   | 4.040   |
| 4-5/8      | Z-5674  | 6.890    | 6.890    | 7.100   | 2.640   | 4.040   |
| 4-3/4      | Z-5676  | 6.890    | 6.890    | 7.100   | 2.640   | 4.355   |
| 4-7/8      | Z-5678  | 6.890    | 6.890    | 7.100   | 2.640   | 4.355   |
| 5          | Z-5680  | 7.480    | 6.890    | 7.722   | 2.830   | 4.355   |
| 5-1/8      | Z-5682  | 7.480    | 6.890    | 7.722   | 3.000   | 4.355   |
| 5-3/16     | Z-5683  | 7.480    | 6.890    | 7.722   | 3.000   | 4.670   |
| 5-1/4      | Z-5684  | 7.480    | 6.890    | 7.722   | 3.000   | 4.670   |
| 5-3/8      | Z-5686  | 7.874    | 6.890    | 7.722   | 3.000   | 4.670   |
| 5-1/2      | Z-5688  | 7.874    | 6.890    | 8.000   | 3.110   | 5.300   |
| 5-5/8      | Z-5690  | 8.268    | 6.890    | 8.270   | 3.270   | 5.300   |
| 5-3/4      | Z-5692  | 8.268    | 6.890    | 8.270   | 3.270   | 5.300   |
| 5-7/8      | Z-5694  | 8.268    | 6.890    | 8.270   | 3.460   | 5.300   |
| 6          | Z-5696  | 8.661    | 6.890    | 8.350   | 3.460   | 5.300   |
| 6-1/8      | Z-5698  | 8.661    | 6.890    | 8.350   | 3.460   | 5.300   |
| 6-1/4      | Z-56100 | 9.055    | 6.890    | 8.500   | 3.580   | 5.458   |
| 6-3/8      | Z-56102 | 9.055    | 6.890    | 8.500   | 3.580   | 5.458   |
| 6-1/2      | Z-56104 | 9.055    | 6.890    | 8.970   | 3.700   | 5.930   |
| 6-5/8      | Z-56106 | 9.449    | 6.890    | 8.970   | 3.700   | 5.930   |
| 6-3/4      | Z-56108 | 9.449    | 6.890    | 8.970   | 3.900   | 5.930   |
| 6-7/8      | Z-56110 | 9.843    | 6.890    | 8.970   | 3.900   | 5.930   |
| 7          | Z-56112 | 9.843    | 6.890    | 9.250   | 4.090   | 6.206   |
| 7-1/8      | Z-56114 | 9.843    | 6.890    | 9.250   | 4.090   | 6.206   |
| 7-1/4      | Z-56116 | 10.236   | 6.890    | 9.250   | 4.090   | 6.206   |
| 7-3/8      | Z-56118 | 10.236   | 6.890    | 9.438   | 4.210   | 6.363   |
| 7-1/2      | Z-56120 | 10.630   | 6.890    | 9.438   | 4.210   | 6.363   |
| 7-5/8      | Z-56122 | 10.630   | 6.890    | 9.600   | 4.290   | 6.521   |
| 7-3/4      | Z-56124 | 10.630   | 6.890    | 9.710   | 4.410   | 6.678   |
| 7-13/16    | Z-56125 | 11.024   | 6.890    | 9.710   | 4.410   | 6.678   |
| 7-7/8      | Z-56126 | 11.024   | 6.890    | 9.710   | 4.410   | 6.678   |
| 8          | Z-56128 | 11.024   | 6.890    | 10.000  | 4.530   | 7.229   |
| 8-1/8      | Z-56130 | 11.417   | 6.890    | 10.000  | 4.530   | 7.229   |
| 8-1/4      | Z-56132 | 11.417   | 6.890    | 10.000  | 4.530   | 7.229   |
| 8-3/8      | Z-56134 | 11.417   | 6.890    | 10.250  | 4.720   | 7.229   |
| 8-1/2      | Z-56136 | 11.811   | 6.890    | 10.410  | 4.800   | 7.859   |
| 8-3/4      | Z-56140 | 12.205   | 6.890    | 10.530  | 4.880   | 7.859   |
| 8-7/8      | Z-56142 | 12.205   | 6.890    | 10.640  | 4.960   | 7.859   |
| 9          | Z-56144 | 12.205   | 6.890    | 10.760  | 5.040   | 7.859   |
| 9-1/8      | Z-56146 | 12.598   | 6.890    | 10.880  | 5.160   | 7.859   |
| 9-1/4      | Z-56148 | 12.598   | 6.890    | 11.110  | 5.240   | 9.198   |

## Deep Fractional Sizes

| SIZE<br>in | PART#    | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in |
|------------|----------|----------|----------|---------|---------|---------|
| 3-7/8      | Z-5662L  | 6.890    | 6.890    | 10.800  | 2.125   | 7.781   |
| 3-15/16    | Z-5663L  | 6.890    | 6.890    | 10.800  | 2.125   | 7.781   |
| 4          | Z-5664L  | 6.890    | 6.890    | 10.800  | 2.125   | 7.781   |
| 4-1/16     | Z-5665L  | 6.890    | 6.890    | 10.800  | 2.125   | 7.781   |
| 4-1/8      | Z-5666L  | 6.890    | 6.890    | 10.800  | 2.125   | 7.781   |
| 4-3/16     | Z-5667L  | 6.890    | 6.890    | 10.800  | 2.440   | 7.781   |
| 4-1/4      | Z-5668L  | 6.890    | 6.890    | 10.800  | 2.440   | 7.781   |
| 4-5/16     | Z-5669L  | 6.890    | 6.890    | 10.800  | 2.440   | 7.781   |
| 4-3/8      | Z-5670L  | 6.890    | 6.890    | 10.800  | 2.440   | 7.781   |
| 4-7/16     | Z-5671L  | 6.890    | 6.890    | 10.800  | 2.440   | 7.781   |
| 4-1/2      | Z-5672L  | 6.890    | 6.890    | 10.800  | 2.440   | 7.781   |
| 4-5/8      | Z-5674L  | 6.890    | 6.890    | 10.800  | 2.640   | 7.781   |
| 4-3/4      | Z-5676L  | 6.890    | 6.890    | 10.800  | 2.640   | 7.781   |
| 4-7/8      | Z-5678L  | 6.890    | 6.890    | 10.800  | 2.640   | 7.781   |
| 5          | Z-5680L  | 7.480    | 6.890    | 10.800  | 2.830   | 7.781   |
| 5-1/8      | Z-5682L  | 7.480    | 6.890    | 10.920  | 3.000   | 7.781   |
| 5-3/16     | Z-5683L  | 7.480    | 6.890    | 10.920  | 3.000   | 7.899   |
| 5-1/4      | Z-5684L  | 7.480    | 6.890    | 10.920  | 3.000   | 7.899   |
| 5-3/8      | Z-5686L  | 7.874    | 6.890    | 10.920  | 3.000   | 7.899   |
| 5-1/2      | Z-5688L  | 7.874    | 6.890    | 11.230  | 3.110   | 8.568   |
| 5-5/8      | Z-5690L  | 8.268    | 6.890    | 11.500  | 3.270   | 8.568   |
| 5-3/4      | Z-5692L  | 8.268    | 6.890    | 11.500  | 3.270   | 8.568   |
| 5-7/8      | Z-5694L  | 8.268    | 6.890    | 11.500  | 3.460   | 8.568   |
| 6          | Z-5696L  | 8.661    | 6.890    | 11.580  | 3.460   | 8.568   |
| 6-1/8      | Z-5698L  | 8.661    | 6.890    | 11.580  | 3.460   | 8.568   |
| 6-1/4      | Z-56100L | 9.055    | 6.890    | 11.740  | 3.580   | 8.725   |
| 6-3/8      | Z-56102L | 9.055    | 6.890    | 11.740  | 3.580   | 8.725   |
| 6-1/2      | Z-56104L | 9.055    | 6.890    | 12.220  | 3.700   | 9.198   |
| 6-5/8      | Z-56106L | 9.449    | 6.890    | 12.220  | 3.700   | 9.198   |
| 6-3/4      | Z-56108L | 9.449    | 6.890    | 12.220  | 3.900   | 9.198   |
| 6-7/8      | Z-56110L | 9.843    | 6.890    | 12.220  | 3.900   | 9.198   |
| 7          | Z-56112L | 9.843    | 6.890    | 12.480  | 4.090   | 9.473   |
| 7-1/8      | Z-56114L | 9.843    | 6.890    | 12.480  | 4.090   | 9.473   |
| 7-1/4      | Z-56116L | 10.236   | 6.890    | 12.480  | 4.090   | 9.473   |
| 7-3/8      | Z-56118L | 10.236   | 6.890    | 12.630  | 4.210   | 9.631   |
| 7-1/2      | Z-56120L | 10.630   | 6.890    | 12.630  | 4.210   | 9.631   |
| 7-5/8      | Z-56122L | 10.630   | 6.890    | 12.800  | 4.290   | 9.788   |
| 7-3/4      | Z-56124L | 10.630   | 6.890    | 12.950  | 4.410   | 9.946   |
| 7-13/16    | Z-56125L | 11.024   | 6.890    | 12.950  | 4.410   | 9.946   |
| 7-7/8      | Z-56126L | 11.024   | 6.890    | 12.950  | 4.410   | 9.946   |
| 8          | Z-56128L | 11.024   | 6.890    | 13.220  | 4.530   | 10.497  |
| 8-1/8      | Z-56130L | 11.417   | 6.890    | 13.220  | 4.530   | 10.497  |
| 8-1/4      | Z-56132L | 11.417   | 6.890    | 13.220  | 4.530   | 10.497  |
| 8-3/8      | Z-56134L | 11.417   | 6.890    | 13.500  | 4.720   | 10.497  |
| 8-1/2      | Z-56136L | 11.811   | 6.890    | 13.650  | 4.800   | 11.127  |
| 8-3/4      | Z-56140L | 12.205   | 6.890    | 13.800  | 4.880   | 11.127  |
| 8-7/8      | Z-56142L | 12.205   | 6.890    | 13.920  | 4.960   | 11.127  |
| 9          | Z-56144L | 12.205   | 6.890    | 14.000  | 5.040   | 11.127  |
| 9-1/8      | Z-56146L | 12.598   | 6.890    | 14.110  | 5.160   | 11.127  |
| 9-1/4      | Z-56148L | 12.598   | 6.890    | 14.430  | 5.240   | 12.426  |



# 3-1/2" SQUARE DRIVE

## SIX POINT IMPACT SOCKETS

### Standard Metric Sizes

| SIZE<br>mm | PART#    | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | C<br>mm |
|------------|----------|----------|----------|---------|---------|---------|
| 100        | Z-56M100 | 175      | 175      | 165     | 54      | 95      |
| 105        | Z-56M105 | 175      | 175      | 165     | 54      | 94      |
| 110        | Z-56M110 | 175      | 175      | 174     | 62      | 103     |
| 115        | Z-56M115 | 175      | 175      | 174     | 57      | 103     |
| 120        | Z-56M120 | 175      | 175      | 182     | 67      | 111     |
| 125        | Z-56M125 | 175      | 175      | 182     | 67      | 111     |
| 130        | Z-56M130 | 190      | 175      | 198     | 76      | 111     |
| 135        | Z-56M135 | 190      | 175      | 198     | 76      | 119     |
| 140        | Z-56M140 | 200      | 175      | 205     | 79      | 135     |
| 145        | Z-56M145 | 210      | 175      | 212     | 83      | 135     |
| 150        | Z-56M150 | 210      | 175      | 212     | 88      | 135     |
| 155        | Z-56M155 | 220      | 175      | 214     | 88      | 135     |
| 160        | Z-56M160 | 220      | 175      | 218     | 91      | 139     |
| 165        | Z-56M165 | 230      | 175      | 230     | 94      | 151     |
| 170        | Z-56M170 | 240      | 175      | 230     | 94      | 151     |
| 175        | Z-56M175 | 250      | 175      | 230     | 99      | 151     |
| 180        | Z-56M180 | 250      | 175      | 237     | 104     | 158     |
| 185        | Z-56M185 | 260      | 175      | 237     | 104     | 158     |
| 190        | Z-56M190 | 260      | 175      | 242     | 107     | 162     |
| 195        | Z-56M195 | 270      | 175      | 246     | 109     | 166     |
| 200        | Z-56M200 | 280      | 175      | 249     | 112     | 170     |
| 210        | Z-56M210 | 290      | 175      | 256     | 115     | 184     |
| 215        | Z-56M215 | 300      | 175      | 263     | 120     | 220     |
| 225        | Z-56M225 | 310      | 175      | 273     | 126     | 200     |
| 230        | Z-56M230 | 310      | 175      | 276     | 128     | 200     |
| 235        | Z-56M235 | 320      | 175      | 279     | 131     | 200     |

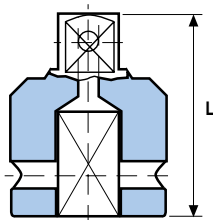
### Deep Metric Sizes

| SIZE<br>mm | PART#     | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | C<br>mm |
|------------|-----------|----------|----------|---------|---------|---------|
| 100        | Z-56M100L | 175      | 175      | 277     | 54      | 198     |
| 105        | Z-56M105L | 175      | 175      | 277     | 54      | 198     |
| 110        | Z-56M110L | 175      | 175      | 277     | 62      | 198     |
| 115        | Z-56M115L | 175      | 175      | 277     | 57      | 198     |
| 120        | Z-56M120L | 175      | 175      | 277     | 67      | 198     |
| 125        | Z-56M125L | 175      | 175      | 277     | 67      | 198     |
| 130        | Z-56M130L | 190      | 175      | 280     | 76      | 198     |
| 135        | Z-56M135L | 190      | 175      | 280     | 76      | 201     |
| 140        | Z-56M140L | 200      | 175      | 288     | 79      | 218     |
| 145        | Z-56M145L | 210      | 175      | 295     | 83      | 218     |
| 150        | Z-56M150L | 210      | 175      | 295     | 88      | 218     |
| 155        | Z-56M155L | 220      | 175      | 297     | 88      | 218     |
| 160        | Z-56M160L | 220      | 175      | 301     | 91      | 222     |
| 165        | Z-56M165L | 230      | 175      | 313     | 94      | 234     |
| 170        | Z-56M170L | 240      | 175      | 313     | 94      | 234     |
| 175        | Z-56M175L | 250      | 175      | 313     | 99      | 234     |
| 180        | Z-56M180L | 250      | 175      | 320     | 104     | 241     |
| 185        | Z-56M185L | 260      | 175      | 320     | 104     | 241     |
| 190        | Z-56M190L | 260      | 175      | 324     | 107     | 245     |
| 195        | Z-56M195L | 270      | 175      | 328     | 109     | 249     |
| 200        | Z-56M200L | 280      | 175      | 332     | 112     | 253     |
| 210        | Z-56M210L | 290      | 175      | 339     | 115     | 267     |
| 215        | Z-56M215L | 300      | 175      | 346     | 120     | 283     |
| 225        | Z-56M225L | 310      | 175      | 357     | 126     | 283     |
| 230        | Z-56M230L | 310      | 175      | 359     | 128     | 283     |
| 235        | Z-56M235L | 320      | 175      | 362     | 131     | 283     |

## ACCESSORIES

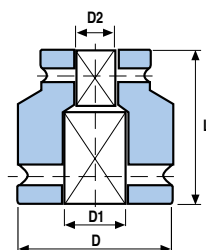
### Adapters

| PART# | FEMALE<br>in | MALE<br>in | L<br>in |
|-------|--------------|------------|---------|
| A5640 | 3-1/2        | 2-1/2      | 7.137   |



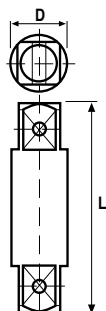
### Double Ended Female Adapters

| PART#  | D1<br>in | D2<br>in | L<br>in | D<br>in |
|--------|----------|----------|---------|---------|
| AN5640 | 3-1/2    | 2-1/2    | 6.34    | 6.89    |
| AN5656 | 3-1/2    | 3-1/2    | 6.57    | 6.89    |



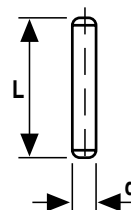
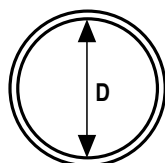
### Double Ended Male Extensions

| PART# | D<br>in | L<br>in |
|-------|---------|---------|
| Z5610 | 4.685   | 10      |
| Z5620 | 4.685   | 20      |
| Z5640 | 4.685   | 40      |



### Retaining Pins and Rings

| SQUARE<br>DRIVE | SOCKET<br>SIZES | PIN#   | RING#  | d<br>in | L<br>in | D<br>in |
|-----------------|-----------------|--------|--------|---------|---------|---------|
| 3-1/2           | All Sizes       | P56175 | R56175 | 0.39    | 6.24    | 6.24    |



# #5 SPLINE DRIVE

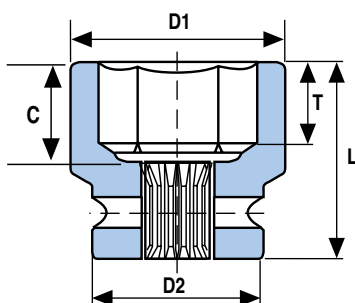
# SIX POINT IMPACT SOCKETS

## Standard Fractional Sizes

| SIZE<br>in | PART#  | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in |
|------------|--------|----------|----------|---------|---------|---------|
| 3/4        | Z-9512 | 1.890    | 2.362    | 2.730   | .374    | 1.006   |
| 13/16      | Z-9513 | 1.890    | 2.362    | 2.730   | .435    | 1.006   |
| 7/8        | Z-9514 | 1.890    | 2.362    | 2.730   | .512    | 1.006   |
| 15/16      | Z-9515 | 1.890    | 2.362    | 2.730   | .512    | 1.006   |
| 1          | Z-9516 | 1.929    | 2.362    | 2.730   | .512    | 1.006   |
| 1-1/16     | Z-9517 | 2.008    | 2.362    | 2.730   | .512    | 1.006   |
| 1-1/8      | Z-9518 | 2.008    | 2.362    | 2.730   | .650    | 1.006   |
| 1-3/16     | Z-9519 | 2.126    | 2.362    | 2.730   | .650    | 1.006   |
| 1-1/4      | Z-9520 | 2.362    | 2.362    | 2.925   | .669    | 1.203   |
| 1-5/16     | Z-9521 | 2.362    | 2.362    | 3.000   | .748    | 1.281   |
| 1-3/8      | Z-9522 | 2.362    | 2.362    | 3.000   | .748    | 1.281   |
| 1-7/16     | Z-9523 | 2.480    | 2.362    | 3.000   | .748    | 1.281   |
| 1-1/2      | Z-9524 | 2.480    | 2.362    | 3.125   | .866    | 1.400   |
| 1-9/16     | Z-9525 | 2.638    | 2.362    | 3.125   | .866    | 1.400   |
| 1-5/8      | Z-9526 | 2.638    | 2.362    | 3.125   | .866    | 1.400   |
| 1-11/16    | Z-9527 | 2.638    | 2.362    | 3.275   | .984    | 1.557   |
| 1-3/4      | Z-9528 | 2.874    | 2.362    | 3.275   | 1.000   | 1.557   |
| 1-13/16    | Z-9529 | 2.874    | 2.362    | 3.275   | 1.000   | 1.577   |
| 1-7/8      | Z-9530 | 2.874    | 2.362    | 3.432   | 1.063   | 1.715   |
| 1-15/16    | Z-9531 | 2.874    | 2.362    | 3.432   | 1.063   | 1.715   |
| 2          | Z-9532 | 3.228    | 2.362    | 3.432   | 1.063   | 1.715   |
| 2-1/16     | Z-9533 | 3.228    | 3.386    | 3.625   | 1.181   | 1.911   |
| 2-1/8      | Z-9534 | 3.228    | 3.386    | 3.625   | 1.181   | 1.911   |
| 2-3/16     | Z-9535 | 3.228    | 3.386    | 3.740   | 1.260   | 2.030   |
| 2-1/4      | Z-9536 | 3.465    | 3.386    | 3.740   | 1.299   | 2.030   |
| 2-5/16     | Z-9537 | 3.465    | 3.386    | 3.740   | 1.299   | 2.030   |
| 2-3/8      | Z-9538 | 3.465    | 3.386    | 3.822   | 1.378   | 2.108   |
| 2-7/16     | Z-9539 | 3.465    | 3.386    | 3.900   | 1.378   | 2.108   |
| 2-1/2      | Z-9540 | 3.937    | 3.386    | 3.900   | 1.378   | 2.108   |
| 2-9/16     | Z-9541 | 3.937    | 3.386    | 3.900   | 1.378   | 2.108   |
| 2-5/8      | Z-9542 | 3.937    | 3.386    | 3.978   | 1.496   | 2.266   |
| 2-11/16    | Z-9543 | 3.937    | 3.386    | 3.978   | 1.496   | 2.266   |
| 2-3/4      | Z-9544 | 3.937    | 3.386    | 3.978   | 1.496   | 2.266   |
| 2-13/16    | Z-9545 | 4.134    | 3.386    | 4.210   | 1.575   | 2.502   |
| 2-7/8      | Z-9546 | 4.134    | 3.386    | 4.210   | 1.614   | 2.502   |
| 2-15/16    | Z-9547 | 4.134    | 3.386    | 4.210   | 1.614   | 2.502   |
| 3          | Z-9548 | 4.291    | 3.386    | 4.446   | 1.732   | 2.738   |
| 3-1/16     | Z-9549 | 4.291    | 3.386    | 4.446   | 1.732   | 2.738   |
| 3-1/8      | Z-9550 | 4.291    | 3.386    | 4.446   | 1.732   | 2.738   |
| 3-1/4      | Z-9552 | 5.062    | 3.386    | 4.909   | 2.106   | 2.781   |
| 3-5/16     | Z-9553 | 5.062    | 3.386    | 4.909   | 2.106   | 2.781   |
| 3-3/8      | Z-9554 | 5.062    | 3.386    | 4.909   | 2.106   | 2.781   |
| 3-1/2      | Z-9556 | 5.129    | 3.386    | 4.909   | 2.106   | 2.781   |
| 3-5/8      | Z-9558 | 5.256    | 3.386    | 4.909   | 2.106   | 2.781   |
| 3-3/4      | Z-9560 | 5.309    | 3.386    | 4.909   | 2.106   | 2.781   |
| 3-7/8      | Z-9562 | 5.442    | 3.386    | 4.909   | 2.106   | 2.781   |
| 4          | Z-9564 | 5.511    | 3.386    | 4.909   | 2.106   | 2.781   |

## Deep Fractional Sizes

| SIZE<br>in | PART#   | D1<br>in | D2<br>in | L<br>in | T<br>in | C<br>in |
|------------|---------|----------|----------|---------|---------|---------|
| 3/4        | Z-9512L | 1.890    | 2.362    | 6.240   | .374    | 4.549   |
| 13/16      | Z-9513L | 1.890    | 2.362    | 6.240   | .435    | 4.549   |
| 7/8        | Z-9514L | 1.890    | 2.362    | 6.240   | .512    | 4.549   |
| 15/16      | Z-9515L | 1.890    | 2.362    | 6.240   | .512    | 4.549   |
| 1          | Z-9516L | 1.929    | 2.362    | 6.240   | .512    | 4.549   |
| 1-1/16     | Z-9517L | 2.008    | 2.362    | 6.240   | .512    | 4.549   |
| 1-1/8      | Z-9518L | 2.008    | 2.362    | 6.240   | .650    | 4.549   |
| 1-3/16     | Z-9519L | 2.126    | 2.362    | 6.240   | .650    | 4.549   |
| 1-1/4      | Z-9520L | 2.362    | 2.362    | 6.240   | .669    | 4.549   |
| 1-5/16     | Z-9521L | 2.362    | 2.362    | 6.240   | .748    | 4.549   |
| 1-3/8      | Z-9522L | 2.362    | 2.362    | 6.240   | .748    | 4.549   |
| 1-7/16     | Z-9523L | 2.480    | 2.362    | 6.240   | .748    | 4.549   |
| 1-1/2      | Z-9524L | 2.480    | 2.362    | 6.240   | .866    | 4.549   |
| 1-9/16     | Z-9525L | 2.638    | 2.362    | 6.240   | .866    | 4.549   |
| 1-5/8      | Z-9526L | 2.638    | 2.362    | 6.240   | .866    | 4.549   |
| 1-11/16    | Z-9527L | 2.638    | 2.362    | 6.240   | .984    | 4.549   |
| 1-3/4      | Z-9528L | 2.874    | 2.362    | 6.240   | 1.000   | 4.549   |
| 1-13/16    | Z-9529L | 2.874    | 2.362    | 6.240   | 1.000   | 4.549   |
| 1-7/8      | Z-9530L | 2.874    | 2.362    | 6.240   | 1.063   | 4.549   |
| 1-15/16    | Z-9531L | 2.874    | 2.362    | 6.240   | 1.063   | 4.549   |
| 2          | Z-9532L | 3.228    | 2.362    | 6.240   | 1.063   | 4.549   |
| 2-1/16     | Z-9533L | 3.228    | 3.386    | 6.240   | 1.181   | 4.549   |
| 2-1/8      | Z-9534L | 3.228    | 3.386    | 6.240   | 1.181   | 4.549   |
| 2-3/16     | Z-9535L | 3.228    | 3.386    | 6.240   | 1.260   | 4.549   |
| 2-1/4      | Z-9536L | 3.465    | 3.386    | 6.240   | 1.299   | 4.549   |
| 2-5/16     | Z-9537L | 3.465    | 3.386    | 6.240   | 1.299   | 4.549   |
| 2-3/8      | Z-9538L | 3.465    | 3.386    | 6.240   | 1.373   | 4.549   |
| 2-7/16     | Z-9539L | 3.465    | 3.386    | 6.240   | 1.378   | 4.549   |
| 2-1/2      | Z-9540L | 3.937    | 3.386    | 6.240   | 1.378   | 4.549   |
| 2-9/16     | Z-9541L | 3.937    | 3.386    | 6.240   | 1.378   | 4.549   |
| 2-5/8      | Z-9542L | 3.937    | 3.386    | 6.240   | 1.496   | 4.549   |
| 2-11/16    | Z-9543L | 3.937    | 3.386    | 6.240   | 1.496   | 4.549   |
| 2-3/4      | Z-9544L | 3.937    | 3.386    | 6.240   | 1.496   | 4.549   |
| 2-13/16    | Z-9545L | 4.134    | 3.386    | 6.240   | 1.575   | 4.549   |
| 2-7/8      | Z-9546L | 4.134    | 3.386    | 6.240   | 1.614   | 4.549   |
| 2-15/16    | Z-9547L | 4.134    | 3.386    | 6.240   | 1.614   | 4.549   |
| 3          | Z-9548L | 4.291    | 3.386    | 6.240   | 1.732   | 4.628   |
| 3-1/16     | Z-9549L | 4.291    | 3.386    | 6.310   | 1.732   | 4.628   |
| 3-1/8      | Z-9550L | 4.291    | 3.386    | 6.310   | 1.732   | 4.628   |





# #5 SPLINE DRIVE

# SIX POINT IMPACT SOCKETS

## Standard Metric Sizes

| SIZE<br>mm | PART#   | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | C<br>mm |
|------------|---------|----------|----------|---------|---------|---------|
| 19         | Z-95M19 | 48       | 60       | 70      | .374    | 26      |
| 20         | Z-95M20 | 48       | 60       | 70      | .394    | 26      |
| 21         | Z-95M21 | 48       | 60       | 70      | .394    | 26      |
| 22         | Z-95M22 | 48       | 60       | 70      | .394    | 26      |
| 23         | Z-95M23 | 48       | 60       | 70      | .472    | 26      |
| 24         | Z-95M24 | 49       | 60       | 70      | .472    | 26      |
| 25         | Z-95M25 | 49       | 60       | 70      | .512    | 26      |
| 26         | Z-95M26 | 51       | 60       | 70      | .512    | 26      |
| 27         | Z-95M27 | 51       | 60       | 70      | .512    | 26      |
| 28         | Z-95M28 | 51       | 60       | 70      | .551    | 26      |
| 29         | Z-95M29 | 54       | 60       | 70      | .551    | 26      |
| 30         | Z-95M30 | 54       | 60       | 70      | .650    | 26      |
| 31         | Z-95M31 | 60       | 60       | 75      | .650    | 31      |
| 32         | Z-95M32 | 60       | 60       | 75      | .650    | 31      |
| 33         | Z-95M33 | 60       | 60       | 75      | .669    | 31      |
| 34         | Z-95M34 | 60       | 60       | 77      | .669    | 33      |
| 35         | Z-95M35 | 60       | 60       | 77      | .748    | 33      |
| 36         | Z-95M36 | 63       | 60       | 77      | .748    | 33      |
| 37         | Z-95M37 | 63       | 60       | 77      | .748    | 33      |
| 38         | Z-95M38 | 63       | 60       | 80      | .866    | 36      |
| 39         | Z-95M39 | 67       | 60       | 80      | .866    | 36      |
| 40         | Z-95M40 | 67       | 60       | 80      | .866    | 36      |
| 41         | Z-95M41 | 67       | 60       | 80      | .866    | 36      |
| 42         | Z-95M42 | 67       | 60       | 80      | .846    | 36      |
| 43         | Z-95M43 | 67       | 60       | 84      | .984    | 40      |
| 44         | Z-95M44 | 73       | 60       | 84      | .846    | 40      |
| 45         | Z-95M45 | 73       | 60       | 84      | .846    | 40      |
| 46         | Z-95M46 | 73       | 60       | 84      | 1.004   | 40      |
| 47         | Z-95M47 | 73       | 60       | 84      | .925    | 40      |
| 48         | Z-95M48 | 73       | 60       | 88      | .925    | 44      |
| 49         | Z-95M49 | 73       | 60       | 88      | 1.063   | 44      |
| 50         | Z-95M50 | 82       | 60       | 88      | .925    | 44      |
| 51         | Z-95M51 | 82       | 60       | 88      | 1.063   | 44      |
| 52         | Z-95M52 | 82       | 60       | 88      | 1.063   | 44      |
| 54         | Z-95M54 | 82       | 60       | 93      | 1.181   | 49      |
| 55         | Z-95M55 | 82       | 60       | 93      | 1.063   | 49      |
| 56         | Z-95M56 | 88       | 86       | 96      | 1.102   | 52      |
| 57         | Z-95M57 | 88       | 76       | 96      | 1.299   | 52      |
| 58         | Z-95M58 | 88       | 86       | 96      | 1.102   | 52      |
| 59         | Z-95M59 | 88       | 86       | 96      | 1.299   | 52      |
| 60         | Z-95M60 | 88       | 86       | 96      | 1.102   | 52      |
| 61         | Z-95M61 | 88       | 86       | 98      | 1.102   | 54      |
| 62         | Z-95M62 | 88       | 86       | 100     | 1.378   | 56      |
| 65         | Z-95M65 | 100      | 86       | 100     | 1.378   | 56      |
| 67         | Z-95M67 | 100      | 86       | 102     | 1.496   | 58      |
| 70         | Z-95M70 | 100      | 86       | 102     | 1.496   | 58      |
| 73         | Z-95M73 | 105      | 86       | 108     | 1.614   | 64      |
| 75         | Z-95M75 | 105      | 86       | 108     | 1.614   | 64      |
| 76         | Z-95M76 | 109      | 86       | 114     | 1.732   | 70      |
| 80         | Z-95M80 | 115      | 86       | 114     | 1.457   | 70      |

## Deep Metric Sizes

| SIZE<br>mm | PART#    | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm | C<br>mm |
|------------|----------|----------|----------|---------|---------|---------|
| 19         | Z-95M19L | 48       | 60       | 160     | .374    | 116     |
| 20         | Z-95M20L | 48       | 60       | 160     | .394    | 116     |
| 21         | Z-95M21L | 48       | 60       | 160     | .394    | 116     |
| 22         | Z-95M22L | 48       | 60       | 160     | .394    | 116     |
| 23         | Z-95M23L | 48       | 60       | 160     | .472    | 116     |
| 24         | Z-95M24L | 49       | 60       | 160     | .472    | 116     |
| 25         | Z-95M25L | 49       | 60       | 160     | .512    | 116     |
| 26         | Z-95M26L | 51       | 60       | 160     | .512    | 116     |
| 27         | Z-95M27L | 51       | 60       | 160     | .512    | 116     |
| 28         | Z-95M28L | 51       | 60       | 160     | .551    | 116     |
| 29         | Z-95M29L | 54       | 60       | 160     | .551    | 116     |
| 30         | Z-95M30L | 54       | 60       | 160     | .650    | 116     |
| 31         | Z-95M31L | 60       | 60       | 160     | .650    | 116     |
| 32         | Z-95M32L | 60       | 60       | 160     | .650    | 116     |
| 33         | Z-95M33L | 60       | 60       | 160     | .669    | 116     |
| 34         | Z-95M34L | 60       | 60       | 160     | .669    | 116     |
| 35         | Z-95M35L | 60       | 60       | 160     | .748    | 116     |
| 36         | Z-95M36L | 63       | 60       | 160     | .748    | 116     |
| 37         | Z-95M37L | 63       | 60       | 160     | .748    | 116     |
| 38         | Z-95M38L | 63       | 60       | 160     | .866    | 116     |
| 39         | Z-95M39L | 67       | 60       | 160     | .866    | 116     |
| 40         | Z-95M40L | 67       | 60       | 160     | .866    | 116     |
| 41         | Z-95M41L | 67       | 60       | 160     | .866    | 116     |
| 42         | Z-95M42L | 67       | 60       | 160     | .846    | 116     |
| 43         | Z-95M43L | 67       | 60       | 160     | .984    | 116     |
| 44         | Z-95M44L | 73       | 60       | 160     | .846    | 116     |
| 45         | Z-95M45L | 73       | 60       | 160     | .846    | 116     |
| 46         | Z-95M46L | 73       | 60       | 160     | 1.004   | 116     |
| 47         | Z-95M47L | 73       | 60       | 160     | .925    | 116     |
| 48         | Z-95M48L | 73       | 60       | 160     | .925    | 116     |
| 49         | Z-95M49L | 73       | 60       | 160     | 1.063   | 116     |
| 50         | Z-95M50L | 82       | 60       | 160     | .925    | 116     |
| 51         | Z-95M51L | 82       | 60       | 160     | 1.063   | 116     |
| 52         | Z-95M52L | 82       | 60       | 160     | 1.063   | 116     |
| 54         | Z-95M54L | 82       | 60       | 160     | 1.181   | 116     |
| 55         | Z-95M55L | 82       | 60       | 160     | 1.063   | 116     |
| 56         | Z-95M56L | 88       | 86       | 160     | 1.102   | 116     |
| 57         | Z-95M57L | 88       | 76       | 160     | 1.299   | 116     |
| 58         | Z-95M58L | 88       | 86       | 160     | 1.102   | 116     |
| 59         | Z-95M59L | 88       | 86       | 160     | 1.299   | 116     |
| 60         | Z-95M60L | 88       | 86       | 160     | 1.102   | 116     |
| 61         | Z-95M61L | 88       | 86       | 160     | 1.102   | 116     |
| 62         | Z-95M62L | 88       | 86       | 160     | 1.378   | 116     |
| 65         | Z-95M65L | 100      | 86       | 160     | 1.378   | 116     |
| 67         | Z-95M67L | 100      | 86       | 160     | 1.496   | 116     |
| 70         | Z-95M70L | 100      | 86       | 160     | 1.496   | 116     |
| 73         | Z-95M73L | 105      | 86       | 160     | 1.614   | 116     |
| 75         | Z-95M75L | 105      | 86       | 162     | 1.614   | 116     |
| 76         | Z-95M76L | 109      | 86       | 162     | 1.732   | 118     |
| 80         | Z-95M80L | 115      | 86       | 162     | 1.457   | 118     |

## Budd Wheel Socket Sizes

| SIZE          | PART#    | D1    | D2   | L     | T    |
|---------------|----------|-------|------|-------|------|
| 13/16 X 1-1/2 | Z-9524BS | 2.48  | 2.36 | 4.133 | .571 |
| 13/16         | Z-9513B  | 2.008 | 2.36 | 2.756 | .472 |

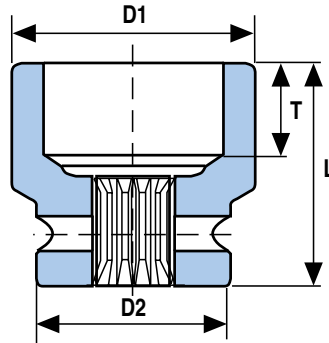
## #4 SPLINE DRIVE

## SIX POINT IMPACT SOCKETS



### Universal Joint

| SIZE            | PART# |
|-----------------|-------|
| #4 Spline Drive | U9494 |



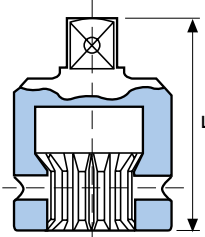
### #4 Standard Length Fractional and Metric Sizes

| SIZE<br>in | SIZE<br>mm | PART#     | D1<br>mm | D2<br>mm | L<br>mm | T<br>mm |
|------------|------------|-----------|----------|----------|---------|---------|
| 1-1/16     | 27         | Z-9417M27 | 46       | 52       | 59      | 13      |
| 1-1/8      |            | Z-9418    | 48       | 52       | 65      | 16.5    |
| 1 3/16     | 30         | Z-9419M30 | 50       | 52       | 65      | 16.5    |
| 1-1/4      |            | Z-9420    | 52       | 52       | 65      | 17      |
| 1-5/16     |            | Z-9421    | 52       | 52       | 68      | 19      |
| 1 3/8      | 35         | Z-9422M35 | 52       | 52       | 68      | 19      |
| 1-7/16     |            | Z-9423    | 52       | 52       | 68      | 19      |
| 1-1/2      | 38         | Z-9424M38 | 52       | 52       | 73      | 22      |
| 1-9/16     |            | Z-9425    | 57       | 52       | 73      | 22      |
| 1-5/8      | 41         | Z-9426M41 | 57       | 52       | 73      | 22      |
| 1-11/16    |            | Z-9427    | 57       | 52       | 73      | 22      |
| 1-3/4      |            | Z-9428    | 63       | 52       | 78      | 25.5    |
| 1-13/16    |            | Z-9429    | 67       | 52       | 78      | 25.5    |
| 1-7/8      |            | Z-9430    | 67       | 52       | 78      | 27      |
| 1-15/16    |            | Z-9431    | 70       | 52       | 81      | 27      |
| 2          |            | Z-9432    | 73       | 52       | 81      | 27      |
| 2-1/16     |            | Z-9433    | 73       | 52       | 85      | 30      |
| 2-1/8      |            | Z-9434    | 78       | 52       | 88      | 32      |
| 2-3/16     |            | Z-9435    | 78       | 52       | 88      | 23      |
| 2-1/4      |            | Z-9436    | 78       | 52       | 88      | 23      |

## ACCESSORIES FOR #5 SPLINE DRIVE

### Adapters

| PART# | FEMALE<br>in | MALE<br>in | L<br>in |
|-------|--------------|------------|---------|
| A9516 | #5           | 1"         | 3.54    |
| A9524 | #5           | 1-1/2"     | 3.94    |
| A2495 | 1-1/2"       | #5         | 5.43    |



### Extensions

| PART# | L<br>in |
|-------|---------|
| E9508 | 8       |
| E9515 | 15      |

### Universal Joint

| SIZE            | PART# |
|-----------------|-------|
| #5 Spline Drive | U9595 |

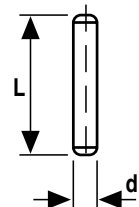
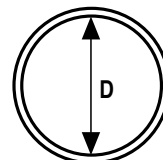


### Universal Joint Repair Kits

| PART# | DESCRIPTION                                                            |
|-------|------------------------------------------------------------------------|
| 95UK1 | Retainer Kit Contents: Hex Plunger, Lock Button, Inner & Outer Springs |
| 95UK2 | Pin Kit Contents: Drive Pin, Trunnions, Spiral Pins                    |
| 95UK3 | Retrofit Kit Contents: All Parts From the Above 2 Kits                 |

### Retaining Pins and Rings

| SPLINE<br>DRIVE | SOCKET<br>SIZES      | PIN#  | RING# | d<br>in | L<br>in | D<br>in |
|-----------------|----------------------|-------|-------|---------|---------|---------|
| #5              | Up To 2-3/16" (55mm) | P9560 | R9560 | .950    | 1.950   | 1.950   |
| #5              | Above 2-3/16" (55mm) | P9586 | R9586 | .950    | 2.964   | 2.964   |

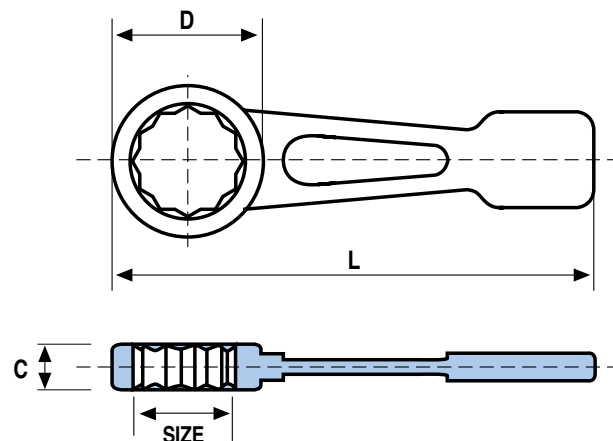


## Fractional Sizes

| PART# | SIZE<br>in | D<br>in | C<br>in | L<br>in  |
|-------|------------|---------|---------|----------|
| FSW14 | 7/8        | 1-13/16 | 9/16    | 6-1/2    |
| FSW15 | 15/16      | 1-13/16 | 9/16    | 6-1/2    |
| FSW16 | 1          | 1-13/16 | 9/16    | 6-1/2    |
| FSW17 | 1-1/16     | 1-13/16 | 5/8     | 7-1/16   |
| FSW18 | 1-1/8      | 1-13/16 | 5/8     | 7-1/16   |
| FSW19 | 1-3/16     | 2-1/16  | 11/16   | 7-1/2    |
| FSW20 | 1-1/4      | 2-1/16  | 11/16   | 7-1/2    |
| FSW21 | 1-5/16     | 2-1/16  | 11/16   | 7-1/2    |
| FSW22 | 1-3/8      | 2-1/16  | 11/16   | 7-1/2    |
| FSW23 | 1-7/16     | 2-15/16 | 11/16   | 8-1/16   |
| FSW24 | 1-1/2      | 2-15/16 | 11/16   | 8-1/16   |
| FSW25 | 1-9/16     | 2-15/16 | 11/16   | 8-1/16   |
| FSW26 | 1-5/8      | 2-15/16 | 13/16   | 9-1/16   |
| FSW27 | 1-11/16    | 2-15/16 | 13/16   | 9-1/16   |
| FSW28 | 1-3/4      | 2-15/16 | 13/16   | 9-1/16   |
| FSW29 | 1-13/16    | 2-15/16 | 7/8     | 9-7/16   |
| FSW30 | 1-7/8      | 2-15/16 | 7/8     | 9-7/16   |
| FSW31 | 1-15/16    | 2-15/16 | 7/8     | 9-7/16   |
| FSW32 | 2          | 3-1/8   | 15/16   | 10-1/16  |
| FSW33 | 2-1/16     | 3-1/8   | 15/16   | 10-1/16  |
| FSW34 | 2-1/8      | 3-1/8   | 15/16   | 10-1/16  |
| FSW35 | 2-3/16     | 3-3/8   | 1       | 10-5/8   |
| FSW36 | 2-1/4      | 3-3/8   | 1       | 10-5/8   |
| FSW37 | 2-5/16     | 3-3/8   | 1       | 10-5/8   |
| FSW38 | 2-3/8      | 3-11/16 | 1       | 11       |
| FSW39 | 2-7/16     | 3-11/16 | 1       | 11       |
| FSW40 | 2-1/2      | 3-11/16 | 1       | 11       |
| FSW41 | 2-9/16     | 4       | 1-3/16  | 11-13/16 |
| FSW42 | 2-5/8      | 4       | 1-3/16  | 11-13/16 |
| FSW43 | 2-11/16    | 4       | 1-3/16  | 11-13/16 |
| FSW44 | 2-3/4      | 4-5/16  | 1-5/16  | 13       |
| FSW45 | 2-13/16    | 4-5/16  | 1-5/16  | 13       |
| FSW46 | 2-7/8      | 4-5/16  | 1-5/16  | 13       |
| FSW47 | 2-15/16    | 4-5/16  | 1-5/16  | 13       |
| FSW48 | 3          | 4-5/16  | 1-5/16  | 13       |
| FSW49 | 3-1/16     | 4-5/16  | 1-5/16  | 13       |
| FSW50 | 3-1/8      | 4-15/16 | 1-7/16  | 14-3/16  |
| FSW51 | 3-3/16     | 4-15/16 | 1-7/16  | 14-3/16  |
| FSW52 | 3-1/4      | 4-15/16 | 1-7/16  | 14-3/16  |
| FSW53 | 3-5/16     | 4-15/16 | 1-7/16  | 14-3/16  |
| FSW54 | 3-3/8      | 4-15/16 | 1-7/16  | 14-3/16  |
| FSW55 | 3-7/16     | 4-15/16 | 1-7/16  | 14-3/16  |
| FSW56 | 3-1/2      | 4-15/16 | 1-7/16  | 14-3/16  |
| FSW57 | 3-9/16     | 5-9/16  | 1-9/16  | 15-3/8   |
| FSW58 | 3-5/8      | 5-9/16  | 1-9/16  | 15-3/8   |
| FSW59 | 3-11/16    | 5-9/16  | 1-9/16  | 15-3/8   |
| FSW60 | 3-3/4      | 5-9/16  | 1-9/16  | 15-3/8   |
| FSW61 | 3-13/16    | 5-9/16  | 1-9/16  | 15-3/8   |
| FSW62 | 3-7/8      | 5-9/16  | 1-9/16  | 15-3/8   |
| FSW63 | 3-15/16    | 6-1/8   | 1-3/4   | 16-9/16  |
| FSW64 | 4          | 6-1/8   | 1-3/4   | 16-9/16  |
| FSW65 | 4-1/16     | 6-1/8   | 1-3/4   | 16-9/16  |
| FSW66 | 4-1/8      | 6-1/8   | 1-3/4   | 16-9/16  |
| FSW67 | 4-3/16     | 6-1/8   | 1-3/4   | 16-9/16  |
| FSW68 | 4-1/4      | 6-1/8   | 1-3/4   | 16-9/16  |

## Fractional Sizes Cont.

| PART#  | SIZE<br>in | D<br>in | C<br>in | L<br>in  |
|--------|------------|---------|---------|----------|
| FSW69  | 4-5/16     | 6-11/16 | 1-7/8   | 17-11/16 |
| FSW70  | 4-3/8      | 6-11/16 | 1-7/8   | 17-11/16 |
| FSW71  | 4-7/16     | 6-11/16 | 1-7/8   | 17-11/16 |
| FSW72  | 4-1/2      | 6-11/16 | 1-7/8   | 17-11/16 |
| FSW74  | 4-5/8      | 6-11/16 | 1-7/8   | 17-11/16 |
| FSW76  | 4-3/4      | 7-3/16  | 2-1/8   | 18-7/8   |
| FSW78  | 4-7/8      | 7-3/16  | 2-1/8   | 18-7/8   |
| FSW80  | 5          | 7-3/16  | 2-1/8   | 18-7/8   |
| FSW82  | 5-1/8      | 7-15/16 | 2-5/16  | 20-1/2   |
| FSW83  | 5-3/16     | 7-15/16 | 2-5/16  | 20-1/2   |
| FSW84  | 5-1/4      | 7-15/16 | 2-5/16  | 20-1/2   |
| FSW86  | 5-3/8      | 7-15/16 | 2-5/16  | 20-1/2   |
| FSW88  | 5-1/2      | 8-1/4   | 2-5/16  | 20-1/2   |
| FSW90  | 5-5/8      | 8-1/4   | 2-5/16  | 20-1/2   |
| FSW92  | 5-3/4      | 9       | 2-1/2   | 22-13/16 |
| FSW94  | 5-7/8      | 9       | 2-1/2   | 22-13/16 |
| FSW96  | 6          | 9       | 2-1/2   | 22-13/16 |
| FSW98  | 6-1/8      | 9       | 2-1/2   | 22-13/16 |
| FSW100 | 6-1/4      | 9       | 2-1/2   | 22-13/16 |
| FSW102 | 6-3/8      | 9-7/16  | 2-1/2   | 22-13/16 |
| FSW104 | 6-1/2      | 10-7/16 | 2-3/4   | 25-9/16  |
| FSW106 | 6-5/8      | 10-7/16 | 2-3/4   | 25-9/16  |
| FSW108 | 6-3/4      | 10-7/16 | 2-3/4   | 25-9/16  |
| FSW110 | 6-7/8      | 10-7/16 | 2-3/4   | 25-9/16  |
| FSW112 | 7          | 10-7/16 | 2-3/4   | 25-9/16  |
| FSW114 | 7-1/8      | 10-7/16 | 2-3/4   | 25-9/16  |
| FSW116 | 7-1/4      | 11-7/16 | 2-15/16 | 27-9/16  |
| FSW118 | 7-3/8      | 11-7/16 | 2-15/16 | 27-9/16  |
| FSW120 | 7-1/2      | 11-7/16 | 2-15/16 | 27-9/16  |
| FSW122 | 7-5/8      | 11-7/16 | 2-15/16 | 27-9/16  |
| FSW124 | 7-3/4      | 11-7/16 | 2-15/16 | 27-9/16  |
| FSW125 | 7-13/16    | 11-7/16 | 2-15/16 | 27-9/16  |
| FSW126 | 7-7/8      | 11-7/16 | 2-15/16 | 27-9/16  |
| FSW128 | 8          | 11-7/16 | 2-15/16 | 27-9/16  |
| FSW130 | 8-1/8      | 11-7/16 | 2-15/16 | 27-9/16  |
| FSW132 | 8-1/4      | 12-5/8  | 3-1/8   | 29-1/2   |
| FSW134 | 8-3/8      | 12-5/8  | 3-1/8   | 29-1/2   |
| FSW136 | 8-1/2      | 12-5/8  | 3-1/8   | 29-1/2   |
| FSW140 | 8-5/8      | 12-5/8  | 3-1/8   | 29-1/2   |
| FSW142 | 8-7/8      | 12-5/8  | 3-1/8   | 29-1/2   |
| FSW144 | 9          | 12-5/8  | 3-1/8   | 29-1/2   |



# 12 POINT OPENING

# FLAT STRIKING WRENCHES

## Metric Sizes

| PART#  | SIZE<br>mm | D<br>mm | C<br>mm | L<br>mm |
|--------|------------|---------|---------|---------|
| FSWM22 | 22         | 43      | 15      | 165     |
| FSWM23 | 23         | 43      | 15      | 165     |
| FSWM24 | 24         | 43      | 15      | 165     |
| FSWM25 | 25         | 43      | 15      | 165     |
| FSWM26 | 26         | 43      | 15      | 165     |
| FSWM27 | 27         | 46      | 16      | 180     |
| FSWM28 | 28         | 46      | 16      | 180     |
| FSWM29 | 29         | 46      | 16      | 180     |
| FSWM30 | 30         | 52      | 17      | 190     |
| FSWM31 | 31         | 52      | 17      | 190     |
| FSWM32 | 32         | 52      | 17      | 190     |
| FSWM33 | 33         | 52      | 17      | 190     |
| FSWM34 | 34         | 52      | 17      | 190     |
| FSWM35 | 35         | 52      | 17      | 190     |
| FSWM36 | 36         | 58      | 18      | 205     |
| FSWM37 | 37         | 58      | 18      | 205     |
| FSWM38 | 38         | 58      | 18      | 205     |
| FSWM39 | 39         | 58      | 18      | 205     |
| FSWM40 | 40         | 58      | 18      | 205     |
| FSWM41 | 41         | 66      | 20      | 230     |
| FSWM42 | 42         | 66      | 20      | 230     |
| FSWM43 | 43         | 66      | 20      | 230     |
| FSWM44 | 44         | 66      | 20      | 230     |
| FSWM45 | 45         | 66      | 20      | 230     |
| FSWM46 | 46         | 74      | 22      | 240     |
| FSWM47 | 47         | 74      | 22      | 240     |
| FSWM48 | 48         | 74      | 22      | 240     |
| FSWM49 | 49         | 74      | 22      | 240     |
| FSWM50 | 50         | 80      | 24      | 255     |
| FSWM51 | 51         | 80      | 24      | 255     |
| FSWM52 | 52         | 80      | 24      | 255     |
| FSWM54 | 54         | 80      | 24      | 255     |
| FSWM55 | 55         | 86      | 25      | 270     |
| FSWM56 | 56         | 86      | 25      | 270     |
| FSWM57 | 57         | 86      | 25      | 270     |
| FSWM58 | 58         | 86      | 25      | 270     |
| FSWM59 | 59         | 86      | 25      | 270     |
| FSWM60 | 60         | 93      | 26      | 280     |

## Metric Sizes Cont.

| PART#   | SIZE<br>mm | D<br>mm | C<br>mm | L<br>mm |
|---------|------------|---------|---------|---------|
| FSWM61  | 61         | 93      | 26      | 280     |
| FSWM62  | 62         | 93      | 26      | 280     |
| FSWM65  | 65         | 102     | 30      | 300     |
| FSWM67  | 67         | 102     | 30      | 300     |
| FSWM70  | 70         | 110     | 33      | 330     |
| FSWM73  | 73         | 110     | 33      | 330     |
| FSWM75  | 75         | 110     | 33      | 330     |
| FSWM76  | 76         | 110     | 33      | 330     |
| FSWM80  | 80         | 125     | 36      | 360     |
| FSWM85  | 85         | 125     | 36      | 360     |
| FSWM86  | 86         | 125     | 36      | 360     |
| FSWM90  | 90         | 142     | 40      | 390     |
| FSWM95  | 95         | 142     | 40      | 390     |
| FSWM100 | 100        | 115     | 45      | 420     |
| FSWM105 | 105        | 155     | 45      | 420     |
| FSWM110 | 110        | 170     | 48      | 450     |
| FSWM115 | 115        | 170     | 48      | 450     |
| FSWM120 | 120        | 182     | 54      | 480     |
| FSWM125 | 125        | 182     | 54      | 480     |
| FSWM130 | 130        | 202     | 58      | 520     |
| FSWM135 | 135        | 202     | 58      | 520     |
| FSWM140 | 140        | 210     | 58      | 520     |
| FSWM145 | 145        | 228     | 64      | 580     |
| FSWM150 | 150        | 228     | 64      | 580     |
| FSWM155 | 155        | 228     | 64      | 580     |
| FSWM160 | 160        | 240     | 64      | 580     |
| FSWM165 | 165        | 265     | 70      | 650     |
| FSWM170 | 170        | 265     | 70      | 650     |
| FSWM175 | 175        | 265     | 70      | 650     |
| FSWM180 | 180        | 265     | 70      | 650     |
| FSWM185 | 185        | 290     | 75      | 700     |
| FSWM190 | 190        | 290     | 75      | 700     |
| FSWM195 | 195        | 290     | 75      | 700     |
| FSWM200 | 200        | 290     | 75      | 700     |
| FSWM210 | 210        | 320     | 80      | 750     |
| FSWM215 | 215        | 320     | 80      | 750     |
| FSWM225 | 225        | 320     | 80      | 750     |
| FSWM230 | 230        | 320     | 80      | 750     |



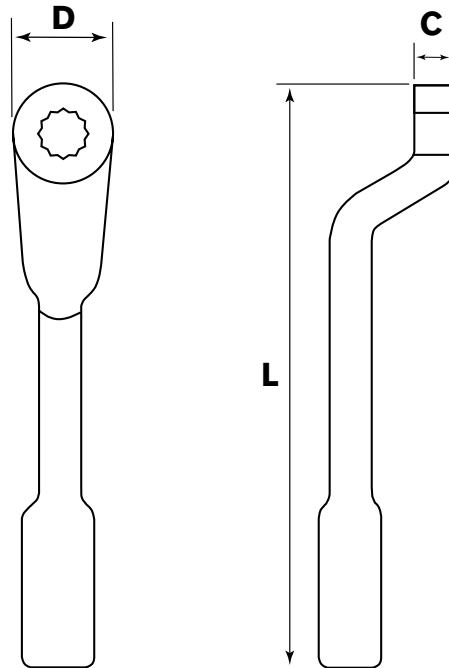
# 12 POINT OPENING

## OFFSET STRIKING WRENCHES

### FRACTIONAL SIZES

| Part# | Size    | D       | C       | L        |
|-------|---------|---------|---------|----------|
| SW16  | 1       | 2-3/64  | 53/64   | 11-31/32 |
| SW17  | 1-1/16  | 2-3/64  | 53/64   | 11-31/32 |
| SW18  | 1-1/8   | 2-3/64  | 53/64   | 11-31/32 |
| SW20  | 1-1/4   | 2-3/64  | 53/64   | 11-31/32 |
| SW21  | 1-5/16  | 2-3/64  | 53/64   | 11-31/32 |
| SW23  | 1-7/16  | 2-23/64 | 1-1/16  | 12-23/64 |
| SW24  | 1-1/2   | 2-19/32 | 1-1/16  | 12-23/64 |
| SW26  | 1-5/8   | 2-19/32 | 1-1/16  | 12-23/64 |
| SW27  | 1-11/16 | 2-19/32 | 1-1/16  | 12-23/64 |
| SW28  | 1-3/4   | 2-19/32 | 1-1/16  | 12-23/64 |
| SW29  | 1-13/16 | 2-19/32 | 1-1/16  | 12-23/64 |
| SW30  | 1-7/8   | 3-5/64  | 1-17/64 | 14-7/8   |
| SW31  | 1-15/16 | 3-5/64  | 1-17/64 | 14-7/8   |
| SW32  | 2       | 3-5/64  | 1-17/64 | 14-7/8   |
| SW34  | 2-1/8   | 3-5/64  | 1-17/64 | 14-7/8   |
| SW35  | 2-3/16  | 3-5/64  | 1-17/64 | 14-7/8   |
| SW36  | 2-1/4   | 4-21/64 | 1-21/32 | 15-63/64 |
| SW37  | 2-5/16  | 4-21/64 | 1-21/32 | 15-63/64 |
| SW38  | 2-3/8   | 4-21/64 | 1-21/32 | 15-63/64 |
| SW40  | 2-1/2   | 4-21/64 | 1-21/32 | 15-63/64 |
| SW41  | 2-9/16  | 4-21/64 | 1-21/32 | 15-63/64 |
| SW42  | 2-5/8   | 4-21/64 | 1-21/32 | 15-63/64 |
| SW44  | 2-3/4   | 4-21/64 | 1-21/32 | 15-63/64 |
| SW46  | 2-7/8   | 4-21/64 | 1-21/32 | 15-63/64 |
| SW47  | 2-15/16 | 4-21/64 | 1-21/32 | 15-63/64 |
| SW48  | 3       | 4-21/64 | 1-21/32 | 15-63/64 |
| SW50  | 3-1/8   | 5-1/8   | 2-11/64 | 17-23/32 |
| SW54  | 3-3/8   | 5-1/8   | 2-11/64 | 17-23/32 |
| SW56  | 3-1/2   | 5-1/8   | 2-11/64 | 17-23/32 |
| SW60  | 3-3/4   | 6-7/64  | 2-9/16  | 19-11/16 |
| SW62  | 3-7/8   | 6-7/64  | 2-9/16  | 19-11/16 |
| SW66  | 4-1/8   | 6-7/64  | 2-9/16  | 19-11/16 |
| SW68  | 4-1/4   | 6-7/64  | 2-9/16  | 19-11/16 |

ATP can manufacture specialized striking wrenches to suit your individual applications. Sizes larger than shown in the charts, open ended, short handled, six point, etc. are available on a special order basis.



### Striking Wrench Adapter

| PART#  | DESCRIPTION     |
|--------|-----------------|
| FSWA16 | 1" M x 1" F     |
| FSWA12 | 3/4" M x 3/4" F |



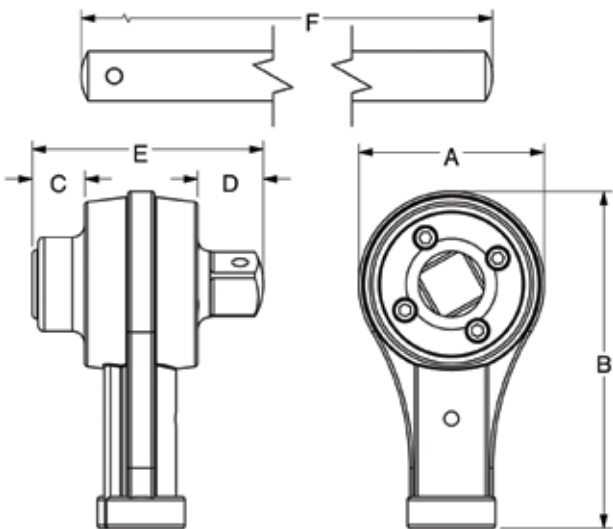


# Torque Multipliers

## TM7550 and TM1075

OZAT's Torque Multipliers are quality made in the USA and are a must for anybody working in maintenance, production and equipment service where high torque applications are present. Using a planetary gear train at a ratio of 4 to 1, the input torque increases the output torque by 4 times. Made of the finest quality materials and precision machining the ATP Torque Multipliers will reach torque levels easier and more efficiently. Less stress on the operators means a safer quality of work. Using a standard hand ratchet, torque measuring ratchet or other source of input torque and a socket on the output drive simply place the socket on the item to be turned and brace the reaction bar against a solid fixed object. The force applied to the input will be multiplied 4X to the output. Use for installation or breaking loose stubborn fasteners. The small size can fit into many tight applications where other tools cannot.

OZAT's Torque Multipliers can be used in combination to achieve even higher torque values up to the maximum output capacity of the largest multiplier.



### TM Specifications

| MODEL   | *OUTPUT<br>TORQUE | **INPUT<br>DRIVE in | OUTPUT<br>DRIVE in | GEAR<br>RATIO | WEIGHT  | OVERALL<br>LENGTH in | A<br>in | B<br>in | C<br>in | D<br>in | E<br>in | F<br>in |
|---------|-------------------|---------------------|--------------------|---------------|---------|----------------------|---------|---------|---------|---------|---------|---------|
| TM 7550 | 1000              | 1/2                 | 3/4                | 4 to 1        | 7 Lbs.  | 23.50                | 3.50    | 7.00    | .50     | .75     | 3.50    | 18.88   |
| TM 1075 | 2000              | 3/4                 | 1                  | 4 to 1        | 14 Lbs. | 24.25                | 3.75    | 6.60    | .75     | 1       | 4.63    | 20.50   |

\* Output torque may vary +/- due to friction loss per multiplier

\*\* Impact tools should not be used with OZAT torque multiplier



Reaction Bar Included

COMPANY: \_\_\_\_\_

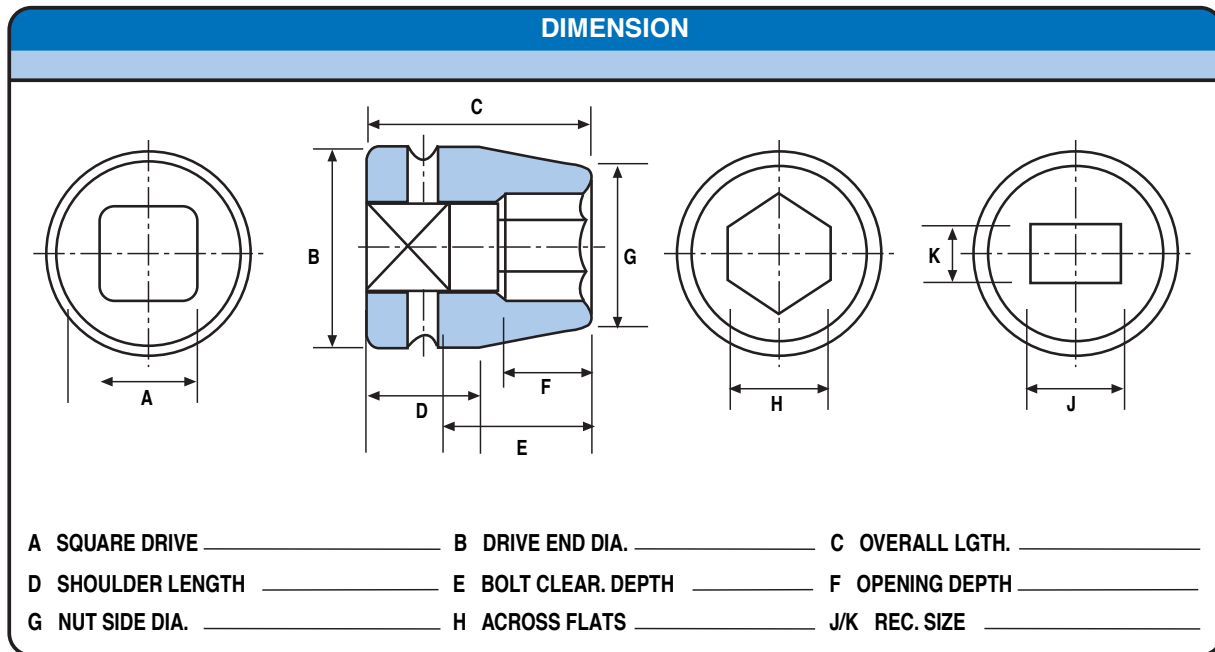
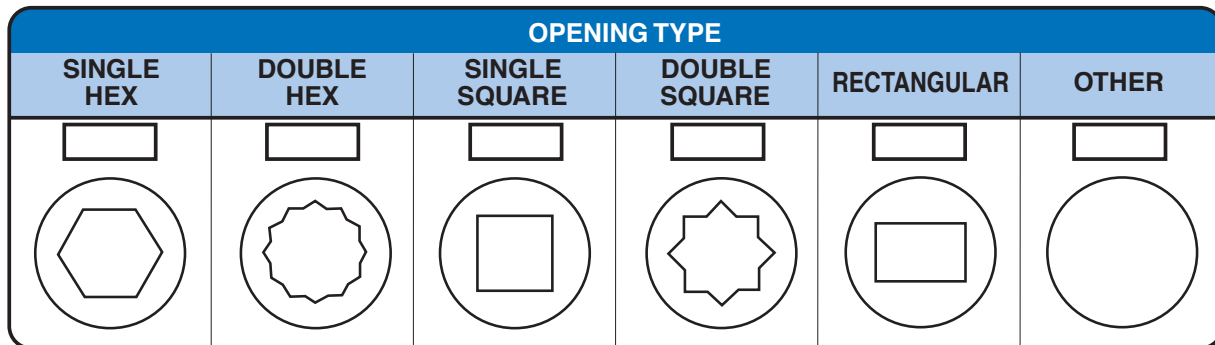
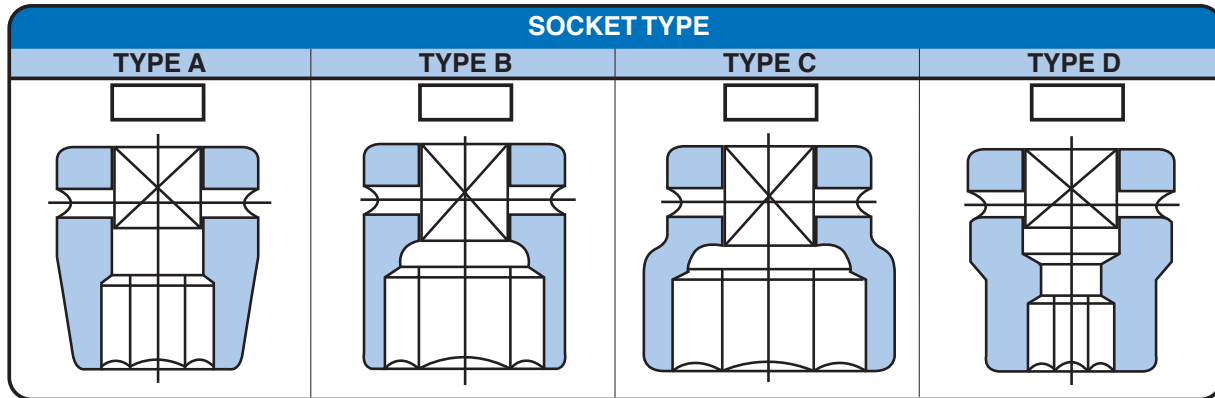
CONTACT: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

PHONE No: \_\_\_\_\_

FAX: \_\_\_\_\_

E-MAIL: \_\_\_\_\_



APPLICATION/COMMENTS: \_\_\_\_\_

QUANTITY(S) \_\_\_\_\_

Send OZAT specials request for quotation to customer service FAX: 724-776-0227, or info@hy-techinc.com



## HIGH PRESSURE HYDROSTATIC TEST PLUGS

*THAXTON specializes in engineering and manufacturing high quality test plugs used in hydrostatic testing of tubes, open end pipes, pipelines and pressure vessels.*

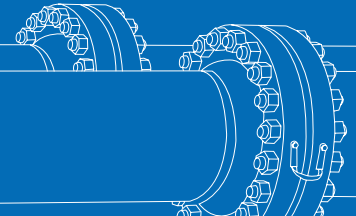
### PRECISION MACHINED HARDENED STEEL, ZINC PLATED, FACTORY TESTED

Standard pipe test plugs are factory tested up to 3,000 PSI depending on size. Special sizes and higher pressures can be supplied per customer requirements. Test plugs are held in place by the steel grips which hold against the inside wall of the pipe when the nut is tightened. At the same time, a neoprene seal cup is compressed to make a tight seal. New seal kits may be purchased directly from the factory to prolong the useful life of a Thaxton test plug.

### NON-STANDARD TEST PLUGS ARE AVAILABLE FROM THAXTON

For special Non-Standard Test Plugs, please include the following information:

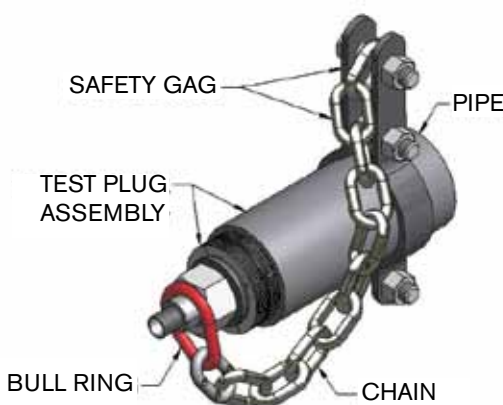
- Inside Diameter of Pipe
- Wall Thickness
- Depth Required
- Pipe Material
- Type of Test Media (Water, Oil, Gases, etc.)



**WARNING:** Pressure testing can be severely hazardous and safety precautions must be followed.

**WARNING:** THAXTON test plugs are not to be used as lifting devices.

### SAFETY GAGS



The gag is installed after the test plug is in place. The clamp is tightened around the pipe, with the bull ring located loosely over the stem. If the chain tightens, this would signal the operator to reduce pressure and retighten the test plug. The clamp also will restrict expansion of the pipe.

Safety Gags are available for all sizes and recommended for use in pressure testing operations.

# THAXTON Test Plugs

## TYPE C

Pipe I.D. Sizes .466" to 1.00"



- Mandrel through hole for filling and venting.
- Specifically designed for smooth concentric inside diameter pipe or tubing.
- Tolerances to plus or minus .005".

## TYPE D

Pipe I.D. Sizes 1" to 2.5"



- Mandrel through hole for filling and venting.
- Special sizes are available on request.
- Made to fit a specific I.D. with tolerances plus or minus .020".

## TYPE D

Pipe I.D. Sizes 3" to 17.5"



- Mandrel through hole for filling and venting.
- Special sizes are available on request.
- Made to fit a specific I.D. with tolerances plus or minus .035".

## TYPE E External Closure

Pipe I.D. Sizes .5" to 2.5"



- Thaxton External Closures are designed to quickly seal a plain-end pipe or tube, and eliminate welding on a cap for hydrostatic testing. A perfect leak-free seal can be achieved every time at high pressures.
- Manufactured from alloy steel or stainless steel.

# THAXTON Test Plugs

## SOCKET WELD PLUGS - Pipe I.D. Sizes .5", .75", 1", 1.25", 1.5", 2"



- Special sizes are available on request.
- All Socket Weld Plugs are available with solid or vented stems.
- Our Socket Weld Plugs eliminate the need for welding plugs onto standard socket weld openings when conducting pressure tests.

## REVERSE PRESSURE PLUGS - Pipe I.D. Sizes 1.25" to 12"



- Thaxton Reverse Pressure Plugs permit testing in a relatively small section of pipe. This avoids filling long sections of pipe with water in order to hydrostatic test a particular weld or segment. Reverse plugs have a solid stem and are held in place by hardened steel reverse grips. The seal is made with a neoprene ring and all steel parts are plated to resist corrosion.
- The stem of each plug has an internal left hand thread to accommodate installation tools (pictured below).



## LARGE DIAMETER PIPE PLUGS - Pipe I.D. Sizes 18" to 24"



- Due to the size and weight of the parts, these test plugs are furnished with a series of draw bolts used for expanding the grip segments. The draw bolts allow the installer to expand the grip segments evenly.
- These test plugs are equipped with a female pipe thread in the bottom of the mandrel which allows the customer to install a vent tube, by using a street ell and the appropriate length of pipe. The vent tube will help remove air pockets from the pipe when conducting hydrostatic tests.



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Standard Rack



Special Rack



Segment Gears



Specialty Spline



Spiral Bevel



Splined Bevel Gear



Splined Spur Gear



Spur Gear



Spur Pinion



Straight Bevel



Timing Pulley



Worm Gear



Worm Gear Sets

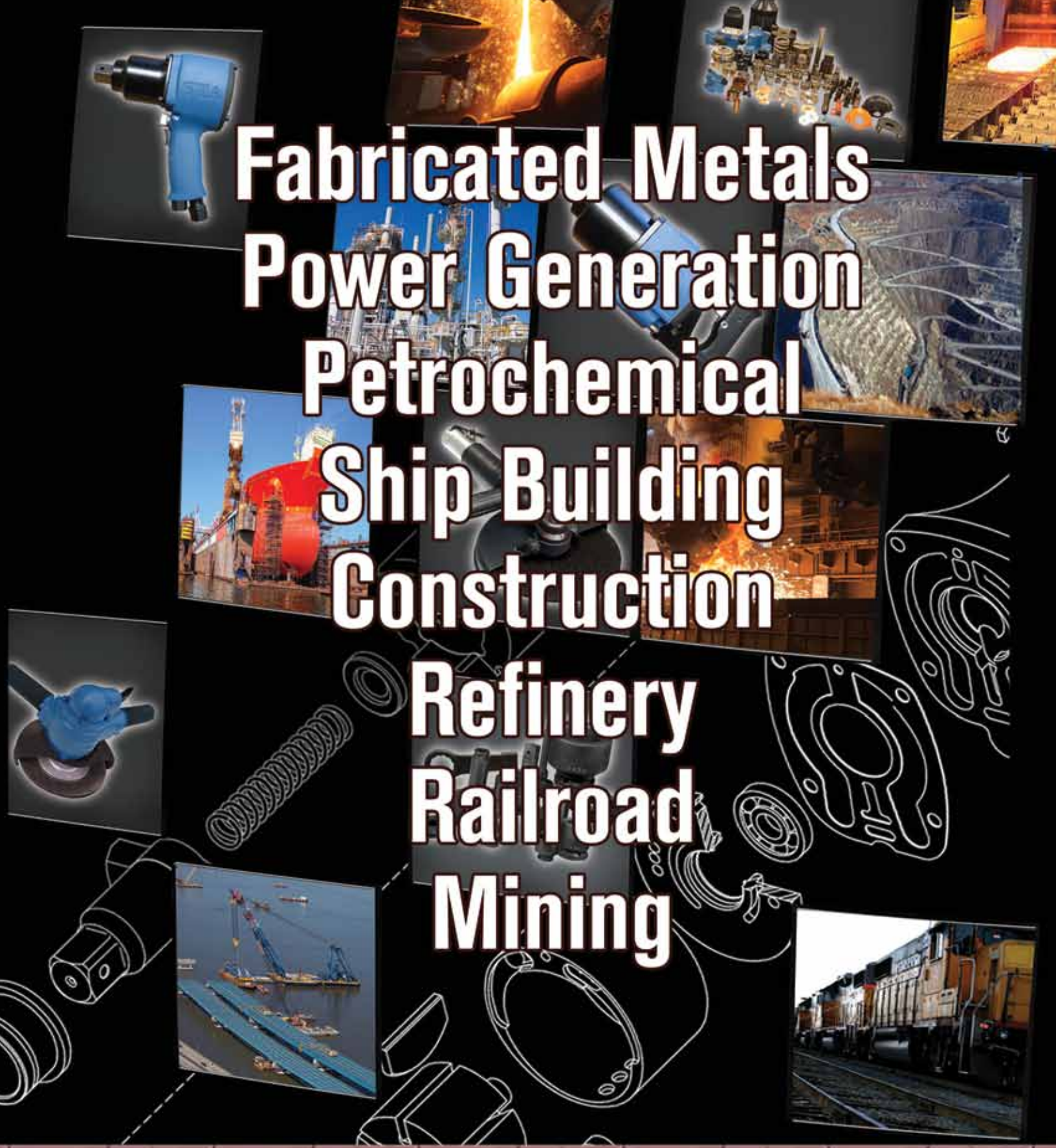


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