

# Contents

## Press Brake Tooling

### AMADA Quality Tooling

AMADA has been the leader in the production of Precision Press Brakes for over 40 years and we have installed more than 80,000 machines worldwide. The knowledge gained from this experience has confirmed our conviction that the use of superior tooling ensures optimum performance each and every time the Press Brake is used. Using AMADA Press Brake Tooling guarantees you the edge in productivity, putting you ahead of the competition.

|                                               | Page     | Page                                     |
|-----------------------------------------------|----------|------------------------------------------|
| <b>Quality, Laser Marking &amp; Lengths</b>   | <b>2</b> | <b>2V Dies Reversible 88°/90°</b> 44     |
| <b>How to use this section</b>                | <b>3</b> | <b>2V Dies Reversible 60°/30°</b> 46     |
| AFH - <u>AMADA</u> <u>Fixed</u> <u>Height</u> | 4        | Heavy Duty 1V 47                         |
| Advantages of AFH                             | 4        | Heavy Duty 1V Acute 49                   |
|                                               |          | Other Dies 50                            |
| <b>Punches</b>                                |          | Polycarbonate Dies 51                    |
| AFH Punches H=120                             | 6        | Polycarbonate Dies - Radius Bend 52      |
| AFH Punches H=90                              | 10       | Polyurethane Die Technical Guidelines 53 |
| AFH Punches H=160                             | 13       | Polyurethane Holders 54                  |
| AFH Punches H=70                              | 15       | Polyurethane Die Pads 55                 |
|                                               |          | Hemming 56                               |
| Radius Punches                                | 18       | Hemming & Flattening 57                  |
| Colour Radius Punches                         | 22       | Joggle Tools 58                          |
| Multi-Radius Punches                          | 24       | Punch Holder 59                          |
| Burring Punches                               | 26       | Holders, Blocks & Rails 60               |
| Special Punch Holders                         | 27       | Pneumatic Hemming Die 62                 |
| Flattening                                    | 27       |                                          |
| Semi-Standard Tooling                         | 29       | <b>AFH-ATC</b> 63                        |
| Clamps                                        | 30       | AFH-ATC Punches H=120 64                 |
| Distance Pieces                               | 31       | AFH-ATC 1V Dies 66                       |
|                                               |          |                                          |
| <b>Dies</b>                                   |          | Rolla V 70                               |
| AFH 1V Dies V=4                               | 32       | Adjustable Rolla V 72                    |
| AFH 1V Dies V=6                               | 33       | Accessories 74                           |
| AFH 1V Dies V=8                               | 34       | Marking Prevention 75                    |
| AFH 1V Dies V=10                              | 36       | Tooling Cabinet 75                       |
| AFH 1V Dies V=12                              | 37       |                                          |
| AFH 1V Dies V=14                              | 39       | Return Bend Limit Graphs 77              |
| AFH 1V Dies V=16                              | 39       | Air Bending Tonnage Charts 112           |
| AFH 1V Dies V=18                              | 40       |                                          |
| AFH 1V Dies V=20                              | 41       |                                          |
| AFH 1V Dies V=25                              | 42       |                                          |
| AFH 1V Dies V=32 & V=40                       | 43       |                                          |

# Pressbrake Tooling

## Punch Quality

AMADA punches are through hardened from hot formed steel:

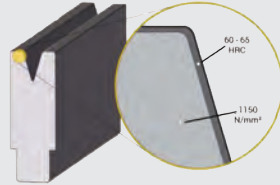
- Through hardened 47 HRC
- For long lasting high precision
- Surface hardness: 45~50 HRC
- Body strength: **1500 N/mm<sup>2</sup>**



## Die Quality

AMADA dies are AMANIT®, providing:

- Highest wear resistance on tool surface: HRC 60-65
- Low friction on the shoulder radii
- Highest strength of the body - **1150 N/mm<sup>2</sup>**
- Corrosion resistance

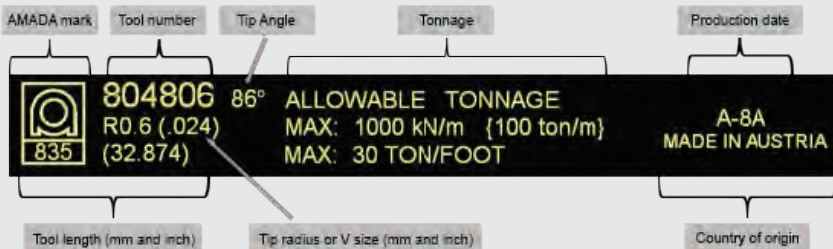


## Tooling Features

With innovative heat treatment strategies and special testing techniques we are giving best durability to the steel, not only against failure caused by dead loads but also against fatigue caused by an infinite number of repeated loads.

## Complete Laser Marking

All AMADA pressbrake tools are completely marked by laser. Essential information like tooling type, angle, tonnage, length and radius are marked even on the sectional parts.



## Tooling Lengths

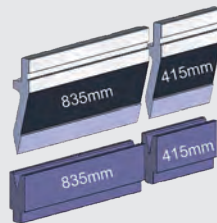
Available in solid 835mm, solid 415 mm and Sectionalized (sec) lengths for easy one-operator set-ups

### Sectionalized Punch (100mm are ears):

100, 10, 15, 15, 20, 40, 50, 150, 300, 100 = 800 mm

### Sectionalized Die:

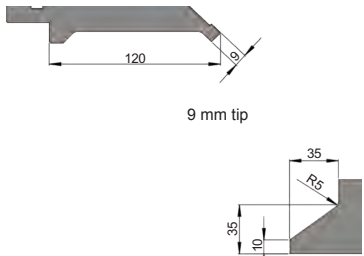
100, 10, 15, 15, 20, 40, 50, 150, 400 = 800 mm



# How to use this section

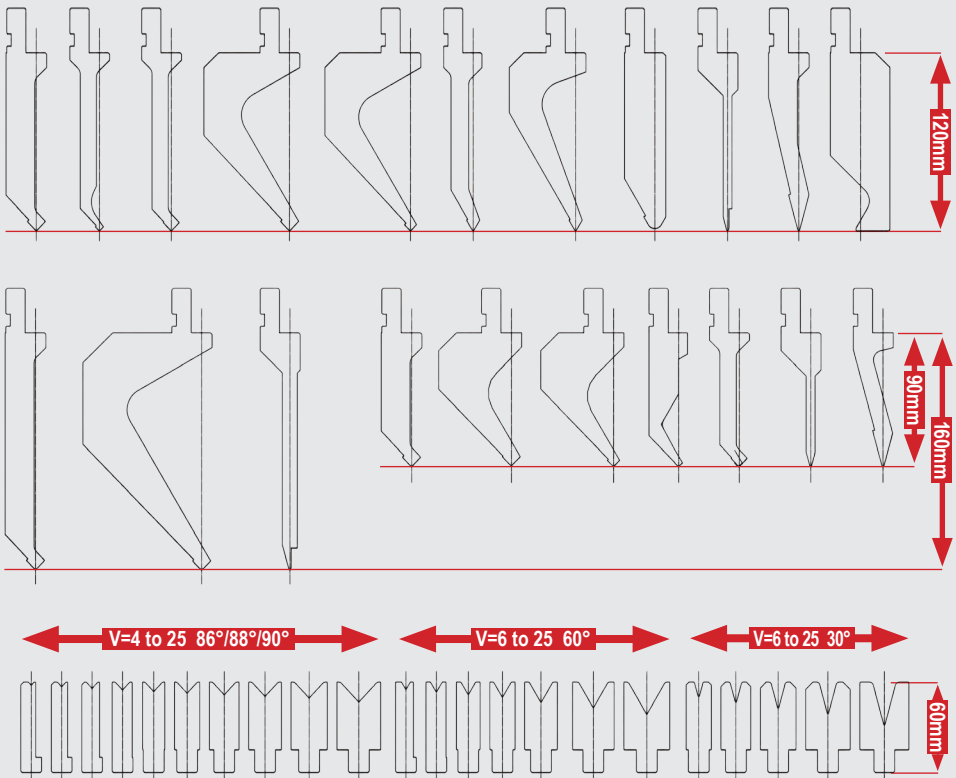
This section should be read as follows:

Example: #804 Punch

| 1<br>↓ | 2<br>↓ | 3<br>↓  | 4<br>↓ |       | 5<br>↓                                                                                                                        | 6<br>↓ |
|--------|--------|---------|--------|-------|-------------------------------------------------------------------------------------------------------------------------------|--------|
| Angle  | Radii  | Code    | Length | Price | Tool #804 - 100 t/m                                                                                                           |        |
| 86°    | R0.6   | 8048061 | 835 mm | £308  |  <p>9 mm tip</p> <p>Ear tonnage = 45 t/m</p> |        |
|        |        | 8048062 | 415 mm | £174  |                                                                                                                               |        |
|        |        | 8048063 | Sec    | £442  |                                                                                                                               |        |
|        | R1.5   | 8048151 | 835 mm | £346  |                                                                                                                               |        |
|        |        | 8048152 | 415 mm | £197  |                                                                                                                               |        |
|        |        | 8048153 | Sec    | £467  |                                                                                                                               |        |
|        | R3.0   | 8048301 | 835 mm | £368  |                                                                                                                               |        |
|        |        | 8048302 | 415 mm | £210  |                                                                                                                               |        |
|        |        | 8048303 | Sec    | £497  |                                                                                                                               |        |
| 88°    | R0.6   | 8047061 | 835 mm | £308  | 7<br>↓<br>Was #                                                                                                               | 8 →    |
|        |        | 8047062 | 415 mm | £174  |                                                                                                                               |        |
|        |        | 8047063 | Sec    | £442  |                                                                                                                               |        |

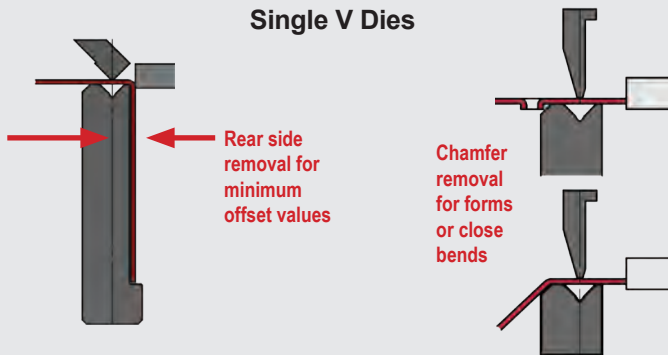
1. Tool Angle (colour coded)
2. Punch Tip Radius available - highlighted colour is the standard radius
3. Code number for radii specified
4. Tool length
5. Tool number
6. Allowable tonnage – tonnage per metre
7. Previous tool number (if applicable)
8. Ear tonnage – tonnage per metre

# **AFH - AMADA Fixed Height**



## **Advantages of AFH**

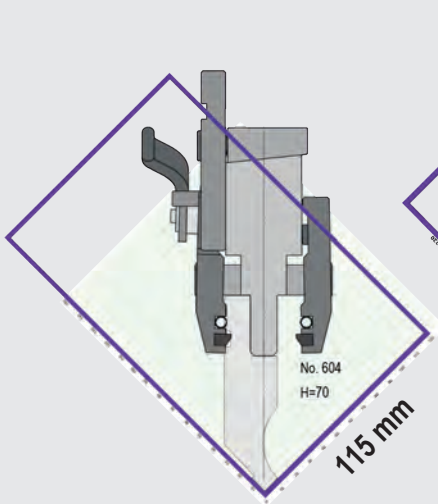
### **Single V Dies**



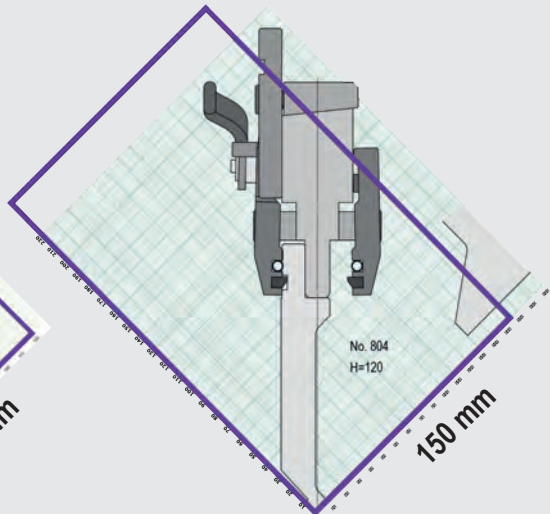


# Advantages of **AFH**

Deeper box bending capability and enlarged bend return area



Old Standard Tool



New AFH (H=120 mm) Tool

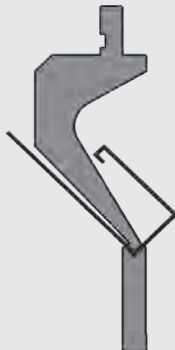
Press Brake  
Tooling

Multiple punch and die profiles have a common height making pressbrake set-ups fast and stage bending easy.

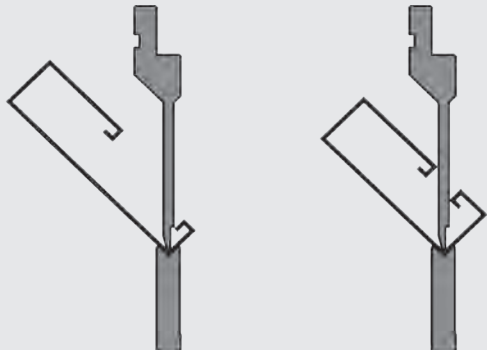
Stage 1



Stage 2

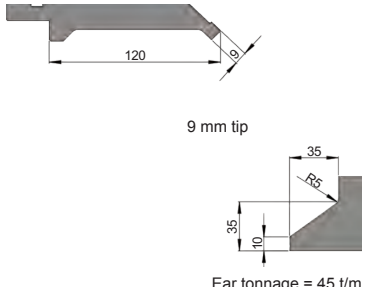


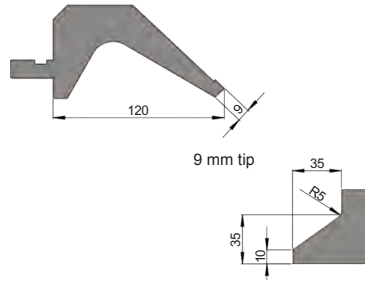
Stage 3



This example shows 3 different profiles in one machine bed set-up

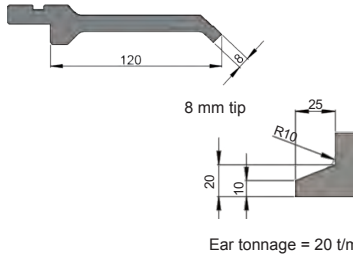
# AFH Punches H=120

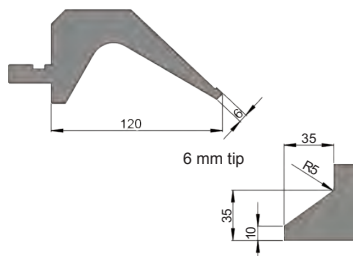
| Angle | Radii | Code    | Length | Price | Tool #804 AFH - 100 t/m                                                                                                       |
|-------|-------|---------|--------|-------|-------------------------------------------------------------------------------------------------------------------------------|
| 86°   | R0.6  | 8048061 | 835 mm | £308  |  <p>9 mm tip</p> <p>Ear tonnage = 45 t/m</p> |
|       |       | 8048062 | 415 mm | £174  |                                                                                                                               |
|       |       | 8048063 | Sec    | £442  |                                                                                                                               |
|       | R1.5  | 8048151 | 835 mm | £346  |                                                                                                                               |
|       |       | 8048152 | 415 mm | £197  |                                                                                                                               |
|       |       | 8048153 | Sec    | £467  |                                                                                                                               |
|       | R3.0  | 8048301 | 835 mm | £368  |                                                                                                                               |
|       |       | 8048302 | 415 mm | £210  |                                                                                                                               |
|       |       | 8048303 | Sec    | £497  |                                                                                                                               |
| 88°   | R0.6  | 8047061 | 835 mm | £308  |                                                                                                                               |
|       |       | 8047062 | 415 mm | £174  |                                                                                                                               |
|       |       | 8047063 | Sec    | £442  |                                                                                                                               |

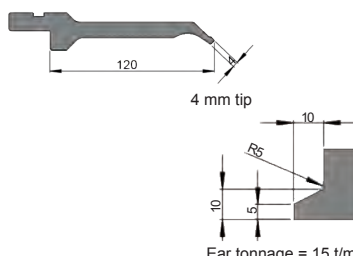
| Angle | Radii | Code    | Length | Price  | Tool #847 AFH - 50 t/m                                                                                                          |
|-------|-------|---------|--------|--------|---------------------------------------------------------------------------------------------------------------------------------|
| 86°   | R0.6  | 8478061 | 835 mm | £757   |  <p>9 mm tip</p> <p>Ear tonnage = 45 t/m</p> |
|       |       | 8478062 | 415 mm | £453   |                                                                                                                                 |
|       |       | 8478063 | Sec    | £1,160 |                                                                                                                                 |
|       | R1.5  | 8478151 | 835 mm | £850   |                                                                                                                                 |
|       |       | 8478152 | 415 mm | £490   |                                                                                                                                 |
|       |       | 8478153 | Sec    | £1,253 |                                                                                                                                 |
|       | R3.0  | 8478301 | 835 mm | £906   |                                                                                                                                 |
|       |       | 8478302 | 415 mm | £503   |                                                                                                                                 |
|       |       | 8478303 | Sec    | £1,220 |                                                                                                                                 |
| 88°   | R0.6  | 8477061 | 835 mm | £757   |                                                                                                                                 |
|       |       | 8477062 | 415 mm | £453   |                                                                                                                                 |
|       |       | 8477063 | Sec    | £1,160 |                                                                                                                                 |

Note: 90° Punches are available on request

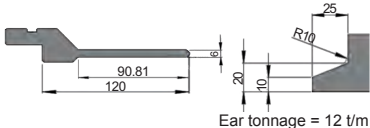
# AFH Punches H=120

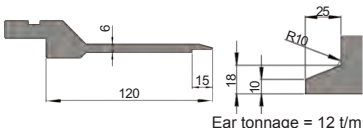
| Angle | Radii | Code    | Length | Price | Tool #820 AFH - 50 t/m                                                            |
|-------|-------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 86°   | R0.6  | 8208061 | 835 mm | £500  |  |
|       |       | 8208062 | 415 mm | £297  |                                                                                   |
|       |       | 8208063 | Sec    | £776  |                                                                                   |
|       | R1.5  | 8208151 | 835 mm | £541  |                                                                                   |
|       |       | 8208152 | 415 mm | £314  |                                                                                   |
|       |       | 8208153 | Sec    | £838  |                                                                                   |
| 88°   | R0.6  | 8207061 | 835 mm | £500  |                                                                                   |
|       |       | 8207062 | 415 mm | £297  |                                                                                   |
|       |       | 8207063 | Sec    | £776  |                                                                                   |

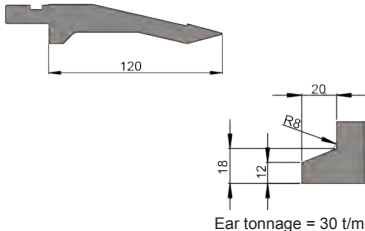
| Angle | Radii | Code    | Length | Price  | Tool #846 AFH - 45 t/m                                                             |
|-------|-------|---------|--------|--------|------------------------------------------------------------------------------------|
| 86°   | R0.6  | 8468061 | 835 mm | £772   |  |
|       |       | 8468062 | 415 mm | £461   |                                                                                    |
|       |       | 8468063 | Sec    | £1,182 |                                                                                    |
| 88°   |       | 8467061 | 835 mm | £772   |                                                                                    |
|       |       | 8467062 | 415 mm | £461   |                                                                                    |
|       |       | 8467063 | Sec    | £1,182 |                                                                                    |

| Angle | Radii | Code    | Length | Price | Tool #817 AFH - 30 t/m                                                              |
|-------|-------|---------|--------|-------|-------------------------------------------------------------------------------------|
| 86°   | R0.6  | 8178061 | 835 mm | £478  |  |
|       |       | 8178062 | 415 mm | £288  |                                                                                     |
|       |       | 8178063 | Sec    | £736  |                                                                                     |
| 88°   |       | 8177061 | 835 mm | £478  |                                                                                     |
|       |       | 8177062 | 415 mm | £288  |                                                                                     |
|       |       | 8177063 | Sec    | £736  |                                                                                     |

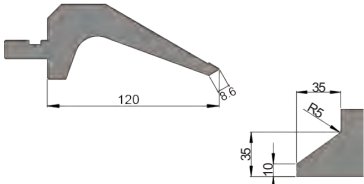
# AFH Punches H=120

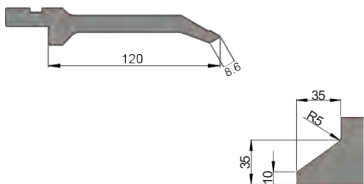
| Angle | Radii | Code    | Length | Price | Tool #813 AFH - 45 t/m                                                            |
|-------|-------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 86°   | R0.6  | 8138061 | 835 mm | £512  |  |
|       |       | 8138062 | 415 mm | £345  |                                                                                   |
|       |       | 8138063 | Sec    | £747  |                                                                                   |

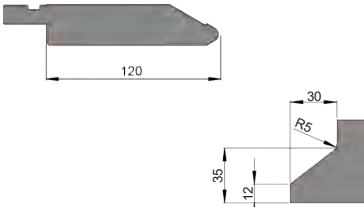
| Angle | Radii | Code    | Length | Price | Tool #814 AFH - 45 t/m                                                            |
|-------|-------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 30°   | R0.6  | 8143061 | 835 mm | £469  |  |
|       |       | 8143062 | 415 mm | £325  |                                                                                   |
|       |       | 8143063 | Sec    | £680  |                                                                                   |

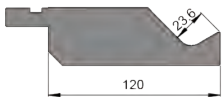
| Angle | Radii | Code    | Length | Price | Tool #831 AFH - 100 t/m                                                            |
|-------|-------|---------|--------|-------|------------------------------------------------------------------------------------|
| 26°   | R0.6  | 8312061 | 835 mm | £537  |  |
|       |       | 8312062 | 415 mm | £276  |                                                                                    |
|       |       | 8312063 | Sec    | £705  |                                                                                    |
| 30°   | R0.6  | 8313061 | 835 mm | £479  |                                                                                    |
|       |       | 8313062 | 415 mm | £246  |                                                                                    |
|       |       | 8313063 | Sec    | £629  |                                                                                    |
|       | R1.5  | 8313151 | 835 mm | £537  |                                                                                    |
|       |       | 8313152 | 415 mm | £276  |                                                                                    |
|       |       | 8313153 | Sec    | £705  |                                                                                    |
|       | R3.0  | 8313301 | 835 mm | £575  |                                                                                    |
|       |       | 8313302 | 415 mm | £296  |                                                                                    |
|       |       | 8313303 | Sec    | £755  |                                                                                    |
|       | R4.0  | 8313401 | 835 mm | £613  |                                                                                    |
|       |       | 8313402 | 415 mm | £315  |                                                                                    |
|       |       | 8313403 | Sec    | £805  |                                                                                    |

# AFH Punches H=120

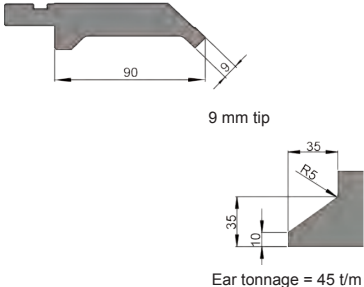
| Angle | Radii | Code    | Length | Price | Tool #841 AFH - 70 t/m                                                                                        |
|-------|-------|---------|--------|-------|---------------------------------------------------------------------------------------------------------------|
| 60°   | R0.6  | 8416061 | 835 mm | £631  |  <p>Ear tonnage = 30 t/m</p> |
|       |       | 8416062 | 415 mm | £352  |                                                                                                               |
|       |       | 8416063 | Sec    | £878  |                                                                                                               |
|       | R1.5  | 8416151 | 835 mm | £707  |                                                                                                               |
|       |       | 8416152 | 415 mm | £394  |                                                                                                               |
|       |       | 8416153 | Sec    | £984  |                                                                                                               |

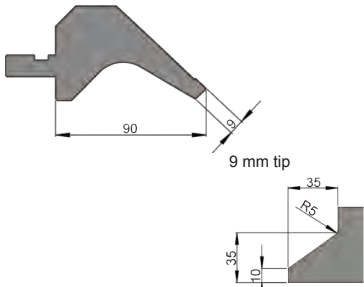
| Angle | Radii | Code    | Length | Price | Tool #840 AFH - 70 t/m                                                                                        |
|-------|-------|---------|--------|-------|---------------------------------------------------------------------------------------------------------------|
| 60°   | R0.6  | 8406061 | 835 mm | £393  |  <p>Ear tonnage = 30 t/m</p> |
|       |       | 8406062 | 415 mm | £234  |                                                                                                               |
|       |       | 8406063 | Sec    | £579  |                                                                                                               |
|       | R1.5  | 8406151 | 835 mm | £440  |                                                                                                               |
|       |       | 8406152 | 415 mm | £252  |                                                                                                               |
|       |       | 8406153 | Sec    | £648  |                                                                                                               |

| Angle | Radii | Code    | Length | Price | Tool #803 AFH - 100 t/m                                                                                         |
|-------|-------|---------|--------|-------|-----------------------------------------------------------------------------------------------------------------|
| 60°   | R6.0  | 8036601 | 835 mm | £417  |  <p>Ear tonnage = 100 t/m</p> |
|       |       | 8036602 | 415 mm | £231  |                                                                                                                 |
|       |       | 8036603 | Sec    | £587  |                                                                                                                 |
|       | R5.0  | 8036501 | 835 mm | £522  |                                                                                                                 |
|       |       | 8036502 | 415 mm | £289  |                                                                                                                 |
|       |       | 8036503 | Sec    | £734  |                                                                                                                 |

| Angle      | Radii | Code    | Length        | Price | Tool #822 AFH - 100 t/m                                                             |
|------------|-------|---------|---------------|-------|-------------------------------------------------------------------------------------|
| Flattening |       | 8220001 | 835 mm        | £492  |  |
|            |       | 8220002 | 415 mm        | £281  |                                                                                     |
|            |       | 8220003 | Sec (no ears) | £734  |                                                                                     |

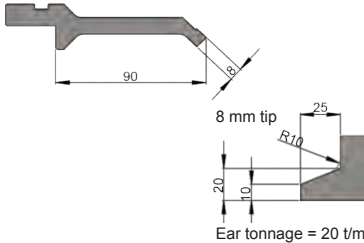
# AFH Punches H=90

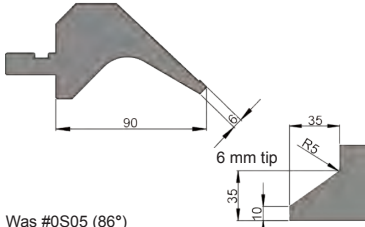
| Angle | Radii | Code    | Length | Price | Tool #704 AFH - 100 t/m                                                                                                       |
|-------|-------|---------|--------|-------|-------------------------------------------------------------------------------------------------------------------------------|
| 86°   | R0.6  | 7048061 | 835 mm | £315  |  <p>9 mm tip</p> <p>Ear tonnage = 45 t/m</p> |
|       |       | 7048062 | 415 mm | £183  |                                                                                                                               |
|       |       | 7048063 | Sec    | £437  |                                                                                                                               |
|       | R1.5  | 7048151 | 835 mm | £318  |                                                                                                                               |
|       |       | 7048152 | 415 mm | £187  |                                                                                                                               |
|       |       | 7048153 | Sec    | £443  |                                                                                                                               |
|       | R3.0  | 7048301 | 835 mm | £336  |                                                                                                                               |
|       |       | 7048302 | 415 mm | £195  |                                                                                                                               |
|       |       | 7048303 | Sec    | £473  |                                                                                                                               |
| 88°   | R0.6  | 7047061 | 835 mm | £315  | <p>Was #0S01 (86°)<br/>Was #0S02 (90°)</p>                                                                                    |
|       |       | 7047062 | 415 mm | £183  |                                                                                                                               |
|       |       | 7047063 | Sec    | £437  |                                                                                                                               |

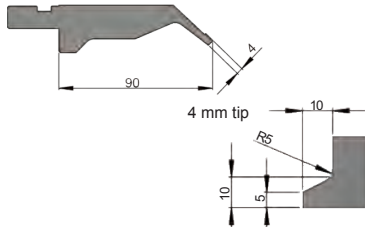
| Angle | Radii | Code    | Length | Price | Tool #747 AFH - 80 t/m                                                                                                          |
|-------|-------|---------|--------|-------|---------------------------------------------------------------------------------------------------------------------------------|
| 86°   | R0.6  | 7478061 | 835 mm | £420  |  <p>9 mm tip</p> <p>Ear tonnage = 45 t/m</p> |
|       |       | 7478062 | 415 mm | £222  |                                                                                                                                 |
|       |       | 7478063 | Sec    | £561  |                                                                                                                                 |
|       | R1.5  | 7478151 | 835 mm | £460  |                                                                                                                                 |
|       |       | 7478152 | 415 mm | £253  |                                                                                                                                 |
|       |       | 7478153 | Sec    | £593  |                                                                                                                                 |
|       | R3.0  | 7478301 | 835 mm | £509  |                                                                                                                                 |
|       |       | 7478302 | 415 mm | £282  |                                                                                                                                 |
|       |       | 7478303 | Sec    | £662  |                                                                                                                                 |
| 88°   | R0.6  | 7477061 | 835 mm | £420  | <p>Was #452 (88°)</p>                                                                                                           |
|       |       | 7477062 | 415 mm | £222  |                                                                                                                                 |
|       |       | 7477063 | Sec    | £561  |                                                                                                                                 |

Note: 90° Punches are available on request

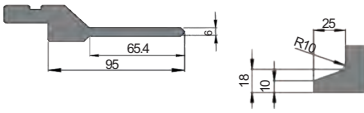
# AFH Punches H=90

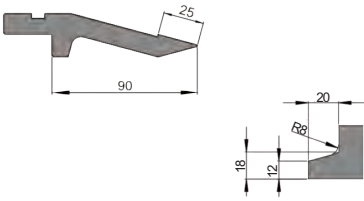
| Angle | Radii | Code    | Length | Price | Tool #720 AFH - 50 t/m                                                                                   |
|-------|-------|---------|--------|-------|----------------------------------------------------------------------------------------------------------|
| 86°   | R0.6  | 7208061 | 835 mm | £471  |  <p>Was #0S03 (86°)</p> |
|       |       | 7208062 | 415 mm | £279  |                                                                                                          |
|       |       | 7208063 | Sec    | £750  |                                                                                                          |
|       | R1.5  | 7208151 | 835 mm | £471  |                                                                                                          |
|       |       | 7208152 | 415 mm | £279  |                                                                                                          |
|       |       | 7208153 | Sec    | £750  |                                                                                                          |
| 88°   | R0.6  | 7207061 | 835 mm | £471  |                                                                                                          |
|       |       | 7207062 | 415 mm | £279  |                                                                                                          |
|       |       | 7207063 | Sec    | £750  |                                                                                                          |

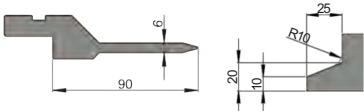
| Angle | Radii | Code    | Length | Price | Tool #746 AFH - 55 t/m                                                                                                                                   |
|-------|-------|---------|--------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 86°   | R0.6  | 7468061 | 835 mm | £477  |  <p>Was #0S05 (86°)<br/>Was #453 (88°)</p> <p>Ear tonnage = 35 t/m</p> |
|       |       | 7468062 | 415 mm | £258  |                                                                                                                                                          |
|       |       | 7468063 | Sec    | £608  |                                                                                                                                                          |
| 88°   |       | 7467061 | 835 mm | £477  |                                                                                                                                                          |
|       |       | 7467062 | 415 mm | £258  |                                                                                                                                                          |
|       |       | 7467063 | Sec    | £608  |                                                                                                                                                          |

| Angle | Radii | Code    | Length | Price | Tool #717 AFH - 20 t/m                                                              |
|-------|-------|---------|--------|-------|-------------------------------------------------------------------------------------|
| 86°   | R0.6  | 7178061 | 835 mm | £482  |  |
|       |       | 7178062 | 415 mm | £280  |                                                                                     |
|       |       | 7178063 | Sec    | £656  |                                                                                     |
| 88°   |       | 7177061 | 835 mm | £482  |                                                                                     |
|       |       | 7177062 | 415 mm | £280  |                                                                                     |
|       |       | 7177063 | Sec    | £656  |                                                                                     |

# AFH Punches H=90

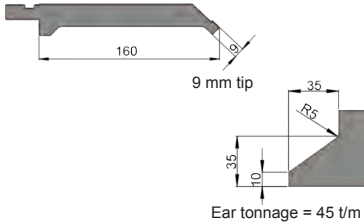
| Angle | Radii | Code   | Length | Price | Tool #109 AFH - 50 t/m                                                                                        |
|-------|-------|--------|--------|-------|---------------------------------------------------------------------------------------------------------------|
| 88°   | R0.6  | 109061 | 835 mm | £360  |  <p>Ear tonnage = 12 t/m</p> |
|       |       | 109062 | 415 mm | £211  |                                                                                                               |
|       |       | 107061 | Sec    | £643  |                                                                                                               |

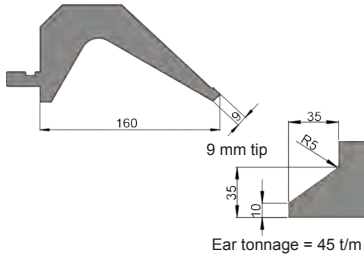
| Angle | Radii | Code    | Length | Price | Tool #731 AFH - 100 t/m                                                                                       |
|-------|-------|---------|--------|-------|---------------------------------------------------------------------------------------------------------------|
| 30°   | R0.6  | 7313061 | 835 mm | £408  |  <p>Ear tonnage = 30 t/m</p> |
|       |       | 7313062 | 415 mm | £232  |                                                                                                               |
|       |       | 7313063 | Sec    | £520  |                                                                                                               |
|       | R1.5  | 7313151 | 835 mm | £448  |                                                                                                               |
|       |       | 7313152 | 415 mm | £264  |                                                                                                               |
|       |       | 7313153 | Sec    | £625  |                                                                                                               |
|       | R3.0  | 7313301 | 835 mm | £488  |                                                                                                               |
|       |       | 7313302 | 415 mm | £289  |                                                                                                               |
|       |       | 7313303 | Sec    | £686  |                                                                                                               |

| Angle | Radii | Code    | Length | Price | Tool #713 AFH - 45 t/m                                                                                          |
|-------|-------|---------|--------|-------|-----------------------------------------------------------------------------------------------------------------|
| 30°   | R0.6  | 7133061 | 835 mm | £434  |  <p>Ear tonnage = 12 t/m</p> |
|       |       | 7133062 | 415 mm | £250  |                                                                                                                 |
|       |       | 7133063 | Sec    | £649  |                                                                                                                 |

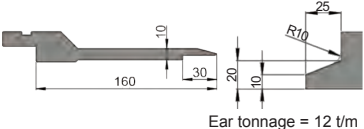


# AFH Punches H=160

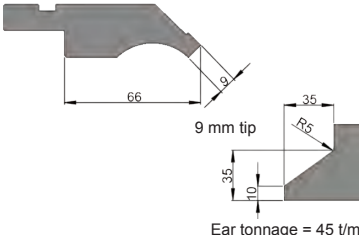
| Angle | Radii | Code    | Length | Price  | Tool #904 AFH - 100 t/m                                                           |
|-------|-------|---------|--------|--------|-----------------------------------------------------------------------------------|
| 86°   | R0.6  | 9048061 | 835 mm | £930   |  |
|       |       | 9048062 | 415 mm | £556   |                                                                                   |
|       |       | 9048063 | Sec    | £1,135 |                                                                                   |
|       | R1.5  | 9048151 | 835 mm | £948   |                                                                                   |
|       |       | 9048152 | 415 mm | £565   |                                                                                   |
|       |       | 9048153 | Sec    | £1,154 |                                                                                   |
|       | R3.0  | 9048301 | 835 mm | £968   |                                                                                   |
|       |       | 9048302 | 415 mm | £574   |                                                                                   |
|       |       | 9048303 | Sec    | £1,175 |                                                                                   |
| 88°   | R0.6  | 9047061 | 835 mm | £930   |                                                                                   |
|       |       | 9047062 | 415 mm | £556   |                                                                                   |
|       |       | 9047063 | Sec    | £1,135 |                                                                                   |

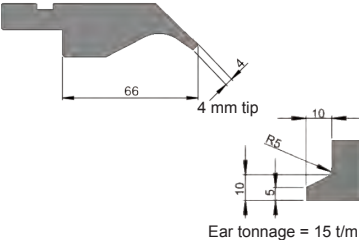
| Angle | Radii | Code    | Length | Price  | Tool #947 AFH - 50 t/m                                                              |
|-------|-------|---------|--------|--------|-------------------------------------------------------------------------------------|
| 86°   | R0.6  | 9478061 | 835 mm | £1,318 |  |
|       |       | 9478062 | 415 mm | £777   |                                                                                     |
|       |       | 9478063 | Sec    | £1,674 |                                                                                     |
|       | R1.5  | 9478151 | 835 mm | £1,367 |                                                                                     |
|       |       | 9478152 | 415 mm | £821   |                                                                                     |
|       |       | 9478153 | Sec    | £1,726 |                                                                                     |
|       | R3.0  | 9478301 | 835 mm | £1,371 |                                                                                     |
|       |       | 9478302 | 415 mm | £842   |                                                                                     |
|       |       | 9478303 | Sec    | £1,771 |                                                                                     |
| 88°   | R0.6  | 9477061 | 835 mm | £1,318 | <p>Was #472 (88°)</p>                                                               |
|       |       | 9477062 | 415 mm | £777   |                                                                                     |
|       |       | 9477063 | Sec    | £1,674 |                                                                                     |

# AFH Punches H=160

| Angle | Radii | Code    | Length | Price  | Tool #914 AFH - 45 t/m                                                                                        |
|-------|-------|---------|--------|--------|---------------------------------------------------------------------------------------------------------------|
| 30°   | R0.6  | 9143061 | 835 mm | £1,087 |  <p>Ear tonnage = 12 t/m</p> |
|       |       | 9143062 | 415 mm | £607   |                                                                                                               |
|       |       | 9143063 | Sec    | £1,369 |                                                                                                               |

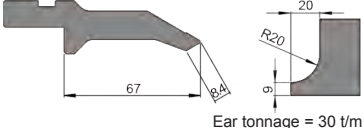
# AFH Punches H=70

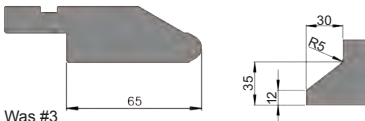
| Angle | Radii | Code    | Length | Price | Tool #604 - 100 t/m                                                                                                     |
|-------|-------|---------|--------|-------|-------------------------------------------------------------------------------------------------------------------------|
| 88°   | R0.2  | 6047021 | 835 mm | £195  |  <p>Was #4 (88°)<br/>Was #16 (90°)</p> |
|       |       | 6047022 | 415 mm | £113  |                                                                                                                         |
|       |       | 6047023 | Sec    | £293  |                                                                                                                         |
|       | R0.6  | 6047061 | 835 mm | £195  |                                                                                                                         |
|       |       | 6047062 | 415 mm | £113  |                                                                                                                         |
|       |       | 6047063 | Sec    | £293  |                                                                                                                         |
|       | R0.8  | 6047081 | 835 mm | £195  |                                                                                                                         |
|       |       | 6047082 | 415 mm | £113  |                                                                                                                         |
|       |       | 6047083 | Sec    | £293  |                                                                                                                         |
|       | R1.5  | 6047151 | 835 mm | £195  |                                                                                                                         |
|       |       | 6047152 | 415 mm | £113  |                                                                                                                         |
|       |       | 6047153 | Sec    | £293  |                                                                                                                         |
|       | R3.0  | 6047301 | 835 mm | £195  |                                                                                                                         |
|       |       | 6047302 | 415 mm | £113  |                                                                                                                         |
|       |       | 6047303 | Sec    | £293  |                                                                                                                         |

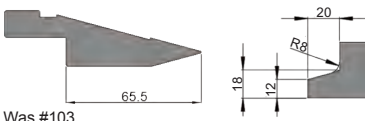
| Angle | Radii | Code    | Length | Price | Tool #617 - 30 t/m                                                                                                           |
|-------|-------|---------|--------|-------|------------------------------------------------------------------------------------------------------------------------------|
| 88°   | R0.2  | 6177021 | 835 mm | £368  |  <p>Was #117 (88°)<br/>Was #116 (90°)</p> |
|       |       | 6177022 | 415 mm | £211  |                                                                                                                              |
|       |       | 6177023 | Sec    | £552  |                                                                                                                              |
|       | R0.6  | 6177061 | 835 mm | £368  |                                                                                                                              |
|       |       | 6177062 | 415 mm | £211  |                                                                                                                              |
|       |       | 6177063 | Sec    | £552  |                                                                                                                              |
|       | R0.8  | 6177081 | 835 mm | £368  |                                                                                                                              |
|       |       | 6177082 | 415 mm | £211  |                                                                                                                              |
|       |       | 6177083 | Sec    | £552  |                                                                                                                              |

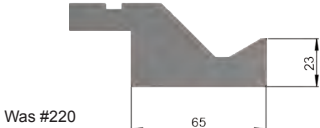
Note: 90° Punches are available on request

# Punches H=70

| Angle | Radii | Code    | Length | Price | Tool #640 - 100 t/m                                                                                       |
|-------|-------|---------|--------|-------|-----------------------------------------------------------------------------------------------------------|
| 60°   | R0.8  | 6406081 | 835 mm | £338  |  <p>Was #704 or #705</p> |
|       |       | 6406082 | 415 mm | £240  |                                                                                                           |
|       |       | 6406083 | Sec    | £486  |                                                                                                           |
|       | R2.0  | 6406201 | 835 mm | £338  |                                                                                                           |
|       |       | 6406202 | 415 mm | £240  |                                                                                                           |
|       |       | 6406203 | Sec    | £486  |                                                                                                           |

| Angle | Radii | Code    | Length | Price | Tool #603 - 100 t/m                                                                             |
|-------|-------|---------|--------|-------|-------------------------------------------------------------------------------------------------|
| 60°   | R6.0  | 6036601 | 835 mm | £355  |  <p>Was #3</p> |
|       |       | 6036602 | 415 mm | £200  |                                                                                                 |
|       |       | 6036603 | Sec    | £532  |                                                                                                 |

| Angle | Radii | Code    | Length | Price | Tool #631 - 100 t/m                                                                               |
|-------|-------|---------|--------|-------|---------------------------------------------------------------------------------------------------|
| 30°   | R0.52 | 6313051 | 835 mm | £269  |  <p>Was #103</p> |
|       |       | 6313052 | 415 mm | £159  |                                                                                                   |
|       |       | 6313053 | Sec    | £396  |                                                                                                   |

| Angle      | Radii | Code    | Length | Price | Tool #622 - 100 t/m                                                                                 |
|------------|-------|---------|--------|-------|-----------------------------------------------------------------------------------------------------|
| Flattening |       | 6220001 | 835 mm | £431  |  <p>Was #220</p> |
|            |       | 6220002 | 415 mm | £241  |                                                                                                     |



846001

86" RD. 6 (.024)

(16.339)

ALLOWABLE TONNAGE

MAX: 450 kN/m (45 ton/m)

MAX: 14 TON/FOOT

F-6a

MADE IN AUSTRIA

AMANT

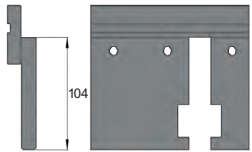


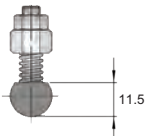
A.F.B. 871913  
RD. 10.1 (0.25)  
(16.339)

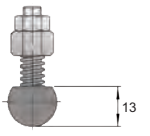
ALLOWABLE TONNAGE  
MAX: 450 kN/m (45 ton/m)  
MAX: 14 TON/FOOT

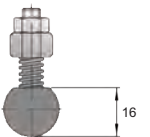
# Radius Punches

|  | Radii | Code    | Length | Price | Tool #0150 Holder - 100 t/m                                                                      |
|--|-------|---------|--------|-------|--------------------------------------------------------------------------------------------------|
|  |       | 0150001 | 830 mm | £227  |  <p>Was #15</p> |
|  |       | 0150002 | 412 mm | £136  |                                                                                                  |

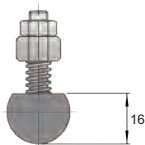
|  | Radii | Code    | Length | Price | Tool #0160 Holder - 100 t/m                                                       |
|--|-------|---------|--------|-------|-----------------------------------------------------------------------------------|
|  |       | 0160001 | 830 mm | £296  |  |
|  |       | 0160002 | 412 mm | £194  |                                                                                   |

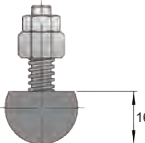
|  | Radii | Code    | Length | Price | Tool #17 - 100 t/m                                                                |
|--|-------|---------|--------|-------|-----------------------------------------------------------------------------------|
|  | R7.0  | 0170071 | 835 mm | £112  |  |
|  |       | 0170072 | 415 mm | £62   |                                                                                   |

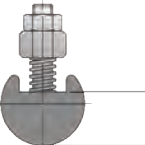
|  | Radii | Code    | Length | Price | Tool #17 - 100 t/m                                                                  |
|--|-------|---------|--------|-------|-------------------------------------------------------------------------------------|
|  | R8.0  | 0170081 | 835 mm | £119  |  |
|  |       | 0170082 | 415 mm | £64   |                                                                                     |

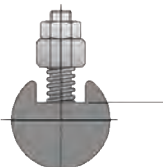
|  | Radii | Code    | Length | Price | Tool #17 - 100 t/m                                                                  |
|--|-------|---------|--------|-------|-------------------------------------------------------------------------------------|
|  | R9.0  | 0170091 | 835 mm | £131  |  |
|  |       | 0170092 | 415 mm | £70   |                                                                                     |

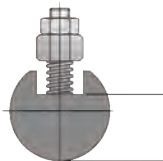
# Radius Punches

|  | Radii | Code    | Length | Price | Tool #17 - 100 t/m                                                                |
|--|-------|---------|--------|-------|-----------------------------------------------------------------------------------|
|  | R10.0 | 0170101 | 835 mm | £67   |  |
|  |       | 0170102 | 415 mm | £42   |                                                                                   |

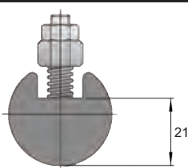
|  | Radii | Code    | Length | Price | Tool #17 - 100 t/m                                                                |
|--|-------|---------|--------|-------|-----------------------------------------------------------------------------------|
|  | R11.0 | 0170111 | 835 mm | £162  |  |
|  |       | 0170112 | 415 mm | £88   |                                                                                   |

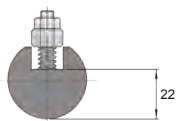
|  | Radii | Code    | Length | Price | Tool #17 - 100 t/m                                                                |
|--|-------|---------|--------|-------|-----------------------------------------------------------------------------------|
|  | R12.5 | 0170121 | 835 mm | £174  |  |
|  |       | 0170122 | 415 mm | £96   |                                                                                   |

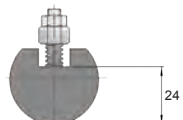
|  | Radii | Code    | Length | Price | Tool #17 - 100 t/m                                                                  |
|--|-------|---------|--------|-------|-------------------------------------------------------------------------------------|
|  | R14.0 | 0170141 | 835 mm | £183  |  |
|  |       | 0170142 | 415 mm | £100  |                                                                                     |

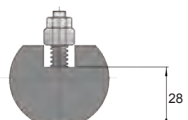
|  | Radii | Code    | Length | Price | Tool #17 - 100 t/m                                                                  |
|--|-------|---------|--------|-------|-------------------------------------------------------------------------------------|
|  | R15.0 | 0170151 | 835 mm | £94   |  |
|  |       | 0170152 | 415 mm | £52   |                                                                                     |

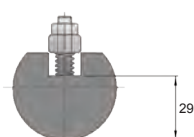
# Radius Punches

|  | Radii | Code    | Length | Price | Tool #17 - 100 t/m                                                                |
|--|-------|---------|--------|-------|-----------------------------------------------------------------------------------|
|  | R16.0 | 0170161 | 835 mm | £200  |  |
|  |       | 0170162 | 415 mm | £112  |                                                                                   |

|  | Radii | Code    | Length | Price | Tool #17 - 100 t/m                                                                |
|--|-------|---------|--------|-------|-----------------------------------------------------------------------------------|
|  | R17.5 | 0170171 | 835 mm | £95   |  |
|  |       | 0170172 | 415 mm | £60   |                                                                                   |

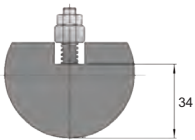
|  | Radii | Code    | Length | Price | Tool #17 - 100 t/m                                                                |
|--|-------|---------|--------|-------|-----------------------------------------------------------------------------------|
|  | R20.0 | 0170201 | 835 mm | £118  |  |
|  |       | 0170202 | 415 mm | £73   |                                                                                   |

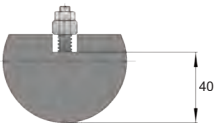
|  | Radii | Code    | Length | Price | Tool #17 - 100 t/m                                                                  |
|--|-------|---------|--------|-------|-------------------------------------------------------------------------------------|
|  | R22.5 | 0170221 | 835 mm | £243  |  |
|  |       | 0170222 | 415 mm | £147  |                                                                                     |

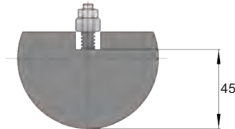
|  | Radii | Code    | Length | Price | Tool #17 - 100 t/m                                                                  |
|--|-------|---------|--------|-------|-------------------------------------------------------------------------------------|
|  | R25.0 | 0170251 | 835 mm | £135  |  |
|  |       | 0170252 | 415 mm | £81   |                                                                                     |

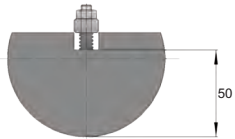


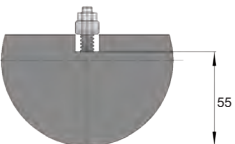
# Radius Punches

|  | Radii | Code    | Length | Price | Tool #17 - 100 t/m                                                                |
|--|-------|---------|--------|-------|-----------------------------------------------------------------------------------|
|  | R30.0 | 0170301 | 835 mm | £167  |  |
|  |       | 0170302 | 415 mm | £96   |                                                                                   |

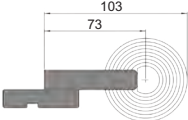
|  | Radii | Code    | Length | Price | Tool #17 - 100 t/m                                                                |
|--|-------|---------|--------|-------|-----------------------------------------------------------------------------------|
|  | R35.0 | 0170351 | 835 mm | £406  |  |
|  |       | 0170352 | 415 mm | £243  |                                                                                   |

|  | Radii | Code    | Length | Price | Tool #17 - 100 t/m                                                                |
|--|-------|---------|--------|-------|-----------------------------------------------------------------------------------|
|  | R40.0 | 0170401 | 835 mm | £440  |  |
|  |       | 0170402 | 415 mm | £260  |                                                                                   |

|  | Radii | Code    | Length | Price | Tool #17 - 100 t/m                                                                  |
|--|-------|---------|--------|-------|-------------------------------------------------------------------------------------|
|  | R45.0 | 0170451 | 835 mm | £500  |  |
|  |       | 0170452 | 415 mm | £289  |                                                                                     |

|  | Radii | Code    | Length | Price | Tool #17 - 100 t/m                                                                  |
|--|-------|---------|--------|-------|-------------------------------------------------------------------------------------|
|  | R50.0 | 0170501 | 835 mm | £517  |  |
|  |       | 0170502 | 415 mm | £297  |                                                                                     |

# Colour Radius Punches

|  | Radii | Code   | Length | Price  | Tool #CR30 - 50 t/m                                                               |
|--|-------|--------|--------|--------|-----------------------------------------------------------------------------------|
|  |       | 730001 | 835 mm | £859   |  |
|  |       | 730002 | 415 mm | £636   |                                                                                   |
|  |       | 730801 | Sec*   | £1,320 |                                                                                   |

|  | Radii | Code   | Length | Price | Yellow                                                                            |
|--|-------|--------|--------|-------|-----------------------------------------------------------------------------------|
|  | R12.5 | 03YE01 | 835 mm | £78   |  |
|  |       | 03YE02 | 415 mm | £63   |                                                                                   |
|  |       | 03BYE1 | Sec*   | £109  |                                                                                   |

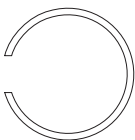
|  | Radii | Code   | Length | Price | Red                                                                               |
|--|-------|--------|--------|-------|-----------------------------------------------------------------------------------|
|  | R15.0 | 03RE01 | 835 mm | £78   |  |
|  |       | 03RE02 | 415 mm | £63   |                                                                                   |
|  |       | 03BRE1 | Sec*   | £109  |                                                                                   |

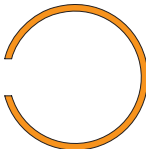
|  | Radii | Code   | Length | Price | Black                                                                               |
|--|-------|--------|--------|-------|-------------------------------------------------------------------------------------|
|  | R17.5 | 03BR01 | 835 mm | £78   |  |
|  |       | 03BR02 | 415 mm | £63   |                                                                                     |
|  |       | 03BBR1 | Sec*   | £109  |                                                                                     |

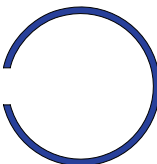
|  | Radii | Code   | Length | Price | Light Blue                                                                          |
|--|-------|--------|--------|-------|-------------------------------------------------------------------------------------|
|  | R20.0 | 03SB01 | 835 mm | £78   |  |
|  |       | 03SB02 | 415 mm | £63   |                                                                                     |
|  |       | 03BSB1 | Sec*   | £109  |                                                                                     |

# Colour Radius Punches

|  | Radii | Code   | Length | Price | Green                                                                             |
|--|-------|--------|--------|-------|-----------------------------------------------------------------------------------|
|  | R22.5 | 03GR01 | 835 mm | £78   |  |
|  |       | 03GR02 | 415 mm | £63   |                                                                                   |
|  |       | 03BGR1 | Sec*   | £109  |                                                                                   |

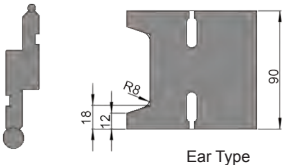
|  | Radii | Code   | Length | Price | White                                                                             |
|--|-------|--------|--------|-------|-----------------------------------------------------------------------------------|
|  | R25.0 | 03HD01 | 835 mm | £78   |  |
|  |       | 03HD02 | 415 mm | £63   |                                                                                   |
|  |       | 03BHD1 | Sec*   | £109  |                                                                                   |

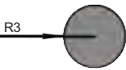
|  | Radii | Code   | Length | Price | Orange                                                                            |
|--|-------|--------|--------|-------|-----------------------------------------------------------------------------------|
|  | R27.5 | 03OR01 | 835 mm | £78   |  |
|  |       | 03OR02 | 415 mm | £63   |                                                                                   |
|  |       | 03BOR1 | Sec*   | £109  |                                                                                   |

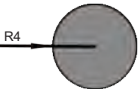
|  | Radii | Code   | Length | Price | Dark Blue                                                                           |
|--|-------|--------|--------|-------|-------------------------------------------------------------------------------------|
|  | R30.0 | 03BU01 | 835 mm | £78   |  |
|  |       | 03BU02 | 415 mm | £63   |                                                                                     |
|  |       | 03BBU1 | Sec*   | £109  |                                                                                     |

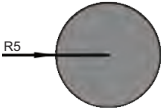
\* Sec length: 25, 40, 50, 100, 120, 200, 300 = 835 mm

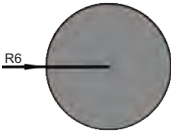
# Multi-Radius Punches

|  | Radii | Code   | Length | Price  | Tool #91 Holder                                                                   |
|--|-------|--------|--------|--------|-----------------------------------------------------------------------------------|
|  |       | 691001 | 835 mm | £880   |  |
|  |       | 691002 | 415 mm | £592   |                                                                                   |
|  |       | 691801 | Sec*   | £1,025 |                                                                                   |

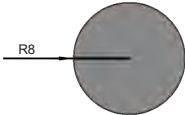
|  | Radii | Code   | Length | Price | Tool #90                                                                          |
|--|-------|--------|--------|-------|-----------------------------------------------------------------------------------|
|  | R3.0  | 090301 | 835 mm | £193  |  |
|  |       | 090302 | 415 mm | £135  |                                                                                   |
|  |       | 090831 | Sec*   | £211  |                                                                                   |

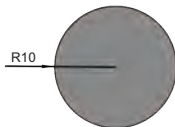
|  | Radii | Code   | Length | Price | Tool #90                                                                          |
|--|-------|--------|--------|-------|-----------------------------------------------------------------------------------|
|  | R4.0  | 090401 | 835 mm | £193  |  |
|  |       | 090402 | 415 mm | £135  |                                                                                   |
|  |       | 090841 | Sec*   | £211  |                                                                                   |

|  | Radii | Code   | Length | Price | Tool #90                                                                            |
|--|-------|--------|--------|-------|-------------------------------------------------------------------------------------|
|  | R5.0  | 090501 | 835 mm | £193  |  |
|  |       | 090502 | 415 mm | £135  |                                                                                     |
|  |       | 090851 | Sec*   | £211  |                                                                                     |

|  | Radii | Code   | Length | Price | Tool #90                                                                            |
|--|-------|--------|--------|-------|-------------------------------------------------------------------------------------|
|  | R6.0  | 090601 | 835 mm | £193  |  |
|  |       | 090602 | 415 mm | £135  |                                                                                     |
|  |       | 090861 | Sec*   | £211  |                                                                                     |

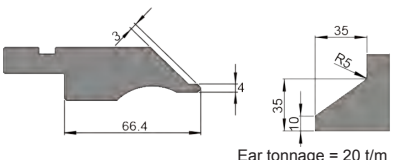
# Multi-Radius Punches

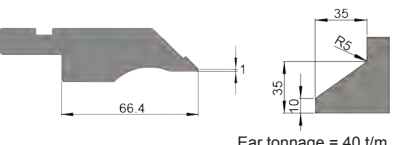
|  | Radii | Code   | Length | Price | Tool #90                                                                          |
|--|-------|--------|--------|-------|-----------------------------------------------------------------------------------|
|  | R8.0  | 090801 | 835 mm | £193  |  |
|  |       | 090802 | 415 mm | £135  |                                                                                   |
|  |       | 090881 | Sec*   | £211  |                                                                                   |

|  | Radii | Code   | Length | Price | Tool #90                                                                          |
|--|-------|--------|--------|-------|-----------------------------------------------------------------------------------|
|  | R10.0 | 090101 | 835 mm | £193  |  |
|  |       | 090102 | 415 mm | £135  |                                                                                   |
|  |       | 090811 | Sec*   | £211  |                                                                                   |

\* Sec length: 100 (ear), 20, 25, 30, 35, 40, 50, 70, 165, 200, 100 (ear) = 835 mm

# Burring Punches

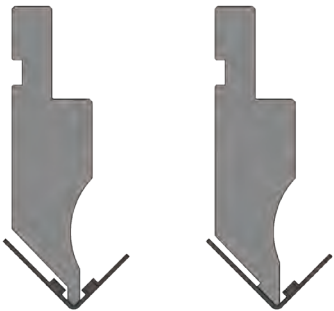
| Angle | Radii | Code   | Length | Price | Tool #486 - 40 t/m                                                                 |
|-------|-------|--------|--------|-------|------------------------------------------------------------------------------------|
| 88°   | R0.6  | 604861 | 835 mm | £411  |  |
|       |       | 604862 | 415 mm | £251  |                                                                                    |
|       |       | 648861 | Sec*   | £566  |                                                                                    |

| Angle | Radii | Code   | Length | Price | Tool #496 - 80 t/m                                                                 |
|-------|-------|--------|--------|-------|------------------------------------------------------------------------------------|
| 88°   | R0.6  | 604961 | 835 mm | £377  |  |
|       |       | 604962 | 415 mm | £219  |                                                                                    |
|       |       | 648961 | Sec*   | £493  |                                                                                    |

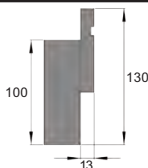
\* Sec length: 100 (ear), 10, 15, 20, 40, 50, 200, 300, 100 (ear) = 835 mm

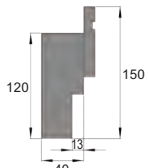
## Burring Punches

Components with burred or extruded holes can be formed easily without interference



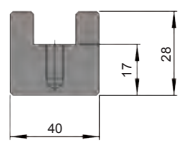
# Special Punch Holders

| Machine Type                        | Code   | Length | Price | Tool #225                                                                         |
|-------------------------------------|--------|--------|-------|-----------------------------------------------------------------------------------|
| Machines with open height of 300 mm | 225002 | 415 mm | £170  |  |

| Machine Type                                | Code   | Length | Price | Tool #227                                                                         |
|---------------------------------------------|--------|--------|-------|-----------------------------------------------------------------------------------|
| Machines with open height of 370 mm or more | 227002 | 415 mm | £310  |  |

Above holders to be used in place of standard distance pieces when the required bend tonnage exceeds 100 t/m

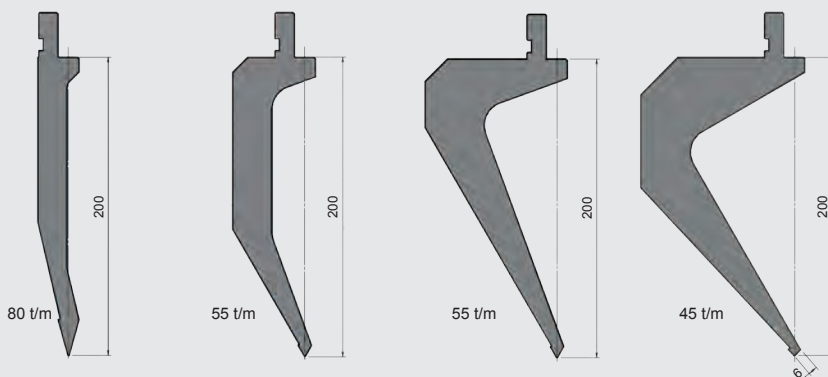
## Flattening

| Angle      | Radii | Code    | Length | Price | Tool #020                                                                                         |
|------------|-------|---------|--------|-------|---------------------------------------------------------------------------------------------------|
| Flattening |       | 0200001 | 835 mm | £98   |  <p>Was #20</p> |
|            |       | 0200002 | 415 mm | £58   |                                                                                                   |

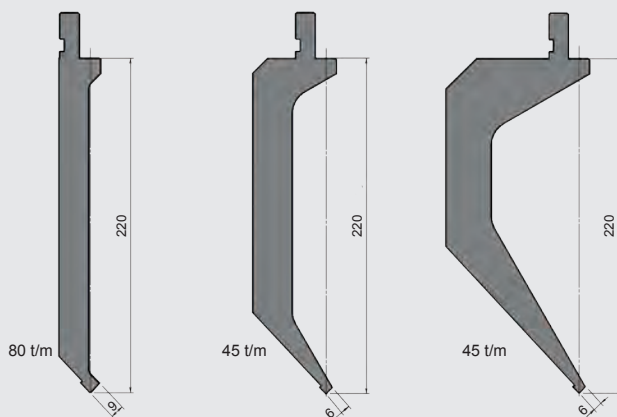




# Semi-Standard Tooling

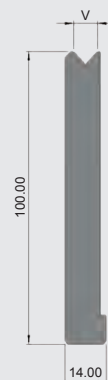


| Type   | 831    | 841 W55 | 841 W95 | 846 W110 |
|--------|--------|---------|---------|----------|
| Angle  | 30°    | 60°     | 60°     | 86°      |
| Radii  | R0.6   | R0.6    | R0.6    | R0.6     |
| Height | 200 mm | 200 mm  | 200 mm  | 200 mm   |
| Length | 415 mm | 415 mm  | 415 mm  | 415 mm   |



| Type   | 804    | 846 W55 | 846 W95 |
|--------|--------|---------|---------|
| Angle  | 86°    | 86°     | 86°     |
| Radii  | R0.6   | R0.6    | R0.6    |
| Height | 220 mm | 220 mm  | 220 mm  |
| Length | 415 mm | 415 mm  | 415 mm  |

Semi-Standard Dies



All AFH standard dies, up to V25, can be ordered with 100 mm special height.

1. Special tip radius, special sectionalized lengths and ear profiles available on request
2. See pages 105 to 111 for return bend area details

Price: POA

# Clamps

| Code   | Price | AGRIP M                                                                           |
|--------|-------|-----------------------------------------------------------------------------------|
| 905200 | £560  |  |

| Code                | Price | SGRIP                                                                             | SGRIP Rear Clamp Assy                                                             |
|---------------------|-------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| 903100 (SGRIP)      | £368  |  |  |
| 903300 (Rear Clamp) | £101  |                                                                                   |                                                                                   |

| Code   | Price | Fast Clamp                                                                        |
|--------|-------|-----------------------------------------------------------------------------------|
| 980000 | £83   |  |

**Note:** Requires 2-off C10549 (Bolt)  
& 2-off C52487 (Spring)  
Please ask for prices

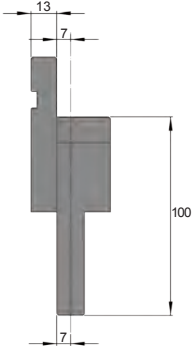
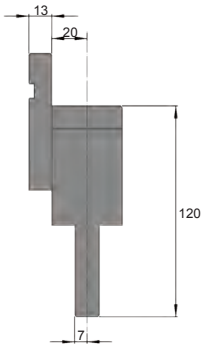
| Code   | Price | Quick Release                                                                       |
|--------|-------|-------------------------------------------------------------------------------------|
| C58621 | POA   |  |

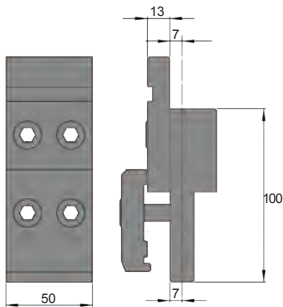
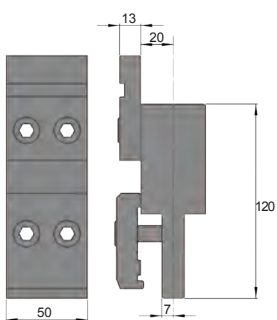
**Note:** Includes bolts and springs

| Code   | Price | Standard                                                                            |
|--------|-------|-------------------------------------------------------------------------------------|
| 961000 | £35   |  |

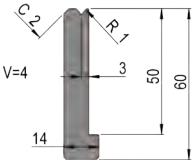
**Note:** Requires 2-off C10549 (Bolt)  
& 2-off C52487 (Spring)  
Please ask for prices

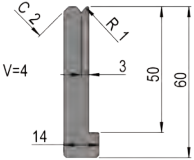
# Distance Pieces

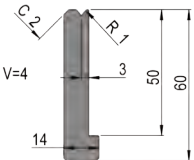
| Code          | Price | ZI Standard                                                                       | ZII Standard                                                                      |
|---------------|-------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| C58652<br>ZI  | POA   |  |  |
| C58654<br>ZII | POA   |                                                                                   |                                                                                   |

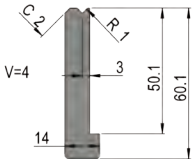
| Code          | Price | ZI Narrow                                                                          | ZII Narrow                                                                         |
|---------------|-------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| 912000<br>ZI  | £287  |  |  |
| 913000<br>ZII | £287  |                                                                                    |                                                                                    |

# AFH 1V Dies V=4

| Angle | V-Size | Code    | Length | Price | Tool #0848 AFH - 75 t/m                                                           |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 86°   | V4     | 0848101 | 835 mm | £490  |  |
|       |        | 0848102 | 415 mm | £268  |                                                                                   |
|       |        | 0848103 | Sec    | £595  |                                                                                   |

| Angle | V-Size | Code    | Length | Price | Tool #0847 AFH - 75 t/m                                                           |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 88°   | V4     | 0847101 | 835 mm | £490  |  |
|       |        | 0847102 | 415 mm | £268  |                                                                                   |
|       |        | 0847103 | Sec    | £595  |                                                                                   |

| Angle | V-Size | Code    | Length | Price | Tool #0849 AFH - 75 t/m                                                           |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 90°   | V4     | 0849101 | 835 mm | £490  |  |
|       |        | 0849102 | 415 mm | £268  |                                                                                   |
|       |        | 0849103 | Sec    | £595  |                                                                                   |

| Angle | V-Size | Code    | Length | Price | Tool #1848 STAGED - 75 t/m                                                          |
|-------|--------|---------|--------|-------|-------------------------------------------------------------------------------------|
| 86°   | V4     | 1848101 | 835 mm | £490  |  |
|       |        | 1848102 | 415 mm | £268  |                                                                                     |
|       |        | 1848103 | Sec    | £595  |                                                                                     |

Was #OS84

# AFH 1V Dies V=6

| Angle | V-Size | Code    | Length | Price | Tool #0708 AFH - 80 t/m |
|-------|--------|---------|--------|-------|-------------------------|
| 86°   | V6     | 0708151 | 835 mm | £306  |                         |
|       |        | 0708152 | 415 mm | £172  |                         |
|       |        | 0708153 | Sec    | £369  |                         |

| Angle | V-Size | Code    | Length | Price | Tool #0707 AFH - 80 t/m |
|-------|--------|---------|--------|-------|-------------------------|
| 88°   | V6     | 0707151 | 835 mm | £306  |                         |
|       |        | 0707152 | 415 mm | £172  |                         |
|       |        | 0707153 | Sec    | £369  |                         |

| Angle | V-Size | Code    | Length | Price | Tool #0709 AFH - 80 t/m |
|-------|--------|---------|--------|-------|-------------------------|
| 90°   | V6     | 0709151 | 835 mm | £306  |                         |
|       |        | 0709152 | 415 mm | £172  |                         |
|       |        | 0709153 | Sec    | £369  |                         |

Was #70

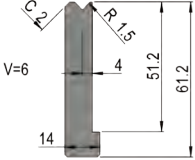
| Angle | V-Size | Code    | Length | Price | Tool #0703 AFH - 50 t/m |
|-------|--------|---------|--------|-------|-------------------------|
| 30°   | V6     | 0703101 | 835 mm | £490  |                         |
|       |        | 0703102 | 415 mm | £268  |                         |
|       |        | 0703103 | Sec    | £595  |                         |

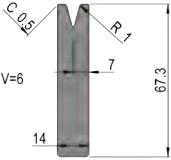
Was #14006

| Angle | V-Size | Code    | Length | Price | Tool #0706 AFH - 38 t/m |
|-------|--------|---------|--------|-------|-------------------------|
| 60°   | V6     | 0706061 | 835 mm | £430  |                         |
|       |        | 0706062 | 415 mm | £236  |                         |
|       |        | 0706063 | Sec    | £519  |                         |

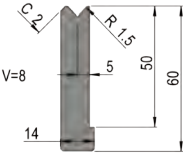
Was #170

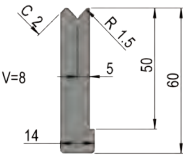
# AFH 1V Dies V=6

| Angle | V-Size | Code    | Length | Price | Tool #1708 STAGED - 80 t/m                                                                         |
|-------|--------|---------|--------|-------|----------------------------------------------------------------------------------------------------|
| 86°   | V6     | 1708151 | 835 mm | £455  |  <p>Was #OS70</p> |
|       |        | 1708152 | 415 mm | £254  |                                                                                                    |
|       |        | 1708153 | Sec    | £643  |                                                                                                    |

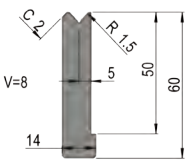
| Angle | V-Size | Code    | Length | Price | Tool #1703 STAGED - 40 t/m                                                        |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 30°   | V6     | 1703101 | 835 mm | £581  |  |
|       |        | 1703102 | 415 mm | £325  |                                                                                   |
|       |        | 1703103 | Sec    | £769  |                                                                                   |

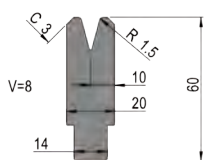
# AFH 1V Dies V=8

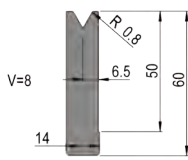
| Angle | V-Size | Code    | Length | Price | Tool #0718 AFH - 90 t/m                                                            |
|-------|--------|---------|--------|-------|------------------------------------------------------------------------------------|
| 86°   | V8     | 0718151 | 835 mm | £306  |  |
|       |        | 0718152 | 415 mm | £172  |                                                                                    |
|       |        | 0718153 | Sec    | £369  |                                                                                    |

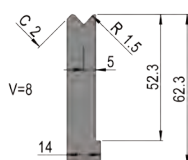
| Angle | V-Size | Code    | Length | Price | Tool #0717 AFH - 90 t/m                                                             |
|-------|--------|---------|--------|-------|-------------------------------------------------------------------------------------|
| 88°   | V8     | 0717151 | 835 mm | £306  |  |
|       |        | 0717152 | 415 mm | £172  |                                                                                     |
|       |        | 0717153 | Sec    | £369  |                                                                                     |

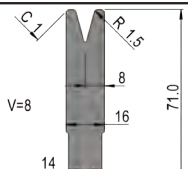
# AFH 1V Dies V=8

| Angle | V-Size | Code    | Length | Price | Tool #0719 AFH - 90 t/m                                                           |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 90°   | V8     | 0719151 | 835 mm | £306  |  |
|       |        | 0719152 | 415 mm | £172  |                                                                                   |
|       |        | 0719153 | Sec    | £369  |                                                                                   |

| Angle | V-Size | Code    | Length | Price | Tool #0713 AFH - 60 t/m                                                           |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 30°   | V8     | 0713151 | 835 mm | £490  |  |
|       |        | 0713152 | 415 mm | £268  |                                                                                   |
|       |        | 0713153 | Sec    | £595  |                                                                                   |

| Angle | V-Size | Code    | Length | Price | Tool #0716 AFH - 45 t/m                                                           |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 60°   | V8     | 0716081 | 835 mm | £430  |  |
|       |        | 0716082 | 415 mm | £236  |                                                                                   |
|       |        | 0716083 | Sec    | £519  |                                                                                   |

| Angle | V-Size | Code    | Length | Price | Tool #1718 STAGED - 90 t/m                                                          |
|-------|--------|---------|--------|-------|-------------------------------------------------------------------------------------|
| 86°   | V8     | 1718151 | 835 mm | £455  |  |
|       |        | 1718152 | 415 mm | £254  |                                                                                     |
|       |        | 1718153 | Sec    | £643  |                                                                                     |

| Angle | V-Size | Code    | Length | Price | Tool #1713 STAGED - 50 t/m                                                          |
|-------|--------|---------|--------|-------|-------------------------------------------------------------------------------------|
| 30°   | V8     | 1713151 | 835 mm | £581  |  |
|       |        | 1713152 | 415 mm | £325  |                                                                                     |
|       |        | 1713153 | Sec    | £769  |                                                                                     |

# AFH 1V Dies V=10

| Angle | V-Size | Code    | Length | Price | Tool #0728 AFH - 100 t/m |
|-------|--------|---------|--------|-------|--------------------------|
| 86°   | V10    | 0728201 | 835 mm | £306  |                          |
|       |        | 0728202 | 415 mm | £172  |                          |
|       |        | 0728203 | Sec    | £369  |                          |

| Angle | V-Size | Code    | Length | Price | Tool #0727 AFH - 100 t/m |
|-------|--------|---------|--------|-------|--------------------------|
| 88°   | V10    | 0727201 | 835 mm | £306  |                          |
|       |        | 0727202 | 415 mm | £172  |                          |
|       |        | 0727203 | Sec    | £369  |                          |

Was #72

| Angle | V-Size | Code    | Length | Price | Tool #0729 AFH - 100 t/m |
|-------|--------|---------|--------|-------|--------------------------|
| 90°   | V10    | 0729201 | 835 mm | £306  |                          |
|       |        | 0729202 | 415 mm | £172  |                          |
|       |        | 0729203 | Sec    | £369  |                          |

Was #73

| Angle | V-Size | Code    | Length | Price | Tool #0723 AFH - 70 t/m |
|-------|--------|---------|--------|-------|-------------------------|
| 30°   | V10    | 0723201 | 835 mm | £490  |                         |
|       |        | 0723202 | 415 mm | £268  |                         |
|       |        | 0723203 | Sec    | £595  |                         |

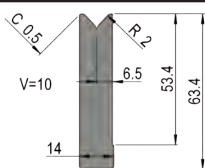
Was #14106

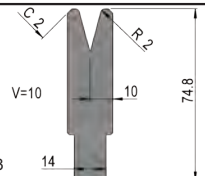
| Angle | V-Size | Code    | Length | Price | Tool #0726 AFH - 55 t/m |
|-------|--------|---------|--------|-------|-------------------------|
| 60°   | V10    | 0726101 | 835 mm | £430  |                         |
|       |        | 0726102 | 415 mm | £236  |                         |
|       |        | 0726103 | Sec    | £519  |                         |

Was #172

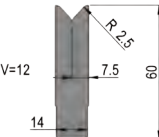


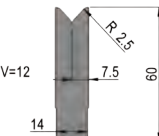
# AFH 1V Dies V=10

| Angle | V-Size | Code    | Length | Price | Tool #1728 STAGED - 100 t/m                                                                        |
|-------|--------|---------|--------|-------|----------------------------------------------------------------------------------------------------|
| 86°   | V10    | 1728201 | 835 mm | £455  |  <p>Was #OS72</p> |
|       |        | 1728202 | 415 mm | £254  |                                                                                                    |
|       |        | 1728203 | Sec    | £643  |                                                                                                    |

| Angle | V-Size | Code    | Length | Price | Tool #1723 STAGED - 60 t/m                                                                          |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------------------------|
| 30°   | V10    | 1723201 | 835 mm | £605  |  <p>Was #OS723</p> |
|       |        | 1723202 | 415 mm | £339  |                                                                                                     |
|       |        | 1723203 | Sec    | £792  |                                                                                                     |

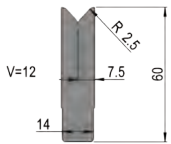
# AFH 1V Dies V=12

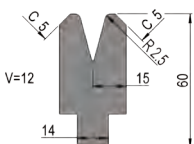
| Angle | V-Size | Code    | Length | Price | Tool #0748 AFH - 100 t/m                                                                       |
|-------|--------|---------|--------|-------|------------------------------------------------------------------------------------------------|
| 86°   | V12    | 0748251 | 835 mm | £306  |  <p>V=12</p> |
|       |        | 0748252 | 415 mm | £172  |                                                                                                |
|       |        | 0748253 | Sec    | £369  |                                                                                                |

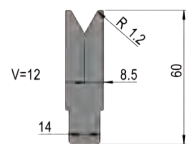
| Angle | V-Size | Code    | Length | Price | Tool #0747 AFH - 100 t/m                                                                        |
|-------|--------|---------|--------|-------|-------------------------------------------------------------------------------------------------|
| 88°   | V12    | 0747251 | 835 mm | £306  |  <p>V=12</p> |
|       |        | 0747252 | 415 mm | £172  |                                                                                                 |
|       |        | 0747253 | Sec    | £369  |                                                                                                 |

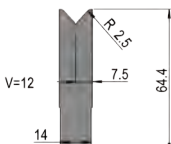
Was #74

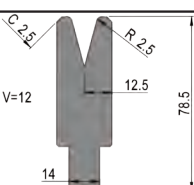
# AFH 1V Dies V=12

| Angle | V-Size | Code    | Length | Price | Tool #0749 AFH - 100 t/m                                                          |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 90°   | V12    | 0749251 | 835 mm | £306  |  |
|       |        | 0749252 | 415 mm | £172  |                                                                                   |
|       |        | 0749253 | Sec    | £369  |                                                                                   |

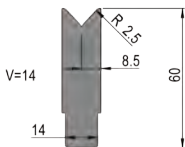
| Angle | V-Size | Code    | Length | Price | Tool #0743 AFH - 80 t/m                                                           |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 30°   | V12    | 0743251 | 835 mm | £490  |  |
|       |        | 0743252 | 415 mm | £268  |                                                                                   |
|       |        | 0743253 | Sec    | £595  |                                                                                   |

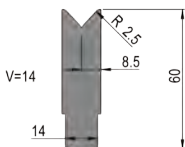
| Angle | V-Size | Code    | Length | Price | Tool #0746 AFH - 55 t/m                                                           |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 60°   | V12    | 0746121 | 835 mm | £430  |  |
|       |        | 0746122 | 415 mm | £236  |                                                                                   |
|       |        | 0746123 | Sec    | £519  |                                                                                   |

| Angle | V-Size | Code    | Length | Price | Tool #1748 STAGED - 100 t/m                                                         |
|-------|--------|---------|--------|-------|-------------------------------------------------------------------------------------|
| 86°   | V12    | 1748251 | 835 mm | £493  |  |
|       |        | 1748252 | 415 mm | £277  |                                                                                     |
|       |        | 1748253 | Sec    | £681  |                                                                                     |

| Angle | V-Size | Code    | Length | Price | Tool #1743 STAGED - 70 t/m                                                          |
|-------|--------|---------|--------|-------|-------------------------------------------------------------------------------------|
| 30°   | V12    | 1743251 | 835 mm | £605  |  |
|       |        | 1743252 | 415 mm | £339  |                                                                                     |
|       |        | 1743253 | Sec    | £792  |                                                                                     |

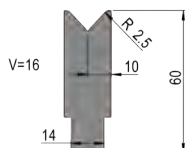
# AFH 1V Dies V=14

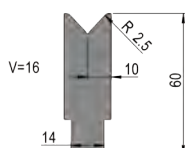
| Angle | V-Size | Code    | Length | Price | Tool #0768 AFH - 100 t/m                                                          |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 86°   | V14    | 0768251 | 835 mm | £371  |  |
|       |        | 0768252 | 415 mm | £203  |                                                                                   |
|       |        | 0768253 | Sec    | £422  |                                                                                   |

| Angle | V-Size | Code    | Length | Price | Tool #0767 AFH - 100 t/m                                                          |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 88°   | V14    | 0767251 | 835 mm | £371  |  |
|       |        | 0767252 | 415 mm | £203  |                                                                                   |
|       |        | 0767253 | Sec    | £422  |                                                                                   |

Was #76

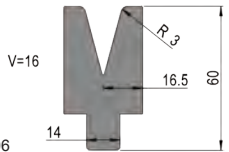
# AFH 1V Dies V=16

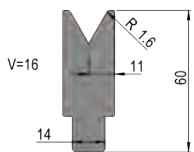
| Angle | V-Size | Code    | Length | Price | Tool #0778 AFH - 100 t/m                                                           |
|-------|--------|---------|--------|-------|------------------------------------------------------------------------------------|
| 86°   | V16    | 0778251 | 835 mm | £460  |  |
|       |        | 0778252 | 415 mm | £269  |                                                                                    |
|       |        | 0778253 | Sec    | £541  |                                                                                    |

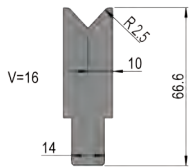
| Angle | V-Size | Code    | Length | Price | Tool #0777 AFH - 100 t/m                                                            |
|-------|--------|---------|--------|-------|-------------------------------------------------------------------------------------|
| 88°   | V16    | 0777251 | 835 mm | £460  |  |
|       |        | 0777252 | 415 mm | £269  |                                                                                     |
|       |        | 0777253 | Sec    | £541  |                                                                                     |

Was #77

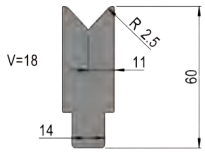
# AFH 1V Dies V=16

| Angle | V-Size | Code    | Length | Price | Tool #0773 AFH - 60 t/m                                                           |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 30°   | V16    | 0773301 | 835 mm | £600  |  |
|       |        | 0773302 | 415 mm | £354  |                                                                                   |
|       |        | 0773303 | Sec    | £725  |                                                                                   |

| Angle | V-Size | Code    | Length | Price | Tool #0776 AFH - 65 t/m                                                           |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 60°   | V16    | 0776161 | 835 mm | £539  |  |
|       |        | 0776162 | 415 mm | £321  |                                                                                   |
|       |        | 0776163 | Sec    | £650  |                                                                                   |

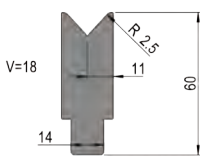
| Angle | V-Size | Code    | Length | Price | Tool #1778 STAGED - 100 t/m                                                       |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 86°   | V16    | 1778251 | 835 mm | £547  |  |
|       |        | 1778252 | 415 mm | £306  |                                                                                   |
|       |        | 1778253 | Sec    | £733  |                                                                                   |

# AFH 1V Dies V=18

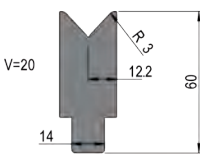
| Angle | V-Size | Code    | Length | Price | Tool #0788 AFH - 100 t/m                                                            |
|-------|--------|---------|--------|-------|-------------------------------------------------------------------------------------|
| 86°   | V18    | 0788251 | 835 mm | £518  |  |
|       |        | 0788252 | 415 mm | £309  |                                                                                     |
|       |        | 0788253 | Sec    | £625  |                                                                                     |

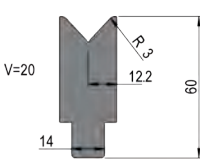
Press Brake  
Tooling

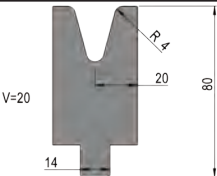
# AFH 1V Dies V=18

| Angle | V-Size | Code    | Length | Price | Tool #0787 AFH - 100 t/m                                                          |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 88°   | V18    | 0787251 | 835 mm | £518  |  |
|       |        | 0787252 | 415 mm | £309  |                                                                                   |
|       |        | 0787253 | Sec    | £625  |                                                                                   |

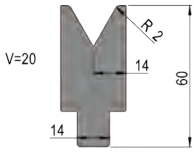
# AFH 1V Dies V=20

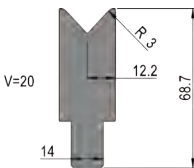
| Angle | V-Size | Code    | Length | Price | Tool #0798 AFH - 100 t/m                                                          |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 86°   | V20    | 0798301 | 835 mm | £533  |  |
|       |        | 0798302 | 415 mm | £317  |                                                                                   |
|       |        | 0798303 | Sec    | £644  |                                                                                   |

| Angle | V-Size | Code    | Length | Price | Tool #0797 AFH - 100 t/m                                                           |
|-------|--------|---------|--------|-------|------------------------------------------------------------------------------------|
| 88°   | V20    | 0797301 | 835 mm | £533  |  |
|       |        | 0797302 | 415 mm | £317  |                                                                                    |
|       |        | 0797303 | Sec    | £644  |                                                                                    |

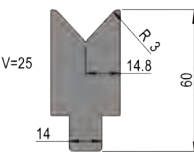
| Angle | V-Size | Code    | Length | Price | Tool #0793 - 60 t/m                                                                 |
|-------|--------|---------|--------|-------|-------------------------------------------------------------------------------------|
| 30°   | V20    | 0793401 | 835 mm | £629  |  |
|       |        | 0793402 | 415 mm | £370  |                                                                                     |
|       |        | 0793403 | Sec    | £763  |                                                                                     |

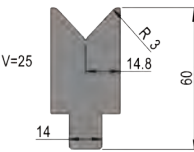
# AFH 1V Dies V=20

| Angle | V-Size | Code    | Length | Price | Tool #0796 AFH – 85 t/m                                                           |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 60°   | V20    | 0796201 | 835 mm | £571  |  |
|       |        | 0796202 | 415 mm | £338  |                                                                                   |
|       |        | 0796203 | Sec    | £688  |                                                                                   |

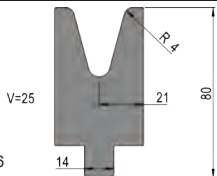
| Angle | V-Size | Code    | Length | Price | Tool #1798 STAGED - 100 t/m                                                       |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 86°   | V20    | 1798301 | 835 mm | £560  |  |
|       |        | 1798302 | 415 mm | £335  |                                                                                   |
|       |        | 1798303 | Sec    | £750  |                                                                                   |

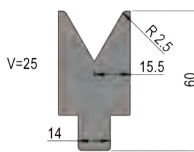
# AFH 1V Dies V=25

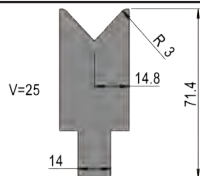
| Angle | V-Size | Code    | Length | Price | Tool #0828 AFH - 100 t/m                                                           |
|-------|--------|---------|--------|-------|------------------------------------------------------------------------------------|
| 86°   | V25    | 0828301 | 835 mm | £549  |  |
|       |        | 0828302 | 415 mm | £325  |                                                                                    |
|       |        | 0828303 | Sec    | £662  |                                                                                    |

| Angle | V-Size | Code    | Length | Price | Tool #0827 AFH - 100 t/m                                                            |
|-------|--------|---------|--------|-------|-------------------------------------------------------------------------------------|
| 88°   | V25    | 0827301 | 835 mm | £549  |  |
|       |        | 0827302 | 415 mm | £325  |                                                                                     |
|       |        | 0827303 | Sec    | £662  |                                                                                     |

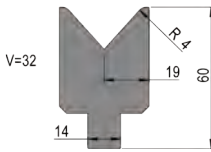
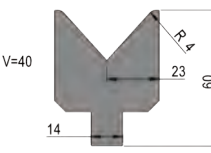
# AFH 1V Dies V=25

| Angle | V-Size | Code    | Length | Price | Tool #0823 – 60 t/m                                                               |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 30°   | V25    | 0823401 | 835 mm | £650  |  |
|       |        | 0823402 | 415 mm | £383  |                                                                                   |
|       |        | 0823403 | Sec    | £789  |                                                                                   |

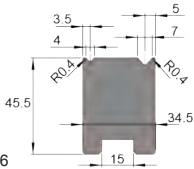
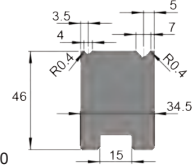
| Angle | V-Size | Code    | Length | Price | Tool #0826 AFH – 85 t/m                                                           |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 60°   | V25    | 0826251 | 835 mm | £589  |  |
|       |        | 0826252 | 415 mm | £349  |                                                                                   |
|       |        | 0826253 | Sec    | £714  |                                                                                   |

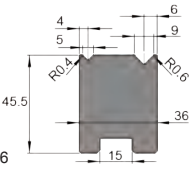
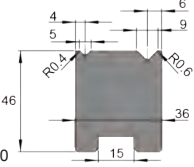
| Angle | V-Size | Code    | Length | Price | Tool #1828 STAGED – 100 t/m                                                       |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 86°   | V25    | 1828301 | 835 mm | £600  |  |
|       |        | 1828302 | 415 mm | £336  |                                                                                   |
|       |        | 1828303 | Sec    | £788  |                                                                                   |

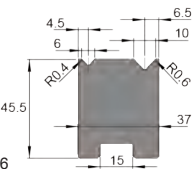
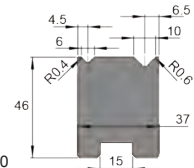
# AFH 1V Dies V=32 & V=40

| Angle | V-Size | Code    | Length | Price | Tool #0874 (V32) & Tool #0884 (V40) – 100 t/m                                       |
|-------|--------|---------|--------|-------|-------------------------------------------------------------------------------------|
| 84°   | V32    | 0874401 | 835 mm | £695  |  |
|       |        | 0874402 | 415 mm | £412  |                                                                                     |
|       |        | 0874403 | Sec    | £810  |                                                                                     |
|       | V40    | 0884401 | 835 mm | £778  |  |
|       |        | 0884402 | 415 mm | £505  |                                                                                     |
|       |        | 0884403 | Sec    | £915  |                                                                                     |

# 2V Dies Reversible 88°/90°

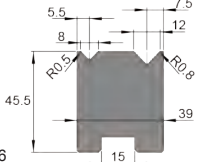
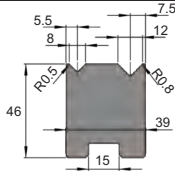
| Angle | V-Size  | Code    | Length | Price | Tool #501704 / #501904 – 60 t/m                                                                     |
|-------|---------|---------|--------|-------|-----------------------------------------------------------------------------------------------------|
| 88°   | V4 & V7 | 5017041 | 835 mm | £312  |  <p>Was #50196</p> |
|       |         | 5017042 | 415 mm | £174  |                                                                                                     |
|       |         | 5017043 | Sec    | £420  |                                                                                                     |
| 90°   |         | 5019041 | 835 mm | £312  |  <p>Was #50190</p> |
|       |         | 5019042 | 415 mm | £174  |                                                                                                     |
|       |         | 5019043 | Sec    | £420  |                                                                                                     |

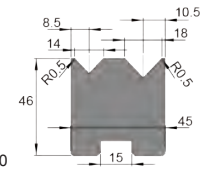
| Angle | V-Size  | Code    | Length | Price | Tool #507704 / #507904 – 65 t/m                                                    |
|-------|---------|---------|--------|-------|------------------------------------------------------------------------------------|
| 88°   | V5 & V9 | 5077041 | 835 mm | £312  |   |
|       |         | 5077042 | 415 mm | £174  |                                                                                    |
|       |         | 5077043 | Sec    | £420  |                                                                                    |
| 90°   |         | 5079041 | 835 mm | £312  |  |
|       |         | 5079042 | 415 mm | £174  |                                                                                    |
|       |         | 5079043 | Sec    | £420  |                                                                                    |

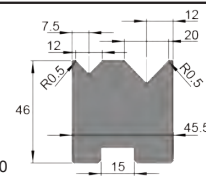
| Angle | V-Size         | Code    | Length | Price | Tool #502704 / #502904 – 70 t/m                                                                       |
|-------|----------------|---------|--------|-------|-------------------------------------------------------------------------------------------------------|
| 88°   | V6<br>&<br>V10 | 5027041 | 835 mm | £312  |  <p>Was #50296</p> |
|       |                | 5027042 | 415 mm | £174  |                                                                                                       |
|       |                | 5027043 | Sec    | £420  |                                                                                                       |
| 90°   |                | 5029041 | 835 mm | £312  |  <p>Was #50290</p> |
|       |                | 5029042 | 415 mm | £174  |                                                                                                       |
|       |                | 5029043 | Sec    | £420  |                                                                                                       |

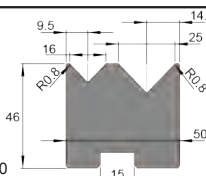


# 2V Dies Reversible 88°/90°

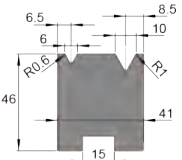
| Angle | V-Size   | Code    | Length | Price | Tool #503705 / #503905 – 70 t/m                                                                 |
|-------|----------|---------|--------|-------|-------------------------------------------------------------------------------------------------|
| 88°   | V8 & V12 | 5037051 | 835 mm | £312  | <br>Was #50396 |
|       |          | 5037052 | 415 mm | £174  |                                                                                                 |
|       |          | 5037053 | Sec    | £420  |                                                                                                 |
| 90°   |          | 5039051 | 835 mm | £312  | <br>Was #50390 |
|       |          | 5039052 | 415 mm | £174  |                                                                                                 |
|       |          | 5039053 | Sec    | £420  |                                                                                                 |

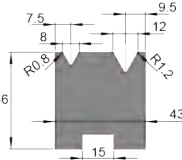
| Angle | V-Size    | Code    | Length | Price | Tool #504705 – 100 t/m                                                                              |
|-------|-----------|---------|--------|-------|-----------------------------------------------------------------------------------------------------|
| 88°   | V14 & V18 | 5047051 | 835 mm | £312  |  <p>Was #50490</p> |
|       |           | 5047052 | 415 mm | £174  |                                                                                                     |
|       |           | 5047053 | Sec    | £420  |                                                                                                     |

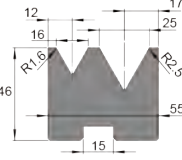
| Angle | V-Size    | Code    | Length | Price | Tool #505705 – 100 t/m                                                                               |
|-------|-----------|---------|--------|-------|------------------------------------------------------------------------------------------------------|
| 88°   | V12 & V20 | 5057051 | 835 mm | £312  |  <p>Was #50590</p> |
|       |           | 5057052 | 415 mm | £174  |                                                                                                      |
|       |           | 5057053 | Sec    | £420  |                                                                                                      |

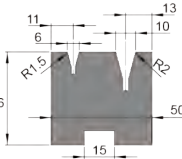
| Angle | V-Size    | Code    | Length | Price | Tool #506708 – 100 t/m                                                                                |
|-------|-----------|---------|--------|-------|-------------------------------------------------------------------------------------------------------|
| 88°   | V16 & V25 | 5067081 | 835 mm | £312  |  <p>Was #50690</p> |
|       |           | 5067082 | 415 mm | £174  |                                                                                                       |
|       |           | 5067083 | Sec    | £420  |                                                                                                       |

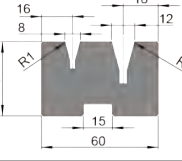
# 2V Dies Reversible 60°/30°

| Angle | V-Size         | Code    | Length | Price | Tool #502606 – 60 t/m                                                                               |
|-------|----------------|---------|--------|-------|-----------------------------------------------------------------------------------------------------|
| 60°   | V6<br>&<br>V10 | 5026061 | 835 mm | £408  |  <p>Was #50260</p> |
|       |                | 5026062 | 415 mm | £227  |                                                                                                     |
|       |                | 5026063 | Sec    | £551  |                                                                                                     |

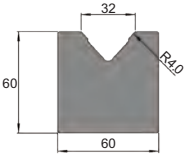
| Angle | V-Size         | Code    | Length | Price | Tool #503608 – 60 t/m                                                                               |
|-------|----------------|---------|--------|-------|-----------------------------------------------------------------------------------------------------|
| 60°   | V8<br>&<br>V12 | 5036081 | 835 mm | £443  |  <p>Was #50360</p> |
|       |                | 5036082 | 415 mm | £249  |                                                                                                     |
|       |                | 5036083 | Sec    | £599  |                                                                                                     |

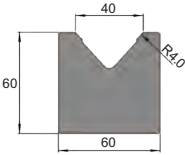
| Angle | V-Size          | Code    | Length | Price | Tool #506616 – 60 t/m                                                                               |
|-------|-----------------|---------|--------|-------|-----------------------------------------------------------------------------------------------------|
| 60°   | V16<br>&<br>V25 | 5066161 | 835 mm | £531  |  <p>Was #50660</p> |
|       |                 | 5066162 | 415 mm | £298  |                                                                                                     |
|       |                 | 5066163 | Sec    | £718  |                                                                                                     |

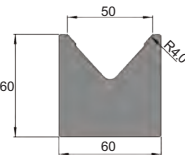
| Angle | V-Size         | Code    | Length | Price | Tool #337315 – 26 t/m                                                                                 |
|-------|----------------|---------|--------|-------|-------------------------------------------------------------------------------------------------------|
| 30°   | V6<br>&<br>V10 | 3373151 | 835 mm | £531  |  <p>Was #33706</p> |
|       |                | 3373152 | 415 mm | £298  |                                                                                                       |
|       |                | 3373153 | Sec    | £718  |                                                                                                       |

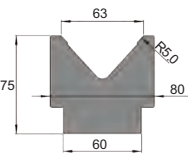
| Angle | V-Size         | Code    | Length | Price | Tool #339310 – 40 t/m                                                                               |
|-------|----------------|---------|--------|-------|-----------------------------------------------------------------------------------------------------|
| 30°   | V8<br>&<br>V12 | 3393101 | 835 mm | £409  |  <p>Was #339</p> |
|       |                | 3393102 | 415 mm | £270  |                                                                                                     |
|       |                | 3393103 | Sec    | £523  |                                                                                                     |

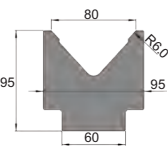
# Heavy Duty 1V

| Angle | V-Size | Code   | Length | Price | Tool #35 – 100 t/m                                                                |
|-------|--------|--------|--------|-------|-----------------------------------------------------------------------------------|
| 85°   | V32    | 035001 | 835 mm | £217  |  |
|       |        | 035002 | 415 mm | £146  |                                                                                   |

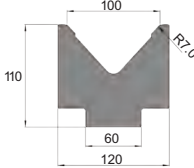
| Angle | V-Size | Code   | Length | Price | Tool #36 – 100 t/m                                                                |
|-------|--------|--------|--------|-------|-----------------------------------------------------------------------------------|
| 85°   | V40    | 036001 | 835 mm | £222  |  |
|       |        | 036002 | 415 mm | £148  |                                                                                   |

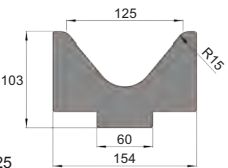
| Angle | V-Size | Code   | Length | Price | Tool #37 – 100 t/m                                                                |
|-------|--------|--------|--------|-------|-----------------------------------------------------------------------------------|
| 85°   | V50    | 037001 | 835 mm | £233  |  |
|       |        | 037002 | 415 mm | £153  |                                                                                   |

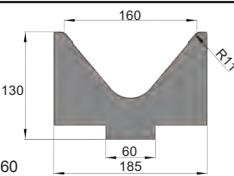
| Angle | V-Size | Code    | Length | Price | Tool #0385 – 100 t/m                                                                               |
|-------|--------|---------|--------|-------|----------------------------------------------------------------------------------------------------|
| 85°   | V63    | 0385501 | 835 mm | £505  |  <p>Was #38</p> |
|       |        | 0385502 | 415 mm | £283  |                                                                                                    |

| Angle | V-Size | Code   | Length | Price | Tool #13 – 100 t/m                                                                  |
|-------|--------|--------|--------|-------|-------------------------------------------------------------------------------------|
| 85°   | V80    | 013601 | 835 mm | £640  |  |
|       |        | 013602 | 415 mm | £383  |                                                                                     |

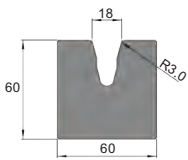
# Heavy Duty 1V

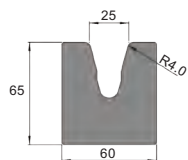
| Angle | V-Size | Code   | Length | Price | Tool #18 – 100 t/m                                                                |
|-------|--------|--------|--------|-------|-----------------------------------------------------------------------------------|
| 85°   | V100   | 018601 | 835 mm | £854  |  |
|       |        | 018602 | 415 mm | £522  |                                                                                   |

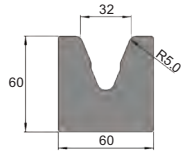
| Angle | V-Size | Code    | Length | Price  | Tool #039015 – 100 t/m                                                                          |
|-------|--------|---------|--------|--------|-------------------------------------------------------------------------------------------------|
| 80°   | V125   | 0390151 | 835 mm | £1,221 | <br>Was #Z0125 |
|       |        | 0390152 | 415 mm | £734   |                                                                                                 |

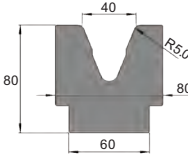
| Angle | V-Size | Code    | Length | Price  | Tool #014011 – 100 t/m                                                                          |
|-------|--------|---------|--------|--------|-------------------------------------------------------------------------------------------------|
| 80°   | V160   | 0140111 | 835 mm | £1,439 | <br>Was #Z0160 |
|       |        | 0140112 | 415 mm | £965   |                                                                                                 |

# Heavy Duty 1V - Acute

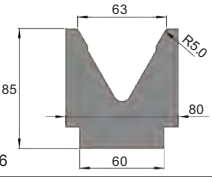
| Angle | V-Size | Code   | Length | Price | Tool #340 – 80 t/m                                                                |
|-------|--------|--------|--------|-------|-----------------------------------------------------------------------------------|
| 30°   | V18    | 340001 | 835 mm | £288  |  |
|       |        | 340002 | 415 mm | £167  |                                                                                   |

| Angle | V-Size | Code   | Length | Price | Tool #341 – 60 t/m                                                                |
|-------|--------|--------|--------|-------|-----------------------------------------------------------------------------------|
| 30°   | V25    | 341001 | 835 mm | £310  |  |
|       |        | 341002 | 415 mm | £189  |                                                                                   |

| Angle | V-Size | Code   | Length | Price | Tool #342 – 40 t/m                                                                |
|-------|--------|--------|--------|-------|-----------------------------------------------------------------------------------|
| 45°   | V32    | 342001 | 835 mm | £310  |  |
|       |        | 342002 | 415 mm | £189  |                                                                                   |

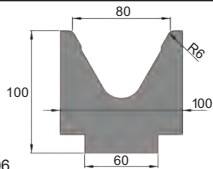
| Angle | V-Size | Code    | Length | Price | Tool #343150 – 70 t/m                                                               |
|-------|--------|---------|--------|-------|-------------------------------------------------------------------------------------|
| 45°   | V40    | 3431501 | 835 mm | £434  |  |
|       |        | 3431502 | 415 mm | £243  |                                                                                     |

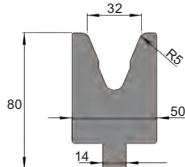
Was #343

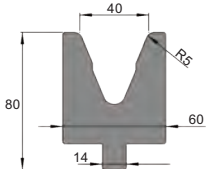
| Angle | V-Size | Code    | Length | Price  | Tool #038650 – 100 t/m                                                              |
|-------|--------|---------|--------|--------|-------------------------------------------------------------------------------------|
| 60°   | V63    | 0386501 | 835 mm | £1,003 |  |
|       |        | 0386502 | 415 mm | £561   |                                                                                     |

Was #03806

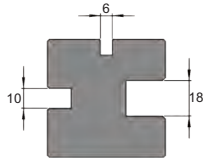
# Heavy Duty 1V - Acute

| Angle | V-Size | Code    | Length | Price  | Tool #013660 – 100 t/m                                                                              |
|-------|--------|---------|--------|--------|-----------------------------------------------------------------------------------------------------|
| 60°   | V80    | 0136601 | 835 mm | £1,259 |  <p>Was #01306</p> |
|       |        | 0136602 | 415 mm | £695   |                                                                                                     |

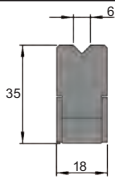
| Angle | V-Size | Code    | Length | Price | Tool #0871 – 100 t/m                                                              |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 45°   | V32    | 0871501 | 835 mm | £695  |  |
|       |        | 0871502 | 415 mm | £412  |                                                                                   |

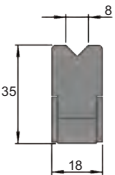
| Angle | V-Size | Code    | Length | Price | Tool #0881 – 100 t/m                                                              |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 45°   | V40    | 0881501 | 835 mm | £778  |  |
|       |        | 0881502 | 415 mm | £505  |                                                                                   |

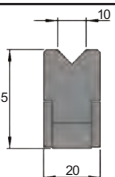
## Other Dies

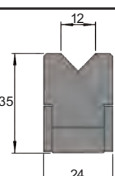
|  | V-Size             | Code    | Length | Price | Tool #0129 – 100 t/m                                                                               |
|--|--------------------|---------|--------|-------|----------------------------------------------------------------------------------------------------|
|  | V6,<br>V10,<br>V18 | 0129001 | 835 mm | £214  |  <p>Was #12</p> |
|  |                    | 0129002 | 415 mm | £129  |                                                                                                    |

# Polycarbonate Dies

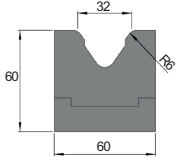
| Angle | V-Size | Code   | Length | Price | Tool #332 – 32 t/m                                                                |
|-------|--------|--------|--------|-------|-----------------------------------------------------------------------------------|
| 88°   | V6     | 332881 | 835 mm | £177  |  |
|       |        | 332882 | 415 mm | £110  |                                                                                   |

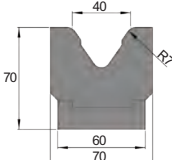
| Angle | V-Size | Code   | Length | Price | Tool #333 – 32 t/m                                                                |
|-------|--------|--------|--------|-------|-----------------------------------------------------------------------------------|
| 88°   | V8     | 333001 | 835 mm | £177  |  |
|       |        | 333002 | 415 mm | £110  |                                                                                   |

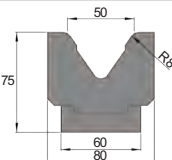
| Angle | V-Size | Code   | Length | Price | Tool #334 – 32 t/m                                                                |
|-------|--------|--------|--------|-------|-----------------------------------------------------------------------------------|
| 88°   | V10    | 334001 | 835 mm | £177  |  |
|       |        | 334002 | 415 mm | £110  |                                                                                   |

| Angle | V-Size | Code   | Length | Price | Tool #335 – 32 t/m                                                                  |
|-------|--------|--------|--------|-------|-------------------------------------------------------------------------------------|
| 88°   | V12    | 335001 | 835 mm | £177  |  |
|       |        | 335002 | 415 mm | £110  |                                                                                     |

# Polycarbonate Dies - Radius Bend

| Angle | V-Size | Code   | Length | Price | Tool #351 – 50 t/m                                                                |
|-------|--------|--------|--------|-------|-----------------------------------------------------------------------------------|
| 70°   | V32    | 351001 | 835 mm | £429  |  |
|       |        | 351002 | 415 mm | £249  |                                                                                   |

| Angle | V-Size | Code   | Length | Price | Tool #361 – 50 t/m                                                                |
|-------|--------|--------|--------|-------|-----------------------------------------------------------------------------------|
| 70°   | V40    | 361001 | 835 mm | £462  |  |
|       |        | 361002 | 415 mm | £266  |                                                                                   |

| Angle | V-Size | Code   | Length | Price | Tool #371 – 50 t/m                                                                |
|-------|--------|--------|--------|-------|-----------------------------------------------------------------------------------|
| 70°   | V50    | 371001 | 835 mm | £510  |  |
|       |        | 371002 | 415 mm | £288  |                                                                                   |

Press Brake  
Tooling

## Specification

| thk<br>Radius | V=32       |           |           | V=40       |           |           | V=50       |           |           |
|---------------|------------|-----------|-----------|------------|-----------|-----------|------------|-----------|-----------|
|               | Mild Steel | Stainless | Aluminium | Mild Steel | Stainless | Aluminium | Mild Steel | Stainless | Aluminium |
|               | 0.4~2.3    | 0.4~1.5   | 0.4~3.0   | 0.6~2.3    | 0.6~1.5   | 0.6~3.0   | 0.8~2.3    | 0.8~1.5   | 0.8~3.0   |
| 6.0           | ✓          | ✓         | ✓         |            |           |           |            |           |           |
| 8.0           | ✓          | ✓         | ✓         | ✓          | ✓         | ✓         |            |           |           |
| 10.0          | ✓          | ✓         | ✓         | ✓          | ✓         | ✓         | ✓          | ✓         | ✓         |
| 12.5          | ✓          | ✓         | ✓         | ✓          | ✓         | ✓         | ✓          | ✓         | ✓         |
| 15.0          |            | ✓         |           | ✓          | ✓         | ✓         | ✓          | ✓         | ✓         |
| 17.5          |            |           |           | ✓          | ✓         | ✓         | ✓          | ✓         | ✓         |
| 20.0          |            |           |           |            | ✓         |           | ✓          | ✓         | ✓         |
| 22.5          |            |           |           |            |           |           | ✓          | ✓         | ✓         |
| 25.0          |            |           |           |            |           |           |            | ✓         |           |

Note: All dimensions in mm





# Polyurethane Die Technical Guidelines

## 1. Select Die Pad required

| Radius<br>(mm)<br>thk(mm) | 10             | 15 | 17.5 | 20 | 25             | 30              |
|---------------------------|----------------|----|------|----|----------------|-----------------|
| 0.4                       | Die<br>50 x 50 |    |      |    | Die<br>80 x 30 |                 |
| 0.6                       |                |    |      |    |                |                 |
| 0.8                       |                |    |      |    |                |                 |
| 1.0                       |                |    |      |    |                |                 |
| 1.2                       |                |    |      |    |                |                 |
| 1.6                       |                |    |      |    |                |                 |
| 2.3                       |                |    |      |    |                |                 |
| 2.6                       |                |    |      |    |                |                 |
| 3.2                       |                |    |      |    |                | Die<br>110 x 45 |

Larger die includes the application range of smaller die

## 2. Tonnage guidelines

Tonnage to bend 90° in Mild Steel (400N/mm<sup>2</sup>) using Die Holder # 60(4) with Die Pad 80x30 # 61(4)

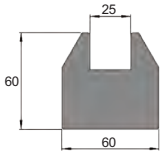
| Radius<br>(mm)<br>thk(mm) | 10 | 15 | 17.5 | 20 | 25 |
|---------------------------|----|----|------|----|----|
| 0.4                       | 13 | 16 | 18   | 21 | 26 |
| 0.6                       | 15 | 18 | 21   | 24 | 29 |
| 0.8                       | 17 | 21 | 23   | 27 | 33 |
| 1.0                       | 19 | 23 | 27   | 30 | 36 |
| 1.2                       | 22 | 25 | 29   | 34 | 39 |
| 1.6                       | 26 | 30 | 34   | 40 | 46 |
| 2.3                       | 34 | 39 | 43   | 50 | 58 |
| 2.6                       | 37 | 43 | 47   | 55 | 63 |
| 3.2                       | 48 | 54 | 60   |    |    |

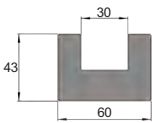
Tonnage required using Urethane Dies is 4-6 x more than standard steel dies. Please ensure that you are within the tonnage limits of both the tooling and machine when bending large radii or long lengths

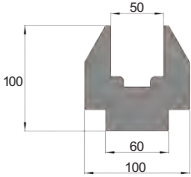
## 3. Other considerations

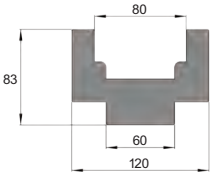
- No marking
- Excellent radius shape
- One die for many radius applications
- High tonnage required
- Die pad is a consumable item
- Short flanges can be difficult

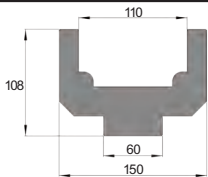
# Polyurethane Holders

| Width | Code   | Length | Price | Tool #60 (1)                                                                      |
|-------|--------|--------|-------|-----------------------------------------------------------------------------------|
| 25 mm | 060011 | 835 mm | £286  |  |
|       | 060012 | 415 mm | £175  |                                                                                   |

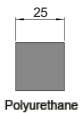
| Width | Code   | Length | Price | Tool #60 (2)                                                                      |
|-------|--------|--------|-------|-----------------------------------------------------------------------------------|
| 30 mm | 060021 | 835 mm | £286  |  |
|       | 060022 | 415 mm | £175  |                                                                                   |

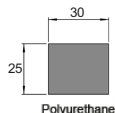
| Width | Code   | Length | Price | Tool #60 (3)                                                                      |
|-------|--------|--------|-------|-----------------------------------------------------------------------------------|
| 50 mm | 060031 | 835 mm | £798  |  |
|       | 060032 | 415 mm | £477  |                                                                                   |

| Width | Code   | Length | Price | Tool #60 (4)                                                                        |
|-------|--------|--------|-------|-------------------------------------------------------------------------------------|
| 80 mm | 060041 | 835 mm | £798  |  |
|       | 060042 | 415 mm | £477  |                                                                                     |

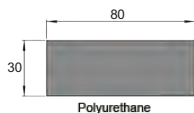
| Width  | Code   | Length | Price  | Tool #60 (5)                                                                        |
|--------|--------|--------|--------|-------------------------------------------------------------------------------------|
| 110 mm | 060051 | 835 mm | £1,219 |  |
|        | 060052 | 415 mm | £721   |                                                                                     |

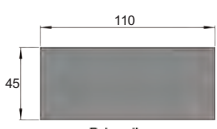
# Polyurethane Die Pads

| Pad Size | Code   | Length | Price | Tool #61 (1)                                                                      |
|----------|--------|--------|-------|-----------------------------------------------------------------------------------|
| 25 x 25  | 061121 | 835 mm | £50   |  |
|          | 061122 | 415 mm | £23   |                                                                                   |

| Pad Size | Code   | Length | Price | Tool #61 (2)                                                                      |
|----------|--------|--------|-------|-----------------------------------------------------------------------------------|
| 25 x 30  | 061221 | 835 mm | £53   |  |
|          | 061222 | 415 mm | £27   |                                                                                   |

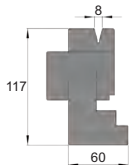
| Pad Size | Code   | Length | Price | Tool #61 (3)                                                                      |
|----------|--------|--------|-------|-----------------------------------------------------------------------------------|
| 50 x 50  | 061321 | 835 mm | £183  |  |
|          | 061322 | 415 mm | £98   |                                                                                   |

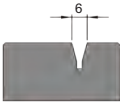
| Pad Size | Code   | Length | Price | Tool #61 (4)                                                                        |
|----------|--------|--------|-------|-------------------------------------------------------------------------------------|
| 30 x 80  | 061421 | 835 mm | £174  |  |
|          | 061422 | 415 mm | £98   |                                                                                     |

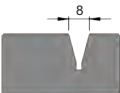
| Pad Size | Code   | Length | Price | Tool #61 (5)                                                                        |
|----------|--------|--------|-------|-------------------------------------------------------------------------------------|
| 45 x 110 | 061521 | 835 mm | £355  |  |
|          | 061522 | 415 mm | £187  |                                                                                     |

# Hemming

| Angle | V-Size | Code    | Length | Price | Tool #106310 – 65 t/m                                                             |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 30°   | V6     | 1063101 | 835 mm | £905  |  |
|       |        | 1063102 | 415 mm | £546  |                                                                                   |

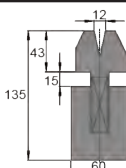
| Angle | V-Size | Code    | Length | Price | Tool #108310 – 65 t/m                                                             |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 30°   | V8     | 1083101 | 835 mm | £905  |  |
|       |        | 1083102 | 415 mm | £546  |                                                                                   |

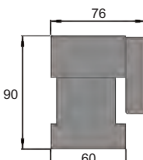
| Angle | V-Size | Code    | Length | Price | Tool #006310                                                                      |
|-------|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 30°   | V6     | 0063101 | 835 mm | £291  |  |
|       |        | 0063102 | 415 mm | £176  |                                                                                   |

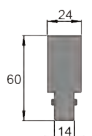
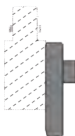
| Angle | V-Size | Code    | Length | Price | Tool #008310                                                                        |
|-------|--------|---------|--------|-------|-------------------------------------------------------------------------------------|
| 30°   | V8     | 0083101 | 835 mm | £291  |  |
|       |        | 0083102 | 415 mm | £176  |                                                                                     |

**Note:** For replacement bolts and springs see page 74

# Hemming & Flattening

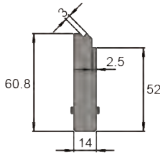
| Angle | V-Size | Code    | Length | Price | Tool #112220 – 100 t/m                                                                             |
|-------|--------|---------|--------|-------|----------------------------------------------------------------------------------------------------|
| 26°   | V12    | 1122201 | 835 mm | £790  |  <p>Was #Z330</p> |
|       |        | 1122202 | 415 mm | £466  |                                                                                                    |

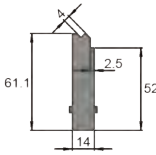
|  |  | Code   | Length | Price | Tool #105                                                                         |
|--|--|--------|--------|-------|-----------------------------------------------------------------------------------|
|  |  | 105061 | 835 mm | £721  |  |
|  |  | 105062 | 415 mm | £477  |                                                                                   |

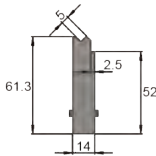
|            |  | Code    | Length | Price | Tool #1600 STAGED – 100 t/m                                                                          |
|------------|--|---------|--------|-------|------------------------------------------------------------------------------------------------------|
| Flattening |  | 1600001 | 835 mm | £368  |  <p>Was #OSF600</p> |
|            |  | 1600002 | 415 mm | £208  |                                                                                                      |
|            |  | 1600003 | Sec    | £555  |                                                                                                      |
| Tool Stop  |  | 1600011 | 835 mm | £176  |  <p>Tool Stops</p> |
|            |  | 1600012 | 415 mm | £100  |                                                                                                      |
|            |  | 1600013 | Sec    | £257  |                                                                                                      |

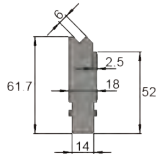
**Note:** Tool stop prevents thrust force and sideways movement of the tool. Use with Punch Holder #0282 or #0582 - see page 59. Tool is reversible and can be mounted on a punch or die holder.

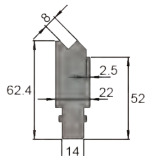
# Joggle Tools

| Joggle | Code    | Length | Price | Tool #Z3 STAGED – 100 t/m                                                         |
|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 3.0    | 1630061 | 835 mm | £518  |  |
|        | 1630062 | 415 mm | £291  |                                                                                   |
|        | 1630063 | Sec    | £705  |                                                                                   |

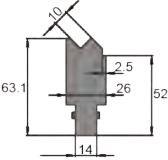
| Joggle | Code    | Length | Price | Tool #Z4 STAGED – 100 t/m                                                         |
|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 4.0    | 1640081 | 835 mm | £518  |  |
|        | 1640082 | 415 mm | £291  |                                                                                   |
|        | 1640083 | Sec    | £705  |                                                                                   |

| Joggle | Code    | Length | Price | Tool #Z5 STAGED – 100 t/m                                                         |
|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 5.0    | 1650101 | 835 mm | £518  |  |
|        | 1650102 | 415 mm | £291  |                                                                                   |
|        | 1650103 | Sec    | £705  |                                                                                   |

| Joggle | Code    | Length | Price | Tool #Z6 STAGED – 100 t/m                                                           |
|--------|---------|--------|-------|-------------------------------------------------------------------------------------|
| 6.0    | 1660101 | 835 mm | £547  |  |
|        | 1660102 | 415 mm | £306  |                                                                                     |
|        | 1660103 | Sec    | £733  |                                                                                     |

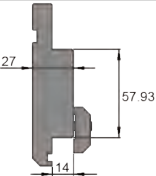
| Joggle | Code    | Length | Price | Tool #Z8 STAGED – 100 t/m                                                           |
|--------|---------|--------|-------|-------------------------------------------------------------------------------------|
| 8.0    | 1680101 | 835 mm | £547  |  |
|        | 1680102 | 415 mm | £306  |                                                                                     |
|        | 1680103 | Sec    | £733  |                                                                                     |

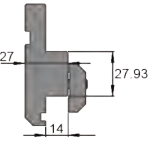
# Joggle Tools

| Joggle | Code    | Length | Price | Tool #Z10 STAGED – 100 t/m                                                        |
|--------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 10.0   | 1610101 | 835 mm | £547  |  |
|        | 1610102 | 415 mm | £306  |                                                                                   |
|        | 1610103 | Sec    | £733  |                                                                                   |

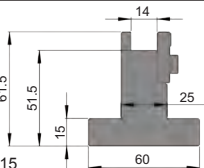
**Note:** Use with #815 Die Holder & #582 (H=120) or #282 (H=90) Punch Holder below. Staged Joggle tools are reversible and can be mounted on a punch or die holder. Two of each code are required to make a punch and die set.

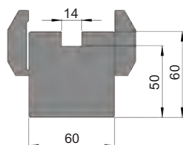
## Punch Holder

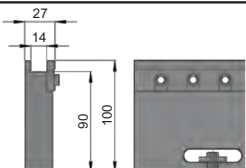
| Height | Code    | Length | Price | Tool #0582 – 100 t/m                                                                                  |
|--------|---------|--------|-------|-------------------------------------------------------------------------------------------------------|
| 120 mm | 0582002 | 415 mm | £539  |  <p>Was #OSPH582</p> |

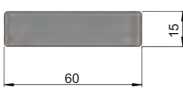
| Height | Code    | Length | Price | Tool #0282 - 100 t/m                                                                                   |
|--------|---------|--------|-------|--------------------------------------------------------------------------------------------------------|
| 90 mm  | 0282002 | 415 mm | £458  |  <p>Was #OSPH282</p> |

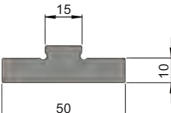
# 

| Height                           | Code    | Length | Price | Tool #0815 – 100 t/m                                                                              |
|----------------------------------|---------|--------|-------|---------------------------------------------------------------------------------------------------|
| 51.5 mm<br>(use with<br>1V Dies) | 0815001 | 840 mm | £505  |  <p>Was #815</p> |
|                                  | 0815002 | 420 mm | £268  |                                                                                                   |

| Height                                          | Code    | Length  | Price | Tool #5330 – 100 t/m                                                                              |
|-------------------------------------------------|---------|---------|-------|---------------------------------------------------------------------------------------------------|
| 50 mm<br>(use with<br>1V Dies or<br>Heavy Duty) | 5330001 | 1050 mm | £753  |  <p>Was #533</p> |
|                                                 | 5330002 | 450 mm  | £383  |                                                                                                   |

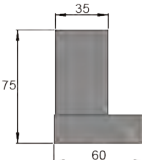
| Height                         | Code    | Length  | Price | Tool #5340 – 100 t/m                                                              |
|--------------------------------|---------|---------|-------|-----------------------------------------------------------------------------------|
| 90 mm<br>(use with<br>1V Dies) | 5340001 | 1050 mm | £583  |  |
|                                | 5340002 | 450 mm  | £360  |                                                                                   |

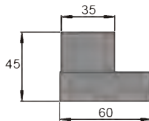
| Height                                | Code    | Length  | Price | Support for Tool #5340                                                              |
|---------------------------------------|---------|---------|-------|-------------------------------------------------------------------------------------|
| 90 mm<br>(use with<br>#5340<br>above) | 5340011 | 1050 mm | £112  |  |
|                                       | 5340012 | 450 mm  | £70   |                                                                                     |

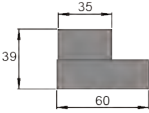
| Height                                       | Code    | Length | Price | Tool #3000 Rail                                                                                     |
|----------------------------------------------|---------|--------|-------|-----------------------------------------------------------------------------------------------------|
| 10 mm<br>(use with 2V<br>Reversible<br>Dies) | 3000001 | 835 mm | £169  |  <p>Was #300</p> |
|                                              | 3000002 | 415 mm | £139  |                                                                                                     |

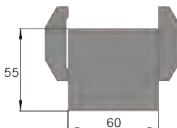


# 

| Height                         | Code    | Length | Price | Tool #75H (2910)                                                                  |
|--------------------------------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 75 mm<br>(use with<br>2V Dies) | 2910001 | 835 mm | £182  |  |
|                                | 2910002 | 415 mm | £92   |                                                                                   |

| Height                         | Code    | Length | Price | Tool #45H (2930)                                                                  |
|--------------------------------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 45 mm<br>(use with<br>2V Dies) | 2930001 | 835 mm | £146  |  |
|                                | 2930002 | 415 mm | £79   |                                                                                   |

| Height                         | Code    | Length | Price | Tool #39H (2900)                                                                  |
|--------------------------------|---------|--------|-------|-----------------------------------------------------------------------------------|
| 39 mm<br>(use with<br>2V Dies) | 2900001 | 835 mm | £132  |  |
|                                | 2900002 | 415 mm | £68   |                                                                                   |

| Height | Code    | Length | Price | Tool #055                                                                           |
|--------|---------|--------|-------|-------------------------------------------------------------------------------------|
| 55 mm  | 0550001 | 835 mm | £331  |  |
|        | 0550002 | 415 mm | £185  |                                                                                     |

Was #55

| Height                                             | Code    | Length | Price | Adaptor for Polycarbonate Dies – 100 t/m                                            |
|----------------------------------------------------|---------|--------|-------|-------------------------------------------------------------------------------------|
| Adaptor (use<br>with #5340<br>or #0815<br>holders) | 3300011 | 834 mm | £244  |  |
|                                                    | 3300012 | 414 mm | £135  |                                                                                     |

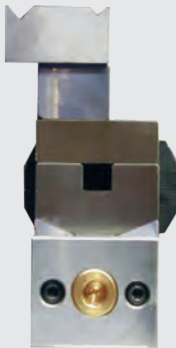
# *Pneumatic Hemming Die*

## A Permanent Fixture on Your Press Brake

- Remains in closed position until activated to perform the hemming operation
- 20° inclination to avoid workpiece fouling the lower beam
- Can be set permanently on the lower beam to allow traditional tooling to be used
- Hardened and ground solid length hemming tool, eliminates tool joint marking whilst flattening



Press Brake  
Tooling

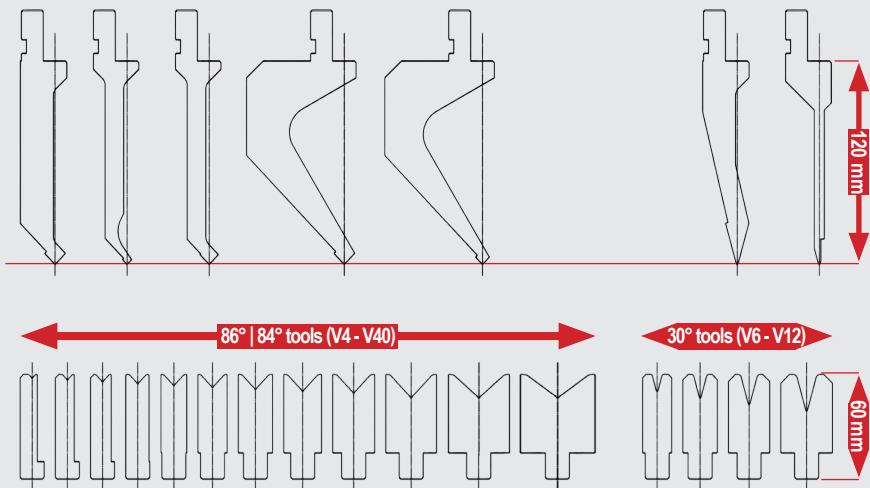


1V die directly mounted  
or use any die holder

### Specification

| Maximum Material Thickness | Mild Steel: 2.0 mm<br>Stainless Steel: 1.5 mm | Length  |
|----------------------------|-----------------------------------------------|---------|
|                            |                                               | 1250 mm |
| Allowable Tonnage          | 100 t/m                                       | 2050 mm |
| Solenoid Valve Power       | 24V DC                                        | 2550 mm |
| Air Pressure               | 2 Bar                                         | 3050 mm |
| Air Flow                   | 400 litres/min                                | 4050 mm |

# AFH-ATC AMADA Fixed Height



## Complete ID Marking



Press Brake  
Tooling

## AFH-ATC Tooling Lengths



**200 Division**  
4 x 200 mm = 800 mm

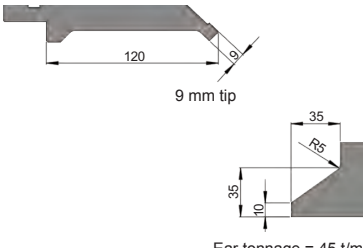


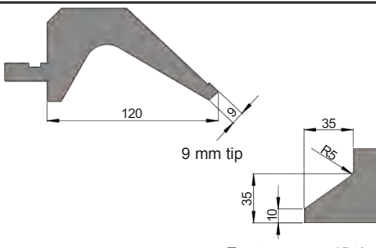
**Short Division (All punches and V4 to V25 dies)**  
2 x 15, 2 x 20, 2 x 25, 2 x 40, 2 x 50, 2 x 100 = 500 mm  
**V32, V40 dies**  
2 x 20, 2 x 25, 2 x 30, 2 x 40, 2 x 50, 2 x 100 = 530 mm

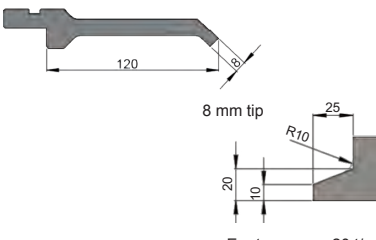


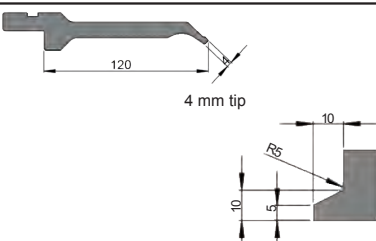
**Ears**  
125 Left ear, 125 Right ear = 250 mm

# AFH-ATC Punches H=120

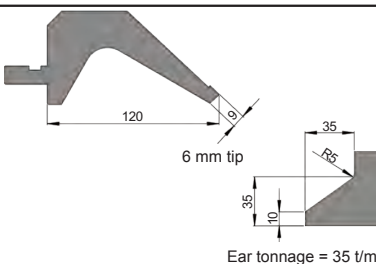
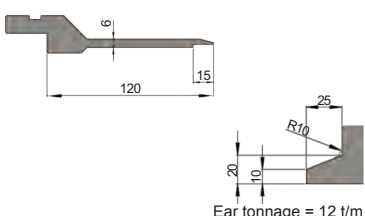
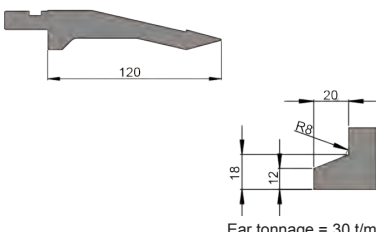
| Angle | Radii | Code    | Length      | Price | Tool #804 AFH-ATC - 100 t/m                                                                                                    |
|-------|-------|---------|-------------|-------|--------------------------------------------------------------------------------------------------------------------------------|
| 86°   | R0.6  | 8048065 | 200 mm Div. | £577  |  <p>9 mm tip</p> <p>Ear tonnage = 45 t/m</p> |
|       |       | 8048066 | Short Div.  | £771  |                                                                                                                                |
|       |       | 8048067 | Ears        | £301  |                                                                                                                                |
|       | R3.0  | 8048305 | 200 mm Div. | £632  |                                                                                                                                |
|       |       | 8048306 | Short Div.  | £844  |                                                                                                                                |
|       |       | 8048307 | Ears        | £319  |                                                                                                                                |

| Angle | Radii | Code    | Length      | Price  | Tool #847 AFH-ATC - 50 t/m                                                                                                     |
|-------|-------|---------|-------------|--------|--------------------------------------------------------------------------------------------------------------------------------|
| 86°   | R0.6  | 8478065 | 200 mm Div. | £1,061 |  <p>9 mm tip</p> <p>Ear tonnage = 45 t/m</p> |
|       |       | 8478066 | Short Div.  | £1,417 |                                                                                                                                |
|       |       | 8478067 | Ears        | £473   |                                                                                                                                |
|       | R3.0  | 8478305 | 200 mm Div. | £1,186 |                                                                                                                                |
|       |       | 8478306 | Short Div.  | £1,584 |                                                                                                                                |
|       |       | 8478307 | Ears        | £514   |                                                                                                                                |

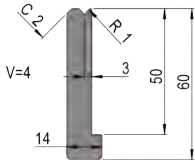
| Angle | Radii | Code    | Length      | Price  | Tool #820 AFH-ATC - 50 t/m                                                                                                      |
|-------|-------|---------|-------------|--------|---------------------------------------------------------------------------------------------------------------------------------|
| 86°   | R0.6  | 8208065 | 200 mm Div. | £712   |  <p>8 mm tip</p> <p>Ear tonnage = 20 t/m</p> |
|       |       | 8208066 | Short Div.  | £1,056 |                                                                                                                                 |
|       |       | 8208067 | Ears        | £343   |                                                                                                                                 |

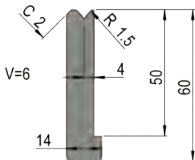
| Angle | Radii | Code    | Length      | Price  | Tool #817 AFH-ATC - 30 t/m                                                                                                       |
|-------|-------|---------|-------------|--------|----------------------------------------------------------------------------------------------------------------------------------|
| 86°   | R0.6  | 8178065 | 200 mm Div. | £757   |  <p>4 mm tip</p> <p>Ear tonnage = 15 t/m</p> |
|       |       | 8178066 | Short Div.  | £1,120 |                                                                                                                                  |
|       |       | 8178067 | Ears        | £358   |                                                                                                                                  |

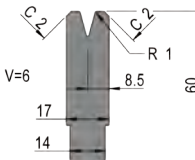
# AFH-ATC Punches H=120

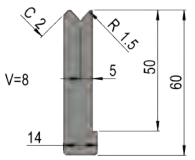
| Angle | Radii | Code    | Length      | Price  | Tool #846 AFH-ATC - 45 t/m                                                                                                     |
|-------|-------|---------|-------------|--------|--------------------------------------------------------------------------------------------------------------------------------|
| 86°   | R0.6  | 8468065 | 200 mm Div. | £1,078 |  <p>6 mm tip</p> <p>Ear tonnage = 35 t/m</p> |
|       |       | 8468066 | Short Div.  | £1,459 |                                                                                                                                |
|       |       | 8468067 | Ears        | £479   |                                                                                                                                |
| Angle | Radii | Code    | Length      | Price  | Tool #814 AFH-ATC - 45 t/m                                                                                                     |
| 30°   | R0.6  | 8143065 | 200 mm Div. | £747   |  <p>Ear tonnage = 12 t/m</p>                  |
|       |       | 8143066 | Short Div.  | £1,055 |                                                                                                                                |
|       |       | 8143067 | Ears        | £354   |                                                                                                                                |
| Angle | Radii | Code    | Length      | Price  | Tool #831 AFH-ATC - 100 t/m                                                                                                    |
| 86°   | R0.6  | 8313065 | 200 mm Div. | £678   |  <p>Ear tonnage = 30 t/m</p>                |
|       |       | 8313066 | Short Div.  | £920   |                                                                                                                                |
|       |       | 8313067 | Ears        | £331   |                                                                                                                                |
|       | R3.0  | 8313305 | 200 mm Div. | £771   |                                                                                                                                |
|       |       | 8313306 | Short Div.  | £1,049 |                                                                                                                                |
|       |       | 8313307 | Ears        | £363   |                                                                                                                                |

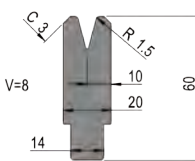
# AFH-ATC 1V Dies

| Angle | V-Size | Code    | Length      | Price | Tool #0848 AFH-ATC - 75 t/m                                                       |
|-------|--------|---------|-------------|-------|-----------------------------------------------------------------------------------|
| 86°   | V4     | 0848105 | 200 mm Div. | £574  |  |
|       |        | 0848106 | Short Div.  | £747  |                                                                                   |

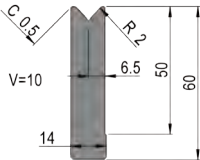
| Angle | V-Size | Code    | Length      | Price | Tool #0708 AFH-ATC - 80 t/m                                                       |
|-------|--------|---------|-------------|-------|-----------------------------------------------------------------------------------|
| 86°   | V6     | 0708155 | 200 mm Div. | £475  |  |
|       |        | 0708156 | Short Div.  | £572  |                                                                                   |

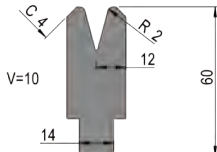
| Angle | V-Size | Code    | Length      | Price | Tool #0703 AFH-ATC - 50 t/m                                                       |
|-------|--------|---------|-------------|-------|-----------------------------------------------------------------------------------|
| 30°   | V6     | 0703105 | 200 mm Div. | £628  |  |
|       |        | 0703106 | Short Div.  | £722  |                                                                                   |

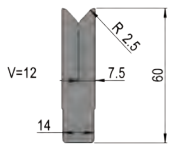
| Angle | V-Size | Code    | Length      | Price | Tool #0718 AFH-ATC - 90 t/m                                                         |
|-------|--------|---------|-------------|-------|-------------------------------------------------------------------------------------|
| 86°   | V8     | 0718155 | 200 mm Div. | £475  |  |
|       |        | 0718156 | Short Div.  | £572  |                                                                                     |

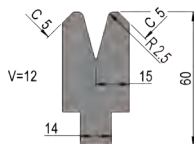
| Angle | V-Size | Code    | Length      | Price | Tool #0713 AFH-ATC - 60 t/m                                                         |
|-------|--------|---------|-------------|-------|-------------------------------------------------------------------------------------|
| 30°   | V8     | 0713155 | 200 mm Div. | £647  |  |
|       |        | 0713156 | Short Div.  | £743  |                                                                                     |

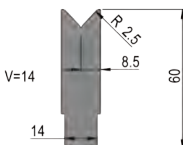
# AFH-ATC 1V Dies

| Angle | V-Size | Code    | Length      | Price | Tool #0728 AFH-ATC - 100 t/m                                                      |
|-------|--------|---------|-------------|-------|-----------------------------------------------------------------------------------|
| 86°   | V10    | 0728205 | 200 mm Div. | £475  |  |
|       |        | 0728206 | Short Div.  | £572  |                                                                                   |

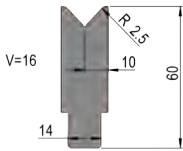
| Angle | V-Size | Code    | Length      | Price | Tool #0723 AFH-ATC - 70 t/m                                                       |
|-------|--------|---------|-------------|-------|-----------------------------------------------------------------------------------|
| 30°   | V10    | 0723205 | 200 mm Div. | £658  |  |
|       |        | 0723206 | Short Div.  | £787  |                                                                                   |

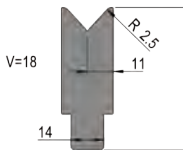
| Angle | V-Size | Code    | Length      | Price | Tool #0748 AFH-ATC - 100 t/m                                                      |
|-------|--------|---------|-------------|-------|-----------------------------------------------------------------------------------|
| 86°   | V12    | 0748255 | 200 mm Div. | £475  |  |
|       |        | 0748256 | Short Div.  | £572  |                                                                                   |

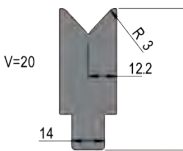
| Angle | V-Size | Code    | Length      | Price | Tool #0743 AFH-ATC - 80 t/m                                                         |
|-------|--------|---------|-------------|-------|-------------------------------------------------------------------------------------|
| 30°   | V12    | 0743255 | 200 mm Div. | £658  |  |
|       |        | 0743256 | Short Div.  | £787  |                                                                                     |

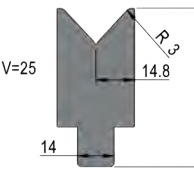
| Angle | V-Size | Code    | Length      | Price | Tool #0768 AFH-ATC - 100 t/m                                                        |
|-------|--------|---------|-------------|-------|-------------------------------------------------------------------------------------|
| 86°   | V14    | 0768255 | 200 mm Div. | £612  |  |
|       |        | 0768256 | Short Div.  | £722  |                                                                                     |

# AFH-ATC 1V Dies

| Angle | V-Size | Code    | Length      | Price | Tool #0778 AFH-ATC - 100 t/m                                                      |
|-------|--------|---------|-------------|-------|-----------------------------------------------------------------------------------|
| 86°   | V16    | 0778255 | 200 mm Div. | £612  |  |
|       |        | 0778256 | Short Div.  | £722  |                                                                                   |

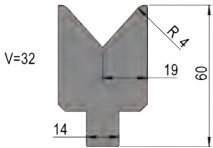
| Angle | V-Size | Code    | Length      | Price | Tool #0788 AFH-ATC - 100 t/m                                                      |
|-------|--------|---------|-------------|-------|-----------------------------------------------------------------------------------|
| 86°   | V18    | 0788255 | 200 mm Div. | £612  |  |
|       |        | 0788256 | Short Div.  | £722  |                                                                                   |

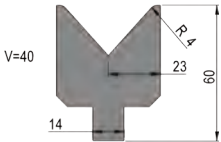
| Angle | V-Size | Code    | Length      | Price | Tool #0798 AFH-ATC - 100 t/m                                                      |
|-------|--------|---------|-------------|-------|-----------------------------------------------------------------------------------|
| 86°   | V20    | 0798305 | 200 mm Div. | £628  |  |
|       |        | 0798306 | Short Div.  | £749  |                                                                                   |

| Angle | V-Size | Code    | Length      | Price | Tool #0828 AFH-ATC - 100 t/m                                                        |
|-------|--------|---------|-------------|-------|-------------------------------------------------------------------------------------|
| 86°   | V25    | 0828305 | 200 mm Div. | £649  |  |
|       |        | 0828306 | Short Div.  | £765  |                                                                                     |



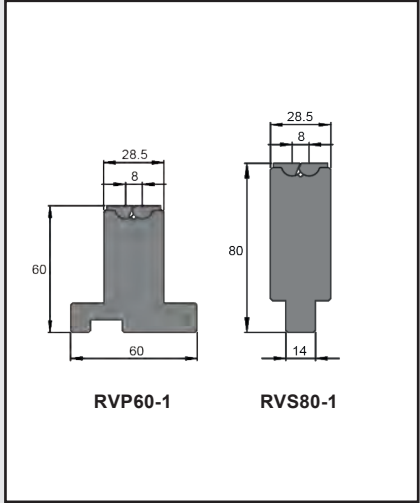
# AFH-ATC 1V Dies

| Angle | V-Size | Code    | Length      | Price  | Tool #0874 AFH-ATC - 100 t/m                                                      |
|-------|--------|---------|-------------|--------|-----------------------------------------------------------------------------------|
| 84°   | V32    | 0874405 | 200 mm Div. | £982   |  |
|       |        | 0874406 | Short Div.  | £1,164 |                                                                                   |

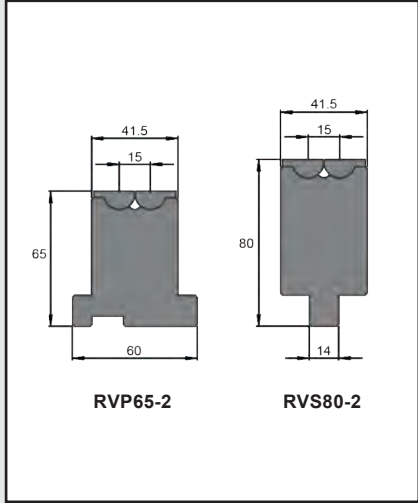
| Angle | V-Size | Code    | Length      | Price  | Tool #0884 AFH-ATC - 100 t/m                                                      |
|-------|--------|---------|-------------|--------|-----------------------------------------------------------------------------------|
| 84°   | V40    | 0884405 | 200 mm Div. | £1,077 |  |
|       |        | 0884406 | Short Div.  | £1,285 |                                                                                   |

# Rolla V

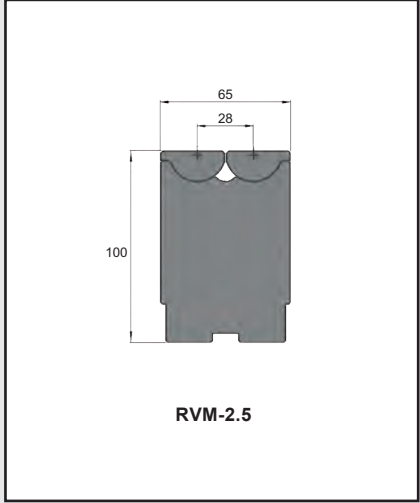
Model 1



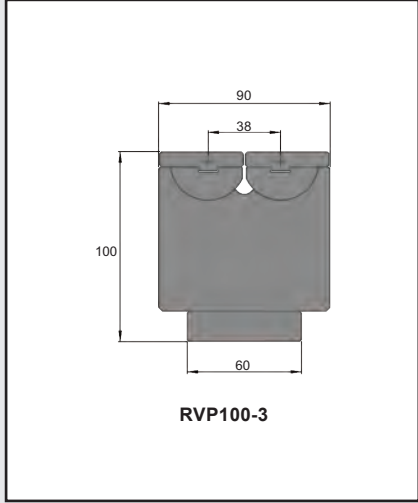
Model 2



Model 2.5



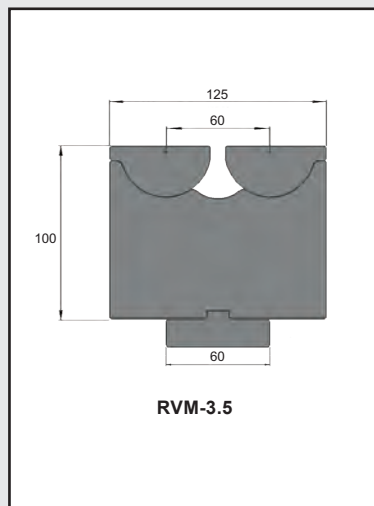
Model 3



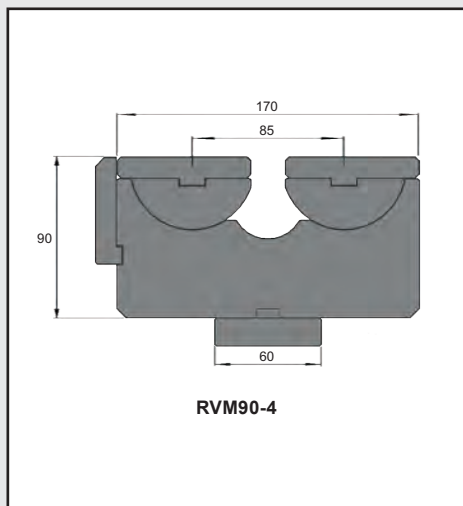
Press Brake  
Tooling

# Rolla V

## Model 3.5



## Model 4



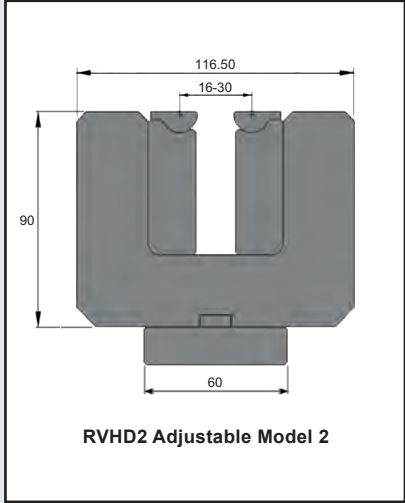
## Lengths

| Model     | Length | Sec Length                                          |
|-----------|--------|-----------------------------------------------------|
| Model 1   | 500 mm | 1x15, 1x20, 1x25, 1x30, 1x50, 1x100, 1x200 = 440 mm |
| Model 2   | 500 mm | 1x20, 1x25, 1x30, 1x35, 1x40, 1x100, 1x200 = 450 mm |
| Model 2.5 | 500 mm | 1x35, 1x40, 1x45, 1x50, 1x100, 1x200 = 470 mm       |
| Model 3   | 500 mm | 1x45, 1x50, 1x60, 1x100, 1x200 = 455 mm             |

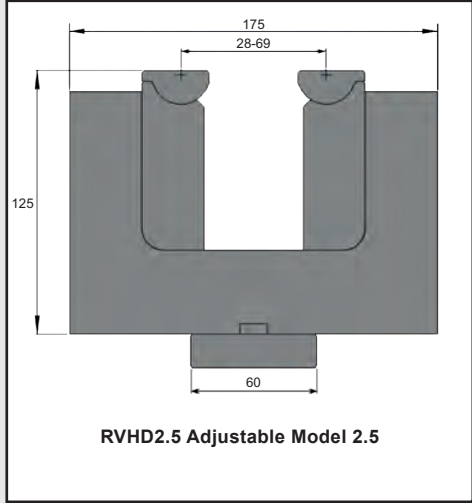
| Model     | Length | Length |
|-----------|--------|--------|
| Model 3.5 | 250 mm | 500 mm |
| Model 4   | 250 mm | 500 mm |

# Adjustable Rolla V

Model 2 Adjustable

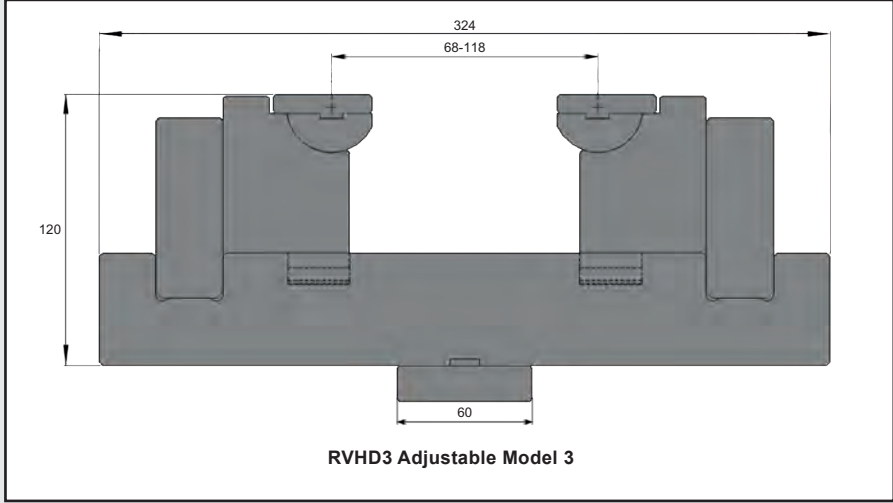


Model 2.5 Adjustable



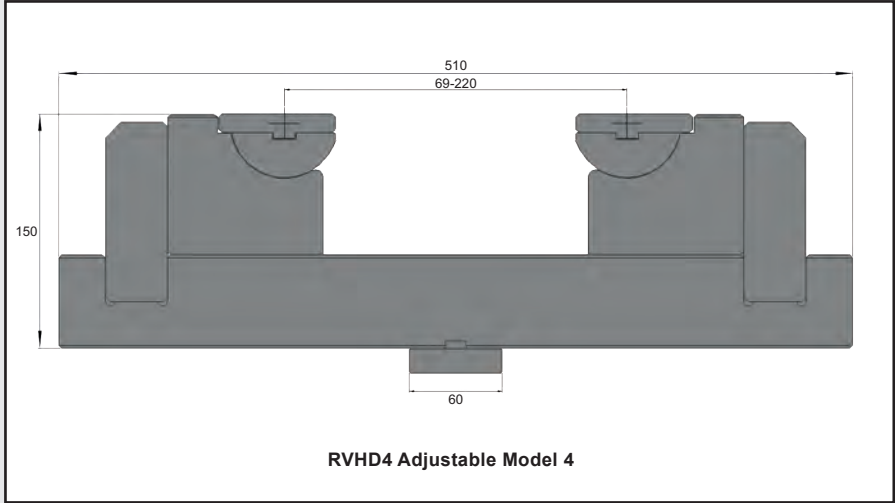
Press Brake  
Tooling

Model 3 Adjustable



# Adjustable Rolla V

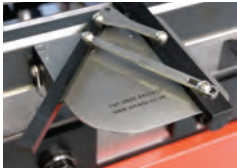
## Model 4 Adjustable



## Lengths

| Model                | Length | Length |
|----------------------|--------|--------|
| Model 2 Adjustable   | 250 mm | 500 mm |
| Model 2.5 Adjustable | 250 mm | 500 mm |
| Model 3 Adjustable   | 250 mm | 500 mm |
| Model 4 Adjustable   | 250 mm | 500 mm |

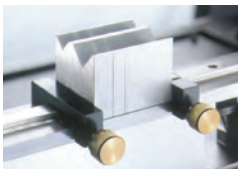
# Accessories

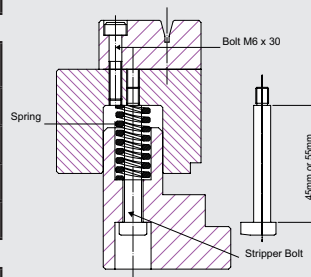
| Code                   | Price | Magnetic Squaring Arm (LH)                                                        | Magnetic Squaring Arm (RH)                                                        |
|------------------------|-------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| 93000L<br>(Left Hand)  | £219  |  |  |
| 93000R<br>(Right Hand) | £219  |                                                                                   |                                                                                   |

| Code                   | Price | Side Gauge                                                                        |
|------------------------|-------|-----------------------------------------------------------------------------------|
| 930000<br>(Side Gauge) | £280  |  |

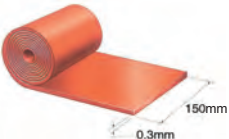
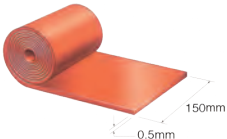
| Code   | Price | 2V & 1V Die Accessories     |
|--------|-------|-----------------------------|
| 800100 | £0.74 | Set bolt for 2V Die M8 x 25 |
| 800200 | £1.59 | Spring for 1V & 2V Die      |
| 800300 | £1.59 | Washer for 2V Die           |
| 800400 | £0.74 | Set bolt for 1V Die M8 x 30 |
| 800500 | £3.42 | Washer for 1V Die           |

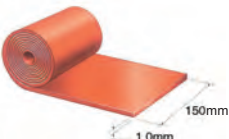
| Code   | Price | Hemming Die Accessories  |
|--------|-------|--------------------------|
| 800600 | £2.96 | Stripper bolt STO 8 x 45 |
| 800690 | £2.96 | Stripper bolt STO 8 x 55 |
| 800800 | £1.59 | Spring                   |
| 800900 | £0.74 | Fixing bolt M6 x 30      |

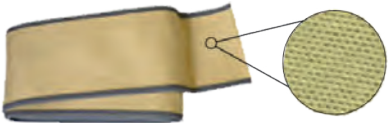
| Code   | Price | 2V Die Stopper                                                                      |
|--------|-------|-------------------------------------------------------------------------------------|
| 936000 | £67   |  |



# Marking Prevention

| Code                            | Price                   | Tool #42620                                                                                                            | Tool #42619                                                                                                                  |
|---------------------------------|-------------------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>426201</b><br>(0.3 mm thick) | <b>£17</b><br>Per metre |  <p>For use up to 1 mm Mild Steel</p> |  <p>For use from 1 mm - 2 mm Mild Steel</p> |
| <b>426191</b><br>(0.5 mm thick) | <b>£23</b><br>Per metre |                                                                                                                        |                                                                                                                              |

| Code                            | Price                   | Tool #42618                                                                                                           | Marking Protection Strip                                                          |
|---------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <b>426181</b><br>(1.0 mm thick) | <b>£34</b><br>Per metre |  <p>For use over 2 mm Mild Steel</p> |  |
| <b>909910</b><br>(0.3 mm thick) | <b>£179</b><br>(10 m)   |                                                                                                                       |                                                                                   |

| Code                    | Price      | KIZU-NON Material                                                                                                                 |
|-------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <b>999905</b><br>(5 m)  | <b>POA</b> |  <p>For use up to 6 mm thick stainless steel</p> |
| <b>999910</b><br>(10 m) | <b>POA</b> |                                                                                                                                   |

## Tooling Cabinet

### Tooling Cabinet:

Keep your tooling organised and free from workplace atmospheric dust.

|               |                |
|---------------|----------------|
| <b>Width</b>  | <b>1040 mm</b> |
| <b>Height</b> | <b>1240 mm</b> |
| <b>Depth</b>  | <b>1000 mm</b> |

Safe working load = 650 kg

**Code: 990000**

**Price: £2,350**





OMADA

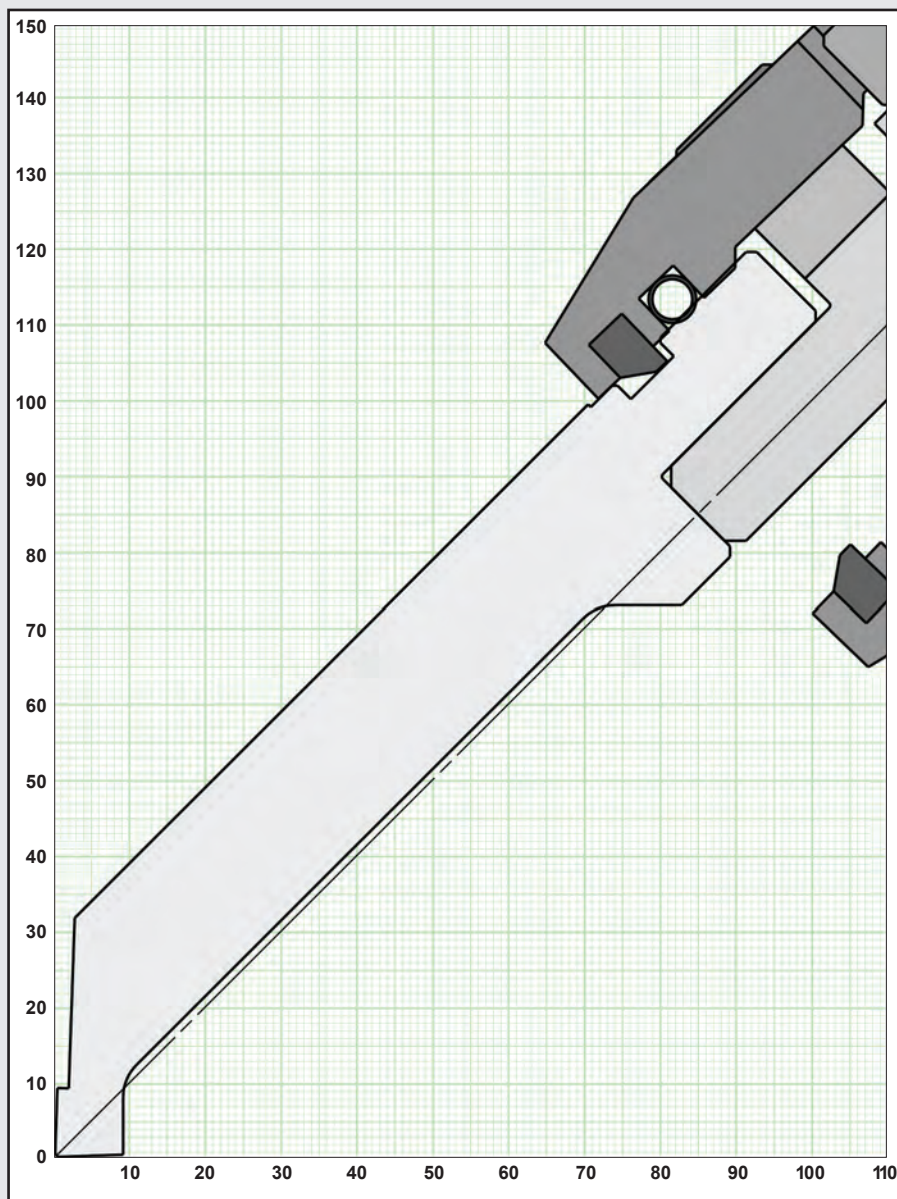
OMADA

OMADA  
M11 DINO-2 SMALLER  
1/6  
18  
SF 3015 EU  
M11 DINO-2 SMALLER  
1/6  
18  
SF 3015 EU

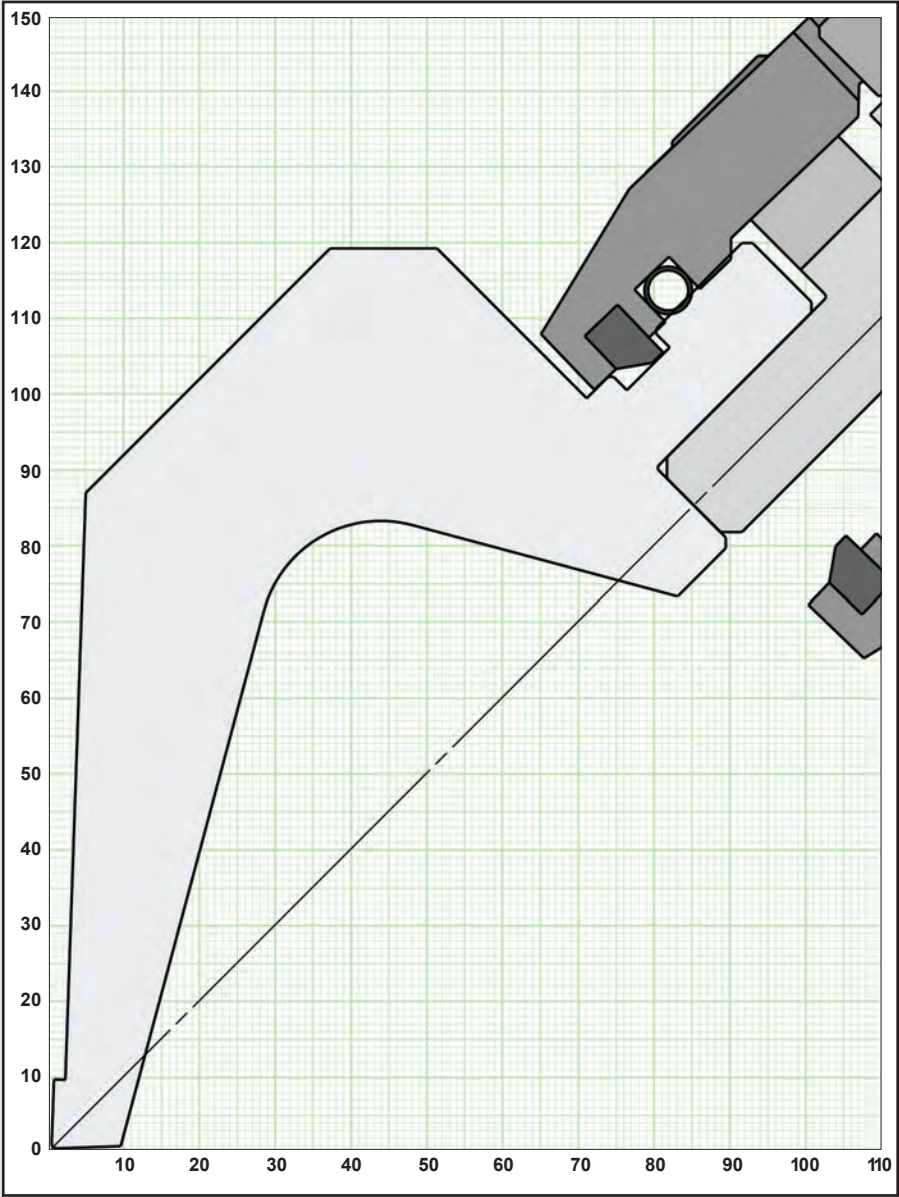




## #804

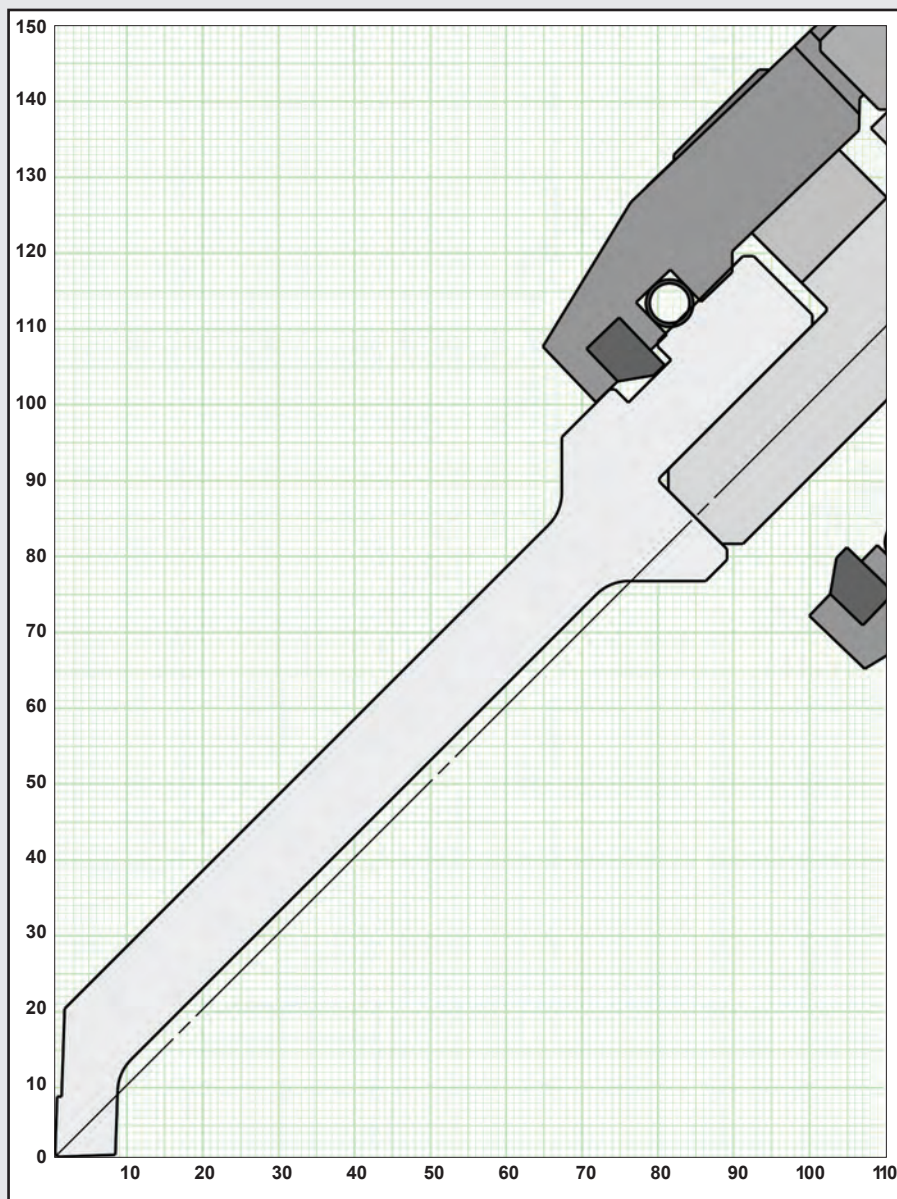
Press Brake  
Tooling

# #847



Press Brake  
Tooling

## #820

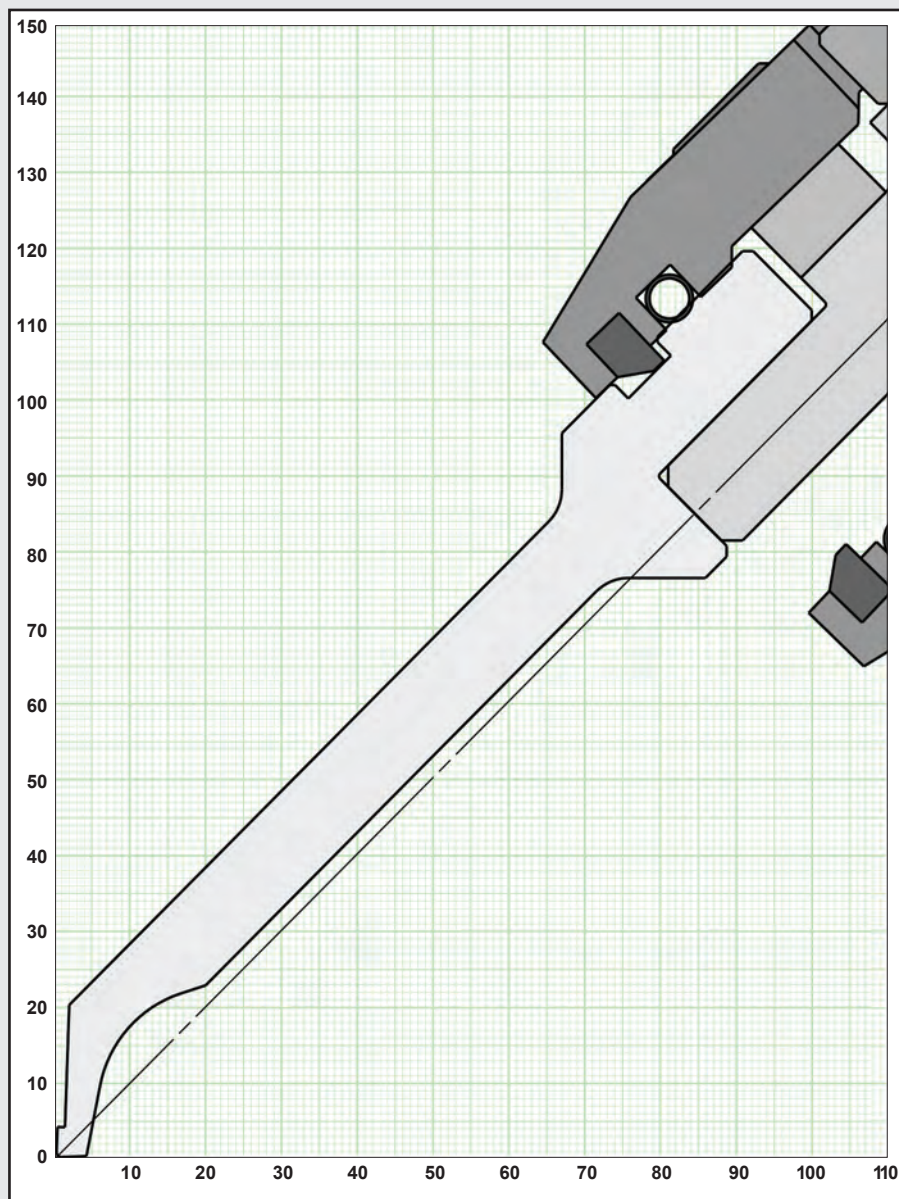
Press Brake  
Tooling



# #846

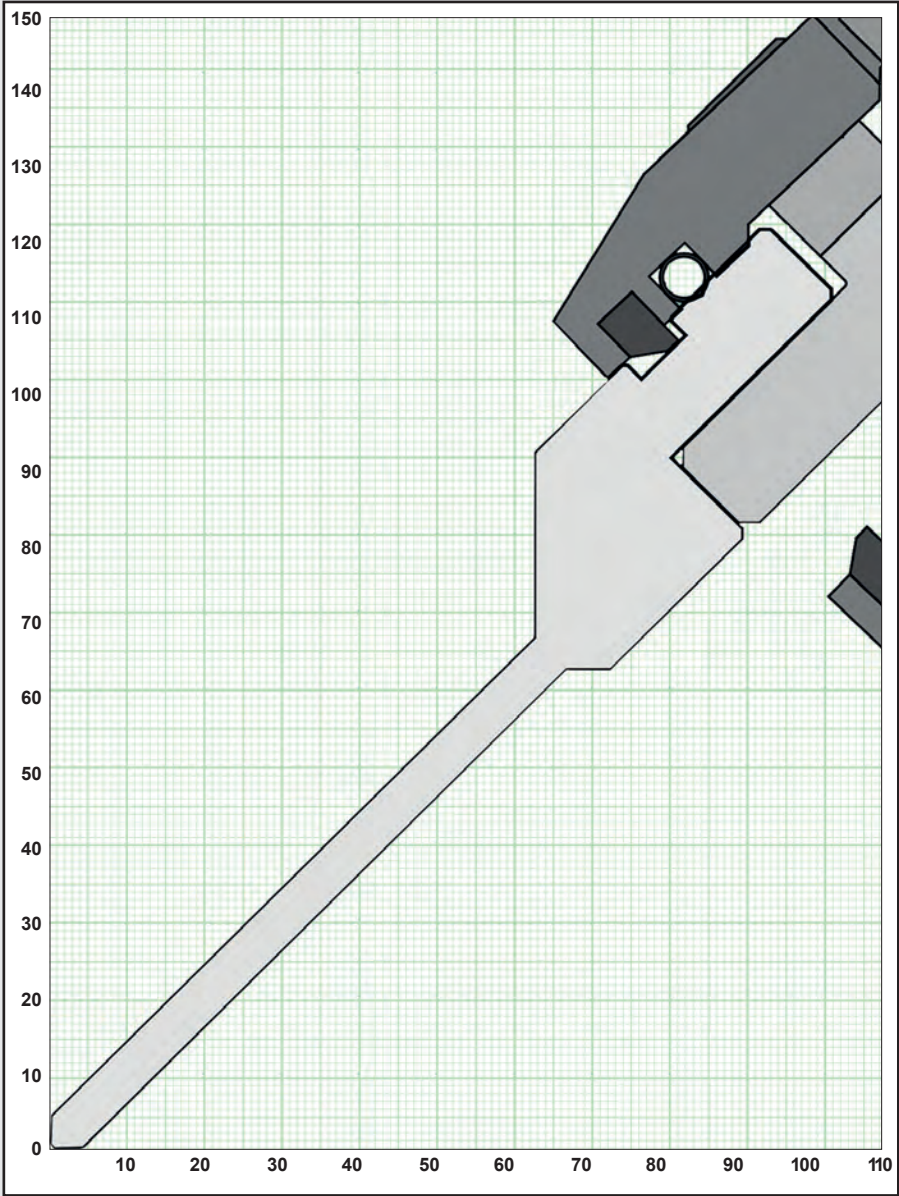


## #817



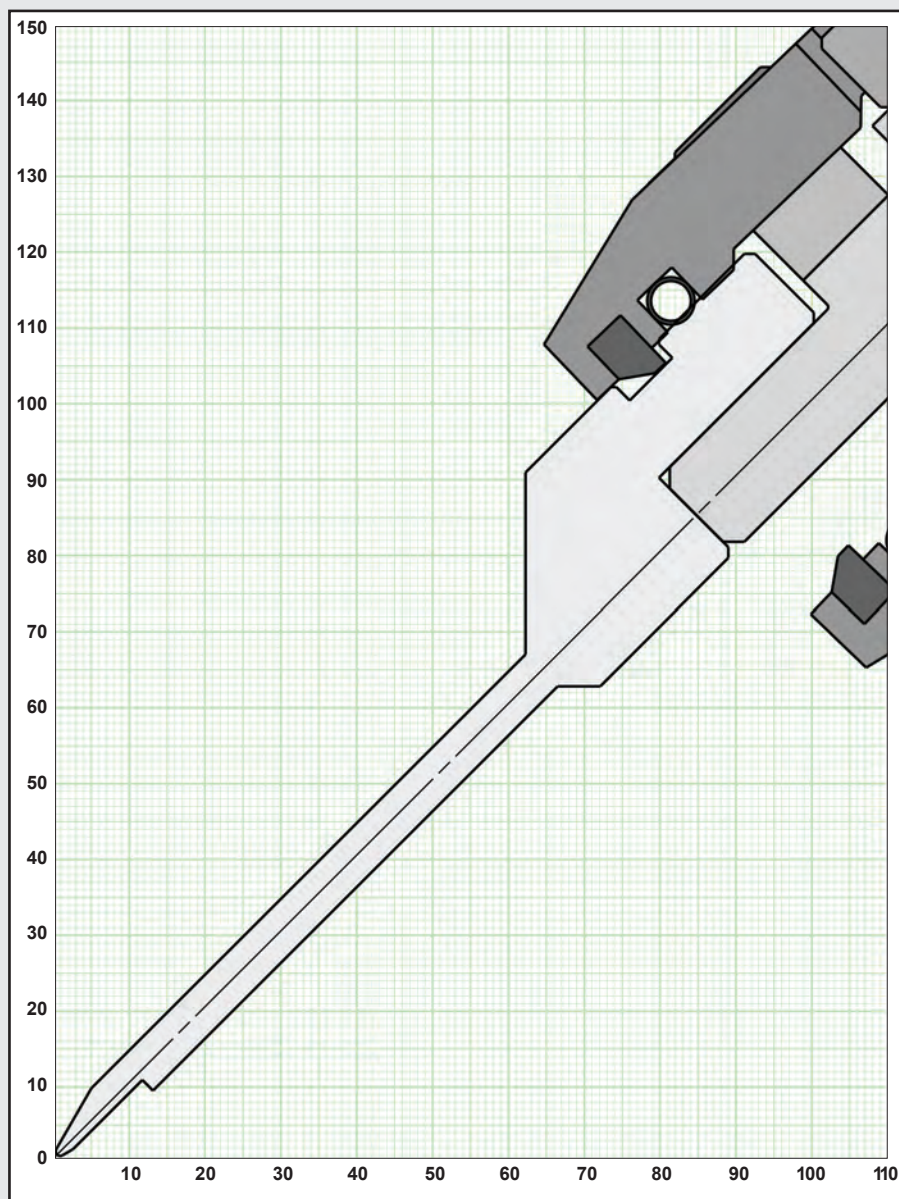
# #813

Press Brake  
Tooling



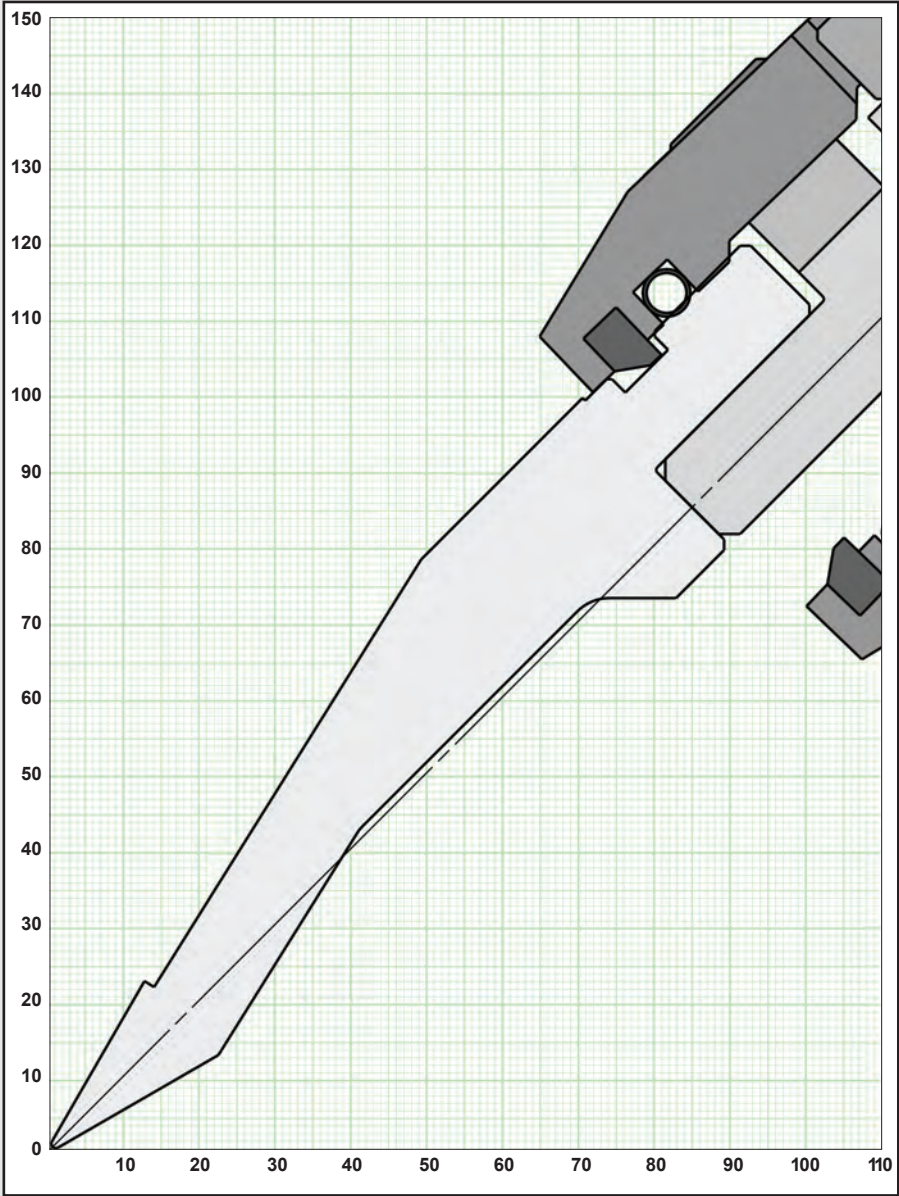


## #814

Press Brake  
Tooling

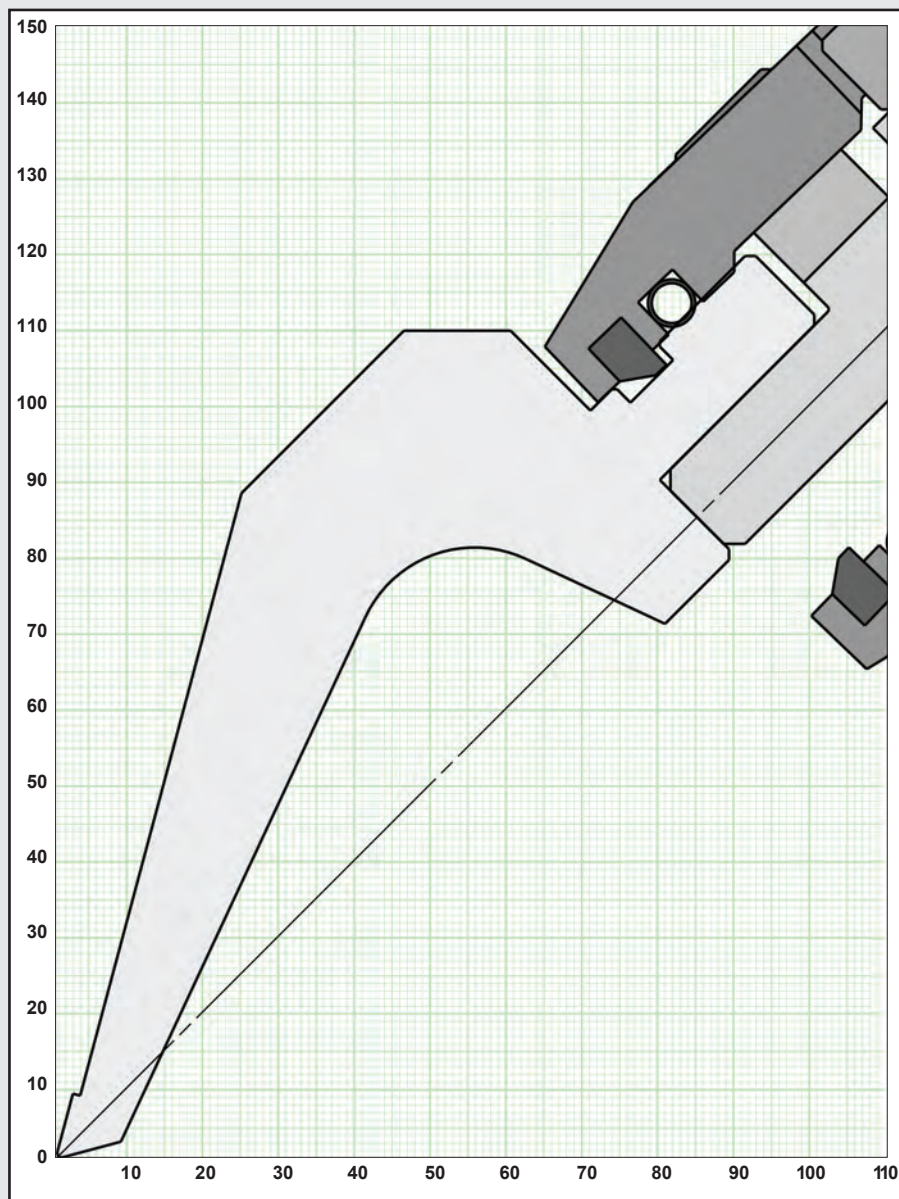
# #831

Press Brake  
Tooling



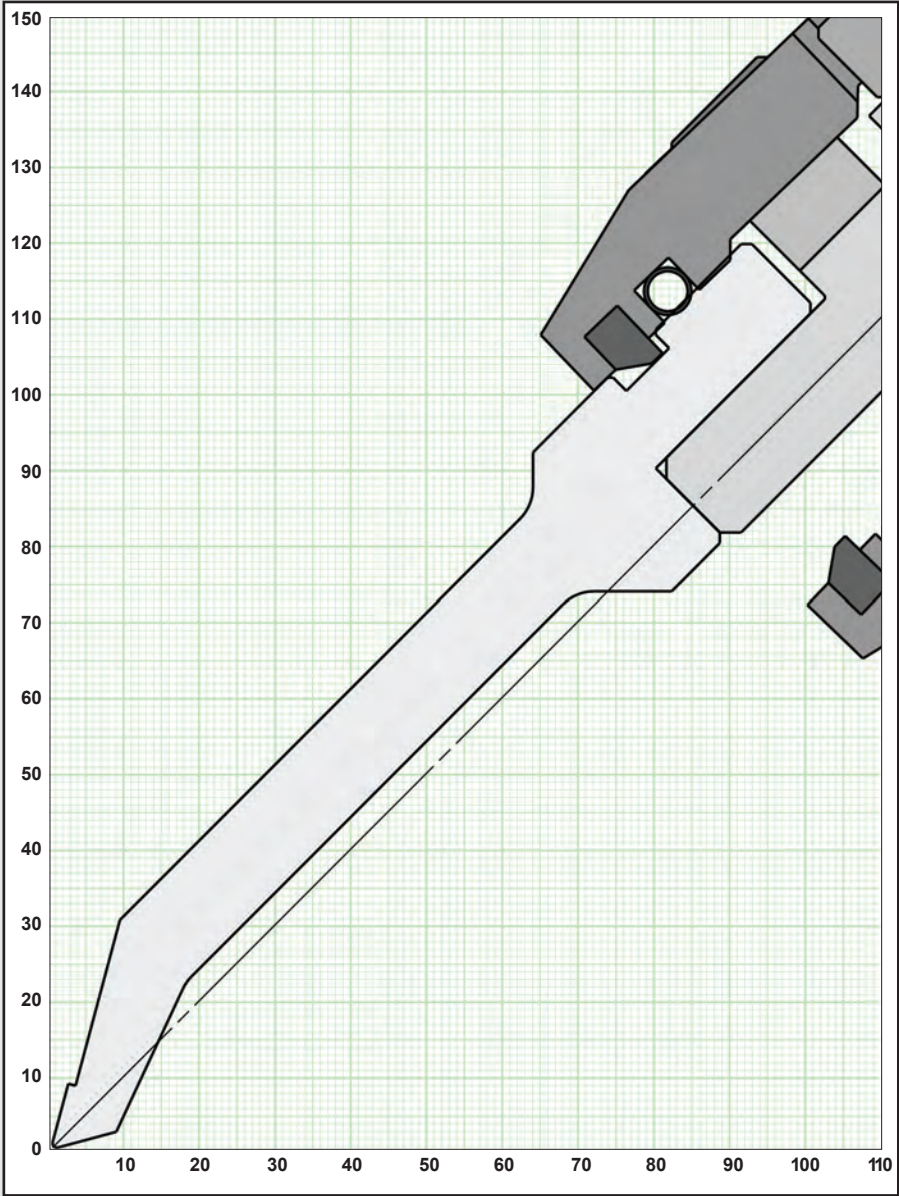


## #841

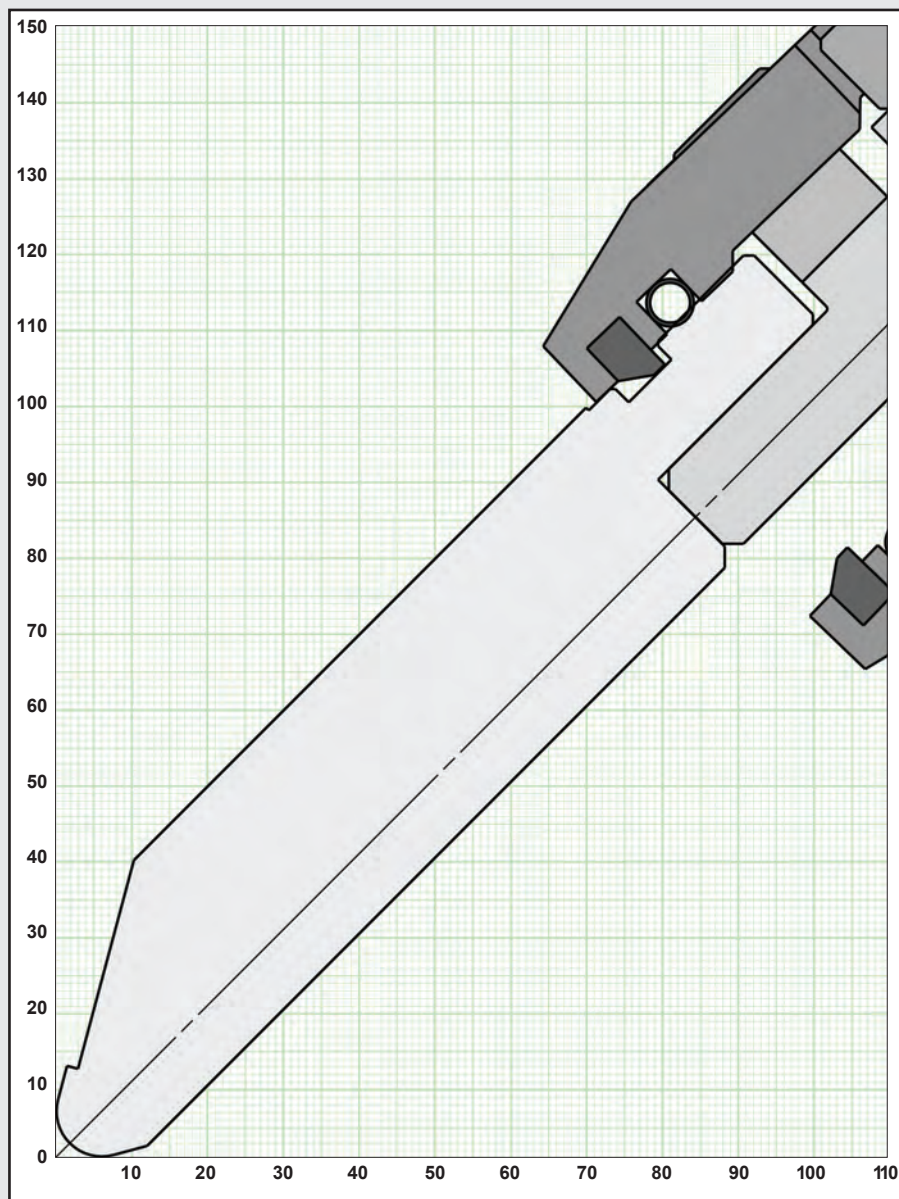
Press Brake  
Tooling

# #840

Press Brake  
Tooling

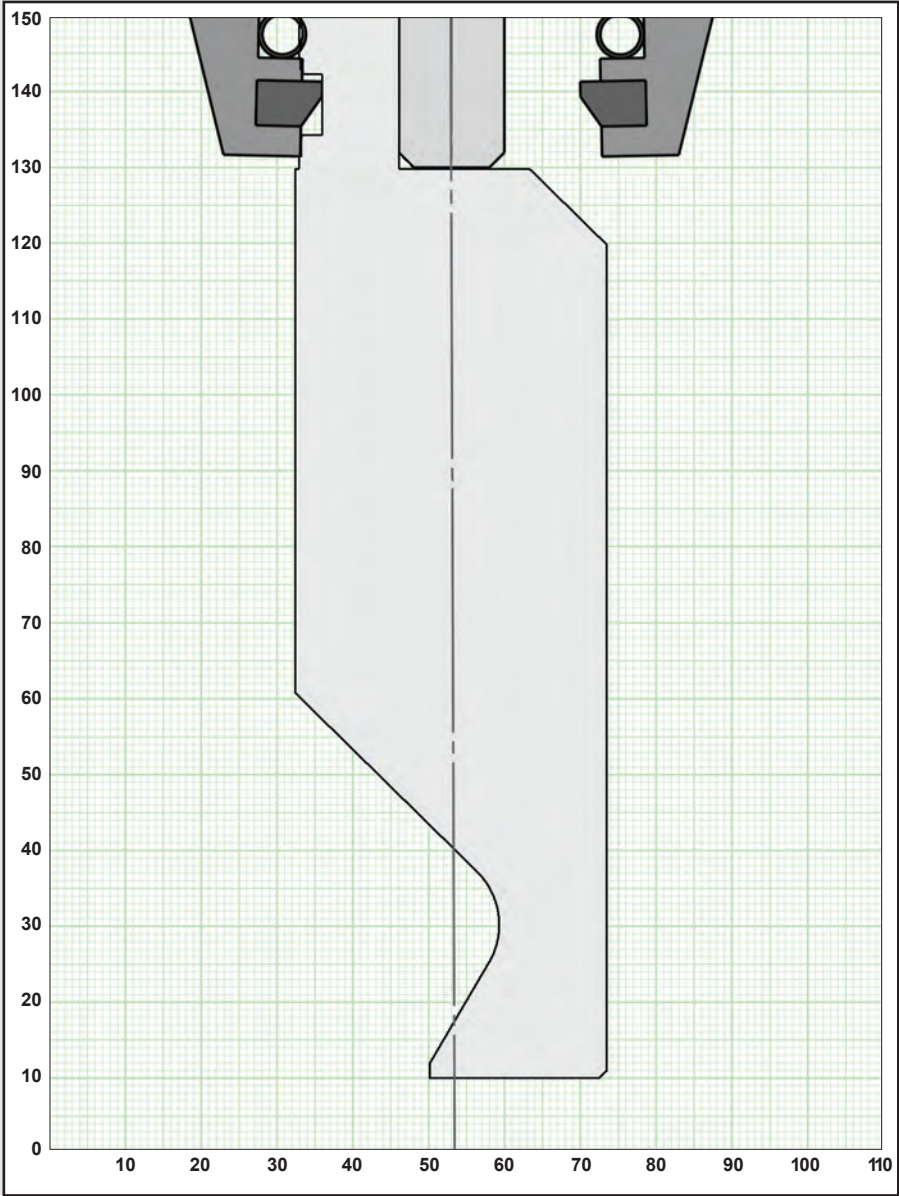


## #803



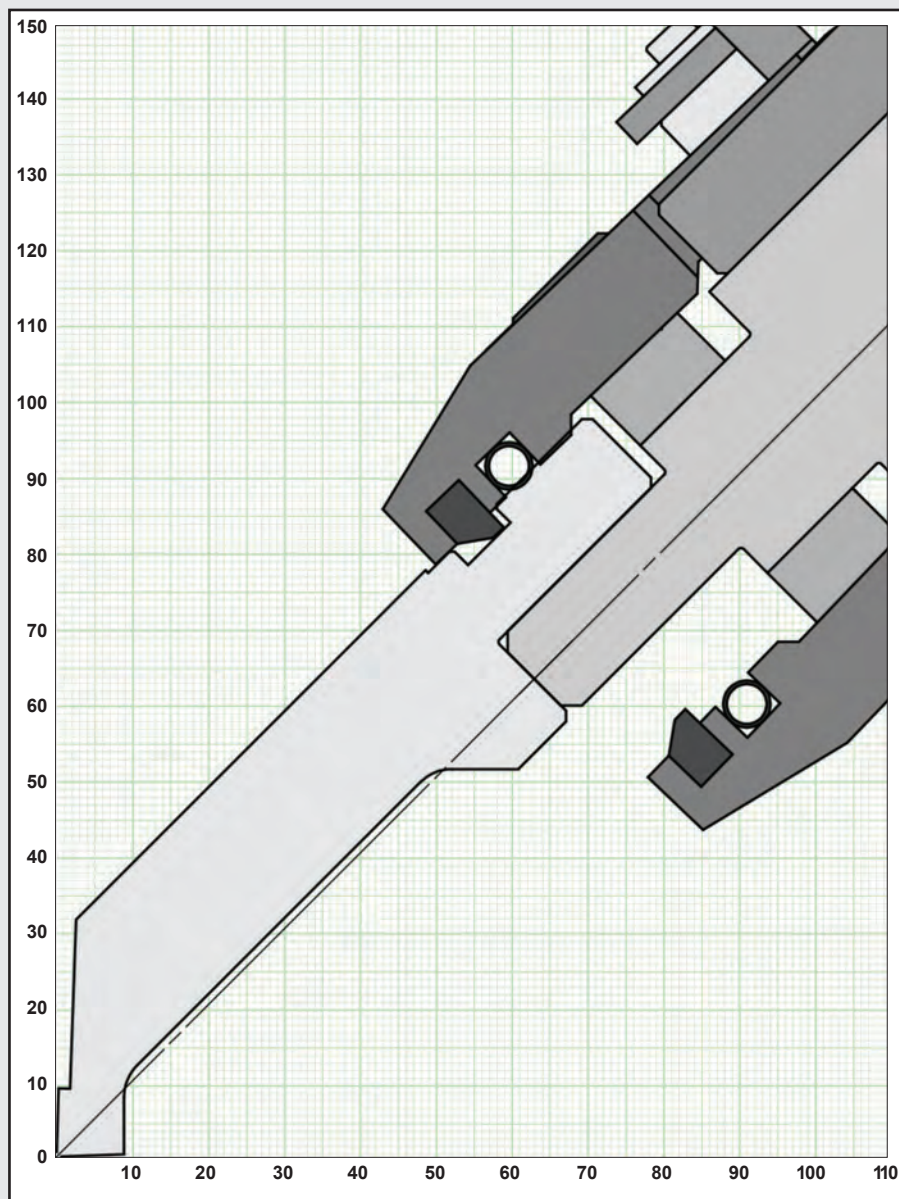


# #822



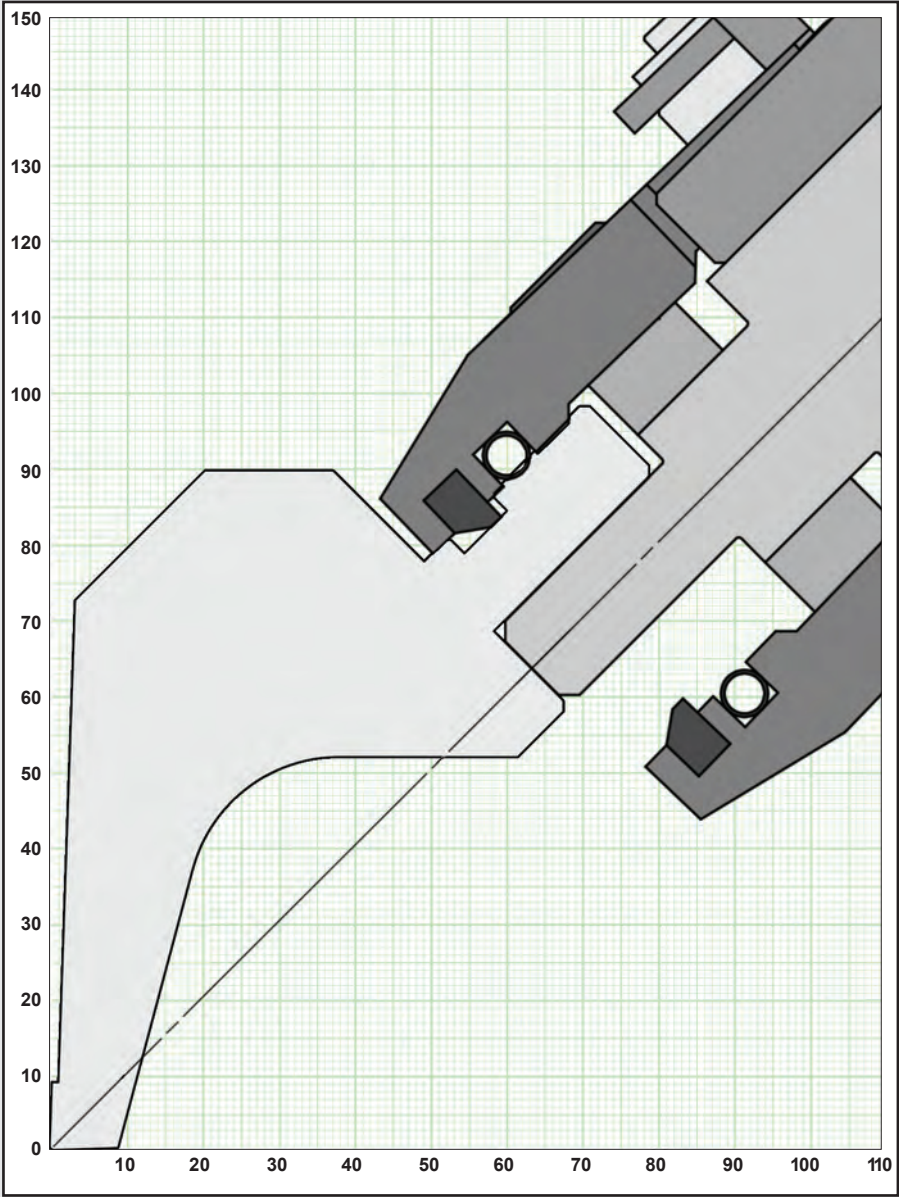
Press Brake  
Tooling

## #704



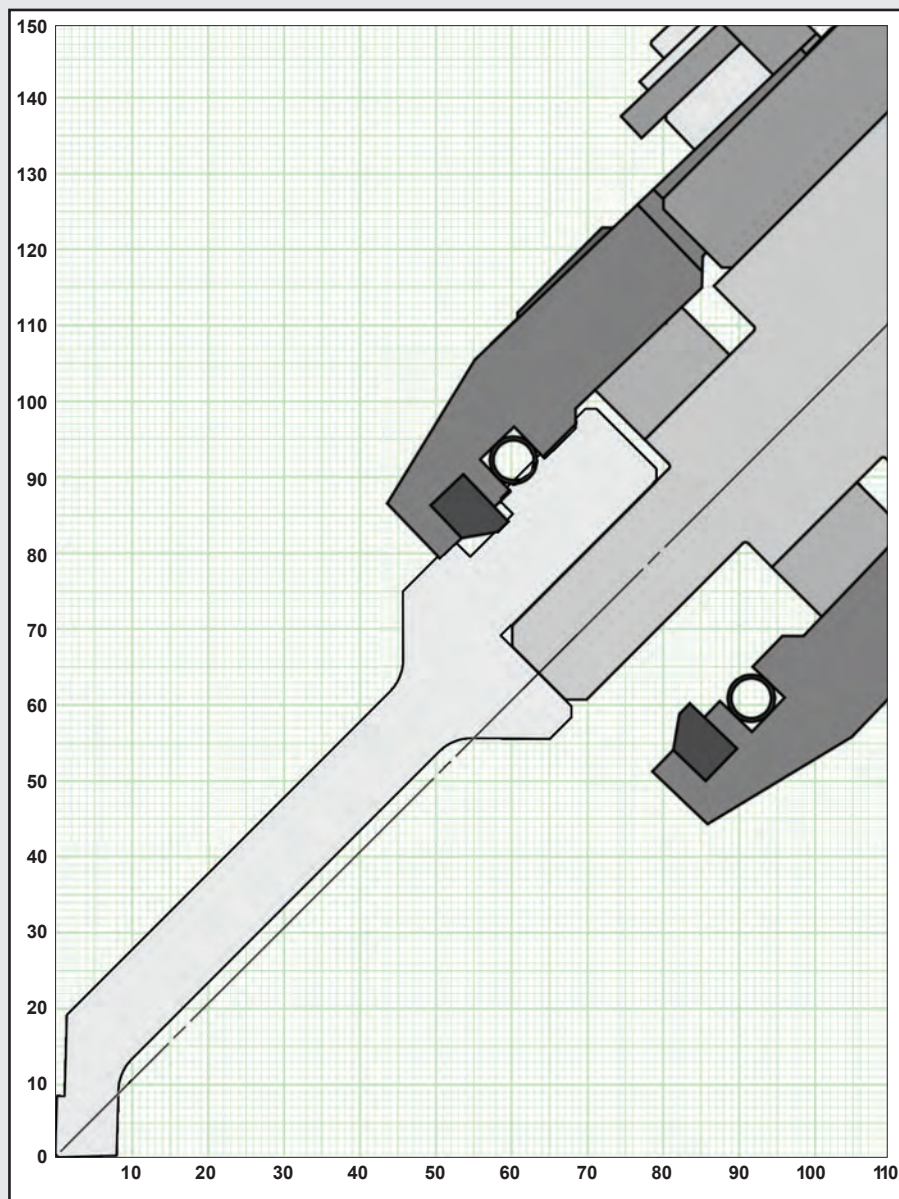
# #747

Press Brake  
Tooling



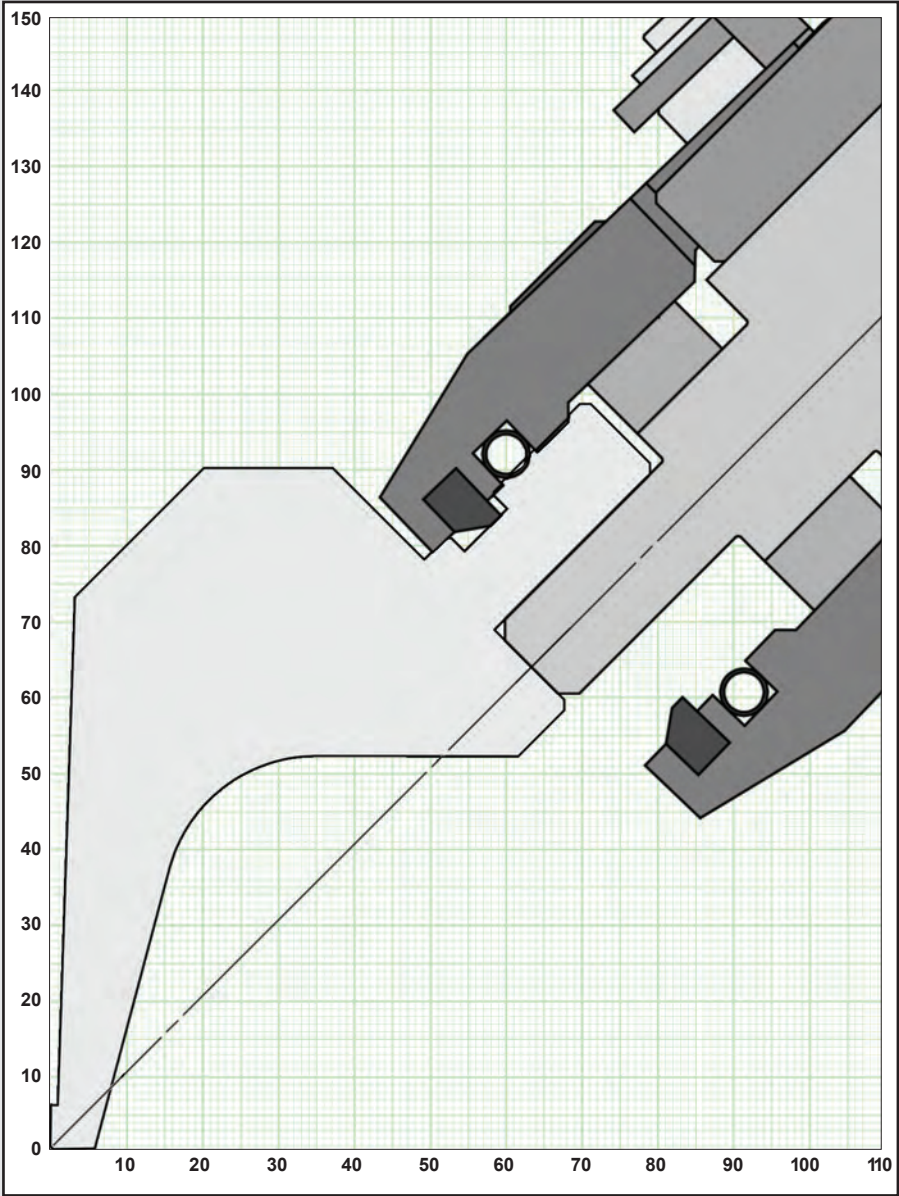


## #720



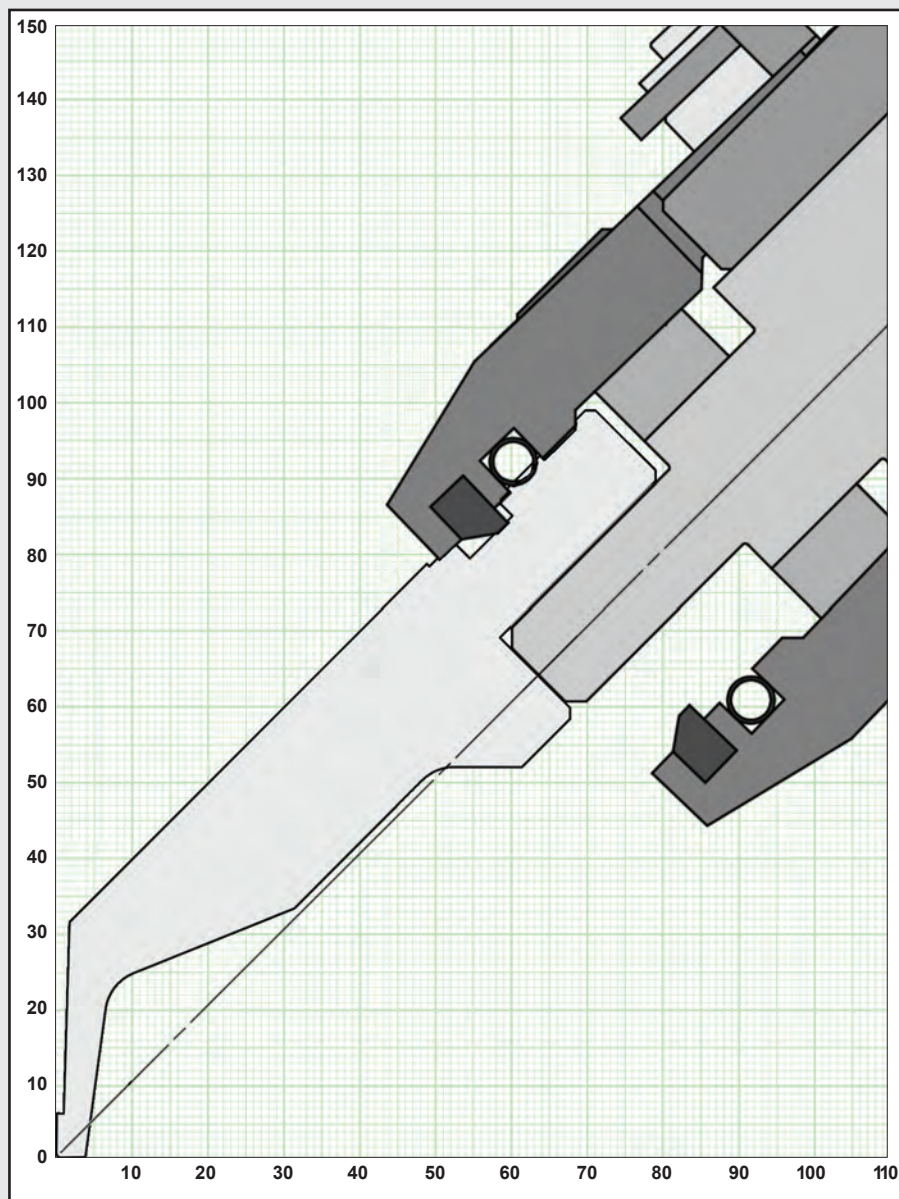
# #746

Press Brake  
Tooling



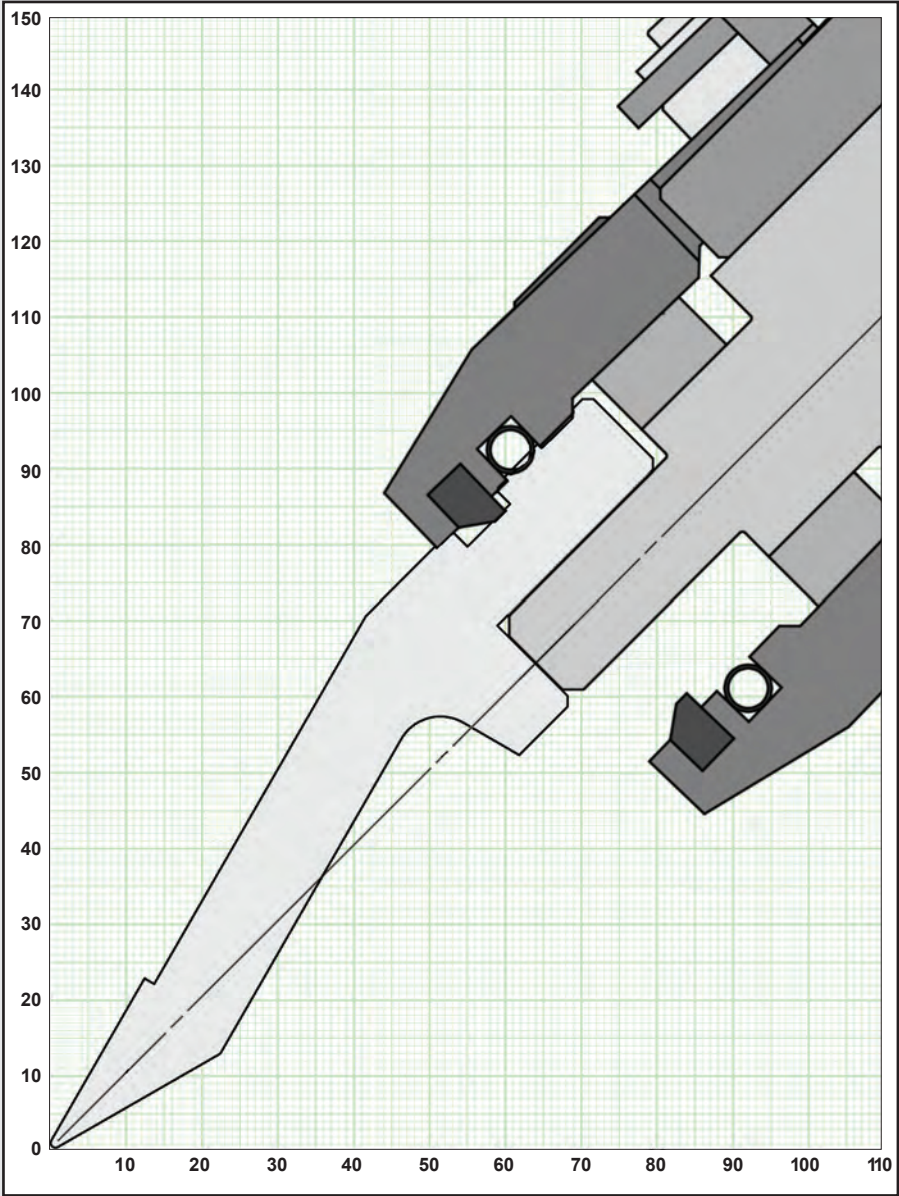


## #717

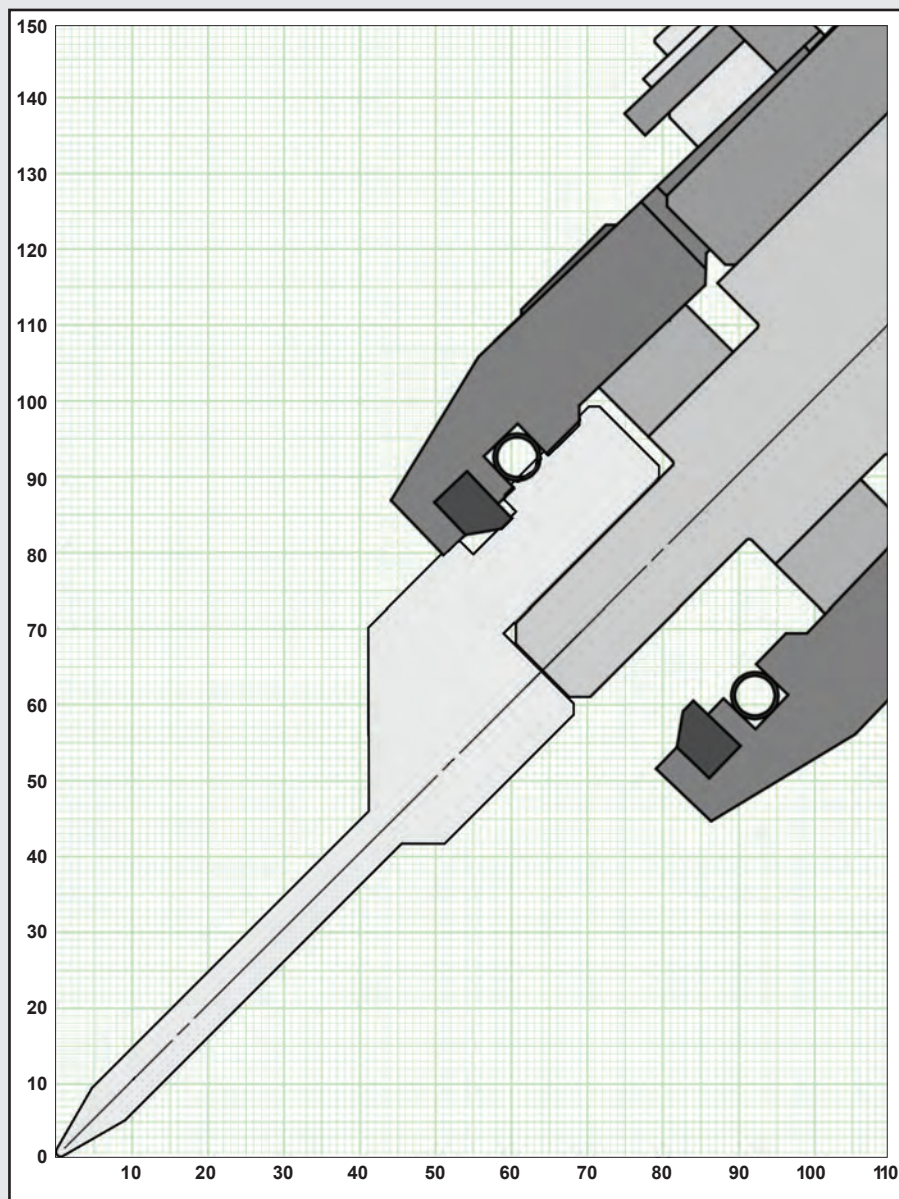


# #731

Press Brake  
Tooling



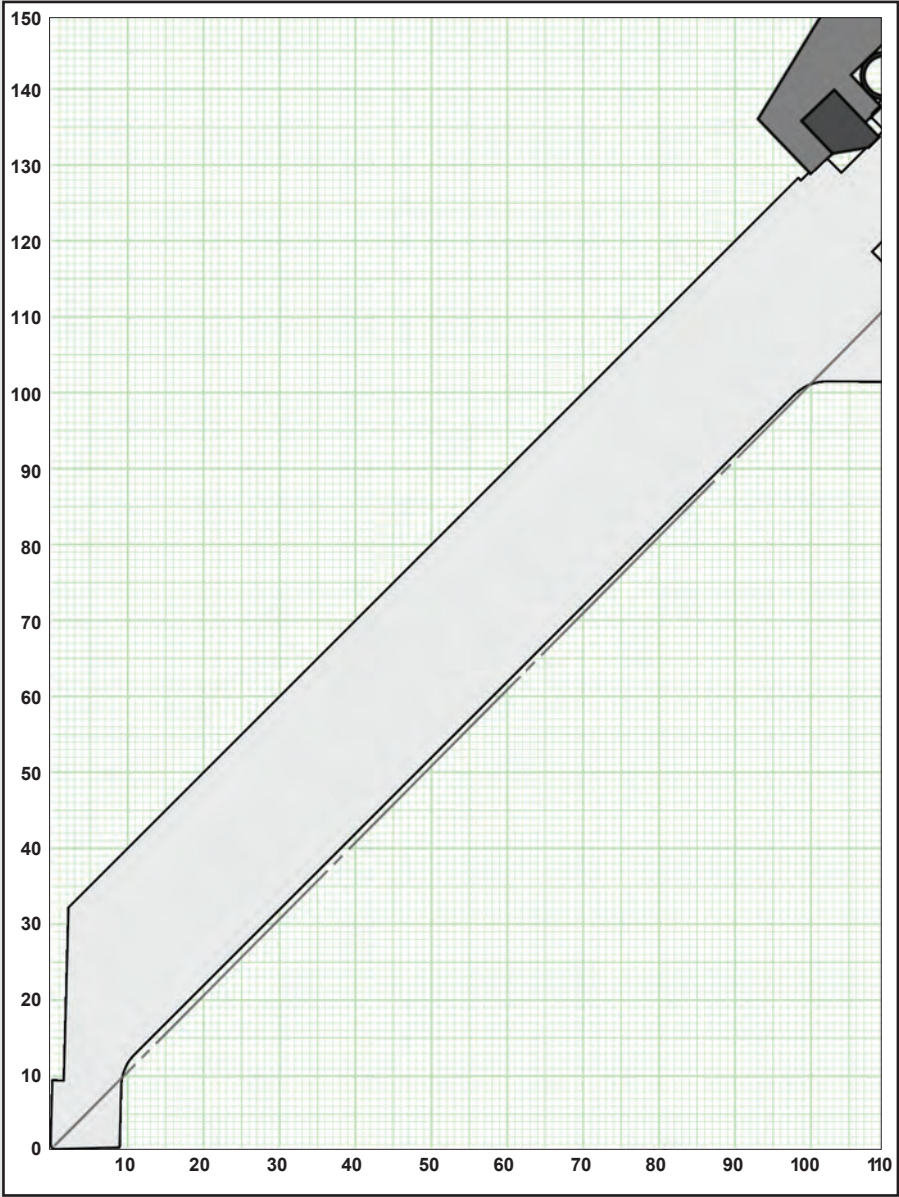
## #713



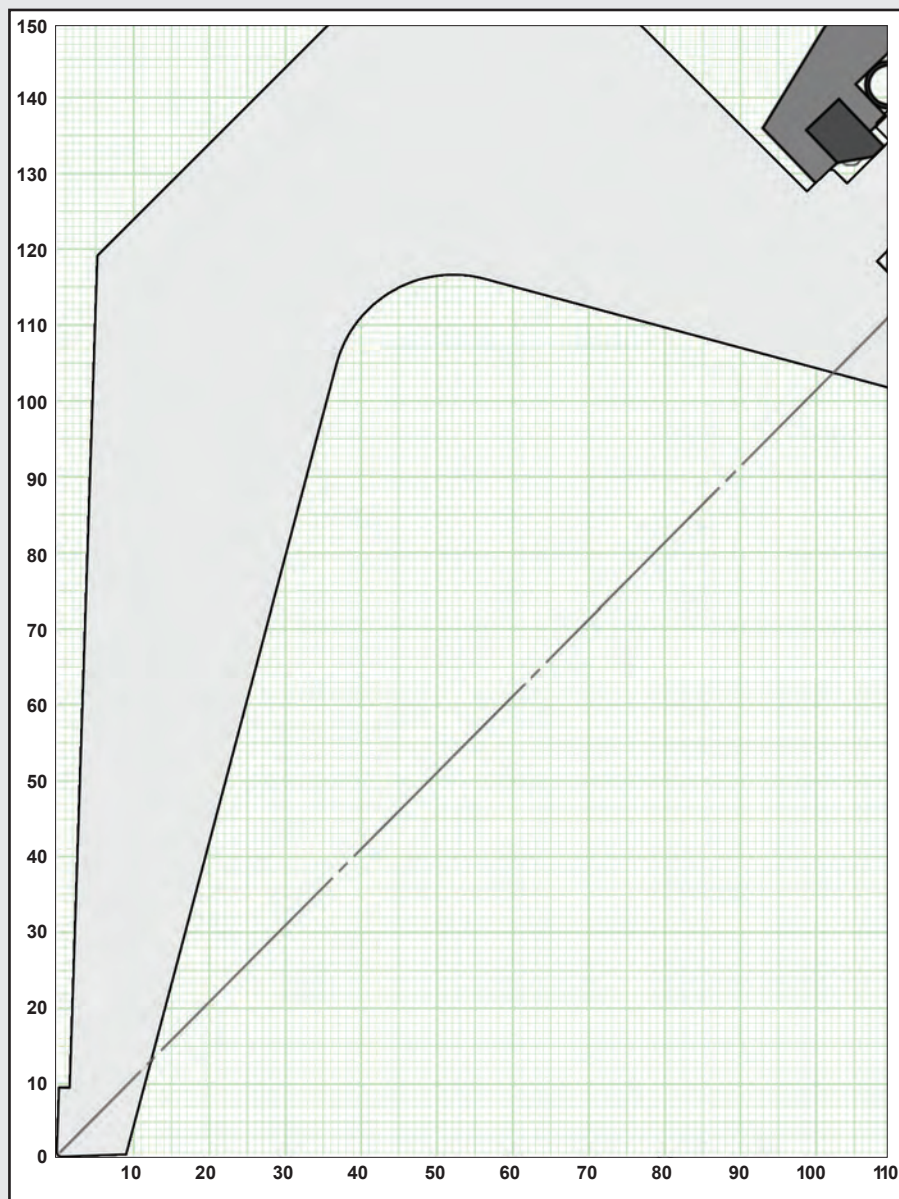


# #904

Press Brake  
Tooling

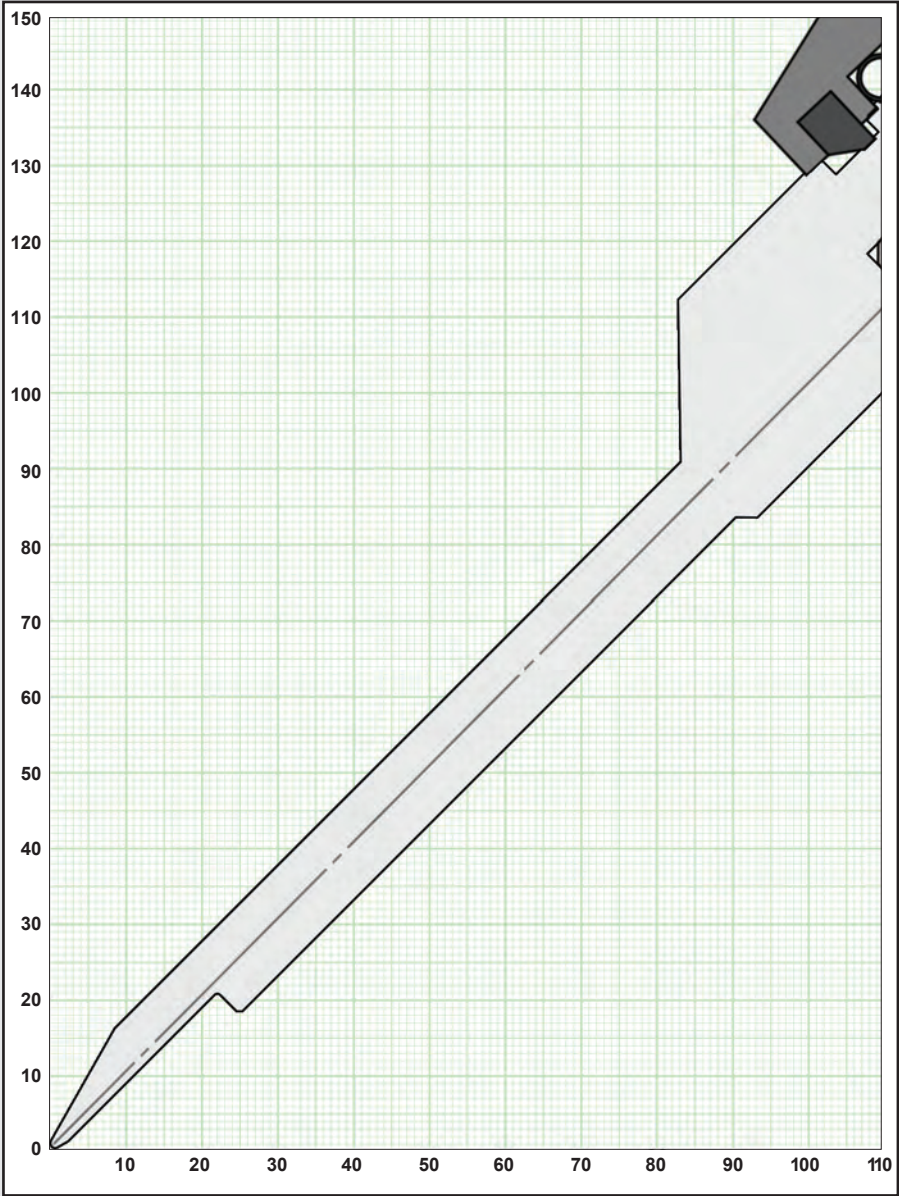


## #947



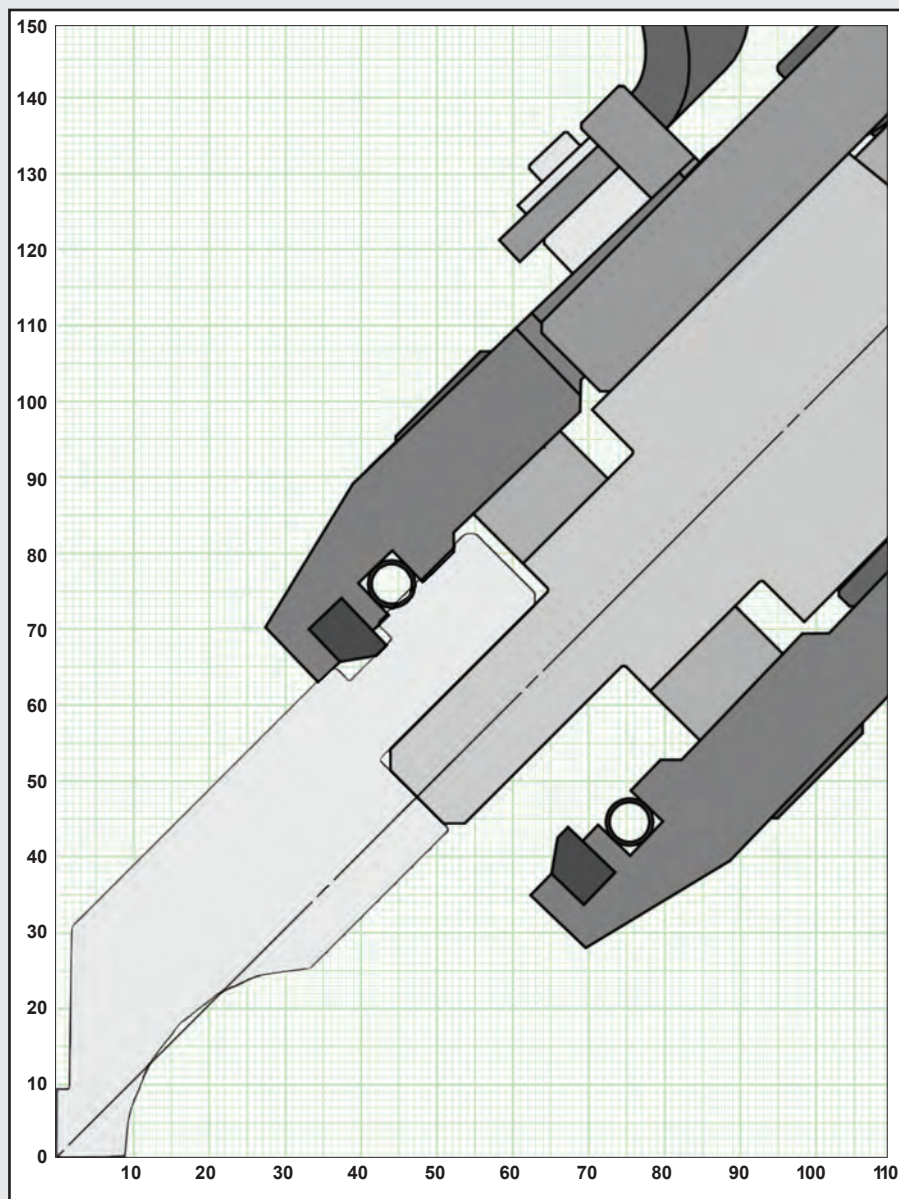
# #914

Press Brake  
Tooling



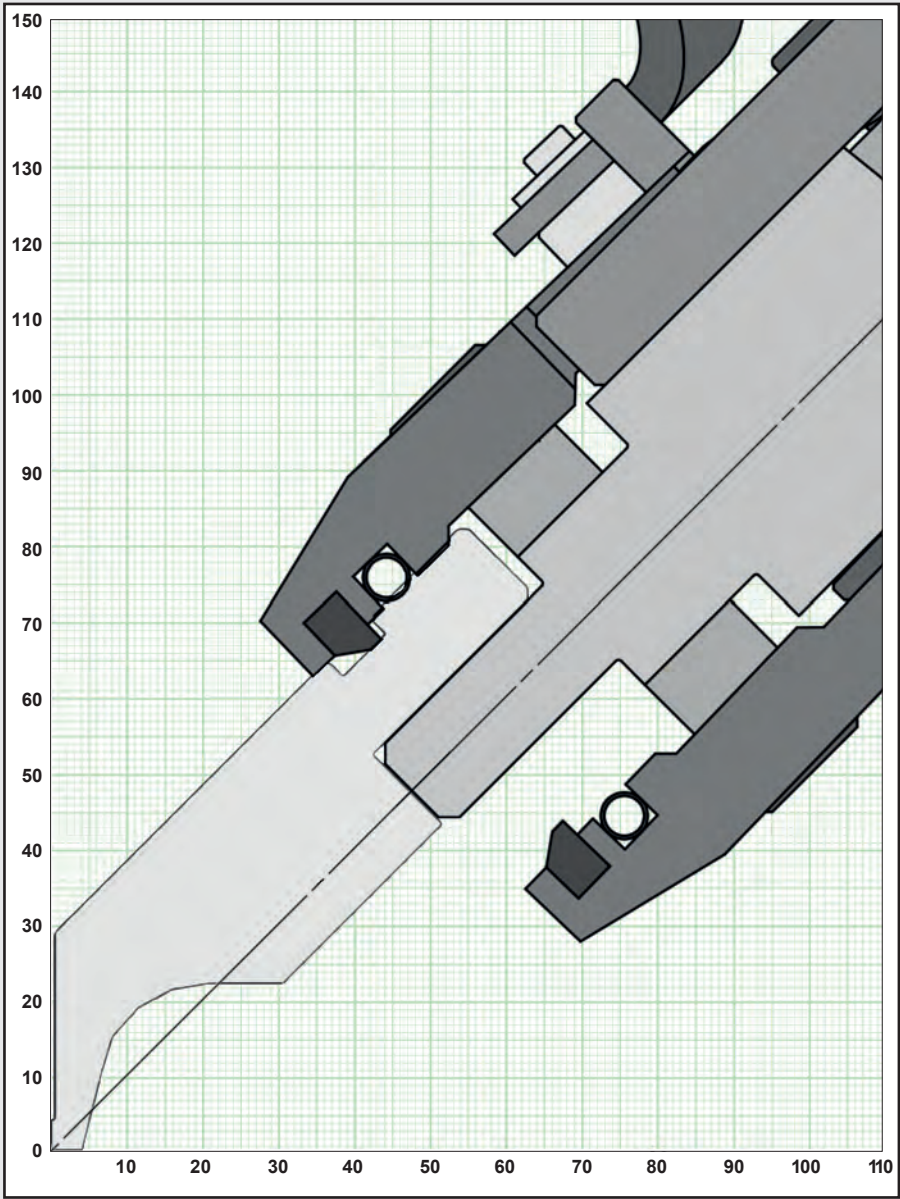


## #604



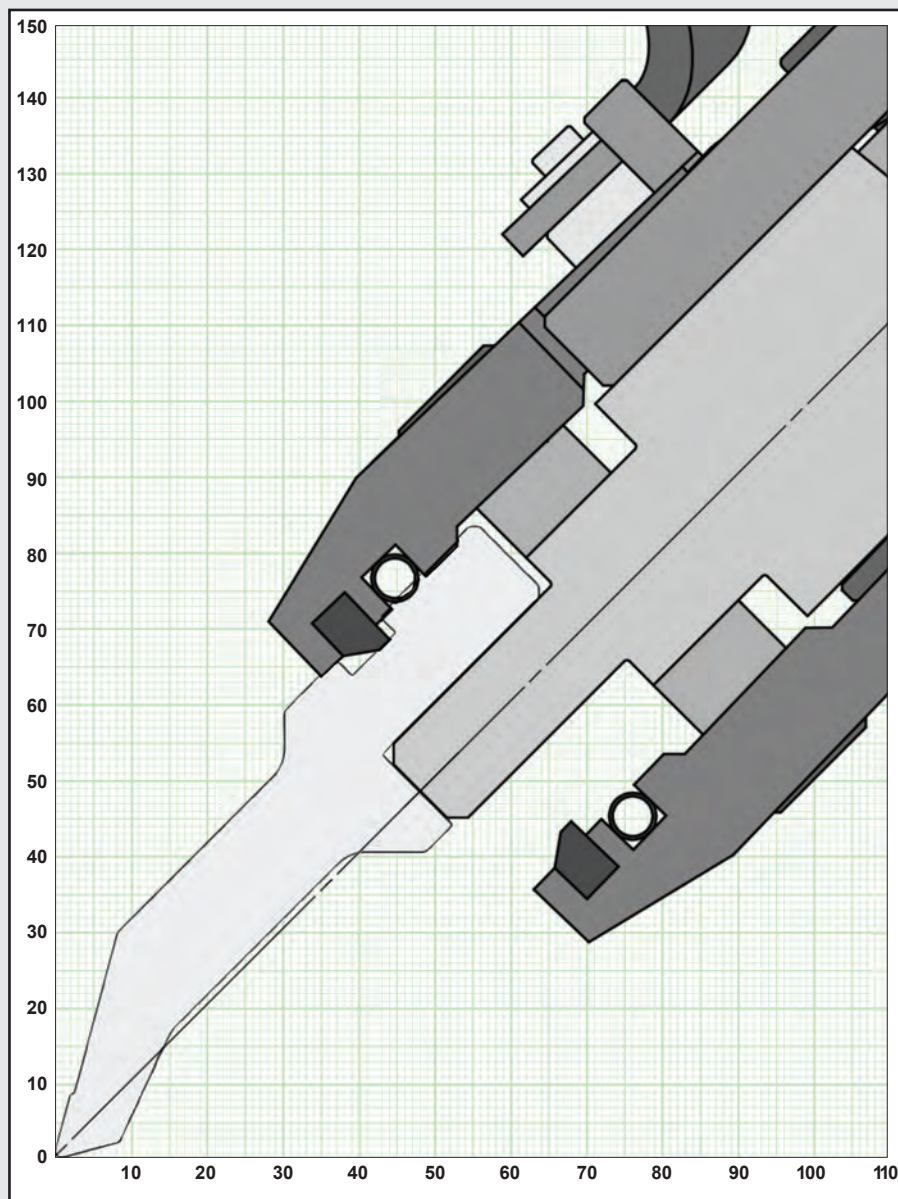
# #617

Press Brake  
Tooling



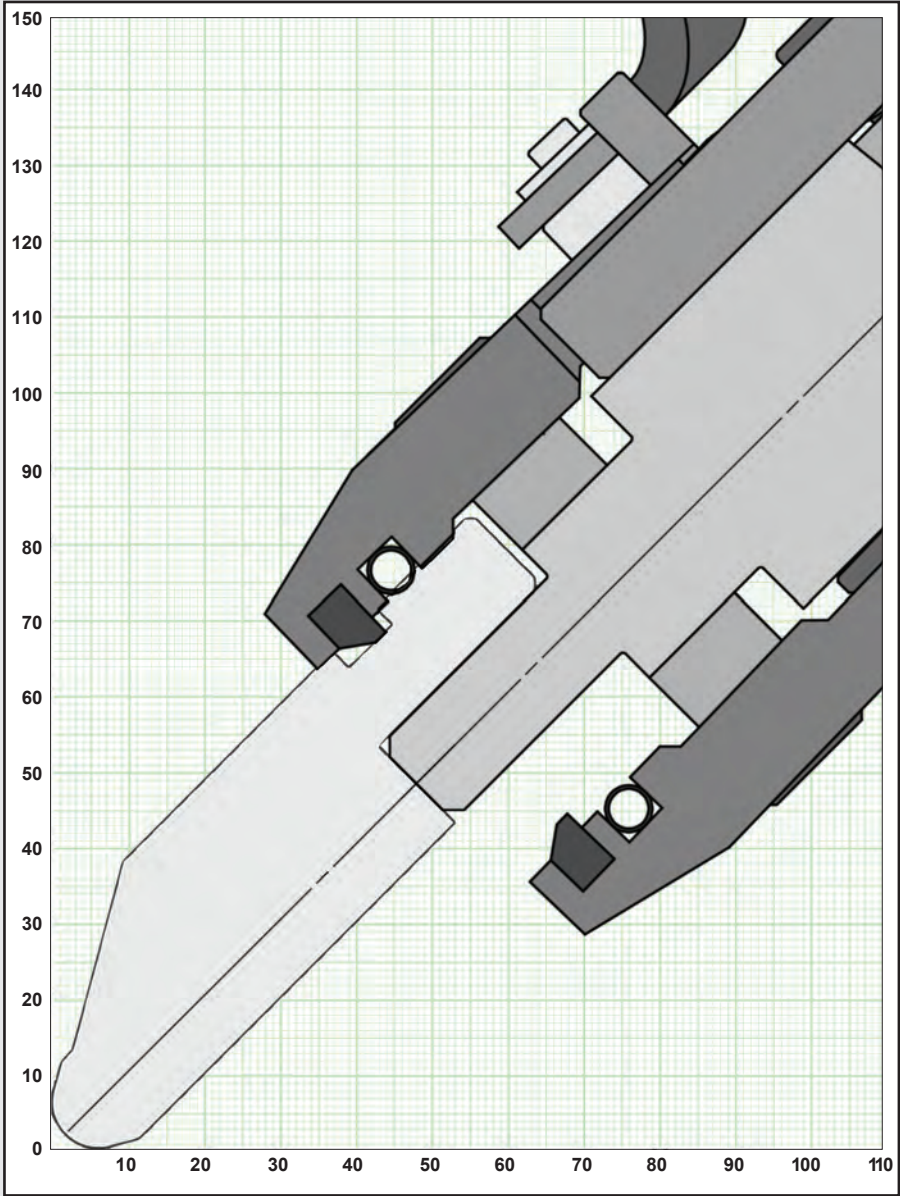


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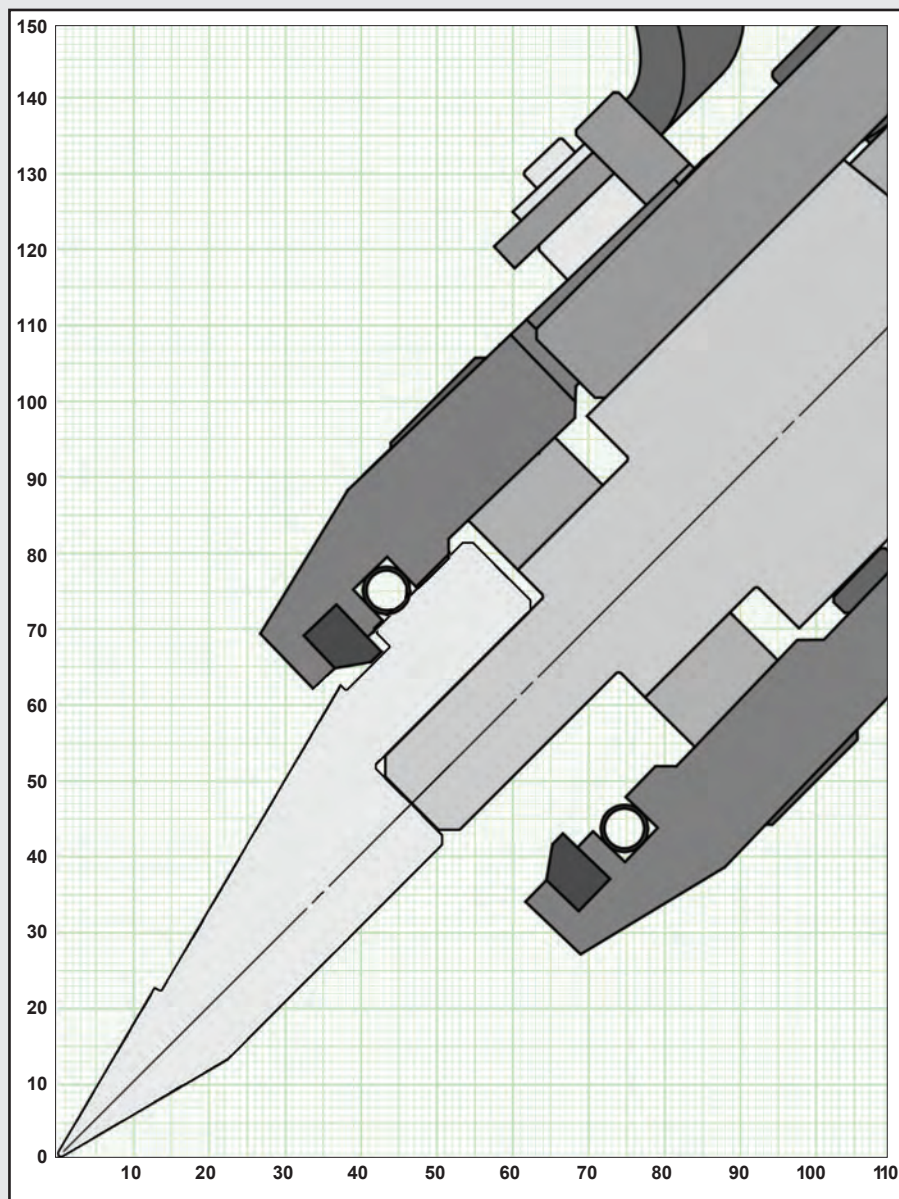


# #603

Press Brake  
Tooling

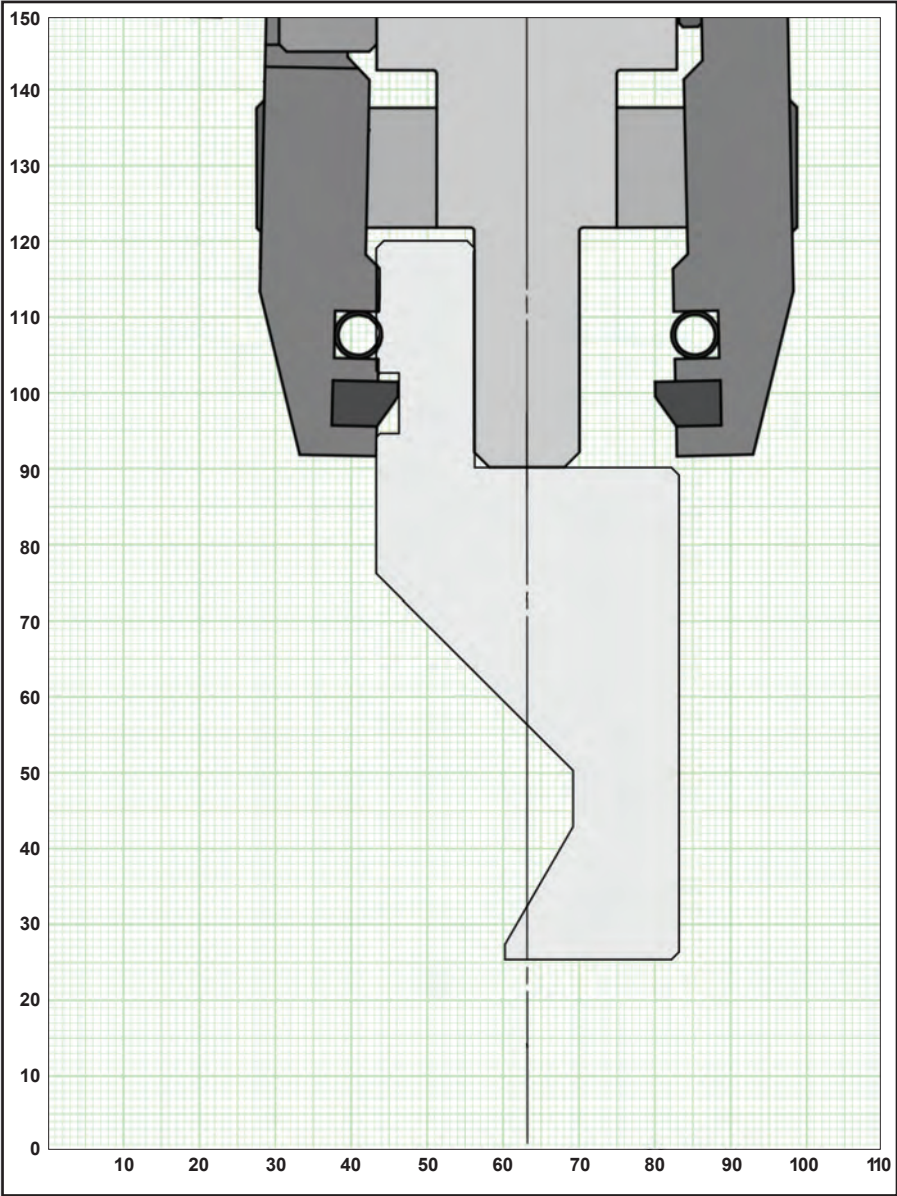


## #631



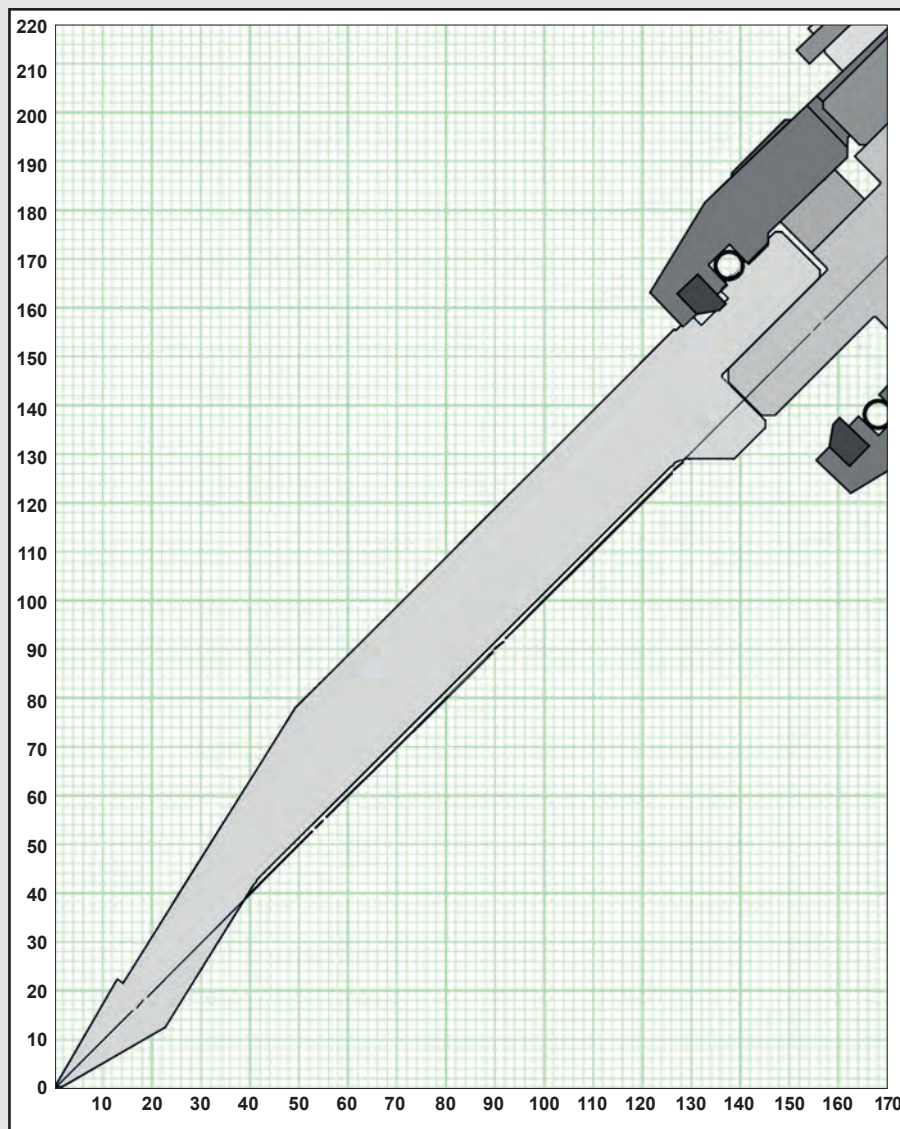


# #622



Press Brake  
Tooling

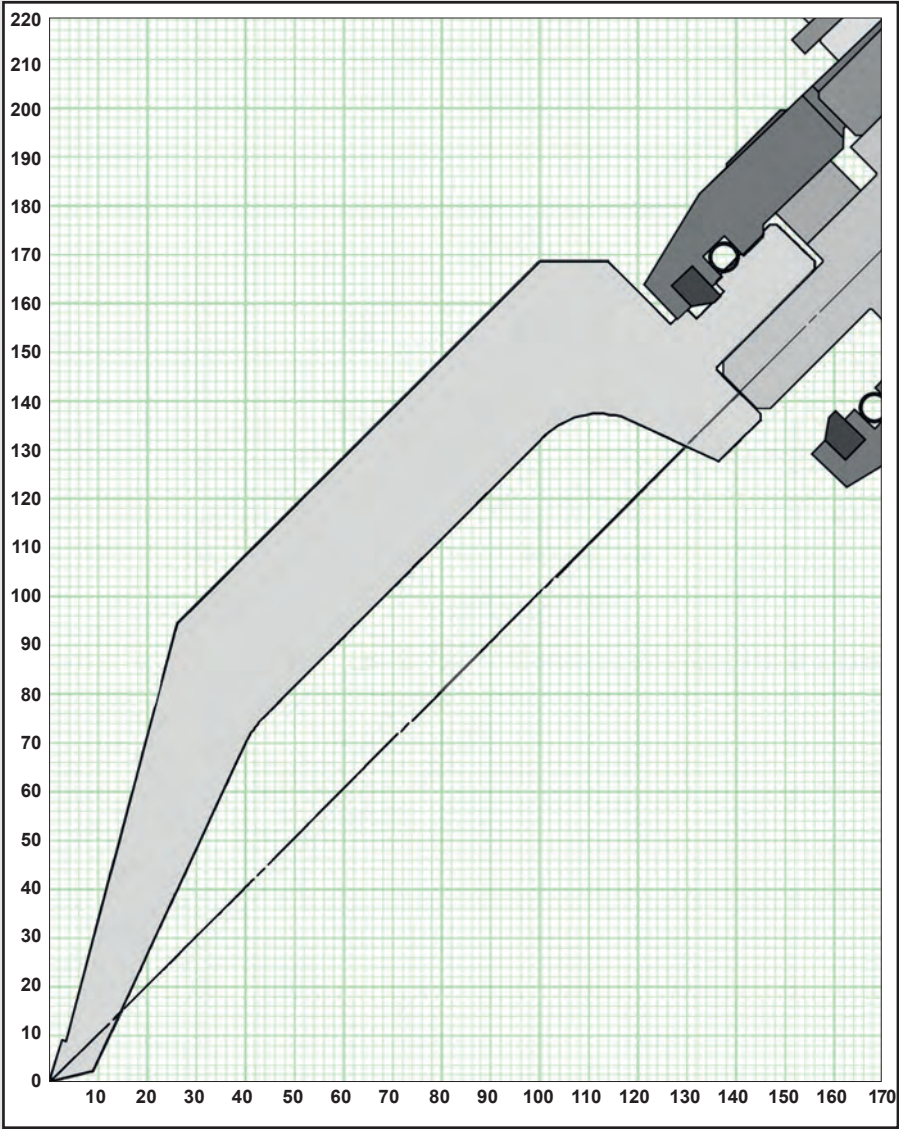
# Semi-Standard Punch H=200 Type #831



Graphic not full size

# Semi-Standard Punch H=200 Type #841 W55

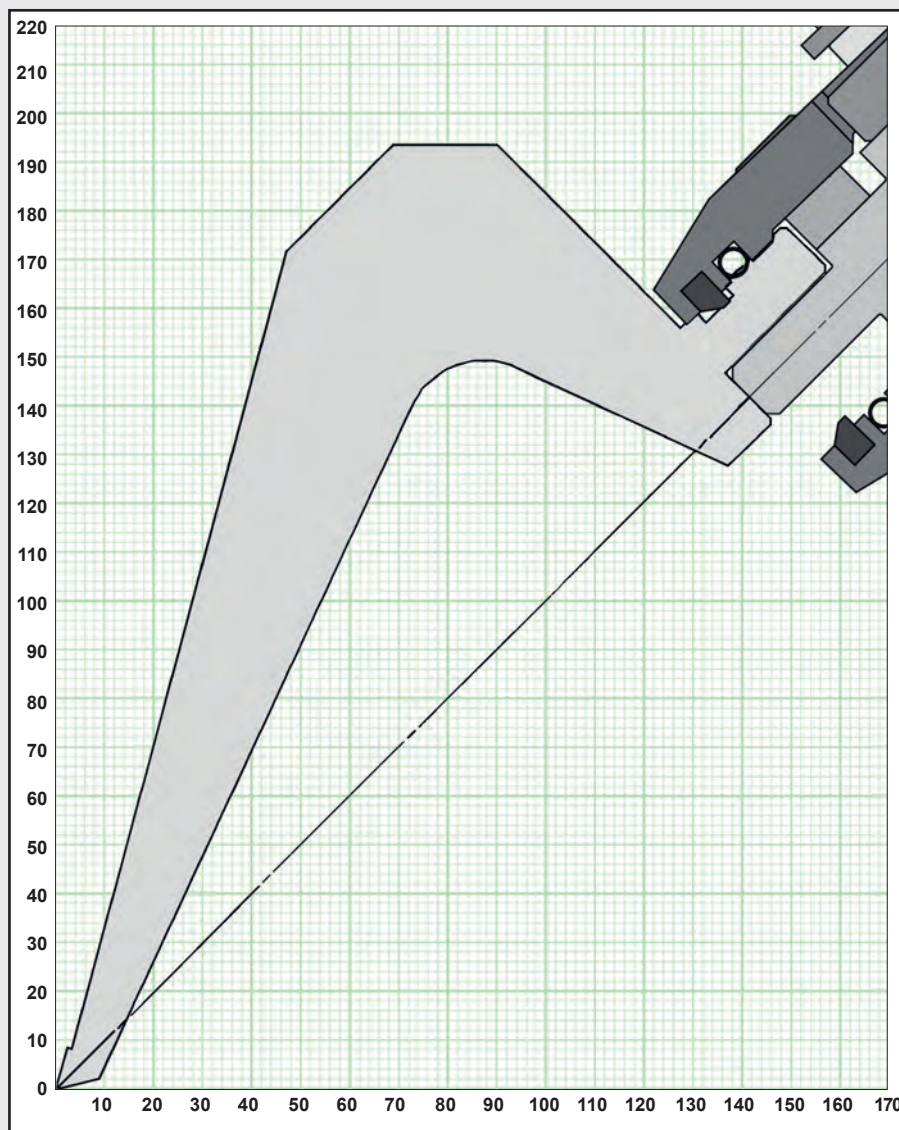
Press Brake  
Tooling



Graphic not full size



# Semi-Standard Punch H=200 Type #841 W95

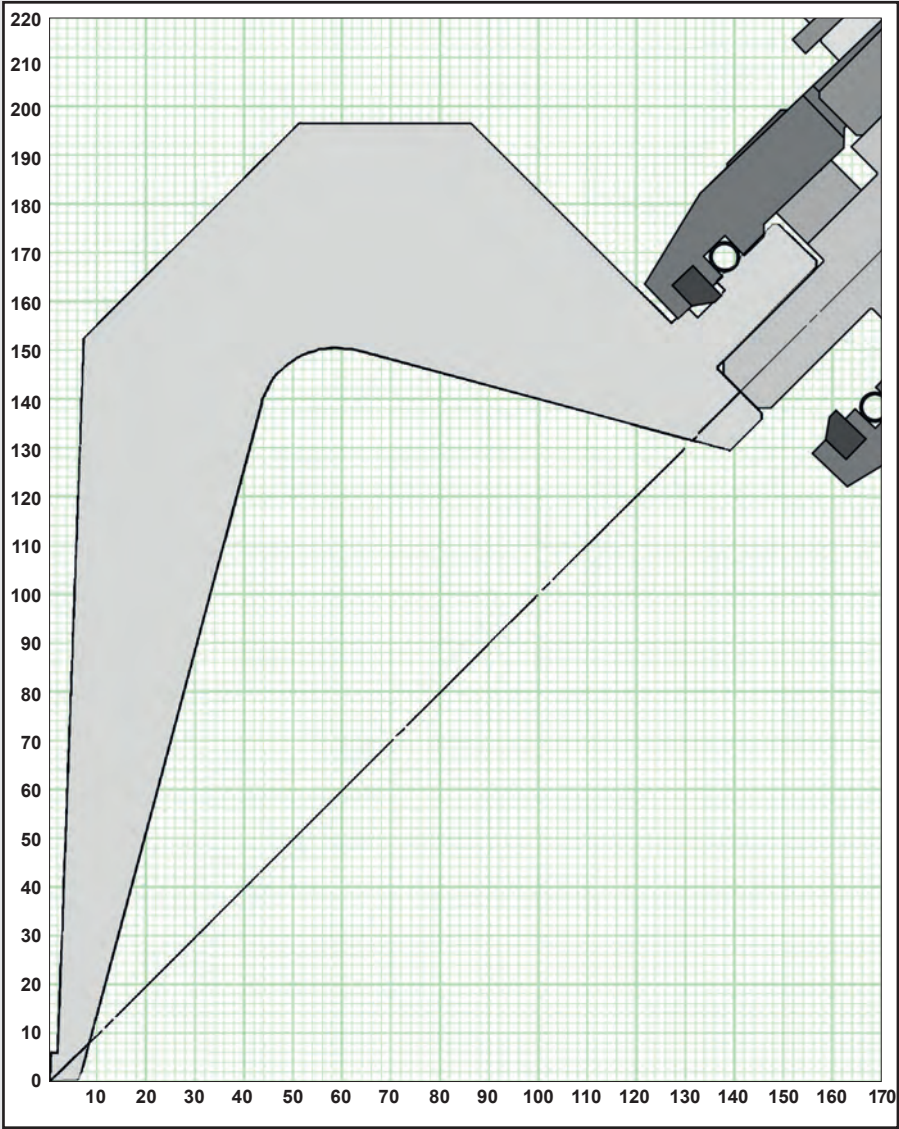


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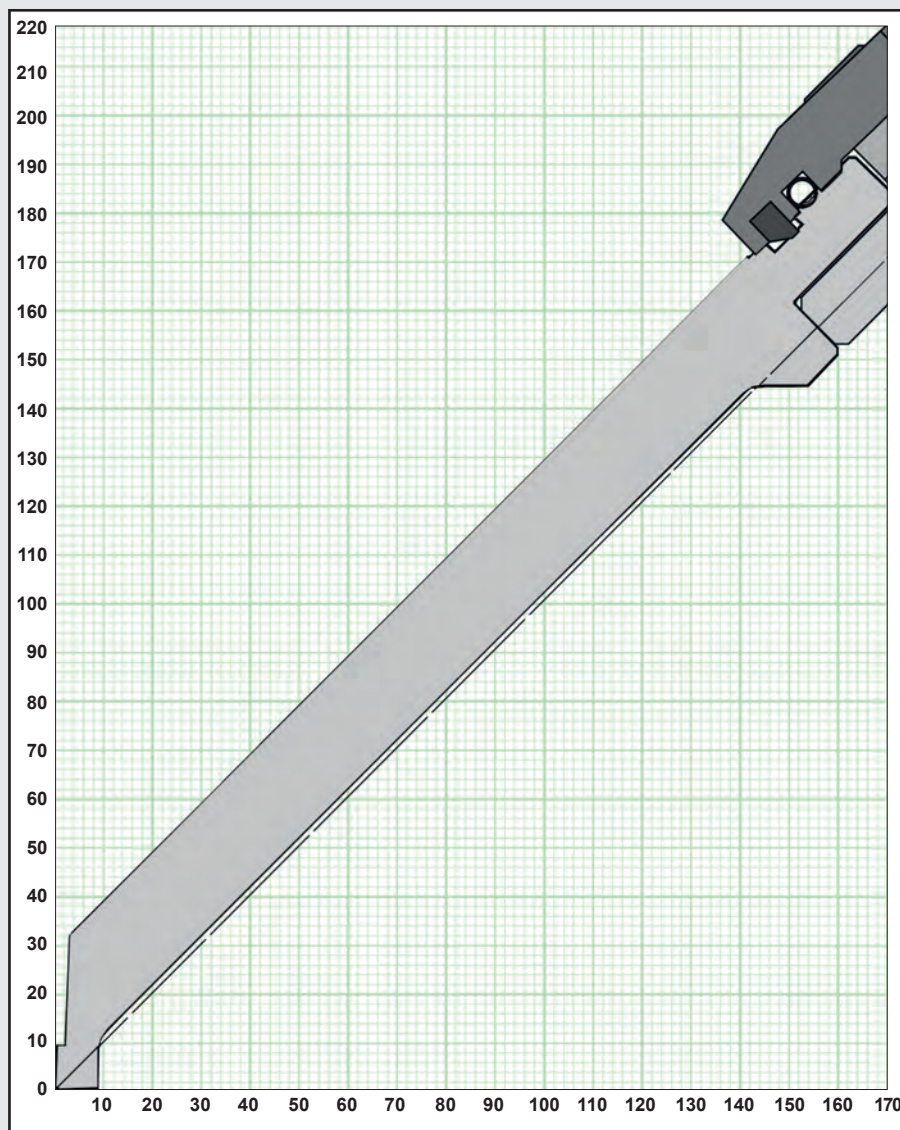
# Semi-Standard Punch H=200 Type #846 W110

Press Brake  
Tooling



Graphic not full size

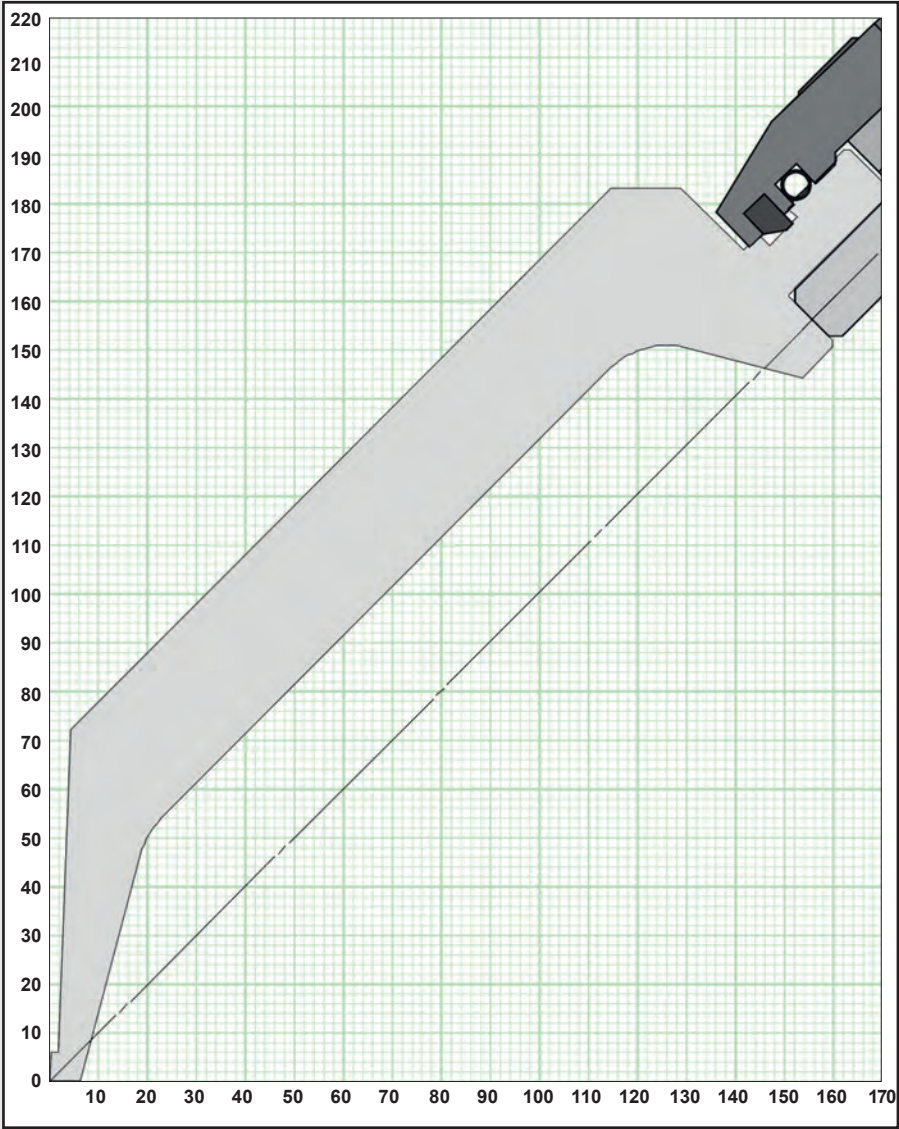
# Semi-Standard Punch H=220 Type #804



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# Semi-Standard Punch H=220 Type #846 W55

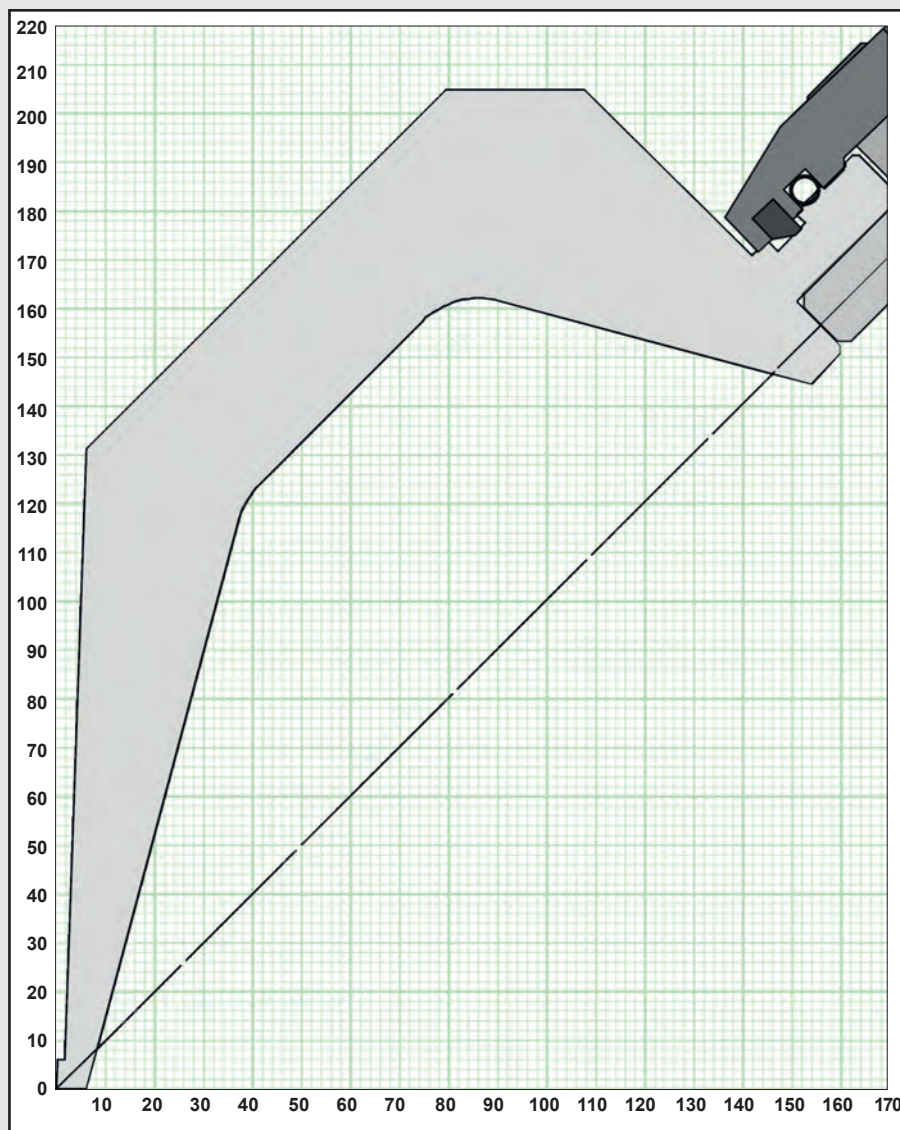
Press Brake  
Tooling



Graphic not full size



# Semi-Standard Punch H=220 Type #846 W95



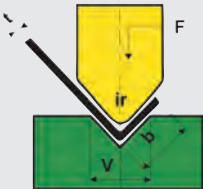
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# Air Bending Tonnage Chart: Mild Steel

## How to Read the Pressure Chart

If the material thickness and inner radius are known, the following information can be obtained from the chart below:

- 1. Tonnage required to bend material of 1 metre length
- 2. V-width to be used
- 3. Minimum flange length



| t<br>mm | 4   | 6                                                                  | 7   | 8   | 10  | 12  | 14  | 16  | 18   | 20  | 25   | 32 | 40  | 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | V  |
|---------|-----|--------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|------|-----|------|----|-----|----|----|----|-----|-----|-----|-----|-----|----|
|         | 2.8 | 4                                                                  | 5   | 5.5 | 7   | 8.5 | 10  | 11  | 13.5 | 14  | 17.5 | 22 | 28  | 35 | 45 | 55 | 71  | 89  | 113 | 140 | 175 | b  |
|         | 0.7 | 1                                                                  | 1.1 | 1.3 | 1.6 | 2   | 2.3 | 2.6 | 3    | 3.3 | 4    | 5  | 6.5 | 8  | 10 | 13 | 16  | 20  | 26  | 33  | 41  | ir |
| 0.5     | 4   | 3                                                                  |     |     |     |     |     |     |      |     |      |    |     |    |    |    |     |     |     |     |     |    |
| 0.6     | 6   | 4                                                                  | 4   | 4   |     |     |     |     |      |     |      |    |     |    |    |    |     |     |     |     |     |    |
| 0.8     |     | 7                                                                  | 7   | 5   | 4   |     |     |     |      |     |      |    |     |    |    |    |     |     |     |     |     |    |
| 1       |     | 11                                                                 | 10  | 8   | 7   | 6   |     |     |      |     |      |    |     |    |    |    |     |     |     |     |     |    |
| 1.2     |     |                                                                    | 14  | 12  | 10  | 8   | 7   | 6   |      |     |      |    |     |    |    |    |     |     |     |     |     |    |
| 1.4     |     |                                                                    |     | 15  | 13  | 11  | 10  | 9   | 8    |     |      |    |     |    |    |    |     |     |     |     |     |    |
| 1.6     |     |                                                                    |     |     | 17  | 15  | 13  | 11  | 10   | 9   |      |    |     |    |    |    |     |     |     |     |     |    |
| 2       |     |                                                                    |     |     |     | 22  | 19  | 17  | 15   | 13  | 11   |    |     |    |    |    |     |     |     |     |     |    |
| 2.3     |     |                                                                    |     |     |     |     | 25  | 23  | 19   | 17  | 15   | 12 |     |    |    |    |     |     |     |     |     |    |
| 2.6     |     |                                                                    |     |     |     |     |     | 28  | 25   | 22  | 18   | 14 |     |    |    |    |     |     |     |     |     |    |
| 3       |     |                                                                    |     |     |     |     |     |     | 34   | 30  | 24   | 19 | 15  |    |    |    |     |     |     |     |     |    |
| 3.2     |     |                                                                    |     |     |     |     |     |     |      | 34  | 27   | 22 | 17  | 14 |    |    |     |     |     |     |     |    |
| 3.5     |     |                                                                    |     |     |     |     |     |     |      |     | 33   | 26 | 20  | 16 | 13 |    |     |     |     |     |     |    |
| 4       |     |                                                                    |     |     |     |     |     |     |      |     |      | 43 | 34  | 27 | 21 | 17 |     |     |     |     |     |    |
| 4.5     |     |                                                                    |     |     |     |     |     |     |      |     |      |    | 44  | 34 | 27 | 21 |     |     |     |     |     |    |
| 5       |     |                                                                    |     |     |     |     |     |     |      |     |      |    |     | 52 | 42 | 33 | 26  | 21  |     |     |     |    |
| 6       |     |                                                                    |     |     |     |     |     |     |      |     |      |    |     |    | 60 | 48 | 38  | 30  | 24  |     |     |    |
| 7       |     |                                                                    |     |     |     |     |     |     |      |     |      |    |     |    |    |    | 52  | 41  | 33  | 26  |     |    |
| 9       |     |                                                                    |     |     |     |     |     |     |      |     |      |    |     |    |    |    |     | 67  | 54  | 43  |     |    |
| 10      | t   | Material thickness (tensile strength: 45 - 50 kg/mm <sup>2</sup> ) |     |     |     |     |     |     |      |     |      |    |     |    |    |    |     |     |     |     |     |    |
| 12      |     |                                                                    |     |     |     |     |     |     |      |     |      |    |     |    |    |    |     | 85  | 67  | 53  | 42  |    |
| 16      | F   | Tonnage per 1 metre                                                |     |     |     |     |     |     |      |     |      |    |     |    |    |    |     |     |     |     |     |    |
| 19      | ir  | Inside radius                                                      |     |     |     |     |     |     |      |     |      |    |     |    |    |    |     |     |     |     |     |    |
| 22      | b   | Minimum flange length                                              |     |     |     |     |     |     |      |     |      |    |     |    |    |    |     |     |     |     |     |    |
| 25      | V   | V-width                                                            |     |     |     |     |     |     |      |     |      |    |     |    |    |    |     |     |     |     |     |    |
| 30      |     |                                                                    |     |     |     |     |     |     |      |     |      |    |     |    |    |    |     |     |     |     |     |    |

## Material Thickness and V-Width

The distance across the die opening is known as the V-width. The appropriate V-width should be selected in accordance with the thickness of material being bent. The table below shows the optimum relationship between the material thickness and V-width, although in practice this relationship is often determined by specific requirements, including flange lengths (b), the components inner bend radius (ir) and the tonnage capacity of the machine and tooling.

## Relationship of Material Thickness (t) and V-Width

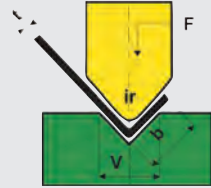
| Material Thickness (t) mm | 0.5 - 2.5 | 3.0 - 8.0 | 9.0 - 10.0 | 12.0 or more |
|---------------------------|-----------|-----------|------------|--------------|
| V-Width                   | 6 x t     | 8 x t     | 10 x t     | 12 x t       |

# Air Bending Tonnage Chart: Stainless Steel

## How to Read the Pressure Chart

If the material thickness and inner radius are known, the following information can be obtained from the chart below:

1. Tonnage required to bend material of 1 metre length
2. V-width to be used
3. Minimum flange length



| t<br>mm | 4   | 6  | 7   | 8   | 10  | 12  | 14  | 16  | 18   | 20  | 25   | 32 | 40  | 50 | 63  | 80 | 100 | 125 | 160 | 200 | 250 | V   |
|---------|-----|----|-----|-----|-----|-----|-----|-----|------|-----|------|----|-----|----|-----|----|-----|-----|-----|-----|-----|-----|
|         | 2.8 | 4  | 5   | 5.5 | 7   | 8.5 | 10  | 11  | 13.5 | 14  | 17.5 | 22 | 28  | 35 | 45  | 55 | 71  | 89  | 113 | 140 | 175 | b   |
|         | 0.7 | 1  | 1.1 | 1.3 | 1.6 | 2   | 2.3 | 2.6 | 3    | 3.3 | 4    | 5  | 6.5 | 8  | 10  | 13 | 16  | 20  | 26  | 33  | 41  | ir  |
| 0.5     | 6   | 5  |     |     |     |     |     |     |      |     |      |    |     |    |     |    |     |     |     |     |     |     |
| 0.6     | 9   | 6  | 6   | 6   |     |     |     |     |      |     |      |    |     |    |     |    |     |     |     |     |     |     |
| 0.7     | 12  | 8  | 8   | 6   | 6   |     |     |     |      |     |      |    |     |    |     |    |     |     |     |     |     |     |
| 0.8     |     | 11 | 11  | 8   | 7   |     |     |     |      |     |      |    |     |    |     |    |     |     |     |     |     |     |
| 0.9     |     | 13 | 12  | 10  | 8   | 7   |     |     |      |     |      |    |     |    |     |    |     |     |     |     |     |     |
| 1       |     | 17 | 15  | 12  | 11  | 8   |     |     |      |     |      |    |     |    |     |    |     |     |     |     |     |     |
| 1.2     |     |    | 21  | 18  | 15  | 12  | 11  | 9   |      |     |      |    |     |    |     |    |     |     |     |     |     |     |
| 1.5     |     |    |     |     |     | 20  | 17  | 15  | 13   | 12  |      |    |     |    |     |    |     |     |     |     |     |     |
| 2       |     |    |     |     |     | 33  | 29  | 26  | 23   | 20  | 17   |    |     |    |     |    |     |     |     |     |     |     |
| 2.5     |     |    |     |     |     |     |     | 39  | 35   | 30  | 25   | 19 |     |    |     |    |     |     |     |     |     |     |
| 3       |     |    |     |     |     |     |     |     | 51   | 45  | 36   | 29 | 23  |    |     |    |     |     |     |     |     |     |
| 4       |     |    |     |     |     |     |     |     |      |     | 65   | 51 | 41  | 32 | 26  |    |     |     |     |     |     |     |
| 5       |     |    |     |     |     |     |     |     |      |     |      | 78 | 63  | 50 | 39  | 32 |     |     |     |     |     |     |
| 6       |     |    |     |     |     |     |     |     |      |     |      |    | 90  | 72 | 57  | 45 | 36  |     |     |     |     |     |
| 8       |     |    |     |     |     |     |     |     |      |     |      |    |     |    | 102 | 81 | 65  | 51  |     |     |     |     |
| 10      |     |    |     |     |     |     |     |     |      |     |      |    |     |    |     |    | 128 | 101 | 80  | 63  |     |     |
| 12      |     |    |     |     |     |     |     |     |      |     |      |    |     |    |     |    |     | 144 | 117 | 90  | 83  |     |
| 15      |     |    |     |     |     |     |     |     |      |     |      |    |     |    |     |    |     |     | 180 | 141 | 114 |     |
| 20      |     |    |     |     |     |     |     |     |      |     |      |    |     |    |     |    |     |     |     | 250 | 208 | 167 |
| 25      |     |    |     |     |     |     |     |     |      |     |      |    |     |    |     |    |     |     |     |     | 315 | 255 |
| 30      |     |    |     |     |     |     |     |     |      |     |      |    |     |    |     |    |     |     |     |     |     | 360 |

**t** Material thickness  
 (tensile strength: 52 - 60 kg/mm<sup>2</sup>)  
**F** Tonnage per 1 metre  
**ir** Inside radius  
**b** Minimum flange length  
**V** V-width

Press Brake  
Tooling

## Material Thickness and V-Width

The distance across the die opening is known as the V-width. The appropriate V-width should be selected in accordance with the thickness of material being bent. The table below shows the optimum relationship between the material thickness and V-width, although in practice this relationship is often determined by specific requirements, including flange lengths (b), the components inner bend radius (ir) and the tonnage capacity of the machine and tooling.

## Relationship of Material Thickness (t) and V-Width

| Material Thickness (t) mm | 0.5 - 2.5 | 3.0 - 8.0 | 9.0 - 10.0 | 12.0 or more |
|---------------------------|-----------|-----------|------------|--------------|
| V-Width                   | 6 x t     | 8 x t     | 10 x t     | 12 x t       |

# Contents Reference

## AMADA Reference Section

AMADA have compiled some useful data which may assist engineers in the daily business of sheet metal design and production.

|                                       | Page |
|---------------------------------------|------|
| <b>Press Brake</b>                    |      |
| Bend Allowance - 90°: Mild Steel      | 160  |
| Bend Allowance - 90°: Stainless Steel | 161  |
| Bend Allowance - 90°: Aluminium       | 161  |
| Hemming Tonnages                      | 162  |



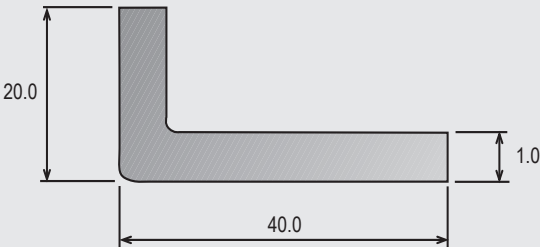
# Bend Allowance - 90°

**Example 1** - Bending 1mm mild steel in a 6mm 'V' die

If (f) = Elongation factor

If (d) = Blank development size

$d = (20 + 40) - 2f$   
 $d = 60 - (2 \times 0.87)$   
 $d = 58.26 \text{ mm}$



The following tables show the elongation factor (f) of mild steel, stainless steel and aluminium during a 90° bend.

V = V - width (mm)

t = material thickness (mm)

f = bend allowances (mm)

## Mild Steel

| <div><div>t \ V</div><div>V</div></div> | 4    | 6    | 7    | 8    | 10   | 12   | 14   | 16   | 18   | 20   | 25   | 32   |
|-----------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| 0.5                                     | 0.47 | 0.55 | 0.59 | 0.63 | 0.70 |      |      |      |      |      |      |      |
| 0.6                                     | 0.54 | 0.62 | 0.65 | 0.69 | 0.77 | 0.85 |      |      |      |      |      |      |
| 0.7                                     | 0.60 | 0.68 | 0.72 | 0.76 | 0.83 | 0.91 | 0.99 |      |      |      |      |      |
| 0.8                                     | 0.67 | 0.74 | 0.78 | 0.82 | 0.90 | 0.97 | 1.05 | 1.13 |      |      |      |      |
| 1.0                                     | 0.80 | 0.87 | 0.91 | 0.95 | 1.03 | 1.10 | 1.18 | 1.26 | 1.33 | 1.41 |      |      |
| 1.2                                     |      | 1.00 | 1.04 | 1.08 | 1.15 | 1.23 | 1.31 | 1.38 | 1.46 | 1.54 |      |      |
| 1.5                                     |      | 1.19 | 1.23 | 1.27 | 1.35 | 1.42 | 1.50 | 1.58 | 1.65 | 1.73 | 1.92 |      |
| 1.6                                     |      |      | 1.29 | 1.32 | 1.40 | 1.47 | 1.76 | 1.86 | 1.96 | 2.05 | 2.29 | 2.63 |
| 2.0                                     |      |      |      | 1.59 | 1.67 | 1.74 | 1.82 | 1.90 | 1.97 | 2.05 | 2.24 | 2.51 |
| 2.3                                     |      |      |      | 1.65 | 1.71 | 1.77 | 1.84 | 1.90 | 1.97 | 2.03 | 2.19 | 2.41 |
| 2.5                                     |      |      |      |      | 1.99 | 2.07 | 2.14 | 2.22 | 2.29 | 2.37 | 2.56 | 2.83 |
| 2.6                                     |      |      |      |      |      | 2.13 | 2.21 | 2.28 | 2.30 | 2.44 | 2.63 | 2.90 |
| 3.0                                     |      |      |      |      |      | 2.39 | 2.46 | 2.54 | 2.62 | 2.69 | 2.88 | 3.15 |
| 3.2                                     |      |      |      |      |      | 2.51 | 2.59 | 2.67 | 2.74 | 2.82 | 3.01 | 3.28 |

# Bend Allowance - 90°

V = V - width (mm)  
t = material thickness (mm)  
f = bend allowances (mm)

## Stainless Steel

| $\frac{V}{t}$ | 4    | 6    | 7    | 8    | 10   | 12   | 14   | 16   | 18   | 20   | 25   | 32   |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|
| 0.5           | 0.52 | 0.63 | 0.69 | 0.75 | 0.86 |      |      |      |      |      |      |      |
| 0.6           | 0.58 | 0.69 | 0.75 | 0.80 | 0.92 | 1.03 |      |      |      |      |      |      |
| 0.7           | 0.64 | 0.75 | 0.81 | 0.86 | 0.98 | 1.09 | 1.20 |      |      |      |      |      |
| 0.8           | 0.70 | 0.81 | 0.87 | 0.92 | 1.04 | 1.15 | 1.26 | 1.37 |      |      |      |      |
| 1.0           | 0.82 | 0.94 | 0.99 | 1.05 | 1.17 | 1.29 | 1.40 | 1.52 | 1.64 | 1.75 |      |      |
| 1.2           |      | 1.05 | 1.10 | 1.16 | 1.27 | 1.38 | 1.50 | 1.61 | 1.72 | 1.83 |      |      |
| 1.5           |      | 1.23 | 1.28 | 1.34 | 1.45 | 1.56 | 1.67 | 1.79 | 1.90 | 2.01 | 2.29 |      |
| 1.6           |      |      | 1.34 | 1.40 | 1.51 | 1.62 | 1.73 | 1.85 | 1.96 | 2.07 | 2.35 | 2.74 |
| 2.0           |      |      |      | 1.64 | 1.74 | 1.85 | 1.96 | 2.07 | 2.18 | 2.28 | 2.55 | 2.93 |
| 2.3           |      |      |      | 1.81 | 1.93 | 2.04 | 2.15 | 2.26 | 2.37 | 2.49 | 2.77 | 3.16 |
| 2.5           |      |      |      |      | 2.04 | 2.16 | 2.27 | 2.38 | 2.49 | 2.60 | 2.88 | 3.28 |
| 2.6           |      |      |      |      |      | 2.22 | 2.33 | 2.44 | 2.55 | 2.66 | 2.94 | 3.34 |
| 3.0           |      |      |      |      |      | 2.45 | 2.56 | 2.68 | 2.79 | 2.90 | 3.18 | 3.57 |
| 3.2           |      |      |      |      |      | 2.57 | 2.68 | 2.80 | 2.91 | 3.02 | 3.30 | 3.69 |

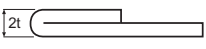
## Aluminium

| $\frac{V}{t}$ | 4    | 6    | 7    | 8    | 10   | 12   | 14   | 16   | 18   | 20   | 25   | 32   |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|
| 0.5           | 0.40 | 0.44 | 0.47 | 0.49 | 0.54 |      |      |      |      |      |      |      |
| 0.6           | 0.46 | 0.50 | 0.53 | 0.55 | 0.60 | 0.65 |      |      |      |      |      |      |
| 0.7           | 0.52 | 0.56 | 0.59 | 0.61 | 0.66 | 0.71 | 0.76 |      |      |      |      |      |
| 0.8           | 0.58 | 0.62 | 0.65 | 0.67 | 0.72 | 0.77 | 0.82 | 0.87 |      |      |      |      |
| 1.0           | 0.69 | 0.74 | 0.77 | 0.80 | 0.85 | 0.90 | 0.95 | 1.00 | 1.06 | 1.11 |      |      |
| 1.2           |      | 0.86 | 0.89 | 0.91 | 0.96 | 1.01 | 1.06 | 1.11 | 1.15 | 1.20 |      |      |
| 1.5           |      | 1.04 | 1.07 | 1.09 | 1.14 | 1.19 | 1.24 | 1.29 | 1.33 | 1.38 | 1.50 |      |
| 1.6           |      |      | 1.13 | 1.15 | 1.20 | 1.25 | 1.30 | 1.35 | 1.39 | 1.44 | 1.56 | 1.73 |
| 2.0           |      |      |      | 1.40 | 1.45 | 1.49 | 1.54 | 1.58 | 1.63 | 1.67 | 1.79 | 1.94 |
| 2.3           |      |      |      | 1.57 | 1.62 | 1.67 | 1.72 | 1.76 | 1.81 | 1.86 | 1.98 | 2.15 |
| 2.5           |      |      |      |      | 1.74 | 1.79 | 1.83 | 1.88 | 1.93 | 1.98 | 2.10 | 2.27 |
| 2.6           |      |      |      |      |      | 1.85 | 1.89 | 1.94 | 1.99 | 2.04 | 2.16 | 2.33 |
| 3.0           |      |      |      |      |      | 2.09 | 2.13 | 2.18 | 2.23 | 2.28 | 2.40 | 2.57 |
| 3.2           |      |      |      |      |      | 2.20 | 2.25 | 2.30 | 2.35 | 2.40 | 2.52 | 2.69 |

# Hemming Tonnages

Hemming is a form of bending requiring higher amounts of tonnage than standard Air Bending. The tables below show the tonnage required for hemming and seaming operations.

## Mild Steel

| Sheet Thickness<br>(mm) | Bending Shape                                                                     |      |                                                                                   |     |
|-------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----|
|                         |  |      |  |     |
|                         | Required Tonnage                                                                  | C    | Required Tonnage                                                                  | 2t  |
| 0.6                     | 9.0                                                                               | 3.0  | 23.0                                                                              | 1.2 |
| 0.8                     | 12.0                                                                              | 3.0  | 32.0                                                                              | 1.6 |
| 1.0                     | 15.0                                                                              | 3.5  | 40.0                                                                              | 2.0 |
| 1.2                     | 17.0                                                                              | 3.5  | 50.0                                                                              | 2.4 |
| 1.6                     | 24.0                                                                              | 3.5  | 63.0                                                                              | 3.2 |
| 2.0                     | 30.0                                                                              | 5.5  | 80.0                                                                              | 4.0 |
| 2.6                     | 55.0                                                                              | 6.5  | 90.0                                                                              | 5.2 |
| 3.2                     | 70.0                                                                              | 8.0  | 100.0                                                                             | 6.4 |
| 4.5                     | 105.0                                                                             | 11.3 | 200.0                                                                             | 9.0 |

Note: Required tonnage is given per 1 metre length

## Stainless Steel

| Sheet Thickness<br>(mm) | Bending Shape                                                                      |      |                                                                                    |     |
|-------------------------|------------------------------------------------------------------------------------|------|------------------------------------------------------------------------------------|-----|
|                         |  |      |  |     |
|                         | Required Tonnage                                                                   | C    | Required Tonnage                                                                   | 2t  |
| 0.6                     | 15.0                                                                               | 3.0  | 35.0                                                                               | 1.2 |
| 0.8                     | 20.0                                                                               | 3.0  | 50.0                                                                               | 1.6 |
| 1.0                     | 25.0                                                                               | 3.5  | 60.0                                                                               | 2.0 |
| 1.2                     | 26.0                                                                               | 3.5  | 80.0                                                                               | 2.4 |
| 1.5                     | 38.0                                                                               | 3.5  | 95.0                                                                               | 3.0 |
| 2.0                     | 50.0                                                                               | 5.5  | 130.0                                                                              | 4.0 |
| 2.5                     | 90.0                                                                               | 6.5  | 180.0                                                                              | 5.0 |
| 3.0                     | 100.0                                                                              | 8.0  | 210.0                                                                              | 6.0 |
| 4.0                     | 140.0                                                                              | 11.3 | 280.0                                                                              | 8.0 |

Note: Required tonnage is given per 1 metre length