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■ **M85** ■ **M85ABS**

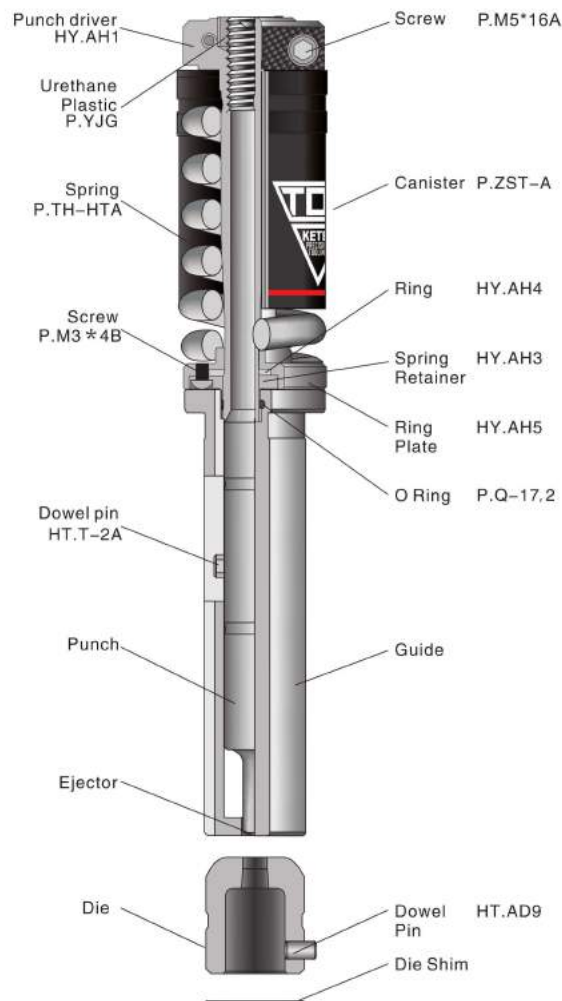
- M85 / M85 ABS is quick adjust tooling, including A / B stations.
- Punch assy of A/B station is KETEC patent technology, punch grind life is 5mm [0.20"].
- M 85 equip with standard 85 punch, close guide; M85 ABS equip with 85 ABS punch, closed guide.
- Max. thickness: Mild steel A station 3.8 mm [0.15"], B stations: 6.3mm [0.25"].
- Punch assy of A/B station is KETEC patent technology, punch grind life is 5mm [0.20"], quick adjusting.
- Complete set tooling includes punch assy and die.
- Punch assy is installed in upper turret of the CNC punch machine.

M85 M85ABS A STATION (1.6–12.7mm) [1/2"]

Solid Guide



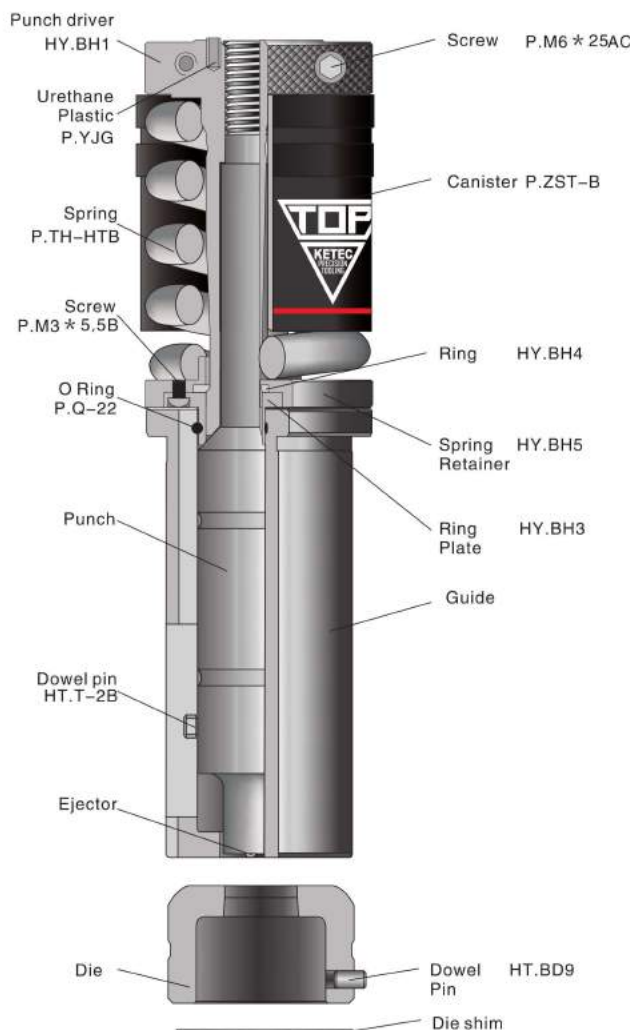
Description	M85	M85 ABS
Punch Ass'y		
Round (0°)	HY.AA1RO.	HN.AA1RO.
Square(0°, 135°)	HY.AA3SQ.	HN.AA3SQ.
STD Shape (0°, 90°)	HY.AA2**.	HN.AA2**.
Other (0°, 90°)	HY.AA2**.	HN.AA2**.
Punch		
Round(no pin)	HT.AP1RO.	HK.AP1RO.
STD shape(pin)	HT.AP2**.	HK.AP2**.
Other(pin)	HT.AP2**.	HK.AP2**.
Die		
Round(no pin)	HT.AD1RO.	HT.AD1RO.
STD shape(pin)	HT.AD2**.	HT.AD2**.
Other(pin)	HT.AD2**.	HT.AD2**.
Guide		
Round (0°)	HT.AG1RO.	HN.AG1RO.
Shape (0°, 90°)	HT.AG2**.	HN.AG2**.
Square (0°, 135°)	HT.AG3SQ.	HN.AG3SQ.
Punch head ass'y	HY.AH9	HY.AH9





M85 M85ABS B STATION (12.71-31.7mm) [1-1/4"]

Solid Guide



Discription	M85	M85 ABS
Punch Ass'y		
Round (0°)	HY.BA1RO.	HN.BA1RO.
Square(0°, 135°)	HY.BA3SQ.	HN.BA3SQ.
STD Shape (0°, 90°)	HY.BA2**.	HN.BA2**.
Other (0°, 90°)	HY.BA2**.	HN.BA2**.
Punch		
Round(no pin)	HT.BP1RO.	HK.BP1RO.
STD shape(pin)	HT.BP2**.	HK.BP2**.
Other(pin)	HT.BP2**.	HK.BP2**.
Die		
Round(no pin)	HT.BD1RO.	HT.BD1RO.
STD shape(pin)	HT.BD2**.	HT.BD2**.
Other(pin)	HT.BD2**.	HT.BD2**.
Guide		
Round (0°)	HT.BG1RO.	HN.BG1RO.
Shape (0°, 90°)	HT.BG2**.	HN.BG2**.
Square (0°, 135°)	HT.BG3SQ.	HN.BG3SQ.
Punch head ass'y	HY.BH9	HY.BH9



■ TOP85

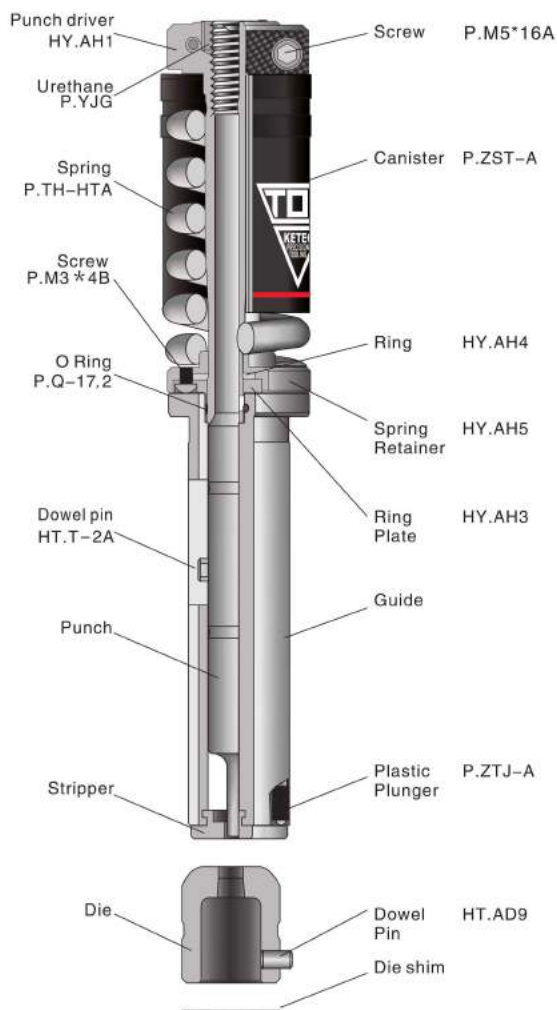
■ TOP85ABS

- TOP85 series are Q-Adjust tooling, including A / B / C / D / E stations.
- Guide assy of C/D/E station is KETEC patent technology, with standard 85 punch / ABS punch & stripper.
- Standard key slots on the guides of C/D/E station are divided into 0° , 90° , 135° , good performance.
- Punch grind life of C/D/E station is 5–8mm [0.20"~0.31"], quick adjusting, without shim.
- Punch assy of A/B station is KETEC patent technology, punch grind life is 5mm [0.20"], quick adjusting.
- Top 85 equip with standard 85 punch, open guide, 90 stripper.
- Top 85 ABS equip with 85 ABS punch, open guide, 90 ABS stripper.
- Max. thickness: Mild steel A station 3.8 mm [0.15"], other stations: 6.3mm [0.25"]
- Complete set tooling includes punch assy and die.
- Punch assy is installed in upper turret of the CNC punch machine.



TOP85 TOP85ABS A STATION (1.6–12.7mm) [1/2"]

Open Guide



Discription	TOP85	TOP85 ABS
Punch ass'y		
Round (σ)	HV.AA1RO.	HK.AA1RO.
Square (σ , 135°)	HV.AA3SQ.	HK.AA3SQ.
STD shape (σ , 90°)	HV.AA2**.	HK.AA2**.
Other (σ , 90°)	HV.AA2**.	HK.AA2**.
Punch		
Round (no pin)	HT.AP1RO.	HK.AP1RO.
STD shape (pin)	HT.AP2**.	HK.AP2**.
Other (pin)	HT.AP2**.	HK.AP2**.
Stripper		
Round	H9.AS1RO.	HP.AS1RO.
STD shape	H9.AS1**.	HP.AS1**.
Other	H9.AS1**.	HP.AS1**.
Die		
Round (no pin)	HT.AD1RO.	HT.AD1RO.
STD shape (pin)	HT.AD2**.	HT.AD2**.
Other (pin)	HT.AD2**.	HT.AD2**.
Guide		
Round (σ)	HV.AG1	HK.AG1
Shape (σ , 90°)	HV.AG2	HK.AG2
Square (σ , 135°)	HV.AG3	HK.AG3
Punch head ass'y	HY.AH9	HY.AH9

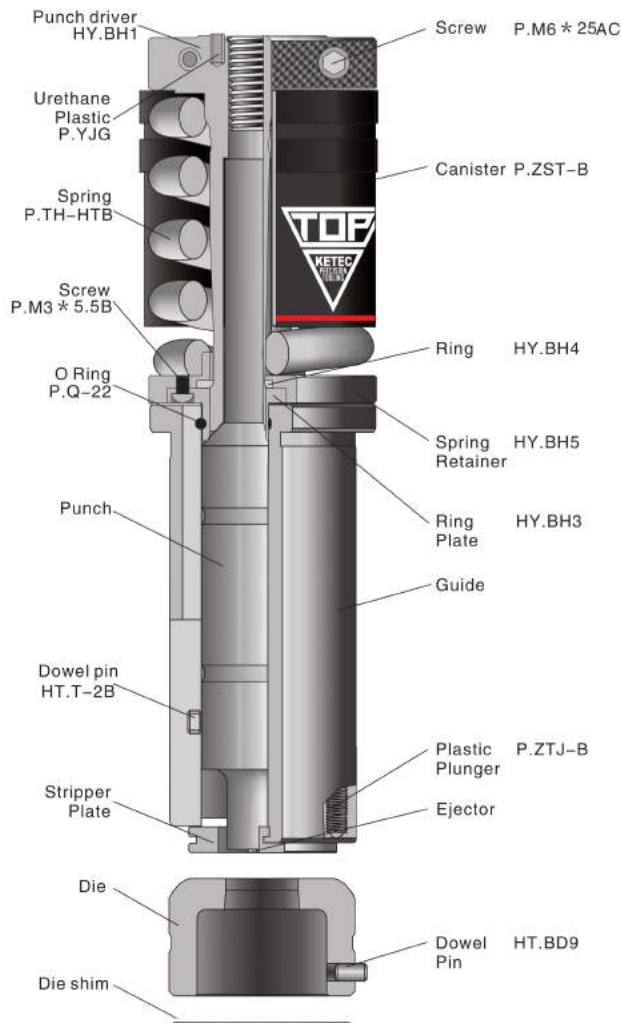
TOP85 TOP85ABS

B STATION
(12.71–31.7mm)
[1-1/4"]

Open Guide

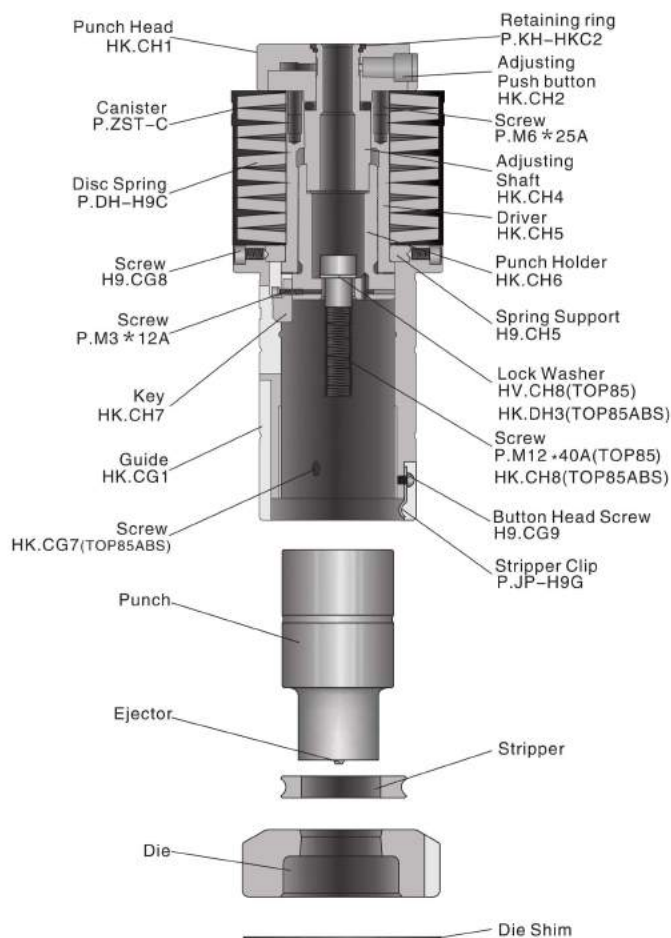


Discription	TOP85	TOP85 ABS
Punch ass'y		
Round (0°)	HV.BA1RO.	HK.BA1RO.
Square (0°, 135°)	HV.BA3SQ.	HK.BA3SQ.
STD shape(0°, 90°)	HV.BA2**.	HK.BA2**.
Other (0°, 90°)	HV.BA2**.	HK.BA2**.
Punch		
Round(no pin)	HT.BP1RO.	HK.BP1RO.
STD shape(pin)	HT.BP2**.	HK.BP2**.
Other(pin)	HT.BP2**.	HK.BP2**.
Stripper		
Round	H9.BS1RO.	HP.BS1RO.
STD shape	H9.BS1**.	HP.BS1**.
Other	H9.BS1**.	HP.BS1**.
Die		
Round(no pin)	HT.BD1RO.	HT.BD1RO.
STD shape(pin)	HT.BD2**.	HT.BD2**.
Other (pin)	HT.BD2**.	HT.BD2**.
Guide		
Round (0°)	HV.BG1	HK.BG1
Shape (0°, 90°)	HV.BG2	HK.BG2
Square(0°, 135°)	HV.BG3	HK.BG3
Punch head ass'y	HY.BH9	HY.BH9





TOP85 TOP85ABS C STATION (31.71-50.8mm) [2"]

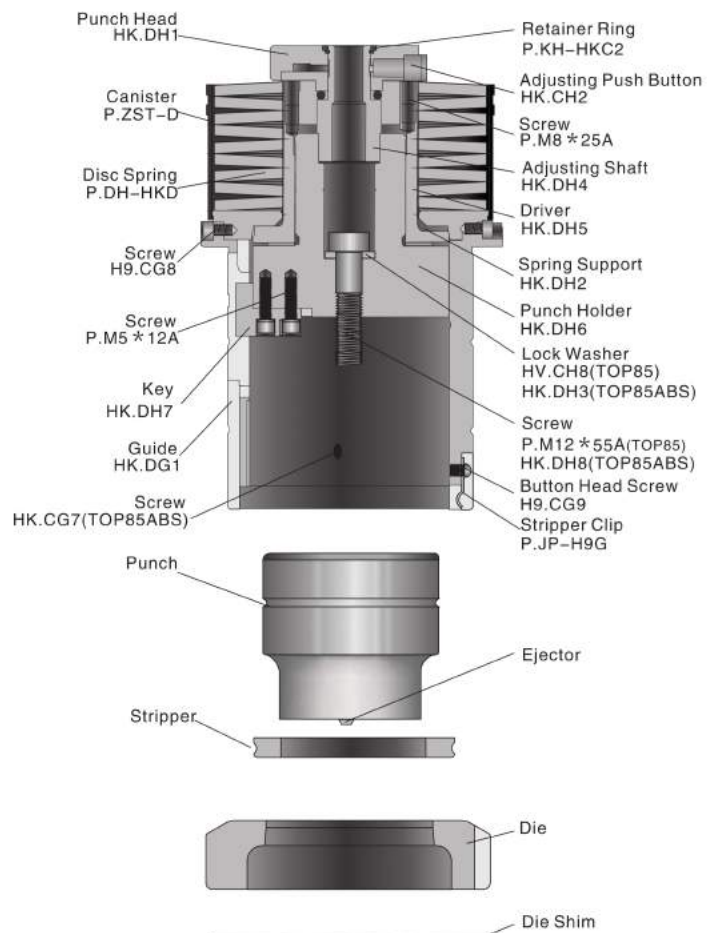


Description	TOP85	TOP85 ABS
Punch ass'y		
Round	HV.CA1RO.	HK.CA1RO.
STD shape	HV.CA1**.	HK.CA1**.
Other	HV.CA1**.	HK.CA1**.
Guide ass'y	HV.CC1.	HK.CC1.
Punch		
Round	HT.CP1RO.	HK.CP1RO.
STD shape	HT.CP2**.	HK.CP2**.
Other	HT.CP2**.	HK.CP2**.
Stripper		
Round	HT.CS1RO.	HK.CS1RO.
STD shape	HT.CS1**.	HK.CS1**.
Other	HT.CS1**.	HK.CS1**.
Die		
Round (0°)	HT.CD1RO.	HT.CD1RO.
STD shape (0°, 90°)	HT.CD2**.	HT.CD2**.
Other (0°, 90°)	HT.CD2**.	HT.CD2**.
Square (Opt. 0°, 135°)	HT.CD3SQ.	HT.CD3SQ.

TOP85
TOP85ABS
D STATION
(50.81-88.9mm)
[3-1/2"]



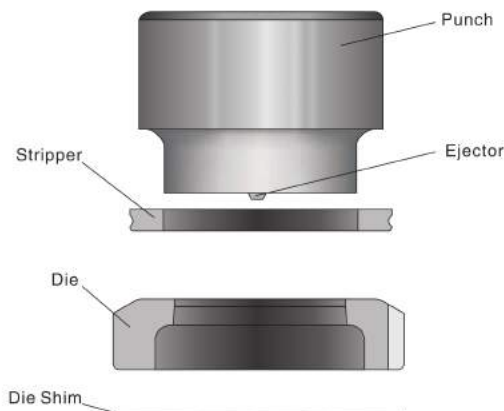
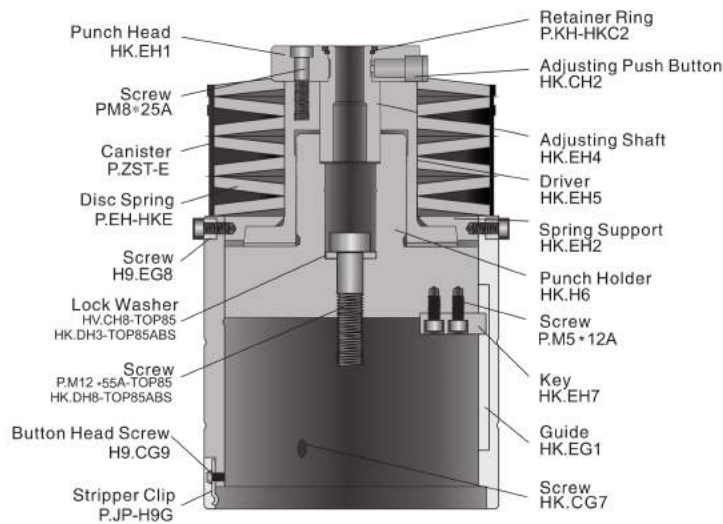
Description	TOP85	TOP85 ABS
Punch ass'y		
Round	HV.DA1RO.	HK.DA1RO.
STD shape	HV.DA1**.	HK.DA1**.
Other	HV.DA1**.	HK.DA1**.
Guide ass'y	HV.DC1.	HK.DC1.
Punch		
Round	HT.DP1RO.	HK.DP1RO.
STD shape	HT.DP2**.	HK.DP2**.
Other	HT.DP2**.	HK.DP2**.
Stripper		
Round	HT.DS1RO.	HK.DS1RO.
STD shape	HT.DS1**.	HK.DS1**.
Other	HT.DS1**.	HK.DS1**.
Die		
Round (0°)	HT.DD1RO.	HT.DD1RO.
STD shape (0°,90°)	HT.DD2**.	HT.DD2**.
Other (0°,90°)	HT.DD2**.	HT.DD2**.
Square (Opt.0°,135°)	HT.DD3SQ.	HT.DD3SQ.





TOP85 TOP85ABS E STATION

(88.91–114.3mm)
[4-1/2"]



Description	TOP85	TOP85 ABS
Punch ass'y		
Round	HV.EA1RO.	HK.EA1RO.
STD shape	HV.EA1**.	HK.EA1**.
Other	HV.EA1**.	HK.EA1**.
Guide ass'y		
	HV.EC1.	HK.EC1.
Punch		
Round	HT.EP1RO.	HK.EP1RO.
STD shape	HT.EP2**.	HK.EP2**.
Other	HT.EP2**.	HK.EP2**.
Stripper		
Round	HT.ES1RO.	HK.ES1RO.
STD shape	HT.ES1**.	HK.ES1**.
Other	HT.ES1**.	HK.ES1**.
Die		
Round (0°)	HT.ED1RO.	HT.ED1RO.
STD shape (0°,90°)	HT.ED2**.	HT.ED2**.
Other (0°,90°)	HT.ED2**.	HT.ED2**.
Square (Opt.0°,135°)	HT.ED3SQ.	HT.ED3SQ.



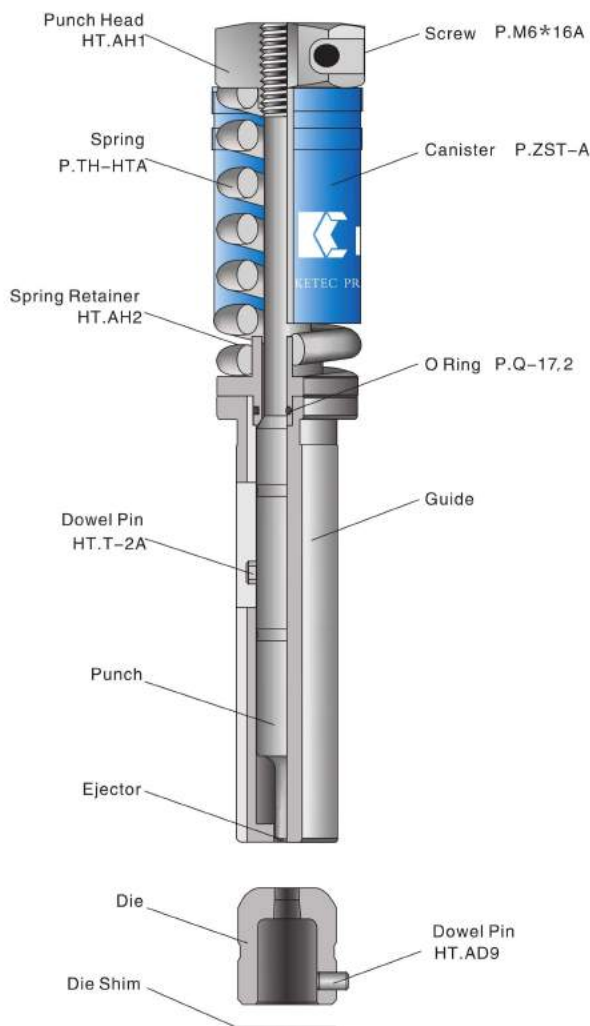
■ E85

- E85 series are standard tools, including station A/B/C/D/E, compatible with Amada tooling.
- Standard key slots on the guides of A/B station are 0° ,90° , square are 0° ,135° .
- The tapers on spring retainers of A/B station are different, the grind life will be extended with exchange using.
- Max. thickness: Mild Steel for A station is 3.8mm [0.15"], other station is 6.3mm [0.25"].
- Complete set tooling includes punch assy and die.
- Punch assy is installed in upper turret of the CNC punch machine.



E85

A STATION
(1.6~12.7mm)
[1/2"]



Description	Code
Punch ass'y	
Round (0°)	HT.AA1RO.
Square (0°, 135°)	HT.AA3SQ.
STD shape (0°, 90°)	HT.AA2**.
Other (0°, 90°)	HT.AA2**.
Punch	
Round (no pin)	HT.AP1RO.
STD shape (pin)	HT.AP2**.
Other (pin)	HT.AP2**.
Die	
Round (no pin)	HT.AD1RO.
STD shape (pin)	HT.AD2**.
Other (pin)	HT.AD2**.
Guide	
Round (0°)	HT.AG1RO.
Shape (0°, 90°)	HT.AG2**.
Square (0°, 135°)	HT.AG3SQ.
Punch head ass'y	HT.AH9

E85

B STATION
(12.71-31.7mm)
[1-1/4"]



Description

Punch ass'y

Round (0°)
 Square (0°, 135°)
 STD shape (0°, 90°)
 Other (0°, 90°)

Punch

Round (no pin)
 STD shape (pin)
 Other (pin)

Die

Round (no pin)
 STD shape (pin)
 Other (pin)

Guide

Round (0°)
 Shape (0°, 90°)
 Square (0°, 135°)

Punch head ass'y

Code

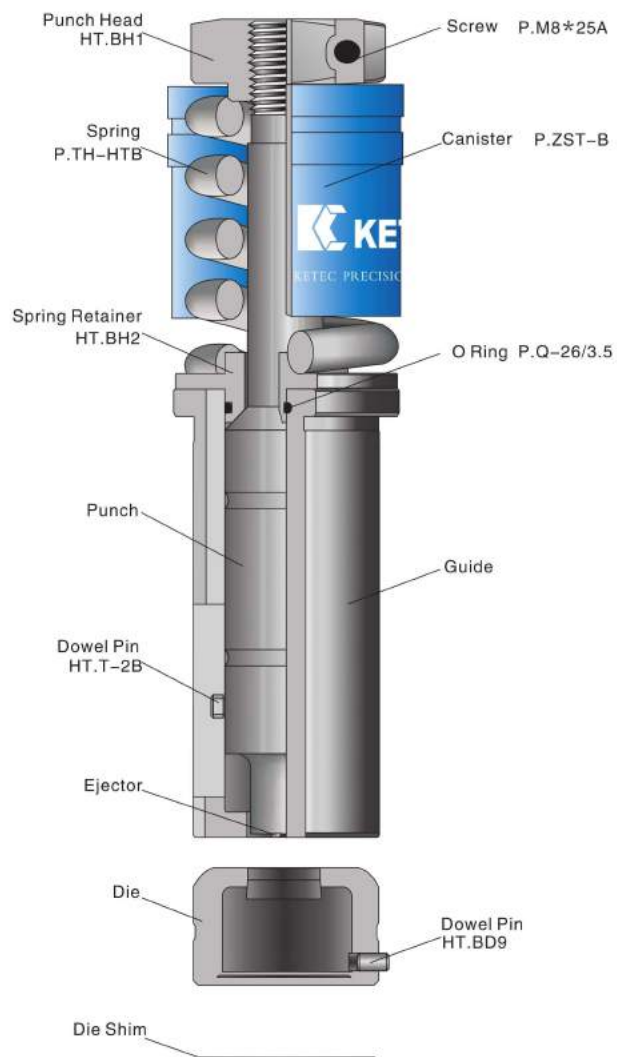
HT.BA1RO.
 HT.BA3SQ.
 HT.BA2**.
 HT.BA2**.

HT.BP1RO.
 HT.BP2**.
 HT.BP2**.

HT.BD1RO.
 HT.BD2**.
 HT.BD2**.

HT.BG1RO.
 HT.BG2**.
 HT.BG3SQ.

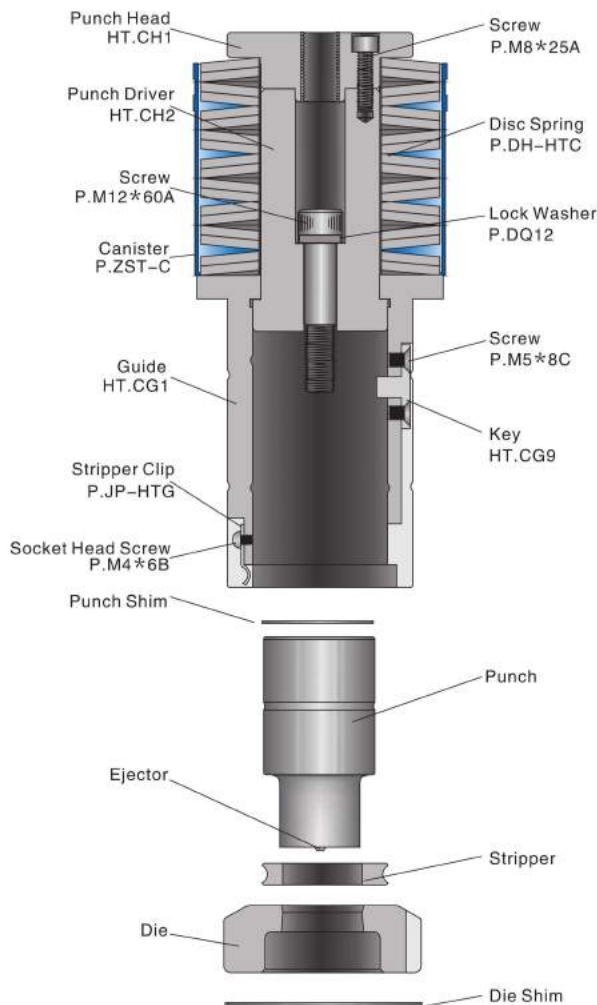
HT.BH9





E85

C STATION (31.71–50.8mm) [2"]



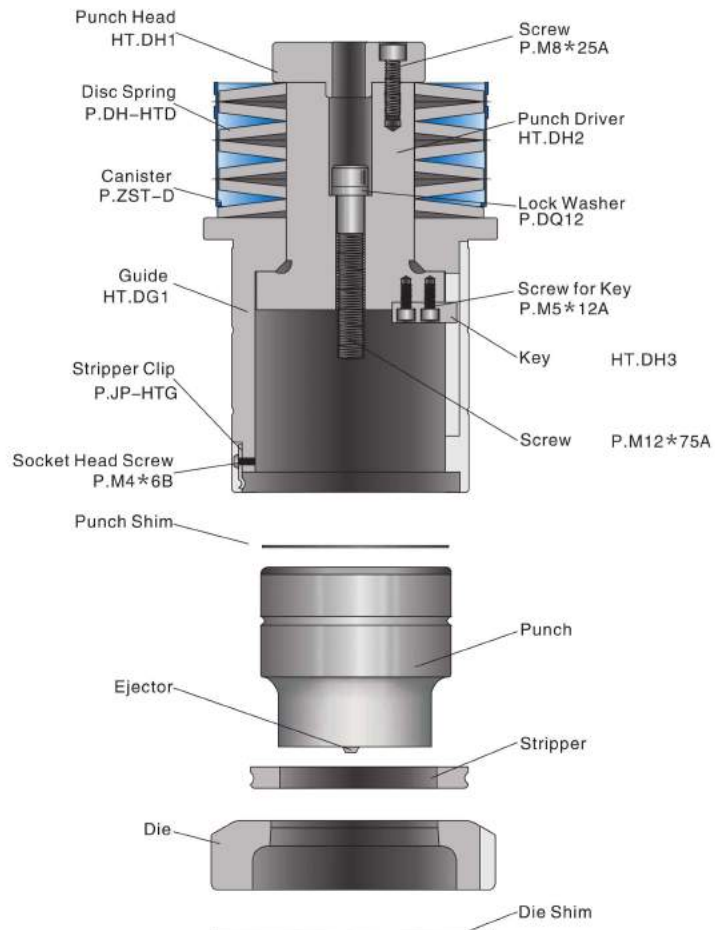
Description	Code
Punch ass'y	
Round	HT.CA1RO.
STD shape	HT.CA1**.
Other	HT.CA1**.
Guide ass'y (0°,90°)	HT.CC1.
Punch	
Round	HT.CP1RO.
STD shape	HT.CP2**.
Other	HT.CP2**.
Square (Opt.0°,135°)	HT.CP3SQ.
Stripper	
Round	HT.CS1RO.
STD shape	HT.CS1**.
Other	HT.CS1**.
Die	
Round(0°)	HT.CD1RO.
STD shape (0°,90°)	HT.CD2**.
Other (0°,90°)	HT.CD2**.
Square (Opt.0°,135°)	HT.CD3SQ.

E85

D STATION (50.81-88.9mm) [3-1/2"]



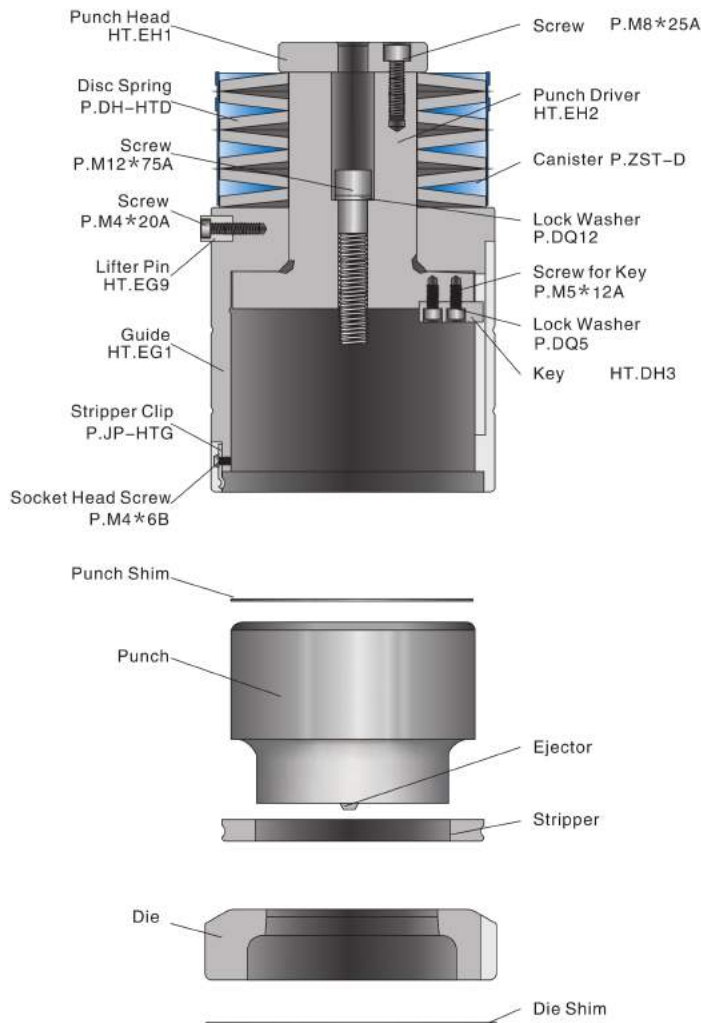
Description	Code
Punch ass'y	
Round	HT.DA1RO.
STD Shape	HT.DA1**.
Other	HT.DA1**.
Guide ass'y	HT.DC1.
Punch	
Round (0°)	HT.DP1RO.
STD shape (0°)	HT.DP2**.
Other (0°)	HT.DP2**.
Square (Opt. 0°, 45°)	HT.DP3SQ.
Stripper	
Round	HT.DS1RO.
STD shape	HT.DS1**.
Other	HT.DS1**.
Die	
Round (0°)	HT.DD1RO.
STD shape (0°, 90°)	HT.DD2**.
Other (0°, 90°)	HT.DD2**.
Square (Opt. 0°, 135°)	HT.DD3SQ.





E85

E STATION
(88.91–114.3mm)
[4-1/2"]



Discription Code

Punch ass'y
 Round HT.EA1RO.
 STD shape HT.EA1**.
 Other HT.EA1**.

Guide ass'y(0°,90°) HT.EC1.

Punch
 Round (0°) HT.EP1RO.
 STD shape (0°) HT.EP2**.
 Other (0°) HT.EP2**.

Stripper
 Round HT.ES1RO.
 STD shape HT.ES1**.
 Other HT.ES1**.

Die
 Round (0°) HT.ED1RO.
 STD shape (0°,90°) HT.ED2**.
 Other (0°,90°) HT.ED2**.

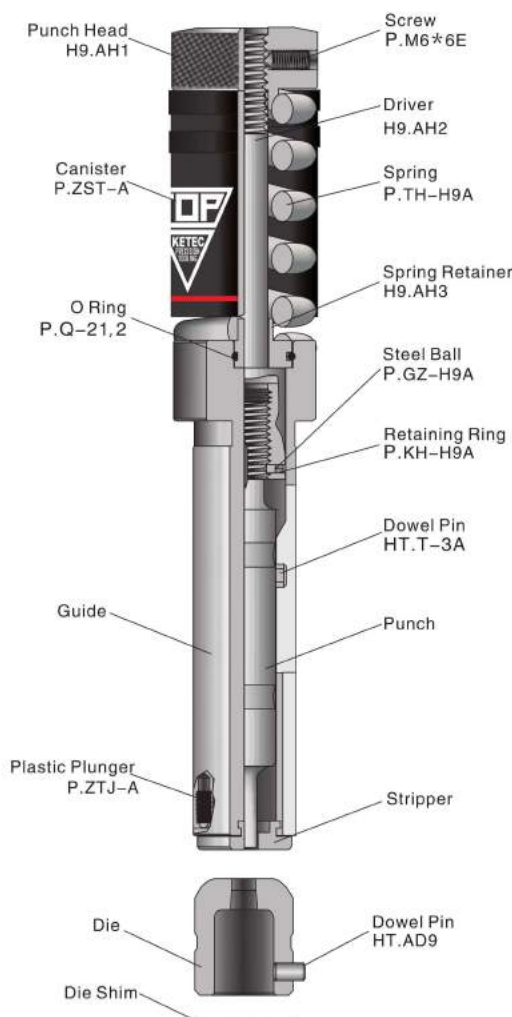


■ TOP90 ■ TOP90ABS

- TOP90 series tooling, including station A/B/C/D.
- Guide assy of C/D station is KETEC patent technology, with standard 90 punch, 90 stripper.
- Punch head assy of A/B station is KETEC patent technology, with standard 90 punch / ABS punch / stripper.
- The punch grind life of A/B station is 6.3mm [0.25"] quick adjusting, w/o shim.
- The punch grind life of C/D station is 5–8mm [0.20"~0.31"], quick adjusting, w/o shim.
- Standard key slots on the guides of C/D station with 0°, 90°, 135°, good performance.
- Max thickness: Mild Steel for A station is 3.8mm [0.15"], for others stations is 6.3mm [0.25"]
- Complete set tooling includes punch assy and die.
- Punch assy is installed in upper turret of the CNC punch machine.



TOP90 TOP90ABS A STATION (1.6–12.7mm) [1/2"]

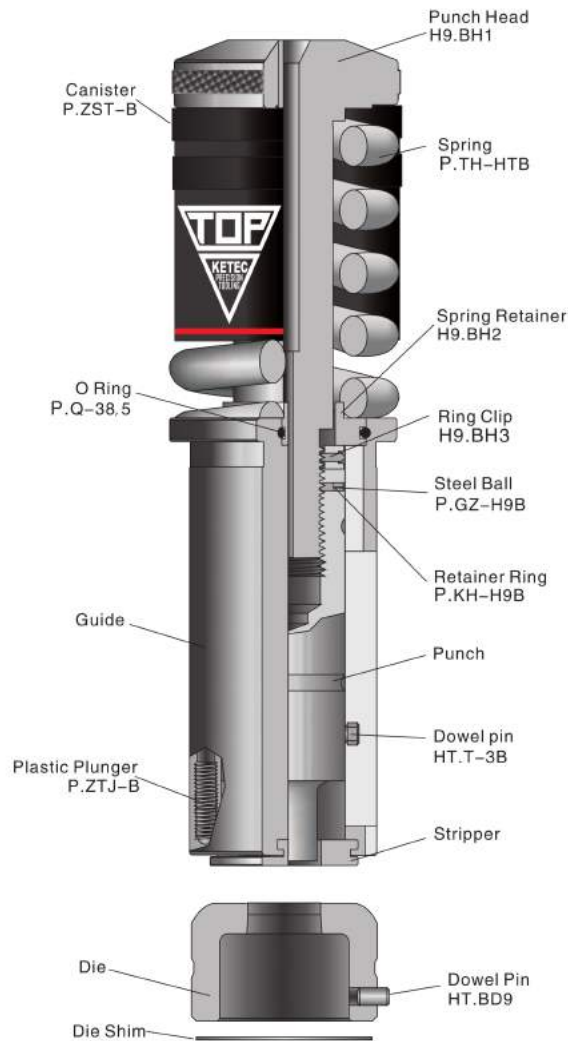


Description	TOP90	TOP90 ABS
Punch ass'y		
Round (0°)	H9.AA1RO.	HP.AA1RO.
Square (0°, 135°)	H9.AA3SQ.	HP.AA3SQ.
STD shape (0°, 90°)	H9.AA2**.	HP.AA2**.
Other (0°, 90°)	H9.AA2**.	HP.AA2**.
Punch		
Round (no pin)	H9.AP1RO.	HP.AP1RO.
STD shape (pin)	H9.AP2**.	HP.AP2**.
Other (pin)	H9.AP2**.	HP.AP2**.
Stripper		
Round	H9.AS1RO.	HP.AS1RO.
STD shape	H9.AS1**.	HP.AS1**.
Other	H9.AS1**.	HP.AS1**.
Die		
Round(no pin)	HT.AD1RO.	HT.AD1RO.
STD shape (pin)	HT.AD2**.	HT.AD2**.
Other (pin)	HT.AD2**.	HT.AD2**.
Guide		
Round (0°)	H9.AG1	HP.AG1
Shape (0°, 90°)	H9.AG2	HP.AG2
Square (0°, 135°)	H9.AG3	HP.AG3
Punch head ass'y	H9.AH9	H9.AH9

TOP90
TOP90ABS
B STATION
 (12.71-31.7mm)
 [1-1/4"]

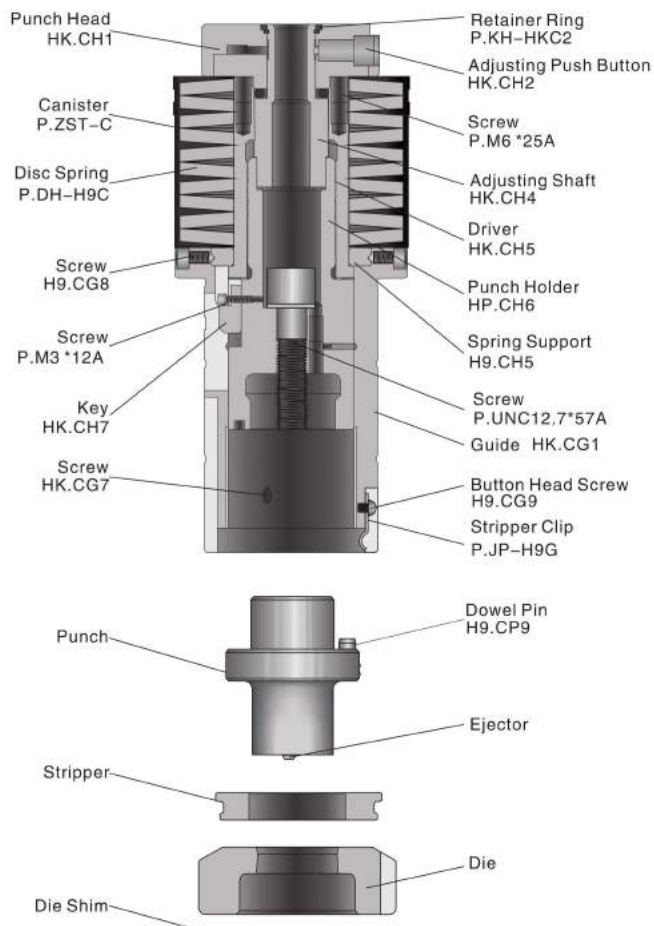


Description	TOP90	TOP90 ABS
Punch ass'y		
Round (0°)	H9.BA1RO.	HP.BA1RO.
Square (0°, 135°)	H9.BA3SQ.	HP.BA3SQ.
STD shape (0°, 90°)	H9.BA2**.	HP.BA2**.
Other (0°, 90°)	H9.BA2**.	HP.BA2**.
Punch		
Round (no pin)	H9.BP1RO.	HP.BP1RO.
STD shape (pin)	H9.BP2**.	HP.BP2**.
Other (pin)	H9.BP2**.	HP.BP2**.
Stripper		
Round	H9.BS1RO.	HP.BS1RO.
STD shape	H9.BS1**.	HP.BS1**.
Other	H9.BS1**.	HP.BS1**.
Die		
Round (no pin)	HT.BD1RO.	HT.BD1RO.
STD shape (pin)	HT.BD2**.	HT.BD2**.
Other (pin)	HT.BD2**.	HT.BD2**.
Guide		
Round (0°)	H9.BG1	HP.BG1
Shape (0°, 90°)	H9.BG2	HP.BG2
Square (0°, 135°)	H9.BG3	HP.BG3
Punch head ass'y	H9.BH9	H9.BH9





TOP90 TOP90ABS C STATION (31.71-50.8mm) [2"]

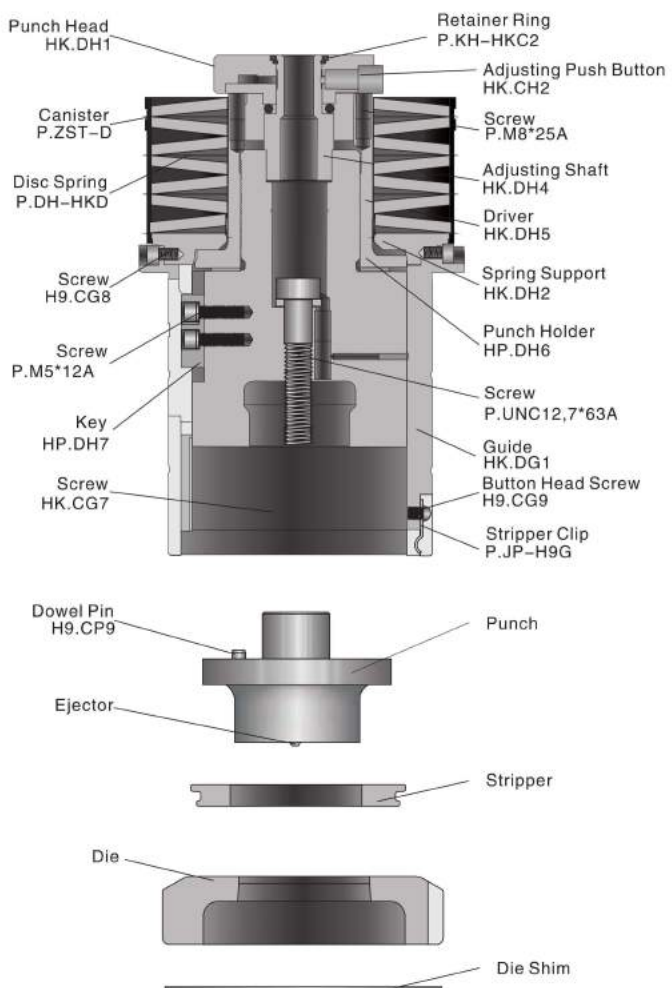


Description	TOP90	TOP90 ABS
Punch ass'y		
Round	HJ.CA1RO.	HP.CA1RO.
STD shape	HJ.CA1**.	HP.CA1**.
Other	HJ.CA1**.	HP.CA1**.
Guide ass'y (0°, 90°, 135°)	HP.CC1.	HP.CC1.
Punch		
Round	H9.CP1RO.	H9.CP1RO.
STD shape	H9.CP1**.	H9.CP1**.
Other	H9.CP1**.	H9.CP1**.
Stripper		
Round	H9.CS1RO.	HP.CS1RO.
STD shape	H9.CS1**.	HP.CS1**.
Other	H9.CS1**.	HP.CS1**.
Die		
Round (0°)	HT.CD1RO.	HT.CD1RO.
STD Shape (0°, 90°)	HT.CD2**.	HT.CD2**.
Other (0°, 90°)	HT.CD2**.	HT.CD2**.
Square (Opt. 0°, 135°)	HT.CD3SQ.	HT.CD3SQ.

TOP90
TOP90ABS
D STATION
(50.81-88.9mm)
[3-1/2"]

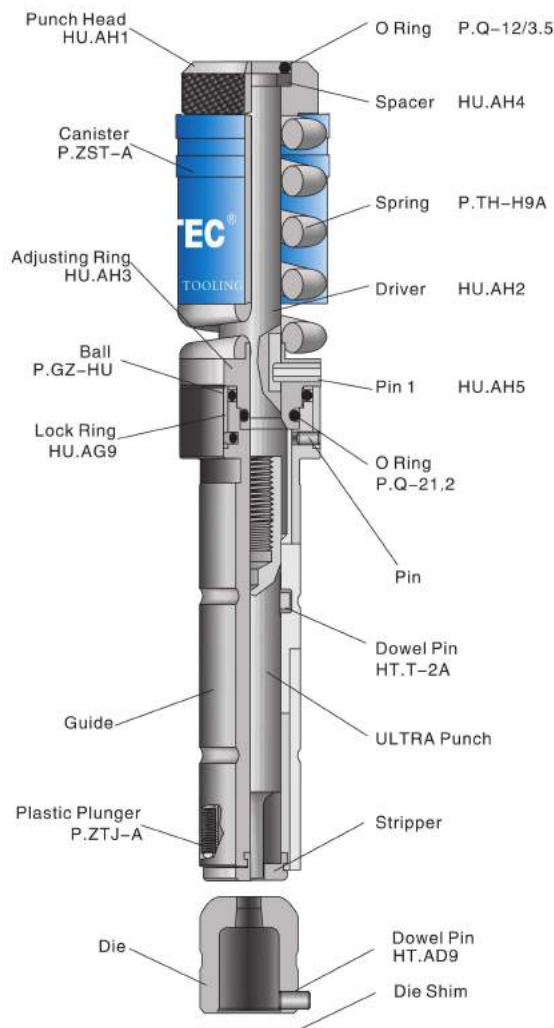


Description	TOP90	TOP90 ABS
Punch ass'y		
Round	HJ.DA1RO.	HP.DA1RO.
STD shape	HJ.DA1**.	HP.DA1**.
Other	HJ.DA1**.	HP.DA1**.
Guide ass'y	HP.DC1.	HP.DC1.
Punch		
Round	H9.DP1RO.	H9.DP1RO.
STD shape	H9.DP1**.	H9.DP1**.
Other	H9.DP1**.	H9.DP1**.
Stripper		
Round	H9.DS1RO.	HP.DS1RO.
STD shape	H9.DS1**.	HP.DS1**.
Other	H9.DS1**.	HP.DS1**.
Die		
Round (0°)	HT.DD1RO.	HT.DD1RO.
STD Shape (0°, 90°)	HT.DD2**.	HT.DD2**.
Other (0°, 90°)	HT.DD2**.	HT.DD2**.
Square (Opt. 0°, 135°)	HT.DD3SQ.	HT.DD3SQ.





**KU
TOOLING
A STATION**
(1.6–12.7mm)
[1/2"]
Ultra Style



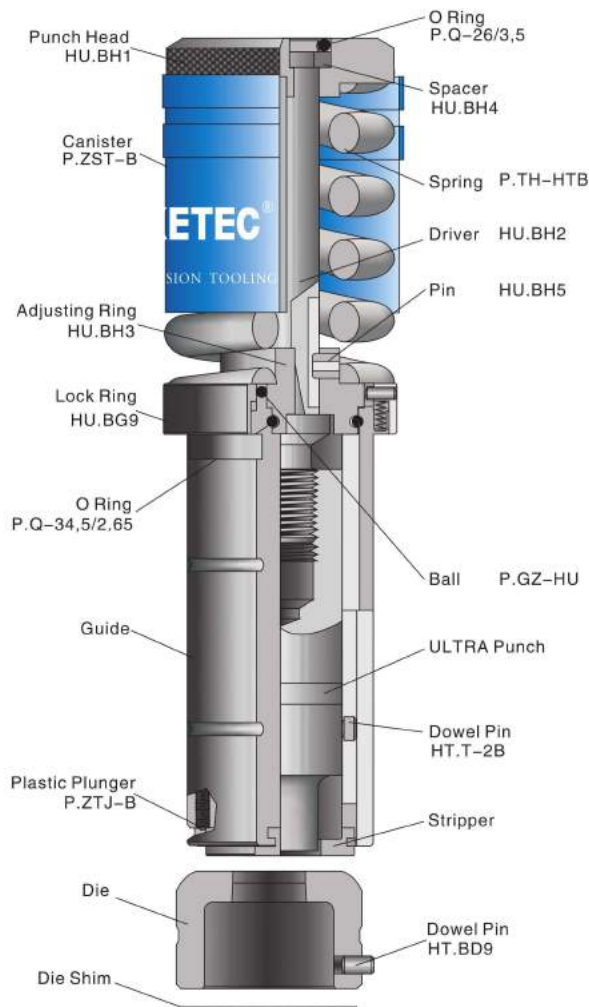
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Punch ass'y	
Round (0°)	HU.AA1RO
Square (0°, 135°)	HU.AA3SQ
STD shape (0°, 90°)	HU.AA2**
Other (0°, 90°)	HU.AA2**
Punch	
Round	HU.AP1RO
STD shape	HU.AP1**.
Other	HU.AP1**.
Stripper	
Round	HU.AS1RO
STD shape	HU.AS1**.
Other	HU.AS1**.
Die	
Round (no pin)	HT.AD1RO
STD shape (pin)	HT.AD2**.
Other (pin)	HT.AD2**.
Guide	
Round (0°)	HU.AG1
Shape (0°, 90°)	HU.AG2
Square (0°, 135°)	HU.AG3
Punch head ass'y	HU.AH9

**KU
TOOLING
B STATION
(12.71-31.7mm)
[1-1/4"]

Ultra Style**

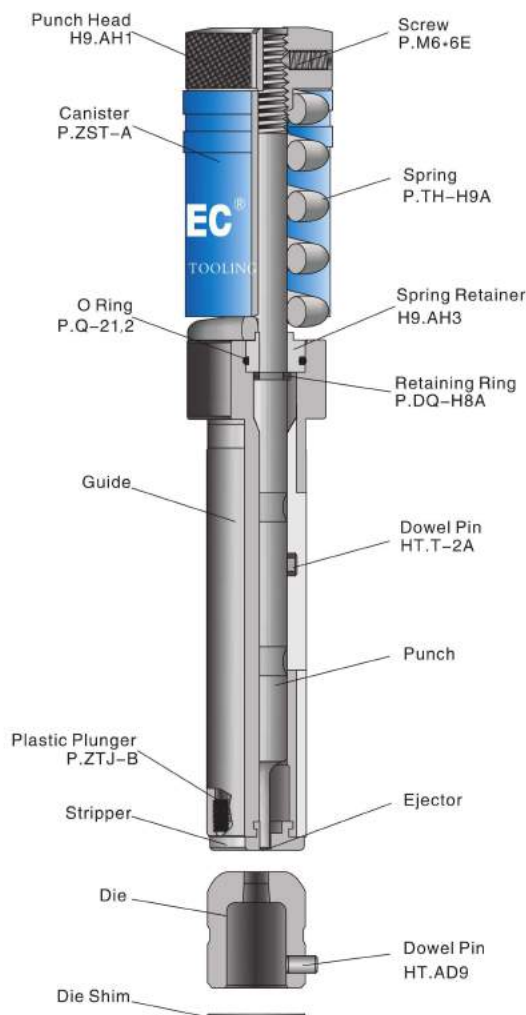


Description	Code
Punch ass'y	
Round (0°)	HU.BA1RO
Square (0°, 135°)	HU.BA3SQ
STD shape (0°, 90°)	HU.BA2**
Other (0°, 90°)	HU.BA2**
Punch	
Round	HU.BP1RO
STD shape	HU.BP1**.
Other	HU.BP1**.
Stripper	
Round	HU.BS1RO
Shape	HU.BS1**.
Other	HU.BS1**.
Die	
Round (no pin)	HT.BD1RO
STD shape (pin)	HT.BD2**.
Other (pin)	HT.BD2**.
Guide	
Round (Ø)	HU.BG1
Shape (Ø, 90°)	HU.BG2
Square (Ø, 135°)	HU.BG3
Punch head ass'y	HU.BH9



E80

A STATION (1.6–12.7mm) [1/2"]



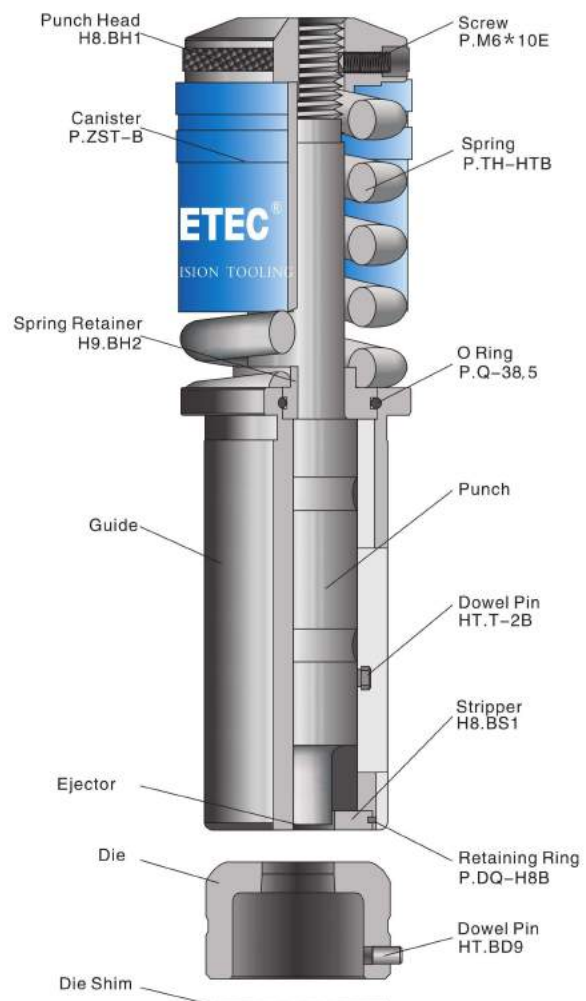
Description	Code
Punch ass'y	
Round (0°)	H8.AA1RO.
Square (0°, 135°)	H8.AA3SQ.
STD shape (0°, 90°)	H8.AA2**.
Other (0°, 90°)	H8.AA2**.
Punch	
Round (no pin)	H8.AP1RO.
STD shape (pin)	H8.AP2**.
Other (pin)	H8.AP2**.
Stripper	
Round	H9.AS1RO.
STD shape	H9.AS1**.
Other	H9.AS1**.
Die	
Round (no pin)	HT.AD1RO.
STD shape (pin)	HT.AD2**.
Other (pin)	HT.AD2**.
Guide (Opt. solid)	
Round (0°)	H8.AG1RO.
Shape (0°, 90°)	H8.AG2**.
Square (0°, 135°)	H8.AG3SQ.
Guide (STD. open)	
Round (0°)	H9.AG1
Shape (0°, 90°)	H9.AG2
Square (0°, 135°)	H9.AG3

E80

B STATION
(12.71-31.7mm)
[1-1/4"]



Description	Code
Punch ass'y	
Round (0°)	H8.BA1RO.
Square (0°, 135°)	H8.BA3SQ.
STD shape (0°, 90°)	H8.BA2**.
Other (0°, 90°)	H8.BA2**.
Punch	
Round (no pin)	H8.BP1RO.
STD shape (pin)	H8.BP2**.
Other (pin)	H8.BP2**.
Stripper	
Round	H8.BS1RO.
STD shape	H8.BS1**.
Other	H8.BS1**.
Die	
Round (no pin)	HT.BD1RO.
STD shape (pin)	HT.BD2**.
Other (pin)	HT.BD2**.
Guide	
Round (0°)	H8.BG1
Shape (0°, 90°)	H8.BG2
Square (0°, 135°)	H8.BG3





Contouring



SPH Heavy Duty



E-Break Tool
E-Bend Tool



SPS
Fully Guide Small Diameter



SPL



Multi-Tool



Cluster



Slitting Tool



Close To Clamp

■ SPECIAL TOOLING

CONTOURING A STATION

Specification / Size:

Punch size:

Ø2mm [0.079"], Ø2.5mm [0.098"]

Die clearance:

+0.2mm [0.008"]

+0.25mm [0.010"]



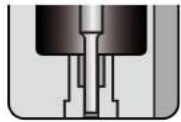
Standard



STD : 0.15MM
[0.006"]



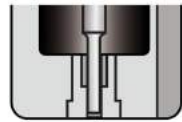
SPS



SPS: 0.025MM
[0.0010"]



CONTOURING



Contouring: 0.01MM
[0.0004"]



■ Contouring tool size:
RO 2 + 0.2 mm [0.08"+0.008"]
punch 1 mm [0.04"], SPCC precisely
in 0.5mm [0.02"] step.

Die

- Special die structure, prevent slug pulling
- Die is a Press-Fit insert structure
- Hard alloy material, hardness: HRC75, longer tool life.

Punch

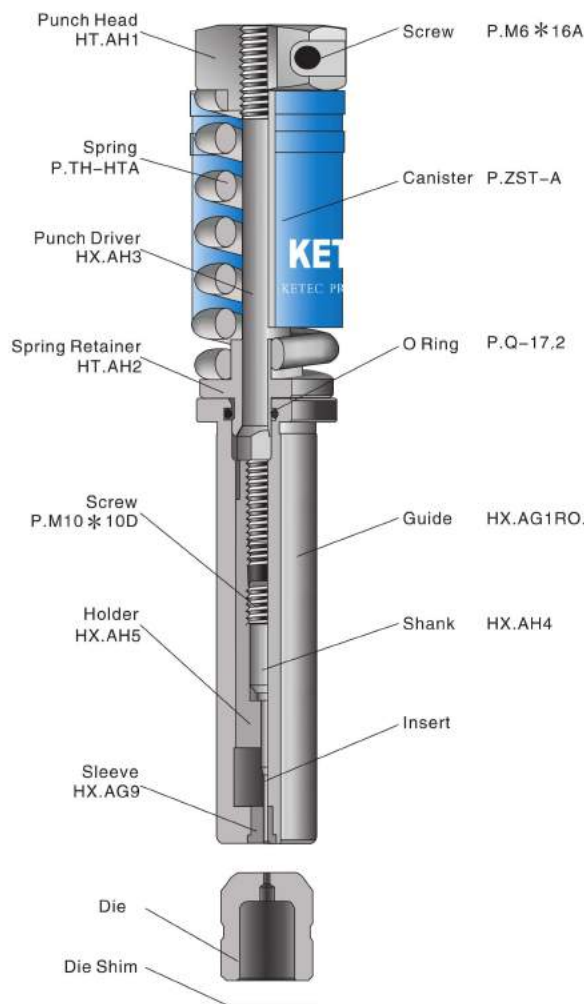
- ABS structure cools down the lubricating of slide and punch blade portion.
- Smaller size punch with changeable insert is more affordable.
- Hard alloy material, hardness: HRC75, longer tool life.
- Guide surface with hardening treatment increases wear resistance.
- Can achieve 0.5mm [0.02"] step in precisely nibbling
- Both punch and die are hard alloy material, hardness is HRC75.
- Get a fine contour with standard tools, elimination of secondary operations.
- Prevent punch breakage when disalignment
- With ABS function, reduce material adhesion to punch surface increased wear resistance, longer tool life.

Description	Code
A STN Contouring Die (Round)	HT. ADLRO
A STN Thick Turret Contouring Die (Round) $\phi 2.5+0.2$	HT. ADLRO. 2.5 /0.2
A STN Thick Turret Contouring Die (Round) $\phi 2+0.2$	HT. ADLRO. 2 /0.2
A STN Contouring Punch ass'y (Round)	HT. AALRO
A STN Thick Turret Contouring Punch ass'y (Round) $\phi 2$	HT. AALRO. 2
A STN Contouring Guide (Round)	HT. AGLRO
A STN Thick Turret Contouring Guide (Round) $\phi 2$	HT. AGLRO. 2
A STN Contouring Punch Insert (Round)	HT. APLRO
A STN Thick Turret Contouring Punch Insert (Round) $\phi 2$	HT. APLRO. 2
A STN Thick Turret Contouring Punch Insert (Round) $\phi 2.5$	HT. APLRO. 2.5



SPS Fully Guide Small Diameter

A STATION
(1.0-6.0mm)
[0.23"]



Description	Code
Punch ass'y	HX.AA1RO.
Insert	HX.AP1RO.
Guide	HX.AG1RO.
Die	HT.AD1RO.

- Recommended when punching small holes
- Replaceable insert, lower cost, only for round
- Small range: 1.0- 6 mm [0.04"~0.24"]
- Size should be over below data:

Aluminum 0.75T
Mild steel 1T
Stainless steel 2T

SPRING PACKS LIGHT (SPL)



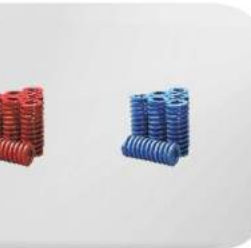
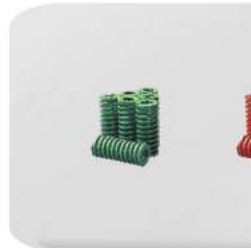
HL.AH9

HL.BH9

HL.CC1

HL.DC1

HL.EC1



Features:

- Eliminate or reduce unwanted sheet marking
- Compatible with STD TOP 85 series spring packs
- Adjust the numbers and sorts of springs to change the pressure of C/D/E station
- Reduce noise level, longer life for springs
- Purchase spring packs
- Suggest to use solid guide for A/B station

Calculate pressure of springs:

- Spring pressure of A/B station compare to TOP85 series, A STN 65%, B STN 60%
- Springs with different colors should be evenly distributed when adjust the springs of C/D/E station

Spring Pressure compares to TOP 85 series, data as below form:

C STATION		D / E STATION	
Spring Combination	Percentage	Spring Combination	Percentage
9 BLUE	13%	9 BLUE	13.8%
3RED+6BLUE	17.3%	3RED+6BLUE	18%
6RED+3BLUE	21.6%	6RED+3BLUE	23%
9 RED	26%	9 RED	27.5%
6RED+3GREEN	34.6%	6RED+3GREEN	36.6%
3RED+6GREEN	43.2%	3RED+6GREEN	45.7%
9 GREEN	52%	9 GREEN	55%

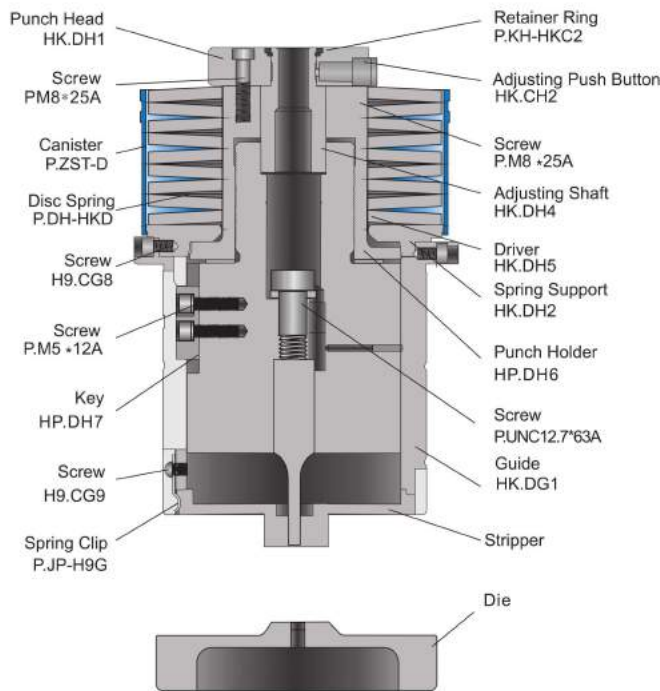
■ If no special requires from buyers, the package will be 9 red and 9 green springs, buyers can adjust by themselves.



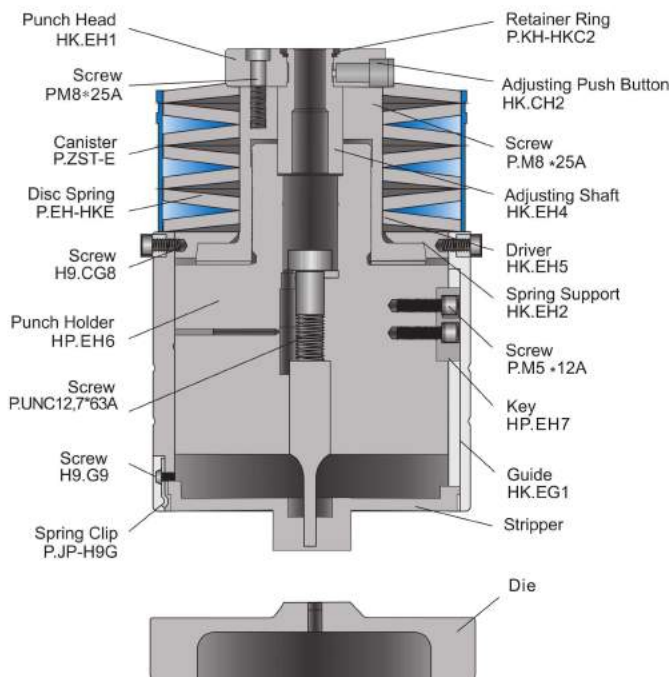
CLOSE TO CLAMP

D STATION
RE (50.81-88.9mm)
[3-1/2"]

E STATION
RE (88.91-114.3mm)
[4-1/2"]



Description	Code
Punch ass'y	HR.DA1RE.
Guide ass'y	HR.DC1.
Punch Blade	HR.DP1RE.
Pin	HR.DP9
Stripper	HR.DS1RE.
Die (double)	HR.DD1RE.
Die (single)	HR.DD2RE.
Guide only	HR.DG1

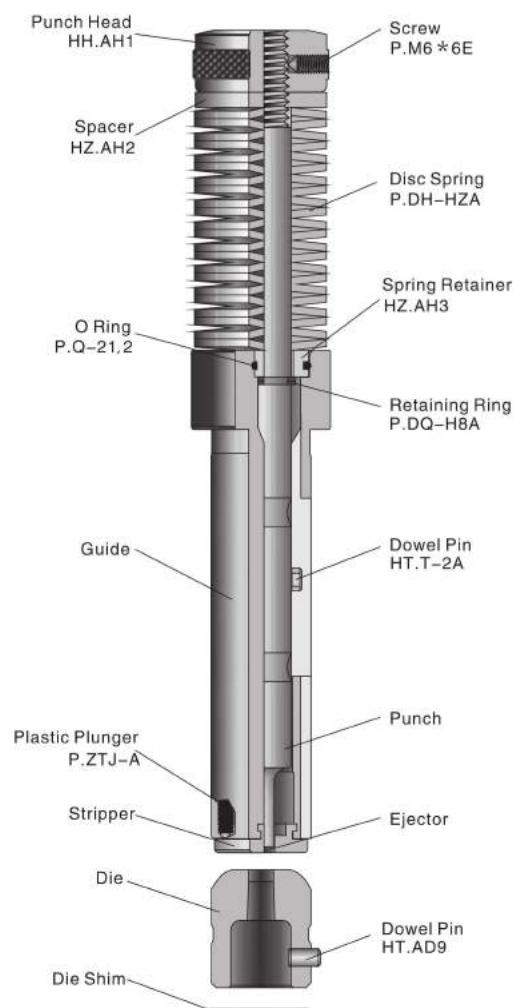


Description	Code
Punch ass'y	HR.EA1RE.
Guide ass'y	HR.EC1.
Punch Blade	HR.EP1RE.
Pin	HR.EP9
Stripper	HR.ES1RE.
Die (double)	HR.ED1RE.
Die (single)	HR.ED2RE.
Guide only	HR.EG1

**Heavy Duty
(SPH80)
A STATION**
(~12.7mm)
[1/2"]

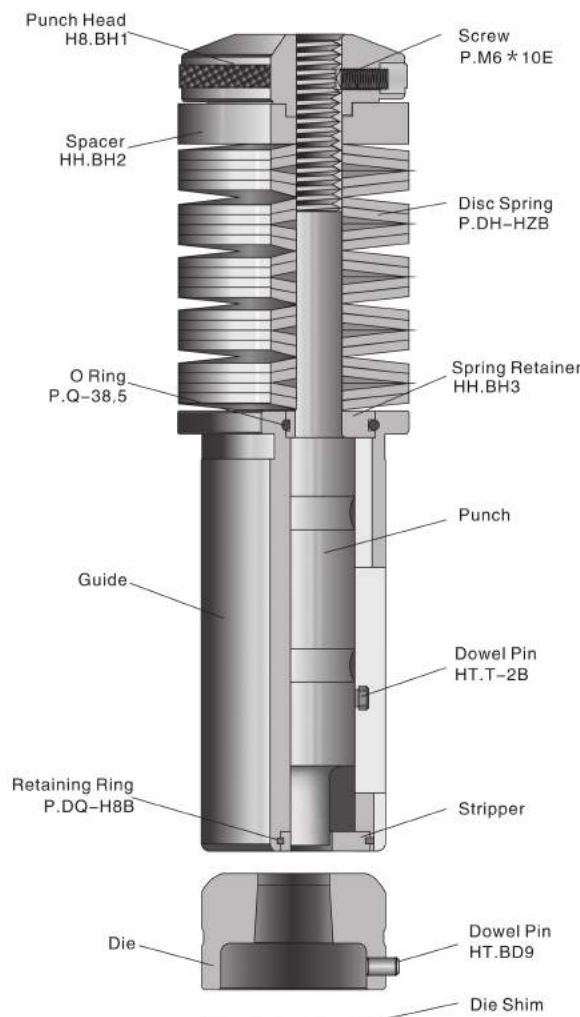


Description	Code
Punch ass'y	
Round (0°)	HH.AA1RO.
Square (0°, 135°)	HH.AA3SQ.
STD shape (0°, 90°)	HH.AA2**.
Other (0°, 90°)	HH.AA2**.
Punch	
Round (no pin)	HH.AP1RO.
STD shape (pin)	HH.AP2**.
Other (pin)	HH.AP2**.
Stripper	
Round	H9.AS1RO.
STD shape	H9.AS1**.
Other	H9.AS1**.
Die	
Round (no pin)	HZ.AD1RO.
STD shape (pin)	HZ.AD2**.
Other (pin)	HZ.AD2**.
Guide	
Round (0°)	H9.AG1
Shape (0°, 90°)	H9.AG2
Square (0°, 135°)	H9.AG3





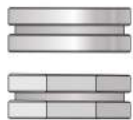
Heavy Duty (SPH80) B STATION (12.71-31.7mm) [1-1/4"]



Description	Code
Punch ass'y	
Round (0°)	HH.BA1RO.
Square (0°, 135°)	HH.BA3SQ.
STD shape (0°, 90°)	HH.BA2**.
Other (0°, 90°)	HH.BA2**.
Punch	
Round (no pin)	HH.BP1RO.
STD shape (pin)	HH.BP2**.
Other (pin)	HH.BP2**.
Stripper	
Round	H8.BS1RO.
STD shape	H8.BS1**.
Other	H8.BS1**.
Die	
Round (no pin)	HZ.BD1RO.
STD shape (pin)	HZ.BD2**.
Other (pin)	HZ.BD2**.
Guide	
Round (0°)	H8.BG1
Shape (0°, 90°)	H8.BG2
Square (0°, 135°)	H8.BG3

DMT24mm	MT24-8mm	MT10-16mm	MT8-24mm	MT8i1-16mm	MT8i2-16mm
---------	----------	-----------	----------	------------	------------

Q.H.0013.RO
Q.H.0013.**



Q.H.0014.RO.
Q.H.0015.**.
Q.H.0015.SQ.



HF.8D1.
HF.8D2**.
HF.8D3.

HF.24P1.
HF. 24P1**



HF.24S1.
HF.24S2**.
HF.24S2.



HF.24D1.
HF.24D2**.
HF.24D2.

HF.10P1.
HF. 10P1**



HF.10S1.
HF.10S2**.
HF.10S3.



HF.10D1.
HF.10D2**.
HF.10D3.

HF.8P1.
HF. 8P1**



HF.8S1.
HF.8S2**.
HF.8S3.



HF.8D1.
HF.8D2**.
HF.8D3.

HW.8P1.RO
HW.8P2**
HW.8P3SQ



HW.8S1.
HW.8S1**.
HW.8S1.



HW.8D1.
HW.8D2**.
HW.8D2.

HW.8P1.RO
HW.8P2**.
HW.8P3SQ



HW.8S1.
HW.8S1**.
HW.8S1.



HW.8D1.
HW.8D2**.
HW.8D2.

DMT24mm	MT24-8mm	MT10-16mm	MT8-24mm	MT8i1-16mm	MT8i2-16mm
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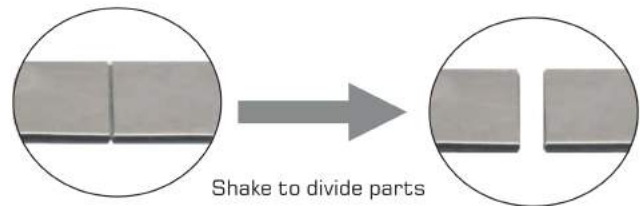
24.0mm	8.0mm	16.0mm	24.0mm	16.0mm	16.0mm
24.0mm+1.5mm	8.0mm+1.5mm	16.0mm+1.5mm	24.0mm+1.5mm	16.0mm+1.5mm	16.0mm+1.5mm
113.5mm	70.5mm	70.5mm	70.5mm	100.0mm	100.6mm
24.0mm	17.0mm	24.0mm	24.0mm	17.6mm	17.6mm

only for DURMA	MT20,MT24, MT12,MT20,	MT6,MT10	MT6,MT8 MTE6,MTE10	MT8Ri	MT8Ri
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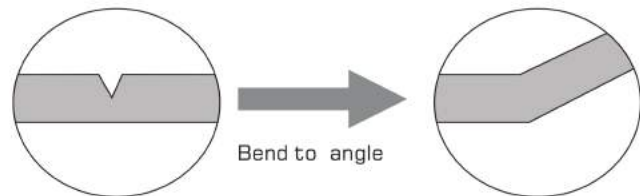
E-Break Tool E-Bend Tool



E-Break tool



E-Bend tool



The code of E-Break tool

	Punch ass'y	Die ass'y
B STN	H.TBX.DZ**	H.TBS.DZ**
C STN	H.TCX.DZ**	H.TCS.DZ**

The code of E-Bend Tool

	Set ass'y	Set ass'y
B STN	H.TBS.DZ**	H.TBX.DZ**
C STN	H.TCS.DZ**	H.TCX.DZ**

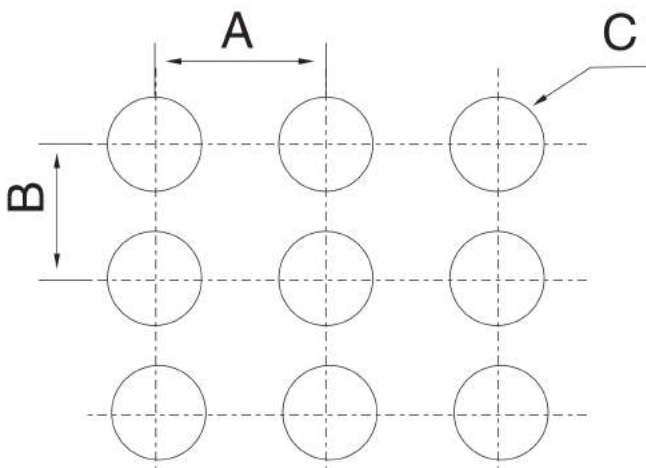
- Be available at B, C, D station.
- Punch ass'y designed for specified thickness and material. Not adjust.
- V-line tip on punch and die insert create weak slot in sheet metal. Shake up and down to break parts. In E-bend, only one V-line tip.
- Restriction for thickness: Minimum 0.8mm[0.03"], Maximum 1.5mm[0.06"]
- E-Break tool, clear, smooth in cutting edge after breaking.
- E-Bend tool, the angle is not recommended to be over 90 degree.

SLITTING TOOL



	Description	C STN	D STN	E STN	WIDTH
Wilson	Blade	HI.CW1RE	HI.DW1RE	HI.EW1RE	19.05mm [0.77"]
	Holder	HI.CW9			19.05mm
Amada	Blade		HI.DT1RE	HI.ET1RE	16mm [0.63"]
	Holder		HI.DT9	HI.ET9	16mm
	ABS Holder		HI.DT8	HI.ET8	16mm
Mate	Blade		HI.DM1RE	HI.EM1RE	18mm [0.71"]
	Holder		HI.DM9		18mm

CLUSTER



Machine _____ A _____
 Material _____ B _____
 C _____ T _____

■ Space of holes must be over 3.2mm [0.13"] or 2T

■ Please fill in the above form



■ FORMING TOOLS

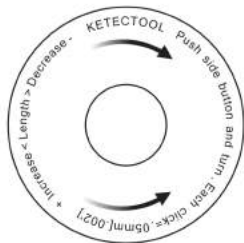
The first time for testing a forming tool, which requires continuously adjusting the length for the tool, until the workpiece meets the requirements. In this process, the old structure spring pack, needs to be removed from the CNC punch machine, loosened the screw to adjust, measured the length, locked the screw and put back to the CNC punch machine for testing again and again. This operation is generally carried out many times, lots of works and low efficiency.

By improving the structure of the main parts, Q-Adjust forming tool can achieve a fast and accurate adjustment on the length of the tools. simplify the assembly and disassembly, reduce the labor intensity and reliance on the tools, improve the productivity.

Q-ADJUST FORMING TOOL A/B STATION

Adjust the length of A STN:

- Push the side button on the punch head and turn clockwise, decreases the length of the tool;
- Push the side button on the punch head and turn anti-clockwise, increases the length of the tool;
- Loose the side button, the punch head is locked;
- The circle of the punch head is divided into several sections for turning, the variation for each click is 0.05mm [0.002"], can achieve a precise adjustment.



Adjust the length of B STN:

- Push the side button on the punch head and turn clockwise, decreases the length of the tool;
- Push the side button on the punch head and turn anti-clockwise, increases the length of the tool;
- Loose the side button, the punch head is locked;
- The circle of the punch head is divided into several sections for turning, the variation for each click is 0.075mm [0.003"], can achieve a precise adjustment.



Q-ADJUST FORMING TOOL C/D STATION



Adjust the length of C/D STN:

- Loosen the screw nut in figure I, turn the punch head in clockwise way, decreases the length of the tool;
- Turn the punch head in anti-clockwise way, increases the length of the tool, when the length is meets the measurement, lock the screw nut.
- Punch head is divided into coarse thread and fine thread, depending on the specific requirements of the forming tool;
- The circle of the punch head is divided into several sections for turning
 the variation: for fine thread, each click is 0.06mm [0.0024"] (figure II)
 the variation: for coarse thread, each click is 0.13mm [0.0051"] (figure III)
- All tools from KETEC are clearly identified the direction and amount of the adjustment (as the figures below).
- Make sure all the tools can be precise and quick adjusted.



figure I

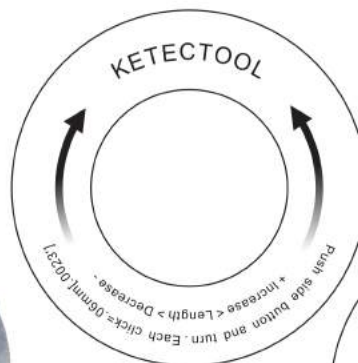


figure II

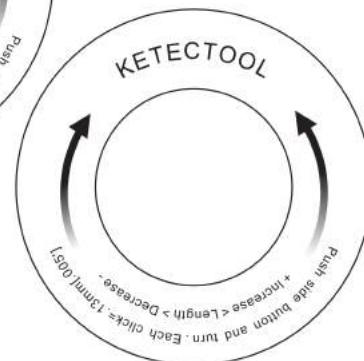


figure III

WHEEL RIB

- High speed, equal to table travel speed
- Make any shape in auto index station
- No nibble marks
- Replaceable wheels
- Works under related program
- Thickness:
 - Stainless steel 0.8–1.5mm [0.03"~0.06"]
 - Mild steel 0.8–2mm [0.03"~0.08"]
 - Aluminum 0.8–2.5mm [0.03"~0.10"]
- Height: 2~3T, Width: 4~6T(2*H), Max Width: 12.7mm [0.50"]



WHEEL OFFSET

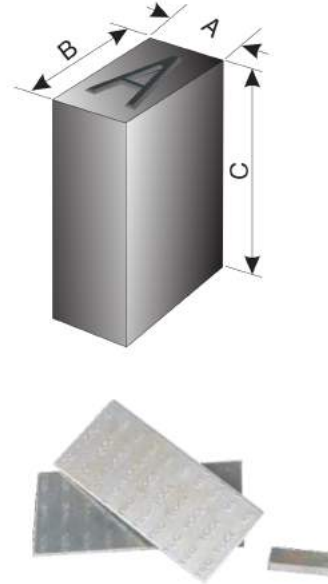
- High speed, equal to table travel speed
- Make any shape in auto index station
- No nibble marks
- Replaceable wheels
- Works under related program
- Thickness:
 - Stainless steel 0.8–1.5mm [0.03"~0.06"]
 - Mild steel 0.8–2mm [0.03"~0.08"]
 - Aluminum 0.8–2.5mm [0.03"~0.10"]



CHARACTER STAMPING

Character font & range:

A B C D E F G H I J K L M
 N O P Q R S T U V W X Y Z
 0 1 2 3 4 5 6 7 8 9
 & / . - ()

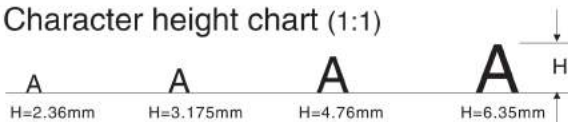


Character type & size:

TYPE	SIZE A	SIZE B	SIZE C
2.4	2.36mm [0.09"]	6.35mm [0.25"]	19.05mm [0.75"]
3.2	3.175mm [0.13"]	6.35mm [0.25"]	19.05mm [0.75"]
4.8	4.76mm [0.19"]	7.94mm [0.31"]	19.05mm [0.75"]
6.4	6.35mm [0.25"]	9.52mm [0.37"]	19.05mm [0.75"]

Note: 2.4 type is too small, not recommended.

Character height chart (1:1)



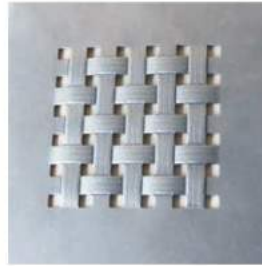
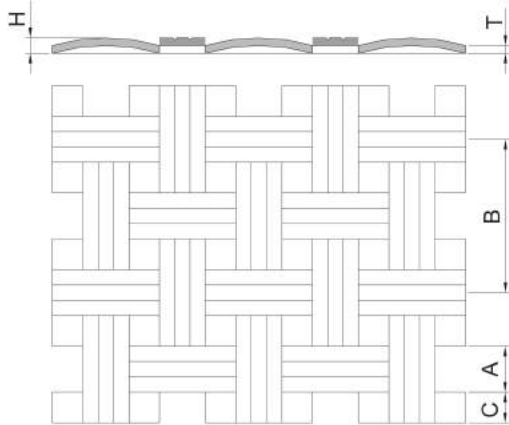
Character depth & force KN (AL, MS, SS)

TYPE	DEPTH	AL	MS	SS
2.4	0.1mm	1.1KN	2.8KN	8.9KN
3.2	0.1mm	1.6KN	4.4KN	13.3KN
4.8	0.2mm	3.6KN	10.7KN	30.2KN
6.4	0.3mm	6.2KN	16.9KN	48.9KN

Note: 2.4 type is too small, not recommended.



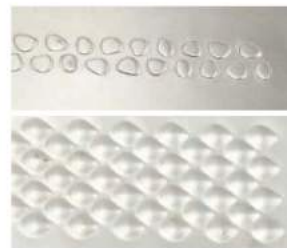
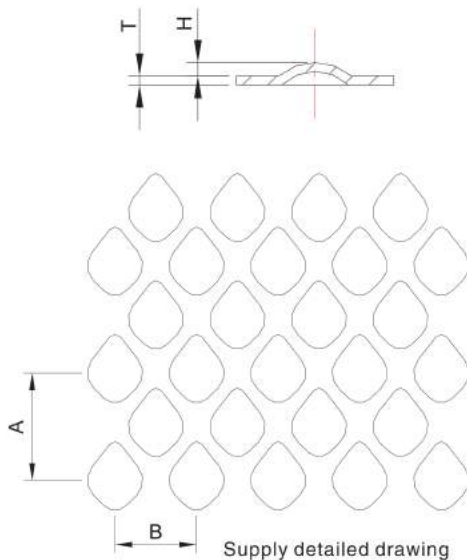
EMBOSS-EXPANDED METAL



- Forbid punching without sheet
- Need prepunch
- Max. thickness: mild steel 1.5mm [0.06"]
- Fill in the above form

Machine _____ A _____ H _____
 Material _____ B _____ T _____
 Material _____ C _____ T _____

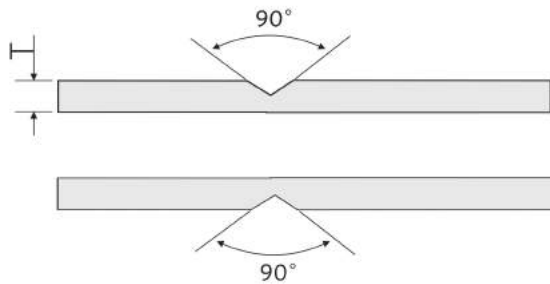
EMBOSS-DRIPS



Machine _____ A _____ H _____
 Material _____ B _____ T _____

- Forbid punching without sheet
- Max. thickness: 1.5mm [0.06"]
- Fill in the above form

CENTERPOINT



Form Down

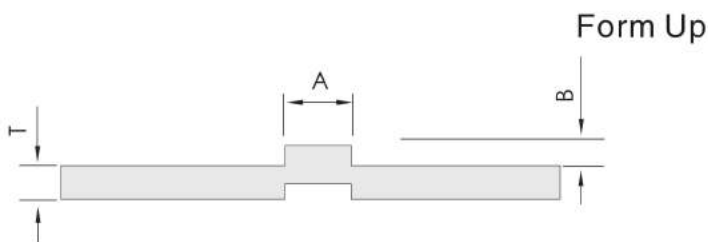
Form Up



Machine _____
Material _____ T _____

- Forbid punching without sheet
- Adjust punch ass'y height to control the depth of centerpoint
- Form Up, Form Down
- Angle: 90°, Max. thickness: 6.0mm [0.24"]

HALF SHEAR



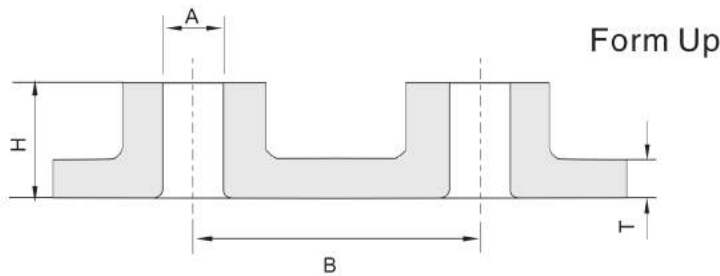
Form Up

Machine _____ A _____
Material _____ B _____ T _____

- Give tool enough time to strip
- Form Up, Form Down
- Max. B size: 0.6T



EXTRUSION TAPPING



Machine _____ A _____
 Material _____ B _____ T _____
 H _____

- Need prepunch
- Give tool enough time to strip
- Replaceable insert design on extrusion
- Form Up, Form Down
- Max. thickness: Mild steel 2.3mm [0.09"], AL 2.0mm [0.08"], 1.2mm [0.05"]
- Forming height (Max. H): over 3*thread pitch

Prepunch size (Stainless steel) Unit: mm [inch]

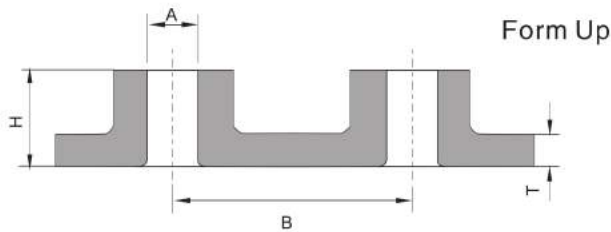
Extrusion	Thickness: T				
	Size	0.6 [0.02"]	0.8 [0.03"]	1.0 [0.04"]	1.2 [0.05"]
M2.6	2.21 [0.09"]	1.3 [0.05"]	1.3	1.3	
M3	2.60 [0.10"]	1.3	1.3	1.6 [0.06"]	1.8 [0.07"]
M4	3.40 [0.13"]		2.0 [0.08"]	2.0	2.0
M5	4.30 [0.17"]			2.3 [0.09"]	2.3
M6	5.10 [0.20"]			3.0 [0.12"]	3.0

Prepunch Size (MS, AL) Unit: mm [inch]

Extrusion	Thickness: T						
	Size	0.8 [0.03"]	1.0 [0.04"]	1.2 [0.05"]	1.6 [0.06"]	2.0 [0.08"]	2.3 (no AL) [0.09"]
M2.6	2.21 [0.09"]	1.3 [0.05"]	1.3	1.3	1.6 [0.06"]		
M3	2.60 [0.10"]	1.3	1.3	1.6	1.6		
M4	3.40 [0.13"]	2.0 [0.08"]	2.0	2.0	2.3	2.3	2.5 [0.10"]
M5	4.30 [0.17"]		2.3 [0.09"]	2.3	2.8 [0.11"]	2.8	3.0
M6	5.10 [0.20"]			3.0 [0.12"]	3.0	3.8 [0.15"]	3.8



EXTRUSION



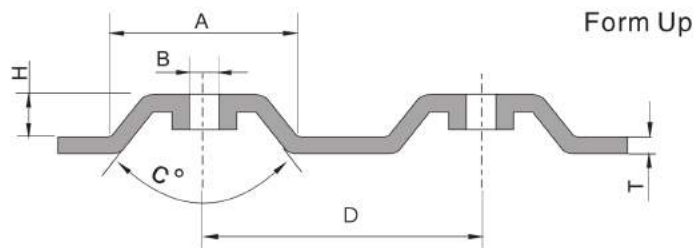
Machine _____
 Material _____

A _____
 B _____
 H _____
 T _____

- Need prepunch
- Give tool enough time to strip
- Form Up, Form Down
- Max. height: $H \geq 2T$



EMBOSS & EXTRUSION



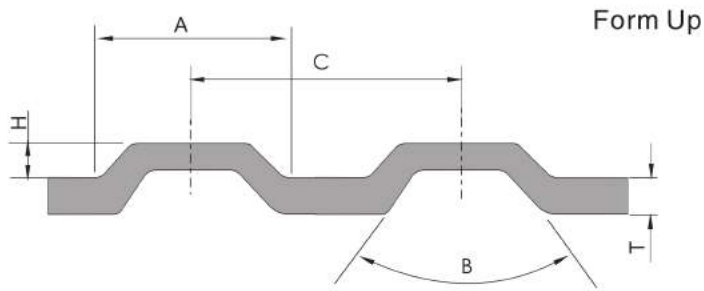
Machine _____
 Material _____

A _____
 B _____
 C _____
 D _____
 H _____
 T _____

- Complete emboss and extrusion on one hit
- Give tool enough time to strip
- Form Up only



EMBOSS



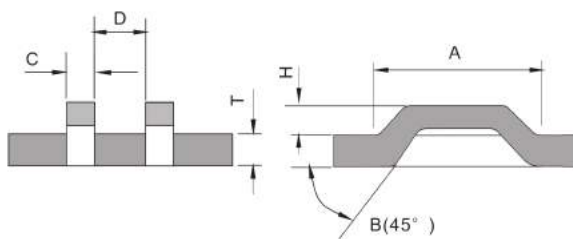
Form Up

Machine _____ A _____ H _____
 Material _____ B _____ T _____
 C _____

- Escape clamp or punching hole
- Can form in Round or Shape
- Give tool enough time to strip
- Form Up, Form Down



BRIDGE



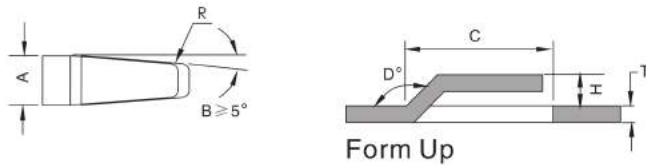
Form Up

Machine _____ A _____ D _____
 Material _____ B _____ H _____
 C _____ T _____

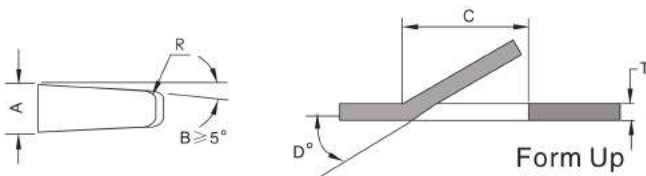
- Can be designed in single or double bridge
- Give tool enough time to strip
- Form Up, Form Down
- Width of the Bridge: $C \geq 2T$ and $C \geq 1.8\text{mm}$ [0.07"]



LANCE & FORM



Machine _____ A: _____ D: _____
 Material _____ B: _____ R: _____
 C: _____ H: _____ T: _____

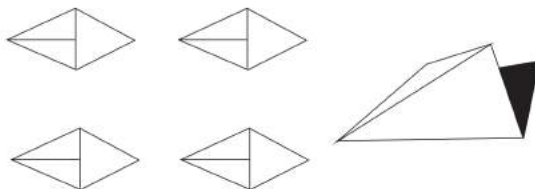


Machine _____ A _____
 Material _____ B _____ C _____ D _____ R _____ T _____

- Tooling is made for specific thickness
- Give tool enough time to strip
- Form up only



LOCATOR



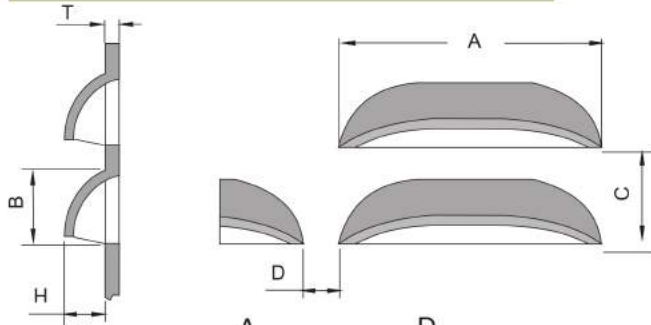
- No scrab on opposite side of sheet metal
- Use thinner thickness if shear button cannot work
- Forbid punching without sheet
- Min. spaces between centers of locators: 15mm



Unit: mm [inch]

CLOSE LOUVER

STOCKED SIZE				
SIZE A	50 [1.97]	80 [3.15]	80 [3.15]	80 [3.15]
SIZE B	10 [0.39]	10 [0.39]	12 [0.47]	15 [0.59]
SIZE H	5 [0.20]	6 [0.24]	6 [0.24]	6 [0.24]

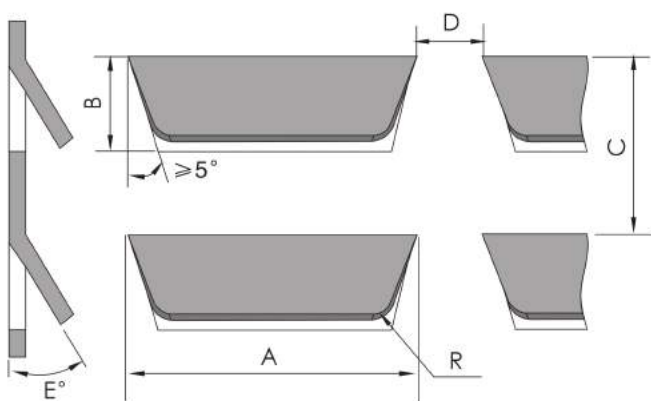


Machine _____ A _____ D _____
 Material _____ B _____ H _____
 C _____ T _____



- Tooling is made for specific thickness
- Consider the travel direction of the sheet metal, give tool enough time to strip
- Adjust length without shim, replaceable insert
- Form Up only

OPEN LOUVER

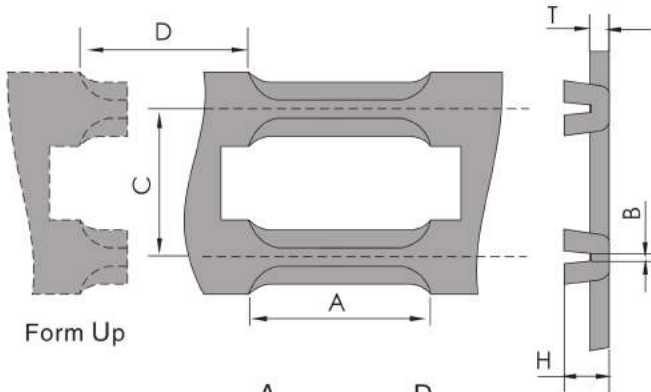


Machine _____ A _____ D _____
 Material _____ B _____ E _____
 C _____ T _____ R _____



- Tooling is made for specific thickness
- Consider the travel direction of the sheet metal, give tool enough time to strip
- Adjust length without shim, replaceable insert
- Form Up only

CARD GUIDE

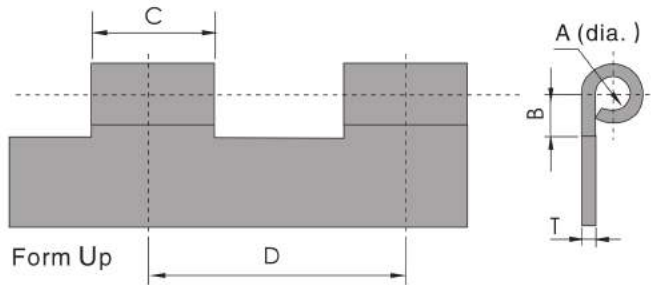


Machine _____ A _____ D _____
 Material _____ B _____ H _____
 C _____ T _____

- Tooling is made for specific thickness
- Give tool enough time to strip
- Adjust length without shim, replaceable insert
- Form up Height: $H \leq 2T$, otherwise will be deformation easily
- Form Up



HINGE

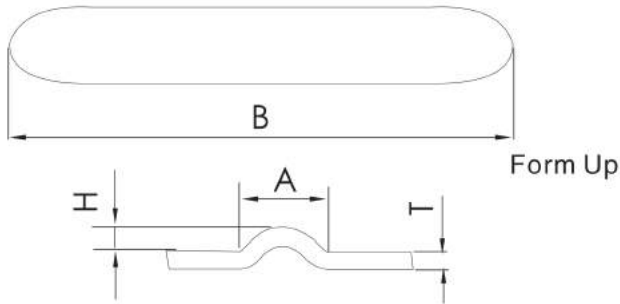


Machine _____ A _____ D _____
 Material _____ B _____ T _____
 C _____

- Tooling is made for specific thickness, need prepunch
- First for curling, second for forming
- Thickness: $T \leq 1.5\text{mm}$ (Mild Steel); $T \leq 1.5\text{mm}$ (Stainless Steel)
- Form Up only



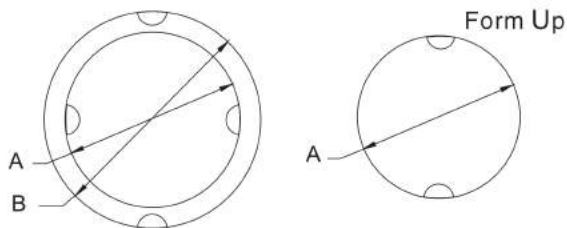
RIB TOOL



Machine _____ A _____ H _____
 Material _____ B _____ T _____

- Keep proper away from holes, clamp, material edge
- Form Up, Form Down
- Increment of ribbling rib should be 0.5~2.0mm [0.02"~0.08"]
- Max. thickness 2.7mm (MS & AL), 2.3mm(SS)

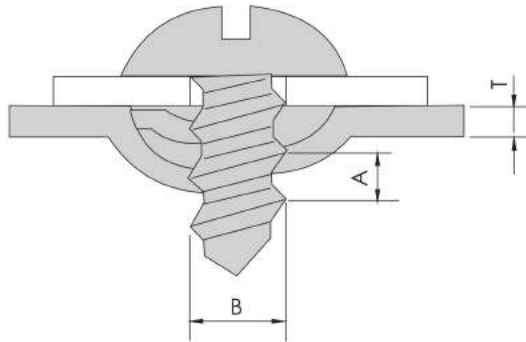
KNOCKOUT



Machine _____ A _____ T _____
 Material _____ B _____

- Forbid punching without sheet
- Adjust the height of the tool to change the depth when punching
- Can be designed in single / double / triple EKO
- The positioning must be accurated for the bottom dead point of the CNC punch press machine
- Form Up, Form Down

THREAD FORM

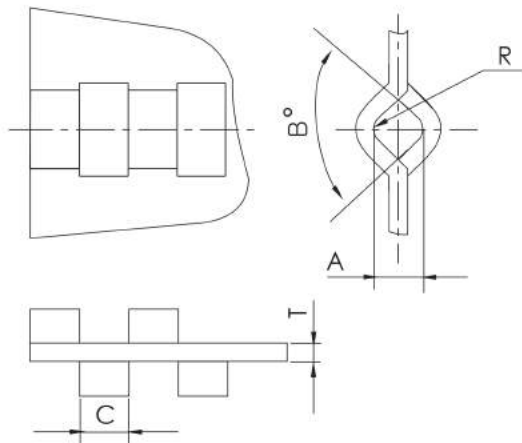


Machine _____ A _____ T _____
 Material _____ B _____

- Form Up, Form Down
- Thickness range: 0.5mm~1.2mm [0.02"~0.05"]



THREAD LOOP

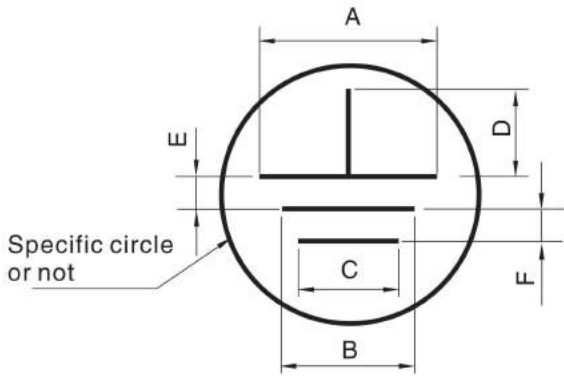


Machine _____ A _____ C _____ R _____
 Material _____ B _____ T _____

- Standard angle for B is 90°
- Please fill in the left form



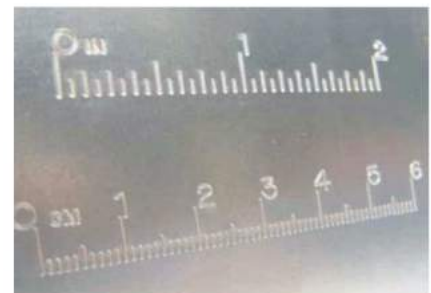
STAMPING



Machine _____ A _____ D _____ G_(width) _____
 Material _____ B _____ E _____ H_(depth) _____
 C _____ F _____

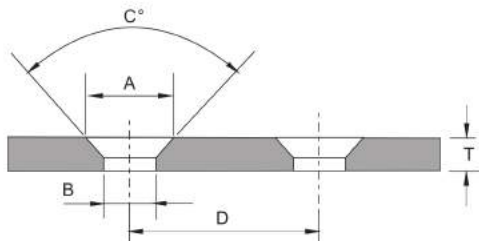
- Forbid punching without sheet
- Adjust the height of the tool to change the depth when punching
- Turn in any direction in auto index station
- Form Up, Form Down

MULTI-SCRIBE

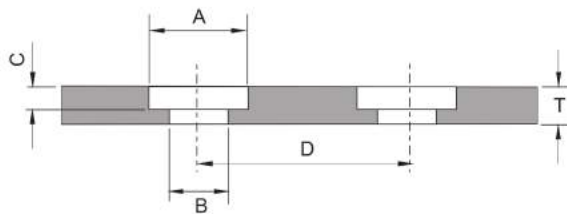


- Forbid punching without sheet
- Required special control program for the machine
- Change spring for different sheet metal in auto index station
- Form Down only

COUNTERSINK



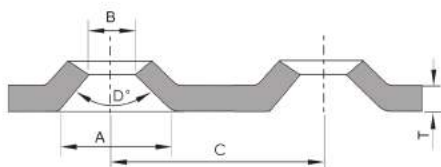
Machine _____ A _____ D _____
 Material _____ B _____ T _____
 C _____



Machine _____ A _____ D _____
 Material _____ B _____ T _____
 C _____

- Need prepunch
- Adjust prepunch size to get different depth
- Form Up, Form Down
- Max. thickness: $T \geq 1.0\text{mm}$ [0.04"]

EMBOSS COUNTERSINK



Machine _____ A _____ D _____
 Material _____ B _____ T _____
 C _____

- Suggest using prepunch
- Form up only



ALIGNMENT TOOL



A STN



B STN



C STN



D STN

DESCRIPTION	Code	Code	Code	Code
Set assy	J.DW-HA1	J.DW-HB1	J.DW-HC1	J.DW-HD1
Punch assy	J.DW-HA2	J.DW-HB2	J.DW-HC2	J.DW-HD2
Die	J.DW-HA3	J.DW-HB3	J.DW-HC3	J.DW-HD3
T-Handle	J.DW-HA4	J.DW-HB4	J.DW-HB4	J.DW-HB4

ADAPTER



B-A



C-A



C-B



D-B

STN	Description	Code	Price
B-A	Punch ass'y	J.H-BA1	
	Die ass'y	J.H-BA3	
C-A	Punch ass'y	J.H-CA1	
	Die ass'y	J.H-CA3	
D-A	Punch ass'y	J.H-DA1	
	Die ass'y	J.H-DA3	
C-B	Punch ass'y	J.H-CB1	
	Die ass'y	J.H-CB3	
D-B	Punch ass'y	J.H-DB1	
	Die ass'y	J.H-DB3	
D-C	Punch ass'y	J.H-DC1	
	Die ass'y		

DEMAGNITIZER

CODE	PRICE
J.DZ-1	



Technical data:

1. Rated voltage: 220V ± 10% 50HZ
2. Rated current: 3.3A single phase
3. Electrical energy: 1KW, Weight 6.0 KG
4. Size(mm): 300x158x230 [11.81"x6.22"x9.05"]

MOUNTING & DISMOUNTING HOLDER



Description	Code	Price
Holder for set	J.ZPT	
Holder for A/B punch	J.ZPT-HAB	
Holder for A/B forming	J.ZPT-HABS	
Holder for C/D/E	J.ZPT-HCDE	

BALL RIDING DIE BRUSH DIE

Description		Ball Riding Die	
STN	CODE	PRICE	
A station	J.GZ-HA1		
B station	J.GZ-HB1		
C station	J.GZ-HC1		
D station	J.GZ-HD1		



Description		Brush Die	
STN	CODE	PRICE	
A station	J.MS-HA1		
B station	J.MS-HB1		
C station	J.MS-HC1		
D station	J.MS-HD1		

ACCESSORIES

Inner Plier		Outer Plier	
Code	Price	Code	Price
J.NKQ		J.WKQ	



Hex Wrench	
Code	Price
J.BS	



EJECTOR

Description	φ 3mm		φ 6mm		φ 10mm	
	Code	Price	Code	Price	Code	Price
Ejector	P.JL03		P.JL06		P.JL10	
Package	P.JL0315		P.JL0610		P.JL1005	



SHIM

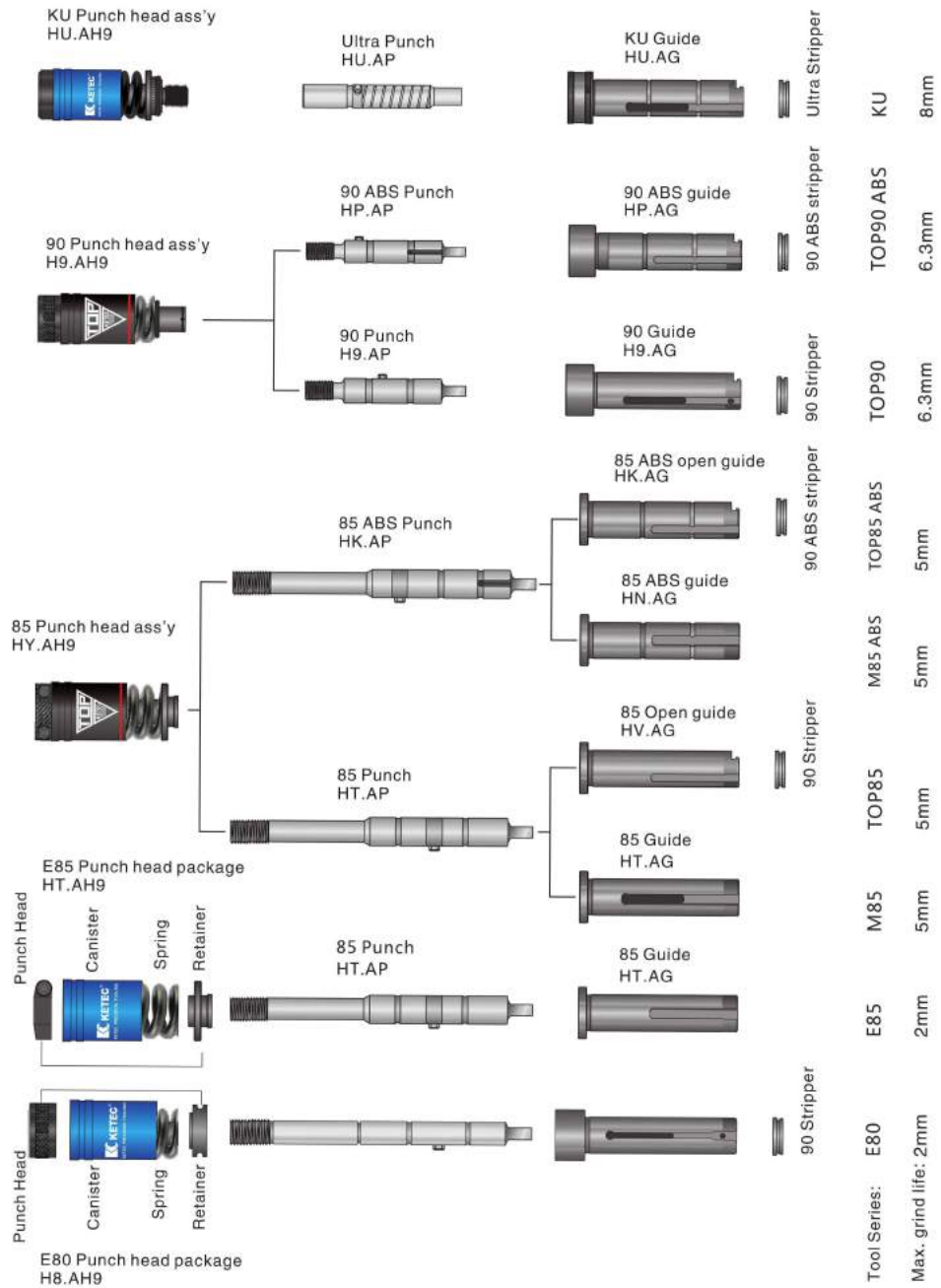


Description	A STN	B STN	C STN	D STN
	Code	Code	Code	Code
Punch Shim 0.4mm 0.016"			P.DP-HCP04	P.DP-HDP04
Punch Shim 0.8mm 0.031"			P.DP-HCP08	P.DP-HDP08
Punch Shim 1.2mm 0.047"			P.DP-HCP12	P.DP-HDP12
Punch Shim pack (9 pcs)			P.DP-HCP	P.DP-HDP
Die Shim 0.4mm 0.016"	P.DP-HAD04	P.DP-HBD04	P.DP-HCD04	P.DP-HDD04
Die Shim 0.8mm 0.031"	P.DP-HAD08	P.DP-HBD08	P.DP-HCD08	P.DP-HDD08
Die Shim 1.2mm 0.047"	P.DP-HAD12	P.DP-HBD12	P.DP-HCD12	P.DP-HDD12
Die Shim pack (9 pcs)	P.DP-HAD	P.DP-HBD	P.DP-HCD	P.DP-HDD

Note: one pack include 3 pcs for different thickness


















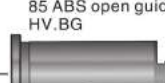



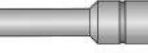





A STN THICK TURRET OVERVIEW

A STATION



B STN THICK TURRET













B STATION

<p>KU Punch head ass'y HU.BH9</p> 	<p>Ultra Punch HU.BP</p> 	<p>KU guide HU.BG</p> 	 Ultra Stripper	<p>KU</p>	<p>8mm</p>
<p>90 Punch head ass'y H9.BH9</p> 	<p>90 ABS punch HP.BP</p> 	<p>90 ABS guide HP.BG</p> 	 90 ABS stripper	<p>TOP90 ABS</p>	<p>6.3mm</p>
	<p>90 Punch H9.BP</p> 	<p>90 Guide H9.BG</p> 	 90 stripper	<p>TOP90</p>	<p>6.3mm</p>
<p>85 Punch head ass'y HY.BH9</p> 	<p>85 ABS punch HK.BP</p> 	<p>85 ABS open guide HK.BG</p> 	 90 ABS stripper	<p>TOP85 ABS</p>	<p>5mm</p>
	<p>85 Punch HT.BP</p> 	<p>85 ABS guide HN.BG</p> 		<p>M85 ABS</p>	<p>5mm</p>
		<p>85 ABS open guide HV.BG</p> 	 90 Stripper	<p>TOP85</p>	<p>5mm</p>
		<p>85 Guide HT.BG</p> 		<p>M85</p>	<p>5mm</p>
<p>Punch head Canister Spring Retainer</p>  <p>E85 Punch head package HT.BH9</p>	<p>85 Punch HT.BP</p> 	<p>85 Guide HT.BG</p> 		<p>E85</p>	<p>2mm</p>
<p>Punch head Canister Spring Retainer</p>  <p>E80 Punch head package H8.BH9</p>			 90 Stripper	<p>E80</p>	<p>2mm</p>
				<p>Tool Series:</p>	
				<p>Max. grind life:</p>	

OVERVIEW

C STN

C STATION

<p>E85 Guide ass'y HT.CC1</p>		<p>85 Punch HT.CP</p>			<p>85 Stripper HT.CS</p>	<p>Tool series: E85 Max. gring life: 2mm</p>
<p>TOP 85 Guide ass'y HV.CC1</p>		<p>85 Punch HT.CP</p>			<p>85 Stripper HT.CS</p>	<p>TOP85 5~8mm</p>
<p>TOP85ABS Guide ass'y HK.CC1</p>		<p>85 ABS Punch HK.CP</p>			<p>85 ABS stripper HK.CS</p>	<p>TOP85 ABS 5~8mm</p>
<p>TOP90ABS Guide ass'y HP.CC1</p>		<p>90 Punch H9.CP</p>			<p>90 Stripper H9.CS</p> <p>90 ABS stripper HP.CS</p>	<p>TOP90 5~8mm</p> <p>TOP90 ABS 5~8mm</p>

D STN ← THICK TURRET

D STATION

<p>E85 Guide ass'y HT,DC1</p> 	<p>TOP 85 Guide ass'y HV,DC1</p> 	<p>TOP85ABS Guide ass'y HK,DC1</p> 	<p>TOP90ABS Guide ass'y HP,DC1</p> 	<p>85 Punch HT,DP</p> 	<p>85 Punch HT,DP</p> 	<p>85 Punch HK,DP</p> 	<p>90 Punch H9,DP</p> 	<p>85 Stripper HT,DS</p> 	<p>90 Stripper H9,DS</p> 	<p>90 ABS stripper HP,DS</p> 	<p>Tool series: Max. grind life:</p>	<p>E85 2mm</p>	<p>TOP85 5~8mm</p>	<p>TOP85 ABS 5~8mm</p>	<p>TOP90 5~8mm</p>	<p>TOP90 ABS 5~8mm</p>
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SHAPE CLASSES

STANDARD SHAPE					
	Code: RE Name: Rectangle Size: B/A	Code: OB Name: Oblong Size: B/A	Code: SQ Name: Square Size: A	Code: SD Name: Single D Size: B/A	Code: DD Name: Double D Size: B/A
	Code: QD Name: Quad D Size: B/A	Code: QR Name: Quad R Size: B/A/R	Code: ET Name: Equilateral Triangle Size: A	Code: HX Name: Hexagon Size: A	Code: OT Name: Octagon Size: A

GROUP A					
	Code: A0 Name: Diamond Size: B/A	Code: A1 Name: Diamond Size: B/A/R	Code: A2 Name: Diamond Size: B/A/C	Code: A3 Name: Diamond Size: B/A/C/R	Code: A4 Name: Cable Connector Size: B/A/C/R
GROUP B					
	Code: A5 Name: Six Edges Size: B/A/C	Code: A6 Name: Eight Edges Size: C/B/A/D	Code: A7 Name: Triangle Size: B/A	Code: A8 Name: Triangle w/R Size: A/B/R	Code: A9 Name: Right Triangle Size: B/A

Code: B0 Name: Double R Size: B/A/C/D/R	Code: B1 Name: Tri-R Size: B/A/C/D/E	Code: B2 Name: Quad-R Size: B/A/D/E/F/G	Code: B3 Name: Ellipse Size: B/A/C/R	Code: B4 Name: Football Size: A/B	Code: B5 Name: Key Hole Size: A/B/C

SPECIAL SHAPE	Special shape follows the attached drawing
	CODE: FT

SAME STATION TOOLING, SAME GROUP SHAPE, SAME PRICE!

GROUP C						
	Code: C0 Name: Key Way Size: C/B/A	Code: C1 Name: Double Key Way Size: C/B/A	Code: C2 Name: Quad Key Way Size: C/B/A	Code: C3 Name: Key Way Size: C/B/A	Code: C4 Name: Key Way Size: C/B/A	Code: C5 Name: Key Way Size: C/B/A
	Code: C6 Name: Key Way Size: C/B/A/D	Code: C7 Name: Micro-joint Size: B/A				
GROUP D						
	Code: D0 Name: Triangle w/R Size: A/B/C/R	Code: D1 Name: One way radius Size: B/A/R	Code: D2 Name: Four way radius Size: A/R	Code: D3 Name: Four way radius Size: A/B/C/D/E/F	Code: D4 Name: H w/radius Size: D/C/B/A	Code: D5 Name: H shape Size: D/C/B/A
GROUP E F						
	Code: E0 Name: Four radius Size: A/B/C/D/E	Code: E1 Name: Banana Size: A/C/D/R	Code: E2 Name: Banana Size: B/C/A	Code: E3 Name: Connector Size: D/B/C/A/R	Code: E4 Name: Connector Size: D/B/A/C/F/R	Code: E5 Name: Connector Size: D/B/C/A/R
	Code: E6 Name: Key Hole Size: C/A/B	Code: E7 Name: Key Hole Size: C/A/B	Code: E8 Name: Key Hole Size: C/A/B	Code: F0 Name: Key Hole Size: C/A/B	Code: F1 Name: Key Hole Size: C/A/B	Code: F2 Name: Key Hole Size: C/A/B
	Code: F3 Name: Key Hole Size: B/C/A	Code: F4 Name: T shape Size: D/C/B/A	Code: F5 Name: T shape Size: D/C/A/B	Code: F6 Name: Cross Size: C/B/D/A	Code: F7 Name: Cross Size: B/A/D	Code: F8 Name: Cross Size: B/A/C/D/R



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