

## DIE COLLET PICK-UP TOOLS

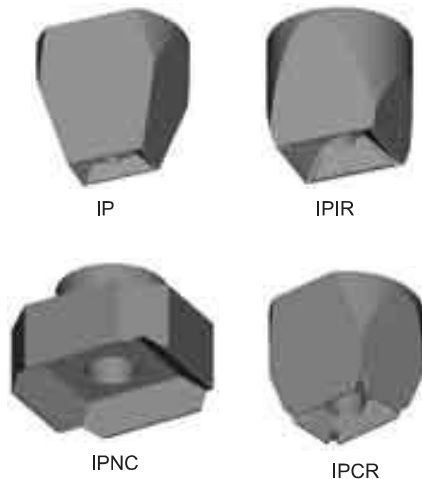
The “Die Collet” has become the symbol of the die attach tools. Despite the fantastic development and integration capacity of a semiconductor die, this tool remains consistent to its very early conception and design. The inverted polished pyramidal walls gently hold the die on four or two edges. The die corners are usually preserved from any contact by the selection of the appropriate die collet type.

### Die collet advantages

- Maximum available vacuum surface
- No physical contact with sensitive top die surface.
- Allow pickup with obstructed die surface topology.
- Die auto alignment effect at pickup.
- Good placement accuracy.
- Allow die scrubbing action.
- Well adapted to very small die dimensions.
- Maintenance free and long life tungsten carbide material.



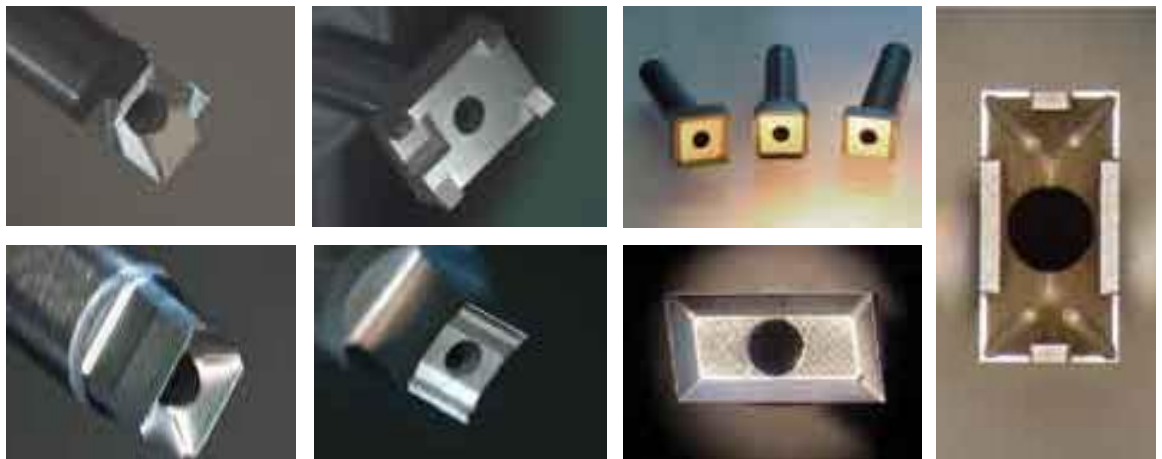
### 4 Sided Inverted Pyramid Die Collet



### 2 Sided Inverted Channel Die Collet



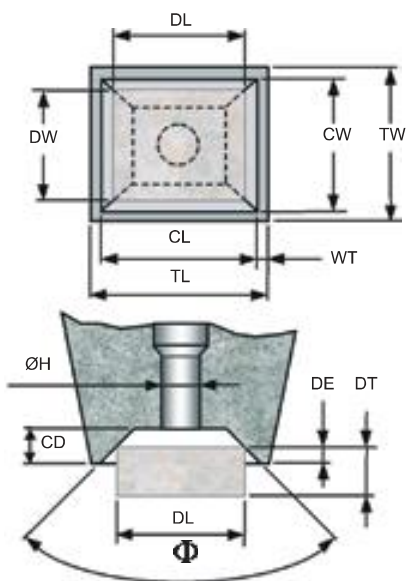
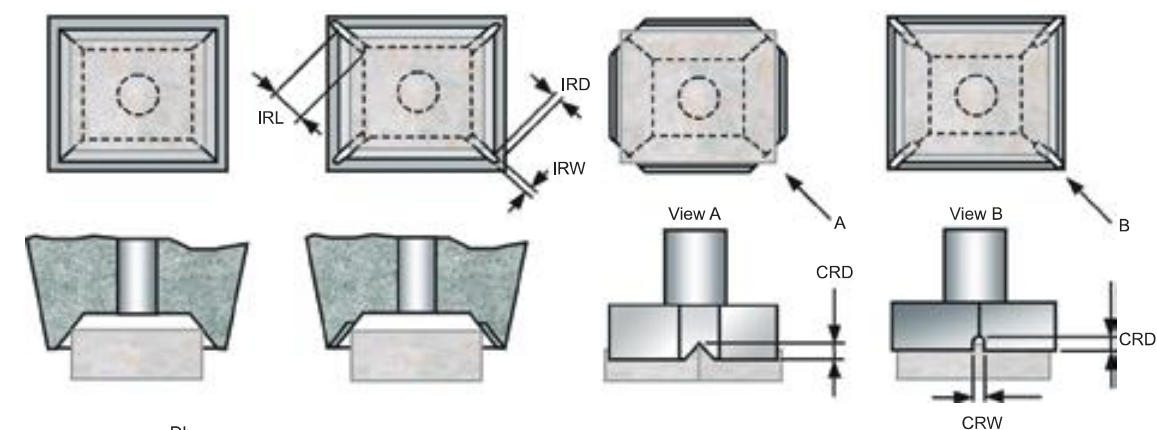
Beside those standard collet types, SPT is manufacturing many other complex tools which are a combination of the above types or tools containing supplementary features required for a specific application. A few examples are illustrated hereafter.



## 4 SIDED INVERTED PYRAMID DIE COLLET CONFIGURATION SELECTION

For each die size SPT recommends a specific die collet configuration. However, those guidelines are very flexible and usually different configurations can successfully comply to the requirement of most common applications.

IP	IPIR	IPNC	IPCR
Inverted Pyramid	Inverted Pyramid Inner Relief Corner	Inverted Pyramid Notched Corner Relief	Inverted Pyramid Corner Relief
Die width < .020" / 0.50mm	Die width > .020" / 0.50mm to .100" / 2.54mm	Die width > .100" / 2.54mm	Die width > .035" / 0.90mm



### REQUIRED DIMENSIONS TO SPECIFY

- Φ = Internal Cavity Angle
- DL = Die Length (Not necessarily the largest)
- DW = Die Width (Not necessarily the smallest)
- DT = Die Thickness

### OTHER OPTIONAL DIMENSIONS

- DE = Die Engagement
- CL = Cavity Length
- CW = Cavity Width
- CD = Cavity Depth
- WT = Wall Thickness
- TL = Tip Length
- TW = Tip Width
- H = Hole Diameter
- CRD = Corner Relief Depth
- VR = Vertical Relief

### How To Order

	Shank Style & Length	Mat'l	Tip Config.	Dimensions DL - DW - DT - (DE)-(Options)
EXAMPLE:	2143	- W	- IPNC120	- .120 - .110 - .020 - .010
	2101-16	- W	- IPIR90	- 2.54 - 2.28 - 0.50 WT=0.120

DL is the die size when the shank is oriented as drawn in the shank page. Important for non-symmetric shanks