

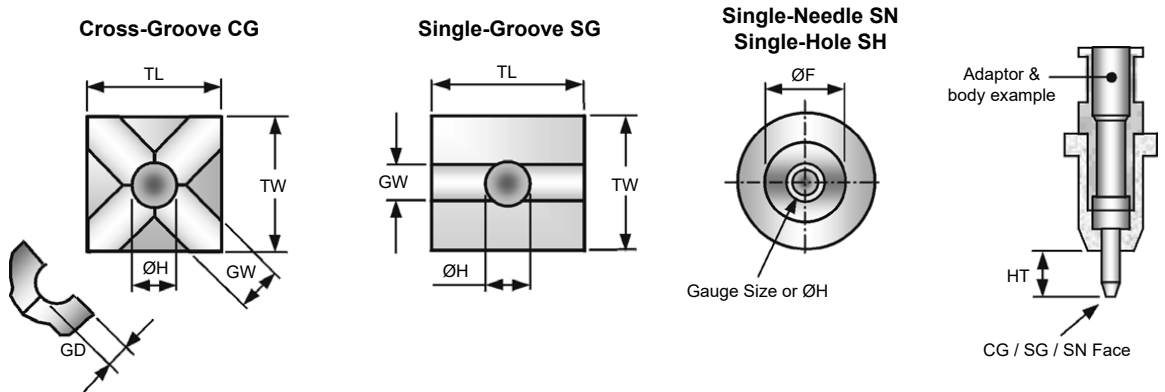
Our Epoxy Dispensing Tools (EDT), for die attach applications, are available in many designs to cater to your dispensing needs. EDT's are used in conjunction with appropriate equipment controlling the air/nitrogen dispensing pressure and time.

Consistent coverage and void free adhesion are the main criteria to be satisfied. In order to achieve these, precise fabrication and optimized tool design must be properly carried out.



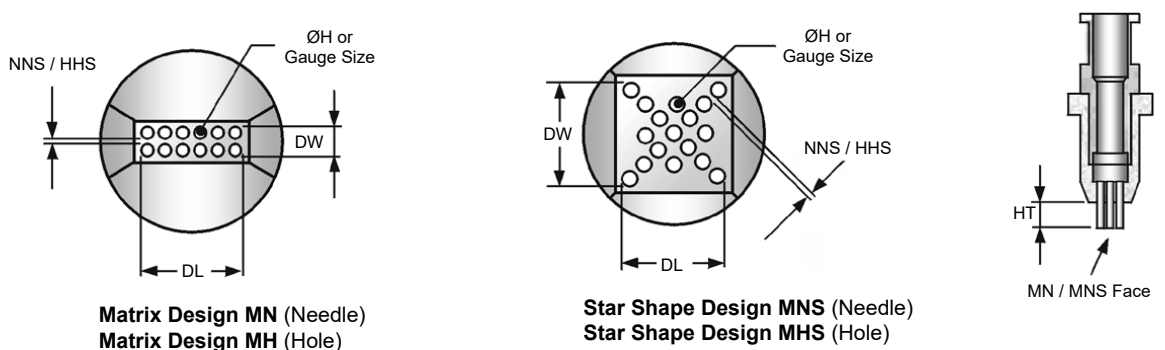
### Standard designs

For the range of die size from  $.008'' / 0.20mm$  to  $.150'' / 3.80mm$  we recommend groove and single needle/hole type of tool.



Default Nozzle or needle height HT is  $.100'' / 2.50mm$ . Specify if otherwise required.

For die size from  $.100'' / 2.50mm$  and above, the multi-needle (MN) or multi-hole (MH) have found wide acceptance in situations where perfect epoxy coverage is required. Any custom hole/needle layout possible if based on available hole or needle dimensions.



- For die above  $.120'' / 3.00mm$
- In line pattern for lengthy shape rectangular die

- For dies greater than  $.200'' / 5.00mm$
- Controls epoxy build-up and coverage
- Less voids due to optimized spacing

## STANDARD ADAPTOR HEADS ( EDT-AH ) AND BODY STYLES ( EDT-MXX )

|                                                                            |                                                      |                                                      |                                                                |
|----------------------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|----------------------------------------------------------------|
| <b>MO1</b> (NEC)<br>(DD max = .275" / 7.0)<br>                             | <b>MO2</b> (ASM)<br>(DD max = .334" / 8.5)<br>       | <b>MO6</b> (ESEC)<br>(DD max = .512" / 13.0)<br>     | <b>MO8</b><br>(DD max = .157" / 4.0)<br>                       |
| <b>M13</b><br>(DD max = .157" / 4.0)<br>                                   | <b>M15</b> (Alphasem)<br>(DD max = .433" / 11.0)<br> | <b>M15A</b> (Alphasem)<br>(DD max = .079" / 2.0)<br> | <b>M0S17</b> (Universal / ETuan)<br>(DD max = .177" / 4.5)<br> |
| <b>M18A (B to F)</b> (Shinkawa)<br>(DD max = 10, 14, 14, 18, 22, 16mm)<br> | <b>M20</b> (NEC)<br>(DD max = 453" / 11.5)<br>       | <b>M22</b> (ASM)<br>(DD max = .315" / 8.0)<br>       | <b>M0S26</b> (ASM AD809)<br>(DD max = not limited)<br>         |
| <b>M30</b> (ASM)<br>                                                       | <b>M32</b> (ESEC2008)<br>(DD max = not limited)<br>  | <b>M40A</b> (ASM AD828/898)<br>                      | <b>M0S41A</b> (Abacus / Fairchild)<br>                         |

**Note:** DD is the Die Diagonal and corresponds to the maximum size compatible with a specific body type.  
For larger die, please consult technical support personnel at our nearest office for a suitable type.

| EDT STANDARD NEEDLE DIMENSIONS |                      |                      |
|--------------------------------|----------------------|----------------------|
| Gauge Size                     | Outer Ø<br>inch / mm | Inner Ø<br>inch / mm |
| G12                            | .109 / 2.77          | .085 / 2.16          |
| G13                            | .095 / 2.41          | .071 / 1.80          |
| G14                            | .083 / 2.11          | .063 / 1.60          |
| G15                            | .072 / 1.83          | .054 / 1.37          |
| G16                            | .065 / 1.65          | .047 / 1.19          |
| G17                            | .058 / 1.47          | .042 / 1.07          |
| G18                            | .049 / 1.24          | .033 / 0.83          |
| G19                            | .042 / 1.07          | .027 / 0.68          |
| G20                            | .035 / 0.89          | .023 / 0.58          |
| G21                            | .032 / 0.81          | .020 / 0.51          |
| G22                            | .028 / 0.71          | .016 / 0.40          |
| G23                            | .025 / 0.64          | .013 / 0.33          |
| G24                            | .022 / 0.56          | .012 / 0.30          |
| G25                            | .020 / 0.51          | .010 / 0.25          |
| G26                            | .018 / 0.46          | .010 / 0.25          |
| G27                            | .016 / 0.41          | .008 / 0.20          |
| G28                            | .014 / 0.36          | .007 / 0.18          |
| G30                            | .012 / 0.30          | .006 / 0.15          |
| G32                            | .010 / 0.25          | .005 / 0.13          |

| EDT STANDARD HOLES        |                            |
|---------------------------|----------------------------|
| Multi Hole Ø<br>inch / mm | Single Hole Ø<br>inch / mm |
| .049 / 1.24               | min. size                  |
| .042 / 1.07               | .008 / 0.20                |
| .035 / 0.89               |                            |
| .032 / 0.81               |                            |
| .028 / 0.71               |                            |
| .025 / 0.64               |                            |

| MINIMUM SPACING                                  |
|--------------------------------------------------|
| <b>Needle Ø to Needle Ø (NNS)</b><br>.005 / 0.13 |
| <b>Hole Ø to Hole Ø (HHS)</b><br>.004 / 0.10     |

| AVAILABLE MATERIAL                      |
|-----------------------------------------|
| <b>SS , Brass</b> : MN, MH, MHS, MNS    |
| <b>W</b> : CG, SG, Hole Ø < .014 / 0.35 |

| How To Order : EDT BODY AND TIP                                                                                                                                                                                 |                             |       |       |                        |             |   |                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-------|-------|------------------------|-------------|---|-----------------------|
| <br>Cross Groove<br><br><br>Single Groove | Tool - Tip - Body - Mat'l - |       |       | Dimensions             |             |   |                       |
|                                                                                                                                                                                                                 | Style                       | Style | Style |                        | TL x TW     | - | GD - GW - ØH          |
| <br>Single Hole<br>Single Needle                                                                                             | EXAMPLE :                   |       |       | EDT - CG - M01 - W -   | 1.2 x 1.0   | - | 0.127 - 0.254 - 0.254 |
|                                                                                                                                                                                                                 |                             |       |       | EDT - SG - M04D - W -  | .047 x .040 | - | .005 - .010 - .010    |
| <br>Multi Hole / Needle<br>Matrix                                                                                            | EXAMPLE :                   |       |       | EDT - MH - M58 - SS -  | 9.65 x 2.80 |   | 7 x 2                 |
|                                                                                                                                                                                                                 |                             |       |       | EDT - MN - M02 - SS -  | .462 x .167 |   | 8 x 3                 |
| <br>Multi Hole / Needle<br>Star                                                                                              | EXAMPLE :                   |       |       | EDT - MHS - M01 - SS - | .280 x .280 |   | 8                     |
|                                                                                                                                                                                                                 |                             |       |       | EDT - MNS - M04 - SS - | 8.0 x 8.0   |   | 20                    |

| How To Order : EDT Adaptor Head                                                                     |                   |       |       |
|-----------------------------------------------------------------------------------------------------|-------------------|-------|-------|
| <br>Adaptor Head | Tool - Tip - Body |       |       |
|                                                                                                     | Style             | Style | Style |
| EXAMPLE : EDT - AH - M01                                                                            |                   |       |       |

For custom design or when you need assistance to choose best design, please fill-out the specification form on page 64

Adaptor Heads come with 2 types of Luer locks that can be fitted into common epoxy barrel or syringe Luer locks :

- Standard Flat Luer (no need to specify)
- Double Lead Thread "DLT" Luer (Specify "DLT" after part number)