

**Material:**  
Tungsten Carbide

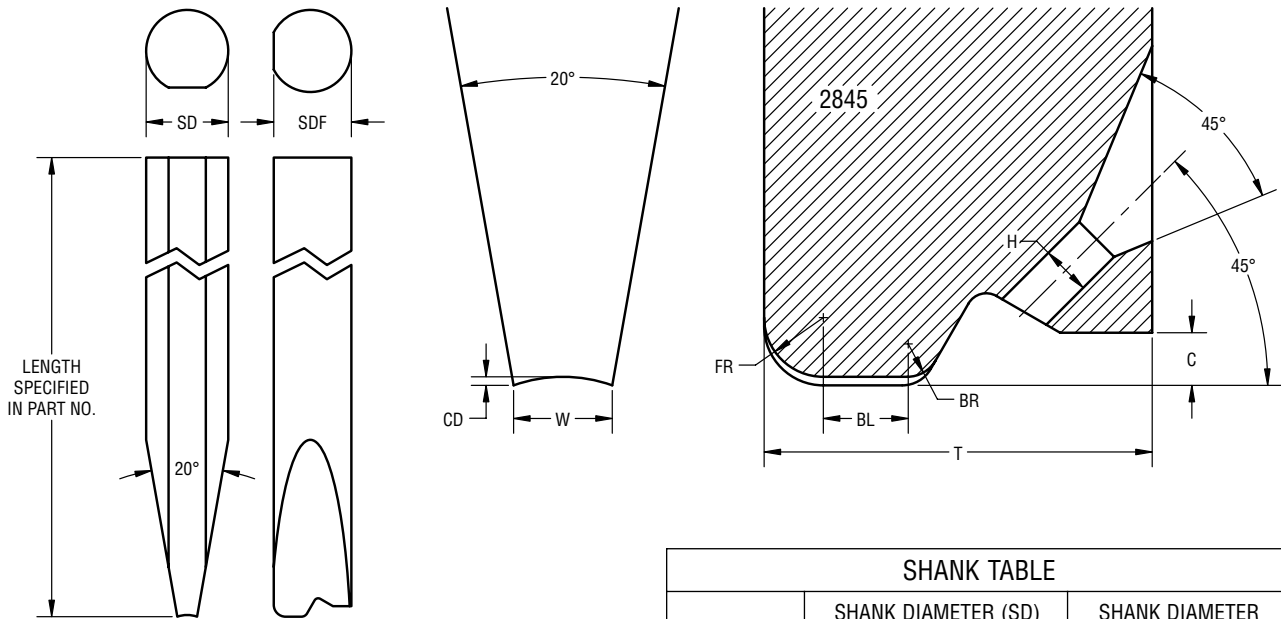
| SHANK TABLE |   |   |
|-------------|---|---|
| SHANK       | SHANK DIAMETER (SD)<br>in. / mm<br>+0.0001 / 0.003<br>-0.0002 / 0.005 | SHANK DIAMETER<br>FLAT (SDF)<br>in. / mm<br>±0.0005 / 0.013 |
| 1/16A       | 0.0624 / 1.585  | 0.0590 / 1.500  |
| 2mm         | 0.0786 / 2.000  | 0.0630 / 1.600  |
| 3/32        | 0.0936 / 2.377  | 0.0880 / 2.235  |
| 3mm         | 0.1179 / 2.995  | 0.0900 / 2.290  |
| 1/8         | 0.1249 / 3.172  | 0.1180 / 3.000  |

**Specify:**  
Series/Wire Feed Angle - Wire Diameter - Shank (See Table) - Length

**Example:**  
2830-5-1/16A-L  
2830-12-1/8-1.0

| 2830 SERIES PART NUMBER | H<br>in. / $\mu$ m<br>$\pm 0.0005 / 13$ | BL<br>in. / $\mu$ m<br>$\pm 0.0005 / 13$ | W<br>in. / $\mu$ m<br>$\pm 0.0005 / 13$ | C<br>in. / $\mu$ m<br>$\pm 0.0005 / 13$ | FR<br>in. / $\mu$ m<br>$\pm 0.0005 / 13$ | BR<br>in. / $\mu$ m<br>$\pm 0.0005 / 13$ | T<br>in. / mm<br>$\pm 0.001 / .025$ | MINIMUM SHANK DIAMETER | CD<br>in. / $\mu$ m<br>$\pm 0.0005 / 13$ | SUGGESTED WIRE DIAMETER<br>in. / $\mu$ m |
|-------------------------|---|--|---|---|--|--|-------------------------------------|------------------------|--|--|
| 2830-3                  | 0.0045 / 114                            | 0.0070 / 178                             | 0.0100 / 254                            | 0.0050 / 127                            | 0.0060 / 152                             | 0.0040 / 102                             | 0.059 / 1.50                        | 1/16A                  | 0.0008 / 20                              | 0.003 / 76                               |
| 2830-4                  | 0.0060 / 152                            | 0.0100 / 254                             | 0.0120 / 305                            | 0.0070 / 178                            | 0.0080 / 203                             | 0.0050 / 127                             | 0.059 / 1.50                        |                        | 0.0010 / 25                              | 0.004 / 102                              |
| 2830-5                  | 0.0075 / 191                            | 0.0120 / 305                             | 0.0150 / 381                            | 0.0080 / 203                            | 0.0090 / 229                             | 0.0050 / 127                             | 0.059 / 1.50                        |                        | 0.0013 / 33                              | 0.005 / 127                              |
| 2830-6                  | 0.0090 / 229                            | 0.0120 / 305                             | 0.0180 / 457                            | 0.0090 / 229                            | 0.0090 / 229                             | 0.0060 / 152                             | 0.059 / 1.50                        |                        | 0.0016 / 41                              | 0.006 / 152                              |
| 2830-7                  | 0.0105 / 267                            | 0.0120 / 305                             | 0.0210 / 533                            | 0.0090 / 229                            | 0.0090 / 229                             | 0.0060 / 152                             | 0.059 / 1.50                        |                        | 0.0018 / 46                              | 0.007 / 178                              |
| 2830-8                  | 0.0120 / 305                            | 0.0120 / 305                             | 0.0240 / 610                            | 0.0050 / 127                            | 0.0090 / 229                             | 0.0060 / 152                             | 0.059 / 1.50                        |                        | 0.0020 / 51                              | 0.008 / 203                              |
| 2830-10                 | 0.0140 / 356                            | 0.0150 / 381                             | 0.0300 / 762                            | 0.0100 / 254                            | 0.0100 / 254                             | 0.0060 / 152                             | 0.077 / 1.96                        | 3/32                   | 0.0025 / 64                              | 0.010 / 254                              |
| 2830-12                 | 0.0160 / 406                            | 0.0180 / 457                             | 0.0360 / 914                            | 0.0100 / 254                            | 0.0110 / 279                             | 0.0070 / 178                             | 0.110 / 2.80                        | 1/8                    | 0.0030 / 76                              | 0.012 / 305                              |
| 2830-15                 | 0.0200 / 508                            | 0.0200 / 508                             | 0.0450 / 1143                           | 0.0100 / 254                            | 0.0120 / 305                             | 0.0080 / 203                             | 0.110 / 2.80                        |                        | 0.0038 / 97                              | 0.015 / 381                              |
| 2830-20                 | 0.0250 / 635                            | 0.0250 / 635                             | 0.0600 / 1524                           | 0.0100 / 254                            | 0.0120 / 305                             | 0.0080 / 203                             | 0.118 / 3.00                        |                        | 0.0050 / 127                             | 0.020 / 508                              |

Dimensions in inches unless otherwise specified.



**Material:**  
Tungsten Carbide

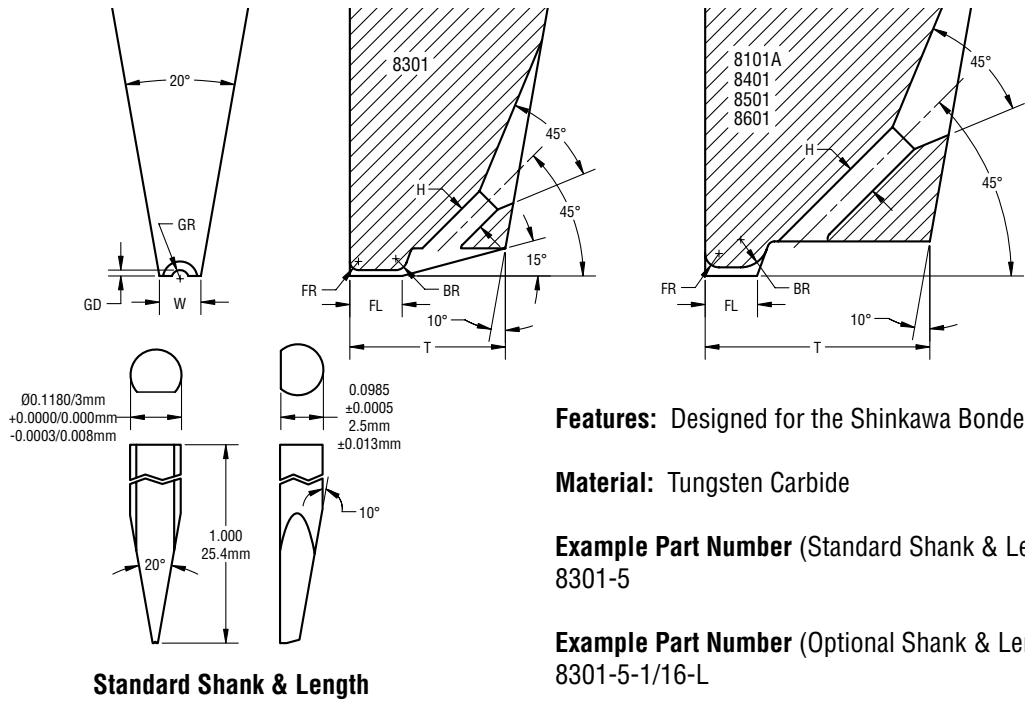
| SHANK TABLE |   |   |
|-------------|---|---|
| SHANK       | SHANK DIAMETER (SD)<br>in. / mm<br>+0.0001 / 0.003<br>-0.0002 / 0.005 | SHANK DIAMETER<br>FLAT (SDF)<br>in. / mm<br>±0.0005 / 0.013 |
| 1/16        | 0.0624 / 1.585  | 0.0460 / 1.168  |
| 1/16A       | 0.0624 / 1.585  | 0.0590 / 1.500  |
| 2mm         | 0.0786 / 2.000  | 0.0630 / 1.600  |
| 3/32        | 0.0936 / 2.377  | 0.0880 / 2.235  |
| 3mm         | 0.1179 / 2.995  | 0.0900 / 2.290  |
| 1/8         | 0.1249 / 3.172  | 0.1180 / 3.000  |

**Specify:**  
Series/Wire Feed Angle - Wire Diameter - Shank(See Table) - Length

**Example:**  
2845-5-1/16A-L  
2845-12-1/8-1.0

| 2845<br>SERIES<br>PART<br>NUMBER | H<br>in. / $\mu$ m<br>$\pm 0.0005 / 13$ | BL<br>in. / $\mu$ m<br>$\pm 0.0005 / 13$ | W<br>in. / $\mu$ m<br>$\pm 0.0005 / 13$ | C<br>in. / $\mu$ m<br>$\pm 0.0005 / 13$ | FR<br>in. / $\mu$ m<br>$\pm 0.0005 / 13$ | BR<br>in. / $\mu$ m<br>$\pm 0.0005 / 13$ | T<br>in. / mm<br>$\pm 0.001 / .025$ | MINIMUM<br>SHANK<br>DIAMETER | CD<br>in. / $\mu$ m<br>$\pm 0.0005 / 13$ | SUGGESTED<br>WIRE<br>DIAMETER<br>in. / $\mu$ m |
|----------------------------------|---|--|---|---|--|--|-------------------------------------|------------------------------|--|--|
| 2845-3                           | 0.0045 / 114                            | 0.0070 / 178                             | 0.0100 / 254                            | 0.0050 / 127                            | 0.0060 / 152                             | 0.0040 / 102                             | 0.045 / 1.14                        | 1/16                         | 0.0008 / 20                              | 0.003 / 76                                     |
| 2845-4                           | 0.0060 / 152                            | 0.0100 / 254                             | 0.0120 / 305                            | 0.0070 / 178                            | 0.0080 / 203                             | 0.0050 / 127                             | 0.059 / 1.50                        | 1/16A                        | 0.0010 / 25                              | 0.004 / 102                                    |
| 2845-5                           | 0.0075 / 191                            | 0.0120 / 305                             | 0.0150 / 381                            | 0.0080 / 203                            | 0.0090 / 229                             | 0.0050 / 127                             | 0.059 / 1.50                        |                              | 0.0013 / 33                              | 0.005 / 127                                    |
| 2845-6                           | 0.0090 / 229                            | 0.0120 / 305                             | 0.0180 / 457                            | 0.0090 / 229                            | 0.0090 / 229                             | 0.0060 / 152                             | 0.059 / 1.50                        |                              | 0.0016 / 41                              | 0.006 / 152                                    |
| 2845-7                           | 0.0105 / 267                            | 0.0120 / 305                             | 0.0210 / 533                            | 0.0090 / 229                            | 0.0090 / 229                             | 0.0060 / 152                             | 0.059 / 1.50                        |                              | 0.0018 / 46                              | 0.007 / 178                                    |
| 2845-8                           | 0.0120 / 305                            | 0.0120 / 305                             | 0.0240 / 610                            | 0.0050 / 127                            | 0.0090 / 229                             | 0.0060 / 152                             | 0.059 / 1.50                        |                              | 0.0020 / 51                              | 0.008 / 203                                    |
| 2845-10                          | 0.0140 / 356                            | 0.0150 / 381                             | 0.0300 / 762                            | 0.0100 / 254                            | 0.0100 / 254                             | 0.0060 / 152                             | 0.088 / 2.23                        | 3/32                         | 0.0025 / 64                              | 0.010 / 254                                    |
| 2845-12                          | 0.0160 / 406                            | 0.0180 / 457                             | 0.0360 / 914                            | 0.0100 / 254                            | 0.0110 / 279                             | 0.0070 / 178                             | 0.088 / 2.23                        |                              | 0.0030 / 76                              | 0.012 / 305                                    |
| 2845-15                          | 0.0200 / 508                            | 0.0200 / 508                             | 0.0450 / 1143                           | 0.0100 / 254                            | 0.0120 / 305                             | 0.0080 / 203                             | 0.088 / 2.23                        |                              | 0.0038 / 97                              | 0.015 / 381                                    |
| 2845-20                          | 0.0250 / 635                            | 0.0250 / 635                             | 0.0600 / 1524                           | 0.0100 / 254                            | 0.0120 / 305                             | 0.0080 / 203                             | 0.118 / 3.00                        | 1/8                          | 0.0050 / 127                             | 0.020 / 508                                    |

Dimensions in inches unless otherwise specified.



**Features:** Designed for the Shinkawa Bonder

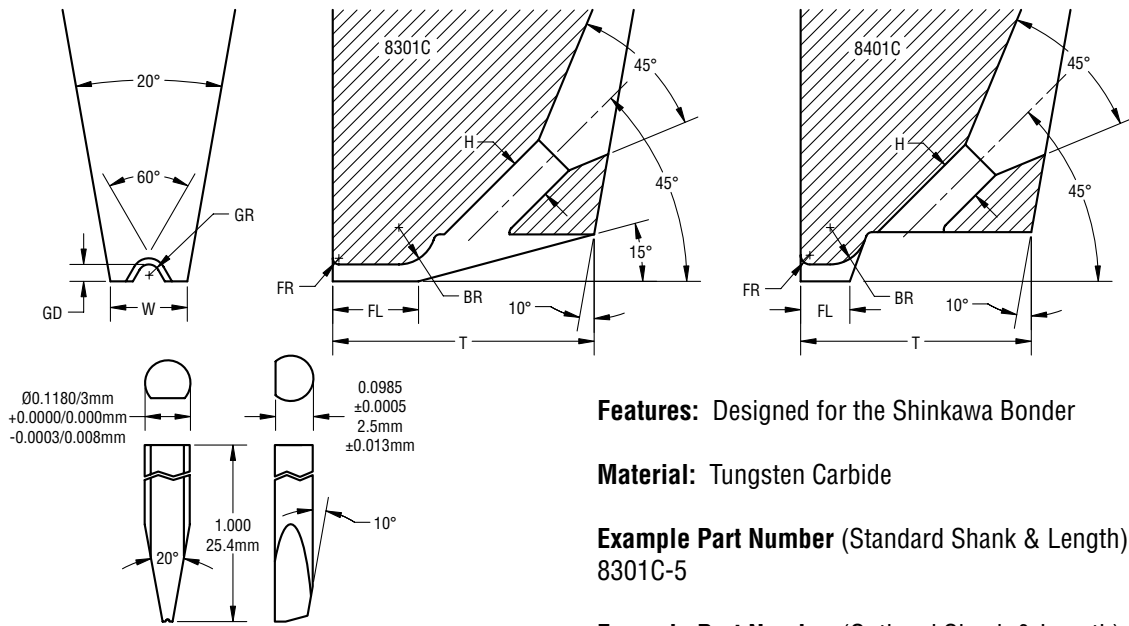
**Material:** Tungsten Carbide

**Example Part Number (Standard Shank & Length):**  
8301-5

**Example Part Number (Optional Shank & Length):**  
8301-5-1/16-L

| PART NUMBER | FL                                       | FR                                       | BR                                       | H  | W  | GR                                      | GD                                      | T  | WIRE DIAMETER |
|-------------|--|--|--|--|--|---|---|--|---------------|
|             | in. / $\mu\text{m}$<br>$\pm 0.0010 / 25$ | in. / $\mu\text{m}$<br>$\pm 0.0005 / 13$ | in. / $\mu\text{m}$<br>$\pm 0.0005 / 13$ | in. / $\mu\text{m}$<br>$\pm 0.0005 / 13$ | in. / $\mu\text{m}$<br>$\pm 0.0010 / 25$ | in. / $\mu\text{m}$<br>$\pm 0.0002 / 5$ | in. / $\mu\text{m}$<br>$\pm 0.0002 / 5$ | in. / $\mu\text{m}$<br>$\pm 0.0020 / 51$ |               |
| 8301-1      | 0.0080 / 203                             | 0.0020 / 51                              | 0.0027 / 69                              | 0.0060 / 152                             | 0.0100 / 254                             | 0.0020 / 51                             | 0.0013 / 33                             | 0.0360 / 914                             | 0.0040 / 102  |
| 8301-4      | 0.0120 / 305                             | 0.0020 / 51                              | 0.0027 / 69                              | 0.0060 / 152                             | 0.0100 / 254                             | 0.0020 / 51                             | 0.0013 / 33                             | 0.0400 / 1016                            |               |
| 8301-2      | 0.0100 / 254                             | 0.0025 / 64                              | 0.0033 / 84                              | 0.0075 / 190                             | 0.0120 / 305                             | 0.0025 / 64                             | 0.0017 / 43                             | 0.0400 / 1016                            | 0.0050 / 127  |
| 8301-5      | 0.0150 / 381                             | 0.0025 / 64                              | 0.0033 / 84                              | 0.0075 / 190                             | 0.0120 / 305                             | 0.0025 / 64                             | 0.0017 / 43                             | 0.0450 / 1143                            |               |
| 8501-1      | 0.0150 / 381                             | 0.0040 / 102                             | 0.0080 / 203                             | 0.0090 / 229                             | 0.0200 / 508                             | 0.0030 / 76                             | 0.0025 / 64                             | 0.0650 / 1651                            |               |
| 8601-1      | 0.0175 / 445                             | 0.0040 / 102                             | 0.0080 / 203                             | 0.0090 / 229                             | 0.0200 / 508                             | 0.0030 / 76                             | 0.0025 / 64                             | 0.0650 / 1651                            | 0.0060 / 152  |
| 8301-3      | 0.0120 / 305                             | 0.0030 / 76                              | 0.0040 / 102                             | 0.0090 / 229                             | 0.0150 / 381                             | 0.0030 / 76                             | 0.0020 / 51                             | 0.0440 / 1118                            |               |
| 8301-6      | 0.0180 / 457                             | 0.0030 / 76                              | 0.0040 / 102                             | 0.0090 / 229                             | 0.0150 / 381                             | 0.0030 / 76                             | 0.0020 / 51                             | 0.0500 / 1270                            | 0.0080 / 203  |
| 8101A-3     | 0.0140 / 356                             | 0.0040 / 102                             | 0.0100 / 254                             | 0.0110 / 279                             | 0.0240 / 610                             | 0.0040 / 102                            | 0.0030 / 76                             | 0.0650 / 1651                            |               |
| 8401-3      | 0.0176 / 447                             | 0.0040 / 102                             | 0.0100 / 254                             | 0.0110 / 279                             | 0.0240 / 610                             | 0.0040 / 102                            | 0.0030 / 76                             | 0.0690 / 1753                            | 0.0100 / 254  |
| 8501-3      | 0.0263 / 600                             | 0.0040 / 102                             | 0.0100 / 254                             | 0.0145 / 368                             | 0.0240 / 610                             | 0.0040 / 102                            | 0.0030 / 76                             | 0.0820 / 2083                            |               |
| 8101A-4     | 0.0180 / 457                             | 0.0050 / 127                             | 0.0120 / 305                             | 0.0140 / 356                             | 0.0300 / 762                             | 0.0050 / 127                            | 0.0040 / 102                            | 0.0710 / 1803                            | 0.0120 / 305  |
| 8401-4      | 0.0220 / 560                             | 0.0050 / 127                             | 0.0120 / 305                             | 0.0140 / 356                             | 0.0300 / 762                             | 0.0050 / 127                            | 0.0040 / 102                            | 0.0750 / 1905                            |               |
| 8501-4      | 0.0300 / 762                             | 0.0050 / 127                             | 0.0120 / 305                             | 0.0180 / 457                             | 0.0300 / 762                             | 0.0050 / 127                            | 0.0040 / 102                            | 0.0900 / 2286                            |               |
| 8101A-5     | 0.0210 / 533                             | 0.0060 / 152                             | 0.0140 / 356                             | 0.0170 / 432                             | 0.0300 / 762                             | 0.0060 / 152                            | 0.0050 / 127                            | 0.0790 / 2006                            | 0.0138 / 351  |
| 8401-5      | 0.0264 / 671                             | 0.0060 / 152                             | 0.0140 / 356                             | 0.0170 / 432                             | 0.0300 / 762                             | 0.0060 / 152                            | 0.0050 / 127                            | 0.0840 / 2134                            |               |
| *8501-5     | 0.0360 / 914                             | 0.0060 / 152                             | 0.0140 / 356                             | 0.0216 / 549                             | 0.0300 / 762                             | 0.0060 / 152                            | 0.0050 / 127                            | 0.1100 / 2794                            | 0.0157 / 399  |
| 8101A-6     | 0.0250 / 635                             | 0.0070 / 178                             | 0.0160 / 406                             | 0.0190 / 483                             | 0.0300 / 762                             | 0.0070 / 178                            | 0.0060 / 152                            | 0.0820 / 2082                            |               |
| 8401-6      | 0.0300 / 762                             | 0.0070 / 178                             | 0.0160 / 406                             | 0.0190 / 483                             | 0.0300 / 762                             | 0.0070 / 178                            | 0.0060 / 152                            | 0.0870 / 2210                            |               |
| *8501-6     | 0.0414 / 1052                            | 0.0070 / 178                             | 0.0160 / 406                             | 0.0290 / 737                             | 0.0300 / 762                             | 0.0070 / 178                            | 0.0060 / 152                            | 0.1100 / 2794                            | 0.0200 / 508  |
| 8101A-7     | 0.0280 / 711                             | 0.0080 / 203                             | 0.0170 / 432                             | 0.0235 / 597                             | 0.0350 / 889                             | 0.0080 / 203                            | 0.0065 / 165                            | 0.0880 / 2235                            |               |
| 8401-7      | 0.0346 / 879                             | 0.0080 / 203                             | 0.0170 / 432                             | 0.0235 / 597                             | 0.0350 / 889                             | 0.0080 / 203                            | 0.0065 / 165                            | 0.0950 / 2413                            | 0.0200 / 508  |
| 8401-7A     | 0.0460 / 1168                            | 0.0080 / 203                             | 0.0170 / 432                             | 0.0235 / 597                             | 0.0350 / 889                             | 0.0080 / 203                            | 0.0065 / 165                            | 0.0950 / 2413                            |               |
| *8801-7     | 0.0470 / 1194                            | 0.0080 / 203                             | 0.0170 / 432                             | 0.0280 / 711                             | 0.0500 / 1270                            | 0.0080 / 203                            | 0.0065 / 165                            | 0.1500 / 3810                            |               |
| *8101A-8    | 0.0360 / 914                             | 0.0100 / 254                             | 0.0180 / 457                             | 0.0300 / 762                             | 0.0350 / 889                             | 0.0100 / 254                            | 0.0087 / 220                            | 0.1100 / 2794                            | 0.0200 / 508  |
| *8401-8     | 0.0440 / 1118                            | 0.0100 / 254                             | 0.0180 / 457                             | 0.0300 / 762                             | 0.0350 / 889                             | 0.0100 / 254                            | 0.0087 / 220                            | 0.1060 / 2692                            |               |
| *8801-8     | 0.0500 / 1270                            | 0.0100 / 254                             | 0.0180 / 457                             | 0.0360 / 914                             | 0.0500 / 1270                            | 0.0100 / 254                            | 0.0087 / 220                            | 0.1500 / 3810                            |               |

\*SDF = 0.110/2.79mm. Dimensions in inches unless otherwise specified.



**Standard Shank & Length**

**Features:** Designed for the Shinkawa Bonder

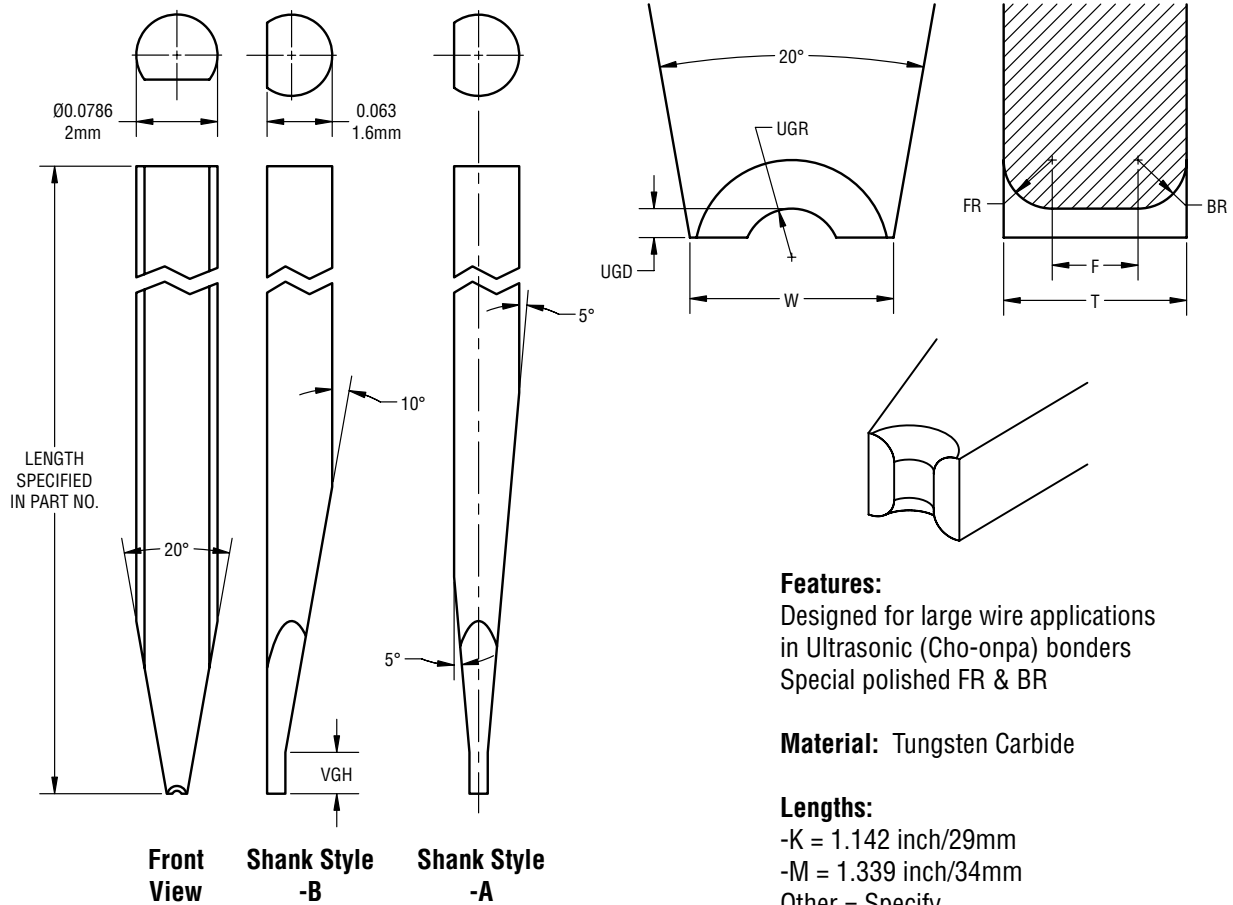
**Material:** Tungsten Carbide

**Example Part Number (Standard Shank & Length):**  
8301C-5

**Example Part Number (Optional Shank & Length):**  
8301C-5-1/16-L

| PART NUMBER | BL<br>in. / $\mu\text{m}$<br>$\pm 0.0010 / 25$ | FL<br>in. / $\mu\text{m}$<br>$\pm 0.0010 / 25$ | FR<br>in. / $\mu\text{m}$<br>$\pm 0.0005 / 13$ | BR<br>in. / $\mu\text{m}$<br>$\pm 0.0005 / 13$ | H<br>in. / $\mu\text{m}$<br>$\pm 0.0005 / 13$ | W<br>in. / $\mu\text{m}$<br>$\pm 0.0010 / 25$ | GR<br>in. / $\mu\text{m}$<br>$\pm 0.0002 / 5$ | GD<br>in. / $\mu\text{m}$<br>$\pm 0.0002 / 5$ | T<br>in. / $\mu\text{m}$<br>$\pm 0.0020 / 51$ | WIRE DIAMETER<br>in. / $\mu\text{m}$ |
|-------------|--|--|--|--|---|---|---|---|---|--------------------------------------|
| 8301C-19    | 0.0040 / 102                                   | 0.0080 / 203                                   | 0.0020 / 51                                    | 0.0048 / 122                                   | 0.0060 / 152                                  | 0.0150 / 381                                  | 0.0014 / 36                                   | 0.0022 / 56                                   | 0.0290 / 737                                  | 0.0040 / 102                         |
| 8301C-10    | 0.0060 / 152                                   | 0.0100 / 254                                   | 0.0020 / 51                                    | 0.0048 / 122                                   | 0.0060 / 152                                  | 0.0150 / 381                                  | 0.0014 / 36                                   | 0.0022 / 56                                   | 0.0310 / 787                                  |                                      |
| 8301C-1     | 0.0088 / 224                                   | 0.0130 / 330                                   | 0.0020 / 51                                    | 0.0048 / 122                                   | 0.0060 / 152                                  | 0.0150 / 381                                  | 0.0014 / 36                                   | 0.0022 / 56                                   | 0.0340 / 864                                  |                                      |
| 8301C-20    | 0.0050 / 127                                   | 0.0090 / 229                                   | 0.0020 / 51                                    | 0.0060 / 152                                   | 0.0075 / 190                                  | 0.0150 / 381                                  | 0.0018 / 46                                   | 0.0028 / 71                                   | 0.0380 / 965                                  | 0.0050 / 127                         |
| 8301C-11    | 0.0075 / 190                                   | 0.0120 / 305                                   | 0.0020 / 51                                    | 0.0060 / 152                                   | 0.0075 / 190                                  | 0.0150 / 381                                  | 0.0018 / 46                                   | 0.0028 / 71                                   | 0.0400 / 1020                                 |                                      |
| 8301C-2     | 0.0110 / 279                                   | 0.0150 / 381                                   | 0.0020 / 51                                    | 0.0060 / 152                                   | 0.0075 / 190                                  | 0.0150 / 381                                  | 0.0018 / 46                                   | 0.0028 / 71                                   | 0.0430 / 1090                                 |                                      |
| 8301C-21    | 0.0060 / 152                                   | 0.0110 / 279                                   | 0.0030 / 76                                    | 0.0072 / 183                                   | 0.0090 / 229                                  | 0.0150 / 381                                  | 0.0021 / 53                                   | 0.0033 / 84                                   | 0.0460 / 1168                                 | 0.0060 / 152                         |
| 8301C-12    | 0.0090 / 229                                   | 0.0140 / 356                                   | 0.0030 / 76                                    | 0.0072 / 183                                   | 0.0090 / 229                                  | 0.0150 / 381                                  | 0.0021 / 53                                   | 0.0033 / 84                                   | 0.0490 / 1245                                 |                                      |
| 8301C-3     | 0.0132 / 335                                   | 0.0180 / 457                                   | 0.0030 / 76                                    | 0.0072 / 183                                   | 0.0090 / 229                                  | 0.0150 / 381                                  | 0.0021 / 53                                   | 0.0033 / 84                                   | 0.0530 / 1346                                 |                                      |
| 8301C-22    | 0.0080 / 203                                   | 0.0140 / 356                                   | 0.0030 / 76                                    | 0.0096 / 244                                   | 0.0110 / 279                                  | 0.0250 / 635                                  | 0.0028 / 71                                   | 0.0044 / 112                                  | 0.0570 / 1448                                 | 0.0080 / 203                         |
| 8301C-13    | 0.0120 / 305                                   | 0.0180 / 457                                   | 0.0030 / 76                                    | 0.0096 / 244                                   | 0.0110 / 279                                  | 0.0250 / 635                                  | 0.0028 / 71                                   | 0.0044 / 112                                  | 0.0610 / 1550                                 |                                      |
| 8301C-4     | 0.0176 / 447                                   | 0.0230 / 584                                   | 0.0030 / 76                                    | 0.0096 / 244                                   | 0.0110 / 279                                  | 0.0250 / 635                                  | 0.0028 / 71                                   | 0.0044 / 112                                  | 0.0670 / 1701                                 |                                      |
| 8301C-23    | 0.0100 / 254                                   | 0.0160 / 406                                   | 0.0030 / 76                                    | 0.0120 / 305                                   | 0.0140 / 356                                  | 0.0250 / 635                                  | 0.0035 / 89                                   | 0.0055 / 140                                  | 0.0730 / 1854                                 | 0.0100 / 254                         |
| 8301C-14    | 0.0150 / 381                                   | 0.0210 / 533                                   | 0.0030 / 76                                    | 0.0120 / 305                                   | 0.0140 / 356                                  | 0.0250 / 635                                  | 0.0035 / 89                                   | 0.0055 / 140                                  | 0.0780 / 1981                                 |                                      |
| 8301C-5     | 0.0220 / 559                                   | 0.0280 / 711                                   | 0.0030 / 76                                    | 0.0120 / 305                                   | 0.0140 / 356                                  | 0.0250 / 635                                  | 0.0035 / 89                                   | 0.0055 / 140                                  | 0.0850 / 2159                                 |                                      |
| 8401C-4     | 0.0100 / 254                                   | 0.0160 / 406                                   | 0.0030 / 76                                    | 0.0120 / 305                                   | 0.0140 / 356                                  | 0.0300 / 762                                  | 0.0035 / 89                                   | 0.0055 / 140                                  | 0.0750 / 1905                                 | 0.0120 / 305                         |
| 8401C-14    | 0.0150 / 381                                   | 0.0210 / 533                                   | 0.0030 / 76                                    | 0.0120 / 305                                   | 0.0140 / 356                                  | 0.0300 / 762                                  | 0.0035 / 89                                   | 0.0055 / 140                                  | 0.0880 / 2235                                 |                                      |
| 8401C-5     | 0.0120 / 305                                   | 0.0180 / 457                                   | 0.0030 / 76                                    | 0.0140 / 356                                   | 0.0170 / 432                                  | 0.0300 / 762                                  | 0.0042 / 107                                  | 0.0066 / 168                                  | 0.0840 / 2134                                 |                                      |
| 8401C-15    | 0.0180 / 457                                   | 0.0240 / 610                                   | 0.0030 / 76                                    | 0.0140 / 356                                   | 0.0170 / 432                                  | 0.0300 / 762                                  | 0.0042 / 107                                  | 0.0066 / 168                                  | 0.0950 / 2413                                 | 0.0140 / 360                         |
| 8401C-6     | 0.0140 / 356                                   | 0.0200 / 508                                   | 0.0030 / 76                                    | 0.0160 / 406                                   | 0.0190 / 483                                  | 0.0300 / 762                                  | 0.0049 / 125                                  | 0.0077 / 196                                  | 0.0870 / 2210                                 |                                      |
| *8401C-16   | 0.0210 / 533                                   | 0.0270 / 686                                   | 0.0030 / 76                                    | 0.0160 / 406                                   | 0.0190 / 483                                  | 0.0300 / 762                                  | 0.0049 / 125                                  | 0.0077 / 196                                  | 0.1100 / 2794                                 |                                      |
| 8401C-7     | 0.0160 / 406                                   | 0.0230 / 584                                   | 0.0040 / 102                                   | 0.0170 / 432                                   | 0.0240 / 610                                  | 0.0350 / 889                                  | 0.0056 / 142                                  | 0.0088 / 224                                  | 0.0950 / 2413                                 | 0.0160 / 406                         |
| *8401C-17   | 0.0240 / 610                                   | 0.0310 / 787                                   | 0.0040 / 102                                   | 0.0170 / 432                                   | 0.0240 / 610                                  | 0.0350 / 889                                  | 0.0056 / 142                                  | 0.0088 / 224                                  | 0.1100 / 2794                                 |                                      |
| *8401C-8    | 0.0200 / 508                                   | 0.0270 / 686                                   | 0.0040 / 102                                   | 0.0180 / 457                                   | 0.0300 / 762                                  | 0.0350 / 889                                  | 0.0070 / 178                                  | 0.0110 / 279                                  | 0.1100 / 2794                                 |                                      |
| *8401C-18   | 0.0300 / 762                                   | 0.0370 / 940                                   | 0.0040 / 102                                   | 0.0180 / 457                                   | 0.0300 / 762                                  | 0.0350 / 889                                  | 0.0070 / 178                                  | 0.0110 / 279                                  | 0.1100 / 2794                                 | 0.0200 / 508                         |

\*SDF = 0.110/2.79mm      Dimensions in inches unless otherwise specified.

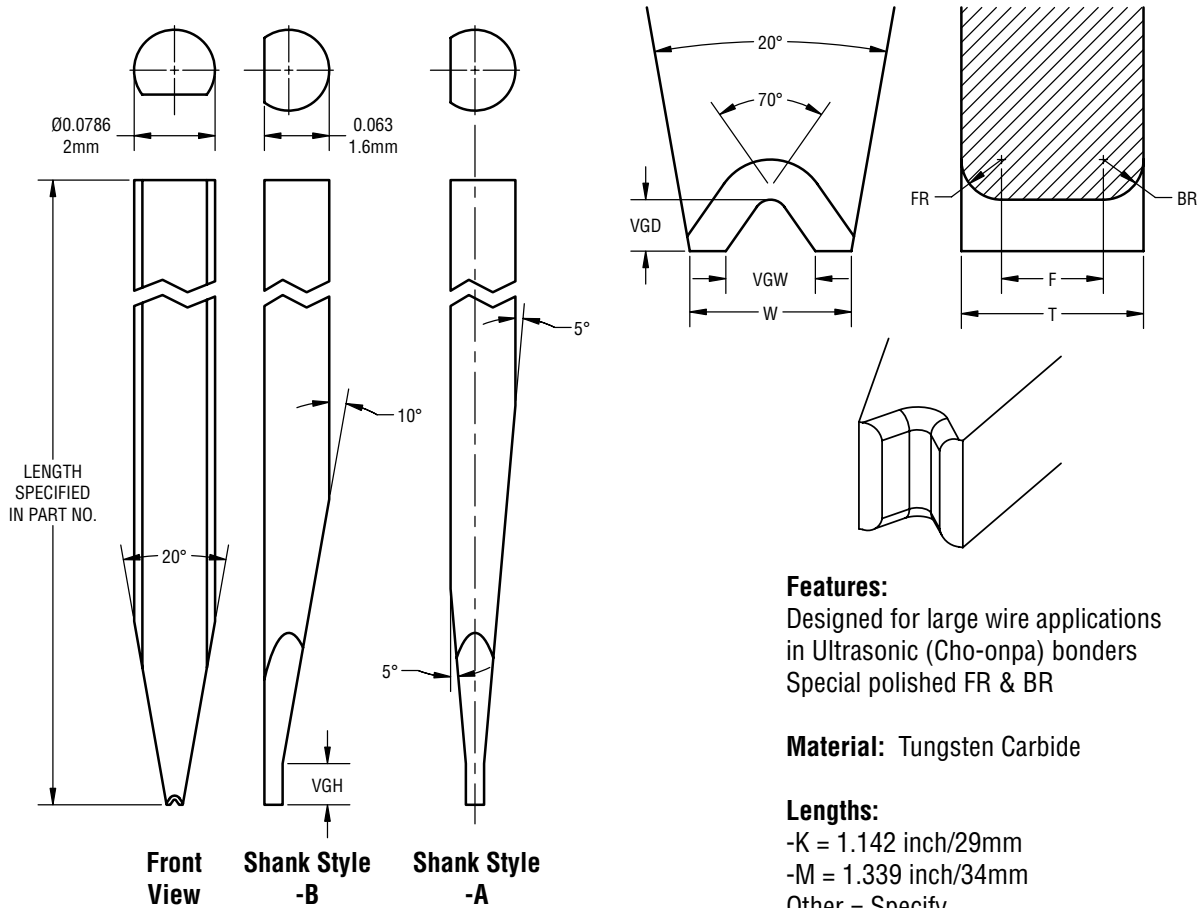


**Specify:** Series (no-hole design) - U-Groove - Wire Size(μm) - Designation - Shank Style - Tool Length

**Example:** 8236-UG-200-1-A-K

| DASH NUMBER | T<br>in. / μm | F<br>in. / μm | FR & BR<br>in. / μm | UGR<br>in. / μm | UGD<br>in. / μm | W<br>in. / μm | VGH<br>in. / μm |
|-------------|---------------|---------------|---------------------|-----------------|-----------------|---------------|-----------------|
| -100-1      | 0.0098 / 250  | 0.0051 / 130  | 0.0024 / 60         | 0.0024 / 60     | 0.0014 / 36     | 0.0098 / 250  | 0.0400 / 1016   |
| -125-1      | 0.0118 / 300  | 0.0059 / 150  | 0.0030 / 76         | 0.0030 / 76     | 0.0017 / 43     | 0.0118 / 300  | 0.0400 / 1016   |
| -125-2      | 0.0128 / 325  | 0.0068 / 173  | 0.0030 / 76         | 0.0030 / 76     | 0.0017 / 43     | 0.0118 / 300  | 0.0400 / 1016   |
| -125-3      | 0.0138 / 350  | 0.0078 / 198  | 0.0030 / 76         | 0.0030 / 76     | 0.0017 / 43     | 0.0118 / 300  | 0.0400 / 1016   |
| -125-4      | 0.0148 / 375  | 0.0088 / 224  | 0.0030 / 76         | 0.0030 / 76     | 0.0017 / 43     | 0.0118 / 300  | 0.0400 / 1016   |
| -150-1      | 0.0138 / 350  | 0.0068 / 173  | 0.0035 / 88         | 0.0035 / 88     | 0.0021 / 53     | 0.0138 / 350  | 0.0400 / 1016   |
| -175-1      | 0.0157 / 400  | 0.0075 / 190  | 0.0041 / 104        | 0.0041 / 104    | 0.0024 / 60     | 0.0157 / 400  | 0.0400 / 1016   |
| -200-1      | 0.0177 / 450  | 0.0083 / 210  | 0.0047 / 120        | 0.0047 / 120    | 0.0028 / 71     | 0.0197 / 500  | 0.0400 / 1016   |
| -250-1      | 0.0217 / 550  | 0.0098 / 250  | 0.0059 / 150        | 0.0059 / 150    | 0.0035 / 88     | 0.0217 / 550  | 0.0600 / 1524   |
| -300-1      | 0.0256 / 650  | 0.0114 / 290  | 0.0071 / 180        | 0.0071 / 180    | 0.0047 / 120    | 0.0236 / 600  | 0.0600 / 1524   |
| -350-1      | 0.0299 / 760  | 0.0134 / 340  | 0.0083 / 210        | 0.0083 / 210    | 0.0055 / 140    | 0.0276 / 700  | 0.0600 / 1524   |
| -400-1      | 0.0339 / 860  | 0.0150 / 380  | 0.0094 / 240        | 0.0094 / 240    | 0.0063 / 160    | 0.0315 / 800  | 0.0600 / 1524   |
| -450-1      | 0.0390 / 990  | 0.0177 / 450  | 0.0106 / 270        | 0.0106 / 270    | 0.0071 / 180    | 0.0354 / 900  | 0.0600 / 1524   |
| -500-1      | 0.0433 / 1100 | 0.0197 / 500  | 0.0118 / 300        | 0.0118 / 300    | 0.0079 / 200    | 0.0394 / 1000 | 0.0600 / 1524   |

Dimensions in inches unless otherwise specified.



**Features:**  
Designed for large wire applications in Ultrasonic (Cho-onpa) bonders  
Special polished FR & BR

**Material:** Tungsten Carbide

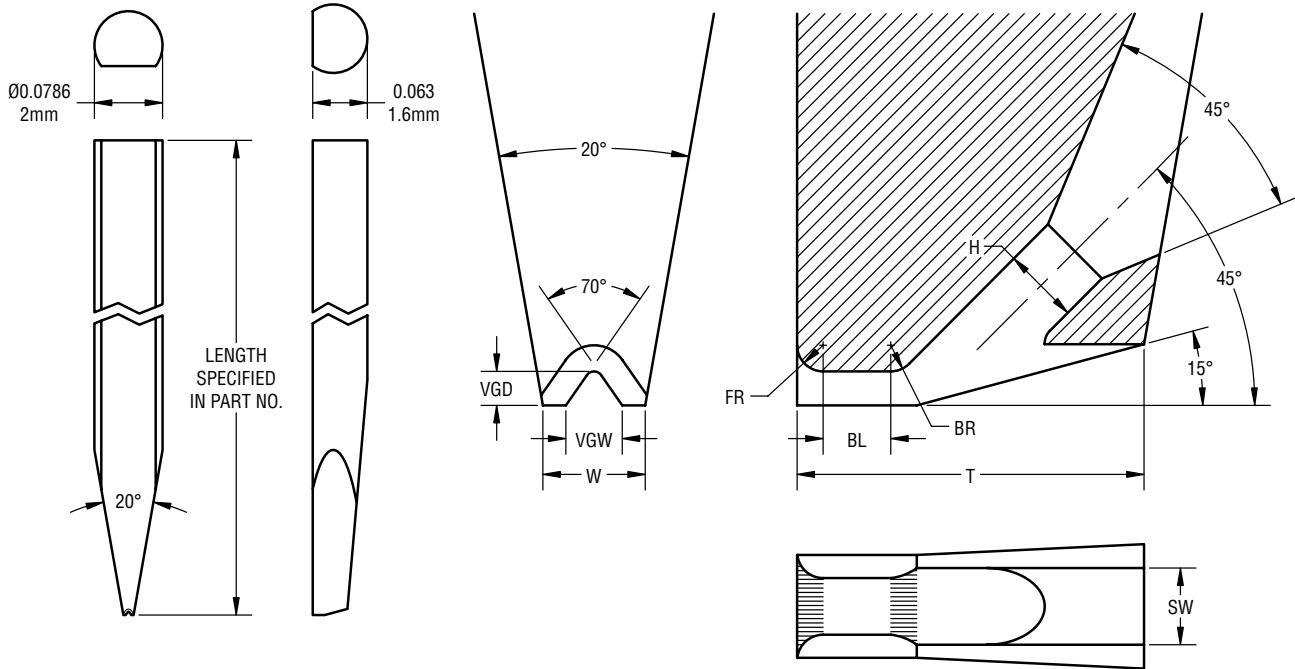
**Lengths:**  
-K = 1.142 inch/29mm  
-M = 1.339 inch/34mm  
Other = Specify

**Specify:** Series (no-hole design) - V-Groove - Wire Size(μm) - FR/BR Ratio (% of wire dia.) - Shank Style - Tool Length

**Example:** 8236-VE-200-30-A-K

| DASH NUMBER | T<br>in. / μm | F<br>in. / μm | FR & BR<br>in. / μm | VGV<br>in. / μm | W<br>in. / μm | VGH<br>in. / μm |
|-------------|---------------|---------------|---------------------|-----------------|---------------|-----------------|
| -100-30     | 0.0098 / 250  | 0.0074 / 188  | 0.0012 / 30         | 0.0043 / 110    | 0.0079 / 200  | 0.0400 / 1016   |
| -100-50     | 0.0098 / 250  | 0.0058 / 147  | 0.0020 / 51         | 0.0043 / 110    | 0.0079 / 200  | 0.0400 / 1016   |
| -125-30     | 0.0118 / 300  | 0.0088 / 224  | 0.0015 / 38         | 0.0054 / 138    | 0.0098 / 250  | 0.0400 / 1016   |
| -125-50     | 0.0118 / 300  | 0.0068 / 173  | 0.0025 / 64         | 0.0054 / 138    | 0.0098 / 250  | 0.0400 / 1016   |
| -150-30     | 0.0138 / 350  | 0.0102 / 260  | 0.0018 / 45         | 0.0065 / 165    | 0.0118 / 300  | 0.0400 / 1016   |
| -150-50     | 0.0138 / 350  | 0.0078 / 198  | 0.0030 / 76         | 0.0065 / 165    | 0.0118 / 300  | 0.0400 / 1016   |
| -200-30     | 0.0177 / 450  | 0.0129 / 330  | 0.0024 / 60         | 0.0087 / 220    | 0.0157 / 400  | 0.0400 / 1016   |
| -200-50     | 0.0177 / 450  | 0.0099 / 252  | 0.0039 / 100        | 0.0087 / 220    | 0.0157 / 400  | 0.0400 / 1016   |
| -250-50     | 0.0217 / 550  | 0.0119 / 302  | 0.0049 / 125        | 0.0108 / 275    | 0.0197 / 500  | 0.0600 / 1524   |
| -300-50     | 0.0256 / 650  | 0.0138 / 350  | 0.0059 / 150        | 0.0130 / 330    | 0.0236 / 600  | 0.0600 / 1524   |
| -350-50     | 0.0299 / 760  | 0.0161 / 410  | 0.0069 / 175        | 0.0152 / 385    | 0.0276 / 700  | 0.0600 / 1524   |
| -380-50     | 0.0323 / 820  | 0.0173 / 440  | 0.0075 / 191        | 0.0165 / 418    | 0.0299 / 760  | 0.0600 / 1524   |
| -400-50     | 0.0343 / 870  | 0.0185 / 470  | 0.0079 / 200        | 0.0173 / 440    | 0.0315 / 800  | 0.0600 / 1524   |
| -450-50     | 0.0390 / 990  | 0.0212 / 540  | 0.0089 / 225        | 0.0195 / 495    | 0.0354 / 900  | 0.0600 / 1524   |
| -500-50     | 0.0433 / 1100 | 0.0237 / 600  | 0.0098 / 250        | 0.0217 / 550    | 0.0394 / 1000 | 0.0600 / 1524   |

Dimensions in inches unless otherwise specified.



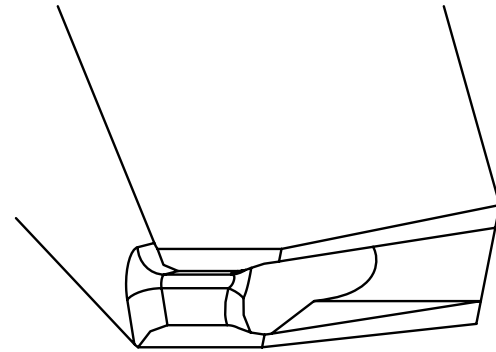
**Features:**

Designed for large wire applications  
in Ultrasonic (Cho-onpa) bonders  
Special polished FR & BR  
Special heavy hole polish

**Material:** Tungsten Carbide

**Lengths:**

-K = 1.142 inch / 29mm  
-M = 1.339 inch / 34mm  
Other = Specify

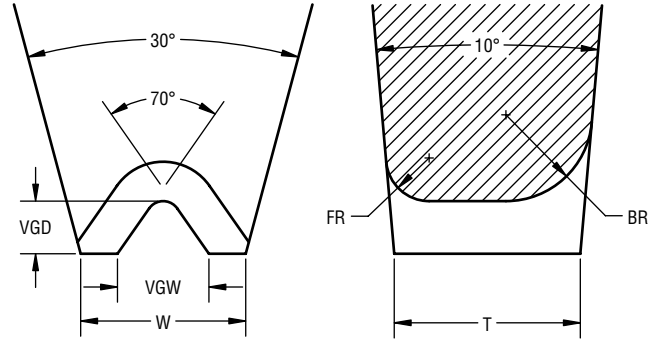
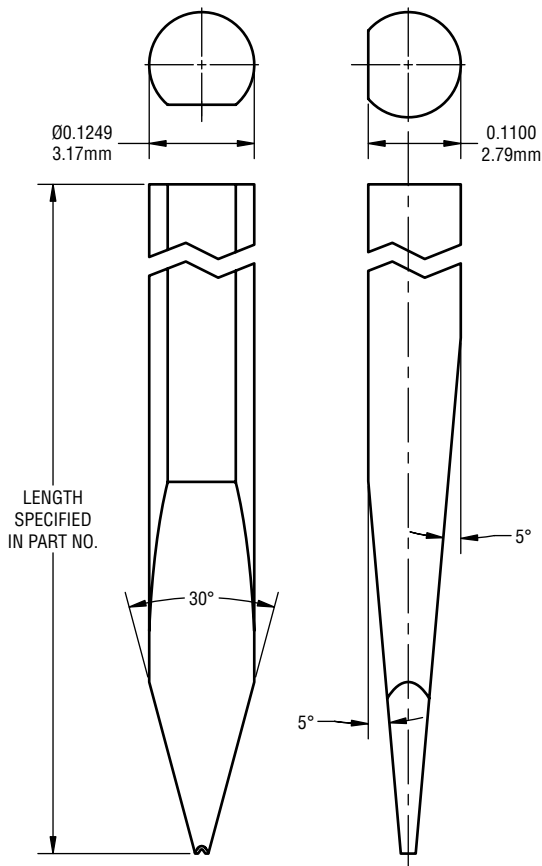


**Specify:** Series (45° wire feed angle) - V-Groove - Wire Size(μm)/Designation - FR/BR Ratio (% of wire dia.) - Tool Length

**Example:** 8245-VE-150N-50-K

| DASH NUMBER | T<br>in. / μm | FL<br>in. / μm | BL<br>in. / μm | FR & BR<br>in. / μm | H<br>in. / μm | W<br>in. / μm | VGW<br>in. / μm |
|-------------|---------------|----------------|----------------|---------------------|---------------|---------------|-----------------|
| -100N-50    | 0.0290 / 737  | 0.0098 / 250   | 0.0058 / 150   | 0.0020 / 51         | 0.0059 / 150  | 0.0079 / 200  | 0.0043 / 109    |
| -125N-50    | 0.0360 / 914  | 0.0118 / 300   | 0.0068 / 174   | 0.0025 / 64         | 0.0074 / 188  | 0.0098 / 250  | 0.0054 / 137    |
| -150N-50    | 0.0400 / 1016 | 0.0138 / 350   | 0.0078 / 198   | 0.0030 / 76         | 0.0088 / 224  | 0.0118 / 300  | 0.0065 / 165    |
| -200N-50    | 0.0540 / 1372 | 0.0157 / 400   | 0.0079 / 200   | 0.0039 / 100        | 0.0118 / 300  | 0.0157 / 400  | 0.0087 / 221    |
| -250N-50    | 0.0630 / 1600 | 0.0197 / 500   | 0.0099 / 252   | 0.0049 / 125        | 0.0148 / 375  | 0.0197 / 500  | 0.0108 / 274    |
| -300N-50    | 0.0630 / 1600 | 0.0236 / 600   | 0.0118 / 300   | 0.0059 / 150        | 0.0177 / 450  | 0.0236 / 600  | 0.0130 / 330    |

Dimensions in inches unless otherwise specified.



**Applications:**

Designed for large aluminum wire applications in  
F&K Delvotec bonders  
Hesse & Knipps bonders  
K&S large wire bonders

**Material:** Tungsten Carbide

**Lengths:**

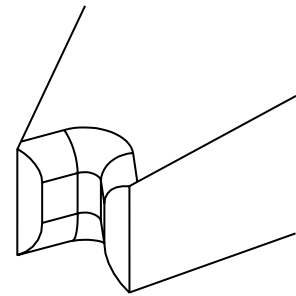
-2.000 = 2.000 in. / 51mm  
-1.500 = 1.500 in. / 38mm  
-1.968 = 1.968 in. / 50mm

**Specify:**

Series - Dash No. - Tool Length

**Example:**

8870-005-0-1.500  
8870-016-1-1.968



| DASH NUMBER | T<br>in. / $\mu$ m | FR<br>in. / $\mu$ m | BR<br>in. / $\mu$ m | VGW<br>in. / $\mu$ m | VGD<br>in. / $\mu$ m | W<br>in. / $\mu$ m |
|-------------|--------------------|---------------------|---------------------|----------------------|----------------------|--------------------|
| -004-0      | 0.0114 / 290       | 0.0027 / 69         | 0.0054 / 137        | 0.0046 / 117         | 0.0027 / 69          | 0.0080 / 203       |
| -005-0      | 0.0142 / 361       | 0.0034 / 86         | 0.0068 / 173        | 0.0057 / 145         | 0.0034 / 86          | 0.0100 / 254       |
| -006-0      | 0.0170 / 432       | 0.0041 / 104        | 0.0082 / 208        | 0.0068 / 173         | 0.0040 / 102         | 0.0120 / 305       |
| -006-1      | 0.0148 / 376       | 0.0041 / 104        | 0.0082 / 208        | 0.0068 / 173         | 0.0040 / 102         | 0.0120 / 305       |
| -007-0      | 0.0175 / 444       | 0.0048 / 122        | 0.0096 / 244        | 0.0080 / 203         | 0.0048 / 122         | 0.0140 / 356       |
| -008-0      | 0.0226 / 574       | 0.0054 / 137        | 0.0109 / 277        | 0.0091 / 231         | 0.0055 / 140         | 0.0160 / 400       |
| -008-1      | 0.0195 / 495       | 0.0054 / 137        | 0.0109 / 277        | 0.0091 / 231         | 0.0055 / 140         | 0.0160 / 400       |
| -010-0      | 0.0250 / 635       | 0.0068 / 173        | 0.0136 / 345        | 0.0122 / 310         | 0.0075 / 191         | 0.0200 / 500       |
| -012-0      | 0.0340 / 864       | 0.0082 / 208        | 0.0163 / 371        | 0.0146 / 371         | 0.0090 / 229         | 0.0240 / 610       |
| -012-3      | 0.0294 / 747       | 0.0082 / 208        | 0.0163 / 371        | 0.0146 / 371         | 0.0090 / 229         | 0.0240 / 610       |
| -014-0      | 0.0345 / 876       | 0.0110 / 279        | 0.0140 / 356        | 0.0171 / 434         | 0.0105 / 267         | 0.0270 / 686       |
| -015-0      | 0.0375 / 952       | 0.0102 / 259        | 0.0204 / 516        | 0.0183 / 465         | 0.0113 / 287         | 0.0300 / 762       |
| -016-0      | 0.0440 / 1118      | 0.0106 / 269        | 0.0211 / 536        | 0.0195 / 495         | 0.0118 / 300         | 0.0320 / 813       |
| -016-1      | 0.0390 / 990       | 0.0106 / 269        | 0.0211 / 536        | 0.0195 / 495         | 0.0118 / 300         | 0.0320 / 813       |
| -016-2      | 0.0335 / 851       | 0.0106 / 269        | 0.0211 / 536        | 0.0195 / 495         | 0.0118 / 300         | 0.0320 / 813       |
| -018-0      | 0.0360 / 914       | 0.0122 / 310        | 0.0245 / 622        | 0.0220 / 559         | 0.0140 / 356         | 0.0360 / 914       |
| -020-0      | 0.0487 / 1237      | 0.0136 / 345        | 0.0272 / 691        | 0.0244 / 620         | 0.0150 / 381         | 0.0400 / 1016      |

Dimensions in inches unless otherwise specified.