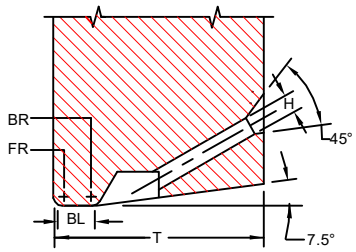
SERIES CL & CL-V

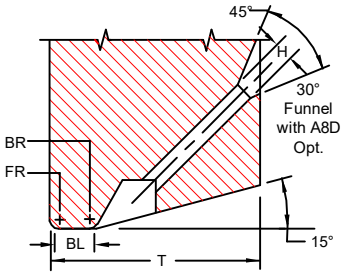
SMALL WIRE & LARGE WIRE

FOR AUTOMATIC BONDERS

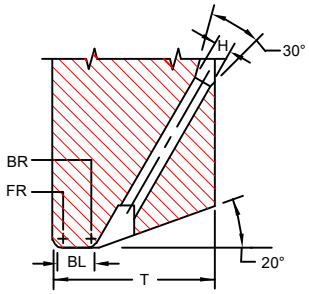
Accelonix keeping you ahead.



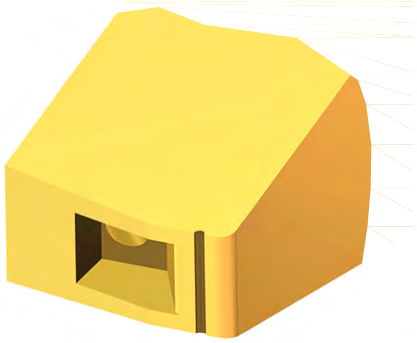
30°-38° Hole Angle



45°-52° Hole Angle



55°-60° Hole Angle



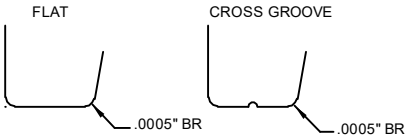
45°,52° for A8D Opt., 30° Funnel

For CL-V Series (Vertical Feed) 45°,55°,60°

For CL-Series 30°-60°

Available Vertical Hole Ø marked with X

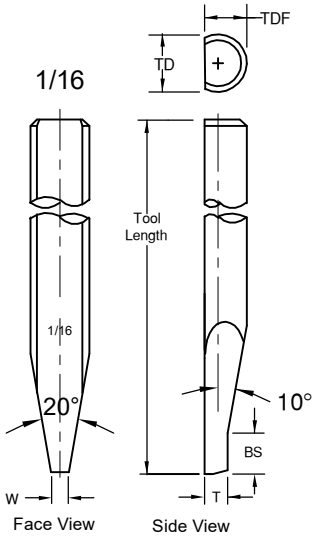
TD			TDF		For Vertical Hole
	in.	mm	in.	mm	
1/16	.0624	1.59	.0460	1.17	
1/16	.0624	1.59	.0590	1.50	X
	.0784	1.99	.0630	1.60	
	.0784	1.99	.0720	1.83	X
3/32	.0937	2.38	.0880	2.24	X
	.1180	3.00	.0985	2.50	
1/8	.1249	3.17	.0937	2.38	
1/8	.1249	3.17	.1180	3.00	



We recommend a .0005" back radius and a cross groove or a flat bond foot when ordering tools for gold wire thermosonic bonding. For more gold wire application information see Tech Tip

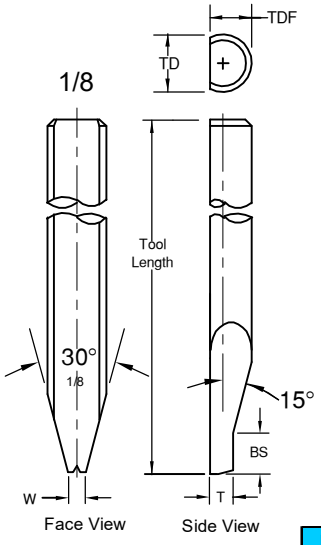
CL-SERIES SMALL WIRE

.0005" through .0020" wireØ



CL-SERIES LARGE WIRE

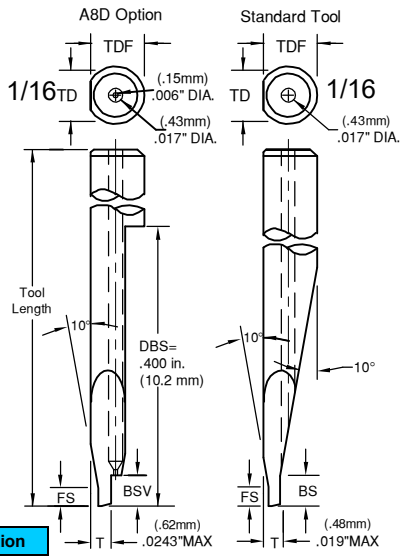
For wire diameters .0030" through .0160"



Standard:Ø 1/16, 45°to 52°Hole Angle : BS"=.045" (1.14mm) .
Supplies only to Standard size Ø1/16, larger tool Ø are different.
Standard: (BS) supplied unless otherwise specified. See Tool Options #A3

CL-V SERIES
VERTICAL FEED DEEP ACCESS

0005" through .0020" wireØ

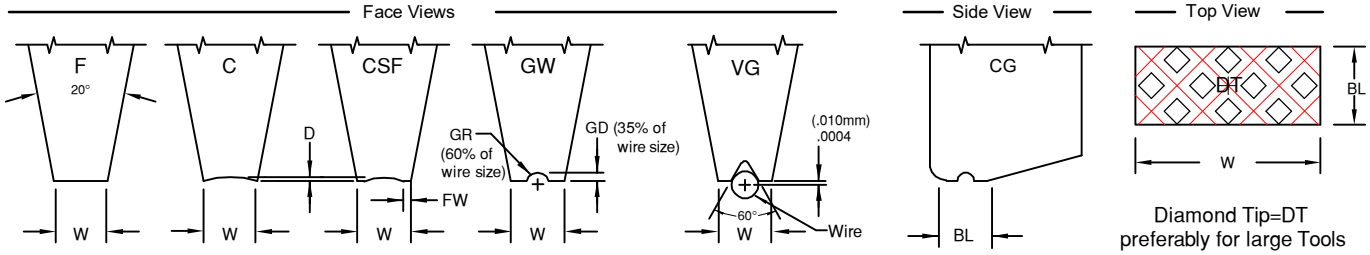


NOTE: We recommend our A8D option for enhanced wire control. Our standard vertical feed has slightly more clearance but less wire control.
See in **Tool Options** for illustration.
To order just add A8D in space **11.**
Not suitable for F&K and H&K machine

A8D Option

Hole Angles Available with A8D Option		
Hole Angle	BSV	
	in.	mm
45°	.035	.89
52°	.050	1.27

Standard: Ø1/16 45°to 52° Hole Angle :
FS=.015"(.38mm) **BS"=.045"** (1.14mm)
Standard: (FS&BS) supplied unless otherwise specified. See Tool Options #A3
No FS if T=MAX



SERIES CL & CL-V
SMALL WIRE & LARGE WIRE

ORDERING INFORMATION
SMALL & LARGE WIRE BONDING WEDGES
FOR GOLD AND ALUMINUM WIRE

SAMPLE PART NUMBER: M-CL-O-X-1/16-1-45-CG-2020-M- *

SYMBOL EXPLANATION: 1 2 3 4 5 6 7 8 9 10 11

1. **MATERIAL:**
   M = Ceramic
   C = Tungsten Carbide
   T = Titanium
   All other: See Material Selection Guide
2. **SERIES:** CL
3. **WIRE FEED:** O = Standard Feed
   V = Vertical Feed
4. **FRONT/BACK RADIUS:** See Radius Option Chart
   *For special Radius sizes insert an X Please specify FR/BR
5. **SHANK DIA.:** Please Specify Diameter
6. **TOOL LENGTH:** Please Specify Length
7. **HOLE ANGLE:** for CL (30°, 38°, 45°,52°,55°,60,°), for CL-V (45°,55°,60,°)
   for CL-V with A8D Opt. (45°,52°)

(8) FOOT TYPE:
F = Flat
C = Concave
CSF = Concave with Side Flats
(CSF not available with ceramic tools)
CG = Cross Groove
GW = Groove in wire direction
(Please specify wire size)
DT = Diamond Tip **(Please specify Ribbon size)**
VG = V Groove **(Please specify wire size)**

(9) TOOL SIZE: See Standard Chart

(10) FOOT FINISH:
M = Matte finish (FR, BR, & Bond Flat)
P = Polish finish (FR, BR, & Bond Flat)
MP= Polish finish (FR, BR), and Matte finish (Bond Flat)

(11) See Tool Option

*NOTE: Please specify for either guillotine cut or tension break.
On V-groove tools the bond length (BL) is the same as the foot length (FL).
For special sizes or dimensions insert an (X) in the appropriate position of the part number then specify what (X) equals.
Example: M-CL-O-X-1/16-3/4-45-CG-2020-M (X) FR=.0012, BR=.0007
On V-groove tools the bond length is the same as the foot length.

RADIUS OPTION CHART	OPTION LETTER		A	B	C	D	E	F	G	H	I	J	K	L	M	N
	FRONT RADIUS	in.	.0005	.0005	.0010	.0010	.0010	.0015	.0015	.0015	.0015	.0020	.0020	.0020	.0020	.0020
		µ	13	13	25	25	25	38	38	38	38	51	51	51	51	51
	BACK RADIUS	in.	0	.0005	0	.0005	.0010	0	.0005	.0010	.0015	0	.0005	.0010	.0015	.0020
		µ	0	13	0	13	25	0	13	25	38	0	13	25	38	51

For Vertical Feed: Tmax. for Dia. 1/16 =.0190 and for A8D: Tmax=.0243, Supplies only to Standard size Ø1/16, larger tool Ø are different.

STANDARD CHART — CL SMALL WIRE: — FOR WIRE DIAMETERS .0005" THROUGH .0020"

TS	H		BL		D		T(30°38°)		T(45° 52°)		T(55° 60°)		W		SUGGESTED WD	
Units	in.	µ	in.	µ	in.	µ	in.	µ	in.	µ	in.	µ	in.	µ	in.	µ
Tolerance	±.0002	±5	±.0002	±5	-.0001	-2.5	±.0005	±13	±.0005	±13	±.0005	±13	+.0005	+13		
1505	.0015	38	.0005	13	.0002	5	.0140	356	.0120	305	.0100	254	.0025	64		
1507	.0015	38	.0007	18	.0002	5	.0140	356	.0125	318	.0100	254	.0025	64	.0005	13
1510	.0015	38	.0010	25	.0002	5	.0140	356	.0130	330	.0100	254	.0025	64	through	
1513	.0015	38	.0013	33	.0002	5	.0140	356	.0130	330	.0110	279	.0025	64	.0007	18
1515	.0015	38	.0015	38	.0002	5	.0150	381	.0130	330	.0110	279	.0025	64		
1520	.0015	38	.0020	51	.0002	5	.0150	381	.0140	356	.0110	279	.0025	64		
Tolerance	±.0002	±5	±.0002	±5	-.0001	-2.5	±.0005	±13	±.0005	±13	±.0005	±13	±.0002	±5		
2010	.0020	51	.0010	25	.0002	5	.0160	406	.0140	356	.0120	305	.0040	102		
2015	.0020	51	.0015	38	.0002	5	.0160	406	.0140	356	.0120	305	.0040	102	.0007	18
2020	.0020	51	.0020	51	.0002	5	.0170	432	.0150	381	.0130	330	.0040	102	through	
2025	.0020	51	.0025	64	.0002	5	.0170	432	.0150	381	.0130	330	.0040	102	.0010	25
2030	.0020	51	.0030	76	.0002	5	.0180	457	.0150	381	.0140	356	.0040	102		
2520	.0025	64	.0020	51	.0002	5	.0170	432	.0150	381	.0140	356	.0040	102		
2525	.0025	64	.0025	64	.0002	5	.0180	457	.0170	432	.0140	356	.0040	102		
2530	.0025	64	.0030	76	.0002	5	.0180	457	.0170	432	.0150	381	.0050	127	.0013	33
2535	.0025	64	.0035	89	.0002	5	.0180	457	.0170	432	.0150	381	.0050	127		
2540	.0025	64	.0040	102	.0002	5	.0180	457	.0170	432	.0160	406	.0050	127		
3020	.0030	76	.0020	51	.0003	8	.0190	483	.0170	432	.0150	381	.0050	127		
3025	.0030	76	.0025	64	.0003	8	.0200	508	.0170	432	.0150	381	.0050	127		
3030	.0030	76	.0030	76	.0003	8	.0200	508	.0180	457	.0160	406	.0050	127	.0015	38
3035	.0030	76	.0035	89	.0003	8	.0210	533	.0180	457	.0160	406	.0050	127		
3040	.0030	76	.0040	102	.0003	8	.0210	533	.0190	483	.0170	432	.0050	127		
3525	.0035	89	.0025	64	.0003	8	.0220	559	.0190	483	.0170	432	.0060	152		
3530	.0035	89	.0030	76	.0003	8	.0220	559	.0200	508	.0180	457	.0060	152		
3535	.0035	89	.0035	89	.0003	8	.0230	584	.0200	508	.0180	457	.0060	152	.0020	51
3540	.0035	89	.0040	102	.0003	8	.0230	584	.0210	533	.0180	457	.0060	152		
3545	.0035	89	.0045	114	.0003	8	.0240	610	.0210	533	.0190	483	.0060	152		
3550	.0035	89	.0050	127	.0003	8	.0240	610	.0220	559	.0190	483	.0060	152		

STANDARD CHART — CL LARGE WIRE: — FOR WIRE DIAMETERS .0030" THROUGH .0160"

TS	H		BL		D		T(30°38°)		T(45° 52°)		T(55° 60°)		W		SUGGESTED WD	
Units	in.	µ	in.	µ	in.	µ	in.	µ	in.	µ	in.	µ	in.	µ	in.	µ
Tolerance	±.0005	±13	±.0005	±13	-.0001	-2.5	±.0010	±25	±.0010	±25	±.0010	±25	± .0010	±25		
4560	.0045	114	.0060	152	.0006	15	.0340	864	.0310	787	.0260	660	.0075	191	.0030	76
6008	.0060	152	.0080	203	.0008	20	.0390	991	.0340	864	.0290	737	.0100	254	.0040	102
7510	.0075	191	.0100	254	.0010	25	.0450	1143	.0410	1041	.0350	889	.0125	318	.0050	127
0912	.0090	229	.0120	305	.0012	30	.0520	1321	.0490	1245	.0410	1041	.0150	381	.0060	152
Tolerance	±.0005	±13	±.0010	±25	±.0002	±5	±.0010	±25	±.0010	±25	±.0010	±25	± .0010	±25		
01014	.0105	267	.0140	356	.0014	36	.0650	1651	.0540	1372	.0450	1143	.0175	445	.0070	178
01215	.0120	305	.0150	381	.0016	41	.0680	1727	.0560	1422	.0460	1168	.0200	508	.0080	203
01518	.0150	381	.0180	457	.0020	51	.0720	1829	.0640	1626	.0600	1524	.0250	635	.0100	254
01820	.0180	457	.0200	508	.0024	61	.0900	2286	.0800	2032	.0690	1753	.0300	762	.0120	305
02122	.0210	533	.0220	559	.0028	71	.0980	2489	.0820	2083	.0700	1778	.0350	889	.0140	356
02424	.0240	610	.0240	610	.0032	81	.1100	2794	.0930	2362	.0830	2108	.0400	1016	.0160	406

***Other sizes available upon request** ***All dimensions and tolerances are for reference only**
TOOL SIZE=TS , WIRE DIAMETER =WD "T" To be determined according to the size of FR and BR and Hole Bore Length

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