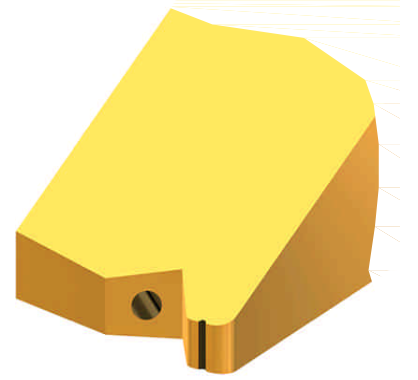
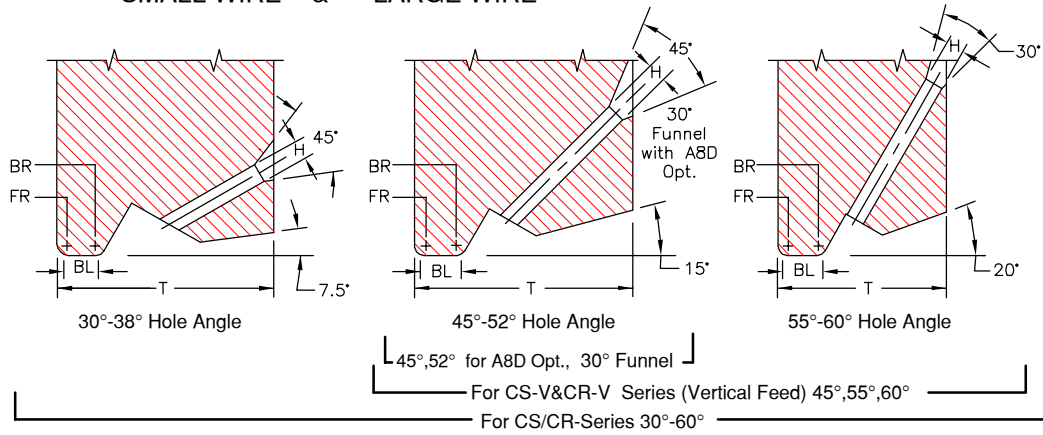


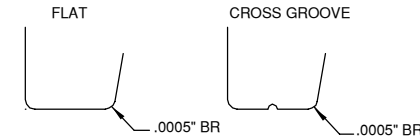
SERIES CS/CS-V & CR/CR-V

SMALL WIRE & LARGE WIRE

FOR MANUAL AND SEMI-AUTOMATIC BONDERS



	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

Available Vertical Hole Ø marked with X

CS-V&CR-V SERIES VERTICAL FEED DEEP ACCESS

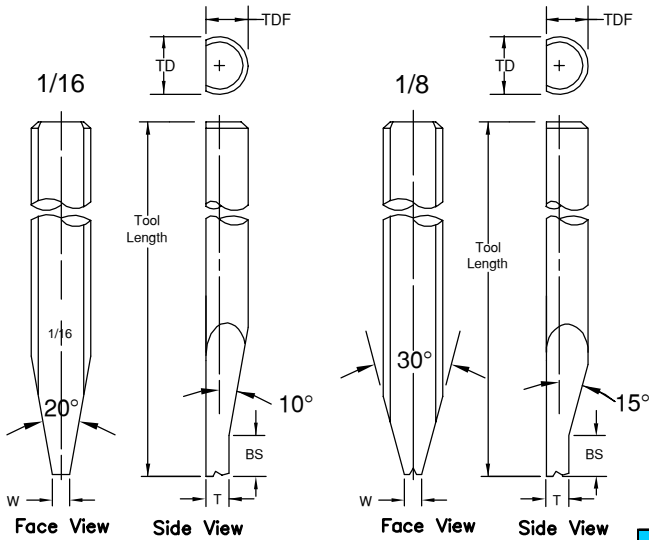
CS-SERIES SMALL WIRE

.0030" through .0020" wireØ

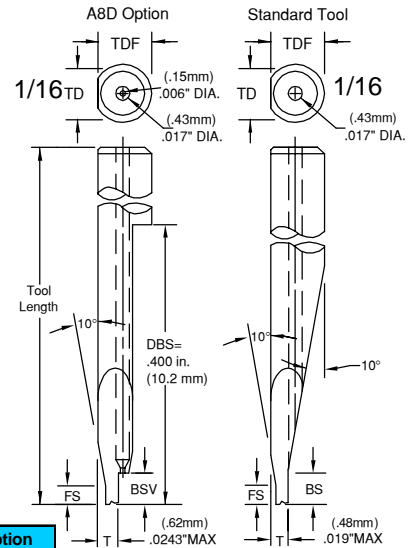
CR-SERIES LARGE WIRE

For wire diameters .0030" through .0160"

.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

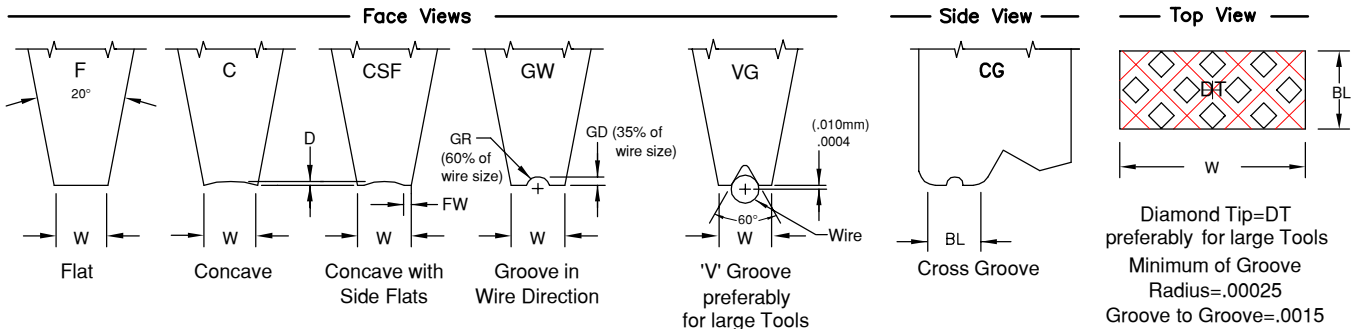


A8D Option

Hole Angle	Hole Angles Available with A8D Option	
	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

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



Diamond Tip=DT preferably for large Tools
Minimum of Groove Radius=.00025
Groove to Groove=.0015

SERIES CS/CS-V & CR/CR-V

SMALL WIRE & LARGE WIRE

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

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

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

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

(11) See Tool Option

(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)

(9) TOOL SIZE : See Standard Chart

(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)

*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-CS-O-X-1/16-3/4-45-CG-2020-M (X) FR=.0012, BR=.0007

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											CS 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	±.0005	±13					
1505	.0015	38	.0005	13	.0002	5	.0150	381	.0130	330	.0100	254	.0025	64	.0005	13					
1507	.0015	38	.0007	18	.0002	5	.0150	381	.0130	330	.0100	254	.0025	64	.0007	18					
1510	.0015	38	.0010	25	.0002	5	.0155	394	.0135	343	.0110	279	.0025	64	.0007	18					
1513	.0015	38	.0013	33	.0002	5	.0155	394	.0140	356	.0110	279	.0025	64	.0007	18					
1515	.0015	38	.0015	38	.0002	5	.0160	406	.0140	356	.0110	279	.0025	64	.0007	18					
1520	.0015	38	.0020	51	.0002	5	.0165	419	.0145	368	.0120	305	.0025	64	.0007	18					
Tolerance	±.0002	±5	±.0002	±5	-.0001	-2.5	±.0005	±13	±.0005	±13	±.0005	±13	±.0002	±5	.0007	18					
2010	.0020	51	.0010	25	.0002	5	.0165	419	.0145	368	.0110	279	.0040	102	.0007	18					
2015	.0020	51	.0015	38	.0002	5	.0165	419	.0145	368	.0120	305	.0040	102	.0007	18					
2020	.0020	51	.0020	51	.0002	5	.0165	419	.0145	368	.0120	305	.0040	102	.0010	25					
2025	.0020	51	.0025	64	.0002	5	.0170	432	.0150	381	.0130	330	.0040	102	.0010	25					
2030	.0020	51	.0030	76	.0002	5	.0175	445	.0155	394	.0130	330	.0040	102	.0010	25					
2520	.0025	64	.0020	51	.0002	5	.0180	457	.0160	406	.0125	318	.0040	102	.0013	33					
2525	.0025	64	.0025	64	.0002	5	.0180	457	.0160	406	.0125	318	.0040	102	.0013	33					
2530	.0025	64	.0030	76	.0002	5	.0195	495	.0170	432	.0140	356	.0040	102	.0013	33					
2535	.0025	64	.0035	89	.0002	5	.0195	495	.0170	432	.0140	356	.0040	102	.0013	33					
2540	.0025	64	.0040	102	.0002	5	.0200	508	.0180	457	.0150	381	.0040	102	.0013	33					
3020	.0030	76	.0020	51	.0003	8	.0190	483	.0170	432	.0150	381	.0050	127	.0015	38					
3025	.0030	76	.0025	64	.0003	8	.0200	508	.0170	432	.0150	381	.0050	127	.0015	38					
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	.0015	38					
3040	.0030	76	.0040	102	.0003	8	.0210	533	.0190	483	.0170	432	.0050	127	.0015	38					
3525	.0035	89	.0025	64	.0003	8	.0220	559	.0190	483	.0170	432	.0060	152	.0020	51					
3530	.0035	89	.0030	76	.0003	8	.0220	559	.0200	508	.0180	457	.0060	152	.0020	51					
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	.0190	483	.0060	152	.0020	51					
3545	.0035	89	.0045	114	.0003	8	.0240	610	.0210	533	.0190	483	.0060	152	.0020	51					
3550	.0035	89	.0050	127	.0003	8	.0240	610	.0220	559	.0190	483	.0060	152	.0020	51					

STANDARD CHART											CR 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	±.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	±.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	.0669	175	.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