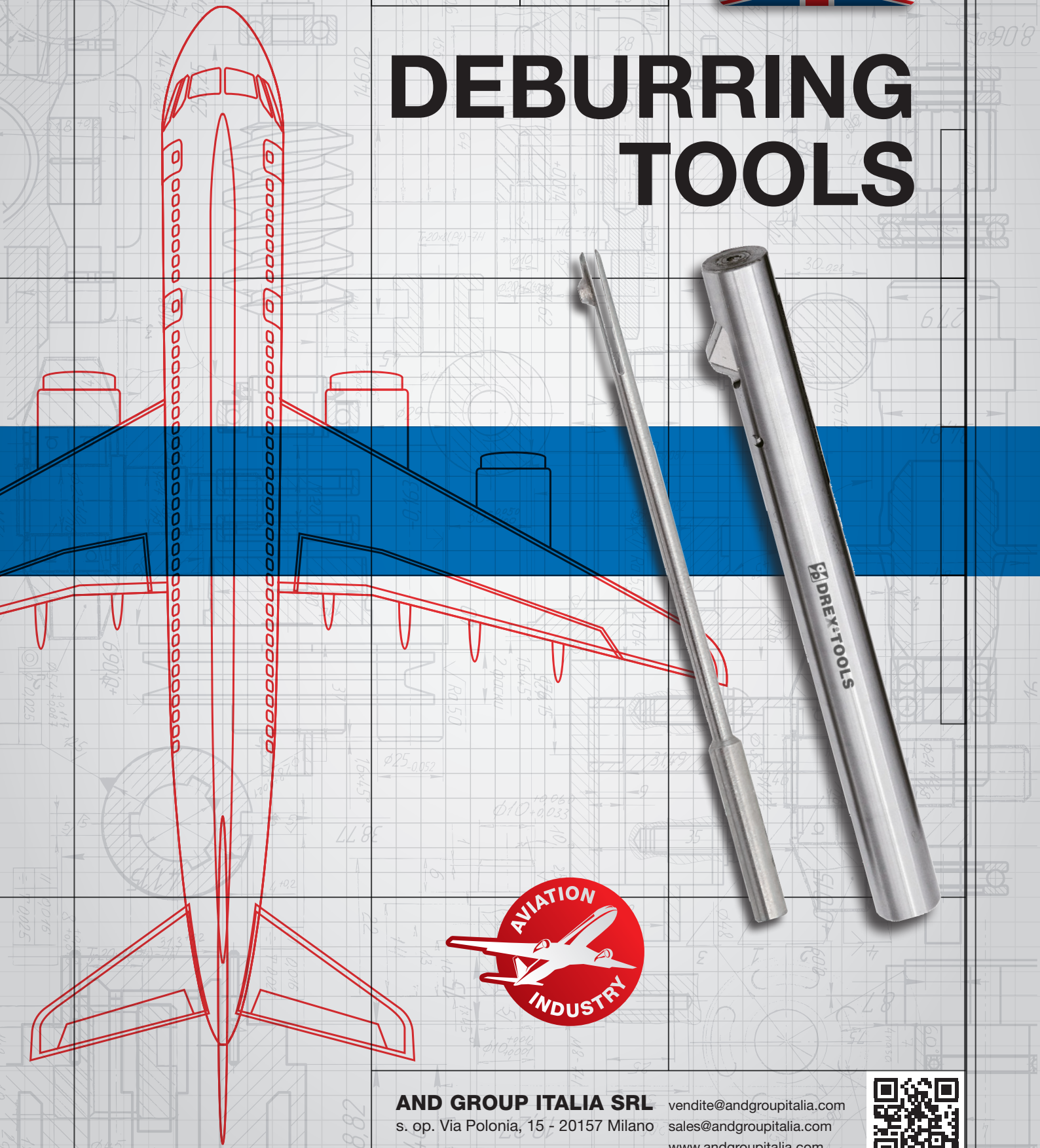
DREX®-TOOLS

UTENSILI DI PRECISIONE PER L'INDUSTRIA MECCANICA - AERONAUTICA - AEROSPAZIALE

PRECISION TOOLS FOR THE MECHANICAL AVIATION - AEROSPACE MANUFACTURING

DEBURRING TOOLS



AVIATION INDUSTRY

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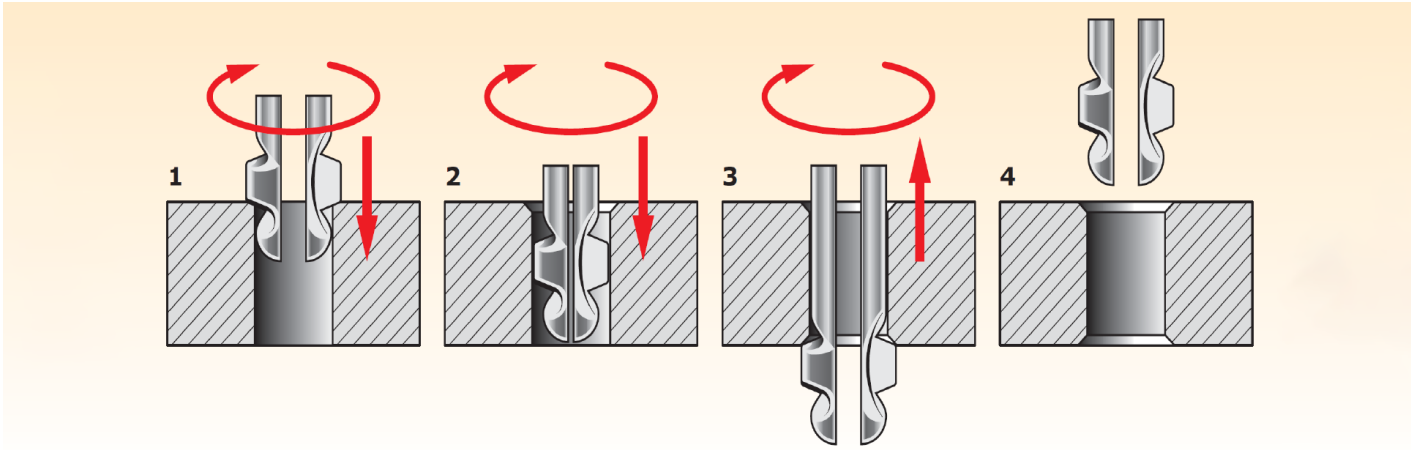
DEBURRING TOOLS TYPE CBB - CTE

Deburring tools for mass-production. Suitable for deburring holes on front and back faces in just one stroke. Simple and sturdy tools, allow cutting chips to clear easily.
Tools sizes from 0,8 mm to 16,6 mm (.0315 - .66). Due to their simply, they can be used on all types of machines tools.
The deburring tools are only suitable for carrying out deburring on the front and back face of the holes.



HOW THE TOOL WORKS

Pict.1 Feed-in, deburring front face of hole.
Pict.2 Feed-thru, crossing hole.
Pict.3 Feed-out, deburring back face of hole.
Pict.4 Finished-up.

SPEEDS AND FEEDS

HOLE'S DIAMETER		REV/MIN.	FEED mm/rev.
mm	in.		
0,8 - 5,0	.003 - .196	1750	0,02 - 0,10
6,0 - 9,0	.236 - .354	800 - 1000	0,02 - 0,15
oltre 10,0	oltre .393	600 - 650	0,05 - 0,20

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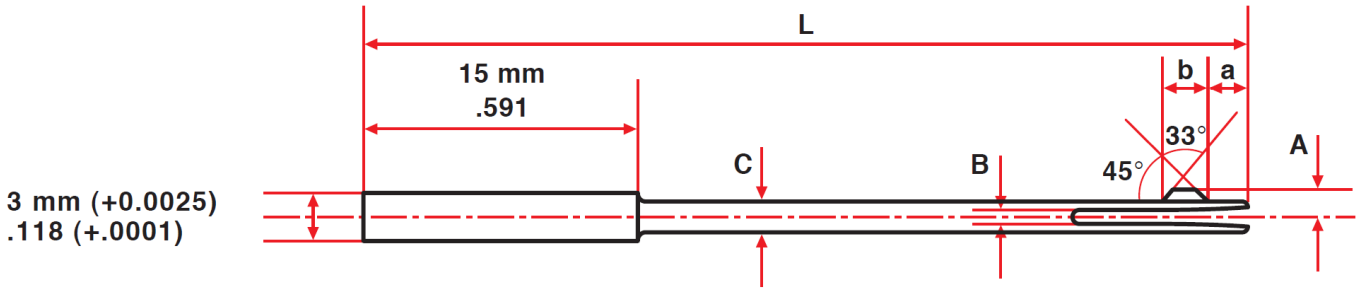
TOLERANCE OF ARBOR'S DIAMETER: + 0 / - 0,1 mm



CODE	a		b					
	mm	in.	mm	in.				
CBB-0,8 - CBB-1,4	1	.039	1,5	.059				
CBB-1,5 - CBB-4	2	.079	2,5	.098				
CBB-5 - CBB-6	2	.079	3,0	.118				

CODE	RANGE OF HOLE SIZE		C		L		A		B	
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
CBB-0,8	0,8-0,9	.0315-.0354	0,7	.027	45	1.77	0,7	.027	0,3	.012
CBB-0,9	0,9-1,0	.0354-.0394	0,8	.031	45	1.77	0,8	.031	0,3	.012
CBB-1,0	1,0-1,1	.0394-.0433	0,9	.035	45	1.77	0,9	.035	0,3	.012
CBB-1,1	1,1-1,2	.0433-.0472	1,0	.039	45	1.77	1,0	.039	0,3	.012
CBB-1,2	1,2-1,3	.0472-.0512	1,1	.043	45	1.77	1,1	.043	0,3	.012
CBB-1,3	1,3-1,4	.0512-.0551	1,2	.047	45	1.77	1,2	.047	0,3	.012
CBB-1,4	1,4-1,5	.0551-.0591	1,3	.051	45	1.77	1,3	.051	0,3	.012
CBB-1,5	1,5-1,6	.0591-.0630	1,4	.055	50	1.97	1,4	.055	0,5	.019
CBB-1,6	1,6-1,7	.0630-.0670	1,5	.059	50	1.97	1,5	.059	0,5	.019
CBB-1,7	1,7-1,8	.0670-.0709	1,6	.063	50	1.97	1,6	.063	0,5	.019
CBB-1,8	1,8-1,9	.0709-.0748	1,7	.067	60	2.36	1,7	.067	0,5	.019
CBB-1,9	1,9-2,0	.0748-.0788	1,8	.071	60	2.36	1,8	.071	0,5	.019
CBB-2	2,0-2,2	.0788-.0866	1,9	.075	60	2.36	1,9	.075	0,5	.019
CBB-4	2,2-2,4	.0866-.0945	2,1	.083	80	3.15	2,1	.083	1,0	.039
CBB-5	2,4-2,6	.0945-.1023	2,3	.091	80	3.15	2,3	.091	1,0	.039
CBB-6	2,6-2,8	.1023-.1103	2,5	.098	80	3.15	2,5	.098	1,0	.039

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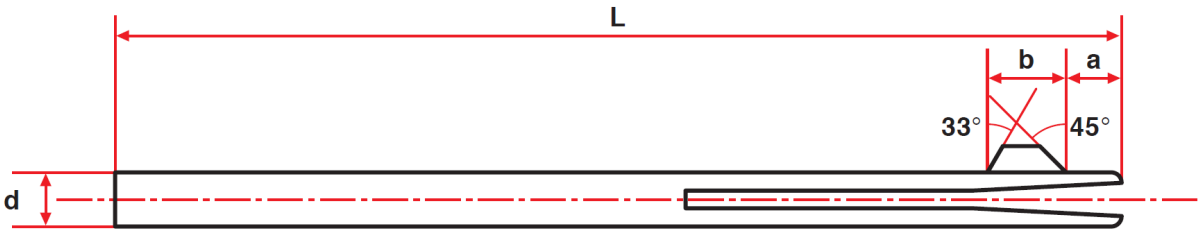
SINGLE CUTTING EDGE

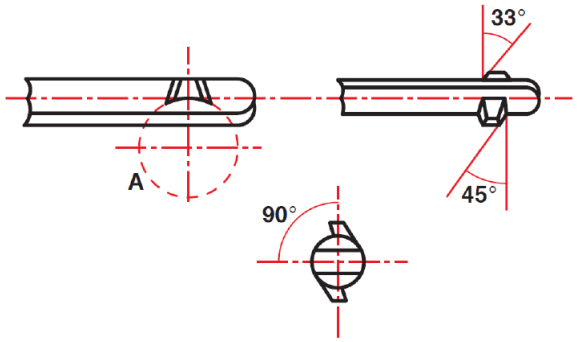
TOLERANCE OF ARBOR'S DIAMETER: + 0 / - 0,25 mm



CODE	RANGE OF HOLE SIZE		d		L		a		b	
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
CTE07	2,80-3,18	.110-.125	2,75	.108	101,6	4.00	3,18	.125	4,45	.175
CTE08	3,18-3,55	.125-.140	3,15	.124	101,6	4.00	3,18	.125	4,45	.175
CTE09	3,55-3,96	.140-.156	3,58	.141	101,6	4.00	3,18	.125	4,45	.175
CTE10	3,96-4,36	.156-.172	3,94	.155	101,6	4.00	3,18	.125	4,45	.175
CTE11	4,36-4,74	.172-.187	4,34	.171	101,6	4.00	3,18	.125	4,45	.175
CTE12	4,74-5,15	.187-.203	4,72	.186	101,6	4.00	3,18	.125	6,22	.245
CTE13	5,15-5,56	.203-.219	5,13	.202	101,6	4.00	3,18	.125	6,22	.245

TOOL'S REGRINDING

Hand grind tools with an abrasive wheel having the diameter as shown in the chat DIA-A, removing 0,25 – 0,38 mm (in. .010 – .015).
A = Grinding wheel diameter



CODE	DIA-A							
	mm	in.						
CBB-0,8 - CB-6	10	.3937						
CTE07 - CTE11	16	.629						
CTE12 - CTE27	19	.748						
CTE28 - CTE35	22	.866						
CTE36 - CTE42	32	1.259						

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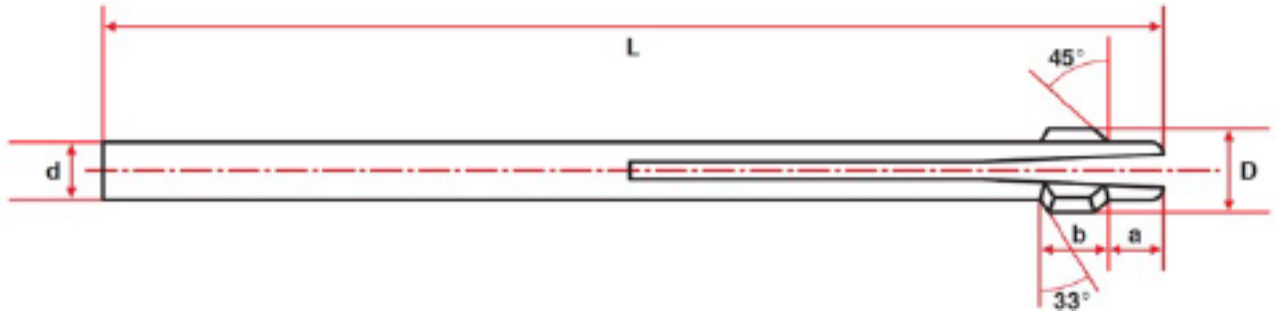
DOUBLE CUTTING EDGE

TOLERANCE OF ARBOR'S DIAMETER: + 0 / - 0,25 mm



CODE	RANGE OF HOLE SIZE D		d		L		a		b	
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
CTE14	5,56-5,94	.219-.234	5,54	.218	101,6	4,00	6,48	.255	6,22	.245
CTE15	5,94-6,35	.234-.250	5,92	.233	101,6	4,00	6,48	.255	6,22	.245
CTE16	6,35-6,75	.250-.266	6,32	.249	101,6	4,00	6,48	.255	6,22	.245
CTE17	6,75-7,13	.366-.281	6,73	.265	101,6	4,00	6,48	.255	6,22	.245
CTE18	7,13-7,54	.281-.297	7,11	.280	101,6	4,00	6,48	.255	6,22	.245
CTE19	7,54-7,95	.297-.313	7,52	.296	101,6	4,00	7,24	.285	6,48	.255
CTE20	7,95-8,33	.313-.328	7,92	.312	101,6	4,00	7,24	.285	6,48	.255
CTE21	8,33-8,71	.328-.343	8,31	.327	101,6	4,00	7,24	.285	6,48	.255
CTE22	8,71-9,11	.343-.359	8,69	.342	101,6	4,00	7,24	.285	6,48	.255
CTE23	9,11-9,52	.359-.375	9,09	.358	101,6	4,00	7,24	.285	6,48	.255
CTE24	9,52-9,90	.375-.390	9,50	.374	112,7	4,43	8,00	.315	6,22	.245
CTE25	9,90-10,31	.390-.406	9,88	.389	112,7	4,43	8,00	.315	6,22	.245
CTE26	10,31-10,72	.406-.422	10,29	.406	112,7	4,43	8,00	.315	6,22	.245
CTE27	10,69-11,13	.421-.438	10,67	.420	112,7	4,43	8,00	.315	6,22	.245
CTE28	11,10-11,51	.437-.453	11,07	.436	139,7	5,50	8,76	.345	6,99	.275
CTE29	11,51-11,88	.453-.468	11,48	.452	139,7	5,50	8,76	.345	6,99	.275
CTE30	11,88-12,29	.468-.484	11,86	.467	139,7	5,50	8,76	.345	6,99	.275
CTE31	12,29-12,70	.484-.500	12,26	.438	139,7	5,50	8,76	.345	6,99	.275
CTE32	12,70-13,08	.500-.515	12,67	.499	177,8	7,00	9,78	.385	7,75	.305
CTE33	13,08-13,48	.515-.531	13,05	.514	177,8	7,00	9,78	.385	7,75	.305
CTE34	13,49-13,89	.531-.547	13,46	.530	177,8	7,00	9,78	.385	7,75	.305
CTE35	13,87-14,30	.546-.563	13,84	.545	177,8	7,00	9,78	.385	7,75	.305
CTE36	14,30-14,68	.563-.578	14,27	.562	190,5	7,50	10,54	.415	10,29	.405
CTE37	14,68-15,09	.578-.594	14,65	.577	190,5	7,50	10,54	.415	10,29	.405
CTE38	15,09-15,47	.594-.609	15,06	.593	190,5	7,50	10,54	.415	11,05	.435
CTE39	15,47-15,87	.609-.625	15,44	.608	190,5	7,50	10,54	.415	11,05	.435
CTE40	15,87-16,28	.325-.641	15,84	.624	212,6	8,37	11,30	.445	11,05	.435
CTE41	16,26-16,66	.640-.656	16,23	.639	212,6	8,37	11,30	.445	11,05	.435
CTE42	16,66-17,07	.656-.672	16,64	.655	212,6	8,37	11,30	.445	11,05	.435

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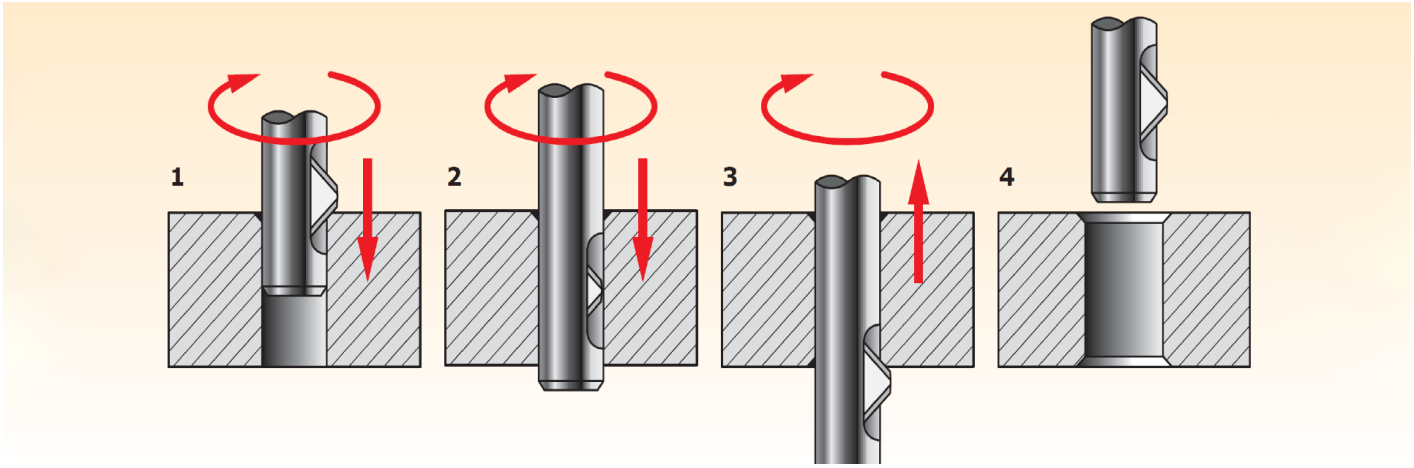
DEBURRING TOOLS TYPE CTA - CTB - CTC

Sturdy tools composed only by some components, supplied with replaceable blade.
They carry out the deburring or the chamfer on the front and back face of holes in only just one pass. Adjust the set-screw located in the shank for obtaining the deburringor the chamfering at the requested dimension.
They can be used on machines tools or with portable tools.



HOW THE TOOL WORKS

Pict.1 Feed-in, deburring front face of hole.
Pict.2 Feed-thru, crossing hole.
Pict.3 Feed-out, deburring back face of hole.
Pict.4 Finished-up.

SPEEDS AND FEEDS

HOLE SIZE		REV/MIN.	FEED mm/rev.
mm	in.		
0,8 - 5,0	.003 - .196	1750	0,02 - 0,10
6,0 - 9,0	.236 - .354	800 - 1000	0,02 - 0,15
over 10,0	oltre/over .393	600 - 650	0,05 - 0,20

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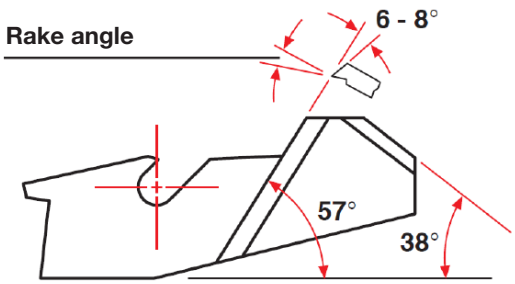
BLADE TYPE

The deburring tools type CTA - CTB - CTC are supplied, if not specify differentially, completed with standard HSS steel blade type **DA** double cutting edge suitable for front and back deburring applications. They can be supplied completed with blade type **BA**, back cutting edge suitable for back deburring applications. For deburring applications on steel, stainless steel, cast iron and titanium it is suitable to use standard blades. For deburring applications on aluminium, brass, bronze and malleable cast iron it is suitable to use flat blades. On request HSS blades TIN coated can be supplied and their life is 15%-20% higher than the life of the standard blades. Besides carbide blades can be supplied and they allow a cutting speed 20% higher than the HSS blades.

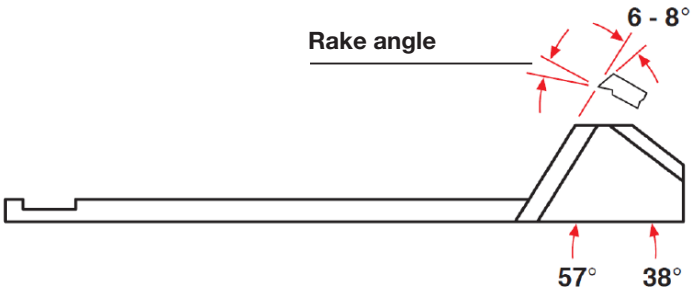
REPLACING BLADE
The blade is designed with an open-end slot allowing its replacement without removing the pivot pin. It is provided to loose the setscrew, located in the shank and slip open the blade. For the adjustment of the blade pay attention not to compress the spring totally, otherwise the blade can not retract.

REGRINDING
Regrind the blade as shown in the drawing. From 4 up to 10 regrinds are possible, removing 0,25 mm (in..010).

TYPE CTA - CTB
DA - Double cutting edge

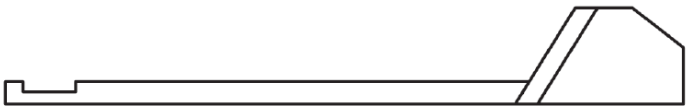


TYPE CTC
DA - Double cutting edge



TYPE CTA - CTB
DA - Back cutting edge

TYPE CTC
DA - Back cutting edge



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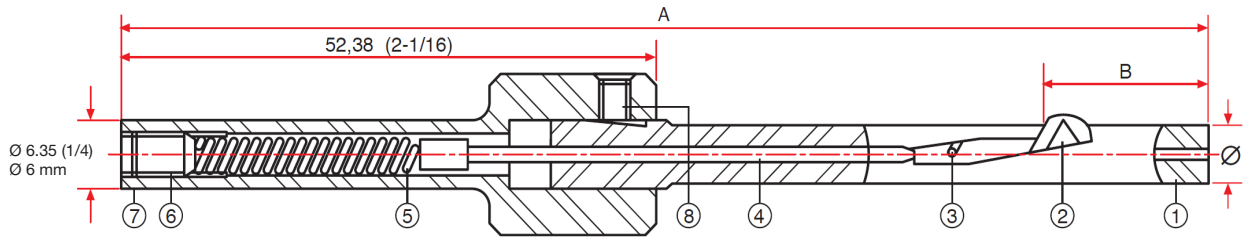
ARBOR ASSEMBLY

1 Arbor / 2 Blade / 3 Pivot pin / 4 Plunger

ADAPTER ASSEMBLY

5 Spring / 6 Chamfer adjustment screw / 7 Adapter / 8 Arbor set screw.
Ø = From dia. 0,08 to 0,13 mm under nominal hole size.



SHANK: 1/4" INCH

CODE	HOLE DIMENSIONS		A		B		BLADE SIZE
	mm	in.	mm	in.	mm	in.	
CTA200	2,0	5/64	85,72	3-3/8	11,43	0.45	3-32
CTA230	2,3	3/32					
CTA250	2,5	.0984					
CTA280	2,8	7/64					
CTA300	3,0	.1181					1/8
CTA320	3,2	1/8					
CTA350	3,5	.1378					
CTA360	3,6	9/64					

CODE	HOLE DIMENSIONS		A		B		BLADE SIZE
	mm	in.	mm	in.	mm	in.	
CTA390	3,9	5/32	85,72	3-3/8	11,43	0.45	5/32
CTA400	4,0	.1575					
CTA430	4,3	11/64					
CTA450	4,5	,1772	104,77	4-1/8	18,28	0.72	3/16
CTA470	4,7	1/16					
CTA500	5,0	.1968					
CTA520	5,2	13/64					

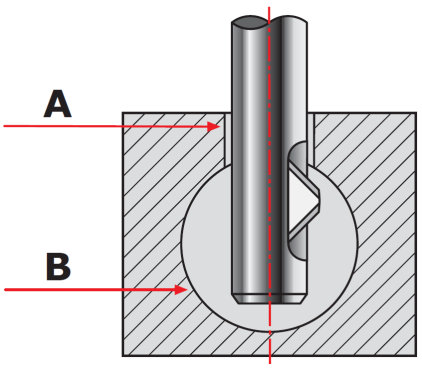
SHANK: 6mm METRIC

CODE	HOLE DIMENSIONS		A		B		BLADE SIZE
	mm	in.	mm	in.	mm	in.	
CTAM200	2,0	5/64	85,72	3-3/8	11,43	0.45	3-32
CTAM230	2,3	3/32					
CTAM250	2,5	.0984					
CTAM280	2,8	7/64					
CTAM300	3,0	.1181					1/8
CTAM320	3,2	1/8					
CTAM350	3,5	.1378					
CTAM360	3,6	9/64					

CODE	HOLE DIMENSIONS		A		B		BLADE SIZE
	mm	in.	mm	in.	mm	in.	
CTAM390	3,9	5/32	85,72	3-3/8	11,43	0.45	5/32
CTAM400	4,0	.1575					
CTAM430	4,3	11/64					
CTAM450	4,5	,1772	104,77	4-1/8	18,28	0.72	3/16
CTAM470	4,7	1/16					
CTAM500	5,0	.1968					
CTAM520	5,2	13/64					

SPECIAL USES

When deburring a hole that intersects another hole, the tools create an elliptical bevel. If the relation between the diameter of the intersection's hole and the diameter of the main hole is too small, risk exists of breaking the blade. Recommended rate 3:1.
A = Intersection's hole.
B = Main hole.



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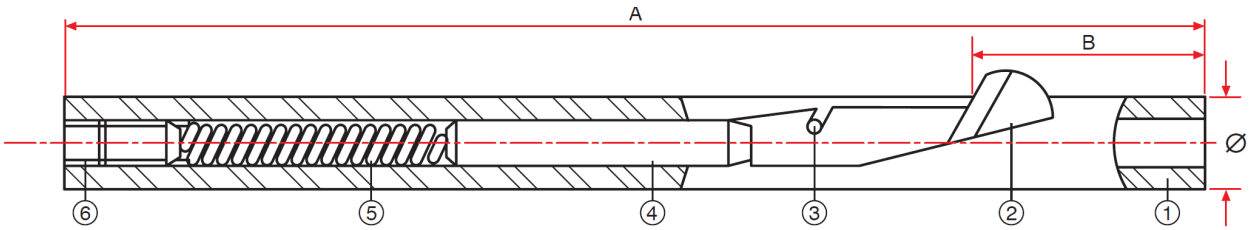
1 Arbor / 2 Blade / 3 Pivot pin / 4 Plunger / 5 Spring / 6 Chamfer adjustment screw
Ø = From dia 0,15 to 0,20 mm under nominal hole size.
B = The length may be shortened



CODE	HOLE DIMENSIONS		A		B		BLADE SIZE
	mm	in.	mm	in.	mm	in.	
CTB550	5,5	.2165	114,3	4.5	22,09	0.87	1
CTB556	5,56	7/32					
CTB594	5,94	15/64					
CTB600	6,0	.2362					
CTB635	6,35	1/4					
CTB650	6,5	.2559					
CTB675	6,75	17/64					
CTB700	7,0	.2756					
CTB714	7,14	9/32					
CTB750	7,5	.2953			24,38	0.96	2
CTB754	7,54	19/64					
CTB795	7,95	5/16					
CTB800	8,0	.3150					
CTB833	8,33	21/64					
CTB850	8,5	.3346					
CTB874	8,74	11/32					
CTB900	9,0	.3543	127	5	25,4	1	3
CTB912	9,12	23/64					
CTB950	9,5	.3740					
CTB953	9,53	3/8					
CTB993	9,93	25/64					
CTB1000	10,0	.3937					
CTB1031	10,31	13/32					
CTB1050	10,5	.4134	139,7	5.5	26,16	1.03	3-1/2
CTB1070	10,7	27/64					
CTB1100	11,5	.4331					
CTB1110	11,1	7/16					
CTB1150	11,5	.4528					
CTB1151	11,51	29/64					
CTB1180	11,8	15/32					
CTB1200	12,0	.4724					
CTB1230	12,3	31/64					
CTB1250	12,5	.4921					

CODE	HOLE DIMENSIONS		A		B		BLADE SIZE
	mm	in.	mm	in.	mm	in.	
CTB1270	12,7	1/2	139,7	5.5	26,16	1.03	3-1/2
CTB1300	13,0	.5118					
CTB1310	13,1	33/64					
CTB1350	13,5	.5315					
CTB1370	13,9	35/64	163,57	6.44	33,27	1.31	4
CTB1400	14,0	.5512					
CTB1430	14,3	9/16					
CTB1450	14,5	.5709					
CTB1470	14,7	37/64					
CTB1500	15,0	.5906					
CTB1510	15,1	19/32					
CTB1550	15,5	.6094					
CTB1590	15,9	5/8					
CTB1600	16,0	.6299					
CTB1630	16,3	41/64					
CTB1650	16,5	.6469					
CTB1670	16,7	21/23					
CTB1700	17,0	.6693					
CTB1710	17,1	43/64					
CTB1750	17,5	.6875					
CTB1800	18,0	.7087					
CTB1850	18,5	.7283					
CTB1900	19,0	.7480					
CTB1910	19,1	3/4					
CTB2000	20,0	.7874	171,45	6.75	39,11	1.54	5
CTB2100	21,0	.8268					
CTB2200	22,0	.8661					
CTB2220	22,2	4/8					
CTB2300	23,0	.8055					
CTB2400	24,0	.9449					
CTB2500	25,0	.9843					
CTB2540	25,4	1					

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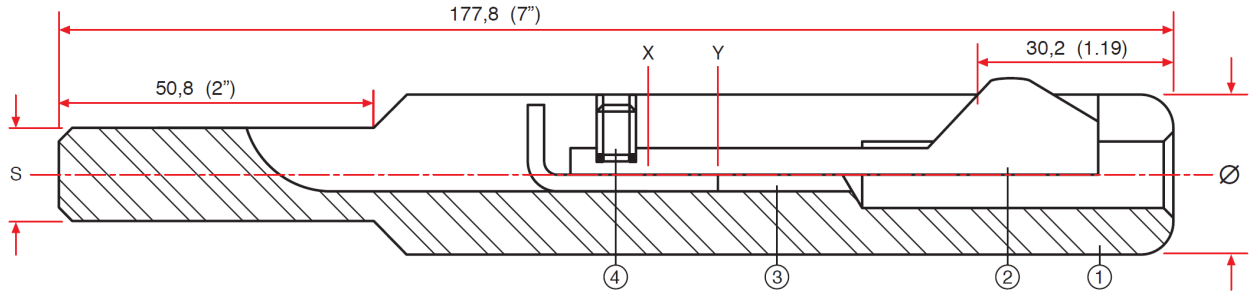
1 Arbor / 2 Blade / 3 Adjustment rod / 4 Screw
Ø = From dia. 0,15 to 0,20 mm under nominal size
S = For tools up to 38,1 mm straight shanks
Ø 12,7 mm, above 38,1 mm straight shanks Ø 25,4 mm
X = Light cut
Y = Heavy cut

The Tools type CTC mounted blades size 110



CODE	HOLE DIMENSIONS	
	mm	in.
CTC1800	18,0	.7087
CTC1900	19,0	.7480
CTC1605	19,05	3/4
CTC2000	20,0	.7874
CTC2100	21,0	.8268
CTC2200	22,0	.8661
CTC2222	22,22	7/8
CTC2300	23,0	.9055
CTC5400	24,0	.9449
CTC2500	25,0	.9843
CTC2540	25,4	1
CTC2600	26,0	1.0262
CTC2698	26,98	1-1/16
CTC2700	27,0	1.0630
CTC2800	28,0	1.1024
CTC2857	28,57	1/1/8
CTC2900	29,0	1.1417
CTC3000	30,0	1.1811
CTC3016	30,16	1-3/16
CTC3100	31,0	1.2205
CTC3175	31,75	1-1/4
CTC3200	32,0	1.2698
CTC3300	33,0	1.2992

CODE	HOLE DIMENSIONS	
	mm	in.
CTC3333	33,33	1-5/16
CTC3400	34,0	1.3386
CTC3492	34,92	1-3/8
CTC3500	35,0	1.3780
CTC3600	36,0	1.4173
CTC3700	37,0	1.4567
CTC3800	38,0	1.4961
CTC3810	38,1	1-1/2
CTC3900	39,0	1.5364
CTC4000	40,0	1.5748
CTC4100	41,0	1.6142
CTC4127	41,27	1-5/8
CTC4200	42,0	1.6535
CTC4300	43,0	1.6929
CTC4400	44,0	1.7323
CTC4445	44,45	1-3/4
CTC4500	45,0	1.7717
CTC4600	46,0	1.8110
CTC4700	47,0	1.8504
CTC4800	48,0	1.8898
CTC4900	49,0	1.9291
CTC5000	50,0	1.9685
CTC5080	50,8	2