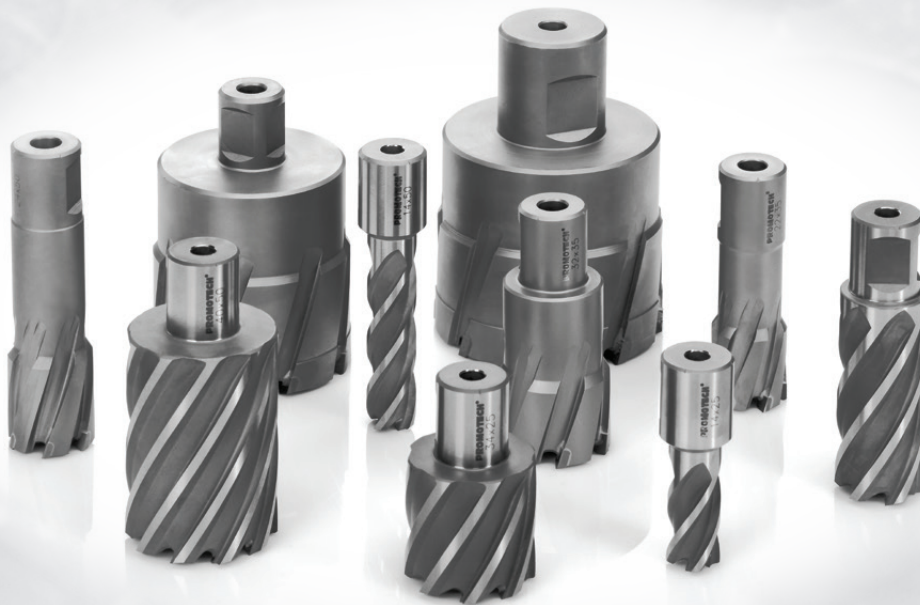


## METRIC ANNULAR CUTTERS | HSS & TCT

HSS cutters are made of high speed steel with multi-cut geometry for ply-cutting to gain better removal of chips. TCT cutters incorporate selected special-purpose carbide tips with multi-cut geometry for ply-cutting, lower friction and reduced damage of tips. Both types of the cutters include Weldon shank with more firm clamping for stable cutting and finish of the holes.



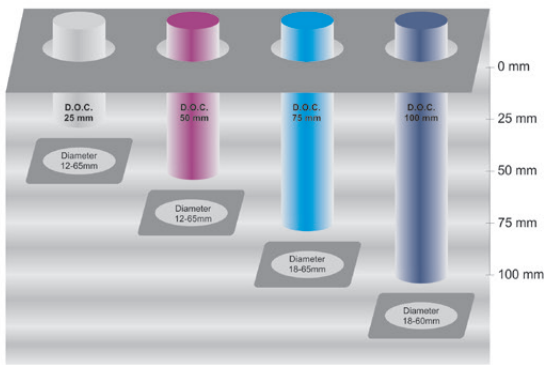
### Annular cutters advantages over twist drills:

- save time and money by eliminating costly pilot holes and step drilling
- cut material only at the periphery of the hole, whereas twist drills convert entire hole to chips
- drill holes 3 times faster than twist drills
- drill on curved surfaces such as pipe or tubing
- overlap cuts on existing holes
- produce reamed quality burr-free holes
- reduce machine size and power requirements
- resharpenable cutting edges (HSS)

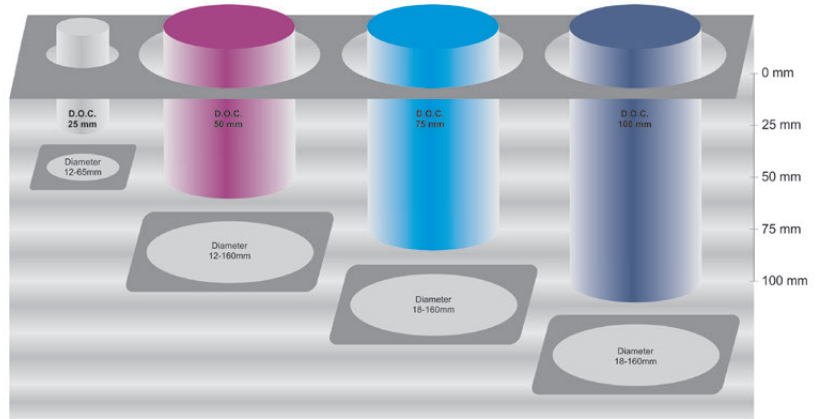
### Most important practical guidelines:

- do not use annular cutters without pilot pins and arbors without ejection spring
- it is not safe or productive to use blunt or damaged tools
- mark the center of the hole to be drilled then center pilot pin to locate the hole center
- check if the coolant valve is opened and then depress cutter to show flow of the coolant that increases the cutter life enormously
- maintain a firm and steady feed rate (not too slow) to extend the life of the cutter even more
- pay attention that at the end of the cut the slug will be ejected with force and distance, that may hit someone around
- after drilling the first hole, make sure that the hole diameter conforms to the marking on the annular cutter.
- use recommended work parameters (spindle speed and feed rate) depending on the cutter diameter and workpiece hardness.

### HSS cutters



### TCT cutters



### RECOMMENDED SPINDLE SPEED FOR HSS ANNULAR CUTTERS

Material	Carbon steel to 700 N/mm <sup>2</sup>	Alloy steel to 1000 N/mm <sup>2</sup>	Cast iron to 250 N/mm <sup>2</sup>
Feed rate Vf=mm/rev	0.08-0.12	0.08-0.10	0.12-0.20
Milling speed Vc=m/min	27	18	9
Coolant	5-10% cooling emulsion	5-10% cooling emulsion	Compressed air
Ø mm	rpm	rpm	rpm
12	716	478	239
14	614	410	204
18	478	319	159
22	391	261	131
24	358	239	120
26	330	221	110
28	307	204	103
36	239	159	79
38	226	151	76
40	215	143	72
45	191	128	64
50	172	114	58
55	157	103	52
60	143	94	48
65	132	87	44
70	123	80	41
75	114	75	38
80	107	70	36
85	101	66	34
90	96	63	32
95	91	59	30
100	86	56	29

### RECOMMENDED SPINDLE SPEED FOR TCT ANNULAR CUTTERS

Material	Carbon steel to 700 N/mm <sup>2</sup>	Alloy steel to 1000 N/mm <sup>2</sup>	Cast iron to 250 N/mm <sup>2</sup>
Feed rate Vf=mm/rev	0.08-0.12	0.08-0.10	0.12-0.20
Milling speed Vc=m/min	45	32	36
Coolant	5-10% cooling emulsion	5-10% cooling emulsion	Compressed air
Ø mm	rpm	rpm	rpm
14	1023	716	819
18	797	557	637
22	652	456	521
24	597	418	478
26	551	386	441
32	448	313	358
34	421	295	338
40	358	251	286
45	319	223	255
50	286	201	230
55	261	183	209
60	239	167	191
65	221	154	176
70	204	143	164
75	191	134	153
80	179	125	143
85	168	118	135
90	159	112	128
95	151	105	121
100	143	100	114
110	130	90	102
120	119	83	93

Annular cutter regrinding machine SM-101 saves time and money in carrying out an effective HSS core drills re-sharpening, particularly if the customer is in urgent need for continued production drilling. Thanks to its solid construction, low power consumption, small dimensions, the machine can be used in any place and needs short time to be installed

**Features and benefits:**

- simple set up operation - easy positioning of cutting tool
- economical - far less expensive than heavier equipment
- lightweight and portable - ideal for site work, or a small workshop
- diamond wheel - creates a sharp, clean new cutting edge
- easy angle adjustment - simple alignment to original angle geometry
- laser guided cutter alignment - ensure correct positioning of cutting edge to the wheel
- will re-sharpen cutters from 12mm to 50 mm diameter in cutting depths of 25 mm and 50 mm



SM-101 TECHNICAL SPECIFICATION		
Dimensions L x W x H	465 x 399 x 355 mm	
Net weight	15.5 kg	
Supply [V]	1~230 V, 50~60 Hz	
Motor power / speed	0.18 kW / 2820 rpm	
Movement length	Motor guide	70 mm
	Guiding slide	162 mm
Noise level	<70 dB(A)	
Grinding disc	Electroplated, diamond grinding disc Ø 125 mm	
Cutter's clamping	19.05 mm (Weldon shank)	
Max cutter's length	50 mm	
Scope of the cutter's diameter	Ø 12 mm - Ø 50 mm	

Annular cutter type HSS



Annular cutter type TCT



A range of twist drills with 19.05 mm (3/4") Weldon shank extend the scope of possible drilling applications



Product Code	Description
WRL-000011	Twist drill fi 6 mm (Weldon Shank 19.05 mm)
WRL-000012	Twist drill fi 8 mm (Weldon Shank 19.05 mm)
WRL-000013	Twist drill fi 9.8 mm (Weldon Shank 19.05 mm)
WRL-000009	Twist drill fi 10 mm (Weldon Shank 19.05 mm)
WRL-000014	Twist drill fi 11 mm (Weldon Shank 19.05 mm)
WRL-000010	Twist drill fi 12 mm (Weldon Shank 19.05 mm)
WRL-000015	Twist drill fi 13 mm (Weldon Shank 19.05 mm)
WRL-000016	Twist drill fi 13.5 mm (Weldon Shank 19.05 mm)
WRL-000017	Twist drill fi 14 mm (Weldon Shank 19.05 mm)
WRL-000018	Twist drill fi 16 mm (Weldon Shank 19.05 mm)

