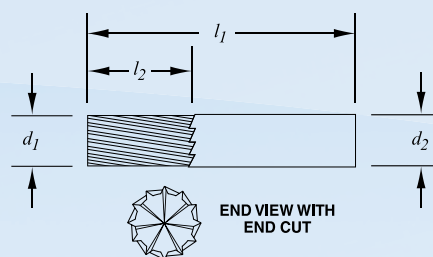


### Multi-Flute Carbon-Fiber Composite Routers

**TOLERANCES**

$d_1 = +0,00 / -0,13$   
 $d_2 = h6$



Cutting Diameter $d_1$ mm	Length of Cut $l_2$ mm	Overall Length $l_1$ mm	Shank Diameter $d_2$ mm	End Style	EDP No.
6	25	63	6	No End Cutting	82966
6	25	63	6	End Cutting	82967
8	25	63	8	No End Cutting	82968
8	25	63	8	End Cutting	82969
10	28	63	10	No End Cutting	82970
10	28	63	10	End Cutting	82971
12	38	89	12	No End Cutting	82972
12	38	89	12	End Cutting	82973



Metric  
Series

**21M**

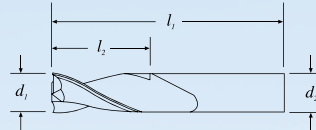
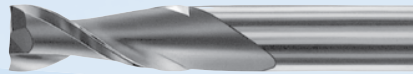
## 2 Flute – Single End – Square End Right Hand Spiral

**SGS**<sup>®</sup>  
Solid Carbide Tools  
An ISO 9001 Certified Company

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### TOLERANCES

$d_1 = +0,000 - 0,08$   
 $d_2 = h6$



Cutting Diameter $d_1$ mm	Length of Cut $l_2$ mm	Overall Length $l_1$ mm	Shank Diameter $d_2$ mm	Uncoated EDP No.
3	13	50	6	90101
4	16	63	6	90107
5	19	63	6	90109
6	25	63	6	90113
8	25	63	8	90121
10	31	75	10	90129
12	31	75	12	90137

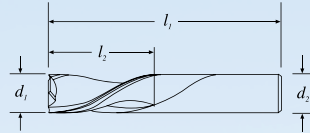
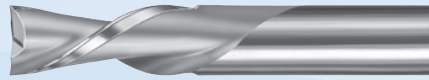


2 Flute – Single End – Square End  
Left Hand Spiral

## TOLERANCES

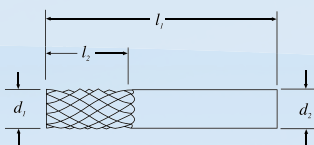
$$d_1 = +0,000 - 0,08$$

$$d_2 = h6$$



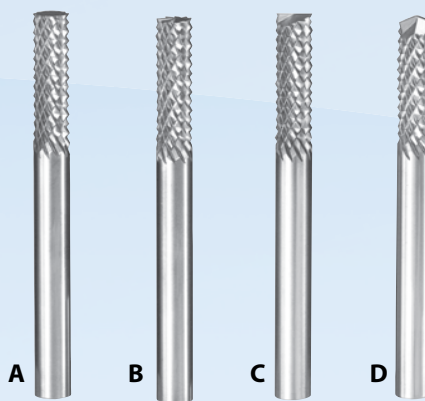
Cutting Diameter $d_1$ mm	Length of Cut $l_2$ mm	Overall Length $l_1$ mm	Shank Diameter $d_2$ mm	Uncoated EDP No.
3	13	50	6	91101
4	16	63	6	91107
5	19	63	6	91109
6	25	63	6	91113
8	25	63	8	91121
10	31	75	10	91129
12	31	75	12	91137





**TOLERANCES**

$d_1=1, 1-1=+0,00/-0,10$   
 $2-9=+0,00/-0,13$   
 $d_2=h6$



Tool No.	Cutting Diameter $d_1$ mm	Length of Cut $l_2$ mm	Overall Length $l_1$ mm	Shank Diameter $d_2$ mm	Uncoated	Uncoated	Uncoated	Uncoated
					EDP No.	EDP No.	EDP No.	EDP No.
FGR-1M	1,6	5	38	3	83001	83015	83030	83045
FGR 1-1M	2,4	9,5	38	3	83002	83016	83031	83046
FGR-2M	3	12	38	3	83003	83017	83032	83047
FGR-3M	4	16	50	4	83004	83018	83033	83048
FGR-4M	4	16	50	6	83005	83019	83034	83049
FGR-5M	6	19	50	6	83006	83020	83035	83050
FGR-6M	6	19	63	6	83007	83021	83036	83051
FGR 6-1M	6	25	75	6	83008	83022	83037	83052
FGR-7M	8	25	63	8	83009	83023	83038	83053
FGR-8M	10	25	75	10	83010	83024	83039	83054
FGR-9M	12	25	75	12	83011	83025	83040	83055



## Series 20-CCR – Multi-Flute – Carbon-Fiber Composite Router Speed and Feed Recommendations – Fractional and Metric



### Dry • Seco • Sec

Diameter	Spindle Speed – rpm	Feed Rate
1/4	5,400 – 9,000	30 – 60 ipm
6mm	5,800 – 9,600	750 – 1,500 mm/min
5/16	4,300 – 7,200	30 – 60 ipm
8mm	4,300 – 7,200	750 – 1,500 mm/min
3/8	3,600 – 6,000	30 – 60 ipm
10mm	3,400 – 5,700	750 – 1,500 mm/min
1/2	2,700 – 4,500	30 – 60 ipm
12mm	2,900 – 4,800	750 – 1,500 mm/min

### With Flood Coolant • Con sistema refrigerante por inmersión • Avec mouillage abondant de fluide de refroidissement

Diameter	Spindle Speed – rpm	Feed Rate
1/4	15,000 – 23,000	90 – 120 ipm
6mm	15,800 – 24,000	2,300 – 3,000 mm/min
5/16	12,000 – 18,000	90 – 120 ipm
8mm	12,000 – 18,000	2,300 – 3,000 mm/min
3/8	10,000 – 15,000	90 – 120 ipm
10mm	9,500 – 14,500	2,300 – 3,000 mm/min
1/2	7,500 – 11,500	90 – 120 ipm
12mm	7,900 – 12,000	2,300 – 3,000 mm/min