

UM CarbonMill

COMPOSITE MACHINING

Milling tools programme

- Specifically designed for milling CFRP materials



**KEEPS YOU
AHEAD**



Setting up for

CFRP machining

We present to you, our most popular router tools for machining fibre reinforced plastics.

Your setup; type of composite, machine, and fixturing sets the requirements for the optimal routing process and we are here to assist you, employing the most cost effective solution. This can also be achieved through your unique customized tools.

We offer two lines of tools, designed to give you a cost effective finishing process of your parts:

- Thermoset composites (CFRP)
– UM CarbonMill TS
- Thermoplastic composites (CFRTP)
– UM CarbonMill TP

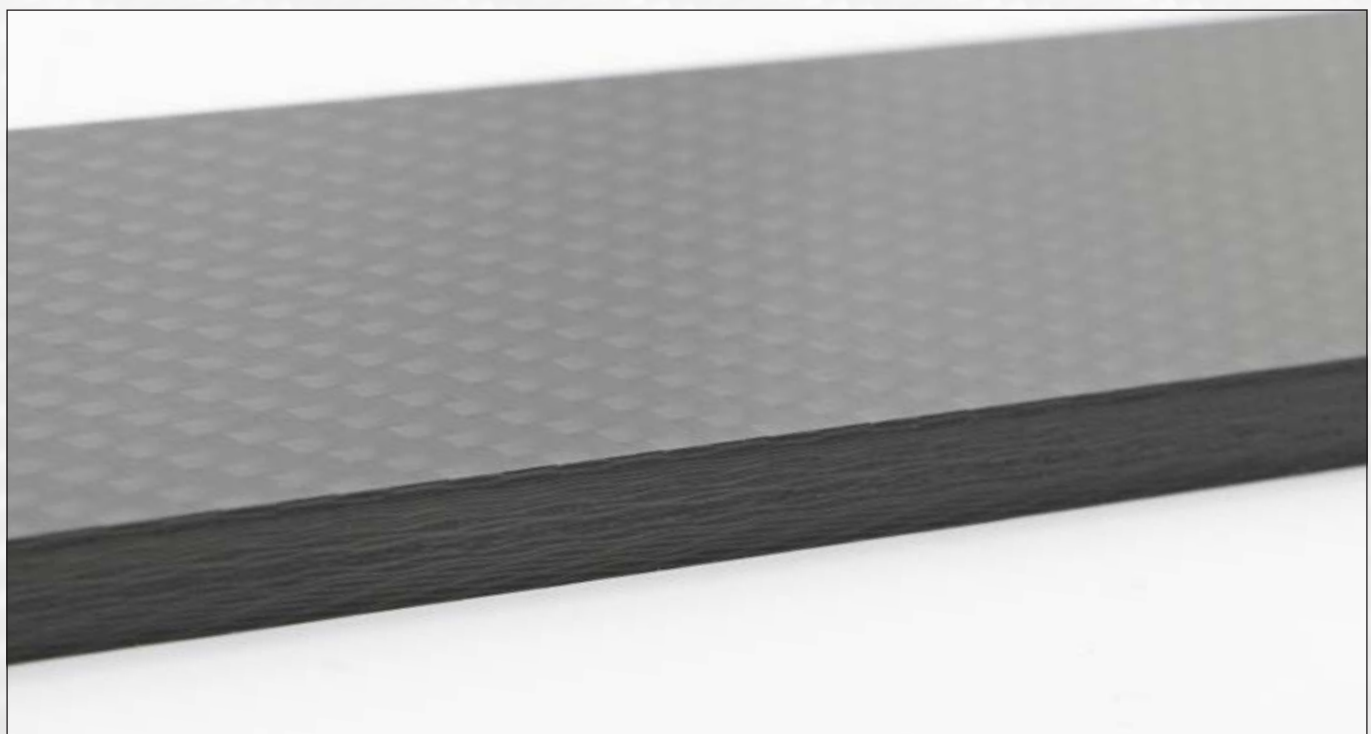
1 Material

Thermoset composites

- Preferably use our TS-Line
- TP-Line can also be used
- Dry slot milling possible – choose smallest possible diameter router
- Any of our routers are designed as one-pass tools!

Thermoplastic composites

- Preferably use our TP-Line
- Pay attention to the critical low melting temperature of CFRTP!



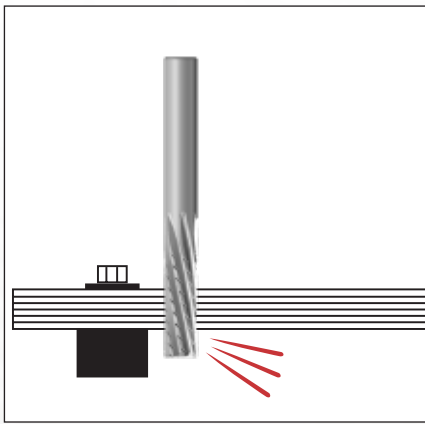
2 Clamping

Pressure clamping

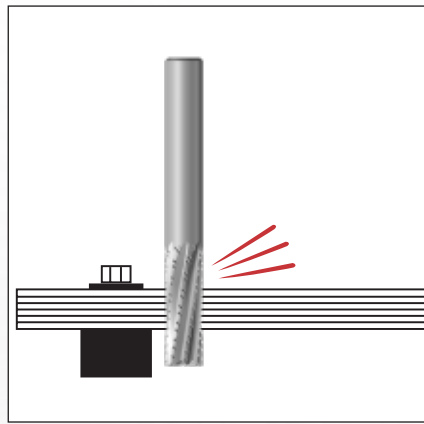
Choose router type based on your placement of dust evacuation.

When you are able to mechanically clamp your CFRP part, this will eliminate the risk of resonating material during routing.

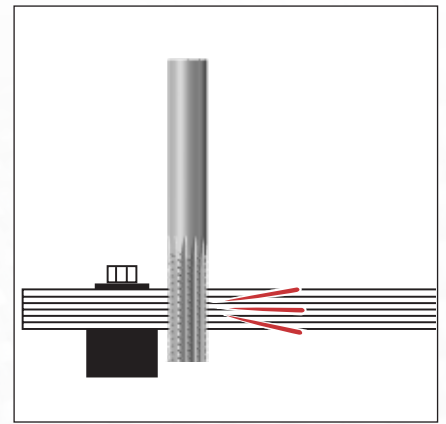
You can concentrate on directing the dust and maintaining the optimal part quality. Any of our tool types will do the job here.



UM CarbonMill-Down



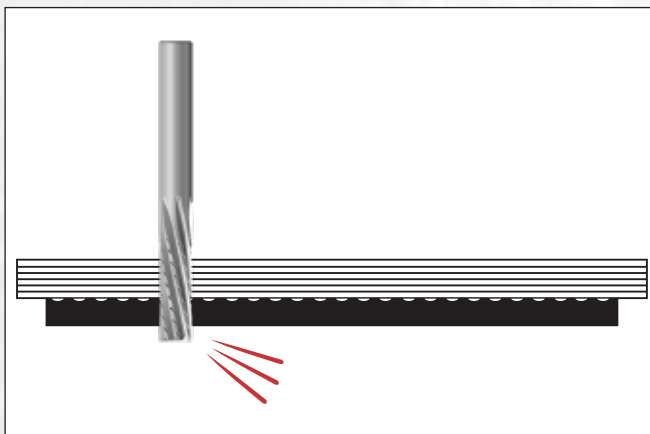
UM CarbonMill-Up



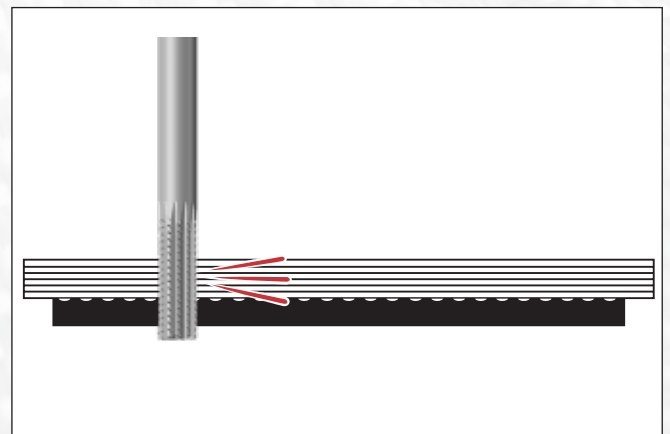
UM CarbonMill-Trim

Vacuum clamping

When you are holding your parts to the work table with vacuum, we recommend you use the routers which direct the cutting force towards the work table. Look up the dimensions in the Carbon down chapter.



UM CarbonMill-Down



UM CarbonMill-Trim

3 Machine

Toolholder

- Any holder type which ensures a next to zero run out.
- Delivery of through coolant / jet coolant can be advantageous, in the form of air or liquid.

Cutting data

	Axial engagement (%APMX)	Radial engagement (%D)	Vc (m/min)	Fz (mm/z)
UM CarbonMill-Down-TS	100	5 – 100	450 – 150	0,08 – 0,02
UM CarbonMill-Up-TS	100	5 – 100	450 – 150	0,08 – 0,02
UM CarbonMill-Trim-TS	100	5 – 100	450 – 150	0,08 – 0,02
UM CarbonMill-Down-TP	100	5 – 100	350 – 150	0,08 – 0,03
UM CarbonMill-Up-TP	100	5 – 100	350 – 150	0,08 – 0,03

Please note!

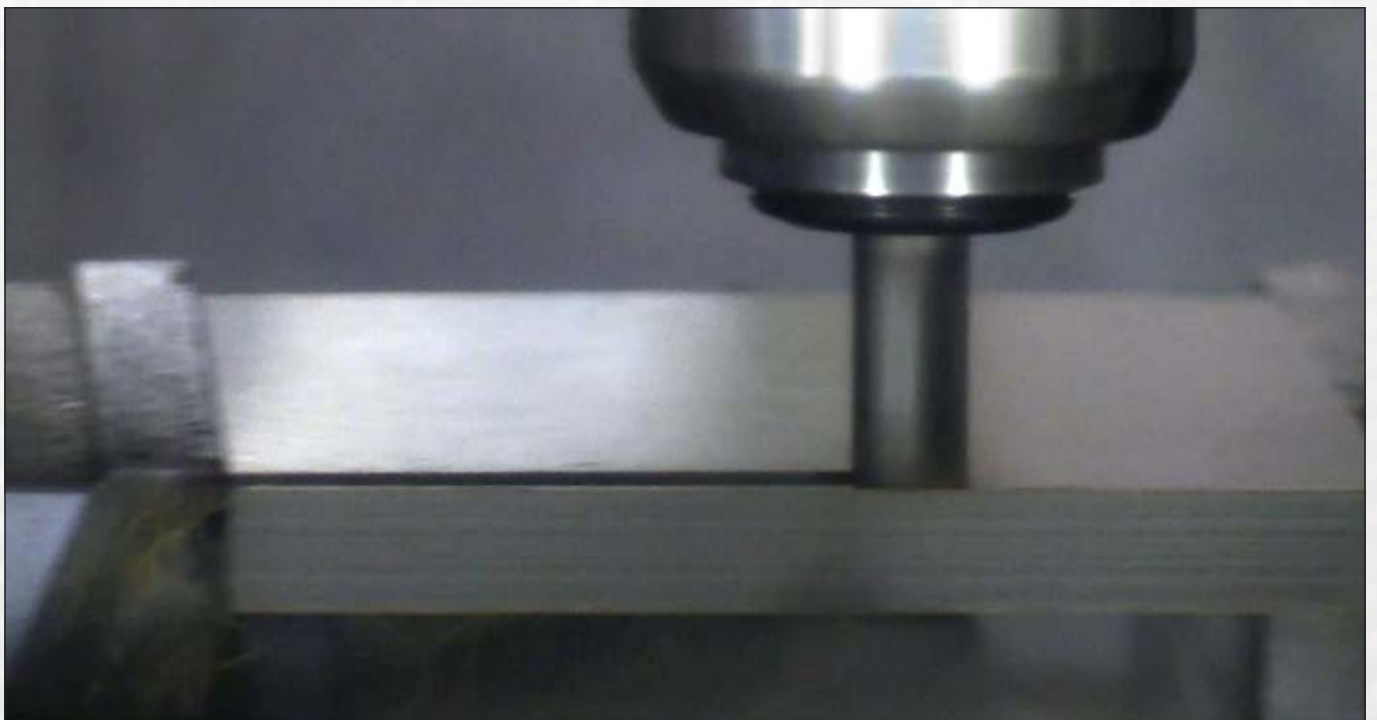
Low radial engagement => Higher Vc, higher fz.

Full radial engagement => Low Vc, low fz.

Dry machining – focus on dust flow away from tool.

Preferably aided by compressed air.

Wet machining – focus on encapsulating the dust without obstruction dust flow away from the tool.



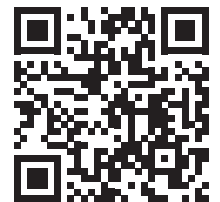
Video

Check out our demonstration of composite milling.



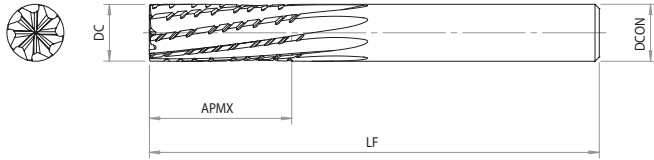
Scan the QR code

Watch the video on YouTube



UM CarbonMill

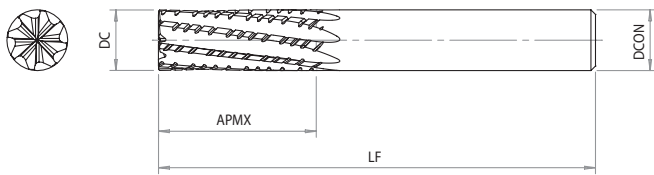
Down Z8



KUA Item #	Descript. #1	Descript. #2	Minimum order qty.	Dimension	DC	LF	APMX	DCON	Z
258861.0400	UM CarbonMill-Down	XW 4 × 14 × 57 S6 Z8	10	Ø4 × 57, NL 14	4	57	14	6	8
258861.0600	UM CarbonMill-Down	XW 6 × 14 × 57 S6 Z8	10	Ø6 × 57, NL 14	6	57	14	6	8
258861.0800	UM CarbonMill-Down	XW 8 × 18 × 65 S8 Z8	10	Ø8 × 65, NL 18	8	65	18	8	8
258861.1000	UM CarbonMill-Down	XW 10 × 25 × 79 S10 Z8	10	Ø10 × 79, NL 25	10	79	25	10	8

UM CarbonMill

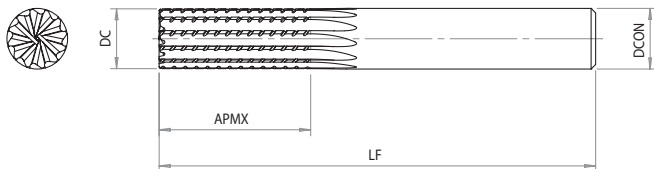
Up Z8



KUA Item #	Descript. #1	Descript. #2	Minimum order qty.	Dimension	DC	LF	APMX	DCON	Z
258864.0400	UM CarbonMill-Up	XW 4 × 14 × 57 S6 Z8	10	Ø4 × 57, NL 14	4	57	14	6	8
258864.0600	UM CarbonMill-Up	XW 6 × 14 × 57 S6 Z8	10	Ø6 × 57, NL 14	6	57	14	6	8
258864.0800	UM CarbonMill-Up	XW 8 × 18 × 65 S8 Z8	10	Ø8 × 65, NL 18	8	65	18	8	8
258864.1000	UM CarbonMill-Up	XW 10 × 25 × 72 S10 Z8	10	Ø10 × 72, NL 25	10	72	25	10	8

UM CarbonMill

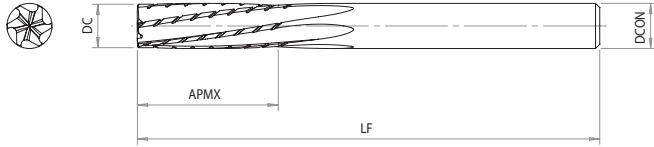
Trim z8 - Z12



KUA Item #	Descript. #1	Descript. #2	Minimum order qty.	Dimension	DC	LF	APMX	DCON	Z
258866.0400	UM CarbonMill-Trim	XW 4 × 14 × 57 S6 Z8	10	Ø4 × 57, NL 14	4	57	14	6	8
258866.0600	UM CarbonMill-Trim	XW 6 × 14 × 57 S6 Z12	10	Ø6 × 57, NL 14	6	57	14	6	12
258866.0800	UM CarbonMill-Trim	XW 8 × 18 × 65 S8 Z12	10	Ø8 × 65, NL 18	8	65	18	8	12
258866.1000	UM CarbonMill-Trim	XW 10 × 25 × 72 S10 Z12	10	Ø10 × 72, NL 25	10	72	25	10	12

UM CarbonMill

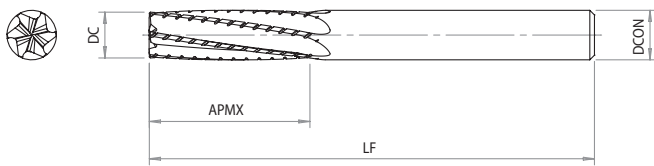
Down TP Z4 – Z8



KUA Item #	Descript. #1	Descript. #2	Minimum order qty.	Dimension	DC	LF	APMX	DCON	Z
258868.0400	UM CarbonMill-Down TP	XW 4 × 14 × 57 S6 Z4	10	Ø4 × 57, NL 14	4	57	14	6	4
258868.0600	UM CarbonMill-Down TP	XW 6 × 14 × 57 S6 Z6	10	Ø6 × 57, NL 14	6	57	14	6	6
258868.0800	UM CarbonMill-Down TP	XW 8 × 18 × 65 S8 Z6	10	Ø8 × 65, NL 18	8	65	18	8	6
258868.1000	UM CarbonMill-Down TP	XW 10 × 25 × 79 S10 Z8	10	Ø10 × 79, NL 25	10	79	25	10	8

UM CarbonMill

Up TP Z4 – Z8



KUA Item #	Descript. #1	Descript. #2	Minimum order qty.	Dimension	DC	LF	APMX	DCON	Z
258865.0400	UM CarbonMill-Up TP	XW 4 × 14 × 57 S6 Z4	10	Ø4 × 57, NL 14	4	57	14	6	4
258865.0600	UM CarbonMill-Up TP	XW 6 × 14 × 57 S6 Z6	10	Ø6 × 57, NL 14	6	57	14	6	6
258865.0800	UM CarbonMill-Up TP	XW 8 × 18 × 65 S8 Z6	10	Ø8 × 65, NL 18	8	65	18	8	6
258865.1000	UM CarbonMill-Up TP	XW 10 × 25 × 72 S10 Z8	10	Ø10 × 72, NL 25	10	72	25	10	8
258865.1200	UM CarbonMill-Up TP	XW 12 × 40 × 92 S12 Z10	10	Ø12 × 92, NL 40	12	92	40	12	10

WE KNOW IT'S ALL ABOUT UNDERSTANDING REAL LIFE TO
ENGINEER THE RIGHT SOLUTION, THAT...

***KEEPS YOU
AHEAD***



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