

# CROSS LAYER

COST-EFFICIENT FIBER PLACEMENT

FOR PREPREG AND FIXED TOW PREFORMS



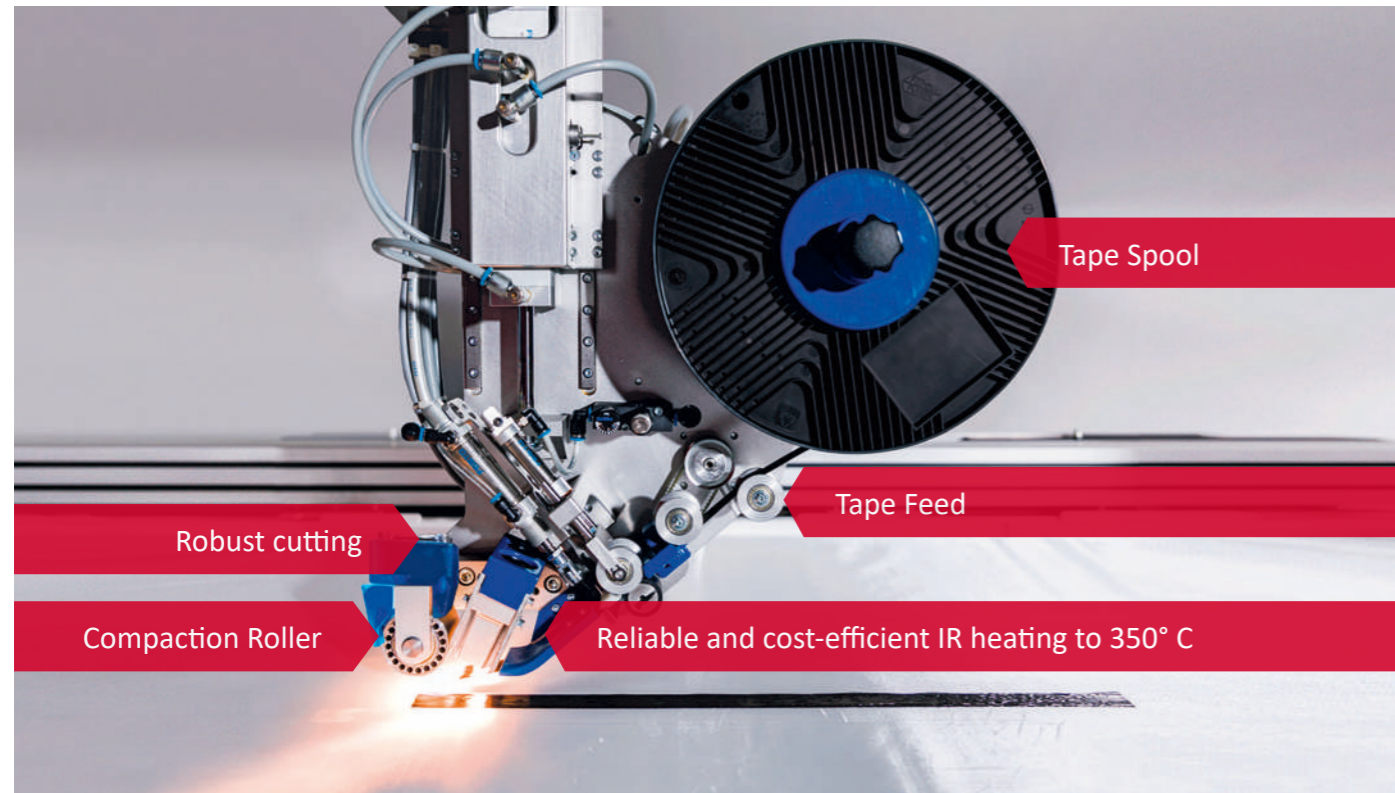
**EXPLORE COMPOSITES**

**M&A  
DIETERLE**  
MASCHINEN- & APPARATEBAU GMBH

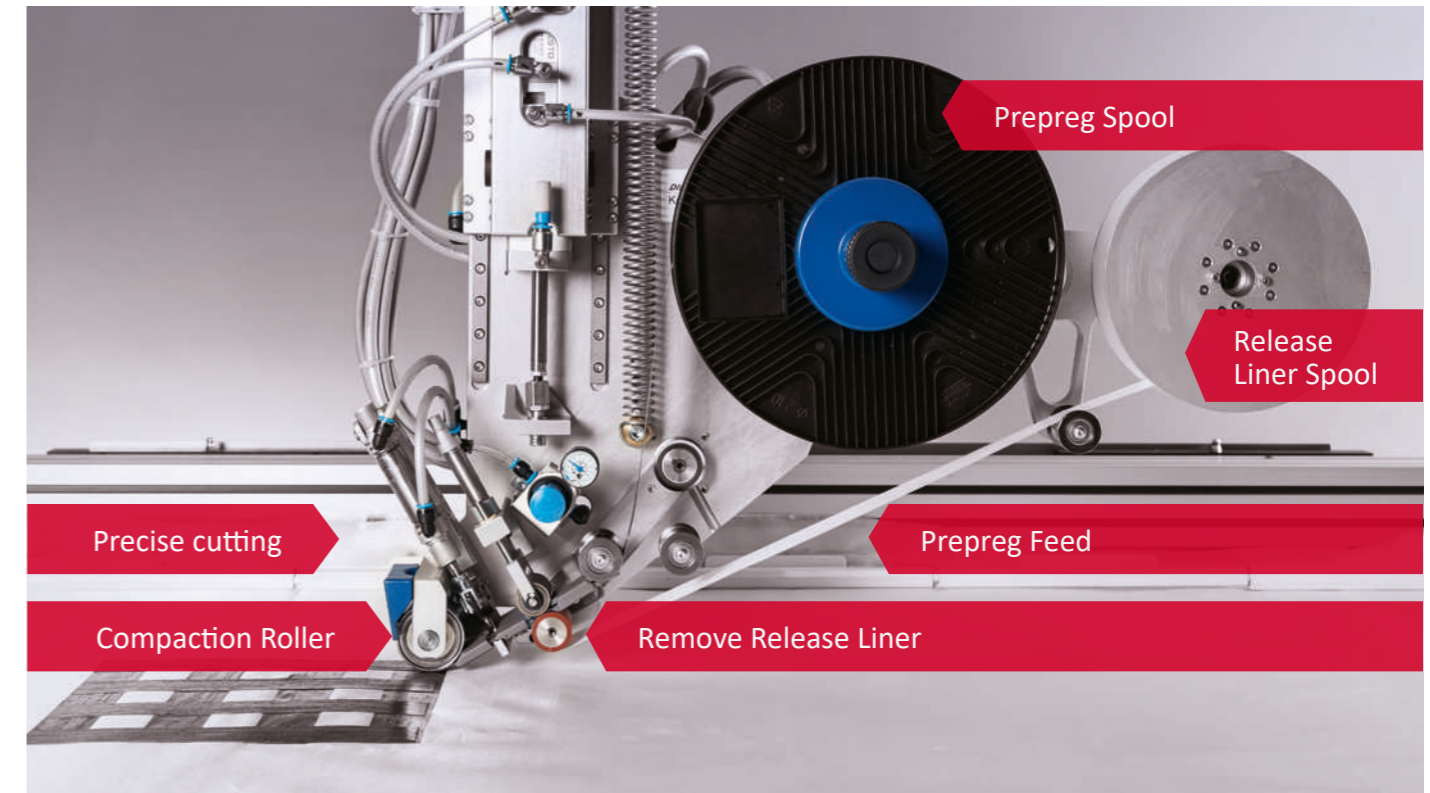


# LAYING HEADS

OPTIMIZED FOR POWDER-FIXED TOW DRY FIBER OR PREPREG PLACEMENT



Material	<b>FIXEDTOW / SPREADTOW</b>
Material Source	M&A Dieterle or external
Average Laying Speed	1,5 kg/h* 15 m/min
Laying Head Dimension	Length: 400 mm Height: 360 mm Depth: 220 mm
Max. Tape Width	up to 25 mm
Minimum Patch Length	120 mm
Heating	2 x IR 200 W
Compaction Roller	Cooled
Spool Size	Ø 230 mm (400-500 m)
Release Liner Removal	N/A



Material	<b>PREPREG</b>
Material Source	External
Average Laying Speed	2 kg/h* 20 m/min
Laying Head Dimension	Length: 580mm Height: 370mm Depth: 220 mm
Max. Tape Width	Up to 30 mm
Minimum Patch Length	40 mm
Heating	N/A
Compaction Roller	N/A
Spool Size	Ø 250 mm (300-500 m)
Release Liner Removal	Yes

\* Depends on material areal weight

# MACHINE FEATURES



- ① 360° TURNABLE HEAD
- ② REMOVABLE FRAME WITH MAGNETIC CLIPS
- ③ RETRACTABLE CONTROL DISPLAY UNIT
- ④ PLENTY OF STORAGE SPACE
- ⑤ MOBILE AND ROBUST MACHINE

## YOUR BENEFITS

- » Automate your preforming Tasks
- » Flexible dry powder-fixedTow/Prepreg placement
  - › WITH ANY geometry and lay up
  - › Product-specific Fiber orientation (0 -360°)
  - › Load-path optimized preform
- » Increase your output
- » Increase process reliability
- » Reduce cut off waste
- » Reduce cost

## PROCESS



Fiber tape / fixedTow / prepreg



Customized preform

# TECHNICAL KEY FACTS

## CROSSLAYER

Machine Dimensions (L x H x D)	2530 mm x 1820 mm x 1670 mm
Working Area Preform Laying Frame	1000 x 500 mm
Machine Weight	Ca. 1.000 kg
Power Required	400 V, 3 Phase, 50 Hz, 32 A
Compressed Air	External / 8 bar
Vmax	30 m/min (0,5 m/s)
System Control	Aradex software und system controls

# FROM YOUR IDEA TO PREFORM

## DRAW PREFORM

Use a CAD program to design your preform: Start and endpoints of fiber patches, angle, and number of layers. Draw your preform and export a DXF File.



## PREPROCESSOR

Crosslayer Software Converts DXF file → NC file (machine G-Code)

## LOAD JOB FILE

Load NCF Job file (machine G-Code) via USB interface into a Job List

## JOB START

Load the Job from the list and press the start button on the display. The Crosslayer head will start building up your preform.

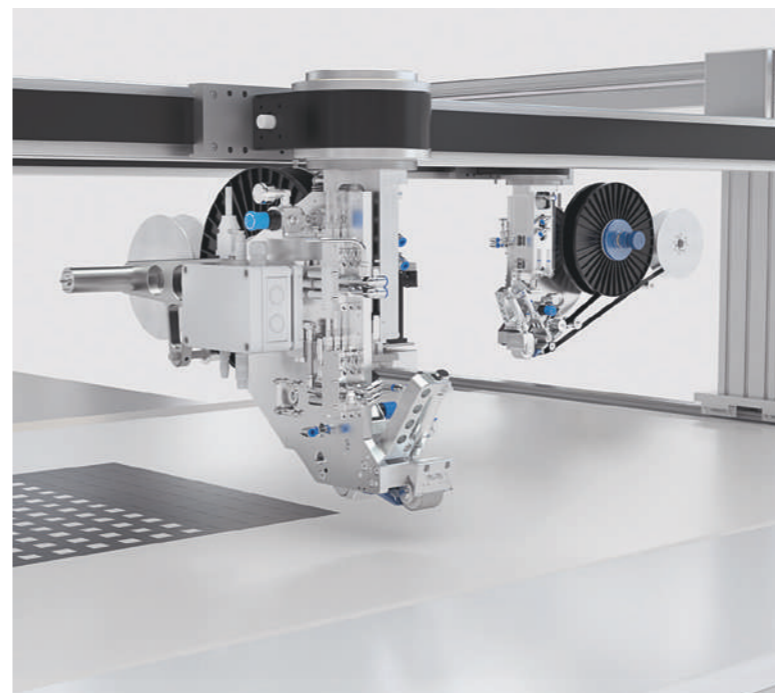
## PREFORM

The finished and stable preform can be easily removed from the laying frame for further processing to finished part



# CROSSLAYER FLOW

FOR CONTINUOUS AUTOMATED PREFORM PRODUCTION WITH TWO LAYING HEADS





## WHO WE ARE

M&A Dieterle is a medium-sized family-owned business with a workforce of 100 people. We have more than 60 years of experience in metal processing for a wide range of applications.

This includes the development and construction of tailor-made machinery and components e.g. in the field of textile and paper industry, such as the production of drying fabrics, filter screens and felts. Our interdisciplinary team of engineers customizes each machine to the specific requirements of your intended application – from engineering to the manufacturing process and final commissioning.

The Composites Business Unit @ M&A Dieterle was initiated in 2015. We build machines for fiber-reinforced material production and processing. Alongside we offer material production, feasibility studies, structure simulation, process development, machine training. We help you get started in composite manufacturing.

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# FILACON

## SALES REPRESENTATIVE

Filacon Systems is specialized in manufacturing and development of fiber and wire laying machines. Filacon is working in this special textile machinery field since 1995 and has sales offices in all major industrial countries all over the world.

Filacon is the exclusive, worldwide sales representative for the Crosslayer machine.

Main customers of Filacon Systems are companies in the aircraft and automotive industry, as well as in machine and medical engineering.

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# LAYSTITCH<sup>®</sup>

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