

[illegible]

## Multiple tool digital cutting plotter

# PRODUCTION CYCLE



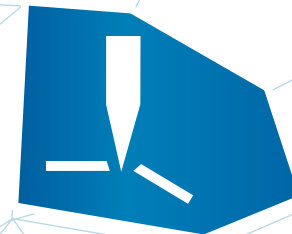
## FABRIC CUTTING WITH THE (SM-381-TA)

With its oscillating blade technology the SM-381-TA easily cuts a wide range of fabrics both prepreg and dry. Thanks to its automatic nesting software it optimizes the position of the shapes to cut on the work surface.



## PRODUCT FINISHING WITH THE WATERJET (SM-805-WJ)

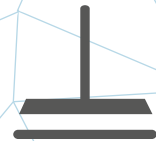
Thanks to its waterjet with the diameter of a fraction of a millimeter and to its interpolate 5 axis cutting head, the SM-805-WJ finishes the product by cutting holes and the exceeding material off the edges. The product is now ready for the final production phases.





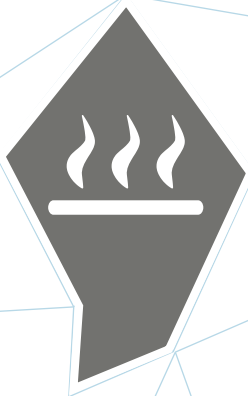
### **POSITIONING OF THE PIECES OF FABRIC ON THE MOLD**

After they have been cut the pieces of fabric are positioned on the mold, ready for the solidification process.



### **SOLIDIFICATION PROCESS**

The fabric generally undergoes an autoclave solidification process. The semi-finished product that is obtained with this process has the shape of the final product.





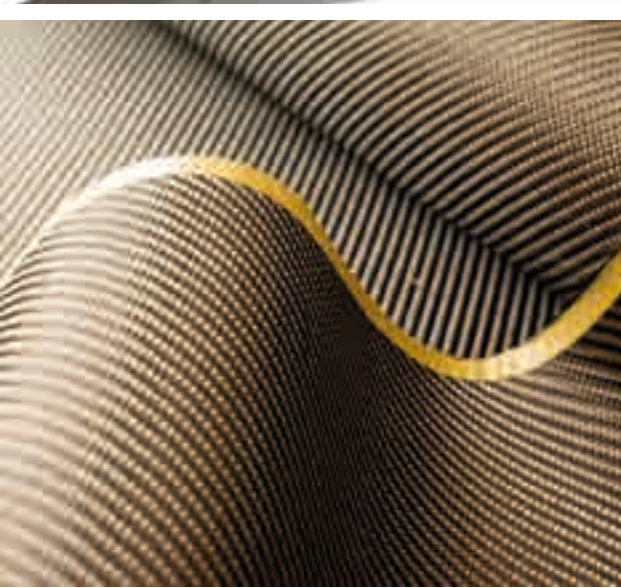
# APPLICATIONS

The **SM-381-TA** allows operators in a wide range of industries to cut and mark with uncompromising quality and creates highly professional products. A high performance industrial work station with a reduced footprint and an entry level price, the SM-381-TA can process a wide array of fabrics, both single fiber and hybrid, composed of carbon, glass, Kevlar or aramids in general, either unidirectional or multiaxial.

The **SM-805-WJ** pure water waterjet cutting plotter, is an all-round cutting solution suitable for numerous applications and an infinite range of materials. With its powerful waterjet of just a fraction of a millimeter, the SM-805-WJ allows to cut all composite fabrics after they have undergone the solidification process. Waterjet is a cold cut technology so it does not alter the structural features of the cut material either mechanically or aesthetically.







made with  
**SM-381-TA**



**HIGH SPEED**  
HIGH PRECISION CUTTING



DESIGNED FOR THE  
**COMPOSITES INDUSTRY**



**FLEXIBILITY**  
OF USE



**OUTSTANDING VALUE**  
FOR MONEY



# SM-381-TA

Multiple tool digital cutting plotter



40

m/min

TOP SPEED

5

m/s<sup>2</sup>

ACCELERATION

The SM-381-TA is a high performance machine designed specifically for cutting both dry and prepreg composite fabrics. Sturdy and with a reduced footprint, thanks to its aluminum compact mono-block structure, it allows fast and precise cuts. The SM-381-TA is the ideal solution for the production of prototypes, small lots and also for the mass production.

Its very competitive price, its low maintenance costs, and the extremely high quality cuts it grants, make the SM-381-TA the best value for money solution currently available on the market.

The SM-381-TA is equipped with 5 brushless servomotors and a belt transmission system which assure high performances and extreme precision in the axis movements.

The worktop, made from a solid milled aluminum plate, grants a perfect planarity. The grooves of the worktop, traced with a specific design, together with a powerful 5,5 kW vacuum turbine and the worktop 4 sector partitioning system, grant a perfect grip of the material on the cutting surface.

The SM-381-TA is available both in a version with a static worktop and sacrificial carpet, as well as in a version equipped with an extremely robust conveyor belt that allows the automatic unloading of the material after it's been processed.



# SM-381 - TA

Multiple tool digital cutting plotter



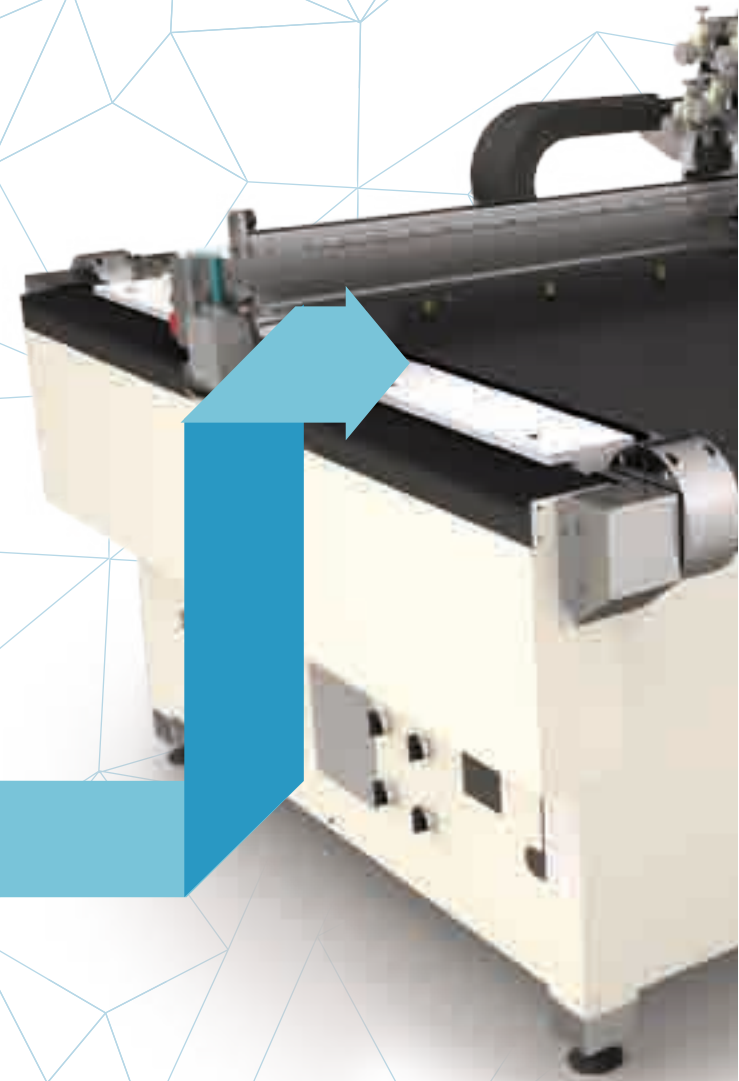
## Reduced footprint

The SM-381-TA can be installed inside small workshops thanks to its reduced footprint. This feature makes the SM-381-TA an ideal solution for small companies and start-ups.



## Multi-tool moving head

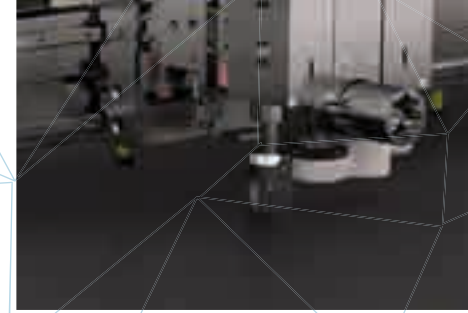
The moving head can be equipped, either singularly or simultaneously, with multiple tools and accessories for processing and marking a wide range of composite fabrics.





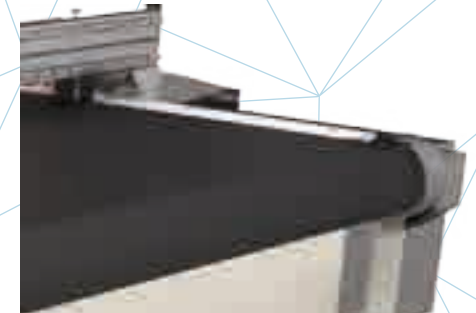
High **speed**, high **precision** cutting and marking

A brushless servomotor and a belt transmission system together with top of the bill cutting and marking tools, grant great precision and high operating speed.



**Static** worktop or **conveyor** belt

The SM-381-TA is available both with a static worktop and with a felt conveyor belt which makes it an extremely flexible productive solution.



## CONCEIVED FOR CUTTING COMPOSITES

**Solid** industrial structure

The SM-381-TA features a sturdy aluminum structure and worktop. In its conveyor belt version the belt is made of robust felt which grants durability and negligible maintenance costs.



# INDUSTRIAL PRECISION TOOLS

SMRE offers a wide selection of industrial tools: they can be installed individually or simultaneously, in a variety of combinations, providing an enormous versatility of application.

## **Oscillating Blade.**

A powerful electrically driven cutting tool able to create complex patterns in materials difficult to process with a drag knife. The high oscillating frequency allows high speed and high precision cutting of carbon fiber, fiberglass, Kevlar and aramids.

## **Drag knife.**

Allows high cutting speeds on a great variety of composite fabrics. Ideal for straight cuts, curves, complex shapes and holes with reduced diameters.

## **Rotary blade.**

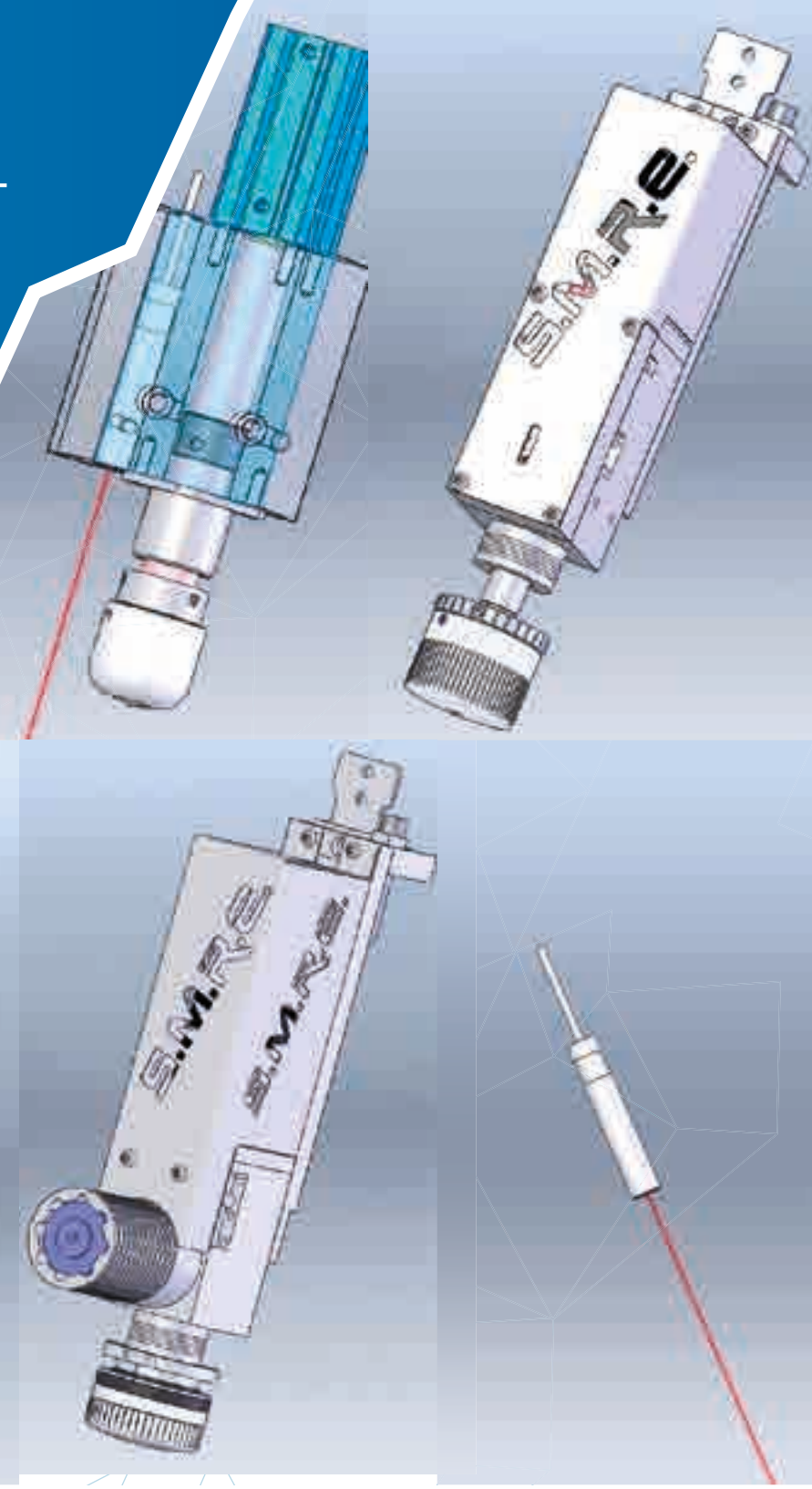
Diameters, extension of the blade and cutting pressure vary according to the production requirements and to the cut material. Suitable for carbon fiber and fiberglass.

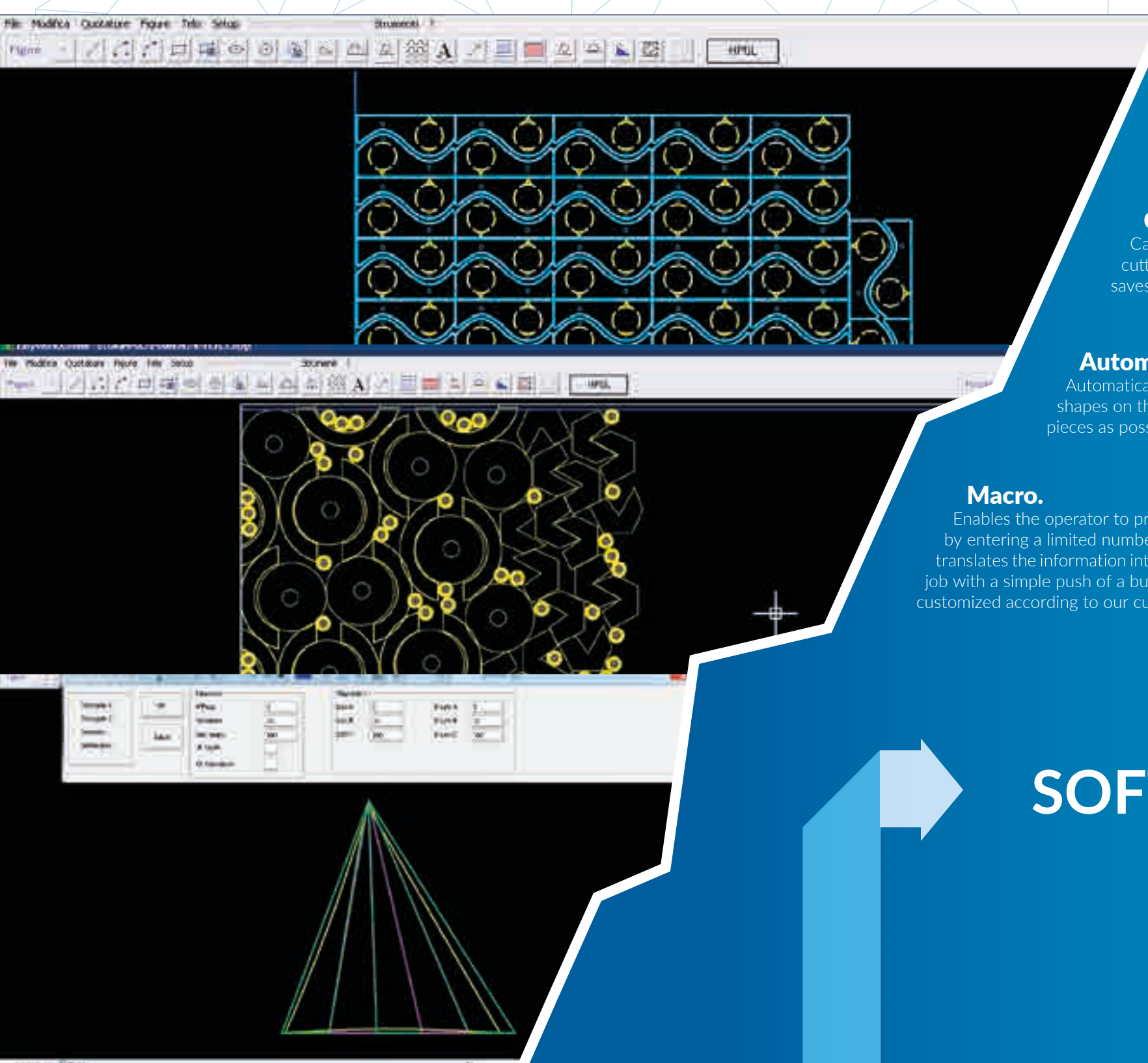
## **Socket for pen marker.**

Holds a marker (ballpoint, felt pen, etc.) to draw lines, curves, circles but also complex shapes, letters and numbers.

## **Laser pointer for the dynamic zero point.**

Allows the operator to choose a new ZERO point by moving a laser dot over the cutting frame. An accessory particularly useful when processing damaged materials.





## Easy Work Xtreme CAD/CAM.

Calculates the most efficient way of cutting one pattern after the other, and saves all the settings for future jobs.

## Automatic nesting.

Automatically calculates the best way to fit the shapes on the cutting frame and cut as many pieces as possible out of the available material.

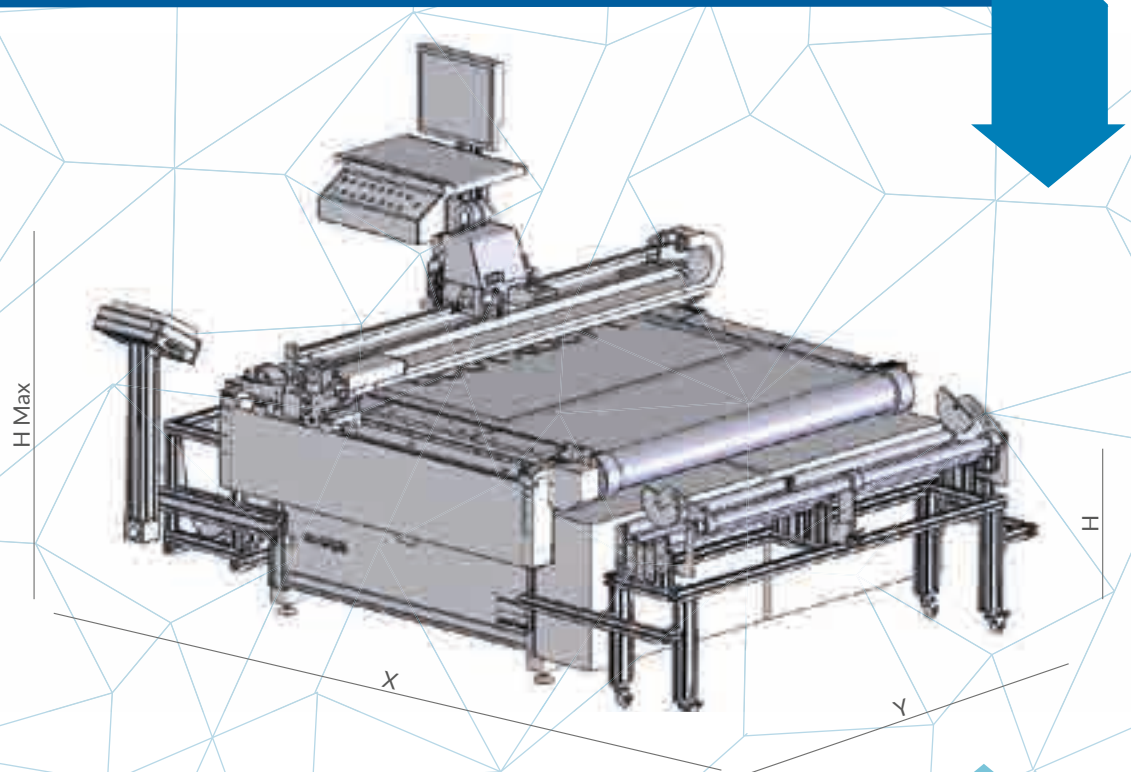
## Macro.

Enables the operator to program highly complex cutting jobs by entering a limited number of key parameters. The machine translates the information into a cutting file and starts the job with a simple push of a button. Macro packages are often customized according to our customers' requirements.

# SOFTWARE



Available usable **frame** - YxX **1,5x1/1,5x2/1,8x1/1,8x2**



# SM-381-TA

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## Machine

Power (KW)	9,5 Kw
Voltage (V)	400 (3 fasi+N+T)
Circuit breaker (mA)	300
Air (Quality class 1.4.2 ISO 8573)(bar)	6
Max. axes speed x/y/z (m/min)	40/40/15
Precision axes repeatability (mm)	0,1
Certification	2006/42/EC; 2014/30/EU; EN ISO 12100

Footprint	1,5x1	1,5x2	1,8x1	1,8x2
X (mm)	2000	3100	2000	3100
Y (mm)	2200	2200	2700	2700
H (mm)	952	952	952	925
H MAX (mm)	1600	1600	1600	1600
Weight (KG)	1200	1300	1300	1400
Roll holder footprint				
X (mm)	550	550	550	550
Y (mm)	2100	2100	2600	2600
H (mm)	950	950	950	950
Weight (KG)	45	45	50	50

Images and technical features in this catalogue may differ from the actual product. Some of the images may show machines equipped with optional components, tools and/or accessories. SMRE SpA reserves the right to change or modify the product without any prior notice



# SMRE THE GLOBAL MANUFACTURING SOLUTION

Founded in 1999 by Samuele Mazzini, SMRE S.p.a. is a **globally operating** company **based in Italy** specialized in the **design and construction** of **industrial manufacturing solutions**.

SMRE builds **cutting, welding, and sewing machines**, and **special, custom-made solutions** that **streamline** our customers' manufacturing processes, **optimize** their **efficiency**, and increase the **quality** and **output** of their production.

More than **1000 manufacturing** solutions provided to customers in **40 nations** and **6 continents** secure our positions as **leading supplier of industrial machines**.

SMRE is quoted in **AIM Italia** since April 2016



**CUTTING  
MACHINES**



**WELDING  
MACHINES**



**SEWING  
MACHINES**



**SPECIAL  
MACHINES**



**SOFTWARE  
SOLUTIONS**

INDUSTRIAL GROUP

1

USA BRANCH

1

MANUFACTURING  
PLANTS

2

40  
6

CUSTOMERS IN 40 NATIONS  
ON 6 CONTINENTS

3

SPECIALIZED  
BUSINESS UNITS

13

INTERNATIONAL  
PARTNERS

5

PRODUCT LINES

65

HIGHLY SKILLED  
EMPLOYEES



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