

TRIMMING UNIT/DIAMOND MACHINE

TST.13



REFERENCE BOOK rel. 02.15

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ENGLISH LANGUAGE

1 MACHINE DESCRIPTION

TST.13 was designed and built for processing methacrylate.

Its structure consists of anodised aluminium profiles, with composite aluminium infills. The work surface is made of special thermosetting self-lubricating Bakelite measuring 1360 mm D x 800 mm W x 920 mm H thickness 15 mm.

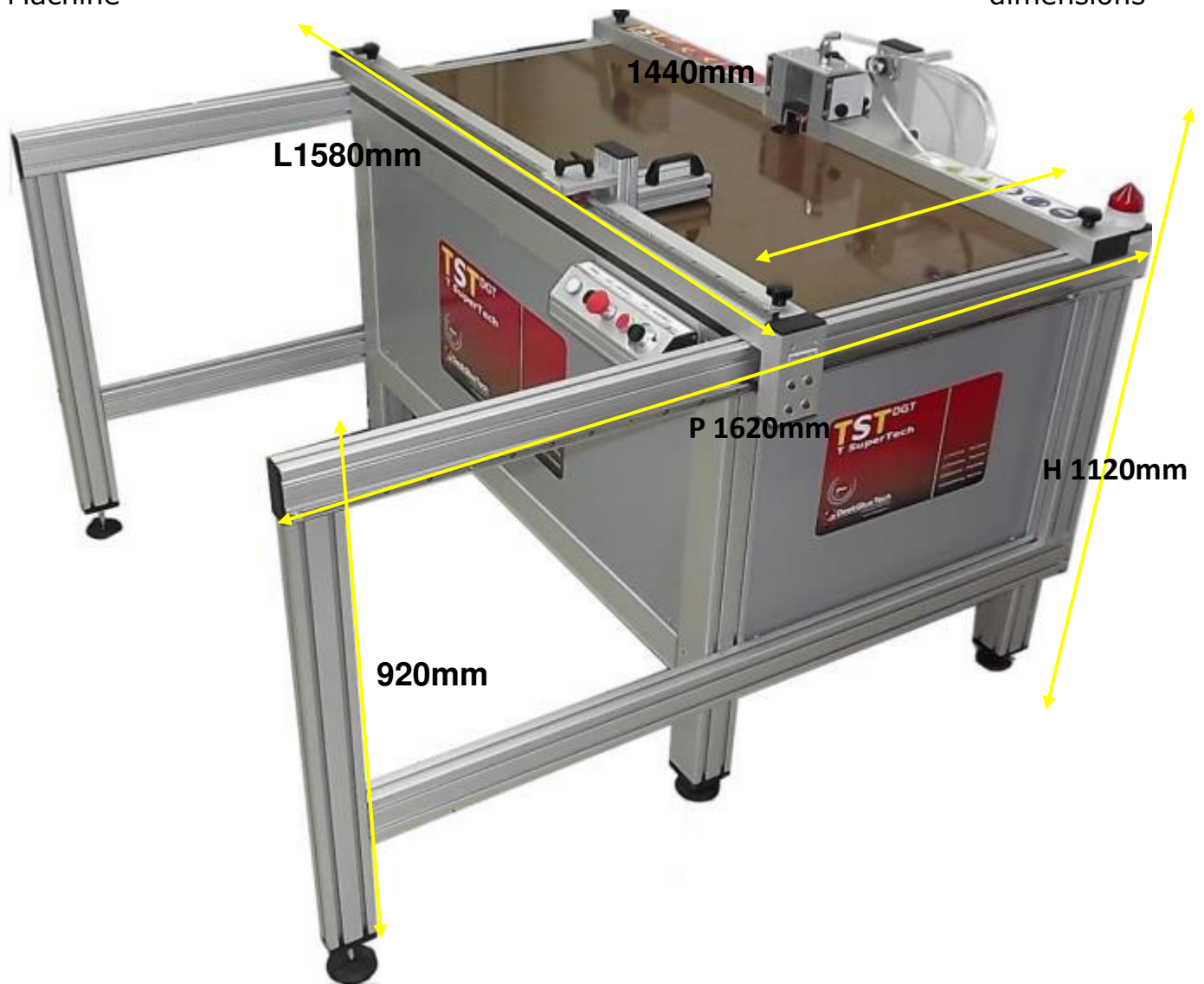
The Electro spindle is housed in a cart that runs on two prismatic guides and which allows precise ascent and descent for easily adjusting the cutting line thanks to an angular momentum flywheel.

Furthermore, the flywheel positions the clamping mandrel in place for a fast tool change.

The electro spindle has a standard **ER 25** gripper connection on which both the Diamond and Tungsten cutters, with a collar diameter from 3 to 16 mm, are mounted. The tool is cooled by a flow of adjustable and electrically controlled compressed air. The safety guard placed to cover the tool, also acts as a housing for the suction point of the light shavings in order to maintain a constant clean cutting line and a work table free of shavings.

Machine

dimensions



2 SPECIFICATIONS

Mod. | T SUPER TECH TST.13

Electro spindle: 2 kw Giordano Colombo

Inverter speed and power control

Weight: 80 kg

0/18000 rpm rotation min. speed, adjustable

Overall dimensions: 1620mm D x 1580mm L x 1120mm H

Voltage: 220V / 50Hz

Power: 2.2 kw

3 MACHINE IDENTIFICATION

The CE machine plate is placed at the back and shows the following data:



Model.....TST.13.

Serial number.....

Year of manufacture...20__.....

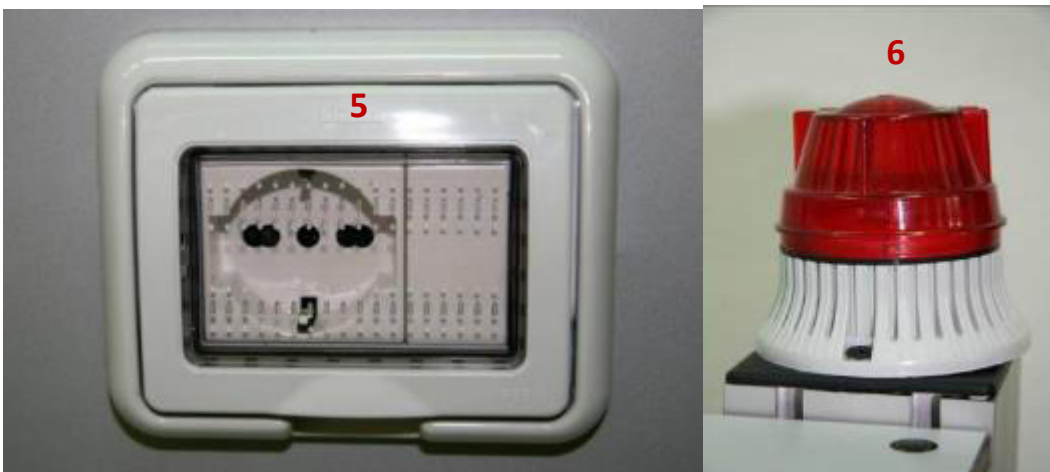
The same data is shown on the certificate of conformity.

The plate cannot be removed from the machine

8 CONTROL PANEL



The control panel consists of a **potentiometer** to adjust the rotation of the electro-spindle **(1)**, a **start button (2)**, an **emergency button (3)** and a **milling cutter stop button (4)**, a **lit grid indicator (5)** (light illuminated when energised). Pressing the emergency stop button causes it to lock: you must rotate it clockwise in order to unlock it. After this step you can proceed by pressing the Start button. On the back there is the **socket for the fan extractor (5)** (under tension when the cutter is in motion) and on the back of the machine there is a **flashing light (6)** (which stays on while the cutter in operation) and **(7)** air inlets (input and output), **(8)** plug for the air regulation tap.





9 ELECTRICAL PANEL



Key to open the panel (allowed only when the machine is not turned on)

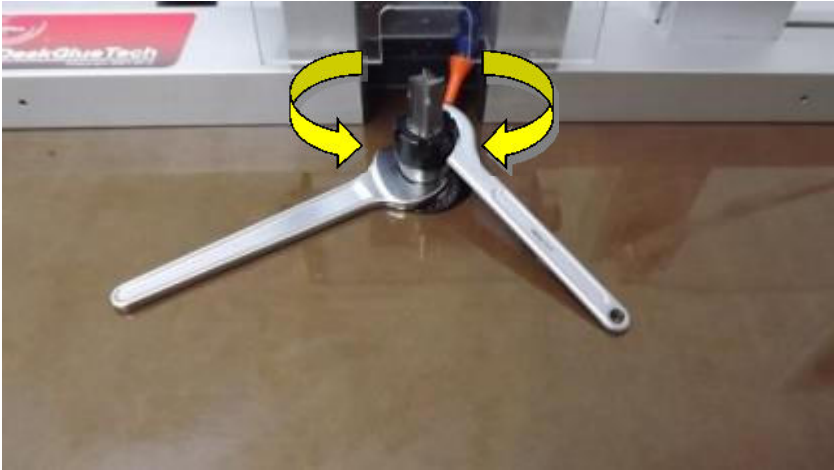
The electrical panel is located at the side of the machine and can be recognised by its general switch (position on or off).

The electrical panel is equipped with a key to open the panel (only qualified and authorised personnel may access it)

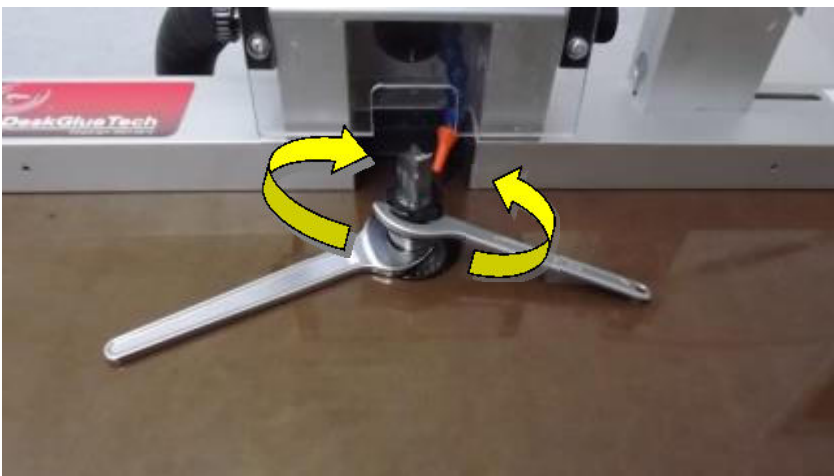
All this is housed in a protected electric box in accordance with **ip 54** standards.

10 MODE OF USE

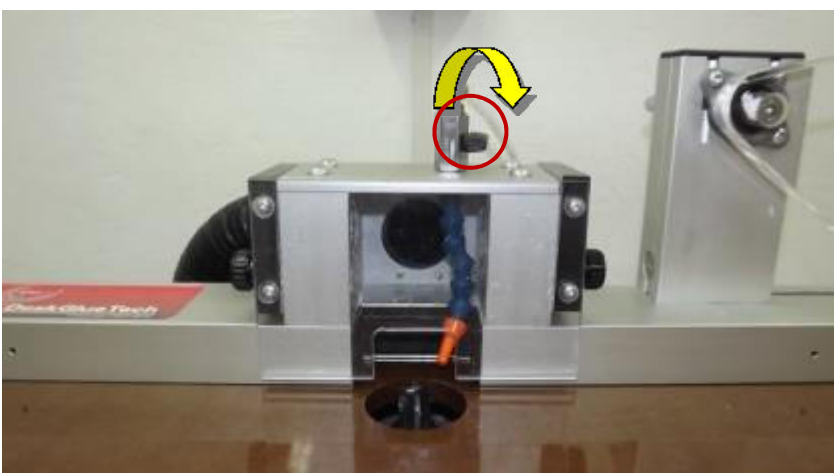
1- Tightening the milling cutter (correctly use the special keys supplied)



2- unlocking the cutter (be careful to keep the keys firm to prevent damaging or breaking the cutter)



3- Adjust the air jet with the black tap (the air jet must be focused near the cutter and it must remove the shavings from the part with an appropriate adjustment of the airflow)



4- The suction and sliding bar settings must always be performed with the machine at standstill

The bar with the aspiration system and air jet must be placed as close as possible to the milling cutter, checking that the orange nozzle does not touch the cutter during its rotation. The positioning bar should be adjusted according to the size of the work piece, the maximum excursion is 1,200 mm.

After having positioned the bars correctly, they must be blocked with the appropriate knobs. Figure below in the red circle



5- Sheet pressure device and user protection



The device allows placing pressure on the material in order to avoid vibration while cutting, but above all it acts as a protection for the fingers and eyes of the operator avoiding the risk that shavings may end up in contact with the operator.

The device does not replace the use of the obligatory glasses.

6- Bar for chamfering the edges.

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This is a device that allows working whilst leaning on the front bar in order to obtain a perfect chamfering of rounded or chamfered at 45° corners.
Thanks to the direct contact on the milling cutter, machining is practical even with rectangular or square sized pieces.

To remove the bar, unscrew the four Allen screws # 3

The bar should be kept mounted only and exclusively for chamfering, it should be removed for all other functions and the rear bar for sliding pieces should be used.



7- Handle on the prismatic guide

This is a device in order to machine long and narrow pieces see figure
The sliding handle must be kept assembled only and exclusively for machining long, narrow pieces.
The sliding handle is removed by unscrewing its two levers.



11 CHANGING CUTTER

- 1) Turn the power switch to OFF
- 2) Turn the flywheel (1) to raise the electro-spindle until the cutter-locking mandrel comes out from the flat surface.



3) Use the 2 keys supplied to loosen it, turning the fastening collar counter clockwise by at least two full turns and then pull out the cutter wearing your protective gloves

BEWARE ! The cutters are very sharp and can cause injury even when handling.



4) keep the pliers and cutter clean.

5) insert the new cutter for a different processing

6) close the ring by turning it clockwise until it locks the cutter.



7) Lower the cutter by using the flywheel, until reaching the required work height.

8) adjust the cooling air nozzle

9) make sure that the cutter does not touch the work piece.

10) start the cutter by pressing button **2** and adjust the number of revolutions by acting on the potentiometer **1** according to the material

12 MILLING CUTTERS

Trim cutter F1.90C



Cutter suitable for removing large amounts of material and for trimming with rough and opaque finishing: working at 18,000 revolutions / minute, cutting diameter with a tolerance of 0.00 mm, coupling diameter 12 mm, height of blades 30mm, replaceable blades sharpened on both sides.

Trim cutter F11.90C



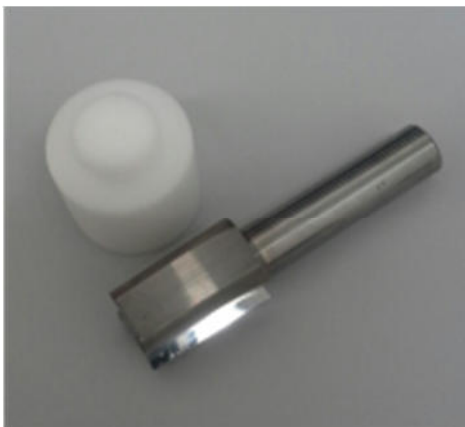
Cutter suitable for removing large amounts of material and for trimming with rough and opaque finishing: working at 18,000 revolutions / minute, cutting diameter with a tolerance of - 0.10 mm, coupling diameter 12 mm, height of blades 30mm, replaceable blades sharpened on both sides. Recommended for work without film, or with thin film. To be combined with Diamond polishing F2.90CD

Cutter DIA F2.90CD



Diamond trimmer, DIA blade height 20 mm, coupling 12 mm: only used to obtain that invisible PMMA glossy finish, it works at 18,000 revolutions / minute on a previously edged piece

Milling cutter F26.91



Cutter designed to obtain the preparation of the plate edge to be glued at 89 ° (glues T0 and T1). Works both linear objects such as plates and three-dimensional objects such as already glued boxes

It has a white PTFE reference plug-in for length stop at -1 mm on the cutting edge. The plug-in should be removed before operating. Coupling diameter 12 mm, cutting edge height 31 mm, fully made in Tungsten Carbide, re-sharpening up to 6 times. Project Copyright DeskGlueTech

Milling cutter F13.93C



Cutter designed to obtain the preparation of the plate edge to be glued at 87° (glue T3). Works both linear objects such as plates and three-dimensional objects such as already glued boxes

It has an aluminium reference plug-in for length stop from 0 to -4 mm on the cutting edge. The plug-in should be removed before operating. Coupling diameter 12 mm, cutting edge height 25 mm, fully made in Tungsten Carbide, re-sharpening up to 6 times. Project Copyright DeskGlueTech

Milling cutter F22.96



Cutter designed to obtain the preparation of the plate edge to be glued at 84 ° (glue T6). Works both linear objects such as plates and three-dimensional objects such as already glued boxes

It has an aluminium reference plug-in for length stop from -1 to -6 mm on the cutting edge. The plug-in should be removed before operating. Coupling diameter 12 mm, cutting edge height 25 mm, fully made in Tungsten Carbide, re-sharpening up to 6 times. Project Copyright DeskGlueTech

Milling cutter F4.46°



Cutter designed to obtain the preparation of the plate edge to be glued at 44° (glues T2 and T1). It works for preparing the plate edge for cutting at 44 °

Coupling diameter 12 mm, cutting edge height 20 mm, fully made in Tungsten Carbide, re-sharpening up to 6 times. Project Copyright DeskGlueTech
It can also be used for chamfering

Milling cutter F5.44V



Cutter designed to obtain the preparation of the plate edge to be glued at 44 ° low thickness or reverse cutting (glues T2 and T1). It works for preparing the plate edge for cutting at 44°

Coupling diameter 12 mm, cutting edge height 20 mm, fully made in Tungsten Carbide, re-sharpening up to 6 times. Project Copyright DeskGlueTech

Milling cutter F6.15C



Milling cutter designed for round chamfering at 15°
Coupling diameter 12 mm, cutting edge height 20 mm, re-sharpening up to 6 times.

Milling DIA cutter F7- **F8.90D**



Diamond trimmer height 25 mm: used only to obtain the straight and shiny three-dimensional finishing of PMMA at 18,000 rev / min

Milling DIA cutter F9.90D



Diamond trimmer height 30 mm: used only to obtain the straight and shiny three-dimensional finishing of PMMA at 18,000 rev / min

Milling DIA cutter F10.90CD



Diamond trimmer height 30 mm: used only to obtain the invisible shiny finishing of PMMA at 18,000 rev / min

Milling cutter F15.45.5A



Cutter designed to obtain the preparation of the plate edge to be glued at 44.5° (glues T0).

It works for preparing the plate edge for cutting at 44.5°

Coupling diameter 12 mm, cutting edge height 20 mm, fully made in Tungsten Carbide, re-sharpening up to 6 times. Project Copyright DeskGlueTech

13-MAINTENANCE

For a correct use of TST.13 IT, at each use it is necessary to:

keep the guides clean
keep the work top clean
keep the milling cutters clean

Monthly:

grease the height adjustment screw of the cutter.
lubricate the supporting bearing
keep the entire inside of the machine clean

14-DIAGRAM OF COMPONENTS

4 sliding bar

4 sliding bar

6 cutter coupling group,
suction and airflow



5 emergency light

2 comandi

7 prismatic guides

1 adjustable anti-vibration feet