

## Witte VAC-MAT™

The vacuum system  
you can cut right into!



### Application

Wide spectrum of different  
workpiece forms can be clamped

- Grinding
- Milling
- Drilling
- Five sided treatment including milling  
into the Vac-Mat

### Advantages

- Strong hold down force
- Clamping surface with a high friction value
- Milling through of outer and inner contours
- Precise and exact cut outs due the fact that  
the workpiece can be milled through into the  
VacMat leaving a clean cut out

### Handling

- Set up time reduced to seconds as fitting  
of single rubberseals become obsolete
- Surface friendly material which avoids  
scratching of workpiece surface area
- No extra clamping fixture needed

## VAC-MAT™ Application

### What is VAC-MAT™ ?

It is a thin soft polymer mat with many spaced out vacuum points, suckers in different sizes with a fine hole in each centre and a raised lip. On the underside there are six lugs which locate in the special VAC-MAT™ chuck. On the mat under surface there are grid shaped grooves which distribute the vacuum to each of the small holes. A lip right around the outside edge ensures no leakage.

### What size is VAC-MAT™ ?

All VAC-MAT™s are 2,5x200x 300 mm. The tolerance lies at +/- 0,04mm and concave upto 0,1mm. To increase the size of the working area, the modular VAC-MAT™ chucks are connected to one another and VAC-MAT™s are simply placed on as described.

### Is VAC-MAT™ reusable?

The working life of a VAC-MAT™ depends on the number and size of cuts made into the mat during machining.

### What kinds of VAC-MAT™ are available?

There are 5 types of mat available:

- Blue mats, standard for normal machining
- Green mats, slightly harder in consistency for heavier machining
- Red mats, only to be used once
- Black mats, are used to seal the areas not required on the VAC-MAT™ chucks during machining.
- Grey mats, heat resistant, for temperatures upto 80°C

### Max. temperatures during application:

Upto 40°C VAC-MAT™s can be reused without any restrictions.

Upto 50°C VAC-MAT™s can only be used once, the sucker lips will not return to their original position.

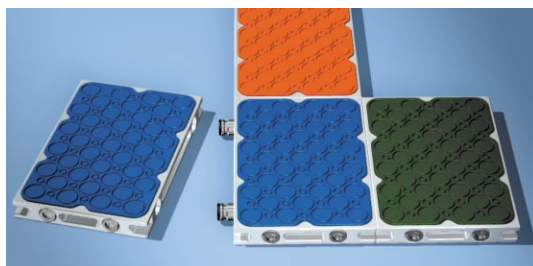
For temperatures higher than 50°C upto max. 80°C the heat resistant grey mat (No. 13156) should be used



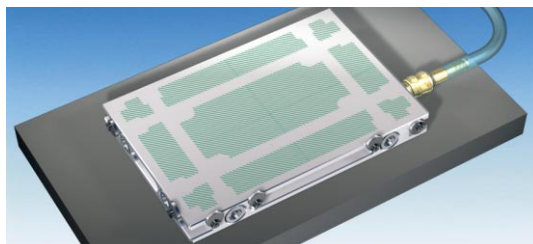
The lugs underneath the mat guarantee fast and accurate positioning of the VAC-MAT™ on the special modular vacuum chuck



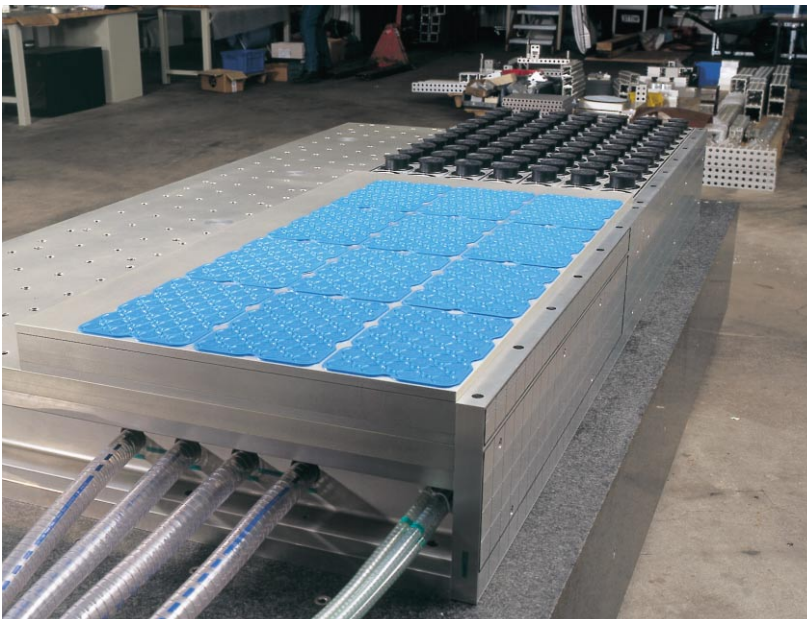
5 side-milling on a VAC-MAT™ clamping system



The modular concept allows connection of several vacuum chucks. The vacuum supply to each chuck continues through the connection elements.



In modular chucks additional holes can be drilled in the green areas to allow insertion of pins for positioning. Further information on page 119.



**Above:**  
Machine table  
(3,3x11meters) supplied  
with VAC-MAT™ Vacuum  
clamping. The photo  
shows the fixture at a well  
known Aircraft manufactur-  
er, where pockets are mil-  
led into a surface area  
with the help of 468 Mats

**Left:**  
Combined special  
clamping system made  
out of  
Witte VAC-MAT™ and  
FLIP-POD™ (see p.76)

## Starter-Sets

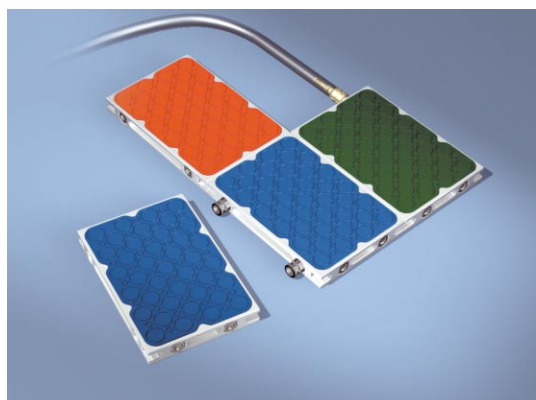
These starter sets are designed to give the operator a complete solution to set up and start machining immediately. All plates are modular and can be extended with a simple connector at any time. These Sets are available in three different dimensions, which are defined by the size of the base plates. (see fig. right hand side) All plates are modular

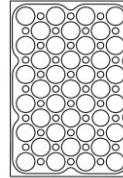
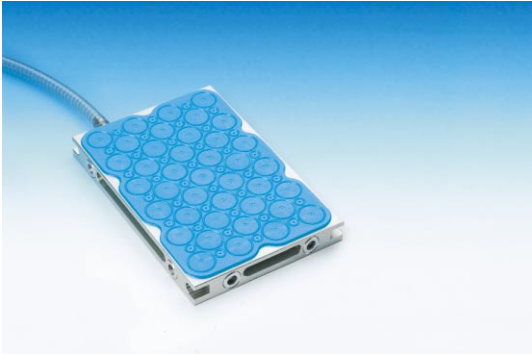


Modular VAC-MAT™ plates are made of high-tensile aluminium. Steel versions are available on request.

### Supply includes:

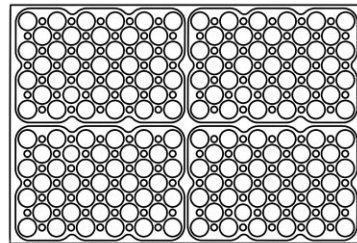
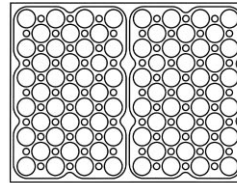
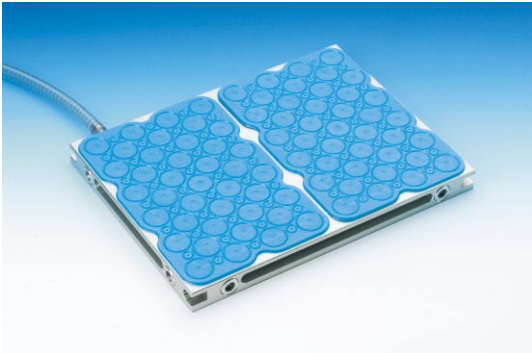
- 1 x tail end
- 1 x coupling
- 7 x blind plug
- 10 x O-ring
- 8 x crosspieces
- 10 x VAC-MAT™ blue
- 1m vacuum suction hose with wire spiral 18/12





Other dimensions  
on applications

Vac-Mats™ are 200x300  
mm and therefore any lar-  
ger surface area  
must be a multiple of  
200x300 mm



No.	Description	lxwxh	kg
81759	VAC-MAT™ Starter-Set Single	300x200x30	5
82837	VAC-MAT™ Starter-Set Double	300x400x30	10
82825	VAC-MAT™ Starter-Set Four times	600x400x30	20

Modular VAC-MAT™ chucks are made of high-tensile aluminium.  
Steel versions are available on request.

## Accessories

### VAC-MAT™s

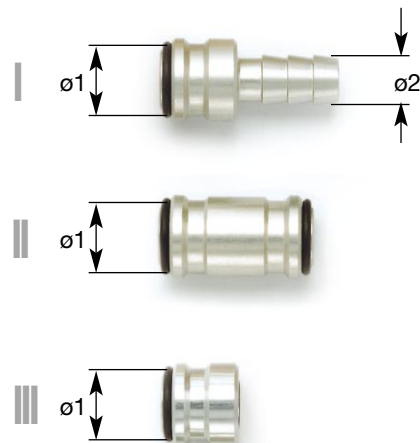


No	Name	lxwxh
11030	VAC-MAT™/ <b>blue</b> , normal machining	300x200x2,42
11053	VAC-MAT™/ <b>green</b> , heavier machining	300x200x2,42
11548	VAC-MAT™/ <b>red</b> , only used once	300x200x2,42
13156	VAC-MAT™/ <b>grey</b> , heat resistant max. 80°C	300x200x2,42
11029	VAC-MAT™/ <b>black</b> , for covering areas not required during machining	300x200x2,5

## Accessories

### VAC-MAT™ chuck accessories

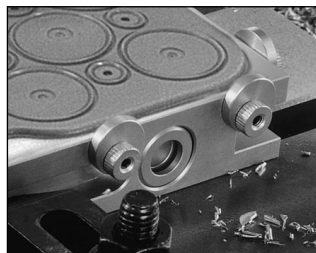
	No.	Name	Dimension
I	81761	Hose connector incl. O-Ring	$\phi 1 = 23$ $\phi 2 = 14$
II	81762	Vacuum chuck adapter incl. O-Ring	$\phi 1 = 23$
III	81774	Plug incl. O-Ring	$\phi 1 = 23$
	11032	O-Ring	$\phi 16 \times 2,5$
IV	28331	Tool for setting up	$\phi 15 \times 120$
V	89092	VAC-MAT™ - Demo	CD-ROM



IV

V

### Height adjustable end stops in form of excentric washers:



Additional, height adjustable end stops are also available. For fixing end stops, threaded holes have to be made in the plate by the customer.

No.	pcs.	$\phi$ mm	height of plate mm	knurled nut/ grub screw
85405	6	20	32,5	M5
85409	9	27	38,0	M6
85410	12	30	48,0	M6

### Supply includes:

- Drawing of the attachment bores
  - Fitted knurled nuts and threaded pins
- Any attachment bores must be made by the customer



Demonstration VAC-MAT™ CD available. Please ask.

## Vacuum Starter Set

No. 94078, Witte Vacuum-Starter-Set, ready to use including all materials to run



### Supply includes:

- 1 Vacuum pump Nr. 93152
- 1 Vac-Mat adapterplate Nr. 81995
- 1 Modular vakuum grid chuck Nr. 89676
- 5 Vac-Mat – blue Nr. 11030
- 5 Vac-Mat – green Nr. 11053
- 2 Clamps for clamping plates  
onto worktable Nr. 30617
- 1 Setting up tool for joining  
modular vacuum tables Nr. 28331
- 10 meters O-shaped seal  
diameter 4 mm Nr. 00070
- All further material needed to  
operate this kit i.e., spiral vacuum  
hose and connectors.

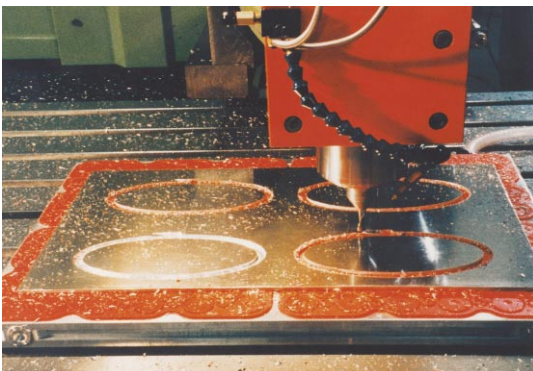
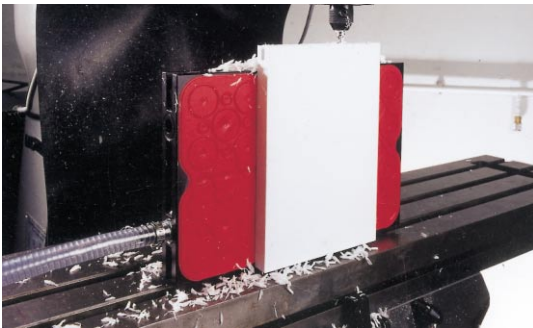
For milling purposes with coolants we suggest the use of a liquid separator.



**Above:** Thin workpieces can also be clamped and machined securely but gently using VAC-MAT™

**Left:** Vertical clamping can also be carried out reliably with VAC-MAT™

**Below:** Fast handling, short clamping times of the workpiece all in one step.



**Above:** Direct milling through a work-piece on a modular plate 400x600 mm.

