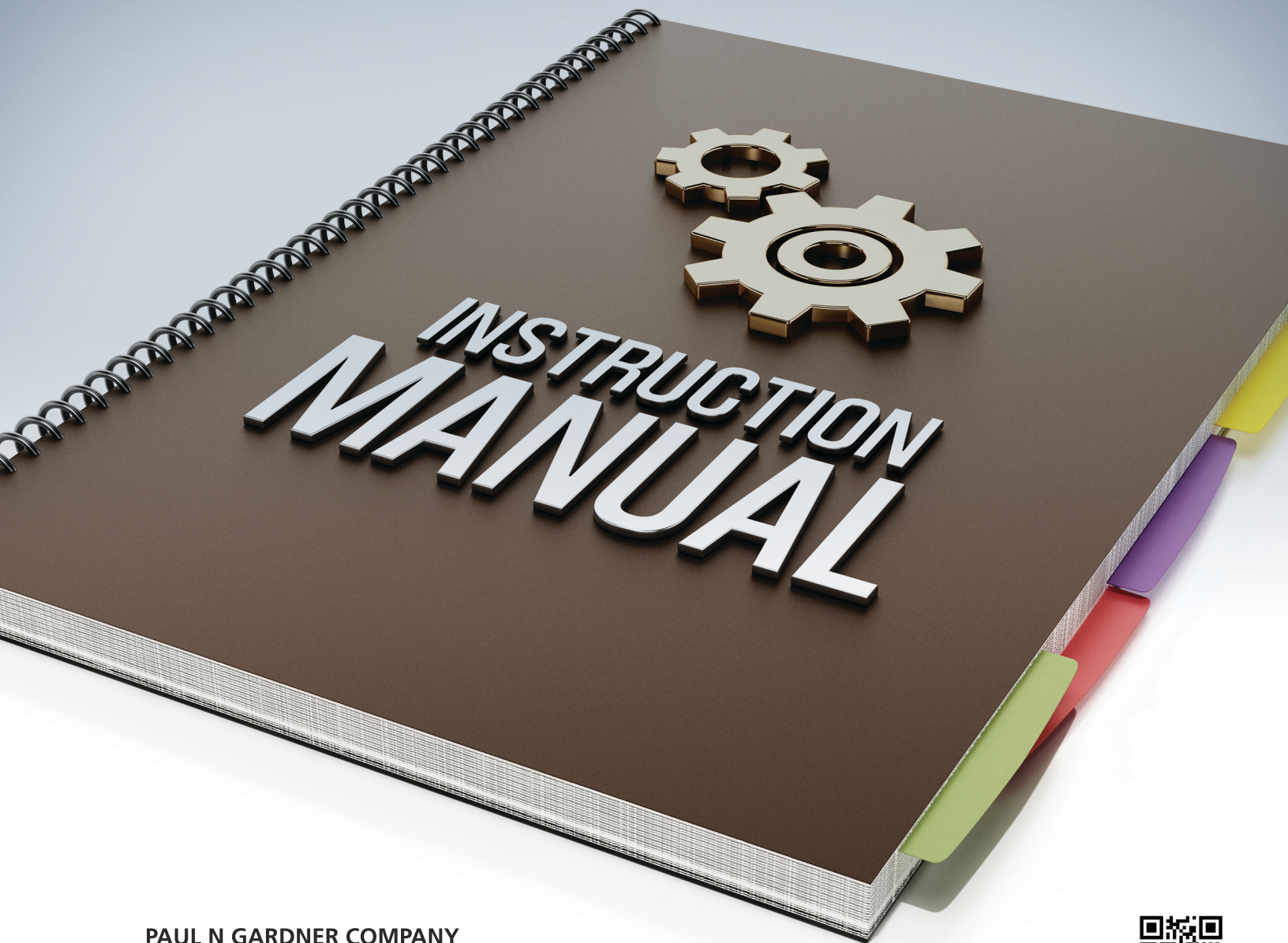




PAUL N GARDNER COMPANY
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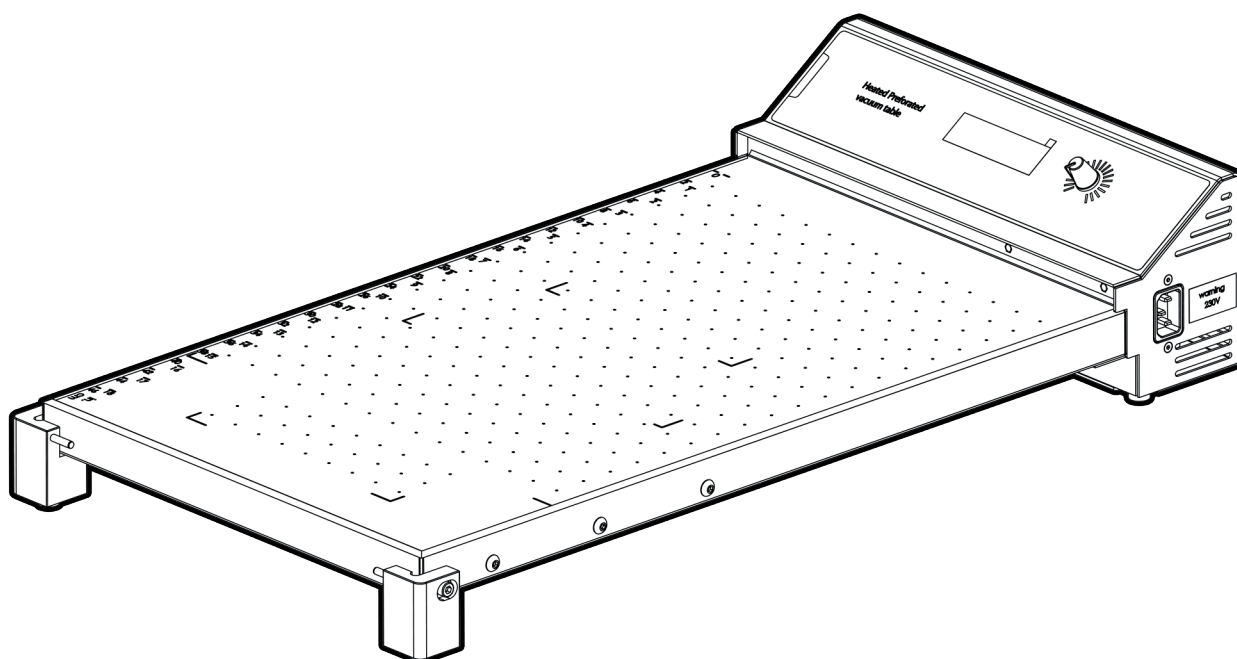
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INSTRUCTIONS

GARDCO DISTRIBUTED PRODUCTS





Heated Perforated Vacuum Table

AB4430, AB4435

Operating Instructions (V1.0 1218)



IMPORTANT! Before taking this instrument in use we strongly advise you to read this manual carefully.

WARRANTY

TQC Sheen will grant a warranty for a period of 12 months for the Heated Perforated Vacuum Table and 12 months for all related equipment from the date of delivery in respect of any evidence of faulty workmanship and materials.

Should a delivered consignment prove to be contrary to contract upon inspection, the customer shall grant TQC Sheen the opportunity hereunder of removing the fault, or else the customer may demand replacement. Because of size and weight of the instrument TQC Sheen will strive to give remote support.

Should the supply or delivery of any improvement or replacement not prove possible, the customer may choose between having the purchase price reduced or in demanding the contract of sale to be rescinded (conversion). Damage resulting from natural wear and tear, mechanical or chemical damage, an act of God or non compliance with the operating instructions shall be excluded from the warranty as well as mechanical interference by the customer or by third parties with Heated Perforated Vacuum Table and related equipment without TQC Sheen's written permission. No liability will be accepted for defects, damage or injury caused due to use not carried out in accordance with the manufacturer's user instructions.

To claim warranty, the rejected product has to be sent to TQC Sheen together with the original invoice, any exchange before the product has been returned to TQC Sheen is not possible. TQC Sheen reserve the right to repair, exchange or supply an equivalent substitute. TQC Sheen is not liable for handling or transport costs. Warranty on the purchase price is limited, all liability for consequential damages or changes in technology is expelled.

This product complies to

- Machinery Directive 2006/42 / EC
- Low Voltage Directive 2006/95 / EC
- EMC Directive 2004/108 / EC



This product is RoHS 2 compliant (2011/65/EU)

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1 GENERAL

1.1 Importance of operating manual

This manual is written in order to become familiar with all the functions and possible applications of the instrument. It contains important instructions about how to use the instrument safely and economically; according to the purpose designated. Following these instructions is not only essential to avoid risks. It also reduces repair costs and down-time and increases the products reliability and service-life.

Anyone who works with the instrument shall follow the instructions in this manual, particularly the safety related instructions. Additionally local rules and regulations relating to environmental safety and accident prevention should be observed. It is mandatory that users have read and understand this manual prior to first operation of the Heated Perforated Vacuum Table.

1.2 User-responsibility

The user should

- a) Only allow persons to work with the instrument who are familiar with the general instructions on how to work safely and to prevent accidents. The use of the instrument should have been instructed duly. The safety chapter and the warnings in this manual should have been read and understood; acknowledged as evidenced by their signature.
- b) Regularly check the safety-awareness of personnel at work.

1.3 Responsibility of personnel

Before commencing work anyone appointed to work with the instrument should pay attention to the general regulations relating to working safety and accident prevention. The safety chapter and the warnings in this manual should have been read and understood; acknowledged as evidenced by their signature.

1.4 Dangers

This instrument has been designed and constructed in accordance with state-of-the-art technology and the acknowledged safety regulations. Nevertheless, working with the instrument may cause danger to the life and health of the operator or to others, or damage to the instrument or other property. Therefore the instrument should only be used for its designated purpose, and in a perfect technical condition. Any defect that could have a negative effect on safety should be repaired and recorded.

1.5 Designated purpose

The TQC Sheen Heated Perforated Vacuum Table is exclusively designed to be used to create smooth and consistent thin films of paint, lacquers and other materials on sample specimen such as opacity test charts, sample panels, foils or other flat substrates. Other applications constitute improper use. TQC Sheen will not be held liable for damage resulting from improper use.

Designated purpose also includes properly observing all instructions in the operation manual, and adherence to inspection and maintenance schedules. TQC Sheen is entitled to request these form when warranty claims are made and during inspections to ensure safe operation and evaluate correct usage.

1.6 Copyright

The copyright of this operating manual remains with TQC Sheen. This operating manual is intended solely for the user and his personnel. Its instructions and guidelines may not be duplicated, circulated or otherwise passed on to others, neither fully, nor partly. Infringement of these restrictions may lead to legal action may be taken if this restrictions are infringed upon.

2 SAFETY INSTRUCTIONS

2.1 Meaning of Symbols

The following symbols for dangers are used in this instruction manual.



Possible immediate danger to the life or health of personnel.

If this guideline is not noted it can lead to severe danger to health, up to fatal injury.



A dangerous situation could be caused.

Non observance of this guideline can lead to injury or to damage to equipment.



Special tips and particular information.

Guidelines to make optimal use of the instrument.

2.2 Availability of Safety Information

The instruction manual should be kept in proximity to where the instrument operates and should be visible and accessible at any time of operation.

In addition to the information contained in the instruction manual, general and local regulations for accident prevention and environmental protection shall be kept available and observed. Always ensure all guidelines in respect of safety and dangers on the instrument are in readable condition.

In case of danger the instrument has to be switched off by means of the on / off switch at the left back side of the instrument or by unplugging the mains power, then the danger should be eliminated.

2.3 Dangers from Electrical Energy

- Work on the electrical supply may only be done by a qualified electrician.
- The electrical equipment of the instrument must be checked regularly.
Loose connections and cables damaged by heat must be corrected immediately.
- Always make sure the instrument's power is turned off while adjusting any electrical component.



Make sure that no paint or other liquids are spilled on the electronics

2.4 Points of special danger- Heated Film Applicators

The TQC Sheen Heated Perforated Vacuum Tables are able to reach temperatures above 60°C.



Contacting the Heated Perforated Vacuum Table may cause injuries. Handle the hot surface with care.



Don't leave the Heated Perforated Vacuum Table unattended for extended periods.

2.5 Modifications to the Equipment

- Any modifications or additions or alterations to the instrument may solely be made with permission from the manufacturer otherwise the warranty will be void.
- Instruments which are not in fault-free condition must immediately be switched off
- Only use replacement parts from the original supplier. Parts used from other sources aren't guaranteed to take the loading and meet the safety requirements.

3 TRANSPORT AND STORAGE

3.1 Packing

- Please take note of pictorial symbols on the packing.

3.2 User: Check on Receipt

- Check packing for damage
- After unpacking check complete supply.

3.3 Reporting Transport Damage and Documentation

- Any damage should be documented as accurately as possible (possibly photographed) and reported to the relevant insurers or, in the case of sales "delivered to customers works", to the supplier.

3.4 Storage and Protective Measures when not in use

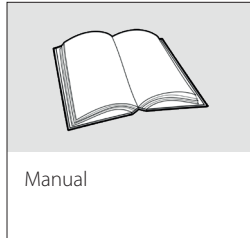
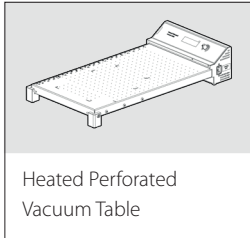
- The instrument must be stored in a dry place at a temperature between 10 - 40°C.
- If packing is damaged upon receipt immediately inform the forwarder and make a note on the packing list and have it signed by the forwarder. Ideally make some pictures of the damage as well.
- Store instrument in the original packing if possible.

4 INSTRUMENT DATA

4.1 Name / Article

AB4430	230 VAC Heated Perforated Vacuum Table
AB4435	230 VAC Heated Perforated Vacuum Table with 110 VAC to 230VAC converter

4.2 Scope of Supply



4.3 Technical Data

Min. Temperature	Ambient + 5 °C
Max. Temperature	Ambient + 100 °C (Absolute Max. 140 °C)
Resolution of Set Temperature	1 °C
Resolution of Readout Temperature	0.1 °C
Temperature Controller	Built-in
Power Consumption Heating	450 Watt
Power Supply	230V, 50Hz
Drawn Down Length	A3. If smaller test charts are used a A3 sized paper frame had to be created to protect the holes from paint walk.

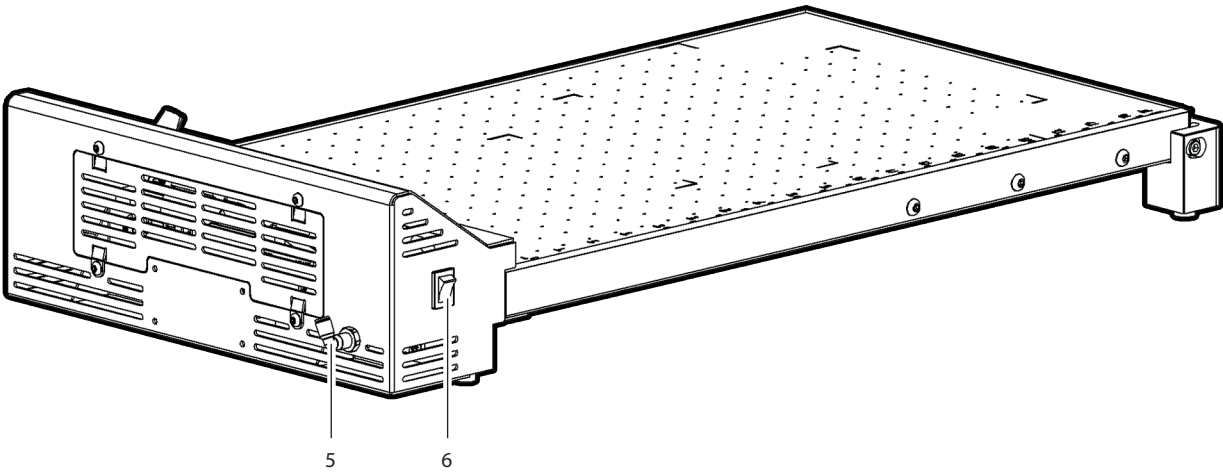
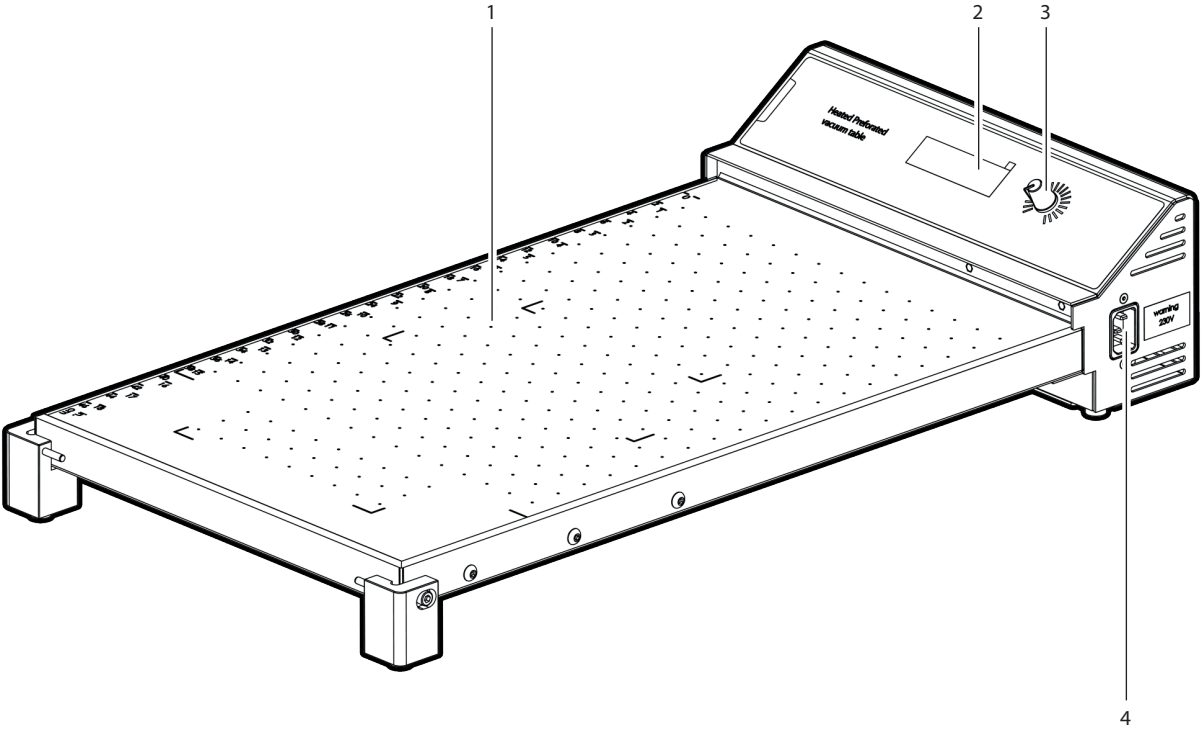
4.4 Dimensions and Weight

D x W x H Bed	520 x 310 x 72 mm / 20,5 x 12,2 x 2,8 inch
D x W x H Controller	190 x 120 x 46 mm / 7,5 x 4,7 x 1,8 inch
Net Mass	10 kg / 22 lbs

4.5 Accessories and Spares

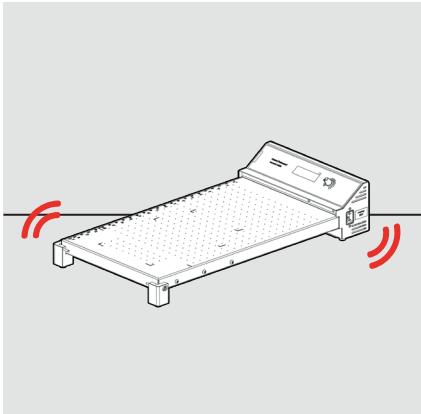
AB3675	Vacuum Pump, 23 l/min, 1750rpm 115VAC
AB3676	Vacuum Pump, 18 l/min, 1450rpm 230VAC

5 INSTRUMENT CONTROLS AND FUNCTIONS

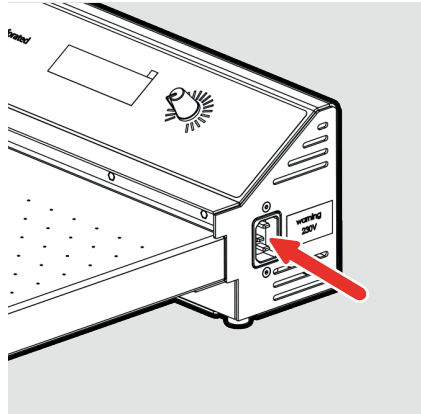


- 1 Vacuum Bed
- 2 Display
- 3 Temperature Control Button
- 4 Mains Connection
- 5 Vacuum Connection
- 6 On/Off Switch

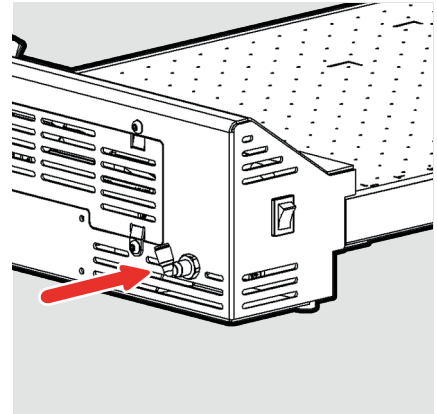
6 INSTRUMENT INSTALLATION



- ① The instrument has to be installed on a sturdy table or work area. Because of the heat wood or veneered, or temperature-sensitive surfaces are strongly discouraged.



- ② The instrument is equipped with a safety tested mains supply cable and may only be connected to plug sockets with earth connection complying with the safety regulations. The mains connection is located on the side of the bed. Plug the female plug in the socket.

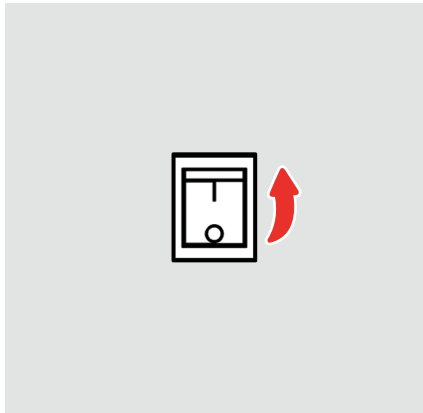


- ③ The bed requires an external vacuum source.

When the size differs from A3, cover up all remaining holes to the nearest larger size in order to create adequate vacuum. The level of vacuum created may depend on operation and age of the machine as well as test substrate used. See Annex A.

7 OPERATION

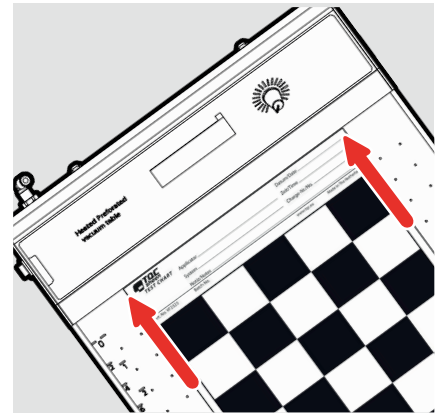
7.1 Preparatory Work



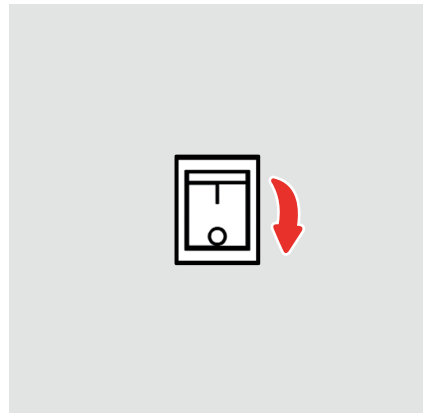
- ① Turn on the machine by using the on/off switch.



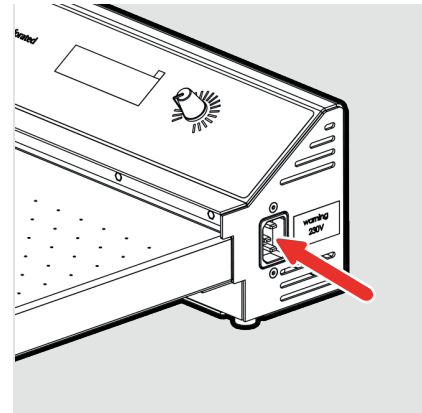
- ② Set temperature using the temperature control button and wait until the bed has reached the set temperature.



- ③ Position the test chart totally to the rear and let the chart or foil suck in for some seconds. See Annex A for correct test chart placement.



- ① Turn off the machine when not in use.



- ② Disconnect the mains power supply when not in use.

7.2 Film Application

For film application a suitable flat and even base, vacuum bed, as well as a suitable to use applicator type is necessary.

7.3 Test Charts

We supply a range of test charts (TQC Sheen, Leneta® or equivalent) like:

Opacity (hiding power) charts, Opacity Display charts, Sag and Levelling charts, Brush Out charts, Plain White charts or others. The TQC Sheen B+ charts are certified.

For details on test chart placement, please see Annex A.

8 CARE AND MAINTENANCE

8.1 Care, Maintenance and Repairs

- Though robust in design, this instrument is precision-machined. Never drop it or knock it over.
- Always make sure the instrument is connected to an earthed socket.
- Maintenance and inspection should be carried out at the correct intervals
- Operating personnel should be informed before starting with maintenance or repair work.
- Always make sure the instrument's power is turned off and the instrument is not connected to a socket while adjusting any electrical component whenever maintenance, inspection or repair work is done.
- Do not open the instrument. In case of malfunction always consult the manufacturer.
- Never touch electronics or circuit boards when not ESD secured.

8.2 Cleaning

- Always clean the instrument after use to prevent distortions of functions.
- To clean the instrument properly use a suitable solvent to dispose remains of paint or ink.
- Wear gloves during cleaning; Don't spill an overdose of solvent during cleaning.



Make sure that no paint or other liquids are spilled on the electronics or left in the holes.

8.3 Disposal of Materials

Disposal of materials used in the operation of the instrument or for auxiliary functions and exchanged items should be dealt with safety and in a manner that will not harm the environment. Follow the local regulations.

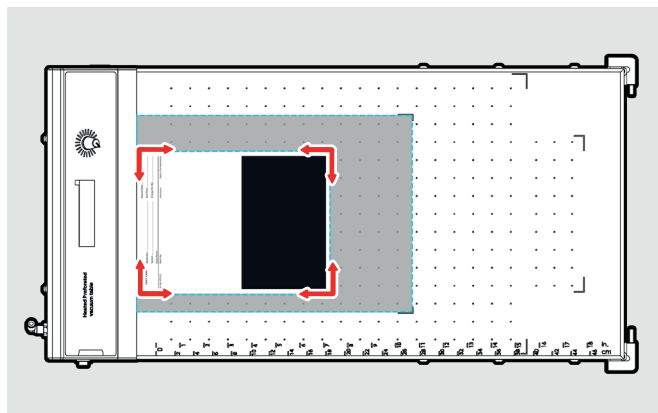
9 DISCLAIMER

The right of technical modifications is reserved.

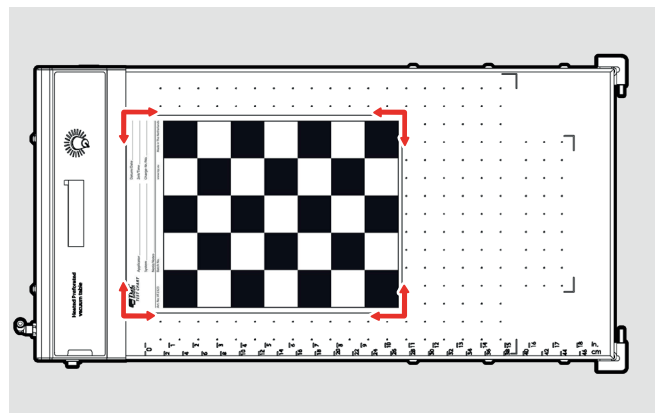
The information given in this manual is not intended to be exhaustive and any person using the product for any purpose other than that specifically recommended in this manual without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. Whilst we endeavor to ensure that all advice we give about the product (whether in this manual or otherwise) is correct we have no control over either the quality or condition of the product or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing to do so, we do not accept any liability whatsoever or howsoever arising for the performance of the product or for any loss or damage (other than death or personal injury resulting from our negligence) arising out of the use of the product. The information contained in this manual is liable to modification from time to time in the light of experience and our policy of continuous product development.

ANNEX A

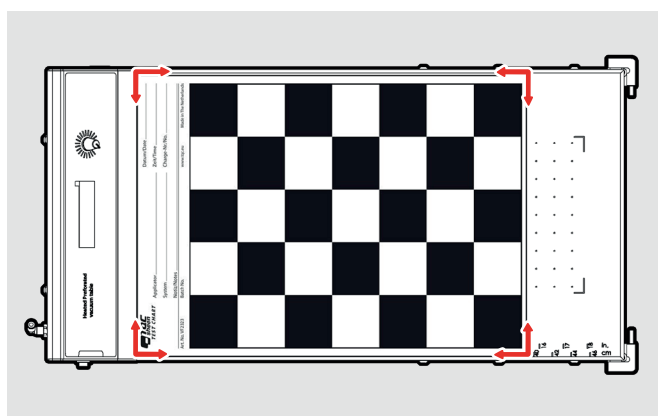
Test Chart Placement



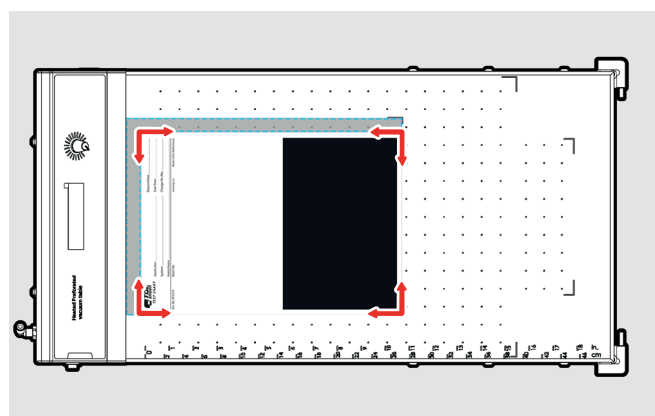
A5



A4



A3



US

-  = Test Chart
-  = Vacuum Hole
-  = Paper Mask
-  = Position