Paul N. Gardner Company

USER MANUAL

Information and instructions for GARDCO distributed products.

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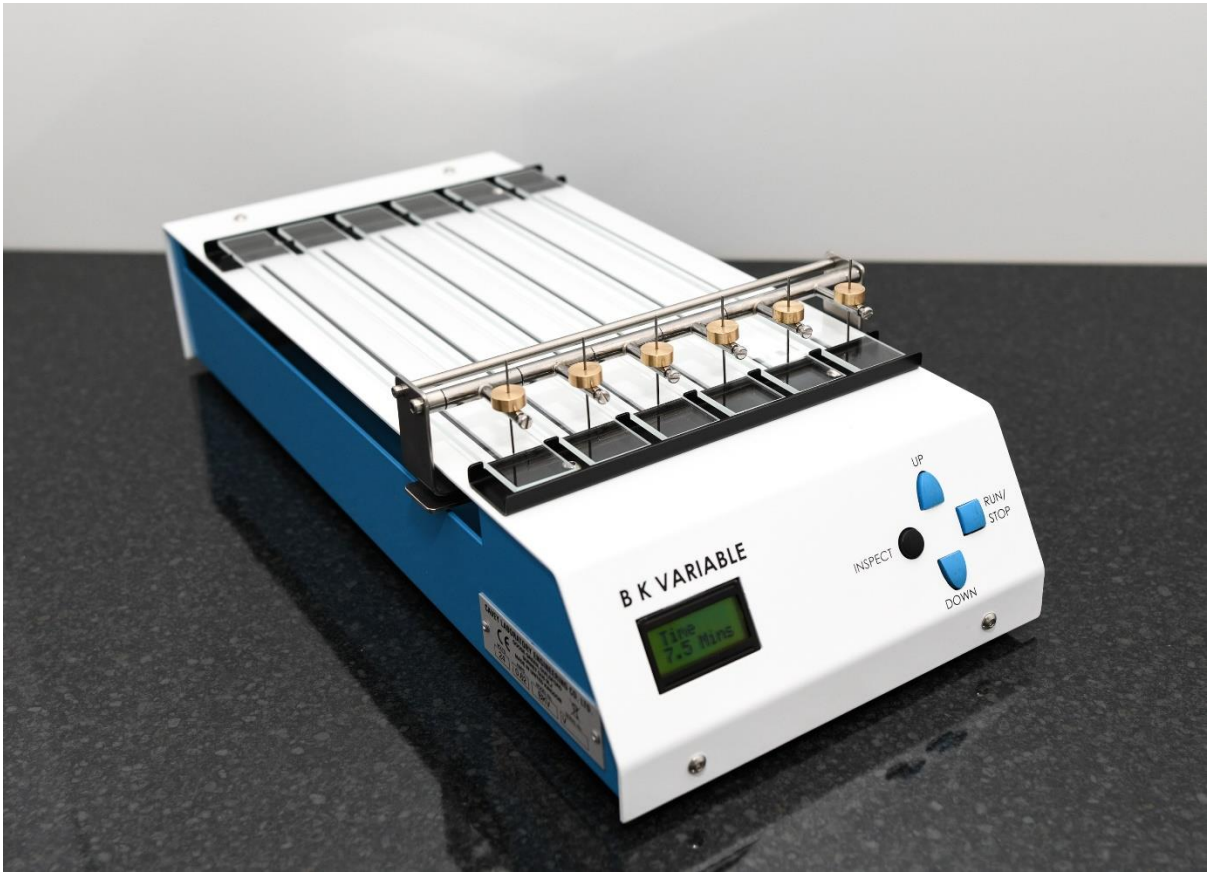
Cavey Laboratory Engineering Co Ltd
Manufacturers of Laboratory Equipment

BKV VARIABLE DRYING RECORDER

HANDBOOK



Manufactured by

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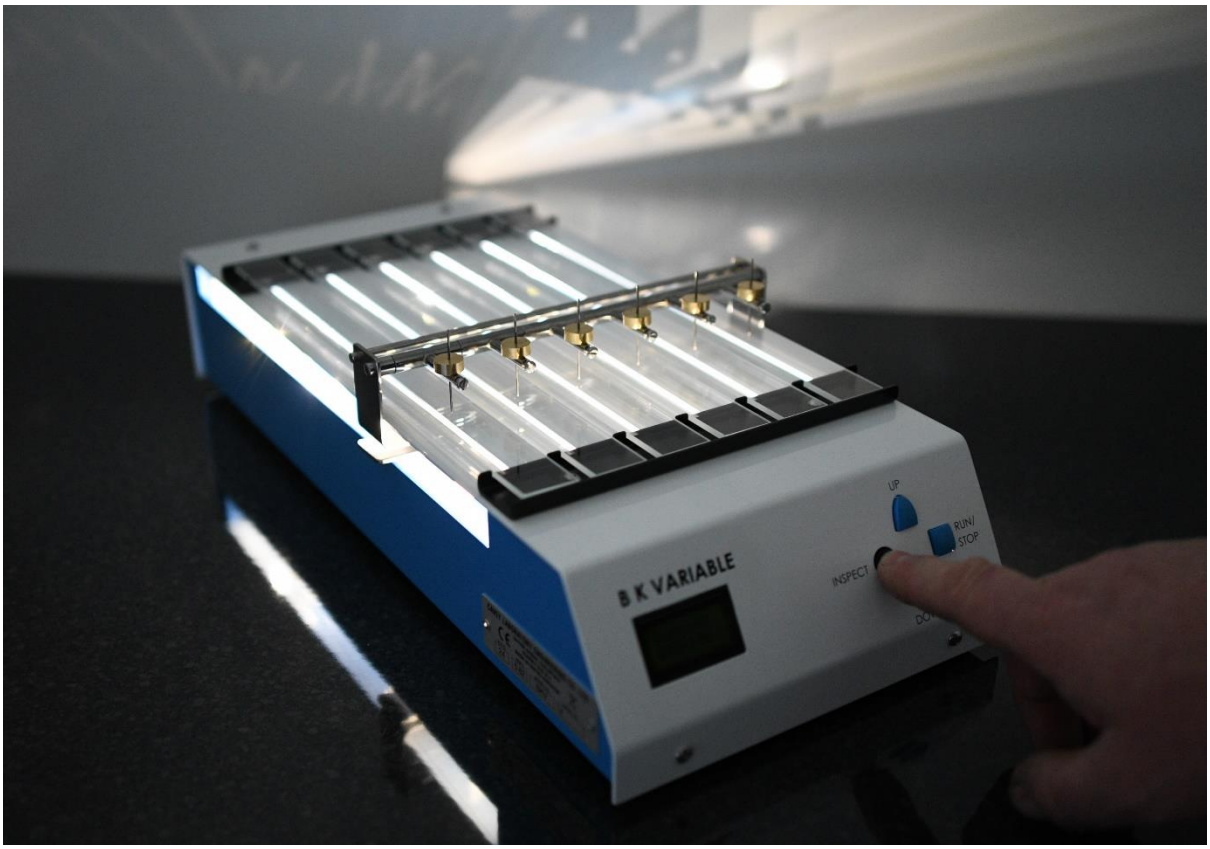

B K VARIABLE
UP
RUN/
STOP
INSPECT

THE BKV DRYING RECORDER



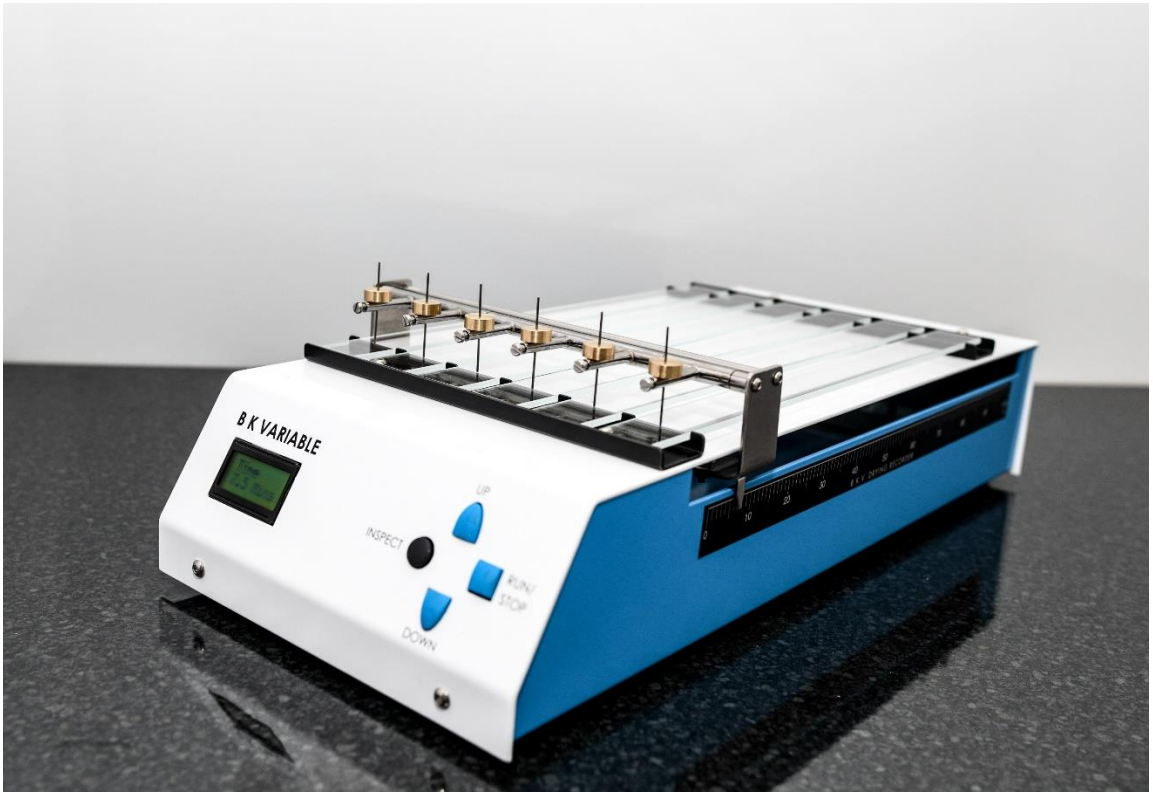
NEEDLE CARRIERS

Description:

The BK range of Drying Recorders have been used widely in the coatings industry throughout the world for several decades and have set the standard for reliability and quality.

As with all previous models the BK Variable is manufactured from good quality materials including brass, aluminium casings and stainless-steel fittings, the product is fully serviceable to ensure longevity and all spare parts are available. A needle carrier of high-quality design and manufacture can be seen in the photograph above holding six hemispherical ended needles which travel the length of the six 305 x 25mm test strips in a choice of 20 pre-programmed times from 7.5 minutes to 96 hours. Other specific times can be specified in increments of 30s at the time of order.

A time scale on the side of the recorder is graduated to suit any travel time.



Before operation the equipment will need to be unpacked and set up as follows:

Unpack and place the dryer and associated parts onto a clean stable worktop.

The power supply is to be assembled by plugging in the output pin into the rear socket on the recorder.

Route the cable behind the equipment and when satisfied that the area is safely and tidily positioned, plug into the mains socket and switch on the mains power. The screen should display a time setting.





Use the recorder on a firm bench and do not restrict ventilation by using in a confined area. Any surplus paint should be wiped off the recorder with a dry cloth. We do not recommend the use of solvents.

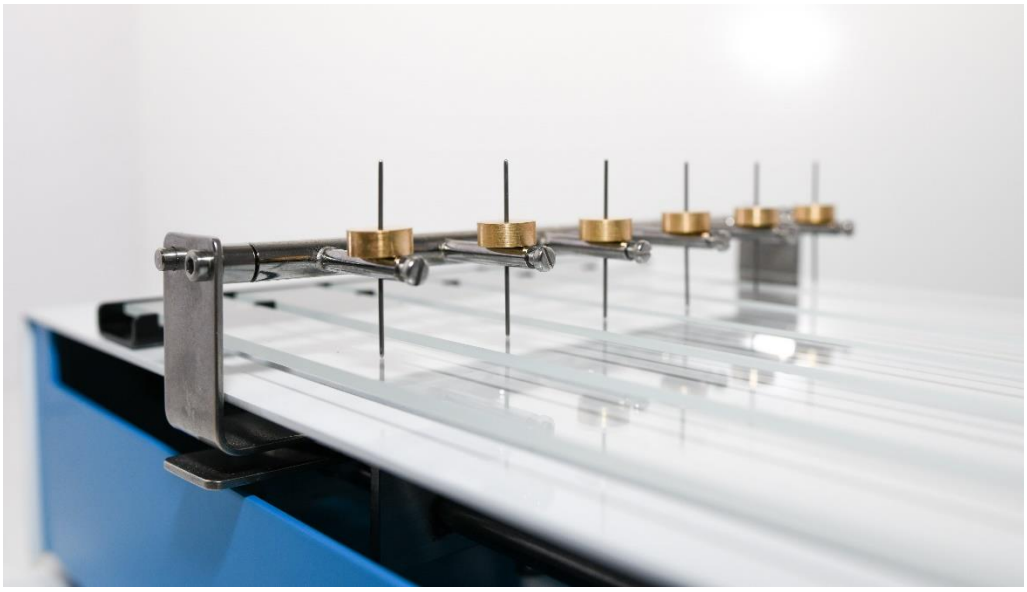
If an object is accidently dropped into the recorder, immediately disconnect from the main power supply and retrieve the object. If the equipment has been dropped or damaged in any way, it should be checked before connecting to the supply. Similarly, although the equipment is lubricated for life, any work (especially involving the removal of covers) must be carried out by a competent engineer.

In the interests of safety, always use the equipment in the specified manner.

OPERATION: -

OPERATING PROCEDURE

1. With the recorder disconnected, place the glass test strips in their holders on the top of the recorder and clamp a needle into each needle holder making sure that the needle arm is horizontal when the needle end is resting on the glass strip. If it is necessary to move the needle carrier in order to bring the needle directly over the glass strip, first remove the brass weights and rotate the needle carrier rearwards, lift the release lever on the side of the needle carrier and slide the carrier to the required position.



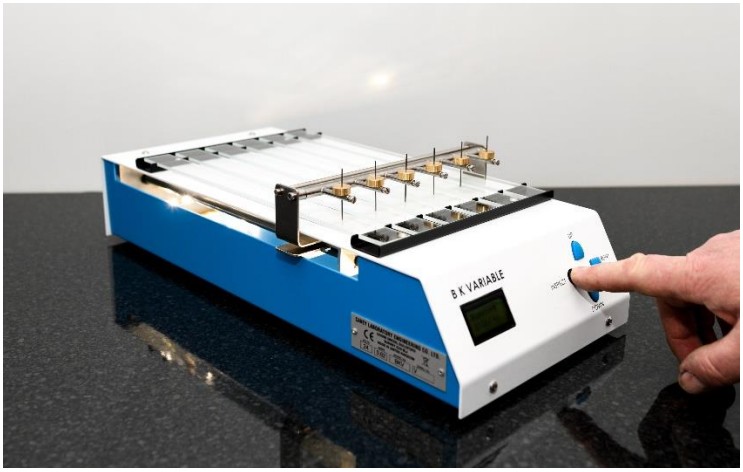
2. Slide the needle carrier to the start position at the Zero end of the time scale by lifting the side lever to disengage drive and slide carrier assembly.

3. The required travel time is obtained by using the up or down buttons on the front panel.

4. Remove the glass strips and apply a paint film to them (our applicator cube and casterguide are recommended for this) and replace them on the recorder.

5. Lower the needles onto the test strips and press the “RUN/STOP” button. The needles will now commence their run along the glass strips and automatically stop at the end of their travel. The run can be stopped at any time by re pressing the “RUN/STOP” button

6. To view the results on the glass strips, look down onto the top surface of the dryer and press and hold the “INSPECT” button. The device will illuminate the strips for clarification of the distance travelled



Brass weights, each weighing 5 grams, may be used to apply greater pressure on the needles and thus record the through-drying properties of alkyds, varnishes and paints. The BK Drying Recorders will give useful information about the gelation times of many two component surface coating materials, and about properties of such films.

INTERPRETATION OF RESULTS

The recorders define stages in the drying process as: -

Stage 1 A pear shaped impression corresponding to the time taken for evaporation of solvent.

Stage 2 The cutting of a continuous track, corresponding to a sol-gel transition.

Stage 3 An interrupted track corresponding to the surface dry time.

Stage 4 The needle no longer penetrates the film, corresponding to the final drying time.

SPECIFICATION

SUPPLY RATING: Input	AC100-240 Volts 50-60Hz 1.8 Amp
Power supply output	DC 24v 4Amp
FUSE: mains plug	13 Amp

OPERATING CONDITIONS: Indoor use

Altitude up to	2000 metres
Ambient temperature	5˚C to 40˚ C

Max RH 80% up to 31˚C increasing linearly to 50% RH at 40 deg C

Installation	Category II

Pollution degree 1 or 2 (IEC 664)

DIMENSIONS (cms)	47 x 22 x 12
WEIGHT (Kg)	3.3

WARRANTY

This product is guaranteed against defects arising from faulty workmanship or materials for a period of one year from the original date of purchase, provided that the equipment has been used solely within the guidelines set by the operating instructions. Return the equipment to us and we will rectify the fault free of charge. This guarantee in no way affects your rights under statutory law.



DISPOSAL OF YOUR OLD APPLIANCE

This appliance is labelled in accordance with the European directive concerning the disposal of waste electrical and electronic equipment – WEEE. The guideline determines the framework for the recycling of used appliances as applicable throughout the EU.