



BK-DRYING TIME RECORDERS VF8000, VF8005, VF8010

ANUAL

1 SAFETY PRECAUTIONS

- Always make sure the instrument is connected to an earthed electric socket.
- Always make sure the instrument's power is turned off while adjusting any electric component
- A needle is a sharp object. Be careful when using it.
- Use the recorder on a firm bench and do not restrict ventilation by using in a confined area.
- If an object is accidentally dropped into the recorder, immediately disconnect from the main 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.

Important The wires in the mains Green and Yellow : Blue:	i lead supplied with this appliance are coloured in accordance with the following code: Earth Neutral
Brown :	Live
As these colours may nas follows:	not correspond with coloured markings identifying the terminals in your plug, connect Green and Yellow wire to the terminal marked with the letter E or by the earth symbol or coloured green and yellow. Blue wire to the terminal marked N or coloured blue. Brown wire to the terminal marked L or coloured brown.

2 PRODUCT DESCRIPTION

The BK 3 speed Drying Recorder has been used widely in the coatings industry throughout the world for several decades. A needle carrier holding six hemispherical ended needles travels the length of the six 300 x 25 mm test strips in 6, 12 or 24 hours. Other speeds are available to special order. A time scale on the side cover is graduated to suit the 3 different travel times.



The BK 6 and BK 10 Recorders have independently operating tracks allowing tests to be made at different start times. Pairs of tracks operate at the same speed, and a wide range of travel times are available. Travel times of 6, 12, 24 and 48 hours are all considered as standard. A time scale on the front cover is graduated to suit the instrument's drying time ranges. Each pair of tracks has its own individual operating switch.

3 DEFINING DRYING TIME

The Recorder defines stages in the drying process:

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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.

TQC B.V.	2908 LL Capelle aan den IJssel	phone:	: +31 (0)10-7900100	e-mail: info@tqc.eu
Molenbaan 19	The Netherlands	fax:	+31 (0)10-7900129	www.tqc.eu





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 the properties of such films.

4 WHAT'S IN THE BOX?

Instrument*, glass strips, hemispherical ended steel test needles, power cable, operating manual. * 3 models available: VF8000 – BK 3 Drving recorder

VF8000 – BK 3 Drying recorder VF8005 – BK 6 Drying recorder VF8010 – BK10 Drying recorder

5 SPARES AND ACCESSORIES

SPARES:	VF8104	Glass test Strips per 12
	VF8105	Hemispherical ended steel Needles (standard) per 12
ACCESSORIES:	VF8101	Applicator (stainless steel)
	VF8102	Casterguide
	VF8103	Brass Weights (5 grams each) per 6
	VF8106	Needles (stainless steel) per 12
	VF8107	Needles (Teflon coated one end) per 6
	VF8108	Needles (PTFE ball ended) per 6
6 PREPARATIONS		

The drying time of alkyds, varnishes or paints is determined by adding the requisite drier and thinning to a viscosity at which the material is normally applied. The finish is allowed to stand at room temperature for 24 hours to "mature". A test strip measuring 300x25mm (which may be of plain or ground glass or of other suitable material) is prepared by casting a film upon it by means of a special applicator which is accurately ground at one end to deposit a wet film thickness of 76 µm and 38µm at the other. The test strips are placed on the table between the brass studs and the instrument is then operated as indicated below.

7 USE

- 1. With the Recorder switched off, 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 lift the release lever on the back of the needle carrier (BK 3 model) or depress the plunger on the top of the needle carrier (BK 6 and 10 model) and slide the carrier to the required position.
- 2. Raise the needle holder arms so that the needles are lifted off the glass strips and position the arms against the back-rest. Slide the needle carrier to the start position at the zero end of the time scale.
- 3. (BK 3 model only). The required travel time is obtained by tuming the selector knob in a clockwise direction and sliding it in or out to expose the desired travel time and then releasing the knob.
- 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 switch on at the main switch (marked 0/1). (Note: BK 6 and BK 10 models only. Each switch on the top cover alongside the glass strips operates the pair of needle carriers to which it is closest. Switch on these switches as required.) The needles will now commence their run

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along the glass strips and automatically stop at the end of their travel, (a few millimetres before the end of the time scale.)

6. Switch off the Recorder and remove the glass strips for analysis.

8 MAINTENANCE

- Though robust in design, this instrument is precision-machined. Never drop it or knock it over
- Always clean the instrument after use.
- Clean the instrument using a soft dry cloth. Never clean the instrument by any mechanical means such as a wire brush or abrasive paper. This may cause, just like the use of aggressive cleaning agents, permanent damage.
- Do not use compressed air to clean the instrument.
- If an object is accidentally dropped into the recorder, immediately disconnect from the main 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 service engineer.

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 endeavour 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.

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