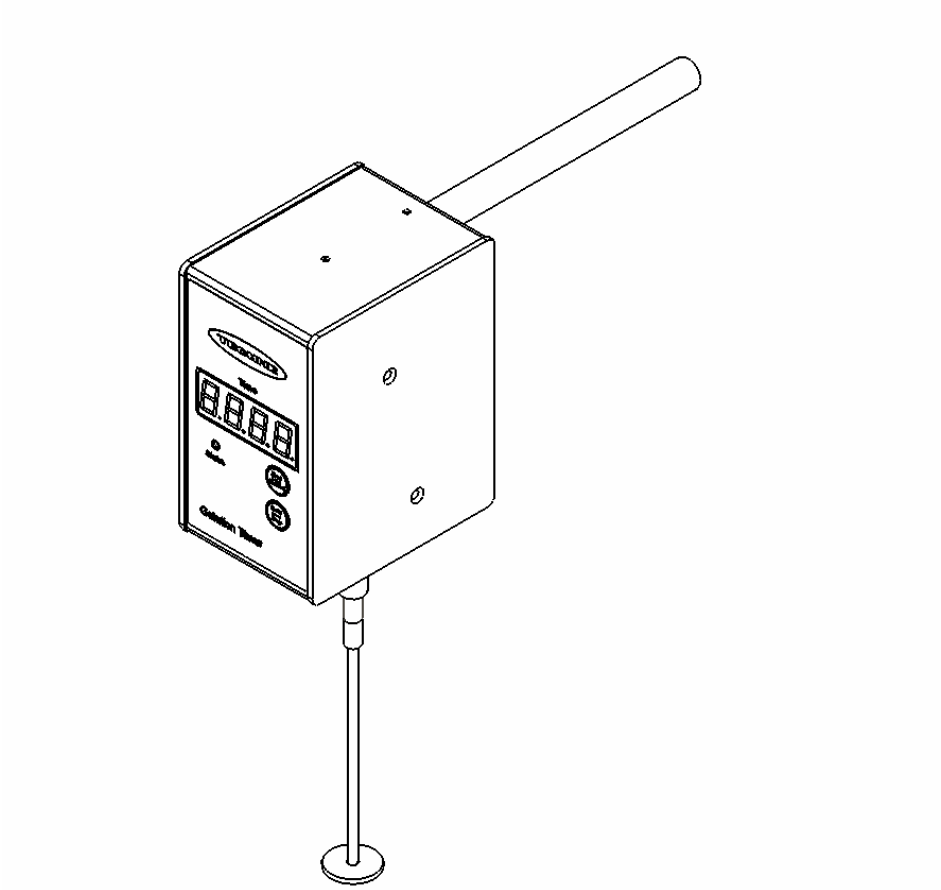
FGT5 & FGT6 Gelation Timer

Instructions for use



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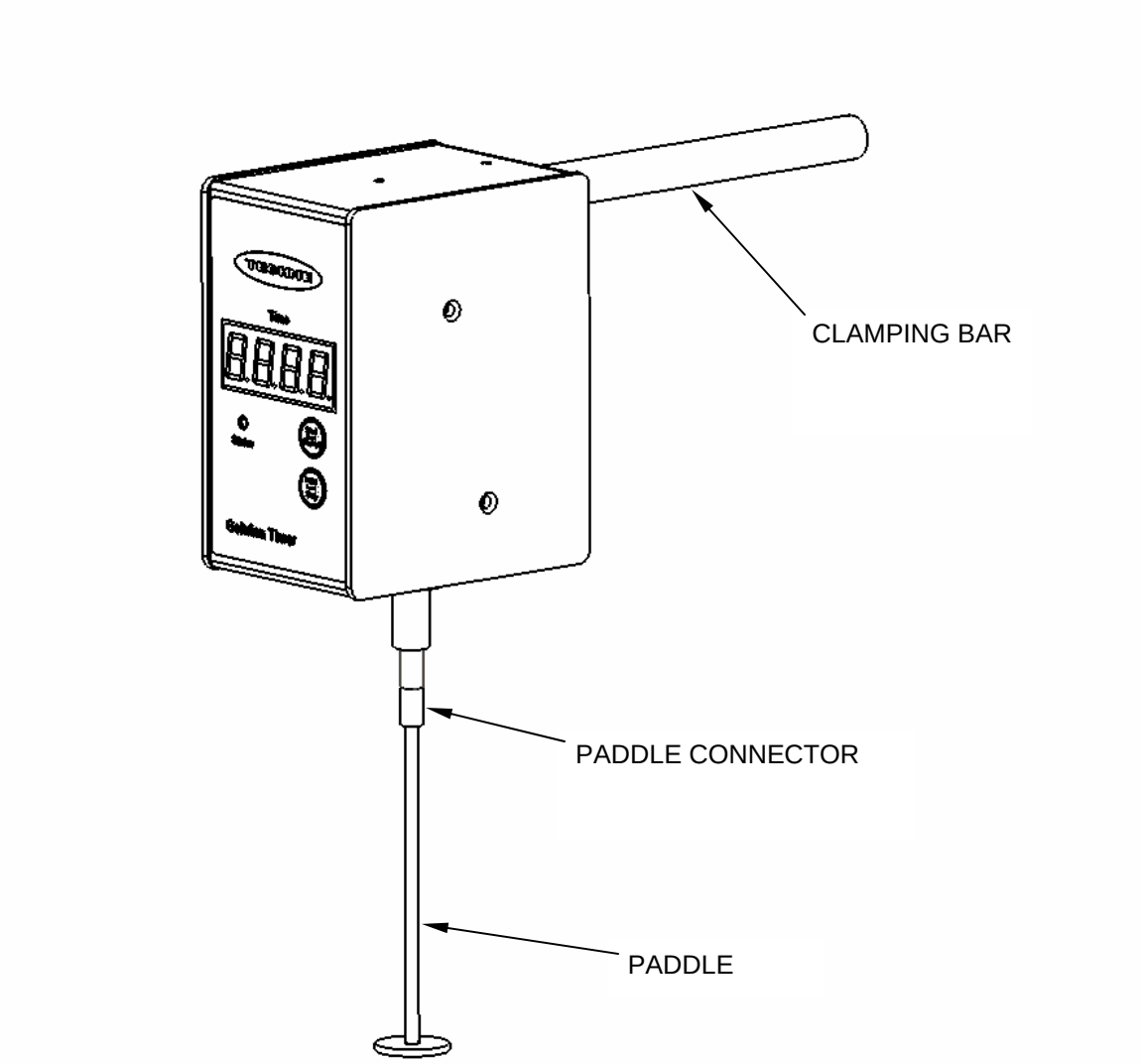


1. Introduction

Thank you for purchasing this piece of Techne equipment. To get the best performance from the equipment please read these instructions carefully before use.

For your own safety and that of others please read and understand the safety advice given below before using the equipment.

Before discarding the packaging check that all parts are present and correct.

2. Safety Advice before use

If the equipment is not used in the manner described in this manual and with accessories other than those recommended by Barloworld Scientific the protection provided might be impaired.

This equipment is designed to operate under the following conditions: -

. For indoor use only
. Use in a well ventilated area
. Ambient temperature range +5°C to +40°C
. Altitude to 2000m
. Relative humidity not exceeding 80%
. Mains supply fluctuation not exceeding 10%
. Over-voltage category II IEC60364-4-443
. Pollution degree 2
. Use with a minimum distance all around of
200mm from walls or other items

The unit should be carried using both hands.

Do not use in a hazardous atmospheres or with hazardous materials.

Never move or carry the unit when in use or connected to the mains electricity supply.
In the case of mains interruption, the unit will not restart on restoration of the electricity supply.

In the case of mains interruption, the unit will reset on restoration of the electricity supply.

3. General Description

The Techne Gelation Timer is the ideal instrument for accurate measurement and quality control for the gelation of resin or adhesive based samples in the laboratory. Before leaving the factory each instrument is calibrated and certificated. All models have digital timers, with the output time in 1 minute increments up to 9999 minutes, for the 1 RPM model (GT5), and in tenths of a minute up to 999.9 minutes, for the 10 RPM model (GT6). Accuracy of indicated gelation time is ±2% at a specific temperature.

4. Preparation for Use – All models

4.1 Electrical Installation

THIS INSTRUMENT MUST BE EARTHED

Before connection please read and understand these instructions and ensure that the line supply corresponds to that shown on the rating plate.

Voltage variants for these instruments are 230V 50Hz, 230V 60Hz, 120V 50Hz & 120V 60Hz. The power consumption of each unit is 5W.

This unit is supplied with a mains lead which requires a rewirable mains plug to be fitted.

IT IS IMPORTANT THAT THIS OPERATION SHOULD ONLY BE UNDERTAKEN BY A QUALIFIED ELECTRICIAN

NOTE: Refer to the equipment’s rating plate to ensure that the plug and fusing are suitable for the voltage and wattage stated.
The wires in the mains cable are coloured as follows:

LIVE - BROWN

NEUTRAL – BLUE

EARTH - GREEN/YELLOW

The appropriate mains plug should be connected to the instrument BEFORE connection to the mains supply.

Should the mains lead need replacement a cable of 0.5mm^2 to BS6500 & CENELEC HD21.5 should be used.

IF IN DOUBT CONSULT A QUALIFIED ELECTRICIAN

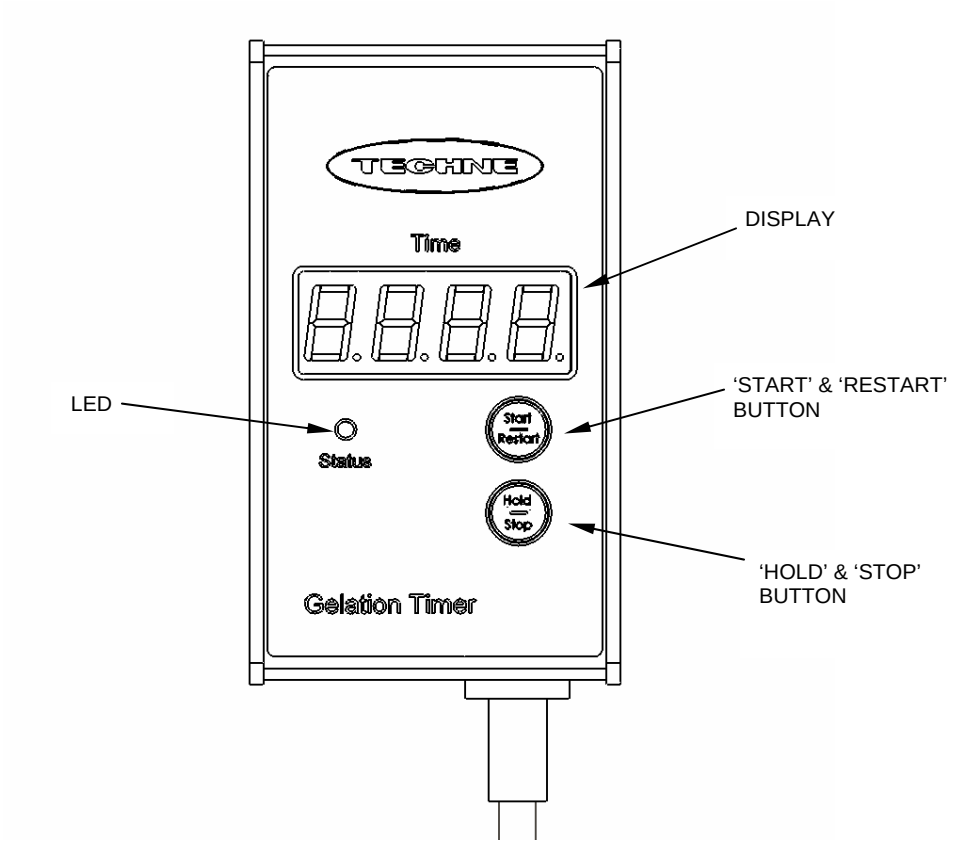
4.2 To use the Gelation Timer mount the instrument clamping post onto a suitable retort stand or fixture at the desired height for operation. Ensure that the instrument is clamped firmly.

4.3 Screw the appropriate paddle to the end of the paddle connector on the sliding contact.

4.4 Connect the instrument to the electricity supply and switch on.

4.5 The instrument will perform an automatic self test at switch on. All segments will illuminate momentarily before displaying a single 'zero' on the right hand side, a buzzer will sound and the LED should illuminate green. The gelation timer is now ready to use.

5. Operation



5.1 Sample preparation.

The test requires about 100ml of sample in a container at least 38mm internal diameter. The top of the paddle stroke should be not less than 32mm below the sample surface and the bottom of stroke not closer than 13mm to the bottom of the container. Standard sample cups for use with the instrument are available (catalogue number F7846).

5.2 Starting Gelation.

Having prepared the sample in the manner described, gelation time measurement can be started in one of the following ways :-

5.2.1 **If you want to set up your sample under the paddle, start reaction and gelation timer simultaneously:**
Press the 'start' button once. This starts the timer incrementing, the LED will flash 'Green' and the paddle will start to reciprocate (up and down).
When the sample has gelated to the extent that **paddle movement is halted** (circuit is closed), the timer is stopped along with the paddle, the buzzer sounds and the display will alternate between the word 'GEL' and the indicated gelation time.
This is the normal gelation mode.

5.2.2 **Alternatively, if you want to start the timer as soon as the sample reaction is started:**
Press the 'Hold' button once as soon as the sample is mixed, the timer starts incrementing (as gelation has started), the LED will illuminate 'Red', the paddle will reciprocate (up and down) and the display will alternate between the word 'HOLD' and accumulated time.
If the paddle switch is closed in the 'HOLD' state the timer is not stopped and the paddle continues to reciprocate. This allows you time to place the sample under the paddle and get ready for gelation measurement.
To commence gelation measurement once everything is set up, just press 'Start' button once and then follow instructions shown above in 5.2.1

5.3 Accidental tripping during gelation measurement.

If the paddle is accidentally tripped during gelation, the timer can be restarted by pressing 'Restart' button once.
Note: that the timer is restarted from when it was stopped, therefore the elapsed time between stopping and restarting the timer is not recorded.

5.4 Stopping during gelation measurement.

The instrument can be stopped during gelation by pressing the 'Stop' button once. The paddle stops reciprocating, the LED is extinguished and the word 'STOP' is indicated on the display.
To restart the gelation process just press the 'Restart' button once.
Note: While in stop mode, the timer will continue to run, and when restarted will indicate actual gelation time. However, if the 'Stop' button is pressed a second time, having just stopped it, the timer will reset and the instrument will enter the 'Hold' state, (see 5.2.2 above).

6. Maintenance, Servicing & Repair

WARNING: Ensure the unit is disconnected from the mains electricity supply before attempting maintenance or servicing.

This range of equipment does not require routine servicing. The only maintenance required is to clean external surfaces with a damp cloth and mild detergent. Spillages or splashes should be cleaned up straightaway after isolating the unit from the mains electricity supply.

6.1 Repairs

Any repairs or replacement of parts MUST be undertaken by suitably qualified personnel.

Only spare parts supplied or specified by Barloworld Scientific Ltd. or its agent should be used. Fitting of non-approved parts may affect the performance of the safety features designed into the instrument.

For a comprehensive list of parts required by service engineers conducting internal repairs, or to receive a service manual, please contact the Sales Department of Barloworld Scientific Ltd quoting both the model and serial number.

If in any doubt please contact the Service Department of Barloworld Scientific Ltd.

6.2 Calibration

Your Gelation Timer has been carefully factory calibrated and is provided with a calibration certificate. If you require your unit to be re-calibrated at any time, please contact our Service Department of Barloworld Scientific Ltd.

6.3 Accessories

A range of accessories detailed below is available for use with the Gelation Timer.

Description	Catalog Number	Code
22mm Stainless Steel Plunger	6020985	F0985
19mm Stainless Steel Plunger	6020979	F0979
16mm Stainless Steel Plunger	6020982	F0982
Pack of 100 Disposable Plungers	6021794	F1794
Disposable Plunger Adaptor	6001795	F1795
Pack of 240 Sample Cups	6027846	F7846

7. Warranty

Barloworld Scientific Ltd warrants this instrument to be free from defects in material and workmanship, when used under normal laboratory conditions, for a period of **three (3)** years. In the event of a justified claim, Barloworld Scientific will replace any defective component or replace the unit free of charge.

This warranty does NOT apply if damage is caused by fire, accident, misuse, neglect, incorrect adjustment or repair, damage caused by installation, adaptation, modification, fitting of non-approved parts or repair by unauthorized personnel.

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