

9. Device is running in three modes

- **Stop Mode** : Idle mode no operation is performed but user can change parameters
- **Start Mode** : Device running in this mode. User can also change parameters in this mode but it is preferable to set a safe values in stop mode initially.
- **Timer Completion Mode** : Device undergo in this mode automatically when completed its set run time. Use "Start/Stop" key (L) to move in stop mode for next operation.

Use "Start/Stop" key (L) to switch in start or stop mode. In this identification of mode is done by Led (L). Blinking led (L) indicates stop mode and constant led indicates start mode.

10. Quick Start-up Guideline:

1. Place the unit on a level, dry bench or surface.
2. Plug the unit into a properly grounded, three wire outlet of proper voltage.
3. Place the sample on the heater plate and put the stir bar into the sample. Be sure the vessel is centred and that the stir bar is centred in the vessel. Try to match the stir bar to the sample and container size to optimize mixing. Generally, more powerful stir bars are needed to mix more viscous samples.
4. Turn the unit ON by the rocker switch on the side panel. It takes 2-4 second to perform a self-test after that device go under stop mode.
5. Now set the parameters of temperature, stir and time using their respective keys according to the requirements.
6. Button (L) is used for both start and stop operation of device. First time pressing button (L) will put the device in start mode and with second press device will undergo in stop mode.
11. Device will stop after its time completion and switched automatically in Timer completion mode. For further operation, user must need to press the start/stop button (L).
12. In order to stop device during its operation press start/stop button (L).

11. Display and Indication:-

	Attribute	Meaning	Remark
1	Yellow Hotplate Led Blinking	Top plate in Hot observe caution	Ok
2	Short buzzer sound	Device Start/Stop	Ok
3	Long buzzer sound	Run time completed	Ok
4	Cooling Fan ON	Device inside temperature is high	Ok
5	LED (O) indication	Stirring after time completion is selected	Ok
6	LED (M) indication	Set value is displaying	Ok
7	LED (N) indication	Green colour- stir power 50% Blue colour- stir power 75% Red colour- stir power 100%	Ok
8	LED(P) indication	Blinking - Device Off Constant - Device Running	Ok
8	Err.1	Failure in heating part	Error
9	Err.2	Failure in stirring part	Error



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GLASSCO

15-POSITION DIGITAL MAGNETIC HOTPLATE STIRRER

OPERATING MANUAL

415.DG.01

CE
certified



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15-position digital magnetic hotplate stirrer

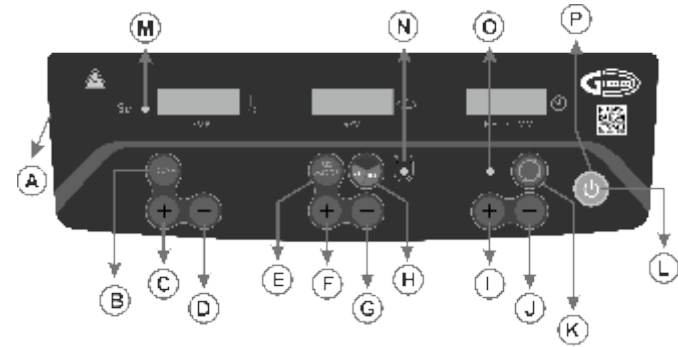
- Designed for synchronous heating and stirring.
- The magnetic coil technology provides noiseless and consistent stirring on all positions
- Homogeneous temperature distribution across the heating plate
- Hot top warning indication
- Timer function
- Adjustable reverse operation for stirring
- Stirring speed remains constant, even when load changes.
- SPC-mode for a low self-warming of the surface-----???
- Wear free magnetic coils
- Error code display
- Easy operation with touch keypad
- Suitable for continuous operation
- Speed range: 0 - 1000 rpm

Technical Data

Number of stirring positions	15
Stirring position distance	90 mm
Speed deviation of individual stirring positions	0%
Stirring quantity max. per stirring position (H ₂ O)	250 ml
Speed control	10 RPM Steps
Speed range	0 - 1000 rpm
Stirring bar length min.	25mm
Stirring bar length max.	30mm
Heat output	700W
Heating temperature range (surface)	Room temp. - 120°C
Control display	LED
Input Type	Touch Key
Heating rate heating plate	9.5 K/min
Adjustable safety circuit min.	50°C
Adjustable safety circuit max.	130°C
Timer range	00:01 to 99:59 [Hour: Minute]
Set-up plate material	Aluminium
Set-up plate dimensions	274x504mm
Dimensions (W x H x D)	281x81x609mm
Weight	11Kg (Approx.)
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class according to DIN EN 60529	IP 40
Voltage	230/115 V
Frequency	50/60 Hz
Power input	750 W

1. Pressing the +/- buttons (C or D) increases or reduces the set temperature value. Temperature may be displayed in either C or F as set by a front panel button (B).

2. Pressing the +/- buttons (F or G) increases or reduces the stir speed in the steps of 10 rpm, the unit has rpm settable from 10 to 1000.



3. There are six modes in stirring related to the stirring direction that can be selected by pressing "Six Mode" button (E).

- -CL Clockwise direction
- ACL Anticlockwise direction
- t₃₀ Direction changed after 30 second.
- t₆₀ Direction changed after 60 second.
- t₉₀ Direction changed after 90 second.
- t₁₂₀ Direction changed after 120 second.

4. According to the viscosity of medium, the power of the magnetic coil is adjustable. Press power (H) key and select one of the following options.

- P50 50% stir power, auto set value 600rpm
- P75 75% stir power, auto set value 800rpm
- P100 100% stir power, auto set value 1000rpm

Note: The auto set values of stir speed can be further adjusted by pressing +/- keys (F or G).

5. The unit has a built-in timer. The timer counts up in hours and minutes, sounding an alarm when it reaches set value. After timer completion heater is switched off but for stirring user has option. By pressing key (K) and led indication (O) user can select stirring after time complete is required or not. The timer may be used independently of the heater for stirring action. For such case the temperature may be set below ambient or at zero and stirrer may be used. Timer value can be adjusted by using +/- Keys (I or J).

6. The device is switched on and off via the switch (A) located on the left-hand side of the device.

7. Safe temperature limit

The maximum attainable heating plate temperature is restricted to 130°C.

The safety temperature is set as follows:

Press and hold down the ON/OFF key and then switch the device on using the On/Off main power switch on the left side of the device. If display show SAFE cut then use the +/- membrane keys (C or D) to set the desired safety temperature. Device will perform its normal operation after a delay time of 2 seconds.

8. After the device is switched on a display self-test is performed. The display cycles show the following information:

- All segments light up
- Display Error if occurred