DB2000
Push Button Dispense Boiler
Installation And User Instructions

The Professional's Choice

CONTENTS

Introduction

Dear Customer,

Thank you for purchasing this Instanta product.

Your new Instanta Boiler is designed to give years of trouble-free service provided that the instructions contained in this manual are followed.

All new Instanta products are energy efficient, simple to operate and easy to service.

Safety Information

Please read the following carefully before starting work on this equipment.

A competent installation engineer should install this appliance in accordance with the installation instructions for this appliance and all relevant local and national standards including the following:

- Health and Safety at Works Act
- IEE regulations
- Local and national building regulations
- BS Codes of practice
- Water supply regulations

VERY HOT WATER - Your new DB2000 Push Button Dispense boiler is designed to provide a constant source of near boiling water, which can be dispensed for the preparation of hot drinks.

The LCD display on the front of the appliance shows the message “Very Hot Water!” whenever a drink is dispensed, warning users to take caution. Nevertheless, if deemed necessary, an additional warning notice displayed adjacent to the boiler may be helpful in notifying users that the appliance contains and dispenses near boiling water.

The DB2000 is ideal for self-service however the boiler also has an optional programmable locking system, which can restrict its use where Health and Safety is a concern or in High Security environments.

In line with Health and Safety requirements it is advisable that a risk assessment be carried out after the boiler has been installed.

Environmental Information

Information on Disposal for Users of Waste Electrical & Electronic Equipment

The “crossed out wheelie bin” symbol on this product means that discarded electrical and electronic products should not be mixed with general waste. Disposing of the product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. For proper treatment, recovery and recycling of end-of-life products, please contact your dealer or supplier for further information, or local authority for details of your nearest designated collection point.

Checklist

Before starting installation check that you have the following parts:

1. Drip Tray
2. Front Overflow Blanking bung
3. Flexible (WRAS approved) Water Hose
4. Programmable key (Optional locking system)

Technical Information

Outer casing and tank constructed in Type-304 stainless steel. Internal baffle-plates [for condensing steam within the tank] are made from Type-316 stainless steel. The tank is fully insulated with FR high-temperature polystyrene.

All boilers have electronic control of the main functions. This means that the temperature is controlled precisely within given parameters. The circuit constantly monitors the operation of the machine and warns the user via the display panel if any abnormal circumstances have been detected.

Description:	Push-button type Dispense Water Boiler
Model Ref No:	DB2000
Voltage:	230V single-phase 50/60Hz
Supply:	AC
Rated Input:	3.0kW
Fill Type:	Automatic
Max Rapid Draw-Off:	12 Litres [72 x 150ml cups]
Recovery per Minute:	0.5 Litres
Recovery to full Capacity:	24 minutes
Temperature:	Adjustable between 80 - 99^C (factory-set @ 97^C)
Heat up time from Cold:	32 Minutes (to full boiler capacity)
Dimensions/Weight:	
Height:	608mm
Width:	260mm
Depth (including drip-tray):	465mm
Tap clearance:	145mm
Weight (empty):	14.0kg
Weight (full):	30.0kg

Installation

The boiler must be installed on a horizontal work surface with sufficient strength to support its weight.

Locate in an area where there is adequate space to use the boiler safely (e.g. free from risk of congestion and tripping hazards).

Connection to Mains Water Supply:

Connect the WRAS approved water filling hose (3/4"BSP) to the inlet connection point on the back of the boiler and the other end to the mains water supply, via an accessible isolating tap with a ¾"BSP thread.

IMPORTANT: If micro-bore pipe is used instead of the inlet hose supplied, the size must be minimum OD 3/8"(10mm).

The water supply must have a pressure not exceeding 7bar (96psi), and no lower than 2bar (28psi) NOTE: If your water pressure exceeds 7bar, fit a suitable pressure reduction valve.

We regret that Instanta cannot be held responsible for any machine malfunctions if the water pressure exceeds that stated. If in doubt, consult your water supply company.

Electrical Connection:

The boiler must be Earthed.

Your machine is supplied with a standard 13amp bonded plug with a 13amp fuse.

Overflow: The drip-tray has a limited capacity and is designed to handle small spillages and drips. Wherever possible, we strongly recommend that it is connected to a permanent waste.

We have provided two overflow outlet/connection points to choose from;

1). **The normal overflow is directed to the drip-tray.**

2). **Alternative overflow is at the back of the machine.**

If the drip-tray option [1] is to be used for the overflow, we can supply a 15mm fitting kit **(Pt. No: DTK2) available from Instanta Spares Department (01704 502905).** This can be fitted into the base of the drip-tray in place of the rubber blanking plug.

If the rear overflow option is chosen [2], the front overflow-pipe [behind curved-front panel], must be blocked-off using the tapered-rubber blanking bung provided. Pipe-work should then be provided between the rear-overflow connection [1/2"bsp-15mm] and a suitable waste/drain

[NOTE: Whichever overflow connection is chosen, the diameter of the pipe used must be no less than 15mm and an air gap provided within 300mm of the connection point. Failure to provide an air gap within this distance could cause an air lock which would stop the water discharging in the event of an overflow].

Whilst every reasonable precaution is taken to prevent an overflow, Instanta cannot be held responsible for any damage caused as a result of incorrect installation or blockage of the overflow or failure to direct the overflow to a safe outlet.

Operation

First Use (once water and electrical connections have been made);

Switch boiler on.

The screen will run through an initial self-diagnostic check before starting to fill with water (screen reads; "BOILER FILLING").

Once primed with water, the boiler will begin to heat (screen reads; "BOILER HEATING").

When the correct temperature has been reached, the display will simply read "BOILER READY".

The boiler will then continue in a heat/fill cycle until the tank is at full capacity. (During the heat/fill cycle, small amounts of water are added to ensure the water at the tap is always at the correct temperature).

IMPORTANT NOTE: In normal daily use, the boiler may be used as soon as the "BOILER READY" message is displayed, but on first install, wait at least 15 minutes before starting to use.

Regular Daily Use

Switch boiler on and wait for the screen to show "**BOILER READY**". The water will then be at the correct temperature.

Dispense water by pressing button.
(CAUTION: Boiler dispenses near-boiling water).

Eco Mode / Power Saving

The ECO mode is activated by pressing the ECO button. The screen reads "ECO MODE ACTIVE". This saves energy by switching the boiler operating capacity to half volume, ideal on quiet days in the season. Simply push the ECO button again to revert to full capacity.

Standby Power Consumption: The typical amount of energy used by the boiler when idling (not used) is: 0.09kw/hr

Leave on overnight or switch off? As a general rule of thumb…a 12-litre capacity water boiler such as the DB2000 which is *left idle for 10 hours or MORE*, would be better switched off and back on again the following day. If left idle for LESS than 10 hours, it would be more energy-efficient to leave it switched on.

Program Mode

The LCD display in conjunction with the On/Off button gives access to the program menu which allows various settings to be selected.

Most of the menus should not be accessed or changed because they are factory set, however, water temperature and optional lock mode may need to be set-up on site.

To access the program menu:

- Switch the boiler off and back on again - within a few seconds of the boiler being switched on again, press and hold the On/Off button in for approximately 10 seconds, until the display reads "**PROGRAM MODE**".
- Continue to press the On/Off button to proceed through the menu selections until the desired mode is reached.
- To select mode, hold button in for 3 seconds.

PROGRAM TEMP SET:

The boiler temperature is factory set to operate at around 98°C. This temperature can be adjusted in 1°C increments between 80 and 99°C. Follow instructions as above, scrolling through menu until "**TEMP SET**" is reached - hold button down for 3 seconds to select. Continue pushing button until desired temperature is displayed - push and hold button in for 3 seconds to set temperature. Continue to scroll through menu until "**PROGRAM EXIT**" is displayed – again push and hold button for 3 seconds to exit program mode.

PROGRAM LOCK [OPTIONAL]:

The DB2000 has an optional programmable locking system, which can restrict its use where Health and Safety is a concern or in High Security environments. *Before activating "Lock Mode", the optional key (supplied) must be synced to the machine as follows:*

a) Enter program mode as described above and scroll through menu until the display shows "**PROGRAM LEARN KEYS**". Hold for 3 seconds to select "**LEARN KEYS…WAITING**". Touch the key against the sensor (situated directly below LCD display window) – When a new key is touched, a short bleep can be heard and the display will show "**LEARNT**". To continue through the menu, push & hold button for 3 seconds.

b) Continue scrolling through menu until "**PROGRAM LOCK MODE**" is displayed – push and hold button for 3 seconds to select. There are four distinct lock-modes to choose from (push button to scroll through each option) as follows:

1) **NONE/OPEN** - (Standard default setting) the key function is disabled.
2) **TOGGLE** - Using the key fob turns the boiler on and off sequentially.
3) **TIMED** - The boiler can be used for a preset time (see below).
4) **ONE-SHOT** - A single drink…(plus 4 seconds of "top-up" in case button was released too quickly or drink has settled).

TIMED (3) - If "**TIMED**" option is selected, scroll through menu until "**PROGRAM OPEN TIME**" is displayed. Push and hold for 3 seconds to select – display shows "**OPEN TIME**" and the number of minutes. To set open time, push the ON/OFF button to INCREASE minutes and the ECO Button to DECREASE minutes. Press and hold for 3 seconds to confirm [Open Time determines how long the machine stays available for use, in minutes (programmable between 1 and 200 minutes].

c) Choose the desired lock-mode: push & hold button for 3 seconds to select.

d) To exit program mode, scroll through menu until "**EXIT PROGRAM**" is displayed – push & hold button for 3 seconds to exit.

Other Menu Options for Lock & Programmable Keys:

PROGRAM CHECK KEYS: This allows the validity of keys to be checked - the display shows "**CHECK KEY…WAITING**" and acknowledges any valid key with message "**VALID KEY**" and a short bleep (when key is touched against the sensor).

DELETE KEYS: This allows the deletion of a specific key. The display will show "**DELETE KEYS… WAITING**". Any key now touched against the sensor will be deleted.

ERASE ALL: This function clears all keys from the memory. It will ask for confirmation by pressing “eco” button. Should you not wish to clear the keys, simply press the “On/Off” button as normal to exit the menu.

Each DB2000 boiler can sync with 24 different keys, all with a unique combination. A key can be learnt by more than one machine to allow its use in multiple areas of the same building.

NOTE: Additional “keys” are available from Instanta spares dept. (Tel: 01704 501114), **Part No: DBKF021**

Cleaning

The external surfaces of the machine can be kept clean by wiping with a damp cloth. A good quality stainless steel cleaner will keep the machine in its original condition. The plastic top trim may also be cleaned with a damp cloth. Do not use abrasive material on the outer surface of the machine.

Maintenance & Service Information

The boiler should be periodically checked for scale build-up. The frequency depends upon hardness of the water and whether or not an effective scale reducer is fitted.

Apart from cleaning/de-scaling the level sensors and tank, no regular maintenance should be required.

DE-SCALING:

In hard water areas, the boiler should be descaled on a regular basis to maintain efficient operation, minimise energy consumption and also retain the water quality.

Full de-scale of Tank & Probes:

- Disconnect machine from power supply.
- Empty the machine and allow to cool.
- Remove outer-lid (spring-clips).
- Remove tank-lid (four/six fixing screws).
- Lift out the evaporation plates (inside of tank – Remember order of removal).
- Remove as much scale as possible by hand. Any scale which is difficult to remove can be dissolved by using a de-scaling solution.
- Wipe clean the level sensing probes (using non-metallic scourer).
- Flush with copious amounts of cold water to ensure all traces of de-scaler are removed before using the boiler again.
- Replace evaporation plates, tank-lid and outer lid.

Clean & de-scale the Probes:

- Disconnect machine from power supply.
- Remove outer-lid (spring-clips).
- Remove tank-lid (four/six fixing screws).
- Lift out the evaporation plates (inside of tank – Remember order of removal).
- Wipe clean the level sensing probes using a non-metallic scourer. It is important to clean the white insulators as well.
- Replace evaporation plates, tank-lid and outer lid.

Service Warnings & Fault Diagnostics

The DB2000 is fitted with an intelligent fault diagnosing system. There are two levels of diagnosis.

1. **Simple warnings** - accompanied by the illumination of a red exclamation mark. Your boiler will continue to operate as normal whilst displaying these warnings.
2. **Critical faults** - accompanied by the illumination of a red spanner.

SIMPLE WARNINGS (1)	The following messages may be seen. The display will alternate between the boiler status and the warning message. To clear message, switch boiler off at the mains supply and back on. These messages, which are not critical, should be dealt with when it is convenient;
CHECK WATER	Interruption in water supply. Check stop valve is turned on and no kinks restricting inlet hose. Check no debris in the water inlet valve. Message can also indicate low in-coming mains water pressure.
NO WATER Can occur on initial installation or following a service/ maintenance.	Lower probe cannot sense water after 6 minutes. Usually caused by interruption in water supply. Check stop valve and inlet hose etc. (as above). Fault can also be caused by limescale (see Message CLEAN PROBES below). Once water supply is rectified or probes cleaned, boiler must be switched off and back on to reset.
CLEAN PROBES (+1 or +2)	Limescale build up on one or more of the 5 level sensors. (+1) indicates that the lower sensor is coated in scale (+2) indicates that one of the upper 3 sensors are coated in scale. Clean probes as described in “DE-SCALING” above.
CRITICAL WARNINGS (2):	In the event of a serious malfunction, the Red spanner in the display will illuminate together with the message CALL SUPPLIER, alternating with one of the following messages;
THERMISTOR OC	Temperature sensor has become disconnected or is faulty. Contact supplier.
HEAT/THERM FAIL	Either the Over-boil or Boil-dry safety cut-outs have activated. Switch boiler off and back on after 5 minutes. If the Over-boil cut-out has operated, the boiler will reset and work as normal. If the Boil-dry cut-out has operated, the boiler will not heat and the message will reoccur in about an hour.
OVERFILL	Water level has risen to the highest Overfill sensor. If a previous CLEAN PROBES message has been ignored, simply clean the probes as described in “DE-SCALING” above. If this does not solve problem, the boiler has overfilled. This can be caused by a faulty water inlet valve or very high or low incoming water pressure. Contact supplier.

The majority of possible faults have been covered above. However, in certain circumstances, safety controls within the boiler may be activated. There are two resettable safety cut-outs in your boiler:

1). Over-boil safety cut-out: activates should the boiler produce excess steam. This can be due to:

- Limescale within the tank
- A temporary interruption in the water supply
- Over use of the boiler, beyond its capacity
- A faulty temperature sensor (covered by Warranty)

2). Boil-dry safety cut-out: this will activate if the boiler has been boiled dry, for example due to lime-scale build up or water starvation.

The safety cut-outs are manually resettable.

Safety First: Isolate from mains power supply before resetting. If in doubt, first contact Instanta Service Department on 01704 5029011

Accessories & Spares (Tel: 01704 502905)

Multi-Filter Cartridge: AQ35

Drip-tray overflow Kit
(connection to perm waste): DTK2

A full range of spares and accessories are available from our spares department.

Service/Technical Support:

Tel: 01704 502911

To ensure your service enquiry is handled as efficiently as possible, please have the following information available;

- Brief description of problem
- Product Type (model)
- Serial Number (label on right-hand side of machine). *This is essential*

Guarantee

Your boiler is guaranteed for two years from date of installation.

Our guarantee includes on site labour and parts for problems caused by fault of manufacture and component failure **with the following exclusions**:

1 Problems caused by hard water and lime scale. We regret that we cannot be held responsible for problems caused by hard water.

2 Accidental damage, misuse or use not in accordance with these instructions and damage caused by incorrect installation.

3 Problems caused by water starvation and water pressure that is outside the operating range of the boiler.

The manufacturer disclaims any liability for incidental, or consequential damages.

INSTANTA LIMITED
Canning Road Southport Merseyside PR9 7SN
Tel: (01704) 501114 Fax: (01704) 501115
IB27 - ISS:02

FM 36413 **EMS 75807**