

“Boost-A-Break®” - Break Tank & Booster Sets

Model BTAB® – Fixed Speed Overview – Datasheet Page 1 of 4

Overview

Break Tank assembly with Fluid Category 5 protection by virtue of the integral Type AB air gap. The unit is supplied as a complete package on a stainless base ready for installation.

The primary purpose is to provide backflow protection in accordance with the latest Water Regulations. The BTAB unit also boosts the water pressure for elevated areas or where a high flow rate is required – e.g. wash-down.

The cistern has a screened overflow and weir, making it suitable for unorthodox applications, which require a “Hygienic Type AB air gap” – e.g. butchery and vegetable preparation.

The unit is quiet by virtue of a centrifugal pump, anti-vibration rubber feet and flexible stainless braided connection hoses.

For higher flow rates and variable speed pumps see Variable Speed Datasheet and Dual Pump Datasheet.

For domestic boosting use “Pent-A-Boost” model BTAF.

Applications

The following are Fluid Category 5 examples see Water Regulations (Table 6.1e) -

- Waste bin washing
- Hose union taps – non-domestic
- Wash-down – animals or any Fluid Category 5
- Underground or surface irrigation – *see HUBG*
- Laboratories
- Baths in health care premises
- Showers health care – *see Care Shower*
- Sinks with hoses
- Bidets
- Bedpan washing
- Vegetable washing
- Butchery & meat equipment / Slaughterhouse
- Clothes washing machines – healthcare premises
- Dish washing machines – healthcare premises
- Applications deemed to be Category 5 by water company

Water Regulations

The assembly is fully Water Regulations approved & complies with the requirements of the Water Regulations when installed and used correctly. A Break Tank with a Type AB air gap provides protection against Fluid Category 5 risks - these risks are the highest level. “Boost-A-Break®” can therefore be used for all applications requiring backflow protection – use “Pent-A-Boost” for drinking water.

The Regulations require point of use protection. For example, it is not permissible to use the same Break Tank to serve a bedpan washer (Fluid Category 5) and a dishwasher. However several appliances of the same type can be served from the same Break Tank unit – e.g. irrigation network.

Specification

Pressure Supply min.	1.0 bar min. maintained (dynamic)
Pressure Supply max.	10 bar
Pressure Outlet	See flow graph – page 2
Pressure Gauge	63 dia. glycerine filled (except dual)
Vessel Capacity	24 Lt
Cistern Capacity	24 Lt
Inlet Size	See “Inlet Control” table
Outlet Size	See “Outlet Pressure Control” table
Temperature	30° max. ambient
Water Regulations Approval	1501308



Model 1200 - Fixed speed.

Stainless screened slot, drip tray, base, and hoses. Only 675 mm high

Registered UK Design 4036013



Materials

Base / drip tray / fasteners	Stainless steel 304
Pump (wetted parts)	Stainless steel 304
Pipes / fittings	Copper / Brass / Stainless
Cistern 24 Lt	MDPE



Optional Wall Brackets.

Code – BTBRA.

Second set can be located underneath on floor.

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“Boost-A-Break®” – Break Tank & Booster Set

Model BTAB® – Fixed Speed 700, 900, 1200, 4-2, 4-3, 4-4 - Datasheet Page 2 of 4

Description – Fixed Speed

There is a choice of six pump duties – see chart. The units are compact and the pump operation is automatically controlled. The initial cost of fixed speed pumps is less than the equivalent variable speed but fixed speed pumps generally consume more energy over a lifetime. For low use applications or where the demand is high and near constant, a fixed speed pump is adequate. The pumps are self priming.

The relatively large 24 litre pressure vessel allows about 5 litres of water to be supplied before the pump switches on.

Inlet Control

Fast and accurate level control is achieved with a solenoid valve. Electrodes provide on/off full flow control with 60 mm delayed action. The DN20 inlet is equivalent to ten ½” BS1212 HP float valves. DN25 is fitted as standard to high flow models - see table below – and optional on others – e.g. for low pressure supplies. Providing the following minimum dynamic supply pressure is maintained at the inlet, the cistern will not run dry even with an open outlet.

Model	Inlet Size	Minimum Dynamic Pressure	Pipe Velocity m/s
700, 900	DN20 female union	1.0 bar	3.7
1200, 4-2, 4-3, 4-4	DN25 female union	1.0 bar	2.8

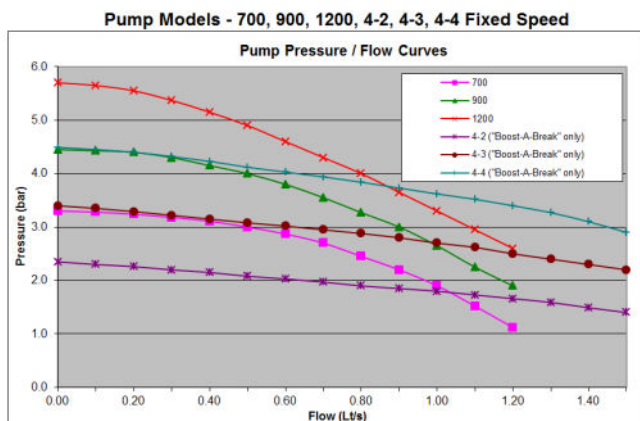
Outlet Pressure Control

The pressure switch is factory set according to the table below. To stabilise the outlet pressure, a factory fitted Pressure Regulating Valve (PRV) is optional – code BTPRV. Or use a variable speed pump – see Variable Speed Datasheet.

The outlet flow is automatically limited to 1.17 Lt/s or 1.5 Lt/s for the 4- series.

Model	Outlet Size	Pressure Switch on (min.)	Outlet with Optional PRV ¹	Pressure Max ² .	Vessel Pressure ³
700	DN20	2.0 bar	2.0 bar	3.3 bar	1.8 bar
900	DN20	3.0 bar	3.0 bar	4.5 bar	2.8 bar
1200	DN20	4.0 bar	3.0 bar	5.7 bar	3.8 bar
4-2	DN20	1.0 bar	1.0 bar	2.3 bar	0.8 bar
4-3	DN20	2.0 bar	2.0 bar	3.4 bar	1.8 bar
4-4	DN20	3.0 bar	3.0 bar	4.5 bar	2.8 bar

Notes - 1. Adjustable. 2. Without PRV 3. Vessel air pressure with zero water pressure.



Electrical Specification

Motor 2 – Pole 50 Hz IP54, 230 V (1ph) or 400 V (3ph) star

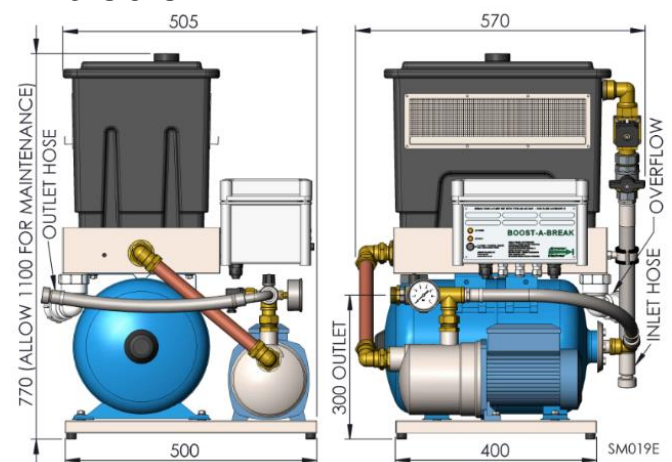
	1 phase			3 phase		Input max
Model	A (Run)	A (Start)		A (Run)		kW
700	3.0	9.8		1.4		0.65
900	4.2	13.8		1.6		0.90
1200	5.4	18.0		2.0		1.20
4-2	3.0	9.8		1.4		0.65
4-3	4.2	13.8		1.6		0.90
4-4	5.4	18.0		2.0		1.20

Class
Run-on Timer
BMS
Low level cut out

Class 1 (requires earth wire)
180 sec
Volt free SPDT for low level alarm
Stops pump via electrodes in tank
(Warning lamp on control box) –
auto reset once tank refilled
M20 hole in control box
IP65 (Enclosure) / IP54 (Pump)

Connection
Protection

Dimensions



Registered UK Design 4036013

Model BTAB 700, 900 & 1200

Kg Dry	Kg Gross	Base Width	Base Depth
28 - 36	68 - 74	400	500

Connection Pipes

Flexible stainless braided hoses are supplied for the inlet and outlet. These have a female swivel nut (union) and a fibre washer. See Inlet Control and Outlet Pressure Control tables for size. A full bore inlet servicing valve – as required by the Regulations (G16.4) - is fitted upstream of the solenoid filling valve. The Overflow is 40 mm plastic with compression nut.

Codes and Descriptions – Fixed Speed

Inlet Size	Code	Description
DN20	BTAB700	Boost-A-Break® AB Gap 700 Fixed 230 V 2.0 bar
DN20	BTAB900	Boost-A-Break® AB Gap 900 Fixed 230 V 3.0 bar
DN25	BTAB1200	Boost-A-Break® AB Gap 1200 Fixed 230 V 4.0 bar
DN25	BTAB4-2	Boost-A-Break® AB Gap 4-2 Fixed 230 V 1.0 bar
DN25	BTAB4-3	Boost-A-Break® AB Gap 4-3 Fixed 230 V 2.0 bar
DN25	BTAB4-4	Boost-A-Break® AB Gap 4-4 Fixed 230 V 3.0 bar

Optional extras – see pages 3 and 4

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“Boost-A-Break®” - Break Tank & Booster Set

Model BTAB® – Options for Fixed Speed Units — Datasheet Page 3 of 4

Options

- High level alarm relay (volt free) - recommended to minimise the risk of water damage.
- Pressure Regulating Valve (PRV) – constant outlet pressure – factory fitted – *fixed speed only*
- Wall Brackets
- GRP Drip Trays
- GRP Wall Covers – *use wall brackets* – e.g. bin store
- GRP Enclosures – for exterior use
- 3 phase pumps
- Pulse timer – prevents pump sticking if infrequently used

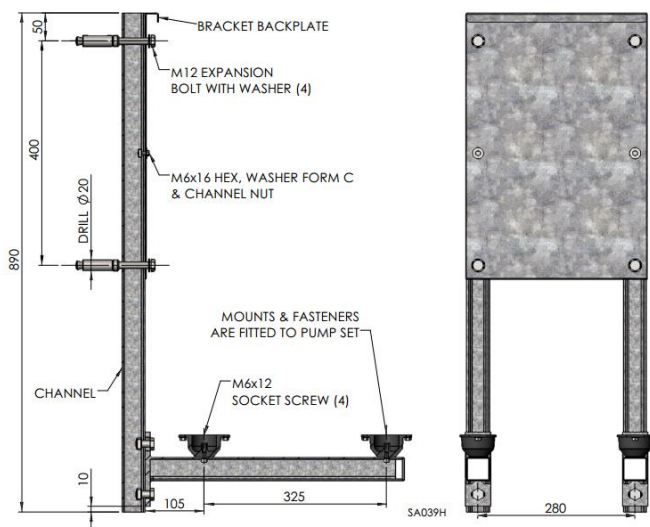
Suitability	Code	Description
All	BTBRA	Wall Bracket for Break Tanks AV Mounts
All	BTPT	Pulse Timer - Infrequent Use/Anti Seize
All DN20	BT20-25	Upgrade from DN20 to DN25 Solenoid
All	BT2-3	Upgrade to 3 phase pump
All	BTDT1	GRP Drip Tray c/w Float Switch
All	BTDT2	Controller & Additional Sol for Drip Tray
All	EVUP100V	Exp. Vessel 10 bar Ø450X910 High Vert
All	BTPRV	PRV for Fixed Speed Break Tank
All	BTCAB1	Enc. 1150x1150x1050 GRP c/w Heating
All	BTCAB2	Enc. 750x750x975 GRP c/w Frost Protection
All	BTCAB3	BT Wall Cover 1150hx720Wx750D
All except BTCAB1	BTFFPS	BT Frost Protection System
All	BTBMS1	BT High alarm BMS – Fixed speed pumps

Wall Brackets

BTBRA - Galvanised Steel Wall Mounting Brackets with Anti Vibration mounts. For use with single pump Boost-A-Break® units.



Dimensions

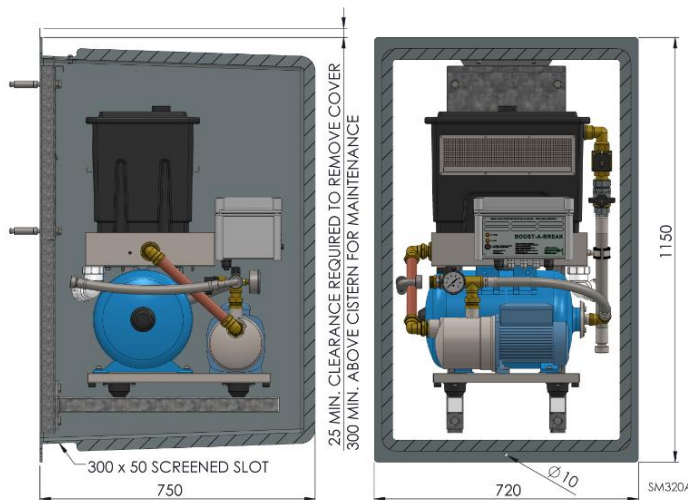


GRP Wall Cover

BTCAB3 – Insulated GRP Wall Cover, for use with the BTBRA Wall Mounting Brackets. The GRP colour is BS 00-A-05 (RAL equivalent is 7038). Integrated Frost Protection System (BTFFPS – see BTCAB2 section below) can be added to the Wall Cover.



Dimensions



GRP Enclosures

BTCAB2 – Lift Off GRP Enclosure for exterior use, supplied with a Padlock and Integrated Frost Protection System. A thermostat attached to the control box will cause the pump to run against a closed head to generate heat. The colour of the enclosure is RAL 6005.



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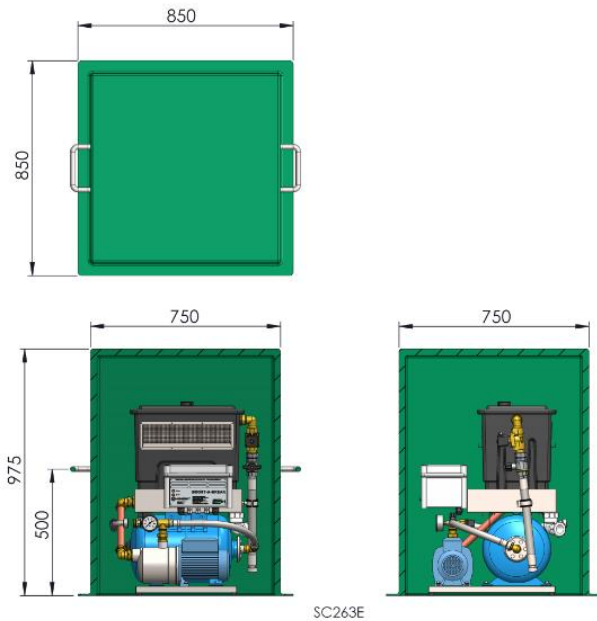


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“Boost-A-Break®” - Break Tank & Booster Set

Model BTAB® – Options (Continued) – Datasheet Page 4 of 4

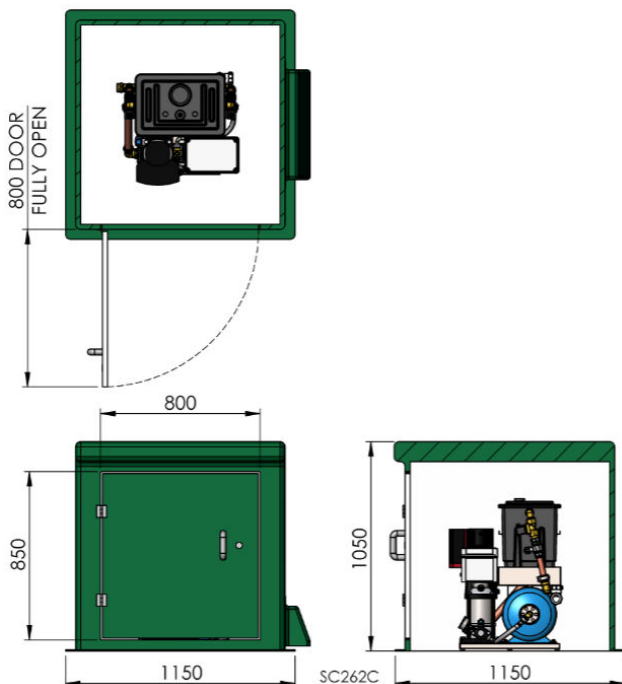
BTCAB2 Dimensions



BTCAB1 – GRP Heated Enclosure with Kiosk Door, for external use of the Boost-A-Break®. The housing has an integrated bar heater, complete with thermostat. The exterior colour of the enclosure is RAL6005.



Dimensions



GRP Drip Tray

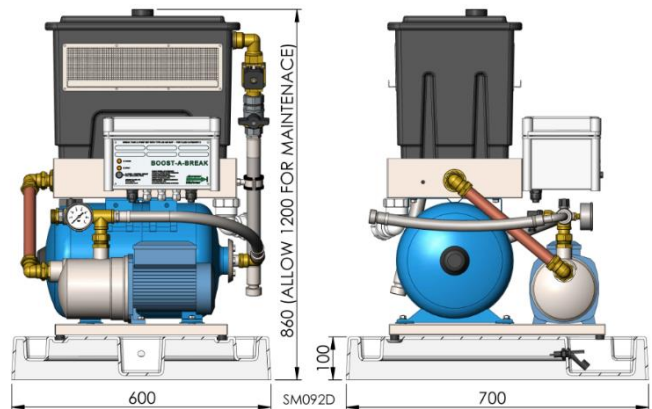
BTDT1 – GRP Drip Tray for use with Boost-A-Break® units (up to the BTAB3-7S), where it is impractical to fit an overflow.

BTDT2 – Additional isolating solenoid.



The whole pump set sits on top so any water leaking from the tank or pump is captured in the “moat” and runs into the well, activating the float switch and isolating the water supply, which stops the pump. The pump restarts once water is drained from the well.

Dimensions



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